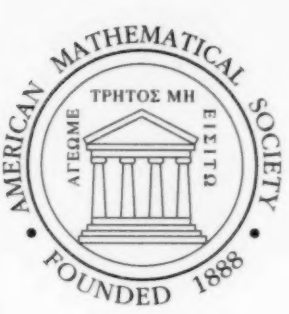

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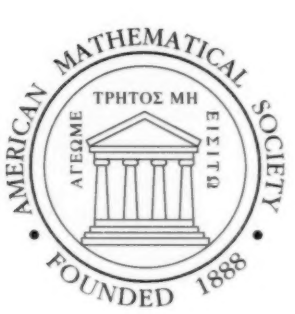

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PREFACE

This annual index of Mathematical Reviews (MR) is included with each subscription and is also available separately. It is also called Volume 30 of the Index of Mathematical Papers (IMP). Volumes 6–9 of IMP are the annual indexes of MR for the years 1974–77 and are available as a set. The 1978 annual index was the first to be included with each subscription. There are cumulative author indexes to MR that cover 1940–59 (Vols. 1–20), 1960–64 (Vols. 21–28) and 1965–72 (Vols. 29–44), subject indexes for 1940–58 (Vols. 1–19) and 1959–72 (Vols. 20–44), and author and subject indexes for 1973–79 (Vols. 45–58) and 1980–84.

The classification scheme used in the present index is the 1991 Mathematics Subject Classification (MSC). A copy of the 1991 MSC is printed in the back of the subject portion of this index.

The entries in the author, key and subject indexes are comprised of all items reviewed in MR during a given year and some items which will not be reviewed by MR but which have appeared in Current Mathematical Publications (CMP). A star (★) preceding a title indicates a book or other item that is reviewed as a whole. The symbol Ⓥ preceding a title indicates that the item is a videocassette.

Author index; separate key index

The entries in the author and key indexes give full bibliographic information. These entries are accompanied by review numbers {if available} and classification numbers; secondary classification numbers are given in parentheses. Entries are listed alphabetically by author; entries having several authors are listed in full under each author. Surnames consisting of more than one part (e.g., del Olmo, van der Mee) are listed under the first capital letter. Collections of papers, proceedings, bibliographies, tables, etc. that are edited rather than authored are listed in the key index by title and by "key entry". For example, the publication entitled *Differential equations* is listed under **Differential equations** and is also listed under **Conference: Differential Equations** and under the location of the conference. Some monographic series (e.g., American Mathematical Society Translations, Series 2) have entries under the series title in this index.

Arrangement of entries in the author and key indexes

For a given heading (i.e., the primary name of an author, or a title), full entries are listed in order of nominal publication dates; the cross-references are in MR number order after the full entries. The arrangement of each entry is the same as in the heading of its review in MR. The general form for entries is as follows:

Books, Monographs. (Coauthors {if necessary}) ★Title. (Language of original {if necessary}. Summary languages {if necessary}) [English translation of title {if necessary}] Miscellaneous information {edition, editors, translators, series, etc.}. Publisher, city, date. Pagination. ISBN. (Reviewer's name) Review number {if available} Primary classification (Secondary classifications {if necessary}).

Journal article. (Coauthors {if necessary}) Title of article {in English translation if the original title is not in English, French or German}. (Language of original {if necessary}. Summary languages {if necessary}) [English translation of title {if necessary}] Journal abbreviation {including series number if necessary} Volume number(volume number in first series {if given}) (nominal date), issue number {if necessary}, pagination (imprint date {if necessary}). (Reviewer's name) Review number {if available} Primary classification (Secondary classifications {if necessary}).

The first three digits of the review number of an item refer to the MR issue in which the review is published and the last five digits refer to its position within that issue. The first two digits after the colon are the general subject classification of the item.

The phrase "EA 98m" after an MR number indicates that an MR erratum or addendum to the review appears at the end of the 98m issue.

Subject index

The entries in the subject index are arranged in classification order. For a given classification, all entries with that classification as a primary appear first, with authored entries appearing before unauthored entries. These are followed by entries with that classification as a secondary. Again, authored entries appear before unauthored entries. Each section under a given classification is arranged in alphabetical order. For each entry, the author(s), title, language, translated title {if necessary} and the review number {if available} appear at the first author only. The entries for subsequent authors are cross-references to the first author. Complete bibliographic information is available in the annual author and key indexes as well as in the MR review.

Cross-references

There are four kinds of cross-references in these indexes:

Name variations. An author's preferred name is the variation of the name that MR has chosen on the basis of frequency and currency of usage. Items by a given author are usually listed under the author's preferred name. In the author index, cross-references to the preferred form are given from sufficiently distinct alternative forms of the author's name.

Authors in other capacities. In the author index, the names of persons associated with an item in a capacity other than that of author (e.g., editor, translator, subject of a biography, etc.) are also listed. In the subject index, such names appear in parentheses. In both indexes these items occur only as cross-references to complete listings.

Key entries. Cross-references for such entries as bibliographies, obituaries and references to special events are made to the authors of the papers in which these items appear, e.g. **Bibliography: Ruffini, Paolo** *see* **Barbieri, Francesco, 98g:01001**.

Unreviewed entries. Some entries in these indexes have not been reviewed in MR (e.g., items that do not appear to be in final form, or that are at the fringes of MR's scope) although they have been listed in CMP. Unreviewed items appear in the author, key and subject indexes in a format similar to that of reviewed items. For unreviewed items that are part of a collection, the review number in parentheses is a cross-reference to the table-of-contents review, i.e. (see 98x:xxxxx) or (98x:xxxxx). For unreviewed items that are not part of a collection, there is no review number cross-reference.

Transliteration

Since 1983, MR has used the Cyrillic transliteration in use by ANSI, LC, Zbl, ISI, and others. This is also the system used throughout this index. A Cyrillic transliteration table appears at the end of the author/key index.

Names of Chinese authors

The name of a Chinese author appears in the index in Western form. For example, Chen Lan Sun will be listed as Chen, Lan Sun, as though the author's name were Lan Sun Chen. The pinyin transliteration is used for mainland Chinese authors and the Wade-Giles transliteration is used for Taiwanese authors.

In an undertaking of this size, errors are inevitable, despite elaborate precautions and checks. The editors of Mathematical Reviews would be very glad to have their attention drawn to errors in this index and also in the earlier indexes.

Note: The annual index no longer includes a listing of the institution codes used in MR issues and in CMP (or of the associated addresses). A complete, searchable list is available on e-MATH, the AMS web site (http://www.ams.org/).

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— (*with* Aman, M.) A patch recovery technique for Kirchhoff plates. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 30–34, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73V05 (73K10)

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— (*with* van Laarhoven, Peter J. M.; Liu, Chung Laung; Pan, Peichen) VLSI layout synthesis. *Local search in combinatorial optimization*, 415–440, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 68Q35 (90C27, 94A40)

— (*with* Korst, Jan H. M.; Lenstra, Jan Karel) Scheduling periodic tasks with slack. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 351–362. (Summary) **98i:68033** 68M20

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Abadi, Martín (*with* Bellucci, Roberto; Curien, Pierre-Louis) A model for formal parametric polymorphism: a PER interpretation for system $S^{\mathfrak{R}}$. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 32–46, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (68N15, 68Q55)

— (*with* Cardelli, Luca) ★ A theory of objects. (English summary) Monographs in Computer Science. *Springer-Verlag, New York*, 1996. xiv+396 *pp. ISBN* 0-387-94775-2 (David B. Benson) **98e:68018** 68N15 (03B70, 68Q55)

— (*with* Fiore, Marcelo P.) Syntactic considerations on recursive types. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 242–252, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40)

— Secrecy by typing in security protocols. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 611–638, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 94A60 (68Q10)

— *see also* **Theoretical aspects of computer software, 98i:68019**

Abadie, Beatriz (*with* Exel, Ruy) Hilbert C^*-bimodules over commutative C^*-algebras and an isomorphism condition for quantum Heisenberg manifolds. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 411–423. (Andrzej Sitarz) **98d:46060** 46L05 (46L89, 58B30)

— (*with* Eilers, Søren; Exel, Ruy) Morita equivalence for crossed products by Hilbert C^*-bimodules. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3043–3054. (Vladimir Manuilov) **98k:46109** 46L55 (22D25, 46H25, 46L05, 46L80)

Abadir, Karim M. (*with* Rockinger, Michael) The "devil's horns" problem of inverting confluent characteristic functions. *Econometrica* **65** (1997), *no.* 5, 1221–1225. 62P20 (60E10, 62M10)

Abadir, Magdy S. (*with* Jain, Jawahar; Bitner, James; Abraham, Jacob A.; Fussell, Donald S.) Indexed BDDs: algorithmic advances in techniques to represent and verify Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1230–1245. (Summary) **98j:94043** 94C10 (68Q05, 68Q60)

Abadov, Z. A. (*with* Sil'vestrov, D. S.) Uniform representations of exponential moments of sums of random variables defined on a Markov chain, and of distributions of passage times. II. *Theory Probab. Math. Statist. No.* 48 (1994), 125–130; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 175–183 (*Ukrainian. Ukrainian summary*). (Summary) **98d:60053** 60F05 (60F10, 60J05)

Abaffy, József (*with* Spedicato, Emilio) ★ Проекционные ABS-алгоритмы. (Russian. Russian summary) [ABS projection algorithms] Математические методы для линейных и нелинейных уравнений. [Mathematical techniques for linear and nonlinear equations]. Translated from the 1989 English original by A. Ya. Belyankov, O. P. Burdakov, A. G. Kuznetsov and B. V. Neudachenko. Translation edited and with a preface by Yu. G. Evtushenko. "*Mir*", *Moscow*, 1996. 269 *pp. ISBN* 5-03-002408-5 (Editors) **98g:65004** 65–02 (65F10, 65H10, 65K10)

— (*with* Dupačová, Jitka; Bertocchi, Maria; Hušková, Marie) On estimating the yield and volatility curves. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 659–673. (*see* **98i:90006**) 90A12 (90A09)

vázquez-Abal, M. Elena *see* **Vázquez-Abal, M. Elena**

Abalakin, I. V. (*with* Zhokhova, A. V.; Chetverushkin, B. N.) Kinetically consistent difference schemes on irregular grids. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 44–53. 76M20 (76P05)

Abalo, Kokou Y. (*with* Kostreva, Michael M.) Fixed points, Nash games and their organizations. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 205–215. (H. Abou-Kandil) **98j:90101** 90D10

Aban'kin, A. E. (*with* Demyanov, V. F.) Conically equivalent pairs of convex sets. (English summary) *Recent advances in optimization* (*Trier*, 1996), 19–33, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Diethard Pallaschke) **98k:49026** 49J52 (52A20, 90C48)

Abarbanel, Henry D. I. Tools for the analysis of chaotic data. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 1–17, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13

— (*with* Sushchik, Mikhail M., Jr.; Rulkov, Nikolai F.) Robustness and stability of synchronized chaos: an illustrative model. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 867–873. (*see* **98g:93002**) 93D15 (58F13, 93B35)

— (*with* Rabinovich, M. I.; Huerta, Ramón; Elson, Rob; Selverston, Al I.) Self-regularization of chaos in neural systems: experimental and theoretical results. (English summary) Special issue on chaos synchronization, control, and

applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 997–1005. (*see* **98g:93002**) 93D15 (58F40, 93C83)

— (*with* Korzinov, Lev; Mees, Alistair I.; Starobinets, Igor M.) Optimal control of nonlinear systems to given orbits. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 263–276. (Boris G. Zaslavskiĭ) **98k:49005** 49J15 (34D45, 34H05, 58F40, 93C15)

Abarbanel, Saul (*with* Ditkowski, Adi) Asymptotically stable fourth-order accurate schemes for the diffusion equation on complex shapes. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 279–288. (Summary) **98a:65109** 65M06 (65M12)

— (*with* Gottlieb, David) A mathematical analysis of the PML method. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 357–363. (Baldev K. Sachdeva) **98k:78001** 78–08 (78A25)

Abasheeva, N. L. (*with* Pyatkov, S. G.) Counterexamples in indefinite Sturm-Liouville problems. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 4, 1–8. (Summary) **98m:34164** 34L10 (34B24)

Abate, Joseph (*with* Whitt, Ward) Limits and approximations for the $M/G/1$ LIFO waiting-time distribution. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 5, 199–206. (Summary) **98a:60130** 60K25

— (*with* Whitt, Ward) Asymptotics for $M/G/1$ low-priority waiting-time tail probabilities. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 173–233. (Summary) **98d:60170** 60K25

Abate, Marco (*with* Patrizio, Giorgio) Complex Finsler metrics. *Geometry and analysis on complex manifolds*, 1–38, *World Sci. Publishing, River Edge, NJ*, 1994. (James J. Faran, V) **98h:53110** 53C60 (32H15, 53C22, 53C56)

— (*with* Patrizio, Giorgio) Finsler metrics of constant curvature and the characterization of tube domains. *Finsler geometry (Seattle, WA, 1995)*, 101–107, *Contemp. Math.*, 196, *Amer. Math. Soc., Providence, RI*, 1996. (James J. Faran, V) **98c:32036** 32H99 (32F07, 53C60)

— A characterization of the Chern and Bernwald [Berwald] connections. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 701–717. (David Bao) **98e:53124** 53C60 (53B40)

— (*with* Patrizio, Giorgio) Holomorphic curvature of Finsler metrics and complex geodesics. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 341–363 (1997). (James J. Faran, V) **98h:53111** 53C60 (32H15, 53C22, 53C56)

— When is a linear operator diagonalizable? *Amer. Math. Monthly* **104** (1997), *no.* 9, 824–830. (George D. Poole) **98i:15014** 15A18 (15A21)

— (*with* Patrizio, Giorgio) Kähler Finsler manifolds of constant holomorphic curvature. *Internat. J. Math.* **8** (1997), *no.* 2, 169–186. (James J. Faran, V) **98i:53099** 53C60 (32H15, 53C56)

Abawi, Ahmad T. (*with* Dashen, Roger F.) Scattering amplitude for a plane angular sector. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 2172–2180. (Summary) **98f:78017** 78A45 (35J05)

Abay, Teshome A note on solution of ordinary differential equation of the second-order. (English summary) *SINET* **20** (1997), *no.* 2, 271–275. 34A25

Abay Asmerom, Ghidewon Imbeddings of the tensor product of graphs where the second factor is a complete graph. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 13–19. (Summary) **98i:05052** 05C10

el Abbadi, Amr *see* **El Abbadi, Amr**

Abbas, Salman Hassan (*with* Voss, David A.) Block predictor-corrector schemes for the parallel solution of ODEs. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 65–72. (Summary) **98a:65090** 65L05

— Jackknifing in regression. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 203–210. (Summary) **98d:62116** 62J05

— Robust designs based on auxiliary information. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 241–245. 62K05

Abbasbandy, S. (*with* Babolian, E.) Automatic augmented Galerkin algorithms for linear first kind integral equations: non-singular and weak-singular kernels. (English and Persian summaries) *Bull. Iranian Math. Soc.* **21** (1995), *no.* 1, 35–62. (H. Brunner) **98b:65140** 65R20

— (*with* Babolian, E.) Automatic augmented Galerkin algorithms for Fredholm integral equations of the first kind. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 69–84. (Summary) **98d:65165** 65R20 (45L05)

Abbasi, Sarmad (*with* Sengupta, Anirvan) An $O(n \log n)$ algorithm for finding dissimilar strings. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 135–139. (Summary) **98b:68065** 68Q20 (92C40, 92D20)

Abbasian, Reza O. (*with* Carey, Graham F.) Hybrid MPE-iterative schemes for linear and nonlinear systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 277–291. 65F10 (65H10)

Abbasov, A. M. (*with* Guliev, A. P.; Aliev, Fikret Akhmadalioglu) Calculation algorithm of optimization problem two-point boundary conditions. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 441–446, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 49M30 (34H05)

Abbassi, Medhat M. Pure torsion of a curved beam of rectangular cross-section. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 11–16. 73K05

Abbena, E. (*with* Garbiero, S.; Salamon, Simon) Hermitian geometry on the Iwasawa manifold. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 231–249. (Massimiliano Pontecorvo) **98e:53121** 53C56 (53C15, 53C30)

Abberger, Klaus Quantile smoothing in financial time series. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 125–148. (Summary) **98d:62152** 62M10 (62G05)

Abbondandolo, Alberto (*with* Benci, Vieri) Rotation numbers for Lagrangian systems and Morse theory. *Topology in nonlinear analysis (Warsaw, 1994)*, 29–38, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Jean Mawhin) **98c:58023** 58E05 (34C25, 58F22, 70H35)

Abbott, H. L. (*with* Liu, Andy C. F.) On covering numbers of regular hypergraphs. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 79–84. (Peter Mihók) **98k:05109** 05C65 (05C70)

— (*with* Hare, Donovan R.; Zhou, Bing) Color-critical graphs and hypergraphs with few edges and no short cycles. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 3–11. (*see* **98i:05001**) 05C15 (05C35)

Abboud, Toufic (*with* Ammari, Habib) Diffraction at a curved grating: TM and TE cases, homogenization. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 3, 995–1026. (John A. DeSanto) **98b:78027** 78A45 (35B27, 35J05)

— (*with* Ammari, Habib) Diffraction at a curved grating: approximation by an infinite plane grating. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 3, 1076–1100. (John A. DeSanto) **98b:78028** 78A45 (35B27, 35J05)

— (*with* Nédélec, Jean-Claude; Zhou, Bin[1]) Recent developments on a phase separated integral equation method for high frequency scattering problems. *Numerical methods in mechanics (Concepción, 1995)*, 1–12, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (*see* **98g:65009**) 65N30 (35J05, 35P25)

ben Abda, Amel *see* **Ben Abda, Amel**

Abd-alla, Abo-el-nour N. Magneto-elastic radial vibrations of a transversely isotropic hollow cylinder. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 469–482. 73R05 (73B40, 73D30)

Abdalla, Ayman (*with* Deo, Narsingh; Kumar, Nishit; Terry, Travis) Parallel computation of a diameter-constrained MST and related problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 131–155. (Summary) **98k:68133** 68R10 (68Q22)

Abdalla, B. E. (*with* Dillen, Franki; Vrancken, Luc) Affine homogeneous surfaces in $\mathbf{R}^3$ with vanishing Pick invariant. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 105–115. (Hui Li Liu) **98h:53020** 53A15 (53C30)

Abdalla, M. Sebawe (*with* Bashir, M. A.) Lie algebraic treatment of the degenerate parametric amplifier. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 171–182. (Summary) **98i:81290** 81V80 (33D80, 81R05)

— Lie algebraic treatment of a charged oscillator in the presence of a constant magnetic field. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 11, 1549–1554. 81Q05 (81R05)

Abd-Alla, Mohamed Z. Sur les isométries de la boule unité de $l^1(\mathbf{N})$ pour la distance de Kobayashi. (English, French and Arabic summaries) [Isometries of the open unit ball of $l^1(\mathbf{N})$ for the Kobayashi distance] *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 13–22 (1994). (Marek Jarnicki) **98f:58018** 58B12 (32H15)

— Sur la caractérisation des isomorphismes analytiques entre domaines bornés de $\mathbf{C}^n$. (English, French and Arabic summaries) [Characterization of analytic isomorphisms between bounded domains in $\mathbf{C}^n$] *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 27–33 (1994). (Marek Jarnicki) **98g:32036** 32H15

Abd-Allah, A. M. (*with* Al-Rewili, Y. A.) Topologies for groups of transformation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 113–124. 54H15 (54H11)

Abdallah, Ali E. Derivation of parallel algorithms from functional specifications to CSP processes. (English summary) *Mathematics of program construction (Kloster Irsee, 1995)*, 67–96, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60 (68Q22)

Abdallah, Chaouki T. (*with* Dorato, Peter; Yang, Wei[2]) Quantifier elimination approach to frequency domain design. *Control of uncertain systems with bounded inputs*, 165–172, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (*see* **98c:93008**) 93B51 (03B80, 93C80)

— (*with* Kim, Young Ho[2]; Lewis, Frank L.) A dynamic recurrent neural-network-based adaptive observer for a class of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1539–1543. 93B07 (93C83)

ben Abdallah, Naoufel *see* **Ben Abdallah, Naoufel**

Abddaimi, Y. (*with* Michaille, Gérard; Licht, Christian) Stochastic homogenization for an integral functional of a quasiconvex function with linear growth. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 183–202. (Paolo Marcellini) **98i:49015** 49J45

Abdeddaim, Saïd On incremental computation of transitive closure and greedy alignment. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 167–179, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (*see* **98i:68004**) 68Q25 (68R10)

Abd-Elaal, M. Z. (*with* Ezzat, M. A.) State space approach to viscoelastic fluid flow of hydromagnetic fluctuating boundary-layer through a porous medium. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 197–207. (Summary) **98c:76120** 76W05 (76A10, 76S05)

Abdel-All, N. H. (*with* Hussien, Rawya A.) Variation of curvatures and stability of hypersurfaces. (English summary) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 147–161. (Luis J. Alías) **98i:53082** 53C42 (49Q10, 58E12)

— Visualization of equidistance surface of line manifolds. *Tensor (N.S.)* **57** (1996), *no.* 2, 170–175. (Ronaldo Alves Garcia) **98d:53016** 53A35 (53A25)

ben Abdelaziz, F. *see* **Ben Abdelaziz, F.**

Abdel-Aziz, Mohammedi R. On the convergence of zero-finding eigensolution algorithms for solving non-linear eigenvalue problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 11, 2037–2044. (Summary) **98a:65046** 65F15 (65H10)

Abd El-Ghaffar, F. S. (*with* Geaisa, A. N.) Weaker forms of fuzzy regularity. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 71–84 (1994). 54A40 (54D15)

Abdel-Ghaffar, Khaled A. S. A lower bound on the undetected error probability and strictly optimal codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1489–1502. (Summary) **98i:94041** 94B60

— (*with* Ferreira, Hendrik C.) Systematic encoding of the Varshamov-Tenengol′ts codes and the Constantin-Rao codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 340–345. (Summary) **98m:94056** 94B40

Abdel-Ghaly, A. A. (*with* Attia, A. F.; Aly, H. M.) Estimation of the parameters of Pareto distribution and the reliability function using accelerated life testing with censoring. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 469–484. 62N05

Abdel-hafez, A. M. (*with* Essawy, A. H.; Moubark, M. A. M.) Numerical solution diffraction of water waves using both isosceles triangle and rectangular headland. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 15–29. 76M20 (65M99, 76B15)

— (*with* Essawy, A. H.; Moubark, M. A. M.) The diffraction of Kelvin wave due to an island. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 147–160. (Summary) **98h:76010** 76B15 (86A05)

Abdelhak, Ahmed (*with* Rachik, Mostafa; Karrakchou, J.) Discrete systems with delays in state, control and observation: the maximal output sets with state and control constraints. (English summary) *Optimization* **42** (1997), *no.* 2, 169–183. (Summary) **98g:93028** 93C55 (93D09)

Abdel-Hamid, A-Rehim A-Rehim (*with* Morsi, Nehad N.) On the relationship of extended necessity measures to implication operators on the unit interval. II. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 715–736. (V. Ya. Kreinovich) **98f:04003** 04A72

Abdel-Hamid, B. A. (*with* Amer, Mustafa A.; Fausett, D.) Parallelization of the Kronecker product technique for solving rank deficient least-squares problems. (English and Arabic summaries) Conference on Parallel and Distributed Computing (Kuwait, 1995). *Kuwait J. Sci. Engrg.* **1996**, *Topical Issue No.* 1, 163–173. (Ming Kui Chen) **98a:65058** 65F35 (65F20, 65Y05)

— (*with* Amer, Mustafa A.; Fausett, D.) Parallel implementation of the Kronecker product technique for numerical solution of parabolic partial differential equations. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 1997–2005. (Summary) **98b:65095** 65M06 (65Y05)

Abdelkader, Mostafa A. Traveling wave profiles for nonlinear equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 357–369. 35K57

— Relaxation oscillators with exact limit cycles. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 308–312. (Summary) **98i:34044** 34C05 (34C15)

Abd El-Kader, Z. (*with* Faried, N.) Approximation numbers and Tichomirov numbers of an infinite matrix operator on the space l_1. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 41–47 (1997). (Asuman Aksoy) **98j:47045** 47B06 (47B10)

Abdel-Khalek, Khaled (*with* De Leo, Stefano) Octonionic quantum mechanics and complex geometry. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 4, 823–831. (Waldyr Alves Rodrigues, Jr.) **98b:81059** 81Q99 (81R05)

— (*with* De Leo, Stefano) Octonionic Dirac equation. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 4, 833–845. (Waldyr Alves Rodrigues, Jr.) **98b:81060** 81Q99 (81R05)

— (*with* De Leo, Stefano) Octonionic representations of GL(8, **R**) and GL(4, **C**). (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 582–598. (Waldyr Alves Rodrigues, Jr.) **98c:17004** 17A35 (20G20, 81R05)

Abd-el-Malek, Mina B. (*with* Makar, Malak N.) Nonlinear progressive internal gravity wave on fluid of trapezoidal bottom. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 3–19. (Summary) **98h:76132** 76V05 (76B15, 76C10)

— (*with* Makar, Malak N.) Progressive internal gravity waves with bounded upper surface climbing a triangular obstacle. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 41–53. (Summary) **98m:76041** 76C10 (76V05)

Abd el Maqsoud, A. E. I. (*with* Seoud, M. A.; Wilson, Robin J.; Williams, Jini) Total colourings of Cartesian products. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 481–487. (Summary) **98d:05061** 05C15

Abdelmonem, M. S. (*with* Yamani, H. A.) The analytic inversion of any finite symmetric tridiagonal matrix. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2889–2893. (Summary) **98c:15019** 15A09

— (*with* Yamani, H. A.) Corrigendum: "The analytic inversion of any finite symmetric tridiagonal matrix" [J. Phys. A **30** (1997), no. 8, 2889–2893; MR 98c:15019]. *J. Phys. A* **30** (1997), *no.* 15, 5592. 15A09

Abd El-Monsef, M. E. (*with* Ramadan, A. S.) On pairwise paracompact spaces. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 1–11 (1994). 54E55 (54D20)

Abd El-Rady, A. S. On asymptotic properties in a neighbourhood of infinity of solutions of elliptic equations. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 81–83, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35J15 (35B10, 35B40)

Abd-Elrahman, A. M. (*with* Ahmad, K. E.; Moustafa, H. M.) Approximate Bayes estimation for mixtures of two Weibull distributions under type-2 censoring. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 3, 269–285. 62N05 (62F15)

Abdel-Rahman, A.-M. M. Modified general relativity and cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1329–1343. (Michael L. Fil′chenkov) **98h:83069** 83D05 (83F05)

Abdelrahman, Mohamed A. (*with* Naidu, D. Subbaram; Charalambous, Charalambos D.; Moore, Kevin L.) Finite-time disturbance attenuation control problem for singularly perturbed discrete-time systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 2, 137–145. 93B36 (93C70)

Abdel′razak, N. A. The method of dual summatory equations for solving two-dimensional axisymmetric problems of nonstationary heat conduction using the example of heat exchange on a semibounded solid cylinder. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 1, 61–64, 76. 35K05

Abd-El-Reheem, Zaki F. On some trace formula for the Sturm-Liouville operator. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 61–68. (Jan Bochenek) **98h:34141** 34L25 (34B24, 47E05)

Abdel Salam, W. H. (*with* Shishkin, G. V.) The Dirac particle in the presence of the tensor wave on the background of gravitation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 454–466. (Summary) **98m:81116** 81T20 (83C47)

Abd-Eltwab, Yhia A. Quantum field theory in the null-electromagnetic radiation space-time via the vacuum conformality. *Tensor* (*N.S.*) **57** (1996), *no.* 2, 212–216. (Valter Moretti) **98a:83061** 83C47 (81T20)

— Homothetic motion in a nonconformally flat spherically symmetric space-times. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 62–66. 83C10

Abdel-Wahab, Hussein (*with* Baruah, Sanjoy K.; Gehrk, Johannes E.; Plaxton, C. Gregory; Stoica, Ion; Jeffay, Kevin) Fair on-line scheduling of a dynamic set of tasks on a single resource. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 43–51. (Summary) **98h:68021** 68M20

— (*with* Stoica, Ion; Sultan, F.; Wilson, K.) A simple algorithm for computing minimum spanning trees in the Internet. (English summary) *Inform. Sci.* **101** (1997), *no.* 1-2, 47–69. (Summary) **98b:90052** 90B12 (68M10)

Abdelwahed, S. S. (*with* Hassan, M. F.; Sultan, M. A.) Parallel asynchronous algorithms for optimal control of large-scale dynamic systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 257–271. 93B40 (65Y05)

Abdennadher, Ali (*with* Néel, Marie Christine) Analyticity of the semigroup generated in L^p by the Stokes operator with periodic boundary conditions. (English summary) *Internat. J. Appl. Sci. Comput.* **3** (1996), *no.* 2, 154–160. (El Maati Ouhabaz) **98b:47059** 47F05 (35J99, 35Q30, 47D06, 47N20, 76D07, 76E15)

Abderrezzak, Abdelhamid Multivariate symmetric identities. *Fibonacci Quart.* **34** (1996), *no.* 5, 386–393. (Christian Krattenthaler) **98c:05014** 05A19 (05A10)

Abdesselam, A. (*with* Rivasseau, Vincent) An explicit large versus small field multiscale cluster expansion. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 2, 123–199. (Paulo A. Faria da Veiga) **98a:81108** 81T08 (81T15, 81T16, 82B27)

Abdesselam, B. (*with* Chakrabarti, Amitabha[1]; Chakrabarti, Ranabir) Irreducible representations of Jordanian quantum algebra $\mathcal{U}_h(\mathrm{sl}(2))$ via a nonlinear map. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 36, 2883–2891. (Mariano A. del Olmo) **98b:81090** 81R50 (17B37)

— (*with* Chakrabarti, Amitabha[1]; Chakrabarti, Ranabir) On $\mathcal{U}_h(\mathrm{sl}(2))$, $\mathcal{U}_h(e(3))$ and their representations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2301–2319. (A. M. Gavrilik) **98e:81065** 81R50 (17B37)

ben Abdesselem, Adnène *see* **Ben Abdesselem, Adnène**

Abdiev, K. S. (*with* Kabanikhin, S. I.) Projection-difference method for solving a three-dimensional inverse problem of geoelectrics. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 61–72, 170, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 86A25

el Abdouni, B. *see* **El Abdouni, B.**

Abdounur, Oscar João The music-mathematics relation according to Descartes. (Portuguese) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics* (*Portuguese*) (*São Paulo*, 1997), 313–322, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A45

Abdrakhmanov, V. G. (*with* Smolin, Yu. N.) On the reconstruction of an operator from its conjugate operator. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 3–13; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 11, 1–11 (1997). (Elena Litsyn) **98b:47001** 47A05 (34K05, 47N20)

Abdukhalikov, K. S. Invariant Hermitian lattices in the Steinberg module and their isometry groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2607–2626. (Ross Ian Lawther) **98e:20005** 20B25 (20G40)

— Modular permutation representations of PSL(n, p) and invariant lattices. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 3–12; *translation in Sb. Math.* **188** (1997), *no.* 8, 1107–1117. (P. A. Biryukov) **98k:20016** 20C33 (20B20, 20C20)

— (*with* Tulenbaev, M. S.; Umirbaev, Ualbai U.) On fuzzy subalgebras. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 257–262. (Summary) **98h:15057** 15A99 (04A72)

Abdulaev, R. Parametrization of a family of minimal surfaces bounded by the broken lines in $\mathbf{R}^3$. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 201–218. (H. R. Gluck) **98c:49072** 49Q05 (53A10)

Abdulali, Salman Abelian varieties and the general Hodge conjecture. (English summary) *Compositio Math.* **109** (1997), *no.* 3, 341–355. (Fumio Hazama) **98m:14008** 14C30 (14K10)

Abdulazizov, A. Kh. (*with* Zabreĭko, Petr Petrovich) The Bohl and Bogolyubov theorems for infinite systems of differential equations. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 9, 535–538 (1993). (From the text) **98b:34049** 34C11 (34C29, 34Gxx, 47N20)

Abdulin, R. Z. *see* **Abdullin, R. Z.**

Abdulla, Parosh Aziz (*with* Čerāns, Kārlis; Jonsson, Bengt; Tsay, Yih-Kuen) General decidability theorems for infinite-state systems. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 313–321, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60

— (*with* Jonsson, Bengt) Undecidable verification problems for programs with unreliable channels. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 71–90. (Gabriel Ciobanu) **98e:68160** 68Q60 (03D35, 68Q10)

al-Abdulla, Raad A. H. *see* **Al-Abdulla, Raad A. H.**

Abdullaev, A. R. (*with* Burmistrova, A. B.) On a scheme for investigating the solvability of resonance boundary value problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 14–22; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 11, 12–20 (1997). (Bogdan Przeradzki) **98a:47066** 47H15 (34B15, 34C15, 47N20)

Abdullaev, A. S. Justification of asymptotic formulas for the fourth Painlevé equation. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 3, 255–283. (Andrei A. Kapaev) **98g:34023** 34A34 (34E10)

Abdullaev, F. G. Uniform convergence of the generalized Bieberbach polynomials in regions with non-zero angles. *Acta Math. Hungar.* **77** (1997), *no.* 3, 223–246. (D. Gaier) **98m:30008** 30C30 (30E10)

Abdullaev, F. Kh. (*with* Abdumalikov, A. A.) Evolution of randomly perturbed sine-Gordon kink. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 115–122. (Summary) **98m:82056** 82C31 (35Q53)

Abdullaev, S. S. Renormalization invariance of a Hamiltonian system near the saddle point. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 281–290. (Summary) **98f:58171** 58F30 (58F05, 70H05)

— (*with* Finken, K. H.; Kaleck, A.; Spatschek, K. H.) Twist mapping for the dynamics of magnetic field lines in a tokamak ergodic divertor. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 196–210. 76X05

Abdullaev, Zh. I. (*with* Lakaev, S. N.) Finiteness of the discrete spectrum of the three-particle Schrödinger operator on a lattice. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 94–108; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 467–479. (Lech Zielinski) **98k:81049** 81Q10 (47B39, 47N50)

Abdullah, Aishah S. (*with* Ali, Rosihan M.; Singh, Vikramaditya[1]) On functions starlike with respect to a boundary point. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **50** (1996), 7–15. (Summary) **98g:30012** 30C45

Abdullayev, Alisher S. *see* **Abdullaev, A. S.**

Abdullayev, F. G. *see* **Abdullaev, F. G.**

Abdullin, R. Z. (*with* Anapol′skiĭ, L. Yu.; Kozlov, R. I.; Malikov, A. I.; Matrosov, Vladimir M.; Voronov, Avenir Arkad′evich; Zemlyakov, A. S.) ★ Vector Lyapunov functions in stability theory. Translated from the Russian original. Advanced Series in Mathematical

Science and Engineering, 4. *World Federation Publishers Company, Atlanta, GA*, 1996. xviii+394 *pp. ISBN* 1-885978-20-0 (Editors) **98g:34002** 34-02 (34D20, 93D20)

— Letter to the editors: "Stability of isolated stationary points of difference equations with mixed monotonicity of the right-hand side. I, II" [Differentsial'nye Uravneniya **30** (1994), no. 3, 457–466; MR 96d:39001; ibid., no. 9, 1584–1593; MR 96k:39001]. (Russian) *Differ. Uravn.* **32** (1996), *no.* 12, 1713; *translation in Differential Equations* **32** (1996), *no.* 12, 1708 (1997). (From the text) **98k:39001** 39A10 (65L12)

Abdulrab, H. (*with* Makanin, G. S.; Maksimenko, M. N.) Formal parametric equations. (English summary) *Fundamentals of computation theory (Dresden*, 1995), 353–362, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68R15 (20M05, 68Q40)

Abdulrahim, Mohammad N. The reduced Gassner representation restricted to a normal free subgroup of the pure braid group. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 8–12. (J. S. Birman) **98j:20046** 20F36 (20C15)

Abdulwahab, F. (*with* Wiberg, N.-E.; Li, Xiangdong[1]) Error estimation and adaptive procedures based on superconvergent patch recovery (SPR) techniques. (English summary) *Arch. Comput. Methods Engrg.* **4** (1997), *no.* 3, 203–242. 73V05

Abdumalikov, A. A. (*with* Abdullaev, F. Kh.) Evolution of randomly perturbed sine-Gordon kink. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 115–122. (Summary) **98m:82056** 82C31 (35Q53)

Abduragimov, È. I. A positive radially symmetric solution of the Dirichlet problem for a nonlinear equation, and a numerical method for obtaining it. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 3–6; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 1–3. 35J65 (34B15, 35B05, 65N06)

Abdurahman, Muhammad Ibn al-Hā'im's zīj did have numerical tables. (Arabic. English summary) *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II (Zaragoza*, 1993), 365–381, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (*see* **98d:01002**) 01A30

Abdurrahman, A. (*with* Anton, F.; Bordes, J.) The three-vertex in the closed half-string field theory and the general gluing and resmoothing theorem. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L113–L116. (Paweł H. Węgrzyn) **98d:81072** 81T30 (83E30)

Abdushukurov, A. A. Approximation theorems for likelihood ratio statistics in a model of competing risks. I. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1995), 3–10. (I. N. Volodin) **98b:62034** 62F05 (62N05)

— (*with* Karimkulov, G. D.) Nonparametric kernel estimation of density function under random censorship from both sides. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 1, 23–29. (Summary) **98f:62079** 62G05

Abdussattar (*with* Vishwakarma, R. G.) Cosmologies with varying vacuum energy. (English summary) *Progr. Math. (Varanasi)* **28/29** (1994/95), 133–141 (1996). (Summary) **98b:83093** 83F05

— (*with* Dwivedi, Babita) On conharmonic transformations in general relativity. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 465–470. 83C99 (53B50)

— (*with* Vishwakarma, R. G.) Some FRW models with variable G and Λ. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 945–953. (Summary) **98a:83018** 83C15 (83F05)

Abe, Jair Minoro Curry algebras N_i. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.* **7** (1996), *no.* 3, 125–128. (Marcel Guillaume) **98h:03078** 03G25 (03B53)

Abe, K. *see* **Abe, Kinetsu**

Abe, Ken'ichi (*with* Xu, Li; Saito, Osami) Current status and prospects of multidimensional system theory. (Japanese) *Systems Control Inform.* **41** (1997), *no.* 12, 493–501. 93–02

Abe, Kinetsu Complex functions of analytic type in the domains of Euclidean 3-space. *Geometry and topology of submanifolds, VII (Leuven*, 1994/*Brussels*, 1994), 63–66, *World Sci. Publishing, River Edge, NJ*, 1995. (A. Morimoto) **98a:53050** 53C20

— Isometric immersions of H_1^n into H_1^{n+1}. (English summary) *Pacific J. Math.* **173** (1996), *no.* 1, 1–27. (Takehiro Itoh) **98a:53088** 53C42 (53C50)

— (*with* Mori, Hiroshi[1]; Takahashi, Hidenori) A parametrization of isometric immersions between hyperbolic spaces. (English summary) *Geom. Dedicata* **65** (1997), *no.* 1, 31–46. (Jean-Marc Schlenker) **98c:53066** 53C42

— (*with* Mori, Hiroshi[1]) A parametrization of isometric immersions between anti-de Sitter space-times. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 218–232. (Takehiro Itoh) **98m:53072** 53C42 (53C21, 53C50)

Abe, Kōjun (*with* Matsubara, Masaaki) Invariant forms on the exceptional symmetric spaces *FII* and *EIII*. *Transformation group theory (Taejŏn*, 1996), 3–16, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (J. M. Boardman) **98i:57070** 57T15

— (*with* Yokota, Ichiro) Realization of spaces $E_6/(\mathrm{U}(1)\mathrm{Spin}(10))$, $E_7/(\mathrm{U}(1)E_6)$, $E_8/(\mathrm{U}(1)E_7)$ and their volumes. *Tokyo J. Math.* **20** (1997), *no.* 1, 73–86. (Luis Ugarte) **98k:53068** 53C35 (22E60)

— (*with* Yokota, Ichiro) Volumes of compact symmetric spaces. *Tokyo J. Math.* **20** (1997), *no.* 1, 87–105. (Luis Ugarte) **98k:53069** 53C35 (22E20)

Abe, Mitsuko The partition function in the four-dimensional Schwarz-type topological half-flat two-form gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 6, 381–392. (Noriaki Ano) **98i:58050** 58D29 (81T70)

Abe, Mitsuo (*with* Ikeda, Noriaki[2]; Nakanishi, Noboru) Operator ordering index method for multiple commutators and Suzuki's quantum analysis. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 547–555. (Igor Yurievich Popov) **98d:47162** 47N50 (47A60, 47B47, 81S05)

— (*with* Nakanishi, Noboru; Ojima, Izumi) Resolution of the BRS singlet-pair problem in quantum Einstein gravity. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 466–478. (Sergiu I. Vacaru) **98b:83030** 83C45

Abe, Naoto[2] (*with* Kanoh, Hideaki; Itoh, Takayuki) Nonlinear H_∞ control for heat exchangers controlled by the manipulation of flow rate. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2237–2248. (*see* **98i:00030**) 93B36

Abe, Sumiyoshi A note on the q-deformation-theoretic aspect of the generalized entropies in nonextensive physics. (English summary) *Phys. Lett. A* **224** (1997), *no.* 6, 326–330. (Guido A. Raggio) **98f:82001** 82B03

Abe, Takako (*with* Sato, Enji) On the Banach algebra $M(p,q)$ $(1 \le p < q \le \infty)$. *Tokyo J. Math.* **20** (1997), *no.* 1, 219–240. (Kathryn Hare) **98f:43008** 43A22 (43A46, 46J99)

Abe, Yoshihiro Saturation of fundamental ideals on $\mathscr{P}_\kappa\lambda$. *J. Math. Soc. Japan* **48** (1996), *no.* 3, 511–524. (Marion Scheepers) **98c:03098** 03E05 (03E20, 04A10, 04A20)

— Strongly normal ideals on $\mathscr{P}_\kappa\lambda$ and the Sup-function. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 97–107. (A. Kanamori) **98h:04003** 04A20

— A hierarchy of filters smaller than $\mathrm{CF}_{\kappa\lambda}$. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 6, 385–397. (Marion Scheepers) **98m:03098** 03E05 (03E10, 04A20)

— (*with* Kodama, Yukihiro; Sakai, Kazuhiro; Sakai, Masami; Yajima, Yukinobu) The study of the foundations of topological spaces and its applications. (Japanese) *Sci. Rep. Res. Inst. Engrg. Kanagawa Univ. No.* 20 (1997), 163–165. 54A05

Abe, Yukitaka Lefschetz type theorem. *Geometric complex analysis (Hayama*, 1995), 1–7, *World Sci. Publishing, River Edge, NJ*, 1996. (H. Lange) **98g:14055** 14K20 (14K05, 32L10)

— Universal holomorphic functions in several variables. (English summary) *Analysis* **17** (1997), *no.* 1, 71–77. (Daniel H. Luecking) **98e:32003** 32A10 (42A15)

Abe, Yutaka (*with* Iobe, Atsushi) Fractal-like basin boundaries and indeterminate transition in nonlinear resonance of a Toda oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1673–1678. (Summary) **98i:58148** 58F12 (58F14)

Abebe, F. (*with* et al.) Third order asymptotic model: exponential and location type approximations. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 25–33. 62F05 (62E20)

Abedor, J. (*with* Nagpal, Krishan M.; Poolla, K.) A linear matrix inequality approach to peak-to-peak gain minimization. (English summary) Linear matrix inequalities in control theory and applications. *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 9-10, 899–927. (Maria Letizia Corradini) **98b:93021** 93B36 (93C05)

martínez-Abejón, Antonio *see* **Martínez-Abejón, Antonio**

Abel, Andrew B. (*with* Eberly, Janice C.) An exact solution for the investment and value of a firm facing uncertainty, adjustment costs, and irreversibility. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 831–852. (N. H. Bingham) **98e:90023** 90A09

Abel, Julian (*with* Greig, Malcolm) Resolvable balanced incomplete block designs with block size 8. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 123–140. (Chester J. Salwach) **98d:05026** 05B05

Abel, Mati Noncommutative Jordan locally pseudoconvex Q-algebras. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 4, 413–429. (Juan Martínez-Moreno) **98k:17036** 17C99

Abel, R. Julian R. (*with* Mullin, Ronald C.; Ling, Alan C. H.; Bennett, F. E.) On the closure of subsets of $\{4, 5, \cdots, 9\}$ which contain $\{4\}$. *Ars Combin.* **45** (1997), 33–76. (Charles J. Colbourn) **98i:05016** 05B05

— (*with* Colbourn, Charles J.; Yin, Jian Xing; Zhang, Hantao) Existence of incomplete transversal designs with block size five and any index λ. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 3, 275–307. (Katherine Heinrich) **98b:05017** 05B15

— (*with* Yin, Jian Xing; Ling, Alan C. H.; Colbourn, Charles J.) The existence of uniform 5-GDDs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 275–299. (Frank E. Bennett) **98i:05018** 05B05

— (*with* Bennett, F. E.; Yin, Jian Xing; Zhang, Hantao) Perfect Mendelsohn packing designs with block size five. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 5–22. (Charles J. Colbourn) **98m:05034** 05B30

— (*with* Zhang, Hantao) Direct constructions for certain types of HMOLS. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 1–17. (Summary) **98h:05038** 05B15

Abel, Ulrich (*with* Arends, Georg) The powers of the bivariate Bernstein operators. *Extracta Math.* **11** (1996), *no.* 3, 389–404. (Grzegorz Lewicki) **98e:41028** 41A35 (41A63)

— The complete asymptotic expansion for the Meyer-König and Zeller operators. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 109–119. (Octavian Agratini) **98a:41030** 41A35 (41A60)

Abeles, Francine F. The development of the automatic calendar in the nineteenth century. *Ganita-Bhāratī* **17** (1995), *no.* 1-4, 62–67. (From the text) **98g:01079** 01A99

Abellanas, Manuel (*with* Claverol, Mercè; Hurtado, Ferrán) Structures of minimum weight. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid*, 1997), 97–105, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* García, Alfredo; Tejel, F. Javier) Notes on sequences of realizable depths. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid*, 1997), 121–130, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* Hernández-Peñalver, Gregorio; Klein, Rolf; Neumann-Lara, Victor; Urrutia, Jorge) A combinatorial property of convex sets. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 307–318. (Summary) **98h:52013** 52A37

Abello, James (*with* Estivill-Castro, Vladimir; Shermer, Thomas C.; Urrutia, Jorge) Illumination of orthogonal polygons with orthogonal floodlights. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 25–38. (Ruth Silverman) **98m:68264** 68U05 (52B55)

Abels, Herbert (*with* Margulis, Grigorii A.; Solfer, G. A.) Properly discontinuous groups of affine transformations with orthogonal linear part. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 253–258. (William Goldman) **98b:22022** 22E40 (57S30)

Abenda, Simonetta (*with* Caldiroli, Paolo; Montecchiari, Piero) Multibump solutions for Duffing-like systems. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 115–143 (1997). (Patricio L. Felmer) **98i:34071** 34C37 (34C15, 58F05, 70H05)

— Asymptotic analysis of time singularities for a class of time-dependent Hamiltonians. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 143–171. (Summary) **98b:70020** 70H05 (34A20, 34A25, 58F05)

Aberbach, Ian M. (*with* Huneke, Craig; Smith, Karen E.) A tight closure approach to arithmetic Macaulayfication. *Illinois J. Math.* **40** (1996), *no.* 2, 310–329. (Melvin Hochster) **98c:13005** 13A35 (13A30, 13H10)

— (*with* Hochster, Melvin) Finite Tor dimension and failure of coherence in absolute integral closures. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 171–184.

(Irena Swanson) **98i:13006** 13A35 (13B22, 13D03)

Abercrombie, A. G. (*with* Nair, Radhakrishnan) An exceptional set in the ergodic theory of rational maps of the Riemann sphere. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 253–267. (Sanju L. Velani) **98d:58099** 58F11 (58F23)

— (*with* Nair, Radhakrishnan) An exceptional set in the ergodic theory of Markov maps of the interval. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 1, 221–240. (Oliver Knill) **98a:58099** 58F11 (28A80)

Åberg, Ingegerd (*with* Karlsson, Anders) "The source problem"—transient waves propagating from internal sources in non-stationary media. (English summary) *Wave Motion* **26** (1997), *no.* 1, 43–68. (John A. DeSanto) **98f:78014** 78A40 (73D25, 76Q05)

Aberth, Oliver The solution of linear interval equations by a linear programming method. (English summary) *Linear Algebra Appl.* **259** (1997), 271–279. (Summary) **98a:65063** 65G10 (15A06, 65F30, 90C05)

— ★ Precise numerical methods using C++. (English summary) With 1 CD-ROM (Windows 95). *Academic Press, Inc., San Diego, CA*, 1998. *xiv*+242 *pp. ISBN* 0-12-041750-2 65–01

Abeyaratne, Rohan (*with* Knowles, James K.) Impact-induced phase transitions in thermoelastic solids. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 843–867. (Jaime E. Muñoz Rivera) **98g:73003** 73B30 (73B05, 73D05, 73D35, 73K05)

Abgaryan, K. K. (*with* Bakaev, A. V.; Zdan′ski, A. K.) Determination of the metric parameters of an elementary cell with given Wyckoff positions. (Russian) *Mathematical modeling of composite objects* (*Russian*), 90–93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

— (*with* Bakaev, A. V.) Representation of symmetry operations of point groups in zone computations. (Russian) *Mathematical modeling of composite objects* (*Russian*), 94–101, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

— (*with* Khachaturov, V. R.; Bakaev, A. V.; Galiulin, R. V.; Kabanovich, V. I.) A system for predicting the properties of materials with a given chemical formula on a personal computer. (Russian) *Mathematical modeling of composite objects* (*Russian*), 113–131, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

Abgrall, R. Numerical discretization of the first-order Hamilton-Jacobi equation on triangular meshes. (English summary) *Comm. Pure Appl. Math.* **49** (1996), *no.* 12, 1339–1373. (Meng Zhao Qin) **98d:65121** 65M50 (65M12, 65M60)

Abhyankar, Shreeram S. Factorizations over finite fields. (English summary) *Finite fields and applications* (*Glasgow*, 1995), 1–21, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (S. D. Cohen) **98c:11130** 11T06 (12F10)

— Hilbert's thirteenth problem. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 1–11, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Helmut Völklein) **98i:12003** 12F10 (14H30, 20D06, 20E22)

— (*with* Sundaram, Ganapathy S.) Galois theory of Moore-Carlitz-Drinfeld modules. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 349–353. (Alain Thiery) **98g:11067** 11G09 (12F10)

— Projective polynomials. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 6, 1643–1650. (Fernando Barrera-Mora) **98a:12001** 12F10 (12E10, 14H30)

— Polynomial expansion. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1583–1596. (James K. Deveney) **98g:12003** 12F10 (14H30, 20D06, 20E22)

— (*with* Loomis, Paul A.) Once more nice equations for nice groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1885–1896. (James K. Deveney) **98k:12003** 12F12 (20B10)

Abian, Alexander (*with* Eslami, Esfandiar) Compactness of the product of two compact spaces without the axiom of choice. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 97–99. (Summary) **98k:54040** 54D30 (04A25)

— Nest and complete accumulation point compactness of the product of topological spaces. (English summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 69–73 (1997). 54D20 (54B10)

— (*with* Wilson, James A.) A particular equivalent of Picard's little theorem. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 401–404. (Summary) **98c:30039** 30D20 (30D35)

— (*with* Kemp, Paula A.) A theorem equivalent to Picard's Little theorem and a derivation of the fundamental theorem of algebra. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 623–626. 30C15 (30D15)

— (*with* Kemp, Paula A.) An example of a commutative C^*-algebra. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 1–6. (Summary) **98h:46058** 46L05 (46J99)

— (*with* Poon, Yiu Tung) Additive and linear mappings in normed vector spaces. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 125–128. 46B20 (47A05)

Abid, Malek (*with* Nore, C.; Brachet, M. E.) Decaying Kolmogorov turbulence in a model of superflow. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2644–2669. 76F05 (76M25)

— (*with* Brachet, M. E.) Direct numerical simulations of the Batchelor trailing vortex by a spectral method. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 469–475. 76M25 (76C05)

nour el Abidine, D. *see* **Nour El Abidine, D.**

Abikoff, William Adapted metrics and Möbius transformations defined over Clifford algebras. (English summary) *Geometry and nature* (*Madeira*, 1995), 71–77, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Wolfgang Sprössig) **98b:30044** 30F45 (30G35)

Abilov, V. A. Approximation of differentiable functions of two variables by Fourier-Jacobi sums. (Russian) *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 9–12. 42C10 (41A63)

— On the best approximation of functions by algebraic polynomials. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 151–152. 41A50 (41A10)

— (*with* Abilova, F. V.) Approximation of functions by algebraic polynomials in the mean. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 61–63; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 60–62. 41A10

Abilova, F. V. (*with* Abilov, V. A.) Approximation of functions by algebraic polynomials in the mean. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 61–63; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 60–62. 41A10

Abiteboul, Serge (*with* Vardi, Moshe Y.; Vianu, Victor) Fixpoint logics, relational machines, and computational complexity. (English summary) *J. ACM* **44** (1997), *no.* 1, 30–56. (Juraj Hromkovič) **98a:68061** 68Q15 (03C80, 03D15, 68Q05)

Ablaev, Farid M. (*with* Karpinski, Marek) On the power of randomized branching programs. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 348–356, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68068** 68Q05 (68Q15)

— Lower bounds for one-way probabilistic communication complexity and their application to space complexity. (English summary) *Theoret. Comput. Sci.* **157** (1996), *no.* 2, 139–159. (Juraj Hromkovič) **98a:68051** 68Q10 (68Q15, 68Q30, 94A17)

— Randomization and nondeterminism are comparable for ordered read-once branching programs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 195–202, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q05 (68Q10, 68Q15)

Ablamowicz, Rafal (*with* Lounesto, Pertti) On Clifford algebras of a bilinear form with an antisymmetric part. (English summary) *Clifford algebras with numeric and symbolic computations*, 167–188, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (15A63)

— Clifford algebra computations with Maple. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 463–501, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66 (15–04)

— *see also* **Clifford algebras with numeric and symbolic computations**, **98a:30003** *and* **Clifford algebras and spinor structures**, **98e:00026**

Ablayev, Farid *see* **Ablaev, Farid M.**

Ablowitz, Mark J. (*with* Schober, Constance) Numerical stochasticity, Hamiltonian integrators, and the nonlinear Schrödinger equation. *Three-dimensional systems* (*Gainesville, FL*, 1993), 162–181, *Ann. New York Acad. Sci.*, 751, *New York Acad. Sci., New York*, 1995. (*see* **98b:70018**) 65M60 (35Q55)

— (*with* Herbst, B. M.; Le Roux, G. J.) Chaos in numerics. (English summary) *Numerical analysis*, 133–154, *World Sci. Publishing, River Edge, NJ*, 1996. (Vassili G. Gelfreich) **98d:58117** 58F13 (34C37, 58F14, 65H17)

— (*with* Villarroel, Javier; Chakravarty, Sarbarish) On a 2 + 1 Volterra system. (English summary) *Nonlinearity* **9** (1996), *no.* 5, 1113–1128. (Eugene Schlereth) **98g:35181** 35Q53

— (*with* Fokas, Athanassios S.) ★ Complex variables: introduction and applications. (English summary) Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1997. xii+647 *pp. ISBN* 0-521-48058-2; 0-521-48523-1 (D. H. Armitage) **98b:30001** 30–01

— (*with* Herbst, B. M.; Schober, Constance) On the numerical solution of the sine-Gordon equation. II. Performance of numerical schemes. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 2, 354–367. (Mark J. Friedman) **98f:65101** 65M99 (34C37, 35Q53)

— (*with* Herbst, B. M.; Schober, Constance) The nonlinear Schrödinger equation: asymmetric perturbations, traveling waves and chaotic structures. (English summary) Computation of nonlinear phenomena. *Math. Comput. Simulation* **43** (1997), *no.* 1, 3–12. (Peter E. Zhidkov) **98d:35203** 35Q55 (58F39, 65M99)

— (*with* Biondini, G.; De Lillo, S.) On the well-posedness of the Eckhaus equation. (English summary) *Phys. Lett. A* **230** (1997), *no.* 5-6, 319–323. (Summary) **98d:35202** 35Q55

— (*with* Villarroel, Javier) Solutions to the time dependent Schrödinger and the Kadomtsev-Petviashvili equations. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 4, 570–573. (Summary) **98a:81021** 81Q05 (35Q53)

— (*with* Wang, Xiao-Ping) Initial time layers and Kadomtsev-Petviashvili-type equations. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 121–137. 35Q35

Abo, Hirotachi (*with* Sasakura, Nobuo; Terasoma, Tomohide) Quadratic residue graph and Shioda elliptic modular surface $S(4)$. *Tokyo J. Math.* **19** (1996), *no.* 2, 263–288. (Yoshio Fujimoto) **98d:14037** 14G35 (11G25, 14J28)

Abo-Hasha, Shadia M. (*with* Ibrahim, M. A.-K.; El-Safty, Abdalla) Application of spline functions to neutral delay-differential equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 233–239. (Summary) **98h:65029** 65L06 (34K40)

Abolhassani, M. R. (*with* Alishahiha, Mohsen; Ghezelbash, A. M.) The moduli space and monodromies of the $N = 2$ supersymmetric Yang-Mills theory with any Lie gauge groups. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 279–295. (Summary) **98b:81242** 81T60 (14H45, 81T13)

Abouammoh, A. M. (*with* Hendi, M. M. I.) Shock models for classes of life distributions based on generating functions. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 2, 91–102. 62N05

— (*with* Al-Sadi, M. H.) On tests of new better than renewal used classes. (English summary) *Arab J. Math. Sci.* **2** (1996), *no.* 2, 99–120. (Ramesh C. Gupta) **98b:62176** 62N05

Abou-Dina, M. S. (*with* Hassan, F. M.) Generation of waves by a moving plate in stratified shallow water. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 239–253. (Summary) **98m:76150** 76V05 (86A05)

Abouelaz, A. Transformation de Radon sur le groupe spécial orthogonal $SO(d + 1)$. (English summary) [Radon transform on the special orthogonal groups $SO(d + 1)$] *Afrika Mat.* (3) **6** (1996), 101–111. (Jacques Faraut) **98b:44002** 44A12 (22E30, 43A90)

Abouelsaood, Ahmed Pseudo winding numbers and the spherical ansatz. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3279–3284. (Summary) **98e:81106** 81T13

Abou El-Seoud, M. S. On the asymptotic convergence of a collocation method for some boundary integral equations of the first kind. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 329–353. (Summary) **98f:65114** 65N35 (65L60, 65R20)

Aboufadel, Edward F. Qualitative analysis of non-autonomous, singularly-perturbed, ordinary differential equations. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 1–9, *Dynamic, Atlanta, GA*, 1996. (Zhu Jun Jing) **98a:34040** 34C25 (34C15, 34E15, 58F30)

— Qualitative analysis of a singularly-perturbed system of differential equations related to the van der Pol equations. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 367–385. (H. I. Freedman) **98k:34093** 34E15 (34C99)

Aboughantous, Charles H. A closed-form analytic solution for the P_1-S_N equations of neutron transport in slab geometry. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7137–7155. (J. Štastna) **98a:82090** 82C70 (82–08, 82C80, 82D75)

Aboulalaâ, Adnan The Gibbs principle for Markov jump processes. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 257–271. (Vadim R. Fatalov) **98f:60048** 60F10 (60J15)

Abounouh, Mostafa The Cahn-Hilliard equation on thin domains. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 23–36. 35K60 (34G20, 35B40, 47H20)

Abou Zeid, M. (*with* Hull, Christopher M.) Geometry, isometries and gauging of (2, 1) heterotic sigma-models. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 291–297. (Summary) **98c:81210** 81T60 (81T40)

— (*with* Hull, Christopher M.) Intrinsic geometry of D-branes. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 264–270. (Summary) **98f:81229** 81T30

Abraham, D. B. (*with* Latrémolière, F. T.) Exact results for the corner of an Ising ferromagnet. (English summary) Recent developments in statistical mechanics and quantum field theory (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **45A** (1996), 74–80. (Miroslav Kolesík) **98a:82012** 82B20 (82B23)

Abraham, Douglas A. (*with* Han, Chunming; Willett, Peter; Chen, Biao) A detection optimal min-max test for transient signals. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 866–869. 94A13

Abraham, George Ancient and medieval star catalogues. *Indian J. Hist. Sci.* **32** (1997), *no.* 1, 47–52. 01A99

— Variable radius epicycle model. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 2, 135–138. (Takao Hayashi) **98d:01010** 01A32

Abraham, Jacob A. (*with* Jain, Jawahar; Bitner, James; Abadir, Magdy S.; Fussell, Donald S.) Indexed BDDs: algorithmic advances in techniques to represent and verify Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1230–1245. (Summary) **98j:94043** 94C10 (68Q05, 68Q60)

Abraham, Paul On the Vitali-Hahn-Saks-Nikodym theorem. (English summary) *Quaestiones Math.* **19** (1996), *no.* 3-4, 397–407. (Z. Lipecki) **98a:46019** 46B20 (28B05, 46G10)

Abraham, Ralph H. (*with* Gardini, Laura; Mira, Christian) ★ Chaos in discrete dynamical systems. (English summary) A visual introduction in 2 dimensions. With 1 companion CD-ROM by Abraham and Ronald J. Record. *Springer-Verlag, New York; TELOS. The Electronic Library of Science, Santa Clara, CA*, 1997. xxvi+246 *pp. ISBN* 0-387-94300-5 (Frederick R. Marotto) **98c:58103** 58F13 (58F14)

Abraham, Romain (*with* Werner, Wendelin) Avoiding-probabilities for Brownian snakes and super-Brownian motion. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 3, 27 *pp.* (*electronic*). (John Verzani) **98j:60100** 60J25 (60G57)

Abraham, Ross Peder Normal p-subgroups of the automorphism group of an abelian p-group. (English summary) *J. Algebra* **199** (1998), *no.* 1, 116–123. (A. Mader) **98m:20069** 20K30 (20K10)

ben-Abraham, Shelomo I. *see* **Ben-Abraham, Shelomo I.**

Abraham, Uri (*with* Todorčević, Stevo) Partition properties of ω_1 compatible with CH. (English summary) *Fund. Math.* **152** (1997), *no.* 2, 165–181. (Jakub Jasiński) **98b:03064** 03E05 (03E35, 03E50, 54A35)

Abrahams, A. M. (*with* Rezzolla, L.; Baumgarte, Thomas W.; Cook, Gregory B.; Scheel, Mark A.; Shapiro, Stuart L.; Teukolsky, Saul A.) Waveform propagation in black hole spacetimes: evaluating the quality of numerical solutions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1084–1091. 83C57

Abrahams, I. D. On explicit approximate non-commutative factorization of matrix Wiener-Hopf kernels. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 41–55, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (*see* **98b:00024**) 45E10 (65R20, 73D25, 76Q05)

Abrahams, Julia Coupled sequences of generalized Fibonacci trees and unequal costs coding problems. *Fibonacci Quart.* **35** (1997), *no.* 4, 309–317. 11B39 (94A45)

Abrahamson, Karl (*with* Cai, Liming; Gordon, Steve) A grammar characterization of logarithmic-space computation. (English summary) *New trends in formal languages*, 247–255, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68166** 68Q50 (68Q05)

Abramchuk, V. S. Iterative directed search methods for solving the systems $Ax = f$ with singular-natural ordering of variables. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 8, 4–8. (V. L. Makarov) **98d:65034** 65F10

— On a fast algorithm for searching for prime numbers that do not exceed the number x. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 10, 7–10. (Grigori Kolesnik) **98g:11108** 11N64

— (*with* Lyashko, S. I.; Skopets′kiĭ, V. V.) Generalized interpolation polynomials. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 1, 86–98, 189–190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 66–76. (Alexey R. Alimov) **98k:41001** 41A05 (65D05)

Abramenko, Peter Group actions on twin buildings. *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 4, 391–406. (Herbert Abels) **98d:20032** 20E42 (20G30, 51E24)

— (*with* Mühlherr, Bernhard) Présentations de certaines BN-paires jumelées comme sommes amalgamées. (English and French summaries) [Presentation of certain twin BN-pairs as amalgamated sums] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 701–706. (Summary) **98h:20043** 20E42

Abramov, A. A. (*with* Ul′yanova, V. I.) On a method for solving multiparameter spectral problems for weakly coupled systems of ordinary differential equations. (Russian) *Computational mathematics and information science* (*Russian*) (*Moscow*, 1995), 13–20, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (P. A. Mishnayevskiy) **98f:34020** 34B05 (34L99)

— (*with* Ul′yanova, V. I.; Yukhno, L. F.) On the use of the argument principle in a spectral problem for systems of ordinary differential equations with singularities. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 61–67. (Summary) **98i:34029** 34B05 (34L05)

Abramov, A. P. Existence of nonregular points in a model of external debt. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1701–1702, 1727; *translation in Differential Equations* **32** (1996), *no.* 12, 1695–1696 (1997). 90A09

Abramov, S. A. (*with* Tsarev, S. P.) Peripheral factorization of linear ordinary operators. (Russian. Russian summary) *Programmirovanie* **1997,** *no.* 1, 59–67; *translation in Program. Comput. Software* **23** (1997), *no.* 1, 45–50. (Summary) **98h:34012** 34A30 (12H05, 34–04, 39A70)

— *see also* **Barkatou, Moulay Abdelfattah, 98h:34001**

Abramov, Viktor (*with* Kerner, Richard; Le Roy, Bertrand) Hypersymmetry: a Z_3-graded generalization of supersymmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1650–1669. (Summary) **98i:58013** 58A50 (17A40, 58B30, 81R99)

Abramov, Vyacheslav M. On a property of a refusals stream. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 800–805. (Summary) **98c:60114** 60K25

Abramovich, Dan A linear lower bound on the gonality of modular curves. *Internat. Math. Res. Notices* **1996,** *no.* 20, 1005–1011. (M. Ram Murty) **98b:11063** 11G18 (11F32, 14G35)

— Uniformity of stably integral points on elliptic curves. *Invent. Math.* **127** (1997), *no.* 2, 307–317. (Jörg Jahnel) **98d:14033** 14G05 (11G05, 14G25)

— A high fibered power of a family of varieties of general type dominates a variety of general type. *Invent. Math.* **128** (1997), *no.* 3, 481–494. (Sándor J. Kovács) **98c:14034** 14J10

— Lang maps and Harris's conjecture. (English summary) *Israel J. Math.* **101** (1997), 85–91. (Yuri G. Prokhorov) **98j:14027** 14G05 (14E05, 14J27)

— (*with* Wang, Jian Hua[5]) Equivariant resolution of singularities in characteristic 0. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 427–433. (From the introduction) **98c:14011** 14E15

Abramovich, Shoshana (*with* Mond, Bertram; Pečarić, Josip E.) Sharpening Jensen's inequality and a majorization theorem. *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 721–728. (J. Sándor) **98i:26022** 26D15 (26D20)

Abramovich, Yuri A. (*with* Aliprantis, Charalambos D.; Polyrakis, I. A.) Some remarks on surjective and bounded below operators. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 455–464. (R. W. Cross) **98b:47002** 47A05 (47A10)

— (*with* Kitover, Arkady K.) A solution to a problem on invertible disjointness preserving operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1501–1505. (Gerard Buskes) **98j:47079** 47B60

Abramowicz, Marek A. (*with* Percival, Marcus J.) Thermal equilibria of accretion discs around black holes: a review of the recent progress. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2003–2017. (Markku Lehto) **98i:83045** 83C57

— (*with* Lanza, Antonio; Miller, John Charles; Sonego, Sebastiano) Curving Newtonian space. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1585–1596. (D. K. Sen) **98j:83079** 83D05 (70D99)

— (*with* Kristiansson, Simon; Sonego, Sebastiano) Optical space of the Reissner-Nordström solutions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 275–288. (Alicia M. Sintes) **98m:83010** 83C15 (83C20, 83C57)

Abrams, Aaron The kth upper chromatic number of the line. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 157–162. (Summary) **98c:05054** 05C15

Abrams, Gene (*with* Menini, Claudia) Duality theorems for finite semigroups. (English summary) *J. Pure Appl. Algebra* **109** (1996), *no.* 1, 1–22. (Andrei Kelarev) **98c:16036** 16S36 (16W50, 20M25)

— Non-induced isomorphisms of matrix rings. (English summary) *Israel J. Math.* **99** (1997), 343–347. (Summary) **98d:16042** 16S50

— (*with* Haefner, Jeremy) Picard groups and infinite matrix rings. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2737–2752. (J. Jirásko) **98j:16017** 16S50

Abrams, William P. Representations of the group scheme Aut(W_n). *Comm. Algebra* **25** (1997), *no.* 9, 2765–2774. (Enric Nart) **98e:14048** 14L15 (17B45)

Abramsky, Samson Retracing some paths in process algebra. *CONCUR '96: concurrency theory* (*Pisa*), 1–17, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q55, 68Q60)

— (*with* McCusker, Guy) Linearity, sharing and state: a fully abstract game semantics for Idealized Algol with active expressions (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 68Q55 (68N15)

— (*with* Gay, Simon; Nagarajan, Rajagopal) A type-theoretic approach to deadlock-freedom of asynchronous systems. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 295–320, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q10 (68Q60)

Abramson, David (*with* de Silva, Amal) A parallel interior point method and its application to facility location problems. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 3, 249–273. (Summary) **98m:90084** 90C05 (90B80, 90C11)

Abramson, Michael A. The construction of generalized m-gons from blueprints. *Mostly finite geometries* (*Iowa City, IA*, 1996), 135–137, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Dirk Hachenberger) **98d:51006** 51E12

Abramyan, Anna V. (*with* Nogin, Vladimir A.) Integral transforms, connected with fractional powers of nonhomogeneous differential operators in L_p-spaces. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 1, 1–14. (Philip Heywood) **98c:44003** 44A15 (47B38, 47F05)

Abrashin, V. N. On a subdomain decomposition method in the solution of problems in mathematical physics. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1525–1535, 1605; *translation in Differential Equations* **31** (1995), *no.* 9, 1481–1490 (1996). (Włodzimierz Proskurowski) **98a:65134** 65M55 (65N55)

Abrashkin, A. A. (*with* Zen′kovich, D. A.; Yakubovich, E. I.) Matrix formulation of hydrodynamics, and three-dimensional generalizations of Ptolemaeus flows. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **39** (1996), *no.* 6, 783–796; *translation in Radiophys. and Quantum Electronics* **39** (1996), *no.* 6, 518–526. (Alexander Lifschitz) **98d:76051** 76D99 (76C05)

— (*with* Zen′kovich, D. A.; Yakubovich, E. I.) Investigation of three-dimensional vortex flows by means of matrix equations of hydrodynamics. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 619–622. (From the text) **98k:76018** 76C05

— (*with* Zen′kovich, D. A.) Nonlinear Kelvin waves on the boundary of a cylindrical vortex. *Fluid Dynam.* **32** (1997), *no.* 5, 664–671 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 5, 62–70 (*Russian. Russian summary*). (Summary) **98m:76028** 76C05 (76U05)

Abrashkin, V. A. Explicit formulas for the Hilbert symbol of a formal group over Witt vectors. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 3–56; *translation in Izv. Math.* **61** (1997), *no.* 3, 463–515. (Summary) **98j:14060** 14L05 (11S31)

— The field of norms functor and the Brückner-Vostokov formula. *Math. Ann.* **308** (1997), *no.* 1, 5–19. (Yoshihiro Koya) **98g:11135** 11S31 (19F15)

Abresch, Uwe (*with* Meyer, Wolfgang T.) Injectivity radius estimates and sphere theorems. (English summary) *Comparison geometry* (*Berkeley, CA*, 1993–94), 1–47, *Math. Sci. Res.*

Inst. Publ., 30, *Cambridge Univ. Press, Cambridge*, 1997. (Seong-Hun Paeng) **98e:53052** 53C20

Abreu, Everton M. C. (*with* Braga, Nelson R. F.) Superspace formulation for the BRST quantization of the chiral Schwinger model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 493–500. (Summary) **98k:81281** 81T70 (81T10)

— (*with* Banerjee, Rabin; Wotzasek, C.) Bose symmetry and chiral decomposition of 2D fermionic determinants. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 519–528. 81T10

Abreu, Miguel *see* **Eliashberg, Yakov M., 98g:58055**

pérez-Abreu, Victor *see* **Pérez-Abreu, Victor**

Abrham, Jaromir (*with* Turgeon, Jean M.) Additive sequences of permutations with repeated elements. Twenty-fifth Manitoba Conference on Combinatorial Mathematics and Computing (Winnipeg, MB, 1995). *Congr. Numer.* **114** (1996), 167–171. (K. C. Prasad) **98a:05003** 05A05

— *see also* **Rosa, Alexander**

Abrhan, Imrich On minimal ideals in semigroups with respect to their subsets. I. (English summary) *Math. Bohem.* **122** (1997), *no.* 1, 1–12. (K. D. Magill, Jr.) **98c:20111** 20M12

Abrial, J.-R. ★ The B-book. (English summary) Assigning programs to meanings. With a tribute to the author by C. A. R. Hoare and a foreword by Pierre Chapront. *Cambridge University Press, Cambridge*, 1996. xxxiv+779 *pp. ISBN* 0-521-49619-5 (Publisher's description) **98d:68034** 68N05 (68–01, 68Q60)

— (*with* Mussat, L.) Specification and design of a transmission protocol by successive refinements using B. *Mathematical methods in program development* (*Marktoberdorf*, 1996), 129–200, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (*see* **98k:68010**) 68Q60

Abrishamchian, Mehdi (*with* Barmish, B. Ross) Reduction of robust stabilization problems to standard H^∞ problems for classes of systems with structured uncertainty. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 8, 1101–1115. (B. T. Polyak) **98a:93066** 93D21 (93B36)

Abry, Patrice (*with* Veitch, Darryl) Wavelet analysis of long-range-dependent traffic. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 2–15. 94A11 (42C15, 94A12)

Absametov, B. (*with* Fazylov, A. Z.) The survival problem for linear control systems with integral constraints. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1661–1664, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1654–1657 (1997). (Corneliu Ursescu) **98m:49005** 49J15

Abt, Markus Approximating the mean squared prediction error in linear models under the family of exponential correlations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 511–526. 62M20 (62B10, 62M40)

Abu Al-Rub, Marwan S. Diffusion problems arising in mathematical biology. I. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **23** (1996), *no.* 1, 106–115. (Jian Hong Wu) **98b:92017** 92D25

— An analysis to the wavefront solutions of the modified plankton-herbivore model. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **7** (1996), *no.* 2, 63–66. 92D40

— An exact travelling wave solution to an insect dispersal model. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **8** (1997), *no.* 1, 23–25. 35Q80

Abualrub, Taher Codes over Z_m. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 99–109. (Summary) **98m:94048** 94B15

Abu-Dayyeh, Walid (*with* Al-Rawwash, Hussein) On the LRT for the multidimensional exponential family under restricted alternative space. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 69–72. 62F03

Abudurexiti, Abuduwaili (*with* Porida) A corrector local Crank-Nicolson method for the equation $u_t = u_{xx} + \alpha u$. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 3, 24–28, 34. 65M60 (65M70)

Abuelrub, Emadeddin (*with* Bettayeb, Said) Embedding rings into faulty twisted hypercubes. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 4, 425–441. (Summary) **98f:68019** 68M10 (68M15)

Abū Ishāq Ibrāhīm ibn Yahyā al-Naqqāsh *see* **Puig, Roser, (98d:01002)**

Abujabal, Hamza A. S. (*with* Khan, Moharram A.; Khan, Mohammad S.; Samman, M. S.) On commutativity of rings with constraints on subsets. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 43–54. 16U80

— (*with* Ashraf, Mohammad) Some commutativity theorems through a Streb's classification. (English summary) *Note Mat.* **14** (1994), *no.* 1, 71–79 (1997). (Howard E. Bell) **98b:16030** 16U80

— On derivation of semiprime rings. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 57–60 (1997). 16U80

— (*with* Ashraf, Mohammad; Alghamdi, Mohamed Ali) Some commutativity results for one sided s-unital rings. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 61–68 (1997). (Howard E. Bell) **98m:16040** 16U80

— (*with* Saleemi, B. A.; Alghamdi, Mohamed Ali) On irresolute maps and small images. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 85–90 (1997). 54C10

— (*with* El-Mosalamy, M.) Bipartite groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 95–99 (1997). 20F32

— (*with* Alghamdi, Mohamed Ali; Zaidi, S. M. A.; Ansari, Q. A.) On co-completeness of the categories of L-fuzzy subgroups. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 55–62. 20N25 (04A72)

— On k^*-radical in BCI-algebras. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 13–24. (Summary) **98a:06029** 06F35 (03G25)

— (*with* Nauman, S. K.) Static modules and Clifford theories. (English summary) *J. Algebra* **193** (1997), *no.* 2, 677–687. (Andrei Marcus) **98k:16009** 16D90

— A relative one-point union of BCK-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 103–111. (Summary) **98m:06033** 06F35 (03G25)

— On k^*-radical in BCI-algebras. (English summary) *Proyecciones* **16** (1997), *no.* 1, 37–47. (A. B. Thaheem) **98m:06027** 06F35 (03G25)

— (*with* Obaid, M. A.; Zaidi, S. M. A.; Khan Ghori, S. A.) A categorical study of p-semisimple BCI-algebras. (English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 1, 21–28. (From the summary) **98b:06028** 06F35 (03G25, 18B99)

— Commutativity and decomposition for near rings. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 119–125. 16Y30

— Some commutativity properties for rings with unity. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 431–435. 16U80

— (*with* Alghamdi, Mohamed Ali; El-Sayyad, S.) A few classes of subalgebras of BCI-algebras. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 1–15. (Summary) **98m:06028** 06F35 (03G25)

Abu-Jdayil, B. (*with* Brunn, P. O.) Fluids with transverse isotropy as models for electrorheological fluids. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 97–107. 76A05 (76V05)

Abullaev, Zh. I. (*with* Ikromov, I. A.; Lakaev, S. N.) On embedded eigenvalues and resonances of the generalized Friedrichs model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 54–62; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 390–397. (Evgeni L. Korotyaev) **98h:81020** 81Q10 (47A40, 47A55, 47N50)

Abu Rabia, R. (*with* Hamdan, M. H.; Ford, R. A.) Numerical simulation of gas-particulate flow through curvilinear porous channels. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 267–284. 76S05 (76M20, 76T05)

Aburawash, Usama A. On embedding of involution rings. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 245–250. 16W10

Abu-Saris, Raghib M. (*with* Hanson, Floyd B.) Computational suboptimal filter for a class of Wiener-Poisson driven stochastic processes. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 279–292. (Zoran Gajic) **98e:93100** 93E11

Abusev, R. A. (*with* Mazanova, E. V.) Bayes estimation and group classification for multivariate dependent observations. (English summary) Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* **81** (1996), *no.* 4, 2773–2778. (Chien-Pai Han) **98b:62108** 62H30

— Bayesian estimation of linear functionals in the case of multidimensional normal distribution. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan′, 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 346–351. (Ram Shanmugam) **98f:62065** 62F15

— (*with* Kolegova, N. V.) Statistical Bayesian classifiers of normal populations and their comparative analysis. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan′, 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1117–1124. (*see* **98b:60002**) 62H30

Abushov, O. G. (*with* Lapin, A. V.) Solution of the problem of filtration in a dam by the shape optimization method of optimizing: grid approximation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 9, 3–13; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 9, 1–11 (1997). (Vadim Komkov) **98b:76066** 76S05 (49Q10, 76M10, 76M30)

Abu-Youssef, S. E. (*with* Mohie El-Din, M. M.; Mahmoud, M. A. W.; Sultan, Khalaf S.) Order statistics from the doubly truncated linear-exponential distribution and its characterizations. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 281–290. (M. M. Siddiqui) **98e:62023** 62E10 (62G30)

Abu-Zaid, I. T. (*with* El-Gebeily, M. A.) A finite difference method for approximating the solution of a certain class of singular two-point boundary value problems. (English summary) *Arab J. Math. Sci.* **1** (1995), *no.* 1, 25–39. (Summary) **98f:65077** 65L10 (65L12)

— (*with* El-Gebeily, M. A.) On a finite difference method for singular two-point boundary value problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 179–190. (Summary) **98m:65121** 65L10 (65L12)

Abzalilov, D. F. (*with* Il′inskiĭ, N. B.) On an extremal problem of the flow of an ideal incompressible fluid around a smooth closed contour with a sink. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 43–46; *translation in Phys. Dokl.* **42** (1997), *no.* 5, 265–268. (Adrian Carabineanu) **98g:76003** 76B05 (76M30)

Acacio de Barros, J. *see* **de Barros, J. Acacio**

A'Campo, Norbert (*with* Oka, Mutsuo[1]) Geometry of plane curves via Tschirnhausen resolution tower. *Osaka J. Math.* **33** (1996), *no.* 4, 1003–1033. (Sherwood Washburn) **98d:14038** 14H20 (14B05, 14H45)

Accardi, Alberto (*with* Belli, Andrea) Renormalization transformations of the 4-D BFYM theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2353–2366. (Liviu Tătar) **98j:81341** 81T70 (81T13, 81T15)

— (*with* Belli, Andrea; Martellini, Maurizio; Zeni, Mauro) Cohomology and renormalization of *BF* YM theory in three dimensions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 540–566. (Mohamed Kachkachi) **98i:81247** 81T70 (81T13, 81T15)

Accardi, Luigi Quantum probability theory: stochastic calculus and conditional expectations. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **56** (1995), 303–349, 351; *translation in Trans. Moscow Math. Soc.* **1995**, 235–270. (Kalyanapuram R. Parthasarathy) **98j:81179** 81S25 (46L50)

— (*with* Smolyanov, O. G.) Transformations of Gaussian measures generated by the Lévy-Laplacian, and generalized traces. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 1, 5–8. (A. V. Uglanov) **98c:46086** 46G12 (28C20, 35R15)

— (*with* Smolyanov, O. G.; Smolyanova, M. O.) Change of variable formulas for infinite-dimensional distributions. (Russian) *Mat. Zametki* **60** (1996), *no.* 2, 288–292; *translation in Math. Notes* **60** (1996), *no.* 1-2, 212–215 (1997). (V. A. Romanov) **98f:46041** 46F25 (28C20, 46G12)

— (*with* Ohya, Masanori; Watanabe, Noboru) Note on quantum dynamical entropies. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 457–469. (Matthew J. Donald) **98a:46081** 46L55 (46L60, 82C10)

— (*with* Lu, Yun Gang; Obata, Nobuaki) Towards a non-linear extension of stochastic calculus. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 1–15. (Kalyanapuram R. Parthasarathy) **98j:60093** 60H99 (81S25)

— (*with* Lu, Yun Gang; Mastropietro, V.) Stochastic bosonization for a $d \geq 3$ Fermi system. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 185–213. (Wolfgang Freudenberg) **98k:81129** 81S25 (46L60, 82B10)

— (*with* Mastropietro, V.) Stochastic bosonization for an interacting $d \geq 3$ Fermi system. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 215–235. (Wolfgang Freudenberg) **98k:81130** 81S25 (46L60, 82B10)

— (*with* Bogachev, Vladimir I.) The Ornstein-Uhlenbeck process associated with the Lévy Laplacian and its Dirichlet form. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 95–114. (Zhi Ming Ma) **98d:60143** 60J25 (31C25, 47D07, 60B11)

Accetta, Gabriele (*with* Orsingher, Enzo) Asymptotic expansion of fundamental solutions of higher order heat equations. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 217–226. (Summary) **98h:35092** 35K30 (35A08, 35B40)

Accioly, A. J. (*with* Azeredo, A. D.; de Aragão, C. M. L.; Mukai, Hatsumi) A simple prescription for computing the stress-energy tensor. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1163–1166. (Roh Suan Tung) **98e:83043** 83C40 (83C50)

— (*with* Mukai, Hatsumi) Podolsky's higher-order electromagnetism from first principles. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 1061–1068. (Summary) **98j:78006** 78A02 (81V10)

— (*with* Aldrovandi, R.; Novaes, S. F.; Spehler, D.; Mukai, Hatsumi) On the long standing issue of an $R\varphi^2$ coupling between gravity and a massless free scalar field. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 1, 121–128. (Summary) **98a:83062** 83C47 (81T20, 81V17)

Acebrón, J. A. (*with* Bonilla, Luis L.) Asymptotic description of transients and synchronized states of globally coupled oscillators. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 296–314. 34C15

Acedo, L. (*with* Santos, Andrés) Probability of first return on Cayley trees. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 6995–7007. (Summary) **98k:82169** 82C44 (82C80)

Acerbi, C. (*with* Mussardo, Giuseppe; Valleriani, A.) On the form factors of relevant operators and their cluster property. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2895–2913. (Marco Moriconi) **98m:81164** 81T40

— Form factors of exponential operators and exact wave function renormalization constant in the Bullough-Dodd model. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 3, 589–610. (Mathias Pillin) **98d:81098** 81T40 (81T15)

Acerbi, Emilio (*with* Fonseca, Irene; Fusco, Nicola) Regularity results for equilibria in a variational model for fracture. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 889–902. (Pablo Pedregal) **98j:73100** 73V25 (49N60, 49Q20, 73M25)

Acero, Juan José Carnap's boycott of semantics. (Spanish) *Current perspectives in logic and philosophy of science* (*Spanish*), 35–50, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 03A05

Aceto, Luca (*with* Ingólfsdóttir, Anna) An equational axiomatization of observation congruence for prefix iteration. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 195–209, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98h:68062** 68Q10 (68Q55, 68Q60)

— (*with* Ingólfsdóttir, Anna) CPO models for compact GSOS languages. (English summary) *Inform. and Comput.* **129** (1996), *no.* 2, 107–141. (Gheorghe Ştefănescu) **98f:68075** 68Q10 (68Q55)

— (*with* Hüttel, Hans; Ingólfsdóttir, Anna; Kleist, Josva) Relating semantic models for the object calculus (preliminary report). (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68N15)

— (*with* Fokkink, Willem Jan) An equational axiomatization for multi-exit iteration. (English summary) *Inform. and Comput.* **137** (1997), *no.* 2, 121–158. (Andrea Maggiolo-Schettini) **98h:68063** 68Q10 (68Q55, 68Q60)

— (*with* Ingólfsdóttir, Anna) A characterization of finitary bisimulation. *Inform. Process. Lett.* **64** (1997), *no.* 3, 127–134. (Introduction) **98m:68060** 68Q10 (68Q55)

higuera Acevedo, Clara Lucía *see* **Higuera Acevedo, Clara Lucía**

Aceves, Alejandro (*with* Holm, Darryl D.; Kovačič, Gregor; Timofeyev, Ilya) Homoclinic orbits and chaos in a second-harmonic generating optical cavity. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 203–208. (Summary) **98k:78049** 78A60 (34C37, 58F13, 58F40)

rodriguez-Achach, Manuel *see* **Rodriguez-Achach, Manuel**

Acharrya, Muktish (*with* Chakrabarti, Bikas K.) Ising system in oscillating field: hysteretic response. (English summary) *Annual reviews of computational physics, I*, 107–148, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82075** 82C20 (82C80)

Achary, K. K. (*with* Kumaran, M.) On the use of generalised lambda distribution for solving a (Q, r) system. (English summary) *Opsearch* **33** (1996), *no.* 4, 221–234. 90B05

Acharya, B. Devadas On minimal dominating functions of a graph. *Math. Student* **64** (1995), *no.* 1-4, 170–174 (1996). 05C35

— (*with* Arumugam, S.; Sampathkumar, E.) Graphoidal covers of a graph: a creative review. (English summary) *Graph theory and its applications* (*Tirunelveli*, 1996), 1–28, *Tata McGraw-Hill, New Delhi*, 1997. (Martin Kochol) **98m:05140** 05C70 (05C38)

— *see also* **Graph theory and its applications, 98f:05001**

Acharya, B. S. $N = 1$ heterotic/M-theory duality and Joyce manifolds. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 3, 579–596. (Krzysztof Galicki) **98a:81147** 81T30 (53C25, 83E30)

— Dirichlet Joyce manifolds, discrete torsion and duality. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 591–606. (Richard A. Corrado) **98g:81146** 81T30 (32J81, 53C80)

— (*with* O'Loughlin, Martin; Spence, B.) Higher-dimensional analogues of Donaldson-Witten theory. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 657–674. (Bai-Ling Wang) **98i:58051** 58D29 (53C25, 57R57, 81T13)

— (*with* O'Loughlin, Martin) Self-duality in $(D \leq 8)$-dimensional Euclidean gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, R4521–R4524. (Summary) **98d:53034** 53C07 (53C80, 81V17, 83E15)

Acharya, K. (*with* Pandey, Daya Shankar) Some fixed point theorems in topological spaces. (English summary) *Math. Ed.* (*Siwan*) **31** (1997), *no.* 2, 77–80. 54H25

Acharya, Milu (*with* Patel, Jagannath) Certain classes of p-valent analytic functions. *Demonstratio Math.* **29** (1996), *no.* 2, 317–331. (K. S. Padmanabhan) **98d:30022** 30C45 (30C80)

Acharya, Sudip Kumar (*with* Chattopadhyay, K. C.; Datta, Saral) A survey on P-spaces. *Math. Student* **64** (1995), *no.* 1-4, 146–154 (1996). 54E18

Acharyya, S. K. (*with* Chattopadhyay, K. C.; Ghosh, D. P.) On a class of subalgebras of $C(X)$ and the intersection of their free maximal ideals. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 2, 611–615. (Donald Plank) **98a:54012** 54C40 (46E25, 46J10)

Achatz, Klaus (*with* Schulte, Wolfram) Architecture independent massive parallelization of divide-and-conquer algorithms. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 97–127, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q22

Achcar, Jorge Alberto (*with* Leandro, Roseli Aparecida) Generation of bivariate lifetime data assuming the Block & Basu exponential distribution. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 43–52. 62N05 (65U05)

— (*with* Fogo, José Carlos) A useful reparameterization for the reliability in the Weibull case. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 387–400. 62N05

Achchab, B. (*with* Agouzal, Abdellatif; Mghazli, Zoubida) A domain decomposition method for biharmonic problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 67–77. (Weimin Han) **98d:65153** 65N55

dell' Achchio, F. *see* **Dell' Achchio, F.**

Achdou, Yves (*with* Nataf, Frédéric) A Robin-Robin preconditioner for an advection-diffusion problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1211–1216. (Summary) **98i:65111** 65N55 (76M10, 76R99)

— (*with* Mohammadi, Bijan; Pironneau, Olivier; Valentin, Frederic) Domain decomposition and wall laws. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 42–55. (*see* **98i:65002**) 76M25 (76D10, 76F99)

Achenbach, Jan D. Applications of ultrasonic diffraction theory to crack detection and sizing. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 3–14, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Summary) **98g:73011** 73D25 (35P99)

Achlioptas, Dimitris (*with* Chrobak, Marek; Noga, John) Competitive analysis of randomized paging algorithms. (English summary) *Algorithms—ESA '96* (*Barcelona*), 419–430, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68094** 68Q25 (68N25)

— (*with* Brown, J. I.; Corneil, Derek G.; Molloy, Michael Sean O'Brien) The existence of uniquely $-G$ colourable graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 1–11. (Adrian Riskin) **98j:05065** 05C15

Achs, Ágnes Evaluation strategies of fuzzy Datalog. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 85–102. (Summary) **98e:68025** 68N17 (04A72, 68P15)

Achtaich, N. Numerical approximation of axisymmetric positive solutions of semilinear elliptic equations in axisymmetric domains of $\mathbf{R}^3$. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 599–614. (Summary) **98d:65161** 65N99

Achtziger, W. Topology optimization of discrete structures: an introduction in view of computational and nonsmooth aspects. (English summary) *Topology optimization in structural mechanics*, 57–100, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (Summary) **98i:73040** 73K40 (49J52, 49Q15, 73Vxx, 90C90)

Achúcarro, Ana (*with* Gregory, Ruth) Selection rules for splitting strings. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1972–1975. (Summary) **98h:83084** 83E30 (81T30, 83C57, 83F05)

Achuthan, N. R. (*with* Simanihuruk, M.; Achuthan, Nirmala) On minimal triangle-free graphs with prescribed 1-defective chromatic number. (English summary) *Australas. J. Combin.* **16** (1997), 203–227. (Jaroslav Ivančo) **98i:05082a** 05C15 (05C35)

— (*with* Simanihuruk, M.; Achuthan, Nirmala) On defective colourings of triangle-free graphs. (English summary) *Australas. J. Combin.* **16** (1997), 259–283. (Jaroslav Ivančo) **98i:05082b** 05C15 (05C35)

— (*with* Caccetta, Louis; Hill, S. P.) On the vehicle routing problem. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4277–4288. (*see* **98i:00032**) 90B85 (90C27)

Achuthan, Nirmala (*with* Simanihuruk, M.; Achuthan, N. R.) On minimal triangle-free graphs with prescribed 1-defective chromatic number. (English summary) *Australas. J. Combin.* **16** (1997), 203–227. (Jaroslav Ivančo) **98i:05082a** 05C15 (05C35)

— (*with* Simanihuruk, M.; Achuthan, N. R.) On defective colourings of triangle-free graphs. (English summary) *Australas. J. Combin.* **16** (1997), 259–283. (Jaroslav Ivančo) **98i:05082b** 05C15 (05C35)

— (*with* Chen, Guantao) Mixed Ramsey numbers: total chromatic number versus stars. (English summary) *Australas. J. Combin.* **17** (1998), 157–168. (Summary) **98m:05125** 05C55

Aciuvienė, Aldona *see* **Volk, Otto, 98b:01043**

Acker, Andrew F. (*with* Lancaster, Kirk E.) Qualitative behavior of axial-symmetric solutions of elliptic free boundary problems. (English summary) *Electron. J. Differential Equations* **1997**, No. 02, approx. 24 pp. (electronic). (Jie Yang) **98d:35239** 35R35 (35J65)

— (*with* Kadakal, Ercan; Miller, Kenneth G.) A trial-free-boundary method for computing Batchelor flows. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 31–48. (Nikolay P. Moshkin) **98d:76122** 76M25 (65M99, 65N99, 76C05)

— On the existence of convex classical solutions for multilayer free boundary problems with general nonlinear joining conditions. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 2981–3020. (Shuzi Zhou) **98k:35209** 35R35 (35J60, 35Q35, 76T05)

Ackerer, Ph. (*with* Siegel, Pascal; Mosé, R.; Jaffre, J.) Solution of the advection-diffusion equation using a combination of discontinuous and mixed finite elements. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 6, 595–613. (Summary) **98a:76055** 76M10 (76Rxx)

Ackermann, Jürgen E. Safe and comfortable travel by robust control. (English summary) *Trends in control* (*Rome*, 1995), 1–16, *Springer, Berlin*, 1995. (Summary) **98c:93075** 93C95 (93B35)

— (*with* Bünte, Tilman) Automatic car steering control bridges over the driver reaction time. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 61–74. (*see* **98g:93001**) 93C95

— (*with* Utkin, Vadim I.) Sliding mode control design based on Ackermann's formula. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 234–237. 93B12

Ackermann, Thomas A note on the Wodzicki residue. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 404–406. (Wolfgang Kalau) **98a:58152** 58G11 (58G15)

Acketa, Dragan M. (*with* Žunić, Jovиša) Least squares fitting of digital polynomial segments. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996),

17–23, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98j:68170** 68U10 (65D17)

— (*with* Mudrinski, Vojislav) A family of 4-designs on 26 points. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 843–860. (Elena Brožiková) **98c:05036** 05B30

— (*with* Matić-Kekić, Snežana) Non-greedy optimal digital convex polygons. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 455–470. (Rade Živaljević) **98d:52018** 52B55 (68U05)

Ackleh, Azmy S. (*with* Fitzpatrick, Ben G.) Estimation of discontinuous parameters in general nonautonomous parabolic systems. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika (Prague)* **32** (1996), *no.* 6, 543–556. (Ulrich Tautenhahn) **98a:65131** 65M30 (65J20)

— (*with* Deng, Keng) Monotone method for first order nonlocal hyperbolic initial-boundary value problems. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 283–293. 35L60 (35Q80, 65M12)

— (*with* Fitzpatrick, Ben G.) Modeling aggregation and growth processes in an algal population model: analysis and computations. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 480–502. (Summary) **98i:92040** 92D40 (35Q80)

— (*with* Ito, Kazufumi) An implicit finite difference scheme for the nonlinear size-structured population model. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 865–884. (Dale H. Mugler) **98m:65133** 65M06 (92D25)

calvario Acócal, J. L. *see* **Calvario Acócal, J. L.**

de Acosta, Alejandro D. Exponential tightness and projective systems in large deviation theory. *Festschrift for Lucien Le Cam*, 143–156, *Springer, New York*, 1997. (Anatolii A. Pukhal'skiĭ) **98j:60038** 60F10 (60B12)

— Moderate deviations for empirical measures of Markov chains: lower bounds. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 259–284. (Liming Wu) **98f:60049** 60F10 (60J10)

pascual Acosta, Antonio *see* **Pascual Acosta, Antonio**

Acosta, Daniel (*with* Lawson, Terry) Even non-spin manifolds, spin^c structures, and duality. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 27–32. (Jim A. Bryan) **98m:57033** 57R15 (57R57)

pérez Acosta, Francisco *see* **Pérez Acosta, Francisco**

Acosta, Gabriel (*with* Rossi, Julio D.) Blow-up vs. global existence for quasilinear parabolic systems with a nonlinear boundary condition. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 711–724. (Summary) **98h:35121** 35K60 (35B05)

Acosta G., Lorenzo Cohomologie d'Amitsur des extensions cycliques d'un anneau commutatif. [Amitsur cohomology of cyclic extensions of a commutative ring] *Anneaux et modules (Colmar, 1991)*, 77–84, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (*see* **98b:13002**) 13D03

Acrivos, A. (*with* Wang, Yonggyang; Mauri, Roberto) Transverse shear-induced gradient diffusion in a dilute suspension of spheres. (English summary) *J. Fluid Mech.* **357** (1998), 279–287. (Summary) **98m:76141** 76R50 (76T05)

Acton, Scott T. (*with* Bovik, Alan C.) The impact of order statistics on signal processing. (English summary) *Statistical theory and applications*, 153–176, *Springer, New York*, 1996. (*see* **98b:62003**) 62G30 (68U10, 94A12)

— On fuzzy nonlinear regression for image enhancement. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 239–253. 68U10

Actor, A. (*with* Bender, I.) The zeta function constructed from the zeros of the Bessel function. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6555–6580. (Boro Döring) **98e:33009** 33E20 (33C10, 41A30, 65E05)

Acu, Dumitru Formules optimales de quadrature attachées à la formule de quadrature du trapèze et à la formule de Simpson. (English summary) [Optimal quadrature formulas associated with the trapezoidal rule and the Simpson formula] *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 9–15. 65D32

Acuña, Carmen O. (*with* Horowitz, Joseph) A statistical approach to the resolution of point sources. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 4, 421–435. (Summary) **98m:62269** 62M30 (62H11)

Aczél, János (*with* Maksa, Gyula) Consistent aggregation and generalized bisymmetry. *Contributions to the theory of functional equations, II (Zamárdi, 1995)*, 1–4, *Grazer Math. Ber.*, 327, *Karl-Franzens-Univ. Graz, Graz*, 1996. (*see* **98d:39001**) 39B99 (90A53)

— (*with* Losonczi, László) Extension of functional equations. *The mathematics of Paul Erdős, II*, 251–263, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (R. C. Gilbert) **98m:39056** 39B05 (90B50)

— (*with* Ertel, Wolfgang) A new formula for speedup and its characterization. (English summary) *Acta Inform.* **34** (1997), *no.* 8, 637–652. (Evangelos Kranakis) **98i:68113** 68Q22

— (*with* Maksa, Gyula; Marley, A. A. J.; Moszner, Zenon) Consistent aggregation of scale families of selection probabilities. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 227–250. (Lorenzo Peccati) **98g:60008** 60A99 (90A07)

— *see also* **Aggregating clones, colors, equations, iterates, numbers, and tiles**, **98m:39001**

Aczel, Peter Generalised set theory. *Logic, language and computation, Vol. 1 (Moraga, CA, 1994)*, 1–17, *CSLI Lecture Notes*, 58, *CSLI Publ., Stanford, CA*, 1996. (M. Randall Holmes) **98c:03108** 03E70 (03B40)

Adachi, Akeo (*with* Tohyama, Hiroaki) The computational complexity of some restricted Chinese postman problems. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 39–45. (*see* **98a:68008**) 68Q25

Adachi, Kenzō Continuation of holomorphic functions from subvarieties. *Geometric complex analysis (Hayama, 1995)*, 9–17, *World Sci. Publishing, River Edge, NJ*, 1996. (So-Chin Chen) **98c:32014** 32D15 (32A10)

— (*with* Cho, Hong Rae) L^p $(1 \le p \le \infty)$ estimates for $\overline{\partial}$ on a certain pseudoconvex domain in $\mathbf{C}^n$. (English summary) *Nagoya Math. J.* **148** (1997), 127–136. (Der-Chen E. Chang) **98j:32013** 32F20 (42B20)

Adachi, Norihiko (*with* Ma, Wan Biao; Amemiya, Takashi) On the delay independent stabilization of linear neutral systems with limited measurable state variables. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 601–619. (K. B. Datta) **98k:93097** 93D15 (34K35)

Adachi, Taichi (*with* Furusaka, Shinichi; Imai, Katsunobu; Morita, Kenichi) The firing squad synchronization problem in two-dimensional reversible cellular automata. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 228–232. (*see* **98a:68008**) 68Q80

Adachi, Toshiaki (*with* Maeda, Sadahiro; Ogiue, Koichi) Extrinsic shape of circles and the standard imbedding of a Cayley projective plane. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 411–419. (Jürgen Berndt) **98f:53058** 53C42

— (*with* Maeda, Sadahiro; Ogiue, Koichi) Extrinsic shape of circles and standard imbeddings of projective spaces. (English summary) *Manuscripta Math.* **93** (1997), *no.* 2, 267–272. (Bang-yen Chen) **98j:53070** 53C42 (53C40)

— A comparison theorem on magnetic Jacobi fields. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 293–308. (Edoh Amiran) **98g:53076** 53C22 (53C55, 78A35)

— (*with* Maeda, Sadahiro) Global behaviours of circles in a complex hyperbolic space. *Tsukuba J. Math.* **21** (1997), *no.* 1, 29–42. (Bao Qiang Wu) **98g:53095** 53C40 (53C42)

Adachi, Yukinobu On the relation between tautly imbedded space modulo an analytic subset S and hyperbolically imbedded space modulo S. *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 3, 385–392. (Valentin Zdravkov Hristov) **98i:32041** 32H20 (32H15)

el-Adad, El-Sayed El-Sayed Abd El-Aal *see* **El-Adad, El-Sayed El-Sayed Abd El-Aal**

Adali, Sarp (*with* Sadek, I. S.; Sloss, J. M.; Bruch, J. C., Jr.) Optimal boundary control of the longitudinal vibrations of a rod using a maximum principle. (English summary) *J. Vib. Control* **3** (1997), *no.* 2, 235–254. (Guenter Leugering) **98e:49057** 49K20 (49N55, 73D30, 73K50, 93C85)

Adalsteinsson, D. (*with* Sethian, J. A.) A level set approach to a unified model for etching, deposition, and lithography. I. Algorithms and two-dimensional simulations. (English summary) *J. Comput. Phys.* **120** (1995), *no.* 1, 128–144. (From the summary) **98k:73066a** 73V20 (80A99)

— (*with* Sethian, J. A.) A level set approach to a unified model for etching, deposition, and lithography. II. Three-dimensional simulations. (English summary) *J. Comput. Phys.* **122** (1995), *no.* 2, 348–366. (From the summary) **98k:73066b** 73V20 (80A99)

— (*with* Sethian, J. A.) A level set approach to a unified model for etching, deposition, and lithography. III. Redeposition, reemission, surface diffusion, and complex simulations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 193–223. (From the summary) **98k:73066c** 73V20 (80A99)

Ádám, András ★ The behaviour and simplicity of finite Moore automata. (English summary) *Akadémiai Kiadó (Publishing House of the Hungarian Academy of Sciences), Budapest*, 1996. ii+188 *pp. ISBN* 963-05-7319-9 (Christian Posthoff) **98h:68170** 68Q68 (68Q70)

— (*with* Győry, K.; Sárközy, András) The life and mathematics of Paul Erdös (1913–1996). *Math. Japon.* **46** (1997), *no.* 3, 517–526. 01A70

Adam, Christoph Massive Schwinger model within mass perturbation theory. (English summary) *Ann. Physics* **259** (1997), *no.* 1, 1–63. (Lewis H. Ryder) **98i:81142** 81T10 (81T15)

Adam, John A. (*with* Ward, K. Y.) Limiting spheroid size as a function of growth factor source location. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 43–46. (Summary) **98h:92013** 92C35

— The Pekeris waveguide: a case study in classical applied mathematics. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 157–186. (Summary) **98k:76120** 76Q05 (86A05)

Adam, Peter (*with* Szabó, S.; Domokos, P.; Janszky, J.) Coherent-state representation on an infinitesimal interval in phase space. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 203–206. (Summary) **98m:81068** 81R30

Adam, Stephan (*with* Schnerr, Günter H.) Instabilities and bifurcation of non-equilibrium two-phase flows. (English summary) *J. Fluid Mech.* **348** (1997), 1–28. (Summary) **98g:76073** 76T05 (76E99, 76H05)

Adamatskiĭ, A. I. How cellular automaton plays Minesweeper. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 127–137. (Summary) **98d:68150** 68Q80

Adamchik, V. S. (*with* Wagon, Stan) A simple formula for π. *Amer. Math. Monthly* **104** (1997), *no.* 9, 852–855. (W. W. Adams) **98a:11166** 11Y60

Adamec, Ladislav Kinetical systems. (English summary) *Appl. Math.* **42** (1997), *no.* 4, 293–309. (John W. Lee) **98g:34008** 34A12 (34D05, 92E20)

Adámek, Jiří (*with* Rosický, Jiří) On geometric and finitary sketches. (English summary) The European Colloquium of Category Theory (Tours, 1994). *Appl. Categ. Structures* **4** (1996), *no.* 2-3, 227–240. (Summary) **98j:18004** 18B99

— (*with* Rosický, Jiří) A remark on accessible and axiomatizable categories. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 2, 411–414. (Summary) **98i:18001** 18B99

— How to sketch quasivarieties. (English summary) *J. Algebra* **185** (1996), *no.* 3, 643–659. (Summary) **98k:03075** 03C05 (08C15, 18B99)

— (*with* Rosický, Jiří) An algebraic description of locally multipresentable categories. (English summary) *Theory Appl. Categ.* **2** (1996), *No.* 4, 40–54 (*electronic*). (Summary) **98i:18002** 18C99

— (*with* Pedicchio, Maria Cristina) A remark on topological spaces, grids, and topological systems. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 3, 217–226. (M. Barr) **98j:18005** 18C05 (18B30, 54B30)

— (*with* Rosický, Jiří) Finite models of sketches. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 3–23. (Summary) **98i:18003** 18C99 (03C13)

Adami, Christoph (*with* Cerf, Nicolas J.) Negative entropy in quantum information theory. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 77–84, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P99 (94A17)

— (*with* Cerf, Nicolas J.) Entropic Bell inequalities. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3371–3374. (Emilio Santos) **98j:81008** 81P05 (81P10, 94A17)

— (*with* Cerf, Nicolas J.) Negative entropy and information in quantum mechanics. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 26, 5194–5197. (Summary) **98g:81008** 81P05 (82B10)

— ★ Introduction to artificial life. (English summary) With 1 CD-ROM for Windows and UNIX. *TELOS. The Electronic Library of Science, Santa Clara, CA*, 1998. xviii+374 *pp. ISBN* 0-387-94646-2 (From the preface) **98i:92002** 92B05 (68T05)

— (*with* Cerf, Nicolas J.; Kwiat, Paul G.) Optical simulation of quantum logic. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 3, *R*1477–*R*1480. 81P99

Adamović, Dražen Rationality of Neveu-Schwarz vertex operator superalgebras. *Internat. Math. Res. Notices* **1997**, *no.* 17, 865–874. (Hai Sheng Li) **98i:17032** 17B69 (17B68)

Adamovich, A. M. (*with* Rybnikov, G. L.) Tilting modules for classical groups and Howe duality in positive characteristic. (English summary) *Transform. Groups* **1** (1996), *no.* 1-2, 1–34. (Stephen R. Doty) **98f:20026** 20G05 (13A50, 15A75)

Adamowicz, Zofia (*with* Zbierski, Paweł) ★ Logic of mathematics. (English summary) A modern course of classical logic. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. x+260 *pp. ISBN* 0-471-06026-7 (R. E. Edwards) **98c:03001** 03-01 (03-02, 03C07, 03E30)

Adams, Colin C. (*with* Reid, Alan W.) Unknotting tunnels in two-bridge knot and link complements. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 617–627. (Daniel Ruberman) **98h:57009** 57M25

— Knotted tilings. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 1–8, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98d:52029** 52C22 (57N12)

— (*with* Brennan, Bevin M.; Greilsheimer, Deborah L.; Woo, Alexander K.) Stick numbers and composition of knots and links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 149–161. (Thang T. Q. Le) **98h:57010** 57M25

Adams, David H. A doubled discretization of abelian Chern-Simons theory. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 22, 4155–4158. (Francois Vanderseypen) **98e:81124** 81T25 (81T13)

Adams, David R. Potential and capacity before and after Wiener. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 63–83, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Tero Kilpeläinen) **98k:31003** 31B05 (01A60, 31B20, 31C15)

— (*with* Nussenzveig Lopes, H. J.) Nonlinear weakly elliptic 2 × 2 systems of variational inequalities with unilateral obstacle constraints. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 18, 20 *pp.* (*electronic*). (Elvira Mascolo) **98m:35075** 35J85 (31C45)

Adams, Ernst Wilhelm (*with* Baumann, Katrin; Grossmann, Ch.) Comparison of direct to shooting enclosures for an inverse-monotone boundary value problem with locally steep solution. (English summary) *Computing* **59** (1997), *no.* 1, 63–83. (Summary) **98g:65068** 65L10 (34B15, 34E15)

Adams, Jeffrey Genuine representations of the metaplectic group and epsilon factors. *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 721–731, *Birkhäuser, Basel*, 1995. (Gordan Savin) **98a:22006** 22E46 (22E47)

Adams, John Frank ★ Lectures on exceptional Lie groups. With a foreword by J. Peter May. Edited by Zafer Mahmud and Mamoru Mimura. Chicago Lectures in Mathematics. *University of Chicago Press, Chicago, IL*, 1996. xiv+122 *pp. ISBN* 0-226-00526-7; 0-226-00527-5 (William M. McGovern) **98b:22001** 22-01 (22E10)

— *see also* **James, I. M., 98c:01041**

Adams, M. E. (*with* Gould, Matthew) Endomorphism monoids of pseudocomplemented semilattices. (English summary) *Acta Sci. Math.* (*Szeged*) **61** (1995), *no.* 1-4, 3–21. (From the introduction) **98a:06007** 06A12 (20M20)

— (*with* Freese, Ralph; Nation, J. B.; Schmid, Jürg) Maximal sublattices and Frattini sublattices of bounded lattices. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 110–127. (Jaroslav Ježek) **98d:06008** 06B05 (06B20)

Adams, M. R. (*with* Harnad, John; Hurtubise, Jacques) Darboux coordinates on coadjoint orbits of Lie algebras. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 41–57. (Alexander V. Shapovalov) **98g:58069** 58F07 (17B99, 22E60)

Adams, Marvin L. (*with* Anistratov, D. Yu.; Larsen, Edward W.) Acceleration of the nonlinear corner-balance scheme by the averaged flux method. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 66–75. (Summary) **98g:82003** 82-08 (65M06, 82C40, 82C80, 85-08, 85A25)

— Subcell balance methods for radiative transfer on arbitrary grids. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 385–431. (Summary) **98k:82172** 82C70 (82C80, 85A25)

Adams, Michael J. (*with* Shader, Bryan L.) A construction for (t, m, s)-nets in base q. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 460–468. (Sanpei Kageyama) **98e:05016** 05B15 (94B05)

Adams, Peter (*with* Bryant, Darryn E.; Khodkar, A.) Uniform 3-factorisations of K_{10}. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 23–32. (Summary) **98i:05125** 05C70

— (*with* Bryant, Darryn E.; El-Zanati, Saad I.; Vanden Eynden, Charles) d-cube decompositions of $K_n \setminus K_m$. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 1–7. (Chris Rodger) **98a:05037** 05B30 (05C70)

— (*with* Billington, Elizabeth J.; Hoffman, D. G.) On the spectrum for $K_{m,2} \setminus K_m$ designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 1, 49–60. (Summary) **98g:05030** 05B30 (05C70)

— (*with* Donovan, Diane; Howse, Adelle) A discussion of Latin interchanges. (English summary) *J. Combin. Math. Combin. Comput.* **23** (1997), 161–182. (Katherine Heinrich) **98b:05019** 05B15

— (*with* Bryant, Darryn E.; Khodkar, A.) 3, 5-cycle decompositions. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 91–110. (Jaroslav Ivančo) **98k:05111** 05C70

Adams, Richard J. Improved scaling functions for robust synthesis. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 231–243. (Summary) **98k:93042** 93B51 (93B36, 93C85)

Adams, Scot Reduction of cocycles with hyperbolic targets. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1111–1145. (Dave Witte) **98i:58135** 58F11 (28D15, 58F15)

— (*with* Stuck, Garrett) The isometry group of a compact Lorentz manifold. I, II. *Invent. Math.* **129** (1997), *no.* 2, 239–261, 263–287. (Alexander Starkov) **98i:53092** 53C50 (58F15)

Adams, Terrence (*with* Friedman, Nathaniel; Silva, Cesar E.) Rank-one weak mixing for nonsingular transformations. (English summary) *Israel J. Math.* **102** (1997), 269–281. (Nathaniel F. G. Martin) **98j:28013** 28D05

Adams, W. W. (*with* Loustaunau, P.; Palamodov, V. P.; Struppa, Daniele C.) Hartogs' phenomenon for polyregular functions and projective dimension of related modules over a polynomial ring. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 2, 623–640. (Joachim Apel) **98f:32013** 32D20 (13P10)

— (*with* Loustaunau, P.) Gröbner bases and primary decomposition in polynomial rings in one variable over Dedekind domains. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 1–15. (Joachim Apel) **98i:13049** 13P10

Adamson, Iain T. ★ A set theory workbook. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1998. x+154 *pp. ISBN* 0-8176-4028-2 04-01

Adamy, J. *see* **Loskot, K. et al., 98m:34106**

Adan, Ivo (*with* Wessels, Jaap) Shortest expected delay routing for Erlang servers. (English summary) *Queueing Systems Theory Appl.* **23** (1996), *no.* 1-4, 77–105. (Muhammad El-Taha) **98c:60115** 60K25 (60K30, 90B22)

— Explicit solutions for queueing problems. *Ten years LNMB*, 105–113, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90B22 (60K25)

— (*with* Van Houtum, Geert-Jan; van der Wal, Jan) The symmetric longest queue system. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 1, 105–120. (Volker Schmidt) **98b:60162** 60K25

— (*with* Resing, Jacques) Steady state probabilities for circular Markov chains. (English summary) *Math. Sci.* **22** (1997), *no.* 1, 27–31. (Dean Isaacson) **98f:60128** 60J10 (60J05)

Adaricheva, K. V. The structure of congruence lattices of finite semilattices. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 1, 3–30, 119; *translation in Algebra and Logic* **35** (1996), *no.* 1, 1–15. (Summary) **98b:06010** 06A12 (06B10)

ben Adda, Fayçal *see* **Ben Adda, Fayçal**

Addessio, F. L. (*with* Clements, B. E.; Johnson, J. N.) Wave propagation in laminates: a study of the nonhomogenized dynamic method of cells. (English summary) *Wave Motion* **27** (1998), *no.* 3, 193–209. 73D15 (73K20, 73V20)

Addison, Paul S. ★ Fractals and chaos. (English summary) An illustrated course. *Institute of Physics Publishing, Bristol*, 1997. xii+256 *pp. ISBN* 0-7503-0400-6 (Frederick R. Marotto) **98k:58152** 58F13 (00A69, 28A80, 34C35, 54H20, 70K50)

— (*with* Qu, Bo; Nisbet, Alistair; Pender, Gareth) A non-Fickian, particle-tracking diffusion model based on fractional Brownian motion. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 12, 1373–1384. (Summary) **98i:86001** 86A05 (86-08)

Adelberg, Arnold Erratum: "Congruences of p-adic integer order Bernoulli numbers" [J. Number Theory **59** (1996), no. 2, 374–388; MR 97e:11028]. *J. Number Theory* **65** (1997), *no.* 1, 179. 11B68 (11B73, 11S85)

Adeleke, S. A. Infinite Jordan permutation groups. *Ordered groups and infinite permutation groups*, 159–194, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (H. Dugald Macpherson) **98h:20005** 20B07 (20B27)

— (*with* Welch, L. V.) On universal words for automorphism groups of linear orders. *Ordered algebraic structures* (*Curaçao*, 1995), 315–332, *Kluwer Acad. Publ., Dordrecht*, 1997. (Patrice Séébold) **98c:20064** 20F10

— (*with* Neumann, Peter M.) Relations related to betweenness: their structure and automorphisms. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 623, viii+125 *pp.* (H. Dugald Macpherson) **98h:20008** 20B27 (06A06, 08A02, 54F50)

Adell, José A. (*with* de la Cal, Jesús) Bernstein-type operators diminish the φ-variation. (English summary) *Constr. Approx.* **12** (1996), *no.* 4, 489–507. (Geetha S. Rao) **98e:41029** 41A35 (41A10, 60G99)

— (*with* Pérez-Palomares, Ana) Second modulus preservation inequalities for generalized Bernstein-Kantorovich operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 147–156, *Transilvania, Cluj-Napoca*, 1997. (Ljubiša M. Kocić) **98m:41038** 41A36 (60G99)

— (*with* Germán Badía, F.; de la Cal, Jesús) On the iterates of some Bernstein-type operators. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 529–541. (Giuseppe Mastroianni) **98j:41021** 41A35 (39B12)

Adem, Alejandro (*with* Karagueuzian, Dikran) Essential cohomology of finite groups. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 101–109. (Carl Riehm) **98f:20038** 20J06

— (*with* Milgram, R. James) The cohomology of the McLaughlin group and some associated groups. *Math. Z.* **224** (1997), *no.* 4, 495–517. (David J. Green) **98e:20057** 20J06 (20D08)

— Recent developments in the cohomology of finite groups. *Notices Amer. Math. Soc.* **44** (1997), *no.* 7, 806–812. (Ian J. Leary) **98j:20077** 20J06

— *see also* **Group representations: cohomology, group actions and topology, 98h:20002**

Adhikari, M. R. (*with* Mukhopadhyay, A.) The concept of cyclic quadrilaterals: its origin and development in India (from the age of *Śulba Sūtras* to Bhāskara I). (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 1, 53–68. (A. I. Volodarskiĭ) **98g:01022** 01A32

Adhikari, Sadhan K. (*with* de Araujo, Carlos F., Jr.; Tomio, Lauro; Frederico, T.) Application of renormalization to potential scattering. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4687–4700. (Summary) **98j:81361** 81U99 (81T15)

Adhikari, Sukumar Das Lattice points in spheres. *Bull. Allahabad Math. Soc.* **8/9** (1993/94), 1–13 (1997). (Hartmut Menzer) **98g:11111** 11P21

— A note on a question of Erdős. *Exposition. Math.* **15** (1997), *no.* 4, 367–371. (Vsevolod F. Lev) **98k:05138** 05D10 (11B75, 11D68)

— (*with* Thangadurai, R.) Addendum to: "A note on the distribution of values of an arithmetical function" [Indian J. Pure Appl. Math. **26** (1995), no. 10, 931–935; MR 96i:11109]. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 125–127. (Summary) **98c:11100** 11N60

Adhikary, Arun Kumar On non-negativity of the nearest proportional to size sampling design. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 8, 1757–1768. (S. Gabler) **98e:62019** 62D05

— (*with* Chaudhuri, Arijit; Seal, Arup Kumar) Small domain estimation by empirical Bayes and Kalman filtering procedures—a case study. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1613–1621. 62D05

Adian, Sergei *see* **Adyan, S. I.**

Adib-Soltāni, Mir Šamseddin ★ An investigation of the decision problem in logic. (Persian. English and Persian summaries) The outline of analytic-semantic algorithms. *Amir Kabir*

Publishing House, Tehran, 1994. xix+652 *pp. ISBN* 964-00-0068-X (Editors) **98b:03002** 03-02 (03B25)

Adiga, Chandrashekar (*with* Bhargava, Srinivasamurthy) A basic bilateral series summation formula and its applications. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 3, 165–184. (Hukum Chand Agrawal) **98f:33032** 33D20 (11B65, 33D05)

— (*with* Ramaswamy, H. N.) A note on Euler's totient function. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 169–174. (Michael E. Mays) **98c:11003** 11A25

Adimari, Gianfranco On the empirical likelihood ratio for smooth functions of *M*-functionals. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 47–59. (K. F. Yu) **98a:62039** 62G05

— An empirical likelihood statistic for quantiles. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 85–95. 62G15

Adimurthi (*with* Pacella, Filomena; Yadava, S. L.) The role of the mean curvature in some nonlinear problem with critical exponent. *Variational methods in nonlinear analysis (Erice, 1992)*, 39–47, *Gordon and Breach, Basel*, 1995. (Wen Xiong Chen) **98g:35072** 35J65

— (*with* Yadava, S. L.) Nonexistence of positive radial solutions of a quasilinear Neumann problem with a critical Sobolev exponent. *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 239–253. (Tadeusz Pruszko) **98i:35055** 35J65 (34A12, 35B05)

— (*with* Prashanth, S.) Failure of Palais-Smale condition and blow-up analysis for the critical exponent problem in $\mathbf{R}^2$. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 283–317. (Yi Hong Du) **98j:35056** 35J65 (35B05, 49J10, 58E05)

— Uniqueness of positive solutions of Dirichlet problem with exponential nonlinearity. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 123–127, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (*see* **98i:00018**) 35J65 (34B15, 35B05)

Adin, Ron M. (*with* Kopeliovich, Yaacov) Short eigenvectors and multidimensional theta functions. (English summary) *Linear Algebra Appl.* **257** (1997), 49–63. (Riccardo Salvati-Manni) **98k:11048** 11F27

Adjiman, C. S. (*with* Schweiger, C. A.; Floudas, Christodoulos A.) Nonlinear and mixed-integer optimization in chemical process network systems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 429–452, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C11 (90C90)

Adke, S. R. (*with* Ramanathan, T. V.) On optimal prediction for stochastic processes. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 1–7. (M. P. Moklyachuk) **98m:62265** 62M20 (60G25)

Adleman, Leonard M. Algorithmic number theory—the complexity contribution. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 88–113, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q15 (11Y16, 68P25, 68Q25)

— (*with* Huang, Ming-Deh A.) Counting rational points on curves and abelian varieties over finite fields. (English summary) *Algorithmic number theory (Talence, 1996)*, 1–16, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Jonathan Pila) **98d:11070** 11G25 (11Y16, 14G05)

Adler, Allan Magic *N*-cubes form a free monoid. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 15, 14 *pp.* (*electronic*). (Rong Si Chen) **98d:05031** 05B15 (05A19)

— Eisenstein and the Jacobian varieties of Fermat curves. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 1–60. (M. Ram Murty) **98j:11047** 11G30 (11-03, 11G05, 14K20)

Adler, André (*with* Rosalsky, Andrew; Volodin, A. I.) Weak laws with random indices for arrays of random elements in Rademacher type p Banach spaces. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 605–623. (Rimas Norvaiša) **98j:60003** 60B12

— A weak law for randomly stopped sums of multidimensionally indexed random variables. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 463–472. (Summary) **98c:60018** 60F05

Adler, Ilan (*with* Ross, Sheldon M.) Distribution of the time of the first k-record. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 273–278. (Summary) **98b:60098** 60G70

Adler, Joan (*with* Salman, Zaher) Series analysis of tricritical behaviour: mean-field model and partial differential approximants. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1979–1989. (Summary) **98d:82024** 82B27

Adler, Mark (*with* van Moerbeke, Pierre) Matrix integrals, Toda symmetries, Virasoro constraints and orthogonal polynomials [MR 96k:58101]. *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 215–262, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (*see* **98c:00015**) 58F07 (17B68, 33C80, 81R10)

— (*with* van Moerbeke, Pierre) String-orthogonal polynomials, string equations, and 2-Toda symmetries. *Comm. Pure Appl. Math.* **50** (1997), *no.* 3, 241–290. (Alexander V. Shapovalov) **98a:58076** 58F07

— (*with* van Moerbeke, Pierre) Group factorization, moment matrices, and Toda lattices. *Internat. Math. Res. Notices* **1997**, *no.* 12, 555–572. (Iskander A. Taimanov) **98e:58089** 58F07

Adler, Micah (*with* Byers, John W.; Karp, Richard M.) Scheduling parallel communication: the h-relation problem. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 1–20, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98f:68026** 68M20 (68Q22)

Adler, Pierre M. (*with* Shapiro, Michael) Coupled transport of multi-component solutes in porous media. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 4, 357–378. (Summary) **98e:76102** 76S05 (76Rxx)

— (*with* Huseby, O.; Thovert, J.-F.) Geometry and topology of fracture systems. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1415–1444. (Francois Vanderseypen) **98f:73030** 73N20 (76S05, 82B99)

Adler, Robert J. (*with* Pyke, Ronald) Scanning Brownian processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 295–326. (Akio Noda) **98e:60054** 60G15 (60F15, 60G17, 60G60)

— (*with* Samorodnitsky, Gennady) Level crossings of absolutely continuous stationary symmetric α-stable processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 460–493. (Patrik Albin) **98f:60072** 60G10 (60G17, 60G70)

— (*with* Iyer, Srikanth K.) Attractive polymer models for two- and three-dimensional Brownian motion. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 271–281. (Wei-Shih Yang) **98k:60136** 60J65 (82D60)

Adler, Roy L. Symbolic dynamics and Markov partitions. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 1, 1–56. (Jérôme Buzzi) **98j:58081** 58F15 (58F03)

Adler, Stephen L. (*with* Anandan, Jeeva S.) Nonadiabatic geometric phase in quaternionic Hilbert space. (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1579–1589. (Dipti Banerjee) **98i:81066** 81Q99

— (*with* Horwitz, L. P.) Microcanonical ensemble and algebra of conserved generators for generalized quantum dynamics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5429–5443. (Summary) **98i:82004** 82B05 (81Q99, 82C05)

— Response to: "Comments on a recent paper by S. L. Adler: 'Projective group representations in quaternionic Hilbert spaces'" [J. Math. Phys. **37** (1996), no. 12, 6582–6585; MR 98k:81083] by G. Emch. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6586–6589. (Mariano A. del Olmo) **98k:81084** 81R05 (22E70)

— A strategy for a vanishing cosmological constant in the presence of scale invariance breaking. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 11, 1357–1362. (Summary) **98i:81272** 81V17 (83C47)

— (*with* Millard, Andrew C.) Coherent states in quaternionic quantum mechanics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2117–2126. (Carlos Villegas-Blas) **98f:81112** 81R30 (22E70, 81Q10, 81Q20)

— Poincaré supersymmetry representations over trace class non-commutative graded operator algebras. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 569–582. (Yolanda Lozano) **98m:81175** 81T60 (81T13)

— The matrix model for M theory as an exemplar of trace (or generalized quantum) dynamics. (English summary) *Phys. Lett. B* **407** (1997), *no.* 3-4, 229–233. (Summary) **98i:81182** 81T30 (81T60)

— *see also* **Emch, Gérard G.**, **98k:81083**

Adler, V. È. On the rational solutions of the Shabat equation. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 3–10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:34129** 34K99 (34A25, 34A34)

— (*with* Khabibullin, I. T.) Boundary conditions for integrable chains. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 1–14, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 75–85. (Victor V. Zharinov) **98h:35219** 35Q58 (58F37)

— (*with* Gürel, T. Burak; Gürses, M.; Khabibullin, I. T.) Boundary conditions for integrable equations. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3505–3513. (Summary) **98b:35150** 35Q53 (58F07)

— (*with* Khabibullin, I. T.; Shabat, A. B.) A boundary value problem for the KdV equation on a half-line. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 98–113; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 78–90. (Vladislav G. Dubrovsky) **98g:35174** 35Q53 (35C99)

— (*with* Shabat, A. B.) On a class of Toda chains. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 3, 323–334; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 3, 647–657. (Dmitri Korotkin) **98i:58110** 58F07 (35Q55)

— (*with* Shabat, A. B.) Generalized Legendre transformations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 179–194; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 935–946 (1998). (O. Christov) **98j:58047** 58F07 (35Q55)

— Bäcklund transformation for the Krichever-Novikov equation. *Internat. Math. Res. Notices* **1998**, *no.* 1, 1–4. 35Q53

Adly, Samir (*with* Goeleven, Daniel; Motreanu, Dumitru) Periodic and homoclinic solutions for a class of unilateral problems. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 579–590. (Vittorio Coti Zelati) **98i:58193** 58F22 (34C25, 34C37, 35F20, 49J52, 58E05)

Adl-Zarabi, Kourosh (*with* Proppe, Harald) Existence of many ergodic absolutely continuous invariant measures for piecewise-expanding C^2 chaotic transformations in $\mathbf{R}^2$ on a fixed number of partitions. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 537–548. (Jérôme Buzzi) **98j:58068** 58F11 (28C20, 28D05, 58F13)

Adolfsson, Vilhelm (*with* Escauriaza, Luis) $C^{1,\alpha}$ domains and unique continuation at the boundary. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 10, 935–969. (A. Yu. Rashkovskiĭ) **98m:31003** 31B05 (31B20, 35J25)

Adolphson, Alan (*with* Sperber, Steven) Differential modules defined by systems of equations. *Rend. Sem. Mat. Univ. Padova* **95** (1996), 37–57. (From the introduction) **98h:13037** 13N10 (52B20)

— (*with* Sperber, Steven) On twisted de Rham cohomology. (English summary) *Nagoya Math. J.* **146** (1997), 55–81. (Hiroaki Terao) **98k:14027** 14F40 (32S40)

Adomian, George A. (*with* Lee, E. S.) On the solution of boundary value problem. The decomposition method. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 163–166, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65L10

— (*with* Rach, R. C.) Modified Adomian polynomials. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 11, 39–46. (Summary) **98b:33017** 33C45

— (*with* Rach, R. C.; Meyers, Ronald) Numerical integration, analytic continuation, and decomposition. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 95–116. (N. Gass) **98m:65163** 65M55

— Explicit solutions of nonlinear partial differential equations. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 117–126. 35Q53 (35C05)

— Optical propagation in random media. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 127–129. 35Q55 (78A60)

— On KdV type equations. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 131–135. 35Q53

— (*with* Serrano, S. E.) Stochastic contaminant transport equation in porous media. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 53–55. 76S05 (86A05)

— Solutions of nonlinear P. D. E. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 121–123. 35Q53 (35C05)

— Nonlinear dissipative wave equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 125–126. 35L70

— Analytic solution of nonlinear integral equations of Hammerstein type. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 127–130. 45G10 (45L05)

— Solution of the Thomas-Fermi equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 131–133. 34A45

Adrian, R. J. Stochastic estimation of the structure of turbulent fields. (English summary) *Eddy structure identification (Udine, 1994)*, 145–195, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (Summary) **98d:76081** 76F99 (76M35)

Adrianov, N. M. *see* **Davenport, James Harold, 98m:12002**

Adrianov, Nikolai Mikhailovich An analogue of the Harer-Zagier formula for unicellular two-color maps. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 1–9, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 149–155 (1998). (Vasily A. Chernecky) **98j:32018** 32G15 (05C30)

— Regular maps with the automorphism group $\mathrm{PSL}_2(q)$. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 195–196; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 819–821. (From the text) **98f:05075** 05C25 (05C15, 05C30, 20B25)

Adyan, S. I. (*with* Ledenëv, V. P.; Tikhomirov, V. M.; Fridman, A. A.) Yuriĭ Il'ich Khmelevskiĭ (on the sixtieth anniversary of his birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 243–246; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 875–880. (Editors) **98f:01052** 01A70

— *see also* **Logical foundations of computer science, 98i:68009**

Adzhemyan, L. Ts. (*with* Nalimov, M. Yu.; Stepanova, M. M.) The renormalization group approach to the problem of the influence of the compressibility of a fluid on the spectral properties of developed turbulence. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 260–270; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 971–979 (1996). (Summary) **98h:76061** 76F99 (76M35, 76N10, 81T17)

— (*with* Borisenok, S. V.; Girina, V. I.) The renormalization group and the operator expansion methods in the theory of developed turbulence: asymptotics of the triple simultaneous correlation function. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 450–461; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1556–1565 (1996). (Summary) **98m:76091** 76F99 (81T17)

Adžić, Nevenka A low-degree approximation for layer solution of singularly perturbed problems. (English summary) *Numerical methods and error bounds (Oldenburg, 1995)*, 9–15, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98c:65132** 65L10 (34A45, 34E15)

Aebi, Robert An alternative representation of diffusions based on time-reversibility. *Kyushu J. Math.* **49** (1995), *no.* 2, 405–419. (Jean-Claude Zambrini) **98k:81030** 81P20 (60J60, 60J70)

— ★ Schrödinger diffusion processes. Probability and its Applications. *Birkhäuser Verlag, Basel*, 1996. viii+186 *pp. ISBN* 3-7643-5386-4 (Boualem Djehiche) **98a:60109** 60J60 (60F10, 82C31)

— Schrödinger's time-reversal of natural laws. *Math. Intelligencer* **18** (1996), *no.* 2, 62–67. 82–03

— Contingency tables with prescribed marginals. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 219–229. (Joachim Krauth) **98k:62099** 62H17

Aeppli, Dorothee *see* **Pólya, George**

Aerts, Diederik Relativity theory: what is reality? (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1627–1644. (Jaume J. Carot) **98a:83005** 83A05 (81P99)

— (*with* D'Hooghe, Bart) Operator structure of a nonquantum and nonclassical system. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2285–2298. (S. Gudder) **98b:81017** 81P15 (81P10)

— Framework for possible unification of quantum and relativity theories. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2399–2416. (D. J. Foulis) **98a:81006** 81P10

— (*with* Aerts, Sven) The hidden-measurement formalism: quantum mechanics as a consequence of fluctuations on the measurement. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 1–6, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— (*with* Aerts, Sven; Coecke, Bob; D'Hooghe, Bart; Durt, Thomas; Valckenborgh, Frank) A model with varying fluctuations in the measurement context. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 7–9, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— (*with* Aerts, Sven) Applications of quantum statistics in psychological studies of decision processes. (English summary) *Topics in the foundation of statistics*, 85–97, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:00009**) 81P05 (92J99)

— (*with* Coecke, Bob; D'Hooghe, Bart; Valckenborgh, Frank) A mechanistic macroscopic physical entity with a three-dimensional Hilbert space description. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 793–802. (M. J. Mączyński) **98i:81011** 81P10

— (*with* Coecke, Bob; Durt, Thomas; Valckenborgh, Frank) Quantum, classical and intermediate. I. A model on the Poincaré sphere. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 225–240. (S. Gudder) **98i:81016** 81P15

— (*with* Coecke, Bob; Durt, Thomas; Valckenborgh, Frank) Quantum, classical and intermediate. II. The vanishing vector space structure. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 241–266. (S. Gudder) **98j:81022** 81P10 (81P15)

Aerts, Marc (*with* Augustyns, Ilse; Janssen, Paul) Expansions and bootstrapping for smoothed lattice data. (English summary) *Research developments in probability and statistics*, 77–90, *VSP, Utrecht*, 1996. (Krzysztof Podgorski) **98h:62075** 62G09 (62E20)

— (*with* Augustyns, Ilse; Janssen, Paul) Sparse consistency and smoothing for multinomial data. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 41–48. (Keh-Wei Chen) **98k:62044** 62G05 (62G20)

— (*with* Augustyns, Ilse; Janssen, Paul) Local polynomial estimation of contingency table cell probabilities. (English summary) *Statistics* **30** (1997), *no.* 2, 127–148. (Summary) **98m:62171** 62H17 (62G05)

— (*with* Augustyns, Ilse; Janssen, Paul) Smoothing sparse multinomial data using local polynomial fitting. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 2, 127–147. (Summary) **98g:62113** 62H17 (62G05)

Aerts, Sven Conditional probabilities with a quantal and a Kolmogorovian limit. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2245–2261. (S. Gudder) **98c:81016** 81P15 (60A99)

— (*with* Aerts, Diederik) The hidden-measurement formalism: quantum mechanics as a consequence of fluctuations on the measurement. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 1–6, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— (*with* Aerts, Diederik; Coecke, Bob; D'Hooghe, Bart; Durt, Thomas; Valckenborgh, Frank) A model with varying fluctuations in the measurement context. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 7–9, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— (*with* Aerts, Diederik) Applications of quantum statistics in psychological studies of decision processes. (English summary) *Topics in the foundation of statistics*, 85–97, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:00009**) 81P05 (92J99)

Aeyels, Dirk (*with* Sepulchre, Rodolphe) Stabilizability does not imply homogeneous stabilizability for controllable homogeneous systems. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 5, 1798–1813. (Summary) **98b:93059** 93D20

Afagh, Fred F. *see* **Merkin, D. R., 98f:34074**

Afanas, D. N. (*with* Choban, Mitrofan) On functional equivalence of extremally disconnected spaces. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 93–100, 106, 110. (Summary) **98k:54062** 54G05

Afanas'ev, A. P. A first-order local variational problem for nonlinear optimal control problems with mixed constraints. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1796–1802, 1940; *translation in Differential Equations* **31** (1995), *no.* 11, 1764–1770 (1996). (Wiesław Kotarski) **98a:49007** 49J15 (49K15)

Afanas'ev, Ya. D. (*with* Peltier, W. R.) The three-dimensionalization of stratified flow over two-dimensional topography. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 1, 19–39. (Summary) **98k:76143** 76V05 (76E20, 86A10)

Afanassieva, L. G. (*with* Fayolle, Guy; Popov, S. Yu.) Models for transportation networks. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1091–1103. (A. A. Chernyak) **98f:90022** 90B22 (60K30, 68M20)

Afanasyev, Ya. D. *see* **Afanas'ev, Ya. D.**

Afek, Yehuda (*with* Cohen, M.; Haalman, E.) The bit complexity of the predecessor problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 109–112. (Summary) **98e:68095** 68Q25 (68M10)

— (*with* Stupp, Gideon) Optimal time-space tradeoff for shared memory leader election. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 95–117. (Summary) **98h:68064** 68Q10

— (*with* Kutten, Shay; Yung, Moti) The local detection paradigm and its applications to self-stabilization. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 199–229. (Summary) **98f:68020** 68M10

Affleck, Ian The Haldane gap in antiferromagnetic Heisenberg chains. (English summary) *The state of matter (Copenhagen, 1992)*, 21–41, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B20 (82–02, 82D40)

— (*with* Zagoskin, Alexandre M.) Fermi edge singularities: bound states and finite-size effects. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5743–5765. (Summary) **98i:82068** 82D20 (82B21)

— (*with* Oshikawa, Masaki) Boundary conformal field theory approach to the critical two-dimensional Ising model with a defect line. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 3, 533–582. (Summary) **98g:82011** 82B20 (81T27, 81T40, 82B24, 82B27)

— Boundary condition changing operators in conformal field theory and condensed matter physics. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 35–41. (Summary) **98i:81225** 81T40 (81V70)

— Edge magnetic field in the xxz spin-$\frac{1}{2}$ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2761–2766. 82B20 (82B27)

— Exact correlation amplitude for the $S = \frac{1}{2}$ Heisenberg antiferromagnetic chain. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4573–4581. 82B20

Afonin, A. A. On the probability of the fall of a disk sliding on a horizontal plane. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 66–68. (From the text) **98j:70006** 70E99 (70F20, 70K99)

Afraimovich, V. S. (*with* Nekorkin, V. I.; Osipov, G. V.; Shalfeev, V. D.) ★ Stability, structures and chaos in nonlinear synchronization networks. (English summary) Edited and with a foreword by A. V. Gaponov-Grekhov and M. I. Rabinovich. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. xii+246 *pp. ISBN* 981-02-1822-2 (Frederick R. Marotto) **98a:58108** 58F12 (34C15, 58F13, 93C20)

— Pesin's dimension for Poincaré recurrences. (English summary) *Chaos* **7** (1997), *no.* 1, 12–20. (Oliver Knill) **98c:58080** 58F08 (58F03)

— (*with* Chow, Shui-nee; Hale, Jack K.) Synchronization in lattices of coupled oscillators. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 442–451. (Peter Ashwin) **98g:34063** 34C11 (34C15, 34D45, 70K20)

— (*with* Zaslavskiĭ, G. M.) Fractal and multifractal properties of exit times and Poincaré recurrences. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part A*, 5418–5426. (Nikolai Chernov) **98c:58104** 58F13 (58F40)

Afsharnejad, Zahra Perturbation of Hamiltonian system. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 33–38, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Josefina Casasayas) **98m:34079** 34C23 (34A34, 58F30, 70H05)

Aftab, Faizi (*with* Hussain, Md. Azhar) Mixed generating relations for even and odd Bragg's polynomials. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 175–176. 33C45

— (*with* Kamarujjama, M.; Hussain, Md. Azhar) On partly bilateral and partly unilateral generating relations. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 359–363. (Summary) **98m:33022** 33C45

Aftalion, Amandine (*with* Busca, Jérôme) Symétrie radiale pour des problèmes elliptiques surdéterminés posés dans des domaines extérieurs. (English and French summaries) [Radial symmetry of overdetermined boundary value problems in exterior domains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 633–638. (Summary) **98a:35096** 35N10 (35B05, 35J65)

— On the minimizers of the Ginzburg-Landau energy for high kappa: the one-dimensional case. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 331–345. (Ioan Bâldea) **98m:82075** 82D55 (49S05, 82–08)

— (*with* Reichel, Wolfgang) Existence of two boundary blow-up solutions for semilinear elliptic equations. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 400–421. (Summary) **98i:35045** 35J60 (35B40)

Agafonov, S. I. (*with* Ferapontov, E. V.) Systems of conservation laws from the point of view of the projective theory of congruences. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 3–30; *translation in Izv. Math.* **60** (1996), *no.* 6, 1097–1122. (Victor V. Zharinov) **98a:35083** 35L65

Agam, O. (*with* Andreev, A. V.; Simons, B. D.; Altshuler, B. L.) Semiclassical field theory approach to quantum chaos. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 536–566. (Summary) **98f:81073** 81Q50

— (*with* Andreev, A. V.; Simons, B. D.) Quantum chaos: a field theory approach. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1099–1129. 81Q50

— (*with* Simons, B. D.; Andreev, A. V.) Time-reversal symmetry breaking and the field theory of quantum chaos. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1982–2006. (Jacobus Verbaarschot) **98h:82033** 82B44 (81Q50)

Agamennoni, Osvaldo (*with* Figueroa, José Luis; Palazoglu, Ahmet) Robust controller design under highly structured uncertainty. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 721–733. 93B35 (93C41)

Aganagic, Mina (*with* Popescu, Costin; Schwarz, John H.) Gauge-invariant and gauge-fixed D-brane actions. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 99–126. (Daniel N. Kabat) **98f:81230** 81T30

— (*with* Park, Jaemo; Popescu, Costin; Schwarz, John H.) World-volume action of the M-theory five-brane. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 191–214. (Daniel N. Kabat) **98i:83072a** 83E30 (81T30)

— (*with* Park, Jaemo; Popescu, Costin; Schwarz, John H.) Dual D-brane actions. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 215–230. (Daniel N. Kabat) **98i:83072b** 83E30 (81T30)

— (*with* Popescu, Costin; Schwarz, John H.) D-brane actions with local kappa symmetry. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 311–315. (Summary) **98a:81148** 81T30 (83E30)

Aganović, I. (*with* Delinić, K.; Tutek, Z.) Homogenization of a spectral problem for a pile foundation structure. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 12, 979–988. (Taras A. Mel′nyk) **98e:73005** 73B27 (35B27, 73K20)

Agaoka, Yoshio First order partial differential equations on the curvature of 3-dimensional Heisenberg bundles. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 229–269. (Peter Bueken) **98e:53031** 53C05 (53C21)

Agargun, Ahmet Goksel On Euclidean rings. (English summary) *Proyecciones* **16** (1997), *no.* 1, 23–36. (From the introduction) **98i:13038** 13F07

Agarwal, A. K. *see* **Agarwal, Ashok Kumar[1]**

Agarwal, Amit N. (*with* Pinsky, Peter M.) Stabilized element residual method (SERM): a posteriori error estimation for the advection-diffusion equation. (English summary) TICAM Symposium (Austin, TX, 1995). *J. Comput. Appl. Math.* **74** (1996), *no.* 1-2, 3–17. (Summary) **98m:65183** 65N30 (65N50)

Agarwal, Ashok Kumar[1] (*with* Balasubramanian, Ramachandran) Generalized gonal numbers and a new class of partitions. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 153–160. (David M. Bressoud) **98d:11120; EA 98m** 11P81 (05A17)

— New classes of infinite 3-way partition identities. (English summary) *Ars Combin.* **44** (1996), 33–54. (Christian Krattenthaler) **98d:11121; EA 98m** 11P81 (05A15, 05A17, 05A19)

Agarwal, Ashok Kumar[2] (*with* Ahmed, Abrar) Common fixed point theorem for three mappings. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 43–46. 54H25

— (*with* Husain, Zegham) Some theorems on fixed point. *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 211–214. 54H25

Agarwal, Manish (*with* Mukherjee, Amitabha; Bhatia, Praveen) A qualitative discretization for two-body contacts. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 915–921, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30 (70B15)

Agarwal, Manju (*with* Sen, Kanwar) Transient busy period analysis of initially non-empty $M/G/1$ queues—lattice path approach. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 301–315, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Walter M. Böhm) **98j:60133** 60K25

Agarwal, Mukul (*with* Schenker, Benedikt) Long-range prediction for poorly-known systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 227–238. 93E10

Agarwal, Pankaj K. (*with* Aronov, Boris; Pach, János; Pollack, Richard M.; Sharir, Micha) Quasi-planar graphs have a linear number of edges. (English summary) *Combinatorica* **17** (1997), *no.* 1, 1–9. (Mirko Horňák) **98f:05046** 05C10

— (*with* Varadarajan, Kasturi R.) Linear approximation of simple objects. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 2, 89–94. (Summary) **98a:68184** 68U05

— (*with* Aronov, Boris; O'Rourke, Joseph; Schevon, Catherine A.) Star unfolding of a polytope with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1689–1713. (Rade Živaljević) **98m:52020** 52B55 (52B05, 52B10, 68Q25, 68U05)

— (*with* Aronov, Boris; Sharir, Micha) Computing envelopes in four dimensions with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1714–1732. (Summary) **98h:68218** 68U05 (68Q25, 68R05)

Agarwal, R. P. *see* **Agarwal, Ravi P.**

Agarwal, R. R. (*with* Singh, V. N.) On the summation of certain double series. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 283–291. (Mizan Rahman) **98f:33031** 33D20 (11B65)

Agarwal, Ramesh K. A unified CFD-based approach to a variety of problems in computational physics. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA*, 1996), 259–282, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 65M99 (35L65, 76M25)

Agarwal, Ravi P. (*with* Wong, Patricia J. Y.) Existence of solutions for singular boundary problems for higher order differential equations. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 249–264 (1997). (L. E. Bobisud) **98e:34031** 34B15

— (*with* Wong, Patricia J. Y.) Oscillation criteria for nonlinear partial difference equations with delays. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 6, 57–86. (Wan Biao Ma) **98a:39012** 39A10

— (*with* Wong, Patricia J. Y.) Double positive solutions of (n, p) boundary value problems for higher order difference equations. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 1–21. (Shu Tang Liu) **98h:39003** 39A10 (39A11, 39A12)

— (*with* Thandapani, E.; Manuel, M. Maria Susai) Oscillation and nonoscillation theorems for second order quasilinear difference equations. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 49–65. (Summary) **98m:39034** 39A10

— (*with* Wong, Patricia J. Y.) Oscillation and monotone solutions of second order quasilinear difference equations. (English summary) *Funkcial. Ekvac.* **39** (1996), *no.* 3, 491–517. (Abdurrahman Karamancioglu) **98e:39005** 39A10

— (*with* Wong, Patricia J. Y.) Summation averages and the oscillation of second-order nonlinear difference equations. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 9, 21–35. (Shu Nian Zhang) **98a:39013** 39A10

— (*with* Wong, Patricia J. Y.) Comparison theorems for the oscillation of higher order difference equations with deviating arguments. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 12, 39–48. (Summary) **98f:39007** 39A10

— (*with* Wong, Patricia J. Y.) ★ Advanced topics in difference equations. (English summary) Mathematics and its Applications, 404. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+507 *pp. ISBN* 0-7923-4521-5 (André Hautot) **98i:39001** 39-02 (34-02, 34Kxx)

— (*with* Pang, Peter Y. H.) Opial-type inequalities involving higher order partial derivatives of two functions. (English summary) *General inequalities, 7 (Oberwolfach*, 1995), 157–178, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (B. G. Pachpatte) **98e:26017** 26D10

— (*with* Manuel, M. Maria Susai; Thandapani, E.) Oscillatory and nonoscillatory behavior of second-order neutral delay difference equations. II. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 2, 103–109. (Gian-Italo Bischi) **98k:39002** 39A10

— (*with* O'Regan, Donal) Boundary value problems for discrete equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 83–89. 39A10

— (*with* Wong, Fu-Hsiang; Yu, Shiueh-Ling) Nonexistence of positive solutions for 2^nth order integro-differential inequalities. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 63–69. (Summary) **98g:45005** 45J05 (34A40)

— (*with* O'Regan, Donal) Multipoint boundary value problems for general discrete systems: the degenerate case. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 269–288. (L. A. V. Carvalho) **98j:39001** 39A10

— (*with* O'Regan, Donal) Boundary value problems for general discrete systems on infinite intervals. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 7, 85–99. (Summary) **98m:39002** 39A10

— (*with* Pečarić, Josip E.; Brnetić, Ilko) Improved integral inequalities in n independent variables. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 27–38. (Gradimir V. Milovanović) **98f:26012** 26D10 (26D15)

— (*with* Wong, Fu-Hsiang; Yu, Shiueh-Ling) Positive solutions of integro-differential inequalities. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 61–69. (Summary) **98g:45006** 45J05 (34A40)

— (*with* Pang, Peter Y. H.) Symmetries of difference systems on manifolds. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 191–196. 39A10

— (*with* Wong, Fu-Hsiang; Yu, Shiueh-Ling) On the existence and non-existence of positive entire solutions of elliptic and parabolic equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 13–26 (1998). (Summary) **98i:35011** 35B05 (35J60, 35K55)

— (*with* Sheng, Qin) Solutions of n-point boundary value problems associated with nonlinear summary difference equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 49–70. (Summary) **98m:39025** 39A10

— (*with* Magnucka-Blandzi, E.; Popenda, Jerzy) Best possible Gronwall inequalities. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 1–8. (E. Thandapani) **98j:26011** 26D15 (34A60, 39A12)

— (*with* Shieh, Shiow-Ling; Yeh, Cheh-Chih) Oscillation criteria for second-order retarded differential equations. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 1–11. (Ján Ohriska) **98i:34099** 34K15 (34C10)

— (*with* Wong, Fu-Hsiang) Existence of positive solutions for nonpositive difference equations. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 77–85. (Summary) **98m:39003** 39A10

— (*with* Liu, Yi[1]; Teo, Kok Lay) A general approach to nonlinear multiple control problems with perturbation consideration. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 49–58. 49M37 (49K15, 90C29)

— (*with* Qu, Rui Bin) Developments and applications of Gregory surface patches. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 1–36. (*see* **98g:65008**) 65D17 (65N30)

— (*with* Wong, Patricia J. Y.) On the existence of solutions of singular boundary value problems for higher order difference equations. *Nonlinear Anal.* **28** (1997), *no.* 2, 277–287. (Xiao Xin Liao) **98b:39015** 39A10

— (*with* O'Regan, Donal) Some new existence results for differential and integral equations. *Nonlinear Anal.* **29** (1997), *no.* 6, 679–692. (Veli-Matti Hokkanen) **98d:45004** 45G10 (34B15, 34K10, 47H30, 47N20)

— (*with* Pang, Peter Y. H.) On a generalized difference system. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 365–376. (*see* **98i:00027**) 39A10

— (*with* Henderson, Johnny; Wong, Patricia J. Y.) On superlinear and sublinear (n, p) boundary value problems for higher order difference equations. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 101–115. (Summary) **98m:39004** 39A10

— (*with* Pečarić, Josip E.; Brnetić, Ilko) Improved discrete inequalities in n independent variables. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 91–97. 26D15

— (*with* Dragomir, Sever Silvestru) Two new mappings associated with Hadamard's inequalities for convex functions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 33–38. 76D15 (26A51)

— (*with* Sheng, Qin) Solutions of perturbed nonlinear partial integro-differential equations together with multi-point boundary values. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 11–28. (I. P. Stavroulakis) **98m:35216** 35R10 (35A15, 45K05, 65R20)

— (*with* Wong, Patricia J. Y.) Eigenvalue characterization for (n, p) boundary-value problems. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 386–407. (Joseph E. Paullet) **98m:34044** 34B15

— (*with* O'Regan, Donal) Nonlinear superlinear singular and nonsingular second order boundary value problems. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 60–95. (Johnny Henderson) **98j:34024** 34B15 (47H10, 47N20)

— *see also* **Computer aided geometric design**, **98g:65008** *and* **Positive solutions of nonlinear problems**, **98k:34001**

Agarwal, Rishi (*with* Burnetas, Apostolos N.; Solow, Daniel) An analysis and implementation of an efficient in-place bucket sort. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 687–700. 68P10

Agarwal, S. K. *see* **Agarwal, Satish Kumar**

Agarwal, Sameet (*with* Condon, Anne) On approximation algorithms for hierarchical MAX-SAT. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 141–165. (Summary) **98i:68119** 68Q25 (05C85)

Agarwal, Satish Kumar (*with* Kumar, Pranesh) Alternative estimators for the population totals in multiple characteristic surveys. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2527–2537. 62D05

— On generalized probability distribution and generalized mixture distribution. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 192–198. 62E15

Agarwala, J. P. (*with* Kumar, A.) A nondifferentiable programming problem under η-convexity. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 17–20. 90C30 (49J52)

Agarwala, Richa (*with* Batzoglou, Serafim; Dančík, Vlado; Decatur, Scott E.; Farach-Colton, Martin; Hannenhalli, Sridhar; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

Agastya, Murali Adaptive play in multiplayer bargaining situations. (English summary) *Rev. Econom. Stud.* **64** (1997), *no.* 3, 411–426. (Summary) **98e:90228** 90D12 (90D06)

Agatholklis, Pan (*with* Xiao, Chengshan; Hill, David J.) Stability and the Lyapunov equation for n-dimensional digital systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 614–621. (Summary) **98d:93064** 93C62 (93D05)

— (*with* Xiao, Chengshan; Hill, David J.) On the positive definite solutions to the 2-D continuous-time Lyapunov equation. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 315–333. (L. C. Godara) **98h:93019** 93D05

Aghoola, A. On p-adic height pairings and locally free classgroups of Hopf orders. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 447–459. (Nigel Byott) **98k:11162** 11R33 (11G05, 14K15)

Ageel, Mohammad I. (*with* Sahai, Hardeo; Khurshid, Anwer) A selected bibliography on forecasting. *Egyptian Statist. J.* **40** (1996), *no.* 2, *Appendix*, 220–328. 62–00 (62M20, 62P20)

Ageev, A. A. Complexity of the determination of the maximum weighted joining in a graph. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser. 1* **4** (1997), *no.* 3, 3–8, 81. (A. D. Korshunov) **98m:05176** 05C85

Ageev, A. L. (*with* Antonova, T. V.; Voronina, E. V.) Methods for refining parameters in the solution of integral equations of the first kind. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 110–124. (Wojciech Mydlarczyk) **98f:65127** 65R20 (45L05)

— Solution of equations of the first kind with a finite-dimensional nonlinearity. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 68–72; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 67–71. (From the text) **98e:45004** 45G10 (45L05, 47H17, 65R20)

Ageev, O. N. Spectral type of rearrangements of $T_{\alpha,\beta}$. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 13–44; *translation in Sb. Math.* **188** (1997), *no.* 8, 1119–1152. (A. I. Danilenko) **98m:28029** 28D05

Agelet de Saracibar, C. A new frictional time integration algorithm for large slip multi-body frictional contact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **142** (1997), *no.* 3-4, 303–334. (Alain Curnier) **98j:73079** 73T05 (73V20)

Agemi, R. *see* **Nonlinear waves**, **98h:00031**

Agénor, Pierre-Richard (*with* Santaella, Julio A.) Efficiency wages, disinflation and labor mobility. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 267–291. 90A50

Ageron, P. Catégories accessibles à limites projectives non vides et catégories accessibles à limites projectives finies. (French and German summaries) [Accessible categories with nonempty projective limits and accessible categories with finite projective limits] *Diagrammes* **34** (1995), 1–10. (Summary) **98b:18002** 18A30

Aggarwal, Alok (*with* Kravets, D.; Park, James K.; Sen, Sandeep) Parallel searching in generalized Monge arrays. (English summary) *Algorithmica* **19** (1997), *no.* 3, 291–317. (Evangelos Kranakis) **98h:68100** 68Q22 (68Q25)

Aggarwal, M. L. (*with* Bansal, Anita) Robust response surface design for quantitative and qualitative factors. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 89–106. 62K99

Aggarwal, Shashi (*with* Lyall, Vinod; Suneja, S. K.) Optimality and duality in fractional programming involving semilocally convex and related functions. (English summary) *Optimization* **41** (1997), *no.* 3, 237–255. (Summary) **98h:90091** 90C32

Aggarwal, Sunila (*with* Lyall, Vinod; Suneja, S. K.) Fritz-John optimality and duality for non-convex programs. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 38–50. (Christiane Tammer) **98i:90067** 90C26 (49N15)

Aggarwala, B. D. On quadruple integral equations involving trigonometric kernels. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 311–322. (K. N. Srivastava) **98d:45009** 45L05 (73B50, 73C35)

Aggarwala, Rita (*with* Balakrishnan, Narayanaswamy) Relationships for moments of order statistics from the right-truncated generalized half logistic distribution. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 519–534. (A. H. Khan) **98f:62147** 62G30

— (*with* Balakrishnan, Narayanaswamy) Recurrence relations for single and product moments of progressive type-II right censored order statistics from exponential and truncated exponential distributions. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 757–771. (M. M. Siddiqui) **98m:62153** 62G30

Aggoun, Lakhdar (*with* Benkherouf, Lakdere; Tadj, Lotfi) A hidden Markov model for an inventory system with perishable items. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 423–430. (Summary) **98h:90031** 90B05

— (*with* Benkherouf, Lakdere; Tadj, Lotfi) An integer-valued EOQ model with stochastic demand and perishable items. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 77–84. 90B05

— (*with* Benkherouf, Lakdere; Tadj, Lotfi) Filtering of continuous-time Markov chains. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 73–82. (Summary) **98i:93081** 93E11 (60G35)

— (*with* Elliott, Robert James) MAP estimation for hidden discrete Markov random fields. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 83–89. (Summary) **98h:62127** 62M05 (62M40)

Agha, Gul A. (*with* Mason, Ian A.; Smith, Scott F.; Talcott, Carolyn L.) A foundation for actor computation. (English summary) *J. Funct. Programming* **7** (1997), *no.* 1, 1–72. (Summary) **98b:68005** 68N15 (68Q55, 68Q60)

Aghamohammadi, A. (*with* Shariati, A.) A simple method for constructing the inhomogeneous quantum group $\mathrm{IGL}_q(n)$ and its universal enveloping algebra $U_q(\mathrm{igl}(n))$. (English summary) *J. Math. Phys.* **36** (1995), *no.* 12, 7103–7108. (Summary) **98b:81105** 81R50 (17B37)

— (*with* Khorrami, Mohammad; Shariati, A.) Toda theories as contractions of affine Toda theories. (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 260–263. (Henrik Aratyn) **98a:81194** 81T40 (58F07)

— (*with* Khorrami, Mohammad; Shariati, A.) $\mathrm{SL}_h(2)$-symmetric torsionless connections. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 95–99. (Peter Prešnajder) **98f:58027** 58B30 (81R50)

— (*with* Alimohammadi, M.; Khorrami, Mohammad) A pseudo-conformal representation of the Virasoro algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1349–1353. (Summary) **98b:81073** 81R10 (17B68)

— (*with* Rahimi Tabar, M. R.; Khorrami, Mohammad) The logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 555–566. (Isabel P. Ennes) **98i:81238** 81T40

— (*with* Alimohammadi, M.; Khorrami, Mohammad) Large-N limit of the generalized two-dimensional Yang-Mills theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 313–323. (Summary) **98k:81244** 81T40 (81T13)

Agliano, P. (*with* Ursini, A.) On subtractive varieties. III. From ideals to congruences. (English summary) *Algebra Universalis* **37** (1997), *no.* 3, 296–333. (A. A. Iskander) **98j:08008** 08B10

— The number of outside corners of monomial ideals. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 3–21. (Rafael H. Villarreal) **98k:13024** 13F20 (05A16, 13P10)

Agnese, A. G. (*with* Di Salvo, E.) Wave-particle association: uniqueness of the de Broglie assumption. (English and French summaries) *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 3, 281–285. (Koichiro Matsuno) **98b:81007** 81P05

Agnetis, A. (*with* Rossi, Francesca; Gristina, G.) An exact algorithm for the batch sequencing problem in a two-machine flow shop with limited buffer. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 141–164. (Summary) **98j:90030** 90B35

Agnew, Alfonso F. (*with* Goode, Stephen W.) Separable solutions of the perfect fluid Einstein field equations admitting an orthogonally transitive abelian G_2 symmetry group. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 396–400, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C20

Agnihotri, Monica (*with* Singh, R. Karan) On a class of estimators in linear regression model with multivariate-t distributed error. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 1, 56–69, *iv*. 62J05

Agnihotri, Naveen (*with* Jha, Pranava K.; Kumar, Rajesh[4]) Long cycles and long paths in the Kronecker product of a cycle and a tree. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 101–121. (Martin Sonntag) **98d:05083** 05C38 (05C45, 05C85)

Agoh, Takashi (*with* Mori, Kenichi[2]) Kummer type system of congruences and bases of Stickelberger subideals. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 3, 211–232. (Summary) **98h:11132** 11R18 (11B68, 11R29)

— (*with* Dilcher, Karl; Skula, Ladislav) Fermat quotients for composite moduli. (English summary) *J. Number Theory* **66** (1997), *no.* 1, 29–50. (Andrew Granville) **98h:11002** 11A07 (11B68)

— Stickelberger subideals for a prime modulus related to Kummer-type congruences. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 203–214. (Lawrence Washington) **98k:11171** 11R54 (11B68)

— Additive representations of integers. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 311–321. (Alessandro Languasco) **98m:11106** 11P32 (11A41, 11A67)

— (*with* Dilcher, Karl; Skula, Ladislav) Wilson quotients for composite moduli. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 843–861. (Andrew Granville) **98h:11003** 11A07 (11B68)

Agop, Marcel (*with* Zet, Gheorghe; Griga, V.; Neacsu, C.) Post-Newtonian approximation of the Lagrangian metric $g_{ij}(x, y) = h_{ij}(x) + \alpha(1 - 1/n^2)y_iy_i$. (English summary) *Progr. Math. (Varanasi)* **27** (1993), *no.* 1-2, 1–8 (1996). 83C25 (83B05)

— (*with* Rezlescu, N.; Buzea, Călin Gh.; Buzea, Cristina) The kink solution of the Ginzburg-Landau equation. Topological analysis. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 93–97. 81Q05 (82D55)

— (*with* Ciobanu, B.) Some physical implications of a special Lagrange metric in the relativistic optics. *Tensor (N.S.)* **57** (1996), *no.* 3, 217–225. (Tadashi Aikou) **98k:53020** 53B40 (53B50)

Agorastos, Konstantinos On the economic value of a portfolio of firms. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 39–40, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 90A09

Agoshkov, V. I. (*with* Marchuk, G. I.; Shutyaev, V. P.) ★ Adjoint equations and perturbation algorithms in nonlinear problems. *CRC Press, Boca Raton, FL*, 1996. xii+275 *pp. ISBN* 0-8493-2871-3 (I. K. Marek) **98d:47161** 47N20 (00A69, 34A45, 35A35, 35Qxx, 35R30, 47H17, 47N40)

— (*with* Saleri, Fausto) Recent developments in the numerical simulation of shallow water equations. III. Boundary conditions and finite element approximations in the river flow calculations. (English summary) Proceedings of the International Conference on the Optimization of the Finite Element Approximations (St. Petersburg, 1995). *Mat. Model.* **8** (1996), *no.* 9, 3–24. (From the introduction) **98f:76047** 76M10 (65M60, 76B15, 86A05)

— (*with* Ipatova, V. M.) Solvability of the altimeter data assimilation problem in a quasigeostrophic multilayer model of ocean circulation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 355–366. (Summary) **98i:86002** 86A05 (76U05)

— Domain decomposition methods in geosciences: radiative transfer problems. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 1–6, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N55 (86–08)

Agostinelli, Claudio (*with* Markatou, Marianthi) A one-step robust estimator for regression based on the weighted likelihood reweighting scheme. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 341–350. 62F35

Agostinho Neto, A. (*with* Teso, A.; Drigo Filho, Elso) Solution of the Poisson-Boltzmann equation for a system with four ionic species. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 814–824. (Summary) **98h:92056** 92E20 (35Q80)

— (*with* Drigo Filho, Elso) Supersymmetric quantum mechanics and the equivalent classical transformation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 13, 899–903. (Avinash Khare) **98i:81063** 81Q60

d'Agostino, Luca (*with* d'Auria, Fabrizio; Brennen, Christopher E.) On the inviscid stability of parallel bubbly flows. (English summary) *J. Fluid Mech.* **339** (1997), 261–274. (Summary) **98d:76056** 76E05 (76B10, 76T05)

de Agostino, Sergio *see* **De Agostino, Sergio**

Agouzal, Abdellatif Fictitious domain method for Neumann problems. (English summary) *Mat. Model.* **7** (1995), *no.* 7, 94–98. (Dietrich Braess) **98m:65211** 65N55

— (*with* Debit, N.) Space-time domain decomposition methods for scalar conservation law. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 777–783. 65M55

— (*with* Achchab, B.; Mghazli, Zoubida) A domain decomposition method for biharmonic problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 67–77. (Weimin Han) **98d:65153** 65N55

Agrachev, A. A. (*with* Gamkrelidze, R. V.) On orbits of groups of diffeomorphisms and flows. (Russian) *Trudy Mat. Inst. Steklov.* **209** (1995), *Osob. Gladkikh Otobrazh. s Dop. Strukt.*, 3–13. (A. Morimoto) **98b:58027** 58D05 (58F25)

— (*with* Sarychev, A. V.) Abnormal sub-Riemannian geodesics: Morse index and rigidity. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **13** (1996), *no.* 6, 635–690. (Heinz Schättler) **98e:49047** 49K15 (58A30, 58E10)

— Exponential mappings for contact sub-Riemannian structures. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 3, 321–358. (Claudio Gorodski) **98a:53043a** 53C15 (49L05)

— (*with* Bonnard, B.; Chyba, M.; Kupka, Ivan A. K.) Sub-Riemannian sphere in Martinet flat case. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 377–448 (*electronic*). (Fernand Pelletier) **98i:53059** 53C22 (53C20)

— (*with* Gamkrelidze, R. V.) Feedback-invariant optimal control theory and differential geometry. I. Regular extremals. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 3, 343–389. (José Basto Goncalves) **98m:49004** 49J15 (53C22, 58E25, 93B52)

— (*with* Pallaschke, Diethard; Scholtes, Stefan) On Morse theory for piecewise smooth functions. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 4, 449–469. (Hubertus Th. Jongen) **98m:49034** 49J52 (58E05, 90C31)

Agrafiotou, X. (*with* Tsagas, Grigorios T.) Special nilpotent Lie algebras. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 139–153, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Michel Goze) **98d:17016** 17B30

Agranovich, M. S. (*with* Babin, A. V.; Volevich, Leonid R.; et al.) Mark Iosifovich Vishik (on his seventy-fifth anniversary). *Russian J. Math. Phys.* **4** (1996), *no.* 4, 411–416. (Editors) **98f:01053a** 01A70

— (*with* Babin, A. V.; Volevich, Leonid R.; et al.) Mark Iosifovich Vishik (on the occasion of his 75th birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 225–232; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 853–861. (Editors) **98f:01053b** 01A70

— *see also* **Partial differential equations, 98e:35002**

Agranovich, Yu. Ya. (*with* Azizova, O. T.) A relationship between mixed discriminants and the joint spectrum of a family of commuting operators in a finite-dimensional space. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 3–9; *translation in Math. Notes* **62** (1997), *no.* 1-2, 3–7 (1998). (Summary) **98m:47013** 47A56 (15A22, 47A10)

Agranovskiĭ, M. L. (*with* Bandman, T. M.) Remarks on a conjecture of Ruscheweyh. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 3, 249–258. (Summary) **98g:30013** 30C45 (30C55)

— (*with* Quinto, Eric Todd) Injectivity sets for the Radon transform over circles and complete systems of radial functions. (English summary) *J. Funct. Anal.* **139** (1996), *no.* 2, 383–414. (Summary) **98g:58171** 58G15 (42A85, 43A32, 44A12)

— Radon transforms on polynomial level sets and related problems. (English summary) *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 1–21, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Sergey Egorovich Sysoev) **98m:44002** 44A12

Agratini, Octavian Approximation properties of a class of operators of Stancu-Kantorovich type. (English summary) *Research Seminar on Numerical and Statistical Calculus*, 3–12, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (Summary) **98f:41023** 41A36

— On a generalized Durrmeyer operators. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 21–30. (O. P. Kapoor) **98i:41036** 41A36

— On simultaneous approximation by Stancu-Bernstein operators. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 157–162, *Transilvania, Cluj-Napoca*, 1997. (Joseph M. Lambert) **98i:41019** 41A28 (41A35)

Agrawal, A. K. *see* **Agarwal, Ashok Kumar**[2]

Agrawal, Alok (*with* Mukhopadhyay, Asish; Hosabettu, Ravi Mohan) On the ordinary line problem in computational geometry. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 330–341. (Summary) **98m:68276** 68U05 (52B55, 65Y25)

Agrawal, B. D. (*with* Srivastava, Madhurima) Generating relations for the discrete variable analogue of modified Jacobi polynomials. (English summary) *Progr. Math. (Varanasi)* **28/29** (1994/95), 87–96 (1996). (H. M. Srivastava) **98g:33010** 33C45

Agrawal, Divyakant (*with* Eğecioğlu, Ömer; El Abbadi, Amr) Analysis of quorum-based protocols for distributed $(k+1)$-exclusion. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 161–170, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68052** 68Q10

— (*with* Eğecioğlu, Ömer; El Abbadi, Amr) Billiard quorums on the grid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 9–16. 68Q10

— (*with* Krishnaswamy, Vasudha; Bruno, J. L.; El Abbadi, Amr) Relative serializability: an approach for relaxing the atomicity of transactions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 344–354. (Summary) **98i:68067** 68P15 (68Q10)

Agrawal, M. *see* **Agrawal, Manindra**

Agrawal, M. R. (*with* Tewari, U. B.) On existence of finite universal Korovkin sets in the centre of group algebras. (English summary) *Monatsh. Math.* **123** (1997), *no.* 1, 1–20. (Peter Mah) **98a:43002** 43A20 (41A36)

Agrawal, Manindra (*with* Beigel, Richard; Thierauf, Thomas) Pinpointing computation with modular queries in the Boolean hierarchy. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 322–334, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68081** 68Q15

— (*with* Arvind, V.) A note on decision versus search for graph automorphism. (English summary) *Inform. and Comput.* **131** (1996), *no.* 2, 179–189. (Italo José Dejter) **98e:68069** 68Q15 (05C85, 68Q25, 68R10)

— DSPACE(n) $\stackrel{?}{=}$ NSPACE(n): a degree-theoretic characterization. (English summary) Tenth Annual Conference on Structure in Complexity Theory (Minneapolis, MN, 1995). *J. Comput. System Sci.* **54** (1997), *no.* 3, 383–392. (William Gasarch) **98h:68080** 68Q15 (03D15, 03D30)

Agrawal, Manoj Kumar Double summation formulas for generalized hypergeometric function of two variables. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 270–276. 33C70

— Integration of the I-function of two variables with respect to parameters. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 353–359. 33C60

— An expansion formula for the I-function of two variables. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 2, 121–129. 33C60

— On generalized fractional integration and integral transforms. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 3, 179–189. (Summary) **98h:44001** 44A05

Agrawal, Om Prakash (*with* Gregory, John[1]; Pericak-Spector, Kathleen) A Bliss-type multiplier rule for constrained variational problems with time delay. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 702–711. (Mei-Qin Chen) **98g:49023** 49M29 (49M37)

Agrawal, R. C. *see* **Agrawal, Ramesh Chandra**

Agrawal, R. D. (*with* Goyal, Anil) An expansion formula for I-function of two variables involving generalized Legendre's associated function. (English summary) *J. Maulana Azad College Tech.* **29** (1996), 11–19. (Summary) **98f:33028** 33C90 (33C60)

— (*with* Goyal, Anil) On integration with respect to their parameters. (English summary) *J. Maulana Azad College Tech.* **29** (1996), 177–185. (Summary) **98f:33029** 33C90 (33C60)

Agrawal, Ramesh Chandra (*with* Upadhyay, M. D.) Some results on O^*-covariant differentiation. (English summary) *Progr. Math. (Varanasi)* **28/29** (1994/95), 39–44 (1996). (Fabio Podestà) **98d:53023** 53B05

Agrawal, S. C. *see* **Agrawal, Suresh Chandra**

Agrawal, S. K. (*with* Xu, Xiaochun) A new procedure for optimization of a class of linear time-varying dynamic systems. (English summary) *J. Vib. Control* **3** (1997), *no.* 4, 379–396. 49N10 (49M25)

Agrawal, Suresh Chandra (*with* Mahesh, Reeta) Lalas' criterion for dusty compressible swirling flows. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 3, 255–264. (Summary) **98k:76058** 76E99 (76N10, 76T05, 76U05)

Agre, Genadiĭ P. Diagnostic Bayesian networks. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 1, 47–67. (Maria-Teresa Lamata) **98e:68242** 68T35 (68T30)

Agresti, Alan (*with* Coull, Brent A.) Approximate is better than "exact" for interval estimation of binomial proportions. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 119–126. 62F25

Aguadé, J. (*with* Broto, C.; Notbohm, D.) A mod two analogue of a conjecture of Cooke. *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 23–36. (J. P. C. Greenlees) **98b:55005** 55P15 (55S10)

Aguado, Alberto S. (*with* Montiel, M. Eugenia; Zaluska, Ed) Topology in fractals. (English summary) *Chaos Solitons Fractals* **7** (1996), *no.* 8, 1187–1207. (Christoph Bandt) **98b:28014** 28A80 (58F08, 58F13)

— (*with* Montiel, M. Eugenia; Zaluska, Ed) Fourier series expansion of irregular curves. (English summary) *Fractals* **5** (1997), *no.* 1, 105–119. (Summary) **98f:42005** 42A99 (28A80, 65D17, 68U10)

Aguayo, José Separability in the strict topology on uniform space setting. (English summary) *Proyecciones* **15** (1996), *no.* 1, 19–28. (J. Schmets) **98c:46068** 46E40 (28B05, 46G10)

— (*with* De Grande-De Kimpe, Nicole; Navarro, Samuel) Strict locally convex topologies on $BC(X, \mathbf{K})$. *p-adic functional analysis (Nijmegen, 1996)*, 1–9, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (E. Beckenstein) **98i:46076** 46S10 (46A03, 46E10)

Agud, L. (*with* Catalán, O. R. G.; Garay, Jose) Two mathematical applications of Buckingham's Pi theorem. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 7–17. (I. Grattan-Guinness) **98c:00010** 00A73 (26B05)

Agüero Granados, M. A. (*with* Makhan'kov, V. G.; Makhankov, A. V.) Generalized coherent states and spin $S \geq 1$ systems. (English summary) *J. Phys. A* **29** (1996), *no.* 12, 3005–3019. (Miroslav Kolesík) **98a:82023** 82B20

— (*with* Espinosa Garrido, A. A.; Martínez Ortiz, J.) Soliton creation and annihilation in the nonlinear string equation. (Spanish. English and Spanish summaries) *Rev. Mexicana Fis.* **43** (1997), *no.* 3, 361–373. (Elaine Machtyngier) **98e:35149** 35Q55 (35Q51)

vigo-Aguiar, I. *see* **Vigo-Aguiar, I.**

Aguiar, J. (*with* Carnero, C.; Carpena, P.) The rolling body paradox: an oscillatory motion approach. (English and Spanish summaries) *European J. Phys.* **18** (1997), *no.* 6, 409–416. 70E99 (70F99)

de Aguiar, Marcus A. M. (*with* Xavier, Ademir L., Jr.) Complex trajectories in the quartic oscillator and its semiclassical coherent-state propagator. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 458–478. (Jiu Qing Liang) **98a:81044** 81Q20 (81–04, 81R30, 81S40)

— (*with* Xavier, Ademir L., Jr.) Semiclassical approximations to the coherent-state propagator for a particle in a box. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1808–1819. (Petr A. Braun) **98c:81067** 81Q20 (81R30)

— (*with* Meredith, D. C.; Baranger, M.; Haggerty, M. R.; Lauritzen, B.; Provost, Daniel) Periodic orbits of nonscaling Hamiltonian systems from quantum mechanics. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 491–496, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

del Águila, F. (*with* Culatti, A.; Muñoz Tapia, R.; Pérez-Victoria, M.) Constraining differential renormalization in abelian gauge theories. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 263–271. 81T13 (81T15)

herrera-Aguilar, Alfredo *see* **Herrera-Aguilar, Alfredo**

Aguilar, Gloria (*with* Lisbona, F.; Madaune-Tort, M.) Analysis of a nonlinear parabolic-hyperbolic problem. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 165–181. (Nickolai A. Lar′kin) **98h:35177** 35M10 (35K55, 35L60)

— (*with* Lisbona, F.) Singular perturbation on a subdomain. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 292–307. (Ivan Straškraba) **98d:34085** 34E15 (34B15)

mancilla Aguilar, J. L. *see* **Mancilla Aguilar, J. L.**

Aguilar, Marcelo Alberto Lie groups and differential geometry. *Latin-American School of Physics XXX ELAF (México City, 1995)*, 33–68, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Rosa Anna Marinosci) **98k:53001** 53–02 (22E15, 53C07)

— (*with* Socolovsky, M.) Clifford algebras and spin bundles. (English summary) *Recent developments in gravitation and mathematical physics (Guanajuato, 1994)*, 248–257, *World Sci. Publishing, River Edge, NJ*, 1996. (Waldyr Alves Rodrigues, Jr.) **98h:53025** 53A50 (15A66, 53C80, 57R15, 81R25)

— (*with* Socolovsky, M.) On the geometry of quantum states. (English summary) *Workshops on Particles and Fields and Phenomenology of Fundamental Interactions (Puebla, 1995)*, 495–499, *AIP Conf. Proc.*, 359, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Summary) **98j:81046** 81P99 (15A66, 18B99, 81S99)

— (*with* Socolovsky, M.) Naturalness of the space of states in quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 883–921. (Nicolaas P. Landsman) **98j:81195** 81S99 (18F99, 81P99)

Aguilar-Andrade, F. (*with* Silva-Ortigoza, G.) A note on decoupled equations and symmetry operators. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1393–1396. (Brian Edgar) **98g:83049** 83C50 (83C60)

Aguilar Crespo, J. A. (*with* Peral Alonso, Ireneo) Blow-up behavior for solutions of $-\Delta_N u = V(x)e^u$ in bounded domains in $\mathbf{R}^N$. *Nonlinear Anal.* **29** (1997), *no.* 4, 365–384. (Rolando Magnanini) **98g:35073** 35J65 (35B40)

Aguilar Madeira, José Firmino Application of homogenization theory to the optimization of the torsion constant. (Portuguese. Portuguese summary) *First Meeting on Numerical Methods for Partial Differential Equations (Coimbra, 1995)*, 51–60, *Textos Mat. Sér. B*, 11, *Univ. Coimbra, Coimbra*, 1997. (*see* **98h:65003**) 73K40 (49J45, 73B27, 90C90)

Aguilera, A. M. *see* **Aguilera Del Pino, Ana Ma.**

Aguilera, Ana M. *see* **Aguilera Del Pino, Ana Ma.**

pedraza-Aguilera, M. C. *see* **Pedraza-Aguilera, M. C.**

gonzález-Aguilera, Víctor *see* **González-Aguilera, Víctor**

Aguilera Del Pino, Ana Ma. (*with* Ocaña Lara, Francisco A.; Valderrama Bonnet, Mariano J.) An approximated principal component prediction model for continuous-time stochastic processes. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 2, 61–72. 62M10

— (*with* Valderrama Bonnet, Mariano J.) A normality criterion for random vectors based on independence. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 159–165. (Summary) **98a:62072** 62H05

Aguiló, F. (*with* Fiol, M. A.; Garcia, Christine) Triple loop networks with small transmission delay. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 3–16. (Summary) **98a:05072** 05C20 (05C90)

Aguirre, Baltazar (*with* Álvarez-Ramírez, José; Fernández Anaya, Guillermo; Suárez, Rodolfo) First harmonic analysis of linear control systems with high-gain saturating feedback. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2501–2510. 93C05 (93C80)

Aguirre, Luis (*with* Seibert, Peter; Arredondo Ruiz, J. H.; Delgado Fernández, Joaquín) Reduction theorems for uniform stability of systems in general spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 69–88. (Anthony N. Michel) **98d:34083** 34D20 (34Dxx, 34G20, 54H15)

Aguirre, Luis A. (*with* Billings, S. A.) Improved structure selection for nonlinear models based on term clustering. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 569–587. 93A30 (93B11)

Aguirregabiria, J. M. (*with* Chimento, Luis P.) Exact Bianchi type I models for an exponential-potential scalar field. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 12, 3197–3209. (Leonardo Fernández-Jambrina) **98a:83019** 83C15

— Solving forward Lorentz-Dirac-like equations. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2391–2402. (Summary) **98d:81007** 81Q05 (81–04)

— (*with* Hernández Martin, Anibal; Rivas, Martín) Order reductions of Lorentz-Dirac-like equations. (English summary) *J. Phys. A* **30** (1997), *no.* 19, L651–L654. (Summary) **98k:78009** 78A25

Aguirre Téllez, Manuel A. The convolution product of $W_\alpha(u,m) * W_\beta(u,m)$. (English summary) *Math. Notae* **38** (1995/96), 105–111 (1997). 46F10

— The distribution $\delta^{(k)}(P \pm i0 - m^2)$. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 339–348. 46F10

Agullo, O. (*with* Verga, A. D.; Zaslavskiĭ, G. M.) Chaotic advection and transport in helical Beltrami flows: a Hamiltonian system with anomalous diffusion. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part A*, 5587–5596. (Summary) **98d:76077** 76F20 (58F40, 76M35, 76R50)

Agullo-Lopez, F. (*with* Alieva, T.) Diffraction analysis of random fractal fields. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 3, 669–674. (Summary) **98k:78026** 78A45 (78A10)

Agwo, H. A. Necessary and sufficient conditions for the oscillation of delay differential equation with a piecewise constant argument. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 493–497. 34K15

Agwu, Nkechi (*with* Nkwanta, Asamoah) Dr. J. Ernest Wilkins, Jr.: the man and his works (mathematician, physicist and engineer). A biographical preview. (English summary) *African Americans in mathematics (Piscataway, NJ, 1996)*, 195–205, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:00012**) 01A70

Ahadi Moghaddam, Masoumeh Computer simulation of fire-safe-box. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 91–101. 80–08 (80A20)

Aharoni, Ron (*with* Diestel, Reinhard) Menger's theorem for a countable source set [MR 95e:05070]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 11–22, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C40

— A few remarks on a conjecture of Erdős on the infinite version of Menger's theorem. (English summary) *The mathematics of Paul Erdős, II*, 394–408, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Péter Komjáth) **98b:04003** 04A20 (04A05, 05C40)

— (*with* Herman, Gabor T.; Kuba, A.) Binary vectors partially determined by linear equation systems. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 1–16. (L. W. Ehrlich) **98d:15003** 15A06 (15A24)

— (*with* Maritz, Milton; Meshulam, Roy) Fourier transform imitations. (English summary) *Linear Algebra Appl.* **257** (1997), 201–209. (Jürgen Müller) **98g:20016** 20C15 (15A09, 20K01)

Aharonov, Dov (*with* Stephenson, Kenneth) Geometric sequences of discs in the Apollonian packing. (English summary) *Algebra i Analiz* **9** (1997), *no.* 3, 104–140; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 509–542. (Frédéric Mathéus) **98f:52019** 52C15

— (*with* Devaney, Robert L.; Elias, Uri) The dynamics of a piecewise linear map and its smooth approximation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 351–372. (Víctor Jiménez López) **98f:58156** 58F20 (54H20)

Aharonov, Yakir (*with* Vaidman, Lev) About position measurements which do not show the Bohmian particle position. *Bohmian mechanics and quantum theory: an appraisal*, 141–154, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— (*with* Nussinov, S.; Popescu, Sandu; Reznik, B.) Aharonov-Bohm type forces between magnetic fluxons. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 299–303. (Summary) **98g:81006** 81P05

Aharony, Amnon (*with* Hovi, J.-P.) Different self-avoiding walks on percolation clusters: a small-cell real-space renormalization-group study. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1163–1178. (E. J. Janse van Rensburg) **98f:82068** 82B41 (82B28, 82B43, 82D30)

Aharony, Ofer (*with* Yankielowicz, Shimon) Exact electric-magnetic duality in $N = 2$ supersymmetric QCD theories. (English summary) *Nuclear Phys. B* **473** (1996), *no.* 1-2, 93–120. (João P. Nunes) **98e:81166** 81T60 (81T13)

— (*with* Kachru, Shamit; Silverstein, Eva) New $\mathcal{N} = 1$ superconformal field theories in four dimensions from D-brane probes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 159–176. (Summary) **98b:81219** 81T40 (14J32, 81T30)

— (*with* Berkooz, Micha) Membrane dynamics in M(atrix)-theory. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 184–200. (Daniel N. Kabat) **98c:81151** 81T30

— (*with* Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) Field theory questions for string theory answers. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 177–197. (Angel Maria Uranga) **98d:81070** 81T30 (81T60)

— IR duality in $d = 3$ $N = 2$ supersymmetric USp($2N_c$) and U(N_c) gauge theories. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 71–76. (Summary) **98e:81167** 81T60 (81T13)

Ahdout, Shahla (*with* Hurwitz, Carol; Itzkowitz, Gerald; Rothman, Sheldon; Strassberg, Helen) Maximal protori in compact topological groups. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 227–236, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (K. H. Hofmann) **98h:22001** 22C05 (54H11)

— (*with* Rothman, Sheldon) Additive subgroups of the plane. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 1, 17–21. (W. Benz) **98k:22019** 22D05 (22E05, 51M99)

Ahemad, Nisar *see* **Ahmad, Nisar**

Ahern, Patrick (*with* Rudin, Walter) Geometric properties of the gamma function. *Amer. Math. Monthly* **103** (1996), *no.* 8, 678–681. (Aurelio Cannizzo) **98i:33003** 33B15 (30A10, 30C20, 39B32)

— (*with* Bruna, Joaquim; Cascante, Carme) H^p-theory for generalized M-harmonic functions in the unit ball. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 1, 103–135. (Hitoshi Arai) **98f:32008** 32A35 (31C05, 42B30)

Ahlbrandt, Calvin D. (*with* Peterson, Allan C.) ★ Discrete Hamiltonian systems. (English summary) Difference equations, continued fractions, and Riccati equations. Kluwer Texts in the Mathematical Sciences, 16. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xiv+374 *pp. ISBN* 0-7923-4277-1 (Kuppuswamy Porsezian) **98m:39043** 39A12 (39–01, 39A70, 39B42, 58F05)

Ahlbrecht, Martin (*with* Weber, Martin[1]) Preference for gradual resolution of uncertainty. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 167–185. 90A06

Ahlfors, Lars Valerian *see* **Albers, Donald J., 98m:01024**; **Gehring, Frederick et al., 98m:01027**; **Bott, Raoul et al., 98m:01028** *and* **Lehto, Olli**

Ahlgren, Scott (*with* English, Lars; Winters, Ron) An amusing representation of $x/\sin x$. *Amer. Math. Monthly* **104** (1997), *no.* 10, 964–966. 26A09

— (*with* Ekhad, Shalosh B.; Ono, Ken; Zeilberger, Doron) A binomial coefficient identity associated to a conjecture of Beukers. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 10, 1 *p.* (*electronic*). 05A19 (05A10)

Ahlswede, Rudolf (*with* Cai, Ning) Incomparability and intersection properties of Boolean interval lattices and chain posets. (English summary) *European J. Combin.* **17** (1996), *no.* 8, 677–687. (Douglas B. West) **98a:06004** 06A07 (05A19, 05D05)
— (*with* Cai, Ning) On extremal set partitions in Cartesian product spaces [MR 95c:04002]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 23–32, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 04A20 (05C70, 05D05)
— (*with* Cai, Ning) Cross-disjoint pairs of clouds in the interval lattice. (English summary) *The mathematics of Paul Erdős, I*, 155–164, *Algorithms Combin.*, 13, *Springer, Berlin*, 1997. (Ákos Seress) **98d:05142** 05D05 (06B99)
— (*with* Alon, Noga; Erdős, Péter L.; Ruszinkó, Miklós; Székely, László A.) Intersecting systems. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 127–137. (Miklós Bóna) **98c:05154** 05D05
— (*with* Khachatryan, L. G.) Counterexample to the Frankl-Pach conjecture for uniform, dense families. (English summary) *Combinatorica* **17** (1997), *no.* 2, 299–301. (Martin Klazar) **98j:05126** 05D05
— (*with* Cai, Ning) General edge-isoperimetric inequalities. I. Information-theoretical methods. *European J. Combin.* **18** (1997), *no.* 4, 355–372. (Sergeĭ L. Bezrukov) **98e:05060** 05C35
— (*with* Cai, Ning) General edge-isoperimetric inequalities. II. A local-global principle for lexicographical solutions. *European J. Combin.* **18** (1997), *no.* 5, 479–489. (Sergeĭ L. Bezrukov) **98e:05061** 05C35
— (*with* Han, Te Sun; Kobayashi, Kingo) Universal coding of integers and unbounded search trees. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 669–682. (Summary) **98b:94015** 94B05
— (*with* Cai, Ning) Correlated sources help transmission over an arbitrarily varying channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1254–1255. (Summary) **98d:94017** 94A29 (94A12)
— (*with* Khachatryan, L. G.) Number-theoretic correlation inequalities for Dirichlet densities. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 34–46. (V. Siva Rama Prasad) **98g:11008** 11B05
— (*with* Cai, Ning; Zhang, Zhen[1]) Zero-error capacity for models with memory and the enlightened dictator channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1250–1252. (Summary) **98m:94022** 94A40
Ahluwalia, D. V. Three quantum aspects of gravity. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 2, 804–808. 83C45
— On a new non-geometric element in gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1491–1501. (Summary) **98g:83078** 83C99 (81V17)
Ahmad, A. *see* **Ahmad, Abdul**
Ahmad, Abd EL-Baset A. (*with* Fakhry, M. E.; Mahmoud, M. R.) Characterizations of mixtures of two truncated normal distributions. (English summary) *J. Appl. Statist. Sci.* **2** (1995), *no.* 3, 221–231. (A. H. Khan) **98f:62024** 62E10
— Characterizations of a family of continuous distributions and a finite mixture of this family. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 225–232. (Gwo Dong Lin) **98e:62020** 62E10
Ahmad, Abdul (*with* Das, P. K.) Effect of oblateness of the more massive primary on the positions of the collinear libration points in the restricted three-body problem. (English summary) *Proc. Math. Soc.* **12** (1996), 121–125 (1997). 70F07
— (*with* Mandal, S.) Existence of periodic orbits of third kind in three-dimensional circular restricted problem of four bodies in presence of perturbations in Coriolis and centrifugal forces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 289–294. (A. Giorgilli) **98c:70011** 70F10 (34C25)
Ahmad, Aqeel (*with* Imdad, M.) On common fixed point of mappings and multivalued mappings. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 147–158. 54H25 (47H10, 54C60)
— (*with* Khan, A. Rauf) Some common fixed point theorems for non-self-hybrid contractions. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 275–286. 54H25 (47H09, 47H10)
— (*with* Imdad, M.) Some common fixed point theorems for mappings and multi-valued mappings. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 546–560. 54H25 (47H10, 54C60)
Ahmad, B. (*with* Khan, Moizuddin) A note on almost s-continuous mappings. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 2, 51–56. 54C08
— (*with* Qadir, M. P.; Dar, K. H.) Medial BCI-algebras of order seven and eight. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 13–17. 06F35 (03G25)
— (*with* Qadir, M. P.; Dar, K. H.) Medial BCI-algebras of order six. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 19–26. 06F35 (03G25)
— (*with* Anwar Kamal, Muhammad) A note on filters of BCK-algebras. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 161–166. 06F35 (03G25)
— (*with* Rehman, F. U.) Multivalued mappings and fixed point theorems. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 193–197. 54H25 (54C60)
— (*with* Khan, Moizuddin; Noiri, Takashi) On P_Σ and weakly-P_Σ spaces. (English summary) *Mat. Vesnik* **48** (1996), *no.* 3-4, 87–93. (Mohan L. Tikoo) **98c:54016** 54D10 (54B05, 54C08)
— (*with* Khan, Moizuddin) On P-regular spaces. II. (English summary) *Math. Today* (*Ahmedabad*) **15** (1997), 47–50. 54D15
Ahmad, Daud (*with* Ziad, M.) Homothetic motions of spherically symmetric space-times. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2547–2552. (Ulf Nilsson) **98e:83022** 83C20
Ahmad, Faiz Orthogonal polynomials and Padé approximation. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 2, 108–111. 41A21
Ahmad, Falih (*with* Razzaghi, Mohsen) A numerical solution to the Gel′fand-Levitan-Marchenko equation. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 31–39. (*see* **98g:00021**) 65M06 (34A55)
Ahmad, Hamza The algebraic closure in function fields of quadratic forms in characteristic 2. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 293–297. (Robert Fitzgerald) **98a:11042** 11E04 (12F20)
Ahmad, I. *see* **Ahmad, Idrees**
Ahmad, Ibrahim A. Nonparametric testing of classes of life distributions derived from a variability ordering. (English summary) *Purisankhyan Samikkha* **2** (1995), *no.* 1, 13–18. 62G10 (62N05)
— Testing exponentiality against new renewal is better than used life distribution. (English summary) *Purisankhyan Samikkha* **2** (1995), *no.* 2, 41–46. 62G10 (62G20, 62N05)
— A conditioned limit theorem for random U-statistics. (English summary) *Purisankhyan Samikkha* **2** (1995), *no.* 2, 47–52. 60F05 (62G99)
— Stochastic comparisons of residual lifetimes. (English summary) *Arab J. Math. Sci.* **2** (1996), *no.* 2, 151–166. (H. L. Harter) **98b:62177** 62N05 (62G10)
— (*with* Li, Qi[1]) Testing symmetry of an unknown density function by kernel method. (English summary) *J. Nonparametr. Statist.* **7** (1997), *no.* 3, 279–293. (Summary) **98c:62087** 62G10
— (*with* Li, Qi[1]) Testing independence by nonparametric kernel method. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 201–210. (Summary) **98b:62082** 62G10 (62G05)
— Goodness-of-fit statistics based on weighted L_p-functionals. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 261–268. (Summary) **98k:62084** 62G10
Ahmad, Idrees (*with* Berzins, Martin) An algorithm for ODEs from atmospheric dispersion problems. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 137–149. (*see* **98g:65010**) 65L06 (65F30)
Ahmad, Izhar (*with* Gulati, T. R.; Husain, I.) Symmetric duality for nondifferentiable minimax mixed integer programming problems. (English summary) *Optimization* **39** (1997), *no.* 1, 69–84. (Klaus Hofstedt) **98j:90042** 90C10 (49N15)
Ahmad, K. *see* **Ahmad, Khalil**
Ahmad, K. E. (*with* Moustafa, H. M.; Abd-Elrahman, A. M.) Approximate Bayes estimation for mixtures of two Weibull distributions under type-2 censoring. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 3, 269–285. 62N05 (62F15)
Ahmad, Khalil (*with* Kazmi, K. R.; Siddiqui, Z. A.) On a class of generalized variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 487–499. (M. Joshi) **98i:49008** 49J40 (47H19)
— (*with* Kazmi, K. R.; Rehman, N.) Fixed-point technique for implicit complementarity problem in Hilbert lattice. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 67–72. (Muhammad Aslam Noor) **98e:90188** 90C33 (47H10, 47N10, 49K40)
Ahmad, Khursheed (*with* Khan, Mumtaz Ahmad) On some Rodrigues type fractional derivative formulae. (English summary) *Demonstratio Math.* **29** (1996), *no.* 4, 749–754. (R. K. Saxena) **98f:33016** 33C45
Ahmad, M. Iftikhar Linear associative algebra of rectangular matrices. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 41–52. 16S50 (15A30)
Ahmad, M. S. (*with* Khan, S. U.; Tripathi, T. P.) Model based regression estimator of a finite population mean using multi-phase sampling. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 69–74. 62D05
Ahmad, Munir (*with* Chaudhry, M. Aslam) A probabilistic proof of the series representation of the Macdonald function with applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 463–466. 33-02 (60E05, 62E15)
— *see also* **Applied statistical science, 98g:62004**
Ahmad, Nisar (*with* Aziz, Abdul[1]) Integral mean estimates for polynomials whose zeros are within a circle. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 229–237. (Summary) **98d:30008** 30C10
— (*with* Aziz, Abdul[1]) Inequalities for the derivative of a polynomial. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 189–196. (N. K. Govil) **98d:30005** 30A10 (30C10)
Ahmad, Rais (*with* Siddiqi, Abul Hasan; Firdosh Khan, M.) An existence theorem for generalized multivalued vector variational inequality. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 393–396. 49J40 (47H19)
— (*with* Siddiqi, Abul Hasan; Ansari, Qamrul Hasan) On vector variational-like inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1009–1016. 49J40 (47H19)
— (*with* Siddiqi, Abul Hasan; Khan, Mohammad Firdosh) Existence of solution for generalized multivalued vector variational inequalities without convexity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1057–1060. 49J40 (90C29)
— (*with* Siddiqi, Abul Hasan; Khan, Mohammad Firdosh) Wiener-Hopf equations and general mildly nonlinear variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1317–1325. (Summary) **98k:47131** 47H19 (47H15, 47H17, 49J40, 49M99)
Ahmad, Saiyed Shakeel (*with* Sharma, C. K.) Certain generating relations for the I-function of two variables. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 2, 155–158. 33C60
Ahmad, Shaheen (*with* Luo, Shengwu; Zribi, Mohamed) Adaptive control of kinematically redundant robots. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 225–253. (Andrzej Świerniak) **98i:93056** 93C85 (70B15, 70Q05, 93C40)
Ahmad, Shair (*with* Rama Mohana Rao, M.) Stability of Volterra diffusion equations with time delays. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 143–154. (Summary) **98g:35200** 35R10 (35B35, 35K57, 35Q80, 92D25)
— (*with* Montes de Oca, Francisco) Extinction in nonautonomous T-periodic competitive Lotka-Volterra system. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 155–166. (Summary) **98h:92031** 92D25 (34C99, 34D05)
Ahmad, Z. U. (*with* Siddiquie, M. S.) On the non-local character of the $|V, \lambda|$-summability of a Fourier series at a point. *J. Nat. Acad. Math. India* **9** (1991), *no.* 1, 18–21. 42A24 (42A28)
— (*with* Gaur, A. K.; Saifi, A. H.) Some new sequence spaces: their duals and matrix transformations. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 207–212. (Summary) **98c:46008** 46A45 (40J05)
— (*with* Chishti, T. A.) Some spaces of lacunary sequences defined by the modulus. (English summary) *J. Anal.* **4** (1996), 153–159. (Enno Kolk) **98f:46006** 46A45 (40H05)
— Generalized spaces of difference sequences. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 738–745. (Enno Kolk) **98g:46008** 46A45 (40H05)
— (*with* Qamaruddin) Knopp's core-like theorems. (English summary) *Math. Montisnigri* **7** (1996), 35–40. (L. Loone) **98m:40002** 40C05 (40J05, 46A45)
— (*with* Khan, Q. A.) Generalized almost convergence and Knopp's core theorem. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 245–253. (L. Loone) **98b:40001** 40C05 (40J05, 46A45)

— (*with* Gaur, A. K.; Chishti, T. A.) On some new sequence spaces of invariant means. *Acta Math. Hungar.* **75** (1997), *no.* 3, 209–214. (Enno Kolk) **98c:46035** 46B45 (40F05, 40G99)

— (*with* Gaur, A. K.) Cones in Banach algebras. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 221–226. (Summary) **98h:46048** 46H05 (46B40, 46K05)

Ahmad, Ziauddin (*with* Guez, Allon) Auto-tuning of parameters in estimation and adaptive control of robots with weaker PE conditions. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1726–1730. 93C85

Ahmadi-Amoli, Kh. Local cohomology, d-sequences and generalized fractions. *Colloq. Math.* **74** (1997), *no.* 2, 261–265. (From the introduction) **98i:13035** 13D45

Ahmad-Mursaleen, Z. U. *see* **Ahmad, Z. U.**

el-Ahmady, A. E. *see* **El-Ahmady, A. E.**

Ahmed, A. *see* **Ahmed, Aquil**

Ahmed, A. H. *see* **Ahmed, Awad Hag-Ali**

Ahmed, Abdul-Hadi Nabih (*with* Yehia, A. Y.) A characterization of the generalized gamma distribution using residual moments. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 43–50 (1994). 62E10

— Characterization of exponential mixtures by means of a predictor of the failure rate and expectations of order statistics. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 37–47. (Summary) **98c:62017** 62E10 (62G30)

Ahmed, Abrar (*with* Agarwal, Ashok Kumar[2]) Common fixed point theorem for three mappings. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 43–46. 54H25

Ahmed, Afzal Minimality property of Vedic approximation of $\sqrt{2}$. (English summary) *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 61–66. (Summary) **98d:01011** 01A32

Ahmed, Aquil (*with* Gulati, T. R.; Husain, I.) Multiobjective symmetric duality with invexity. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 25–36. (Phan Quốc Khánh) **98d:90102** 90C29 (49N15)

— (*with* Gulati, T. R.; Husain, I.) Symmetric duality for multiobjective variational problems. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 22–38. (Gert Wanka) **98e:90137** 90C29 (49N15)

— (*with* Gulati, T. R.; Husain, I.) Symmetric duality with invexity in static and continuous fractional programming. (English summary) *Optimization* **40** (1997), *no.* 1, 41–56. (Chanchal Singh) **98h:90090** 90C32 (49N15)

Ahmed, Awad Hag-Ali Improved implementations of adaptive algorithms in collocation for boundary value problems. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 267–275. (Summary) **98m:65203** 65N35

— Computable error bounds with improved applicability conditions for collocation methods. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 375–379. 65L70

Ahmed, Chiheb Ben (*with* Boudriga, Nouredine) Reducing network latency and server load in hypermedia systems. (English summary) *Inform. Sci.* **102** (1997), *no.* 1-4, 1–29. (Summary) **98e:90065** 90B10 (90B25)

Ahmed, K. Abdus Salam as a teacher—some personal reminiscences. *Nova J. Theor. Phys.* **5** (1997), *no.* 2-3, 149–152. 01A70

Ahmed, Khondokar M. (*with* Shahabuddin, M.) An approximate solution of the modified form of Einstein-Maxwell equations. (English summary) *Ganit* **15** (1995), 83–91. (Summary) **98b:83027** 83C22

fekih-Ahmed, Lazhar *see* **Fekih-Ahmed, Lazhar**

Ahmed, M. A. (*with* Rashwan, R. A.) Common fixed point theorems for a generalized set-valued mapping. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 93–107. 54H25 (54C60)

Ahmed, M. S. *see* **Ahmed, Md. Saleh**

Ahmed, M. Shahan (*with* Bokhari, Ashfaque H.; Qadir, Asghar; Asghar, Mohammad) Classification of spherically symmetric static space-times by their curvature collineations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3639–3649. (Summary) **98b:83023** 83C20

Ahmed, Md. Saleh The general class of chain estimators for the ratio of two means using double sampling. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2247–2254. 62D05

Ahmed, Mohsin (*with* Venkatesh, G.) Dense time logic programming. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 585–613. (M. I. Dekhtyar) **98e:68026** 68N17 (03B45, 68T27)

Ahmed, N. U. (*with* Kerbal, S.) Necessary conditions of optimality for systems governed by B-evolutions. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2 (Atlanta, GA, 1995)*, 293–300, *Dynamic, Atlanta, GA*, 1996. (Summary) **98i:49029** 49K27

— (*with* Xiang, Xiao Ling; Wang, Yuan Di) Existence of solutions for a class of systems governed by nonlinear differential inclusions. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 306–312. (Giovanni Colombo) **98c:34023** 34A60 (34G20, 49J24)

— Linear systems governed by operators beyond Hille-Yosida semigroups. *Advances in nonlinear dynamics*, 197–207, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (*see* **98e:34002**) 47D06 (34K50, 45J05)

— (*with* Radaideh, S. M.) A powerful numerical technique solving Zakai equation for nonlinear filtering. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 293–308. (L. Stettner) **98d:93089** 93E11 (60J60, 65U05)

— Stochastic B-evolutions on Hilbert spaces. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 199–209. (*see* **98i:00027**) 60H15 (34F05, 34G10, 35R60, 47D06)

— (*with* Xiang, Xiao Ling) Infinite-dimensional functional-differential inclusions and necessary optimization conditions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 429–435. (*see* **98i:00027**) 49K24 (34A60, 34K35)

— (*with* Kerbal, S.) Stochastic systems governed by B-evolutions on Hilbert spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 903–920. (Krystyna Twardowska) **98k:60099** 60H15 (34F05, 34G10, 35R60, 47D06)

— Optimal control for linear systems described by m-times integrated semigroups. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 273–285. (R. F. Datko) **98h:49008** 49J27 (34K35, 45J05, 47N20)

— (*with* Xiang, Xiao Ling) Nonlinear uncertain systems and necessary conditions of optimality. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1755–1772. (Stanisław Walczak) **98g:49006** 49J27 (49K27)

Ahmed, S. A. S. A tranformation method of generating exact analytic solutions of the Schrödinger equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1893–1905. (Arlen Anderson) **98m:81018** 81Q05

Ahmed, S. E. Asymptotic shrinkage estimation: the regression case. (English summary) *Applied statistical science, II (Malang, 1996)*, 113–143, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62J07

— To pool or not to pool the proportion in randomized response surveys. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2499–2525. 62D05

— (*with* Tomkins, R. J.) On pooling means from two lognormal populations with unequal variances. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 125–143. (Summary) **98m:62049** 62F10 (62F15)

— (*with* Mahdi, T. N.; Ahsanullah, Mohammad) Improved prediction: pooling two identical regression lines. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 63–86. 62J05 (62F10)

Ahmed, Zafar Tunnelling through asymmetric parabolic potential barriers. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5243–5244. 81Q05

— Reflection from a composite potential well. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 289–295. (Summary) **98k:81287** 81U05

— Corrigenda: "Tunnelling through asymmetric parabolic potential barriers" [J. Phys. A **30** (1997), no. 14, 5243–5244]. *J. Phys. A* **31** (1998), *no.* 13, 3115. 81Q05

— Erratum: "Reflection from a composite potential well" [Phys. Lett. A **236** (1997), no. 4, 289–295; MR 98k:81287]. *Phys. Lett. A* **239** (1998), *no.* 6, 411. 81Q05

Ahmed-Ali, Tarek (*with* Lamnabhi-Lagarrigue, Françoise) Tracking control of nonlinear systems with disturbance attenuation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 329–338. (Summary) **98c:93069** 93C41 (93C10, 93C85)

Ahmedov, H. (*with* Duru, I. H.) A q-oscillator Green's function. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3889–3894. (A. M. Gavrilik) **98f:81053** 81Q05 (33D80, 81R50)

Ahn, B. Y. (*with* Lee, Ho Woo; Park, Jong Geun; Kim, Byung Kyu; Yoon, Seung Hyun; Park, N. I.) Queue length and waiting time analysis of a batch arrival queue with bilevel control. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 3, 191–205. 60K25

Ahn, Byung Chul (*with* Choi, In) Testing for cointegration in a system of equations. (English summary) Trending multiple time series (New Haven, CT, 1993). *Econometric Theory* **11** (1995), *no.* 5, 952–983. (Summary) **98f:62304** 62P20 (62M10)

Ahn, Byung-Ha (*with* Ailon, Amit; Gil, Michael) A study on the time-response functions of robot models incorporating actuator dynamics with applications to estimator design. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 99–115. (Sauro Longhi) **98m:70005** 70B15 (70Q05, 93C85)

Ahn, Byung Moo A class of the operator-valued Feynman integral. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 569–579. (Summary) **98j:28010** 28C20 (46G10)

Ahn, C. *see* **Ahn, Changrim**

Ahn, Changhyun (*with* Ivanov, Evgeniĭ Alekseevich[2]; Sorin, A. S.) $N = 2$ affine superalgebras and Hamiltonian reduction in $N = 2$ superspace. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 205–252. (Josep Herrero) **98i:81081** 81R10 (17B68, 17B81, 81T60)

— (*with* Oh, Kyungho) Geometry, D-branes and $N = 1$ duality in four dimensions. I. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 274–280. (Summary) **98i:81183** 81T30 (14J32, 32J81)

— (*with* Tatar, Radu) Geometry, D-branes and $N = 1$ duality in four dimensions with product gauge groups. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 293–302. (Summary) **98j:81322** 81T60 (81T13, 81T30)

— (*with* Oh, Kyungho; Tatar, Radu) M theory fivebrane interpretation for strong coupling dynamics of SO(N_c) gauge theories. (English summary) *Phys. Lett. B* **416** (1998), *no.* 1-2, 75–84. (Summary) **98k:81185** 81T30 (81T13, 81T60)

Ahn, Changrim (*with* Koo, W. M.) Boundary Yang-Baxter equation in the RSOS/SOS representation. (English summary) *Nuclear Phys. B* **468** (1996), *no.* 3, 461–486. (Summary) **98a:82031** 82B23

Ahn, Heungju (*with* Cho, Sanghyun; Kim, Seongyeon) Stability of Hölder estimates for $\overline{\partial}$ on pseudoconvex domains of finite type in $\mathbf{C}^2$. (English summary) *Nagoya Math. J.* **148** (1997), 23–38. (Der-Chen E. Chang) **98j:32014** 32F20 (42B20)

Ahn, Hyungtaik Semiparametric estimation of a single-index model with nonparametrically generated regressors. (English summary) *Econometric Theory* **13** (1997), *no.* 1, 3–31. (D. E. A. Giles) **98f:62303** 62P20 (62G05)

Ahn, Inkyung Positive solutions of predator-prey interacting systems with density-dependent diffusions. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 51–71, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (Summary) **98c:35048** 35J65 (35B05, 35Q80, 92D25)

Ahn, Jae Moon (*with* Chang, Kun Soo; Kim, Jeong Gyoo; Ko, Jung Won; Ryu, Kun Sik) Existence theorems of an operator-valued Feynman integral as an $\mathcal{L}(L_1, C_0)$ theory. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 317–334. (Kun Sik Ryu) **98m:28027** 28C20 (46G12)

Ahn, Taehoon (*with* Kim, Gwangil; Kim, Seung-hwan) The separatrix map in Hamiltonian systems and anti-integrability. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 3–6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F05

— (*with* Kim, Seung-hwan) Chaotic transport and anomalous diffusion in a planar flow with a chain of vortices. (English summary) Nonlinear dynamics and chaos, Part II (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 5, 1025–1033. (Summary) **98g:76042** 76F20 (58F13, 58F40)

Ahn, Young Joon (*with* Kim, Hong Oh) Approximation of circular arcs by Bézier curves. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 145–163. (Summary) **98b:65017** 65D17

Ahner, John F. (*with* Dyakin, V. V.; Raevskiĭ, V. Ya.; Ritter, Stefan) On the spectral properties of operators in harmonic potential theory. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 1, 3–11, 157; *translation in Math. Notes* **59** (1996), *no.* 1-2, 3–9. (Summary) **98e:31003** 31B05 (47N20)

Ahonen, Helena (*with* Mannila, Heikki; Nikunen, E.) Generating grammars for SGML tagged texts lacking DTD. (English summary) *Math. Comput. Modelling* **26** (1997),

no. 1, 1–13. 68U15

Ahrabian, Hayedeh Analysis of traversal algorithms on binary trees without an auxiliary stack. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 77–90. (Summary) **98m:68105** 68Q25 (05C05, 05C85, 68P05)

Ahrens, J. H. (*with* Rösler, Uwe) Signed central moments of integer random variables with decreasing density. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 146–154. (J. K. Ord) **98h:62022** 62E99

Ahrens, Thomas J. (*with* Knowles, James K.; Winfree, Nancy A.) Dynamically induced phase transitions and the modeling of comminution in brittle solids. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 2, 99–116. (Summary) **98c:73013** 73B30 (73D05, 73M25, 80A22)

Ahsan, Javed (*with* Liu, Zhongkui) Strongly idempotent seminearrings and their prime ideal spaces. *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 151–166, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Kirby C. Smith) **98k:16064** 16Y30 (16Y60)

— (*with* Liu, Zhongkui) A generalization of regular left acts. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 169–176. (A. R. Rajan) **98g:20101** 20M30

— (*with* Mason, Gordon) Fully idempotent near-rings and sheaf representations. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 145–152. (David John) **98m:16054** 16Y30

Ahsan, M. J. (*with* Khan, M. G. M.; Jahan, Nujhat) Determining the optimum cluster size. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 121–129. 62D05

Ahsanullah, Mohammad ★ Record statistics. *Nova Science Publishers, Inc., Commack, NY*, 1995. x+224 *pp. ISBN* 1-56072-203-7 (From the preface) **98d:62088** 62G30 (62E10)

— (*with* Wesołowski, Jacek) On characterizing distributions based on linearity of maximum on minimum of three observations. (English summary) *Applied statistical science, I* (*Lawrenceville, NJ*, 1995), 81–88, *Nova Sci. Publ., Commack, NY*, 1996. (Peter Flusser) **98a:62016** 62E10

— (*with* Habibullah, Mohamed) On the entropies and the mutual information of some bivariate continuous distributions used in reliability. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 1–5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62E15 (62B10, 62N05)

— (*with* Nevzorov, V. B.) Joint distribution of order statistics generated by records. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 24–30, 356. (W. Dziubdziela) **98g:60096** 60G70 (62G30)

— Record values of univariate distribution. *Applied statistical science, II* (*Malang*, 1996), 17–36, *Nova Sci. Publ., Commack, NY*, 1997. (W. Dziubdziela) **98m:62154** 62G30 (60G70, 62F10)

— (*with* Wesołowski, Jacek) On characterizing distributions via linearity of regression for order statistics. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 69–78. (Summary) **98c:62022** 62E10 (62G30)

— (*with* Habibullah, Mohamed) Test of independence of a class of bivariate distributions based on mutual information. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2803–2816. 62F03

— (*with* Bhoj, Dinesh S.) Inference problems of modified power function distribution based on records. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 143–159. (Syed N. U. A. Kirmani) **98g:62026** 62E15 (62F10)

— Generalized order statistics from power function distribution. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 283–290. 62G30

— (*with* Raghunandanan, K.) Recurrence relations for moments of generalized order statistics from a Pareto and power function distribution. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 229–234. 62G30 (62E15)

— (*with* Mahdi, T. N.; Ahmed, S. E.) Improved prediction: pooling two identical regression lines. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 63–86. 62J05 (62F10)

— Corrigendum: "Generalized order statistics from power function distribution" [J. Appl. Statist. Sci. **5** (1997), no. 4, 283–290]. *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 87. 62G30

— *see also* **Applied statistical science, 98g:62004**

Ahson, Syed I. (*with* Mahmoud, Ahmad M.) Pattern segmentation using coupled neural oscillators. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1295–1303. (*see* **98i:00029**) 92B20

Ahues, M. (*with* Piskarev, S.) Spectral approximation of weakly singular integral operators. I. Convergence theory. *Integral methods in science and engineering, Vol.* 2 (*Oulu*, 1996), 35–39, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 47G10 (45P05, 47A58)

Ahuja, Gopi Changing the variable in convolution of distributions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **106** (1996), *no.* 2, 163–168. (Om P. Singh) **98g:46048** 46F10 (26A33, 44A35)

— A note on the representation of Lowndes operators. (English summary) *Ganita* **48** (1997), *no.* 2, 145–149. (Summary) **98m:44007** 44A20 (33C10)

Ahuja, O. P. (*with* Jahangiri, Massoud) Fekete-Szego problem for a unified class of analytic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 2, 67–78. (J. G. Krzyż) **98c:30011** 30C45 (30C50)

— (*with* Jahangiri, Massoud) Convolution duality applied to a class of analytic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 47–53. (Iscander Nezhmetdinov) **98d:30014** 30C45 (30C75)

— (*with* Jahangiri, Massoud) On the derivatives of a family of analytic functions. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 67–72. (Summary) **98k:30012** 30C45 (30C50)

Ahuja, Ravindra K. (*with* Magnanti, Thomas L.; Orlin, James B.; Reddy, M. R.) Applications of network optimization. *Network models*, 1–83, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90Bxx (90C35)

— (*with* Orlin, James B.) Equivalence of the primal and dual simplex algorithms for the maximum flow problem. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 3, 101–108. (Summary) **98a:90118** 90C35 (90C08)

Ahuja, S. S. (*with* Sharma, Sukh Dev) Stochastic model of non-Markovian parallel service channels. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 3, 15–29 60K25 (90B22)

Ai, Chunrong A semiparametric maximum likelihood estimator. (English summary) *Econometrica* **65** (1997), *no.* 4, 933–963. (Luis Firinguetti) **98h:62042** 62G05 (62P20)

— An improved estimator for models with randomly missing data. (English summary) *J. Nonparametr. Statist.* **7** (1997), *no.* 4, 331–347. (Summary) **98b:62053** 62G05

Ai, Ke Feng (*with* Zheng, Dao-Sheng) A complex one-sided Jacobi method for finding the singular value decomposition of a complex matrix. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 4, 293–299. (Xinguo Liu) **98d:65049** 65F15

Ai, Xiao Bai On the basis of taiji relativity. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 5, 321–324. 83A05

— Comment: "On the essence of special relativity" [J. Fudan Univ. Nat. Sci. **35** (1996), no. 3, 325–334; MR 98b:81029] by G. J. Ni and S. Q. Chen. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 3, 354–356. 81P99

Aiba, Akira² Carlitz modules and Galois module structure. II. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 29–35. (Gabriel D. Villa-Salvador) **98k:11163** 11R33 (11R58)

Aicardi, Francesca Invariant polynomial of framed knots in the solid torus and its application to wave fronts and Legendrian knots. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 6, 743–778. (Zhenghan Wang) **98f:57006** 57M25 (57R45)

Aichholzer, Oswin (*with* Aurenhammer, F.; Cheng, Siu Wing; Katoh, Naoki; Rote, Günter; Taschwer, M.; Xu, Yin-Feng) Triangulations intersect nicely. (English summary) Eleventh Annual Symposium on Computational Geometry (Vancouver, BC, 1995). *Discrete Comput. Geom.* **16** (1996), *no.* 4, 339–359. (Summary) **98f:68260** 68U05 (52B55)

— (*with* Alt, Helmut; Rote, Günter) Matching shapes with a reference point. (English summary) Tenth Annual ACM Symposium on Computational Geometry (Stony Brook, NY, 1994). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 4, 349–363. (Hans-Dietrich Hecker) **98h:68219** 68U05

Aichinger, Erhard Local interpolation near-rings as a frame-work for the density theorems. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 27–36, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Gordon Mason) **98h:16072** 16Y30 (16R10)

— A note on simple composition rings. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 167–173, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y99

— (*with* Nöbauer, Christof) The cardinalities of the endomorphism near-rings $I(G)$, $A(G)$, and $E(G)$ for all groups G with $|G| \leq 31$. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 175–178, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30

Aichouh, P. (*with* Natsiavas, S.; Bouzakis, K. D.) Free vibration in a class of self-excited oscillators with 1:3 internal resonance. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 2, 109–128. (Summary) **98a:70022** 70K25 (34C15, 70K30)

Ail, René (*with* Levacher, Laurent) Numerical investigations on global error estimation for ordinary differential equations. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 21–39. (*see* **98d:65005**) 65L06

Aida, Shigeki Logarithmic Sobolev inequalities on loop spaces over compact Riemannian manifolds. *Stochastic analysis and applications* (*Powys*, 1995), 1–19, *World Sci. Publishing, River Edge, NJ*, 1996. (Ana Bela Cruzeiro) **98g:58186** 58G32 (60H07)

Aida, Toshiaki (*with* Kitazawa, Yoshihisa) Two-loop prediction for scaling exponents in $(2+\varepsilon)$-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 427–458. (Ilya Shapiro) **98d:81061** 81T15 (81V17, 83C45)

Aidaoui, A. (*with* Tahiri, M.) Quantized *BF* theory in the superfibre bundle approach. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1587–1596. (Noriaki Ano) **98m:81189** 81T70 (58Z05, 81T13)

el Aidi, Mohammed *see* **El Aidi, Mohammed**

carlucci-Aiello, Luigia *see* **Carlucci-Aiello, Luigia**

Aiello, Walter Time delay models of population growth with stage structure. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 1–12, *VSP, Utrecht*, 1993. (Summary) **98h:92032** 92D25 (34K15)

Aigner, Martin (*with* Klimmek, R.) Matchings in lattice graphs and Hamming graphs [MR 96c:05131]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 33–50, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70

— (*with* Triesch, Eberhard) Reconstructing a graph from its neighborhood lists [MR 94j:05089]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 51–61, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C60 (68R10)

— Finding the maximum and minimum. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 1, 1–12. (Summary) **98a:90081** 90C27 (90A05)

— (*with* Li, Anping) Searching for counterfeit coins. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 9–20. (László Pyber) **98c:05018** 05A99

— The Penrose polynomial of a plane graph. *Math. Ann.* **307** (1997), *no.* 2, 173–189. (W. T. Tutte) **98b:05040** 05C15

— Moving into the desert with Fibonacci. *Math. Mag.* **70** (1997), *no.* 1, 11–21. (John Michael Schram) **98g:11013** 11B39 (00A08, 05A99)

— (*with* Schmidt, Vasco A.) "Good proofs are proofs that make us wiser". Interview with Yuri I. Manin. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 40–44. 01A67

Aiginov, G. A. A criterion for the uniform boundedness of normalized eigenfunctions of the Sturm-Liouville operator with a positive weight function on a finite interval. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 149–150; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 387–389. (P. A. Mishnayevskiy) **98h:34139** 34L15 (34B24, 34L40, 47E05)

— (*with* Gekhtman, Moiseĭ Meerovich) On the maximum possible rate of growth of a system of eigenfunctions of the Sturm-Liouville operator with a continuous weight function on a finite segment. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 161–162; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 605–606. (P. A. Mishnayevskiy) **98h:34140** 34L15 (34B24, 34L40, 47E05)

Aihara, Kazuyuki (*with* Chen, Luonan) Chaos and asymptotical stability in discrete-time neural networks. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 286–325. (Frederick R. Marotto) **98f:58135** 58F13 (58F10, 58F40, 92B20)

Aihara, Shin Ichi On adaptive boundary control for stochastic parabolic systems with unknown potential coefficient. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 350–363. (Bożenna Pasik-Duncan) **98c:93112** 93E12 (93C20)

Aikawa, Hiroaki (*with* Essén, Matts) ★ Potential theory—selected topics. Lecture Notes in Mathematics, 1633. *Springer-Verlag, Berlin*, 1996. x+200 *pp. ISBN* 3-540-61583-0

(Noriaki Suzuki) **98f:31005** 31B05 (31A05, 31B15, 31B25)
— (*with* Murata, Minoru) Generalized Cranston-McConnell inequalities and Martin boundaries of unbounded domains. (English summary) *J. Anal. Math.* **69** (1996), 137–152. (Tom Carroll) **98f:31016** 31C35 (31A05)
Aiken, Alexander (*with* Wimmers, Edward L.; Palsberg, Jens) Optimal representations of polymorphic types with subtyping (extended abstract). (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 47–76, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15
Aiki, Toyohiko Periodic solutions for multi-phase Stefan problems with dynamic boundary conditions. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 3–9, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 35R35 (35B10, 35K60)
— (*with* Imai, Hitoshi) Behaviour of blow-up solutions to one-phase Stefan problems with Dirichlet boundary conditions. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 3–15, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Barbara E. E. Stoth) **98h:35237** 35R35 (35B05, 35K60)
— Global attractors for two-phase Stefan problems in one-dimensional space. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 47–66. (Piotr Biler) **98j:35101** 35K60 (35B40, 35R35, 58F39, 80A22)
Aikou, Tadashi Einstein-Finsler vector bundles. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 363–384. (James J. Faran, V) **98i:53100** 53C60 (32L20, 53C07, 53C56)
Ailon, Amit (*with* Gil, Michael; Ahn, Byung-Ha) A study on the time-response functions of robot models incorporating actuator dynamics with applications to estimator design. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 99–115. (Sauro Longhi) **98m:70005** 70B15 (70Q05, 93C85)
Aimar, Hugo (*with* Bernardis, Ana) Fourier versus wavelets: a simple approach to Lipschitz regularity. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 219–224. (I. Ya. Novikov) **98e:42026** 42C15
— (*with* Bernardis, Ana) Wavelet characterization of functions with conditions on the mean oscillation. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 15–32, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Rodolfo Torres) **98m:42018** 42B25 (42B30, 42C15, 46E99)
Aimi, A. (*with* Diligenti, M.; Monegato, G.) New numerical integration schemes for applications of Galerkin BEM to 2-D problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 11, 1977–1999. (Summary) **98c:73082** 73V10
Ainouche, Ahmed (*with* Benmeziane, Zineb) Stability number of a subclass of chair-free, net-free graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 79–90. (Summary) **98e:05090** 05C75
Ainsaar, Ain (*with* Mankin, Romi) Green's functions for a scalar field in a class of Robertson-Walker space-times. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 4, 281–289. (Guido Cognola) **98h:81087** 81T20 (83C47)
Ainsworth, Mark (*with* Oden, John Tinsley) A posteriori error estimation in finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **142** (1997), *no.* 1-2, 1–88. (Rolf Rannacher) **98e:65092** 65N30 (73V05, 76M10)
— (*with* Senior, Bill) Aspects of an adaptive *hp*-finite element method: adaptive strategy, conforming approximation and efficient solvers. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 65–87. (Summary) **98i:65094** 65N30
— (*with* Kelly, D. W.; Sloan, I. H.; Wang, Song) Post-processing with computable error bounds for the finite element approximation of a nonlinear heat conduction problem. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 547–561. (Summary) **98f:65105** 65N30
— (*with* Oden, John Tinsley) A posteriori error estimators for the Stokes and Oseen equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 228–245. (Claus-Dieter Munz) **98c:65180** 65N30 (65N50, 76D07, 76M10)
— (*with* Senior, Bill) An adaptive refinement strategy for *hp*-finite element computations. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 165–178. (*see* **98i:65004**) 65M50 (65M60)
— *see also* **Wavelets, multilevel methods and elliptic PDEs, 98g:65011**
Airapetyan, Ruben G. (*with* Karayan, Kh. H.; Pogosyan, G. S.; Sisakyan, A. N.; Zaslavsky, D. I.) ★ Quantum motion on the three-dimensional sphere. (English and Russian summaries) Ellipsoidal basis. Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-117. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1996. 13 *pp.* (Patrick J. Moylan) **98h:81017** 81Q05 (33C99, 35Q40)
— (*with* Zhidkov, E. P.) A numerical method for solving an inverse problem of quantum scattering theory. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 38–40, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 23–25 (1997). 81U05 (34A55, 34L25, 81–08)
— (*with* Puzynin, Igor V.; Zhidkov, E. P.) Numerical method for solving the inverse problem of quantum scattering theory. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 88–97, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U40 (81–08)
Airault, Helene (*with* Malliavin, Paul) Integration by parts formulas and dilatation vector fields on elliptic probability spaces. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 4, 447–494. (Ana Bela Cruzeiro) **98d:60105** 60H07 (28D05, 60D05)
Aissaoui, H. (*with* Mebarki, N.; Boudine, A.; Maasmi, A.) The q-deformed Virasoro algebra. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 8, 755–759. (Summary) **98g:81084** 81R50 (17B68, 81T30)
— (*with* Mebarki, N.; Boudine, A.; Maasmi, A.) New critical dimensions for q-deformed bosonic string. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 8, 761–764. 81T30 (81R50)
Aissaoui, N. Instability of capacity in Orlicz spaces. (English summary) *Potential Anal.* **6** (1997), *no.* 4, 327–346. (Henryk Hudzik) **98g:46039** 46E35 (31C45, 46E30)
— Bessel potentials in Orlicz spaces. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 1, 55–79. (Henryk Hudzik) **98g:46040** 46E35 (31B15)
Aita, Marco (*with* Bergmann, Wolfgang R.; Conti, Roberto[2]) Amenable groups and generalized Cuntz algebras. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 48–64. (Siegfried Echterhoff) **98k:46110** 46L55 (22D05, 46L05)
Altaliev, Sh. M. (*with* Alekseeva, L. A.; Dil'dabaev, Sh. A.; Zhanbyrbaev, N. B.) ★ Метод граничных интегральных уравнений в задачах динамики упругих многосвязных тел. (Russian. Russian summary) [The method of boundary integral equations in problems of the dynamics of elastic multiply connected bodies] "*Gylym*", *Alma Ata*, 1992. 228 *pp. ISBN* 5-628-00984-9 (Summary) **98a:73018** 73C02 (35Q72, 73D10, 73D99, 73V10)
Ait Babram, M. (*with* Hbid, M. L.; Arino, O.) Approximation scheme of a center manifold for functional-differential equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 554–572. (Teresa Faria) **98h:34122** 34K15 (34A45, 34C20, 34C40)
Ait-Bouziad, Ahmed (*with* Kassel, Helen) An improved algorithm for retrieving fuzzy information from two systems. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 63–66. 68P15
Aitchison, I. *see* **Aitchison, Iain R.**
Aitchison, I. J. R. (*with* Johnsson, M. T.) The SU(2) instanton and the adiabatic evolution of two Kramers doublets. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2085–2092. (Péter Pál Lévay) **98b:81062** 81Q99 (81R05, 81T13)
Aitchison, Iain R. (*with* Matsumotoi, S.; Rubinstein, Joachim H.) Immersed surfaces in cubed manifolds. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 85–95. (John G. Ratcliffe) **98k:57018** 57M50 (57N10)
— (*with* Rubinstein, Joachim H.) Geodesic surfaces in knot complements. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 137–150. (Darren D. Long) **98h:57011** 57M25 (57M50, 57N10, 57N35)
— (*with* Kricker, A.; Spence, B.) Cabling the Vassiliev invariants. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 327–358. (Hugh Reynolds Morton) **98k:57011a** 57M25
Aitchison, John Principles of compositional data analysis. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 73–81, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H99 (62P99)
Ait Dads, E. (*with* Ezzinbi, K.; Arino, O.) Existence of periodic solution for some neutral nonlinear integral equation with delay time dependent. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 79–92. (C. Corduneanu) **98h:45007** 45G10 (45M15, 92C60)
— (*with* Ezzinbi, K.; Fatajou, S.) Weakly almost periodic solutions of the inhomogeneous linear equations and periodic processes in a Banach space. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 507–516. (C. Corduneanu) **98m:34121** 34G20 (34C27)
— (*with* Ezzinbi, K.; Arino, O.) Pseudo almost periodic solutions for some differential equations in a Banach space. *Nonlinear Anal.* **28** (1997), *no.* 7, 1141–1155. (John R. Graef) **98d:34089** 34G10 (34C27, 47N20)
— (*with* Ezzinbi, K.; Arino, O.) Periodic and almost periodic results for some differential equations in Banach spaces. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 163–170. (A. I. Perov) **98j:34116** 34G20 (34C25, 34C27)
Aitken, A. C. *see* **Farebrother, Richard William, 98d:01032**
Aitkin, Murray Simpson's paradox and the Bayes factor. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 269–270. 62H17
Aït Ouassarah, Abderrahman (*with* Belley, Jean-Marc; Fournier, Gilles) Note sur une méthode semi-variationnelle pour l'équation du pendule avec friction et forcing périodique de moyenne non nulle. (English and French summaries) [Note on a semivariational method for the pendulum equation with friction and periodic forcing of nonzero mean value] *Ann. Sci. Math. Québec* **20** (1996), *no.* 2, 109–117. (Jean Mawhin) **98a:58056** 58E30 (34B15, 34C25, 58F22)
AitRami, Mustapha *see* **Rami, Mustapha Ait**
Aitrimouch, H. (*with* Lallement, Gérard; Kozanek, J.) Construction of the unobserved part of the square dynamic flexibility matrix. (English summary) *J. Sound Vibration* **204** (1997), *no.* 1, 73–84. (Summary) **98e:73083** 73K12 (70J10)
AitSahlia, F. (*with* Carr, Peter Paul) American options: a comparison of numerical methods. *Numerical methods in finance*, 67–87, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (*see* **98c:90004**) 90A09
Aivazyan, S. A. Mixture-model cluster analysis using the projection pursuit method. *Computational learning and probabilistic reasoning*, 277–286, *Wiley, Chichester*, 1996. (*see* **98h:68007**) 62H30
Aiyagari, S. Rao (*with* Wallace, Neil) Government transaction policy, the medium of exchange, and welfare. (English summary) *J. Econom. Theory* **74** (1997), *no.* 1, 1–18. (Summary) **98a:90037** 90A53 (90A12)
Al-Zaid, Hassan *see* **Al-Zaid, Hassan**
Aizawa, N. (*with* Sato, Haru-Tada) Harmonic spectra and W-infinity algebra. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 450–453, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R10
— Irreducible decomposition for tensor product representations of Jordanian quantum algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5981–5992. (Joris Van der Jeugt) **98j:81135** 81R50 (17B37)
Aizawa, Yoji (*with* Umehara, Hiroaki; Tanikawa, Kiyotaka) Triple collision and escape in the three-body problem. (English summary) *Dynamical systems and chaos, Vol.* 2 (*Hachioji*, 1994), 404–407, *World Sci. Publishing, River Edge, NJ*, 1995. (Florin N. Diacu) **98a:70008** 70F07 (70F35)
— (*with* Shinohara, Susumu) The breakup condition of shearless KAM curves in the quadratic map. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 379–385. (Dario Bambusi) **98f:58170** 58F27 (34C28, 34C50, 39B12, 58F30)
— (*with* Koguro, Naoki; Antoniou, Ioannis E.) Chaos and singularities in the mixmaster universe. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 6, 1225–1250. (Summary) **98k:83012** 83C15 (58F40)
Aizenberg, L. A. New results on the free boundary problem and generalization of the Hartogs-theorem for CR functions. (English summary) Linear topological spaces and complex analysis (Ankara, 1995). *Linear Topol. Spaces Complex Anal.* **2** (1995), 1–7. (J. Merker) **98d:32015** 32D15 (32A07)
— (*with* Berenstein, Carlos A.; Wertheim, L.) Mean-value characterization of plurihar-monic and separately harmonic functions. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 295–306. (Ahmed Zeriahi) **98i:32016** 32F05 (31B05)
— Duality in complex analysis. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 27–35, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997.

(Plamen Dzhakov) **98k:46036** 46E10 (32A37)
— (*with* Liflyand, E. R.) Mean-value characterization of holomorphic and pluriharmonic functions. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 131–146. (Carmen Cascante) **98g:32021** 32F05 (32A10)
Aizenman, Michael Localization at weak disorder: some elementary bounds. (English summary) *The state of matter* (*Copenhagen*, 1992), 367–395, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B44 (35J10, 47N55, 81Q10)
— The geometry of critical percolation and conformal invariance. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 104–120, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:82040** 82B43 (60K35)
— On the number of incipient spanning clusters. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 3, 551–582. (Summary) **98j:82030** 82B43
— *see also* **State of matter, 98c:82001**
Aizerman, Mark (*with* Aleskerov, F. T.) ★ Theory of choice. Translated from the Russian. Studies in Mathematical and Managerial Economics, 38. *North-Holland Publishing Co., Amsterdam*, 1995. x+314 *pp. ISBN* 0-444-82210-0 (Reinhard Suck) **98d:90019** 90A06 (90–02, 90A28)
Aizicovici, Sergiu (*with* Gao, Yun[3]) Functional-differential equations with nonlocal initial conditions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 145–156. (Ludwik Byszewski) **98f:34117** 34K30 (34G20, 45N05, 47H15, 47N20)
Aizpuru Tomás, Antonio On operators which attain their norm at extreme points. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 4, 333–337. (Barry Turett) **98m:46010** 46B20 (46E40)
prabhu-Ajgaonkar, S. G. *see* **Prabhu-Ajgaonkar, S. G.**
Ajili, Farid (*with* Contejean, Evelyne) Complete solving of linear Diophantine equations and inequations without adding variables. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 1–17, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98h:68122** 68Q40 (11Y50, 68T20)
— (*with* Kirchner, Claude) A modular framework for the combination of unification and built-in constraints. (English summary) *Logic programming* (*Leuven*, 1997), 331–345, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68T20)
— (*with* Contejean, Evelyne) Avoiding slack variables in the solving of linear Diophantine equations and inequations. (English summary) Principles and practice of constraint programming. *Theoret. Comput. Sci.* **173** (1997), *no.* 1, 183–208. (Michael Clausen) **98c:68033** 68N17 (11Y50, 68T15, 90C08)
Ajmal, N. (*with* Pascali, E.) Fuzzy topologies and a type of their decomposition. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 305–328. 54A40
Ajoodani-Namini, S. All block designs with $b = \binom{v}{k}/2$ exist. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 27–35. (Summary) **98k:05014** 05B05
Akahira, Masafumi (*with* Takeuchi, Kei) ★ Non-regular statistical estimation. Lecture Notes in Statistics, 107. *Springer-Verlag, New York*, 1995. viii+183 *pp. ISBN* 0-387-94578-4 (C. R. Rao) **98d:62031** 62F10 (62F11, 62F12)
— Asymptotic efficiency of third and fourth order. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 1–11, *World Sci. Publishing, River Edge, NJ*, 1996. (Tapas Samanta) **98m:62063** 62F12
— (*with* Tanaka, Hidekazu) Deficiency of minimum discrepancy estimators of multinomial parameters. (English summary) *Statist. Decisions* **14** (1996), *no.* 3, 241–251. (Prafulchandra N. Jani) **98c:62043** 62F12
— (*with* Takahashi, Kunihiko; Takeuchi, Kei) Randomized confidence intervals of a parameter for a family of discrete exponential type distributions. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1103–1128. (J. A. Melamed) **98m:62078** 62F25
— An information inequality bound for the asymptotic variance of sequential estimation procedures of a linearly combined parameter and its attainment. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 47–63. (Mayer Alvo) **98d:62141** 62L12 (62F10, 62L05)
— (*with* Kashima, Hiroyuki; Takahashi, Kunihiko) A generalized binomial distribution determined by a two-state Markov chain and a distribution by the Bayesian approach. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 27–42. 62E15 (60J10, 62E20)
Akahori, Takao On Hodge theory over strongly pseudo convex boundaries. *Geometric complex analysis* (*Hayama*, 1995), 19–24, *World Sci. Publishing, River Edge, NJ*, 1996. (Kimio Miyajima) **98k:32028** 32G07 (32J25)
— *see also* **CR-geometry and overdetermined systems, 98d:32001**
Akaike, Yōji The *n*-shape of compact pairs and weak proper *n*-homotopy. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 295–306. (Zvonko Čerin) **98b:54026** 54C56 (55P55)
— (*with* Sakai, Katsuro) The complement theorem in *n*-shape theory for compact pairs. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 307–319. (Zvonko Čerin) **98b:54027** 54C56 (55P55)
— Proper *n*-shape and property SUV^n. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 251–261. (Götz Brunner) **98k:54029** 54C56 (54C55, 54E45, 55P55)
Akal, M. (*with* Begehr, Heinrich) On the Pompeiu operator of higher order and applications. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 233–261. (Guo Chun Wen) **98f:35023** 35G15 (30E25, 35J55, 35Q15, 47B38, 47F05)
Akama, Seiki (*with* Sylvan, Richard) Facts, semantics and intuitionism. (English summary) *Logique et Anal.* (*N.S.*) **37** (1994), *no.* 147-148, 227–238. (A. Tauts) **98e:03010** 03B20
— Tableaux for logic programming with strong negation. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 31–42, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:68029** 68N17 (03B35, 03B70)
Akar, Nail (*with* Sohraby, Khosrow) An invariant subspace approach in $M/G/1$ and $G/M/1$ type Markov chains. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 381–416. (Summary) **98a:60091** 60J10 (60K25)
Akashi, Shigeo On the time-independence of entropy dimensions associated with a W^*-dynamical system. Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 32–34. (*see* **98b:00037**) 46L55
— Convergence of multistage games in a Cournot oligopolistic market model. (Japanese) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 177–180. (*see* **98g:00027**) 90D20 (90D10)
Jodayree Akbarfam, Aliasghar *see* **Jodayree Akbarfam, Aliasghar**
Akbari-Feyzaabaadi, S. (*with* Arian-Nejad, M.; Mehrabadi, M. L.) On additive commutator groups in division rings. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 9–21. (Summary) **98k:16026** 16K40
Akbarov, D. E. Nonlinear noncoercive operator equations and their regularizations in Banach spaces. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 127–134, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 409–415 (1998). (From the text) **98j:47144** 47H15 (47H17, 65J20)
Akbulut, Selman (*with* Matveyev, Rostislav) Exotic structures and adjunction inequality. *Turkish J. Math.* **21** (1997), *no.* 1, 47–53. (Paolo Lisca) **98d:57053** 57R57 (57N13)
— *see also* **Proceedings: Geometry-Topology Conference, 98f:57002**
Akca, Haydar (*with* Blaga, Petru P.; Micula, G.) On the use of spline functions of even degree for the numerical solution of the delay differential equations. (English summary) *Calcolo* **32** (1995), *no.* 1-2, 83–101 (1996). (N. N. Vakhania) **98h:65026** 65L05 (65D17)
— (*with* Byszewski, Ludwik) On a mild solution of a semilinear functional-differential evolution nonlocal problem. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 265–271. (Sergiu Aizicovici) **98i:34118** 34K30 (47D06, 47N20)
Akçay, Hüseyin (*with* Ninness, Brett) On the worst-case divergence of the least-squares algorithm. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 19–24. (Summary) **98i:93091** 93E24
Akcoglu, Mustafa A. (*with* Ha, Dzung M.; Jones, Roger L.) Sweeping out properties of operator sequences. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 3–23. (Joseph Max Rosenblatt) **98b:28031** 28D99 (47A35, 60F99)
Akdemir, Keziban (*with* Çalışkan, Mustafa; Kuruoğlu, Nuri) On the pair of konoidal ruled surfaces under the homothetic motions of the Euclidean space E^n. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 39–43. 53A25
Akdeniz, Fikri (*with* Kaçıranlar, Selahattin; Sakallıoğlu, Sadullah) Mean squared error comparisons of the modified ridge regression estimator and the restricted ridge regression estimator. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 131–138. 62J07
Akdi, Yilmaz (*with* Dickey, David A.) Periodograms of unit root time series: distributions and tests. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 69–87. 62M10
Akduman, I. (*with* Idemen, M.) One-dimensional profile inversion of a half-space over a multi-part impedance ground. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 240–256, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (I. Kay) **98m:78025** 78A45 (35R30)
Akemann, Gernot Higher genus correlators for the Hermitian matrix model with multiple cuts. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 403–430. (Summary) **98j:81306** 81T40 (14K20)
— (*with* Damgaard, Poul H.; Magnea, U.; Nishigaki, Shinsuke M.) Universality of random matrices in the microscopic limit and the Dirac operator spectrum. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 721–738. (Jacobus Verbaarschot) **98d:82027** 82B44 (15A52, 33C45, 33C90)
— Universal correlators for multi-arc complex matrix models. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 475–500. (Summary) **98g:81147** 81T30
Akerlof, George A. Social distance and social decisions. (English summary) *Econometrica* **65** (1997), *no.* 5, 1005–1027. 90A08
Akesbi, Samir (*with* Nicolet, Martial) Nouveaux algorithmes pour l'équation de transport neutronique en géométrie bidimensionnelle plane. (English and French summaries) [New algorithms for the neutron transport equation in two-dimensional plane geometry] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 699–705. (Paul F. Zweifel) **98f:82117** 82C70 (65M06)
Akgün, Güler (*with* Demiray, Hilmi) Wave propagation in a viscous fluid contained in a prestressed viscoelastic thin tube. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1065–1079. (Summary) **98g:76026** 76D33 (73K70, 76Z05)
Akhatov, I. Sh. (*with* Nigmatulin, R. I.; Vakhitova, N. K.) On the compressibility of a fluid in the dynamics of a gas bubble. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 6, 768–771; *translation in Phys. Dokl.* **41** (1996), *no.* 6, 276–279. (Sergey L. Gavrilyuk) **98c:76113** 76T05 (76N10)
Akhavan-Malayeri, Mehri (*with* Rhemtulla, Akbar H.) Commutator length of abelian-by-nilpotent groups. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 117–121. (Summary) **98k:20046** 20F12
Akhavizadegan, M. (*with* Jordan, D. A.) Prime ideals of quantized Weyl algebras. *Glasgow Math. J.* **38** (1996), *no.* 3, 283–297. (K. R. Goodearl) **98a:16029** 16P40 (16D30, 16S36, 17B37)
Akhiezer, N. I. On a minimum problem in function theory and the number of roots of an algebraic equation inside the unit disc [Izv. Akad. Nauk SSSR Mat. Estestv. Nauk No. 9 (1930), 1169–1189]. (English summary) Translated from the Russian. *Topics in interpolation theory* (*Leipzig*, 1994), 19–35, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 30C15 (41A30)
Akhmediev, N. N. (*with* Ankiewicz, A.; Soto-Crespo, J. M.) Multisoliton solutions of the complex Ginzburg-Landau equation. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 21, 4047–4051. 35Q55
Akhmedov, Kh. Kh. Formulations of boundary value problems for parabolic equations with changing time direction. (Russian) *Analysis and discrete mathematics* (*Russian*), 10–13, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (*see* **98b:00016**) 35K20
Akhmet'ev, P. M. Prem-mappings, triple self-interesection points of an oriented surface, and Rokhlin's signature theorem. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 6, 803–810, 959; *translation in Math. Notes* **59** (1996), *no.* 5-6, 581–585. (Jože Vrabec) **98e:57024** 57M99 (57R45)
— A high-order helicity invariant and the Rokhlin theorem. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srni, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 85–94. (Summary) **98f:57007** 57M25
— The electromagnetic field for three-dimensional Earth mantle problems. (Russian. Russian summary) *Fiz. Zemli* **1997**, *no.* 6, 56–63. (Summary) **98i:86011** 86A25
— (*with* Rimányi, R.; Szűcs, András) A generalization of Banchoff's triple point theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 913–915. (Roger Fenn)

98e:57043 57R42

Akhsanullakh, M. *see* **Ahsanullah, Mohammad**

Akhtar, M. K. (*with* Ganguli, A.; Tarey, R. D.) Theory of high-frequency guided waves in a plasma-loaded waveguide. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 1178–1189. (Summary) **98m:76167** 76X05

Akhundov, A. (*with* Bellucci, S.; Shiekh, A.) Gravitational interaction to one loop in effective quantum gravity. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 16–23. (Summary) **98b:83031** 83C45 (81V17, 81V22)

Aki, Sigeo (*with* Balakrishnan, Narayanaswamy; Mohanty, Sri Gopal) Sooner and later waiting time problems for success and failure runs in higher order Markov dependent trials. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 773–787. (Moshe Shaked) **98e:60024** 60E10

— On sooner and later problems between success and failure runs. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 385–400, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (A. N. Philippou) **98k:60116** 60J10 (60E10)

— (*with* Hirano, Katuomi; Uchida, Masayuki) Distributions of numbers of success-runs until the first consecutive k successes in higher order Markov dependent trials. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 401–410, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Demetrios L. Antzoulakos) **98h:62014** 62E15 (60C05)

— (*with* Balakrishnan, Narayanaswamy; Mohanty, Sri Gopal) Start-up demonstration tests under Markov dependence model with corrective actions. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 155–169. (Anant P. Godbole) **98f:60009** 60C05 (60J10)

— (*with* Hirano, Katuomi) Lifetime distributions of consecutive-k-out-of-n: F systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 555–562. (*see* **98i:00027**) 62N05 (60C05, 62E15)

Akian, Marianne (*with* Quadrat, Jean-Pierre; Viot, Michel) Duality between probability and optimization. *Idempotency* (*Bristol*, 1994), 331–353, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 60F10 (60B10, 60E05, 90C15)

Akiba, Ken Logic as instrument: the Millian view on the role of logic. (English summary) *Hist. Philos. Logic* **17** (1996), *no.* 2, 73–83. (Summary) **98c:03008** 03A05 (01A55, 03–03)

— Field on the notion of consistency. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 625–630. (E. Mendelson) **98h:03006** 03A05 (00A30)

Akin, Ethan Dynamical systems: the topological foundations. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 1–43, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Loskutov) **98d:58108** 58F12 (34C35, 34D20, 54H20)

— (*with* Glasner, Eli) Topological ergodic decomposition and homogeneous flows. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 43–52, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:54067** 54H20

— Enveloping linear maps. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 121–131, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:54066** 54H20

Akinyele, Olusola Cone valued Lyapunov functions and Lipschitz stability of certain nonlinear perturbed systems. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 65–70 (1997). (Jaromír Kuben) **98m:34102** 34D20

Akishev, A. Sh. A global existence and uniqueness theorem for the three-dimensional Broadwell model. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 367–377. (Alexander Orlov) **98f:82105** 82C40 (76P05)

Akishin, P. G. (*with* Puzynin, Igor V.; Smirnov, Yu. S.) The Newtonian continuation method for numerical study of 3D polaron problem. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 1–8, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 81–04 (65N06, 81V70)

— (*with* Puzynin, Igor V.; Vinitskiĭ, S. I.) A hybrid numerical method for analysis of dynamics of the classical Hamiltonian systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 45–73. (Meng Zhao Qin) **98k:65036** 65L05 (58F05, 70–08, 70F10, 70H05)

— (*with* Bosco, F.; Vinitskiĭ, S. I.) Helmholtz problem for plane periodical structures. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 613–625. (Summary) **98j:81053** 81Q05 (35J05)

Akita, Tomonori A_p-spaces and the reduced power operations. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 111–116. (Jin Kun Lin) **98c:55019** 55S10

Akita, Toshiyuki Euler numbers of groups (the case of Coxeter groups). (Japanese) Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 137–147. (Hideaki Morita) **98j:20054** 20F55 (20J05, 52B70, 57Q99)

— Cohomology and Euler characteristics of Coxeter groups. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 2, 3–16. (Stephen J. Pride) **98k:57004** 57M07 (20F55, 20J05)

— On the cohomology of Coxeter groups and their finite parabolic subgroups. II. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 1–5, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (D. F. Holt) **98m:20066** 20J05 (20F55)

— Corrigendum: "Cohomology and Euler characteristics of Coxeter groups" [Sci. Bull. Josai Univ. **1997**, Special issue no. 2, 3–16; MR 98k:57004]. *Sci. Bull. Josai Univ.* **6** (1998), 31. 57M07 (20F55, 20J05)

Aklvis, Maks A. (*with* Goldberg, Vladislav V.) ★ Conformal differential geometry and its generalizations. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1996. xiv+383 *pp. ISBN* 0-471-14958-6 (G. R. Jensen) **98a:53023** 53A30 (53A60, 53B25, 53B30)

— (*with* Goldberg, Vladislav V.) On a normalization of a Grassmann manifold. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 69–76, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (V. Oproiu) **98f:53031** 53C20

Akiyama, Shigeki (*with* Tanigawa, Yoshio) Calculation of elliptic L functions in the critical strip. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 11–31. (Kohji Matsumoto) **98i:11042** 11G40 (11M41, 14G10)

Akka, D. G. (*with* Jendrof, Stanislav; Klešč, M.; Panshetty, S. V.) On line graphs with crossing number 2. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 3–8. (V. R. Kulli) **98k:05049** 05C10

Akkar, Mohamed (*with* Nacir, C.) Sur la vacuité du spectre d'un élément d'une algèbre $\mathscr{LF}$. (English summary) [On the emptiness of the spectrum of an element of an $\mathscr{LF}$ algebra] *Period. Math. Hungar.* **31** (1995), *no.* 2, 85–96. (H. G. Dales) **98m:46064** 46J05 (46A13)

Akkardi, L. *see* **Accardi, Luigi**

Akkermans, E. Twisted boundary conditions and transport in disordered systems. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1781–1793. (Luisa Arlotti) **98h:82061** 82C44 (82C70)

Akkiraju, Nataraj (*with* Edelsbrunner, Herbert) Triangulating the surface of a molecule. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 5–22. (V. I. Bykov) **98b:92026** 92E10 (65D15, 68U05, 92–04)

Akl, Selim G. (*with* Lindon, L. Fava) Paradigms admitting superunitary behaviour in parallel computation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 129–153. (Summary) **98d:68065** 68Q10 (65Y05, 68Q22)

— (*with* Bhattacharya, Binay K.) Computing maximum cliques of circular arcs in parallel. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 305–320. (Summary) **98j:68041** 68Q22

— *see also* **Algorithms and data structures, 98c:68006**

Akman, Füsun On some generalizations of Batalin-Vilkovisky algebras. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 2, 105–141. (Elena Poletaeva) **98k:17024** 17B55 (17B69, 81R10, 81T70)

— (*with* Feingold, Alex J.; Weiner, Michael D.) Minimal model fusion rules from 2-groups. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 159–169. (Summary) **98k:81094** 81R10 (17B68, 81T40)

Akopian, Vardan (*with* Farina, Alberto) Sur les solutions radiales de l'équation $-\Delta u = u(1-|u|^2)$ dans $\mathbf{R}^N$ ($N \geq 3$). (English and French summaries) [Radial solutions of the Ginzburg-Landau equation in $\mathbf{R}^N$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 601–604. (Summary) **98h:35057** 35J60 (34A34, 35B05)

Akopyan, A. A. (*with* Gevorgyan, O. V.; Sahakian, Artur A.) Bivariate Hermite interpolation and numerical curves. (English summary) *J. Approx. Theory* **85** (1996), *no.* 3, 297–317. (Summary) **98e:41042** 41A63 (65D15)

Akopyan, Alexey (*with* Bay, Karlheinz; Lay, Wolfgang) Avoided crossings of the quartic oscillator. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3057–3067. (Gabriel Alvarez) **98e:81025** 81Q05

Akra, Mohamad A. (*with* Mitter, Sanjoy K.) Waveform recognition in the presence of domain and amplitude noise. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 174–182. 94A05 (94A12)

Akramov, T. A. (*with* Slin′ko, M. G.; Zelenyak, T. I.; Lavrent′ev, M. M., Jr.; Sheplev, V. S.) Nonlinear dynamics of catalytic reactions and processes (a survey). (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 12, 87–109. 92E20 (35Q99)

Akritas, Alkiviadis G. (*with* Akritas, Evgenia K.; Malashonok, G. I.) Various proofs of Sylvester's (determinant) identity. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 585–593. (Jorma Kaarlo Merikoski) **98c:15021** 15A15 (15A36)

Akritas, Evgenia K. (*with* Akritas, Alkiviadis G.; Malashonok, G. I.) Various proofs of Sylvester's (determinant) identity. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 585–593. (Jorma Kaarlo Merikoski) **98c:15021** 15A15 (15A36)

Akritas, Michael G. (*with* Brunner, Edgar) Rank tests for patterned alternatives in factorial designs with interactions. (English summary) *Research developments in probability and statistics*, 277–288, *VSP, Utrecht*, 1996. (Summary) **98h:62079** 62G10 (62K15)

— (*with* LaValley, Michael P.) Nonparametric inference in factorial designs with censored data. (English and French summaries) *Biometrics* **52** (1996), *no.* 3, 913–924. (Summary) **98k:62085** 62G10 (62J10)

— On the use of nonparametric regression techniques for fitting parametric regression models. (English and French summaries) *Biometrics* **52** (1996), *no.* 4, 1342–1362. (Friedrich Liese) **98a:62040** 62G05 (62J02)

— (*with* Tempelman, Arkady A.) Model testing for multivariate censored data. I. Simple null hypotheses. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 3, 351–369. (Daijin Ko) **98e:62033** 62F03 (62H15)

— (*with* Brunner, Edgar) Nonparametric methods for factorial designs with censored data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 568–576. (Summary) **98f:62124** 62G10 (62K15)

— (*with* Brunner, Edgar) A unified approach to rank tests for mixed models. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 249–277. (James N. Adichie) **98m:62134** 62G10 (62G20)

Akrivis, Georgios (*with* Dougalis, V. A.; Zouraris, Georgios E.) Error estimates for finite difference methods for a wide-angle "parabolic" equation. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2488–2509. (Biyue Liu) **98a:65110** 65M06 (65M15, 76M20, 76Q05)

— (*with* Crouzeix, Michel; Makridakis, Charalambos) Implicit-explicit multistep finite element methods for nonlinear parabolic problems. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 457–477. (Bruno Scheurer) **98g:65088** 65M60 (34G20, 35K55, 65M12)

Aksenov, A. V. (*with* Ibragimov, N. Kh.; Baikov, V. A.; Chugunov, V. A.; Gazizov, R. K.; Meshkov, A. G.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 2. Applications in engineering and physical sciences. Edited by Ibragimov. *CRC Press, Boca Raton, FL*, 1995. xx+546 *pp. ISBN* 0-8493-2864-0 (Juha Pohjanpelto) **98b:58175** 58G35 (00A05, 00A20, 00A79, 22E70, 34A34, 35A30, 58–02)

Aksenov, V. V.[2] ★ Обоснование к разделению глобальных электромагнитных полей Земли. (Russian. English and Russian summaries) [Justification of the separation of the Earth's global electromagnetic fields] Препринт [Preprint], 1071. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 47 *pp.* (Summary) **98b:86015** 86A25

Aksenova, G. P. (*with* Khalchev, V. F.) Generation of an exhaustive test for automata with finite memory. I. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 213–226; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 695–704. (Summary) **98e:68177** 68Q68 (68Q35, 94B05)

— (*with* Khalchev, V. F.) Generation of an exhaustive test for automata with finite memory. II. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 142–152; *translation*

in Automat. Remote Control **58** (1997), *no.* 5, *part* 2, 829–837. (Summary) **98e:68178** 68Q68 (68Q35, 94B05)

Aksent'ev, L. A. (*with* Avkhadiev, F. G.; Bil'chenko, G. G.) Classes of univalent and multivalent Christoffel-Schwarz integrals and their applications. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 64–67; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 63–66. (Vladimir Mityushev) **98i:30003** 30C20 (30C55)

Aksirov, M. M. On the relativistic theory of motion. (Russian) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 6, 103–105. 83C10

Aksoy, Asuman Güven s-numbers, measure and weak measure of noncompactness and real interpolation. (English summary) *Bull. Allahabad Math. Soc.* **8/9** (1993/94), 15–35 (1997). (Hermann König) **98e:47036** 47B06 (46M35)

Aktaş, S. (*with* Mirakhmedov, Sh. A.) The asymptotical efficiencies of the symmetrical goodness-of-fit tests. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 129–152. 62G20

Aktosun, Tuncay (*with* Klaus, Martin; van der Mee, Cornelis V. M.) Inverse scattering problem for the wave equation with discontinuous wavespeed. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 3–21, *VSP, Utrecht*, 1995. (Summary) **98d:34115** 34L25 (34A55, 34L40, 35L05)

— (*with* Klaus, Martin; van der Mee, Cornelis V. M.) The one-dimensional inverse scattering problem for nonhomogeneous media with discontinuous wavespeed. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 105–133, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (R. G. Airapetyan) **98h:34142** 34L25 (34A55)

— (*with* Sacks, Paul E.) Inverse problem on the line without phase information. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 211–224. (Summary) **98m:34026** 34A55 (34L25, 34L40, 81U40)

— *see also* **Sassoli de Bianchi, M.**

Aktouf, Zouina (*with* Bertrand, Gilles; Perroton, Laurent) A 3D-hole closing algorithm. (English summary) *Discrete geometry for computer imagery (Lyon, 1996)*, 36–47, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98h:68227** 68U10

Akulenko, L. D. Control synthesis in the time-optimal problem of the intersection of a sphere. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 724–735; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 717–727. 49N35 (49N55)

Akutagawa, Kazuo Convergence for Yamabe metrics of positive scalar curvature with integral bounds on curvature. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 307–335. (Daniel Pollack) **98c:58027** 58E11 (53C21)

Akutsu, Tatsuya (*with* Bao, Feng) Approximating minimum keys and optimal substructure screens. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 290–299, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:68053** 68P10 (68Q20, 92E10)

— On determining the congruence of point sets in d dimensions. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 247–256. (Summary) **98m:68265** 68U05

Akuzawa, Toshinao (*with* Wadati, Miki) Laguerre ensemble and integrable systems. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 1, 99–107. (Alexei Khorunzhy) **98a:82056** 82B41 (15A52, 81V70)

— (*with* Wadati, Miki) Time-dependent random matrix theories on non-compact and compact non-zero curvature spaces. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 1, 43–50. (Alexei Khorunzhy) **98c:82027** 82B41 (15A52, 60K99)

Akveld, M. E. (*with* Hulshof, Josephus) Travelling wave solutions of a fourth-order semilinear diffusion equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 115–120. 35K55 (35B99)

Akylas, T. R. (*with* Prasad, Dilip) On the generation of shelves by long nonlinear waves in stratified flows. (English summary) *J. Fluid Mech.* **346** (1997), 345–362. (Summary) **98f:76020** 76C10 (76V05)

— (*with* Dias, Frédéric; Grimshaw, Roger H. J.) The effect of the induced mean flow on solitary waves in deep water. (English summary) *J. Fluid Mech.* **355** (1998), 317–328. (Summary) **98k:76008** 76B15 (76B25)

— *see also* **Vanden-Broeck, Jean-Marc**, **98b:76014**

Alaa, N. Solutions faibles d'équations paraboliques quasilinéaires avec données initiales mesures. (English and French summaries) [Weak solutions of quasilinear parabolic equations with measures as initial data] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 1–15. (Zi Qian Yan) **98a:35053** 35K15 (35D05, 35R05)

— Quasilinear elliptic equations with arbitrary growth nonlinearity and data measures. *Extracta Math.* **11** (1996), *no.* 3, 405–411. (Jun Yu Wang) **98d:35067** 35J65 (34B15, 35R05)

Alabau, Fatiha (*with* Komornik, Vilmos) Boundary observability and controllability of linear elastodynamic systems. (English summary) *Optimization methods in partial differential equations (South Hadley, MA, 1996)*, 1–8, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Vadim Komkov) **98i:93011** 93B07 (35L99, 35Q72, 73K50, 93B05, 93C20)

— (*with* Komornik, Vilmos) Observabilité, contrôlabilité et stabilisation frontière du système d'élasticité linéaire. (English and French summaries) [Boundary observability, controllability and stabilization of linear elastodynamic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 519–524. (Summary) **98a:93036** 93C20 (73D99, 73K50, 93B05)

— Uniqueness results for the steady-state electrodiffusion equations in the case of monotonic potentials and multiple junctions. *Nonlinear Anal.* **29** (1997), *no.* 8, 849–887. (G. Albinus) **98f:35150** 35Q99 (34B30, 35B50)

Al-Abdulla, Raad A. H. On $\mathscr{L}_1$-expandabilities. I. (English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 584–589. 54D15

Alabert i Romero, Aureli (*with* Nualart, David) A second-order Stratonovich differential equation with boundary conditions. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 21–47. (Marco Ferrante) **98k:60093** 60H10 (60H07)

Alabiso, Carlo (*with* Casartelli, Mario) Higher-order curvatures and harmonicity regression. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7009–7020. (Summary) **98k:70011** 70K50 (53B50, 70–08, 70H05, 82C05)

Alaca, Şaban p-integral bases of a cubic field. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1949–1953. (Enric Nart) **98h:11130** 11R16

Alaev, P. E. Homogeneity in iterated models. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 1, 1–25. (John T. Baldwin) **98i:03044** 03C30

Alagar, V. S. *see* **Algebraic methodology and software technology**, **98g:68002**

Alagesan, Thangavel (*with* Porsezian, Kuppusamy) Singularity structure analysis and Hirota's bilinearisation of the coupled integrable dispersionless equations. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 10, 1645–1650. 35Q55 (58F39)

— (*with* Uthayakumar, Ambigapathy; Porsezian, Kuppusamy) Painlevé analysis of a new integrable nonautonomous Korteweg-de Vries (K-dV) equation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 12, 1973–1976. 35Q53 (58F37)

— (*with* Uthayakumar, Ambigapathy; Porsezian, Kuppusamy) The generalisation of integrable (2 + 1)-dimensional dispersive long-wave equations. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 5, 1288–1290. (Summary) **98c:35136** 35Q53

Alagić, Mara (*with* Alagić, Suad) Order-sorted model theory for temporal executable specifications. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 273–299. (Summary) **98c:68138** 68Q65 (03B70)

Alagić, Suad (*with* Alagić, Mara) Order-sorted model theory for temporal executable specifications. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 273–299. (Summary) **98c:68138** 68Q65 (03B70)

Al Ali, M. I. M. On some multivalued systems and fundamental relations. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 51–56 (1997). 20N20

— (*with* Hering, Christoph; Schaeffer, Hans-Jörg) On the conjugacy classes of q^3:GL(3, q). *Riv. Mat. Pura Appl. No.* 19 (1996), 107–113. (Oliver H. King) **98m:20062** 20G40 (20H30)

— (*with* Brown, Ronald; Morris, Ifor; Shrimpton, J.; Wensley, C. D.) Higher-dimensional hypergroups. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 329–335. 20N20

Alam, Khursheed (*with* Feng, Zhuojen) Estimating probability of occurrence of the most likely multinomial event. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 257–277. (S. Panchapakesan) **98g:62039** 62F10 (62C15, 62F07)

shamsul Alam, M. *see* **Shamsul Alam, M.**

Alam, M. Z. (*with* Yadav, Ramdeo Prasad) Fuzzy group and fuzzy normal subgroup. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 360–366. 20N25 (04A72)

Alam, Md. Firuj (*with* Muklesur Rahman, Md.; Rahman, M. Matiar) On the space of entire functions represented by Dirichlet series. (English summary) *Ganit* **15** (1995), 15–20. (Jia Rong Yu) **98g:30006** 30B50 (30D10)

Alam, Md. Shamsul (*with* Khan, Md. Mozammel Huq Azad) Algorithms for conversion of minterms to positive polarity Reed-Muller coefficients and vice versa. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 223–230. 94B99

Alam, S. M. K. (*with* Nandi, Kamal K.; Bhattacharjee, B.; Evans, James Carl) Brans-Dicke wormholes in the Jordan and Einstein frames. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 823–828. 83D05 (83E05)

Alama, Stanley (*with* Bronsard, Lia; Gui, Changfeng) Stationary layered solutions in $\mathbf{R}^2$ for an Allen-Cahn system with multiple well potential. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 359–390. (Summary) **98c:35042** 35J60 (35B40, 35K57, 35Q99)

el Alami, N. *see* **El Alami, N.**

Al-Amiri, Hassoon (*with* Mocanu, Petru T.) Integral operators preserving meromorphic starlike functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 3–10. (Gerald Schmieder) **98m:30011** 30C45

gutiérrez del Alamo, Joaquín M. *see* **Gutiérrez del Alamo, Joaquín M.**

Al Amrani, Abd'Allah Cohomological study of weighted projective spaces. *Algebraic geometry (Ankara, 1995)*, 1–52, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (I. Dolgachev) **98k:14072** 14M25 (14F05, 14F20)

gil-Alaña, L. A. *see* **Gil-Alaña, L. A.**

Al-Ani, Tarik (*with* Hamam, Yskander) Parameters identification of a time-varying stochastic dynamic systems using Viterbi algorithm. (English summary) *System modelling and optimization (Prague, 1995)*, 567–573, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93E03 (93E12)

Alaniya, L. A. On a cohomology with coefficients in a local system that is close to trivial. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 151–152; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 390–391. (From the text) **98g:55004** 55N25

Alanyali, Murat (*with* Hajek, Bruce) Analysis of simple algorithms for dynamic load balancing. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 840–871. (Leonardo Pasini) **98k:90034** 90B15 (68M20, 68Q25, 90B80)

el kacimi Alaoui, Aziz *see* **El Kacimi Alaoui, Aziz**

el-Alaoui, El-H. Ch. *see* **El-Alaoui, El-H. Ch.**

Alaoui, Larbi A cell cycle model and translation semigroups. (English summary) *Semigroup Forum* **54** (1997), *no.* 2, 135–153. (G. F. Webb) **98a:92004** 92D25 (47D06, 47N20, 47N60)

Alaoui Soulimani, Amina (*with* Hassani, Seddiq; Ehrlacher, Alain) Modèle viscoélastique non-linéaire: le modèle pseudo-linéaire. (French summary) [The pseudolinear model, a nonlinear viscoelastic model] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 243–252 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 73G25 (73F15)

Alarcón, E. *see* **Alarcón, Enrique**

Alarcon, Eberth G., II Area bounds in convex lattice polygons. *Geombinatorics* **7** (1998), *no.* 3, 77–82. (From the text) **98k:52021** 52A40

Alarcón, Enrique (*with* Perera, R.) FE-BE coupling methods for elastoplasticity. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 785–792. 73V05 (65N30, 73E05, 73V10)

Alart, P. Méthode de Newton généralisée en mécanique du contact. (English and French summaries) [Generalized Newton method in contact mechanics] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 1, 83–108. (Alain Curnier) **98f:73032** 73T05 (65K10, 73V20, 73V25)

Alas, Ofelia T. (*with* Tkachenko, M. G.; Tkachuk, Vladimir V.; Wilson, Richard Gordon) Connectifying some spaces. (English summary) *Topology Appl.* **71** (1996), *no.* 3, 203–215. (Summary) **98g:54039** 54D05 (54A35)

Al-Asad, Mohammad *see* **al-Asad, Mohammad**

Al-Assady, N. H. New imperfect conjugate gradient algorithm. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 747–755. (Summary) **98d:90106** 90C30 (65K05)

Alassar, R. S. (*with* Badr, H. M.; Al-Rabeh, A.; Allayla, R.) Unsteady viscous flow over prolate spheroids. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 53–65. 76D99

Alastruey, Carlos F. (*with* de la Sen, Manuel) Analytic solution of homogeneous point-delay systems. The first order case. (English and Lithuanian summaries) *Informatica (Vilnius)* **7** (1996), *no.* 4, 411–418. (Narahari Parhi) **98a:34081** 34K20 (34K05)

— (*with* de la Sen, Manuel) Discretization of continuous systems with internal and external point delays through a quasiparametrical ARMA model. (English summary) *Math. Model. Systems* **3** (1997), *no.* 2, 181–198. (Summary) **98c:93066** 93C30 (93C55, 93C60)

— Stabilizability of systems with two-point delays by using a generalized PD controller. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 39–42. 93D15 (34K35)

Alatancang (*with* Zhang, Hong Qing[1]; Zhong, Wan Xie) The Hamiltonian system and completeness of symplectic orthogonal system. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 3, 237–242; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 217–221 (*Chinese*). (Ludwik Byszewski) **98i:34085** 34G10 (35F99, 35J25, 35P10)

Al-attas, Ali Omer (*with* Vanaja, N.) On Σ-extending modules. *Comm. Algebra* **25** (1997), *no.* 8, 2365–2393. (John Clark) **98h:16007** 16D70 (16D50, 16L60)

Alavi, Yousef (*with* Erdös, Paul[1]; Lam, Peter Che Bor; Lick, Don R.; Liu, Jiuqiang; Wang, Jian Fang) Upper bounds on linear vertex-arboricity of complementary graphs. (English summary) *Util. Math.* **52** (1997), 43–48. 05C05

Alavidze, T. G. Factorization of infinite-dimensional nonlinear control systems. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 3–29, 93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 93C10 (93B10)

Alaya, J. (*with* Maroni, P.) Symmetric Laguerre-Hahn forms of class $s = 1$. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 301–320. (K. Pan) **98m:42032** 42C05 (33C45)

Al Ayoubi, Baydaa Étude théorique de l'ensemble des distances de type M_1 utilisées en analyse des données. (English, French and Italian summaries) [Theoretical study of the set of distances of type M_1 used in data analysis] *Metron* **54** (1996), *no.* 3-4, 157–186 (1997). 62H30 (54E35, 62–07)

ardanuy Albájar, Ramón *see* **Ardanuy Albájar, Ramón**

puerto Albandoz, Justo *see* **Puerto Albandoz, Justo**

Albanese, Andres (*with* Blömer, Johannes; Edmonds, Jeff; Luby, Michael; Sudan, Madhu) Priority encoding transmission. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1737–1744. (*see* **98c:94001**) 94C05 (94A05)

Albanese, Angela A. (*with* Moscatelli, V. B.) Complemented subspaces of sums and products of copies of $L^1[0, 1]$. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 275–287. (Mikhail Ostrovskiĭ) **98c:46045** 46E10 (46A13, 46E30)

— (*with* Metafune, Giorgio; Moscatelli, V. B.) On the spaces $C^k(\mathbf{R}) \cap L^p(\mathbf{R})$. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 3, 228–232. (Inna Boricheva) **98c:46060** 46E35 (46E10)

— The density condition in quotients of quasinormable Fréchet spaces. (English summary) *Studia Math.* **125** (1997), *no.* 2, 131–141. (Steven F. Bellenot) **98d:46001** 46A04

Albanese, Richard A. Wave propagation inverse problems in medicine and environmental health. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 1–11, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 92C60 (78A45, 78A55)

Albani, Matteo (*with* Capolino, Filippo; Maci, Stefano; Tiberio, Roberto) Double diffraction at a pair of coplanar skew edges. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 8, 1219–1226. (Summary) **98h:78011** 78A45

— (*with* Capolino, Filippo; Maci, Stefano; Tiberio, Roberto) High-frequency analysis of an array of line sources on a truncated ground plane. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 570–578. 78A45

Albano, Giovannina A parallel algorithm for the conductor of a set of points. (Italian. English and Italian summaries) *Ricerche Mat.* **45** (1996), *no.* 1, 219–228. (Aldo Conca) **98i:13055** 13P99 (14Q99)

— Examples of sets of points which satisfy the ideal generation conjecture. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON*, 1997), 38–59, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Dmitrii V. Pasechnik) **98i:13039** 13F20 (13P10)

Al-Bany, Sumayya A. (*with* Noor, Khalida Inayat) On Miller-Mocanu lemma. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 83–94. 30C45

stanley-Albarda, C. *see* **Stanley-Albarda, C.**

Al-Barwani, Muataz (*with* Koca, Mehmet; Koç, Ramazan) Breaking SO(3) into its closed subgroups by Higgs mechanism. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2109–2125. (Violeta V. Tretynyk) **98f:81091** 81R05 (20C35, 81R40, 81T10)

Albà-Soler, Gerard (*with* Palanques-Mestre, August) Chaotic mixing of viscous fluids: a Marangoni-convection-driven example. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv*, 1996), 321–328, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 76E15 (58F13, 58F40, 76F20)

Al-Bassam, Sulaiman (*with* Venkatesan, Ramachandran; Al-Muhammadi, Sultan) New single asymmetric error-correcting codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1619–1623. (Summary) **98i:94042** 94B60

Al-Battānī *see* **al-Battānī**

Alber, Mark S. (*with* Luther, Gregory G.; Marsden, Jerrold E.) Energy dependent Schrödinger operators and complex Hamiltonian systems on Riemann surfaces. (English summary) *Nonlinearity* **10** (1997), *no.* 1, 223–241. (Jair Koiller) **98a:58077** 58F07 (30F99, 35Q40, 58F19)

Alber, Yakov (*with* Guerre-Delabriere, Sylvie) Principle of weakly contractive maps in Hilbert spaces. (English summary) *New results in operator theory and its applications*, 7–22, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Tomás Domínguez Benavides) **98j:47126** 47H10 (47H09)

— (*with* Burachik, Regina S.; Iusem, Alfredo Noel) A proximal point method for nonsmooth convex optimization problems in Banach spaces. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 97–120. (Bernard Lemaire) **98m:90185** 90C48 (46N10, 47N10, 49M45)

— (*with* Butnariu, Dan) Convergence of Bregman projection methods for solving consistent convex feasibility problems in reflexive Banach spaces. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 33–61. (Summary) **98k:90069** 90C25 (65K10, 90C48)

— (*with* Guerre-Delabriere, Sylvie; Zelenko, Leonid) The principle of weakly contractive mappings in metric spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 45–68. (Summary) **98j:54078** 54H25 (35J65, 47H10, 54E40)

Alberich, R. (*with* Moyà, M.; Rosselló-Llompart, Francesc; Sastre, Llorenç) A note on a series of papers by Burmeister and Wojdyło. *Demonstratio Math.* **30** (1997), *no.* 1, 137–153. (H. Herrlich) **98i:08004** 08A55 (08C05, 18B99)

Albers, Donald J. An interview with Tom Apostol. *College Math. J.* **28** (1997), *no.* 4, 250–270. (Summary) **98i:01026** 01A70

— An interview with Lars V. Ahlfors. (English summary) *College Math. J.* **29** (1998), *no.* 2, 82–92. (Summary) **98m:01024** 01A70

Albers, Susanne (*with* Koga, Hisashi) Page migration with limited local memory capacity. (English summary) *Algorithms and data structures (Kingston, ON*, 1995), 147–158, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q10

— (*with* Mitzenmacher, Michael) Average case analyses of list update algorithms, with applications to data compression. (English summary) *Automata, languages and programming (Paderborn*, 1996), 514–525, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68P05 (68Q25)

— (*with* Hagerup, Torben) Improved parallel integer sorting without concurrent writing. (English summary) *Inform. and Comput.* **136** (1997), *no.* 1, 25–51. (Wojciech Rytter) **98g:68056** 68Q22 (68P10)

— (*with* Mitzenmacher, Michael) Revisiting the COUNTER algorithms for list update. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 155–160. (Summary) **98i:68058** 68P05

— (*with* Koga, Hisashi) New on-line algorithms for the page replication problem. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 75–96. (Summary) **98m:68106** 68Q25 (68N25, 68Q10)

Albers, Willem (*with* Schut, Cecile) A survey of rank tests for classes of tail alternatives. (English summary) *Research developments in probability and statistics*, 289–302, *VSP, Utrecht*, 1996. (Summary) **98c:62088** 62G10

— (*with* Kallenberg, Wilbert C. M.) Addendum: "A simple approximation to the bivariate normal distribution with large correlation coefficient" [J. Multivariate Anal. **49** (1994), no. 1, 87–96; MR 95m:62025]. *J. Multivariate Anal.* **62** (1997), *no.* 2, 310. (From the text) **98i:62007** 62E17

— (*with* Arts, Gerda R. J.; Kallenberg, Wilbert C. M.) Accurate test limits under prescribed consumer risk. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 141–149. 62N10

— (*with* Boon, Pieta C.; Kallenberg, Wilbert C. M.) Testing equality of two normal means using a variance pre-test. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 221–227. 62F05 (62F03)

Albert, David Z. Elementary quantum metaphysics. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 277–284, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Albert, H.-F. On new hydrodynamic conservation laws related to the particle relabeling symmetry. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 945–954. (Summary) **98m:76007** 76A99 (22E70, 35Q35, 76M99)

— Point symmetries for Lagrangian fluid dynamics. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 955–958. (Summary) **98m:76008** 76A99 (22E70, 35Q35, 76–04, 76M99)

Albert, James H. Bayesian testing and estimation of association in a two-way contingency table. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 685–693. 62H17

leach Albert, Javier *see* **Leach Albert, Javier**

Albert, M. H. Category equivalence preserves unification type. (English summary) *Algebra Universalis* **36** (1996), *no.* 4, 457–466. (J. R. Isbell) **98a:08011** 08B20 (03C05, 18C05)

payá-Albert, Rafael *see* **Payá-Albert, Rafael**

Alberti, Giovanni (*with* Mantegazza, Carlo) A note on the theory of SBV functions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 375–382. (Martin Fuchs) **98h:49014** 49J45 (46E99, 49Q10)

Alberti, Miranda *see* **Bruno, Giordano, 98e:01019**

Albertini, Francesca (*with* D'Alessandro, Domenico) Remarks on the observability of nonlinear discrete time systems. *System modelling and optimization (Prague*, 1995), 155–162, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93B07 (93C55)

Albertini, Giuseppe (*with* Dahmen, Silvio Renato; Wehefritz, Birgit) The free energy singularity of the asymmetric six-vertex model and the excitations of the asymmetric *XXZ* chain. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 541–570. (Summary) **98e:82011** 82B20

— Direction-dependent free energy singularity of the antiferroelectric asymmetric six-vertex model. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 853–871. (Summary) **98m:82012** 82B20 (82B26)

cuesta-Albertos, J. A. *see* **Cuesta-Albertos, J. A.**

Alberts, D. (*with* Henzinger, Monika Rauch) Average-case analysis of dynamic graph algorithms. (English summary) *Algorithmica* **20** (1998), *no.* 1, 31–60. (Peter B. Gibbons) **98k:68078** 68Q25 (05C85, 68R10)

Albertson, Michael O. The irregularity of a graph. (English summary) *Ars Combin.* **46** (1997), 219–225. (Summary) **98d:05069** 05C35

— (*with* Haas, Ruth) The edge chromatic difference sequence of a cubic graph. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 1–8. (David M. Berman) **98k:05061** 05C15 (05C70)

Albeverio, Sergio (*with* Russo, Francesco) Stochastic partial differential equations, infinite-dimensional stochastic processes and random fields: a short introduction. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid*, 1995), 68–86, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:60111** 60H15 (60G60)

— (*with* Gottschalk, Hanno; Wu, Jiang Lun) Euclidean random fields, pseudodifferential operators, and Wightman functions. (English summary) *Stochastic analysis and applications (Powys*, 1995), 20–37, *World Sci. Publishing, River Edge, NJ*, 1996. (A. L. Rebenko) **98f:81169** 81T08 (35S05, 47G30, 47N50, 60G60)

— (*with* Zhou, Xian Yin) Wiener process behaviour of some modified Domb-Joyce models in $d \geq 4$ dimensions. (English summary) *Stochastic analysis and applications (Powys*, 1995), 38–52, *World Sci. Publishing, River Edge, NJ*, 1996. (Cheng Xun Wu) **98m:60107** 60J15 (60K99, 82B41)

— (*with* Zhou, Xian Yin) Intersections of random walks and Wiener sausages in four dimensions. (English summary) *Acta Appl. Math.* **45** (1996), *no.* 2, 195–237. (Robert J. Adler) **98c:60084** 60J15 (60J55, 60J65)

— (*with* Wu, Jiang Lun) A mathematical flat integral realization and a large deviation result for the free Euclidean field. (English summary) *Acta Appl. Math.* **45** (1996), *no.* 3, 317–348. (Nigel J. Cutland) **98e:81100** 81T08 (03H05)

— (*with* Makarov, Konstantin) Attractors in a model related to the three body quantum problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 6, 693–698. (H. Hogreve) **98b:81043** 81Q20 (42A16, 47N50, 81Q10)

— (*with* Zhou, Xian Yin) A new discrete Edwards model and a new polymer measure in two dimensions. (English summary) *Comm. Math. Phys.* **177** (1996), *no.* 2, 469–506. (Alexandre S. Gajrat) **98f:82064** 82B41 (60J15, 60K35, 81T08, 82D60)

— (*with* Daletskiĭ, A. Yu.) Asymptotic quantization for solution manifolds of some infinite-dimensional Hamiltonian systems. (English summary) *J. Geom. Phys.* **19** (1996), *no.* 1, 31–46. (From the introduction) **98e:58161** 58G15 (47G30, 47N20, 58F06)

— (*with* Boutet de Monvel-Berthier, Anne-Marie; Brzeźniak, Zdzisław) The trace formula for Schrödinger operators from infinite-dimensional oscillatory integrals. (English summary) *Math. Nachr.* **182** (1996), 21–65. (Xue-Ping Wang) **98f:81065** 81Q10 (35J10, 47F05)

— (*with* Gottschalk, Hanno; Wu, Jiang Lun) Convoluted generalized white noise, Schwinger functions and their analytic continuation to Wightman functions. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 6, 763–817. (Giovanni Morchio) **98a:81109** 81T08 (46N50, 47N50, 60G20)

— (*with* Tirozzi, Brunello) An introduction to the mathematical theory of neural networks. *Fourth Granada Lectures in Computational Physics* (1996), 197–221, *Lecture Notes in Phys.*, 493, *Springer, Berlin*, 1997. (Introduction) **98k:92001** 92B20 (82C32)

— Wiener and Feynman—path integrals and their applications. (English summary) *Proceedings of the Norbert Wiener Centenary Congress, 1994* (*East Lansing, MI*, 1994), 163–194, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Suresh V. Lawande) **98h:58033** 58D30 (60H30, 81S40)

— (*with* Wu, Jiang Lun) On the lattice approximation for certain generalized vector Markov fields in four spacetime dimensions. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 31–48. (A. L. Rebenko) **98m:81091** 81T10 (60G20, 60G60, 60H15, 81T27)

— (*with* Kondrat′ev, Yu. G.; Röckner, Michael; Tsikalenko, T. V.) Uniqueness of Gibbs states on loop lattices. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1401–1406. (Summary) **98g:82004** 82B10 (60K35)

— (*with* Gottschalk, Hanno; Wu, Jiang Lun) Models of local relativistic quantum fields with indefinite metric (in all dimensions). (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 509–531. (Lech Jakóbczyk) **98j:81198** 81T05 (81T08)

— (*with* Sengupta, Ambar) A mathematical construction of the non-abelian Chern-Simons functional integral. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 563–579. (Dana S. Fine) **98j:58022** 58D20 (28C20, 81S40, 81T13)

— (*with* Kondrat′ev, Yu. G.; Kozitskiĭ, Yu. V.) Absence of critical points for a class of quantum hierarchical models. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 1–18. (Roberto Fernández) **98k:82012** 82B10 (82B20)

— (*with* Kondrat′ev, Yu. G.; Röckner, Michael; Tsikalenko, T. V.) Dobrushin's uniqueness for quantum lattice systems with nonlocal interaction. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 621–630. (Hans-Otto Georgii) **98k:82013** 82B10 (60K35, 82B20)

— (*with* Smolyanov, O. G.) Liouville's theorem for infinite-dimensional Hamilton-Dirac systems. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 7–10. (Alexander Burov) **98i:58083** 58F05 (70H05)

— Some applications of infinite-dimensional analysis in mathematical physics. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 479–506. (Ana Bela Cruzeiro) **98f:58200** 58G40 (58D30, 58Z05, 81–02, 81S40, 81T08, 82–02)

— (*with* Kurasov, Pavel) Rank one perturbations of not semibounded operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 4, 379–400. (Hendrik S. V. de Snoo) **98k:47025** 47A55 (47A10, 47B25, 47E05, 47N50)

— (*with* Ma, Zhi-Ming; Röckner, Michael) Partitions of unity in Sobolev spaces over infinite-dimensional state spaces. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 1, 247–268. (Tu Sheng Zhang) **98a:46048** 46E50 (31C25, 46E35, 46G12)

— (*with* Kondrat′ev, Yu. G.; Röckner, Michael) Ergodicity of L^2-semigroups and extremality of Gibbs states. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 394–423. (Sylvie Roelly) **98d:60187** 60K35 (82C20)

— (*with* Kurasov, Pavel) Rank one perturbations, approximations, and selfadjoint extensions. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 152–169. (V. D. Koshmanenko) **98g:47011** 47A55 (47B25, 47F05, 47N50)

— (*with* Kondrat′ev, Yu. G.; Röckner, Michael) Ergodicity for the stochastic dynamics of quasi-invariant measures with applications to Gibbs states. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 415–469. (Tu Sheng Zhang) **98j:60104** 60J35 (81T08, 82B05)

— (*with* Cianci, Roberto; Khrennikov, Andrei) On the spectrum of the p-adic position operator. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 881–889. (Evgenii I. Zelenov) **98g:81027** 81Q10 (11Z05, 47N50, 47S10)

— (*with* Cianci, Roberto; Khrennikov, Andrei) On the Fourier transform and the spectral properties of the p-adic momentum and Schrödinger operators. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5767–5784. (Evgenii I. Zelenov) **98j:81054** 81Q05 (11Z05)

— (*with* Kondrat′ev, Yu. G.; Kozitskiĭ, Yu. V.) Critical properties of a quantum hierarchical model. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 287–291. (Władysław Adam Majewski) **98g:82005** 82B10 (82B20, 82B27)

— (*with* Tirozzi, Brunello) Asymmetric neural networks and immune system. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 423–442. (Dimitri Petritis) **98m:82058** 82C32 (82C26, 92B20)

— (*with* Sengupta, Ambar) The Chern-Simons functional integral as an infinite-dimensional distribution. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 329–335. (*see* **98i:00027**) 46F25 (46G12)

— (*with* Gottschalk, Hanno; Wu, Jiang Lun) Nontrivial scattering amplitudes for some local relativistic quantum field models with indefinite metric. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 243–248. (Summary) **98f:81171** 81T10 (81U20)

— (*with* Hu, Yao Zhong; Zhou, Xian Yin) A remark on non-smoothness of the self-intersection local time of planar Brownian motion. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 57–65. (A. N. Al-Hussaini) **98d:60160** 60J65 (60J55)

— (*with* Kolokol′tsov, V. N.) The rate of escape for some Gaussian processes and the scattering theory for their small perturbations. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 139–159. (Huai Zhong Zhao) **98g:60076** 60G15

— (*with* Hilbert, A.; Kolokol′tsov, V. N.) Transience of stochastically perturbed classical Hamiltonian systems and random wave operators. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 41–55. (Summary) **98m:60086** 60H10 (34F05, 60H30, 70H05)

— (*with* Daletskiĭ, A. Yu.; Kondrat′ev, Yu. G.) Infinite systems of stochastic differential equations and some lattice models on compact Riemannian manifolds. (English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 3, 326–337; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 360–372 (1998). (Keisuke Hara) **98g:58187** 58G32 (60H10, 81S20, 82C31)

— (*with* Smolyanov, O. G.) Infinite-dimensional stochastic Schrödinger-Belavkin equations. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 197–198; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 822–823. (Summary) **98g:35205** 35R15 (35R60, 60H99)

Albis González, Víctor Samuel (*with* Chaparro, Raúl) On a conjecture of Borevich and Shafarevich. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **21** (1997), *no.* 80, 313–319. (Martha Rzedowski-Calderón) **98g:11130** 11R58 (13A35)

Alboth, Dirk Unbounded translation invariant operators and the derivation property. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 1–15. (Ryszard Szwarc) **98h:47040** 47B38 (43A15, 47D03)

Alboul, Lyuba (*with* van Damme, Ruud) Polyhedral metrics in surface reconstruction. (English summary) *The mathematics of surfaces, VI* (*Uxbridge*, 1994), 171–200, *Inst. Math. Appl. Conf. Ser. New Ser.*, 58, *Oxford Univ. Press, New York*, 1996. (Wolfgang Kühnel) **98a:65016** 65D17 (52B55, 68U05)

Alboussière, T. (*with* Garandet, J. P.; Moreau, R.) Asymptotic flows in nonuniform magnetic fields. (English summary) *Magnetohydrodynamics* **32** (1996), *no.* 4, 359–366 (1997). (Summary) **98f:76078** 76W05

Albouy, Alain (*with* Chenciner, Alain) Le problème des n corps et les distances mutuelles. [The n-body problem and mutual distances] *Invent. Math.* **131** (1998), *no.* 1, 151–184. (Richard Moeckel) **98m:70017** 70F10 (70F15)

Albrecht, Andreas (*with* Cheung, S. K.; Hui, K. C.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. I. Analytical results for the unbounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 890–904. 90C27 (90C15)

— (*with* Cheung, S. K.; Hui, K. C.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. II. A simulated annealing approach for the bounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 905–929. 90C27 (90C15)

— (*with* Cheung, S. K.; Leung, K. S.; Wong, Chak Kuen) Computing elastic moduli of two-dimensional random networks of rigid and nonrigid bonds by simulated annealing. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 187–215. (David J. Bergman) **98m:73066** 73K20 (65C05, 73B35, 73V30, 82B80)

Albrecht, Ernst (*with* Ricker, Werner J.) Local spectral properties of certain matrix differential operators in $L^p(\mathbb{R}^N)^m$. (English summary) *J. Operator Theory* **35** (1996), *no.* 1, 3–37. (Matthias Hieber) **98b:47060** 47F05 (35P05, 47A11, 47B40)

— (*with* Ermert, Olaf) Commutative nilpotent extensions of commutative C*-algebras split. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 601–608. (Niels Grønbæk) **98g:46073** 46J40 (46J10, 46L05, 46M20)

— (*with* Eschmeier, Jörg) Analytic functional models and local spectral theory. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 323–348. (Michael M. Neumann) **98f:47043** 47B40 (47A11, 47B38)

Albrecht, Ulrich F. (*with* Goeters, H. Patrick; Faticoni, Theodore G.; Wickless, William) Subalgebras of rational matrix algebras. *Acta Math. Hungar.* **74** (1997), *no.* 1-2, 1–6. (R. Göbel) **98a:20063** 20K30 (20K15)

— Mixed abelian groups with Artinian quasi-endomorphism ring. *Comm. Algebra* **25** (1997), *no.* 11, 3497–3511. (B. Goldsmith) **98j:20081** 20K30 (16S50, 20K21)

Al′brekht, È. G. (*with* Sobolev, O. N.) Synthesis of control systems with minimal energy. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1611–1616, 1772 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1569–1575 (1996). (Valentin D. Batukhtin) **98d:49045** 49N35 (93B52)

Albu, Toma (*with* Nicolae, Florin) Finite radical field extensions and crossed homomorphisms. (English summary) *J. Number Theory* **60** (1996), *no.* 2, 291–309. (Fernando Barrera-Mora) **98a:12002** 12F10

— (*with* Smith, Patrick F.) Localization of modular lattices, Krull dimension, and the Hopkins-Levitzki theorem. II. *Comm. Algebra* **25** (1997), *no.* 4, 1111–1128. (Edmund R. Puczyłowski) **98c:06009** 06C05 (16P20, 16P40)

Al′bukerke, Kh. *see* **Albuquerque, Helena**

Albuquerque, C. Some domain-decomposition methods for the exterior Poisson equation. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 299–310, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 65N55

Albuquerque, Helena (*with* Elduque, Alberto) Classification of Mal′tsev superalgebras of small dimensions. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 6, 629–654, 751; *translation in Algebra and Logic* **35** (1996), *no.* 6, 351–365. (Paul Deminn) **98e:17006** 17A70 (17D10)

— (*with* Elduque, Alberto; Laliena Clemente, Jesús A.) Superalgebras with semisimple even part. *Comm. Algebra* **25** (1997), *no.* 5, 1573–1587. (Alexander V. Il′tyakov) **98d:17005** 17A70 (17C70, 17D05, 17D10)

Albuquerque, Paul Patterson-Sullivan measures in higher rank symmetric spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 427–432. (Dmitry Y. Kleinbock) **98e:58132** 58F17 (53C21, 53C35)

díaz Alcaide, Juan Carlos *see* **Díaz Alcaide, Juan Carlos**

garcía Alcaine, Guillermo *see* **García Alcaine, Guillermo**

Alcalde Cuesta, F. (*with* Hector, Gilbert) Feuilletages en surfaces, cycles évanouissants et variétés de Poisson. (English summary) [Surface foliations, vanishing cycles and Poisson manifolds] *Monatsh. Math.* **124** (1997), *no.* 3, 191–213. (Raúl Ibáñez) **98i:57054** 57R30 (58F05)

Alcantara, Jean-Pascal La théorie leibnizienne du changement en 1676: une interpretation du dialogue *Pacidius Philalethi* à la lumière de la *Caracteristique geométrique*. (English and French summaries) [Leibniz's theory of variation in 1676: an interpretation of the dialogue *Pacidius Philalethi* through the *Characteristica geometrica*] *Theoria (San Sebastián)* (2) **12** (1997), *no.* 29, 225–255. (Eberhard Knobloch) **98k:01007** 01A45

Alcantud, J. C. R. Topological separability and axioms of countability in GPO-spaces. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 1, 131–142. (Nobuyuki Kemoto) **98b:54043** 54F05 (54D10, 54D65)

Alcaraz, Francisco C. Exact steady states of asymmetric diffusion and two-species annihilation with back reaction from the ground state of quantum spin models. (English summary) *Perspectives on solvable models*, 1–13, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82043** 82C20

— (*with* Xavier, J. C.) Conformal invariance studies of the Baxter-Wu model and a related site-colouring problem. (English summary) *J. Phys. A* **30** (1997), *no.* 8, L203–L209. (Gunter Schütz) **98f:82012** 82B20 (82B23, 82B27)

— (*with* Bariev, R. Z.) New integrable generalization of the one-dimensional t-J model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, L233–L239. 82D55 (82C20)

Alchourrón, Carlos E. Defeasible logics: demarcation and affinities. *Conditionals: from philosophy to computer science*, 67–102, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B45 (03B70, 68T27)

— Detachment and defeasibility in deontic logic. (English summary) Papers in deontic logic (Oslo, 1994). *Studia Logica* **57** (1996), *no.* 1, 5–18. (Charles F. Kielkopf) **98g:03048** 03B45

luna Alcoba, Manuel *see* **Luna Alcoba, Manuel**

Alcolea-Banegas, Jesús Proof as a way to increase understanding. (English summary) *Truth: logic, representation and the world (Spanish)* (*Santiago de Compostela*, 1996), 243–251, *Cursos Congr. Univ. Santiago de Compostela*, 88, *Univ. Santiago de Compostela, Santiago de Compostela*, 1996. (Hans Niels Jahnke) **98f:00011** 00A35

Alcubierre, Miguel Appearance of coordinate shocks in hyperbolic formalisms of general relativity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5981–5991. (Norbert Noutchegueme) **98f:83006** 83C05 (35Q75)

Al-Dabass, D. (*with* Vindlacheruvu, P.; Evans, David J.) Parallelism in neural nets. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 169–185. (Summary) **98f:65134** 65Y05 (68T05, 92B20)

Aldabe, Fermin Heterotic and type I strings from twisted supermembranes. (English summary) *Nuclear Phys. B* **473** (1996), *no.* 1-2, 63–73. (Miguel A. Vázquez-Mozo) **98b:81167** 81T30 (83E30)

— (*with* Larsen, Arne L.) Supermembranes and superstrings with extrinsic curvature. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 223–234. (Riccardo Capovilla) **98e:83110** 83E30 (81T30)

— (*with* Larsen, Arne L.) Charged open membrane solution on a manifold with a boundary. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 205–216. (Paulo Moniz) **98e:83111** 83E30 (81T30)

— A supermembrane description of string-string duality. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 271–275. (Miguel A. Vázquez-Mozo) **98m:81121** 81T30 (83E30)

— E_6 breaking in (0, 2) string compactifications. (English summary) *Phys. Lett. B* **415** (1997), *no.* 3, 236–241. (Summary) **98m:81122** 81T30 (32G81)

— $N = 4$ supersymmetry breaking in type IIA superstrings. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 938–941. (Isabel P. Ennes) **98d:81071** 81T30 (81R40)

morales Aldana, Leonel *see* **Morales Aldana, Leonel**

Aldashev, S. A. Multidimensional problems with shift for the wave equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1995), 6–13. (A. Borzymowski) **98c:35101** 35L05 (35L20)

— On the well-posedness of Dirichlet problems for the multidimensional wave equation and the multidimensional Lavrent′ev-Bitsadze equation. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 5, 702–706; *translation in Ukrainian Math. J.* **48** (1996), *no.* 5, 784–789 (1997). (Andreas Müller-Rettkowski) **98c:35121** 35M10 (35C10, 35L20)

Aldaya, Víctor (*with* Calixto, Manuel; Guerrero, Julio) Algebraic versus topologic anomalies. (English summary) *Differential geometry and applications* (*Brno*, 1995), 495–502, *Masaryk Univ., Brno*, 1996. (Summary) **98f:81149** 81S10 (22E40, 58F06, 81T50)

— (*with* Calixto, Manuel; Guerrero, Julio) Algebraic quantization, good operators and fractional quantum numbers. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 2, 399–424. (Nicolaas P. Landsman) **98a:81090** 81S10 (58F06, 81R99)

— (*with* Bisquert, J.; Guerrero, Julio; Navarro-Salas, J.) Group-theoretical construction of the quantum relativistic harmonic oscillator. (English summary) *Rep. Math. Phys.* **37** (1996), *no.* 3, 387–418. (Summary) **98a:81022** 81Q05 (81R05)

— (*with* Guerrero, Julio; Marmo, Giuseppe) Higher-order differential operators on a Lie group and quantization. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 3–11. (Ivailo M. Mladenov) **98h:81056** 81S10 (22E70, 58F06, 81R05, 81R10)

— (*with* Calixto, Manuel; Navarro, Miguel) The electromagnetic and Proca fields revisited: a unified quantization. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 20, 3609–3623. (Eugene K. Loginov) **98e:81174** 81T70 (81T13, 81V10)

— (*with* Navarro, Miguel; Calixto, Manuel) Group quantization on configuration space: gauge symmetries and linear fields. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1454–1476. (Nicolaas P. Landsman) **98h:81057** 81S10 (58F06, 81T70)

Aldaz, J. M. Uniformly finer topologies. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 453–458. (Summary) **98m:54005** 54A10

Aldazabal, G. (*with* Font, Anamaría; Ibáñez, L. E.; Uranga, A. M.) New branches of string compactifications and their F-theory duals. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 119–151. (Bruce Hunt) **98h:81089** 81T30 (32G81, 32J81, 83E30)

— (*with* Font, Anamaría; Ibáñez, L. E.; Uranga, A. M.) String-string dualities in $D = 6, 4$ dimensions. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 318–325. (Summary) **98j:81239** 81T30 (14J32, 32J81)

Aldeen, Mohammad (*with* Trinh, H.) D-stability analysis of discrete-delay perturbed systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 493–505. 93D09 (93C30)

— (*with* Trinh, H.) Comments on: "An asymptotic modal observer for linear autonomous time lag systems" [IEEE Trans. Automat. Control **40** (1995), no. 7, 1291–1294; MR 96c:93025] by J. Leyva-Ramos and A. E. Pearson. (English summary) With a reply by Leyva-Ramos and Pearson. *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 742–745. (Summary) **98d:93024** 93B07

— (*with* Trinh, H.) On robustness and stabilization of linear systems with delayed nonlinear perturbations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1005–1007. (Olof J. Staffans) **98d:93083** 93D21 (34K20, 34K35, 93C30)

— (*with* Trinh, H.) A memoryless state observer for discrete time-delay systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1572–1577. 93B07 (93C55)

— (*with* Gong, Zhiming) Comments on: "Equivalence of characterizations of fixed models" [Systems Control Lett. **22** (1994), no. 1, 61–69]. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 255–257. 93A14

Aldemir, T. (*with* Tombuyses, B.) Continuous cell-to-cell mapping. (English summary) *J. Sound Vibration* **202** (1997), *no.* 3, 395–415. (Andrew C. Fowler) **98i:58152** 58F12 (34C15, 34D45)

Alder, Berni J. (*with* Garcia, Alejandro L.) Generation of the Chapman-Enskog distribution. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 66–70. 76P05 (76M35)

Alderton, I. W. The finest splitting uniformity. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 1–11, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54055** 54E15 (18B15, 18D15, 54B15, 54B30, 54C35)

Aldokhina, V. N. Regularity of generalized solutions to the Neumann problem for higher-order equations. (English summary) Nonlinear boundary-value problems and some questions of function theory. *J. Math. Sci.* **80** (1996), *no.* 6, 2175–2196. (Kamoliddin Kh. Boimatov) **98b:35027** 35D10 (35G30, 35J40, 35J60)

Aldosray, Falih A. M. A note on pairwise cosubnormal subgroups. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 3, 395–398. (S. E. Stonehewer) **98d:20030** 20E15

— Essentially finitely generated Lie algebras. *J. Algebra* **188** (1997), *no.* 1, 97–102. (Andrej A. Zolotykh) **98b:17003** 17B05 (17B65)

Aldous, David Probability distributions on cladograms. (English summary) *Random discrete structures* (*Minneapolis, MN*, 1993), 1–18, *IMA Vol. Math. Appl.*, 76, *Springer, New York*, 1996. (Summary) **98d:60018** 60C05 (60J80, 92D15)

— Brownian excursions, critical random graphs and the multiplicative coalescent. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 812–854. (Endre Csáki) **98d:60019** 60C05 (60J50)

— (*with* Lovász, László; Winkler, Peter M.) Mixing times for uniformly ergodic Markov chains. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 165–185. (Mark R. Jerrum) **98i:60062** 60J10 (68Q25)

Aldred, M. P. (*with* Armitage, David H.) Bounds for the terms in a harmonic polynomial expansion. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 325–327. (Henrik Shahgholian) **98m:31004** 31B05

Aldred, R. E. L. (*with* Thomassen, Carsten) On the number of cycles in 3-connected cubic graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 79–84. (R. C. Entringer) **98h:05110** 05C38 (05C35)

— (*with* Ellingham, M. N.; Hemminger, R. L.; Jipsen, Peter) P_3-isomorphisms for graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 35–51. (Xue Liang Li) **98d:05104** 05C60

— (*with* Berendsen, Carl; Holton, Derek; Lonie, Andrew; Stearne, Martin) Research into matching extensions: a class exercise. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 41–51. 05C70

Aldrich, John R. A. Fisher and the making of maximum likelihood 1912–1922. (English summary) *Statist. Sci.* **12** (1997), *no.* 3, 162–176. (Summary) **98m:62006** 62A10 (62-03)

Aldridge, C. J. (*with* Potze, W.) ★ Radiative heat transfer in semi-transparent media. (English summary) EUT Report-WSK, 95-02. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1995. ii+50 *pp.* (Summary) **98k:80003** 80A20

Aldrin, Magne Length modified ridge regression. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 4, 377–398. (Summary) **98e:62104** 62J07

Aldroubi, Akram Oblique multiwavelet bases. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 73–91, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98b:00035**) 42C15 (65T20)

— Oblique and hierarchical multiwavelet bases. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 3, 231–263. (Gerlind Plonka) **98k:42037** 42C15 (41A58, 42A16, 65D15)

— *see also* **Wavelets, multiwavelets, and their applications. 98k:42001**

Aldrovandi, Ettore Toda fields on Riemann surfaces: remarks on the Miura transformation. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 4, 365–375. (Gregorio Falqui) **98b:32029** 32L81 (14H60, 32L30, 58F07, 81T40)

— (*with* Takhtajan, Leon A.) Generating functional in CFT and effective action for two-dimensional quantum gravity on higher genus Riemann surfaces. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 29–67. (Gregorio Falqui) **98i:81226** 81T40 (32G15, 32G81, 81T70)

Aldrovandi, R. (*with* Saeger, L. A.) Fourier duality as a quantization principle. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 2, 345–383. (Władysław Adam Majewski) **98e:81097** 81S99 (46L60, 46N50, 81R10, 81R50)

— (*with* Accioly, A. J.; Novaes, S. F.; Spehler, D.; Mukai, Hatsumi) On the long standing issue of an $R\varphi^2$ coupling between gravity and a massless free scalar field. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 1, 121–128. (Summary) **98a:83062** 83C47 (81T20, 81V17)

Alduncin, Gonzalo Numerical resolvent methods for constrained problems in mechanics. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 4, 1–25. (Lutz Tobiska) **98d:73066** 73V20 (65M06, 76M25)

— On Gabay's algorithms for mixed variational inequalities. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 1, 21–44. (G. Albinus) **98b:65070** 65K10 (47H17, 47H19, 49J40, 65J15)

Aldushin, A. P. (*with* Matkowsky, B. J.; Schult, D. A.) Upward buoyant filtration combustion. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 2-3, 205–234. (Summary) **98b:80008** 80A25 (76S05)

Al-Duwaish, H. (*with* Karim, M. Nazmul) A new method for the identification of Hammerstein model. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10,

1871–1875. 93E12 (93B30)

Alechina, Natasha (*with* Suppes, Patrick) The definability of the qualitative independence of events in terms of extended indicator functions. (Russian. Russian summary) *Logical investigations, No. 2* (*Russian*), 105–112, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B48

— Probability logic in artificial intelligence. (Russian) *Logical investigations, No. 2* (*Russian*), 113–127, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B48 (03B70, 68T27)

— For all typical. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 1–8, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98e:68229** 68T27 (03B70)

— Interpolation for a sequent calculus of generalized quantifiers. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 36–47, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98k:03081** 03C40 (03C80)

— (*with* van Lambalgen, Michiel) Generalized quantification as substructural logic. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 1006–1044. (Henry Africk) **98a:03058** 03C80 (03B45, 03F03)

Alefeld, Götz (*with* Kreinovich, Vladik; Mayer, Günter) Symmetric linear systems with perturbed input data. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 16–22, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98c:65079** 65G10 (65F30)

— (*with* Lenhardt, Ingrid; Mayer, Günter) On multisplitting methods for linear systems of equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 111–114. (*see* **98b:65005**) 65F10 (65Y05)

— (*with* Rottner, Th.; Lenhardt, Ingrid; Schweizerhof, K.) Nonlinear structural finite element analysis using the preconditioned Lanczos method on serial and parallel computers. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 759–769. (*see* **98f:65005**) 65N30 (65F10, 65Y05)

— (*with* Koshelev, Misha; Mayer, Günter) Why it is computationally harder to reconstruct the past than to predict the future. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1683–1689. (Summary) **98e:00003** 00A30

— (*with* Lenhardt, Ingrid; Mayer, Günter) On multisplitting methods for band matrices. (English summary) *Numer. Math.* **75** (1997), *no.* 3, 267–292. (De Ren Wang) **98c:65039** 65F10

— (*with* Kreinovich, Vladik; Mayer, Günter) On the shape of the symmetric, persymmetric, and skew-symmetric solution set. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 693–705. (Ljiljana Cvetković) **98f:65055** 65G10 (65F05)

— *see also* **Numerical methods and error bounds**, **98a:65004** *and* **ICIAM/GAMM 95**, **98b:65005**

Alegre Gil, Carmen (*with* Ferrer, Jesús; Gregori, V.) Quasi-uniformities on real vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 929–937. 46A16 (54E15)

Alegría Ezquerra, Pedro Generalized Bochner theorem and Levy-Khinchine representation for completely positive definite generalized Toeplitz kernels. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 4, 401–418. (Stefania A. M. Marcantognini) **98d:47054** 47B35 (43A35, 47A20, 47A48)

Alehyane, Omar Espaces de Stein et faisceaux localement libres. [Stein spaces and locally free sheaves] *Math. Scand.* **79** (1996), *no.* 2, 189–201. (Finnur Lárusson) **98b:32009** 32E10 (32C35, 32E05)

— Une extension du théorème de Hartogs pour les applications séparément holomorphes. (English and French summaries) [An extension of the Hartogs theorem for separately holomorphic mappings] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 149–152. (M. Klimek) **98e:32013** 32D15 (32F05)

Aleiner, I. L. (*with* Larkin, A. I.) Divergence of classical trajectories and quantum chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1179–1204. 81Q50

Aleinikov, S. M. (*with* Sedaev, A. A.) An algorithm for generating a grid in the boundary element method for plane domains. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 7, 81–94. 65N55

Aleinov, Igor D. Hermitian matrix models with nonholomorphic potential. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 3, 277–287. (Summary) **98b:81220** 81T40

— (*with* Rider, W. J.; Kothe, Douglas B.; Puckett, E. G.) Accurate and robust methods for variable density incompressible flows with discontinuities. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 213–230, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M25 (65M99)

Aleksandrov, A. B. Isometric embeddings of co-invariant subspaces of the shift operator. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 5–15, 213. (D. Sarason) **98k:30050** 30D55 (46E20, 47A15)

— Lacunary series and pseudocontinuations. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 16–32, 213. (J. Siciak) **98j:30001** 30B40 (30B10, 30D55, 46E15, 47B38)

— Gap series and pseudocontinuations. An arithmetic approach. (Russian) *Algebra i Analiz* **9** (1997), *no.* 1, 3–31; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 1, 1–20. (Marek Jarnicki) **98d:30006** 30B30 (30B40)

Aleksandrov, A. G. *see* **Aleksandrov, Aleksandr G.**

Aleksandrov, A. Yu. On stability with respect to a nonlinear approximation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1203–1210, *i*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1039–1046. (Summary) **98k:34087** 34D20 (34D10)

Aleksandrov, Aleksandr Danilovich (*with* Ladyzhenskaya, O. A.; Reshetnyak, Yu. G.) Semën Samsonovich Kutateladze (on the occasion of his fiftieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 201–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 447–450. 01A70

— *see also* **Levichev, A. V.**

Aleksandrov, Aleksandr G. (*with* Tanabé, Susumu[1]) Gauss-Manin connexions, logarithmic forms and hypergeometric functions. (English summary) *Geometry from the Pacific Rim* (*Singapore*, 1994), 1–21, *de Gruyter, Berlin*, 1997. (Jan Stevens) **98j:32044** 32S40 (33C70)

Aleksandrov, I. A. (*with* Vasil′ev, A. Yu.; Lavrent′ev, Mikhail Mikhaĭlovich; Sychev, A. V.) Vasiliĭ Vasil′evich Chernikov. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 143–144; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1281–1282. 01A70

Aleksandrov, Pavel Sergeevich *see* **Arkhangel′skiĭ, A. V.** *and* **Nikol′skiĭ, S. M.**

Aleksandrov, S. E. (*with* Richmond, O.) A general analytic solution in the theory of ideal unsteady plastic flows under conditions of plane deformation. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 484–486. 73E50

Aleksandrov, V. A. An example of a flexible polyhedron with nonconstant volume in the spherical space. *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 11–18. (Tiong Seng Tay) **98b:52028** 52C25

Aleksandrov, V. M. *see* **Aleksandrov, Viktor Mikhaĭlovich**

Aleksandrov, V. V. *see* **Aleksandrov, Vladimir Vasil′evich**

Aleksandrov, Viktor Mikhaĭlovich (*with* Stupina, T. M.) On an integral equation that arises in periodic problems of mechanics with mixed boundary conditions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 5, 49–55, 104. 73C35 (45E05)

— (*with* Pozharskiĭ, D. A.) On an axisymmetric contact problem in the theory of elasticity for a truncated ball. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 305–311; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 295–300. 73T05

Aleksandrov, Viktor Vasil′evich (*with* Gorskiĭ, N. D.) ★ Image representation and processing. (English summary) A recursive approach. Translated from the 1985 Russian original. Revised by the authors. Mathematics and its Applications, 261. *Kluwer Academic Publishers, Dordrecht*, 1993. viii+191 *pp. ISBN* 0-7923-2136-7 (Henk J. A. M. Heijmans) **98m:68283** 68U10 (94A12)

Aleksandrov, Vladimir Vasil′evich (*with* Torres Khakome, Kh.) Stabilization of bilinear oscillatory systems with two degrees of freedom. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 75–77. 93D15 (34C15, 34H05)

— Testing the quality of the stabilization on non-steady-state motions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 51–54, 71–72. (Summary) **98f:93014** 93D15

Aleksandrova, A. A. Inclusion of the dissipative phenomena in the boundary value problems in linear magnetohydrodynamics. I, II. *Magnetohydrodynamics* **33** (1997), *no.* 2, 161–165, 166–171 (1998). 76W05

Aleksandrova, E. V. A trace formula for an equation of the oscillations of a rectilinear pipeline. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 12–18, 141; *translation in Differential Equations* **33** (1997), *no.* 1, 11–17. (Summary) **98i:34122** 34L05 (35Q72, 73D30)

Aleksandrova, I. A. The spectral method in asymptotic diffusion problems with drift. (Russian) *Mat. Zametki* **59** (1996), *no.* 5, 768–770; *translation in Math. Notes* **59** (1996), *no.* 5-6, 554–556. (I. Łojczyk-Królikiewicz) **98e:35080** 35K15 (35B40, 35B45, 47N20)

Aleksandrova, V. M. (*with* Panin, V. M.) A regularized method for solving variational inequalities with a monotone operator on a polyhedron. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 5, 107–116, 189; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 5, 688–695 (1997). (R. Tichatschke) **98a:49019** 49J40 (90C33)

Aleksanova, Irene *see* **Dezin, Aleksei A., 98b:00015**

Alekseenko, S. V. (*with* Geshev, P. I.; Kuĭbin, P. A.) Flow of a fluid with a free surface over an inclinded cylinder. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 47–50; *translation in Phys. Dokl.* **42** (1997), *no.* 5, 269–272. 76D99

Alekseev, A. A. On an inverse spectral problem for the Sturm-Liouville equation. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 3–7, 167, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 34A55 (34B24, 34L40)

— On the absence of periodic solutions to a system of differential equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 5, 3–7; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 5, 1–5. (Božena Mihaliková) **98a:34026** 34C05 (34C25)

Alekseev, Anton Yu. (*with* Schaller, Peter; Strobl, Thomas) Topological G/G WZW model in the generalized momentum representation. (English summary) *Phys. Rev. D* (3) **52** (1995), *no.* 12, 7146–7160. (Summary) **98a:81195** 81T40

— (*with* Schomerus, Volker) Representation theory of Chern-Simons observables. *Duke Math. J.* **85** (1996), *no.* 2, 447–510. (Ruth Lawrence) **98e:58032** 58D29 (57M25, 81R50, 81T40)

Alekseev, G. A. (*with* Griffiths, Jerry B.) Gravitational waves with distinct wavefronts. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2869–2880. (Brian Edgar) **98j:83030** 83C35 (83C15, 83C22)

Alekseev, N. S. (*with* Osipova, V. A.) Optimality with respect to stability in multicriterial choice problems based on information about the importance of the criteria. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 183–192; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 1037–1043. (Summary) **98d:90097** 90C29 (90C31)

Alekseev, Pavel A. (*with* Golovanov, Mikhail I.) Poly-modal logic $S5_nC$. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 1–9. (Peter Köhler) **98i:03024** 03B45

Alekseev, V. B. Minimal extensions with simple multiplication for an algebra of second-order matrices. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 71–82; *translation in Discrete Math. Appl.* **7** (1997), *no.* 1, 89–101. (Summary) **98a:65035** 65F10 (15A30, 65Y20)

— Logical semirings and their use in constructing fast algorithms. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 22–29, 78–79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 22–28. (Summary) **98f:68109** 68Q20 (03B50, 03B70)

Alekseev, V. E. On lower layers of a lattice of hereditary classes of graphs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 1, 3–12, 89. (Lyuben R. Mutafchiev) **98m:05089** 05C30 (05C75)

Alekseeva, I. Yu. (*with* Gorokhov, V. G.; Aronson, O. V.; Rozin, V. M.) ★ Философия техники: история и современность. (Russian. Russian summary) [Philosophy of technology: history and current state] *Rossiĭskaya Akademiya Nauk, Institut Filosofii, Moscow*, 1997. 284 *pp. ISBN* 5-201-01931-5 (Publisher's description) **98h:00005** 00A30 (00A69)

Alekseeva, L. A. (*with* Aĭtaliev, Sh. M.; Dil′dabaev, Sh. A.; Zhanbyrbaev, N. B.) ★ Метод граничных интегральных уравнений в задачах динамики упругих многосвязных тел. (Russian. Russian summary) [The method of boundary integral equations in problems of the dynamics of elastic multiply connected bodies] "*Gylym*", *Alma Ata*,

1992. 228 *pp. ISBN* 5-628-00984-9 (Summary) **98a:73018** 73C02 (35Q72, 73D10, 73D99, 73V10)

Alekseevskiĭ, D. V. (*with* Spiro, Andrea F.) Generalized reductive homogeneous spaces and quasi-graded semisimple Lie algebras. (English summary) *Algebra and analysis* (*Kazan*, 1994), 1–22, *de Gruyter, Berlin*, 1996. (Yu Ting Jia) **98h:17033** 17B70 (17B20, 53C30)

— (*with* Marchiafava, Stefano) Quaternionic structures on a manifold and subordinated structures. *Ann. Mat. Pura Appl.* (4) **171** (1996), 205–273. (María Laura Barberis) **98j:53033** 53C10 (53C07)

— (*with* Cortés Suárez, Vicente) Homogeneous quaternionic Kähler manifolds of unimodular group. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 217–229. (Andrew Swann) **98i:53062** 53C25 (53C30)

— (*with* Marchiafava, Stefano) Quaternionic transformations of a non-positive quaternionic Kähler manifold. (English summary) *Internat. J. Math.* **8** (1997), *no.* 3, 301–316. (María Laura Barberis) **98j:53050** 53C25

— (*with* Perelomov, A. M.) Poisson and symplectic structures on Lie algebras. I. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 3, 191–211. (Charles-Michel Marle) **98j:58042** 58F05 (17B20, 58F07)

— (*with* Bugaenko, V. O.; Olshanskiĭ, Grigoriĭ; Popov, Vladimir Leonidovich; Shvartsman, O. V.) Ėrnest Borisovich Vinberg (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1335–1343. (Editors) **98k:01014** 01A70

Aleksiejczyk, Marek On the diameter of the generalized numerical range. *Demonstratio Math.* **30** (1997), *no.* 1, 129–136. (Chi-Kwong Li) **98f:15018** 15A60 (47A12)

Aleksiejunas, Rimvydas (*with* Ivaska, Vladislovas) Geometric phases for scalar wave superpositions. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 1–6. (Summary) **98i:81067** 81Q99

kuzin-Aleksinskiĭ, S. A. *see* **Kuzin-Aleksinskiĭ, S. A.**

el-Alem, Mahmoud *see* **El-Alem, Mahmoud**

Aleman, Alexandru (*with* Rajput, Balram Singh; Richter, Stefan) On an extremal problem in H^p and prediction of p-stable processes $0 < p < 1$. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 1–11, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Ahmad Reza Soltani) **98b:60080** 60G25 (30D55, 42B30)

— (*with* Richter, Stefan; Sundberg, Carl) Beurling's theorem for the Bergman space. *Acta Math.* **177** (1996), *no.* 2, 275–310. (Håkan Hedenmalm) **98a:46034** 46E20 (30D50, 30H05, 47A15, 47B38)

— (*with* Stoka, M. I.; Zamfirescu, Tudor) Convex bodies instead of needles in Buffon's experiment. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 301–308. (Bert Fristedt) **98k:52011** 52A22 (60D05)

— (*with* Richter, Stefan) Some sufficient conditions for the division property of invariant subspaces in weighted Bergman spaces. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 542–556. (Dragan Vukotić) **98e:46030** 46E15 (47A15)

Alemany, Pablo A. Novel decay laws for the one-dimensional reaction-diffusion model $A + A \to (2 - \varepsilon)A$ as consequence of initial distributions. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3299–3311. (Summary) **98f:82095** 82C22 (82–04)

— Fractal-time approach to dispersive transport in single-species reaction-diffusion. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6587–6599. (Summary) **98m:82068** 82C70

Alemayehu, Dejene (*with* Porru, Giovanni) Overdetermined problems for elliptic equations. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 11–20, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 35N10 (35B50, 35J15, 35R35)

d'Alembert, Jean Lerond ★ Traité de dynamique. (French) [Treatise on dynamics] Reprint of the 1758 edition. *Éditions Jacques Gabay, Sceaux*, 1990. 337 *pp. ISBN* 2-87647-064-0 (Ll. G. Chambers) **98a:01011** 01A50 (01A75, 70–03)

— *see also* **Le Ru, Véronique**, **98f:01028**

Alencar, Raymundo (*with* Floret, Klaus) Weak-strong continuity of multilinear mappings and the Pełczyński-Pitt theorem. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 532–546. (Richard M. Aron) **98h:46045** 46G20 (46B28)

Aleshin, M. V. (*with* Yudin, I. P.) ★ Применение метода наискорейшего спуска к задачам магнитостатики. (Russian. English and Russian summaries) [Application of the steepest descent method to problems in magnetostatics] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R11-97-67. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* (Ll. G. Chambers) **98g:78009** 78A30 (41A60, 65K10)

Aleshina, N. A. *see* **Alechina, Natasha**

Aleshkov, Yu. Z. Diffraction of waves by vertical cylindrical obstacles. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 61–67. (Summary) **98d:76011** 76B15 (76C10, 76V05, 86A05)

Aleshkyavichene, A. K. *see* **Aleškevičienė, Aldona Kazio**

Alesker, S. A remark on the Szarek-Talagrand theorem. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 139–144. (Wolfgang Lusky) **98g:52006** 52A20 (05A05, 05A18)

Aleskerov, F. T. (*with* Aizerman, Mark) ★ Theory of choice. Translated from the Russian. Studies in Mathematical and Managerial Economics, 38. *North-Holland Publishing Co., Amsterdam*, 1995. x+314 *pp. ISBN* 0-444-82210-0 (Reinhard Suck) **98d:90019** 90A06 (90–02, 90A28)

Aleškevičienė, Aldona Kazio (*with* Statulyavichus, V. A.) Inversion formulas in the case of a discontinuous limit law. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 3–20; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 1–16 (1998). (Tomasz J. Kozubowski) **98k:60027** 60E10 (42A38, 60E15)

Alessandrini, Elisa (*with* Boffi, Daniele; Torelli, Alessandro) Study of an obstacle vortex free boundary problem. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 747–757. (Summary) **98g:35217** 35R35 (30E25, 35J55, 76B10)

Alessandrini, Giovanni (*with* Isakov, Victor) Analyticity and uniqueness for the inverse conductivity problem. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 351–369 (1997). (Gottfried Anger) **98g:35218** 35R35 (35J25, 35R30)

— (*with* DiBenedetto, E.) Determining 2-dimensional cracks in 3-dimensional bodies: uniqueness and stability. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 1–82. (Paul Andrew Martin) **98g:35207** 35R30 (35J05, 35Q72, 73M25)

— Examples of instability in inverse boundary-value problems. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 887–897. 35R30 (35J05)

— (*with* Magnanini, R.) Symmetry and nonsymmetry in some overdetermined boundary value problems. *Reaction diffusion systems* (*Trieste*, 1995), 1–12, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Nicolai N. Tarkhanov) **98h:35178** 35N05 (35J05, 35J25)

d'Alessandro, Flavio (*with* Sakarovitch, Jacques) The finite power property for rational sets of a free group. *Idempotency* (*Bristol*, 1994), 80–87, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 20F10 (20E05, 68Q45, 68Q70)

d'Alessandro, Paolo ★ A conical approach to linear programming. (English summary) Scalar and vector optimization problems. *Gordon and Breach Science Publishers, Amsterdam*, 1997. xxii+290 *pp. ISBN* 90-5699-031-4 (Florian Jarre) **98m:90079** 90C05 (90–02, 90C29)

Alessi, Fabio (*with* Baldan, Paolo; Bellè, Gianna; Rutten, J. J. M. M.) Solutions of functorial and non-functorial metric domain equations. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68Q55 (18B30)

— (*with* Baldan, Paolo) A characterization of distance between 1-bounded compact ultrametric spaces through a universal space. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 113–127. (Summary) **98m:54034** 54E45 (54B30, 68Q55)

Alessio, Francesca Homoclinic solutions for second order systems with expansive time dependence. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 263–280 (1997). (Maria Letizia Bertotti) **98f:34067** 34C37 (58E05, 70H05)

— (*with* Calanchi, Marta) Homoclinic-type solutions for an almost periodic semilinear elliptic equation on $\mathbf{R}^n$. *Rend. Sem. Mat. Univ. Padova* **97** (1997), 89–111. (Alexander A. Pankov) **98i:35046** 35J60 (35B15, 58E05)

Alestalo, Pekka (*with* Väisälä, Jussi) Uniform domains of higher order. III. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 445–464. (Shan Shuang Yang) **98i:30030** 30C65

Alestra, Stephane (*with* Duceau, Eric) An inverse time domain problem for a stratified, biperiodic and 2D medium using an optimization method. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 354–366, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 65M30 (78A45)

Alev, J. *see* **Noncommutative algebra, quantum groups and invariants**, **98g:00028**

Alevizos, P. D. (*with* Ioannides, D. A.) Nonparametric estimation in time series with measurement errors. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3539–3546. (*see* **98h:00034**) 62G05 (62M10)

— (*with* Ioannides, D. A.) Nonparametric regression with errors in variables and applications. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 35–43. (G. Roussas) **98f:62097** 62G05 (62G20)

Alevras, Dimitris Order preserving assignments without contiguity. (English summary) *Discrete Math.* **163** (1997), *no.* 1-3, 1–11. (Rainer Burkard) **98c:90102** 90C27 (05C90, 68Q35, 90B10)

Alex, M. (*with* Steinebach, Josef) Invariance principles for renewal processes and some applications. (English summary) *Theory Probab. Math. Statist. No.* 50 (1995), 23–54. (Summary) **98a:60126** 60K05 (60F17)

Alexander, Andreas *see* **Kaunzner, Wolfgang**, **98i:01009**

Alexander, Daniel S. An episodic history of complex dynamics from Schröder to Fatou and Julia. Studies in the history of modern mathematics, II. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 44 (1996), 57–83. (From the text) **98d:01027** 01A60 (01A55, 30–03, 30D05, 39–03, 39B12, 58F23)

Alexander, Francis J. *see* **Proceedings: Conference on Discrete Models for Fluid Mechanics**

Alexander, Herbert Gromov's method and hulls. *Geometric complex analysis* (*Hayama*, 1995), 25–33, *World Sci. Publishing, River Edge, NJ*, 1996. (Vsevolod V. Shevchishin) **98g:32020** 32D10 (32E99, 32F25, 32H40)

— (*with* Wermer, John) ★ Several complex variables and Banach algebras. Third edition. Graduate Texts in Mathematics, 35. *Springer-Verlag, New York*, 1998. xii+253 *pp. ISBN* 0-387-98253-1 (Editors) **98g:32002** 32–02 (32E25, 46Jxx)

Alexander, J. *see* **Alexander, James Ernest**

Alexander, J. C. *see* **Alexander, James Crew**

Alexander, J. Iwan D. (*with* Slobozhanin, Lev A.) Stability of an isorotating liquid bridge in an axial gravity field. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1880–1892. (Summary) **98d:76060** 76E10 (76D45, 76U05)

— (*with* Slobozhanin, Lev A.; Resnick, Andrew H.) Bifurcation of the equilibrium states of a weightless liquid bridge. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1893–1905. (Summary) **98d:76061** 76E10 (76D45)

Alexander, James *see* **Alexander, James Ernest**

Alexander, James Crew (*with* Sandstede, Björn; Jones, C. K. R. T.) Existence and stability of N-pulses on optical fibers with phase-sensitive amplifiers. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 167–206. (Peter E. Zhidkov) **98h:35227** 35Q99 (34C23, 78A60)

— (*with* Grillakis, M. G.; Jones, C. K. R. T.; Sandstede, Björn) Stability of pulses on optical fibers with phase-sensitive amplifiers. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 175–192. (Peter L. Christiansen) **98h:35212** 35Q55 (78A60)

Alexander, James Ernest (*with* Hirschowitz, André) Interpolation on jets. *J. Algebra* **192** (1997), *no.* 1, 412–417. (Tomasz Szemberg) **98i:14052** 14N05 (14J99)

— (*with* Hirschowitz, André) Generic hypersurface singularities. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 139–154. (Tohsuke Urabe) **98g:14014** 14E15 (14J70)

Alexander, Kenneth S. Approximation of subadditive functions and convergence rates in limiting-shape results. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 30–55. (Massimo Campanino) **98f:60203** 60K35 (41A25, 60C05, 82B43)

Alexander, N. A. Evaluating basins of attraction in non-linear dynamical systems using an improved recursive boundary enhancement (RBE). (English summary) *J. Sound Vibration* **209** (1998), *no.* 3, 443–472. (Summary) **98k:65027** 65H17 (34D45, 58F12, 70–08, 70K99)

Alexander, Stephanie B. (*with* Bishop, Richard L.) Racetracks and extremal problems for curves of bounded curvature in metric spaces. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 331–341. (G. D. Chakerian) **98h:53116** 53C70 (52A40)

Alexandre, Francis (*with* Bsaïes, Khaled) A methodology for constructing logic programs. (English summary) *Fund. Inform.* **29** (1997), *no.* 3, 203–223. (Summary) **98g:68018** 68N17

Alexandre, Radjesvarane Some results in homogenization tackling memory effects. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 229–259. (Jacqueline Mossino) **98m:35015** 35B27 (35Q72, 45K05, 73B27)

— Homogenisation and θ-2 convergence. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 3, 441–455. (Fu Ru Jiang) **98e:35019** 35B27 (73B27)

Alexandroff, P. S. *see* **Aleksandrov, Pavel Sergeevich**

Alexandrou, V. A. (*with* Koutras, Markos V.) Sooner waiting time problems in a sequence of trinary trials. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 593–609. (Summary) **98c:60013** 60E05 (60C05, 60J10)

— (*with* Koutras, Markos V.) Non-parametric randomness tests based on success runs of fixed length. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 393–404. 62G10

Alexandrov, A. D. *see* **Aleksandrov, Aleksandr Danilovich**

Alexandrov, M. (*with* Schwarz, Albert S.; Zaboronsky, Oleg; Kontsevich, M. L.) The geometry of the master equation and topological quantum field theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 7, 1405–1429. (Luigi Martina) **98a:81235** 81T70 (58D29, 58F05)

Alexandrov, Sergei (*with* Liebl, H.; Vasilevich, D. V.) Hawking radiation and masses in generalized dilaton theories. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 889–904. (Summary) **98c:83026** 83C30 (83C57)

Alexandrov, V. V. *see* **Aleksandrov, Viktor Vasil'evich**

Alexandrov, Victor *see* **Aleksandrov, V. A.**

Alexandru-Ruginâ, Dragomirna Harmonic forms and L_p-cohomology. *Tensor (N.S.)* **57** (1996), *no.* 2, 176–191. (Józef Dodziuk) **98d:58004** 58A14 (58G20)

Alexe, Gabriela (*with* Olaru, E.) The strongly perfectness of normal product of t-perfect graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 209–215. (G. Ravindra) **98m:05064** 05C15

Alexeev, Pavel A. *see* **Alekseev, Pavel A.**

Alexeeva, N. V. (*with* Barashenkov, I. V.; Smirnov, Yu. S.) Bifurcation to multisoliton complexes in the ac-driven, damped nonlinear Schrödinger equation. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part B*, 2350–2364. (Summary) **98i:35170** 35Q55 (35B32)

Alexiewicz, Andrzej *see* **Musielak, Julian, 98d:01040**

Alexopoulos, Christos State space partitioning methods for stochastic shortest path problems. (English summary) *Networks* **30** (1997), *no.* 1, 9–21. (H. T. Lau) **98f:90021** 90B15 (90C35)

Alexopoulos, Georges Convolution powers on discrete groups of polynomial volume growth. (English summary) *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 31–57, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Nobuaki Obata) **98m:22009** 22E25 (22E30, 43A05, 43A80, 60B15)

— Puissances de convolution sur les groupes à croissance polynomiale du volume. (English and French summaries) [Convolution powers on groups of polynomial volume growth] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 771–776. (Summary) **98a:43001** 43A05 (35J15, 60B15, 60J15)

Alexopoulos, Nicolaos G. (*with* Díaz, Rodolfo E.) An analytic continuation method for the analysis and design of dispersive materials. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1602–1610. (Summary) **98k:78023** 78A40

Aleyda Espinosa, Maria (*with* Marmolejo, Miguel A.) Matrices with minimal polynomial $(x-\lambda)(x-\beta)$, $\lambda \neq \beta$. (Spanish. English and Spanish summaries) *Lect. Mat.* **17** (1996), *no.* 1, 3–11. (Summary) **98b:15008** 15A18

Alfa, Attahiru Sule (*with* Frigui, Imed; Xu, Xiaoyi) Algorithms for computing waiting time distributions under different queue disciplines for the D-BMAP/PH/1. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 559–576. 60K25 (90B22)

— (*with* Dormuth, Darryl Wayne) Two finite-difference methods for solving $MAP(t)/PH(t)/1/K$ queueing models. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 55–78. 60K25 (90B22)

— Matrix-geometric solution of discrete time MAP/PH/1 priority queue. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 23–50. 60K25 (90B22)

Alfandary, G. (*with* Falcovitz, J.; Hanoch, G.) A two-dimensional conservation laws scheme for compressible flows with moving boundaries. (Engiish summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 83–102. (Summary) **98j:76106** 76M25 (65M06, 76L05, 76N10)

martinez Alfaro, J. *see* **Martinez Alfaro, J.**

Alfaro, Jorge (*with* Damgaard, Poul H.) Symmetries and the antibracket. (English summary) *Nuclear Phys. B* **455** (1995), *no.* 1-2, 409–439. (Summary) **98a:81236** 81T70

— (*with* Medina, Ricardo; Urrutia, Luis F.) The Itzykson-Zuber integral for $U(m|n)$. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 379–382, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 82B41 (81R05, 82B44)

— (*with* Bering, Klaus; Damgaard, Poul H.) Algebra of higher antibrackets. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 459–503. (Liviu Tătar) **98a:81239** 81T70 (17B81)

— (*with* Medina, Ricardo; Urrutia, Luis F.) Orthogonality relations and supercharacter formulas of $U(m|n)$ representations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5319–5349. (Chanyoung Lee Shader) **98i:17007** 17B10 (81R05)

— (*with* Bering, Klaus; Damgaard, Poul H.) BRST formulation of partition function constraints. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 15, 1119–1126. (Ion V. Vancea) **98c:81220** 81T70

— *see also* **Guhr, Thomas, 98f:58039**

de Alfaro, Luca (*with* Bianco, Andrea) Model checking of probabilistic and nondeterministic systems. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 499–513, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98c:68132** 68Q60

— (*with* Kapur, Arjun; Manna, Zohar) Hybrid diagrams: a deductive-algorithmic approach to hybrid system verification. (English summary) *STACS* 97 (*Lübeck*), 153–164, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q60

— Temporal logics for the specification of performance and reliability. (English summary) *STACS* 97 (*Lübeck*), 165–176, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68105** 68Q60

Alfaro, Manuel *see* **Workshop: Orthogonal Polynomials in Mathematical Physics, 98b:33001**

Alfaro, Ricardo (*with* Szeto, George) On Galois extensions of an Azumaya algebra. *Comm. Algebra* **25** (1997), *no.* 6, 1873–1882. (Stefaan Caenepeel) **98h:13007** 13B05 (16H05)

de Alfaro, Vittorio (*with* Cavaglià, Marco) Quantization of constrained systems: application to quantum string cosmology. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 273–277, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83E30 (83F05)

— (*with* Cavaglià, Marco) Time gauge fixing and Hilbert space in quantum string cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 773–787. (Paulo Moniz) **98e:83048** 83C45 (81V17, 83E30)

— *see also* **Constrained dynamics and quantum gravity, 98f:83002**

Alfeld, Peter (*with* Neamtu, Marian; Schumaker, Larry L.) Fitting scattered data on sphere-like surfaces using spherical splines. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 5–43. (Yong Ping Liu) **98a:41013** 41A15 (41A63, 65D07)

Alferes, José Júlio (*with* Pereira, Luís Moniz) ★ Reasoning with logic programming. (English summary) Lecture Notes in Computer Science, 1111. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1996. xxii+326 *pp. ISBN* 3-540-61488-5 (Neculai Curteanu) **98k:68031** 68N17 (03B70, 68T20, 68T27, 68T30)

— (*with* Pereira, Luís Moniz; Przymusinski, Teodor C.) Strong and explicit negation in non-monotonic reasoning and logic programming. *Logics in artificial intelligence* (*Évora*, 1996), 143–163, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68N17 (03B60, 03B70, 68T27)

— (*with* Pereira, Luís Moniz) Update-programs can update programs. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 110–131, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98i:68043** 68N17 (68T27)

— *see also* **Logics in artificial intelligence, 98c:68016** *and* **Logics for artificial intelligence, 98k:68009**

Alferov, G. V. (*with* Malafeev, O. A.) The robot control strategy in a domain with dynamical obstacles. (English summary) *Reasoning with uncertainty in robotics* (*Amsterdam*, 1995), 211–217, *Lecture Notes in Comput. Sci.*, 1093, *Springer, Berlin*, 1996. (*see* **98c:68017**) 93C85 (68T99, 70B15, 70Q05)

Alfimov, G. L. On a nonlocal sine-Gordon equation. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 257–261, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q53 (35L70)

Alfinito, Eleonora (*with* Palese, M.; Leo, M.; Leo, R. A.; Soliani, Giulio) Algebraic and geometrical properties of integrable nonlinear field equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 249–252, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:58076** 58F07 (58F40, 78A10)

— (*with* Profilo, G.; Soliani, Giulio) Properties of equations of the continuous Toda type. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1527–1547. (Summary) **98d:35187** 35Q53 (35A30)

— (*with* Soliani, Giulio; Solombrino, Luigi) The symmetry structure of the heavenly equation. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 4, 379–389. (Maciej Przanowski) **98i:83007** 83C05 (35Q75, 83C20)

ramirez Alfonsin, J. L. *see* **Ramirez Alfonsin, J. L.**

Algazin, S. D. (*with* Kiíko, I. A.) Numerical-analytic investigation of the flutter of a panel of arbitrary shape in a design. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 171–174; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 169–172. 73K70

Alghamdi, Mohamed Ali (*with* Abujabal, Hamza A. S.; Ashraf, Mohammad) Some commutativity results for one sided s-unital rings. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 61–68 (1997). (Howard E. Bell) **98m:16040** 16U80

— (*with* Saleemi, B. A.; Abujabal, Hamza A. S.) On irresolute maps and small images. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 85–90 (1997). 54C10

— (*with* Abujabal, Hamza A. S.; Zaidi, S. M. A.; Ansari, Q. A.) On co-completeness of the categories of L-fuzzy subgroups. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 55–62. 20N25 (04A72)

— On a theorem of Herstein. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 253–260. (Howard E. Bell) **98j:16020** 16U80

— (*with* Abujabal, Hamza A. S.; El-Sayyad, S.) A few classes of subalgebras of BCI-algebras. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 1–15. (Summary) **98m:06028** 06F35 (03G25)

Algoet, Paul (*with* Morvai, Gusztáv; Yakowitz, Sidney J.) Weakly convergent nonparametric forecasting of stationary time series. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 483–498. (Mohsen Pourahmadi) **98g:60070** 60G10 (60G25, 62G99, 62M20)

Al-Gwaiz, M. A. (*with* Anandam, V.) Global representation of harmonic and biharmonic functions. (English summary) *Potential Anal.* **6** (1997), *no.* 3, 207–214. (D. H. Armitage) **98h:31004** 31B05 (31B30)

Alhalabi, B. (*with* Ayoubi, R.; Bayoumi, Magdy A.; Elchouemi, A.) An efficient mapping algorithm of multilayer perceptron on mesh-connected architectures. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 273–285. (Summary) **98j:65096** 65Y05 (68T05)

Al-Hammadi, A. S. A. Resonant perturbations for generalised harmonic oscillation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 131–140. (T. J. Mahar) **98f:34048** 34C15 (34C11, 34E10)

Alharbi, Abdulghani A. (*with* Shanbhag, D. N.) General characterization theorems based on versions of the Chernoff inequality and the Cox representation. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 2, 139–150. (J. A. Melamed) **98d:62015** 62E10 (60E15)

Al-Hawaj, A. Y. (*with* Bajpai, S. D.) Fourier sine series for Fox's H-function of several variables. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **32** (1994), *no.* 2, 3–6. (A. N. Srivastava) **98c:33015** 33C60

— (*with* Bajpai, S. D.) Some relations involving a class of hypergeometric functions and Fox's H-function. (English summary) *An. Univ. Bucureşti Mat.* **45** (1996), 3–9. (Mridula Garg) **98k:33019** 33C60

— (*with* Bajpai, S. D.) Fourier cosine series for Fox's H-function of several variables. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 3, 127–130. 33C60

Alho, Juha M. (*with* Nyblom, Jukka) Mixed estimation of old-age mortality. (English summary) *Math. Population Stud.* **6** (1997), *no.* 4, 319–330. (Summary) **98i:92029** 92D25

Al-Homidan, Suliman (*with* Fletcher, Roger) Hybrid methods for finding the nearest Euclidean distance matrix. (English summary) *Recent advances in nonsmooth optimization*, 1–17, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:90009**) 90C30 (65F15)

Al-Humadi, Ala An application of matrix generalized inverses to optimal control problems of linear time-invariant discrete-time systems. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 271–279, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 49N10 (93C55)

Alhumaizi, Khalid (*with* Aris, Rutherford) ★ Surveying a dynamical system: a study of the Gray-Scott reaction in a two-phase reactor. (English summary) Pitman Research Notes in Mathematics Series, 341. *Longman, Harlow*, 1995. xxii+328 *pp. ISBN* 0-582-24688-1 (Jacek A. Tuszyński) **98j:80011** 80A30 (34A34, 34C35, 58F40, 92E20)

Al-Husari, M. M. M. (*with* Jaimoukha, Imad M.; Limebeer, D. J. N.) A descriptor solution to a class of discrete distance problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1558–1564. (R. N. Mukherjee) **98m:93032** 93B36 (93B11)

Al-Hussaini, A. N. (*with* Tang, Ling Qi) The Hida calculus approach to multiparameter stochastic integration. *Japan. J. Math. (N.S.)* **22** (1996), *no.* 2, 369–384. (Jan Ubøe) **98f:60101** 60H05 (60G20)

— (*with* Tang, Ling Qi) An Itô-Ventzell formula for two-parameter Skorohod integrals. (English summary) *Hunan Ann. Math.* **17** (1997), *no.* 1, 5–15. (Yu. S. Mishura) **98k:60089** 60H07 (60G60, 60H05)

Al-Hussaini, Essam K. (*with* Jaheen, Zeinhum F.) Bayesian prediction bounds for the Burr type XII distribution in the presence of outliers. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 23–37. (Summary) **98c:62046** 62F15

— (*with* Ali Mousa, M. A. M.; Sultan, Khalaf S.) Parametric and nonparametric estimation of $P(Y < X)$ for finite mixtures of lognormal components. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1269–1289. (Summary) **98e:62049** 62G05 (62F10)

— (*with* Osman, Magued I.) On the median of a finite mixture. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 2, 121–144. 62E99

Ali, Ali A. (*with* Alsardary, Salar Y.) New edge neighborhood graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 501–504. (B. Zelinka) **98h:05155** 05C75

Ali, G. (*with* Hunter, John K.) Resonant reflection of sound waves by large amplitude entropy waves. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo (2) Suppl. No. 45, part I* (1996), 17–26. (Maria Elena Schonbek) **98g:76066** 76Q05 (76N10)

— (*with* Hunter, John K.) Wave interactions in magnetohydrodynamics. (English summary) *Wave Motion* **27** (1998), *no.* 3, 257–277. (Summary) **98m:76154** 76W05 (35Q35)

Ali, Halima (*with* Punjabi, Alkesh; Boozer, Allen H.) Symmetric simple map for a single-null divertor tokamak. (English summary) *Phys. Plasmas* **4** (1997), *no.* 2, 337–346. (Summary) **98c:76131** 76X05 (58F40)

Ali, Ismail (*with* Kalla, Shyam L.) Fractional calculus and its applications to differential equations. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 389–405, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (K. S. Miller) **98g:34017** 34A25 (26A33, 35C99)

Ali, M. B. (*with* El-Sherbiny, H. M.) On the Painleve property of nonlinear evolution equations in 2 + 1 dimensions. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 73–81. (*see* **98g:00017**) 35Q53 (35K55)

al Ali, M. I. M. *see* **Al Ali, M. I. M.**

Ali, M. Montaz (*with* Storey, Colin) Aspiration based simulated annealing algorithm. (English summary) *J. Global Optim.* **11** (1997), *no.* 2, 181–191. (Summary) **98e:90146** 90C30 (65K05)

— (*with* Törn, A.; Viitanen, Sami) A numerical comparison of some modified controlled random search algorithms. (English summary) *J. Global Optim.* **11** (1997), *no.* 4, 377–385. 90C15

— (*with* Storey, Colin; Törn, A.) Application of stochastic global optimization algorithms to practical problems. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 545–563. 90C15 (90C90)

Ali, Mahbub (*with* Bali, Raj) Expanding and shearing universe with two degrees of freedom in general relativity. (English summary) *Progr. Math. (Varanasi)* **27** (1993), *no.* 1-2, 63–70 (1996). (Summary) **98c:83014** 83C15

Ali, Majid M. A generalization of Lüneburg's results to arithmetical rings. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 91–107. (Daniel D. Anderson) **98h:13024** 13F05

Ali, Masoom *see* **Ali, Mir Masoom**

Ali, Mir M. *see* **Ali, Mir Maswood**

Ali, Mir Masoom (*with* Umbach, Dale) Conservative spacings for the extreme value and Weibull distributions. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 169–180. 62G30

— (*with* Saweris, Nashat B.) Moments and distributions of certain multivariate test criteria in the canonical correlation case under violation. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 235–246. 62H10

Ali, Mir Maswood (*with* Joarder, Anwarul H.) On the characteristic function of the multivariate t-distribution. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 1, 55–62. (Summary) **98f:62155** 62H05 (62H10)

— (*with* Joarder, Anwarul H.) Estimation of the scale matrix of a multivariate t-model under entropy loss. (English summary) *Metrika* **46** (1997), *no.* 1, 21–32. (Summary) **98k:62096** 62H12

Ali, Mohamad Hasan (*with* Zelmanowitz, Julius M.) Discrete implies continuous. (English summary) *J. Algebra* **183** (1996), *no.* 1, 186–192. (From the introduction) **98h:16043** 16S50 (16W80)

Ali, N. A. (*with* Yanchuk, S. V.) Rotary motions of autonomous systems with impulse action. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 591–596; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 654–660 (1998). (Summary) **98e:34018** 34A37 (34C15, 34C25)

Ali, Nasr Mostafa (*with* Kubiaczyk, Ireneusz) A multivalued fixed point theorems in non-Archimedean vector spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 111–115. (Summary) **98a:47063** 47H10 (47S10)

— (*with* Kubiaczyk, Ireneusz) On the convergence of the Ishikawa iterates to a common fixed point for a pair of multi-valued mappings. *Acta Math. Hungar.* **75** (1997), *no.* 3, 253–257. (B. E. Rhoades) **98b:47070** 47H10 (47H17, 54C60, 54H25)

— (*with* Kubiaczyk, Ireneusz) Fixed point theorems for weakly condensing and weakly compact maps. *Demonstratio Math.* **30** (1997), *no.* 1, 105–108. (Louis A. Talman) **98k:47112** 47H10 (47H09, 54H25)

Ali, Rosihan M. (*with* Abdullah, Aishah S.; Singh, Vikramaditya[1]) On functions starlike with respect to a boundary point. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 7–15. (Summary) **98g:30012** 30C45

Ali, S. Twareque (*with* Gazeau, Jean Pierre; Karim, Mohammed Rezaul) Frames, the β-duality in Minkowski space and spin coherent states. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5529–5549. (J.-P. Antoine) **98c:81092** 81R30 (22E70)

— *see also* **Quantizations, deformations and coherent states**, **98k:81005**

Ali, Sk. Jaker (*with* Chakraborty, N. D.) Analytic weak Radon-Nikodym property in Banach spaces. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 213–225. (Anatolij M. Plichko) **98f:46013** 46B22 (46G10)

ahmed-Ali, Tarek *see* **Ahmed-Ali, Tarek**

Ali, Zulfikar (*with* Shinohara, Yoshitane; Imai, Hitoshi; Sakaguchi, Hideo) Existence and uniqueness of quasi-periodic solutions to nonlinear ordinary differential equations with perturbation terms. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 179–187. (*see* **98j:65001**) 34C27

Aliabadi, M. Hosseini The PC-tau method on the solution of a model of an isolated cosmic string. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 153–158, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **98m:65008** 65–04

— (*with* Mellings, S. C.) Boundary element formulations for sensitivity analysis and crack identification. (English summary) *Boundary integral formulations for inverse analysis*, 93–117, *Adv. Bound. Elem. Ser., Comput. Mech., Southampton*, 1997. (*see* **98g:65006**) 73V10

— (*with* Ortiz, E. L.) Numerical treatment of moving and free boundary value problems with the tau method. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 53–61. (Summary) **98m:65204** 65N35

— *see also* **Contact mechanics**, **98h:73001**

Alías, Luis J. (*with* Romero, Alfonso; Sánchez, Miguel) Spacelike hypersurfaces of constant mean curvature and Calabi-Bernstein type problems. (English summary) *Tôhoku Math. J. (2)* **49** (1997), *no.* 3, 337–345. (Francisco J. M. Estudillo) **98g:53105** 53C42 (35J60, 53C50)

— (*with* Estudillo, Francisco J. M.; Romero, Alfonso) Spacelike submanifolds with parallel mean curvature in pseudo-Riemannian space forms. *Tsukuba J. Math.* **21** (1997), *no.* 1, 169–179. (Qing Ming Cheng) **98g:53106** 53C42 (53C40, 53C50)

Alibert, J.-J. (*with* Raymond, Jean-Pierre) Boundary control of semilinear elliptic equations with discontinuous leading coefficients and unbounded controls. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 235–250. (Fredi Tröltzsch) **98e:49053** 49K20 (35J65, 93C20)

Al-Ibrahim, M. (*with* Bataineh, S.) Load management in loosely coupled multiprocessor systems. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 107–116. 65Y05 (90B12)

Alić, Mladen (*with* Mond, Bertram; Pečarić, Josip E.; Volenec, Vladimir) The arithmetic-geometric-harmonic-mean and related matrix inequalities. (English summary) *Linear Algebra Appl.* **264** (1997), 55–62. (Yao Zhang) **98e:15024** 15A45

— Linear matrix inequalities. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 69–70. 15A45

— (*with* Bullen, P. S.; Pečarić, Josip E.; Volenec, Vladimir) On the geometric-arithmetic mean inequality for matrices. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 125–128. 15A45

Alidaee, Bahram (*with* Rosa, Duane) Scheduling parallel machines to minimize total weighted and unweighted tardiness. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 775–788. (Summary) **98e:90071** 90B35

— (*with* Conlon, Sumali) A note on the bicriterion scheduling problem involving total flowtime and range of lateness. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 2, 1–7. 90C35

Aliev, A. N. On the electromagnetic perturbations of a multiconical spacetime. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 27, 2171–2177. (Enric Verdaguer) **98b:83047** 83C50 (83C60)

— (*with* Hortaçsu, M.; Özdemir, N.) Vacuum fluctuations of a massless spin-$\frac{1}{2}$ field around multiple cosmic strings. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3215–3224. (Summary) **98i:83039** 83C47 (81T20)

Aliev, F. A. *see* **Aliev, Fikret Akhmadalioglu**

Aliev, Fakhraddin Abbasoglu (*with* Can, Mehmet; Park, Sang Ro) Nonexistence of global solutions of some quasilinear hyperbolic equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 540–553. (Hiroyuki Takamura) **98i:35123** 35L70 (35B40)

Aliev, Fikret Akhmadalioglu (*with* Guliev, A. P.; Abbasov, A. M.) Calculation algorithm of optimization problem two-point boundary conditions. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 441–446, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 49M30 (34H05)

— (*with* Ergün, Rahmiye) Decomposition of factorization problem of a polynomial matrix with a very small norm. (English and Turkish summaries) *İstanbul Tek. Üniv. Bül.* **48** (1995), *no.* 3-4, 365–383. (Summary) **98d:65053** 65F30

— (*with* Larin, Vladimir B.) Algorithm of J-spectral factorization of polynomial matrices. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2179–2182. 65F30 (93C05)

Aliev, I. V. On the basis property of a system of eigen- and associated functions for nonlocal boundary value problems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997),

no. 2, 243–252, i; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 203–212. (Summary) **98a:35099** 35P10 (46N20, 47F05)

Aliev, N. A. (*with* Jahanshahi, Mohammad) Sufficient conditions for reduction of the BVP including a mixed PDE with non-local boundary conditions to Fredholm integral equations. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 419–425. 35A25

Aliev, R. R. (*with* Tsyganov, I. M.; Ivanitskiĭ, G. R.) A "dissipative pulsar" in excitable media. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 699–703. (János Tóth) **98i:92014** 92C20 (92C05)

Aliev, V. S. (*with* Kononenko, A. F.) Some decision-making problems in two-person games with information aggregation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1163–1173. (Summary) **98f:90074** 90D05

Alieva, T. (*with* Agullo-Lopez, F.) Diffraction analysis of random fractal fields. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 3, 669–674. (Summary) **98k:78026** 78A45 (78A10)

Alikakos, Nicholas D. (*with* Fusco, Giorgio; Kowalczyk, Michał) Finite-dimensional dynamics and interfaces intersecting the boundary: equilibria and quasi-invariant manifold. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1119–1155. (Jean-Michel Rakotoson) **98b:35077** 35K55 (35B35, 35Q99)

Ali Mehmeti, Felix ★ Transient tunnel effect and Sommerfeld problem. (English summary) Waves in semi-infinite structures. Mathematical Research, 91. *Akademie Verlag, Berlin*, 1996. 210 *pp. ISBN* 3-05-501707-2 (Nakao Hayashi) **98a:35097** 35P05 (35L99, 35Q99, 47F05, 81V80)

— (*with* Nicaise, Serge) Nemytskij's operators and global existence of small solutions of semilinear evolution equations on nonsmooth domains. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1559–1588. (Sergiu Aizicovici) **98i:35121** 35L70 (34G20, 47H30, 47N20)

— (*with* Meister, Erhard; Mihalinčić, Krešo) Spectral theory for the wave equation in two adjacent wedges. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 12, 1015–1044. (Summary) **98d:35162** 35P05 (35L05, 47B25, 47F05, 47N20)

Alimohammadi, M. (*with* Mohseni Sadjadi, H.) Laughlin states on the Poincaré half-plane and their quantum group symmetry. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5551–5557. (Summary) **98a:81275** 81V70 (81R50, 82D55)

— (*with* Khorrami, Mohammad) n-point functions of 2d Yang-Mills theories on Riemann surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 1959–1965. (Ambar Sengupta) **98e:81151** 81T40 (58D30, 81T13)

— (*with* Aghamohammadi, A.; Khorrami, Mohammad) A pseudo-conformal representation of the Virasoro algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1349–1353. (Summary) **98b:81073** 81R10 (17B68)

— (*with* Khorrami, Mohammad) Observables of the generalized 2-D Yang-Mills theories on arbitrary surfaces: a path integral approach. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 30, 2265–2270. (Bogusław Broda) **98j:58025** 58D29 (81T13, 81T70)

— (*with* Khorrami, Mohammad) Green's functions of 2-dimensional Yang-Mills theories on nonorientable surfaces. (English summary) *Z. Phys. C* **76** (1997), *no.* 4, 729–731. 81T13

— (*with* Khorrami, Mohammad; Aghamohammadi, A.) Large-N limit of the generalized two-dimensional Yang-Mills theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 313–323. (Summary) **98k:81244** 81T40 (81T13)

Alimonti, Paola (*with* Kann, Viggo) Hardness of approximating problems on cubic graphs. (English summary) *Algorithms and complexity (Rome, 1997)*, 288–298, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98h:68105** 68Q25 (05C85, 68R10)

— (*with* Calamoneri, Tiziana) Improved approximations of independent dominating set in bounded degree graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 2–16, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68207** 68R10 (05C35, 05C85)

Ali Mousa, M. A. M. Empirical Bayes approach to gamma-Poisson model in life testing. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 67–82. 62N05 (62C12)

— (*with* Al-Hussaini, Essam K.; Sultan, Khalaf S.) Parametric and nonparametric estimation of $P(Y < X)$ for finite mixtures of lognormal components. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1269–1289. (Summary) **98e:62049** 62G05 (62F10)

— (*with* Jaheen, Zeinhum F.) Bayesian prediction for the Burr type XII model based on doubly censored data. (English summary) *Statistics* **29** (1997), *no.* 3, 285–294. (Summary) **98c:62183** 62N05 (62F15)

Alimov, M. M. (*with* Mukhamadullina, G. I.) Joining of two ice-rock bodies in plane flow through porous media. *Fluid Dynam.* **32** (1997), *no.* 4, 529–540 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 4, 75–88 (*Russian. Russian summary*). (Summary) **98m:86004** 86A05 (73Q05, 76S05, 86A40)

Alimov, Sh. A. (*with* Rakhimov, Abdumalik A.) On the localization of spectral expansions of distributions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 792–796, 862; *translation in Differential Equations* **32** (1996), *no.* 6, 798–802 (1997). (Georgi E. Karadzhov) **98a:47051** 47F05 (35P10, 46F10)

— (*with* Rakhimov, Abdumalik A.) On the localization of spectral expansions of distributions in a closed domain. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 80–82, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 80–82. (Summary) **98j:35128** 35P10 (47F05)

Alinhac, S. Explosion de solutions d'équations d'ondes quasi-linéaires en plusieurs dimensions d'espace. [Blow-up of solutions of quasilinear wave equations in several space dimensions] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. V*, 12 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 35L60 (35B05)

Aliprantis, Charalambos D. (*with* Abramovich, Yuri A.; Polyrakis, I. A.) Some remarks on surjective and bounded below operators. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 455–464. (R. W. Cross) **98b:47002** 47A05 (47A10)

— (*with* Border, Kim C.; Burkinshaw, Owen) Economies with many commodities. (English summary) *J. Econom. Theory* **74** (1997), *no.* 1, 62–105. (Jacques F. Bair) **98c:90031** 90A58

— On the Mas-Colell–Richard equilibrium theorem. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 414–424. (Andrzej Wieczorek) **98e:90040** 90A14 (90A15)

Alitauskas, Sigitas Canonical $u_q(3)$ tensor operators, their symmetries and distinction problem. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 392–396, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R50

— Towards the canonical tensor operators of $u_q(3)$. I. The maximal null space case. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5719–5746. (Summary) **98f:81117** 81R50 (17B37)

— Overlaps of the biorthogonal $u_q(3)$ coupling coefficients and related basic hypergeometric and other q-factorial series. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4615–4637. (A. U. Klimyk) **98h:33010** 33D80 (17B37, 81R50)

Alishahiha, Mohsen (*with* Abolhassani, M. R.; Ghezelbash, A. M.) The moduli space and monodromies of the $N = 2$ supersymmetric Yang-Mills theory with any Lie gauge groups. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 279–295. (Summary) **98b:81242** 81T60 (14H45, 81T13)

— (*with* Ardalan, Farhad; Mansouri, Freydoon) The moduli space of the $N = 2$ supersymmetric G_2 Yang-Mills theory. (English summary) *Phys. Lett. B* **381** (1996), *no.* 4, 446–450. (Summary) **98b:81243** 81T60 (14H45, 81T13)

— On the Picard-Fuchs equations of the SW models. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 100–103. (Katsushi Ito) **98g:81198** 81T60 (14D05, 81T13)

— $N = (4, 4)$ 2D supersymmetric gauge theory and brane configuration. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 51–54. (Summary) **98m:81176** 81T60 (81T13, 81T30)

Ali Shaikh, Absos (*with* De, U. C.) K-contact and Sasakian manifolds with conservative quasi-conformal curvature tensor. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 349–354. 53C15 (53C25)

Aliyev, Fahreddin *see* **Aliev, Fakhraddin Abbasoglu**

Alizade, R. (*with* Bilhan, G.; Pancar, Ali) On direct sums of proper classes. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 391–400. (Temple H. Fay) **98m:20070** 20K40

Alizadeh, Farid (*with* Haeberly, Jean-Pierre A.; Overton, Michael L.) Complementarity and nondegeneracy in semidefinite programming. (English summary) Semidefinite programming. *Math. Programming* **77** (1997), *no.* 2, *Ser. B*, 111–128. (Alexander Shapiro) **98h:90072** 90C30 (90C33)

Ali Ziane, Tarik (*with* Moulay, Mohamed Said) Régularité des solutions d'un problème d'évolution dégénéré en dimension N. (English, French and Arabic summaries) [Smoothness of the solutions of a degenerate evolution problem in dimension N] *Maghreb Math. Rev.* **3** (1994), *no.* 1, 89–96. (Gaston E. Hernandez) **98a:35064** 35K55 (35B65)

Alkahby, Hadi Yahya (*with* Mahrous, Mohamed A.; Vatsala, A. S.) Reflection and dissipation of acoustic waves in an isothermal atmosphere. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2 (Atlanta, GA, 1995)*, 45–52, *Dynamic, Atlanta, GA*, 1996. (Summary) **98a:85001** 85A20 (76N99, 76Q05)

— Acoustic-gravity waves in a viscous and thermally conducting isothermal atmosphere. III. For arbitrary Prandtl number. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 367–374. (Summary) **98c:86003** 86A10 (76N10, 76Q05)

— On viscous and resistive dissipation of Alfvén waves in an isothermal atmosphere. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 605–610. (Summary) **98d:85002** 85A20 (76W05)

— (*with* Vatsala, A. S.; Mahrous, Mohamed A.) Reaction diffusion equations and quadratic convergence. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 179–186. (Weihua Ruan) **98f:35078** 35K57 (35A35)

— (*with* Mahrous, Mohamed A.) On the reflection of Alfvén waves in an ideal magnetoatmosphere. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 381–386. (Summary) **98k:76145** 76W05 (85A30)

Al-Kandari, Noriah M. (*with* Jolliffe, Ian T.) Variable selection and interpretation in canonical correlation analysis. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 873–900. 62H25

Al-Kāshī, Ghiyāth al-Dīn Jamshīd Mas'ūd *see* **al-Kāshī, Ghiyāth al-Dīn Jamshīd Mas'ūd**

Al-Khamees, Yousif (*with* Mordeson, John N.) Fuzzy principal ideals and fuzzy simple field extensions. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 247–253. (Summary) **98m:13011** 13A99

Al-Kharsani, H. A. On certain integral operators defined on some classes of univalent functions. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 69–79. (Khalida Inayat Noor) **98k:30013** 30C45 (30C50)

— On a certain class of univalent functions with negative coefficients. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 305–321. (Herb Silverman) **98m:30012** 30C45

Al-Khwārizmī, Muḥammad ibn Mūsā *see* **al-Khwārizmī, Muḥammad ibn Mūsā**

Alkumru, A. (*with* Polat, B.) Multiple diffraction of a line source field by a three-part thin transmissive slab. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 183–195. (Summary) **98m:76138** 76Q05 (30E25, 45E10, 78A45)

abdel-All, N. H. *see* **Abdel-All, N. H.**

fath-Alla, M. A. *see* **Fath-Alla, M. A.**

abd-Alla, Mohamed Z. *see* **Abd-Alla, Mohamed Z.**

Allaart, Pieter C. An invariant-sum characterization of Benford's law. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 288–291. (Peter Schatte) **98d:60029** 60E05

Alladi, Krishnaswami Refinements of Rogers-Ramanujan type identities. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 1–35, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (David M. Bressoud) **98e:11122** 11P83 (05A15)

— Partition identities involving gaps and weights. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 5001–5019. (G. L. Alexanderson) **98c:05012** 05A17

— (*with* Andrews, George E.) A new key identity for Göllnitz' (big) partition theorem. (English summary) *Number theory (Tiruchirapalli, 1996)*, 229–241, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (David M. Bressoud) **98j:11079** 11P81 (05A17)

— *see also* **Symposium: Number Theory, 98i:11002**

abd-Allah, A. M. *see* **Abd-Allah, A. M.**

Allahverdi, Ali Scheduling in stochastic flowshops with independent setup, processing and removal times. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 10, 955–960. (Summary) **98i:90044** 90B35

Allahverdiev, B. P. *see* **Allakhverdiev, B. P.**

Allahverdiev, Bilender Paşaoğlu *see* **Allakhverdiev, B. P.**

Allaire, Grégoire Relaxation of structural optimization problems by homogenization. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 237–251, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 73K40 (49Q15, 73B27)

— (*with* Conca, Carlos) Bloch-wave homogenization for a spectral problem in fluid-solid structures. (English summary) *Arch. Rational Mech. Anal.* **135** (1996), *no.* 3, 197–257. (Gérard Michaille) **98a:35009** 35B27 (35J25, 73B27, 73K70)

— (*with* Mikelić, Andro) One-phase Newtonian flow. *Homogenization and porous media*, 45–76, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05

— Mathematical approaches and methods. *Homogenization and porous media*, 225–250, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05 (73B27)

— (*with* Zelmanse, Alain) Kinetic schemes for gas dynamics of real gases or two-phase mixtures. (English summary) *Numerical methods in mechanics (Concepción, 1995)*, 13–24, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Summary) **98i:76062** 76M25 (76M35, 76N10)

— The homogenization method for topology and shape optimization. (English summary) *Topology optimization in structural mechanics*, 101–133, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (Summary) **98j:73008** 73B27 (49Q10, 73K20, 73K40, 73V25)

— (*with* Malige, François) Analyse asymptotique spectrale d'un problème de diffusion neutronique. (English and French summaries) [Spectral asymptotic analysis of a neutronic diffusion problem] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 939–944. (Summary) **98f:82147** 82D75 (35B27, 35Q99)

— (*with* Bal, Guillaume) Homogénéisation d'une équation spectrale du transport neutronique. (English and French summaries) [Homogenization of a spectral equation in neutron transport] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1043–1048. (Summary) **98h:35016** 35B27 (45K05, 82D75)

— (*with* Bonnetier, Eric; Francfort, Gilles; Jouve, François) Shape optimization by the homogenization method. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 27–68. (Robert V. Kohn) **98a:73046** 73K40 (49Q15, 65K10, 73B27, 73V05, 73V25)

Allais, Maurice *see* **Markets, risk and money**, **98e:90006** *and* **de Montbrial, Thierry**, (**98e:90006**)

Allakhverdiev, B. P. (*with* Maksudov, F. G.) Spectral analysis of nonselfadjoint operator-valued functions with a continuous spectrum and point spectrum. (English and Turkish summaries) *Istanbul Tek. Üniv. Bül.* **49** (1996), *no.* 3-4, 203–215. (L. Rodman) **98h:47018** 47A56 (47A10, 47A70)

— (*with* Canoğlu, Ahmet) Spectral analysis of dissipative Schrödinger operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1113–1121. (Vladimir Ryzhov) **98m:47074** 47E05 (34L40, 47A40, 47A45)

Allakhverdyan, A. Ê. (*with* Saakyan, D. B.) Finite-volume corrections to magnetization in the spin-glass phase of the Derrida model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 422–426; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1574–1577 (1997). 82D30

Allakov, I. A. (*with* Israilov, M. I.) On the sum of the kth powers of natural numbers. (Russian) *Trudy Mat. Inst. Steklov.* **207** (1994), 172–179; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 6 (207), 155–161. (Don Redmond) **98b:11105** 11P05

Allali, K. (*with* Amahroq, T.) On openness and regularity of γ-paraconvex multifunctions. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 87–92. (S. Rolewicz) **98i:49028** 49K27 (47H04, 47N10, 90C48)

— (*with* Amahroq, T.) Second order approximations and primal and dual necessary optimality conditions. (English summary) *Optimization* **40** (1997), *no.* 3, 229–246. (Summary) **98d:90107** 90C30 (90C48)

Allam, A. A. On fuzzy continuity. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 189–196. (*see* **98a:53002**) 54A40 (04A72, 54C05)

Allan, Graham R. Stable inverse-limit sequences, with application to Fréchet algebras. (English summary) *Studia Math.* **121** (1996), *no.* 3, 277–308. (Marc Thomas) **98c:46099** 46J05 (46H05, 46M40)

— Power-bounded elements and radical Banach algebras. (English summary) *Linear operators (Warsaw, 1994)*, 9–16, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (H. G. Dales) **98c:46094** 46H35 (46J45, 47A99)

Allan, James A. Topological properties of generalized Wallman spaces and lattice relations. (English summary) *Internat. J. Math. Math. Sci.* **19** (1996), *no.* 4, 717–722. (Summary) **98f:28015** 28C15 (28A12, 54D60)

— Lattice repleteness and completeness in terms of abstract Wallman spaces. (English summary) *J. Math. Sci. (Calcutta)* **7** (1996), *no.* 2, 85–90. (Summary) **98i:28017** 28C15 (28A12, 54D60)

Allan, Nelo A brief history of polyhedra. (Portuguese. Portuguese summary) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics (Portuguese) (São Paulo, 1997)*, 301–311, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 52-03 (01A05)

Allanach, B. C. (*with* King, S. F.) Infra-red stable fixed points of Yukawa couplings in supersymmetric models. (English summary) *Phys. Lett. B* **407** (1997), *no.* 2, 124–130. (Summary) **98c:81211** 81T60 (81V22)

Allard, C. T. J. (*with* Smith, Jim Q.) Rationality, conditional independence and statistical models of competition. *Computational learning and probabilistic reasoning*, 237–258, *Wiley, Chichester*, 1996. (*see* **98h:68007**) 90D15 (62C99)

Al-Lawatia, Mohamed (*with* Wang, Hong[9]; Telyakovskiĭ, A. S.) Runge-Kutta characteristic methods for first-order linear hyperbolic equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 617–661. (Meng Zhao Qin) **98k:65054** 65M25 (65M20)

Allayla, R. (*with* Alassar, R. S.; Badr, H. M.; Al-Rabeh, A.) Unsteady viscous flow over prolate spheroids. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 53–65. 76D99

Allcock, Daniel Identifying models of the octave projective plane. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 215–217. (Markus Stroppel) **98e:51004** 51A35 (17C40)

Alleborn, Norbert (*with* Danov, Krassimir D.; Raszillier, Hans; Durst, Franz) The stability of evaporating thin liquid films in the presence of surfactant. I. Lubrication approximation and linear analysis. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 131–143. 76E99 (76D08)

Allegretto, W. (*with* Cannon, John R.; Lin, Yan Ping) A parabolic integro-differential equation arising from thermoelastic contact. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 217–234. (Song Jiang) **98a:35070** 35K60 (35B30, 45K05, 73B30, 73T05)

— (*with* Xie, Hong; Yang, Shi Xin) Properties of solutions for a chemotaxis system. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 949–966. (Summary) **98m:92014** 92C35 (35Q80)

Allen, B. *see* **Allen, Bruce**

Allen, Beth Cooperative theory with incomplete information. (English summary) *Cooperation: game-theoretic approaches (Stony Brook, NY, 1994)*, 51–65, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12

— Implementation theory with incomplete information. (English summary) *Cooperation: game-theoretic approaches (Stony Brook, NY, 1994)*, 115–126, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12 (90D10)

Allen, Bruce (*with* Caldwell, R. R.) Formation of kinks. *Nonlinear problems in relativity and cosmology (Gainesville, FL, 1990)*, 76–87, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83F05

Allen, D. H. (*with* Zocher, M. A.; Groves, S. E.) A three-dimensional finite element formulation for thermoviscoelastic orthotropic media. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 12, 2267–2288. (Summary) **98a:73058** 73V05 (73B30, 73B40, 73F25)

Allen, David L. Hypothesis testing using an L_1-distance bootstrap. (English summary) *Amer. Statist.* **51** (1997), *no.* 2, 145–150. (Summary) **98a:62053** 62G09 (62G10)

Allen, Edward E. Bitableaux bases for the diagonally invariant polynomial quotient rings. (English summary) *Adv. Math.* **130** (1997), *no.* 2, 242–260. (Joaquin O. Carbonara) **98k:05139** 05E05 (05E10, 16S32)

Allen, M. A. (*with* Rowlands, George) On the transverse instabilities of solitary waves. (English summary) *Phys. Lett. A* **235** (1997), *no.* 2, 145–146. 76B25 (76E99)

Allen, Myron B., III Mixed finite-element methods for the equations of flow in porous media. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 21–29, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 76M10 (65M60, 76S05)

— (*with* Isaacson, Eli L.) ★ Numerical analysis for applied science. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+492 *pp.* *ISBN* 0-471-55266-6 (Editors) **98k:65001** 65-01

Allen, Roland E. A statistical superfield and its observable consequences. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2385–2412. (Summary) **98e:81198** 81V22 (81T60)

Allen, Seth (*with* Dutta, Debasish) Supercyclides and blending. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 637–651. (Summary) **98c:65019** 65D17

— (*with* Dutta, Debasish) Results on nonsingular, cyclide transition surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 127–145. 65D17 (65Y25)

Allen, T. *see* **Allen, Thomas Wayne**

Allen, Thomas (*with* Moroz, Irene M.) Hopf-Hopf and Hopf-steady mode interactions with O(2) symmetry in Langmuir circulations. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 3-4, 243–278. (Summary) **98f:76033** 76E20 (58F40, 76E30, 76V05, 86A05)

Allen, Thomas Wayne (*with* Anastassiou, C.; Klink, W. H.) The quartic anharmonic oscillator and its associated nonconstant magnetic field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4887–4899. (Arlen Anderson) **98k:81036** 81Q05

Allenberg-Navony, Nechama (*with* Itai, Alon; Moran, Shlomo) Average and randomized complexity of distributed problems. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1254–1267. (Summary) **98g:68061** 68Q25 (68Q05, 68Q22)

Allender, Eric (*with* Strauss, Martin Joel) Measure on small complexity classes, with applications for BPP. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 807–818, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q15

— (*with* Strauss, Martin Joel) Measure on P: robustness of the notion. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 129–138, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q15

— (*with* Lange, Klaus-Jörn) $\mathrm{StUSPACE}(\log n) \subseteq \mathrm{DSPACE}(\log^2 n/\log\log n)$. (English summary) *Algorithms and computation (Osaka, 1996)*, 193–202, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:68082** 68Q15

— Circuit complexity before the dawn of the new millennium. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 1–18, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68083** 68Q15

— (*with* Ogihara, Mitsunori) Relationships among PL, #L, and the determinant. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 1, 1–21. (Summary) **98h:68081** 68Q15

— (*with* Balcázar, José L.; Immerman, Neil) A first-order isomorphism theorem. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 557–567. (Christine Charretton) **98a:68062** 68Q15 (03D15)

— *see also* **Conference: Structure in Complexity Theory**, **98c:68010**

Allevi, Elisabetta An application of the theory of ordered semigroups in the framework of decision theory. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 11–19 (1997). (Summary) **98m:90005** 90A05 (06F05)

— On monotonicity of nonlinear functions. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 25–40. (Yu. V. Trubnikov) **98b:26013** 26B30

Alley, Carroll O. The Yılmaz theory of gravity and its compatibility with quantum theory. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 464–475, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 83D05 (81P99, 81V17)

Allgower, Eugene L. (*with* Aston, Philip J.) Symmetry reductions for the numerical solution of boundary value problems. *The mathematics of numerical analysis (Park City, UT, 1995)*, 29–47, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (W. Govaerts) **98b:65054** 65H17 (65N22)

— (*with* Georg, Kurt) Numerical path following. *Handbook of numerical analysis, Vol. V*, 3–207, *Handb. Numer. Anal., V, North-Holland, Amsterdam*, 1997. (*see* **98i:65001**) 65Hxx

— (*with* Schwetlick, Hubert) A general view of minimally extended systems for simple bifurcation points. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 83–97. (Zheng You Zhu) **98c:65086** 65H17 (47H15)

Allgöwer, Frank (*with* Ashman, Jon; Ilchmann, Achim) High-gain adaptive λ-tracking for nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 881–888. (Summary) **98c:93047** 93B52 (93C90)

Alligood, Kathleen T. (*with* Sauer, Timothy D.; Yorke, James A.) ★ Chaos. An introduction to dynamical systems. Textbooks in Mathematical Sciences. *Springer-Verlag, New York*, 1997. xviii+603 *pp. ISBN* 0-387-94677-2 (Frederick R. Marotto) **98a:58113** 58F13 (58–01, 58F03, 58F12, 58F14, 58F15)

— (*with* Yorke, James A.) Rotation intervals for chaotic sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2805–2810. (Laura Gardini) **98k:58184** 58F22 (58F13)

Alling, Norman L. Continuous ultraproducts. (English summary) *Ordered algebraic structures (Curaçao*, 1995), 43–79, *Kluwer Acad. Publ., Dordrecht*, 1997. (Charles J. G. Morgan) **98h:03041** 03C20

Alliot, Frédéric (*with* Amrouche, Chérif) Problème de Stokes dans $\mathbf{R}^n$ et espaces de Sobolev avec poids. (English and French summaries) [Stokes problem in $\mathbf{R}^n$ and weighted Sobolev spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1247–1252. (Summary) **98j:35039** 35J15 (35Q30, 76D05, 76D07)

Allison, Bruce N. (*with* Berman, Stephen; Gao, Yun[1]; Pianzola, Arturo) A characterization of affine Kac-Moody Lie algebras. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 671–688. (Mirko Primc) **98h:17026** 17B67

Allison, Dean Lorentzian Clairaut submersions. (English summary) *Geom. Dedicata* **63** (1996), *no.* 3, 309–319. (Paul E. Ehrlich) **98c:53072** 53C50

Allison, Donald C. S. (*with* Sosonkina, Maria; Watson, Layne T.) Scalability of adaptive GMRES algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30

Allouba, Hassan (*with* Durrett, Richard; Hawkes, John; Perkins, Edwin) Super-tree random measures. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 773–794. (Xue Lei Zhao) **98m:60074** 60G57 (60J80)

Allouche, Jean-Paul (*with* Cateland, E.; Peitgen, Heinz-Otto; Skordev, Gencho; Shallit, Jeffrey O.) Automatic maps on a semiring with digits. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 663–677. (Summary) **98e:11027** 11B85 (16Y60)

— Note on the constructible sets of a topological space. *Papers on general topology and applications (Gorham, ME*, 1995), 1–10, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (From the introduction) **98a:54032** 54H05

— (*with* Berthé, Valérie) Triangle de Pascal, complexité et automates. [Pascal's triangle, complexity and automata] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 1–23. (Peter J. Grabner) **98a:11030** 11B85 (05A10, 68R15)

— A remark on Apéry's numbers. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 123–125. (F. Beukers) **98m:11007** 11A63 (11A07)

— Schrödinger operators with Rudin-Shapiro potentials are not palindromic. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1843–1848. (Jean-Michel Ghez) **98d:81014** 81Q10 (39A12, 47B39, 47N50)

— (*with* von Haeseler, F.; Peitgen, Heinz-Otto; Petersen, Antje; Skordev, Gencho) Automaticity of double sequences generated by one-dimensional linear cellular automata. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 195–209. (Katsushi Inoue) **98j:68116** 68Q80

— (*with* Cateland, E.; Gilbert, W. J.; Peitgen, Heinz-Otto; Shallit, Jeffrey O.; Skordev, Gencho) Automatic maps in exotic numeration systems. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 3, 285–331. (Véronique Bruyère) **98a:68114** 68Q45 (11B85)

Alm, Sven Erick On the distributions of scan statistics of a two-dimensional Poisson process. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 1–18. (J. Glaz) **98f:60089** 60G55 (60G70)

Al-Majrīṭī, Maslama *see* **al-Majrīṭī, Maslama**

d'Almeida, A. (*with* Cornille, H.) Criteria for inverted temperatures in evaporation-condensation processes. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5476–5495. (Carlo Cercignani) **98b:82067** 82C40 (76P05)

ozorio de Almeida, A. M. *see* **Ozorio de Almeida, A. M.**

Almeida, D. F. Semilinearity: a matter of identity and conjugation. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 393–396. (Summary) **98f:51019** 51F99

d'Almeida, Filomena D. (*with* Vasconcelos, Paulo B.) Preconditioned iterative methods for coupled discretizations of fluid flow problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 385–397. 65M50 (76M20)

Almeida, Jorge (*with* Weil, Pascal) Free profinite $\mathscr{R}$-trivial monoids. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 5, 625–671. (P. M. Higgins) **98i:20057** 20M05 (08A70, 20M07, 68Q70)

— *see also* **Semigroups, automata and languages**, **98f:00029**

de Almeida, Luís Manuel Lopes Neves (*with* Bethuel, Fabrice) Fonctionnelles de Ginzburg-Landau et espaces de configurations de particules positives et négatives. [Ginzburg-Landau functionals and configuration spaces of positive and negative particles] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. I*, 13 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 35Q55 (35J10, 58E20)

— (*with* Bethuel, Fabrice; Guo, Yan) A remark on the instability of symmetric vortices with large coupling constant. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1295–1300. (Spyridon Kamvissis) **98g:35184** 35Q55 (82D55)

Almeida, M. A. (*with* Santos, F. C.; Moreira, I. C.) Lie symmetries of quadratic two-dimensional difference equations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 2, 551–558. (F. Pempinelli) **98e:39001** 39A10 (58F07)

Almeida, P. (*with* Severino, R.; Sousa Ramos, J.) Symbolic dynamical systems and K-theory. (English summary) *Iteration theory (Batschuns*, 1992), 9–23, *World Sci. Publishing, River Edge, NJ*, 1996. (Yasuyuki Kawahigashi) **98g:46105** 46L80 (19K99, 46L55, 54H20, 58F03)

de Almeida, R. M. C. (*with* de Oliveira, P. M. C.; Penna, T. J. P.) Multineuron interaction effects. (English summary) *Annual reviews of computational physics, I*, 193–217, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82081** 82C32 (82C80)

Almeida, V. M. (*with* Rodríguez Expósito, José) An operational calculus for the operators $B_{\tau,\rho}$ and $R_{\tau,\rho}$. (English summary) *Pure Appl. Math. Sci.* **44** (1996), *no.* 1-2, 37–49. (Summary) **98m:44010** 44A40

Almeida Benítez, P. R. (*with* Franco Brañas, J. R.) The one-way dissection algorithm for regular meshes. (Spanish. Spanish summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 135–142. 65F30

Almeida Santos, M. H. (*with* Blyth, T. S.) On quasi-orthodox semigroups with inverse transversals. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 505–514. (R. J. Warne) **98k:20103** 20M17

Almenar, Pedro (*with* Jódar, Lucas) Numerical approximations with a priori error bounds for time dependent damped wave mixed problems. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 2, 178–200. (Muthusamy Vanninathan) **98j:65070** 65M99 (65D07)

— (*with* Jódar, Lucas; Martín Alustiza, J. A.) Mixed problems for the time-dependent telegraph equation: continuous numerical solutions with a priori error bounds. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 31–44. (Summary) **98d:65128** 65M99

Almendros-Jiménez, J. M. (*with* Gavilanes-Franco, Antonio; Gil-Luezas, A.) Algebraic semantics for functional logic programming with polymorphic order-sorted types. (English summary) *Algebraic and logic programming (Aachen*, 1996), 299–313, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68035** 68N15 (68Q55)

Almgren, Ann S. (*with* Bell, John B.; Colella, Phillip; Marthaler, Tyler) A Cartesian grid projection method for the incompressible Euler equations in complex geometries. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1289–1309. (Dennis C. Jespersen) **98d:76112** 76M20 (65M06, 76C05)

Almgren, Frederick J., Jr. *see* **Epstein, David B. A. et al.**; **Mackenzie, Dana** *and* **White, Brian Cabell**

Almgren, Robert (*with* Epstein, David B. A.; Lieb, Elliott H.; Taylor, Jean E.; Kusner, Robert B.; Morgan, Frank; Sullivan, John M.; Marden, Albert) In memoriam Frederick J. Almgren Jr., 1933–1997. *Experiment. Math.* **6** (1997), *no.* 1, 1–12. 01A70

Al Mikdad, Mazen (*with* Ibrahimbegović, Adnan) Finite rotations in dynamics of beams and implicit time-stepping schemes. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 781–814. (Summary) **98k:73067** 73V20 (73C50, 73K05)

Almiñana, Marc (*with* Pastor, Jesús T.) Two new heuristics for the location set covering problem. (English summary) *Top* **2** (1994), *no.* 2, 315–328. 90C09

— (*with* Borrás, F.; Pastor, Jesús T.) A hierarchical location model: biobjective programming vs FDH. (English summary) *Advances in multiple objective and goal programming (Torremolinos*, 1996), 347–355, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90B80 (90C29)

— (*with* Pastor, Jesús T.) A comparison of algorithm RS with algorithm OPTSOL70. (English summary) *Top* **5** (1997), *no.* 2, 213–219. 90C05 (90–04)

Almkvist, Gert Many correct digits of π, revisited. *Amer. Math. Monthly* **104** (1997), *no.* 4, 351–353. (Pavel Guerzhoy) **98a:11189** 11Y60

Al-Muhammadi, Sultan (*with* Al-Bassam, Sulaiman; Venkatesan, Ramachandran) New single asymmetric error-correcting codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1619–1623. (Summary) **98i:94042** 94B60

Al-Musallam, Fadhel (*with* Kalla, Shyam L.) Asymptotic expansions for generalized gamma and incomplete gamma functions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 173–187. (Summary) **98m:33003** 33B15

— (*with* Al-Zanaidi, M. A.; Grossmann, Ch.) A grid generator for problems on unbounded intervals with rationally decaying solutions. (English and German summaries) *Computing* **58** (1997), *no.* 2, 157–171. (Henning Esser) **98a:65097** 65L10

Al-Mutairi, Dhaifalla K. Multivariate failure models generated by random environments: a unified approach. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 2, 249–253. (S. N. Alam) **98e:62139** 62N05 (60K10, 62E15)

— Properties of an inverse Gaussian mixture of bivariate exponential distribution and its generalization. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 359–365. (Summary) **98b:62018** 62E15

Al-Mu'taman ibn Hūd, Yūsuf *see* **al-Mu'taman ibn Hūd, Yūsuf**

Al-Muthairi, Naser F. *see* **Choi, Han Ho**

Al-Nachawati, H. (*with* Hendi, M. M. I.) Shock models with NEXBRC properties. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 1, 1–14. (Summary) **98c:62191** 62N05

Alnasr, M. H. (*with* Ibrahim, M. A.-K.) Product θ-methods with the regularization technique for the high thermal loss problem. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 155–169. (Summary) **98i:65121** 65R20

Al'-Obeid, A. (*with* Pokornyĭ, Yu. V.; Pryadiev, V. L.) On the oscillation of the spectrum of a boundary value problem on a graph. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 468–470; *translation in Math. Notes* **60** (1996), *no.* 3-4, 351–353 (1997). (Zhaojun Liang) **98b:34033** 34B05 (34L05)

Al-Ohaly, A. A. (*with* El-Kady, M. A.) A rank-1 matrix formula applied to eigenvalue sensitivities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 321–333. 65F30

Aloliwi, Bader (*with* Khalil, Hassan K.) Robust adaptive output feedback control of nonlinear systems without persistence of excitation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2025–2032. (O. A. Sebakhy) **98k:93045** 93B52 (93C40, 93D21)

— (*with* Khalil, Hassan K.) Adaptive output feedback regulation of a class of nonlinear systems: convergence and robustness. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1714–1716. 93C40 (93C10)

Alon, Noga (*with* Frieze, Alan; Welsh, Dominic J. A.) Polynomial time randomised approximation schemes for the Tutte polynomial of dense graphs. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM*, 1994), 24–35, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (05C85, 68R10)

— (*with* Galil, Zvi; Yung, Moti) Efficient dynamic-resharing "verifiable secret sharing" against mobile adversary. (English summary) *Algorithms—ESA '95 (Corfu)*, 523–537, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Summary) **98m:94028** 94A60 (68P25)

— (*with* Csirik, János; Sevast'yanov, S. V.; Vestjens, Adrianus Petrus Antonius; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) *Algorithms—ESA '96 (Barcelona)*, 406–418, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98i:68120** 68Q25 (90C27)

— (*with* Srinivasan, Aravind) Improved parallel approximation of a class of integer programming problems. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 562–573, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. I. Yanev) **98j:90039** 90C10 (65Y05, 68Q25)

— (*with* Naor, Moni) Derandomization, witnesses for Boolean matrix multiplication and construction of perfect hash functions. (English summary) *Algorithmica* **16** (1996), *no.* 4-5, 434–449. (Summary) **98f:68119** 68Q25 (68Q20)

— (*with* Luby, Michael) A linear time erasure-resilient code with nearly optimal recovery. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1732–1736. (Bal Kishan Dass) **98i:94030** 94B05

— (*with* Yuster, Raphael) Threshold functions for H-factors [MR 94k:05149]. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993), 63–70, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70 (05C80)

— (*with* Srinivasan, Aravind) Improved parallel approximation of a class of integer programming problems. (English summary) *Algorithmica* **17** (1997), *no.* 4, 449–462. (Valentin E. Brimkov) **98b:90090** 90C10

— (*with* Ahlswede, Rudolf; Erdős, Péter L.; Ruszinkó, Miklós; Székely, László A.) Intersecting systems. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 127–137. (Miklós Bóna) **98c:05154** 05D05

— On the edge-expansion of graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 145–152. (Summary) **98c:05084** 05C35

— (*with* Krivelevich, Michael) The concentration of the chromatic number of random graphs. (English summary) *Combinatorica* **17** (1997), *no.* 3, 303–313. (J. Spencer) **98m:05173** 05C80 (05C15)

— Packings with large minimum kissing numbers. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 249–251. (Summary) **98f:05040** 05B40

— (*with* Ruszinkó, Miklós) Short certificates for tournaments. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 12, *approx.* 6 *pp.* (*electronic*). (Yubao Guo) **98e:05049** 05C20

— (*with* Kleitman, Daniel J.) A purely combinatorial proof of the Hadwiger Debrunner (p,q) conjecture. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 1, *approx.* 8 *pp.* (*electronic*). (John R. Reay) **98c:52009** 52A35

— (*with* Krivelevich, Michael) Constructive bounds for a Ramsey-type problem. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 217–225. (Ivan Pashov) **98h:05136** 05C55

— (*with* Kim, Jeong-Han; Spencer, Joel) Nearly perfect matchings in regular simple hypergraphs. (English summary) *Israel J. Math.* **100** (1997), 171–187. (Italo José Dejter) **98k:05112** 05C70 (05C65)

— (*with* Vũ, Văn H.) Anti-Hadamard matrices, coin weighing, threshold gates, and indecomposable hypergraphs. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 133–160. (R. J. Bumcrot) **98f:05010** 05A16 (05B20, 05C30, 05C65)

— (*with* Tarsi, Michael) A note on graph colorings and graph polynomials. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 1, 197–201. (E. J. Farrell) **98c:05055** 05C15

— (*with* Caro, Yair; Yuster, Raphael) Covering the edges of a graph by a prescribed tree with minimum overlap. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 144–161. (Gerard J. Chang) **98h:05146** 05C70 (05C05, 05C85)

— (*with* Galil, Zvi; Margalit, Oded) On the exponent of the all pairs shortest path problem. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 255–262. (Editors) **98c:68160** 68R10 (68Q25)

— (*with* Krivelevich, Michael; Sudakov, Benny) Subgraphs with a large cochromatic number. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 295–297. (Summary) **98d:05050** 05C15

— (*with* Kahale, Nabil) A spectral technique for coloring random 3-colorable graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1733–1748. (Zbigniew Palka) **98i:05066** 05C15 (05C80, 05C85, 68R10)

— (*with* Halperin, Eran) Bipartite subgraphs of integer weighted graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 19–29. (András Gyárfás) **98m:05094** 05C35

— (*with* Rödl, Vojtěch; Ruciński, Andrzej) Perfect matchings in ε-regular graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 13, 4 *pp.* (*electronic*). (Summary) **98k:05113** 05C70

méndez Alonso, Alfredo *see* **Méndez Alonso, Alfredo**

Alonso, Ana *see* **Alonso Rodríguez, Ana**

Alonso, Ana I. (*with* Obaya García, Rafael) Dynamical description of bidimensional linear systems with a measurable 2-sheet. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 154–175. (Russell A. Johnson) **98m:58077** 58F11 (34C10, 34C35, 34F05)

Alonso, Antonio A. (*with* Ydstie, B. Erik) Process systems and passivity via the Clausius-Planck inequality. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 253–264. (Summary) **98c:93103** 93E03 (93C20)

Alonso, Daniel (*with* Jain, Sudhir R.) Quantum chaos, random matrix theory, statistical mechanics in two dimensions, and the second law—a case study. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4993–5005. (Robert Alicki) **98m:81039** 81Q50 (82B41)

Alonso, F. J. (*with* Angulo Ibañez, J. M.; Bueso, M. C.) Application of EM-type algorithms to spatial data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 669–683. (A. D. Gordon) **98c:62105** 62H11 (62M10)

peral Alonso, Ireneo *see* **Peral Alonso, Ireneo**

Alonso, José Miguel Nonexistence of periodic solutions for a damped pendulum equation. *Differential Integral Equations* **10** (1997), *no.* 6, 1141–1148. (Alessandro Fonda) **98k:34066** 34C25 (34B15)

— (*with* Campos, Juan[2]) The index and the asymptotic stability of fixed points in two dimensions: a counterexample. *Nonlinear Anal.* **32** (1998), *no.* 6, 719–725. (Christian Fenske) **98k:58027** 58C30 (34C25, 47H11)

Alonso, Laurent (*with* Rémy, Jean-Luc; Schott, René) A linear-time algorithm for the generation of trees. (English summary) *Algorithmica* **17** (1997), *no.* 2, 162–182. (Maxime Crochemore) **98b:68150** 68R10 (05C85, 68Q25)

— (*with* Rémy, Jean-Luc; Schott, René) Uniform generation of a Schröder tree. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 6, 305–308. 68R05

— (*with* Reingold, Edward M.; Schott, René) The average-case complexity of determining the majority. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 1–14. (Linda Pagli) **98b:68067** 68Q25 (68P10)

martínez Alonso, Luis *see* **Martínez Alonso, Luis**

Alonso, M. E. *see* **Real algebraic and analytic geometry**, **98g:14002**

ramos Alonso, Pedro A. *see* **Ramos Alonso, Pedro A.**

hidalgo Alonso, Santiago *see* **Hidalgo Alonso, Santiago**

Alonso, Vidal (*with* De Vincenzo, Salvatore; Mondino, Luigi) On the boundary conditions for the Dirac equation. (English and Spanish summaries) *European J. Phys.* **18** (1997), *no.* 5, 315–320. 81Q05

Alonso Rodríguez, Ana (*with* Valli, Alberto) A domain decomposition approach for heterogeneous time-harmonic Maxwell equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 97–112. (B. Belinskiy) **98b:78020** 78A40 (65N55)

Alonso Sanz, Ramón Type problems in decision theory. (Spanish. English and Spanish summaries) *Qüestiió* (2) **21** (1997), *no.* 1-2, 321–357. 62C05

Alonso Tarrío, Leovigildo (*with* Jeremías López, Ana; Lipman, Joseph) Local homology and cohomology on schemes. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 1–39. (Gennady Lyubeznik) **98d:14028** 14F99 (14B15)

Alòs, Elisa (*with* Nualart, David) Anticipating stochastic Volterra equations. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 73–95. (Jorge A. León) **98j:60090** 60H20 (60H07)

Alouani, A. T. (*with* Lahdhiri, T.) Non-linear excitation control of a synchronous generator using robust feedback linearization. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 237–256. 93D15 (93B18)

Alouges, François (*with* Ghidaglia, J.-M.) Minimizing Oseen-Frank energy for nematic liquid crystals: algorithms and numerical results. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 4, 411–447. (Giandomenico Orlandi) **98k:58064** 58E20 (49Q20, 73C50, 73V25, 76A15, 76M30)

— (*with* Loreaux, Philippe) Massively parallel preconditioners for symmetric positive definite linear systems. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 361–375. (Jin Yun Yuan) **98c:65074** 65F35 (65F10, 65Y05)

— A new algorithm for computing liquid crystal stable configurations: the harmonic mapping case. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1708–1726. (Denis Serre) **98k:82190** 82D30 (65C20, 76A15, 76M25)

Alouini, Ilies (*with* Kirchner, Claude) Toward the concurrent implementation of computational systems. (English summary) *Algebraic and logic programming (Aachen*, 1996), 1–31, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q42 (68Q10, 68Q60)

Alpargu, Gülhan (*with* Styan, George P. H.) Some remarks and a bibliography on the Kantorovich inequality. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH*, 1996), 1–13, *VSP, Utrecht*, 1996. (Morris Newman) **98h:15033** 15A42 (15A45, 62J05)

— (*with* Watson, Geoffrey S.; Styan, George P. H.) Some comments on six inequalities associated with the inefficiency of ordinary least squares with one regressor. (English summary) *Linear Algebra Appl.* **264** (1997), 13–54. (R. Kala) **98i:15023** 15A45 (26D15, 62J05)

Alpaslan, Faruk On the minimization probability of loss in queue two heterogeneous channels. *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 21–25. 60K25

Alpatov, Philip (*with* Baker, Gregory R.; Edwards, Carter; Gunnels, John; Morrow, Greg; Overfelt, James; van de Geijn, Robert; Wu, Yuan-Jye J.) PLAPACK: parallel linear algebra package. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

— (*with* Reichl, L. E.; Kim, Sukkeun) The effect of symmetry breaking on stochastic processes. (English summary) *Quantum classical correspondence (Philadelphia, PA*, 1994), 357–365, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50 (81S20)

Alpay, Daniel (*with* Gohberg, Israel) A relationship between the Nehari and the Carathéodory-Toeplitz extension problems. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 249–272. (Hendrik S. V. de Snoo) **98c:47017** 47A57 (34L05)

— (*with* Gohberg, Israel) State space method for inverse spectral problems. *Systems and control in the twenty-first century (St. Louis, MO*, 1996), 1–16, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Sergei Treil) **98d:34113** 34L05 (34A55, 34L25, 47A57, 47B35, 93B28)

— (*with* Bolotnikov, Vladimir; Loubaton, Philippe) Dissipative periodic systems and symmetric interpolation in Schur classes. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 5, 371–387. (Sergei Treil) **98f:47014** 47A57 (47N70, 93B30)

— (*with* Bolotnikov, Vladimir; Loubaton, Philippe) On a new positive extension problem for block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 247–287. (Adolf A. Nudelman) **98k:47008** 47A15 (15A57, 30E05)

Alpay, Ş. (*with* Turan, B.) On surjectivity of the Arens homomorphism. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 369–377. (Summary) **98m:46026** 46B42 (46H99, 47B60)

Alper, Joseph S. (*with* Bridger, Mark) Mathematics, models and Zeno's paradoxes. (English summary) A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 143–166. (Lawrence Sklar) **98c:03009** 03A05 (03E70, 03H05)

Alpers, Karsten Schwachdiskrete Bewegungsgruppen einer pseudoeuklidischen Ebene. (English summary) [Weakly discrete motion groups of a pseudo-Euclidean plane] *J. Geom.* **59** (1997), *no.* 1-2, 1–14. (Frieder Knüppel) **98g:51014** 51N25

Alpert, Charles J. (*with* Kahng, Andrew B.) Splitting an ordering into a partition to minimize diameter. (English summary) *J. Classification* **14** (1997), *no.* 1, 51–74.

(Summary) **98c:62116** 62H30

Alpert, P. (*with* Heifetz, E.; da Silva, Arlindo Moraes) On the parcel method and the baroclinic wedge of instability. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 5, 788–795. 86A10 (76E20)

Alpin, J. (*with* Mubarakzianow, R.) The bases of weighted graphs. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 1–11. (S. I. Gendler) **98g:05079** 05C38

Al'pin, Yu. A. Sharpening of Frobenius bounds for the Perron root of a nonnegative matrix. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 131–138. (K. Veselić) **98h:15015** 15A18 (15A48, 65F15)

Al-Rabeh, A. (*with* Alassar, R. S.; Badr, H. M.; Allayla, R.) Unsteady viscous flow over prolate spheroids. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 53–65. 76D99

Al-Rawwash, Hussein (*with* Abu-Dayyeh, Walid) On the LRT for the multidimensional exponential family under restricted alternative space. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 69–72. 62F03

Al-Rewili, Y. A. (*with* Abd-Allah, A. M.) Topologies for groups of transformation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 113–124. 54H15 (54H11)

abu Al-Rub, Marwan S. *see* **Abu Al-Rub, Marwan S.**

Al-Ruwaili, Saleh B. (*with* Mavromatis, Harry A.) Quadratic spherical Bessel functions and the inverse scattering problem. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 10, 2207–2212. (Summary) **98b:33008** 33C10 (81U05)

Al-Sadi, M. H. (*with* Abouammoh, A. M.) On tests of new better than renewal used classes. (English summary) *Arab J. Math. Sci.* **2** (1996), *no.* 2, 99–120. (Ramesh C. Gupta) **98b:62176** 62N05

Al-Said, Eisa A. Spline solutions for system of second-order boundary-value problems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 143–154. (Summary) **98b:65089** 65L12 (49J40)

— (*with* Noor, Muhammad Aslam) Generalized nonlinear quasivariational inequalities. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 91–102. (Summary) **98b:49011** 49J40 (47H19, 90C20)

— (*with* Noor, Muhammad Aslam) Iterative methods for generalized nonlinear variational inequalities. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 1–11. (Erich Miersemann) **98e:49024** 49J40 (47H17, 47H19, 90C33)

— (*with* Noor, Muhammad Aslam) Generalized strongly nonliner variational inequalities. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 1, 61–70. (Summary) **98g:49009** 49J40 (90C33)

Al-Saleh, Mohammad F. (*with* Samawi, Hani M.; Woodworth, George G.) Two-sample importance resampling for the bootstrap. (English and Italian summaries) *Metron* **54** (1996), *no.* 3-4, 141–156 (1997). 62G09

— Estimating the mean of a normal population utilizing some available information: a Bayesian approach. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 1–7. (Summary) **98e:62043** 62F15 (62C15)

— A note on the Bayes estimator of the mean of a normal population. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 23–26. 62F15

— Bayesian treatment of extreme observations for heavy-tailed distribution. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 283–292. (Summary) **98g:62047** 62F15

Al Salkhadi, Sultan Asymptotic results for inadequate nonlinear models with heteroscedastic variances. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 229–239. (Summary) **98e:62094** 62J02

Al-Saqabi, Bader N. (*with* Vũ Kim Tuấn) Solution of a fractional differintegral equation. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 321–326. (Summary) **98k:45008** 45J05 (26A33)

— (*with* Kiryakova, Virginia S.) Solutions of Erdelyi-Kober fractional integral, differential and differintegral equations of second kind. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 27–30. (K. S. Miller) **98i:26010** 26A33 (34A25)

— (*with* Kiryakova, Virginia S.) Transmutation method for solving Erdélyi-Kober fractional differintegral equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 347–364. (Summary) **98c:34102** 34K05 (26A33, 45D05, 45J05, 45P05)

Alsardary, Salar Y. The induced path number of the hypercube. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 5–18. (Summary) **98i:05104** 05C38

— (*with* Ali, Ali A.) New edge neighborhood graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 501–504. (B. Zelinka) **98h:05155** 05C75

Alsedà, Lluis (*with* Guaschi, J.; Los, Jérôme E.; Mañosas, Francesc; Mumbrú, P.) Patterns of tree maps. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 1–11, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98k:58078** 58F03 (58F08)

— (*with* Mañosas, Francesc) Kneading theory for a family of circle maps with one discontinuity. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 1, 11–22. (José Miguel Moreno) **98c:58047** 58F03 (34C35, 54C70, 54H20)

— (*with* Falcó, A.) A characterization of the kneading pair for bimodal degree one circle maps. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 273–304. (Feliks Przytycki) **98h:58055** 58F03

— Dynamical systems: the mathematics of Professor W. Szlenk. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 7–16. 58F13 (34C35)

— (*with* Baldwin, Stewart; Llibre, Jaume; Misiurewicz, Michał) Entropy of transitive tree maps. (English summary) *Topology* **36** (1997), *no.* 2, 519–532. (Summary) **98f:54031** 54H20

Al-Semari, Saud A. (*with* Fuja, Thomas E.) I-Q TCM: reliable communication over the Rayleigh fading channel close to the cutoff rate. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 250–262. 94B12

Al-Shibani, A. M. (*with* Khedr, F. H.; Noiri, Takashi) On δ continuity in bitopological spaces. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 57–63. (*see* **98g:00017**) 54E55

Alshits, V. I. (*with* Chadwick, Peter) Concavities on the zonal slowness section of a transversely isotropic elastic material. (English summary) *Wave Motion* **25** (1997), *no.* 4, 347–359. (Summary) **98d:73027** 73D15 (73B40)

Al-Shuaibi, Abdulaziz A regularization method for approximating the inverse Laplace transform. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 1, 58–65. (Summary) **98i:65117** 65R10 (44A10, 65R30)

— On the spectral measure of the Laplace transform operator. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 1, 87–97. (Hans-Jürgen Glaeske) **98d:44001** 44A10 (47B25, 47B38)

— On the inversion of the Laplace transform by the use of a regularized displacement operator. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1153–1160. (Summary) **98h:65060** 65R10 (44A10)

— The Riemann zeta function used in the inversion of the Laplace transform. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 1–7. (Summary) **98m:44001** 44A10 (11M06, 65R10)

Alsina, Claudi (*with* Schweizer, Berthold; Sklar, Abe) Continuity properties of probabilistic norms. *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 446–452. (Xi Lin) **98c:46167** 46S50

— (*with* Schweizer, Berthold; Sempi, Carlo; Sklar, Abe) On the definition of a probabilistic inner product space. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 1, 115–127. (Xi Lin) **98j:46085** 46S50 (46C05)

Al-Sliavany, H. K. On vertical rivulets. (English summary) *Leet. Mat.* **16** (1995), *no.* 2, 177–186. (John Harper) **98h:76034** 76D45 (76D07)

Alspach, Dale E. Operators on $C(\omega^n)$ which do not preserve $C(\omega^n)$. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 81–98. (Summary) **98c:46016** 46B20 (46E25)

van Alstine, Peter *see* **Van Alstine, Peter**

Alstrøm, Preben (*with* Schröder, Elsebeth) Velocity correlations in weakly turbulent surface waves. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7329–7331. 76F20

Alstrup, Stephen (*with* Thorup, Mikkel) Optimal pointer algorithms for finding nearest common ancestors in dynamic trees. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 212–222, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68062** 68Q25 (68P05, 68P10)

— (*with* Holm, Jacob; de Lichtenberg, Kristian; Thorup, Mikkel) Minimizing diameters of dynamic trees. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 270–280, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68197** 68R10 (68P05, 68Q20)

— (*with* Secher, Jens Peter; Spork, Maz) Optimal on-line decremental connectivity in trees. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 161–164. 68P05 (68Q20)

Al-Sultan, K. S. (*with* Hussain, M. F.) A hybrid genetic algorithm for nonconvex function minimization. (English summary) *J. Global Optim.* **11** (1997), *no.* 3, 313–324. (Chae Y. Lee) **98k:90081** 90C26 (90C30)

Alsuwaiyel, Muhammad H. Two algorithms for the sum of diameters problem and a related problem. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 493–508. (Summary) **98d:68198** 68U05 (52B55)

Alt, Helmut (*with* Fuchs, Ulrich; Rote, Günter; Weber, Gerald) Matching convex shapes with respect to the symmetric difference. (English summary) *Algorithms—ESA '96* (*Barcelona*), 320–333, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68243** 68U05 (52B55)

— (*with* Aichholzer, Oswin; Rote, Günter) Matching shapes with a reference point. (English summary) Tenth Annual ACM Symposium on Computational Geometry (Stony Brook, NY, 1994). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 4, 349–363. (Hans-Dietrich Hecker) **98h:68219** 68U05

— (*with* Godau, Michael; Whitesides, Sue) Universal 3-dimensional visibility representations for graphs. (English summary) *Comput. Geom.* **9** (1998), *no.* 1-2, 111–125. (Summary) **98j:68159** 68U05 (05C85, 68R10)

Alt, Walter Discretization and mesh-independence of Newton's method for generalized equations. (English summary) *Mathematical programming with data perturbations*, 1–30, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (J. Frédéric Bonnans) **98j:49041** 49M25 (65K10, 90C31)

Altaisky, M. V. p-adic wavelet decomposition vs Fourier analysis on spheres. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 197–205. (Summary) **98b:42056** 42C99

Altas, Irfan (*with* Manohar, Ram P.; Stephenson, John W.) Adaptive grid generation and multigrid method for some elliptic problems. (English summary) *J. Math. Sci.* (*Calcutta*) **4** (1993), *no.* 1, 1–21. 65N55 (65N50)

— (*with* Stephenson, John W.; Sun, Jiawu) Triangular collocation elements of order two and three. (English summary) *J. Math. Sci.* (*Calcutta*) **4** (1993), *no.* 1, 27–38. 65N30 (65D30)

— (*with* Dym, Jonathan; Gupta, Murli M.; Manohar, Ram P.) Multigrid solution of automatically generated high-order discretizations for the biharmonic equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1575–1585 (*electronic*). 65N55 (65N06, 76D07, 76M20)

aşkar Altay, G. *see* **Aşkar Altay, G.**

van Alten, C. J. *see* **Van Alten, C. J.**

Alten, Heinz-Wilhelm *see* **Wußing, Hans, 98g:01004**

Altenkirch, Thorsten (*with* Hofmann, Martin; Streicher, Thomas) Categorical reconstruction of a reduction free normalization proof. *Category theory and computer science* (*Cambridge*, 1995), 182–199, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (*see* **98c:68008**) 03F05 (03B40, 68N15)

— (*with* Hofmann, Martin; Streicher, Thomas) Reduction-free normalisation for a polymorphic system. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 98–106, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40, 03B70, 68Q15)

Al Thani, Nada M. Pure Baer injective modules. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 529–538. (Nan Qing Ding) **98f:16004** 16D50 (13C11)

— A note on the pure radical of a module. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 111–118. (Edmund R. Puczyłowski) **98k:16001** 16D10

Altın, A. *see* **Altın, Ayşe**

Altın, Abdullah (*with* Kaya, Meryem) The extension of Bateman theorem for an ultrahyperbolic equation. (English summary) *Bull. Calcutta Math. Soc.* **87** (1995), *no.* 6, 581–588. (Editors) **98a:35092** 35L80 (35C05, 35C10, 35L99)

— (*with* Young, Eutiquio C.) Homogeneous solutions for a class of singular partial differential equations. *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 67–73 (1997). 35C10 (35J99, 35L99, 35M10)

— (*with* Kaya, Meryem) Some extensions of Brill's theorem. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 57–66. (Summary) **98m:35110** 35K65 (35M10)
— (*with* Young, Eutiquio C.) Extensions of Kelvin inversion theorem. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 71–82. 35C05
Altın, Ayşe The pitch and the angle of pitch of a closed ruled surface of dimension $(k+1)$ in E^n. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 77–90. (O. Giering) **98f:53006** 53A07 (53A25)
Altınel, İ. Kuban (*with* Oommen, John; Aras, Necati) Vector quantization for arbitrary distance function estimation. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 439–451. 90B80 (90B06)
Altınel, Tuna (*with* Borovik, A. V.; Cherlin, Gregory L.) Groups of mixed type. *J. Algebra* **192** (1997), *no.* 2, 524–571. (O. V. Belegradek) **98d:03047** 03C60 (03C45, 20A15, 20D05)
Altintaş, Ayhan (*with* Nosich, A. I.; Yurchenko, Vladimir B.) Numerically exact analysis of a two-dimensional variable-resistivity reflector fed by a complex-point source. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1592–1601. 78A50 (78–08)
Altman, Anna Higher order primal-dual interior point method for separable convex quadratic optimization. (English summary) *Control Cybernet.* **25** (1996), *no.* 4, 761–772. (Thomas F. Coleman) **98c:90083** 90C20
Altman, C. (*with* Suchy, Kurt) Reciprocity and mode scattering symmetries in a compressible magnetoplasma with anisotropic pressure. (English summary) *Wave Motion* **27** (1998), *no.* 3, 279–288. (Summary) **98m:78027** 78A50 (76X05)
Altman, Eitan Non–zero-sum stochastic games in admission, service and routing control in queueing systems. (English summary) *Queueing Systems Theory Appl.* **23** (1996), *no.* 1-4, 259–279. (Summary) **98k:93110** 93E05 (60K25, 90B22)
— (*with* Hordijk, Arie) Applications of Borovkov's renovation theory to non-stationary stochastic recursive sequences and their control. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 388–413. (Vladimir V. Kalashnikov) **98j:60062** 60G35 (60K25, 93E20)
— (*with* Hordijk, Arie; Spieksma, Flos M.) Contraction conditions for average and α-discount optimality in countable state Markov games with unbounded rewards. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 588–618. (L. C. Thomas) **98k:90157** 90D15 (90B22, 90C40)
— (*with* Gaĭtsgori, V. G.) Asymptotic optimization of a nonlinear hybrid system governed by a Markov decision process. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2070–2085. (O. L. V. Costa) **98j:90095** 90C40 (49J15, 93E20)
— (*with* Tidball, Mabel M.; Pourtallier, Odile) Approximations in dynamic zero-sum games. II. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2101–2117. (Summary) **98k:90144** 90D05 (93E05)
Altman, Naomi (*with* Léger, Christian) On the optimality of prediction-based selection criteria and the convergence rates of estimators. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 205–216. (Lin-Cheng Zhao) **98i:62018** 62F12 (62G20)
Altmann, Klaus The versal deformation of an isolated toric Gorenstein singularity. (English summary) *Invent. Math.* **128** (1997), *no.* 3, 443–479. (Dimitrios I. Dais) **98g:14006** 14B07 (14M25)
— Infinitesimal deformations and obstructions for toric singularities. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 211–235. (Aleksandr G. Aleksandrov) **98j:14008** 14D15 (14B07, 14M25, 32S30, 52B20)
Altomare, Francesco On some sequences of positive linear operators on unbounded intervals. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 1–16, *Transilvania, Cluj-Napoca*, 1997. (Gianluca Vinti) **98k:41040** 41A36 (35K20, 47D06)
— (*with* Carbone, Ingrid) On some degenerate differential operators on weighted function spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 308–333. (Miroslav Lvovich Gorbachuk) **98i:47036** 47D06 (41A36, 46E99, 47A58, 47N20)
— (*with* Attalienti, Antonio) Forward diffusion equations and positive operators. *Math. Z.* **225** (1997), *no.* 2, 211–229. (P. L. Butzer) **98i:41029** 41A35 (35K99, 47D06)
Altschüler, Daniel Representations of knot groups and Vassiliev invariants. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 4, 421–425. (Summary) **98c:57001** 57M25
Altshuler, B. L. (*with* Boyarsky, A. M.; Neronov, A. Yu.) The problem of classical limit in quantum cosmology: the effective action language. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 869–884. (Michael B. Mensky) **98i:83028** 83C45 (81S40)
— (*with* Andreev, A. V.; Simons, B. D.; Agam, O.) Semiclassical field theory approach to quantum chaos. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 536–566. (Summary) **98f:81073** 81Q50
Alur, Rajeev (*with* Henzinger, Thomas A.) Reactive modules. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 207–218, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q60)
— (*with* McMillan, Ken; Peled, Doron A.) Model-checking of correctness conditions for concurrent objects. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 219–228, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q60)
— (*with* Taşıran, Serdar; Kurshan, Robert P.; Brayton, Robert K.) Verifying abstractions of timed systems. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 546–562, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68180** 68Q60
— (*with* Henzinger, Thomas A.) Modularity for timed and hybrid systems. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 74–88, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)
martín Alustiza, J. A. *see* **Martín Alustiza, J. A.**
Alvarado, Fernando L. Matrix enlarging methods and their application. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 473–505. (*see* **98f:65005**) 65F20
Alvarado, Matías A posteriori knowledge: from ambiguous knowledge and undefined information to knowledge. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 9–17, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B45)
peraza Alvarez, Americo *see* **Peraza Alvarez, Americo**
Alvarez, Catalina (*with* Mann, Robert B.) Local position invariance and vacuum energy shifts. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 200–203, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C99
Alvarez, E. *see* **Álvarez, Enrique**
garcia-Alvarez, Edgardo T. *see* **Garcia-Alvarez, Edgardo T.**
Álvarez, Enrique (*with* Barbón, J. L. F.; Borlaf González, Javier) T-duality for open strings. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 218–242. (Yolanda Lozano) **98b:81168** 81T30
— (*with* Kubyshin, Yu. A.) Is the string coupling constant invariant under T-duality? (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 44–51. (Summary) **98j:81240** 81T30
— (*with* Borlaf González, Javier; León, José H.) T-duality without quantum corrections. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 97–100. (Summary) **98a:81149** 81T30
Alvarez, Gabriel (*with* Guil Guerrero, F.) Representation of the Hubbard model in the Clifford algebra. (English summary) *Nuclear Phys. B* **458** (1996), *no.* 3, 609–622. (Summary) **98a:82019** 82B20 (15A66)
sánchez de Alvarez, Gloria *see* **Sánchez de Alvarez, Gloria**
Alvarez, J. C. *see* **Álvarez Paiva, Juan Carlos**
Alvarez, Ja. *see* **Álvarez-Gallegos, Jaime**
Alvarez, Joaquin (*with* Curiel, Esteban; Verduzco, Fernando) Complex dynamics in classical control systems. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 277–285. (*see* **98e:93002**) 34H05 (58F13, 93C10)
— (*with* Zazueta, Salvador) An internal-model controller for a class of single-input single-output nonlinear systems: stability and robustness. (English summary) *Dynam. Control* **8** (1998), *no.* 2, 123–144. (Summary) **98m:93047** 93B52 (93C10, 93D09)
Alvarez, Lilliam *see* **Álvarez Díaz, Lilliam**
Alvarez, Luis *see* **Álvarez León, Luis**
Alvarez, Luis H. R. Exit strategies and price uncertainty: a Greenian approach. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 43–56. 90A40 (90A11)
Alvarez, Marcos (*with* Labastida, J. M. F.) Vassiliev invariants for torus knots. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 6, 779–803. (Taizo Kanenobu) **98a:57007** 57M25
— (*with* Labastida, J. M. F.) Primitive Vassiliev invariants and factorization in Chern-Simons perturbation theory. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 641–654. (Răzvan Gelca) **98m:58138** 58G18 (57M25, 57R57, 81T13, 81T18)
Alvarez, Olivier (*with* Lasry, J. M.; Lions, Pierre-Louis) Convex viscosity solutions and state constraints. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 265–288. (Katsuyuki Ishii) **98k:35045** 35J60 (35D10, 49L25)
macías Alvarez, Sergio *see* **Macías Alvarez, Sergio**
Alvarez, T. Factorization of unbounded weakly compact operators. (English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 107–112. (R. W. Cross) **98j:47046** 47B07 (47A68)
Álvarez Díaz, Lilliam (*with* Rodríguez Santiesteban, Antonio R.; Sanchez, Ignacio) A numerical technique to solve linear and non-linear singularly perturbed problems. *Numerical methods in mechanics* (*Concepción*, 1995), 25–34, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (*see* **98g:65009**) 65L08 (34A45, 34E15)
Álvarez-Dios, José A. (*with* Viaño Rey, Juan M.) Mathematical modelling of linear elastic shallow arches. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 217–226, *Univ. Lleida, Lleida*, 199?. (Summary) **98m:73056** 73K05
— (*with* Viaño Rey, Juan M.) A bending and stretching asymptotic theory for general elastic shallow arches. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 145–152 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98i:73028** 73K05 (35Q72, 73C02)
Álvarez-Estrada, Ramón F. (*with* Sánchez-Gómez, José Luis) Short time behavior and Zeno effect in relativistic quantum field theory. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 11–16, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81T99
Álvarez-Gallegos, Jaime (*with* Silva-Navarro, Gerardo) Sign and stability of equilibria in quasi-monotone positive nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 403–407. (Ziad Zahreddine) **98d:93074** 93D10 (93C10)
— (*with* Velasco-Villa, M.; Castro-Linares, Rafael) Disturbance decoupling for time delay systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 847–864. (Jerzy Klamka) **98g:93026** 93C30 (93D05)
— (*with* Silva-Navarro, Gerardo) Two-time scale sliding-mode control for a class of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 865–879. (V. A. Sobolev) **98h:93004** 93B12 (93C10, 93D15)
Álvarez-Gaumé, Luis (*with* Mariño, Marcos) Softly broken $N = 2$ QCD. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 187–217, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Massimo Di Pierro) **98k:81159** 81T13 (81R40, 81T16, 81T60)
— (*with* Mariño, Marcos) More on softly broken $N = 2$ QCD. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 5, 975–1002. (Angel Maria Uranga) **98a:81211** 81T60 (81R40, 81T13, 81V05)
Álvarez León, Luis (*with* Esclarín, Julio) Image quantization using reaction-diffusion equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 153–175. (L. Hsiao) **98d:35106** 35K57 (49J40, 65M99, 94A12)
Álvarez López, Jesús A. On the first secondary invariant of Molino's central sheaf. (English summary) *Ann. Polon. Math.* **64** (1996), *no.* 3, 253–265. (James J. Hebda) **98a:53041** 53C12 (57R30)
Álvarez-Nodarse, R. (*with* García, Antonio G.; Marcellán, Francisco) On the properties for modifications of classical orthogonal polynomials of discrete variables. (English summary) Proceedings of the International Conference on Orthogonality, Moment Problems and Continued Fractions (Delft, 1994). *J. Comput. Appl. Math.* **65** (1995), *no.* 1-3, 3–18. (T. S. Chihara) **98b:33018** 33C45
— (*with* Smirnov, Yu. F.) The q-analogue of the dual Hahn polynomials: its connection with $SU_q(2)$ and $SU_q(1,1)$ q-algebras. (English summary) *Proceedings of the IV Wigner*

Symposium (*Guadalajara*, 1995), 429–434, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:33029** 33D45 (81R50)

— (*with* Ronveaux, André) Recurrence relations for connection coefficients between Q-orthogonal polynomials of discrete variables in the non-uniform lattice $x(s) = q^{2s}$. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7165–7175. (Summary) **98b:33035** 33D45

— *see also* **Workshop: Orthogonal Polynomials in Mathematical Physics, 98b:33001**

Álvarez Paiva, Juan Carlos (*with* Gel′fand, Izrail′ Moiseevich; Smirnov, Mikhail M.) Crofton densities, symplectic geometry and Hilbert's fourth problem. (English summary) *The Arnold-Gelfand mathematical seminars*, 77–92, *Birkhäuser Boston, Boston, MA*, 1997. (Eric Grinberg) **98a:52005** 52A22 (53C65, 58F05)

— Total mean curvature and closed geodesics. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 373–377. (Karl Friedrich Siburg) **98d:53057** 53C22 (53A05)

Álvarez-Ramírez, José (*with* Suárez, Rodolfo; Sznaier, M.; Ibarra-Valdez, C.) $\mathscr{L}^2$-disturbance attenuation for linear systems with bounded controls: an ARE-based approach. *Control of uncertain systems with bounded inputs*, 25–38, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Valery I. Korobov) **98k:93037** 93B36 (93D15)

— (*with* Solis-Daun, Julio; Femat, Ricardo) A note on bounded-input feedback global stabilization of robot manipulators. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 115–119. 93C85 (70B15, 70Q05, 93D15)

— (*with* Aguirre, Baltazar; Fernández Anaya, Guillermo; Suárez, Rodolfo) First harmonic analysis of linear control systems with high-gain saturating feedback. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2501–2510. 93C05 (93C80)

— (*with* Suárez, Rodolfo; Solis-Daun, Julio) Linear systems with bounded inputs: global stabilization with eigenvalue placement. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 835–845. (Summary) **98g:93039** 93D15 (93B55)

— (*with* Femat, Ricardo) Synchronization of a class of strictly different chaotic oscillators. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 307–313. 58F13 (70K50, 93C99)

Alvarez-Vázquez, Lino J. (*with* Rodríguez-Rodríguez, A. R.; Viaño Rey, Juan M.) Quelques modèles asymptotiques pour les poutres purement encastrées. (English and French summaries) [Asymptotic modeling of genuinely clamped beams] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1425–1430. (D. Ieşan) **98e:73073** 73K05 (73C02, 73V25)

— (*with* Viaño Rey, Juan M.) Modeling and optimization of non-symmetric plates. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 6, 733–763. (Alexander G. Kolpakov) **98k:73040** 73K10 (49Q10, 73K40)

Alves, C. O. (*with* Gonçalves, José Valdo Abreu; Maia, L. A.) On quasilinear elliptic equations in $\mathbf{R}^N$. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 407–415. (Summary) **98h:35058** 35J60

— Multiple positive solutions for equations involving critical Sobolev exponent in $\mathbf{R}^N$. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 13, 10 *pp.* (*electronic*). (Yong Qing Li) **98i:35047** 35J60 (35B05, 35B32, 35J20)

Alves, Carlos J. S. (*with* Ha-Duong, Tuong) On inverse scattering by screens. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1161–1176. (Yongzhi Xu) **98i:35202** 35R30 (35J05, 76M25, 76Q05)

Alves, D. (*with* Fontanari, J. F.) Error threshold in the evolution of diploid organisms. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2601–2607. (Summary) **98g:92004** 92D15

Alves, E. H. (*with* D'Ottaviano, I. M. L.; Carnielli, W. A.) The centre for logic in Campinas and the development of logic in Brazil. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 15–29. (*see* **98k:03006**) 03–03 (01A72)

Alves, José L. D. (*with* Martins, Marcos A. D.; Coutinho, Alvaro L. G. A.) Parallel iterative solution of finite element systems of equations employing edge-based data structures. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30 (65N30)

Alves, M. K. (*with* Kikuchi, Noboru) Damage theory applied to the analysis of composite materials subjected to a loss of adherence between its constituents. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 1, 53–69. (Summary) **98m:73067** 73K20 (73T05, 73V05, 73V15)

Alvino, Angelo (*with* Ferone, Vincenzo; Trombetti, Guido; Lions, Pierre-Louis) Convex symmetrization and applications. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 275–293. (Andrzej Swiech) **98d:35068** 35J65 (35B05, 49Q20)

Alviti, E. (*with* Johnson, E. G.; Kulkarni, R. B.; Nazareth, J. L.; Stone, J. C.) A pavement network optimization system using Dantzig-Wolfe decomposition. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 1–16, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)

Alvo, Mayer (*with* Charbonneau, Martin) The use of Spearman's footrule in testing for trend when the data are incomplete. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 193–213. (Edgar Brunner) **98a:62056** 62G10 (62G20)

— (*with* Pan, Jianhong) A general theory of hypothesis testing based on rankings. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 219–248. (Edgar Brunner) **98m:62135** 62G10 (62G20, 62H15, 62H20)

Al-Wali, A. A. (*with* Evans, David J.) A comparison of the computational complexities of the stride reduction methods. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 307–320. (Summary) **98b:65151** 65Y20 (65F10)

Alwash, M. A. M. Limit cycles in a disease transmission model. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 1, 85–92. (Miklós Farkas) **98h:92019** 92C60 (34C05, 34C23)

Alwis, Pradeep Asymptotic morphisms on contact manifolds and index theory. (English summary) *Cyclic cohomology and noncommutative geometry* (*Waterloo, ON*, 1995), 1–16, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Boris A. Plamenevsky) **98i:58228** 58G15 (46L99, 58G10)

de Alwis, S. P. Anomaly cancellation in M-theory. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 332–334. (Summary) **98b:81169** 81T30 (83E30)

— A note on brane creation. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 49–52. 81T30 (83E30)

— (*with* Sato, Ken) Radiation from a class of string-theoretic black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6181–6188. (Summary) **98c:83053** 83C57 (81T30, 83E30)

de Alwis, Tilak Families of plane curves with a constant arc length. (English summary) *Innovation in mathematics* (*Roraniemi*, 1997), 37–44, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 65D17 (65–04)

Aly, Emad-Eldin A. A. (*with* BuHamra, Sana S.) Nonparametric change point tests in two way repeated measures designs. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 1–10. 62G10 (62K99)

— (*with* Kochar, Subhash C.) Change point tests based on U-statistics with applications in reliability. (English summary) *Metrika* **45** (1997), *no.* 3, 259–269. (Yanhong Wu) **98g:62081** 62G10 (62G20, 62N05)

Aly, H. M. (*with* Abdel-Ghaly, A. A.; Attia, A. F.) Estimation of the parameters of Pareto distribution and the reliability function using accelerated life testing with censoring. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 469–484. 62N05

Alzaid, Abdulhamid A. Generalized IFR and IFRA classes of life distributions. (English summary) *Pārisankhyan Samikkha* **2** (1995), *no.* 1, 19–24. 62N05

Al-Zaid, Hassan (*with* Singh, Surjeet) Cyclically invariant sets of recurring sequences over a vector space. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 83–91. (Philip A. Leonard) **98h:11161** 11T99 (15A33, 94A99)

Al-Zamel, Ali (*with* Kalla, Shyam L.) Solution of a diffusion of dust problem in terms of hypergeometric functions. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 87–93. 76R50 (33C90)

Al-Zanaidi, M. A. (*with* Chawla, M. M.; Evans, David J.) A class of generalized trapezoidal formulas for the numerical integration of $y' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 131–142. (Summary) **98d:65094** 65L06

— (*with* Chawla, M. M.; Boabbas, W. M.) Extended two-step P-stable methods for periodic initial-value problems. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 4, 505–520. (H. Brunner) **98c:65118** 65L06 (65L20)

— (*with* Al-Musallam, Fadhel; Grossmann, Ch.) A grid generator for problems on unbounded intervals with rationally decaying solutions. (English and German summaries) *Computing* **58** (1997), *no.* 2, 157–171. (Henning Esser) **98a:65097** 65L10

— (*with* Chawla, M. M.) New L-stable modified trapezoidal formulas for the numerical integration of $y' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 279–288. (Summary) **98c:65119** 65L06

— (*with* Chawla, M. M.) A two-stage fourth-order "almost" P-stable method for oscillatory problems. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 115–118. 65L05 (65L20)

Alzati, Alberto (*with* Bertolini, Marina; Besana, Gian Mario) Projective normality of varieties of small degree. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3761–3771. (Yoshiaki Fukuma) **98j:14053** 14J40 (14C20)

Alzer, Horst Note on Wirtinger's inequality. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 153–156, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Summary) **98d:26008** 26D10

— On Segre's theorem on asymmetric Diophantine approximation. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 195–203. (Christoph Baxa) **98j:11054** 11J70

— An Opial-type inequality involving higher-order derivatives of two functions. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 123–128. (B. G. Pachpatte) **98e:26018** 26D10 (34A40)

— On Bernstein's inequality for ultraspherical polynomials. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 487–490. (Andrea Laforgia) **98m:33017** 33C45 (26D05)

— An inequality for cosine polynomials. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 567–570. (Summary) **98a:42001** 42A05 (26D05)

— Some integral and discrete inequalities in several independent variables. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 97–104. (B. G. Pachpatte) **98m:26014** 26D15 (34A40)

— Comments on some inequalities of Pearce and Pečarić. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 167–174. (P. S. Bullen) **98a:26021** 26D15 (26A51)

— (*with* Brenner, J. L.; Ruehr, Otto G.) On Mathieu's inequality. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 607–610. (Summary) **98i:26023** 26D15

— On rational approximation to e. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 57–62. (P. Bundschuh) **98k:11106** 11J82 (11J70)

Alziary, Bénédicte (*with* Takáč, Peter) A pointwise lower bound for positive solutions of a Schrödinger equation in $\mathbf{R}^N$. (English summary) *J. Differential Equations* **133** (1997), *no.* 2, 280–295. (Vasiliy I. Sedenko) **98d:35039** 35J10 (35B05)

martin del Ama, Maria Victoria *see* **Martin del Ama, Maria Victoria**

Amable, Bruno Croissance et cycles endogènes induits par les innovations radicales et incrémentales. (English and French summaries) [Endogenous growth and cycles through radical and incremental innovation] *Ann. Économ. Statist.* **1996**, *no.* 44, 91–110. 90A16

Amadesi, S. (*with* Fioravanti, D.) A proof of the canonical Gibbs distribution. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 10, 1187–1194. (Peter Neu) **98a:82004** 82B05 (82B10)

Amadio, Roberto M. (*with* Leth, Lone; Thomsen, Bent) From a concurrent λ-calculus to the π-calculus. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 106–115, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68N15 (03B40, 68Q10)

— (*with* Castellani, Ilaria; Sangiorgi, Davide) On bisimulations for the asynchronous π-calculus. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 147–162, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q60)

— (*with* Castellani, Ilaria; Sangiorgi, Davide) On bisimulations for the asynchronous π-calculus. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 291–324. (Summary) **98m:68061** 68Q10 (03B70, 68Q55, 68Q60)

Amadori, Debora (*with* Colombo, Rinaldo M.) Continuous dependence for 2×2 conservation laws with boundary. *J. Differential Equations* **138** (1997), *no.* 2, 229–266. (Christophe Cheverry) **98g:35140** 35L65 (35B30)

Amahroq, T. (*with* Allali, K.) On openness and regularity of γ-paraconvex multifunctions. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 87–92. (S. Rolewicz) **98i:49028**

49K27 (47H04, 47N10, 90C48)

— (*with* Allali, K.) Second order approximations and primal and dual necessary optimality conditions. (English summary) *Optimization* **40** (1997), *no.* 3, 229–246. (Summary) **98d:90107** 90C30 (90C48)

— (*with* Taa, A.) On Lagrange-Kuhn-Tucker multipliers for multiobjective optimization problems. (English summary) *Optimization* **41** (1997), *no.* 2, 159–172. (Summary) **98b:90120** 90C29

— (*with* Taa, A.) Sufficient conditions of optimality for multiobjective optimization problems with γ-paraconvex data. (English summary) *Studia Math.* **124** (1997), *no.* 3, 239–247. (A. Göpfert) **98e:90132** 90C29 (90C48)

Aman, M. (*with* Aalto, J.) A patch recovery technique for Kirchhoff plates. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 30–34, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73V05 (73K10)

Amand, Pascal (*with* Virieux, Jean) Nonlinear inversion of seismic reflection data by simulated annealing. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 323–333, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 86A15

Amann, Anton Individual complex quantum objects and dynamics of decompositions. (English summary) *Time, temporality, now (Tegernsee, 1996)*, 267–277, *Springer, Berlin*, 1997. (*see* **98b:81013**) 81P99

— Quantum mechanics of single molecules. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 159–178. (Michael B. Mensky) **98i:81005** 81P05 (81P15)

Amann, Herbert (*with* Escher, Joachim) Strongly continuous dual semigroups. *Ann. Mat. Pura Appl.* (4) **171** (1996), 41–62. (El Maati Ouhabaz) **98c:47048** 47D06 (35J40, 47F05, 47N20)

— (*with* Helfrich, H.-P.; Scholz, Reinhard) Joachim A. Nitsche (1926–1996). (German) *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 2, 90–100. (Editors) **98g:01056** 01A70

— Operator-valued Fourier multipliers, vector-valued Besov spaces, and applications. (English summary) *Math. Nachr.* **186** (1997), 5–56. (Oscar Blasco) **98h:46033** 46E40 (46F10, 47B38, 47G10)

Amano, Kazuyuki (*with* Maruoka, Akira) Approximation models for monotone logical functions and quasicomplement functions. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 15–21. (*see* **98a:68008**) 68Q25 (03D15)

— (*with* Maruoka, Akira) Complexity of logic functions and their approximate calculation. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 199–206. (*see* **98k:68015**) 68Q15 (06E30)

— (*with* Maruoka, Akira) Approximation algorithms for DNF under distributions with limited independence. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 2, 181–196. (V. K. Bulitko) **98j:03055** 03D15 (03B05, 68Q15)

Amanzhaev, G. G. On discrete analogues of classes of functions defined by a modulus of continuity of the nth derivative. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 3–8, 103. (Summary) **98k:41031** 41A30 (65D15)

— An effective construction of a discrete analogue of functions with a bounded second derivative. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 18–22, 62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 18–22. (Summary) **98k:41026** 41A25 (26A24, 65D15, 65Y20)

Amar, Denise (*with* Brandt, Stephan; Brito, Daniel; Ordaz, Oscar) Neighborhood conditions for balanced independent sets in bipartite graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 31–36. (Summary) **98h:05111** 05C38 (05C45, 05C70)

Amar, Eric Outer ideals and division in $A^\infty(\Omega)$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 609–623 (1997). (T. Tonev) **98i:46049** 46J15 (32E25, 46H20)

ben Amar, M. *see* **Ben Amar, M.**

Amar, Zakaria Ould (*with* Notay, Yvan) A nearly optimal preconditioning based on recursive red-black orderings. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 369–391. (Jin Xi Zhao) **98i:65039** 65F35

Amaral, Elza Maria Alves de Sousa António A. R. Monteiro: a Portuguese mathematician in Brazil. (Portuguese. Portuguese summary) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics (Portuguese) (São Paulo, 1997)*, 123–133, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A70

Amaral, W. C. (*with* Campello, R. J. G. B.; Nazzetta, R. M.) A highly adaptive algorithm for fuzzy modelling of systems. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 35–50. 93A30 (93C42)

Amaral Souto, Hélio P. (*with* Moyne, Christian) Dispersion in two-dimensional periodic porous media. I. Hydrodynamics. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2243–2252. (Summary) **98f:76071** 76S05 (76M25)

— (*with* Moyne, Christian) Dispersion in two-dimensional periodic porous media. II. Dispersion tensor. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2253–2263. (Summary) **98f:76072** 76S05 (76M25)

Amaranath, T. (*with* Raja Sekhar, G. P.; Nigam, S. D.) Dirichlet problem for non-axisymmetric irrotational flows. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 423–427. (A. Elcrat) **98c:76019** 76B99 (76U05)

— (*with* Raja Sekhar, G. P.; Padmavathi, B. S.) Complete general solution of the Brinkman equations. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 555–556. 76S05 (35Q35, 76D07)

Amaratunga, Kevin (*with* Williams, John R.) A discrete wavelet transform without edge effects using wavelet extrapolation. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 435–449. (Summary) **98d:94002** 94A11 (42C15, 65T20, 94A12)

Amari, Shun-ichi Information geometry and manifolds of neutral networks. (English summary) *From statistical physics to statistical inference and back (Cargèse, 1992)*, 113–138, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 428, *Kluwer Acad. Publ., Dordrecht*, 1994. (*see* **98b:82002**) 62A99 (53B99, 62B10, 62F99)

— Information geometry. (English summary) *Geometry and nature (Madeira, 1995)*, 81–95, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (John W. Rice) **98d:62005** 62B10 (53C05, 62F99, 94A17)

Amasaki, Mutsumi Generators of graded modules associated with linear filter-regular sequences. (English summary) *J. Pure Appl. Algebra* **114** (1996), *no.* 1, 1–23. (Summary) **98g:13022** 13F20 (13D02)

— Basic sequences of homogeneous ideals in polynomial rings. *J. Algebra* **190** (1997), *no.* 2, 329–360. (Giorgio Bolondi) **98c:13029** 13F20

Amassad, Amina (*with* Sofonea, Mircea) Differential inclusions with applications to elastic contact problems. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 205–215, *Univ. Lleida, Lleida*, 1997. (Weimin Han) **98m:34122** 34G20 (34A60, 73T05)

— (*with* Rosca, Raluca Ioana; Sofonea, Mircea) Variational analysis of an elastic problem involving Tresca friction law. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 31–40. (Meir Shillor) **98g:73032** 73T05 (35Q72, 73V25)

— (*with* Sofonea, Mircea) Analysis of a quasistatic viscoplastic problem involving Tresca friction law. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 55–72. (Kenneth Kuttler) **98j:73042** 73E60 (49J40, 73T05, 73V25)

Amati, D. (*with* Russo, Jorge G.) Black holes by analytic continuation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 974–982. (Paulo Moniz) **98g:83052** 83C57 (81T20)

Amati, Giambattista (*with* Carlucci-Aiello, Luigia; Pirri, Fiora) Definability and commonsense reasoning. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 169–199. (G. Mirkowska) **98h:68210** 68T27 (03B45, 03B70)

— (*with* Carlucci-Aiello, Luigia; Pirri, Fiora) Intuitionistic autoepistemic logic. (English summary) *Studia Logica* **59** (1997), *no.* 1, 103–120. (Petr Jirků) **98m:03055** 03B60 (03B70)

gori nicolò-Amati, Laura *see* **Gori Nicolò-Amati, Laura**

Amato, Francesco[2] (*with* Corless, Martin; Mattei, Massimiliano; Setola, R.) A multivariable stability margin in the presence of time-varying, bounded rate gains. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 2, 127–143. (Zong Ji Chen) **98m:93085** 93D05 (93C35, 93C73, 93D09)

— (*with* Mattei, Massimiliano; Pironti, Alfredo) A robust stability problem for discrete-time systems subject to an uncertain parameter. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 521–523. 93D09 (93C55)

— (*with* Mattei, Massimiliano; Pironti, Alfredo) A note on quadratic stability of uncertain linear discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 227–229. (Summary) **98i:93057** 93D05 (93C55)

Amato, Roberto Solvability of the normal derivative problem for nonlinear nonvariational elliptic systems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 185–189. (Achilles Tertikas) **98f:35048** 35J65

el-Amawy, Ahmed *see* **El-Amawy, Ahmed**

Ambagaspitiya, R. S. (*with* Balakrishnan, Narayanaswamy) Classical classification procedure based on k dichotomous and one continuous variables. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 1–11. 62H30

Ambainis, Andris (*with* Freivalds, Rūsiņš) Transformations that preserve learnability. (English summary) *Algorithmic learning theory (Sydney, 1996)*, 299–311, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68232** 68T05 (68Q99)

— The complexity of probabilistic versus deterministic finite automata. (English summary) *Algorithms and computation (Osaka, 1996)*, 233–238, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q68 (68Q45, 68Q75)

— (*with* Freivalds, Rūsiņš; Smith, Carl H.) General inductive inference types based on linearly-ordered sets. (English summary) *STACS 96 (Grenoble, 1996)*, 243–253, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 03D20 (68Q99, 68T05)

— Upper bounds on multiparty communication complexity of shifts. (English summary) *STACS 96 (Grenoble, 1996)*, 631–642, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98i:68097** 68Q15 (68Q10, 68Q25)

— Communication complexity in a 3-computer model. (English summary) *Algorithmica* **16** (1996), *no.* 3, 298–301. (Juraj Hromkovič) **98a:68053** 68Q10 (68Q15, 68Q30, 94B05)

— Upper bound on the communication complexity of private information retrieval. (English summary) *Automata, languages and programming (Bologna, 1997)*, 401–407, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68P15

— (*with* Jain, Sanjay[1]; Sharma, Arun K.) Ordinal mind change complexity of language identification. (English summary) *Computational learning theory (Jerusalem, 1997)*, 301–315, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98j:68124** 68Q99 (03D05, 68T05)

— (*with* Freivalds, Rūsiņš; Karpinski, Marek) Weak and strong recognition by 2-way randomized automata. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 175–185, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68116** 68Q68

Ambartsumyan, E. N. (*with* Glushko, G. S.; Kryukov, I. A.) Determination of turbulent transfer coefficients in plane incompressible flows. *Fluid Dynam.* **32** (1997), *no.* 3, 387–393; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 3, 83–92 (*Russian. Russian summary*). (Summary) **98h:76062** 76F99 (76M35)

Amberg, Bernhard Products of groups and radical rings. *Proceedings of the First Jamaican Conference on Group Theory and its Applications (Kingston, 1996)*, 22–35, *Univ. West Indies, Kingston*, 1997. (Francesco de Giovanni) **98j:20037** 20F22

— (*with* Kazarin, Lev S.) On the rank of a finite product of two p-groups. *Groups—Korea '94 (Pusan)*, 1–8, *de Gruyter, Berlin*, 1995. (Czesław Bagiński) **98m:20023** 20D15

— (*with* Sysak, Yaroslav P.) Locally soluble products of two minimax subgroups. *Groups—Korea '94 (Pusan)*, 9–14, *de Gruyter, Berlin*, 1995. (Francesco de Giovanni) **98j:20036** 20F22

— Some results and problems about factorized groups. *Infinite groups 1994 (Ravello)*, 1–22, *de Gruyter, Berlin*, 1996. (*see* **98e:20004**) 20F19 (20D40)

Ambikkumar, S. (*with* Drury, S. W.) Some remarks on a conjecture of Boyle and Handelman. (English summary) *Linear Algebra Appl.* **264** (1997), 63–99. (Israel Koltracht) **98h:15036** 15A45 (15A48)

Ambjørn, Jan (*with* Harris, Martin Guy) Correlation functions in the multiple Ising model coupled to gravity. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 3, 575–601. (Summary) **98f:81303** 81T40 (81T10, 81T15, 82B20)

— (*with* Durhuus, Bergfinnur; Jonsson, Thordur) ★Quantum geometry. (English summary) A statistical field theory approach. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1997. xiv+363 *pp. ISBN* 0-521-46167-7 (E. J. Janse van Rensburg) **98i:82001** 82–02 (81T30, 82B41, 82B80, 83C45)

— (*with* Carfora, Mauro; Marzuoli, Annalisa) ★The geometry of dynamical triangulations. (English summary) Lecture Notes in Physics. New Series m: Monographs, 50.

Springer-Verlag, Berlin, 1997. viii+197 *pp.* *ISBN* 3-540-63330-8 (Francois Vanderseypen) **98i:83024** 83C27

— (*with* Watabiki, Y.) Noncritical string field theory for 2d quantum gravity coupled to (p,q)-conformal fields. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 23, 4257–4289. (Henrik Aratyn) **98e:81152** 81T40 (81R10, 81T30)

— (*with* Hayasaka, K.; Nakayama, Ryuichi) Non-critical open strings beyond the semiclassical approximation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 17, 1241–1266. (Kazuto Oshima) **98f:81231** 81T30 (81T40, 83E30)

— (*with* Anagnostopoulos, K. N.; Magnea, U.) Singularities of the partition function for the Ising model coupled to 2D quantum gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1605–1627. (Summary) **98g:82008** 82B20 (81T40, 82B80)

— (*with* Sasakura, Naoki; Espriu, Domènec) U(1) lattice gauge theory and $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2665–2681. (Summary) **98j:81235** 81T25 (81T60)

— (*with* Savvidy, G. K.; Savvidy, K. G.) Alternative actions for quantum gravity and intrinsic rigidity of space-time. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 390–412. (Francois Vanderseypen) **98d:83022** 83C27 (83C45)

— (*with* Anagnostopoulos, K. N.) Quantum geometry of 2D gravity coupled to unitary matter. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 445–475. (Summary) **98g:83028** 83C45 (81T40)

— (*with* Kristjansen, C. F.; Watabiki, Y.) The two-point function of $c = -2$ matter coupled to 2D quantum gravity. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 555–578. (From the text) **98k:81245** 81T40

— (*with* Anagnostopoulos, K. N.; Ichihara, T.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) Quantum geometry of topological gravity. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 177–184. (Summary) **98a:83037** 83C27 (83C45)

— (*with* Anagnostopoulos, K. N.; Ichihara, T.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) The quantum space-time of $c = -2$ gravity. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 673–710. 81T80 (81T40)

Ambos-Spies, Klaus On optimal polynomial time approximations: p-levelability vs. Δ-levelability (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 384–392, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q15 (03D15, 68Q25)

— (*with* Mayordomo, Elvira; Wang, Yongge; Zheng, Xizhong) Resource-bounded balanced genericity, stochasticity and weak randomness. (English summary) *STACS 96* (*Grenoble*, 1996), 63–74, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q15 (03D15, 68Q30)

— (*with* Neis, Hans-Christian; Terwijn, Sebastiaan A.) Genericity and measure for exponential time. (English summary) 19th International Symposium on Mathematical Foundations of Computer Science (Košice, 1994). *Theoret. Comput. Sci.* **168** (1996), *no.* 1, 3–19. (Rodney G. Downey) **98b:68053** 68Q15 (03D15, 68Q30)

— (*with* Mayordomo, Elvira) Resource-bounded measure and randomness. (English summary) *Complexity, logic, and recursion theory*, 1–47, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Marius Zimand) **98g:68069** 68Q30

Ambroladze, A. U. (*with* Wallin, Hans) Rational interpolants with prescribed poles, theory and practice. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 399–413. (Summary) **98m:41024** 41A20 (30E10)

— (*with* Wallin, Hans) Padé-type approximants of Markov and meromorphic functions. (English summary) *J. Approx. Theory* **88** (1997), *no.* 3, 354–369. (Annie A. M. Cuyt) **98m:41028** 41A21 (30E10)

— (*with* Wallin, Hans) Convergence of rational interpolants with preassigned poles. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 238–256. (Marc Van Barel) **98b:41014** 41A20 (30E05)

Ambrosetti, Antonio Global branches of positive solutions of nonlinear eigenvalue problems. *Progress in elliptic and parabolic partial differential equations* (*Capri*, 1994), 1–8, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (Editors) **98j:35019** 35B32 (35J65)

— (*with* Badiale, Marino; Cingolani, Silvia) Semiclassical states of nonlinear Schrödinger equations with bounded potentials. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 155–160. (Xian Guo Geng) **98e:35150** 35Q55 (81Q05)

— (*with* Badiale, Marino) Homoclinics: Poincaré-Melnikov type results via a variational approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 753–758. (Introduction) **98g:35026** 35B40 (34C37, 35Q55, 46N20, 58E05)

— (*with* Badiale, Marino; Cingolani, Silvia) Semiclassical states of nonlinear Schrödinger equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 285–300. (Nakao Hayashi) **98k:35172** 35Q55 (81Q05, 81Q20)

— (*with* Gámez, José L.) Branches of positive solutions for some semilinear Schrödinger equations. *Math. Z.* **224** (1997), *no.* 3, 347–362. (Elaine Machtyngier) **98b:35037** 35J10 (35B05, 35Q55)

— (*with* Tanaka, Kazunaga) On Keplerian N-body type problems. *Nonlinear analysis and continuum mechanics* (*Ferrara*, 1992), 15–25, *Springer, New York*, 1998. (Addolorata Salvatore) **98m:70018** 70F10 (34C25, 58E05, 58F22)

Ambrosi, D. (*with* Paglieri, L.; Formaggia, Luca; Quarteroni, Alfio; Scheinine, A. L.) Parallel computation for shallow water flow: a domain decomposition approach. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1261–1277. (*see* **98f:76004**) 76M10 (65M55, 65Y05, 76B15)

Ambrosimov, A. S. (*with* Timashëv, A. N.) On a randomized approach to the construction of tests for the equiprobability of outcomes of a multinomial scheme. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 43–51. (Summary) **98g:62035** 62F03

Ambrosio, Luigi (*with* Braides, Andréa) Energies in SBV and variational models in fracture mechanics. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 1–22, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Pablo Pedregal) **98g:73044** 73V25 (49J45, 73B27, 73C50, 73E99, 73M25)

— (*with* Pallara, Diego) Partial regularity of free discontinuity sets. I. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 1–38. (Martin Fuchs) **98j:49050** 49N60 (35J15, 49J10)

— (*with* Fusco, Nicola; Pallara, Diego) Partial regularity of free discontinuity sets. II. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 39–62. (Martin Fuchs) **98j:49051** 49N60 (35J15, 49J10)

— (*with* Coscia, Alessandra; Dal Maso, Gianni) Fine properties of functions with bounded deformation. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 201–238. (Erik J. Balder) **98m:49058** 49Q20 (26B30, 73G20)

socher-Ambrosius, Rolf *see* **Socher-Ambrosius, Rolf**

Ambrosovskiĭ, V. M. (*with* Barabanov, A. E.; Gul'chak, A. M.; Miroshnikov, A. N.) Synthesis of tracking systems by the uniform-frequency optimization method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 3–13; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 519–527. 93C80 (93B51)

Amdeberhan, Tewodros (*with* Ekhad, Shalosh B.) A condensed condensation proof of a determinant evaluation conjectured by Greg Kuperberg and Jim Propp. *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 169–170. (Thomas H. Foregger) **98b:15002** 15A15

— (*with* Zeleke, Melkamu) On injectivity of the combinatorial Radon transform of order five. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 251–255. (Robert John Clarke) **98f:05016** 05A99 (68R05)

Amdjadi, Faridon (*with* Aston, Philip J.) Numerical methods for steady state/Hopf mode interactions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 585–605. (Summary) **98c:65140** 65L99 (34C23, 35Q53, 58F14, 65M99)

— (*with* Aston, Philip J.) Detection of tertiary Hopf bifurcations arising from mode interactions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1691–1698. (Ian Melbourne) **98j:58078** 58F14 (34C23, 34C35)

— (*with* Aston, Philip J.; Plechác, Petr) Symmetry breaking Hopf bifurcations in equations with O(2) symmetry with application to the Kuramoto-Sivashinsky equation. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 1, 181–192. (Summary) **98a:80001** 80-08 (58F40, 76R50, 80A32)

— (*with* Gomatam, Jagannathan) Oscillating waves arising from O(2) symmetry. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 379–388. (Summary) **98e:58124** 58F14 (58F40)

— (*with* Gomatam, Jagannathan) Reaction-diffusion equations on a sphere: meandering of spiral waves. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3913–3919. 35K57 (65M06, 92C30)

Amein, N. K. (*with* Gardner, L. R. T.; Gardner, G. A.; Ayoub, F. A.) Approximations of solitary waves of the MRLW equation by B-spline finite elements. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 183–193. (Summary) **98h:76082** 76M10 (76B25)

Amelino-Camelia, Giovanni (*with* Bak, Dongsu; Seminara, D.) Area-preserving structure of massless matter-gravity fields in $1 + 1$ dimensions. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 239–244, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81T40

— (*with* Seminara, D.) Black hole radiation (with and) without Weyl anomaly. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 881–889. (Summary) **98f:83059** 83C57 (81T50)

— (*with* Rim, Chaiho) On the 3-anyon harmonics. (English summary) *Nuclear Phys. B* **473** (1996), *no.* 1-2, 405–425. (Guillermo Zemba) **98e:81203** 81V70

— (*with* Kogan, Ian I.; Szabo, Richard J.) Conformal dimensions from topologically massive quantum field theory. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 413–456. (Summary) **98j:81307** 81T40

— (*with* Kogan, Ian I.; Szabo, Richard J.) Gravitational dressing of Aharonov-Bohm amplitudes. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1043–1051. (Summary) **98i:81164** 81T20

— (*with* Mavromatos, Nick E.; Ellis, Jonathan Richard; Nanopoulos, D. V.) On the space-time uncertainty relations of Liouville strings and D-branes. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 27, 2029–2035. 81T30 (81P05)

— KPZ formulas for Weyl-invariant induced and topologically massive gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 276–279. (Summary) **98g:83079** 83C99

— Dimensionful deformations of Poincaré symmetries for a quantum gravity without ideal observers. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1319–1325. 83C45

— (*with* Mavromatos, Nick E.) T duality for boundary-non-critical strings. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 101–108. (Summary) **98m:81123** 81T30 (83E30)

Amelkin, Sergei A. (*with* Tsirlin, A. M.; Mironova, Valentina A.; Kazakov, Vladimir Aleksandrovich[1]) Finite-time thermodynamics: conditions of minimal dissipation for thermodynamic process with given rate. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 215–223. 80A10

Amel'kin, V. A. ★ Перечислительные задачи серийных последовательностей. (Russian. English and Russian summaries) [Enumerative problems of serial sequences] Препринт [Preprint], 1056. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1995. 42 *pp.* (Publisher's description) **98b:05002** 05A15

Amel'kin, V. V. An upper bound for the number of strict limit cycles of polynomial dynamical systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 44–45, 123. (Natalia Borisovna Medvedeva) **98m:34052** 34C05

— (*with* Zhavnerchik, V. É.) On the existence of periodic solutions of the Liénard equation. (Russian. English and Russian summaries) *Vestn. Belorruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 2, 36–41, 77. (Miklós Farkas) **98b:34055** 34C25

Amemiya, Takashi A stabilizing control for a class of uncertain delay systems with limited measurable state variables. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 235–262. (Jerzy Klamka) **98i:93072** 93D15 (93C30)

— (*with* Ma, Wan Biao; Adachi, Norihiko) On the delay independent stabilization of linear neutral systems with limited measurable state variables. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 601–619. (K. B. Datta) **98k:93097** 93D15 (34K35)

Amemiya, Yasuo On multivariate mixed model analysis. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 83–95, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15 (62F05, 62H05)

— (*with* Yalcin, Ilker) Model fitting procedures for nonlinear factor analysis using the errors-in-variables parameterization. (English summary) *Latent variable modeling and applications to causality* (*Los Angeles, CA*, 1994), 195–210, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62H25

— Generalization of the TLS approach in the errors-in-variables problem. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 77–86, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05
— (*with* Shin, Chungyeol) Algorithms for the likelihood-based estimation of the random coefficient model. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 189–199. (Rahul Mukerjee) **98c:62134** 62J10
Amendola, Luca (*with* Golda, Zdzisław A.; Litterio, Marco; Sokołowski, Leszek M.; Dyrek, Andrzej) Pure geometrical evolution of the multidimensional universe. (English summary) *Ann. Physics* **248** (1996), *no.* 2, 246–285. (Summary) **98c:83089** 83E15 (53C80)
Amengual, A. (*with* Montagne, R.; Hernández-García, E.; San Miguel, Maxi) Wound-up phase turbulence in the complex Ginzburg-Landau equation. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 151–167. (Summary) **98e:76050** 76F20 (76E30, 76F99)
Amer, M. A. *see* **Amer, Mustafa A.**
Amer, Mohamed A. Probability logic and measures on epimorphic images of coproducts of measurable spaces. (English summary) *Rep. Math. Logic No.* 28 (1994), 29–52 (1995). (D. J. Foulis) **98c:03055a** 03B48 (60B99)
— *see also* **Errata: "Probability logic and measures on epimorphic images of coproducts of measurable spaces", 98c:03055b**
Amer, Mustafa A. (*with* Abdel-Hamid, B. A.; Fausett, D.) Parallelization of the Kronecker product technique for solving rank deficient least-squares problems. (English and Arabic summaries) Conference on Parallel and Distributed Computing (Kuwait, 1995). *Kuwait J. Sci. Engrg.* **1996**, *Topical Issue No.* 1, 163–173. (Ming Kui Chen) **98a:65058** 65F35 (65F20, 65Y05)
— Iterative solutions of parameter-dependent nonlinear equations of Hammerstein type. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 123–129. (Summary) **98j:45008** 45L05 (45G10, 47H17)
— Iterative and approximate solutions of general parameter dependent nonlinear operator equations in Hilbert spaces. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 81–88. (Charles Ejike Chidume) **98m:47106** 47H17 (65J10)
— (*with* Abdel-Hamid, B. A.; Fausett, D.) Parallel implementation of the Kronecker product technique for numerical solution of parabolic partial differential equations. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 1997–2005. (Summary) **98b:65095** 65M06 (65Y05)
Amer, S. M. Investigation of nonlinear singular integral equations with Hilbert kernel by the method of mechanical quadrature. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **53** (1994), 81–88 (1996). (Introduction) **98a:65183** 65R20 (65D32)
— On the approximate solution of nonlinear singular integral equations with positive index. (English summary) *Internat. J. Math. Math. Sci.* **19** (1996), *no.* 2, 389–396. (K. S. Parihar) **98c:45006** 45G05 (45E05, 45L05, 65R20)
Ameri, R. A. (*with* Zahedi, M. M.) Fuzzy subhypermodules over fuzzy hyperrings. (English summary) *Algebraic hyperstructures and applications* (*Prague*, 1996), 1–14, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 16Y99 (04A72)
— (*with* Zahedi, M. M.) Fuzzy flat and faithfully flat R-modules. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 855–864. 16W99 (04A72)
Amerik, Ekaterina Maps onto certain Fano threefolds. (English summary) *Doc. Math.* **2** (1997), 195–211 (*electronic*). (Yuri G. Prokhorov) **98h:14049** 14J45 (14E20)
— On codimension-two subvarieties of hypersurfaces. *J. Reine Angew. Math.* **483** (1997), 61–73. (Marco Andreatta) **98a:14062** 14M07 (14M10)
Ames, Karen A. (*with* Cobb, Shannon S.) Continuous dependence on modeling for related Cauchy problems of a class of evolution equations. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 15–31. (Alan V. Lair) **98j:34117** 34G20 (35B30, 35K99)
— (*with* Payne, Lawrence E.) Continuous dependence results for a problem in penetrative convection. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 769–790. (José Luiz Boldrini) **98m:35170** 35Q35 (35B30, 76D05, 76R05)
— (*with* Epperson, James F.) A kernel-based method for the approximate solution of backward parabolic problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1357–1390. (Jacques Rappaz) **98g:65079** 65M12 (35A35, 35K99, 45L05)
— (*with* Payne, Lawrence E.) Continuous dependence results for an ill-posed problem in nonlinear viscoelasticity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 20–29. (Jaime E. Muñoz Rivera) **98d:73036** 73F15 (35Q72)
Amghibech, S. Inégalités isopérimétriques pour les graphes. (English and French summaries) [Isoperimetric inequalities for graphs] *Potential Anal.* **6** (1997), *no.* 4, 355–367. (Vadim A. Kaĭmanovich) **98i:31005** 31C15 (05C35)
Amici, Oriella (*with* Casciaro, Biagio; Francaviglia, Mauro) The second variation for non-linear gravitational Lagrangians. (English summary) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 263–285. (Jaime Muñoz Masqué) **98m:58024** 58E11 (53C50, 83C05)
— (*with* Casciaro, Biagio; Francaviglia, Mauro) Covariant second variation for first order Lagrangians on fibered manifolds. II. Generalized curvature and Bianchi identities. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 637–669. (Victor Tapia) **98d:58045** 58E30 (53C80)
Amidror, Isaac (*with* Hersch, Roger D.) Analysis of the superposition of periodic layers and their Moiré effects through the algebraic structure of their Fourier spectrum. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 99–130. (Summary) **98m:68284** 68U10
Amiet, J.-P. (*with* Jacquod, Ph.) On the convergence to ergodic behaviour of quantum wavefunctions. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2963–2974. (Summary) **98e:81091** 81S30 (82B41)
montesinos Amilibia, A. *see* **Montesinos Amilibia, A.**
montesinos-Amilibia, José Maria *see* **Montesinos-Amilibia, José Maria**
Amin, Ashok (*with* Clark, Lane H.; McSorley, John P.; Wang, Hui[3]; Zhang, Guo-Hui) A generalized coloring of graphs. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 49–63. (Richard C. Brewster) **98d:05051** 05C15
Amin, Khalid The Hajós n-property for p-groups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 1–12. 20K01 (20D60)
Amin, M. E. (*with* Danchev, D. M.; Brankov, I. G.) New surface critical exponents in the spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1387–1402. (Summary) **98f:82018** 82B20 (82B26, 82B27)
— (*with* Danchev, D. M.; Brankov, I. G.) Surface critical exponents for a three-dimensional modified spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5645–5656. 82B27 (82B24)
Amin, Mohamed A note on the incomparability of the E0L family with certain families of languages generated by cooperating grammar systems. (English summary) *New trends in formal languages*, 217–219, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q42 (68Q50)
Amin, Norsarahaida (*with* Yan, Baoshe; Riley, N.) High-Reynolds-number flow about a submerged circular cylinder induced by free-surface travelling waves on finite depth. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 1, 61–76. (Summary) **98i:76028** 76D33
Amin, S. A. (*with* Evans, David J.) Systolic algorithms for the solution of Toeplitz matrices. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 321–339. (Summary) **98m:65068** 65F30
Amin, S. M. (*with* Rodin, E. Y.; Wu, Alan Y.) Neurocontrol of nonlinear systems via local memory neurons. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 65–92. (Summary) **98k:93070** 93C83 (92B20, 93A30)
Amin, Wael A. (*with* Raqab, Mohammad Z.) A note on reliability properties of k-record statistics. (English summary) *Metrika* **46** (1997), *no.* 3, 245–251. (Summary) **98m:62287** 62N05 (62G30)
Amine, Kaidi (*with* L'Moufadal, Ben Yakoub; Malliavin, Marie-Paule) Caractérisation des automorphismes et des dérivations intérieurs des algèbres de division. (English summary) [Characterization of the inner automorphisms and derivations of division algebras] *Afrika Mat.* (3) **7** (1997), 3–11. (François Dumas) **98f:16022** 16W20 (12E15, 16W25)
el Amine, Khalid *see* **El Amine, Khalid**
Aminov, Yu. A. On embeddings of the Euclidean plane into E^4 with zero Gaussian torsion. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 380–391. (V. Oproiu) **98i:53009** 53A07
— Geometry of the Grassmannian image of a local isometric immersion of an n-dimensional Lobachevskiĭ space into a $(2n-1)$-dimensional Euclidean space. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 1, 3–28; *translation in Sb. Math.* **188** (1997), *no.* 1, 1–27. (Włodzimierz Jelonek) **98i:53083** 53C42
Aminova, Asya V. Group-invariant methods in the theory of projective mappings of space-time manifolds. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 90–100. (Gheorghe Zet) **98g:53049** 53C15 (53B10)
— Lie algebras of infinitesimal projective transformations of Lorentz manifolds. (Russian) *Uspekhi Mat. Nauk* **50** (1995), *no.* 1(301), 69–142. (O. Kowalski) **98a:53098** 53C50 (17B67, 53C22)
— (*with* Zorin, S. A.; Korchagin, P. A.) Geodesic structure of four-dimensional P. A. Shirokov spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 7, 3–17; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 7, 1–15. (Valery Marenich) **98c:53018** 53B20 (53B30, 53C22)
Aminpour, A. M. Semigroups and spaces of separately continuous functions associated with oids. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 13–19, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 54C35 (22A20, 54D80)
Amiot, Gilles Sur l'existence de modèles du second ordre non dénombrables avec domaine du premier ordre dénombrable. (English and French summaries) [On the existence of uncountable second-order models with countable first-order domain] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 959–962. (Summary) **98a:03055** 03C62
Amir, Amihood (*with* Dar, Emanuel) An improved deterministic algorithm for generalized random sampling. (English summary) *Algorithms and complexity* (*Rome*, 1997), 159–170, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98j:68045** 68Q25
— (*with* Apostolico, Alberto; Lewenstein, Moshe) Inverse pattern matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 325–339. (Summary) **98h:68097** 68Q20
— (*with* Benson, Gary; Farach-Colton, Martin) Optimal two-dimensional compressed matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 354–379. (Summary) **98d:68081** 68Q20 (68P99)
— (*with* Keselman, Dmitry) Maximum agreement subtree in a set of evolutionary trees: metrics and efficient algorithms. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1656–1669. (Summary) **98i:68109** 68Q20 (68Q25, 92D15)
Amir, B. (*with* Maniar, L.) Une méthode de la théorie d'extrapolation pour résoudre des équations différentielles à retard non homogènes. (English summary) [A method from extrapolation theory for solving nonhomogeneous delay differential equations] *Libertas Math.* **17** (1997), 133–142. (Ti Jun Xiao) **98m:34158** 34K30 (34K05, 47D06, 47N20)
Amir, Yair (*with* Wool, Avishai) Optimal availability quorum systems: theory and practice. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 223–228. (Summary) **98m:68062** 68Q10 (68M10, 68M15)
Amiran, Edoh Y. Integrable smooth planar billiards and evolutes. (English summary) *New York J. Math.* **3** (1997), 32–47 (*electronic*). (Summary) **98i:58184** 58F17 (58F27)
Amirat, Youcef (*with* Simon, Jacques) Riblets and drag minimization. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 9–17, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:76025** 76D05 (35Q30, 49Q15, 76G25)
Amiri, Ali (*with* Pirkul, Hasan) Routing in packet-switched communication networks with different criticality classes of communicating node pairs. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 485–505. (Summary) **98b:90053** 90B12 (68M10)
al-Amiri, Hassoon *see* **Al-Amiri, Hassoon**
Amirkhanov, I. V. (*with* Puzynin, Igor V.; Puzynina, T. P.; Strizh, T. A.; Zemlyanaya, E. V.) CANM in numerical investigation of QCD problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 9–16, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 81–04 (81V05)
Amir-Moez, Ali R. Quadratic norms and inner products. *Inner product spaces and applications*, 12–14, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (*see* **98i:00015**) 46C05
Amirov, A. Kh. Integral geometry and related inverse problems. (Russian) *Conditionally well-posed problems in mathematical physics and analysis* (*Russian*), 19–25, *Ross. Akad.*

Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1992. (V. K. Oganyan) **98g:53124** 53C65 (35R30)
— (*with* Yildiz, M.) Inverse problem for the equation $Lu \equiv x\Delta u + k(x,y)u_x = xf(x,y)$. *Proceedings of the 27th Annual Iranian Mathematics Conference (Shiraz, 1996)*, 13–20, *Shiraz Univ., Shiraz*, 1996. (Gottfried Anger) **98d:35232** 35R30 (35J70)
— (*with* Hacısalihoğlu, H. Hilmi) On the interrelations between metric and curvature in Riemannian space. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 3, 295–296. (Vladislav Goldberg) **98b:53005** 53A07
— (*with* Hacısalihoğlu, H. Hilmi) On the problem of the determination of a Riemannian metric. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 297–298. 53C20 (35J60)
Amitai, Dganit (*with* Averbuch, Amir; Israeli, Moshe) Asynchronous parallel solvers for hyperbolic conservation laws. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98b:65004**) 65R20 (65Y05)
Amitay, Michael (*with* Cohen, Jacob) Instability of a two-dimensional plane wall jet subjected to blowing or suction. (English summary) *J. Fluid Mech.* **344** (1997), 67–94. (Summary) **98d:76047** 76D25 (76–05, 76E99)
Amitsur, S. A. (*with* Agnarsson, Geir; Robson, J. C.) Recognition of matrix rings. II. (English summary) *Israel J. Math.* **96** (1996), *part A*, 1–13. (Lawrence S. Levy) **98b:16025** 16S50
Amman, Hans M. Numerical methods for linear-quadratic models. *Handbook of computational economics, Vol. I*, 587–618, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 49N10 (90A16, 93E20)
— *see also* **Handbook: Computational economics, 98b:90001**
Ammar, Elsaid Ebrahim Stability of multiobjective NLP problems with fuzzy parameters in the objectives and constraints functions. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 225–234. 90C29 (04A72, 90C70)
Ammar, G. S. *see* **Special Issue: Gragg, William B.**
Ammari, Habib (*with* Abboud, Toufic) Diffraction at a curved grating: TM and TE cases, homogenization. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 3, 995–1026. (John A. DeSanto) **98b:78027** 78A45 (35B27, 35J05)
— (*with* Abboud, Toufic) Diffraction at a curved grating: approximation by an infinite plane grating. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 3, 1076–1100. (John A. DeSanto) **98b:78028** 78A45 (35B27, 35J05)
— (*with* Nédélec, Jean-Claude) Time-harmonic electromagnetic fields in chiral media. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt, 1996)*, 174–202, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Tom Roberts) **98k:78027** 78A45 (35Q60)
— (*with* Kallel, Leila) Sur un problème inverse pour les équations de Maxwell dans un réseau doublement périodique. (English and French summaries) [An inverse scattering problem for the Maxwell equations in a doubly periodic grating] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 187–190. (Summary) **98b:78029** 78A45 (35Q60)
— (*with* Béreux, Natacha; Nédélec, Jean-Claude) Resonances for Maxwell's equations in a periodic structure. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 211–215. (Summary) **98g:78003** 78A25 (35Q60)
— (*with* Latiri-Grouz, Chiraz; Nédélec, Jean-Claude) Approximation de Leontovich pour les équations de Maxwell à coefficients variables: un problème de perturbation singulière. (English and French summaries) [Scattering of Maxwell's equations with a Leontovich boundary condition in an inhomogeneous medium: a singular perturbation problem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 677–681. (Summary) **98i:78013** 78A45 (35Q60)
— (*with* Nédélec, Jean-Claude) Propagation d'ondes électromagnétiques à basses fréquences. (English and French summaries) [Scattering of Maxwell's equations in an inhomogeneous medium at low frequencies] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 797–802. (Summary) **98j:78019** 78A40 (35Q60)
Ammar Khodja, Farid (*with* Benabdallah, Assia; Teniou, Djamal E.) Dynamical stabilizers and coupled systems. (English summary) *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 253–262 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Krystyn Styczeń) **98k:93091** 93D15 (34G10, 34H05, 47D06, 47N70, 93C20)
— (*with* Benabdallah, Assia; Teniou, Djamal E.) Sur la stabilisation d'un couplage ondes-advection. [Stabilization of a wave-advection coupling] *Portugal. Math.* **54** (1997), *no.* 3, 335–344. (De Xing Feng) **98i:93073** 93D15 (35L10, 93C20)
van Ammers, Eric W. Program families: program construction by context independent refinements. (English summary) *Sci. Comput. Programming* **30** (1998), *no.* 3, 251–286. 68Q60 (68N05)
Ammon, Kurt An automatic proof of Gödel's incompleteness theorem. *Artificial Intelligence* **95** (1997), *no.* 1, 203–207. 03B35
Ammons, Bruce A. (*with* Vable, Madhukar) A dynamic algorithm for integration in the boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 4, 639–650. 73V10
de Amo, E. (*with* Díaz Carrillo, M.) Fubini-Tonelli theorems with local integrals. *Acta Math. Hungar.* **72** (1996), *no.* 3, 221–227. (T. V. Panchapagesan) **98m:28012** 28A35 (26A42, 28C05)
Amochkina, T. V. A second-order continuous linearization method with a variable metric. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 9–12, 50. (Summary) **98f:90055** 90C30 (65K05)
Amodio, Pierluigi (*with* Brugnano, Luigi) Stable parallel solvers for general tridiagonal linear systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 115–118. (*see* **98b:65005**) 65F10 (65Y05)
— (*with* Mazzia, Francesca) Parallel iterative solvers for banded linear systems. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 17–24, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (65Y05)
— (*with* Brugnano, Luigi) Parallel ODE solvers based on block BVMs. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 5–26. (Summary) **98c:65101** 65L05 (65Y05)
— (*with* Paprzycki, Marcin) A cyclic reduction approach to the numerical solution of boundary value ODEs. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 56–68. (Marco Marletta) **98a:65098** 65L10 (15A23, 65Y05)
ahmadi-Amoli, Kh. *see* **Ahmadi-Amoli, Kh.**
Amon, C. H. (*with* Oliveira, J. C.) Pressure-based semi-analytical solution of radial Stokes flows. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 95–114. (Summary) **98j:76027** 76D07 (35Q30, 76–04)
Amosov, B. K. Uniqueness and estimation of the stability of the solution of equations of parabolic type with data on the set of points and on the lateral surface of a cylinder. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis (Russian)*, 8–15, 167, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 35K20
Amor, M. (*with* Argüello, F.; Guil, N.; López-Gómez, Juan; Zapata, E. L.) A probabilistic model for best-first search B & B algorithms. (English summary) *Solving irregularly structured problems in parallel (Paderborn, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65Y05 (65Y25)
d'Amore, Fabrizio *see* **Graph-theoretic concepts in computer science, 98e:68005**
de A. Moreira, Carlos Gustavo T. (*with* Bamón, Rodrigo; Plaza S., Sergio; Vera V., Jaime) Differentiable structures of central Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1027–1042. (Remo Badii) **98g:28006** 28A78 (28A80, 58F12)
Amorim, Ricardo (*with* Braga, Nelson R. F.) Global anomalies in the Batalin-Vilkovisky quantization. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1225–1232. (Summary) **98k:81252** 81T50 (81T70)
— (*with* Das, Ashok) Supersymmetry and the chiral Schwinger model. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2599–2602. 81T10 (81T60)
d'Amorim santa-Cruz, Sérgio *see* **D'Amorim Santa-Cruz, Sérgio**
Amor Montaño, José Alfredo ★ Teoría de conjuntos. (Spanish. Spanish summary) [Set theory] Para estudiantes de ciencias. [For science students] *Las Prensas de Ciencias, México City*, 1997. *xii*+120 *pp. ISBN* 968-36-6582-9 04–01
Amoroso, Francesco On the heights of a product of cyclotomic polynomials. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 183–191. (D. Boyd) **98f:11113** 11R06 (11M26)
— (*with* Mignotte, Maurice) On the distribution of the roots of polynomials. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 5, 1275–1291. (Christopher Smyth) **98h:11101** 11K38 (12D10, 30C15, 31A05, 42A05)
— Algebraic numbers close to 1: results and methods. *Number theory (Tiruchirapalli, 1996)*, 305–316, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Paul M. Voutier) **98j:11053** 11J68 (11J85)
Amos, Martyn (*with* Gibbons, Alan; Hodgson, David) Models of DNA computation. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 18–36, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98i:68071** 68Q05 (92B99, 92D20)
Amosov, A. A. (*with* Zlotnik, A. A.) Uniqueness and stability of generalized solutions of quasi-averaged equations of the one-dimensional motion of a viscous barotropic medium. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 7, 1123–1131, 1268; *translation in Differential Equations* **31** (1995), *no.* 7, 1056–1066 (1996). (Jürgen Socolowsky) **98b:35140** 35Q35 (35D10, 45K05, 76N10)
— (*with* Titov, D. A.; Zlotnik, A. A.) Finite difference scheme for the quasi-averaged equations of one-dimensional motion of a viscous barotropic medium. (English summary) *Russian J. Numer. Anal. Math. Modelling* **11** (1996), *no.* 6, 445–475. (Dennis C. Jespersen) **98a:76056** 76M20 (35B27, 65M12, 76N10)
— (*with* Zlotnik, A. A.) On properties of generalized solutions of one-dimensional linear parabolic problems with nonsmooth coefficients. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 83–95, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 83–96. (Summary) **98j:35077** 35K10 (35D05, 35D10)
— (*with* Zlotnik, A. A.) Justification of the quasi-averaging of equations of the one-dimensional motion of a viscous heat-conducting gas with rapidly oscillating properties. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 439–442. (From the text) **98e:35020** 35B27 (35Q35, 76N10)
— (*with* Zlotnik, A. A.) A semidiscrete method for solving equations of the one-dimensional motion of a non-homogeneous viscous heat-conducting gas with non-smooth data. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 3–19; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 4, 1–17. (Reinhard Redlinger) **98j:76120** 76N10 (35Q35, 65M20, 76M25)
— (*with* Zlotnik, A. A.) Semidiscrete method of solving the quasiaveraged equations of one-dimensional motion of a viscous heat-conducting gas. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 171–197. (Dennis C. Jespersen) **98c:76086** 76N10 (35Q35, 65N12, 76M25)
— (*with* Zlotnik, A. A.) On the stability of generalized solutions of equations of one-dimensional motion of a viscous heat-conducting gas. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 767–789, i; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 663–684. (Ivan Straškraba) **98i:35158** 35Q35 (35B30, 35D05, 76E99, 76N10)
Amosova, N. N. On the necessity of Linnik's condition in a theorem on the probabilities of large deviations. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 9–15, 356. (S. A. Book) **98h:60030** 60F10
Amou, Masaaki A metrical result on transcendence measures in certain fields (abstract). Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 79–81. (*see* **98c:11001**) 11J83
— Transcendence measures for almost all numbers. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 112–116. (*see* **98c:11002**) 11J82
Amoura, A. K. A note on scheduling multiprocessor tasks with precedence constraints on parallel processors. *Inform. Process. Lett.* **63** (1997), *no.* 3, 119–122. (From the introduction) **98i:68031** 68M20
ben-Amram, Amir M. *see* **Ben-Amram, Amir M.**
Amram, K. (*with* Huerre, Patrick; Chomaz, Jean-Marc) Instabilities and bifurcations in variable density flows. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 3–8, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76E99 (76D25)
al Amrani, Abd'Allah *see* **Al Amrani, Abd'Allah**
Amrani, Allal (*with* Castaing, Charles) Weak compactness in Pettis integration. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 139–150. (Pilar Cembranos)

98f:46021 46E30 (28A20, 46E30, 46G10)

Amrein, W. O. (*with* Zuleta, J. L.) Flux and scattering into cones in potential scattering. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 1–15. (H. Baumgärtel) **98i:81257** 81U05 (47A40, 47N50)

— (*with* Pearson, D. B.) Flux and scattering into cones for long range and singular potentials. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5361–5379. (Hiroshi Isozaki) **98i:81256** 81U05

— *see also* **Mathematical results in quantum mechanics, 98g:81004**

Amrhein, Beatrice (*with* Gloor, Oliver; Küchlin, Wolfgang) On the walk. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 179–202. (Ralf Fröberg) **98i:13050** 13P10 (68Q40)

Amromin, É. L. Stokes waves on a cavity surface in a rotating fluid. *Fluid Dynam.* **31** (1996), *no.* 6, 886–890 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996**, *no.* 6, 105–110 (*Russian. Russian summary*). (Summary) **98d:76157** 76U05 (76B10, 76B15)

Amrouche, Chérif (*with* Alliot, Frédéric) Problème de Stokes dans $\mathbf{R}^n$ et espaces de Sobolev avec poids. (English and French summaries) [Stokes problem in $\mathbf{R}^n$ and weighted Sobolev spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1247–1252. (Summary) **98j:35039** 35J15 (35Q30, 76D05, 76D07)

— (*with* Cioranescu, Doina) On a class of fluids of grade 3. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 1, 73–88. (Antonin Novotný) **98d:76005** 76A05 (35Q35)

— (*with* Girault, V.; Giroire, J.) Dirichlet and Neumann exterior problems for the n-dimensional Laplace operator: an approach in weighted Sobolev spaces. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 1, 55–81. (Giovanna Citti) **98c:35034** 35J25 (35J05)

Amsden, A. A. (*with* Hirt, C. W.; Cook, J. L.) An arbitrary Lagrangian-Eulerian computing method for all flow speeds [J. Comput. Phys. **14** (1974), no. 3, 227–253]. (English summary) With an introduction by L. G. Margolin. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 198–216. (*see* **98h:70003**) 76M20 (65M06)

Amsler, Christine (*with* Lee, Hyung S.) Consistency of the KPSS unit root test against fractionally integrated alternative. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 151–160. 62M10 (62P20)

Amstler, Clemens Some remarks on a discrepancy in compact groups. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 274–284. (Oto Strauch) **98c:11078** 11K41 (43A77)

Amtoft, Torben (*with* Nielson, Flemming; Nielson, Hanne Riis) Type and behaviour reconstruction for higher-order concurrent programs. (English summary) *J. Funct. Programming* **7** (1997), *no.* 3, 321–347. (Summary) **98e:68019** 68N15 (68Q10)

Amuda, R. (*with* Daniel, Muthiah) Nonlinear dynamics of weak ferromagnetic spin chains. (English summary) *J. Phys. A* **28** (1995), *no.* 19, 5529–5537. (Rodolfo Cuerno) **98c:82045** 82C20 (35Q55, 82D40)

le thi hoai An *see* **Le Thi Hoai An**

An, Hong Zhi A note on chaotic maps and time series. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 15–26, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Hans-Peter Herzel) **98h:58112** 58F13 (58F40, 62M10)

— (*with* Huang, Fu Chun) The geometrical ergodicity of nonlinear autoregressive models. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 943–956. (Wolfgang Schmid) **98d:62153** 62M10

— (*with* Chen, Min[4]; Cui, Xiao Di) The convergence rate of paramater estimates in regression models with ARCH errors. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 294–304. (Summary) **98h:62133** 62M10

— (*with* Chen, Shi Gang) Geometrical ergodicity of nonlinear autoregressive models. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 481–486. 62M10

— (*with* Hickernell, Fred J.; Zhu, Li-Xing) A goodness-of-fit test for linearity of a stochastic regression model. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 247–252; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 2, 199–208. (Summary) **98g:62128** 62J05 (62G10)

— (*with* Chen, Xi Ru) Abnormal behavior of the least squares estimate of multiple regression. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 234–242. (Summary) **98a:62091** 62J05

— (*with* Chen, Min[4]) A Kolmogorov-Smirnov type test for conditional heteroskedasticity in time series. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 321–331. (Summary) **98b:62156** 62M10 (62G10)

— (*with* Chen, Shi Gang) A note on the ergodicity of non-linear autoregressive model. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 365–372. (Summary) **98f:60129** 60J10 (62M10)

An, Jeong Hyang (*with* Hwang, Seok Yoon; Hwang, J. J.) The triangular norm-based addition of fuzzy intervals. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 9–13. 04A72

An, Jian Ye The types of limit points of a class of second-order symmetric ordinary differential operators. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 4, 451–455. (Wen Ming Li) **98k:34036** 34B20 (47E05)

An, Jianbei The Alperin and Dade conjectures for some finite groups. Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 28–35. (*see* **98k:00015**) 20C20

An, Jong Su (*with* Song, Tai Sung) Some properties of the set of Schwarzians of conformal functions. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 665–672. (Editors) **98a:30029** 30C70

An, Jun Improved principal component estimation in seemingly unrelated regression systems. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 3, 286–292. (Summary) **98b:62117** 62J05 (62H25, 62P20)

An, Le Thi Hoai *see* **Le Thi Hoai An**

An, Myoung (*with* Tolimieri, Richard; Lu, Chao) ★ Algorithms for discrete Fourier transform and convolution. Second edition. Signal Processing and Digital Filtering. *Springer-Verlag, New York*, 1997. xii+267 *pp. ISBN* 0-387-98261-2 (Publisher's description) **98f:65131** 65T20 (94A11, 94A12)

— (*with* Tolimieri, Richard; Lu, Chao) ★ Mathematics of multidimensional Fourier transform algorithms. (English summary) Second edition. Signal Processing and Digital Filtering. *Springer-Verlag, New York*, 1997. xii+187 *pp. ISBN* 0-387-98260-4 (Editors) **98g:65135** 65T20 (65Y10)

An, P. T. (*with* Hoàng Xuân Phú) Stable generalization of convex functions. (English summary) *Optimization* **38** (1996), *no.* 4, 309–318. (Siegfried Schaible) **98a:90079** 90C26 (26A51)

An, Tran Van *see* **Trần Văn Ân**

An, Wan Fu (*with* Qi, Quan Yue; Chen, Min[4]; Wu, Guo Fu; Shu, Chang Sheng) A statistical model of tracking radar measurement errors. II. Strong consistency of parameter estimates. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 161–174. 62M10

An, Weike (*with* Duan, Yi Wu; Li, Siping; Hu, Xiangyue) Bifurcation of periodic orbits of electron in two-center Coulomb field. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 35–41. (Summary) **98e:81027** 81Q05 (34C23, 34C25, 81V55)

An, Ying (*with* Song, He-Shan; Zhang, Mill) General deformation scheme of Heisenberg-Weyl algebra. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 481–484. 81R50 (17B37)

Anada, Kouichi (*with* Tsutsumi, Masayoshi) On existence of viscosity solutions and weak solutions to the Cauchy problem for $u_t = u\Delta u - \gamma|\nabla u|^2$. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 1–17. (Summary) **98h:35094** 35K55 (35D05)

— (*with* Fukuda, Isamu; Tsutsumi, Masayoshi) Local existence and uniqueness of viscosity solution for $u_t = u\Delta u - \gamma|\nabla u|^2 + f(t,u)$. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 55–68. (Summary) **98d:35115** 35K65 (35B05, 35D05, 35K55)

Anagnostopoulos, J. S. (*with* Kadja, M.; Bergeles, G. C.) Implementation of newly developed algorithms in the simulation of atmospheric turbulent transports. (English summary) *Comput. & Fluids* **26** (1997), *no.* 5, 489–504. (Summary) **98f:86002** 86A10 (86–08)

Anagnostopoulos, K. N. (*with* Ambjørn, Jan; Magnea, U.) Singularities of the partition function for the Ising model coupled to 2D quantum gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1605–1627. (Summary) **98g:82008** 82B20 (81T40, 82B80)

— (*with* Ambjørn, Jan) Quantum geometry of 2D gravity coupled to unitary matter. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 445–475. (Summary) **98g:83028** 83C45 (81T40)

— (*with* Ambjørn, Jan; Ichihara, T.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) Quantum geometry of topological gravity. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 177–184. (Summary) **98a:83037** 83C27 (83C45)

— (*with* Ambjørn, Jan; Ichihara, T.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) The quantum space-time of $c = -2$ gravity. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 673–710. 81T80 (81T40)

Anai, H. (*with* Noro, M.; Yokoyama, Kazuhiro) Computation of the splitting fields and the Galois groups of polynomials. *Algorithms in algebraic geometry and applications (Santander, 1994)*, 29–50, *Progr. Math.*, 143, *Birkhäuser, Basel*, 1996. (Fernando Barrera-Mora) **98a:12003** 12F10

Ananchuen, N. *see* **Asnanchuen, N.**

Anand, Christopher Ward's solitons. (English summary) *Geom. Topol.* **1** (1997), 9–20 (*electronic*). (Annalisa M. Calini) **98k:58100** 58F07 (14D20, 35Q51, 53C07)

Anand, P. V. S. (*with* Murty, Kanuri Narasimha) Controllability and observability of continuous matrix Liapunov systems. *Advances in nonlinear dynamics*, 365–379, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Boris G. Zaslavskiĭ) **98j:93012** 93B05 (34C15, 34H05, 93B07)

— (*with* Murty, Kanuri Narasimha; Lakshmi Prasannam, V.) First order difference system—existence and uniqueness. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3533–3539. (V. G. Kurbatov) **98f:39015** 39A12

Anand, Rajesh (*with* Misra, Neeraj; Singh, Harshinder) Estimation of the smaller and larger scale parameters of two exponential distributions. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 75–78. (A. D. Gordon) **98h:62027** 62F10 (62C15)

Anand, Ravinder (*with* El-Taha, Muhammad; Stidham, Shaler, Jr.) Sample-path insensitivity of symmetric queues in discrete-time. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1099–1110. (*see* **98i:00028**) 60K25

Anandam, V. (*with* Al-Gwaiz, M. A.) Global representation of harmonic and biharmonic functions. (English summary) *Potential Anal.* **6** (1997), *no.* 3, 207–214. (D. H. Armitage) **98h:31004** 31B05 (31B30)

Anandan, Jeeva S. (*with* Adler, Stephen L.) Nonadiabatic geometric phase in quaternionic Hilbert space. (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1579–1589. (Dipti Banerjee) **98i:81066** 81Q99

— (*with* Pati, Arun K.) Geometry of the Josephson effect. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 29–37. (Péter Pál Lévay) **98e:82045** 82D55 (58B20, 81Q99)

Anandani, P. (*with* Gupta, Arvind) Use of generalized Legendre associated functions and the multivariable H-function in solution of equation related to heat conduction. (English summary) *Ultra Sci. Phys. Sci.* **8** (1996), *no.* 2, 189–192. (S. Bhargava) **98g:33019** 33C60 (33C90)

— (*with* Gupta, Arvind) Infinite series involving multivariable H-function. (English summary) *Ultra Sci. Phys. Sci.* **8** (1996), *no.* 2, 204–207. 33C60

Anane, Aomar (*with* Chakrone, Omar; Gossez, Jean-Pierre) Spectre d'ordre supérieur et problèmes de non-résonance. (English and French summaries) [Higher-order spectrum and problems of nonresonance] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 33–36. (Summary) **98d:35163** 35P05 (35J60)

Anan'evskiĭ, I. M. The method of Lyapunov functions in the problem of the control of a Lagrangian dynamical system. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1779–1785, 1940; *translation in Differential Equations* **31** (1995), *no.* 11, 1747–1753 (1996). (Clementina D. Mladenova) **98b:93034** 93C15 (34H05, 49J15, 70Q05)

Anan'evskiĭ, S. M. The parking problem for segments of different lengths. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 16–23, 356. (V. K. Oganyan) **98f:60016** 60D05

Ananich, S. È. (*with* Matus, P. P.; Mozolevskiĭ, I. E.) Difference schemes for the Boltzmann-Fokker-Planck equation. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 99–115. (Summary) **98i:82065** 82C80 (65M06, 82C70)

Anant, Kanwaldip Singh (*with* Dowla, Farid U.) Wavelet transform methods for phase identification in three-component seismograms. (English summary) *Bull. Seismol. Soc. Amer.* **87** (1997), *no.* 6, 1598–1612. (Summary) **98h:86006** 86A15 (86–08)

Ananthakrishnaiah, U. (*with* Sesappa Rai, A.) Obrechkoff methods having additional parameters for general second-order differential equations. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 167–182. (Nikolay Vesselinov Kjurkchiev) **98c:65114** 65L05

Ananthakrishnan, P. (*with* Yeung, R. W.) Viscosity and surface-tension effects on wave generation by a translating body. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 257–280. 76D33 (76D45, 76M20)

Anantharam, Venkat Networks of queues with long-range dependent traffic streams. (English summary) *Stochastic networks (New York, 1995)*, 237–256, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98d:60171** 60K25

— (*with* Konstantopoulos, Takis) Stationary solutions of stochastic recursions describing discrete event systems. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 181–194. (Volker Schmidt) **98d:60172** 60K25

— (*with* Venkatesan, Sivarama) Identification plus transmission over channels with perfect feedback. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 284–290. (Summary) **98m:94024** 94A40

Anantharaman, Siva (*with* Richard, Gilles) A rewrite mechanism for logic programs with negation. (English summary) Rewriting systems and applications (Kaiserslautern, 1995). *Theoret. Comput. Sci.* **192** (1998), *no.* 1, 77–106. (Summary) **98k:68093** 68Q42 (68N17)

Anantharaman, V. (*with* Subramanian, Ramachandran) Control of repair rates in a three unit cold standby redundant system. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 173–187. 90B25 (60K10)

Anantharaman-Delaroche, Claire Amenability of bimodules and operator algebras. *Operator algebras and quantum field theory (Rome, 1996)*, 225–235, *Internat. Press, Cambridge, MA*, 199?. (Introduction) **98j:46054** 46L05

Anapol'skiĭ, L. Yu. (*with* Timofeev, S. V.) Estimates for the domains of attraction of stable stationary solutions of Marchuk's immunological model. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 66–74. (Summary) **98m:92015** 92C60 (34K20, 92D30)

— (*with* Abdullin, R. Z.; Kozlov, R. I.; Malikov, A. I.; Matrosov, Vladimir M.; Voronov, Avenir Arkad'evich; Zemlyakov, A. S.) ★ Vector Lyapunov functions in stability theory. Translated from the Russian original. Advanced Series in Mathematical Science and Engineering, 4. *World Federation Publishers Company, Atlanta, GA*, 1996. xviii+394 *pp. ISBN* 1-885978-20-0 (Editors) **98g:34002** 34–02 (34D20, 93D20)

Anar, I. Ethem A scattering problem in a nonhomogeneous medium. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 335–350. (P. A. Mishnayevskiy) **98f:35029** 35J05 (35P25, 35R30, 47N20)

Anashkin, O. Stability and bifurcation analysis by generalized Lyapunov functions. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 7–10, *World Sci. Publishing, River Edge, NJ*, 1995. (From the introduction) **98g:34086** 34D20 (34C23, 34C29)

Anastasiei, Mihai (*with* Kawaguchi, Hiroaki) Absolute energy of a Finsler space. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 108–113. (József Szilasi) **98d:53027** 53B40

— Geometry of higher order sprays. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 169–178, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Manuel de León) **98h:58057** 58F05 (58A20, 70H05, 70H35)

— A class of generalized Lagrange spaces. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 259–264. (Tadashi Aikou) **98g:53028** 53B40

— (*with* Miron, Radu) ★ Vector bundles and Lagrange spaces with applications to relativity. With a chapter by Satoshi Ikeda. Translated from the 1987 Romanian original. Balkan Society of Geometers Monographs and Textbooks, 1. *Geometry Balkan Press, Bucharest*, 1997. iv+219 *pp. ISBN* 973-97454-3-1 (Editors) **98g:53002** 53–02 (53C60, 83D05)

Anastassiou, C. (*with* Allen, Thomas Wayne; Klink, W. H.) The quartic anharmonic oscillator and its associated nonconstant magnetic field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4887–4899. (Arlen Anderson) **98k:81036** 81Q05

Anastassiou, George A. Differentiated shift-invariant integral operators. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 1–6, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A36 (47B38)

— (*with* Zhou, Mi) Asymptotic expansions related to (C_0) m-parameter operator semigroups. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 563–570, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A60 (41A35, 47D06)

— Multivariate Ostrowski type inequalities. *Acta Math. Hungar.* **76** (1997), *no.* 4, 267–278. (E. Thandapani) **98g:26015** 26D10

— Shape and probability preserving univariate wavelet type operators. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 303–314. (Summary) **98a:42018** 42C15 (41A29, 60E99)

— Lattice homomorphism—Korovkin type inequalities for vector valued functions. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 337–364. (L. G. Labsker) **98h:47052** 47B60 (41A36, 46E40)

— Rate of convergence of some neural network operators to the unit-univariate case. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 237–262. (Summary) **98j:92003** 92B20

— Lattice homomorphism inequalities for vector valued functions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 549–554. (*see* **98i:00027**) 41A65 (47B60)

— (*with* Yu, Xiang Ming) Shape-preserving bivariate shift-invariant operators. (English summary) *Rev. Acad. Cienc. Zaragoza (2)* **52** (1997), 43–50. 41A35 (47B38)

Anastopoulos, C. Coarse grainings and irreversibility in quantum field theory. (English summary) *Phys. Rev. D (3)* **56** (1997), *no.* 2, 1009–1020. (Summary) **98j:81349** 81T99 (82C10)

salazar-Anaya, G. *see* **Salazar-Anaya, G.**

fernández Anaya, Guillermo *see* **Fernández Anaya, Guillermo**

Anazawa, Masahiro (*with* Ishikawa, Atushi; Itoyama, Hiroshi) Fusion rules and interactions for macroscopic loop amplitudes. (English summary) *Frontiers in quantum field theory (Osaka, 1995)*, 141–157, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81193** 81T40 (81T30)

— Boundary operators and touching of loops in 2D gravity. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 251–268. 81T40 (81R10)

— (*with* Ishikawa, Atushi; Tanaka, Hirokazu) Interaction of boundaries with heterogeneous matter states in matrix models. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 419–436. (Summary) **98k:81186** 81T30

Anbeek, Carreen (*with* DeTemple, Duane; McAvaney, Kevin; Robertson, Jack M.) When are chordal graphs also partition graphs? (English summary) *Australas. J. Combin.* **16** (1997), 285–293. (Summary) **98e:05091** 05C75

Ancel, Fredric D. (*with* Davis, Michael Walter; Guilbault, Craig R.) CAT(0) reflection manifolds. *Geometric topology (Athens, GA, 1993)*, 441–445, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (R. J. Daverman) **98i:57068** 57S30 (57Q99)

— (*with* Guilbault, Craig R.) Interiors of compact contractible n-manifolds are hyperbolic ($n \geq 5$). (English summary) *J. Differential Geom.* **45** (1997), *no.* 1, 1–32. (Tadeusz Januszkiewicz) **98i:53050** 53C21 (53C20, 57Q99)

— (*with* Dobrowolski, Tadeusz) On the Sternfeld-Levin counterexamples to a conjecture of Chogoshvili-Pontrjagin. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 7–19. (Leonard R. Rubin) **98j:54059** 54F45

Anchordoqui, Luis A. Wormholes in space-time with torsion. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 14, 1095–1100. 83D05

— (*with* Torres, Diego F.; Trobo, Marta L.; Perez Bergliaffa, Santiago E.) Evolving wormhole geometries. (English summary) *Phys. Rev. D (3)* **57** (1998), *no.* 2, 829–833. 83E05 (83C15)

Anco, Stephen C. Novel generalization of three-dimensional Yang-Mills theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3399–3413. (Jaime Muñoz Masqué) **98g:53043** 53C07 (53C80, 81T13)

— (*with* Bluman, George) Nonlocal symmetries and nonlocal conservation laws of Maxwell's equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3508–3532. (W. E. Williams) **98m:78013** 78A25 (35A30, 35L65, 35Q60)

— (*with* Bluman, George) Direct construction of conservation laws from field equations. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 15, 2869–2873. (Jaime Muñoz Masqué) **98a:58057** 58E30 (35L99)

Ancona, Alano First eigenvalues and comparison of Green's functions for elliptic operators on manifolds or domains. (English summary) *J. Anal. Math.* **72** (1997), 45–92. (Yehuda Pinchover) **98i:58212** 58G03 (35B05, 35J15)

Ancona, Davide (*with* Zucca, Elena) An algebraic approach to mixins and modularity. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 179–193, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N15 (68Q55)

— (*with* Zucca, Elena) A formal framework for modules with state. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 148–162, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q65

Ancona, F. Homogeneous tangent vectors and high-order necessary conditions for optimal controls. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 205–240. (Heinz Schättler) **98e:49048** 49K15 (93B03, 93C10)

Ancona, V. *see* **Complex analysis and geometry**, **98f:32002**

Ancukiewicz, Marek An unsupervised and nonparametric classification procedure based on mixtures with known weights. (English summary) *J. Classification* **15** (1998), *no.* 1, 129–141. 62H30 (62G05)

Andalafte, Edward (*with* Diminnie, Charles; Freese, Raymond) Pythagorean Euclidean four point properties. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 7–14. (J. A. Lester) **98b:51018** 51F20 (54E50)

Anděl, Jiří On extrapolation in some non-linear AR(1) processes. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 581–587. (Mohsen Pourahmadi) **98f:62243** 62M10 (62M20)

— On least-squares and naïve extrapolations in a non-linear AR(1) process. (English summary) *Test* **6** (1997), *no.* 1, 91–100. (Mohsen Pourahmadi) **98m:62230** 62M10 (62M20)

Anderlini, Luca (*with* Ianni, Antonella) Path dependence and learning from neighbors. (English summary) *Games Econom. Behav.* **13** (1996), *no.* 2, 141–177. (Summary) **98c:90188** 90D10 (90A15)

Anders, I. A. Curved asymptotic solitons of the Kadomtsev-Petviashvili I equation. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 175–185. (Oktay K. Pashaev) **98m:35177** 35Q53

— (*with* Khruslov, Evgeniĭ Yakovlevich; Kotlyarov, V. P.) Soliton asymptotics of non-localized solutions of non-linear evolutionary equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 3951–3961. (*see* **98i:00032**) 35Q53 (35Q51)

Andersen, Erik Sparre (*with* Larsen, Mogens Esrom) Combinatorial identities: a generalization of Dougall's identity. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 77–88, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (R. K. Raina) **98g:05017** 05A19 (33D90)

Andersen, Erling B. ★ Introduction to the statistical analysis of categorical data. (English summary) *Springer-Verlag, Berlin*, 1997. x+265 *pp. ISBN* 3-540-62399-X (Publisher's description) **98c:62112** 62H17 (62J12)

Andersen, Erling D. (*with* Ye, Yin Yu) On a homogeneous algorithm for a monotone complementarity problem with nonlinear equality constraints. (English summary)

Complementarity and variational problems (*Baltimore, MD*, 1995), 1–11, *SIAM, Philadelphia, PA*, 1997. (Tamás Terlaky) **98d:90120** 90C33

Andersen, Henning Haahr Quantum groups at roots of ±1. *Comm. Algebra* **24** (1996), *no.* 10, 3269–3282. (Toshiyuki Tanisaki) **98a:17013** 17B37 (20G05)

— Filtrations and tilting modules. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 353–366. (James E. Humphreys) **98h:20076** 20G05 (17B37)

— *see also* **Kaneda, Masaharu, 98d:17024**

Andersen, Henrik Reif (*with* Mørk, Simon; Sørensen, Morten Ulrik) A universal reactive machine. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 89–103, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68072** 68Q05 (68Q10)

Andersen, Jørgen Ellegaard (*with* Mattes, Josef; Reshetikhin, N. Yu.) The Poisson structure on the moduli space of flat connections and chord diagrams. (English summary) *Topology* **35** (1996), *no.* 4, 1069–1083. (Summary) **98e:57005** 57M25 (58D29)

— Geometric quantization of symplectic manifolds with respect to reducible non-negative polarizations. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 401–421. (Johannes Huebschmann) **98h:58068** 58F06

Andersen, Jørgen H. (*with* Kristoffersen, Kåre J.; Larsen, Kim G.; Niedermann, Jesper) Automatic synthesis of real time systems. *Automata, languages and programming* (*Szeged*, 1995), 535–546, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q60

Andersen, Kenneth F. Cesàro averaging operators on Hardy spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 3, 617–624. (Aristomenis Siskakis) **98h:47041** 47B38 (30D55)

Andersen, L. D. (*with* Hilton, A. J. W.) Triangulations of 3-way regular tripartite graphs of degree 4, with applications to orthogonal Latin squares. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 17–34. (Katherine Heinrich) **98g:05025** 05B15 (05C70)

Andersen, Torben M. Nominal price and wage interactions. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 117–131. 90A50 (90A12)

Anderson, Arlen Coupling "classical" and quantum variables. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 213–227, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q20

Anderson, Brian D. O. (*with* Dasgupta, Soura) Multiplier theory and operator square roots: application to robust and time-varying stability. (English summary) *Stability theory* (*Ascona*, 1995), 113–124, *Internat. Ser. Numer. Math.*, 121, *Birkhäuser, Basel*, 1996. (B. T. Polyak) **98a:93055** 93D09 (93B27)

— New developments in the theory of positive systems. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 17–36, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Anna Maria Perdon) **98a:93033** 93C05 (93B60, 93C35)

— (*with* De Bruyne, F.; Gevers, M.) On plant and LQG controller continuity questions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 631–635. 93E20 (93B52)

Anderson, C. Anthony (*with* Gettings, Michael) Gödel's ontological proof revisited. *Gödel '96* (*Brno*, 1996), 167–172, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Charles F. Kielkopf) **98c:03039** 03B45

Anderson, C. W. (*with* Nadarajah, S.; Tawn, Jonathan A.) Ordered multivariate extremes. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 473–496. 62G30 (60G70)

Anderson, D. M. *see* **Anderson, Daniel Michael**

Anderson, Daniel D. (*with* Quintero-Contreras, Roy Omar) Some generalizations of GCD-domains. *Factorization in integral domains* (*Iowa City, IA*, 1996), 189–195, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Luigi Salce) **98i:13001** 13A05

— (*with* Valdes-Leon, Silvia) Factorization in commutative rings with zero divisors. II. *Factorization in integral domains* (*Iowa City, IA*, 1996), 197–219, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Jon L. Johnson) **98j:13001** 13A05 (13A15, 13F99)

— (*with* Zafrullah, Muhammad) On t-invertibility. IV. *Factorization in integral domains* (*Iowa City, IA*, 1996), 221–225, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (David F. Anderson) **98e:13024** 13G05 (13A15)

— Finitely generated multiplicative subsemigroups of rings. (English summary) *Semigroup Forum* **55** (1997), *no.* 3, 294–298. (Summary) **98f:20047** 20M25

— *see also* **Factorization in integral domains, 98c:13002**

Anderson, Daniel Michael (*with* McFadden, G. B.) A diffuse-interface description of internal waves in a near-critical fluid. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1870–1879. (Summary) **98d:76027** 76B45 (76D45)

Anderson, David F. (*with* Nour El Abidine, D.) Some remarks on the ring $R^{\#}$. *Commutative ring theory* (*Fès*, 1995), 33–44, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Abdeslam Mimouni) **98a:13030** 13G05 (13C15)

— Elasticity of factorizations in integral domains: a survey. *Factorization in integral domains* (*Iowa City, IA*, 1996), 1–29, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Scott Chapman) **98j:13002** 13A05 (13C20, 13F05, 13F15)

— (*with* Park, Jea-Nam) Factorization in subrings of $K[X]$ or $K[\![X]\!]$. *Factorization in integral domains* (*Iowa City, IA*, 1996), 227–241, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Scott Chapman) **98k:13026** 13F20 (13A05, 13F25)

— (*with* Winner, Janice) Factorization in $K[\![S]\!]$. (English summary) *Factorization in integral domains* (*Iowa City, IA*, 1996), 243–255, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Scott Chapman) **98k:13027** 13F25 (13A05)

Anderson, Donald A. (*with* BuHamra, Sana S.) Prime power parallel flats fractions: representation and properties. (English summary) *Util. Math.* **51** (1997), 238–254. (Summary) **98k:05033** 05B30

Anderson, Edward J. (*with* Glass, Celia A.; Potts, Chris N.) Machine scheduling. *Local search in combinatorial optimization*, 361–414, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90B35 (68M20, 90C27)

— (*with* Goberna, Miguel A.; López, Marco Antonio) Locally polyhedral linear inequality systems. (English summary) *Linear Algebra Appl.* **270** (1998), 231–253. (Romesh Saigal) **98k:90054** 90C05 (90C25)

Anderson, Evan W. (*with* McGrattan, Ellen R.; Hansen, Lars Peter; Sargent, Thomas J.) Mechanics of forming and estimating dynamic linear economies. *Handbook of computational economics, Vol. I*, 171–252, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A16 (65F10)

Anderson, Frank W. (*with* D'Ambrosia, Barbara K.) Square-free algebras and their automorphism groups. (English summary) *Comm. Algebra* **24** (1996), *no.* 10, 3163–3191. (Sverre O. Smalø) **98a:16027** 16P10 (16S35, 16W20)

Anderson, George F. (*with* Hettmansperger, Thomas P.) Generalized Wilcoxon methods for the one- and two-sample location models. (English summary) *Research developments in probability and statistics*, 303–317, *VSP, Utrecht*, 1996. (Summary) **98g:62082** 62G10

Anderson, Glen D. (*with* Vamanamurthy, Mavina K.; Vuorinen, Matti K.) ★ Conformal invariants, inequalities, and quasiconformal maps. With 1 IBM-PC floppy disk (3.5 inch; HD). Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxviii+505 *pp. ISBN* 0-471-59486-5 (H. Renelt) **98h:30033** 30C65 (30C62, 33Cxx)

— (*with* Qiu, Songliang; Vamanamurthy, Mavina K.) Inequalities for distortion functions and plane quasiconformal mappings. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 1–19. (J. G. Krzyż) **98g:30038** 30C62 (33C65, 33E05)

— (*with* Qiu, Songliang) A monotoneity property of the gamma function. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3355–3362. (Peter Schroth) **98h:33001** 33B15 (26A48, 26D07)

Anderson, Greg W. An explicit algebraic representation of the Abel map. *Internat. Math. Res. Notices* **1997**, *no.* 11, 495–521. (Olivier Debarre) **98g:14027** 14H40 (14C20)

Anderson, Heather M. (*with* Vahid, Farshid) Testing multiple equation systems for common nonlinear components. (English summary) *J. Econometrics* **84** (1998), *no.* 1, 1–36. 62P20

Anderson, Iain John (*with* Mason, J. C.) Efficient matrix methods for the true least-squares approximation of structured multivariate data. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 7–14, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 65D15 (65F30)

— A piecewise approach to piecewise approximation. (English summary) *Numer. Algorithms* **15** (1997), *no.* 2, 139–152. (Summary) **98f:65020** 65D17 (41A15)

Anderson, Ian (*with* Bailey, R. A.) Completeness properties of conjugates of Latin squares based on groups, and an application to bipartite tournaments. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 95–99. (Summary) **98d:05032** 05B15

— (*with* Finizio, Norman J.) Triplewhist tournaments that are also Mendelsohn designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 397–406. (D. P. Roselle) **98h:05046** 05B30

Anderson, Ian M. (*with* Fels, Mark E.) Symmetry reduction of variational bicomplexes and the principle of symmetric criticality. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 609–670. (Juha Pohjanpelto) **98k:58208** 58G05 (58E30, 58G35)

— (*with* Kamran, Niky) The variational bicomplex for hyperbolic second-order scalar partial differential equations in the plane. *Duke Math. J.* **87** (1997), *no.* 2, 265–319. (Valentin V. Lychagin) **98e:58183** 58H99 (35L70, 58A20)

— (*with* Juráš, Martin) Generalized Laplace invariants and the method of Darboux. *Duke Math. J.* **89** (1997), *no.* 2, 351–375. (J. Chrastina) **98h:58004** 58A17 (35A30, 35L10)

Anderson, J. M. *see* **Anderson, Jamie M.**

Anderson, J. M. M. (*with* Mair, B. A.; Rao, Murali) Positron emission tomography: a review. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1089–1111. (*see* **98b:49004**) 92C55 (65R10, 65R30)

Anderson, James Andrew The structure of the tensor product of commutative regular semigroups generated by posets of groups. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 57–62. (Summary) **98d:20071** 20M17 (20M14)

Anderson, James H. (*with* Moir, Mark) Universal constructions for large objects. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 168–182, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10

Anderson, James Milne (*with* Hinkkanen, A.) Renewal sequences and ordered partitions. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 11–27. (M. S. Sgibnev) **98g:60157** 60K05 (60C05)

Anderson, James W. (*with* Maskit, Bernard) On the local connectivity of limit set of Kleinian groups. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 2, 177–183. (I. Kra) **98a:30055** 30F40 (20H10)

— (*with* Canary, Richard D.; Culler, Marc; Shalen, Peter B.) Free Kleinian groups and volumes of hyperbolic 3-manifolds. *J. Differential Geom.* **43** (1996), *no.* 4, 738–782. (Frédéric Paulin) **98c:57012** 57M50 (20H10, 30F40, 57N10, 57S30)

— The limit set intersection theorem for finitely generated Kleinian groups. *Math. Res. Lett.* **3** (1996), *no.* 5, 675–692. (R. A. Hidalgo (Zbl 864.30032)) **98k:30056** 30F40 (20H10)

Anderson, Jamie M. (*with* Streitlien, K.; Barrett, D. S.; Triantafyllou, M. S.) Oscillating foils of high propulsive efficiency. (English summary) *J. Fluid Mech.* **360** (1998), 41–72. 76B05

Anderson, Jeffrey R. Global solvability of nonlinear diffusion equations with forcing at the boundary. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 515–535. (Barbara E. E. Stoth) **98c:35091** 35K60 (35B60, 35K20)

— (*with* Deng, Keng) Global existence for degenerate parabolic equations with a non-local forcing. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1069–1087. (Norbert Hungerbühler) **98f:35083** 35K65 (35B40, 35K60)

Anderson, John B. (*with* Balachandran, Krishna) Reduced complexity sequence detection for nonminimum phase intersymbol interference channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 275–280. 94A05 (94A40)

— (*with* Said, Amir) Bandwidth-efficient coded modulation with optimized linear partial-response signals. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 701–713. 94A14

— (*with* Osthoff, Harro; Johannesson, Rolf; Lin, Chin-foo) Systematic feed-forward convolutional encoders are better than other encoders with an M-algorithm decoder. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 831–838. 94B10

Anderson, John D., Jr. ★ A history of aerodynamics. (English summary) And its impact on flying machines. With a foreword by Von Hardesty. Cambridge Aerospace Series, 8. *Cambridge University Press, Cambridge*, 1997. xii+478 *pp. ISBN* 0-521-45435-2 (Natalya A. Vladimirova) **98j:76001** 76-03 (01A55, 01A60, 76G25)

Anderson, Malcolm R. (*with* Bonjour, Filipe; Gregory, Ruth; Stewart, John Malcolm) Effective action and motion of a cosmic string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8014–8028. (Summary) **98i:83089** 83F05 (81V17, 83E30)

Anderson, Mark (*with* Richter, R. Bruce; Rodney, Peter) The crossing number of $C_7 \times C_7$. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 97–117. (Summary) **98m:05049** 05C10

Anderson, Michael T. Scalar curvature and geometrization conjectures for 3-manifolds. (English summary) *Comparison geometry* (*Berkeley, CA*, 1993–94), 49–82, *Math. Sci. Res. Inst. Publ.*, 30, *Cambridge Univ. Press, Cambridge*, 1997. (Man Chun Leung) **98e:58050** 58E11 (53C25, 57M40, 57N10)

— Extrema of curvature functionals on the space of metrics on 3-manifolds. *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 3, 199–269. (Thalia D. Jeffres) **98a:58041** 58E11 (53C20, 58G30)

Anderson, N. D. (*with* Dilcher, Karl; Rovnyak, J.) Mathematics research libraries at the end of the twentieth century. *Notices Amer. Math. Soc.* **44** (1997), *no.* 11, 1469–1472. 01A74

Anderson, Paul L. (*with* Meerschaert, Mark M.) Periodic moving averages of random variables with regularly varying tails. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 771–785. (Juan Carlos Abril) **98f:62244** 62M10 (60F05, 62E20)

Anderson, Paul R. Gauge-invariant effective stress-energy tensors for gravitational waves. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3440–3443. (Summary) **98a:83045** 83C35

— (*with* Taylor, Brett E.; Hiscock, William A.) Stress-energy of a quantized scalar field in static wormhole spacetimes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6116–6122. (Summary) **98b:83046** 83C47 (81T20)

— (*with* Hiscock, William A.; Larson, Shane L.) Semiclassical effects in black hole interiors. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3571–3581. (Summary) **98e:83077** 83C57

— (*with* Brill, Dieter R.) Gravitational geons revisited. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4824–4833. (Valerio Faraoni) **98k:83033** 83C35 (83C40)

Anderson, R. L. *see* **Anderson, Robert Leonard**

Anderson, R. M. *see* **Anderson, Roy Malcolm**

Anderson, Richard J. (*with* Woll, Heather) Algorithms for the certified write-all problem. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1277–1283. (Summary) **98e:68058** 68Q10 (68Q22)

Anderson, Robert Leonard (*with* Baikov, V. A.; Gazizov, R. K.; Hereman, Willy; Ibragimov, N. Kh.; Mahomed, F. M.; Meleshko, S. V.; Nucci, M. C.; Olver, Peter J.; Sheftel', M. B.; Turbiner, A. V.; Vorob'ev, E. M.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 3. New trends in theoretical developments and computational methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1996. xvi+536 *pp. ISBN* 0-8493-9419-8 (Juha Pohjanpelto) **98b:58176** 58G35 (00A20, 22E05, 34A34, 35–04, 35A30, 58–02)

Anderson, Robert M. (*with* Trockel, Walter; Zhou, Lin) Nonconvergence of the Mas-Colell and Zhou bargaining sets. *Econometrica* **65** (1997), *no.* 5, 1227–1239. (Xie Ping Ding) **98j:90102** 90D10

Anderson, Ronald M. (*with* Obeyesekere, Mandri) A model for water uptake in plants. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 163–191. (Roger V. Jean) **98k:92021** 92F05

Anderson, Ross (*with* Vaudenay, Serge) Minding your *p*'s and *q*'s. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 26–35, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94016** 94A60

— *see also* **Information hiding**

Anderson, Roy Malcolm (*with* Rhodes, C. J.) Forest-fire as a model for the dynamics of disease epidemics. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 199–211. (*see* **98i:92001**) 92D30 (92–02, 92C60)

Anderson, S. O. (*with* Power, Anthony John) A representable approach to finite nondeterminism. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 3–25. (Summary) **98c:68123** 68Q55 (03B70, 06B35)

Anderson, Simon P. (*with* Goeree, Jacob K.; Ramer, Roald) Location, location, location. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 102–127. (Summary) **98h:90026** 90A40 (90D35)

Anderson, T. G. (*with* Brown, Richard C.; Hinton, D. B.) Perturbation theory for a one-term weighted differential operator. *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 149–170, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Petru A. Kozhukhar') **98f:47054** 47E05 (34L05)

Anderson, T. W. Inference in linear models. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 1–20, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15 (62H25, 62J05, 62J10)

— (*with* Stephens, Michael A.) The continuous and discrete Brownian bridges: representations and applications. (English summary) *Linear Algebra Appl.* **264** (1997), 145–171. (Summary) **98e:60130** 60J65

— *see also* **Multivariate analysis and its applications, 98e:62010**

Anderson, Warren G. Quantum backreaction in homogeneous black hole interiors. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 53–58, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83065** 83C57 (81T20)

— (*with* McLenaghan, R. G.; Walton, T. F.) An explicit determination of the non-self-adjoint wave equations that satisfy Huygens' principle on Petrov type III background space-times. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 37–58. (Simonetta Frittelli) **98c:58166** 58G16 (35L05, 35Q75, 83C20, 83C60)

Anderson, William J. *see* **Chen, Mu Fa, 98h:60110**

Anderssen, Robert S. (*with* Nair, M. Thamban; Hegland, Markus) The trade-off between regularity and stability in Tikhonov regularization. (English summary) *Math. Comp.* **66** (1997), *no.* 217, 193–206. (Alexei I. Filinkov) **98a:65081** 65J20 (47A50, 65J10, 65R30)

— (*with* Yu, Shihong; Latham, G. A.) Matrix analysis of a two-stage-splitting iteration for maximum penalized likelihood estimation. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 348–359. (Summary) **98i:65126** 65U05

Andersson, Arne (*with* Swanson, Kurt) On the difficulty of range searching. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 473–481, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

— Sorting and searching revisited. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 185–197, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68P10

— (*with* Swanson, Kurt) On the difficulty of range searching. (English summary) *Comput. Geom.* **8** (1997), *no.* 3, 115–122. (Summary) **98e:68244** 68U05

Andersson, Fredrik (*with* Edgar, S. Brian) The wave equations for the Weyl tensor/spinor and dimensionally dependent tensor identities. (English summary) *Internat. J. Modern Phys. D* **5** (1996), *no.* 3, 217–225. (Reinhard Illge) **98f:58187** 58G16 (53C80, 83C99)

Andersson, Helge I. (*with* van de Konijnenberg, J. A.; van Heijst, G. J. F.) Spin-up in a rectangular tank with a sloping bottom. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 609–623. 76U05

— (*with* Bech, Knut H.) Turbulent plane Couette flow subject to strong system rotation. (English summary) *J. Fluid Mech.* **347** (1997), 289–314. (From the summary) **98h:76064** 76F99 (76U05)

Andersson, Lars Åke (*with* Moncrief, Vincent; Tromba, Anthony J.) On the global evolution problem in 2 + 1 gravity. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 191–205. (Charles G. Torre) **98m:83006** 83C05 (53C50)

Andersson, Lars-Erik (*with* Klarbring, Anders) On a class of limit states of frictional joints: formulation and existence theorem. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 1, 69–87. (Meir Shillor) **98b:73013** 73C99 (35Q72, 49J40, 73T05, 73V25)

Andersson, Mats E. L. ★ Topics in complex analysis. (English summary) Universitext. *Springer-Verlag, New York*, 1997. viii+157 *pp. ISBN* 0-387-94754-X (D. Mitrović) **98a:30001** 30–01 (30D35, 31–01, 46J15, 46J20)

— Taylor's functional calculus for commuting operators with Cauchy-Fantappié-Leray formulas. *Internat. Math. Res. Notices* **1997**, *no.* 6, 247–258. (Vladimir Müller) **98e:47008** 47A13 (47A60)

— Correction to: "Taylor's functional calculus for commuting operators with Cauchy-Fantappié-Leray formulas" [Internat. Math. Res. Notices **1997**, no. 6, 247–258; MR 98e:47008]. *Internat. Math. Res. Notices* **1998**, *no.* 2, 123–124. (From the text) **98k:47007** 47A13 (47A60)

Andersson, Mats Erik Integral means on Bergman spaces. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 147–160. (Ke He Zhu) **98f:30044** 30H05 (30E05, 46E20)

Andersson, Nils (*with* Krivan, William; Laguna-Castillo, Pablo; Papadopoulos, Philippos O.) Dynamics of perturbations of rotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3395–3404. (Summary) **98e:83080** 83C57 (83–08)

Andersson, Patrik Characterization of pointwise Hölder regularity. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 429–443. (Peter A. McCoy) **98m:42009** 42A99 (41A25, 42C15)

Andersson, Steen A. (*with* Perlman, Michael D.) Normal linear models with lattice conditional independence restrictions. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 97–110, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H12 (62J05)

— (*with* Madigan, David; Perlman, Michael D.; Triggs, Christopher M.) A graphical characterization of lattice conditional independence models. (English summary) Advances in the understanding and use of conditional independence (Fort Lauderdale, FL, 1996). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 1, 27–50. (Summary) **98f:62157** 62H10

— (*with* Madigan, David; Perlman, Michael D.) On the Markov equivalence of chain graphs, undirected graphs, and acyclic digraphs. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 81–102. (Ram Shanmugam) **98f:62282** 62M99 (05C75, 62H99)

Andiarti, R. (*with* Huijberts, H. J. C.; Moog, C. H.) Generalized controlled invariance for nonlinear systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 953–979. (Henk Nijmeijer) **98c:93059** 93C10 (93B27, 93C35)

Andima, Susan *see* **Papers on general topology and applications, 98d:54001; 98f:54003** *and* **98f:54004**

Ando, Hiroshi The Cauchy problem for a Schrödinger type equation with degeneracy. (Japanese) Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 178–187. (*see* **98f:35006**) 35J10

Ando, Kazutoshi (*with* Fujishige, Satoru; Nemoto, Toshio) The minimum-weight ideal problem for signed posets. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 4, 558–565. (Michael A. Trick) **98j:90084** 90C35 (06A07)

— (*with* Fujishige, Satoru; Naitoh, Takeshi) Balanced bisubmodular systems and bidirected flows. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 437–447. (Daniel Turzik) **98k:05073** 05C20 (06A07, 90C35)

Ando, Kiyoshi (*with* Komuro, Hideo) The seven graphs whose H-transformations are uniquely determined. (English summary) *Ars Combin.* **46** (1997), 305–318. (Summary) **98d:05117** 05C75

— (*with* Egawa, Yoshimi) The minimum number of edges in a vertex diameter-2-critical graph. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 35–63. (Kathryn Fraughnaugh) **98c:05085** 05C35

Ando, Shiro (*with* Hayashi, Masahumi) Counting the number of equivalence classes of (m, F) sequences and their generalizations. *Fibonacci Quart.* **35** (1997), *no.* 1, 3–8. (Y. H. Harris Kwong) **98d:11014** 11B37 (05A15, 11B39)

Ando, Tsuyoshi Extreme points of an intersection of operator intervals. *International Mathematics Conference '94* (*Kaohsiung*, 1994), 1–18, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. M. Arlinskiĭ) **98b:47056** 47D20 (47A63, 47B15)

— Bounds for anti-distance. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 371–373. (Summary) **98c:15055** 15A45 (15A60)

— (*with* Okubo, Kazuyoshi) Hölder-type inequalities associated with operator radii and Schur products. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 53–61. (Summary) **98k:15036** 15A60 (47A30)

Andonowati (*with* Tam, K. Kuen; Kiang, M. T.) Nonlinear eigenfunction expansion for a problem in microwave heating. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 3, 311–325. (Yi Hong Du) **98f:65104** 65N25 (35J25, 47H12, 80A20)

— Microwave heating: critical dependence on data and parameters. (English summary) *Differential equations* (*Bandung*, 1996), 189–199, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 80A20

Andou, Yuuki A system of $\lambda\mu$-calculus proper to the implicational fragment of classical natural deduction with one conclusion. (English summary) Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 70–76. (*see* **98f:03001**) 03B40 (03F05)

Andrä, H. (*with* Schnack, Eckart) Integration of singular Galerkin-type boundary element integrals for 3D elasticity problems. (English summary) *Numer. Math.* **76** (1997), *no.* 2, 143–165. (I. N. Molchanov) **98b:65134** 65N38 (65D30, 73V10)

— Adaptive numerical integration of singular double integrals on curved surfaces. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 7–11, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65D30

Andradas, Carlos (*with* Bröcker, Ludwig; Ruiz, Jesús M.) ★ Constructible sets in real geometry. Ergebnisse der Mathematik und ihrer Grenzgebiete (3) [Results in Mathematics and Related Areas (3)], 33. *Springer-Verlag, Berlin*, 1996. x+270 *pp. ISBN* 3-540-60451-0 (Thomas C. Craven) **98e:14056** 14P10 (12J15, 13J25, 14P15)

— *see also* **Real algebraic and analytic geometry, 98g:14002**

borba de Andrade, B. *see* **Borba de Andrade, B.**

aguilar-Andrade, F. *see* **Aguilar-Andrade, F.**

garcia de Andrade, L. C. *see* **Garcia de Andrade, L. C.**

de Andrade, V. C. (*with* Pereira, José G.) Gravitational Lorentz force and the description of the gravitational interaction. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4689–4695. (Summary) **98g:83007** 83C10

— (*with* Pereira, José G.) Riemannian and teleparallel descriptions of the scalar field gravitational interaction. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 263–273. (Alberto Saa Vazquez) **98m:83059** 83D05 (83C05)

András, Peter Approximation of functions with tree-structured neural networks. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 1–8, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **98i:41024** 41A30 (92B20)

André, Carlos A. M. The regular character of the unitriangular group. *J. Algebra* **201** (1998), *no.* 1, 1–52. (Alexander Kleshchev) **98k:20071** 20G05 (20G40, 22E27)

André, Carmen D. S. (*with* Narula, Subhash C.; Peres, Clovis A.; Ventura, Gilberto A.) Asymptotic properties of the minimum sum of absolute errors estimators in a dose-response model. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 4, 361–370. 62P10

André, Johannes On non-commutative geometry. II. Ideal spaces. *Ann. Univ. Sarav. Ser. Math.* **7** (1996), *no.* 1, iv+36 *pp.* (Franz B. Kalhoff) **98b:51003** 51D15 (20B15, 51A05, 51D99)

— On generalized projective spaces operating on sets. (English summary) *J. Geom.* **59** (1997), *no.* 1-2, 15–31. (Summary) **98g:51001** 51A05 (51D10)

André, Michel Examples of non-rigid cotangent complexes. (English summary) *J. Algebra* **186** (1996), *no.* 1, 32–46. (Tiberiu Dumitrescu) **98a:13022** 13D03 (13D25)

André, N. (*with* Chipot, M.) A remark on uniqueness for quasilinear elliptic equations. *Singularities and differential equations* (*Warsaw*, 1993), 9–18, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Gaston E. Hernandez) **98k:35046** 35J60

— (*with* Chipot, M.) Uniqueness and nonuniqueness for the approximation of quasilinear elliptic equations. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1981–1994. (Srinivasan Kesavan) **98k:65064** 65N30 (35A35, 35J60)

André, Yves[1] Une remarque à propos des cycles de Hodge de type CM. [A remark concerning Hodge cycles of CM type] *Séminaire de Théorie des Nombres, Paris*, 1989–90, 1–7, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Min Ho Lee) **98f:14005** 14C30 (14C25, 14K22)

— Pour une théorie inconditionnelle des motifs. [Toward an unconditional theory of motives] *Inst. Hautes Études Sci. Publ. Math. No.* 83 (1996), 5–49. (From the introduction) **98m:14022** 14F99 (14C25)

— *G*-fonctions et transcendance. [*G*-functions and transcendence] *J. Reine Angew. Math.* **476** (1996), 95–125. (F. Beukers) **98a:11097** 11J91 (11J89)

d'Andrea, Anna Bruna (*with* Pulmannová, Sylvia) Quasivarieties of orthomodular lattices and Bell inequalities. (English summary) *Rep. Math. Phys.* **37** (1996), *no.* 2, 261–266. (Summary) **98j:81025** 81P10 (06C15)

Andrea, Stephen The PBW theorem, and generators and relations of the symmetric group. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 521–532. (Summary) **98c:20022** 20C30 (17B35)

Andreadis, Ioannis Constraints in pseudo-Riemannian geometry of infinite dimension. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 77–84, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Fernand Pelletier) **98i:58018** 58B20

— (*with* Pelletier, Fernand; Pnevmatikos, Spyros N.) Structures symplectiques fredholmiennes. (English summary) [Fredholm symplectic structure] *Bull. Sci. Math.* **121** (1997), *no.* 4, 275–300. (Harald Upmeier) **98i:58017** 58B15 (58F05)

— (*with* Argyris, John; Pavlos, Georgios; Athanasiou, Michalis) The influence of noise on the correlation dimension of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 343–361. (Summary) **98m:58089** 58F13

— (*with* Argyris, John; Ciubotariu, Corneliu) Infinitesimal Lorentz transformations and the states of polarization of free photons. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 277–285. 83A05

Andreae, Thomas (*with* Nölle, Michael; Rempel, Christof; Schreiber, Gerald) On embedding 2-dimensional toroidal grids into de Bruijn graphs with clocked congestion one. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 316–327, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:68025** 68M10 (05C10, 68R10)

Andreani, R. (*with* Friedlander, Ana; Martínez, José Mario) Solution of finite-dimensional variational inequalities using smooth optimization with simple bounds. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 635–657. (Alfredo N. Iusem) **98j:90079** 90C33 (49J40)

Andreas, Björn *T-S-T* dual black hole. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 12, 2293–2299. (Gil De Oliveira-Neto) **98c:83054** 83C57 (83E30)

Andreassen, Erik (*with* Gundersen, Elisabeth; Hinrichsen, Einar L.; Langtangen, Hans Petter) A mathematical model for the melt spinning of polymer fibers. (English summary) *Numerical methods and software tools in industrial mathematics*, 195–212, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:82078** 82D60

Andreassen, Øyvind (*with* Arendt, Steve; Fritts, David C.) The initial value problem for Kelvin vortex waves. (English summary) *J. Fluid Mech.* **344** (1997), 181–212. (Shu Ming Sun) **98i:76015** 76C05

Andreatta, A. (*with* Grieco, M.; Zucchetti, B.) Models of real algebraic surfaces equipped with a real part and whose Hessian has no real points. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 2, 257–268 (1995). (A. Tognoli) **98a:14071** 14P05

Andreatta, Marco (*with* Peternell, Thomas) On the limits of manifolds with nef canonical bundles. *Complex analysis and geometry* (*Trento*, 1995), 1–6, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Mark Gross) **98k:14047** 14J10 (14E30)

— (*with* Mella, Massimiliano) Contractions on a manifold polarized by an ample vector bundle. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4669–4683. (Jarosław A. Wiśniewski) **98b:14012** 14E30 (14C20, 14J60)

— *see also* **Higher-dimensional complex varieties, 98c:14002**

Andreev, A. *see* **Andreev, Andrei St.**

Andreev, A. B. (*with* Todorov, Todor Dimitrov) Finite element approximations of some central curves. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 25–33, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65D17 (65N30)

Andreev, A. E. (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Hitting sets derandomize BPP. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 357–368, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68092** 68Q15 (68Q10)

— (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Optimal bounds on the approximation of Boolean functions with consequences on the concept of hardness (extended abstract). (English summary) *STACS* 96 (*Grenoble*, 1996), 319–330, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q25 (94C10)

— (*with* Vikhlyantsev, I. A.) On the complexity of numbering operators. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 44–56; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 549–561. (I. Strazdiņš) **98d:94050** 94C10 (68Q25)

— (*with* Chasovskikh, A. A.) Automaton complexity of two-place Boolean bases. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 123–133; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 599–610. (Nicolae Ţăndăreanu) **98h:03054** 03D05 (03D15, 68Q68)

— (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Worst-case hardness suffices for derandomization: a new method for hardness-randomness trade-offs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 177–187, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

— (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Efficient constructions of hitting sets for systems of linear functions. (English summary) *STACS* 97 (*Lübeck*), 387–398, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q25 (68Q15)

Andreev, A. F. (*with* Gaĭshun, Ivan Vasil'evich; Gromak, V. I.; et al.) Nikolaĭ Pavlovich Erugin (on the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **33** (1997), *no.* 5, 579–582; *translation in Differential Equations* **33** (1997), *no.* 5, 583–586 (1998). 01A70

— (*with* Andreeva, I. A.) On limit and separatrix cycles of a quasiquadratic system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 700–701, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 702–703 (1998). (Summary) **98k:34039** 34C05

Andreev, A. S. *see* **Andreev, Aleksandr Sergeevich**

Andreev, A. V. (*with* Simons, B. D.; Agam, O.; Altshuler, B. L.) Semiclassical field theory approach to quantum chaos. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 536–566. (Summary) **98f:81073** 81Q50

— (*with* Agam, O.; Simons, B. D.) Quantum chaos: a field theory approach. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1099–1129. 81Q50

— (*with* Simons, B. D.; Agam, O.) Time-reversal symmetry breaking and the field theory of quantum chaos. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1982–2006. (Jacobus Verbaarschot) **98h:82033** 82B44 (81Q50)

Andreev, Aleksandr Sergeevich (*with* Zappalà, Giuseppe) On stability for perturbed differential equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 27–41 (1997). (T. A. Burton) **98k:34083** 34D05

— On the stability of the equilibrium position of a nonautonomous mechanical system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 3, 388–396; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 3, 381–389. (Ranislav Bulatović) **98c:70022** 70K20 (34D05, 34D20, 70F20, 70K15)

— On the stability of a nonautonomous functional-differential equation. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 151–153. (Vera V. Malygina) **98m:34149** 34K20

— On the stability of nonautonomous functional-differential equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2847–2854. (*see* **98i:00031**) 34K20

Andreev, Alexander E. *see* **Andreev, A. E.**

Andreev, Alexandre *see* **Andreev, Aleksandr Sergeevich**

Andreev, Andrei St. (*with* Atanassova, Lidiya Y.; Kyurkchiev, Nikolaĭ V.) Combined iterative methods based on a modification of the Koenig theorem. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 23–37, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:65026** 65E05 (30C15)

Andreev, Andrey B. *see* **Andreev, A. B.**

Andreev, F. V. (*with* Kitaev, A. V.) Exponentially small corrections to divergent asymptotic expansions of solutions of the fifth Painlevé equation. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 741–759. (Summary) **98h:34004** 34A20 (34E05)

Andreev, Nikolaĭ N. (*with* Konyagin, Sergei; Popov, A. Yu.) Extremal problems for functions with small support. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 323–332, 478; *translation in Math. Notes* **60** (1996), *no.* 3-4, 241–247 (1997). (S. Baron) **98g:42002** 42A05 (41A30, 42A16, 42A32)

— An extremal problem for periodic functions with small support. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 1, 29–32, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 29–32. (Summary) **98g:42011** 42A32 (41A60)

Andreev, O. D. Some chiral rings of $N = 2$ discrete superconformal series induced by SL(2) degenerate conformal field theories. (English summary) *Nuclear Phys. B* **494** (1997), no. 3, 546–566. (Isabel P. Ennes) **98f:81095** 81R10 (81R50, 81T40)

— Notes on SL(2) conformal fields theories. Exact solution and applications. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 159–163. (*see* **98b:81005**) 81T40

Andreev, P. V. On the standardization principle in the theory of bounded sets. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, no. 1, 68–70; *translation in Moscow Univ. Math. Bull.* **52** (1997), no. 1, 46–48. (R. Gylys) **98k:03125** 03H05 (03E70)

Andreeva, I. A. (*with* Andreev, A. F.) On limit and separatrix cycles of a quasiquadratic system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), no. 5, 700–701, 719; *translation in Differential Equations* **33** (1997), no. 5, 702–703 (1998). (Summary) **98k:34039** 34C05

Andreeva, I. Yu. (*with* Sesekin, A. N.) An impulse linear-quadratic optimization problem in systems with aftereffect. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995**, no. 10, 10–14; *translation in Russian Math. (Iz. VUZ)* **39** (1995), no. 10, 8–12 (1996). (From the text) **98h:49007** 49J25 (34K35)

Andreeva, T. A. (*with* L'vov, I. V.; Kharchenko, Vladislav K.) On rings of quotients of free algebras. (Russian. Russian summary) *Algebra i Logika* **35** (1996), no. 6, 655–662, 751; *translation in Algebra and Logic* **35** (1996), no. 6, 366–370. (Vesselin Drensky) **98h:16035** 16S10 (16S90)

Andreeva, Velichka A. Exact formulae of the mean-square discrepancy of some finite two-dimensional sequences. (English summary) *Plovdiv. Univ. "Paisii Khilendarski" Nauchn. Trud. Mat.* **31** (1994), no. 3, 5–12. (Summary) **98f:11081** 11K38

Andrei, M. (*with* Bălăcenoiu, Ion; Dumitrescu, Constantin A.; Rădescu, E.; Rădescu, N.; Seleacu, Vasile) A linear combination with Smarandache function to obtain the identity. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 437–439, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 11A25

André-Jeannin, Richard Summation of reciprocals in certain second-order recurring sequences. *Fibonacci Quart.* **35** (1997), no. 1, 68–74. (Péter Kiss) **98d:11015** 11B37 (11B39)

Andréka, Hajnal (*with* Kurucz, Ágnes; Németi, István; Sain, Ildikó; Simon, András) Causes and remedies for undecidability in arrow logics and in multi-modal logics. (English summary) *Arrow logic and multi-modal logic*, 63–99, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1996. (*see* **98b:03036**) 03B45 (03D35)

— (*with* Givant, Steven; Németi, István) Decision problems for equational theories of relation algebras. (English summary) *Mem. Amer. Math. Soc.* **126** (1997), no. 604, xiv+126 pp. (Manuel Abad) **98e:03039** 03G15 (03B25, 03D35)

Andreopoulos, Yiannis (*with* Honkan, Anant) Vorticity, strain-rate and dissipation characteristics in the near-wall region of turbulent boundary layers. (English summary) *J. Fluid Mech.* **350** (1997), 29–96. 76–05 (76D10, 76F99)

Andreotti, B. (*with* Douady, S.; Couder, Y.) About the interaction between vorticity and stretching in coherent structures. (English summary) *Turbulence modeling and vortex dynamics (Istanbul, 1996)*, 92–108, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76068** 76F99 (76–05, 76C05)

Andreou, Elias (*with* Dassios, George) Dissipation of energy for magnetoelastic waves in a conductive medium. (English summary) *Quart. Appl. Math.* **55** (1997), no. 1, 23–39. (Gérard A. Maugin) **98d:73053** 73R05 (73D15)

Andres, Jan (*with* Górniewicz, Lech; Lewicka, Marta) Partially dissipative periodic processes. (English summary) *Topology in nonlinear analysis (Warsaw, 1994)*, 109–118, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Roman Srzednicki) **98d:47129** 47H10 (34A60, 34C25, 47H11, 47N20, 55M25)

— (*with* Turský, Tomáš) Asymptotic estimates of solutions and their derivatives for n-th order nonhomogeneous ordinary differential equations with constant coefficients. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), no. 1, 75–89. (Summary) **98f:34075** 34D05 (34A30, 34D40)

— Nonlinear rotations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), no. 1, 495–503. (Stanisław Sędziwy) **98j:34065** 34C25 (34A60)

— Existence of periodic and bounded solutions of the generalized Liénard equation under forcing. (English summary) *Rep. Math. Phys.* **39** (1997), no. 1, 91–98. (James M. D'Archangelo) **98h:34077** 34C25 (34C11, 34D05, 70K40)

fernandez Andrés, Manuel *see* **Fernandez Andrés, Manuel**

Andres, Terry H. (*with* L'Ecuyer, Pierre) A random number generator based on the combination of four LCGs. (English summary) *Math. Comput. Simulation* **44** (1997), no. 1, 99–107. (Summary) **98d:65012** 65C10

Andretta, Alessandro (*with* Steel, J. R.) How to win some simple iteration games. (English summary) *Ann. Pure Appl. Logic* **83** (1997), no. 2, 103–164. (Douglas R. Burke) **98h:03064** 03E55 (03E05)

— (*with* Marcone, Alberto) Ordinary differential equations and descriptive set theory: uniqueness and globality of solutions of Cauchy problems in one dimension. (English summary) *Fund. Math.* **153** (1997), no. 2, 157–190. (Summary) **98g:34009** 34A12 (04A15, 54H05)

Andreu, F. (*with* Mazón, J. M.; Segura de León, S.; Toledo, Julián) Quasi-linear elliptic and parabolic equations in L^1 with nonlinear boundary conditions. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), no. 1, 183–213. (Dian K. Palagachev) **98f:35079** 35K60 (35J65, 47H20)

palmer Andreu, Vicente *see* **Palmer Andreu, Vicente**

Andreucci, Daniele (*with* Verdi, Claudio) Existence, uniqueness and error estimates for a model of polymer crystallization. (English summary) *Adv. Math. Sci. Appl.* **5** (1995), no. 2, 391–409. (Antonio Fasano) **98d:82051** 82D60 (35Q99)

— (*with* Fasano, Antonio; Gianni, Roberto; Primicerio, M.; Ricci, Riccardo) Diffusion driven crystallization in polymers. *Free boundary problems, theory and applications (Zakopane, 1995)*, 359–367, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 82D60 (35R35)

— (*with* Herrero, Miguel A.; Velázquez, Juan J. L.) Liouville theorems and blow up behaviour in semilinear reaction diffusion systems. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), no. 1, 1–53. (Yoshio Yamada) **98e:35088** 35K57 (35B05, 35B40)

— (*with* Fasano, Antonio; Ricci, Riccardo) On the growth of a polymer layer around a catalytic particle: a free boundary problem. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), no. 4, 511–520. (Summary) **98g:35219** 35R35 (82D60)

Andrew, A. L. Finite and continuous perturbations of matrix eigenvalues. (English summary) *Appl. Math. Lett.* **11** (1998), no. 1, 47–51. 15A42

Andrew, Lachlan L. H. Binary output of cellular neural networks with smooth activation. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), no. 9, 821–824. (Summary) **98f:94027** 94C99 (93C83)

Andrews, Donald W. K. (*with* Ploberger, Werner) Testing for serial correlation against an ARMA(1, 1) process. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), no. 435, 1331–1342. (Sat Narain Gupta) **98e:62124** 62M10

— A stopping rule for the computation of generalized method of moments estimators. (English summary) *Econometrica* **65** (1997), no. 4, 913–931. (Ram Shanmugam) **98h:62025** 62F10 (62P20)

Andrews, Douglas M. Moments of the selection differential from exponential and uniform parents. (English summary) *Statistical theory and applications*, 67–80, *Springer, New York*, 1996. (*see* **98b:62003**) 62E15 (62G30)

Andrews, George E. Pfaff's method. III. Comparison with the WZ method. (English summary) The Foata Festschrift. *Electron. J. Combin.* **3** (1996), no. 2, *Research Paper* 21, *approx.* 18 pp. (*electronic*). (Bruce C. Berndt) **98b:33014** 33C20

— Pfaff's method. II. Diverse applications. (English summary) *J. Comput. Appl. Math.* **68** (1996), no. 1-2, 15–23. (Bruce C. Berndt) **98b:33013** 33C20 (33D20)

— Pfaff's method. III. Comparison with the WZ method [MR 98b:33014]. *Organic mathematics (Burnaby, BC, 1995)*, 19–34, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 33C20

— (*with* Roy, Ranjan) Ramanujan's method in q-series congruences. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), no. 2, *Research Paper* 2, *approx.* 7 pp. (*electronic*). (Laurent Habsieger) **98f:11110** 11P83 (05A17, 05A30, 11B65, 11P81)

— (*with* de Oliveira Santos, J. P.) Rogers-Ramanujan type identities for partitions with attached odd parts. (English summary) *Ramanujan J.* **1** (1997), no. 1, 91–99. (Anne Schilling) **98k:11143** 11P83 (05A17, 05A19)

— (*with* Alladi, Krishnaswami) A new key identity for Göllnitz' (big) partition theorem. (English summary) *Number theory (Tiruchirapalli, 1996)*, 229–241, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (David M. Bressoud) **98j:11079** 11P81 (05A17)

— The geometric series in calculus. *Amer. Math. Monthly* **105** (1998), no. 1, 36–40. 26–01

— (*with* Berkovich, Alexander) A trinomial analogue of Bailey's lemma and $N = 2$ superconformal invariance. (English summary) *Comm. Math. Phys.* **192** (1998), no. 2, 245–260. (Anne Schilling) **98m:11107** 11P82 (05A30, 33D80, 81T40)

Andrews, James H. Executing formal specifications by translation to higher order logic programming. (English summary) *Theorem proving in higher order logics (Murray Hill, NJ, 1997)*, 17–32, *Lecture Notes in Comput. Sci.*, 1275, *Springer, Berlin*, 1997. (*see* **98i:68018**) 68Q60 (68N17)

— A logical semantics for depth-first Prolog with ground negation. (English summary) *Theoret. Comput. Sci.* **184** (1997), no. 1-2, 105–143. (From the summary) **98k:68032** 68N17 (03B50, 03B70, 68Q55)

Andrews, Kevin T. (*with* Kuttler, K. L.; Shillor, Meir) On the dynamic behaviour of a thermoviscoelastic body in frictional contact with a rigid obstacle. (English summary) *European J. Appl. Math.* **8** (1997), no. 4, 417–436. (Anders Klarbring) **98j:73080** 73T05 (49J40, 73B30, 73F15, 73V25)

— (*with* Shillor, Meir; Wright, Stephen James; Klarbring, Anders) A dynamic thermoviscoelastic contact problem with friction and wear. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), no. 14, 1291–1309. (Kenneth Kuttler) **98m:73072** 73T05 (35Q72, 73B30, 73F15, 73V25)

Andrews, Peter B. (*with* Bishop, Matthew) On sets, types, fixed points, and checkerboards. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 1–15, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03007** 03B35 (03B15, 68T15)

Andrianarivelo, Nirina (*with* Bousdira, Wadoud; Talbot, Jean-Marc) On theorem-proving in Horn theories with built-in algebras. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 320–338, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98i:68245** 68T15 (03B35)

Andriani, Cristina (*with* Baldi, Paolo) Sharp estimates of deviations of the sample mean in many dimensions. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), no. 3, 371–385. (Anatolii A. Pukhal'skiĭ) **98g:60051** 60F10

Andrianopoli, Laura (*with* D'Auria, Riccardo; Ferrara, Sergio) Central extension of extended supergravities in diverse dimensions. (English summary) *Internat. J. Modern Phys. A* **12** (1997), no. 21, 3759–3773. (Krzysztof Galicki) **98g:83112** 83E50 (81T60, 83E30)

— (*with* Bertolini, Matteo; Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), no. 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

— (*with* D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Minasian, Ruben; Trigiante, Mario) Solvable Lie algebras in type IIA, type IIB and M-theories. (English summary) *Nuclear Phys. B* **493** (1997), no. 1-2, 249–277. (Angel Maria Uranga) **98k:81187** 81T30 (17B30, 81R05, 83E30)

— (*with* D'Auria, Riccardo; Ferrara, Sergio) U-invariants, black-hole entropy and fixed scalars. (English summary) *Phys. Lett. B* **403** (1997), no. 1-2, 12–19. (Summary) **98d:83086** 83E30 (81T30, 83C57, 83E50)

— (*with* D'Auria, Riccardo; Ferrara, Sergio) Five-dimensional U-duality, black-hole entropy and topological invariants. (English summary) *Phys. Lett. B* **411** (1997), no. 1-2, 39–45. (Ion V. Vancea) **98m:83074** 83E50 (83C57, 83E30)

Andrianov, A. A. (*with* Andrianov, V. A.; Yudichev, V. L.) Fermion models with quasilocal interaction in a neighborhood of a polycritical point. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), no. 2, 276–293; *translation in Theoret. and Math. Phys.* **108** (1996), no. 2, 1069–1082 (1997). (Summary) **98d:81062** 81T15 (81T10)

— (*with* Cannata, F.; Ioffe, M. V.; Nishnianidze, D. N.) Matrix Hamiltonians: SUSY approach to hidden symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5037–5050. (Avinash Khare) **98k:81067** 81Q60

— (*with* Andrianov, V. A.) Determination of scalar meson masses in QCD-inspired effective quark models. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 5–21, 282. 81V05

Andrianov, A. N. *see* **Andrianov, Anatolii Nikolaevich**

Andrianov, A. V. An analogue of the Jackson-Nikol′skiĭ theorem for the approximation of sigmoidal functions by superpositions. (Russian) *Mat. Zametki* **59** (1996), *no.* 6, 915–918; *translation in Math. Notes* **59** (1996), *no.* 5-6, 661–664. (Vanja Hadzijski) **98c:41013** 41A17 (41A30)

Andrianov, Anatolii Nikolaevich Harmonic theta functions and Hecke operators. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 1–31; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 695–720. (Vladimir G. Zhuravlev) **98a:11053** 11F25 (11E45, 11F27)

— On a suggestion of Yu. V. Linnik, Hecke operators and theta functions. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **226** (1996), *Anal. Teor. Chisel i Teor. Funktsiĭ.* 13, 5–13, 235; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 1, 909–914. (Vladimir G. Zhuravlev) **98a:11055** 11F27 (11F25)

Andrianov, I. V. (*with* Emaci, E.; Vakakis, Alexander F.; Mikhlin, Y. V.) Study of two-dimensional axisymmetric breathers using Padé approximants. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 327–338. (Summary) **98c:35150** 35Q55 (35B40)

— (*with* Piskunov, V. I.) Asymptotic investigation of the dynamics of eccentrically reinforced plates. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 341–344; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 329–331. 73K12 (73K10)

Andrianov, V. A. (*with* Andrianov, A. A.; Yudichev, V. L.) Fermion models with quasilocal interaction in a neighborhood of a polycritical point. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 2, 276–293; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 2, 1069–1082 (1997). (Summary) **98d:81062** 81T15 (81T10)

— (*with* Andrianov, A. A.) Determination of scalar meson masses in QCD-inspired effective quark models. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 5–21, 282. 81V05

Andrić, I. (*with* Bardek, V.; Jonke, L.) Solitons in the Calogero-Sutherland collective field model. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 245–248, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81V70

— (*with* Bardek, V.; Jonke, L.) Multi-vortex solution in the Sutherland model. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 717–724. (Summary) **98f:81378** 81V70

Andrica, Dorin An abstract result in approximation theory. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 9–12, *Transilvania, Cluj-Napoca*, 1997. (Carlos Benítez) **98m:41039** 41A36 (26D20)

Andricioaei, Gheorghe Remarkable invariant connections on the total space of the dual of a vector bundle. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 202–207. (Vadim V. Shurygin) **98d:53030** 53C05

Andrienko, V. A. Approximation by rectangular partial sums. *Approximation theory and function series (Budapest, 1995)*, 151–161, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (N. B. Pogosyan) **98g:42047** 42C15 (41A58)

Andrienko, Yu. A. (*with* Brutyan, M. A.; Obraztsov, I. F.; Yanovskiĭ, Yu. G.) The spurt effect for viscoelastic fluids in the 4-constant Oldroyd model. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 327–330; *translation in Phys. Dokl.* **42** (1997), *no.* 1, 43–46. (Leonid K. Antanovskiĭ) **98c:76004** 76A10 (73F15)

Andries, Marc (*with* Van den Bussche, Jan; Van Gucht, Dirk; Gyssens, Marc) On the completeness of object-creating database transformation languages. (English summary) *J. ACM* **44** (1997), *no.* 2, 272–319. (Lawrence V. Saxton) **98h:68056** 68P15

Andriesh, G. S. (*with* Zolotarevskiĭ, V. A.) Approximation of functions in generalized Hölder spaces, and the approximate solution of singular integral equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1222–1226, 1294; *translation in Differential Equations* **32** (1996), *no.* 9, 1223–1227 (1997). (From the text) **98i:45002** 45E05 (30E10, 41A30, 45L05)

Andrieux, Stéphane (*with* Ben Abda, Amel; Bui, Huy Duong) Sur l'identification de fissures planes via le concept d'écart à la réciprocité en élasticité. (English and French summaries) [Identification of planar cracks in elasticity via the reciprocity gap concept] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1431–1438. (Giovanni Crosta) **98e:73044** 73C99 (35Q72, 73M25)

Andrievskiĭ, Vladimir (*with* Belyi, Vladimir I.; Dzyadyk, Vladislav Kirillovich) ★ Conformal invariants in constructive theory of functions of complex variable. Translated from the Russian by D. N. Kravchuk. Advanced Series in Mathematical Science and Engineering, 1. *World Federation Publishers Company, Atlanta, GA*, 1995. x+199 *pp. ISBN* 1-885978-04-9 (David A. Herron) **98j:30041** 30E10 (30C62)

— (*with* Blatt, Hans-Peter) A discrepancy theorem on quasiconformal curves. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 363–379. (Ralitza Kovacheva) **98d:30007** 30C10 (30C15, 41A10)

— Harmonic version of Jackson's theorem in the complex plane. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 224–234. (Inna Boricheva) **98m:41017** 41A17 (41A10, 41A58)

Andronov, A. M. A decomposition algorithm for finding optimal strategies in controlled semi-Markov processes of birth and death macrotype. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 60–69, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 90C40 (92D25, 93E20)

Andronov, I. V. Application of null-range potentials in problems of diffraction by small inhomogeneities in elastic plates. (Russian. Russian summary) *Prikl. Mat. Mekh.* **59** (1995), *no.* 3, 451–463; *translation in J. Appl. Math. Mech.* **59** (1995), *no.* 3, 425–437. (B. Belinskiy) **98d:35032** 35J05 (35P25, 47B25, 47N20, 73D25, 76Q05, 81Q10)

Andronov, V. G. (*with* Belousov, E. G.) On the weak convergence of the method of penalty functions with respect to the argument. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 404–414. (Nada I. Djuranović-Miličić) **98e:90147** 90C30 (49M37)

Androulakis, G. *see* **Androulakis, George**

Androulakis, G. S. (*with* Magoulas, G. D.; Vrahatis, M. N.) On the alleviation of the problem of local minima in back-propagation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4545–4550. (*see* **98i:00032**) 90C30 (68T05)

— (*with* Vrahatis, M. N.; Magoulas, G. D.) On the acceleration of the backpropagation training method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4551–4554. (*see* **98i:00032**) 90C30 (68T05, 92B20)

Androulakis, George A counterexample to a question of R. Haydon, E. Odell and H. Rosenthal [in *Functional analysis (Austin, TX, 1987/1989)*, 1–35, Lecture Notes in Math., 1470, Springer, Berlin, 1991; MR 92h:46018]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1425–1428. (Summary) **98j:46011** 46B20 (46E15)

Androulakis, I. P. (*with* Maranas, C. D.; Floudas, Christodoulos A.; Berger, A. J.; Mulvey, J. M.) Solving long-term financial planning problems via global optimization. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1405–1425. (*see* **98c:90003**) 90A09 (90C90)

— (*with* Maranas, C. D.; Floudas, Christodoulos A.) Prediction of oligopeptide conformations via deterministic global optimization. (English summary) *J. Global Optim.* **11** (1997), *no.* 1, 1–34. 90C90 (92C40)

Andruchow, E. (*with* Larotonda, Angel R.; Recht, Lázaro; Stojanoff, D.) Infinite-dimensional homogeneous reductive spaces and finite index conditional expectations. *Illinois J. Math.* **41** (1997), *no.* 1, 54–76. (Steve Wright) **98c:46108** 46L05 (46L50, 58B20)

— (*with* Corach, G.; Stojanoff, D.) Geometric operator inequalities. (English summary) *Linear Algebra Appl.* **258** (1997), 295–310. (Frank Hansen) **98c:47020** 47A63 (46L05, 58B20)

— (*with* Corach, G.; Stojanoff, D.) On Heinz inequality. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 143–145. (Frank Hansen) **98g:47006** 47A30 (47A63, 47B15)

Andrunakievich, A. V. (*with* Andrunakievich, Vladimir Aleksandrovich) Regular and strictly regular rings with respect to a right ideal. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 25–30. 16E50

Andrunakievich, Vladimir Aleksandrovich (*with* Andrunakievich, A. V.) Regular and strictly regular rings with respect to a right ideal. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 25–30. 16E50

— (*with* Ryabukhin, Yu. M.) Reduced right ring ideals, and subdirect products of skew fields. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 6, 727–729. (Edmund R. Puczyłowski) **98c:16040** 16S60 (16D15)

— *see also* **Birthday: Andrunakievich, Vladimir Aleksandrovich** *and* **Luchinski, P. et al.**

Andruszkiewicz, R. R. (*with* Puczyłowski, Edmund R.) Accessible subrings and Kurosh's chains of associative rings. (English summary) *Algebra Colloq.* **4** (1997), *no.* 1, 79–88. (Stefan Veldsman) **98d:16034** 16N80

Andrzejak, Artur Splitting formulas for Tutte polynomials. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 346–366. (James G. Oxley) **98d:05038** 05B35

Andrzejewski, Wojciech (*with* Neugebauer, A.; Tralle, A. E.) Rational homotopy obstructions and symplectic mechanics of a classical particle in the presence of a Yang-Mills field. (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 251–268, *World Sci. Publishing, River Edge, NJ*, 1995. (John F. Oprea) **98m:58037** 58F05 (55P62, 81S99)

— (*with* Tralle, A. E.) Fat bundles and formality. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 2, 105–118. (John F. Oprea) **98g:55014** 55P62 (53C15)

Ané, Cécile Grandes déviations en temps petit pour un processus de Markov à espace d'états dénombrable. (English and French summaries) [Large deviations in small time for a Markov process with countable state space] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1025–1028. (Summary) **98h:60109** 60J25 (60F10)

Aneja, Y. P. (*with* Punnen, Abraham P.) Minimum dispersion problems. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 93–102. (Summary) **98c:90114** 90C27 (90C08)

— (*with* Kabadi, S. N.) An efficient, strongly polynomial, ε-approximation parametric optimization scheme. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 173–177. (Summary) **98k:90086** 90C27

— (*with* Kabadi, S. N.; Nagar, Amit) Minimizing weighted mean absolute deviation of flow times in single machine systems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 3, 297–311. (Summary) **98k:90039** 90B35

Aner, Dzh. *see* **Ahner, John F.**

Aneva, B. L. (*with* Dobrev, V. K.; Mihov, S. G.) Duality for the Jordanian matrix quantum group $GL_{g,h}(2)$. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6769–6781. (Joris Van der Jeugt) **98j:81136** 81R50 (17B37)

Ang, B. W. (*with* Ong, H. L.; Goh, T. N.; Deng, C. C.) A vehicle routing and scheduling problem with time windows and stochastic demand constraints. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 1–17. (Summary) **98e:90081** 90B35

Ang, D. D. *see* **Đặng Đình Áng**

Ang, Dang Ding *see* **Đặng Đình Áng**

Ang, W. T. (*with* Gumel, A. B.; Twizell, E. H.) Efficient parallel algorithm for the two-dimensional diffusion equation subject to specification of mass. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 153–163. (Summary) **98d:65117** 65M20 (65Y05)

Angel, Eric (*with* Zissimopoulos, Vassilis) On the quality of local search for the quadratic assignment problem. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 15–25. (Summary) **98m:68107** 68Q25 (90C27)

— (*with* Zissimopoulos, Vassilis) Autocorrelation coefficient for the graph bipartitioning problem. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 229–243. (Summary) **98i:68121** 68Q25 (05C85, 68R10, 90C35)

Angeleri Hügel, Lidia (*with* Coelho, Flávio Ulhoa) Postprojective components for algebras with certain heredity conditions. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 1–7. (Lian Gang Peng) **98d:16025** 16G70 (16G20)

— On a preprojective $*$-module. *Comm. Algebra* **25** (1997), *no.* 4, 1143–1157. (Jan Trlifaj) **98c:16012** 16G10 (16D90, 16G70)

— Almost split sequences arising from the preprojective partition. *J. Algebra* **194** (1997), *no.* 1, 1–13. (Dieter Happel) **98h:16018** 16G20

Angelescu, N. (*with* Verbeure, A.; Zagrebnov, V. A.) Superfluidity. III. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4895–4913. (Ioan Băldea) **98k:82197** 82D50 (82B26)

Angeles Gil, María *see* **Gil, María Angeles**

Angeletti, Jean-Marc (*with* Mazet, Sylvain; Tchamitchian, Philippe) Analysis of second order elliptic operators without boundary conditions and with VMO or Hölderian coefficients. (English summary) *Multiscale wavelet methods for partial differential equations*, 495–539, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Manil Suri) **98i:35035** 35J15 (42C15, 47F05, 65N30)

de Angeli, A. *see* **De Angeli, A.**

Angelidis, Thomas D. A minimal local extension of the quantum formalism. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 17–29, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. Gudder) **98k:81008** 81P05

Angeline, Peter J. *see* **Evolutionary programming. 98g:90007**

Angelini, Flavio Ample divisors on the blow up of $\mathbf{P}^3$ at points. (English summary) *Manuscripta Math.* **93** (1997), *no.* 1, 39–48. (James D. Lewis) **98d:14005** 14C20

Angelini, L. (*with* Pellicoro, Mario; Sardella, I.; Villani, M.) Variational method and duality in the 2D square Potts model. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7677–7693. 82B20

de Angelis, Elena *see* **De Angelis, Elena**

Angelis, L. (*with* Bora-Senta, E.; Moyssiadis, C.) Optimal designs with a single two-level factor and n autocorrelated observations. (English summary) *Util. Math.* **52** (1997), 29–42. (Summary) **98i:05011** 05B05

de Angelis, Pasquale L. *see* **De Angelis, Pasquale L.**

Angell, Thomas S. (*with* Rozier, C.; Lesselier, Dominique; Kleinman, Ralph E.) Reconstruction of an impenetrable obstacle immersed in a shallow water acoustic waveguide. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 130–142, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 76Q05 (35J05, 76M15)

— (*with* Kleinman, Ralph E.) Radiation conditions and uniqueness. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 88–101, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Vadim D. Kryakvin) **98k:35028** 35J05 (76Q05)

Angelopoulou, P. A. (*with* Jannussis, A. D.; Sotiropoulou, A. A.) Complex geometry as genogeometry and axiomatization of irreversibility. *Tensor* (*N.S.*) **57** (1996), *no.* 1, 84–96. 53B50

Angelova, Maia N. (*with* Boyle, L. L.) On the classification and enumeration of the irreducible co-representations of magnetic space groups. (English summary) *J. Phys. A* **29** (1996), *no.* 5, 993–1010. (Summary) **98b:82080** 82D25 (20C35, 81R05)

Angelova, Vera (*with* Konstantinov, Mikhail M.; Petkov, Petko Khr.; Gancheva, Parashkeva; Popchev, Ivan) Improved perturbation bounds for the matrix exponential. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 258–265, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (93B40)

— (*with* Konstantinov, Mikhail M.) Sensitivity analysis of the differential matrix Riccati equation based on the associated linear differential system. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 295–301. (Ian Petersen) **98k:93029** 93B35 (49N10, 93B40, 93C15)

del Angel R., Pedro L. Hodge type of subvarieties of compact Hermitian symmetric spaces. *Math. Z.* **221** (1996), *no.* 2, 261–266. (K. Dabrowski (Zbl 852.32020)) **98g:32049** 32J25 (14M17, 32M15)

Angenent, S. B. (*with* Velázquez, Juan J. L.) Degenerate neckpinches in mean curvature flow. *J. Reine Angew. Math.* **482** (1997), 15–66. (Author's review (S.B.A.) (Zbl 866.58055)) **98k:58059** 58E12 (53A10)

Anger, Gottfried Does there exist a systems theory for technical systems, the systems of nature and the Universe? (English summary) *Uncertainty: models and measures* (*Lambrecht*, 1996), 109–123, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (*see* **98e:00024**) 00A69

— Zur Leistungsfähigkeit der Theorie in den Naturwissenschaften, der Technik und der Medizin—praxis cum theoria. [On the power of theory in the natural sciences, technology and in medicine—praxis cum theoria] *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 1, 19–36. (J. S. Joel) **98m:00018** 00A69

Angermann, Lutz (*with* Knabner, Peter; Thiele, Kathrin) An error estimator for a finite volume discretization of density driven flow in porous media. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 179–191. (Zhangxin Chen) **98m:76116** 76M25 (65N30, 76S05)

Angers, Jean-François Protection against outliers using a symmetric stable law prior. (English summary) *Bayesian robustness* (*Rimini*, 1995), 273–281, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F35 (62E25, 62F15)

Anghel, D. V. Mathematical considerations regarding the toroidal momentum operator. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3515–3525. (Summary) **98e:81192** 81V10

Anghel, Nicolae On the constructibility with ruler and compass of a minimum chord in a parabola. (English summary) *Libertas Math.* **17** (1997), 9–12. (H. W. Guggenheimer) **98i:51013** 51M15

Anghel, V. N. P. (*with* Choe, W. H.) Numerical methods for magnetized plasma equations with boundary singularity. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 149–164. 65M06 (76X05, 82D10)

Angles, Bruno On some characteristic polynomials attached to finite Drinfeld modules. *Manuscripta Math.* **93** (1997), *no.* 3, 369–379. (Yoshinori Hamahata) **98d:11062** 11G09 (11R58, 14F30, 14F40)

Anglès d'Auriac, J. C. (*with* Preissmann, Myriam; Sebő, András) Optimal cuts in graphs and statistical mechanics. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 1–11. (Summary) **98k:82005** 82B03 (05C90, 82–02)

pérez Angón, Miguel Angel *see* **Pérez Angón, Miguel Angel**

Ango Nze, P. (*with* Doukhan, Paul) Functional estimation for time series. I. Quadratic convergence properties. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 404–423. (Theo Gasser) **98g:62054** 62G05 (60G10, 62J02)

Angrisani, Massimo (*with* Clavelli, Massimo) Synthetic approaches to problems of fixed points in metric space. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 1–12. (From the introduction) **98b:54055** 54H25 (54E40)

Angrist, Joshua D. Conditional independence in sample selection models. (English summary) *Econom. Lett.* **54** (1997), *no.* 2, 103–112. (Summary) **98a:62088** 62J05 (62P20)

Anguige, K. (*with* Tod, K. P.) Isotropic cosmological singularities and the Einstein-Vlasov equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3599–3603. (S. Kichenassamy) **98m:83053** 83C75 (83C05)

Angulo Ibañez, J. M. (*with* Alonso, F. J.; Bueso, M. C.) Application of EM-type algorithms to spatial data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 669–683. (A. D. Gordon) **98e:62105** 62H11 (62M10)

— (*with* Ruiz-Medina, M. D.) On the orthogonal representation of generalized random fields. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 145–153. (H. Salehi) **98h:60064** 60G60 (60G12, 60H15)

Angus, John E. (*with* Luo, Haisheng) Data-based optimal smoothing of a wavelet density estimator. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 31–43. (Summary) **98e:62060** 62G05

— A modified Bochner kernel lemma for density estimators. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 258–262. (Sh. A. Khashimov) **98h:62043** 62G05

nguyen huu Anh *see* **Nguyen Huu Anh**

Anh, N. D. (*with* Schiehlen, W.) New criterion for Gaussian equivalent linearization. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 6, 1025–1039. (Summary) **98g:70020** 70L05

Ánh, P. N. *see* **Phạm Ngọc Ánh**

Ánh, Phạm Ngọc *see* **Phạm Ngọc Ánh**

Anh, V. V. (*with* Lunney, K. E.) Generalised spectral analysis of fractional random fields. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 1, 64–83. (N. Leonenko) **98d:60091** 60G60 (62M15)

— (*with* Huang, Yen Kun; Kloeden, Peter E.) Strong convergence of stochastic Taylor expansions of two-parameter random fields. *Stochastic Anal. Appl.* **15** (1997), *no.* 2, 137–149. (Yu. S. Mishura) **98i:60045** 60G60 (60F15, 60H10)

phạm Anh Minh *see* **Phạm Anh Minh**

An Huef, Astrid *see* **an Huef, Astrid**

al-Ani, Tarik *see* **Al-Ani, Tarik**

Anichini, G. (*with* Conti, Giuseppe) About the existence of solutions of a boundary value problem for a Carathéodory differential system. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 621–630. (John W. Lee) **98a:34036** 34B15 (47H11, 47H15, 47N20)

Anikeeva, T. V. Construction of infinite series of closed locally minimal networks on convex polyhedra. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 6, 12–14, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 6, 5–7 (1998). 52B11

Anikin, S. A. An error estimate for a regularization method in problems of the reconstruction of the inputs of dynamical systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1056–1067. (Irina F. Sivergina) **98m:93055** 93C15 (49N50, 93A25, 93C40, 93C41)

Anikonov, Yu. E. An inverse problem for Maxwell equations. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 16–20, 167, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 35R30 (35Q60, 78A25)

— (*with* Erokhin, G. N.) Symmetry in inverse problems. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 21–25, 173, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 35R30

— Inverse problems for kinetic equations. (Russian) *Conditionally well-posed problems in mathematical physics and analysis* (*Russian*), 26–41, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (A. D. Khon'kin) **98h:82052** 82C40 (35Q99, 35R30, 45K05, 82C70)

— Analytic representations of solutions of multidimensional inverse problems for evolution equations. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 2, 151–154. (Jan Koroński) **98a:35137** 35R30 (34G10, 35C99)

— Formulas for solutions and coefficients of second-order differential equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 483–491, i; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 415–422. (Jan Koroński) **98a:35138** 35R30 (35C05)

— ★ Formulas in inverse and ill–posed problems. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1997. ii+203 *pp. ISBN* 90-6764-216-9 (Ulrich Tautenhahn) **98h:00014** 00A69 (34G10, 35R30, 45J05, 86A22, 93B30)

— Some results in inverse problems for kinetic and other evolution equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 3, 205–234. (Mourad Choulli) **98g:35208** 35R30 (35K99, 45K05, 82C40)

Anil, V. (*with* Pillai, R. N.) Symmetric stable, α-Laplace, Mittag-Leffler and related laws/processes and the integrated Cauchy functional equation (ICFE). (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 2, 97–103. 60E05 (39B22, 62E10)

Anile, A. M. An extended thermodynamic framework for the hydrodynamical modeling of semiconductors. *Mathematical problems in semiconductor physics* (*Rome*, 1993), 3–41, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (V. Protopopescu) **98j:82073** 82D99 (76P05, 78A55, 82C70, 82C80)

— Mathematical modeling of charge carrier transport in semiconductors: problems and perspectives. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 27–51. (*see* **98b:00028**) 82D99 (82C70)

— (*with* Vergari, P.) Anomalous heat transport in semiconductors within extended thermodynamics. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 53–57. (*see* **98b:00028**) 82D99 (80A99)

Anil Kumar, P. (*with* Naik-Nimbalkar, U. V.) Maximum modified kernel likelihood estimation of the intensity for a counting process. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 1–9, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62M09 (60G55, 62G05)

Anily, Shoshana (*with* Glass, Celia A.; Hassin, Refael) The scheduling of maintenance service. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 27–42. 90B35 (90B05)

Aniol, Grażyna On the rate of convergence of some discrete operators of two variables. (English summary) *Funct. Approx. Comment. Math.* **24** (1996), 103–112. (V. A. Baskakov) **98c:41032** 41A35 (41A25, 41A63)

Anishchenko, V. S. ★ Dynamical chaos—models and experiments. Appearance routes and structure of chaos in simple dynamical systems. Translated from the Russian by S. M. Bormasova and N. B. Smirnova-Yanson. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 8. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xiv+383 *pp. ISBN* 981-02-2142-8 (Peter Ashwin) **98b:58104** 58F13 (34C15, 58F14, 58F27, 58F40)

— (*with* Astakhov, V. V.; Kapitaniak, Tomasz; Shabunin, A. V.) Synchronization of chaotic oscillators by periodic parametric perturbations. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 11–16. (*see* **98k:58004**) 58F13 (70K50)

Anisimov, D. N. (*with* Goldshtein, Yu. B.) The thin-walled rod of an open cross-section as an element of a 3D-structure. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 925–934. (Summary) **98j:73050** 73K05 (73V05)

Anisimov, E. G. (*with* Anisimov, V. G.) A modification of a method for solving a class of integer programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 179–183. (Klaus Hofstedt) **98c:90079** 90C10

Anisimov, S. A. (*with* Bogul′skiĭ, I. O.) An algorithm for the independent approximation of nondifferential terms in the numerical solution of boundary value problems for systems of hyperbolic equations. (Russian. English and Russian summaries) *Dinamika Sploshn. Sredy No.* 109 (1994), 34–48, 124, 127. (From the text) **98a:65111** 65M06 (73D99, 73K10, 73V20)

Anisimov, V. G. (*with* Anisimov, E. G.) A modification of a method for solving a class of integer programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 179–183. (Klaus Hofstedt) **98c:90079** 90C10

Anisiu, Valeriu (*with* Mocanu, Petru T.; Şerb, Ioan) A sharp criterion for starlikeness. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 11, 1111–1117. (Summary) **98g:30014** 30C45

— (*with* Mocanu, Petru T.; Şerb, Ioan) A sharp sufficient condition for a subclass of starlike functions. (English summary) *Libertas Math.* **16** (1996), 55–60. (R. K. Raina) **98d:30015** 30C45 (30C50)

Anisov, A. M. Computer modeling of becoming. (Russian. Russian summary) *Logical investigations, No.* 2 (*Russian*), 170–189, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B70 (03B45, 68T27)

— Abstract computability and the programming language ABT. (Russian. Russian summary) *Logical investigations, No.* 3 (*Russian*), 233–256, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B35 (03B70, 03D75)

Anistratov, D. Yu. (*with* Aristova, E. N.; Gol′din, V. Ya.) A nonlinear method for solving problems of radiation transfer in a medium. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 3–28. (Summary) **98d:85003** 85A25

— (*with* Adams, Marvin L.; Larsen, Edward W.) Acceleration of the nonlinear corner-balance scheme by the averaged flux method. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 66–75. (Summary) **98g:82003** 82–08 (65M06, 82C40, 82C80, 85–08, 85A25)

Aniţa, Sebastian² (*with* Lazăr, C.) A H_∞-control problem with unbounded disturbance and impulsive parameter; the parabolic case. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 375–384 (1997). (Hong Xing Zhou) **98d:93038** 93B36 (93C20)

Anitescu, Mihai (*with* Coroian, Dan I.; Nashed, M. Zuhair; Potra, Florian A.) Outer inverses and multi-body system simulation. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 7-8, 661–678. (Michael Hanke) **98b:65073** 65L05 (34A09, 70–08, 70E99, 70F20)

— (*with* Cremer, James F.; Potra, Florian A.) On the existence of solutions to complementarity formulations of contact problems with friction. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 12–21, *SIAM, Philadelphia, PA*, 1997. (Summary) **98b:70010** 70E99 (73T05, 90C33)

— (*with* Lesaja, Goran; Potra, Florian A.) An infeasible-interior-point predictor-corrector algorithm for the P_*-geometric LCP. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 203–228. (Romesh Saigal) **98e:90189** 90C33 (65K05)

— (*with* Potra, Florian A.) Formulating dynamic multi-rigid-body contact problems with friction as solvable linear complementarity problems. *Nonlinear Dynam.* **14** (1997), *no.* 3, 231–247. (Summary) **98d:70006** 70E15 (70–08, 70B15)

— (*with* Lesaja, Goran; Potra, Florian A.) Equivalence between different formulations of the linear complementarity problem. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 265–290. (Summary) **98e:90190** 90C33

dos Anjos, A. G. (*with* Zumpano, A.) Existence of positive solution of a nonlinear Dirichlet problem in $\mathbf{R}^1$. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 2, 209–215. 35J65 (35B05)

Ankiewicz, A. (*with* Akhmediev, N. N.; Soto-Crespo, J. M.) Multisoliton solutions of the complex Ginzburg-Landau equation. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 21, 4047–4051. 35Q55

Annabi, H. (*with* Annabi, M. L.; Roussarie, Robert) Generic unfoldings with the same bifurcation diagram which are not ($\mathscr{C}^0$,$\mathscr{C}^0$)-equivalent. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1419–1428. (Maria Aparecida Soares Ruas) **98m:58012** 58C27 (58F14)

Annabi, M. L. (*with* Annabi, H.; Roussarie, Robert) Generic unfoldings with the same bifurcation diagram which are not ($\mathscr{C}^0$,$\mathscr{C}^0$)-equivalent. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1419–1428. (Maria Aparecida Soares Ruas) **98m:58012** 58C27 (58F14)

Annaratone, Silvia Les premières démonstrations de la formule intégrale de Fourier. (English and French summaries) [The initial proofs of the Fourier integral theorem] *Rev. Histoire Math.* **3** (1997), *no.* 1, 99–136. (R. L. Cooke) **98d:01021** 01A55

Annaswamy, Anuradha M. (*with* Yu, Ssu-Hsin) Adaptive control of nonlinear dynamic systems using θ-adaptive neural networks. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1975–1995. 93C40 (93C83)

— (*with* Skantze, Fredrik P.; Loh, Ai-Poh) Adaptive control of continuous time systems with convex/concave parametrization. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 33–49. (Summary) **98m:93064** 93C40 (93D99)

— (*with* Yu, Ssu-Hsin) Stable neural controllers for nonlinear dynamic systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 641–650. 93C83 (93C10)

Anné, Colette Formes différentielles sur des variétés avec des anses fines. (English and French summaries) [Differential forms on manifolds with thin handles] *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 69–76, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Akira Asada) **98a:58161** 58G25 (58A10)

Annexstein, Fred S. (*with* Kuchko, Eugene A.) A ranking algorithm for Hamilton paths in shuffle-exchange graphs. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 263–269, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C45, 05C85, 68M10)

Annin, B. D. The mechanics of a deformable solid at the Siberian Branch of the Russian Academy of Sciences, 1988–1997. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 4, 28–45; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 4, 517–534 (1998). 73–03 (01A65)

Annin, S. A. Hierarchy of efficient generators of the symmetric inverse monoid. (English summary) *Semigroup Forum* **54** (1997), *no.* 3, 327–355. (Karl Byleen) **98a:20070** 20M18

Anninos, P. A. *see* **Anninos, Photios A.**

Anninos, Peter (*with* Hobill, David; Seidel, Edward; Smarr, Larry; Suen, Wai-Mo) When black holes collide. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 151–156, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98c:83055** 83C57

Anninos, Photios A. (*with* Fournou, E.; Argyrakis, P.; Kargas, B.) Hybrid neural nets with Poisson and Gaussian connectivities. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 847–867. (Dimitri Petritis) **98k:82136** 82C32 (92B20)

Anokhin, A. M. (*with* Glotov, V. A.; Pavel′ev, V. V.; Cherkashin, A. M.) On methods for the determination of criteria importance coefficients. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 3–35. 90C29 (90A05)

Anokhin, A. V. (*with* Rakhmatullina, L. F.) Continuous dependence of the solution of a linear boundary value problem on the parameters. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 11, 29–38; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 11, 27–36 (1997). (Elena Litsyn) **98b:34084** 34K10 (34B05, 34K30, 47N20)

Anokhin, M. I. Some algorithmic problems for relatively free groups. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2140–2152. (Vitaly A. Roman′kov) **98g:20051** 20F10 (20E10, 20F12, 20F16)

— A remark on lattices, and the existence of impassable varieties of groups. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 1, 88–89; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 48–49. 20E10

Anorov, V. P. The theory of nonlinear estimation of measurements. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 171–174. 62F99 (62J99)

Anoshchenko, O. A. Existence and uniqueness of the solution of a system of equations of motion of a suspension in Hölder classes. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 31–40. (Summary) **98g:76074** 76T05 (35K55, 35Q35, 76D99)

— (*with* Boutet de Monvel-Berthier, Anne-Marie) The existence of the global generalized solution of the system of equations describing suspension motion. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 495–519. (Sergey L. Gavrilyuk) **98c:76107** 76T05 (35D05, 35Q35)

Anoshkina, E. V. *see* **Fomenko, A. T., 98i:58001**

Anosov, Dmitriĭ Viktorovich (*with* Bolibrukh, A. A.; Vassiliev, V. A.; et al.) Vladimir Igorevich Arnol′d (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 235–255; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1117–1139. (Editors) **98k:01015** 01A70

— *see also* **Arnol′d, Vladimir Igorevich et al., 98f:01055** *and* **Birthday: Anosov, Dmitriĭ Viktorovich**

Anoussis, M. (*with* Katsoulis, E. G.) Compact operators and the geometric structure of nest algebras. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1175–1191. (Baruch Solel) **98e:47066a** 47D25

— (*with* Katsoulis, E. G.) Compact operators and the geometric structure of nest algebras. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 319–335. (Baruch Solel) **98e:47066b** 47D25

Anquela, José A. (*with* Cortés, Teresa) Primitive Jordan pairs and triple systems. (English summary) *J. Algebra* **184** (1996), *no.* 2, 632–678. (Hiroshi Asano) **98b:17033** 17C10 (17C17)

— (*with* Cortés, Teresa; McCrimmon, Kevin; Montaner, Fernando) Strong primeness of Hermitian Jordan systems. (English summary) *J. Algebra* **198** (1997), *no.* 1, 311–326. (Armin Thedy) **98j:17030** 17C10

— (*with* Cabrera García, Miguel; Moreno Galindo, Antonio) Eater ideals in Jordan algebras. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 1–17. (I. P. Shestakov) **98m:17040** 17C05

Ansari, Muhammad Rashid Kamal E.F. rings. (English summary) *Punjab Univ. J. Math. (Lahore)* **29** (1996), 39–42. 16D40

Ansari, Q. A. (*with* Abujabal, Hamza A. S.; Alghamdi, Mohamed Ali; Zaidi, S. M. A.) On co-completeness of the categories of L-fuzzy subgroups. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 55–62. 20N25 (04A72)

Ansari, Qamrul Hasan Extended generalized vector variational-like inequalities for nonmonotone multivalued maps. (English and French summaries) *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 1–11. (George Isac) **98g:47058** 47H19 (49J40)

— (*with* Siddiqi, Abul Hasan; Ahmad, Rais) On vector variational-like inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1009–1016. 49J40 (47H19)

— (*with* Oettli, Werner; Schläger, D.) A generalization of vectorial equilibria. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 147–152. (Hans Benker) **98j:90055** 90C29 (47N10, 90C33)

— A note on generalized vector variational-like inequalities. (English summary) *Optimization* **41** (1997), *no.* 3, 197–205. (Summary) **98e:49018** 49J40 (47H19)

Ansari, Shamim I. (*with* Bourdon, Paul S.) Some properties of cyclic operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 195–207. (Warren R. Wogen) **98e:47009** 47A15 (47B38)

— Existence of hypercyclic operators on topological vector spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 384–390. (Hari Bercovici) **98h:47028a** 47A99 (46A04, 47B99)

— (*with* Enflo, Per) Extremal vectors and invariant subspaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 539–558. (Hari Bercovici) **98d:47019** 47A15

Anselmet, Fabien *see* **IUTAM Symposium: Variable Density Low-speed Turbulent Flows, 98f:76002**

Anselmi, Damiano Topological field theory and physics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 1–20. (Summary) **98b:58029** 58D29 (58D27, 81T13, 81T70)

— On field theory quantization around instantons. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1015–1036. (Richard A. Corrado) **98i:81248** 81T70 (58D27, 58D29, 82D55)

— Quantum topological invariants, gravitational instantons and the topological embedding. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2031–2047. (Summary) **98g:83029** 83C45 (58D29)

— (*with* Grisaru, M. T.; Johansen, Andrei) A critical behaviour of anomalous currents, electric-magnetic universality and CFT_4. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 221–248. (Antonio González-Arroyo) **98i:81242** 81T60 (81T40)

Anselmo, Marcella (*with* De Felice, Clelia; Restivo, Antonio) On some factorization problems. (English summary) Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 25–43. (Danièle Beauquier) **98c:68109** 68Q45 (94A45)

Ansemil, José M. Quasinormable spaces of poynomials. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 93–96. (*see* **98k:46001**) 46E50 (46G20)

Ansing, Michel (*with* Potters, Jos A. M.; Reijnierse, Johannes H.) Computing the nucleolus by solving a prolonged simplex algorithm. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 3, 757–768. (Summary) **98e:90236** 90D12

Ansoldi, S. (*with* Aurilia, A.; Balbinot, R.; Spallucci, E.) Classical and quantum shell dynamics, and vacuum decay. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2727–2755. (Summary) **98f:83038** 83C45

— (*with* Aurilia, A.; Spallucci, E.) Hausdorff dimension of a quantum string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2352–2361. (Summary) **98i:81184** 81T30 (28A78, 81S40)

Ansorge, R. Connections between homogenization theory in partial differential equations and functional analysis of discretization algorithms. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 3–6. (*see* **98b:65005**) 65M06 (35B27, 47H17, 73B27)

Anstee, Richard Dividing a graph by degrees. (English summary) *J. Graph Theory* **23** (1996), *no.* 4, 377–384. (E. J. Farrell) **98d:05108** 05C70

— (*with* Sali, Attila) Sperner families of bounded VC-dimension. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 13–21. (Konrad Engel) **98i:05161** 05D05 (05C65, 06A07)

— (*with* Griggs, Jerrold R.; Sali, Attila) Small forbidden configurations. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 97–118. (Gautami Bhowmik) **98i:05035** 05B20 (05A05)

— (*with* Caccetta, Louis) Orthogonal matchings. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 37–47. (Ian Anderson) **98m:05139** 05C70

— (*with* Nam, Yunsun) More sufficient conditions for a graph to have factors. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 15–24. (Summary) **98i:05126** 05C70

Anstreicher, Kurt M. (*with* Fampa, Marcia; Lee, Jon[2]; Williams, Joy) Continuous relaxations for constrained maximum-entropy sampling. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 234–248, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael L. Dowling) **98d:90070** 90C08 (65F10)

— On Vaidya's volumetric cutting plane method for convex programming. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 63–89. (Shu Zhong Zhang) **98b:90103** 90C25

— Volumetric path following algorithms for linear programming. (English summary) Interior point methods in theory and practice (Iowa City, IA, 1994). *Math. Programming* **76** (1997), *no.* 1, *Ser. B*, 245–263. (Florian Jarre) **98a:90057** 90C05

Antal, Peter (*with* Pisztora, Agoston) On the chemical distance for supercritical Bernoulli percolation. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 1036–1048. (Mathew D. Penrose) **98b:60168** 60K35 (82B43)

Antanovskii, L. K. (*with* Rogers, Colin; Schief, W. K.) A note on a capillarity model and the nonlinear Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 16, L555–L557. (From the introduction) **98k:76014** 76B45 (35Q55)

— (*with* Ramkissoon, Harold) Peristaltic transport in a finite circular pipe. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials (Tobago, 1997)*, 163–175, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76Z05 (76D08)

Antar, Nalan (*with* Demiray, Hilmi) Harmonic waves in a prestressed thin elastic tube filled with a viscous fluid. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 305–320. (Summary) **98k:73027** 73D15 (73K70, 76Z05)

Antelo, Elisardo (*with* Lang, Tomás; Bruguera, Javier D.) Computation of $\sqrt{x/d}$ in a very high radix combined division/square-root unit with scaling and selection by rounding. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 152–161. 68M07 (65D99)

Anteneodo, C. (*with* Plastino, A. R.) A dynamical thermostatting approach to nonextensive canonical ensembles. (English summary) *Ann. Physics* **255** (1997), *no.* 2, 250–269. (Summary) **98f:82002** 82B03

Antes, H. (*with* Schanz, M.) A new visco- and elastodynamic time domain: boundary element formulation. (English summary) *Comput. Mech.* **20** (1997), *no.* 5, 452–459. 73V10

Anthonisen, Niels On the convergence of beliefs within populations in games with learning. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 169–184. (Summary) **98i:90144** 90D40 (90A53)

Anthonisse, Ko (*with* Lenstra, Jan Karel) Operational operations research at the Mathematical Centre. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 59–64, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 01A74 (90–03)

Anthonissen, M. J. H. (*with* Boersma, Johannes) ★ Calculations in Mathematica on low-frequency diffraction by a circular disk. (English summary) EUT Report-WSK, 95-01. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1995. ii+77 *pp.* (Summary) **98m:78021** 78A45 (45–04, 45L05, 65R20, 76Q05)

Anthony, Joby Milo (*with* Tong, Jingcheng) A relation on the lengths of a median and an angle bisector. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 2, 68–71. 51M09

Anthony, Martin (*with* Biggs, Norman L.) ★ Computational learning theory. (English summary) An introduction. Corrected reprint of the 1992 original. Cambridge Tracts in Theoretical Computer Science, 30. *Cambridge University Press, Cambridge*, 1997. xii+157 *pp. ISBN* 0-521-41603-5; 0-521-59922-9 (Editors) **98i:68233** 68T05 (68–02, 92B20, 92J10, 92J40)

— (*with* Shawe-Taylor, John) A sufficient condition for polynomial distribution-dependent learnability. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 1, 1–12. (Sanjay Jain) **98h:68189** 68T05

Anthore, R. (*with* Bruneau, D.; Feuillebois, F.; Blawdziewicz, J.) Three-dimensional intrinsic convection in dilute and dense dispersions of settling spheres. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 55–59. 76R99 (76T05)

Antillón, Armando (*with* Escalona, Joaquín; Germán, Gabriel; Torres, Manuel) Non-abelian Chern-Simons vortices. (English summary) *Workshops on Particles and Fields and Phenomenology of Fundamental Interactions (Puebla, 1995)*, 479–482, *AIP Conf. Proc.*, 359, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Summary) **98f:81190** 81T13

Antimirov, M. Ya. (*with* Kolyshkin, A. A.; Vaillancourt, Rémi) A perturbation method for flaw detection in eddy current testing of cylindrical tubes. (English summary) *Comad. Appl. Math. Quart.* **4** (1996), *no.* 3, 229–242. (Summary) **98b:78038** 78A55

— (*with* Kolyshkin, A. A.; Vaillancourt, Rémi) ★ Complex variables. *Academic Press, Inc., San Diego, CA*, 1998. *xii*+476 *pp. ISBN* 0-12-059545-1 30–01

Antimirov, V. M. Rewriting regular inequalities (extended abstract). *Fundamentals of computation theory (Dresden, 1995)*, 116–125, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q45 (68Q42)

Antinolfi, Gaetano (*with* Keister, Todd) Options and sunspots in a simple monetary economy. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 295–315. 90A09

Antipin, A. S. On differential gradient methods of predictive type for computing fixed points of extremal mappings. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1786–1795, 1940; *translation in Differential Equations* **31** (1995), *no.* 11, 1754–1763 (1996). (A. M. Galperin) **98a:49013** 49J35 (49M07, 49N15, 90C30)

— Differential gradient systems for solving equilibrium programming problems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1443–1451, 1580; *translation in Differential Equations* **32** (1996), *no.* 11, 1439–1446 (1997). (Stephan Dempe) **98m:90138** 90C30 (49M37)

— Iterative gradient prediction-type methods for computing fixed points of extremal mapping. (English summary) *Parametric optimization and related topics, IV (Enschede, 1995)*, 11–24, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Muhammad Aslam Noor) **98c:90128** 90C30 (65K05)

— Equilibrium programming problems: prox-regularization and prox-methods. (English summary) *Recent advances in optimization (Trier, 1996)*, 1–18, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Stephan Dempe) **98f:90056** 90C30 (90A14, 90C31, 90D65)

— Equilibrium programming: gradient-type methods. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 125–137; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1337–1347 (1998). (Summary) **98m:90139** 90C30 (65K05)

— Linearization method. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 2. *Comput. Math. Model.* **8** (1997), *no.* 1, 1–15. (John J. Dinkel) **98b:90125** 90C30 (90C25)

— (*with* Nedić, Anđelija; Jaćimović, Milojica) The continuous linearization method of the fourth order. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 1, 39–47. (Summary) **98e:90120** 90C25

— Computation of fixed points of extremal mappings by means of gradient-type methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 1, 42–53. (S. Zlobec) **98e:90133** 90C29 (90C30)

Antipov, M. V. (*with* Mikhallov, G. A.) ★ Об улучшении генераторов случайных чисел с помощью суммирования по модулю единица. (Russian. English and Russian summaries) [On improving random number generators by means of summation modulo one] Препринт [Preprint], 1059. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 32 *pp.* (Summary) **98a:65009** 65C10 (68Q20)

— Sequences of numbers for Monte Carlo methods. (English summary) *Monte Carlo Methods Appl.* **2** (1996), *no.* 3, 219–235. (Summary) **98f:65007** 65C05

Antippa, A. F. On the Lie algebra of the rotation group. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 253–255. (Eric Y. Leung) **98f:81088** 81R05 (22E70)

Antman, Stuart S. Extensions of monotone mappings. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 3, 235–239. (Joe Thrash) **98a:58016** 58C07 (26B35)

— Convergence properties of hierarchies of dynamical theories of rods and shells. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 874–884. (Summary) **98j:73051** 73K05 (73C50, 73K15)

Antoch, J. (*with* Hušková, Marie; Prášková, Z.) Effect of dependence on statistics for determination of change. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 291–310. (Summary) **98m:62231** 62M10

Antohe, Stefan The circulant graphs. Applications. *Libertas Math.* **17** (1997), 165–174. (Koduvayur R. Parthasarathy) **98j:05076** 05C25 (05C78)

Antoine, J.-P. (*with* Mahara, I.) Classical Yang-Mills-Dirac equations: qualitative analysis of some solutions with a noncompact symmetry group. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 3, 237–255. (Yisong Yang) **98b:58039** 58E15 (53C07, 81T13)

— (*with* Inoue, Atsushi[2]; Ogi, H.) Standard generalized vectors for partial O^*-algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 3, 223–258. (Gerald Hofmann) **98m:47071** 47D40 (46L10, 46L60, 47D45, 82B10)

Anton, F. (*with* Abdurrahman, A.; Bordes, J.) The three-vertex in the closed half-string field theory and the general gluing and resmoothing theorem. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L113–L116. (Paweł H. Węgrzyn) **98d:81072** 81T30 (83E30)

Anton, Lucian A random walk approach to the Bak-Sneppen evolution model. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2609–2618. (Summary) **98h:92026** 92D15

duque-Antón, Manuel *see* **Duque-Antón, Manuel**

núñez-Antón, Vicente *see* **Núñez-Antón, Vicente**

Antonacci, Flavia (*with* Sampalmieri, Rosella) On a class of geodesically connected Lorentzian manifolds. (English summary) *J. Differential Equations* **138** (1997), *no.* 1, 171–187. (Anna Germinario) **98e:58045** 58E10 (53C50)

— Existence of periodic solutions of Hamiltonian systems with potential indefinite in sign. *Nonlinear Anal.* **29** (1997), *no.* 12, 1353–1364. (Maria Letizia Bertotti) **98k:34067** 34C25 (58E05, 58F22, 70H05)

— (*with* Sampalmieri, Rosella) Some results about geodesics on Lorentzian manifolds of splitting type. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 571–577. (Anna Germinario) **98k:58050** 58E10 (53C50)

Antonelli, Gian Aldo Defeasible inheritance on cyclic networks. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 1–23. (Summary) **98a:68170** 68T30

Antonelli, Peter L. (*with* Matsumoto, Makoto) Two-dimensional Finsler spaces of locally constant connection. *Tensor (N.S.)* **57** (1996), *no.* 1, 8–19. (László Kozma) **98b:53020** 53B40

— (*with* Zastawniak, Tomasz) Stochastic Finsler geometry in the theory of evolution by symbiosis. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 1, 1–18. (Jacques Vauthier) **98a:58171** 58G32 (53C60, 92D25)

— *see also* **Aggregation and emergence in population dynamics, 98m:92001**

Antonevich, Anatolii B. (*with* Buraczewski, Adam) Dynamics of linear mapping and invariant measures on sphere. *Demonstratio Math.* **29** (1996), *no.* 4, 817–824. 47A35 (28D99)

— (*with* Lebedev, Andreĭ Vladimirovich) C^*-algebra methods in the theory of functional-differential equations. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 1–14. (*see* **98g:00030**) 34K05 (46L05, 47G20, 47N20)

— (*with* Doličanin, Čemal; Stefanović, Milisav) Invariant and ergodic measures in relation to movement of invariant. (English summary) *J. Electrotech. Math.* **1996**, *no.* 1, 81–84. 28D05

— (*with* Lebedev, Andreĭ Vladimirovich) The structure of the C^*-theory of functional-differential operators. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 2, 3–8, 76. (Editors) **98c:46109** 46L05 (34K05, 35R10, 35S05, 47B38, 47G30)

— (*with* Lo, Serigne Aliou) Sur les mesures invariantes qui apparaissent lors de l'étude d'une classe d'équations differentielles fonctionnelles. [Invariant measures arising in the study of a class of functional-differential equations] *Afrika Mat.* (3) **7** (1997), 55–70. (From the introduction) **98b:47066** 47G30 (28D05, 34C35, 34K15, 47A35, 47B38)

— (*with* Lebedev, Andreĭ Vladimirovich) Nonlocal pseudo-differential operators: index and Lefschetz numbers. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 795–799, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 798–802 (1998). (Boris A. Plamenevsky) **98m:58134** 58G15 (35S05, 47G30)

— (*with* Buraczewski, Adam; Radyno, Ya.) On closability of nonclosable operators. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 37–51. (Seymour Goldberg) **98h:47006** 47A05 (46B20, 46B99, 46M35, 47N20)

Antoni, Carla Dual problems and separation of sets: Lagrange and Fenchel duality. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 227–231. (C. P. Ortlieb) **98d:49042** 49N15 (90C31)

Antoniadis, Anestis Smoothing noisy data with tapered coiflets series. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 313–330. (Keh-Wei Chen) **98c:62057** 62G05

— (*with* Grégoire, G.; Vial, P.) Random design wavelet curve smoothing. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 225–232. (Summary) **98k:62045** 62G05

Antoniadis, Ignatios (*with* Ferrara, Sergio; Gava, E.; Narain, K. S.; Taylor, T. R.) Duality symmetries in $N = 2$ heterotic superstring. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **45B,C** (1996), 177–187. (Miguel A. Vázquez-Mozo) **98a:81150** 81T30 (81–02, 83E30)

— (*with* Pioline, B.) Higgs branch, hyper-Kähler quotient and duality in SUSY $N = 2$ Yang-Mills theories. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4907–4931. (Krzysztof Galicki) **98k:81256** 81T60 (53C25, 81T13, 81T30)

— (*with* Bachas, C.; Fabre, Cyrille; Partouche, H.; Taylor, T. R.) Aspects of type I–type II–heterotic triality in four dimensions. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 160–178. (Angel Maria Uranga) **98f:81232** 81T30 (83E30)

— (*with* Partouche, H.; Taylor, T. R.) Duality of $N = 2$ heterotic–type I compactifications in four dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 29–44. (Angel Maria Uranga) **98i:81185** 81T30 (83E30)

— (*with* Quirós, M.) Supersymmetry breaking in M-theory and gaugino condensation. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 109–122. (Summary) **98k:81188** 81T30 (81V22)

— (*with* Mazur, Pawel O.; Mottola, Emil) Quantum diffeomorphisms and conformal symmetry. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4756–4769. (Viqar Husain) **98b:83032** 83C45

— (*with* Mazur, Pawel O.; Mottola, Emil) Physical states of the quantum conformal factor. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4770–4784. (Viqar Husain) **98c:83027** 83C45 (81T50, 81V17)

— (*with* Gava, E.; Narain, K. S.; Taylor, T. R.) Duality in superstring compactifications with magnetic field backgrounds. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 611–628. (Summary) **98k:81189** 81T30 (83E30)

Antonic, Nenad (*with* Balenovic, Neven) On a variational problem related to a model of black and white printing. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 1–11 (1998). 49N55 (49Q10)

Antonijoan, J. (*with* Marquès, F.; Sánchez, J.) Non-linear spirals in the Taylor-Couette problem. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 829–838. 76D99

giuliano Antonini, Rita *see* **Giuliano Antonini, Rita**

Antoniou, Grigoris ★ Nonmonotonic reasoning. (English summary) With contributions by Mary-Anne Williams. Artificial Intelligence. *MIT Press, Cambridge, MA*, 1997. xiv+285 *pp. ISBN* 0-262-01157-3 (Anthony Hunter) **98g:68154** 68T27 (68–01, 68–02)

— A comparison of two approaches to splitting default theories. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI*, 1997), 424–429, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T27 (03B70)

Antoniou, Ioannis E. (*with* Suchanecki, Zdzislaw) Quantum systems with diagonal singularity: observables, states, logic and intrinsic irreversibility. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal*, 1994), 22–52, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81040** 81P99 (82C10)

— (*with* Il'in, Vladimir Aleksandrovich[1]) An estimate, uniform over the whole line **R**, for the deviation of an expanded function from its spectral expansion corresponding to the Schrödinger operator with a bounded and measurable potential. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1649–1657, 1773 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1613–1621 (1996). (Boris M. Levitan) **98c:34131** 34L10 (34L40)

— (*with* Il'in, Vladimir Aleksandrovich[1]) On spectral expansions corresponding to the Liouville operator generated by the Schrödinger operator with a uniformly locally summable potential. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 435–440, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 437–441. (Victor S. Rykhlov) **98a:34094** 34L10 (47A70, 47E05)

— (*with* Suchanecki, Zdzislaw) Spectral decomposition and extended formulation of unstable dynamical systems. (English summary) *Time, temporality, now (Tegernsee*, 1996), 293–325, *Springer, Berlin*, 1997. (Władysław Adam Majewski) **98h:82038** 82C10 (47N55, 81Q50)

— (*with* Bandtlow, O. F.; Suchanecki, Zdzislaw) Resonances of dynamical systems and Fredholm-Riesz operators on rigged Hilbert spaces. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 95–102. (Makoto Mori) **98f:58153** 58F19 (47A10, 47B38)

— (*with* Basios, V.; Bosco, F.) Probabilistic control of chaos: chaotic maps under control. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 373–389. (Summary) **98j:58086** 58F19 (58F13, 93E99)

— (*with* Willox, Ralph; Levitan, J.) Decay of correlations and control of chaotic billiards. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 391–398. (Nikolai Chernov) **98i:58167** 58F13 (93C10)

— (*with* Dmitrieva, L. A.; Kuperin, Yu. A.; Mel'nikov, Yu. B.[1]) Resonances and the extension of dynamics to rigged Hilbert space. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 399–425. (Alexander A. Kiselev) **98k:81073** 81Q99 (47A70, 47N50, 81U99)

— (*with* Il'in, Vladimir Aleksandrovich[1]) The uniform over the whole line **R** estimates of spectral expansions related to the selfadjoint extensions of the Hill operator and of the Schrödinger operator with a bounded and measurable potential. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 627–632. (*see* **98g:00016**) 34L40 (47E05, 81Q10)

— (*with* Suchanecki, Zdzislaw) The fuzzy logic of chaos and probabilistic inference. (English summary) *Found. Phys.* **27** (1997), *no.* 3, 333–362. (Oliver Rudolph) **98f:70005** 70A05 (03B52, 04A72, 34C35, 58F13)

— (*with* Qiao, Bi) Spectral decomposition of the chaotic map. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 135–143. (Makoto Mori) **98i:58153** 58F13 (58F03)

— (*with* Aizawa, Yoji; Koguro, Naoki) Chaos and singularities in the mixmaster universe. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 6, 1225–1250. (Summary) **98k:83012** 83C15 (58F40)

— (*with* Bosco, F.; Suchanecki, Zdzislaw) Spectral decomposition of expanding probabilistic dynamical systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 153–158. 28D05 (39B12, 58F11, 82C05)

— *see also* **Computational tools of complex systems, 98e:58002; 98g:00016** *and* **98i:00017**

Antoniouk, A. Val. *see* **Antonyuk, A. Val.**

Antoniouk, A. Vict. *see* **Antonyuk, A. Vikt.**

Antoniouk, Alexander Val. *see* **Antonyuk, A. Val.**

Antoniouk, Alexandra Vict. *see* **Antonyuk, A. Vikt.**

Antonippillai, Anne Subsemigroups of bands of abelian groups. *Semigroup Forum* **55** (1997), *no.* 2, 237–246. (Attila Nagy) **98d:20061** 20M07 (20M14)

Antoniu, I. *see* **Antoniou, Ioannis E.**

Antonopoulos, Constantin Time as non-observational knowledge: how to straighten out $\Delta E \Delta t \geq h$. (English summary) *Internat. Stud. Philos. Sci.* **11** (1997), *no.* 2, 165–183. 81P05

Antonopoulou, H. (*with* Spirakis, Paul G.; Tampakas, B.) Distributed protocols against mobile eavesdroppers. (English summary) *Distributed algorithms (Le Mont-Saint-Michel*, 1995), 160–167, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M10)

Antonov, Alexander (*with* Belov, A. A.; Chaltikian, Karèn) Lattice conformal theories and their integrable perturbations. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 298–318. (Henrik Aratyn) **98i:81178** 81T25 (17B68, 58F07, 81R10, 81R50, 81T40)

— (*with* Hasegawa, Koji; Zabrodin, A. V.) On trigonometric intertwining vectors and non-dynamical R-matrix for the Ruijsenaars model. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 747–770. (Rinat M. Kashaev) **98j:82016** 82B23 (17B37, 81R50, 81V70)

— (*with* Feĭgin, B. L.) Quantum group representations and the Baxter equation. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 115–122. (Alexei Zhedanov) **98e:81066** 81R50 (81T40, 81U40)

Antonov, D. V. Stochastic loop equations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 2047–2059. (Helmut Rumpf) **98f:81154** 81S20 (81Q60)

— Dynamics of the universal confining string theory on the loop space. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 19, 1419–1425. (Summary) **98b:81170** 81T30

Antonov, I. L. (*with* Drozdov, M. A.; Samartseva, E. V.) On a property of the phase trajectories of a mathematical pendulum with a randomly moving suspension point.

(Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 71–79, 105. (Summary) **98g:70021** 70L05 (70K99)

Antonov, N. V. (*with* Vasil'ev, A. N.) The renormalization group in the theory of developed turbulence. The problem of the justification of the Kolmogorov hypothesis for composite operators. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 122–136; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 97–108. (Summary) **98h:76063** 76F99 (76M35, 82B28)

— (*with* Nalimov, M. Yu.; Udalov, A. A.) The renormalization group in the problem of developed turbulence in a compressible fluid. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 385–398; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 305–315. 76F99 (76M35, 76N10, 82B28)

— (*with* Runov, A. V.) The renormalization group in the theory of two-dimensional turbulence: instability of a fixed point with respect to weak anisotropy. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 417–427; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1131–1139 (1998). (Summary) **98g:76044** 76F99 (76M35, 82C28)

Antonov, Vadim A. (*with* Kondrat'ev, B. P.) ★ Решение парадокса кошки Шрёдингера. Опыт создания нелинейной квантовой механики. (Russian. English and Russian summaries) [Solution of the paradox of Schrödinger's cat. An attempt at developing a nonlinear quantum mechanics] *Izdatel'stvo Udmurtskogo Universiteta, Izhevsk*, 1994. 168 *pp.* *ISBN* 5-7029-0420-6 (Kirill V. Krasnov) **98e:81020** 81P20 (81–02)

Antonova, N. Yu. (*with* Sebel'din, A. M.) On the isomorphism of the group of homomorphisms of two torsion-free abelian groups for one of these groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995**, *no.* 2, 53–59; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 2, 50–56. (A. I. Moskalenko) **98b:20088** 20K20 (20K30)

Antonova, T. V. (*with* Ageev, A. L.; Voronina, E. V.) Methods for refining parameters in the solution of integral equations of the first kind. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 110–124. (Wojciech Mydlarczyk) **98f:65127** 65R20 (45L05)

Antonsen, Frank Wigner-Weyl-Moyal formalism on algebraic structures. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 202–206, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81061** 81S30 (46L60)

— Quantum theory in curved spacetime using the Wigner function. (English summary) *Phys. Rev. D (3)* **56** (1997), *no.* 2, 920–935. (Enric Verdaguer) **98m:81108** 81T20 (81S30, 83C47)

Antonsen, Thomas M., Jr. (*with* Ott, Edward; Chen, Qi Keith; Oerter, R. N.) The statistics of scars on wave functions. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 409–421, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

— (*with* Venkataramani, Shankar C.; Ott, Edward) Lévy flights in fluid flows with no Kolmogorov-Arnold-Moser surfaces. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 20, 3864–3867. (Summary) **98b:76038** 76F20 (76M35)

— (*with* Reyl, Charles; Ott, Edward) Vorticity generation by instabilities of chaotic fluid flows. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 202–226. (Summary) **98j:76068** 76F20 (58F40, 76E99)

— (*with* Venkataramani, Shankar C.; Ott, Edward) Anomalous diffusion in bounded temporally irregular flows. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 412–440. (Summary) **98k:76126** 76R50 (58F40, 76F20, 76M35)

— (*with* Reyl, Charles; Ott, Edward) Scaling properties of magnetic dynamo wavenumber power spectra generated by Lagrangian chaotic flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 151–155. (Summary) **98j:76149** 76W05 (76F20)

Antontsev, S. N. (*with* Kashevarov, A. A.) Localization of solutions of nonlinear parabolic equations that are degenerate on a surface. (Russian. Russian summary) *Dinamika Sploshn. Sredy No.* 111 (1996), 7–14, 128. (Si Ning Zheng) **98h:35131** 35K65 (35K55)

Antonuccio, Francesco (*with* Pinsky, Stephen S.) Matrix theories from reduced SU(N) Yang-Mills with adjoint fermions. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 42–50. (Summary) **98b:81171** 81T30 (81T13)

— (*with* Brodsky, Stanley J.; Dalley, S.) Light-cone wavefunctions at small x. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 104–110. 81T13

Antonyan, S. A. Equivariant embeddings of metrizable G-spaces. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 5(311), 235–236; *translation in Russian Math. Surveys* **51** (1996), *no.* 5, 999-1000. (Oleg G. Okunev) **98d:54030** 54C25 (22A99, 54E99)

ter-Antonyan, V. M. *see* **Ter-Antonyan, V. M.**

Antonysamy, A. (*with* Arumugam, G.; Xavier, C.) An algorithm to find the core of a CV-graph. (English summary) *Ars Combin.* **46** (1997), 153–160. (Summary) **98g:05138** 05C85

Antonyuk, A. A. On methods of nonlinear structure in optimization problems. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 121–130, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 97–104. (Summary) **98i:01027** 01A70 (01A60, 90C30)

Antonyuk, A. Val. (*with* Antonyuk, A. Vikt.) Decay of correlations and uniqueness of Gibbs lattice systems with nonquadratic interaction. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5444–5454. (Summary) **98b:81162** 81T25 (60K35)

— (*with* Antonyuk, A. Vikt.) Quasi-contractive nonlinear calculus of variations and smoothness of discontinuous semigroups, generated by non-Lipschitz stochastic differential equations. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 22, 36 *pp.* (Summary) **98h:60079** 60H10

— (*with* Antonyuk, A. Vikt.) Non-Lipschitz singularities in the Malliavin calculus: raise of smoothness for infinite-dimensional semigroups. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 23, 38 *pp.* (Summary) **98h:60078** 60H07

Antonyuk, A. Vikt. (*with* Antonyuk, A. Val.) Decay of correlations and uniqueness of Gibbs lattice systems with nonquadratic interaction. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5444–5454. (Summary) **98b:81162** 81T25 (60K35)

— (*with* Antonyuk, A. Val.) Quasi-contractive nonlinear calculus of variations and smoothness of discontinuous semigroups, generated by non-Lipschitz stochastic differential equations. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 22, 36 *pp.* (Summary) **98h:60079** 60H10

— (*with* Antonyuk, A. Val.) Non-Lipschitz singularities in the Malliavin calculus: raise of smoothness for infinite-dimensional semigroups. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 23, 38 *pp.* (Summary) **98h:60078** 60H07

Antoulas, A. C. *see* **System and control theory in the behavioral framework, 98j:93004**

Antoy, Sergio (*with* Echahed, Rachid; Hanus, Michael) Parallel evaluation strategies for functional logic languages. (English summary) *Logic programming (Leuven, 1997)*, 138–152, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68030** 68N15 (68N17)

Antunes Simoes, Maria Elisa *see* **Simões, Maria Elisa Antunes**

Antzoulakos, Demetris L. (*with* Philippou, Andreas N.) Derivation of the probability distribution functions for succession quota random variables. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 551–561. (D. N. Shanbhag) **98j:62006** 62E10 (60E05)

— (*with* Philippou, Andreas N.) On multivariate distributions of various orders obtained by waiting for the rth success run of length k in trials with multiple outcomes. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 411–426, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Endre Csáki) **98e:60019** 60C05 (62E15)

Anulova, S. V. (*with* Veretennikov, A. Yu.; Krylov, Nicolai V.; Liptser, R. Sh.; Shiryaev, Albert N.) Stochastic calculus [91i:60002b]. *Probability theory, III*, 1–253, *Encyclopaedia Math. Sci.*, 45, *Springer, Berlin*, 1998. (*see* **98h:60002**) 60–02 (60Gxx, 60Hxx)

Anunchuen, N. (*with* Caccetta, Louis) Matching extension and minimum degree. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 1–13. (Charles H. C. Little) **98c:05121** 05C70

Anvari, Morteza (*with* Bloch, Isabelle; Maître, Henri) Fuzzy adjacency between image objects. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 6, 615–653. (Summary) **98j:68168** 68U10

Anvarov, R. A mathematical model of biological systems and their control. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 107–113, 145. 92D40

Anwar Kamal, Muhammad (*with* Ahmad, B.) A note on filters of BCK-algebras. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 161–166. 06F35 (03G25)

Ao, Sengmei (*with* Zeng, Gao-Jian) The new relationship between the radical [radial] functions of the hydrogen atom and the four-dimensional harmonic oscillator. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 2, 30–34. (Guang-Hua Li) **98k:81320** 81V45 (81Q05)

— (*with* Zeng, Gao-Jian; Wu, Xiang-Sheng; Su, Ka-Lin) Connection between angular momenta of the hydrogen atom and a four-dimensional harmonic oscillator. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 1, 11–16. (Summary) **98f:81374** 81V45

Ao, Yan Song A heading-bolting model for Chinese cabbage and its characteristics. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 248–251. 92C99

Aoe, Jun-ichi (*with* Shishibori, Masami) An order searching algorithm of extensible hashing. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 179–201. (Summary) **98b:68027** 68P10 (68P05)

— (*with* Arita, Takeshi; Shishibori, Masami) An efficient algorithm for full text retrieval for multiple keywords. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 345–363. 68U15 (68P20, 68Q20)

— (*with* Mochizuki, Hisatoshi; Koyama, Masafumi; Shishibori, Masami) A substring search algorithm in extendible hashing. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 13–30. 68P05 (68P10)

— (*with* Fuketa, Masao) A fast algorithm of retrieving common sentences. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 265–279. 68U15 (68Q20)

— (*with* Arita, Takeshi; Morita, Kazuhiro; Mizobuchi, Shoji) A method for improving full text search using signature vectors. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 826–829. 68U15

Aoki, Hajime (*with* Kawai, Hikaru; Nishimura, Jun; Tsuchiya, Asato) Operator product expansion in two-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 2, 512–528. (Summary) **98f:81290** 81T40

Aoki, Kazuo[2] (*with* Sone, Yoshio; Sugimoto, Hiroshi) The Bénard problem for a rarefied gas: formation of steady flow patterns and stability of array of rolls. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3898–3914. (Summary) **98k:76119** 76P05 (76E15, 76M20, 76R99)

Aoki, Kenichiro (*with* D'Hoker, Eric) High energy scattering of non-critical strings. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1253–1263. (Summary) **98h:81090** 81T30

— (*with* D'Hoker, Eric) Non-critical strings at high energy. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 40–74. (Leonidas Sandoval, Jr.) **98g:81148** 81T30 (81T40)

— Non-decoupling effects due to a dimensionful coupling. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 125–133. 81V22

Aoki, N. *see* **Aoki, Nobuo**

Aoki, Noboru Torsion points on abelian varieties with complex multiplication. (English summary) *Algebraic cycles and related topics (Kitasakado, 1994)*, 1–22, *World Sci. Publishing, River Edge, NJ*, 1995. (Antoine Chambert-Loir) **98e:11073** 11G10 (11G15, 14K15)

— On the purity problem of Gauss sums and Jacobi sums over finite fields. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 223–233. (Ronald J. Evans) **98g:11097** 11L05 (11T24)

Aoki, Nobuo *see* **Dynamical systems and chaos, 98f:58004**

Aoki, Takashi Multiple-scale analysis for Painlevé transcendents with a large parameter. *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 11–17, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (From the introduction) **98c:34091** 34E20 (33E30, 34A20, 34A34, 81Q20)

Aomoto, Kazuhiko Connection matrices and Riemann-Hilbert problem for q-difference equations. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 51–69, *World Sci. Publishing, River Edge, NJ*, 1996. (Masaaki Yoshida) **98m:32035** 32G34 (39A10)

— (*with* Kita, Michitake; Orlik, Peter; Terao, Hiroaki) Twisted de Rham cohomology groups of logarithmic forms. *Adv. Math.* **128** (1997), *no.* 1, 119–152. (Takeshi Sasaki) **98b:32035** 32S40 (14F40, 33C70, 52B30)

— *see also* **Okamoto, Kazuo** *and* **Noumi, Masatoshi**

Aoshima, Makoto (*with* Kano, Yutaka[1]) A note on robustness of two-stage procedure for a multivariate compounded normal distribution. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 175–187. (Peter Watts Jones) **98k:62143** 62L12 (62H12)

— *see also* **MSI-2000, 98c:62004**

Aouf, M. K. (*with* Joshi, Santosh B.) A certain class of meromorphic multivalent functions with positive coefficients. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 221–228 (1997). (Zhong Zhu Zou) **98e:30013** 30C45

— (*with* Darwish, H. E.) On *p*-valent functions with negative and missing coefficients. II. (English summary) *Comm. Fac. Sci. Univ. Ankara Ser. A1 Math. Statist.* **44** (1995), *no.* 1-2, 1–14 (1996). (S. L. Shukla) **98a:30008** 30C45

— (*with* Hossen, H. M.) On subclasses of meromorphic *p*-valent close-to-convex functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 21–27. 30C45

— (*with* Darwish, H. E.) A property of certain analytic functions involving Ruscheweyh derivatives. II. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 1, 9–12. 30C45

— (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Lee, Sang Keun; Obradović, Milutin; Saitoh, Hitoshi; Ikeda, Akira; Koike, Naoya) Sufficient conditions for starlikeness. (English summary) *Chinese J. Math.* **24** (1996), *no.* 3, 265–271. (K. S. Padmanabhan) **98c:30017** 30C45

— (*with* Chen, Ming-Po) On certain fractional operators for certain classes of multivalent functions with negative coefficients. (English summary) *J. Fract. Calc.* **10** (1996), 109–115. (Shigeyoshi Owa) **98f:30011** 30C45 (26A24)

— (*with* Chen, Ming-Po) Some applications of fractional calculus operators to a class of univalent functions with negative and missing coefficients. (English summary) *J. Fract. Calc.* **10** (1996), 117–124. (Summary) **98f:30008** 30C45 (26A33)

— (*with* Salagean, Grigore Stefan) On certain class of *p*-valent functions with two fixed points. *Mathematica* **38(61)** (1996), *no.* 1-2, 13–19. 30C55

— (*with* Srivastava, Hari M.) A certain subclass of convex functions with negative coefficients. (English summary) *Saitama Math. J.* **14** (1996), 1–23. (R. K. Raina) **98b:26004** 26A33 (26A24, 30C45)

— (*with* Nunokawa, Mamoru) On subclasses of meromorphic univalent functions with positive and fixed finitely many coefficients. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 1–12. (Summary) **98e:30006** 30C45 (30C50)

— (*with* Nunokawa, Mamoru) On subclasses of meromorphic univalent functions with positive and fixed second coefficients. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 13–22. (Summary) **98e:30007** 30C45 (30C50)

— (*with* Darwish, H. E.) Fixed coefficients for new classes of univalent functions with negative coefficients. (English summary) *Demonstratio Math.* **30** (1997), *no.* 1, 43–52. (Herb Silverman) **98g:30015** 30C45

— (*with* Hossen, H. M.) On certain fractional operators for certain classes of *p*-valent functions with negative coefficients. (English summary) *J. Fract. Calc.* **11** (1997), 89–94. (Summary) **98c:30012** 30C45

— (*with* Darwish, H. E.; Srivastava, Hari M.) Some applications of fractional calculus operators associated with a certain class of starlike functions with negative coefficients. (English summary) *J. Fract. Calc.* **12** (1997), 95–102. (Summary) **98h:30012** 30C45 (26A33)

— (*with* Cho, Nak Eun; Irmak, Hüseyin) Some applications of differential subordinations for meromorphic functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 39–44. (K. S. Padmanabhan) **98j:30008** 30C45

— (*with* Owa, Shigeyoshi; Darwish, H. E.) Meromorphic multivalent functions with positive and fixed second coefficients. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 231–236. (Summary) **98h:30023** 30C45 (30C50)

— (*with* Darwish, H. E.; Srivastava, Hari M.) A general class of meromorphically univalent functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 69–84. (E. P. Merkes) **98h:30013** 30C45

— (*with* Srivastava, Hari M.) Some subclasses of analytic and multivalent functions with negative coefficients. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 401–422. (Iscander Nezhmetdinov) **98k:30014** 30C45

— (*with* Hossen, H. M.) Notes on certain class of analytic functions defined by Ruscheweyh derivatives. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 11–19. (O. P. Ahuja) **98e:30008** 30C45

— (*with* Darwish, H. E.) Certain meromorphically starlike functions with positive and fixed second coefficients. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 311–316. (F. W. Hartmann) **98j:30006** 30C45 (30C50)

Aoun, Ali (*with* Mirasyedioğlu, Şeref) Type assignment system and unification. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **8** (1997), *no.* 1, 1–12. 03B40

Aouni, Belaïd (*with* Kettani, Ossama; Martel, Jean-Marc) Estimation through the imprecise goal programming model. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 120–128, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C90 (90C29)

Aoyagi, Masaki Evolution of beliefs and the Nash equilibrium of normal form games. (English summary) *J. Econom. Theory* **70** (1996), *no.* 2, 444–469. (Peter Borm) **98b:90171** 90D05 (90D20)

— Reputation and dynamic Stackelberg leadership in infinitely repeated games. (English summary) *J. Econom. Theory* **71** (1996), *no.* 2, 378–393. (Summary) **98g:90048** 90D20

Aoyama, H. (*with* Shi, Z.) Estimation of the exponential autoregressive time series model by using the genetic algorithm. (English summary) *J. Sound Vibration* **205** (1997), *no.* 3, 309–321. 65U05 (70–08, 70L05)

Aoyama, Shogo (*with* Kodama, Yuji) Topological Landau-Ginzburg theory with a rational potential and the dispersionless KP hierarchy. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 185–219. (Henrik Aratyn) **98c:81194** 81T40 (58F07)

Aoyama, Tomoo (*with* Iwasaki, Hironori; Hirata, Hayato) Images generated by using complex dynamical-system: a character of complex-iteration. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 26 (1997), 39–43. 58F23 (30D05)

Apabhai, M. Z. (*with* Georgikopoulos, N. I.; Hasnip, D.; Jamie, R. K. D.; Kim, M.; Wilmott, P.) A model for the value of a business, some optimization problems in its operating procedures and the valuation of its debt. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 273–285. 90A09

Apagyi, Barnabás (*with* Eberspächer, Matthias; Scheid, Werner) The inverse scattering problem for coupled channels with the modified Newton-Sabatier method. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 98–111, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U40

— (*with* Lévay, Péter; Scheid, Werner) Modified symmetry generators for SO(3, 2) and algebraic scattering theory. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 354–362, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81R05

— *see also* **Inverse and algebraic quantum scattering theory, 98j:81005**

Apanasov, Boris N. (*with* Xie, Xiangdong) Manifolds of negative curvature and nilpotent groups. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 105–115, *World Sci. Publishing, River Edge, NJ*, 1997. (Michel Coornaert) **98m:53046** 53C20 (32H20, 53C21, 57M50)

— Bending deformations of complex hyperbolic surfaces. (English summary) *J. Reine Angew. Math.* **492** (1997), 75–91. (Athanase Papadopoulos) **98k:32027** 32G05 (32G15)

— *see also* **Geometry, topology and physics, 98k:00014**

pérez Aparicio, Jose Luis *see* **Pérez Aparicio, Jose Luis**

Aparicio, N. D. (*with* Atkinson, Colin) An inverse problem method for crack detection in viscoelastic materials under anti-plane strain. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 9, 841–849. 73M25 (73F99)

— (*with* Atkinson, Colin) Ancillary solutions for curved crack stress analysis. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2207–2228. (Summary) **98i:73048** 73M25

Aparina, L. V. Uniformly Lindelöf spaces. (Russian) *Tr. Mosk. Mat. Obs.* **57** (1996), 3–15; *translation in Trans. Moscow Math. Soc.* **1996,** 1–12 (1997). (Eliza Wajch) **98h:54035** 54E15 (54D20, 54D35)

Apartsin, Alexander (*with* Ferapontova, E.; Gurvich, Vladimir A.) A circular graph—counterexample to the Duchet kernel conjecture. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 229–231. (Summary) **98f:05122** 05C75

Apaydın, A. An application of the branch-bound algorithm for the determination of the best subset in multiple linear regression. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 175–192. 62J05

Apbasov, S. O. (*with* Yakhno, V. G.) Determination of the characteristics of an isotropic vertically inhomogeneous disconnected thermoelastic medium. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 26–37, 168, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 73F15 (35R30, 73B30)

Apel, J. Division of entire functions by polynomial ideals. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 82–95, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98c:68103** 68Q40 (13J99)

Apel, Thomas (*with* Lube, Gert) Anisotropic mesh refinement in stabilized Galerkin methods. (English summary) *Numer. Math.* **74** (1996), *no.* 3, 261–282. (G. Albinus) **98a:65158** 65N30 (65N50)

— Anisotropic mesh refinement for the treatment of boundary layers. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 12–16, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N50

Apelian, Christopher (*with* Holmes, Richard L.; Avellaneda, Marco) A turbulent transport model: streamline results for a class of random velocity fields in the plane. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1053–1088. (Vered Rom-Kedar) **98j:76069** 76F99 (76M35, 82C70)

Apel'tsin, V. F. Applied aspects of the theory of continuation of solutions of wave-scattering boundary-value problems. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 245–253. (Youri G. Smirnov) **98j:35031** 35J05 (35B60, 78A45)

— High-frequency asymptotic method for investigating the problem of excitation of a thin dielectric coating of an ideally conducting cylinder (*H*-polarization). (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 369–384. (Summary) **98m:78022** 78A45

Apfeldorf, Karyn M. (*with* Ordóñez, Carlos) Coordinate redefinition invariance and "extra" terms. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 515–526. (Christian Grosche) **98a:81101** 81S40

Apikyan, S. A. Liouville field theory on a hyperelliptic surface. (English summary) *Phys. Lett. B* **388** (1996), *no.* 3, 557–560. (Gregorio Falqui) **98b:81221** 81T40 (14H45)

Apollo, Steven J. (*with* Manry, Michael T.; Hsieh, Cheng-Hsiung; Dawson, Michael S.; Fung, Adrian K.) Cramer Rao maximum a posteriori bounds on neural network training error for non-Gaussian signals and parameters. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 3, 381–391. (Summary) **98c:94036** 94C99 (94A15)

Apostel, Leo *see* **Batens, Diderik**

Apostol, B.-F. On a non-linear diffusion equation describing clouds and wreaths of smoke. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 363–366. (Summary) **98g:35193** 35Q99

Apostol, Tom *see* **Albers, Donald J., 98i:01026**

Apostoli, Peter On the completeness of first degree weakly aggregative modal logics. (English summary) *J. Philos. Logic* **26** (1997), *no.* 2, 169–180. (Alexander V. Chagrov) **98h:03021** 03B45

Apostolico, Alberto (*with* Breslauer, Dany) An optimal $O(\log \log n)$-time parallel algorithm for detecting all squares in a string. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1318–1331. (Maxime Crochemore) **98b:68068** 68Q25 (68Q22, 68R15)

— String editing and longest common subsequences. (English summary) *Handbook of formal languages, Vol.* 2, 361–398, *Springer, Berlin*, 1997. (Summary) **98d:68082** 68Q20 (03D05, 68Q22, 68Q25, 68Q45)

— (*with* Amir, Amihood; Lewenstein, Moshe) Inverse pattern matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 325–339. (Summary) **98h:68097** 68Q20

— *see also* **Combinatorial pattern matching, 98i:68004**

Apostolou, Nikolaos (*with* Kazakos, Demosthenes) On local observability for invariant systems on Lie groups and coset spaces. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1955, 2801–2805. (Wei Kang) **98d:93020** 93B07 (93B27)

— (*with* Kazakos, Demosthenes) An infinitesimal observability test for invariant systems on Lie groups. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 17–25. (Fernand Pelletier) **98d:93021** 93B07 (93B27, 93C10)

— (*with* Kazakos, Demosthenes) Locally distinguishing inputs for systems on Lie groups and parallelism. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966,

2391–2395. (Carlos José Braga Barros) **98k:93017** 93B07 (22E20, 58E25, 93B27)
— (*with* King, Robert E.) A direct learning law for a class of auto-associative dynamic neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 580–583. 92B20
Apostolov, Vestislav (*with* Davidov, J.; Grantcharov, G.; Mushkarov, Oleg K.) Geometry of Hermitian surfaces. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 94–104, *World Sci. Publishing, River Edge, NJ*, 1997. (Massimiliano Pontecorvo) **98j:53079** 53C55 (32L07)
— (*with* Gauduchon, Paul) The Riemannian Goldberg-Sachs theorem. (English summary) *Internat. J. Math.* **8** (1997), *no.* 4, 421–439. (Santiago R. Simanca) **98g:53080** 53C25 (53C55)
— (*with* Ganchev, Georgi; Ivanov, Stefan P.) Compact Hermitian surfaces of constant antiholomorphic sectional curvatures. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3705–3714. (Tedi C. Draghici) **98b:53065** 53C55 (53C21)
Appa, Gautam The use of linear programming duality in mixed integer programming. (English summary) Duality in practice. *IMA J. Math. Appl. Bus. Indust.* **8** (1997), *no.* 3, 225–242. (*see* **98f:90002**) 90C11 (90C05)
Appel, Andrew W. (*with* Jim, Trevor) Shrinking lambda expressions in linear time. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 515–540. (Summary) **98i:68037** 68N15 (68N20)
Appell, Jürgen Multifunctions of two variables: examples and counterexamples. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 119–128, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98a:28009** 28B20 (34A60, 47H04, 47H30, 54C60)
— (*with* De Pascale, Espedito; Kalitvin, A. S.; Zabreĭko, Petr Petrovich) On the application of the Newton-Kantorovich method to nonlinear partial integral equations. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 2, 397–418. (Nguyễn Hồng Thái) **98a:65184** 65R20 (45G10, 45L05, 46E30, 47H30)
— Mark Aleksandrovich Krasnosel'skiĭ—some reminiscences. *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 525–535. (Editors) **98f:01056b** 01A70
— (*with* Frolova, Elena Valer'evna; Kalitvin, A. S.; Zabreĭko, Petr Petrovich) Partial integral operators on $C([a,b]\times[c,d])$. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 125–140. (Anton Schep) **98f:47037** 47B38 (45P05, 47G10, 47N20)
— (*with* Dörfner, Michael) Some spectral theory for nonlinear operators. *Nonlinear Anal.* **28** (1997), *no.* 12, 1955–1976. (Yi Hong Du) **98e:47098** 47H12 (47H09)
— Some spectral theory for nonlinear operators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3135–3146. (*see* **98i:00031**) 47H12
— (*with* De Pascale, Espedito; Lysenko, Julia V.; Zabreĭko, Petr Petrovich) New results on Newton-Kantorovich approximations with applications to nonlinear integral equations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 1–17. (Carl T. Kelley) **98c:65090** 65J15 (45G10, 45L05, 47H17)
Appert, C. (*with* van Beijeren, H.; Ernst, M. H.; Dorfman, J. R.) Thermodynamic formalism and localization in Lorentz gases and hopping models. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1253–1271. (Summary) **98g:82035** 82C40
— (*with* Ernst, M. H.) Chaos properties and localization in Lorentz lattice gases. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5106–5122. (Summary) **98m:82060** 82C40 (58F40)
Applebaum, David A horizontal Lévy process on the bundle of orthonormal frames over a complete Riemannian manifold. (English summary) *Séminaire de Probabilités, XXIX*, 166–180, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Ming Liao) **98i:58246** 58G32 (60H20)
— Covariant Poisson fields in Fock space. *Analysis, geometry and probability*, 1–15, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (Kalyanapuram R. Parthasarathy) **98j:81180** 81S25 (60G20, 81–02)
— (*with* Cohen, Serge) Stochastic parallel transport along Lévy flows of diffeomorphisms. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 496–505. (Ming Liao) **98e:58177** 58G32 (60H10)
Applegate, D. (*with* Reeds, J. A.; Scheinberg, S.; Shepp, Larry A.; Shor, Peter W.) Some problems in probabilistic tomography. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 323–335; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 199–209 (1997). (Dominikus Noll) **98j:60015** 60E05 (28A35, 44A12)
Appling, William D. L. A characterization theorem for the existence of a Hellinger-type integral. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 236–264. (Ion Chiţescu) **98e:28006** 28A25 (28B20)
Apprato, Dominique (*with* Gout, Christian) Approximation de surfaces à partir de morceaux de surface. (English and French summaries) [Approximation of surfaces from surface patches] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 445–448. (Summary) **98c:65020** 65D17
Apps, J. S. (*with* Dowker, J. S.) Functional determinants on certain domains. The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 799–812. (Emili Elizalde) **98k:58239** 58G26 (81T50)
Aprodu, Marian (*with* Brînzănescu, Vasile) Stable rank-2 vector bundles over ruled surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 295–300. (Giorgio Ottaviani) **98j:14009** 14D20 (14J26, 14J60)
Apsītis, Kalvis (*with* Freivalds, Rūsiņš; Simanovskis, Raimonds; Smotrovs, Juris) Unions of identifiable families of languages. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 48–58, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (Summary) **98f:68227** 68T05 (68Q45)
— (*with* Geidmanis, Dainis; Karņeps, Jānis; Taimiņa, Daina; Calude, Elena) Tally languages accepted by alternating multitape finite automata. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 422–430, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q68 (68Q45)
Apt, Krzysztof R. (*with* Teusink, Frank) Comparing negation in logic programming and in Prolog. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 65–84, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Summary) **98j:68006** 68N17
— (*with* Ben-Eliyahu-Zohary, Rachel) Meta-variables in logic programming, or In praise of ambivalent syntax. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 23–36. (Summary) **98i:68044** 68N17 (03B70, 03D35)
— *see also* **From universal morphisms to megabytes: a Baayen space odyssey**, **98k:00042** *and* **Nienhuys-Cheng, Shan-Hwei**, **98j:68014**
Aptekarev, A. I. (*with* Kalyagin, V. A.; Kozlov, Valeriĭ V.; Potapov, M. K.; Sorokin, Vladimir N.; Ul'yanov, P. L.; Fomenko, A. T.; Shidlovskiĭ, A. B.) Evgeniĭ Mikhaĭlovich Nikishin. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 110–111. 01A70
— (*with* Buyarov, V. S.; Van Asse, V.; Dehesa, Jesús S.) Asymptotics of entropy integrals for orthogonal polynomials. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 4, 439–441. (Leonid B. Golinskiĭ) **98c:33005** 33C45 (42C05)
— (*with* Marcellán, Francisco; Rocha, I. A.) Semiclassical multiple orthogonal polynomials and the properties of Jacobi-Bessel polynomials. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 117–146. (V. L. Deshpande) **98k:33012** 33C45 (33C10)
— (*with* Branquinho, A.; Marcellán, Francisco) Toda-type differential equations for the recurrence coefficients of orthogonal polynomials and Freud transformation. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 139–160. (Mayumi Ohmiya) **98f:33013** 33C45 (34A55, 58F07)
Apter, Arthur W. More on the least strongly compact cardinal. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 427–430. (Carlos A. Di Prisco) **98k:03105** 03E35 (03E55)
Aquilino, D. (*with* Asirelli, P.; Renso, C.; Turini, F.) An operator for composing deductive data bases with theories of constraints. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 57–70, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68P15 (68N17)
Aquino, N. The isotropic bounded oscillators. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2403–2415. (Summary) **98b:81031** 81Q05 (81–04, 81V45)
Ara, Pere Extensions of exchange rings. (English summary) *J. Algebra* **197** (1997), *no.* 2, 409–423. (W. K. Nicholson) **98j:16021** 16U99 (16E20, 16S70)
— (*with* Goodearl, K. R.; O'Meara, K. C.; Pardo, E.) Diagonalization of matrices over regular rings. (English summary) *Linear Algebra Appl.* **265** (1997), 147–163. (Enric Ventura Capell) **98i:16013** 16E50 (15A33, 16D70)
Arab, Meriem (*with* Calbrix, Jean) Comparison of some classical topologies on hyperspaces within the framework of point spaces. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 47–55. (Summary) **98c:54006** 54B20 (54A20)
Arabatzis, Theodore Rethinking the "discovery" of the electron. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 4, 405–435 (1997). (From the text) **98m:81001** 81–03 (78–03, 81V10)
Arabie, Phipps (*with* Hubert, Lawrence; Meulman, Jacqueline) The construction of globally optimal ordered partitions. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 299–311, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 62H30 (90C27, 92G30)
— (*with* Hubert, Lawrence; Meulman, Jacqueline) Linear and circular unidimensional scaling for symmetric proximity matrices. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 253–284. 62H99 (62P15)
— *see also* **Clustering and classification**, **98d:62115**
Arabshahi, Abdollah (*with* Razzaghi, Mohsen; Lin, Shin-Feng D.) Analysis of linear distributed parameter systems via double Fourier series. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 205–215. (Summary) **98e:93048** 93B40 (93C20)
Aracil, J. (*with* Ponce, Enrique; Pizarro, L.) Behavior patterns of logistic models with a delay. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 123–141. (János Tóth) **98m:92020** 92D25 (34C37, 34K15)
Arad, M. (*with* Segev, Reuven; Ben-Dor, G.) Accuracy increase of finite difference calculations on arbitrary meshes by means of differentiation of the partial differential equations and their boundary conditions. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 541–552. (Summary) **98e:73147** 73V15
— (*with* Yakhot, A.; Ben-Dor, G.) A highly accurate numerical solution of a biharmonic equation. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 375–391. (Summary) **98c:65172** 65N06
— (*with* Yosibash, Zohar; Yakhot, A.; Ben-Dor, G.) An accurate semi-analytic finite difference scheme for two-dimensional elliptic problems with singularities. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 281–296. 65N06
Arad, Z. (*with* Muzychuk, Mikhail E.) Order evaluation of products of subsets in finite groups and its applications. II. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4401–4414. (Francesco de Giovanni) **98b:20031** 20D40
de Aragão, C. M. L. (*with* Accioly, A. J.; Azeredo, A. D.; Mukai, Hatsumi) A simple prescription for computing the stress-energy tensor. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1163–1166. (Roh Suan Tung) **98e:83043** 83C40 (83C50)
Aragão, Marcelo A. T. (*with* Vasconcelos, Wamberto W.; Fuchs, Norbert E.) Automatic bottom-up analysis and transformation of logic programs. (English summary) *Advances in artificial intelligence* (*Curitiba*, 1996), 191–200, *Lecture Notes in Comput. Sci.*, 1159, *Springer, Berlin*, 1996. (*see* **98h:68002**) 68N17
Aragón, J. L. (*with* Gómez, Alfredo; Caballero, O.; Dávila, F.) The applications of Clifford algebras to crystallography using Mathematica. (English summary) *Clifford algebras with numeric and symbolic computations*, 251–266, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (52C22, 82–04, 82D25)
— (*with* Barrio, R. A.; Varea, C.; Torres Hernanz, Manuel; Montero de Espinosa, F.) Hydrodynamic 5-fold diffusion-driven instabilities. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3339–3344. (*see* **98h:00034**) 76E99 (76D05)
Aragon, Yves (*with* Saracco, Jérôme) Sliced inversed regression (SIR): an appraisal of small sample alternatives to slicing. (English summary) *Comput. Statist.* **12** (1997), *no.* 1, 109–130. (Jack Cuzick) **98i:62022** 62G05 (62H40)
— A Gauss implementation of multivariate sliced inverse regression. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 355–372. 62J05
Aragone, C. (*with* Khoudeir, A.) Two gravitationally Chern-Simons terms are too many. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 261–265, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:83065** 83C99 (81T20)

Aragone, L. S. (*with* González, Roberto L. V.) Fast computational procedure for solving multi-item single-machine lot scheduling optimization problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 491–515. (Jan Węglarz) **98b:90061** 90B35 (65K10, 90B30)

Arai, Asao A new estimate for the groundstate energy of Schrödinger operators. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 215–227. (Fumio Hiroshima) **98m:81026** 81Q10 (47F05, 47N50)

Arai, Hitoshi Degenerate elliptic operators, H^1 spaces and diffusions on strongly pseudoconvex domains. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 35–42, *World Sci. Publishing, River Edge, NJ*, 1996. (Steven George Krantz) **98e:32008** 32A40 (32H10, 35J05, 35J70, 46N20)

— *see also* **Okamoto, Kazuo** *and* **Igari, Satoru**

Arai, Masaharu (*with* Uchiyama, Jun) Growth order of eigenfunctions of Schrödinger operators with potentials admitting some integral conditions. I. General theory. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 581–616. (Rainer Hempel) **98f:35032a** 35J10 (35B05, 35P99)

— (*with* Uchiyama, Jun) Growth order of eigenfunctions of Schrödinger operators with potentials admitting some integral conditions. II. Applications. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 617–631. (Rainer Hempel) **98f:35032b** 35J10 (35B05, 35P99)

Arai, Noriko H. Tractability of cut-free Gentzen type propositional calculus with permutation inference. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 181–188. (*see* **98a:68008**) 03F20

— Tractability of cut-free Gentzen type propositional calculus with permutation inference. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 129–144. (M. Tetrashvili) **98c:03115** 03F20 (03B05, 03B25, 03D15, 68Q15)

— Bounded arithmetic vs. propositional calculus. Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 1–12. (*see* **98f:03001**) 03F20 (03D15, 68Q15)

Arai, Toshiyasu From the attic. (English summary) Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 97–124. (*see* **98f:03001**) 03Fxx

— Consistency proof via pointwise induction. (English summary) Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 125–134. (*see* **98f:03001**) 03F30 (03F25)

— Introducing the hardline in proof theory. Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 135–145. (*see* **98f:03001**) 03F15 (03F35)

Arakane, Y. (*with* Itoyama, Hiroshi; Kunitomo, Hiroshi; Tokura, A.) Infinity cancellation, type I′ compactification and string $\mathscr{S}$-matrix functional. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 149–163. (Summary) **98b:81172** 81T30

Arakawa, Akio Computational design for long-term numerical integration of the equations of fluid motion: two-dimensional incompressible flow. I [J. Comput. Phys. **1** (1966), no. 1, 119–143]. (English summary) With an introduction by Douglas K. Lilly. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 101–114. (*see* **98h:70003**) 76M20

Arakawa, Tsuneo Motivations of the Ibukiyama-Saito theory. (Japanese) Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 74–87. (From the introduction) **98a:11058** 11F46 (11F66)

— Jacobi forms and Selberg zeta functions. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 1–10. (Shin-ya Koyama) **98i:11030** 11F55 (11M36)

Arakawa, Yoshiki (*with* Yamaguchi, Fujio) An edge-based data structure for extended triangle-based BRep and its set operation algorithm. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 1, 39–49. 68U05 (68P05)

Araki, Huzihiro (*with* Tabuchi, Takaaki) On commuting transfer matrices. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part 1 (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 717–751. (Bruno Nachtergaele) **98e:82022** 82B23 (82B10, 82B20)

— Finite energy sectors of the XY model. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 4, 399–410. (Władysław Adam Majewski) **98b:82005** 82B10 (46L60)

— Rings of operators and mathematical physics. (Japanese) *Sūgaku* **49** (1997), *no.* 4, 405–414. 01A67 (46–03, 46Lxx, 81T05, 82B10)

— *see also* **State of matter, 98c:82001**

Araki, Keisuke (*with* Kitauchi, Hideaki; Kida, Shigeo) Thermal convection dynamos in rotating spherical shells—the relationship between flow structure and magnetic field generation. (Japanese) Mathematics of thermal convection (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 970 (1996), 54–63. (*see* **98f:00025**) 76W05 (76R05)

— (*with* Mizushima, Jiro; Yanase, Shinichiro) Transition of a spherical shell Couette flow to a nonaxisymmetric flow. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 57–67. (*see* **98e:76004**) 76E99 (76F99)

— (*with* Kitauchi, Hideaki; Kida, Shigeo) Flow structure of thermal convection in a rotating spherical shell. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 885–904. (Summary) **98d:76154** 76R99 (76E15, 76U05, 76W05)

Araki, Yoshiaki (*with* Hanada, Akira; Takefuji, Yoshiyasu; Tsuchiya, Kazuhiro) Missionaries and cannibals problems. *Neural computing for optimization and combinatorics*, 161–176, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68179**) 05A99

Araki, Yoshihiro Chaotic fluctuations in productivity improving investment. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 353–358, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A11

Aramaki, Junichi (*with* Takahashi, Hitoshi) A note on the composition formula for pseudodifferential operators with a parameter. (English summary) *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **19** (1997), *no.* 1, 3–12. (G. V. Rozenblyum) **98m:35232** 35S05 (35P20, 47G30, 58G15)

Aramova, Annetta (*with* Herzog, Jürgen) p-Borel principal ideals. *Illinois J. Math.* **41** (1997), *no.* 1, 103–121. (Rafael H. Villarreal) **98i:13020** 13D02 (13F20)

— (*with* Herzog, Jürgen; Hibi, Takayuki) Gotzmann theorems for exterior algebras and combinatorics. *J. Algebra* **191** (1997), *no.* 1, 174–211. (Ralf Fröberg) **98c:13025** 13D40 (13P10)

Aranđelović, Ivan D. *see* **Arandjelović, Ivan**

milovanović-Aranđelović, Marina M. *see* **Milovanović-Aranđelović, Marina M.**

Arandjelović, Ivan On the weak admissibility on topological vector spaces and its application in fixed point theory. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 89–94, *Univ. Priština, Priština*, 1997. (I. Namioka) **98k:46004** 46A16 (47H10)

— (*with* Milovanović-Aranđelović, Marina M.) A fixed point theorem in compact Menger spaces. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 95–98, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 54H25

— (*with* Milovanović-Aranđelović, Marina M.) Some properties of Hausdorff measure of noncompactness on locally bounded topological vector spaces. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 221–223. (*see* **98k:00020**) 47H09 (46A16)

Arango, Horacio (*with* Cossio, Jorge) Construction of radially symmetric solutions of a semilinear elliptic problem. (Spanish. English and Spanish summaries) *Rev. Colombiana Mat.* **30** (1996), *no.* 2, 77–92. (P. Lindqvist) **98e:35058** 35J60 (34A05, 35A35, 35C05)

Arango, J. A. (*with* Lebedev, L. P.; Vorovich, I. I.) Some boundary value problems and models for coupled elastic bodies. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 157–172. (Peregrina Quintela Estévez) **98m:73028** 73C35 (73K99, 73V05)

Arani, Ramin B. (*with* Rao, M. Bhaskara) A result on a 2×2 survival experiment. (English summary) *Math. Biosci.* **146** (1997), *no.* 2, 63–73. 92B15

Aranson, S. Kh. (*with* Zhuzhoma, E. V.; Medvedev, T. V.) Classification of Cherry transformations on a circle and of Cherry flows on a torus. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 4, 7–17; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 4, 5–15. (A. Morimoto) **98a:58060** 58F03 (58F25)

— (*with* Plykin, R. V.; Zhirov, A. Yu.; Zhuzhoma, E. V.) Exact upper bounds for the number of one-dimensional basic sets of surface A-diffeomorphisms. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 1, 1–18. (Lorenzo J. Díaz) **98d:58109** 58F12 (58F15)

— (*with* Zhuzhoma, E. V.; Medvedev, Vladislav Sergeevich) On the continuity of geodesic frames of flows on surfaces. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 3–22; *translation in Sb. Math.* **188** (1997), *no.* 7, 955–972. (Valery Covachev) **98b:58139** 58F17

López de Aráoz, Beatriz *see* **López de Aráoz, Beatriz**

Arapostathis, Aristotle (*with* Ghosh, Mrinal K.; Marcus, Steven I.) Ergodic control of switching diffusions. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1952–1988. (Sergey V. Lototsky) **98j:93086** 93E20 (35J45, 60J60)

Arapura, Donu Geometry of cohomology support loci for local systems. I. *J. Algebraic Geom.* **6** (1997), *no.* 3, 563–597. (Philippe P. Eyssidieux) **98m:32043** 32J25 (14C30, 14F35, 14F40, 14F45, 32C17)

Araragi, Tadashi A uniform theorem proving tableau method for modal logic. (English summary) *Gödel '96* (*Brno*, 1996), 173–182, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Neculai Curteanu) **98c:03027** 03B35 (03B45, 68T15, 68T27)

Aras, Girish Adaptive designs for optimal age replacement policy. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 238–248, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62N05 (62G05)

Aras, Necati (*with* Altınel, İ. Kuban; Oommen, John) Vector quantization for arbitrary distance function estimation. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 439–451. 90B80 (90B06)

Arasu, K. T. (*with* Davis, James Andrew; Jedwab, Jonathan; Ma, Siu Lun; McFarland, Robert L.) Exponent bounds for a family of abelian difference sets. (English summary) *Groups, difference sets, and the Monster* (*Columbus, OH*, 1993), 129–143, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (A. P. Street) **98b:05014** 05B10

— (*with* Ma, Siu Lun; Voss, N. J.) On a class of almost perfect sequences. (English summary) *J. Algebra* **192** (1997), *no.* 2, 641–650. (Alexander Pott) **98k:05026** 05B10 (11B83, 94A55)

Arató, N. M. Mean estimation of Brownian sheet. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 13–25. (Satish Iyengar) **98f:62283** 62M99

Aratyn, H. (*with* Nissimov, E.; Pacheva, S.) Constrained KP hierarchies: additional symmetries, Darboux-Bäcklund solutions and relations to multi-matrix models. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 7, 1265–1340. (Alexander V. Shapovalov) **98c:58065** 58F07

— (*with* Ferreira, L. A.; Gomes, J. F.; Zimerman, A. H.) Constrained KP models as integrable matrix hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1559–1576. (Carlos R. Fernández-Pousa) **98e:58090** 58F07

— (*with* Rasinariu, Constantin; Das, Ashok) Zero curvature formalism for supersymmetric integrable hierarchies in superspace. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2623–2630. (Annalisa M. Calini) **98k:58101** 58F07 (35Q58)

— (*with* Nissimov, E.; Pacheva, S.) Virasoro symmetry of constrained KP hierarchies. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 164–175. (Alexander V. Shapovalov) **98a:58078** 58F07 (35Q53, 81R10)

Araujo, A. *see* **Araujo, Aloísio Pessoa**

Araújo, A. L. (*with* Sanz-Serna, J. M.) Symplectic methods and NB-series. (English summary) *First Meeting on Numerical Methods for Partial Differential Equations* (*Coimbra*, 1995), 1–7, *Textos Mat. Sér. B*, 11, *Univ. Coimbra, Coimbra*, 1997. (*see* **98h:65003**) 65L06 (65L70)

Araujo, Aloísio Pessoa (*with* Monteiro, Paulo K.; Páscoa, M. R.) Incomplete markets, continuum of states and default. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 205–213. 90A60 (90D10)

de Araujo, Carlos F., Jr. (*with* Tomio, Lauro; Adhikari, Sadhan K.; Frederico, T.) Application of renormalization to potential scattering. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4687–4700. (Summary) **98j:81361** 81U99 (81T15)

Araujo, Jesús (*with* Martinez-Maurica, J.) Isometries between non-Archimedean spaces of continuous functions. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 12–17, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98h:46082** 46S10 (46E15, 54C35)

— (*with* Beckenstein, Edward; Narici, Lawrence) Biseparating maps and rings of continuous functions. (English summary) *Papers on general topology and applications*

(*Flushing, NY*, 1992), 296–303, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54035** 54C40 (46E25, 46J10, 54D60)
— (*with* Font, Juan J.; Hernández, Salvador) A note on Holsztyński's theorem. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 9–12, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Francesco Altomare) **98g:46028** 46E15 (46E25)
— Isometries in spaces of non-Archimedean continuous functions. *p-adic functional analysis* (*Nijmegen*, 1996), 19–27, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Ann Verdoodt) **98d:46084** 46S10 (46E15, 47B38, 47S10)
— (*with* Font, Juan J.) On Šilov boundaries for subspaces of continuous functions. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 79–85. (Summary) **98c:46104** 46J20 (54C40)
Aravind, P. K. The "twirl", stella octangula and mixed state entanglement. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 7–10. (S. Gudder) **98j:81007** 81P05 (81P15)
— How many bits are needed to transmit a qubit reliably? (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 207–212. (Summary) **98m:81014** 81P99
Aravinda, C. S. (*with* Farrell, F. T.; Roushon, S. K.) Surgery groups of knot and link complements. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 400–406. (Masayuki Yamasaki) **98e:57047** 57R67 (57M25, 57Q45)
Aravindan, Chandrabose An abductive framework for negation in disjunctive logic programming. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 252–267, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:68039** 68N17 (68Q55)
Araya, Makoto (*with* Hiraki, Akira; Jurišić, Aleksandar) Distance-regular graphs with $b_2 = 1$ and antipodal covers. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 243–248. (Sung-Yell Song) **98c:05169** 05E30
Arazy, Jonathan Boundedness and compactness of generalized Hankel operators on bounded symmetric domains. (English summary) *J. Funct. Anal.* **137** (1996), *no.* 1, 97–151. (From the introduction) **98c:47032** 47B35 (32M15, 46E15, 47B07)
— (*with* Upmeier, Harald) Invariant inner product in spaces of holomorphic functions on bounded symmetric domains. (English summary) *Doc. Math.* **2** (1997), 213–261 (*electronic*). (Manfred Stoll) **98k:46040** 46E20 (32M15, 46E22)
Arbekov, I. M. (*with* Proskurin, G. V.) On a lower bound for the probability of the correct classification of observations. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 628–633; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 532–537 (1997). (Tamas Lengyel) **98f:62177** 62H30
Arbel, Ami An interior multiobjective primal-dual linear programming algorithm based on approximated gradients and efficient anchoring points. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 4, 353–365. (Alberto Cambini) **98b:90121** 90C29 (90C05)
Arbenz, Peter (*with* Gander, Walter) Direct parallel algorithms for banded linear systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 119–122. (*see* **98b:65005**) 65F10 (65Y05)
— (*with* Hegland, Markus) The stable parallel solution of narrow banded linear systems. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30 (65Y05)
soriano Arbizu, J. M. *see* **Soriano Arbizu, J. M.**
Arbogast, Todd Computational aspects of dual-porosity models. *Homogenization and porous media*, 203–223, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05 (76M25)
— (*with* Dawson, Clint N.; Keenan, Philip T.; Wheeler, Mary F.; Yotov, Ivan) The application of mixed methods to subsurface simulation. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 1–12, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98i:76049** 76M10 (76M20, 76S05, 76T05)
— (*with* Yotov, Ivan) A non-mortar mixed finite element method for elliptic problems on non-matching multiblock grids. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 255–265. (Summary) **98j:76083** 76M10 (65N30, 76S05)
— (*with* Wheeler, Mary F.; Yotov, Ivan) Mixed finite elements for elliptic problems with tensor coefficients as cell-centered finite differences. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 828–852. (Michael J. O'Carroll) **98g:65105** 65N30 (65N15, 76M10, 76S05)
Arboleda, Luis Carlos (*with* Recalde, Luis Cornelio) The actual infinite and the techniques of the uncountably infinite: a methodological contribution. (Spanish) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 175–183, *Edit. UNESP, São Paulo*, 199?. (*see* **98d:00018**) 00A35 (01A99)
Arbona, A. (*with* Bona Garcia, Carles; Carot, Jaume; Mas, Lluis; Massó, Joan; Stela, J.) Stuffed black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2397–2402. 83C57
Arbuzov, È. V. (*with* Bukhgeĭm, A. L.) The Carleman formula for A-analytic functions. (Russian) *Group and metric properties of mappings* (*Russian*), 105–116, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (T. Tonev) **98d:30057** 30G30
— (*with* Bukhgeĭm, A. L.) The Cauchy problem for A-harmonic functions. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 586–587. (Alexander I. Kheyfits) **98j:35043** 35J25 (31B35, 35R20, 44A12)
Arca, Giuseppe (*with* Duma, Andrei) "Large" convex bodies in a plane lattice. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 15–33. (Summary) **98i:60009** 60D05 (52A22, 52C05)
Arcangéli, R. (*with* Manzanilla, R.; Torrens, Juan José) Approximation spline de surfaces de type explicite comportant des failles. (English and French summaries) [Spline approximation of surfaces of explicit type which have faults] *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 643–676. (Christian Coatmélec) **98j:65007** 65D07 (41A63)
de Arcangelis, Lucilla (*with* Jan, Naeem) Computational aspects of damage spreading. (English summary) *Annual reviews of computational physics, I*, 1–16, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82093** 82C80 (82B20, 82B80)
de Arcangelis, Riccardo *see* **De Arcangelis, Riccardo**
Arcelli, Francesca (*with* Borghoff, Uwe M.; Pareschi, Remo; Formato, Ferrante) Constraint-based protocols for distributed problem solving. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 201–225. (*see* **98k:68005**) 68T20 (68Q10)
Arce M., Daniel G. Correlated strategies as institutions. (English summary) *Theory and Decision* **42** (1997), *no.* 3, 271–285. (Summary) **98d:90144** 90D20 (90A08)
Archana, K. (*with* Palaniappan, D.; Sujit Kumar Khan) Two-dimensional creeping flows with permeable cylinders. *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 791–796. 76D07
Archangelsky, Dmitri A. *see* **Arkhangel'skiĭ, D. A.**
Archangelsky, Dmitry A. *see* **Arkhangel'skiĭ, D. A.**
Archangelsky, Konstantin V. *see* **Arkhangel'skiĭ, K. V.**
Archbold, Robert J. (*with* Kaniuth, Eberhard) On the primitive ideal space of a finitely generated nilpotent group. (English summary) *Forum Math.* **9** (1997), *no.* 2, 193–210. (Sze-Kai Tsui) **98d:46061** 46L05 (20F18, 22D10)
— (*with* Somerset, D. W. B.; Spielberg, John S.) Upper multiplicity and bounded trace ideals in C^*-algebras. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 430–463. (Liang Sen Wu) **98d:46062** 46L05
Archdeacon, Dan Topological graph theory: a survey. Surveys in graph theory (San Francisco, CA, 1995). *Congr. Numer.* **115** (1996), 5–54. (From the introduction) **98g:05044** 05C10
— (*with* Hartsfield, Nora; Little, C. H. C.) Non-Hamiltonian triangulations with large connectivity and representativity. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 45–55. (Summary) **98g:57035** 57Q15 (05C10, 05C40, 05C45)
— (*with* Gvozdjak, Pavol; Širáň, Jozef) Constructing and forbidding automorphisms in lifted maps. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 113–129. (Roman Nedela) **98k:05050** 05C10 (57M10)
— (*with* Širáň, Jozef) Characterizing planarity using theta graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 17–20. (R. Bruce Richter) **98j:05055** 05C10
Archer, Richard (*with* Macpherson, Dugald) Soluble omega-categorical groups. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 219–227. (Françoise Point) **98c:03081** 03C35 (03C60, 20A15, 20F16)
Archilla, J. F. R. (*with* Romero, Juan Luis; Romero Romero, F.; Palmero, F.) Spiral waves solutions in reaction-diffusion equations with symmetries. Analysis through specific models. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4259–4271. 35K57 (35A30, 58F37)
Arcones, Miguel A. The law of the iterated logarithm for a triangular array of empirical processes. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 5, 39 *pp.* (*electronic*). (Winfried Stute) **98k:60006** 60B12 (60F15)
— (*with* Mason, David M.) A general approach to Bahadur-Kiefer representations for M-estimators. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 267–292. (Joseph E. Yukich) **98i:62009** 62E20
Arcos Cebrián, Antonio (*with* Rueda García, María del Mar; Artés Rodríguez, Eva) Improvement of ratio and regression estimators of population variance. (Spanish. English and Spanish summaries) *Estadíst. Española* **37** (1995), *no.* 140, 511–521. 62D05
Arcoya, D. (*with* Boccardo, Lucio) Nontrivial solutions to some nonlinear equations via minimization. *Variational methods in nonlinear analysis* (*Erice*, 1992), 49–53, *Gordon and Breach, Basel*, 1995. (Wen Xiong Chen) **98f:35043** 35J60 (49J20)
Arcozzi, Nicola (*with* Fontana, Luigi) A characterization of the Hilbert transform. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1747–1749. (Hans P. Heinig) **98g:42017** 42A50 (44A15)
Arcuri, R. C. *see* **Lim, S. C., 98a:81019**
rahimi Ardabili, M. Y. *see* **Rahimi Ardabili, M. Y.**
Ardahan, H. Operations with the periodic decimal expansions. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 335–342. (Les Davison) **98k:11003** 11A63
Ardalan, Farhad (*with* Alishahiha, Mohsen; Mansouri, Freydoon) The moduli space of the $N = 2$ supersymmetric G_2 Yang-Mills theory. (English summary) *Phys. Lett. B* **381** (1996), *no.* 4, 446–450. (Summary) **98b:81243** 81T60 (14H45, 81T13)
— (*with* Kim, Sunme; Mansouri, Freydoon) Can we have exact supersymmetry with undetected superpartners? Lessons from $2 + 1$ dimensions. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1183–1193. (Summary) **98h:81114** 81T60 (83E50)
— (*with* Fatollahi, Amir H.) Point-like structure in strings and non-commutative geometry. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 157–163. (Jihad Mourad) **98j:81241** 81T30 (58B30)
Ardanuy Albájar, Ramón (*with* López Fidalgo, Jesús F.) Characterizing the general multivariate normal distribution through the conditional distributions. *Extracta Math.* **12** (1997), *no.* 1, 15–18. 62H05
— (*with* Santos-Martín, M. T.; Rodríguez-Díaz, J. M.) Maximum likelihood regression with Poisson response. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 45–52. 62F03 (62F10, 62H12, 62H15)
Ardelyan, N. Iterative methods for solving of implicit difference schemes of MHD. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 123–126. (*see* **98b:65005**) 65H10 (76M20, 76W05)
Arduini, Carlo (*with* Curti, F.) Constrained optimal estimation and control. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2255–2263. 93E10 (49N10)
Area, I. (*with* Zarzo, A.; Godoy, E.; Ronveaux, André) Results for some inversion problems for classical continuous and discrete orthogonal polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 3, L35–L40. (Pascal Maroni) **98g:33014** 33C45
Arecchi, F. Tito Complexity in science: models and metaphors. *The emergence of complexity in mathematics, physics, chemistry and biology* (*Vatican City*, 1992), 129–160, *Pontif. Acad. Sci. Scr. Varia*, 89, *Pontif. Acad. Sci., Vatican City*, 1996. (*see* **98g:00022**) 00A30 (00A69, 00A79)
— Decoherence and quantum-classical correspondence in chaotic systems. *Time, temporality, now* (*Tegernsee*, 1996), 279–292, *Springer, Berlin*, 1997. (*see* **98b:81013**) 81Q50
— (*with* Boccaletti, S.; Farini, A.) Adaptive strategies for recognition, control and synchronization of chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9,

1431–1448. 58F13 (93D15)

Aref'eva, I. Ya. Large N matrix models and q-deformed quantum field theories. (English summary) *From field theory to quantum groups*, 79–97, *World Sci. Publishing, River Edge, NJ*, 1996. (Marcelo R. Ubriaco) **98c:81123** 81T10 (17B37, 81R50, 81T13)

— (*with* Volovich, I. V.; Viswanathan, K. S.) On black hole creation in Planckian energy scattering. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 707–721. (Philippe Spindel) **98f:83060** 83C57 (81V17)

— (*with* Volovich, Anastasia) Composite p-branes in diverse dimensions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 2991–3000. (Summary) **98j:83091** 83E30 (81T30)

— (*with* Viswanathan, K. S.; Volovich, Anastasia; Volovich, I. V.) Composite p-branes in various dimensions. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 52–60. (Summary) **98c:83093** 83E30 (81T30)

— (*with* Ivanov, M. G.; Volovich, I. V.) Non-extremal intersecting p-branes in various dimensions. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 44–48. (Summary) **98c:83092** 83E30 (81T30)

— (*with* Viswanathan, K. S.; Volovich, I. V.) p-brane solutions in diverse dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4748–4755. (C. Gauthier) **98f:81233** 81T30 (83E30)

— Classical and quantum composite p-branes. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 124–130. (Summary) **98m:81124** 81T30

Aregba-Driollet, Denise (*with* Natalini, Roberto) Convergence of relaxation schemes for conservation laws. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 163–193. 65M12 (35L65)

Aregbesola, Y. A. S. Two-point Taylor series for the numerical solution of two-point boundary value problems. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 71–77 (1997). 65L10 (34B15)

ramirez de Arellano, Enrique *see* **Ramírez de Arellano, Enrique**

Arellano-Valle, R. B. (*with* Bolfarine, Heleno; Vilca-Labra, F.) Ultrastructural elliptical models. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 2, 207–216. (Yutaka Kano) **98a:62027** 62F05 (62J05)

— (*with* Bolfarine, Heleno) Elliptical structural models. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 10, 2319–2341. (Yasunori Fujikoshi) **98f:62163** 62H12 (62H15)

guzmán Arenas, Adolfo *see* **Guzmán Arenas, Adolfo**

Arenas, Alex (*with* Díaz-Guilera, Albert; Pérez Vicente, Conrado J.) Mechanisms of synchronization and pattern formation in a lattice of pulse-coupled oscillators. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 3820–3828. 34C15

Arenas, Francisco G. (*with* Dontchev, Julian; Ganster, Maximilian) On λ-sets and the dual of generalized continuity. *Questions Answers Gen. Topology* **15** (1997), *no.* 1, 3–13. (From the introduction) **98c:54009** 54C05 (54C08, 54D10, 54H05)

— Essential and stable mappings and transfinite dimension. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 75–94. (Yasunao Hattori) **98h:54048** 54F45 (54C20, 54D35)

— (*with* Puertas, María Luz) Transfinite rank dimension. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 145–151. (Summary) **98h:54047** 54F45

— On Sierpiński theorem. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 153–159. (Summary) **98e:54024** 54D05 (54F15)

Arends, Georg (*with* Abel, Ulrich) The powers of the bivariate Bernstein operators. *Extracta Math.* **11** (1996), *no.* 3, 389–404. (Grzegorz Lewicki) **98e:41028** 41A35 (41A63)

Arendt, Steve (*with* Fritts, David C.; Andreassen, Øyvind) The initial value problem for Kelvin vortex waves. (English summary) *J. Fluid Mech.* **344** (1997), 181–212. (Shu Ming Sun) **98i:76015** 76C05

— (*with* Fritts, David C.) The instability of a vortex tube in a weak external shear and strain. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 530–532. (Summary) **98i:76016** 76C05 (76E99)

Arendt, Wolfgang (*with* Batty, Charles J. K.) Almost periodic solutions of first- and second-order Cauchy problems. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 363–383. (From the introduction) **98g:34099** 34G10 (34C27, 47D06, 47N20)

— (*with* ter Elst, A. F. M.) Gaussian estimates for second order elliptic operators with boundary conditions. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 87–130. (Matthias Hieber) **98k:47094** 47F05 (47A60, 47D06)

— (*with* Batty, Charles J. K.) The spectral function and principal eigenvalues for Schrödinger operators. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 415–436. (Günter Berger) **98g:35148** 35P05 (35J10, 47D06, 47F05)

Arés Gastesi, Pablo Some results on Teichmüller spaces of Klein surfaces. *Glasgow Math. J.* **39** (1997), *no.* 1, 65–76. (I. Kra) **98c:30056** 30F50 (20H10, 30F40, 30F60, 32G15)

— On Teichmüller spaces of Koebe groups. (English summary) *Internat. J. Math.* **8** (1997), *no.* 5, 611–632. (Yoichi Imayoshi) **98i:32028** 32G15 (30F40, 30F60)

— The Bers-Greenberg theorem and the Maskit embedding for Teichmüller spaces. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 558–568. (I. Kra) **98e:32034** 32G15 (30F40)

Arestov, V. V. (*with* Berdyshev, V. I.; Subbotin, Yu. N.; Chernykh, N. I.) S. B. Stechkin and approximation theory. (Russian) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4 (Russian)*, 3–16, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (F. Smithies) **98m:41001** 41–03 (01A60, 01A70, 42–03)

— Approximation of unbounded operators by bounded ones, and related extremal problems. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 89–124; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1093–1126. (Grzegorz Lewicki) **98e:41030** 41A35 (41A30, 41A65, 47A58)

Arévalo, Carmen (*with* Söderlind, Gustaf) Convergence of multistep discretizations of DAEs. (English summary) *BIT* **35** (1995), *no.* 2, 143–168. (Gennady Y. Kulikov) **98c:65102** 65L05

— (*with* Lötstedt, Per) Improving the accuracy of BDF methods for index 3 differential-algebraic equations. (English summary) *BIT* **35** (1995), *no.* 3, 297–308. (Ekkehard Wagenführer) **98a:65085** 65L05

— (*with* Führer, Claus; Söderlind, Gustaf) β-blocked multistep methods for Euler-Lagrange DAEs: linear analysis. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 8, 609–617. (Ian Gladwell) **98h:65028** 65L06 (34A09, 93B52)

Arevalo Quijada, María Teresa (*with* Mármol Conde, Amparo María; Zapata, A.) The tolerance approach in multiobjective linear fractional programming. (English summary) *Top* **5** (1997), *no.* 2, 241–252. 90C29 (90C32)

Arf, Cahit *see* **Aytuna, Aydın**

Arfaei, H. (*with* Sheikh Jabbari, M. M.) Different D-brane interactions. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 288–296. (Summary) **98b:81173** 81T30

Arfi, Mounir On general estimate of the regression function. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 191–200. (G. Roussas) **98m:62085** 62G05 (62G20, 62M20)

Arfken, George B. (*with* Weber, Hans J.) ★ Mathematical methods for physicists. (English summary) Fourth edition. *Academic Press, Inc., San Diego, CA*, 1995. xviii+1029 *pp. ISBN* 0-12-059815-9 (From the preface) **98a:00001** 00A06

Argaç, Nurcan (*with* Yenigül, M. Ş.; Deng, Qing) On prime and semiprime rings with automorphisms and (σ, τ)-derivations. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 11–16. (Andrzej Nowicki) **98f:16025** 16W25 (16N60)

— On prime and semiprime near-rings with derivations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 737–740. 16Y30

Argatov, I. I. (*with* Nazarov, Sergei A.) Asymptotic solution of the Signorini problem with an obstacle on a thin elongated set. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 3–32; *translation in Sb. Math.* **187** (1996), *no.* 10, 1411–1442. (Dietrich Göhde) **98c:35066** 35J85 (35B25, 35C20, 35J25, 73C99, 73T05)

Argenius, Martin (*with* Voronkov, Andrei) Semantics of constraint logic programs with bounded quantifiers. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 1–18, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68038** 68N17 (68T20)

Argenti, F. (*with* De Angeli, A.; Del Re, E.; Genesio, R.; Pagni, P.; Tesi, Alberto) Secure communications based on discrete time chaotic systems. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 41–50. (*see* **98g:93001**) 93C10 (93D21)

Arguchintsev, A. V. (*with* Vasil'ev, O. V.[1]) Iterative processes of the maximum principle and their modifications in systems with distributed parameters. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 797–803, 862; *translation in Differential Equations* **32** (1996), *no.* 6, 803–809 (1997). (Karsten Eppler) **98b:49020** 49K20 (49M05)

Argüello, F. (*with* Guil, N.; López-Gómez, Juan; Amor, M.; Zapata, E. L.) A probabilistic model for best-first search B & B algorithms. (English summary) *Solving irregularly structured problems in parallel (Paderborn, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65Y05 (65Y25)

Argün, Z. (*with* Tonyalı, C.) Weak*-invariantly complemented subspaces of $L^\infty(1/\omega)$ and ideals of $L^1(\omega)$ with a bounded approximate identity. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 413–423. (Robert S. Doran) **98j:43002** 43A20 (43A05, 43A10, 43A15)

Argurio, R. (*with* Englert, F.; Houart, L.) Intersection rules for p-branes. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 61–68. (Summary) **98a:81151** 81T30 (83E30)

— (*with* Englert, F.; Houart, L.; Windey, P.) Opening of branes. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 151–156. (Summary) **98j:81242** 81T30 (83E30)

Argyrakis, P. (*with* Fournou, E.; Kargas, B.; Anninos, Photios A.) Hybrid neural nets with Poisson and Gaussian connectivities. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 847–867. (Dimitri Petritis) **98k:82136** 82C32 (92B20)

Argyres, Philip C. (*with* Plesser, M. Ronen; Seiberg, Nathan) The moduli space of vacua of $N = 2$ SUSY QCD and duality in $N = 1$ SUSY QCD. (English summary) *Nuclear Phys. B* **471** (1996), *no.* 1-2, 159–194. (Summary) **98d:81112** 81T60 (81T13, 81V05)

— (*with* Plesser, M. Ronen; Shapere, Alfred D.) $N = 2$ moduli spaces and $N = 1$ dualities for SO(n_c) and USp($2n_c$) super-QCD. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 172–186. (Summary) **98a:81212** 81T60 (81T13)

— Dualities in supersymmetric field theories. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 149–157. (Summary) **98m:81125** 81T30 (81–02, 83E30)

Argyris, John (*with* Ciubotariu, Corneliu) On El Naschie's complex time and gravitation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 5, *Special Issue*, 743–751. (Summary) **98h:83003** 83A05 (83C99)

— (*with* Tenek, Lazarus Teneketzis) ★ Finite element analysis for composite structures. (English summary) With 1 IBM-PC floppy disc (3.5 inch; HD). Solid Mechanics and its Applications, 59. *Kluwer Academic Publishers Group, Dordrecht*, 1998. xii+339 *pp. ISBN* 0-7923-4899-0 (Publisher's description) **98j:73093** 73V05 (65N30, 73–04, 73K20)

— (*with* Andreadis, Ioannis; Pavlos, Georgios; Athanasiou, Michalis) The influence of noise on the correlation dimension of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 343–361. (Summary) **98m:58089** 58F13

— (*with* Ciubotariu, Corneliu; Andreadis, Ioannis) Infinitesimal Lorentz transformations and the states of polarization of free photons. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 277–285. 83A05

Argyros, Ioannis K. On the secant method and the Ptak error estimates. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 3–14. 65J15 (47H17)

— (*with* Chen, Dong[1]; Qian, Qingshan) An inverse-free Jarratt type approximation in a Banach space. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 19–30. 41A65 (47H17)

— On the method of tangent parabolas. (English summary) *Funct. Approx. Comment. Math.* **24** (1996), 3–15. (Summary) **98a:65077** 65J15 (65H10)

— Error bounds for an almost fourth order method under generalized conditions. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 19–26. (Tetsuro Yamamoto) **98c:65091** 65J15

— On the convergence of a Chebysheff-Halley–type method using divided differences of order one. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 27–45. (Boro Döring) **98d:65074** 65J15 (47H17)

— (*with* Chen, Dong[1]; Qian, Qingshan) A simplified proof concerning the convergence and error bound of a rational cubic method in a Banach space and applications to nonlinear integral equations. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 47–55. (Xiaojun Chen) **98e:65051** 65J15 (45L05, 65R20)

— On the convergence of perturbed Newton-like methods in Banach space and applications. (English summary) *Southwest J. Pure Appl. Math.* **2** (1996), *December-July* 1996, 34–41

(electronic). (Summary) **98b:65060** 65J15 (47H17)
— Sufficient conditions for the convergence of iterations to points of attraction in Banach space. (English summary) *Southwest J. Pure Appl. Math.* **2** (1996), *December-July* 1996, 42–47 (electronic). (Summary) **98b:65061** 65J15 (47H17)
— Weak conditions for the convergence of iterations to solutions of equations on partially ordered topological spaces. (English summary) *Southwest J. Pure Appl. Math.* **2** (1996), *December-July* 1996, 48–54 (electronic). (Summary) **98b:65062** 65J15 (47H17)
— On the monotone convergence of implicit Newton-like methods. (English summary) *Southwest J. Pure Appl. Math.* **2** (1996), *December-July* 1996, 55–59 (electronic). (Summary) **98b:65063** 65J15 (47H17)
— A generalization of Edelstein's theorem on fixed points and applications. (English summary) *Southwest J. Pure Appl. Math.* **2** (1996), *December-July* 1996, 60–64 (*electronic*). (Summary) **98a:65078** 65J15
— Concerning the convergence of inexact Newton-like methods on Banach spaces with a convergence structure and applications. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 163–172, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **98j:65040** 65J15 (47H17)
— A mesh independence principle for inexact Newton-like methods and their discretizations under generalized Lipschitz conditions. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 1, 15–48. (Asen L. Dontchev) **98d:65075** 65J15 (47H17)
— The super-Halley method using divided differences. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 91–95. 65J10
— Improved error bounds for Newton-like iterations under Chen-Yamamoto conditions. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 97–100. 65J10
— Improving the rate of convergence of Newton methods on Banach spaces with a convergence structure and applications. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 21–28. 65J15 (47H17)
— Concerning the convergence of inexact Newton methods. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 235–247. (P. P. Zabreĭko) **98c:47077** 47H17 (45G10, 65J15, 65R20)
— Chebyshëff-Halley–like methods in Banach spaces. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 83–107. (Tetsuro Yamamoto) **98a:47068** 47H17 (65J15)
— A mesh-independence principle for operators equations and the Steffensen method. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 263–280. (Summary) **98c:65092** 65J15 (47H17)
— Smoothness and perturbed Newton-like methods. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 13–28. (Summary) **98b:65023** 65J15 (47H17, 90C30)

Arhangel'skiĭ, A. V. *see* **Arkhangel'skiĭ, A. V.**

Arhangel'skii, Alexander V. *see* **Arkhangel'skiĭ, A. V.**

Arian, Eyal On the coupling of aerodynamic and structural design. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 83–96. 73K40 (73K70)

Arian-Nejad, M. (*with* Akbari-Feyzaabaadi, S.; Mehrabadi, M. L.) On additive commutator groups in division rings. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 9–21. (Summary) **98k:16026** 16K40

Arians, Silke Geometric approach to inverse scattering for the Schrödinger equation with magnetic and electric potentials. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2761–2773. (Ricardo Weder) **98d:81125** 81U05 (35J10, 35Q55, 47F05, 81U40)

Arias, Alvaro (*with* Farmer, Jeff D.) On the structure of tensor products of l_p-spaces. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 13–37. (K. Floret) **98d:46015** 46B28 (46B20, 47H99)

fernández Arias, Arturo *see* **Fernández Arias, Arturo**

Arias, J. M. (*with* Frank, Alejandro; Lemus, R.; Bijker, R.; Pérez-Bernal, F.) A symmetry adapted algebraic approach to molecular spectroscopy. *Symmetries in science, IX* (*Bregenz*, 1996), 99–115, *Plenum, New York*, 1997. (*see* **98e:81003**) 81V55 (81R05)

vilanova Arias, Javier *see* **Vilanova Arias, Javier**

Arias, Pio J. (*with* Leal, Lorenzo) Topological sectors and gauge invariance in massive vector-tensor theories in $D \geq 4$. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 49–56. (Summary) **98d:81043** 81T10 (81T70)

Arias de Reyna Martínez, Juan Finite fields and Ramanujan graphs. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 259–264. (Norbert Seifter) **98c:05105** 05C50

Arickx, Frans (*with* Broeckhove, Jan; Dejonghe, Muriel; van den Broeck, Julien) BSFM: a computer program for Bayesian stochastic frontier models. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 403–421. 62P20
— (*with* Vanroose, W.; Van Leuven, P.; Broeckhove, Jan) Double poles of the S-matrix in a two-channel model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5543–5549. 81U05

ben-Arie, Jezekiel *see* **Ben-Arie, Jezekiel**

Ariel, P. Donald Computation of flow of a second grade fluid near a rotating disk. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1335–1357. 76A10 (76M25)

Arieli, Ofer (*with* Avron, Arnon) Four-valued diagnoses for stratified knowledge-bases. (English summary) *Computer science logic* (*Utrecht*, 1996), 1–17, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98m:68247** 68T27 (03B50, 03B70)

Ariew, Roger *see* **Duhem, Pierre**, **98c:01048**

Arif, S. Akhtar (*with* Muriefah, Fadwa S. Abu) On the Diophantine equation $x^2 + 2^k = y^n$. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 299–304. (P. G. Walsh) **98b:11032** 11D61

Arigu, M. A. (*with* Gumel, A. B.; Twizell, E. H.) Parallel L_0-stable methods for the multi-dimensional diffusion equation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 13–25. (Summary) **98c:65158** 65M20 (65Y05)

Arik, Metin (*with* Ünel, Gökhan) Classical vs. quantum groups as symmetries of quantized systems. *Symmetries in science, IX* (*Bregenz*, 1996), 1–8, *Plenum, New York*, 1997. (*see* **98e:81003**) 81R50
— (*with* Yıldız, Abdullah) q-oscillator representations of Hermitian braided matrices. (English summary) *J. Phys. A* **30** (1997), *no.* 9, L255–L262. (Marcelo R. Ubriaco) **98f:81118** 81R50 (17B37)

Arikan, A. (*with* Asar, Ali Osman) On minimal non-CC-groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 1, 31–37. (Richard E. Phillips) **98c:20068** 20F24 (20F50)

Arikan, Erdal (*with* Boztaş, Serdar) Comments on: "An inequality on guessing and its application to sequential decoding" [IEEE Trans. Inform. Theory **42** (1996), no. 1, 99–105; MR 96k:94005] by E. Arikan. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2062–2063. (Summary) **98i:94007** 94A17

Arikati, Srinivasa R. (*with* Chaudhuri, Shiva P.; Zaroliagis, Christos D.) All-pairs min-cut in sparse networks. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 363–376, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98d:68162** 68R10 (05C85, 90C35)
— (*with* Chen, Danny Z.; Chew, L. Paul; Das, Gautam; Smid, Michiel; Zaroliagis, Christos D.) Planar spanners and approximate shortest path queries among obstacles in the plane. (English summary) *Algorithms—ESA '96* (*Barcelona*), 514–528, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68U05
— (*with* Maheshwari, Anil; Zaroliagis, Christos D.) Efficient computation of implicit representations of sparse graphs. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 1–16. (Peter B. Gibbons) **98j:05118** 05C85 (68R10)

Arikawa, Setsuo *see* **Algorithmic learning theory, 98h:68003**

Ariki, Susumu On the decomposition numbers of the Hecke algebra of $G(m, 1, n)$. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 789–808. (Meinolf Geck) **98h:20012** 20C20 (20G99)
— (*with* Terasoma, Tomohide; Yamada, Hiro-Fumi) Higher Specht polynomials. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 1, 177–188. (Alexander Kleshchev) **98c:05163** 05E10 (20C30)

Arima, Jun (*with* Lu, Jianguo) Inductive logic programming beyond logical implication. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 185–198, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68N17)

Arimitsu, Toshihico (*with* Saito, Takesi) A unified framework of quantum stochastic differential equations. (English summary) *Field theory and collective phenomena* (*Perugia*, 1992), 250–269, *World Sci. Publishing, River Edge, NJ*, 1995. (Robin Hudson) **98c:81106** 81S25 (82C31)
— Non-equilibrium thermo field dynamics—quantum stochastic calculus. *Thermal field theories and their applications* (*Dalian*, 1995), 57–69, *World Sci. Publishing, River Edge, NJ*, 1996. (Introduction) **98b:81116** 81S25 (81T99)
— An extension of the dynamical mapping to nonequilibrium dissipative systems. (English and French summaries) *Phys. Essays* **9** (1996), *no.* 4, 591–595. (Summary) **98a:81243** 81T99
— (*with* Saito, Takesi) A system of quantum stochastic differential equations in terms of non-equilibrium thermo field dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7573–7595. (Kalyanapuram R. Parthasarathy) **98k:81135** 81S25 (82C31)
— Physics and mathematics in quantum stochastic process. (English summary) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 90–102. (*see* **98h:00038**) 82C10 (81S25, 81T99)

Arimoto, Shigeru (*with* Zizler, Peter; Taylor, Keith F.) The Courant-Fischer theorem and the spectrum of selfadjoint block band Toeplitz operators. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 245–250. (A. Bultheel) **98d:47062** 47B35 (47A10)

Arimoto, Suguru Nonlinear position-dependent circuits: a language for describing motions of nonlinear mechanical systems. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 1–8, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70B15 (70F99)
— (*with* Liu, Yun-Hui) Adaptive and nonadaptive hybrid controllers for rheonomically constrained manipulators. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 483–491. 93C85 (70B15, 70Q05)

Arimura, Hiroki (*with* Shinohara, Takeshi) Inductive inference of unbounded unions of pattern languages from positive data. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 256–271, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68241** 68T05 (68Q25)
— (*with* Shinohara, Takeshi) Compactness with respect to containment of regular pattern languages. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 246–249. (*see* **98a:68008**) 68T05 (68Q45)
— (*with* Ishizaka, Hiroki; Shinohara, Takeshi) Learning unions of tree patterns using queries. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 47–62. (Summary) **98j:68142** 68T05 (68Q99)

Arin, Javier (*with* Feltkamp, Vincent) The nucleolus and kernel of veto-rich transferable utility games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 61–73. (G. A. Heuer) **98a:90157** 90D12

Arinkin, D. A. (*with* Lysenko, S. A.) Invertible sheaves on the moduli variety of SL(2)-bundles with a connection on $\mathbf{P}^1$. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 7–11. (Summary) **98k:14020** 14F05 (14C22, 14D20)
— (*with* Lysenko, S. A.) Isomorphisms between moduli spaces of SL(2)-bundles with connections on $\mathbf{P}^1 \smallsetminus \{x_1, \cdots, x_4\}$. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 181–190. (William Oxbury) **98h:14012** 14D20 (32G34)

Arino, O. (*with* Hbid, M. L.) Sur l'unicité des solutions périodiques du système différentiel à retard $dx/dt = f(x(t-r))$, $x \in \mathbf{R}^2$. (English summary) [Uniqueness of the periodic solutions of the delay differential system $dx/dt = f(x(t-r))$, $x \in \mathbf{R}^2$] *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 71–79. (Radu Precup) **98e:34124** 34K15
— (*with* El Attar, M. A.) Necessary and sufficient condition for the oscillation of higher-order neutral differential system with several delays. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 81–86. (Summary) **98c:34107** 34K15 (34K40)
— (*with* Khouk, K.) The delay effects on the behavior of solutions of reaction diffusion equations with delay. *Appl. Anal.* **61** (1996), *no.* 3-4, 195–208. 35R10 (35K57)
— (*with* Ait Dads, E.; Ezzinbi, K.) Existence of periodic solution for some neutral nonlinear integral equation with delay time dependent. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 79–92. (C. Corduneanu) **98h:45007** 45G10 (45M15, 92C60)
— (*with* Benkhalti, R., Ezzinbi, K.) Existence results for initial value problems for neutral functional-differential equations. *J. Differential Equations* **138** (1997), *no.* 1, 188–193. (From the introduction) **98d:34099** 34K05 (34K40)
— (*with* Ait Babram, M.; Hbid, M. L.) Approximation scheme of a center manifold for functional-differential equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 554–572. (Teresa Faria) **98h:34122** 34K15 (34A45, 34C20, 34C40)

— (*with* Ait Dads, E.; Ezzinbi, K.) Pseudo almost periodic solutions for some differential equations in a Banach space. *Nonlinear Anal.* **28** (1997), *no.* 7, 1141–1155. (John R. Graef) **98d:34089** 34G10 (34C27, 47N20)

— (*with* Ait Dads, E.; Ezzinbi, K.) Periodic and almost periodic results for some differential equations in Banach spaces. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 163–170. (A. I. Perov) **98j:34116** 34G20 (34C25, 34C27)

joan-Arinyo, Robert *see* **Joan-Arinyo, Robert**

Ariola, Zena M. Relating graph and term rewriting via Böhm models. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 401–426. (Summary) **98h:68127** 68Q42 (68N20, 68R10)

— (*with* Klop, Jan Willem; Plump, Detlef) Confluent rewriting of bisimilar term graphs. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q42

— (*with* Blom, Stefan) Cyclic lambda calculi. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 77–106, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15 (03B40)

Arioli, G. (*with* Gazzola, Filippo; Terracini, Susanna) Multibump periodic motions of an infinite lattice of particles. *Math. Z.* **223** (1996), *no.* 4, 627–642. (Vittorio Coti Zelati) **98d:58150** 58F22 (34C25, 58E05, 70H35)

— (*with* Chabrowski, J.) Periodic motions of a dynamical system consisting of an infinite lattice of particles. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 387–395. (Gabriella Tarantello) **98j:34066** 34C25 (49J40, 58E05, 70K99)

Arioli, M. (*with* Fassino, C.) Roundoff error analysis of algorithms based on Krylov subspace methods. (English summary) *BIT* **36** (1996), *no.* 2, 189–205. (Jean-Marie Chesneaux) **98e:65018** 65F10 (15A23, 65G05)

— (*with* Codenotti, Bruno; Fassino, C.) The Padé method for computing the matrix exponential. (English summary) *Linear Algebra Appl.* **240** (1996), 111–130. (Summary) **98f:65016** 65D15 (65F05, 65L99)

— (*with* Munthe-Kaas, Hans; Valdettaro, L.) Componentwise error analysis for FFTs with applications to fast Helmholtz solvers. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 65–88. (Dorothy Bollman) **98a:65195** 65T20

Aripirala, Ravi (*with* Syrmos, Vassilis L.) Balancing of systems with periodic jumps. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika* (*Prague*) **32** (1996), *no.* 6, 575–590. (V. V. Krakhotko) **98b:93030** 93C05

Aripov, M. M. (*with* Èshmatov, D. Sh.) On the asymptotic behavior of self-similar solutions of some equations that describe nonlinear thermophysical and gas-dynamic processes. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 6, 95–110. 35Q99 (76N15, 80A99)

Aris, Rutherford (*with* Alhumaizi, Khalid) ★ Surveying a dynamical system: a study of the Gray-Scott reaction in a two-phase reactor. (English summary) Pitman Research Notes in Mathematics Series, 341. *Longman, Harlow*, 1995. xxii+328 *pp. ISBN* 0-582-24688-1 (Jacek A. Tuszyński) **98j:80011** 80A30 (34A34, 34C35, 58F40, 92E20)

Arisawa, Mariko (*with* Tourin, Agnes) Regularizing effects for a class of Hamilton-Jacobi equations. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 18–32. (*see* **98f:35003**) 35J20 (49L25)

— Ergodic problem for the Hamilton-Jacobi-Bellman equation. I. Existence of the ergodic attractor. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 4, 415–438. (Tadeusz Nadzieja) **98k:49040** 49L25 (34H05, 35F20, 58F39)

— (*with* Ishii, Hitoshi; Lions, Pierre-Louis) Un contre-exemple pour la théorie du contrôle ergodique en dimension infinie. (English and French summaries) [A counterexample for ergodic control theory in infinite dimensions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 37–41. (E. N. Barron) **98d:49036** 49L25 (35B37, 93E20)

Arisoy, Mehmet Characteristic polynomials and spectra of Boolean graphs. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 69–74. (Summary) **98d:05095** 05C50

— Antimagic labellings of the complete graphs with a common vertex. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 2, 301–305. 05C78

Aristotle ★ Topics. (English summary) Books I and VIII with excerpts from related texts. Translated from the Greek and with an introduction and a commentary by Robin Smith. Clarendon Aristotle Series. *The Clarendon Press, Oxford University Press, New York*, 1997. xxxvi+207 *pp. ISBN* 0-19-823942-4 01A75 (01A20, 03–03, 03A05)

— *see also* **Bäck, Allan**, **98c:03010**; **Cleary, John J.**, **98e:01005**; **Rath, Ingo W.**, **98f:03004**; **De Praetere, Thomas**, **98g:03002** *and* **Groetsch, C. W.**

Aristova, E. N. (*with* Anistratov, D. Yu.; Gol'din, V. Ya.) A nonlinear method for solving problems of radiation transfer in a medium. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 3–28. (Summary) **98d:85003** 85A25

— (*with* Gol'din, V. Ya.; Kolpakov, A. V.) A procedure for computing radiative transfer in a body of revolution. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 91–108. (Summary) **98j:85002** 85A25

Arisue, H. (*with* Tabata, K.) Low-temperature series for the square lattice Potts model using the improved finite-lattice method. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3313–3327. (Takeo Kojima) **98f:82013** 82B20 (82B27)

Arita, Takeshi (*with* Shishibori, Masami; Aoe, Jun-ichi) An efficient algorithm for full text retrieval for multiple keywords. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 345–363. 68U15 (68P20, 68Q20)

— (*with* Morita, Kazuhiro; Mizobuchi, Shoji; Aoe, Jun-ichi) A method for improving full text search using signature vectors. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 826–829. 68U15

Arita, Yoshiko (*with* Shimomura, Katsumi) On products of some β-elements in the homotopy of the mod 3 Moore spectrum. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 477–486. (Donald M. Davis) **98h:55021** 55Q10 (55P45, 55Q52)

Arizmendi Peimbert, Hugo (*with* Tonev, T.) Bourgain algebras of topological algebras. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 115–118. (Carroll Guillory) **98b:46069** 46J05 (54H13)

Arizono, H. (*with* Bueno, V. C.) Bounds on system reliability of used components under MIFR/$\mathfrak{J}_t$ assumption. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 49–57. (Summary) **98k:62170** 62N05

Arjas, Elja (*with* Gasbarra, Dario) Bayesian inference of survival probabilities, under stochastic ordering constraints. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1101–1109. (Benjamin Epstein) **98c:62184** 62N05 (62F15)

— (*with* Heikkinen, Juha) An algorithm for nonparametric Bayesian estimation of a Poisson intensity. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 385–402. 62G05 (62F15)

Arkeryd, Leif O. Applications of NSA to mathematical physics. (English summary) *Nonstandard analysis* (*Edinburgh*, 1996), 309–339, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:03006**) 81Q05 (03H10, 81S30, 82C40)

— (*with* Nouri, Anne) Boltzmann asymptotics with diffuse reflection boundary conditions. (English summary) *Monatsh. Math.* **123** (1997), *no.* 4, 285–298. (Gershon Wolansky) **98h:35225** 35Q99 (35B40, 45K05, 76P05)

— *see also* **Nonstandard analysis**, **98i:03006**

Arkhangel'skiĭ, A. V. On cleavability of topological spaces over $\mathbf{R}$, $\mathbf{R}^n$ and $\mathbf{R}^\omega$. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 18–28, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54008** 54A20 (54C10)

— Bisequential spaces, tightness of products, and metrizability conditions in topological groups. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **55** (1994), 268–284, 366; *translation in Trans. Moscow Math. Soc.* **1994,** 207–219 (1995). (Summary) **98e:54032** 54H11 (22A05)

— (*with* Bella, Angelo) Countable fan-tightness versus countable tightness. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 565–576. (Gary Gruenhage) **98d:54005** 54A20 (54C10, 54D30)

— (*with* Just, Winfried; Plebanek, Grzegorz) Sequential continuity on dyadic compacta and topological groups. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 775–790. (M. Hušek) **98f:54014** 54C08 (03E35, 03E55, 54A25, 54D30, 54H11)

— (*with* Malykhin, V. I.) Metrizability of topological groups. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 3, 13–16, 91. (Oleg G. Okunev) **98e:54033** 54H11 (22A05, 54A20, 54D55, 54E35)

— (*with* Goodearl, K. R.; Zimmermann-Huisgen, Birge) Kiiti Morita (1915–1995). *Notices Amer. Math. Soc.* **44** (1997), *no.* 6, 680–684. (Editors) **98f:01054** 01A70

— (*with* Dranishnikov, A. N.) P. S. Alexandroff and topology: an introductory note. *Topology Appl.* **80** (1997), *no.* 1-2, 1–6. 01A70 (54–03)

— On a theorem of Grothendieck in C_p-theory. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 21–41. (Vladimir Tkachuk) **98j:54039** 54D20 (54A35, 54C35, 54D30)

Arkhangel'skiĭ, D. A. (*with* Dekhtyar, Mikhail I.; Taĭtslin, Mikhaĭl A.) Linear logic for nets with bounded resources. (English summary) Papers in honor of the Symposium on Logical Foundations of Computer Science, "Logic at St. Petersburg" (St. Petersburg, 1994). *Ann. Pure Appl. Logic* **78** (1996), *no.* 1-3, 3–28. (Aldo Ursini) **98j:68024** 68Q10 (03B70, 03F50, 68Q90)

— (*with* Taĭtslin, Mikhaĭl A.) A logic for information systems. (English summary) *Studia Logica* **58** (1997), *no.* 1, 3–16. (Jozef Šajda) **98a:68175** 68T99 (03B45, 03B70)

Arkhangel'skiĭ, K. V. A new representation for the regular languages. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 135–138. 68Q45

Arkhipov, G. I. (*with* Sadovnichiĭ, V. A.[1]; Chubarikov, V. N.) On the uniform convergence of functions in the sense of Heine. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 3, 298–299. (Władysław Wilczyński) **98c:26007** 26B05 (54A20)

— (*with* Sadovnichiĭ, V. A.[1]; Chubarikov, V. N.) On uniform pointwise convergence in a base of sets. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 1, 70–72; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 49–51. (From the text) **98f:54006** 54A20

Arkhipov, S. M. Semi-infinite cohomology of associative algebras and bar duality. *Internat. Math. Res. Notices* **1997,** *no.* 17, 833–863. (Elena Poletaeva) **98j:16006** 16E99 (16E30, 17B55)

Arkhipov, Yu. Yu. (*with* Klar, Axel; Mingalev, Oleg V.; Vedenyapin, V. V.) A class of invariants for the Boltzmann equation and the Broadwell model. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 3, 387–399. (Luisa Arlotti) **98k:82141** 82C40 (76P05)

Arkhipova, A. A. Reverse Hölder inequalities in parabolic problems with anisotropic data spaces. (Russian. Russian summary) *Theoretical and computational problems in mathematical physics* (*Russian*), 3–19, 174, *Trudy Inst. Mat.*, 24, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Editors) **98g:35028** 35B45 (35K99)

— On the Neumann problem for nonlinear elliptic systems with a quadratic nonlinearity. (Russian) *Algebra i Analiz* **8** (1996), *no.* 5, 189–209; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 845–861. (A. P. Soldatov) **98b:35055** 35J65

— On the regularity of solutions of boundary-value problem for quasilinear elliptic systems with quadratic nonlinearity. (English summary) Nonlinear boundary-value problems and some questions of function theory. *J. Math. Sci.* **80** (1996), *no.* 6, 2208–2225. (Vasiliy I. Sedenko) **98b:35054** 35J65 (35B45, 35B65, 35J55)

Arkin, Esther M. (*with* Belleville, Patrice; Mitchell, Joseph S. B.; Mount, David M.; Romanik, Kathleen; Salzberg, Steven; Souvaine, Diane) Testing simple polygons. (English summary) *Comput. Geom.* **8** (1997), *no.* 2, 97–114. (Summary) **98a:68177** 68U05 (52B55)

— (*with* Hassin, Refael; Klein, Limor) Restricted delivery problems on a network. (English summary) *Networks* **29** (1997), *no.* 4, 205–216. (Summary) **98b:90050** 90B10 (05C90, 68Q25)

— (*with* Held, Martin; Mitchell, Joseph S. B.; Skiena, Steven S.) Recognizing polygonal parts from width measurements. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 237–246. (Summary) **98k:68160** 68U05

Arkin, Joseph (*with* Arney, David C.; Erdős, Paul[1]) Two theorems of Arkin-Arney-Erdos. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **119** (1996), 151–159. (*see* **97h:05005**) 11A07

— (*with* Arney, David C.) Researches on partitions, revisited. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 107–115. (From the text) **98j:05013** 05A17

Arkowitz, Martin (*with* Golasiński, Marek) Homotopy coalgebras and k-fold suspensions. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 209–220. (Summary) **98h:55013** 55P40 (18C15, 55P15, 55P45)
— (*with* Gutierrez, Mauricio) Comultiplications on free groups and wedges of circles. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1663–1680. (Ross Geoghegan) **98i:55010** 55P45 (20E05)
Arledge, Jane (*with* Laca, Marcelo; Raeburn, Iain) Semigroup crossed products and Hecke algebras arising from number fields. (English summary) *Doc. Math.* **2** (1997), 115–138 (*electronic*). (Steven P. Kaliszewski) **98k:46111** 46L55 (11R04, 22D25)
— S-units attached to genus 3 hyperelliptic curves. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 12–29. (Franck Leprévost) **98c:11057** 11G30 (11R33)
Arlettaz, Dominique The exponent of the homotopy groups of Moore spectra and the stable Hurewicz homomorphism. (English summary) *Canad. J. Math.* **48** (1996), *no.* 3, 483–495. (Roland Schwänzl) **98a:55007** 55N20 (19D50, 19D55, 55P42, 55Q45, 55S45)
Arló Costa, Horacio L. Epistemic conditionals, snakes and stars. *Conditionals: from philosophy to computer science*, 193–239, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B45 (68T27, 68T30)
— (*with* Levi, Isaac) Two notions of epistemic validity: epistemic models for Ramsey's conditionals. (English summary) *Synthese* **109** (1996), *no.* 2, 217–262. (Summary) **98b:03026** 03B45
Arlotti, L. (*with* Bellomo, N.; Lachowicz, M.; Polewczak, Jacek; Waluś, W.) ★ Lecture notes on the mathematical theory of the Boltzmann equation. Series on Advances in Mathematics for Applied Sciences, 33. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+255 *pp. ISBN* 981-02-2166-5 (A. Belleni-Morante) **98g:82036** 82C40 (35Q99, 76P05, 82-02, 82B40)
Armanious, M. H. Construction of nilpotent sloops of class n. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 17–25. (Smile Markovski) **98f:20051** 20N15
Armbruster, Dieter (*with* Smaoui, Nejib) Symmetry and the Karhunen-Loève analysis. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1526–1532. (Summary) **98f:76040** 76F20 (65M60, 76M25)
Armeanu, Ion The solvable **Q**-groups with one conjugacy class of involutions. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 9–10 (1997). 20D10 (20C15)
— Frobenius **Q**-groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 23–24 (1997). 20D99 (20C15)
— About a class of finite groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 25–27 (1997). 20D35
— About a conjecture of Deaconescu. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 41–42 (1997). 20D10 (20C15)
— Rational alternating groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 43–44 (1997). 20D06 (20C15)
— Rational groups with normal prime order subgroups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 45–46 (1997). 20D10 (20C15)
— Metabelian ambivalent groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 47–48 (1997). 20D15 (20C15)
— Ambivalent groups having strongly embedded subgroups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 49–50 (1997). 20D10 (20C15)
— The **Q**-groups G with G' the unique minimal subgroup. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 69–70 (1997). 20D10 (20C15)
— The structure of the groups all whose subgroups are normal. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 91–94 (1997). 20D15 (20D20)
— $2'$-π groups having a faithful monomial irreducible character. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 119–120 (1997). 20C15
— The $2'$-π groups with one conjugacy class of involutions. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 121–122 (1997). 20D10 (20D20)
— Supersolvable $2'$-π groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 123–124 (1997). 20F16 (20C15)
— Sylow 2-subgroups of $2'$-π groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 125–126 (1997). 20D20 (20C15)
— $2'$-π groups with even characters. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 127–128 (1997). 20C15
— About the structure of the 2-rational groups. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 1–6. 20C15
— The 2-Sylow subgroups of groups having strongly embedded subgroups. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 353–355. 20D20
— Some remarks on 2-elements and 2-subgroups of finite groups. *Demonstratio Math.* **30** (1997), *no.* 2, 347–352. 20C15 (20D99)
Armendáriz, Inés (*with* Solernó, Pablo) On the computation of the radical of polynomial complete intersection ideals. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 106–119, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98b:68085** 68Q40 (13P10)
zarzuela Armengou, Santiago *see* **Zarzuela Armengou, Santiago**
Armfield, S. W. (*with* Brooker, A. M. H.; Patterson, John C.) Non-parallel linear stability analysis of the vertical boundary layer in a differentially heated cavity. (English summary) *J. Fluid Mech.* **352** (1997), 265–281. (Summary) **98j:76046** 76E30 (76E15)
Arminger, Gerhard Dynamic factor models for the analysis of ordered categorical panel data. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 177–194, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62H17
Arminjon, M. On the extension of Newton's second law to theories of gravitation in curved space-time. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **48** (1996), *no.* 3, 551–576. (Yu. N. Obukhov) **98b:83071** 83D05 (83A05)
Arminjon, P. (*with* Viallon, M.-C.; Madrane, A.) A finite volume extension of the Lax-Friedrichs and Nessyahu-Tadmor schemes for conservation laws on unstructured grids. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1997), *no.* 1, 1–22. (Summary) **98k:65046** 65M06 (76M25, 76N10)
Armitage, David H. (*with* Gardiner, Stephen J.; Haußmann, Werner; Rogge, Lothar) Characterization of best harmonic and superharmonic L^1-approximants. *J. Reine Angew. Math.* **478** (1996), 1–15. (Juan Carlos Fariña Gil) **98h:41023** 41A30 (31B05)
— (*with* Aldred, M. P.) Bounds for the terms in a harmonic polynomial expansion. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 325–327. (Henrik Shahgholian) **98m:31004** 31B05
Armitage, Peter *see* **Advances in biometry**, **98h:62152**
Armoni, A. (*with* Sonnenschein, Jacob) Screening and confinement in large N_f QCD_2 and in $N = 1$ SYM_2. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 516–534. (Summary) **98i:81151** 81T13 (81T40, 81T60)
— (*with* Frishman, Y.; Sonnenschein, Jacob) The string tension in massive QCD_2. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 3, 430–433. (Summary) **98i:81227** 81T40 (81V05)
Arms, Judith Reduction of Poisson algebras at nonzero momentum values. (English summary) *J. Geom. Phys.* **21** (1996), *no.* 1, 81–95. (Mark J. Gotay) **98a:58063** 58F05 (70H05, 70H33)
Armstrong, C. G. (*with* Li, T. S.; McKeag, R. M.) Quad mesh generation for k-sided faces and hex mesh generation for trivalent polyhedra. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 4, 279–301. 65M55 (73V05)
Armstrong, Grant F. Unimodal Betti numbers for a class of nilpotent Lie algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1893–1915. (José María Ancochea Bermúdez) **98e:17031** 17B56
Armstrong, John On four-dimensional almost Kähler manifolds. *Quart. J. Math. Oxford Ser. (2)* **48** (1997), *no.* 192, 405–415. (Tedi C. Draghici) **98k:53054** 53C25 (53C15)
Armstrong, M. A. (*with* Ranicki, Andrew; Casson, A. J.; Sullivan, D. P.; Rourke, Colin; Cooke, G. E.) ★ The Hauptvermutung book. A collection of papers of the topology of manifolds. K-Monographs in Mathematics, 1. *Kluwer Academic Publishers, Dordrecht*, 1996. vi+190 *pp. ISBN* 0-7923-4174-0 (Oliver Attie) **98c:57024** 57Q25 (57-06)
— (*with* Rourke, Colin; Cooke, G. E.) The Princeton notes on the Hauptvermutung. *The Hauptvermutung book*, 105–106, *K-Monogr. Math.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (Oliver Attie) **98c:57028** 57Q25
— The Hauptvermutung according to Lashof and Rothenberg. *The Hauptvermutung book*, 107–127, *K-Monogr. Math.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (Oliver Attie) **98c:57029** 57Q25
Armstrong, R. *see* **Armstrong, Ronald D.**
Armstrong, Robert C. (*with* Salamon, Todd R.; Bornside, David E.; Brown, Robert Arthur) Local similarity solutions for the stress field of an Oldroyd-B fluid in the partial-slip/slip flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2191–2209. (Summary) **98e:76008** 76A10
Armstrong, Ronald D. (*with* Gu, S.; Lei, Lei) An efficient algorithm for a class of two-resource allocation problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 114–120. (Summary) **98m:90111** 90C27 (90C35)
Arnal, Didier (*with* Benammar, Mabrouk; Selmi, Mohamed) Normalisation d'une représentation non linéaire d'une algèbre de Lie. (English and French summaries) [Normalization of a nonlinear representation of a Lie algebra] *Ann. Fac. Sci. Toulouse Math. (5)* **9** (1988), *no.* 3, 355–379. (Summary) **98h:17003** 17B10
— (*with* Fujiwara, Hidenori; Ludwig, Jean) Opérateurs d'entrelacement pour les groupes de Lie exponentiels. (French summary) [Intertwining operators for exponential Lie groups] *Amer. J. Math.* **118** (1996), *no.* 4, 839–878. (Chal Benson) **98b:22012** 22E25
— (*with* Yahyai, M.) Star products for SL(2). (English summary) *Lett. Math. Phys.* **36** (1996), *no.* 1, 17–26. (Summary) **98b:22015** 22E30 (22E70, 58F06, 58H15)
gual Arnau, Ximo *see* **Gual Arnau, Ximo**
Arnaud, Marie-Claude On the type of certain periodic orbits minimizing the Lagrangian action. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 143–150. (Karl Friedrich Siburg) **98k:58185** 58F22 (58F05)
Arnaudiès, Jean-Marie (*with* Valibouze, Annick) Lagrange resolvents. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 23–40. (Martin Epkenhans) **98f:12004** 12F10
Arnaudon, D. (*with* Bauer, Michel) Centre and representations of small quantum superalgebras at roots of unity. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1121–1129. (Ioannis Tsohantjis) **98b:17010** 17B37 (17B70, 81R50)
— (*with* Bauer, Michel; Frappat, L.) On Casimir's ghost. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 429–439. (Anargyros Fellouris) **98h:17010** 17B37 (17B35, 81R10, 81R50)
— Non-integrable representations of the restricted quantum analogue of sl(3). (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3527–3541. (Michèle Irac-Astaud) **98e:17015** 17B37 (81R50)
— (*with* Bauer, Michel) Scasimir operator, scentre and representations of $\mathcal{W}_3(\mathrm{osp}(1|2))$. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 307–320. (Władysław Marcinek) **98g:81066** 81R50 (17B37)
Arnaudon, Marc Barycentres convexes et approximations des martingales continues dans les variétés. (French summary) [Convex barycenters and approximations of continuous martingales] *Séminaire de Probabilités, XXIX*, 70–85, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Jean Picard) **98d:58197** 58G32 (60G44)
— (*with* Paycha, S.) Projections de mouvements browniens régularisés via l'action d'un groupe de Lie hilbertien. (English and French summaries) [Projections of regularized Brownian motions via the action of a Hilbert-Lie group] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 1, 103–110. (Elton Pei Hsu) **98b:60139** 60J60 (58B25, 58G32)
— (*with* Paycha, S.) Stochastic tools on Hilbert manifolds: interplay with geometry and physics. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 243–260. (Patrick T. McDonald) **98m:58145** 58G32 (58B20, 60H30)
— Differentiable and analytic families of continuous martingales in manifolds with connection. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 219–257. (Jean Picard) **98d:58198** 58G32 (60G44)
Arnautov, V. I. On the extension of the pseudonorm of a ring to its ring of quotients. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 45–51. 16W80
— (*with* Filippov, K. M.) On premaximal topologies on vector spaces. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 96–105, 115, 119. (Mihail Ursul) **98m:16051** 16W80
— (*with* Topalè, A. G.) On the nonmodularity of the lattice of group topologies. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.*

1997, *no.* 1, 84–92, 132, 134. (Michael Tkačenko) **98k:22015** 22A26 (54H11)

Arnăutu, Viorel (*with* Moroşanu, Costică) Numerical approximation for the phase-field transition system. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 209–221. (Summary) **98i:65076** 65M60 (65F30)

Arnborg, Stefan Decomposable structures, Boolean function representations, and optimization. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 21–36, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98e:68193** 68R10 (03C85, 06E30, 68Q25)

Arneodo, A. (*with* Bacry, E.; Jaffard, Stéphane; Muzy, J. F.) Oscillating singularities on Cantor sets: a grand-canonical multifractal formalism. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 179–209. (Steen Pedersen) **98k:28007** 28A80

Arney, David C. (*with* Arkin, Joseph; Erdős, Paul[1]) Two theorems of Arkin-Arney-Erdos. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **119** (1996), 151–159. (*see* **97h:05005**) 11A07

— (*with* Arkin, Joseph) Researches on partitions, revisited. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 107–115. (From the text) **98j:05013** 05A17

Arnica, Daniela (*with* Padra, Claudio) A posteriori error estimators for the steady incompressible Navier-Stokes equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 561–574. (Summary) **98d:65138** 65N30 (76D05, 76M10)

von Arnim, Annelie (*with* Schulz, Andreas S.) Facets of the generalized permutahedron of a poset. (English summary) Models and algorithms for planning and scheduling problems (Loveno di Menaggio, 1993). *Discrete Appl. Math.* **72** (1997), *no.* 1-2, 179–192. (Summary) **98b:90062** 90B35

Arnold, André (*with* Kanta, M.; Krob, Daniel) Recognizable subsets of the two letter plactic monoid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 53–59. (Summary) **98f:68149** 68Q45 (68Q70)

Arnold, Anton The relaxation-time Wigner equation. *Mathematical problems in semiconductor physics* (*Rome*, 1993), 105–117, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (Paul F. Zweifel) **98j:81189** 81S30 (35Q40)

— (*with* Giering, Ulrich) An analysis of the Marshak conditions for matching Boltzmann and Euler equations. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 557–577. (Anne Nouri) **98d:76142** 76N15 (35Q35, 76M25, 76P05, 82C40)

Arnold, Barry C. What price convenience? (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 35–41. 62F15 (62E15)

— Distributions with logistic marginals and/or conditionals. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 15–32, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98g:62027** 62E15

— (*with* Kim, Yong Hee) Conditional proportional hazards models. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 21–28, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62013** 62E10 (62N05)

— (*with* Villaseñor, Jose A.) The tallest man in the world. (English summary) *Statistical theory and applications*, 81–88, *Springer, New York*, 1996. (William C. Torrez) **98k:60147** 60J80 (60G70, 60J65)

— (*with* Castillo, Enrique; Sarabia, José María) Specification of distributions by combinations of marginal and conditional distributions. (English summary) *Statist. Probab. Lett.* **26** (1996), *no.* 2, 153–157. (D. N. Shanbhag) **98c:62101** 62H10 (60E05)

— (*with* Villaseñor, Jose A.) Gumbel records and related characterizations. (English summary) *Advances in the theory and practice of statistics*, 441–453, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Moshe Shaked) **98j:62007** 62E10

— (*with* Wesołowski, Jacek) Multivariate distributions with Gaussian conditional structure. (English summary) *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 45–59, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Ram Shanmugam) **98g:62102** 62H10

— (*with* Villaseñor, Jose A.) Variance estimation with diffuse prior information. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 35–39. (Summary) **98d:62043** 62F15

— (*with* Shavelle, Robert M.) Joint confidence sets for the mean and variance of a normal distribution. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 133–140. 62F25

— (*with* Castillo, Enrique; Sarabia, José María) The use of conditionally conjugate priors in the study of ratios of gamma scale parameters. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 2, 125–139. 62F15

Arnold, Bernhard F. (*with* Stahlecker, Peter) Linear estimation in regression analysis using fuzzy prior information. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 105–116. (Summary) **98a:62089** 62J05 (62C20)

— (*with* Stahlecker, Peter) Fuzzy prior information and minimax estimation in the linear regression model. (English summary) *Statist. Papers* **38** (1997), *no.* 4, 377–391. (Summary) **98h:62111** 62J05 (62C20)

— Testing fuzzy hypotheses with crisp data. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 323–333. 62F99

Arnold, C. Formal continued fractions solutions of the generalized second order Riccati equations, applications. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 111–134. (Introduction) **98c:65141** 65L99 (30B70, 34A45, 93B40)

Arnold, David M. (*with* Dugas, Manfred) Representation type of posets and finite rank Butler groups. *Colloq. Math.* **74** (1997), *no.* 2, 299–320. (C. Vinsonhaler) **98m:16016** 16G20 (20K15)

Arnold, Douglas N. (*with* Liu, Xiao Bo) Interior estimates for a low order finite element method for the Reissner-Mindlin plate model. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 337–360. (Juhani Pitkäranta) **98i:73053** 73V05 (65N30, 73K10)

— (*with* Falk, Richard S.) Analysis of a linear-linear finite element for the Reissner-Mindlin plate model. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 217–238. (Rolf Rannacher) **98b:73034** 73V05 (65M60, 73K10)

Arnold, Ludwig (*with* Doyle, M. M.; Sri Namachchivaya, N.) Small noise expansion of moment Lyapunov exponents for two-dimensional systems. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 187–211. (Oliver Knill) **98m:34118** 34F05 (34C23, 34D08, 60H10, 70L05)

— (*with* Nguyễn Đình Công) On the simplicity of the Lyapunov spectrum of products of random matrices. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1005–1025. (Oliver Knill) **98i:58136** 58F11 (28D05, 60D05)

— The unfolding of dynamics in stochastic analysis. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 1, 3–25. (Björn Schmalfuss) **98e:60090** 60H10 (58F11, 60J25)

Arnold, Mark (*with* Datta, Biswa Nath) Single-input eigenvalue assignment algorithms: a close look. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 444–467 (*electronic*). (Summary) **98m:93050** 93B55 (15A18, 65F15)

Arnol'd, Vladimir Igorevich (*with* Bolibrukh, A. A.; Gamkrelidze, R. V.; Maslov, V. P.; Mishchenko, E. F.; Novikov, S. P.; Osipov, Yu. S.; Sinaĭ, Yakov Grigor'evich; Stepin, A. M.; Faddeev, L. D.) Dmitriĭ Viktorovich Anosov (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 437–445. (Editors) **98f:01055** 01A70

— (*with* Berezanskiĭ, Yuriĭ Makarovich; Daletskiĭ, Yuriĭ L'vovich; Kutateladze, M. M.; Lavrent'ev, Mikhail Mikhaĭlovich; Reshetnyak, Yu. G.; Semënov, E. M.; Sklyadnev, S. A.) Selim Grigor'evich Kreĭn (on the occasion of his eightieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1349–1350. 01A70

— *see also* **Anosov, Dmitriĭ Viktorovich et al., 98k:01015** *and* **Dedicated to V. I. Arnol'd on his 60th birthday**

Arnoux-Guisse, F. (*with* Ilinca, F.; Pelletier, Dominique H.) An adaptive finite element scheme for turbulent free shear flows. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 3, 171–188. (Summary) **98g:76054** 76M10 (76F05)

Arntzenius, Frank (*with* McCarthy, David) The two envelope paradox and infinite expectations. *Analysis* (*Oxford*) **57** (1997), *no.* 1, 42–50. (P. A. Biryukov) **98e:90254** 90D60 (03B48)

— Mirrors and the direction of time. (English summary) PSA 1996, Part II (Cleveland, OH). *Philos. Sci.* **64** (1997), *no.* 4, *suppl.*, S213–S222. (Summary) **98k:81009** 81P05 (81V80)

Aroca, Josep Maria (*with* Fort, H.; Gambini, Rodolfo) Path integral for the loop representation of lattice gauge theories. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7751–7756. (José A. Zapata) **98b:81163** 81T25 (81S40, 81T13)

Aroca Hernández-Ros, José M. From enumerative geometry to algebraic geometry. (Spanish) *History of mathematics in the XIXth century, Part* 2 (*Spanish*) (*Madrid*, 1993), 149–170, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (Doru Ştefănescu) **98g:01036** 01A55 (14-03, 14N10)

Arocena, Rodrigo Unitary extensions of isometries, generalized interpolation and band extensions. (English summary) *Linear operators* (*Warsaw*, 1994), 17–23, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Daniel Alpay) **98h:47011** 47A20 (47A57)

— (*with* Azizov, Tomas Ya.; Dijksma, Aad; Marcantognini, Stefania A. M.) On commutant lifting with finite defect. II. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 105–116. (T. Ando) **98a:47006** 47A20 (47B50)

Arockia Rani, I. (*with* Balachandran, Krishnan; Ganster, Maximilian) Regular generalized locally closed sets and RGL-continuous functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 661–669. 54C99 (54A99)

— (*with* Balachandran, Krishnan) On regular generalised continuous maps in topological spaces. *Kyungpook Math. J.* **37** (1997), *no.* 2, 305–314. (Mohan L. Tikoo) **98j:54017** 54C08

Arodź, H. Expansion in the width and collective dynamics of a domain wall. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 273–293. (Summary) **98i:81186** 81T30

Aron, M. (*with* Chiriţă, Stan) Decay and continuous dependence estimates for harmonic vibrations of micropolar elastic cylinders. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 4, 665–675. (Cornelius O. Horgan) **98j:73006** 73B25 (73C10, 73D30)

— On global volume changes accompanying certain plane-strain nonlinear elastic deformations. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 22, 2803–2813. (Rouben Rostamian) **98h:73026** 73C50

— Some new implications of certain constitutive inequalities in plane isotropic elasticity. (English summary) *J. Elasticity* **46** (1997), *no.* 3, 223–237. (P. Villaggio) **98i:73012** 73C50 (73B05, 73G05)

Aron, Richard M. (*with* Galindo, Pablo) Weakly compact multilinear mappings. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 181–192. (Jorge Mujica) **98e:46051** 46G20 (46B28)

— (*with* Galindo, Pablo; Lindström, Mikael) Compact homomorphisms between algebras of analytic functions. (English summary) *Studia Math.* **123** (1997), *no.* 3, 235–247. (Sarah H. Ferguson) **98h:46053** 46J15 (46E50, 46G20, 47B38)

Aronov, Boris (*with* Davis, Alan R.; Dey, Tamal Krishna; Pal, Sudebkumar P.; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 284–295, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68U05

— (*with* Agarwal, Pankaj K.; Pach, János; Pollack, Richard M.; Sharir, Micha) Quasi-planar graphs have a linear number of edges. (English summary) *Combinatorica* **17** (1997), *no.* 1, 1–9. (Mirko Horňák) **98f:05046** 05C10

— (*with* Sharir, Micha) The common exterior of convex polygons in the plane. (English summary) *Comput. Geom.* **8** (1997), *no.* 3, 139–149. (Rade Živaljević) **98i:52017** 52B55 (52A10, 68U05)

— (*with* Sharir, Micha; Tagansky, Boaz) The union of convex polyhedra in three dimensions. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1670–1688. (Rade Živaljević) **98m:52021** 52B55 (52B05, 52B10, 68Q25, 68U05)

— (*with* Agarwal, Pankaj K.; O'Rourke, Joseph; Schevon, Catherine A.) Star unfolding of a polytope with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1689–1713. (Rade Živaljević) **98m:52020** 52B55 (52B05, 52B10, 68Q25, 68U05)

— (*with* Agarwal, Pankaj K.; Sharir, Micha) Computing envelopes in four dimensions with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1714–1732. (Summary) **98h:68218** 68U05 (68Q25, 68R05)

— (*with* Sharir, Micha) On translational motion planning of a convex polyhedron in 3-space. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1785–1803. (Rade Živaljević) **98m:52022** 52B55 (52B05, 52B10, 68Q25, 68U05)

— (*with* Aurenhammer, F.; Hoffmann, Frank) Minkowski-type theorems and least-squares clustering. (English summary) *Algorithmica* **20** (1998), *no.* 1, 61–76. (Summary)

98k:68161 68U05

Aronson, D. G. (*with* Huang, Ying Sue) Discrete rotating wave solutions for system of globally coupled Josephson junctions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 10, 1789–1797. (Michail G. Blizorukov) **98i:34062** 34C15 (39A12, 78A25, 81V10)

— (*with* Doedel, Eusebius J.; Terman, D. H.) A codimension-two point associated with coupled Josephson junctions. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1231–1255. (Peter Ashwin) **98f:58142** 58F14 (34C23, 34C37, 78A55)

— (*with* Huang, Ying Sue) Single waveform solutions for linear arrays of Josephson junctions. (English summary) *Phys. D* **101** (1997), *no.* 1-2, 157–177. (Lev Lerman) **98g:34066** 34C15 (35Q99, 78A55, 94C05)

— (*with* Gil, Omar; Vazquez, Juan L.) Limit behaviour of focusing solutions to nonlinear diffusions. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 307–332. (Summary) **98j:35082** 35K55 (35B40, 76S05)

Aronson, O. V. (*with* Gorokhov, V. G.; Alekseeva, I. Yu.; Rozin, V. M.) ★ Философия техники: история и современность. (Russian. Russian summary) [Philosophy of technology: history and current state] *Rossiĭskaya Akademiya Nauk, Institut Filosofii, Moscow*, 1997. 284 *pp. ISBN* 5-201-01931-5 (Publisher's description) **98h:00005** 00A30 (00A69)

Arora, Anish (*with* Gouda, Mohamed G.) Load balancing: an exercise in constrained convergence. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 183–197, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15, 68M20, 68T05)

— (*with* Varghese, George; Gouda, Mohamed G.) Self-stabilization by tree correction. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 3, 32 *pp.* (*electronic*). (Neville G. F. Sancho) **98i:68030** 68M10

Arora, B. S. Block structures of extended triangular experiments. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 59–63. 62K10

Arora, D. (*with* Bhatia, D. P.; Prasad, M. A.) Asymptotic results for the number of multidimensional partitions of an integer and directed compact lattice animals. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2281–2285. (Summary) **98f:82065** 82B41 (05A16, 11P82)

Arora, L. K. Integrals associated with a general class of polynomials. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **39** (1996), *no.* 4, 243–247. (Summary) **98b:33030** 33C60

Arora, Mohit (*with* Roe, Philip L.) A well-behaved TVD limiter for high-resolution calculations of unsteady flow. (English summary) *J. Comput. Phys.* **132** (1997), *no.* 1, 3–11. (Summary) **98a:76057** 76M20 (65M12)

— (*with* Roe, Philip L.) Issues and strategies for hyperbolic problems with stiff source terms. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 139–154, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 65M12 (35L60, 76M25)

Arora, S. K. (*with* Pruthi, Manju) Minimal codes of prime-power length. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 99–113. (Ian Blake) **98e:94041** 94B15 (11T71, 94B05)

Arora, S. R. *see* **Arora, Savita**

Arora, Sanjeev (*with* Babai, László; Stern, Jacques; Sweedyk, Z.) The hardness of approximate optima in lattices, codes, and systems of linear equations. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 317–331. (Juraj Hromkovič) **98i:68098** 68Q15 (68Q25)

— (*with* Fagin, Ronald) On winning strategies in Ehrenfeucht-Fraïssé games. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 97–121. (Bruno Poizat) **98g:03080** 03C13 (03D15, 68Q15)

Arora, Savita (*with* Saxena, Ratnesh Rajan) Relation between set covering and set partitioning problems. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 865–876. (Summary) **98d:90076** 90C10 (05A18)

— (*with* Saxena, Ratnesh Rajan) A linearization technique for solving the quadratic set covering problem. (English summary) *Optimization* **39** (1997), *no.* 1, 33–42. (Summary) **98j:90045** 90C10

— (*with* Thirwani, D.) An algorithm for the integer linear fractional bilevel programming problem. (English summary) *Optimization* **39** (1997), *no.* 1, 53–67. (Summary) **98j:90045** 90C10

Arora, Subhash C. Quasidiagonal p-class of operators. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 2, 153–160. (Elias Katsoulis) **98d:47093** 47D25 (47A99, 47B99, 47C05)

— (*with* Mukherjee, M.; Panigrahi, Anupama) Weighted composition operators on the space $S^p(D)$. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 151–154. (Shamil Makhmutov) **98b:47039** 47B38 (30H05, 46E15)

Arora, Vipin (*with* Lahiri, Parthasarathi) On the superiority of the Bayesian method over the BLUP in small area estimation problems. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1053–1063. 62D05

Arora, Virendra (*with* Goel, Vivek) Baudhāyana's contribution to Vedic geometry. (English summary) *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 9–13. (Takao Hayashi) **98e:01009** 01A32

Aros, Rodrigo O. (*with* Zamorano, Nelson) Wormhole at the core of an infinite cosmic string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6607–6614. (Summary) **98h:83079** 83E05 (83E30, 83F05)

Arosio, Alberto Averaged evolution equations. The Kirchhoff string and its treatment in scales of Banach spaces. (English summary) *Functional analytic methods in complex analysis and applications to partial differential equations* (*Trieste*, 1993), 220–254, *World Sci. Publishing, River Edge, NJ*, 1995. (Gérard Michaille) **98a:35010** 35B27 (35L05, 35L55, 35Q99, 35R20)

Arouh, Scott L. (*with* Raghavan, R.; Henley, Christopher L.) New two-color dimer models with critical ground states. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 517–550. (Murray T. Batchelor) **98e:82018** 82B20 (82–04, 82B27)

ben Arous, Gérard *see* **Ben Arous, Gérard**

Arov, Damir Zyamovich Gamma-generating matrices, j-inner matrix functions and related extrapolation problems. IV. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 3–14. (Summary) **98g:30063** 30E05 (47A57)

— (*with* Livšic, Moshe S.; Sakhnovich, Lev Aronovich; Nudelman, Adolf Abramovich; Dubovoĭ, V. K.; Katsnelson, Victor Emanuelovich) Vladimir Petrovich Potapov as remembered by colleagues, friends and former students. *Topics in interpolation theory* (*Leipzig*, 1994), 1–18, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 01A70 (47–03)

— On strictly positive compressions of block Toeplitz operators. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 357–373. (Joseph A. Ball) **98j:47058** 47B35 (47A57)

— (*with* Kaashoek, M. A.; Pik, D. R.) Minimal and optimal linear discrete time-invariant dissipative scattering systems. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 127–154. (Dmitriy S. Kalyuzhniy) **98h:47015** 47A45 (47A56, 47N60, 93B17)

— (*with* Fritzsche, Bernd; Kirstein, Bernd) A function-theoretic approach to a parametrization of the set of solutions of a completely indeterminate matricial Nehari problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 1–66. (Arne Stray) **98k:30052** 30E05 (47A57)

Arova, Z. D. The functional model of a j-unitary node with a given j-inner characteristic matrix function. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 1–16. (Stefania A. M. Marcantognini) **98d:47033** 47A48 (46E22, 47N70, 93B29)

Arranz, Francisco Uncomplemented copies of $C(K)$ inside $C(K)$. *Extracta Math.* **11** (1996), *no.* 3, 412–413. (H. E. Lacey) **98d:46022** 46E15 (46B20)

Arratia, Oscar (*with* Del Olmo, Mariano A.) Elementary systems of $(1+1)$ kinematical groups: contraction and quantization. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 2, 103–128. (Jacques Renaud) **98g:81047** 81R05 (22E70)

— (*with* Del Olmo, Mariano A.) Contraction of representations of $1+1$ kinematical groups and quantization. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 125–130. (Hanna E. Makaruk) **98e:22020** 22E70 (81R05)

Arratia, Richard (*with* Reinert, Gesine; Martin, Daniela; Waterman, Michael S.) Probabilistic aspects of sequence repeats and sequencing by hybridization. (English summary) *Classification and knowledge organization* (*Freiburg*, 1996), 631–641, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1997. (*see* **98h:62002**) 92D20

— (*with* Tanushev, Miroslav) A note on distributional equality in the cyclic tour property for Markov chains. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 493–496. (Summary) **98g:60123** 60J10 (60C05)

— (*with* Barbour, A. D.; Tavaré, Simon) Random combinatorial structures and prime factorizations. *Notices Amer. Math. Soc.* **44** (1997), *no.* 8, 903–910. (Anant P. Godbole) **98i:60007** 60C05 (05A17, 11K99)

Arratia-Quesada, A. A. (*with* Stewart, Iain A.) Generalized hex and logical characterizations of polynomial space. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 147–152. (Summary) **98d:68072** 68Q15 (03C13)

Arredondo Ruiz, J. H. (*with* Seibert, Peter; Delgado Fernández, Joaquín; Aguirre, Luis) Reduction theorems for uniform stability of systems in general spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 69–88. (Anthony N. Michel) **98d:34083** 34D20 (34Dxx, 34G20, 54H15)

Arregi Lizarraga, Jesús María (*with* Vera López, Antonio; Vera-López, F. J.) Some bounds for the degree of commutativity of a p-group of maximal class. III. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 251–260. (Andreas Caranti) **98f:20002** 20D15 (20D30)

Arribas, M. (*with* Elipe Sánchez, Antonio C.; Riaguas, A.) Complete analysis of bifurcations in the axial gyrostat problem. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 587–601. (Igor Gashenenko) **98d:70007** 70E15 (58F14, 70H05)

trigos-Arrieta, F. Javier *see* **Trigos-Arrieta, F. Javier**

Arrigo, D. J. (*with* Broadbridge, P.; Tritscher, P.; Karciga, Y.) The depth of a steep evaporating grain boundary groove: application of comparison theorems. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 1–8. (Summary) **98c:80010** 80A99 (35K99, 35R35)

Arrigoni, Maurice On Demuškin groups. (English summary) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikatsekikenkyūshu Kōkyūroku No.* 971 (1996), 116–124. (*see* **98e:11003**) 12F10

Arriola, Leon First integrals for difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1191–1196. (*see* **98i:00028**) 39A10

Arrondo, Enrique (*with* Sols Lucía, Ignacio; Speiser, Robert) Global moduli for contacts. *Ark. Mat.* **35** (1997), *no.* 1, 1–57. (Susan J. Colley) **98h:14015** 14D22 (14M15, 14N10)

— (*with* Sendra, Juana; Sendra, J. Rafael) Parametric generalized offsets to hypersurfaces. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 267–285. (Hellmuth Stachel) **98m:14057** 14Q10 (51N35)

Arrowsmith, David K. (*with* Ramsden, Philip) Sensitive dependence in control systems and reachable sets. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 213–239. (Henk Nijmeijer) **98j:93005** 93B03 (58F13, 58F40, 93C55)

— (*with* Mondragón C., Raúl J.) On control of coupled map lattices: using local dynamics to predict controllability. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 383–399. (Volker Matthias Gundlach) **98b:58098** 58F10 (58F13)

— (*with* Nucinkis, D.; Vivaldi, F.) Some statistical properties of discretized quasiperiodic orbits. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1643–1674. (M. L. Blank) **98j:58094** 58F20 (58F30)

— (*with* Carretero-González, R.; Vivaldi, F.) Mode-locking in coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 381–403. (Summary) **98c:58106** 58F13

— (*with* Mondragón C., Raúl J.) Tracking unstable fixed points in parametrically dynamic systems. (English summary) *Phys. Lett. A* **229** (1997), *no.* 2, 88–96. (Helena E. Nusse) **98h:58132** 58F14 (58F13)

Arroyo, Fangjun H. Coherent homotopical algebras: "special Gamma-categories". (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 4, 339–362. (Timothy Porter) **98m:55016** 55U35 (18A25, 18A35, 18D10, 55P91)

fernández y fernández-Arroyo, Fidel José *see* **Fernández y Fernández-Arroyo, Fidel José**

Arroyo, J. (*with* Barros, Manuel; Garay, O. J.) A characterisation of helices and Cornu spirals in real space forms. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1,

37–49. (Pascual Lucas Saorin) **98m:53070** 53C40 (53A04)

Arroyo Carrasco, M. L. (*with* Moya-Cessa, H.) A Hermitian operator conjugate to the number operator. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, L1–L3. (Summary) **98e:81081** 81S05 (81V10)

Arroyo Paniagua, María José (*with* Ríos Montes, José; Wisbauer, Robert) Spectral torsion theories in module categories. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2249–2270. (T. Albu) **98c:16041** 16S90 (18E40)

— (*with* Ríos Montes, José; Wisbauer, Robert) Endomorphism rings of quotient modules for spectral torsion theories. *Comm. Algebra* **25** (1997), *no.* 7, 2271–2284. (T. Albu) **98c:16042** 16S90 (16S50)

Arscott, Felix M. *see* **Heun's differential equations, 98a:33005** *and* **Sleeman, Brian D.**

Arsen'ev, A. A. Correction to: "Resonances of a scattering matrix, and quasilevels" [Teoret. Mat. Fiz. **106** (1996), no. 1, 16–23; MR 97d:47010]. (Russian) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 159; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 519. (Editors) **98k:47015** 47A40 (47N50)

Arsen'ev, S. A. (*with* Vakhrushev, M. M.; Shelkovnikov, N. K.) A new type of solitary water waves. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996,** *no.* 4, 81–87. (Vladan D. Djordjević) **98c:76017** 76B25 (35Q35, 35Q53)

— (*with* Gubar', A. Yu.; Shelkovnikov, N. K.) On nonlinear waves described by fifth-order evolution equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998,** *no.* 1, 46–48. 35Q35 (76B15)

Arsen'eva, O. E. On the geometry of half conformally flat generalized Hermitian surfaces. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 149–150; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1285–1286. (J. T. Davidov) **98m:53086** 53C50 (53C15)

Arsenin, V. Ya. (*with* Kryanev, A. V.; Tsupko-Sitnikov, M. V.) Solutions of ill-posed problems by the generalized maximum likelihood method. (Russian) *Conditionally well-posed problems in mathematical physics and analysis* (*Russian*), 42–49, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (V. V. Vasin) **98d:65076** 65J15 (65C05)

Arsham, H. LP-based solution algorithms for convex hull and related problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 179–191. (*see* **98h:05006**) 90C08 (52B55, 68U05)

— Affine geometric method for linear programs. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 289–303. (Anna Rycerz) **98m:90080** 90C05

— An artificial-free simplex-type algorithm for general LP models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 1, 107–123. (Peter Bod) **98a:90058** 90C05

— Initialization of the simplex algorithm: an artificial-free approach. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 736–744. (Summary) **98i:90051** 90C05

Arshava, E. A. (*with* Yantsevich, A. A.) Inversion of integral operators by the method of commutation relations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1427–1428, 1440; *translation in Differential Equations* **32** (1996), *no.* 10, 1424–1426 (1997). (Summary) **98i:47047** 47G10 (44A05, 47A45, 93E11)

Arshinova, I. A. (*with* Buyalo, S. V.) Metrics with upper-bounded curvature on 2-polyhedra. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 163–188; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 825–844. (Vladimir G. Tkachev) **98b:53058** 53C45 (53C22)

Arslan, Bora (*with* Kocatepe, Mefharet) An application of linear topological invariants. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 343–356. (Pedro J. Paúl) **98k:46002** 46A04 (46A45)

Arslan, K. (*with* Murathan, C.) Tensor product surfaces of pseudo-Euclidean planar curves. *Geometry and topology of submanifolds, VII* (*Leuven, 1994/Brussels*, 1994), 71–74, *World Sci. Publishing, River Edge, NJ*, 1995. (Ion Mihai) **98b:53041** 53C40 (53C50)

— (*with* Ezentaş, R.) Finite type immersions and their products. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid*, 1995), 16–21, *World Sci. Publishing, River Edge, NJ*, 1996. (Bang-yen Chen) **98b:53042** 53C40 (53B25)

— (*with* Celik, Y.) Submanifolds in real space form with 3-planar geodesic normal sections. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 113–120. (Fabio Podestà) **98c:53067** 53C42 (53C22, 53C40)

Arslan, Olcay (*with* Billor, Nedret) Robust ridge regression estimation based on the GM-estimators. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 1–9. 62J07

— Robustness, asymptotic and computational properties of tM estimators. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 119–127. 62F35

Arslanagić, Šefket (*with* Dragomir, Sever Silvestru; Milošević, Dragoljub M.) Sharpenings of Jensen's inequality and applications. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 51–60. (L. Leindler) **98e:26019** 26D15

— (*with* Janous, Walter) Inequalities for the internal angle-bisectors of a triangle. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 41–45. (E. J. F. Primrose) **98g:51013** 51M16

Arslanov, M. Z. Scalarization of the problem of constructing a set of Slater-optimal solutions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 138–143; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1348–1353 (1998). 90C29

— Binary relations in the theory of active systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 1, 139–146; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 116–121. 90B50

Arslanov, Marat Degree structures in local degree theory. *Complexity, logic, and recursion theory*, 49–74, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (C. G. Jockusch, Jr.) **98h:03057** 03D30 (03D35, 03D55)

— *see also* **Algebra and analysis, 98b:00020**

Artal Bartolo, E. Fundamental group of a class of rational cuspidal curves. *Manuscripta Math.* **93** (1997), *no.* 3, 273–281. (Mohamed Saïdi) **98f:14020** 14H30

Artale, V. (*with* Boffetta, G.; Celani, A.; Cencini, M.; Vulpiani, A.) Dispersion of passive tracers in closed basins: beyond the diffusion coefficient. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3162–3171. (Summary) **98i:76043** 76F99 (76R50)

Artalejo, J. R. (*with* Falin, G. I.) Stochastic decomposition for retrial queues. (English summary) *Top* **2** (1994), *no.* 2, 329–342. 60K25 (90B22)

— Stationary analysis of the characteristics of the $M/M/2$ queue with constant repeated attempts. (English summary) *Opsearch* **33** (1996), *no.* 2, 83–95. 60K25 (90B22)

— Analysis of an $M/G/1$ queue with constant repeated attempts and server vacations. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 493–504. (Summary) **98a:90046** 90B22

— (*with* Gómez-Corral, A.) Steady state solution of a single-server queue with linear repeated requests. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 223–233. (Linn I. Sennott) **98a:60131** 60K25 (90B22)

— (*with* Gómez-Corral, A.) Generalized birth and death processes with applications to queues with repeated attempts and negative arrivals. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 5–14. 60J25 (60K25, 90B22)

rodríguez-Artalejo, Mario *see* **Rodríguez-Artalejo, Mario**

Artamonov, V. A. Algorithmic solution of the quantum Serre conjecture. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 123–137, *de Gruyter, Berlin*, 1996. (Kenneth A. Brown) **98f:16003** 16D40 (16S35)

— Modules over quantum polynomials. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 497–503, 638; *translation in Math. Notes* **59** (1996), *no.* 3-4, 356–360. (G. M. Bergman) **98h:16040** 16S36 (16D70, 16E60)

— Quantum polynomial algebras. Algebra, 4. *J. Math. Sci.* (*New York*) **87** (1997), *no.* 3, 3441–3462. (E. J. Taft) **98m:16033** 16S35 (16W30)

rocha-Arteaga, Alfonso *see* **Rocha-Arteaga, Alfonso**

Arteaga Bejarano, José Ricardo Involution and embedding of metrics. (Spanish. English and Spanish summaries) *Lect. Mat.* **16** (1995), *no.* 1, 13–35. (Editors) **98i:53084** 53C42 (53C21, 53C80)

— On conformal deformations of metrics. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 7, 18–20; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 7, 16–18. (V. Cruceanu) **98a:53024** 53A30 (53B20)

Artem'ev, S. S. (*with* Shurts, Kh.) ★ Жесткие системы стохастических дифференциальных уравнений с малым шумом и их численное решение. (Russian. English and Russian summaries) [Stiff systems of stochastic differential equations with small noise, and their numerical solution] Препринт [Preprint], 1039. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1995. 24 *pp.* (Summary) **98e:60091** 60H10 (34A45, 34F05, 65U05)

Artémiadis, N. K. *see* **Proceedings: Congress of Geometry, 98d:53003**

Artemovich, O. D. Nonperiodic right Hamiltonian rings. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 5, 7–10. 16S99

— (*with* Ishchuk, Yu. B.) Semiperfect rings with periodic adjoint groups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 6, 11–14. 16L30 (20F60)

Artés, Joan C. (*with* Llibre, Jaume) On the number of slopes of invariant straight lines for polynomial differential systems. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 143–149. (Anna Cima) **98h:34051** 34C05

— (*with* Llibre, Jaume) Quadratic vector fields with a weak focus of third order. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 7–39. (Dmitri Novikov) **98h:34052** 34C05 (34A34, 58F21)

— (*with* Kooij, Robert E.; Llibre, Jaume) Structurally stable quadratic vector fields. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 639, *viii*+108 *pp.* (Yu. S. Il'yashenko) **98m:34053** 34C05 (34D30, 58F21)

Artés Rodríguez, Eva (*with* Arcos Cebrián, Antonio; Rueda García, María del Mar) Improvement of ratio and regression estimators of population variance. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 511–521. 62D05

Arthanari, T. S. (*with* Rajendra Prasad, V.; Manna, D. K.) A note on lower bound for completion time variance in single machine scheduling. (English summary) *Opsearch* **34** (1997), *no.* 4, 277–282. 90B35

Arthur, James Towards a local trace formula. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 1–23, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Werner Hoffmann) **98h:22020** 22E50 (11F72)

— The problem of classifying automorphic representations of classical groups. *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 1–12, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00020**) 22E55 (11F70, 22–02)

— Stability and endoscopy: informal motivation. *Representation theory and automorphic forms* (*Edinburgh*, 1996), 433–442, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Dihua Jiang) **98j:22029** 22E55 (11F70, 11R39, 22–02)

Arthur, Kieran (*with* Tchrakian, D. H.; Yang, Yisong) Topological and nontopological self-dual Chern-Simons solitons in a gauged O(3) σ model. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 5245–5258. (Bernd J. Schroers) **98b:58040** 58E15 (81T13)

— (*with* O'Brien, G. M.; Tchrakian, D. H.) Towards a Coulomb gas of instantons of the SO(4) × U(1) Higgs model on $\mathbf{R}_4$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4403–4421. (Antonio González-Arroyo) **98i:81152** 81T13

Arthurs, A. M. (*with* Clegg, Janet) Bounds for the solution of certain nonlinear boundary value problems of Sturm-Liouville type. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 107–152. (Summary) **98e:34032** 34B15 (47H15, 47H30, 92C45)

Artico, Giuliano (*with* Marconi, Umberto; Pelant, Jan) On supercomplete ω_μ-metric spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 3, 299–310. (J. E. Vaughan) **98a:54023** 54E15 (03E55, 54B20)

Artikis, T. (*with* Jerwood, D.; Moshakis, J.; Voudouri, A.) A stochastic model for proactive risk management decisions. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 87–95. 90A46

— (*with* Loukas, S.; Jerwood, D.) A transformed geometric distribution in stochastic modelling. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 43–51. 60E07 (60K25)

Artiles Romero, J. (*with* Hernández Flores, C. N.; Saavedra Santana, P.) Bootstrap estimation of population spectrum with replicated time series. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 19–29. 62M15 (62G09)

Artin, Emil ★ Algèbre géométrique. (French) [Geometric algebra] Translated from the 1957 English original by M. Lazard. Edited and with a foreword by G. Julia. Reprint of the 1962 French edition. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1996. x+211 *pp. ISBN* 2-87647-089-6 (Editors) **98b:51001** 51-02 (01A75, 20G15)

— ★ Galois theory. (English summary) Edited and with a supplemental chapter by Arthur N. Milgram. Reprint of the 1944 second edition. *Dover Publications, Inc., Mineola, NY*, 1998. *iv*+82 *pp. ISBN* 0-486-62342-4 (Editors) **98k:12001** 12F10 (01A75, 11R32)

Artís Ortuño, Manuel (*with* Sansó Rosselló, Andreu; Surińach Caralt, Jordi) A note on testing cointegration relationships between price indexes. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 1, 83–99. 62P20 (62M20, 90A19)

Artola, Michel (*with* Tartar, Luc) Un résultat d'unicité pour une classe de problèmes paraboliques quasi-linéaires. (English and French summaries) [A uniqueness result for a class of quasilinear parabolic problems] *Ricerche Mat.* **44** (1995), *no.* 2, 409–420 (1996). (I. Łojczyk-Królikiewicz) **98g:35111** 35K60

Artosi, Alberto (*with* Benassi, Paola; Governatori, Guido; Rotolo, Antonino) Labelled proofs for quantified modal logic. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 70–86, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:03024** 03B45 (68T27)

Arts, Gerda R. J. (*with* Albers, Willem; Kallenberg, Wilbert C. M.) Accurate test limits under prescribed consumer risk. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 141–149. 62N10

Arts, Thomas (*with* Zantema, Hans) Termination of logic programs using semantic unification. (English summary) *Logic program synthesis and transformation* (*Utrecht*, 1995), 219–233, *Lecture Notes in Comput. Sci.*, 1048, *Springer, Berlin*, 1996. (Summary) **98b:68012** 68N17 (68Q42, 68Q60)

— (*with* Giesl, Jürgen) Termination of constructor systems. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 63–77, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68133** 68Q42

— (*with* Giesl, Jürgen) Proving innermost normalisation automatically. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 157–171, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68Q42

Artstein, Zvi Necessary conditions for continuous dependence. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 509–515. (Péter Tallós) **98k:34002** 34A12

— (*with* Gaitsgori, V. G.) Linear-quadratic tracking of coupled slow and fast targets. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 1–30. (G. A. Kurina) **98h:49038** 49N10 (34E15, 34H05, 49K15, 93C15)

— (*with* Gaitsgori, V. G.) Tracking fast trajectories along a slow dynamics: a singular perturbations approach. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1487–1507. (Alexander J. Zaslavski) **98h:49027** 49K40 (49J15, 93C70)

Artuso, Roberto (*with* Strepparava, R.) Recycling diffusion in sawtooth and cat maps. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 469–475. (Nikolai Chernov) **98k:58173** 58F15

— (*with* Casati, Giulio; Guarneri, Italo) Numerical study on ergodic properties of triangular billiards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6384–6390. (Roberto Markarian) **98g:58096** 58F11 (82C05)

Artyugin, V. G. (*with* Monastyrnyĭ, P. I.) On the alternating triangular method with resolution of the principal part of the matrix of a system. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 15–19, 124. (Summary) **98m:65037** 65F10

ben-Artzi, Matania *see* **Ben-Artzi, Matania**

Artzner, Philippe On the numeraire portfolio. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 53–58, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Arul, R. (*with* Thandapani, E.) Oscillation properties of solutions of second order nonlinear neutral delay difference equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1567–1571. 39A11

— (*with* Thandapani, E.) Oscillation and non-oscillation theorems for a class of second order quasilinear difference equations. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 749–759. (Summary) **98m:39035** 39A10

Arumugam, G. (*with* Antonysamy, A.; Xavier, C.) An algorithm to find the core of a CV-graph. (English summary) *Ars Combin.* **46** (1997), 153–160. (Summary) **98g:05138** 05C85

Arumugam, S. (*with* Paulraj Joseph, J.) Domination in subdivision graphs. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 274–282. (Douglas F. Rall) **98d:05109** 05C70

— (*with* Acharya, B. Devadas; Sampathkumar, E.) Graphoidal covers of a graph: a creative review. (English summary) *Graph theory and its applications* (*Tirunelveli*, 1996), 1–28, *Tata McGraw-Hill, New Delhi*, 1997. (Martin Kochol) **98m:05140** 05C70 (05C38)

— (*with* Rajasingh, Indra; Bharati, Rajan; Pushpam, Roushini Leely) On graphs whose graphoidal covering number is one less than its cyclomatic number. (English summary) *Graph theory and its applications* (*Tirunelveli*, 1996), 29–34, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98g:05107** 05C70

— *see also* **Graph theory and its applications**, **98f:05001**

Arun, P. Tri-section of an angle. *Math. Ed.* (*Siwan*) **31** (1997), *no.* 3, 163–165. 51M15

Arunachalam, Viswanathan (*with* Rangan, A.) A novel approach for the stochastic effects of radiation on cell survival. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 131–152. 92C35

Arun-Kumar, S. (*with* Jain, Kamal) Testing processes for efficiency. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 100–110, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68Q10

Arutyunov, Aram V. Investigation of quadratic forms of the calculus of variations with power degeneration on a small time interval. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 40–61. (Urszula Ledzewicz) **98a:49031** 49K15 (49J15)

— Abnormal extremal problems and optimality conditions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2461–2467. (*see* **98i:00030**) 49J52 (90C48)

— (*with* Aseev, S. M.) Investigation of the degeneracy phenomenon of the maximum principle for optimal control problems with state constraints. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 930–952. (Urszula Ledzewicz) **98g:49016** 49K15 (49J52, 49K24)

— (*with* Okoulevitch, A. I.) Necessary optimality conditions for optimal control problems with intermediate constraints. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 49–58. (Asen L. Dontchev) **98j:49028** 49K15

Arutyunov, Gleb E. (*with* Medvedev, P. B.) On Poisson-Lie structure on the external algebra of the classical Lie groups. (English summary) *J. Math. Phys.* **36** (1995), *no.* 12, 6981–6990. (Summary) **98e:81067** 81R50 (17B81, 22E60, 58B30)

— Poisson reduction of twisted Heisenberg double and finite-dimensional integrable systems. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1131–1135. (Andrey V. Tsiganov) **98a:58080** 58F07 (81R50, 82B23)

— (*with* Medvedev, P. B.) Generating equation for r-matrices related to dynamical systems of Calogero type. (English summary) *Phys. Lett. A* **223** (1996), *no.* 1-2, 66–74. (A. K. Prykarpat-skiĭ) **98a:58079** 58F07 (81V70)

— Geometric construction of the classical r-matrix for the elliptic Calogero-Moser system. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 249–259, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Alexander V. Shapovalov) **98j:58048** 58F07 (22E67)

— (*with* Frolov, Sergeĭ Anatol'evich; Medvedev, P. B.) Elliptic Ruijsenaars-Schneider model via the Poisson reduction of the affine Heisenberg double. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5051–5063. (Kazuhiro Hikami) **98j:81380** 81V70 (58B30, 81R50)

— (*with* Frolov, Sergeĭ Anatol'evich; Chekhov, L. O.) Quantum dynamical R-matrices for the elliptic Ruijsenaars-Schneider model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 182–217; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 536–562. (Andrey V. Tsiganov) **98j:81137** 81R50 (58F07, 82B23)

— (*with* Frolov, Sergeĭ Anatol'evich) Quantum dynamical R-matrices and quantum Frobenius group. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 15–29. (Tomasz Brzeziński) **98m:81069** 81R50 (81V70, 82C23)

Arvanitis, Kostas G. (*with* Kalogeropoulos, Grigoris) Guaranteed stability margins for discrete-time LQ optimal regulators for the performance index with cross-product terms. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 663–701. (K. B. Datta) **98i:93063** 93D09

— Simultaneous uniform disturbance rejection and decoupling for nonsquare linear time-dependent analytic systems using restricted state feedback. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 371–383. (Summary) **98j:93041** 93B52 (93B25)

— (*with* Kalogeropoulos, Grigoris) A new periodic multirate model reference adaptive controller for possibly nonstably invertible plants. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 203–220. (Summary) **98e:93062** 93C40 (93D21)

— (*with* Paraskevopoulos, P. N.) Disturbance localization for left invertible linear periodic discrete-time systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 185–198. (Summary) **98g:93022** 93B52 (93A14, 93C55)

— Uniform decoupling by restricted static state feedback for linear time-varying analytic systems. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 359–373. (*see* **98i:92001**) 93B52 (93B11)

Arvanitoyeorgos, Andreas Homogeneous Einstein metrics on Stiefel manifolds. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 627–634. (O. Kowalski) **98c:53057a** 53C25 (53C30)

— Correction: "Homogeneous Einstein metrics on Stiefel manifolds". *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 873. (O. Kowalski) **98c:53057b** 53C25 (53C30)

— (*with* Ellinas, Demosthenes) Quantum group (co)actions on G-spaces and quantum modules. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1137–1144. (Yu. N. Bespalov) **98h:17011** 17B37 (16W30, 81R50)

Arvasi, Zekeriya (*with* Porter, Timothy) Higher-dimensional Peiffer elements in simplicial commutative algebras. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 1, 1–23 (*electronic*). (Pilar C. Carrasco) **98g:18014** 18G30 (13D03, 18G55)

— Crossed squares and 2-crossed modules of commutative algebras. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 7, 160–181 (*electronic*). (Summary) **98i:18006** 18G30 (13D99, 18G55, 55U99)

— (*with* Koçak, Mahmut) Near ultrafilters and compactification of topological groups. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 213–225. (Introduction) **98h:54005** 54A20 (22A05, 54D35, 54H11)

Arveson, William Path spaces, continuous tensor products, and E_0-semigroups. (English summary) *Operator algebras and applications* (*Samos*, 1996), 1–111, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Geoffrey Price) **98h:46074** 46L55 (46M05, 46N50, 47N50)

— Minimal E_0-semigroups. (English summary) *Operator algebras and their applications* (*Waterloo, ON*, 1994/1995), 1–12, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Geoffrey Price) **98b:46087** 46L55 (46L57, 47D03)

— Pure E_0-semigroups and absorbing states. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 19–43. (Geoffrey Price) **98j:46078** 46L57 (46L55, 47D25, 47N50, 81S05)

— The index of a quantum dynamical semigroup. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 557–588. (B. V. Rajarama Bhat) **98h:46079** 46L57 (47N50)

Arvesú, J. Laguerre polynomials in a relativistic quantum-statistical model. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 23–35, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **98i:33009** 33C45 (82B10)

Arvieu, R. (*with* Rozmej, P.; Berej, W.) Time-dependent partial waves and vortex rings in the dynamics of wavepackets. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5381–5392. (Summary) **98i:81036** 81Q05

Arvind[1] (*with* Mallesh, K. S.; Mukunda, N.) A generalized Pancharatnam geometric phase formula for three-level quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2417–2431. (Péter Pál Lévay) **98e:81042** 81Q99 (81R05)

Arvind, M. T. (*with* Thathachar, M. A. L.) Solution of Goore game using modules of stochastic learning automata. (English summary) *J. Indian Inst. Sci.* **77** (1997), *no.* 1, 47–61. (Summary) **98e:90249** 90D40 (68Q75, 68T05, 90A05)

Arvind, V. (*with* Vinodchandran, N. V.) The complexity of exactly learning algebraic concepts (extended abstract). (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 100–112, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68Q05)

— A note on the self-witnessing property of computational problems. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 241–249, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98g:68043** 68Q15

— (*with* Vinodchandran, N. V.) Solvable black-box group problems are low for PP (extended abstract). (English summary) *STACS* 96 (*Grenoble*, 1996), 99–110, *Lecture*

Notes in Comput. Sci., 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q25 (68Q15)
— (*with* Agrawal, Manindra) A note on decision versus search for graph automorphism. (English summary) *Inform. and Comput.* **131** (1996), *no.* 2, 179–189. (Italo José Dejter) **98e:68069** 68Q15 (05C85, 68Q25, 68R10)
— (*with* Vinodchandran, N. V.) Solvable black-box group problems are low for PP. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 17–45. (Richard M. Thomas) **98m:68108** 68Q25 (20D99, 68Q15)
Arvin-Rad, Hassan Comparison of deterministic and stochastic predictors in nonlinear systems when the disturbances are small. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 368–391. (Christiaan Heij) **98k:62031** 62F12 (41A99, 62P20)
Arya, S. P. (*with* Jha, Purushottam) FR-compactness and fuzzy supercompactness. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 251–259 (1996). 54A40 (54D20)
— (*with* Jain, Neeru) On fuzzy weak continuity, fuzzy almost continuity and fuzzy precontinuity. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 747–754. 54A40 (54C08)
— (*with* Jha, Purushottam) Countable fuzzy paracompactness, fuzzy metacompactness and the extension theorem for point-finite fuzzy covers. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 53–61. 54A40 (54D20)
— (*with* Jha, Purushottam) FT_2-fuzzy supercompact spaces, fuzzy compact finite spaces and infinite fuzzy compact net spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 171–179. 54A40 (54D20)
— *see also* **Nayar, Bhamini M. P.**
Arya, Sunil (*with* Ramesh, Hariharan) A 2.5-factor approximation algorithm for the k-MST problem. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 117–118. 68Q25
Arzhantsev, I. V. Actions of the group SL_2 that are of complexity one. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 3–18; *translation in Izv. Math.* **61** (1997), *no.* 4, 685–698. (Dmitri I. Panyushev) **98g:14058** 14L30 (14M17)
Arzhantseva, G. N. (*with* Ol′shanskiĭ, A. Yu.) Generality of the class of groups in which subgroups with a lesser number of generators are free. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 489–496, 638; *translation in Math. Notes* **59** (1996), *no.* 3-4, 350–355. (David I. Moldavanskiĭ) **98k:20040** 20F05 (05C25, 20F06)
Asaad, Farouk K. *see* **Assaad, Farouk K.**
Asaad, M. (*with* Csörgő, P.) On T^*-groups. *Acta Math. Hungar.* **74** (1997), *no.* 3, 235–243. (Zhi Rang Zhang) **98i:20021** 20D35 (20F16)
al-Asad, Mohammad *see* **Necipoğlu, Gülru, 98b:01011**
Asada, Akira Vector analysis on Sobolev spaces. (English summary) *J. Fac. Sci. Shinshu Univ.* **31** (1996), *no.* 1, 7–20. (C. J. Atkin) **98g:58014** 58C35 (46E35, 58A10, 58B99)
Asada, Hideki Post-Newtonian hydrodynamic equations using the $(3+1)$ formalism in general relativity. (English summary) *Mathematics of gravitation, Part II (Warsaw, 1996)*, 85–93, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (Summary) **98f:83022** 83C25
Asada, Mamoru On a family of linear representations associated with Galois representations in the automorphism groups of pro-l fundamental groups. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **45** (1996), 1–8. (Amílcar Pacheco) **98h:14033** 14H30 (11G45)
Asada, Toichiro A macrodynamic model of open economy. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 359–362, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A70
Asadian, Fariborz Regularity of measures induced by solutions of infinite-dimensional stochastic differential equations. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 387–423. (Vladimir I. Bogachev) **98j:60078** 60H10 (60G30)
Asadova, O. G. (*with* Gaĭduk, S. I.; Mamedov, N. M.; Mamedov, Yu. A.) Medzhid Lyatifovich Rasulov (on the eightieth anniversary of his birth). (Russian) *Differ. Uravn.* **32** (1996), *no.* 12, 1712; *translation in Differential Equations* **32** (1996), *no.* 12, 1707 (1997). 01A70
Asadzadeh, Mohammad Streamline diffusion methods for Fermi and Fokker-Planck equations. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 319–340. (Anne Nouri) **98j:65063** 65M15 (65M60, 82C80)
Asahiro, Yuichi (*with* Iwama, Kazuo; Tamaki, Hisao; Tokuyama, Takeshi) Greedily finding a dense subgraph. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 136–148, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68120** 68R10 (05C85, 68Q25)
Asai, Keisui (*with* Ishimura, Naoyuki) On the interior derivative blow-up for the curvature evolution of capillary surfaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 835–840. (Dian K. Palagachev) **98e:35023** 35B40 (35K60, 58E15)
Asai, Kiyoji (*with* Konishi, Mikihiko; Okuda, Tetsuji; Kodono, Yukio) Use of AIC to select statistical models for fuzzy interval data. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 4, 615–636 (1997). 62–07 (04A72)
Asai, Tetsuya (*with* Kaneko, Masanobu; Ninomiya, Hirohito) Zeros of certain modular functions and an application. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 1, 93–101. (Michael C. Berg) **98e:11052** 11F03 (11F11)
Asaithambi, Asai A finite-difference method for the Falkner-Skan equation. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 135–141. 65L12 (76D10)
Asakawa, Hitoshi (*with* Suzuki, Masuo) Boundary susceptibilities of the Hubbard model in open chains. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7811–7825. (Summary) **98e:82012** 82B20 (82B27)
— (*with* Suzuki, Masuo) Elementary excitations in the Hubbard model with boundaries. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3741–3756. (Summary) **98f:82040** 82B23 (82B20)
— Relationship between the Bethe-ansatz equations for the Hubbard model with boundary fields. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 437–442. (Rinat M. Kashaev) **98k:82054** 82B23
Asakura, Fumioki Global solutions with a single transonic shock wave for quasilinear hyperbolic systems. (English summary) *Nonlinear waves (Sapporo, 1995)*, 1–6, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35L67 (65M06, 76H05)
— Global solutions with a single transonic shock wave for quasilinear hyperbolic systems. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 33–52. (Denis Serre) **98d:35143** 35L67 (76H05, 76L05)
Asano, Kouhei (*with* Furukata, Masahiko) Reporting the crossing-free segments of a complete geometric graph. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 163–170. (Summary) **98f:68264** 68U05
Asano, Masako On a class of topological quantum field theories in three dimensions. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 25, 4577–4596. (Stephen F. Sawin) **98a:57022** 57N10 (16W30, 57M25, 57R57)
Asano, Takao Constructing a bipartite graph of maximum connectivity with prescribed degrees. (English summary) *Networks* **29** (1997), *no.* 4, 245–263. (W.-K. Chen) **98e:05071** 05C40 (05C75)
Asano, Tetsuo (*with* Ranjan, Desh; Roos, Thomas; Welzl, Emo; Widmayer, Peter) Space-filling curves and their use in the design of geometric data structures. (English summary) Latin American Theoretical INformatics (Valparaiso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 3–15. (Summary) **98d:68055** 68P15 (68P05)
— *see also* **Algorithms and computation, 98k:68001**
Asanov, G. S. Finslerian kinematic consequences. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 1, 18–24. 53B40 (53B50)
— Finslerian nonlinear invariance and Lorentz transformations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 2, 8–13. (L. Tamássy) **98c:53023** 53B40 (53B50, 83A05)
— Finslerian generalization of scalar products. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 4, 3–7. (L. Tamássy) **98c:53024** 53B40 (53B50, 83A05)
— Finslerian metric and tetrads in static spherically-symmetric case of gravitational field. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 69–75. (Mihai Anastasiei) **98k:53093** 53C60 (53C80, 83C99)
— Finsler kinematic transformations between moving reference frames. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 1, 6–9. (J. S. Joel) **98g:83002** 83A05 (53B40, 70H40)
— Finsler consequences of the special-relativistic approach. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 2, 52–53. (J. S. Joel) **98g:83003** 83A05 (53B40, 70H40)
Asaoka, Masayuki A natural horseshoe-breaking family which has a period doubling bifurcation as the first bifurcation. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 493–511. (Michael Hurley) **98m:58097** 58F14
Asar, Ali Osman Barely transitive locally nilpotent p-groups. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 357–362. (Howard Smith) **98a:20032** 20F19 (20B07, 20F24, 20F50)
— (*with* Arikan, A.) On minimal non-CC-groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 1, 31–37. (Richard E. Phillips) **98c:20068** 20F24 (20F50)
— $\overline{\text{NC}}$-p-groups satisfying the normalizer condition. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 159–168. (Brunella Bruno) **98j:20051** 20F50 (20E07)
— (*with* Yalıncakhoğlu, Aynur) $\overline{\text{NC}}$-p-groups with nilpotent centralizers. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 195–205. (Brunella Bruno) **98j:20052** 20F50 (20E07)
Asarin, E. A. (*with* Bakhtin, I. A.; Bobylev, N. A.; et al.) Mark Alexandrovich Krasnosel′skiĭ (April 27, 1920–February 13, 1997). (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 119–126. (Editors) **98f:01056a** 01A70
Asashiba, Hideto A covering technique for derived equivalence. *J. Algebra* **191** (1997), *no.* 1, 382–415. (Dieter Happel) **98b:16009** 16G10 (18E30, 20C20)
Asatani, Takashi (*with* Kuroki, Tsunehide; Okawa, Yuji; Sugino, Fumihiko; Yoneya, Tamiaki) T-duality transformation and universal structure of noncritical string field theory. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5083–5111. (Yolanda Lozano) **98k:81190** 81T30
Asatryan, A. A. (*with* Forbes, G. W.; Butler, D. J.; Gordon, R. L.) Algebraic corrections for paraxial wave fields. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3300–3315. (Summary) **98k:78033** 78A45
Asch, Joachim (*with* Duclos, Pierre[1]; Exner, Pavel) Stark-Wannier Hamiltonians with pure point spectrum. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 10–25, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Mihai Pascu) **98f:81066** 81Q10 (34L40, 47F05, 47N50)
— (*with* Knauf, Andreas) Motion in periodic potentials. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 175–200. (Gabriel P. Paternain) **98k:58139** 58F11 (34C11, 35Q40, 58F05, 70H05, 81Q20)
Aschbacher, Michael Near subgroups of finite groups and their role in computational complexity. *Proceedings of the First Jamaican Conference on Group Theory and its Applications (Kingston, 1996)*, 36–41, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20D99
— Combinatorial cell complexes. *Progress in algebraic combinatorics (Fukuoka, 1993)*, 1–80, *Adv. Stud. Pure Math.*, 24, *Math. Soc. Japan, Tokyo*, 1996. (Yoav Segev) **98a:05158** 05E25 (06A07, 20D99, 55U10)
— ★ 3-transposition groups. (English summary) Cambridge Tracts in Mathematics, 124. *Cambridge University Press, Cambridge*, 1997. viii+260 *pp. ISBN* 0-521-57196-0 (Jonathan I. Hall) **98h:20024** 20D08 (20D05)
— *see also* **Olga Taussky-Todd: in memoriam, 98i:00038**
Ascher, Marcia (*with* Ascher, Robert) Ethnomathematics [Hist. of Sci. **24** (1986), no. 64, part 2, 125–144; MR 88a:01005]. *Ethnomathematics*, 25–50, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A07
— Malagasy Sikidy: a case in ethnomathematics. (English, French and German summaries) *Historia Math.* **24** (1997), *no.* 4, 376–395. (Summary) **98h:01001** 01A13 (01A07)
Ascher, Robert (*with* Ascher, Marcia) Ethnomathematics [Hist. of Sci. **24** (1986), no. 64, part 2, 125–144; MR 88a:01005]. *Ethnomathematics*, 25–50, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A07
Ascher, Uri M. (*with* Lin, Ping[1]) Sequential regularization methods for higher index DAEs with constraint singularities: the linear index-2 case. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1921–1940. (Vladimir A. Danilov) **98c:65133** 65L10 (34A09, 34A45, 65L20)
— (*with* Lin, Ping[1]) Sequential regularization methods for nonlinear higher index DAEs. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 79–82. (*see* **98b:65005**) 65L07 (34A09)
— (*with* Ruuth, Steven J.; Spiteri, Raymond J.) Implicit-explicit Runge-Kutta methods for time-dependent partial differential equations. (English summary) Special issue on

time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 151–167. (Alexander Ostermann) **98i:65054** 65L06 (65M06)

— Stabilization of invariants of discretized differential systems. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 1–24. (Benedict J. Leimkuhler) **98d:65082** 65L05 (34A09, 34A45, 65L20)

Aschieri, Paolo On the geometry of the quantum Poincaré group. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 191–198. (Alexei Zhedanov) **98j:81138** 81R50

Ascoli, R. (*with* Urigu, R.) Physical information entropy and probability Shannon entropy. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1691–1716. (Frank Antonsen) **98i:81028** 81P99 (94A17)

Aseev, S. M. The method of smooth approximations in the theory of necessary conditions of optimality for differential inclusions. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 3–26; *translation in Izv. Math.* **61** (1997), *no.* 2, 235–258. (Péter Tallós) **98j:49032** 49K24 (34A60, 34H05, 49M05)

— (*with* Arutyunov, Aram V.) Investigation of the degeneracy phenomenon of the maximum principle for optimal control problems with state constraints. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 930–952. (Urszula Ledzewicz) **98g:49016** 49K15 (49J52, 49K24)

Aseev, V. V. (*with* Sychev, A. V.; Chernov, Yu. K.) Some problems in the theory of quasiconformal mappings and their generalizations. (Russian) *Analysis and discrete mathematics* (*Russian*), 3–9, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (J. G. Krzyż) **98g:30043** 30C65

— On the metrization of a space of domains by means of distortion coefficients. (Russian) *Group and metric properties of mappings* (*Russian*), 97–105, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (M. Yu. Vasil'chik) **98h:30034** 30C65

— Continuity of capacity in the class of condensers with uniformly perfect plates. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 439–441. 31B15 (30C85)

Asekritova, Irina U. (*with* Krugljak, N. Ya.) On equivalence of K- and J-methods for $(n+1)$-tuples of Banach spaces. (English summary) *Studia Math.* **122** (1997), *no.* 2, 99–116. (Fernando Cobos) **98c:46157** 46M35 (46E30)

— (*with* Kruglyak, N. Ya.; Maligranda, Lech; Persson, Lars-Erik) Distribution and rearrangement estimates of the maximal function and interpolation. (English summary) *Studia Math.* **124** (1997), *no.* 2, 107–132. (Mario Milman) **98g:46032** 46E30 (42B25, 46M35)

Asensio, M. I. *see* **Asensio Sevilla, Maria Isabel**

Asensio, M. J. (*with* López Ramos, J. A.; Torrecillas Jover, Blas) Gorenstein gr-injective and gr-projective modules. *Comm. Algebra* **26** (1998), *no.* 1, 225–240. (C. Năstăsescu) **98j:16026** 16W50 (16E10)

guil Asensio, Pedro A. *see* **Guil Asensio, Pedro A.**

Asensio Sevilla, Maria Isabel (*with* Montenegro, R.; Plaza, A.; Ferragut, L.) Application of a nonlinear evolution model to fire propagation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2873–2882. (*see* **98i:00031**) 92D40

Asghar, Mohammad (*with* Bokhari, Ashfaque H.; Qadir, Asghar; Ahmed, M. Shahan) Classification of spherically symmetric static space-times by their curvature collineations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3639–3649. (Summary) **98b:83023** 83C20

Asghar, Saleem (*with* Hayat, Tasawar; Ayub, M.) Point source diffraction by an absorbing strip in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 327–339. (Summary) **98c:76093** 76Q05 (35Q35)

— (*with* Hayat, Tasawar) Diffraction of a spherical acoustic wave near an absorbing finite-plane. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 1–17. (Summary) **98m:76139** 76Q05

— (*with* Hayat, Tasawar; Zahid, G. H.) Diffraction of a spherical electromagnetic wave by a perfectly conducting half plane in a homogeneous biisotropic medium. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 615–628. (Summary) **98h:78009** 78A45

Ash, Avner Galois representations and cohomology of $GL(n, \mathbf{Z})$. *Séminaire de Théorie des Nombres, Paris*, 1989–90, 9–22, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Ian Kiming) **98h:11065** 11F80 (11F70, 11F75, 11R39)

— (*with* Ginzburg, David) Generalized modular symbols and relative Lie algebra cohomology. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 337–355. (Joachim Schwermer) **98g:11057** 11F67

— (*with* Stevens, Glenn) p-adic deformations of cohomology classes of subgroups of $GL(n, \mathbf{Z})$. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 1–30. (Ian Kiming) **98h:11064** 11F75 (11F33, 11F85)

— (*with* McConnell, Mark) Cohomology at infinity and the well-rounded retract for general linear groups. *Duke Math. J.* **90** (1997), *no.* 3, 549–576. (Stefan Kühnlein) **98h:11063** 11F75 (20G10)

Ash, Christopher J. (*with* Knight, Julia F.) Recursive structures and Ershov's hierarchy. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 4, 461–468. (Cristian Calude) **98g:03090** 03C57 (03D45, 03D55)

— (*with* Cholak, P.; Knight, Julia F.) Permitting, forcing, and copying of a given recursive relation. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 219–236. (C. G. Jockusch, Jr.) **98j:03062** 03D45 (03C57, 03D30)

Asha, G. (*with* Unnikrishnan Nair, N.) Characterization of a bivariate geometric distribution. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 181-182, 23–28. (Moshe Shaked) **98d:60030** 60E05

— (*with* Unnikrishnan Nair, N.) Some classes of multivariate life distributions in discrete time. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2, 181–189. (Mohamed E. Ghitany) **98m:62036** 62E15 (62N05)

Ashari, Mehdi (*with* Regalia, Phillip A.; Mboup, Mamadou) On the existence of stationary points for the Steiglitz-McBride algorithm. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1592–1596. (Summary) **98j:93024** 93B30 (93B40)

Ashbacher, Charles Palindromic numbers and iterations of the pseudo-Smarandache function. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 55–56. 11A25

— Smarandache geometries. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 212–215. 51A99

Ashbaugh, Mark S. (*with* Benguria, Rafael D.) The range of values of λ_2/λ_1 and λ_3/λ_1 for the fixed membrane problem. (English summary) *The state of matter* (*Copenhagen*, 1992), 167–181, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 35P15 (35J25, 73D30)

— (*with* Benguria, Rafael D.; Laugesen, Richard Snyder) Inequalities for the first eigenvalues of the clamped plate and buckling problems. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 95–110, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Norbert Weck) **98j:35129** 35P15 (35J35, 73H05, 73K10)

— (*with* Benguria, Rafael D.) On the Payne-Pólya-Weinberger conjecture on the n-dimensional sphere. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 111–128, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Sergey A. Titarenko) **98k:35139** 35P15 (35J05, 58G25)

— (*with* Levine, Howard A.) Inequalities for the Dirichlet and Neumann eigenvalues of the Laplacian for domains on spheres. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. I*, 15 pp., *École Polytech., Palaiseau*, 1997. (G. V. Rozenblyum) **98m:35144** 35P15 (47F05, 58G25)

Ashcraft, Cleve (*with* Liu, Joseph W. H.) Using domain decomposition to find graph bisectors. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 506–534. (*see* **98f:65005**) 65F50 (65F05, 68R10)

— (*with* Liu, Joseph W. H.) Robust ordering of sparse matrices using multisection. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 816–832 (*electronic*). 65F50

Asheim, Geir B. Individual and collective time-consistency. (English summary) *Rev. Econom. Stud.* **64** (1997), *no.* 3, 427–443. (Summary) **98a:90011** 90A05 (90D12)

Asher, G. M. (*with* Lamb, J. D.; Woodall, Douglas R.) Bond graphs. I. A causal equivalence. (English summary) *Discrete Appl. Math.* **72** (1997), *no.* 3, 261–293. (W.-K. Chen) **98b:05093** 05C90

— (*with* Lamb, J. D.; Woodall, Douglas R.) Bond graphs. II. Causality and singularity. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 2, 143–173. (W.-K. Chen) **98b:05094** 05C90

— (*with* Lamb, J. D.; Woodall, Douglas R.) Bond graphs. III. Bond graphs and electrical networks. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 3, 211–250. (W.-K. Chen) **98b:05095** 05C90 (94C15)

Asher, Nicholas Commonsense entailment: a conditional logic for some generics. *Conditionals: from philosophy to computer science*, 103–145, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B65 (68T27)

— (*with* Vieu, Laure) Toward a geometry of common sense: a semantics and a complete axiomatization of mereotopology. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 846–852, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 03B30 (54A05)

ben-Asher, Yosi *see* **Ben-Asher, Yosi**

Asherova, R. M. (*with* Draayer, J. P.; Kharitonov, Yu. I.; Smirnov, Yu. F.) The Biedenharn-Louck-Hecht resolution of the outer multiplicity problem for the U(3) and $U_q(3)$ groups. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 1035–1046. (A. U. Klimyk) **98i:81097** 81R50 (17B37, 81R05)

Ashihara, Hyo (*with* Shimizu, Kentaro) Deadlock detection in systems with consumable resources. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1379–1388. (Summary) **98c:68055** 68Q10 (68Q25)

Ashikhmin, A. E. (*with* Litsyn, Simon N.) Fast decoding of non-binary first order Reed-Muller codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 299–308. (Summary) **98d:94027** 94B05 (94B35)

— (*with* Simonis, Juriaan) On the Delsarte inequalities. (English summary) *Linear Algebra Appl.* **269** (1998), 197–217. (Antoine Lobstein) **98j:94031** 94B25

Ashino, Ryuichi (*with* Kametani, Makoto) A lemma on matrices and a construction of multi-wavelets. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 267–287. (Hans W. Volkmer) **98c:42025** 42C10 (15A54)

Ashir, Yaagoub A. (*with* Stewart, Iain A.) On embedding cycles in k-ary n-cubes. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 1, 49–55. (Summary) **98d:05079** 05C38 (05C85, 68M10, 68R10)

Ashley, Jonathan J. (*with* Marcus, Brian H.) Canonical encoders for sliding block decoders. (English summary) *SIAM J. Discrete Math.* **8** (1995), *no.* 4, 555–605. (Summary) **98i:68214** 68R10 (68Q45, 94A24)

— (*with* Karabed, Razmik; Siegel, Paul H.) Complexity and sliding-block decodability. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1925–1947. (J. C. Hwang) **98i:94040** 94B35 (05C90, 68Q25)

— (*with* Marcus, Brian H.; Roth, Ron M.) On the decoding delay of encoders for input-constrained channels. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1948–1956. (John Karlof) **98i:94008** 94A24

— (*with* Marcus, Brian H.; Tuncel, Selim) The classification of one-sided Markov chains. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 269–295. (B. M. Gurevich) **98k:28021** 28D05 (54H20)

— (*with* Marcus, Brian H.) A generalized state-splitting algorithm. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1326–1338. (Simon N. Litsyn) **98d:94044** 94B60 (94A99)

Ashlock, Daniel A. (*with* Driessel, Kenneth R.; Hentzel, Irvin R.) On matrix structures invariant under Toda-like isospectral flows. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 29–48. (O. Christov) **98b:58067** 58F07 (15A18, 58F19)

Ashman, Jon (*with* Allgöwer, Frank; Ilchmann, Achim) High-gain adaptive λ-tracking for nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 881–888. (Summary) **98c:93047** 93B52 (93C90)

Ashok, B. (*with* Balakrishnan, Janaki) Effective potential for φ^6 theory in three-dimensional curved spacetime. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3999–4011. 81T20 (81T16)

Ashordiya, M. T. On the stability of solutions of the multipoint boundary value problem for the system of generalized ordinary differential equations. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **6** (1995), 1–57, 134. (Jarosław Morchało) **98b:34035** 34B10 (34A45, 34B15, 39A10)

— Conditions for the existence and uniqueness of solutions of nonlinear boundary value problems for systems of generalized ordinary differential equations. (Russian. Russian

summary) *Differ. Uravn.* **32** (1996), *no.* 4, 441–449, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 442–450. (B. B. Pakholok) **98a:34020** 34B15 (34A34)

— On the correctness of nonlinear boundary value problems for systems of generalized ordinary differential equations. (English summary) *Georgian Math. J.* **3** (1996), *no.* 6, 501–524. (Summary) **98i:34033** 34B15

Ashour, Samir A. A quadrature rule for Hadamard finite part integrals. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 4, 105–110. (G. J. Miel) **98a:65027** 65D32 (41A55)

Ashraf, Mohammad (*with* Abujabal, Hamza A. S.) Some commutativity theorems through a Streb's classification. (English summary) *Note Mat.* **14** (1994), *no.* 1, 71–79 (1997). (Howard E. Bell) **98b:16030** 16U80

— (*with* Abujabal, Hamza A. S.; Alghamdi, Mohamed Ali) Some commutativity results for one sided s-unital rings. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 61–68 (1997). (Howard E. Bell) **98m:16040** 16U80

— A decomposition theorem for periodic rings and its application. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 215–217 (1996). 16U80

— Commutativity of associative rings through a Streb's classification. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 4, 315–321. 16U80

— (*with* Jacob, V. W.; Quadri, M. A.) Certain commutativity conditions for rings with unity. (English summary) *Pure Appl. Math.* **13** (1997), *no.* 1, 98–102. 16U80

Ashrafi, A. R. (*with* Darafsheh, Mohammad Reza) The character table of the certain automorphism group. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 91–93, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20C15

Ashtekar, Abhay Mathematical problems of non-perturbative quantum general relativity. *Gravitation et quantifications (Les Houches, 1992)*, 181–283, *North-Holland, Amsterdam*, 1995. (Viqar Husain) **98g:83030** 83C45

— Polymer geometry at Planck scale and quantum Einstein equations. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 629–648. (Viqar Husain) **98f:83039** 83C45

— (*with* Lewandowski, Jerzy; Marolf, Donald; Mourão, José; Thiemann, Thomas) SU(N) quantum Yang-Mills theory in two dimensions: a complete solution. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5453–5482. (Ambar Sengupta) **98i:58044** 58D20 (81T05, 81T13, 81T40)

— (*with* Bičák, Jiří; Schmidt, Bernd G.) Behavior of Einstein-Rosen waves at null infinity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 687–694. (Carlos N. Kozameh) **98e:83039** 83C30

— (*with* Corichi, Alejandro) Gauss linking number and the electromagnetic uncertainty principle. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2073–2079. (Mircea Zăgănescu) **98j:81366** 81V10 (53A04, 81T15)

— (*with* Baez, John Carlos; Corichi, Alejandro; Krasnov, Kirill V.) Quantum geometry and black hole entropy. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 5, 904–907. (Summary) **98k:83051** 83C57 (83C45)

— *see also* **Gambini, Rodolfo**, **98g:83038**

Ashurkov, A. A. Decomposable statistics in a scheme of several samples. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 35–38, 117; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 1–3 (1996). 62E15

Ashwin, Peter Cycles homoclinic to chaotic sets; robustness and resonance. (English summary) *Chaos* **7** (1997), *no.* 2, 207–220. (Summary) **98i:58146** 58F12 (58F13)

— (*with* King, G. P.) A study of particle paths in non-axisymmetric Taylor-Couette flows. (English summary) *J. Fluid Mech.* **338** (1997), 341–362. (Summary) **98c:76115** 76U05 (76C05, 76D05, 76E30, 76F20)

— (*with* Melbourne, Ian) Noncompact drift for relative equilibria and relative periodic orbits. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 595–616. (Philip J. Aston) **98e:58125** 58F14 (34C35, 35A30)

— (*with* Nicol, Matthew) Detection of symmetry of attractors from observations. I. Theory. (English summary) *Phys. D* **100** (1997), *no.* 1-2, 58–70. (Philip J. Aston) **98d:58110** 58F12 (58F11)

— (*with* Tomes, Jörg) Detection of symmetry of attractors from observations. II. An experiment with S_4 symmetry. (English summary) *Phys. D* **100** (1997), *no.* 1-2, 71–84. (Philip J. Aston) **98d:58111** 58F12

— Elliptic behaviour in the sawtooth standard map. (English summary) *Phys. Lett. A* **232** (1997), *no.* 6, 409–416. (Franco Vivaldi) **98f:58172** 58F30 (58F08)

— (*with* Stone, Emily) Influence of noise near blowout bifurcation. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1635–1641. 35Q99 (35B32, 58E50, 58F13)

— (*with* Covas, Eurico; Tavakol, Reza) Non-normal parameter blowout bifurcation: an example in a truncated mean-field dynamo model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6451–6458. (Summary) **98h:76134** 76W05 (58F40, 85A30)

Ashworth, John (*with* Curnock, Thomas J.) The termination of synchronous parallel algorithms for iterative systems. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68Q22

Ašić, Miroslav D. (*with* Kovačević-Vujčić, Vera V.) A new semi-infinite programming method for nonlinear approximation. (English summary) *Applied mathematics and parallel computing*, 11–22, *Physica, Heidelberg*, 1996. (R. Tichatschke) **98h:90100** 90C34 (41A20, 65D30)

— (*with* Kovačević-Vujčić, Vera V.) An interior point method for transportation problems. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 157–170. (Shu Zhong Zhang) **98e:90093** 90C08

Asil, Vedat (*with* Aydin, Ali Pasa; Aydogdu, Mustafa) The roles in curves theory of exponential mappings in 3-dimensional Lorentzian space. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 75–80. (G. Tsagas) **98h:53036** 53B30

— (*with* Aydin, Ali Pasa) The ruled surfaces under exponential mappings in E^3. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 245–248. (V. Oproiu) **98d:53007** 53A05

Asiminoaei, Ioan (*with* Rascanu, Aurel) Approximation and simulation of stochastic variational inequalities—splitting up method. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 251–282. (Summary) **98g:60103** 60H10 (49J40)

Asirelli, P. (*with* Aquilino, D.; Renso, C.; Turini, F.) An operator for composing deductive data bases with theories of constraints. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 57–70, *Lecture Notes in Comput. Sci., 928, Springer, Berlin*, 1995. (*see* **98d:68017**) 68P15 (68N17)

Aşkar Altay, G. (*with* Dökmeci, M. C.) Numerical algorithms for dynamics of thermopiezoceramic bars. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 429–445. 73R05 (73B30, 73K05, 73V25)

Askarpour, S. (*with* Owens, T. J.) Identifying the Jordan canonical form and associated non-singular transformation. *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 1–7, *VSP, Utrecht*, 1997. (Rafael Bru) **98e:15015** 15A21

Askew, Craig (*with* Sundareshan, Malur K.) Neural network-assisted variable structure control scheme for control of a flexible manipulator arm. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1699–1710. 93C85 (70B15, 70Q05, 93B12)

Askey, Richard A. Variants of Clausen's formula for the square of a special ${}_2F_1$. *Number theory and related topics (Bombay, 1988)*, 1–12, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (Tapani Matala-Aho) **98f:33003** 33C05 (11Y60, 33C20, 33D20)

— (*with* Rahman, Mizan; Suslov, Sergeĭ K.) On a general q-Fourier transformation with nonsymmetric kernels. (English summary) *J. Comput. Appl. Math.* **68** (1996), *no.* 1-2, 25–55. (G. Gasper) **98m:42033** 42C05 (33C50, 33D60)

Aslaksen, Helmer (*with* Chan, Shih-Ping; Gulliksen, Tor) Invariants of S_4 and the shape of sets of vectors. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 53–57. (Kenneth A. Brown) **98g:13004** 13A50 (20C30)

— (*with* Huynh, Hsueh-Ling) Laws of trigonometry in symmetric spaces. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 23–36, *de Gruyter, Berlin*, 1997. (O. Kowalski) **98j:53057** 53C35 (51M10)

Aslam, M. (*with* Husnine, Syed Muhammad; Majeed, A.) Modular group action on certain quadratic fields. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 47–68. (Parvati Shastri) **98h:11129** 11R11 (11F06)

Aslam, Muhammad² (*with* Khan, Abdul Rahim; Hussain, Nawab) Some best approximation results in locally convex spaces. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 3, 29–36. (J. B. Prolla) **98h:41041** 41A65 (46A03, 46E40)

— (*with* Khan, Abdul Rahim; Hussain, Nawab) Mann iterative construction of fixed points in locally convex spaces. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 155–159. 47H10

Aslam Noor, M. *see* **Noor, Muhammad Aslam**

Aslam Noor, Muhammad *see* **Noor, Muhammad Aslam**

Aslan, A. Rüstem (*with* Edis, Firat O.) Efficient incompressible flow calculations using PQ2Q1 element. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 161–178. 76M10

Aslan, Necdet (*with* Kammash, Terry) A new scheme for the solutions of multidimensional MHD equations. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 315–333, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (76W05)

Aslanidi, O. V. (*with* Mornev, O. A.; Chaĭlakhyan, L. M.) A soliton regime in a system of FitzHugh-Nagumo equations: the dynamics of a rotating spiral wave. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 682–686. 92C20 (35Q51)

Aslanyan, A. A. (*with* Aslanyan, A. G.; Lidskiĭ, V. B.) Asymptotic formulas for frequencies of axisymmetric oscillations of a shell of revolution. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 298–309. (Summary) **98j:73055** 73K15 (73K12, 73V20)

Aslanyan, A. G. (*with* Aslanyan, A. A.; Lidskiĭ, V. B.) Asymptotic formulas for frequencies of axisymmetric oscillations of a shell of revolution. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 298–309. (Summary) **98j:73055** 73K15 (73K12, 73V20)

Aslanyan, A. M. Asymptotically flat solutions of the Bogomol'nyĭ equations with solvable gauge group. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 10, 3–8; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 10, 1–6 (1997). (Roger Bielawski) **98f:58059** 58E15 (53C07)

Aslim, G. (*with* Bedre Özbakir, O.) On some types of fuzzy continuous multifunctions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 217–230. 54A40 (54C60)

Asmar, Nakhlé H. (*with* Panman, Phyllis) Weighted norm inequalities for the conjugate function on a-adic solenoids. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 4, 498–508. (Walter R. Bloom) **98j:43001** 43A15 (42A50, 43A70)

— (*with* Kelly, B. P.; Montgomery-Smith, Stephen J.) A note on UMD spaces and transference in vector-valued function spaces. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 3, 485–490. (Aleš Založnik) **98b:43008** 43A17 (46E40, 60G46)

— (*with* Montgomery-Smith, Stephen J.) Hardy martingales and Jensen's inequality. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 185–195. (Takahiko Nakazi) **98k:43002** 43A17 (42A45, 42A50)

— (*with* Berkson, Earl; Gillespie, Thomas Alastair) Note on norm convergence in the space of weak type multipliers. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 139–149. (G. I. Gaudry) **98m:43004** 43A22 (46E30)

abay Asmerom, Ghidewon *see* **Abay Asmerom, Ghidewon**

Asmerom, Ghidewon Abay *see* **Abay Asmerom, Ghidewon**

Asmolik, V. A. On a class of locally one-dimensional schemes for solving second-order multidimensional hyperbolic equations of arbitrary dimension. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1678–1682, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1671–1676 (1997). (Summary) **98j:65055** 65M06 (35L10)

— On three-layer locally one-dimensional difference schemes for second-order hyperbolic equations of arbitrary dimension. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 909–913, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 912–917 (1998). (Summary) **98m:65134** 65M06

Asmolov, E. S. (*with* Manuilovich, Sergei V.) Stability of a dusty-gas laminar boundary layer on a flat plate. (English summary) *J. Fluid Mech.* **365** (1998), 137–170. 76E05 (76D10)

Asmuss, Svetlana (*with* Budkina, Natalia; Oja, Peeter) On smoothing problems with weights and obstacles. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 4, 262–272. 41A15 (65D15)

Asmussen, Søren Rare events in the presence of heavy tails. *Stochastic networks* (*New York*, 1995), 197–214, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Charles M. Goldie) **98f:60201** 60K30

— (*with* Klüppelberg, Claudia) Large deviations results for subexponential tails, with applications to insurance risk. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 103–125. (Thomas Mikosch) **98c:60029** 60F10 (60K10)

— (*with* Taksar, Michael I.) Controlled diffusion models for optimal dividend pay-out. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 1, 1–15. (Summary) **98c:62195** 62P05

— (*with* Perry, David) An operational calculus for matrix-exponential distributions, with applications to a Brownian (q, Q) inventory model. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 166–176. (Summary) **98j:60102** 60J27 (60K20, 62P05)

Asorey, Manuel (*with* Falceto, Fernando; López García, José Luis; Luzon, Gloria) Vacuum structure of $(2+1)$-dimensional gauge theories. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 183–199, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98f:58045** 58D29 (58D19, 58Z05, 81T13, 81T70)

— (*with* Falceto, Fernando) Vacuum structure of $\mathbb{C}\mathrm{P}^N$ sigma models at $\theta = \pi$. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 234–237. (Summary) **98k:81164** 81T15 (81T10)

Aspandiiarov, S. (*with* Pecherskiĭ, E. A.) A large deviations problem for compound Poisson processes in queueing theory. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 333–366. (Anatolii A. Pukhal'skiĭ) **98i:60088** 60K25 (60F10)

— (*with* Iasnogorodski, R.) Tails of passage-times and an application to stochastic processes with boundary reflection in wedges. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 1, 115–145. (Youngmee Kwon) **98a:60057** 60G42 (60J10, 60J65)

Asperti, Andrea (*with* Ciabattoni, Agata) Effective applicative structures. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 81–95, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:03097** 03D75 (03B40, 68Q05)

— (*with* Laneve, Cosimo) Comparing λ-calculus translations in sharing graphs. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 1–15, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Ciabattoni, Agata) On completability of partial combinatory algebras. (English summary) *Theoretical computer science* (*Ravello*, 1995), 162–175, *World Sci. Publishing, River Edge, NJ*, 1996. (Martin W. Bunder) **98d:03067** 03G25 (03B40, 68Q05)

Asperti, Antonio Carlos (*with* Mercuri, Francesco; Noronha, Maria Helena) Cohomogeneity one manifolds and hypersurfaces of revolution. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 199–215. (Fabio Podestà) **98c:53061** 53C40 (53C21)

Aspinall, David Subtyping with singleton types. (English summary) *Computer science logic* (*Kazimierz*, 1994), 1–15, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68N15 (03B40, 03B70, 68Q55, 68Q60)

— (*with* Compagnoni, Adriana B.) Subtyping dependent types (summary). (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 86–97, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40, 03B70, 68Q55)

Aspinwall, Paul S. $K3$ surfaces and string duality. (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 421–540, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruce Hunt) **98j:81243** 81T30 (14J28, 32G81, 32J81)

— Resolution of orbifold singularities in string theory. (English summary) *Mirror symmetry, II*, 355–379, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (I. Dolgachev) **98b:81174** 81T30 (14E15, 32S45, 81T40)

— M-theory versus F-theory pictures of the heterotic string. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 127–147. (Gonzalo Violero) **98m:81126** 81T30 (14J28, 32G81, 32J81)

— Point-like instantons and the $\mathrm{Spin}(32)/Z_2$ heterotic string. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 149–176. (Bruce Hunt) **98e:81126** 81T30 (14J28, 32J81)

Aspnes, James (*with* Azar, Yossi; Fiat, Amos; Plotkin, Serge; Waarts, Orli) On-line routing of virtual circuits with applications to load balancing and machine scheduling. (English summary) *J. ACM* **44** (1997), *no.* 3, 486–504. (Summary) **98e:68006** 68M10 (68Q25)

Asrakulov, M. M. Limit theorems for the distribution of two-sample generalized U-statistics. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1995), 3–9. (Igor S. Borisov) **98f:60035** 60F05 (60E07)

Assaad, Farouk K. (*with* El-Borai, Mahmoud M.) On the Cauchy problem for some parabolic partial differential equations with time delays. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 1–8. (Summary) **98b:35212** 35R10 (35K30)

— (*with* El-Borai, Mahmoud M.) On the asymptotic behaviour of some nonlinear parabolic systems. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 37–42. (Summary) **98d:35095** 35K55 (35B40)

al-Assady, N. H. *see* **Al-Assady, N. H.**

Assaf, Ahmed M. (*with* Shalaby, Nabil; Singh, L. P. S.) On packing designs with block size 5 and indexes 3 and 6. (English summary) *Ars Combin.* **45** (1997), 143–156. (Summary) **98b:05026** 05B30

— (*with* Singh, L. P. S.) On covering designs with block size 5 and index $11 \le \lambda \le 21$: the case $v \equiv 0 \pmod 4$. (English summary) *Australas. J. Combin.* **15** (1997), 91–121. (Summary) **98b:05011** 05B05

— Modified group divisible designs with block size 4 and $\lambda > 1$. (English summary) *Australas. J. Combin.* **16** (1997), 229–238. (Summary) **98e:05009** 05B05

Assaf, David Estimating the state of a noisy continuous time Markov chain when dynamic sampling is feasible. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 822–836. (Summary) **98b:62174** 62M20

— (*with* Ritov, Ya'acov) Dynamic sampling applied to problems in optimal control. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 565–580. (Peng Shi) **98m:93118** 93E20 (93E03, 93E14)

Assani, I. Strong laws for weighted sums of independent identically distributed random variables. *Duke Math. J.* **88** (1997), *no.* 2, 217–246. (Michael T. Lacey) **98g:60059** 60F15 (28D05)

el-Assar, S. *see* **El-Assar, S.**

van Assche, Walter *see* **Van Assche, Walter**

van Asse, V. *see* **Van Asse, V.**

Asselah, Amine (*with* Dai Pra, Paolo) Occurrence of rare events in ergodic interacting spin systems. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 727–751. (Francis Comets) **98k:60174** 60K35 (60F10, 82C22)

— (*with* Brito, Ricardo; Lebowitz, Joel L.) Self-diffusion in simple models: systems with long-range jumps. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1131–1144. (Roberto Fernández) **98k:82121** 82C22 (60J60, 82C20)

— (*with* Dai Pra, Paolo) Sharp estimates for the occurrence time of rare events for symmetric simple exclusion. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 259–273. (Rinaldo Schinazi) **98k:60175** 60K35

Asselmeyer, T. Generation of source terms in general relativity by differential structures. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 749–758. (Summary) **98k:83066** 83C99 (57R57, 58Z05)

Assem, Ibrahim (*with* Liu, Shiping) Strongly simply connected tilted algebras. (English and French summaries) *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 13–22. (Dieter Happel) **98h:16016** 16G10 (16G60)

Assem, Magdy On stability and endoscopic transfer of unipotent orbital integrals on p-adic symplectic groups. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 635, $x+101$ *pp.* (D. Milićić) **98m:22013** 22E35 (22E50)

Asserda, S. Convexité holomorphe intermédiaire des revêtements d'un domaine pseudoconvexe. (English summary) [Intermediate holomorphic convexity of coverings of a pseudoconvex domain] *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 285–290. (S. Dimiev) **98h:32052** 32L15 (32E10, 32F10)

Assi, A. (*with* Castro-Jiménez, F. J.; Granger, Michel) How to calculate the slopes of a $\mathscr{D}$-module. *Compositio Math.* **104** (1996), *no.* 2, 107–123. (Nobuyuki Tose) **98i:32010** 32C38

Assis, A. K. T. Circuit theory in Weber electrodynamics. (English and Portuguese summaries) *European J. Phys.* **18** (1997), *no.* 3, 241–246. (Summary) **98c:78007** 78A25

— (*with* Bueno, Marcelo) Self-inductance of solenoids, bi-dimensional rings and coaxial cables. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 813–821. 78A25

Assonov, M. V. (*with* Labunets, E. V.; Labunets, V. G.; Lenz, Reiner) Application of hypercomplex moments in [nvariant] pattern recognition. III. Fast algorithms based on modular invariants. (Russian) *Radio age* (*Russian*), 123–150, 287, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98k:68205** 68T10 (65D30)

Assous, Franck (*with* Ciarlet, Patrick, Jr.) Une caractérisation de l'orthogonal de $\Delta(H^2(\Omega) \cap H_0^1(\Omega))$ dans $L^2(\Omega)$. (English and French summaries) [A characterization of the orthogonal of $\Delta(H^2(\Omega) \cap H_0^1(\Omega))$ in $L^2(\Omega)$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 605–610. (Zinovi Sheftel) **98i:35030** 35J05 (46E35)

— (*with* Degond, Pierre; Segré, J.) A new scheme to treat the numerical Tcherenkov instability for electromagnetic particle simulations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 171–192. (Summary) **98g:78001** 78–08 (76X05)

Astakhov, N. D. (*with* Fedoseev, A. V.; Chan Van Khung) ★ О применении ускоренных алгоритмов решения задач транспортного типа. (Russian. Russian summary) [Application of accelerated algorithms for solving transportation-type problems] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 50 *pp.* (Publisher's description) **98c:90073** 90C08 (65K05, 90C90)

Astakhov, V. V. (*with* Anishchenko, V. S.; Kapitaniak, Tomasz; Shabunin, A. V.) Synchronization of chaotic oscillators by periodic parametric perturbations. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 11–16. (*see* **98k:58004**) 58F13 (70K50)

Astala, Kari (*with* Päivärinta, Lassi; Saksman, Eero) The finite Hilbert transform in weighted spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1157–1167. (E. R. Love) **98a:44003** 44A15

Astarita, Gianni (*with* Astarita, Tommaso; Ocone, Raffaella) Compressible flow of granular materials. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 1–22, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **98m:76009** 76A99 (73E99, 73Q05, 76N99)

Astarita, Tommaso (*with* Ocone, Raffaella; Astarita, Gianni) Compressible flow of granular materials. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 1–22, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **98m:76009** 76A99 (73E99, 73Q05, 76N99)

Astashkevich, A. On the structure of Verma modules over Virasoro and Neveu-Schwarz algebras. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 531–562. (Yu Ting Jia) **98h:17028** 17B68 (17B10)

— (*with* Fuchs, Dmitry) Asymptotics for singular vectors in Verma modules over the Virasoro algebra. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 201–209. (Yu Ting Jia) **98e:17034** 17B68 (17B10)

Astashkin, S. V. On the multiplier of a symmetric space with respect to a tensor product. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 58–60; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 267–269 (1997). (Yu. A. Abramovich) **98f:46022** 46E30

Astaud-Astaud, Michèle *see* **Irac-Astaud, Michèle**

Aste, A. (*with* Scharf, G.; Dütsch, Michael) On gauge invariance and spontaneous symmetry breaking. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5785–5792. (Tobias Hurth) **98k:81165** 81T15 (81R40, 81T13)

Astengo, Francesca (*with* Camporesi, Roberto; Di Blasio, Bianca) The Helgason Fourier transform on a class of nonsymmetric harmonic spaces. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 405–424. (Ewa Damek) **98j:22008** 22E30 (22E25, 43A80, 43A90)

Astey, L. (*with* Micha, E.; Pastor, Guillermo) Homeomorphism and diffeomorphism types of Eschenburg spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 41–50. (Krzysztof Galicki) **98h:53072** 53C25 (57R55)

— Commutative 2-local ring spectra. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 1–10. (Donald M. Davis) **98d:55014** 55P42

Astfalk, Greg *see* **Proceedings: Conference on Parallel Processing for Scientific Computing. 98h:65004**

Asthana, Sheel (*with* Chaturvedi, Anoop; Hasegawa, Hikaru) Bayesian analysis of the linear regression model with non-normal disturbances. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 277–293. (Summary) **98m:62187** 62J05 (62F15)

— (*with* Chaturvedi, Anoop; Hasegawa, Hikaru) Bayesian analysis of the linear regression model with an Edgeworth series prior distribution. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1145–1164. (Summary) **98a:62090** 62J05 (62F15)

Astley, R. J. Mapped spheroidal wave-envelope elements for unbounded wave problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1235–1254. (Summary) **98k:76102** 76M25 (76Q05)

Astola, Jaakko (*with* Egiazaryan, K. O.) On generalized Fibonacci cubes and unitary transforms. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 371–377. (Igor E. Shparlinski) **98h:11030** 11B85 (11B39)

Astolfi, Alessandro On the relation between state feedback and full information regulators in nonlinear singular H_∞ control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 984–988. (Summary) **98e:93031** 93B36 (93C10)

— Singular H_∞ control for nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 7, 727–740. (Summary) **98e:93032** 93B36 (93C10)

— (*with* Schaufelberger, W.) State and output feedback stabilization of multiple chained systems with discontinuous control. (English summary) *Systems Control Lett.* **32** (1997), *no.* 1, 49–56. (Summary) **98e:93081** 93D15 (93A20)

— New results on the global stabilization of minimum-phase nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 783–788. 93D15 (93C10)

Aston, Philip J. (*with* Allgower, Eugene L.) Symmetry reductions for the numerical solution of boundary value problems. *The mathematics of numerical analysis* (*Park City, UT*, 1995), 29–47, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (W. Govaerts) **98b:65054** 65H17 (65N22)

— (*with* Bird, C. M.) Analysis of the control of chaos—extending the basin of attraction. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1413–1429. (Summary) **98h:58113** 58F13 (58F40)

— (*with* Amdjadi, Faridon) Numerical methods for steady state/Hopf mode interactions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 585–605. (Summary) **98c:65140** 65L99 (34C23, 35Q53, 58F14, 65M99)

— (*with* Amdjadi, Faridon) Detection of tertiary Hopf bifurcations arising from mode interactions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1691–1698. (Ian Melbourne) **98j:58078** 58F14 (34C23, 34C35)

— (*with* Spence, Alastair; Wu, Wei[1]) Hopf bifurcation near a double singular point. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 277–297. (Peter Ashwin) **98d:58127** 58F14 (34C25, 58E07, 65H17)

— (*with* Amdjadi, Faridon; Plecháč, Petr) Symmetry breaking Hopf bifurcations in equations with O(2) symmetry with application to the Kuramoto-Sivashinsky equation. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 1, 181–192. (Summary) **98a:80001** 80–08 (58F40, 76R50, 80A32)

— (*with* Bird, C. M.) Targeting in the presence of noise. (English summary) Applications of chaos (Inowlodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 251–259. (Summary) **98k:93051** 93C10 (58F13, 93C41)

— (*with* Bird, C. M.) Synchronization of coupled systems via parameter perturbations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2787–2794. (Summary) **98k:58153** 58F13

Astrachan, O. L. (*with* Loveland, D. W.) The use of lemmas in the model elimination procedure. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 1, 117–141. (Ralph W. Wilkerson) **98j:03008** 03B35 (68T15)

Åström, Kalle (*with* Heyden, Anders) Algebraic properties of multilinear constraints. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1135–1162. (Gábor Hetyei) **98d:14078** 14Q15 (13P10)

Astrov, Igor (*with* Rüstern, Ennu) The state-space description of two-rate nonlinear multivariable discrete systems. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 3, 187–196. 93C55 (93A30)

— (*with* Rüstern, Ennu) The discrete control of two-rate nonlinear multivariable continuous-time systems. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 3, 197–208. 93C55 (93B52)

Astumian, R. Dean (*with* Tarlie, Martin B.) Optimal modulation of a Brownian ratchet and enhanced sensitivity to a weak external force. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 5, 2039–2043 (*electronic*). (Summary) **98k:82134** 82C31

Astuti, P. (*with* Corless, Martin; Williamson, Darrell) On the convergence of sampled data nonlinear systems. (English summary) *Differential equations* (*Bandung*, 1996), 201–210, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98m:93072** 93C57 (93C41)

Asveld, Peter R. J. Towards robustness in parsing—fuzzifying context-free language recognition. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 443–453, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q52 (04A72)

— Controlled fuzzy parallel rewriting. (English summary) *New trends in formal languages*, 49–70, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68134** 68Q42 (03E72)

Asvestas, J. S. (*with* Bielefeld, B.; Deng, Yue-Fan; Glimm, James; Simanca, Santiago R.; Tangerman, F. M.) Electromagnetic scattering from large cavities: iterative methods. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 37–47. 65R20 (45B05, 78A45)

Atai, A. A. (*with* Steigmann, David J.) Coupled deformations of elastic curves and surfaces. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 16, 1915–1952. (Summary) **98m:73029** 73C50 (73G05, 73V15)

Atakishiev, N. M. Difference equations and some of their solutions. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 69–98, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Summary) **98g:39001** 39A10 (33D80, 39A70, 81R50)

— (*with* Chumakov, S. M.; Rivera, A. L.; Wolf, Kurt Bernardo) Polynomial Hamiltonians and evolution in quantum and optical phase spaces. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 166–171, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81062** 81S30 (81V80)

— Note on the transformation $q \to q^{-1}$ for orthogonal q-polynomials. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 397–401, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:33030** 33D45

— (*with* Feinsilver, Philip) Two Ramanujan's integrals with a complex parameter. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 406–412, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98m:33043** 33D10

— (*with* Feinsilver, Philip) On the coherent states for the q-Hermite polynomials and related Fourier transformation. (English summary) *J. Phys. A* **29** (1996), *no.* 8, 1659–1664. (Summary) **98j:81125** 81R30 (33D45)

— On the Fourier-Gauss transforms of some q-exponential and q-trigonometric functions. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7177–7181. (Summary) **98b:33034** 33D15

— (*with* Wolf, Kurt Bernardo) Fractional Fourier-Kravchuk transform. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1467–1477. (Summary) **98c:78004** 78A10 (33C90, 44A15, 78A50)

— (*with* Atakishieva, M. K.) q-Laguerre and Wall polynomials are related by the Fourier-Gauss transform. (English summary) *J. Phys. A* **30** (1997), *no.* 13, L429–L432. (Summary) **98m:33044** 33D45

— (*with* Atakishieva, M. K.) Fourier-Gauss transforms of the Al-Salam-Chihara polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 19, L655–L661. (Mizan Rahman) **98k:33035** 33D45

— (*with* Rivera, A. L.; Chumakov, S. M.; Wolf, Kurt Bernardo) Evolution under polynomial Hamiltonians in quantum and optical phase spaces. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 876–889. (K. Wódkiewicz) **98e:81094** 81S30 (81V80)

— *see also* **Proceedings: Wigner Symposium, 98f:81009**

Atakishieva, M. K. (*with* Atakishiev, N. M.) q-Laguerre and Wall polynomials are related by the Fourier-Gauss transform. (English summary) *J. Phys. A* **30** (1997), *no.* 13, L429–L432. (Summary) **98m:33044** 33D45

— (*with* Atakishiev, N. M.) Fourier-Gauss transforms of the Al-Salam-Chihara polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 19, L655–L661. (Mizan Rahman) **98k:33035** 33D45

Atakishiyev, N. M. *see* **Atakishiev, N. M.**

Atakishiyev, Natig M. *see* **Atakishiev, N. M.**

Atakishiyeva, M. K. *see* **Atakishieva, M. K.**

Atallah, A. (*with* Zuily, Claude) Monge-Ampère equations relative to a Riemannian metric. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 3989–4006. (Robert McOwen) **98g:53066** 53C21 (35J60, 58G30)

Atallah, Mikhail J. (*with* Chen, Danny Z.) Applications of a numbering scheme for polygonal obstacles in the plane. (English summary) *Algorithms and computation* (*Osaka*, 1996), 1–24, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:68266** 68U05

Atanackovic, Teodor M. On the rotating rod with shear and extensibility. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 3, 143–153. (Summary) **98e:73074** 73K05 (73H10, 73K12)

— Buckling of a compressible elastic ring. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 121–134. (Summary) **98k:73038** 73H05 (73K05)

— (*with* Djukic, Djordje S.; Jones, S. E.) On the rotating rod with shear and extensibility. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 593–606. (Summary) **98k:73039** 73K05 (73H10, 73K12)

Atanasiu, Adrian (*with* Gramatovici, Radu) Learning from examples. (English summary) *Mathematical linguistics and related topics*, 10–23, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45 (68T05)

— On the free crossovering operation. (English summary) *An. Univ. Bucureşti Mat. Inform.* **45** (1996), *no.* 1, 3–8. (Summary) **98b:92012** 92D20

Atanasiu, Dragu Lévy-Khintchine formulas independent of a Lévy function. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 340–353. (Gennadiy M. Fel'dman) **98h:60018** 60E07 (60B15)

— The quadratic form in the Lévy-Khinchin formula on semigroups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1507–1514. (Gennadiy M. Fel'dman) **98j:60005** 60B15

Atanasiu, Gheorghe (*with* Miron, Radu) Compendium on the higher order Lagrange spaces: the geometry of k-osculator bundles. Prolongation of the Riemannian, Finslerian and Lagrangian structures. Lagrange spaces $L^{k(n)}$. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 39–57. (Tadashi Aikou) **98e:53029** 53B40 (53C10)

Atanassov, Atanas T. (*with* Sgurev, Vasil S.) Approximate methods for optimization of a network flow with linear capacity constraints found on a classic Ford-Fulkerson network flow. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 54–64. 90C35 (90B10)

— Solving network flow problems with additional constraints via a heuristic method and algorithm. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 87–96. 90C35 (90B10)

— (*with* Sgurev, Vasil S.) A method for approximation of a network flow with general linear constraints via a classic Ford-Fulkerson network flow. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **45** (1997), 68–79. 90C35 (90B10)

Atanassov, Krassimir Todorov (*with* Vassilev-Missana, Mladen V.) On two arithmetic sets. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 1, 24–27. (Aleksander Grytczuk) **98a:11008** 11A25

— A modification of one Avanessov's problem. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 2, 47–48. (Jonathan Pila) **98b:11005** 11A63

— Irrational factor: definition, properties and problems. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 3, 42–44. (Wieb Bosma) **98f:11005** 11A25

— (*with* Georgiev, Peter G.) On one generalization of the Fibonacci sequence. IV. Multiplicity roots of the characteristic equation. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 3–7. (Neville Robbins) **98a:11019** 11B39

— (*with* Georgiev, Peter G.) On one generalization of the Fibonacci sequence. V. Some examples. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 8–13. (Neville Robbins) **98a:11020** 11B39

— (*with* Georgiev, Peter G.) On one generalization of the Fibonacci sequence. VI. Some other examples. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 14–17. (Neville Robbins) **98a:11021** 11B39

— A generalization of an arithmetic function. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 32–33. (Jean-Marie De Koninck) **98f:11006** 11A25

— Two variants of the concept "logarithmic progression". *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 58–60. (Sui Sun Cheng) **98g:39002** 39A10

— An elementary numerical inequality. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 5, 182. 26D15

— (*with* Shannon, Anthony; Turner, John Christopher) Remark on Fibonacci sequences and fuzzy sets. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 2, 11–14. 11B39 (03E72)

— (*with* Dimitrov, Dinko; Kacprzyk, Janusz; Kim, Soon-Ki; Shannon, Anthony; Szmidt, Eulalia) Applications of operators over intuitionistic fuzzy sets in analysis of asymmetric information. (English summary) *Notes IFS* **3** (1997), *no.* 1, 29–34. 03E72

— The Hauber's law is an intuitionistic fuzzy tautology. *Notes IFS* **3** (1997), *no.* 2, 82–84. 03B52

— An extension of the universal operator over intuitionistic fuzzy sets and some of its properties. *Notes IFS* **3** (1997), *no.* 3, 89–91. 03E72

— Some operators on intuitionistic fuzzy sets. First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 28–33. (*see* **98e:03031**) 03E72

— (*with* Shannon, Anthony; Kim, Soon-Ki; Kim, Young Hyun; Sorsich, Joseph; Georgiev, Peter Raikov) A possibility for implementation of elements of the intuitionistic fuzzy logic in decision making in medicine. First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 40–43. (*see* **98e:03031**) 03E72

— (*with* Danchev, Stefan S.) A modification of A. Mullin's inequality. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 58–60. 11A25

— A modification of Sivaramakrishnan-Venkataraman's inequality. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 2, 102–103. 11A25

— Remark on the intuitionistic fuzzy logics. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 127–129. (Summary) **98j:03035** 03B52

Atanassova, Lidiya Y. (*with* Andreev, Andreĭ St.; Kyurkchiev, Nikolaĭ V.) Combined iterative methods based on a modification of the Koenig theorem. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 23–37, *Math. Res.*, **89**, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:65026** 65E05 (30C15)

— (*with* Kharitonov, V. L.) On stability of a weighted diamond of real quasi-polynomials. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 831–835. (B. T. Polyak) **98i:93067** 93D09

Atar, Rami (*with* Zeitouni, Ofer) Exponential stability for nonlinear filtering. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 697–725. (George Yin) **98i:60070** 60J57 (60G35, 93E11)

Atassi, Oliver V. (*with* Bernoff, Andrew J.; Lichter, Seth) The interaction of a point vortex with a wall-bounded vortex layer. (English summary) *J. Fluid Mech.* **343** (1997), 169–195. (Summary) **98e:76016** 76C05 (76D10)

Ateiwi, A. M. To the problem on periodic solutions of one class of systems of difference equations. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 309–314; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 2, 342–348. (Summary) **98m:39005** 39A10

Atela, Pau (*with* Hu, Jun[2]) Commuting polynomials and polynomials with same Julia set. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*A*, 2427–2432. (I. N. Baker) **98c:58133** 58F23 (30D05)

Ateniese, Giuseppe (*with* Blundo, Carlo; De Santis, Alfredo; Stinson, Douglas R.) Constructions and bounds for visual cryptography. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 416–428, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98g:94020** 94A60 (68P25)

— (*with* Blundo, Carlo; De Santis, Alfredo; Stinson, Douglas R.) Visual cryptography for general access structures. (English summary) *Inform. and Comput.* **129** (1996), *no.* 2, 86–106. (Luis Hernández Encinas) **98a:94017** 94A60 (68P25, 94C15)

Athanasiadis, Christodoulos (*with* Stratis, Ioannis G.) On a transmission problem for the time-harmonic Maxwell equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 671–688. (Summary) **98m:78020** 78A40 (35Q60, 78A45)

— (*with* Stratis, Ioannis G.) The conductive problem for Maxwell's equations at low frequencies. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 101–105. 78A45

— (*with* Stratis, Ioannis G.) Electromagnetic scattering by a chiral obstacle. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 83–91. (Youri G. Smirnov) **98f:78018** 78A45

— Scattering theorems for time-harmonic electromagnetic waves in a piecewise homogeneous medium. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 179–190. (Brian D. Sleeman) **98k:78028** 78A45

Athanasiadis, Christos A. A class of labeled posets and the Shi arrangement of hyperplanes. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 158–162. (Summary) **98d:05008** 05A15

Athanasiou, Michalis (*with* Argyris, John; Andreadis, Ioannis; Pavlos, Georgios) The influence of noise on the correlation dimension of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 343–361. (Summary) **98m:58089** 58F13

Athanasiu, G. G. (*with* Floratos, E. G.; Nicolis, S.) Holomorphic quantization on the torus and finite quantum mechanics. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6737–6745. (Ivailo M. Mladenov) **98c:81104** 81S10 (11Z05, 22E70, 81R05)

Athanassenas, Maria Volume-preserving mean curvature flow of rotationally symmetric surfaces. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 52–66. (Yoshikazu Giga) **98d:58037** 58E15 (35K55, 53A10)

Athanassopoulos, Konstantin Flows with cyclic winding numbers groups. *J. Reine Angew. Math.* **481** (1996), 207–215. (Krzysztof Ciesielski) **98a:58134** 58F25 (54H20, 58F11)

Athreya, Krishna B. (*with* Vidyashankar, A. N.) Large deviation results for branching processes. (English summary) *Stochastic processes*, 7–12, *Springer, New York*, 1993. (J. D. Biggins) **98f:60165** 60J80 (60F10)

— (*with* Doss, Hani; Sethuraman, Jayaram) On the convergence of the Markov chain simulation method. (English summary) *Ann. Statist.* **24** (1996), *no.* 1, 69–100. (Arnoldo Frigessi) **98c:60074** 60J05 (60B10)

— *see also* **Classical and modern branching processes, 98h:60004**

Atici, M. (*with* Stinson, Douglas R.) Universal hashing and multiple authentication. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 15–30, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98g:94021** 94A60

Atiyah, Michael F. Mathematics and the physical world. (Finnish) *In the forest of symbols* (*Finnish*), 186–210, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 00A30 (00A69, 00A79)

— An introduction to topological quantum field theories. *Turkish J. Math.* **21** (1997), *no.* 1, 1–7. (Lowell Abrams) **98f:58046** 58D29 (16L60, 57N65, 57R57)

— *see also* **Patodi, V. K., 98h:01039**

Atkin, A. O. L. (*with* Boros, Endre; Cechlárová, Katarína; Peled, Uri N.) Powers of circulants in bottleneck algebra. (English summary) *Linear Algebra Appl.* **258** (1997), 137–148. (Ronald L. Smith) **98c:15050** 15A30 (04A72, 15A57)

— Intelligent primality test offer. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 1–11, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Samuel S. Wagstaff, Jr.) **98k:11183** 11Y11

— *see also* **Computational perspectives on number theory, 98g:11001**

Atkin, Christopher J. Geodesic and metric completeness in infinite dimensions. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 1–61. (Jürgen Eichhorn) **98f:58020** 58B20

Atkin, R. J. (*with* Stewart, I. W.) Theoretical studies of Freedericksz transitions in SmC liquid crystals. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 253–262. (Summary) **98f:76007** 76A15 (82D30)

Atkinson, A. C. (*with* Koopman, Siem Jan; Shephard, Neil) Detecting shocks: outliers and breaks in time series. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 387–422. 62P20 (62M10)

Atkinson, Colin (*with* Aparicio, N. D.) An inverse problem method for crack detection in viscoelastic materials under anti-plane strain. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 9, 841–849. 73M25 (73F99)

— (*with* Chen, Ching-Yu) The influence of layer thickness on the stress intensity factor of a crack lying in an (visco)elastic layer embedded in a different (visco)elastic medium. (Plane strain, mode I analysis). (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1445–1471. (Summary) **98d:73052** 73M25 (73F99)

— (*with* Aparicio, N. D.) Ancillary solutions for curved crack stress analysis. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2207–2228. (Summary) **98i:73048** 73M25

Atkinson, Kendall (*with* Chien, David Da-Kwun) A discrete Galerkin method for a hypersingular boundary integral equation. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 463–478. (Summary) **98d:65151** 65N38 (45E05, 45L05, 65R20)

Atkinson, M. D. (*with* Van Willigenburg, S. J.) The p-modular descent algebra of the symmetric group. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 4, 407–414. (Godofredo Iommi Amunátegui) **98c:20023** 20C30

— (*with* Livesey, M. J.; Tulley, D.) Permutations generated by token passing in graphs. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 103–118. (Luisa Gargano) **98e:68194** 68R10

— (*with* Tulley, D.) Bounded capacity priority queues. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 145–157. (Summary) **98e:68036** 68P05

— Permutations which are the union of an increasing and a decreasing subsequence. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 6, 13 *pp.* (*electronic*). (Dieter Kratsch) **98k:05001** 05A05

Atkinson, R. A. (*with* Cuadras, C. M.; Fortiana, J.) Probability densities from distances and discrimination. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 405–411. (Summary) **98a:62069** 62H05 (62H30)

Atluri, Satya N. (*with* Gao, Xin-Lin) An exact finite deformation elastoplastic solution for the outside-in free eversion problem of a tube of elastic linear-hardening material. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 259–275. (Summary) **98h:73047** 73E99 (73G20)

Atmanspacher, Harald Dynamical entropy in dynamical systems. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 327–346, *Springer, Berlin*, 1997. (Oliver Knill) **98f:58122** 58F11 (28D20)

— *see also* **Time, temporality, now, 98b:81013**

candel Ato, José *see* **Candel Ato, José**

Atobe, Takashi (*with* Kaburaki, Hideo; Watanabe, Tadashi[2]) Fluctuation and chaos of velocity fields in homogeneous isotropic turbulence (geometric structure of vortex fields). (Japanese. Japanese summary) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 78–86. (*see* **98e:76004**) 76F05

Atoev, K. L. (*with* Sergienko, I. V.; Yanenko, V. M.) A general concept for the control of the risk of ecological, technogenic or sociogenic catastrophes. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 65–86, 188–189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 203–219. 92B15 (92D40, 92H10)

Atsavapranee, P. (*with* Gharib, Morteza) Structures in stratified plane mixing layers and the effects of cross-shear. (English summary) *J. Fluid Mech.* **342** (1997), 53–86. 76V05 (76E99)

Atsuji, Atsushi On the growth of meromorphic functions on the unit disc and conformal martingales. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 1, 45–56. (T. Keith Carne) **98a:30037** 30D35 (60G46)

Atsuyama, Kenji Projective spaces in a wider sense. II. *Kodai Math. J.* **20** (1997), *no.* 1, 41–52. (O. Kowalski) **98g:53094** 53C35

Attal, S. (*with* Burdzy, Krzysztof; Émery, M.; Hu, Yueyun) Sur quelques filtrations et transformations browniennes. [Some filtrations and Brownian transformations] *Séminaire de Probabilités, XXIX*, 56–69, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Peter Imkeller) **98j:60111** 60J65 (60G05, 60G44, 60H05)

— (*with* Parthasarathy, Kalyanapuram Rangachari) Strong Markov processes and the Dirichlet problem in von Neumann algebras. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 53–75, *World Sci. Publishing, River Edge, NJ*, 1996. (David Applebaum) **98g:46096** 46L50 (47D07, 60J25, 81S25)

— (*with* Émery, M.) Martingales d'Azéma bidimensionnelles. (French summary) [Two-dimensional Azéma martingales] Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 9–21. (Philippe Biane) **98f:60083** 60G44 (60H20)

Attalah, S. H. (*with* Zaghrout, A. A. S.) Stability and persistence of time delays model in population dynamics. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 73–89. (Summary) **98h:92040** 92D25 (34K20)

Attalienti, Antonio (*with* Altomare, Francesco) Forward diffusion equations and positive operators. *Math. Z.* **225** (1997), *no.* 2, 211–229. (P. L. Butzer) **98i:41029** 41A35 (35K99, 47D06)

Attalla, S. (*with* Zaghrout, A. A. S.; Younis, S.) Oscillation of odd order neutral differential equations. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 219–227. (Binggen Zhang) **98a:34080** 34K15 (34K40)

el Attar, M. A. *see* **El Attar, M. A.**

Attaway, S. W. (*with* Hicks, D. L.; Swegle, J. W.) Conservative smoothing stabilizes discrete-numerical instabilities in SPH material dynamics computations. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 209–226. (Dennis C. Jespersen) **98j:73097** 73V20 (65M12)

— (*with* Hicks, D. L.; Swegle, J. W.) Discrete-numerical instabilities in SPH computational material hyperdynamics stabilized by conservative smoothing. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 191–212. (Dennis C. Jespersen) **98a:65125** 65M12 (73D05, 73V20)

Attele, K. R. M. (*with* Lubin, A. R.) Joint isometric complements. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 125–132. (Ameer Athavale) **98e:47032** 47A99 (47A13, 47B35)

Attia, A. F. (*with* Abdel-Ghaly, A. A.; Aly, H. M.) Estimation of the parameters of Pareto distribution and the reliability function using accelerated life testing with censoring. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 469–484. 62N05

Attia, H. On the dimension of the spaces of nearly strong paracompactness. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 183–188. (Summary) **98d:54064** 54F45 (54D20)

Attili, Basem S. Tracing implicitly defined curves and the use of singular value decomposition. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 1–11. (Summary) **98g:65052** 65H17

— (*with* Elgindi, M. B. M.; El-Gebeily, M. A.) Initial value methods for the eigenelements of singular two-point boundary value problems. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 67–77. (Summary) **98m:65120** 65L10 (65L15)

— On the use of predictor-corrector continuation to trace implicitly defined curves and calculating bifurcation. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 149–159. (Summary) **98m:65090** 65H10 (65H17, 65H20)

Attiya, Hagit (*with* Chaudhuri, Soma; Friedman, Roy; Welch, Jennifer L.) Shared memory consistency conditions for nonsequential execution: definitions and programming strategies. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 65–89 (*electronic*). (Summary) **98m:68001** 68M07 (68Q10, 68Q60)

— (*with* Rachman, Ophir) Atomic snapshots in $O(n \log n)$ operations. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 319–340 (*electronic*). (Summary) **98m:68063** 68Q10 (68P05, 68Q22)

Attouch, H. (*with* Théra, M.) A general duality principle for the sum of two operators. (English summary) *J. Convex Anal.* **3** (1996), *no.* 1, 1–24. (Christian Michelot) **98k:47103** 47H05 (47H19, 47N10, 49J40, 49N15)

— (*with* Riahi, Hassan; Théra, M.) Somme ponctuelle d'opérateurs maximaux monotones. (English summary) [Pointwise sum of maximal monotone operators] Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 165–190. (S. Simons) **98e:47083** 47H05 (49N15, 54A20)

Atzema, Eisso J. (*with* Krötzsch, Guillermo; Wolf, Kurt Bernardo) Canonical transformations to warped surfaces: correction of aberrated optical images. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5793–5803. (Summary) **98j:78007** 78A05

Atzmon, Aharon (*with* Olevskiĭ, A. M.) Completeness of integer translates in function spaces on **R**. (English summary) *J. Approx. Theory* **87** (1996), *no.* 3, 291–327. (Kazaros Kazarian) **98a:46035** 46E30

— Entire functions, invariant subspaces and Fourier transforms. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 37–52, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Vladimir Logvinenko) **98k:30036** 30D15 (42A38, 46E99, 47A15)

Au, C. K. (*with* Chow, Chi-Keung; Chu, Chong-Sun) Comment: "A new efficient method for calculating perturbation energies using functions which are not quadratically integrable": regularization and justification [J. Phys. A **29** (1996), no. 5, L129–L132] by L. Skála and J. Čížek. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4133–4136. 81Q15 (81Q05)

— (*with* Chow, Chi-Keung; Chu, Chong-Sun) Perturbative scattering phase shifts in one dimension: closed form results. (English summary) *Phys. Lett. A* **226** (1997), *no.* 6, 327–331. (M. Znojil) **98b:81041** 81Q15 (34E10, 81U05)

Au, Chi *see* **Qu, Zhi**

Au, Jörg D. Nonlinear closure in molecular extended thermodynamics with application to the shock wave structure solution. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 59–67. (Summary) **98b:82062** 82C40 (80A10)

Auberson, G. A class of homogeneous nonlinear evolution equations with stable, localized solutions in any dimension. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4576–4593. (Woodford W. Zachary) **98j:81055** 81Q05 (35Q55)

Aubert, Anne-Marie (*with* Michel, Jean Christian Marie; Rouquier, Raphaël) Correspondance de Howe pour les groupes réductifs sur les corps finis. [Howe correspondence for reductive groups over finite fields] *Duke Math. J.* **83** (1996), *no.* 2, 353–397. (Robert Bédard) **98a:20039** 20G05 (20G40)

— Formule des traces sur les corps finis. [Trace formula over finite fields] *Finite reductive groups* (*Luminy*, 1994), 15–49, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Bhama Srinivasan) **98k:20072** 20G05 (20G40)

Aubin, Elisete da Conceição Q. (*with* Cordeiro, Gauss M.) Bias in linear regression models with unknown covariance matrix. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 813–828. 62J05

Aubin, Jean-Pierre ★ Neural networks and qualitative physics. (English summary) A viability approach. *Cambridge University Press, Cambridge*, 1996. xviii+283 *pp. ISBN* 0-521-44532-9 (Manuel Samuélidès) **98a:49002** 49–02 (68T05, 92B20, 93–02)

— (*with* Frankowska, Halina) Set-valued solutions to the Cauchy problem for hyperbolic systems of partial differential inclusions. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 149–168. (Paola Loreti) **98d:49003** 49J24 (35L15, 35R70)

Aubin, Thierry (*with* Bismuth, Sophie) Courbure scalaire prescrite sur les variétés riemanniennes compactes dans le cas négatif. (English summary) [Prescribed scalar curvature on compact Riemannian manifolds in the negative case] *J. Funct. Anal.* **143** (1997), *no.* 2, 529–541. (Robert McOwen) **98g:53067** 53C21 (35J60, 58G30)

— (*with* Bahri, Abbas) Méthodes de topologie algébrique pour le problème de la courbure scalaire prescrite. (English and French summaries) [Methods of algebraic topology for the problem of prescribed scalar curvature] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 6, 525–549. (David L. Finn) **98g:53068** 53C21 (58G30)

Aubry, Christophe Estimateur de la distance minimale en moyenne pour un modèle régulier. (English and French summaries) [Minimum average distance estimator for a regular model] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 899–902. (Summary) **98i:62023** 62G05

Aubry, Nadine (*with* Holmes, Philip J.; Lumley, John L.; Stone, Emily) Erratum to: "Application of dynamical system theory to coherent structures in the wall region" [Phys. D **37** (1989), no. 1-3, 1–10; MR 90j:76061] by Aubry, Holmes, Lumley and Stone and "Noise induced intermittency in a model of a turbulent boundary layer" [ibid., 20–32; MR 90j:76062] by Stone and Holmes. *Phys. D* **104** (1997), *no.* 2, 212–213. (From the text) **98d:76078** 76F20 (58F13, 58F14, 58F40, 76F99)

— (*with* Tang, Shaojie) On the symmetry breaking instability leading to vortex shedding. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2550–2561. (Summary) **98g:76038** 76E99 (76D05)

Aubry, Serge (*with* Kalosakas, G.; Tsironis, G. P.) Polaron solutions in the two-dimensional Holstein model. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 313–316, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 81V70 (35Q55)

— (*with* Marín, J. L.) Breathers in nonlinear lattices: numerical methods based on the anti-integrability concept. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 317–323, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 82B20 (65M99)

— (*with* Cretegny, Thierry) Patterns of energy flux in periodic solutions of Klein-Gordon lattices. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 162–165. (*see* **98k:00013**) 82B20 (35Q53)

Auchmuty, Giles Min-max problems for non-potential operator equations. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 19–28, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Gianni Arioli) **98f:47066** 47H15 (35Q30, 35R70, 49J35)

Auckly, David ★ Homotopy $K3$ surfaces and gluing results in Seiberg-Witten theory. Lecture Notes Series, 37. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1996. iii+53 *pp.* (Stefan A. Bauer) **98e:57044** 57R57 (57R65)

— Surgery numbers of 3-manifolds: a hyperbolic example. (English summary) *Geometric topology* (*Athens, GA*, 1993), 21–34, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:57030** 57N10

— (*with* Sadun, Lorenzo) A family of Möbius invariant 2-knot energies. (English summary) *Geometric topology* (*Athens, GA*, 1993), 235–258, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (John B. Etnyre) **98i:57043** 57Q45 (58E10)

Audet, Charles (*with* Hansen, Pierre; Jaumard, Brigitte; Savard, Gilles) Links between linear bilevel and mixed 0-1 programming problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 273–300. (Guntram Scheithauer) **98c:90076** 90C09 (65Y20, 90C11)

— (*with* Hansen, Pierre; Jaumard, Brigitte; Savard, Gilles) On the linear maxmin and related programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 181–208, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C10 (90C27, 90D05)

Audin, Maurice *see* **Schwartz, Laurent**

Audin, Michèle Structures Spin′ sur les variétés symplectiques. [Spin′ structures on symplectic manifolds] *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 263–268, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Ricardo F. Vila Freyer) **98f:57044** 57R15

— Cohomologie quantique. (French summary) [Quantum cohomology] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 806, 3, 29–58. (Bernd Siebert) **98h:58031** 58D29 (14N10, 58D10, 58D27, 58F05)

Audretsch, Jürgen (*with* Skarzhinskiĭ, V. D.) Scattering of scalar and Dirac particles by a magnetic tube of finite radius. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7603–7620. (Summary) **98k:81304** 81U99 (81Q05)

— (*with* Menskiĭ, M. B.; Namiot, Vladimir) How to visualize a quantum transition of a single atom. (English summary) *Phys. Lett. A* **237** (1997), *no.* 1-2, 1–9. 81V80 (81P15)

Auer, John W. An elementary proof of the invertibility of distance matrices. *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 119–124. (Donald W. Robinson) **98c:15011** 15A09 (15A18)

Auer, Manfred (*with* Busse, F. H.) Wavy rolls in the Taylor-Bénard problem. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 318–320. (Summary) **98h:76038** 76E15 (76U05)

Auerbach, Assa (*with* Schulman, L. S.) A path decomposition expansion proof for the method of images. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5993–5995. 81S40

Augenstein, Bruno W. Links between physics and set theory. (English summary) *Chaos Solitons Fractals* **7** (1996), *no.* 11, 1761–1798. (V. Ya. Kreinovich) **98h:00019** 00A79 (00A30, 03A05, 03E75, 81P10)

Auger, Pierre M. (*with* Morand, S.; Chassé, Jean-Luc) Parasitism and host patch selection: a model using aggregation methods. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 73–80. (*see* **98m:92001**) 92D40 (92D50)

— *see also* **Aggregation and emergence in population dynamics, 98m:92001**

Augot, Daniel (*with* Camion, Paul) On the computation of minimal polynomials, cyclic vectors, and Frobenius forms. (English summary) *Linear Algebra Appl.* **260** (1997), 61–94. (William H. Gustafson) **98d:15012** 15A21 (15A33, 65F30, 68Q25)

Augusti, Giuliano (*with* Mariano, Paolo Maria) Some axioms and theorems in damage mechanics and fatigue of materials. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 25, 3337–3350. (Summary) **98h:73018** 73B99 (73B30, 73E99, 73M25)

— (*with* Ciampoli, Marcello) Multi-objective optimal allocation of resources to increase the seismic reliability of highways. (English summary) *Math. Methods Oper. Res.* **47** (1998),

no. 1, 131–164. 90B20 (90C29, 90C90)

Augustyns, Ilse (*with* Aerts, Marc; Janssen, Paul) Expansions and bootstrapping for smoothed lattice data. (English summary) *Research developments in probability and statistics*, 77–90, *VSP, Utrecht*, 1996. (Krzysztof Podgorski) **98h:62075** 62G09 (62E20)

— (*with* Aerts, Marc; Janssen, Paul) Sparse consistency and smoothing for multinomial data. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 41–48. (Keh-Wei Chen) **98k:62044** 62G05 (62G20)

— (*with* Aerts, Marc; Janssen, Paul) Local polynomial estimation of contingency table cell probabilities. (English summary) *Statistics* **30** (1997), *no.* 2, 127–148. (Summary) **98m:62171** 62H17 (62G05)

— (*with* Aerts, Marc; Janssen, Paul) Smoothing sparse multinomial data using local polynomial fitting. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 2, 127–147. (Summary) **98g:62113** 62H17 (62G05)

Auinger, Karl The free pseudo-semilattice on a set. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 37–48, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Anna Romanowska) **98m:08016** 08B20 (06A12, 20M10)

— (*with* Hall, T. E.) Representations of semigroups by transformations and the congruence lattice of an eventually regular semigroup. (English summary) *Internat. J. Algebra Comput.* **6** (1996), *no.* 6, 655–685. (Francis Pastijn) **98a:20071** 20M20 (20M17)

— (*with* Polák, Libor) A semidirect product for locally inverse semigroups. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 405–435. (Mária B. Szendrei) **98j:20089** 20M17 (20M05, 20M07)

— (*with* Hall, T. E.; Reilly, Norman R.; Zhang, Shu Hua[1]) Congruences on the lattice of pseudovarieties of finite semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 433–455. (Katherine Johnston) **98h:20100** 20M07 (08A30, 08B15, 08C15)

singh Aujla, Jaspal *see* **Singh Aujla, Jaspal**

Aujla, Jaspal Singh *see* **Singh Aujla, Jaspal**

Aulaskari, Rauno (*with* Stegenga, David A.; Zhao, Ruhan) Random power series and Q_p. *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 247–255, *de Gruyter, Berlin*, 1996. (P. Lappan) **98a:30004** 30B20 (30D50)

— (*with* Lappan, Peter; Xiao, Jie[1]; Zhao, Ruhan) On α-Bloch spaces and multipliers of Dirichlet spaces. *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 103–121. (Dragan Vukotić) **98e:30036** 30D45 (30H05, 46E15)

— (*with* Chen, Huaihui) On Bloch and automorphic functions. *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 15–31. (Maria T. Nowak) **98m:30051** 30D45

Aulbach, Bernd (*with* Wanner, Thomas) Integral manifolds for Carathéodory type differential equations in Banach spaces. (English summary) *Six lectures on dynamical systems (Augsburg, 1994)*, 45–119, *World Sci. Publishing, River Edge, NJ*, 1996. (Chongchun Zeng) **98e:34104** 34G20 (34C30)

— (*with* Nguyen Van Minh) Nonlinear semigroups and the existence and stability of solutions of semilinear nonautonomous evolution equations. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 351–380. (Vladimir E. Fedorov) **98k:47135** 47H20 (34G20, 34K20, 39A11, 47N20)

— *see also* **Six lectures on dynamical systems, 98a:58003**

Auletta, Vincenzo (*with* Parente, Domenico; Persiano, Giuseppe) Placing resources in a tree: dynamic and static algorithms. (English summary) *Automata, languages and programming (Szeged, 1995)*, 232–243, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q10 (90C27)

— (*with* Monti, Angelo; Parente, Mimmo; Persiano, Pino) A linear time algorithm for the feasibility of pebble motion on trees. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 259–270, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68Q25

— (*with* Parente, Domenico; Persiano, Pino) A new approach to optimal planning of robot motion on a tree with obstacles. (English summary) *Algorithms—ESA '96 (Barcelona)*, 529–545, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q25

— (*with* Parente, Mimmo) Better algorithms for minimum weight vertex-connectivity problems. (English summary) *STACS '97 (Lübeck)*, 547–558, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68121** 68R10 (05C40, 05C85, 68Q25)

— (*with* Parente, Domenico; Persiano, Giuseppe) Placing resources on a growing line. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 87–100. (Summary) **98k:68134** 68R10

Aulin, Tor (*with* Wei, Lei; Qi, Honghui) On the effect of truncation length on the exact performance of a convolutional code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1678–1681. 94B10

Aumann, Günter (*with* Hartl, Johann) Einige Bemerkungen über Quadriken in affinen Räumen. (German summary) [Some remarks on quadrics in affine spaces] *Math. Semesterber.* **42** (1995), *no.* 1, 63–70. (Vladislav Goldberg) **98m:51021** 51N10

— Corner cutting curves and a new characterization of Bézier and *B*-spline curves. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 5, 449–474. (Heinz H. Gonska) **98c:65021** 65D17 (41A15)

Aumann, Robert J. Rationality and bounded rationality. *Cooperation: game-theoretic approaches (Stony Brook, NY, 1994)*, 219–231, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12 (90D40)

— Rationality and bounded rationality. *Games Econom. Behav.* **21** (1997), *no.* 1-2, 2–14. 90A05 (90D40)

Aumann, Yonatan (*with* Bender, Michael A.) Efficient asynchronous consensus with the value-oblivious adversary scheduler. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 622–633, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68076** 68Q10

— (*with* Bender, Michael A.; Zhang, Lisa) Efficient execution of nondeterministic parallel programs on asynchronous systems. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 1–16. (Summary) **98j:68025** 68Q10

Aupetit, Bernard (*with* Makai, Endre, Jr.; Zemánek, Jaroslav) Strict convexity of the singular value sequences. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 3-4, 517–521. (A. Pietsch) **98h:47030** 47B06 (47B07)

— On log-subharmonicity of singular values of matrices. (English summary) *Studia Math.* **122** (1997), *no.* 2, 195–200. (Zdzisław W. Trzaska) **98b:15009** 15A18 (30D35, 30E15, 34C11)

Aura, Tuomas (*with* Lilius, Johan) Time processes for time Petri nets. (English summary) *Application and theory of Petri nets 1997 (Toulouse)*, 136–155, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90 (68Q55)

Auradou, Harold (*with* Bideau, Daniel; Hansen, Alex; Måløy, Knut Jørgen) Motion of a ball dropped onto a one-dimensional self-affine surface. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4915–4924. (Summary) **98k:82177** 82C99

Aurell, Erik (*with* Gurbatov, S. N.; Simdyankin, S. I.; Frisch, Uriel; Tóth, Gábor[2]) On the decay of Burgers turbulence. (English summary) *J. Fluid Mech.* **344** (1997), 339–374. (W. A. Woyczyński) **98k:76075** 76F99 (60H15, 76D99, 76M35)

— (*with* Boffetta, G.; Crisanti, A.; Paladin, G.; Vulpiani, A.) Predictability in the large: an extension of the concept of Lyapunov exponent. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 1–26. (Summary) **98a:82069** 82C05

— (*with* Frisch, Uriel; Noullez, A.; Blank, Michael) Bifractality of the Devil's staircase appearing in the Burgers equation with Brownian initial velocity. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1151–1164. (Summary) **98e:60104** 60H15 (35Q53, 35R60)

— (*with* Dormy, Emmanuel; Frik, P. G.) Binary tree models of high-Reynolds-number turbulence. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1692–1698. 76F99 (76M35)

Aurenhammer, F. (*with* Aichholzer, Oswin; Cheng, Siu Wing; Katoh, Naoki; Rote, Günter; Taschwer, M.; Xu, Yin-Feng) Triangulations intersect nicely. (English summary) Eleventh Annual Symposium on Computational Geometry (Vancouver, BC, 1995). *Discrete Comput. Geom.* **16** (1996), *no.* 4, 339–359. (Summary) **98f:68260** 68U05 (52B55)

— (*with* Hoffmann, Frank; Aronov, Boris) Minkowski-type theorems and least-squares clustering. (English summary) *Algorithmica* **20** (1998), *no.* 1, 61–76. (Summary) **98k:68161** 68U05

d'Auria, Fabrizio (*with* d'Agostino, Luca; Brennen, Christopher E.) On the inviscid stability of parallel bubbly flows. (English summary) *J. Fluid Mech.* **339** (1997), 261–274. (Summary) **98d:76056** 76E05 (76B10, 76T05)

Auriault, Jean-Louis Poroelastic media. *Homogenization and porous media*, 163–182, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05

Aurilia, A. (*with* Ansoldi, S.; Balbinot, R.; Spallucci, E.) Classical and quantum shell dynamics, and vacuum decay. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2727–2755. (Summary) **98f:83038** 83C45

— (*with* Ansoldi, S.; Spallucci, E.) Hausdorff dimension of a quantum string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2352–2361. (Summary) **98i:81184** 81T30 (28A78, 81S40)

Aurovillian, Alok (*with* Zhang, Hong[1]; Wiecek, Malgorzata M.) A bookkeeping strategy for multiple objective linear programs. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1033–1041. 90C29 (90C05)

Auscher, Pascal (*with* McIntosh, Alan; Nahmod, Andrea) Holomorphic functional calculi of operators, quadratic estimates and interpolation. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 375–403. (Atsushi Yagi) **98k:47033** 47A60 (46M35, 47B25, 47E05, 47F05)

Ausejo, Elena Le Periódico Mensual de Ciencias Matemáticas y Físicas (Cádiz, 1848), premier journal scientifique espagnol: la constitution d'une communauté? (English summary) [The Periódico Mensual de Ciencias Matemáticas y Físicas (Cádiz, 1848), the first Spanish scientific journal: establishment of a community?] *Riv. Stor. Sci.* (2) **3** (1995), *no.* 1, 55–65 (1996). (Santiago Garma) **98m:01011** 01A55

Ausiello, Giorgio (*with* Feuerstein, Esteban; Leonardi, Stefano; Stougie, Leen; Talamo, Maurizio) Competitive algorithms for the on-line traveling salesman. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 206–217, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (90C27)

Auslander, Joseph (*with* Markley, N. G.) Isomorphism classes of products of powers for graphic flows. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 297–305. (Konstantin Athanassopoulos) **98d:54073** 54H20

— Weak mixing and pure weak mixing minimal flows. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 13–17, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:54068** 54H20

Auslander, Louis (*with* Meyer, Yves) A generalized Poisson summation formula. (English summary) *Appl. Comput. Harmon. Anal.* **3** (1996), *no.* 4, 372–376. (Walter Schempp) **98m:42004** 42A38 (43A80, 94A12)

Auslander, Maurice (*with* Reiten, Idun) *D*Tr-periodic modules and functors. *Representation theory of algebras (Cocoyoc, 1994)*, 39–50, *CMS Conf. Proc.*, 18, *Amer. Math. Soc., Providence, RI*, 1996. (Otto Kerner) **98g:16008** 16G10 (16E10, 16G70)

— (*with* Reiten, Idun; Smalø, Sverre O.) ★ Representation theory of Artin algebras. (English summary) Corrected reprint of the 1995 original. Cambridge Studies in Advanced Mathematics, 36. *Cambridge University Press, Cambridge*, 1997. xiv+425 *pp. ISBN* 0-521-41134-3; 0-521-59923-7 (Editors) **98e:16011** 16Gxx (16–02)

— *see also* **Representation theory and algebraic geometry, 98c:16002** *and* **Bautista Ramos, Raymundo, (98e:16002)**

Auslender, A. (*with* Cominetti, R.; Haddou, M.) Asymptotic analysis for penalty and barrier methods in convex and linear programming. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 43–62. (S.-C. Fang) **98e:90112** 90C25 (90C05)

— How to deal with the unbounded in optimization: theory and algorithms. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 3–18. (Hubertus Th. Jongen) **98h:90051** 90C25

Ausloos, M. (*with* Vandewalle, N.) Evolution motivated computer models. (English summary) *Annual reviews of computational physics, III*, 45–85, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98h:82075**) 92D15 (82C80)

Austen-Smith, David *see* **Sloof, Randolph, 98i:90029**

Austin, Homer W. A note on Golomb's problem. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 2, 57–60. 12E99

Austin, Peter A geometric proof of the bireflectionality of the Weyl group of type F_4. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 1–6. (From the introduction) **98j:20055** 20F55

Au-Yang, Helen (*with* Perk, Jacques H. H.) Chiral Potts model: exact results and implications. (English summary) *STATPHYS 19 (Xiamen, 1995)*, 421–428, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82B20 (82B23)

Auyang, Sunny Y. ★ How is quantum field theory possible? *Oxford University Press, New York*, 1995. viii+280 *pp.* *ISBN* 0-19-509344-5 (S. Gudder) **98f:81012** 81P05 (81-01, 81P10, 81P15, 81T05)

Avakyan, Avetis K. (*with* Hakobyan, T.; Sedrakyan, A. G.) A family of affine quantum group invariant integrable extensions of the Hubbard Hamiltonian. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 633–652. (Ya. P. Pugay) **98g:82014** 82B23 (81R50, 82B20, 82D55)

Avallone, Anna (*with* Barbieri, Giuseppina) Range of finitely additive fuzzy measures. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 231–241. (Summary) **98b:28034** 28E10 (04A72)

— (*with* Weber, Hans) Lattice uniformities generated by filters. *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 507–528. (Hans-Peter A. Künzi) **98k:54047** 54E15 (06F30)

Avalos, George (*with* Lasiecka, Irena) Exponential stability of a thermoelastic system with free boundary conditions without mechanical dissipation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 155–182 (*electronic*). (Summary) **98m:35199** 35Q72 (35B35, 73B30, 73H10, 93C20)

Avan, J. (*with* Jevicki, Antal; Lee, Julian) Yangian-invariant field theory of matrix-vector models. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 650–672. (Kazuhiro Hikami) **98c:81248** 81V70 (82B23)

— (*with* Frappat, L.; Rossi, Marco; Sorba, P.) Poisson structures on the center of the elliptic algebra $\mathcal{A}_{q,p}(\widehat{\mathrm{sl}}(2),)$. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 323–334. (Stanislav Z. Pakuliak) **98i:81098** 81R50 (17B37, 81R10)

Avancini, S. S. (*with* Brito, Lucilia; da Providência, Constança; da Providência, João; de Souza Cruz, F. F.; Menezes, D. P.; Watanabe Moraes, M. M.) The $SU_q(3)$ algebra: application to the 3-level Lipkin model. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 54–57, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98i:81275** 81V35 (17B37, 81R50)

— (*with* de Souza Cruz, F. F.; Marinelli, J. R.; Menezes, D. P.; Watanabe de Moraes, M. M.) q-deformed boson expansions. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5559–5564. (Marcelo R. Ubriaco) **98a:81071** 81R50 (17B37)

Avanissian, V. Norme minimale sur le compléxifié d'un espace de Hilbert réel. (English summary) [Minimal norm on the complexification of a real Hilbert space] *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 1, 33–52. (Manfred Stoll) **98i:46017** 46C05 (32F05)

Avantaggiati, Antonio Quasiperiodic pseudodifferential operators and their microlocal resolvents. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 375–412 (1997). (Luigi Rodino) **98m:47082** 47G30 (35S05)

Avci, Yusuf (*with* Złotkiewicz, Eligiusz) On typically-real functions. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **50** (1996), 17–24. (O. P. Ahuja) **98k:30015** 30C45

— (*with* Złotkiewicz, Eligiusz) On univalent functions with three preassigned values. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 15–23. (R. McLaughlin) **98j:30007** 30C45 (30C50, 30C75)

Avdeenko, A. M. (*with* Kuz'ko, E. I.) Fracture as a self-organization process with degeneration of dimension. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 33–37. 73M25

Avdeev, L. V. (*with* Kazakov, D. I.; Kondrashuk, I. N.) Renormalizations in softly broken SUSY gauge theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 289–312. (Summary) **98k:81166** 81T15 (81T17, 81T60)

Avdelas, George (*with* Hadjidimos, Apostolos) Optimal 2-cyclic MSOR for "bowtie" spectra and the "continuous" Manteuffel algorithm. (English summary) *Linear Algebra Appl.* **265** (1997), 29–54. (Summary) **98c:65040** 65F10 (15A06)

Avdonin, S. A. (*with* Belishev, M. I.; Rozhkov, Yu. S.) The BC-method in the inverse problem for the heat equation. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 309–322. (Summary) **98f:80002** 80A20 (80-08)

Avellaneda, Marco (*with* Apelian, Christopher; Holmes, Richard L.) A turbulent transport model: streamline results for a class of random velocity fields in the plane. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1053–1088. (Vered Rom-Kedar) **98j:76069** 76F99 (76M35, 82C70)

— (*with* Davis, Geoffrey V.; Mallat, S.) Adaptive greedy approximations. (English summary) *Constr. Approx.* **13** (1997), *no.* 1, 57–98. (Dinh Dung) **98a:65014** 65D15 (41A10, 41A46, 41A63, 65Y20)

— (*with* Vergassola, M.) Scalar transport in compressible flow. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 148–166. (Summary) **98d:76092** 76F99 (76M35, 76N10)

Avellone, Alessandro (*with* Ferrari, Mauro[1]) Almost duplication-free tableau calculi for propositional lax logics. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 48–64, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03021** 03B45 (03B35, 68Q60)

— (*with* Miglioli, Pierangelo; Moscato, Ugo; Ornaghi, Mario) Generalized tableau systems for intermediate propositional logics. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 43–61, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03054** 03B55 (03B35)

Aven, Terje (*with* Jensen, Uwe) Asymptotic distribution of the downtime of a monotone system. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 355–375. (Summary) **98d:60166** 60K10 (60F05, 90B25)

Aveni, Anthony F. (*with* Morandi, Steven J.; Peterson, Polly A.) The Maya number of time: intervalic time reckoning in the Maya codices. II. *Archaeoastronomy No.* 21, *suppl. J. Hist. Astronom.* 27 (1996), S1–S32. (Summary) **98g:01011** 01A12

Averbakh, I. L. (*with* Berman, Oded) $(p-1)/(p+1)$-approximate algorithms for p-traveling salesmen problems on a tree with minmax objective. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 201–216. (Summary) **98d:90091** 90C27 (68Q25, 90C35)

Averbuch, Amir (*with* Amitai, Dganit; Israeli, Moshe) Asynchronous parallel solvers for hyperbolic conservation laws. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65R20 (65Y05)

— (*with* Ioffe, Ludmila; Israeli, Moshe; Vozovoi, Lev) Highly scalable 2-D and 3-D Navier-Stokes parallel solver on MIMD multiprocessors. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60 (65Y05)

— (*with* Ioffe, Ludmila; Israeli, Moshe; Vozovoi, Lev) A parallel spectral Fourier–nonlinear Galerkin algorithm for simulation of turbulence. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 699–715. (Summary) **98h:76100** 76M25 (65N30, 65Y05, 76F99)

Averbukh, È. D. (*with* Brodskiĭ, Yu. A.) On the stationary states of perturbed equations of macrodynamics. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 36–45; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1277–1284 (1998). 93A30 (93C15)

— On the stability of solutions of perturbed equations of macrodynamics. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 3–12; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1723–1731 (1998). (Summary) **98m:34103** 34D20 (82C35, 93D05)

Averina, T. A. (*with* Prigarin, S. M.) ★ Вычисление стохастических интегралов от винеровских процессов. (Russian. English and Russian summaries) [Computation of stochastic integrals of Wiener processes] Препринт [Preprint], 1048. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1995. 16 *pp.* (Summary) **98e:60080** 60H05 (65U05)

Averkamp, Roland Conditions for the completeness of the spectral domain of a harmonizable process. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 1–9. (Randall James Swift) **98j:60057** 60G12 (46N30)

Avermiddig, Alfons (*with* Kunde, Manfred; Osterloh, Andre) k-k sorting on the multi-mesh. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 93–104, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68P10 (68M10)

Avérous, Jean (*with* Meste, Michel) Skewness for multivariate distributions: two approaches. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1984–1997. (Jian-Lun Xu) **98i:62050** 62H05 (60E05)

Averroès *see* **Lay, Juliane, 98d:01008**

Aversa, V. (*with* Wilczynski, Wladyslaw) Classes of continuous functions. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 385–393. (Krzysztof Ciesielski) **98a:26004** 26A15 (46E10, 54C05)

Avery, Richard I. Existence of multiple positive solutions to a conjugate boundary value problem. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 1, 1–6. (Summary) **98i:34034** 34B15 (47N20)

— Multiple positive solutions of an nth order focal boundary value problem. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 39–55. (Johnny Henderson) **98m:34032** 34B15 (39A10, 39A12)

Aver'yanov, A. N. Averaging of the solution of the Dirichlet problem for the Navier-Stokes system with a rapidly oscillating right-hand side. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 5, 89–94, 105; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 5, 23–28 (1997). (Summary) **98d:35017** 35B27 (35Q30, 76D05)

Aves, Mark A. (*with* Griffiths, David F.; Higham, Desmond J.) Does error control suppress spuriosity? (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 756–778. (T. E. Simos) **98b:65074** 65L05 (65L06, 65L20)

Avesani, Renzo G. (*with* Bertrand, Pierre) Does volatility jump or just diffuse? A statistical approach. *Numerical methods in finance*, 270–289, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Lorenzo Peccati) **98h:62130** 62M10 (62G20, 62P20, 90A09)

Avez, André ★ La leçon d'analyse à l'oral de l'agrégation. (French) [The analysis lesson of the oral examination for the Agrégation] Second edition. *Masson, Paris*, 1997. xii+340 *pp.* *ISBN* 2-225-85525-0 00-01

Avgerinos, Evgenios P. (*with* Papageorgiou, Nikolaos S.) Differential variational inequalities in $\mathbf{R}^N$. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1267–1287. (Marc Quincampoix) **98m:34027** 34A60 (28B20, 34G20, 47H15, 49J24, 49J40)

— (*with* Papageorgiou, Nikolaos S.) On the existence of extremal periodic solutions for nonlinear parabolic problems with discontinuities. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 39–60. (Summary) **98m:35100** 35K60

Avgul', L. B. Polynomial expansion of symmetric Boolean functions by the tabular method. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996,** *no.* 6, 59–71, 185; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 794–803 (1997). (S. Rudeanu) **98i:94053** 94C10 (03B05, 03G05, 06E30)

Avgustinovich, S. V. On the isometricity of densely packed binary codes. (Russian. Russian summary) *Discrete analysis (Russian)*, 3–5, 179, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (From the text) **98a:94046** 94B99

— (*with* Solov'eva, F. I.) On nonsystematic perfect binary codes. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 47–50; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 258–261 (1997). (Ivan Landgev) **98b:94016** 94B05 (94B65)

— (*with* Solov'eva, F. I.) Construction of perfect binary codes by sequential shifts of $\tilde{\alpha}$-components. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 15–21; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 202–207 (1998). 94B05

rodríguez Avi, José *see* **Rodríguez Avi, José**

Avicenna *see* **Ibn Sīnā, Abū ʿAlī al-Ḥusayn ibn ʿAbdallāh**

Avidon, Michael R. On primitive 3-smooth partitions of n. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 2, *approx.* 10 *pp.* (*electronic*). (Satgur Prasad Khare) **98a:11136** 11P82

Avigad, Jeremy (*with* Sommer, Richard) A model-theoretic approach to ordinal analysis. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 1, 17–52. (Wolfgang Burr) **98g:03126** 03F03 (03C62, 03F15, 03F30)

Avigur, R. (*with* Eisenberg, Eli; Shnerb, N.) Quantization process for the driven well—where P fails to commute with P^2. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 135–151. (Summary) **98a:81103** 81S99

gonzalez-Avilés, Cristian D. *see* **Gonzalez-Avilés, Cristian D.**

Avinyo, Albert Isoperimetric constants and some lower bounds for the eigenvalues of the p-Laplacian. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 177–180. (Introduction) **98j:35130** 35P15

Avis, David (*with* Fukuda, Komei) Reverse search for enumeration. (English summary) First International Colloquium on Graphs and Optimization (GOI), 1992 (Grimentz).

Discrete Appl. Math. **65** (1996), *no.* 1-3, 21–46. (Summary) **98a:05080** 05C30 (05A15)

— (*with* Bremner, David; Seidel, Raimund) How good are convex hull algorithms? (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 265–301. (Rade Živaljević) **98c:52017** 52B55 (68U05)

Avishai, Yshai (*with* Gredeskul, Sergei A.; Zusman, Masha; Azbel, Mark Ya.) Electron in two-dimensional system with point scatterers and magnetic field. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 95–142, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98j:81354** 81U05

Avkhadiev, F. G. (*with* Kayumov, I. R.) Estimates in the Bloch class and their generalizations. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 583–585. (Miroljub Jevtić) **98b:30032** 30D45

— (*with* Elizarov, A. M.) Sharp estimates for the solution of a variational inverse boundary value problem in a countably connected domain. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 3, 3–13; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 3, 1–11. (Vladimir Mityushev) **98a:30048** 30E25

— (*with* Aksent'ev, L. A.; Bil'chenko, G. G.) Classes of univalent and multivalent Christoffel-Schwarz integrals and their applications. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 64–67; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 3, 63–66. (Vladimir Mityushev) **98i:30003** 30C20 (30C55)

Avram, A. C. (*with* Derrick, E.; Jančić, D.) On semi-periods. (English summary) *Nuclear Phys. B* **471** (1996), *no.* 1-2, 293–308. (Anatoly Libgober) **98e:32037** 32G20 (14D05, 14J32, 32J17)

— (*with* Kreuzer, Maximilian; Mandelberg, M.; Skarke, Harald) Searching for $K3$ fibrations. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 3, 567–589. (Bruce Hunt) **98g:14041** 14J32 (32J18, 32J81)

Avram, C. N. (*with* Drăgănescu, Gh. E.) The time-frequency uncertainty relations for signals. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 1, 103–109. (Summary) **98a:94001** 94A12

Avram, Floria Optimal control of fluid limits of queuing networks and stochasticity corrections. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 1–36, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:60179** 60K25 (90B15, 93E20)

Avramenko, O. V. (*with* Selezov, I. T.) A new solution of the problem of wave propagation in stratified fluids. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 9, 59–65. (Shu Ming Sun) **98c:76117** 76V05

Avramidi, Ivan G. New algebraic methods for calculating the heat kernel and the effective action in quantum gravity and gauge theories. (English summary) *Heat kernel techniques and quantum gravity* (*Winnipeg, MB*, 1994), 115–140, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Yuri V. Gusev) **98a:81136** 81T20 (58G11, 83C47)

— (*with* Esposito, Giampiero V. M.; Kamenshchik, A. Yu.) Axial gauge in Euclidean quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 245–246. (Summary) **98g:83031** 83C45

— Singularities of Green functions of the products of the Laplace type operators. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 280–284. (R. Schimming) **98g:58162** 58G03 (58G11)

— (*with* Esposito, Giampiero V. M.) New invariants in the 1-loop divergences on manifolds with boundary. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 281–297. (Guido Cognola) **98m:81109** 81T20 (58G11, 58G25, 83C47)

— Erratum: "Covariant algebraic method for calculation of the low-energy heat kernel" [J. Math. Phys. **36** (1995), no. 9, 5055–5070; MR 96f:58154]. *J. Math. Phys.* **39** (1998), *no.* 3, 1720. 58G11 (35J10, 35K05, 58G18)

— Erratum to: "A covariant technique for the calculation of the one-loop effective action" [Nuclear Phys. B **355** (1991), no. 3, 712–754; MR 92m:81188]. *Nuclear Phys. B* **509** (1998), *no.* 1-2, 557–558. 81T20 (81T15)

Avramov, Luchezar L. (*with* Buchweitz, Ragnar-Olaf; Sally, Judith D.) Laurent coefficients and Ext of finite graded modules. *Math. Ann.* **307** (1997), *no.* 3, 401–415. (Nicolae Manolache) **98a:13025** 13D40 (13A02)

— (*with* Foxby, Hans-Bjørn) Ring homomorphisms and finite Gorenstein dimension. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 241–270. (Santiago Zarzuela Armengou) **98d:13014** 13D05 (13B10, 13H10, 14E40)

Avriel, Mordecai (*with* Schweitzer, Eithan) A Gaussian upper bound for Gaussian multi-stage stochastic linear programs. (English summary) *Math. Programming* **77** (1997), *no.* 1, *Ser. A*, 1–21. (Summary) **98b:90097** 90C15

Avron, Arnon The method of hypersequents in the proof theory of propositional non-classical logics. *Logic: from foundations to applications* (*Staffordshire*, 1993), 1–32, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Anthony M. Ungar) **98b:03074** 03F03 (03Bxx, 03F05)

— (*with* Arieli, Ofer) Four-valued diagnoses for stratified knowledge-bases. (English summary) *Computer science logic* (*Utrecht*, 1996), 1–17, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98m:68247** 68T27 (03B50, 03B70)

— Multiplicative conjunction as an extensional conjunction. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 181–208 (*electronic*). (Max Urchs) **98a:03093** 03F50 (03B46, 03B53)

Avron, Joseph E. (*with* Sadun, Lorenzo) Adiabatic curvature and the S-matrix. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 3, 685–702. (Jan Segert) **98b:81276** 81U20 (47N50, 58Z05, 81Q99)

Avsar, Zeynep Muge (*with* Serin, Yasemin) Markov decision processes with restricted observations: finite horizon case. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 439–456. (Heinz-Uwe Küenle) **98i:90124** 90C40

Avudainayagam, A. (*with* Geetha, J.) A boundary-integral equation for two-dimensional oscillatory Stokes flow past an arbitrary body. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 251–258. 76D07 (76M15)

Avvakumov, S. N. (*with* Kiselev, Yu. N.; Orlov, M. V.) Methods for solving optimal control problems, based on Pontryagin's maximum principle. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 3–31. (O. V. Vasil'ev) **98a:49049** 49M05 (49K15)

— Smooth approximation of convex compact sets. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 184–200, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Béla Uhrin) **98i:52006** 52A20 (52A27)

Avvakumova, L. S. An extension of V. A. Markov's inequality for second derivative. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 187–201. (Summary) **98e:41015** 41A17 (26D10)

Awad, Adel M. M. The equivalence between the chiral Schwinger model and the model with a Wess-Zumino term. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 4, 267–276. (George K. Savvidy) **98f:81291** 81T40 (81T10, 81T13)

Awad, Labib R. (*with* El-Bendary, Sherif) On the solvability of some systems of linear differential equations with unbounded coefficients. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 289–297. (V. G. Kurbatov) **98f:34047** 34C11 (34B05)

Awad, Mervat El-Sayed Encke's special perturbation technique associated with the KS regularized variables. I. For satellite motions in the Earth's gravitational field with axial symmetry. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No. 66* (1991), 23–42 (1994). 70M20 (70–08, 70F05, 70F15)

Awata, Hidetoshi (*with* Fukuma, Masafumi; Matsuo, Yutaka; Odake, Satoru) Representation theory of $W_{1+\infty}$ algebra. (English summary) *Group theoretical methods in physics* (*Toyonaka*, 1994), 335–338, *World Sci. Publishing, River Edge, NJ*, 1995. (Josep Herrero) **98c:81082** 81R10 (17B68, 81T40)

— (*with* Kubo, Harunobu; Odake, Satoru; Shiraishi, Jun'ichi) Quantum $\mathcal{W}_N$ algebras and Macdonald polynomials. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 2, 401–416. (Naihuan Jing) **98h:17029** 17B68 (05E05, 33D80, 81R50)

— (*with* Odake, Satoru; Shiraishi, Jun'ichi) Integral representations of the Macdonald symmetric polynomials. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 3, 647–666. (Naihuan Jing) **98b:81074** 81R10 (05E05, 33D80)

— (*with* Shiraishi, Jun'ichi; Kubo, Harunobu; Odake, Satoru) A quantum deformation of the Virasoro algebra and the Macdonald symmetric functions. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 1, 33–51. (Naihuan Jing) **98h:17030** 17B68 (05E05, 33D80, 81R50)

— (*with* Kubo, Harunobu; Morita, Yoshifumi; Odake, Satoru; Shiraishi, Jun'ichi) Vertex operators of the q-Virasoro algebra; defining relations, adjoint actions and four point functions. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 65–78. (Dražen Adamović) **98i:17033** 17B69 (17B37, 81R50)

— (*with* Odake, Satoru; Shiraishi, Jun'ichi) q-difference realization of $U_q(\mathrm{sl}(M\,|\,N))$ and its application to free boson realization of $U_q(\widehat{\mathrm{sl}}(2|1))$. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 271–279. (Aleksandr Panov) **98j:17007** 17B37 (39A10, 81R10, 81R50)

Awerbuch, Baruch (*with* Kutten, Shay; Mansour, Yishay; Peleg, David) Optimal broadcast with partial knowledge (extended abstract). (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 116–130, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68Q10)

— (*with* Azar, Yossi; Fiat, Amos; Leonardi, Stefano; Rosén, Adi) On-line competitive algorithms for call admission in optical networks. (English summary) *Algorithms — ESA '96* (*Barcelona*), 431–444, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:68023** 68M10 (90B12)

Awyong, Poh Wah Convex sets with lattice point constraints. (Thesis summary). *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 161–163. 52A10

Axelrad, D. R. Stochastic analysis of the failure of multi-component high-temperature materials. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1121–1139. (Summary) **98m:73089** 73V30 (60J75, 73M25, 73S10)

Axelsson, Owe Stabilization of algebraic multilevel iteration methods; additive methods. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 49–62, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65N30 (65N12)

— (*with* Bai, Zhong-Zhi) A unified framework for the construction of various algebraic multilevel preconditioning methods. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 63–76, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (Summary) **98d:65137** 65N22 (65F35, 65N30)

— (*with* Neytcheva, Maya G.; Georgiev, Krassimir) An application of the AMLI method for solving convection-diffusion problems with potential velocity field. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 197–210, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65N06 (65F10)

— (*with* Layton, W.) A two-level discretization of nonlinear boundary value problems. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2359–2374. (A. V. Dzhishkariani) **98c:65181** 65N30 (65J15)

— (*with* Nikolova, Mariana) A generalized conjugate gradient minimum residual method (GCG-MR) with variable preconditioners and a relation between residuals of the GCG-MR and GCG-OR methods. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 371–388. (Jin Xi Zhao) **98b:65031** 65F10

— (*with* Blaheta, Radim) Convergence of inexact Newton-like iterations in incremental finite element analysis of elasto-plastic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **141** (1997), *no.* 3-4, 281–295. (Carsten Carstensen) **98b:73035** 73V05 (73E05)

— (*with* Hakopian, Yu. R.) Algebraic multilevel preconditioners for perturbed finite element matrices. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 1–22. (S. Galanis) **98e:65093** 65N30 (65F35)

— (*with* Hakopian, Yu. R.; Kuznetsov, Yurii Alekseevich[1]) Multilevel preconditioning for perturbed finite element matrices. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 1, 125–149. (Svetozar D. Margenov) **98a:65159** 65N30 (65F35)

— (*with* Blaheta, Radim; Kohut, Roman) Inexact Newton solvers in plasticity: theory and experiments. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 133–152. (Robin Olivian Simionescu-Panait) **98e:73130** 73V05 (73E05)

— (*with* Lu, Hao[1]) Conditioning analysis of block incomplete factorizations and its application to elliptic equations. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 189–209. (P. Rochus) **98k:65018** 65F15 (65F10, 65F50)

— *see also* **Algebraic multilevel iteration methods with applications, 98d:65004**

Axenides, Minos (*with* Larsen, Arne L.) Runaway collapse of Witten vortex loops. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 443–453. (Summary) **98a:83132** 83F05 (83C75, 83E30)

— (*with* Johansen, Andrei; Nielsen, Holger Bech) A Z_2 classification for 2D fermion level crossing. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 58–63. (Summary) **98a:81265** 81V25 (81T13, 83F05)

Axler, Sheldon ★ Linear algebra done right. Second edition. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xvi+251 *pp. ISBN* 0-387-98258-2 (K. Chandrasekhara Rao) **98i:15001** 15-01 (47-01)

— (*with* Zheng, Dechao) The Berezin transform on the Toeplitz algebra. (English summary) *Studia Math.* **127** (1998), *no.* 2, 113–136. (Jonathan Arazy) **98m:47030** 47B35 (46L99, 47D25)

Axsäter, Sven On deficiencies of common ordering policies for multi-level inventory control. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 109–110. (*see* **98e:90009**) 90B05

Ayache, Ahmed (*with* Jaballah, Ali) Residually algebraic pairs of rings. *Math. Z.* **225** (1997), *no.* 1, 49–65. (David E. Dobbs) **98d:13004** 13B22 (13F05, 13G05)

Ayache, Antoine Construction de bases orthonormées d'ondelettes de $L^2(\mathbf{R}^2)$ non séparables, à support compact et de régularité arbitrairement grande. (English and French summaries) [Construction of nonseparable compactly supported orthonormal wavelet bases for $L^2(\mathbf{R}^2)$ with arbitrarily high regularity] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 17–20. (Summary) **98h:42029** 42C15

Ayala, Francisco José (*with* Rzhetsky, Andrey; Hsu, Lily C.; Chang, Cheng; Yoshida, Akira) Fitting models of intron evolution to aldehyde dehydrogenase data. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ*, 1996), 95–109, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92B05 (60G35)

Ayala, Guillermo (*with* Montes, Francisco) Random closed sets and random processes. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 35–41. (Summary) **98j:60013** 60D05

Ayala, R. (*with* Domínguez Murillo, Eladio; Frances Román, Ángel Ramón; Quintero, A.) Determining the components of the complement of a digital $(n-1)$-manifold in $\mathbf{Z}^n$. (English summary) *Discrete geometry for computer imagery (Lyon*, 1996), 163–176, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98k:68173** 68U10 (52B55, 57N99)

— (*with* Márquez, Alberto; Quintero, A.) On the planarity of infinite 2-complexes. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 137–148. (Summary) **98k:57007** 57M20 (05C10)

— (*with* Chávez, M. J.; Quintero, A.) On the planarity of Peano generalized continua: an extension of a thereom of S. Claytor. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 175–181. (Summary) **98h:54044** 54F15 (54C10)

Ayari, S. (*with* Dubuc, S.) La formule de Cauchy sur la longueur d'une courbe. (English and French summaries) [The Cauchy formula for the length of a curve] *Canad. Math. Bull.* **40** (1997), *no.* 1, 3–9. (J. E. Brothers) **98d:52006** 52A22

Aydin, Ali Pasa (*with* Asil, Vedat; Aydogdu, Mustafa) The roles in curves theory of exponential mappings in 3-dimensional Lorentzian space. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 75–80. (G. Tsagas) **98h:53036** 53B30

— (*with* Asil, Vedat) The ruled surfaces under exponential mappings in E^3. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 245–248. (V. Oproiu) **98d:53007** 53A05

Aydın, Bünyamin On the rotation entropy function for flows. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 35–40 (1997). 28D10 (28D20)

— (*with* Gülcü, A.) The rotation sets for the homeomorphism H_m class. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 69–76. 58F11

Aydın, Neşet Notes on (α, β)-derivations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 813–816. 16W25

— On one sided (σ, τ)-Lie ideals in prime rings. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 295–301. 16N60

Aydoğdu, Halil (*with* Öztürk, Fikri) Some monotonicity properties of age and excess lifetime in renewal processes. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 145–150. 60K10 (62N05)

Aydogdu, Mustafa (*with* Asil, Vedat; Aydin, Ali Pasa) The roles in curves theory of exponential mappings in 3-dimensional Lorentzian space. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 75–80. (G. Tsagas) **98h:53036** 53B30

khin aye Aye *see* **Khin Aye Aye**

Aye, Pyi (*with* Nishida, Takaaki) Heat convection of compressible fluid. Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 169–179. (*see* **98i:65002**) 76R05 (76N10)

khin Aye Aye *see* **Khin Aye Aye**

Ayerbe Toledano, José María (*with* Domínguez Benavides, Tomás; Cutillas, S. Francisco) A modulus for property (β) of Rolewicz. (English summary) *Colloq. Math.* **73** (1997), *no.* 2, 183–191. (Y. Benyamini) **98c:46017** 46B20 (47H09)

Aygün, Halis (*with* Warner, M. W.; Kudri, S. R. T.) On smooth L-fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 321–338. (Summary) **98c:54004** 54A40 (04A72)

Ayonggа Degree sums and essential independent sets in graphs. (English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 6–8. (Cun-Quan Zhang) **98k:05096** 05C38 (05C45)

Ayoub, F. A. (*with* Gardner, L. R. T.; Gardner, G. A.; Amein, N. K.) Approximations of solitary waves of the MRLW equation by B-spline finite elements. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 183–193. (Summary) **98h:76082** 76M10 (76B25)

al Ayoubi, Baydaa *see* **Al Ayoubi, Baydaa**

Ayoubi, R. (*with* Bayoumi, Magdy A.; Elchouemi, A.; Alhalabi, B.) An efficient mapping algorithm of multilayer perceptron on mesh-connected architectures. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 273–285. (Summary) **98j:65096** 65Y05 (68T05)

Ayrian, E. A. (*with* Fedorov, Andrei Vladimirovich) Utilization of CANM for magnetic field calculation. (English summary) *Numerical analysis and its applications (Rousse*, 1996), 34–37, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 78-08 (65M60, 65M70, 78A30)

Aytuna, Aydın Cahit Arf (1910–1997). *Turkish J. Math.* **22** (1998), *no.* 1, *iii–v.* 01A70

Ayub, M. (*with* Asghar, Saleem; Hayat, Tasawar) Point source diffraction by an absorbing strip in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 327–339. (Summary) **98c:76093** 76Q05 (35Q35)

Ayukawa, Kyozo (*with* Kiyama, Hiroshi; Kawahara, Genta) Vortex stretching and elimination in a vortex tube within a uniform shear flow. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 134–143. (*see* **98e:76004**) 76D99

Ayupov, Sh. A. (*with* Ferleger, S. V.; Sukochev, F. A.) Isomorphism between the associative and non-associative L_p-spaces of type II_1 hyperfinite factors. (English summary) *Math. Scand.* **78** (1996), *no.* 2, 271–285. (Stanisław Goldstein) **98d:46074** 46L50 (46L35, 46L70)

Ayyappan, G. (*with* Renganathan, N.) A preemptive priority queue with accessible batch service and heterogeneous arrivals. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 1, 63–72. (Srinivas Chakravarthy) **98h:60127** 60K25 (90B22)

Ayyub, Bilal M. *see* **Uncertainty modeling in finite element, fatigue and stability of systems, 98h:73005**

Azad, A. K. (*with* Shahabuddin, M.; Islam, Quamrul) One-one mapping from E-M equations to E-M equations. (English summary) *Ganit* **14** (1994), *no.* 1-2, 1–3. 83C22 (83C50)

Azad, H. (*with* Kobayashi, Ryoichi; Qureshi, M. N.) Quasi-potentials and Kähler-Einstein metrics on flag manifolds. *J. Algebra* **196** (1997), *no.* 2, 620–629. (Thalia D. Jeffres) **98i:53063** 53C25 (53C30, 53C55)

Azad, K. K. (*with* Srivastava, Kavita) On S-equivariant complete invariance property. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 205–209. (Christopher K. McCord) **98i:55002** 55M20 (54H25)

Azadmanesh, M. H. (*with* Krings, A. W.) Analysis of a realistic fault model for large distributed systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 29–51. 68M15 (68Q10, 94C12)

Azagra, Daniel (*with* Deville, Robert) Subdifferential Rolle's and mean value inequality theorems. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 319–329. (Roxin Zhang) **98h:49016** 49J52 (26D10)

— (*with* Gómez Gil, Javier; Jaramillo, J. A.) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 487–495. (Joe Thrash) **98h:58016** 58C15 (46G05)

— Diffeomorphisms between spheres and hyperplanes in infinite-dimensional Banach spaces. (English summary) *Studia Math.* **125** (1997), *no.* 2, 179–186. (P. Mankiewicz) **98g:46014** 46B20 (57N20, 58B99)

Azaïs, Jean-Marc (*with* Wschebor, Mario) Almost sure oscillation of certain random processes. (English summary) *Bernoulli* **2** (1996), *no.* 3, 257–270. (Rimas Norvaiša) **98b:60077** 60G17

— (*with* Druilhet, Pierre) Optimality of neighbour balanced designs when neighbour effects are neglected. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 353–367. 62K05 (05B05, 62K10)

Azakov, S. The Schwinger model on the torus. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 7, 589–626. (Giovanni Morchio) **98k:81152** 81T10 (81T15, 81T16)

Azam, Akbar (*with* Beg, Ismat) Construction of fixed points for generalized nonexpansive mappings. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 161–170. 54H25 (47H10, 54E40)

Azar, Nabeel B. (*with* McGuire, Gary; Shelhamer, Mark) Recurrence matrices and the preservation of dynamical properties. (English summary) *Phys. Lett. A* **237** (1997), *no.* 1-2, 43–47. (Summary) **98i:58149** 58F12 (58F20)

Azar, Yossi (*with* Epstein, Leah) On two-dimensional packing. (English summary) *Algorithm theory—SWAT '96 (Reykjavík*, 1996), 321–332, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68Q25 (90C27)

— (*with* Awerbuch, Baruch; Fiat, Amos; Leonardi, Stefano; Rosén, Adi) On-line competitive algorithms for call admission in optical networks. (English summary) *Algorithms—ESA '96 (Barcelona*), 431–444, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:68023** 68M10 (90B12)

— (*with* Aspnes, James; Fiat, Amos; Plotkin, Serge; Waarts, Orli) On-line routing of virtual circuits with applications to load balancing and machine scheduling. (English summary) *J. ACM* **44** (1997), *no.* 3, 486–504. (Summary) **98e:68006** 68M10 (68Q25)

— (*with* Kalyanasundaram, Bala; Plotkin, Serge; Pruhs, Kirk R.; Waarts, Orli) On-line load balancing of temporary tasks. (English summary) *J. Algorithms* **22** (1997), *no.* 1, 93–110. (Summary) **98g:68014** 68M20 (68Q25)

— (*with* Epstein, Leah) On two-dimensional packing. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 290–310. (Ulrich Faigle) **98k:52041** 52C15 (90C27)

yousefi-Azari, H. *see* **Yousefi-Azari, H.**

Azarian, Mohammad K. A key theorem on the near Frattini subgroups of generalized free product of groups. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 1–10. (Dimitrios Varsos) **98b:20036** 20E06 (20E28)

Azarin, Vladimir (*with* Giner, V. B.) Limit sets of entire functions and the completeness of systems of exponentials. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 3–30. (V. A. Tkachenko) **98i:30001** 30B60

— On the Valiron-Titchmarsh theorem and limit sets of entire functions. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 53–60, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Vladimir Logvinenko) **98k:30037** 30D15 (31A05)

— *see also* **Complex analysis, 98d:30002**

Azarkar, A. (*with* Mirzai, A. R.) A type of fuzzy neural networks based on fuzzy arithmetic. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman*, 1995), 21–27, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 94C05 (04A72)

Azarpanah, F. Essential ideals in $C(X)$. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 105–112. (Summary) **98k:54027** 54C40 (16S60)

— Intersection of essential ideals in $C(X)$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 2149–2154. (Thomas E. Gantner) **98b:54025** 54C40

Azbel, Mark Ya. (*with* Gredeskul, Sergei A.; Zusman, Masha; Avishai, Yshai) Electron in two-dimensional system with point scatterers and magnetic field. (English summary) *Wave propagation in complex media (Minneapolis, MN*, 1994), 95–142, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98j:81354** 81U05

Azbelev, Nikolai Viktorovich (*with* Rakhmatullina, L. F.) The de la Vallée Poussin theorem on a differential inequality for equations with aftereffect. (Russian) *Trudy Mat. Inst.*

Steklov. **211** (1995), *Optim. Upr. i Differ. Uravn.*, 32–39. (István Győri) **98g:34108** 34K10 (47N20)

— (*with* Rakhmatullina, L. F.) On an estimate for the spectral radius of a linear operator in the space of continuous functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 23–28; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 11, 21–26 (1997). (R. C. Gilbert) **98i:47033** 47B60 (34B05, 34G10, 47A10, 47B38)

— (*with* Rakhmatullina, L. F.) Theory of linear abstract functional-differential equations and applications. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **8** (1996), 102 *pp.* (Sjoerd M. Verduyn Lunel) **98e:34121** 34K10 (47N20)

— (*with* Gaĭshun, Ivan Vasil'evich; Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Koplatadze, R. G.; Rozov, Nikolaĭ Khristovich; Shemyakina, T. K.) Ivan Tarielovich Kiguradze (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 6–11; *translation in Differential Equations* **33** (1997), *no.* 1, 4–10. (Editors) **98k:01016** 01A70

— *see also* **Domshlak, Yu. I. et al., 98f:01061**

Azcárate Camio, Cristina (*with* Mallor Giménez, Fermín; Pérez Prados, Antonio) Determination via autopsy of the lifetime distribution of components in additive, series-parallel and parallel-series binary systems. (Spanish. English and Spanish summaries) *Qüestiió* (2) **21** (1997), *no.* 1-2, 177–199. 62G05 (62N05)

de Azcárraga, José A. (*with* Pérez Bueno, J. C.; Dunne, R. S.; Macfarlane, A. J.) Braided structure of fractional Z_3-supersymmetry. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1145–1152. (Summary) **98f:81119** 81R50 (17B37, 81R10)

— (*with* Dunne, R. S.; Macfarlane, A. J.; Pérez Bueno, J. C.) The q-calculus for generic q and q a root of unity. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1235–1242. (Bernhard Drabant) **98c:81098** 81R50

— (*with* Rodenas, Francisco) Deformed Minkowski spaces: classification and properties. (English summary) *J. Phys. A* **29** (1996), *no.* 6, 1215–1226. (Summary) **98i:81099** 81R50 (17B81, 58B30)

— (*with* Perelomov, A. M.; Pérez Bueno, J. C.) The Schouten-Nijenhuis bracket, cohomology and generalized Poisson structures. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7993–8009. (Raúl Ibáñez) **98h:58058** 58F05 (17B56, 70H05)

— (*with* Dunne, R. S.; Macfarlane, A. J.; Pérez Bueno, J. C.) Supersymmetry from a braided point of view. (English summary) *Phys. Lett. B* **387** (1996), *no.* 2, 294–299. (Summary) **98a:81221** 81T60 (81R50)

— (*with* Rodenas, Francisco) Differential calculus on "non-standard" (h-deformed) Minkowski spaces. (English summary) *Quantum groups and quantum spaces (Warsaw, 1995)*, 351–360, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Aleksei P. Isaev) **98k:81108** 81R50 (17B37, 58B30)

— (*with* Pérez Bueno, J. C.) Higher-order simple Lie algebras. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 669–681. (Bani Mitra Södermark) **98h:17009** 17B20 (81R05)

— (*with* Dunne, R. S.; Macfarlane, A. J.; Pérez Bueno, J. C.) Geometrical foundations of fractional supersymmetry. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3275–3305. (Aleksei P. Isaev) **98f:81124** 81R50 (58B30)

— (*with* Izquierdo, José M.[1]; Perelomov, A. M.; Pérez Bueno, J. C.) The Z_2-graded Schouten-Nijenhuis bracket and generalized super-Poisson structures. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3735–3749. (Frans Cantrijn) **98e:58016** 58A50 (53C15, 58F05)

— (*with* Del Olmo, Mariano A.; Pérez Bueno, J. C.; Santander, Mariano) Graded contractions and bicrossproduct structure of deformed inhomogeneous algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3069–3086. (Peter Prešnajder) **98j:81139** 81R50 (16W30)

— (*with* Izquierdo, José M.[1]; Pérez Bueno, J. C.) On the higher-order generalizations of Poisson structures. (English summary) *J. Phys. A* **30** (1997), *no.* 18, L607–L616. (David Martín de Diego) **98k:58085** 58F05 (58F06, 70H05)

— (*with* Kulish, Petr P.; Rodenas, Francisco) Twisted h-spacetimes and invariant equations. (English summary) *Z. Phys. C* **76** (1997), *no.* 3, 567–576. (Mathias Pillin) **98i:58019** 58B30 (81R50)

zárate Azcuna, María José *see* **Zárate Azcuna, María José**

Azé, Dominique (*with* Rahmouni, Abdelouahed) On primal-dual stability in convex optimization. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 309–327. (Constantin Zălinescu) **98c:90148** 90C31 (49K40, 90C25)

— (*with* Lucchetti, Roberto) Stability of supporting and exposing elements of convex sets in Banach spaces. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 205–228. (Constantin Zălinescu) **98g:46015** 46B20 (52A05, 90C31)

Azéma, J. (*with* Jeulin, T.; Knight, Frank B.; Mokobodzki, Gabriel; Yor, Marc) Sur les processus croissants de type injectif. [On increasing processes of injective type] *Séminaire de Probabilités, XXX*, 312–343, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Martin Schweizer) **98k:60052** 60G07

— *see also* **Seminar: Probability Theory**, **98b:60005**; **98c:60001** *and* **98e:60005**

Azéma, Pierre (*with* Vernadat, François; Michel, François) Covering step graph. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 516–535, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (Summary) **98e:68068** 68Q10 (68Q60)

— *see also* **Application and theory of Petri nets**, **98i:68002**

Azeredo, A. D. (*with* Accioly, A. J.; de Aragão, C. M. L.; Mukai, Hatsumi) A simple prescription for computing the stress-energy tensor. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1163–1166. (Roh Suan Tung) **98e:83043** 83C40 (83C50)

Azevedo, Arthur V. (*with* Marchesin, Dan; Plohr, Bradley J.; Zumbrun, Kevin) Nonuniqueness of solutions of Riemann problems caused by 2-cycles of shock waves. (English summary) *Hyperbolic problems: theory, numerics, applications (Stony Brook, NY, 1994)*, 43–51, *World Sci. Publishing, River Edge, NJ*, 1996. (Christophe Cheverry) **98c:35110** 35L67 (35M10)

— (*with* Marchesin, Dan; Plohr, Bradley J.; Zumbrun, Kevin) Nonuniqueness of solutions of Riemann problems. (English summary) *Z. Angew. Math. Phys.* **47** (1996), *no.* 6, 977–998. (Haitao Fan) **98f:35091** 35L60 (76L05)

Azevedo Breda, Ana M. R. Isometric foldings of the hyperbolic plane. *Topology and Geometry Day (Portuguese) (Coimbra, 1996)*, 1–6, *Textos Mat. Sér. B*, 10, *Univ. Coimbra, Coimbra*, 1996. (Hanna Sandler) **98e:57025** 57M99

Azimi, Parviz Isomorphic classification of $X_{\alpha,p}$ spaces. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 29–31, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 46B45

Azimov, Abbas Ya. Necessary optimality conditions for abstract vector optimization problem in ordered Banach spaces. (English and Turkish summaries) *Istanbul Tek. Üniv. Bül.* **49** (1996), *no.* 3-4, 317–335. (Vasile Postolică) **98j:90056** 90C29 (46N10, 49K27, 90C48)

Aziz, Abdul[1] (*with* Ahmad, Nisar) Integral mean estimates for polynomials whose zeros are within a circle. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 229–237. (Summary) **98d:30008** 30C10

— (*with* Zargar, B. A.) Some extensions of Eneström-Kakeya theorem. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 239–244. (Summary) **98c:30006** 30C10 (30C15)

— (*with* Shah, W. M.) Some refinements of Bernstein-type inequalities for rational functions. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 29–37. (Terence M. Mills) **98h:41014** 41A20 (30E10, 41A17)

— (*with* Rather, N. A.) L^p inequalities for polynomials. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 39–43. (George L. Csordas) **98g:30003** 30A10 (30C10)

— (*with* Ahmad, Nisar) Inequalities for the derivative of a polynomial. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 189–196. (N. K. Govil) **98d:30005** 30A10 (30C10)

— (*with* Zargar, B. A.) On self-reciprocal polynomials. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 197–199. (Summary) **98b:30004** 30C10

— (*with* Shah, W. M.) Some inequalities for the polar derivative of a polynomial. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 263–270. (Ion Badea) **98g:41011** 41A17

abdel-Aziz, Mohammedi R. *see* **Abdel-Aziz, Mohammedi R.**

Azizi, Abdelmalek Sur la capitulation des 2-classes d'idéaux de $\mathbf{Q}(\sqrt{d}, i)$. (English and French summaries) [Capitulation of the 2-ideal classes of $\mathbf{Q}(\sqrt{d}, i)$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 127–130. (Franz Lemmermeyer) **98d:11131** 11R16 (11R29, 11R37)

Azizoğlu, Murat (*with* Bedekar, Anand S.) The information-theoretic capacity of discrete-time queues. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 446–461. 60K25

Azizov, M. On the complexity of boundary integral equations with harmonic coefficients near a logarithmic singularity. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 35–39 (1997). (Israel Koltracht) **98a:65185** 65R20 (45E05, 45L10, 65Y20)

— On the optimal rate of convergence of the projection-iterative method and some of its generalizations to the class of equations with smoothing operators. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 11, 1448–1456; *translation in Ukrainian Math. J.* **48** (1996), *no.* 11, 1638–1646 (1997). (A. V. Dzhishkariani) **98d:65072** 65J10 (47A50, 47N40)

— Informational complexity of a local solution of Fredholm equations with analytic kernels and free terms. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 151–154. (Peter Junghanns) **98d:65171** 65Y20 (45B05, 45L05, 65R20)

— A direct method for the approximate solution of a periodic boundary value problem. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1157–1161. (Summary) **98g:34032** 34B05 (34A45, 34C25)

Azizov, Tomas Ya. (*with* Arocena, Rodrigo; Dijksma, Aad; Marcantognini, Stefania A. M.) On commutant lifting with finite defect. II. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 105–116. (T. Ando) **98a:47006** 47A20 (47B50)

Azizova, O. T. (*with* Agranovich, Yu. Ya.) A relationship between mixed discriminants and the joint spectrum of a family of commuting operators in a finite-dimensional space. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 3–9; *translation in Math. Notes* **62** (1997), *no.* 1-2, 3–7 (1998). (Summary) **98m:47013** 47A56 (15A22, 47A10)

Azoff, Edward A. (*with* Ptak, Marek) Jointly quasinormal families are reflexive. (English summary) *Acta Sci. Math. (Szeged)* **61** (1995), *no.* 1-4, 545–547. (Wing Suet Li) **98a:47044** 47D25 (47A15, 47B20)

Azra, Jean-Pierre *see* **Galois, Évariste**, **98g:01073**

sossa Azuela, J. Humberto *see* **Sossa Azuela, J. Humberto**

Azukawa, Kazuo The pluri-complex Green function and a covering mapping. *Geometric complex analysis (Hayama, 1995)*, 43–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Evgeny A. Poletsky) **98c:32016** 32F05 (32H15)

— A role of Fibonacci numbers in sunflower patterns. (English summary) *Forma* **12** (1997), *no.* 1, 35–37. (Summary) **98i:92009** 92C15 (05A99)

Azzalini, Adelchi ★ Statistical inference. (English summary) Based on the likelihood. Monographs on Statistics and Applied Probability, 68. *Chapman & Hall, London*, 1996. x+341 *pp. ISBN* 0-412-60650-X (Publisher's description) **98c:62001** 62-01

— (*with* Dalla Valle, A.) The multivariate skew-normal distribution. (English summary) *Biometrika* **83** (1996), *no.* 4, 715–726. (Yasunori Fujikoshi) **98m:62160** 62H05

Azzam, Abdul-Mordy H. Inference in linear models with nonstochastic biased factors. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 172–181. 62J05

Azzouni, Jody Thick epistemic access: distinguishing the mathematical from the empirical. *J. Philos.* **94** (1997), *no.* 9, 472–484. 03A05

— Applied mathematics, existential commitment and the Quine-Putnam indispensability thesis. (English summary) *Philos. Math. (3)* **5** (1997), *no.* 3, 193–209. (Eduard Glas) **98i:00004** 00A30 (00A79)

–B–

Ba, Dalahu *see* **Badalahu**

Baader, Franz (*with* Laux, Armin) Terminological logics with modal operators. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 808–814, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B45, 03B70)

— (*with* Schulz, Klaus U.) On the combination of symbolic constraints, solution domains, and constraint solvers. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 380–397, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98k:68152** 68T20 (03B70, 03C05, 68S05)

— Using automata theory for characterizing the semantics of terminological cycles. (English summary) *Ann. Math. Artificial Intelligence* **18** (1996), *no.* 2-4, 175–219. (I. M. Havel) **98f:68253** 68T30

— (*with* Nutt, Werner) Combination problems for commutative/monoidal theories or how algebra can help in equational unification. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 309–337. (M. A. Taĭtslin) **98j:08007** 08A70 (03C05, 03D35, 16Y60, 20M07, 68Q40)

— (*with* Tinelli, Cesare) A new approach for combining decision procedures for the word problem, and its connection to the Nelson-Oppen combination method. (English summary) *Automated deduction—CADE-14 (Townsville, 1997)*, 19–33, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (Summary) **98d:03016** 03B25 (68T15)

— *see also* **Frontiers of combining systems**, **98a:03004**

Baadhio, Randy A. ★ Quantum topology and global anomalies. (English summary) Advanced Series in Mathematical Physics, 23. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+270 *pp. ISBN* 981-02-2726-4 (From the preface) **98k:58001** 58–02 (32–02, 53–02, 57N10, 81–02, 81T50)

Baake, Ellen (*with* Wiehe, Thomas) Bifurcations in haploid and diploid sequence space models. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 321–343. (Summary) **98h:92027** 92D15 (34C23)

Baake, Michael (*with* Grimm, Uwe; Baxter, Rodney James) A critical Ising model on the labyrinth. (English summary) *Perspectives on solvable models*, 131–152, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 82B20 (82B23, 82B27)

— Solution of the coincidence problem in dimensions $d \leq 4$. (English summary) *The mathematics of long-range aperiodic order (Waterloo, ON, 1995)*, 9–44, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Martin Henk) **98e:52028** 52C99 (82D25)

— (*with* Roberts, John A. G.) Reversing symmetry group of Gl(2, **Z**) and PGl(2, **Z**) matrices with connections to cat maps and trace maps. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1549–1573. (Franco Vivaldi) **98k:58174** 58F15 (20G30, 58F13)

— (*with* Hermisson, Joachim; Pleasants, Peter A. B.) The torus parametrization of quasiperiodic LI-classes. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3029–3056. (Richard Kenyon) **98f:82130** 82D25 (52C22)

— (*with* Simon, Harald) Lee-Yang zeros in the scaling region of a two-dimensional quasiperiodic Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5319–5327. 82B20 (82–04, 82B27)

— (*with* Hermisson, Joachim; Grimm, Uwe) Aperiodic Ising quantum chains. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7315–7335. (Summary) **98k:82064** 82B27 (82B20)

— (*with* Hermisson, Joachim; Richard, Christoph) A guide to the symmetry structure of quasiperiodic tiling classes. (English summary) *J. Physique I* **7** (1997), *no.* 8, 1003–1018. (Richard Kenyon) **98f:52026** 52C20 (82D25)

— *see also* **Perspectives on solvable models**, **98b:82003**

Baayen, P. C. *see* **From universal morphisms to megabytes: a Baayen space odyssey**, **98h:00042** *and* **Schrijver, Alexander**, (**98h:00042**)

Baaz, Matthias (*with* Salzer, Gernot) Semi-unification and generalizations of a particularly simple form. (English summary) *Computer science logic (Kazimierz, 1994)*, 106–120, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03F07

— (*with* Leitsch, Alexander; Zach, Richard) Incompleteness of a first-order Gödel logic and some temporal logics of programs. (English summary) *Computer science logic (Paderborn, 1995)*, 1–15, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98i:03032** 03B50 (03B45, 03B55, 03B70)

— Infinite-valued Gödel logics with 0-1-projections and relativizations. (English summary) *Gödel '96 (Brno, 1996)*, 23–33, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Slavcho Shtrakov) **98g:03066** 03B50 (03F40, 03F55)

— (*with* Fermüller, Christian G.) Combining many-valued and intuitionistic tableaux. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 65–79, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03031** 03B50 (03B20, 03B35)

— (*with* Egly, Uwe; Fermüller, Christian G.) Lean induction principles for tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 62–75, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03115** 03F30

— (*with* Leitsch, Alexander) Fast cut-elimination by projection. *Computer science logic (Utrecht, 1996)*, 18–33, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (From the introduction) **98m:03112** 03F05

Baba, Kensuke (*with* Hirokawa, Sachio; Kameyama, Yukiyoshi) Calculations of λ_C and of λ_P and their applications. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 167–174. (*see* **98k:68015**) 68N15

Baba, Yoshitomo (*with* Iwase, Kenichi) On quasi-Harada rings. (English summary) *J. Algebra* **185** (1996), *no.* 2, 544–570. (John Clark) **98a:16026** 16L99 (16D40, 16D50, 16P20)

Babadzhanyan, A. A. "Constructivity" in the fixed-point theorem. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 6, 27–30. (P. S. Milojević) **98d:47130** 47H10 (47H17, 65J15)

Babaei, R. (*with* Lukasiewicz, S. A.) Fracture in functionally gradient materials subjected to the time-dependent anti-plane shear load. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 383–390. 73M25

Babaev, Arif Aligeidarovich (*with* Musaev, B. I.) Solution of a system of integro-functional equations for contact problems with nonlinear friction. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1093–1101, 1150; *translation in Differential Equations* **32** (1996), *no.* 8, 1097–1106 (1997). (Summary) **98h:45003** 45E05 (45L05, 73T05)

Babaev, Dzh. A. (*with* Glover, Fred; Ryan, Jennifer) A new knapsack solution approach by integer equivalent aggregation and consistency determination. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 43–50. (Ming Fang Ni) **98j:90040** 90C10 (90C27)

Babaev, M.-B. A. (*with* Ismailov, V. E.) Two-sided estimates for the best approximation in domains different from the parallelepiped. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 121–128. (Christian Coatmélec) **98m:41046** 41A63 (41A50, 65D15)

Baba Harra, M. Statistical estimation of higher-order spectral densities by means of general tapering. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 4, 357–381. (Pham Dinh Tuan) **98m:62263** 62M15 (62G20)

Babai, László Randomization in group algorithms: conceptual questions. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 1–17, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Rockmore) **98k:68092** 68Q40 (20C40)

— (*with* Goodman, Albert J.; Kantor, William M.; Luks, E. M.; Pálfy, P. P.) Short presentations for finite groups. (English summary) *J. Algebra* **194** (1997), *no.* 1, 79–112. (Colin M. Campbell) **98h:20044** 20F05 (20D08)

— (*with* Goodman, Albert J.; Pyber, László) Groups without faithful transitive permutation representations of small degree. (English summary) *J. Algebra* **195** (1997), *no.* 1, 1–29. (Harold N. Ward) **98g:20005** 20B05 (20F50)

— (*with* Arora, Sanjeev; Stern, Jacques; Sweedyk, Z.) The hardness of approximate optima in lattices, codes, and systems of linear equations. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 317–331. (Juraj Hromkovič) **98i:68098** 68Q15 (68Q25)

— (*with* Pomerance, Carl; Vértesi, Péter) The mathematics of Paul Erdős. *Notices Amer. Math. Soc.* **45** (1998), *no.* 1, 19–31. (Jerrold W. Grossman) **98m:01025** 01A70

— (*with* Spencer, Joel) Paul Erdős (1913–1996). *Notices Amer. Math. Soc.* **45** (1998), *no.* 1, 64–73. (Jerrold W. Grossman) **98m:01026** 01A70

Babaltsev, A. Yu. (*with* Tyshkevich, Regina) k-dimensional graphs. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 75–81, 132. (Vadim E. Zverovich) **98c:05135** 05C75

Babanakov, D. M. (*with* Suslov, I. R.) Analytic solution of linear nonautonomous systems of ordinary differential equations. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 8, 105–109. 34A45 (65L05)

Babaoğlu, Özalp (*with* Davoli, Renzo; Giachini, Luigi; Sabattini, Paolo) The inherent cost of strong-partial view-synchronous communication. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 72–86, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15)

Babash, A. V. Approximate models of permutation automata. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 103–122; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 189–208. (Alexandra Kireeva) **98g:68112** 68Q70

— (*with* Glukhov, M. M.; Shankin, G. P.) On transformations of a set of words in a finite alphabet that do not propagate distortions. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 3–19. (Summary) **98j:68137** 68R15 (68Q45)

Babayev, Djangir *see* **Babaev, Dzh. A.**

Babbitt, Donald G. *see* **Featured reviews in Mathematical Reviews**, **98m:00025**

Babbour, Graham D. (*with* Raftery, James G.) Ideal determined varieties have unbounded degrees of permutability. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 563–568. (Summary) **98m:08012** 08B05

Babbs, Simon H. (*with* Webber, Nick) Term structure modelling under alternative official regimes. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 394–422, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Selby, Michael J. P.) Pricing by arbitrage under arbitrary information. (English summary) *Math. Finance* **8** (1998), *no.* 2, 163–168. 90A09

Babel, Luitpold (*with* Ponomarenko, I. N.; Tinhofer, G.) The isomorphism problem for directed path graphs and for rooted directed path graphs. (English summary) *J. Algorithms* **21** (1996), *no.* 3, 542–564. (Summary) **98g:05102** 05C60 (05C85, 68Q25)

— (*with* Olariu, Stephan) A new characterization of P_4-connected graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 17–30, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05102** 05C40 (68R10)

Babelon, O. (*with* Bernard, Denis; Smirnov, F. A.) Quantization of solitons and the restricted sine-Gordon model. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 319–354. (Andrei Babichenko) **98b:81132** 81T10 (58F07, 81T40, 82B23)

— (*with* Bernard, Denis; Smirnov, F. A.) Null-vectors in integrable field theory. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 601–648. (Henrik Aratyn) **98h:81108** 81T40 (14H45, 58F07)

— (*with* Talon, M.) The symplectic structure of the spin Calogero model. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 462–468. (Iskander A. Taimanov) **98k:58102** 58F07 (58Z05, 70H05, 81V70)

Babenko, A. G. Exact Jackson-Stechkin inequality in the space L^2 of functions on a multidimensional sphere. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 333–355, 478; *translation in Math. Notes* **60** (1996), *no.* 3-4, 248–263 (1997). (Wiesław Pleśniak) **98a:41022** 41A17 (26D05, 42A05)

Babenko, L. V. A modification of Newton's difference scheme in inverse problems of geophysics. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 113–118 (1997). (Summary) **98b:86001** 86–08 (65K10, 86A22)

Babenko, V. F. (*with* Ligun, A. A.) Bernstein-type inequalities for $\mathcal{L}$-splines. (English summary) *Ukrainian Math. J.* **45** (1993), *no.* 1, 8–20. (Summary) **98g:41008** 41A15 (41A17)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Multivariate inequalities of Kolmogorov type and their applications. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 1–12, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Editors) **98m:41020** 41A17 (41A50, 41A63)

— (*with* Kofanov, V. A.; Pichugov, S. A.) On additive inequalities for norms of intermediate derivatives. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 154–156. (Wiesław Pleśniak) **98k:41021** 41A17 (26D10)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Kolmogorov-type inequalities for operators, and extremal problems in approximation theory. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 439–441. (Wiesław Pleśniak) **98k:41022** 41A17 (47A30)

— (*with* Polyakov, O. V.; Traktinskaya, V. N.) On the dimension of polyhedra of best L_1-approximation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 439–441. 41A50 (41A30)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Sharp inequalities for intermediate derivatives of differentiable mappings of Banach spaces. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 1, 22–25. 46G05 (41A17, 46B20)

— Exact inequalities for the norms of intermediate derivatives of half-integer order and some of their applications. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 2, 23–26. (Ha Huy Bang) **98j:41006** 41A17 (26A33)

— (*with* Kofanov, V. A.; Pichugov, S. A.) On exact inequalities of Landau-Kolmogorov-Hörmander type on a half-line. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 4, 34–38. (Yu. A. Brudnyĭ) **98m:41018** 41A17 (26D10)

— (*with* Polyakov, O. V.; Traktinskaya, V. N.) On Chebyshev rank in L_1-approximations. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 39–61. (D. Leviatan) **98f:41025** 41A50 (41A25)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Exact inequalities of Kolmogorov type for multivariate functions and their applications. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 155–186. (Ion Badea) **98m:41019** 41A17 (41A50, 41A63)

— On the optimization of approximate integration by Monte Carlo methods. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 475–480; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 523–528 (1998). (Joseph Kreimer) **98j:65003** 65C05 (65D30)

— (*with* Kofanov, V. A.; Pichugov, S. A.) On additive inequalities for intermediate derivatives of functions defined on a finite interval. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 619–628; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 685–696 (1998). (Ion Raşa) **98i:41011** 41A17 (26D10)

— (*with* Rudenko, A. A.) On the optimal reconstruction of bilinear functions in normed linear spaces. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 828–831; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 925–929 (1998). (S. Cobzaş) **98k:46018** 46B20 (41A65)

Babić, Ivanka Darstellende Geometrie im hyperbolischen H^3-Raum. I. Teil. Grundbegriffe. Definitionen. Lagenbeziehungen. (English and Croatian summaries) [Descriptive geometry in hyperbolic H^3-space. I. Basic concepts. Definitions. Positional relations.] *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 167–186. (Martin Funk) **98e:51032** 51N05 (51M09)

Babic, Marijan Average balance equations for granular materials. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 5, 523–548. (Summary) **98d:73016** 73B99 (73E50, 73Q05, 76A99)

Babich, O. A. (*with* Pershin, O. Yu.) A method for computing optimal variants of the development of land-based communication networks at the stage of investment planning of the development of a petroleum bed. I. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 11, 105–114; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1619–1626 (1997). 90B12 (93C95)

— (*with* Pershin, O. Yu.) A method for computing optimal variants of the development of land-based communication networks at the stage of investment planning of the development of a petroleum bed. II. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 109–123; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 2, 1781–1793 (1997). 90B12 (93C95)

Babich, V. M. Diffraction of a plane wave by a narrow cone in the case of the Dirichlet boundary condition. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 3–11, 220; *translation in J. Math. Sci. (New York)* **86** (1997), *no.* 3, 2657–2663. (Summary) **98g:35044** 35J05

— Eigenoscillations of mechanical systems, and the spectral theory of selfadjoint operators. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 12–16, 220; *translation in J. Math. Sci. (New York)* **86** (1997), *no.* 3, 2664–2666. 47N20 (73D30, 76B99)

— On the diffraction of a high-frequency acoustic wave by a narrow absolutely rigid cone of arbitrary shape. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 1, 72–78; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 1, 67–73. (Summary) **98h:35039** 35J05 (76Q05)

— (*with* Cherednichenko, K. D.) On Fock's type asymptotics of Legendre functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 1–18. (Summary) **98f:33011** 33C20

Babillot, Martine (*with* Bougerol, Philippe; Elie, Laure) The random difference equation $X_n = A_n X_{n-1} + B_n$ in the critical case. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 478–493. (Charles M. Goldie) **98c:60075** 60J10 (60B15, 60J15, 60K05)

Babin, A. V. Spatially chaotic solutions of parabolic equations, and the preservation of homotopies. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 439–442. (Daniel Ševčovič) **98b:35088** 35K57 (35B40, 58F39)

— Preservation of homotopies, and spatially complex solutions of parabolic equations with several variables. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 73–76; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 204–206 (1997). (Ya Zhe Chen) **98c:35092** 35K60

— (*with* Bunimovich, Leonid A.) Stable chaotic waves generated by hyperbolic PDEs. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 853–875. (Daniel Ševčovič) **98a:35088** 35L70 (57M05, 58F39)

— (*with* Agranovich, M. S.; Volevich, Leonid R.; et al.) Mark Iosifovich Vishik (on his seventy-fifth anniversary). *Russian J. Math. Phys.* **4** (1996), *no.* 4, 411–416. (Editors) **98f:01053a** 01A70

— (*with* Mahalov, Alex; Nicolaenko, Basil) Resonances and regularity for Boussinesq equations. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 4, 417–428. (Si Jue Wu) **98k:76009** 76B15 (35Q53, 76U05, 76V05)

— (*with* Mahalov, Alex; Nicolaenko, Basil) Regularity and integrability of rotating shallow-water equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 593–598. (Summary) **98c:76116** 76U05 (35Q35, 76C99, 86A05)

— (*with* Mahalov, Alex; Nicolaenko, Basil) Global splitting and regularity of rotating shallow-water equations. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 725–754. (J. Thomas Beale) **98h:76130** 76U05 (35Q35, 76C15, 86A05)

— (*with* Agranovich, M. S.; Volevich, Leonid R.; et al.) Mark Iosifovich Vishik (on the occasion of his 75th birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 225–232; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 853–861. (Editors) **98f:01053b** 01A70

Babin, D. N. On the decidability of the completeness problem for special systems of automata functions. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 79–91; *translation in Discrete Math. Appl.* **6** (1996), *no.* 5, 491–504. (Roman Murawski) **98c:03085** 03D05 (03B25, 68Q68)

Babinec, Peter On the q-analogue of the Lipkin-Meshkov-Glick model. (English summary) *Czechoslovak J. Phys.* **43** (1993), *no.* 7, 705–708. 81V45 (81R50)

Babinkostov, V. An application of discrete transformations to the numerical solution of integral equations. (Macedonian. Russian and Macedonian summaries) *Prirod.-Mat. Fak. Univ. Kiril Metodij Skopje Godishen Zb.* **36** (1995), 39–46. 65R20 (45L10)

Babloyantz, A. (*with* Bobylev, N. A.; Korovin, S. K.; Nosov, A. P.) Approximating of unstable cycle in nonlinear autonomous systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 333–354. (W. S. Loud) **98i:34045** 34C05 (34A45, 34K15)

Babolian, E. (*with* Abbasbandy, S.) Automatic augmented Galerkin algorithms for linear first kind integral equations: non-singular and weak-singular kernels. (English and Persian summaries) *Bull. Iranian Math. Soc.* **21** (1995), *no.* 1, 35–62. (H. Brunner) **98b:65140** 65R20

— (*with* Abbasbandy, S.) Automatic augmented Galerkin algorithms for Fredholm integral equations of the first kind. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 69–84. (Summary) **98d:65165** 65R20 (45L05)

Baboolal, D. (*with* Ori, R. G.) Some aspects of connectedness in nearness spaces. *Quaestiones Math.* **20** (1997), *no.* 1, 61–70. (Charles R. Traina) **98h:54029** 54D05

Babourova, O. V. (*with* Frolov, B. N.) Pontryagin, Euler forms and Chern-Simons terms in Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 17, 1267–1274. (Charles A. Nelson) **98f:53068** 53C80 (83C99)

— (*with* Frolov, B. N.) The variational theory of the perfect dilaton-spin fluid in a Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 38, 2943–2950. (Summary) **98i:83064** 83D05

Babovsky, Hans Limit theorems for deterministic Knudsen flows between two plates. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 4, 503–520. (From the introduction) **98k:76118** 76P05 (76R50, 82C40)

ait Babram, M. *see* **Ait Babram, M.**

Babri, H. A. (*with* Yin, T.; Mital, D. P.) Sensitivity and attenuation compensated training of multilayered networks. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 2, 199–215. 92B20

Babu, Gutti Jogesh (*with* Padmanabhan, A. R.) A robust test for omnibus alternatives. (English summary) *Research developments in probability and statistics*, 319–327, *VSP, Utrecht*, 1996. (S. Rao Jammalamadaka) **98f:62033** 62E20 (62G10)

— (*with* Bai, Zhidong) Mixtures of global and local Edgeworth expansions and their applications. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 282–307. (R. T. Smythe) **98d:62023** 62E20

syam Babu, M. *see* **Syam Babu, M.**

Babu Raj, C. (*with* Manoharan, M.) A bulk service queueing system with removable servers. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 4, 29–40. 60K25 (90B22)

Babuška, Ivo (*with* Guo, Ben Qi) Approximation properties of the h-p version of the finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **133** (1996), *no.* 3-4, 319–346. (From the introduction) **98k:73063** 73V05 (65M60, 65N30)

— (*with* Makridakis, Charalambos; Ihlenburg, Frank) Analysis and finite element methods for a fluid-solid interaction problem in one dimension. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 8, 1119–1141. (J. T. Oden) **98a:73056** 73V05 (35Q72, 73K70, 76M10, 76Q05)

— (*with* Shi, Peter) Analysis and computation of a cyclic plasticity model by aid of Ddassl. *Comput. Mech.* **19** (1997), *no.* 5, 380–385. (Weimin Han) **98c:73079** 73V05 (73E50)

— (*with* Narasimhan, Revathi) The Babuška-Brezzi condition and the patch test: an example. (English summary) *Comput. Methods Appl. Mech. Engrg.* **140** (1997), *no.* 1-2, 183–199. (Zhimin Zhang) **98c:73071** 73V05 (65N30)

— (*with* Strouboulis, Theofanis; Copps, K.) hp optimization of finite element approximations: analysis of the optimal mesh sequences in one dimension. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 89–108. (Manfred Dobrowolski) **98m:65184** 65N30 (65M60)

— (*with* Ihlenburg, Frank; Strouboulis, Theofanis; Gangaraj, S. K.) A posteriori error estimation for finite element solutions of Helmholtz' equation. I. The quality of local indicators and estimators. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3443–3462. (Zhangxin Chen) **98h:65043** 65M60 (76M10)

— (*with* Tsuchiya, Takuya) A priori error estimates of finite element solutions of parametrized strongly nonlinear boundary value problems. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 1, 41–66. (Ching-An Wang) **98a:65106** 65L10 (65L60)

— (*with* Liu, Kang-Man) Dimensional reduction for Helmholtz's equation on a bounded domain. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 501–533. (Howard Swann) **98i:65090** 65N12 (65N15, 65N30)

— (*with* Guo, Ben Qi) Regularity of the solutions for elliptic problems on nonsmooth domains in $\mathbf{R}^3$. II. Regularity in neighbourhoods of edges. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 3, 517–545. (Giuseppe Di Fazio) **98g:35042** 35Jxx (35B65)

— (*with* Ihlenburg, Frank) Finite element solution of the Helmholtz equation with high wave number. II. The *h-p* version of the FEM. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 315–358. (Manfred Dobrowolski) **98f:65109** 65N30
— (*with* Makridakis, Charalambos) On the stability of the discontinuous Galerkin method for the heat equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 389–401. (Wojciech Mydlarczyk) **98a:65139** 65M60 (65M12)
— (*with* Li, Yiwei) A convergence analysis of an *h*-version finite-element method with high-order elements for two-dimensional elastoplasticity problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 998–1036. (Weimin Han) **98c:73075** 73V05 (65N30, 73E05)
fernández-Baca, David *see* **Fernández-Baca, David**
Bacanh, S. Group sequential test method based on the $\alpha^*(t)$ use functions and its use in testing correlation coefficient. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 233–265. 62L10
Baccar, Doha (*with* Mentré, France; Mallet, Alain) Optimal design in random-effects regression models. (English summary) *Biometrika* **84** (1997), *no.* 2, 429–442. 62K05
Baccella, Giuseppe (*with* Di Campli, Giovanna) Semi-Artinian rings whose Loewy factors are nonsingular. *Comm. Algebra* **25** (1997), *no.* 9, 2743–2764. (Jonathan Golan) **98d:16035** 16P70 (16D60, 16P20)
Bacchelli Montefusco, Laura Semi-orthogonal wavelet packet bases for parallel least-squares approximation. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 191–208. (Ewald Quak) **98e:65006** 65D07 (42C15)
Bacchus, Fahiem (*with* Grove, Adam J.; Halpern, Joseph Y.; Koller, Daphne) From statistical knowledge bases to degrees of belief. (English summary) *Artificial Intelligence* **87** (1996), *no.* 1-2, 75–143. (Jerzy W. Grzymała-Busse) **98g:68159** 68T30
— (*with* Boutilier, Craig; Grove, Adam J.) Structured solution methods for non-Markovian decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 112–117, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C39
Bacci, Adolfo The optimal shape of a hanging heavy body. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 699–706. (Summary) **98e:73096** 73K40
Bacci, Ricardo Apparicio (*with* Rezende, Eliane Quelho Frota; Bassanezi, Rodney Carlos) Semi-group generated by *K*-limits. (English summary) *Proyecciones* **16** (1997), *no.* 1, 67–82. (K. D. Magill, Jr.) **98h:54003** 54A05 (20M99)
Bacciagaluppi, Guido (*with* Donald, Matthew J.; Vermaas, Pieter E.) Continuity and discontinuity of definite properties in the modal interpretation. (English summary) *Helv. Phys. Acta* **68** (1995), *no.* 7-8, 679–704. (Oliver Rudolph) **98b:81008** 81P05 (81Q15)
— (*with* Hemmo, Meir) Modal interpretations, decoherence and measurements. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 3, 239–277. (Paul B. Slater) **98g:81019** 81P15
— (*with* Cattaneo, Gianpiero; Marsico, Tiziana; Nisticò, Giuseppe) A concrete procedure for obtaining sharp reconstructions of unsharp observables in finite-dimensional quantum mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1323–1343. (Paul Busch) **98k:81010** 81P05
Bacciotti, Andrea External stabilizability of nonlinear systems with some applications. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 1–10. (Summary) **98k:93092** 93D15 (93C10)
di Bacco, M. *see* **Di Bacco, M.**
Bach, Alexander ★ Indistinguishable classical particles. (English summary) Lecture Notes in Physics. New Series m: Monographs, 44. *Springer-Verlag, Berlin*, 1997. viii+157 *pp. ISBN* 3-540-62027-3 (Matthew J. Donald) **98j:82002** 82B03 (60F05, 60G09, 60K35, 82-02)
Bach, Andrea K. Teilverhältnisse in affinen Räumen über Moduln. (English summary) [Ratio of division in affine spaces over modules] *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 385–398. (Günter Törner) **98i:51002** 51C05
Bach, Carl *see* **Mauersberger, Klaus, 98j:01040**
Bach, Eric Weil bounds for singular curves. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 289–298. (Antonio Cossidente) **98d:14034** 14G05 (11G20, 14G15)
— (*with* Peralta, René) Asymptotic semismoothness probabilities. (English summary) *Math. Comp.* **65** (1996), *no.* 216, 1701–1715. (Daniel A. Goldston) **98a:11123** 11N25 (11Y70)
— Energy arguments in the theory of algorithms. *Amer. Math. Monthly* **104** (1997), *no.* 9, 831–837. (Friedhelm Meyer auf der Heide) **98m:68109** 68Q25 (68P10, 68Q20)
— The complexity of number-theoretic constants. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 145–152. (Michel Olivier) **98g:11148** 11Y60 (11Y35, 68P25, 68Q25)
— Comments on search procedures for primitive roots. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1719–1727. (Jeffrey O. Shallit) **98a:11187** 11Y35 (11A07, 11M26)
— Moments in the duration of play. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 1–7. (Summary) **98h:60102** 60J15
Bach, M. (*with* Nazarov, Sergei A.; Wendland, Wolfgang L.) Propagation of a penny shaped crack under the Irwin criterion. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 17–21, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73M25 (73C99)
— *see also* **Analysis, numerics and applications of differential and integral equations, 98i:00036**
Bach, Volker (*with* Poelchau, Jurij) Hartree-Fock Gibbs states for the Hubbard model. (English summary) Disordered systems and statistical physics: rigorous results (Budapest, 1995). *Markov Process. Related Fields* **2** (1996), *no.* 1, 225–240. (H. Hogreve) **98i:82007** 82B10
— Approximative theories for large Coulomb systems. (English summary) *Quasiclassical methods* (*Minneapolis, MN*, 1995), 89–97, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (Giorgio Cattapan) **98g:81222** 81V45 (81V55)
— (*with* Fröhlich, Jürg; Sigal, Israel M.) Mathematical theory of radiation. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 227–237. (H. Hogreve) **98i:81048** 81Q15 (47N50, 81T17, 81V10)
— (*with* Poelchau, Jurij) Accuracy of the Hartree-Fock approximation for the Hubbard model. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 2072–2083. (H. Hogreve) **98i:82008** 82B10 (82D55)
Bacharach, Michael (*with* Bernasconi, Michele) The variable frame theory of focal points: an experimental study. (English summary) *Games Econom. Behav.* **19** (1997), *no.* 1, 1–45. (Summary) **98c:90194** 90D12 (90D40)
— (*with* Colman, Andrew M.) Payoff dominance and the Stackelberg heuristic. (English summary) *Theory and Decision* **43** (1997), *no.* 1, 1–19. (Summary) **98a:90135** 90D05 (90D12)
el Bachari, Essaid *see* **El Bachari, Essaid**
Bachas, C. (*with* Antoniadis, Ignatios; Fabre, Cyrille; Partouche, H.; Taylor, T. R.) Aspects of type I–type II–heterotic triality in four dimensions. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 160–178. (Angel Maria Uranga) **98f:81232** 81T30 (83E30)
— (*with* Kiritsis, Elias) F^4 terms in $N = 4$ string vacua. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 194–199. (Summary) **98c:81152** 81T30 (83E30)
— (*with* Fabre, Cyrille; Kiritsis, Elias; Obers, N. A.; Vanhove, Pierre) Heterotic/type I duality and D-brane instantons. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 33–52. (Summary) **98k:81191** 81T30
Bachelot, Alain (*with* Charrier, Pierre; Pujols, Agnès; Rouart, Danièle) Parallel algorithm for solving time convolution equations and application to CEM. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65Y05 (65R10)
— Quantum vacuum polarization at the black-hole horizon. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 2, 181–222. (Michael Keyl) **98i:83046** 83C57 (58G16, 81T20)
— La radiation Hawking à l'horizon d'un trou noir. (English and French summaries) [Hawking radiation at the black-hole horizon] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 855–860. (Michael Keyl) **98h:83041** 83C57 (58G16, 81T20)
— Scattering of scalar fields by spherical gravitational collapse. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 2, 155–210. (Michael Keyl) **98a:83068** 83C57 (35Q40, 58G16, 83C10)
Bacher, Roland (*with* de la Harpe, Pierre; Venkov, Boris B.) Séries de croissance et séries d'Ehrhart associées aux réseaux de racines. (English and French summaries) [Growth series and Ehrhart series for root lattices] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1137–1142. (Summary) **98k:52029** 52B20 (05A10)
— Dense lattices in dimensions 27–29. (English summary) *Invent. Math.* **130** (1997), *no.* 1, 153–158. (Renaud Coulangeon) **98e:11080** 11H31
von Bachhaus, A. L. W. The differential equations of the classical orthogonal polynomials derived from recurrence formulae. *Differential equations and its applications* (*Budapest*, 1991), 7–18, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 33C45 (34A99, 34B30)
Bachmaier, Martin (*with* Precht, Manfred) Robust multiple confidence intervals for contrasts. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 1, 25–42. (Summary) **98d:62126** 62J15
Bachman, Gennady On divisibility properties of certain multinomial coefficients. (English summary) *J. Number Theory* **63** (1997), *no.* 2, 244–255. (Andrew Granville) **98a:11024** 11B65 (11A07)
Bachmann, Peter Operational semantics oriented specifications. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **24** (1997), *no.* 1, 1–21. (Horst Reichel) **98e:68161** 68Q60 (68Q65)
Bachmuth, S. Braid groups are linear groups. *Adv. Math.* **121** (1996), *no.* 1, 50–61. (J. S. Birman) **98h:20061** 20F36 (20C99, 20F28)
Bachoc, Christine (*with* Nebe, Gabriele) Classification of two genera of 32-dimensional lattices of rank 8 over the Hurwitz order. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 151–162. (Stefan Kühnlein) **98g:11078** 11H06
— (*with* Bonnecaze, Alexis; Solé, Patrick; Mourrain, Bernard) Type II codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 969–976. (From the summary) **98e:94025** 94B05
— Applications of coding theory to the construction of modular lattices. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 92–119. (Gabriele Nebe) **98a:11084** 11H31 (94B40, 94B75)
Bäck, Allan Aristotelian necessities. (English summary) *Hist. Philos. Logic* **16** (1995), *no.* 1, 89–106. (Summary) **98c:03010** 03A05 (01A20, 03-03, 03B45)
Back, Ralph-Johan (*with* Butler, Michael J.) Exploring summation and product operators in the refinement calculus. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 128–158, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60
— (*with* von Wright, J.) Contracts, games and refinement. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q60
Bäck, Thomas *see* **Handbook: Evolutionary computation, 98g:68001** *and* **Evolutionary programming, 98g:90007**
Backelin, Erik Representation of the category $\mathcal{O}$ in Whittaker categories. *Internat. Math. Res. Notices* **1997,** *no.* 4, 153–172. (Vladimir V. Bavula) **98d:17008** 17B10
Bäcker, A. (*with* Dullin, Holger R.) Symbolic dynamics and periodic orbits for the cardioid billiard. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1991–2020. (Nikolai Chernov) **98f:58157** 58F20 (58F03, 82C05)
— (*with* Schubert, Roman; Stifter, P.) On the number of bouncing ball modes in billiards. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6783–6795. 81Q50
Backhouse, Roland (*with* Bijsterveld, Marcel; van Geldrop, Rik; van der Woude, Jaap) Categorical fixed point calculus. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 159–179, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:68124** 68Q55 (03G30, 06B99, 18B35, 68Q65)
— (*with* Doornbos, Hendrik) Induction and recursion on datatypes. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 242–256, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60
— (*with* Doornbos, Hendrik; van der Woude, Jaap) A calculational approach to mathematical induction. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 103–135. (D. Rosenblatt) **98i:68187** 68Q60 (03G15, 04A05, 06A15)

Backlund, Ulf (*with* Fällström, Anders) The Gleason property for Reinhardt domains. *Math. Ann.* **308** (1997), *no.* 1, 85–91. (T. Tonev) **98d:32018** 32E25 (32A07, 46J15)

Backofen, Olaf J. Composite link polynomials from super Chern-Simons theory. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 1, 19–30. (Alexander Balinsky) **98g:57007** 57M25 (17B99, 81T40, 82B23)

Backus, George E. Current meters in the core of the Earth. *Of fluid mechanics and related matters (La Jolla, CA, 1990)*, 97–119, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (*see* **98h:76003**) 86A25 (76W05)

Bacon, John Eine Naturalisierung von Kants Ethik. (English and German summaries) [A naturalization of Kant's ethics] *Conceptus* **27** (1994), *no.* 71, 161–185. 03B45

Bacon, Michael R. (*with* Kappe, Luise-Charlotte; Morse, Robert Fitzgerald) On the nonabelian tensor square of a 2-Engel group. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 353–364. (D. L. Johnson) **98i:20042** 20F45 (20F19)

Bacopoulos, A. (*with* Chalmers, Bruce L.) Vectorially minimal projections. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 15–22, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A65 (90C29)

— (*with* Chryssoverghi, I.; Kokkinis, B.; Coletsos, J.) Mixed Frank-Wolfe penalty method with applications to nonconvex optimal control problems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 311–334. (Summary) **98f:49036** 49M30 (90C48)

Bacry, E. (*with* Arneodo, A.; Jaffard, Stéphane; Muzy, J. F.) Oscillating singularities on Cantor sets: a grand-canonical multifractal formalism. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 179–209. (Steen Pedersen) **98k:28007** 28A80

Bacsó, Gábor On a conjecture about uniquely colorable perfect graphs. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 1–19. (G. Ravindra) **98j:05066** 05C15

Bácsó, S. (*with* Matsumoto, Makoto) On Finsler spaces of Douglas type—a generalization of the notion of Berwald space. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 385–406. (Tadashi Aikou) **98j:53024** 53B40

Badache, Nadjib (*with* Maddi, Aomar) Gradual design of a causal broadcast protocol. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 3, 309–320. 68M10

Badaev, S. A. (*with* Goncharov, Sergei S.) On computable minimal enumerations. (English summary) *Algebra (Krasnoyarsk, 1993)*, 21–33, *de Gruyter, Berlin*, 1996. (Andrzej Orlicki) **98b:03061** 03D45 (03D25)

Badalahu An active set method for parameter extension for a class of parametric quadratic programs and its stability analysis. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 1, 63–72. (Chang Yu Wang) **98h:90050** 90C20 (90C31)

— Optimization problems for products of nonzero-valued functions. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 14, 1490–1494. 90C09

— Problems of minimizing a product of positive, nonsmooth and invex functions. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 1, 1–4. 90C26 (90C29)

— (*with* Wang, Feng Zhen) The problem of minimizing a sum of products of positive functions. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 1, 19–21. 90C26 (90C29)

— Some mixed arithmetic-geometric mean inequalities containing parameters and their applications. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 731–734. 26D15

Badawi, Ayman On abelian π-regular rings. *Comm. Algebra* **25** (1997), *no.* 4, 1009–1021. (John Hannah) **98a:16012** 16E50 (16N40)

— On comparability of ideals of commutative rings. *Comm. Algebra* **26** (1998), *no.* 3, 793–802. (Salah-Eddine Kabbaj) **98m:13003** 13A15

Badawy, A. (*with* El-Assar, S.) Homomorphisms and subalgebras of MS-algebras. (English and Arabic summaries) *Qatar Univ. Sci. J.* **15** (1995), *no.* 2, 279–285. (T. S. Blyth) **98h:06023** 06D30

Baddeley, Adrian (*with* van Lieshout, M. N. M.) A nonparametric measure of spatial interaction in point patterns. (English summary) *Statist. Neerlandica* **50** (1996), *no.* 3, 344–361. (Syed N. U. A. Kirmani) **98b:60092** 60G55 (62G05, 62H11)

— (*with* Gill, Richard D.) Kaplan-Meier estimators of distance distributions for spatial point processes. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 263–292. (Winfried Stute) **98b:62054** 62G05 (60D05, 62H11)

Baddeley, Robert (*with* Lucchini, Andrea) On representing finite lattices as intervals in subgroup lattices of finite groups. (English summary) *J. Algebra* **196** (1997), *no.* 1, 1–100. (P. P. Pálfy) **98j:20022** 20D30 (06B15, 20E22)

Badea, A. (*with* Bourgeat, Alain) Numerical simulations by homogenization of two-phase flow through randomly heterogeneous porous media. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 13–24, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98i:76082** 76S05 (65U05, 73B27, 76M35, 76T05)

Badea, Catalin Sur les caractères d'une algèbre de Banach. (English summary) [On the characters of a Banach algebra] *Canad. Math. Bull.* **40** (1997), *no.* 2, 129–132. (Summary) **98b:46063** 46H05 (46J05)

— (*with* Mbekhta, Mostafa) Generalized inverses and the maximal radius of regularity of a Fredholm operator. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 133–146. (P. Saphar) **98e:47018** 47A53 (47A05)

Badea, Lori (*with* Soós, E.) A new theory of the stored energy in elastoplasticity and the torsion test. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 3, 467–500. (Mircea Sofonea) **98d:73032** 73E50 (73–05, 73B30)

Bădeliţă, Liviu (*with* Stancu, Viorel) About the non-linear behaviour of some Duffing type oscillating systems. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Sect. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 71–82. 70K50

Bader, Harald ★ Automatic step-length adaptation for the numerical solution of nonlinear mechanical problems discretized by finite elements. (English and German summaries) With a preface by Ronald H. W. Hoppe. Augsburger Mathematisch-Naturwissenschaftliche Schriften [Augsburg Mathematical-Scientific Texts], 15. *Dr. Bernd Wißner, Augsburg*, 1997. iv+131 *pp. ISBN* 3-89639-061-9 (Carsten Carstensen) **98g:73034** 73V05 (65M60, 65N30)

Bader, Ralf A sufficient condition for the existence of multiple periodic solutions of differential inclusions. *Topology in nonlinear analysis (Warsaw, 1994)*, 129–138, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (L. Górniewicz) **98b:34030** 34A60 (34C25, 47H11, 47N20, 55M25)

Baderko, Elena A. Parabolic problems and boundary integral equations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 449–459. (Stepan D. Ivasyshen) **98a:35055** 35K20 (35C15, 45L05)

— Some Schauder estimates. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 22–24, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35J25 (35B45)

Bădescu, Lucian (*with* Schneider, Michael Hellmut) A criterion for extending meromorphic functions. *Math. Ann.* **305** (1996), *no.* 2, 393–402. (Aigli Papantonopoulou) **98d:14029** 14F99 (14B99)

— (*with* Beltrametti, Mauro C.; Francia, Paolo) Positive curves in polarized manifolds. (English summary) *Manuscripta Math.* **92** (1997), *no.* 3, 369–388. (Yoshiaki Fukuma) **98a:14008** 14C20 (14C25, 14D15)

Badgwell, Thomas A. Robust stability conditions for SISO model predictive control algorithms. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1357–1361. (Summary) **98e:93072** 93D09

germán Badia, F. *see* **Germán Badia, F.**

Badía, F. Germán *see* **Germán Badia, F.**

Badiale, Marino (*with* Ambrosetti, Antonio; Cingolani, Silvia) Semiclassical states of nonlinear Schrödinger equations with bounded potentials. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.* **7** (1996), *no.* 3, 155–160. (Xian Guo Geng) **98e:35150** 35Q55 (81Q05)

— (*with* Nabana, Eric) A remark on multiplicity of solutions for semilinear elliptic problems with indefinite nonlinearity. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 2, 151–156. (Summary) **98b:35056** 35J65 (35B32)

— (*with* Ambrosetti, Antonio) Homoclinics: Poincaré-Melnikov type results via a variational approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 753–758. (Introduction) **98g:35026** 35B40 (34C37, 35Q55, 46N20, 58E05)

— (*with* Ambrosetti, Antonio; Cingolani, Silvia) Semiclassical states of nonlinear Schrödinger equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 285–300. (Nakao Hayashi) **98k:35172** 35Q55 (81Q05, 81Q20)

— (*with* Tarantello, Gabriella) Existence and multiplicity results for elliptic problems with critical growth and discontinuous nonlinearities. *Nonlinear Anal.* **29** (1997), *no.* 6, 639–677. (Achilles Tertikas) **98f:35049** 35J65 (35B32, 58E05)

Badiani, T. V. Existence of steady symmetric vortex pairs on a planar domain with an obstacle. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 365–384. (Vladimir V. Shelukhin) **98m:76029** 76C05 (35Q35, 49J10, 76M30)

Badii, R. (*with* Politi, Antonio) ★ Complexity. (English summary) Hierarchical structures and scaling in physics. Cambridge Nonlinear Science Series, 6. *Cambridge University Press, Cambridge*, 1997. xiv+318 *pp. ISBN* 0-521-41890-9 (Sergei A. Nemnyugin) **98m:82001** 82–01 (58–01, 68Q05, 68Q30, 76Fxx, 82B03, 82C03)

— (*with* Politi, Antonio) Dynamical "strangeness" at the edge of chaos. (English summary) *J. Phys. A* **30** (1997), *no.* 18, L627–L633. (Summary) **98f:58139** 58F13 (54H20, 58F03)

Badler, J. (*with* Freeman, Walter J.; Chang, Hung-Jen; Burke, B. C.; Rose, P. A.) Taming chaos: stabilization of aperiodic attractors by noise. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 989–996. (*see* **98g:93002**) 93D15 (58F13)

Badouel, Eric (*with* Darondeau, Philippe) Dualities between nets and automata induced by schizophrenic objects. (English summary) *Category theory and computer science (Cambridge, 1995)*, 24–43, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:68150** 68Q90

— (*with* Darondeau, Philippe) Stratified Petri nets. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 117–128, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q90 (68Q70)

Badr, Badr Saad (*with* Fawzy, Tharwat; Ramadan, Z.) Error of an arbitrary order for the approximate solution of systems of nth order differential equations with spline functions. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 23–32, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:65073** 65L70 (65D07)

Badr, H. M. (*with* Alassar, R. S.; Al-Rabeh, A.; Allayla, R.) Unsteady viscous flow over prolate spheroids. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 53–65. 76D99

Badra, Abdallah Déformations des p-groupes finis à un schéma formel sans p-torsion. (English and French summaries) [Deformations of finite p-group schemes to a formal scheme without p-torsion] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 177–181. (Jean-Claude Douai) **98h:14026** 14F30

Badriev, I. B. (*with* Zadvornov, O. A.) Investigation of the convergence of an iterative process for equations with degenerate operators. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 898–901, 1005; *translation in Differential Equations* **32** (1996), *no.* 7, 902–905 (1997). (Summary) **98i:76083** 76S05 (65J15, 76M25)

— (*with* Pankratova, O. V.; Shagidullin, R. R.) Iterative methods for solving filtration problems with a discontinuous law with a limit gradient. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 396–399, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 395–398. (Introduction) **98k:76113** 76M30 (49J40, 49M99, 76M25, 76S05)

Badrikian, Albert Transformation of Gaussian measures. *Ann. Math. Blaise Pascal* **1996**, *Numéro Spécial*, 13–58. (Ana Bela Cruzeiro) **98f:60109** 60H07 (28C20, 28D05)

Badshah, V. H. (*with* Qureshi, Noshad Ahmed; Singh, Bijendra) Remark on a theorem of Barada Ray. *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 306–308. 54H25

— (*with* Jaswani, Rajni; Singh, Bijendra) Common fixed point of four mappings on Menger spaces. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 386–390. 54H25

— (*with* Lohani, P. C.) Common fixed point theorem in complete metric space. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 2, 272–275. 54H25

Bae, Hyeong-Ohk *see* **Proceedings: Partial Differential Equations Conference. 98h:35001**

Bae, Joogsig An empirical central limit theorem for the Kaplan-Meier integral process on $[0, \infty)$. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 231–243. (Winfried Stute) **98j:62039** 62G30 (60F05, 62G05)

Bae, Jongsung A study of (M, S)-optimal h $(h \geq 2)$-concurrance most balanced design. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **10** (1997), *no.* 1, 61–68. 62K05

Bae, Myung M. (*with* Bose, Bella) Resource placement in torus-based networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1083–1092. (Summary) **98f:68021** 68M10 (94B99, 94C99)

Bae, Sunghan (*with* Lee, Seungjae) On the coefficients of the Drinfeld modular equation. *J. Number Theory* **66** (1997), *no.* 1, 85–101. (Yoshinori Hamahata) **98d:11063** 11G09 (11G15)

— (*with* Lee, Seungjae) Drinfeld modular functions. *Osaka J. Math.* **34** (1997), *no.* 1, 73–99. (David Goss) **98b:11061** 11G09

Baek, Hun Ki (*with* Lee, Hung Hwan) Some cubic Julia sets. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 31–37. (Pei-Chu Hu) **98a:30032** 30D05

Baek, In Soo (*with* Lee, Hung Hwan; Kim, Tae Sik) Dimensions of the perturbed random Cantor sets. *Kyungpook Math. J.* **37** (1997), *no.* 1, 53–59. (Hermann Haase) **98m:28016** 28A80 (28A78)

Baek, Jangsun (*with* Wehrly, Thomas E.) Kernel regression estimation for permutation fixed design additive models. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 499–514. (Summary) **98g:62055** 62G05

Back, Jeongseon (*with* Kwak, Minkyu) Singular solutions of semilinear parabolic equations in several space dimensions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1049–1064. (Summary) **98i:35083** 35K55 (35B05)

Baek, Jong-Il (*with* Choi, Jeong-Yeol; Youn, Eun-Ho) A weakly dependence concepts of bivariate stochastic processes. *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 831–839. (Moshe Shaked) **98e:60075** 60G99

— The ordering of hitting times of multivariate processes. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 545–556. (Summary) **98c:62185** 62N05 (60E15, 62H20)

— A weakly negative structure of stochastic ordering. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 211–223. 60G99 (60E15)

— (*with* Kim, Tae-Sung; Seo, Hye-Young) A weak positive orthant dependence concept. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 109–123 (1998). 62H20

— A weakly dependence structure of multivariate processes. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 355–363. (A. M. Abouammoh) **98i:60087** 60K10 (62N05)

Baekler, Peter (*with* Mielke, Eckehard W.; Hehl, Friedrich W.; Macías, Alfredo; Morales-Técotl, Hugo A.) Yang-Mills-Clifford version of the chiral Einstein action. (English summary) *Gravity, particles and space-time*, 217–254, *World Sci. Publishing, River Edge, NJ*, 1996. (Manoel F. Borges) **98e:83062** 83C47 (81V17, 83C99)

van Bael, Annemie *see* **Van Bael, Annemie**

Baernstein, Albert, II The size of the set where a univalent function is large. *J. Anal. Math.* **70** (1996), 157–173. (Johnny E. Brown) **98d:30012** 30C35 (30C85)

— A minimum problem for heat kernels of flat tori. (English summary) *Extremal Riemann surfaces (San Francisco, CA, 1995)*, 227–243, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Emilio Ramón Negrin) **98a:58153** 58G11 (11H06)

Baesch, Anja (*with* Steinmetz, Norbert) Exceptional solutions of nth order periodic linear differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 7–17. (Summary) **98g:34011** 34A20 (30D35)

Baesens, C. (*with* MacKay, Robert S.) Finite coherence length for equilibrium states of generalized adiabatic Holstein models. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 2104–2114. (Victor A. L'vov) **98k:82028** 82B20 (82B44)

— (*with* MacKay, Robert S.) Exponential localization of linear response in networks with exponentially decaying coupling. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 931–940. (Volker Matthias Gundlach) **98e:58156** 58F99 (47H99)

Baeten, J. C. M. (*with* Bergstra, Jan A.) Discrete time process algebra with abstraction. (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 1–15, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q10 (68Q55, 68Q60)

— (*with* Bergstra, Jan A.) Bounded stacks, bags and queues. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 104–118, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68075** 68Q10 (68Q55, 68Q60)

— (*with* Bergstra, Jan A.) Process algebra with propositional signals. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 381–405. (Gheorghe Ştefănescu) **98j:68026** 68Q10 (68Q60)

de Baets, Bernard *see* **De Baets, Bernard**

Baev, A. V. (*with* Soltan, I. E.) The inverse problem of predicting an inhomogeneous medium from vertical-seismic profiling data. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 723–732. (Summary) **98c:86006** 86A22 (73D50, 86A15)

Baez, John Carlos (*with* Sawin, Stephen F.) Functional integration on spaces of connections. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 1–26. (Ambar Sengupta) **98h:58027** 58D20 (53C05, 58D30, 81S40)

— (*with* Ashtekar, Abhay; Corichi, Alejandro; Krasnov, Kirill V.) Quantum geometry and black hole entropy. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 5, 904–907. (Summary) **98k:83051** 83C57 (83C45)

bretón Báez, Nora *see* **Bretón Báez, Nora**

Baeza-Vega, R. (*with* Costa, Roberto C. F.) Bernstein algebras of level at most 5. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 4, 193–209. (Consuelo Martínez) **98e:17042** 17D92

Baeza-Yates, Ricardo A. (*with* Perleberg, Chris H.) Fast and practical approximate string matching. (English summary) *Inform. Process. Lett.* **59** (1996), *no.* 1, 21–27. (Maxime Crochemore) **98b:68069** 68Q25 (68Q20)

— (*with* Gonnet, Gaston H.) Fast text searching for regular expressions or automaton searching on tries. (English summary) *J. ACM* **43** (1996), *no.* 6, 915–936. (E. M. Reingold) **98b:68070** 68Q25 (68P05)

— (*with* Soza-Pollman, Héctor) Analysis of linear hashing revisited. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 1, 70–85. (Summary) **98m:68048** 68P10 (68Q25)

— *see also* **Latin American Theoretical INformatics, 98c:68015**

Báez-Duarte, Luis Hardy-Ramanujan's asymptotic formula for partitions and the central limit theorem. (English summary) *Adv. Math.* **125** (1997), *no.* 1, 114–120. (E. Omey) **98b:60036** 60F05 (11P82, 40E05, 60G50)

— (*with* Cámera, G. A.) Horizontal growth of harmonic functions. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 195–202. (David A. Herron) **98j:31003** 31B05

Bafna, Vineet (*with* Narayanan, Babu; Ravi, R.) Nonoverlapping local alignments (weighted independent sets of axis parallel rectangles). (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 506–517, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 92C40 (05C35, 05C85, 68Q25)

— (*with* Muthukrishnan, S.; Ravi, R.) Computing similarity between RNA strings. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 1–16, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98i:92025** 92D20 (68Q20)

— (*with* Narayanan, Babu; Ravi, R.) Nonoverlapping local alignments (weighted independent sets of axis-parallel rectangles). (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 41–53. (Summary) **98a:92002** 92C40 (05C35)

— (*with* Lawler, Eugene L.; Pevzner, Pavel A.) Approximation algorithms for multiple sequence alignment. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 233–244. (Summary) **98f:68120** 68Q25 (92D20)

Bagagiolo, F. (*with* Bardi, Martino; Capuzzo Dolcetta, I.) A viscosity solutions approach to some asymptotic problems in optimal control. (English summary) *Partial differential equation methods in control and shape analysis (Pisa)*, 29–39, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Fabio Camilli) **98d:49037** 49L25 (49K40)

Bagarello, F. Some results about frames. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 961–980. (Ole Christensen) **98k:46016** 46B15 (42C15, 46C05, 81P15)

Bagaria, Joan (*with* Bosch, Roger) Projective forcing. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 237–266. (Miroslav Repický) **98j:03068** 03E15 (03E35)

— A characterization of Martin's axiom in terms of absoluteness. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 366–372. (Marion Scheepers) **98k:03108** 03E50 (03E40)

— *see also* **Set theory, 98h:03061**

Bagby, Thomas (*with* Gauthier, Paul M.; Woodworth, Jennifer) Tangential harmonic approximation on Riemannian manifolds. (English summary) *Harmonic analysis and number theory (Montreal, PQ, 1996)*, 58–72, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Stephen J. Gardiner) **98m:31009** 31C12 (41A30)

Bagchi, Anindo Route selection with multiple metrics. *Inform. Process. Lett.* **64** (1997), *no.* 4, 203–205. 68M10

Bagchi, Atish The Lee identities in topoi. I. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 2, 143–159. (John L. Bell) **98k:18003** 18B25 (03G30, 06D15, 18B30, 54B30)

Bagchi, B. *see* **Bagchi, Bijan Kumar**

Bagchi, Bhaskar (*with* Misra, Gadadhar) Constant characteristic functions and homogeneous operators. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 51–65. (László Kérchy) **98a:47009** 47A45 (22D10, 47A10)

Bagchi, Bijan Kumar (*with* Bhaumik, Debajyoti) Coherent states for parabosons. (English summary) *J. Phys. A* **30** (1997), *no.* 17, L593–L597. (Summary) **98k:81103** 81R30 (81S05)

— (*with* Roychoudhury, R.) New phase equivalent partners to Eckart and Bargmann potentials. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 1, 65–71. (Luis M. Nieto) **98b:81053** 81Q60 (35Q40)

— (*with* Quesne, Christianne) Zero-energy states for a class of quasi-exactly solvable rational potentials. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 1–6. (Federico Finkel) **98e:81024** 81Q05

Bagchi, Sunanda An infinite series of adjusted orthogonal designs with replication two. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 975–987. (K. Afsarinejad) **98c:62150** 62K15 (62K05)

Bagdasarian, Gevorg G. (*with* Piliposyan, Gayane T.) Mathematical modeling and numerical investigation of magneto-elastic stability of superconducting plates. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 715–725, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73K10 (73R05, 82D55)

Bagdasarov, S. K. Zolotarev ω-polynomials in $W^r H^\omega[0, 1]$. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 340–378. (D. J. Leeming) **98i:41005** 41A10

Bagdasaryan, D. T. On the growth of M. M. Dzhrbashyan's function $\pi_\alpha(z, a_n)$. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 1, 79–86 (1996). (Vladimir S. Azarin) **98d:30043** 30D35 (30D15)

Bagdonavičius, Viliandas B. (*with* Nikulin, Mikhail S.) Some rank tests for multivariate censored data. (English summary) *Advances in the theory and practice of statistics*, 193–207, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:62125** 62G10

— (*with* Nikulin, Mikhail S.) Transfer functionals and semiparametric regression models. (English summary) *Biometrika* **84** (1997), *no.* 2, 365–378. 62G99

— (*with* Nikulin, Mikhail S.) Statistical analysis of the generalized additive semiparametric survival model with random covariates. (English summary) *Qüestiió* (2) **21** (1997), *no.* 1-2, 273–291. (Summary) **98f:62286** 62N05 (62G05)

— (*with* Nikulina, V. N.; Nikulin, Mikhail S.) Bolshev's method of confidence limit construction. (English summary) *Qüestiió* (2) **21** (1997), *no.* 3, 549–562. (Summary) **98k:62041** 62F25

— (*with* Nikulin, Mikhail S.) Accelerated life testing when a process of production is unstable. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 269–275. 62N05

— (*with* Nikulin, Mikhail S.) Asymptotical analysis of semiparametric models in survival analysis and accelerated life testing. (English summary) *Statistics* **29** (1997), *no.* 3, 261–283. (Summary) **98c:62186** 62N05

Bagemihl, F. *see* **Khinchin, Aleksandr Yakovlevich, 98k:11001**

Bagga, P. C. (*with* Bhambani, Ambika) Sequencing with restrictions in processing times. (English summary) *Opsearch* **34** (1997), *no.* 2, 116–127. 90B35

Baggen, C. P. M. J. (*with* Tolhuizen, Ludo M. G. M.) On diamond codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1400–1411. (Summary) **98i:94043** 94B60

Bagger, Jonathan A. Partial breaking of extended supersymmetry. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 362–367. (*see* **98g:81005**) 81T60 (81R40)

— (*with* Giannakis, Ioannis) Higgs mechanism in string theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2317–2322. (Summary) **98g:81149** 81T30

Baggett, Jeffrey S. (*with* Trefethen, Lloyd N.) Low-dimensional models of subcritical transition to turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 4, 1043–1053. (Tomás Chacón Rebollo) **98a:76030** 76E05 (76E30, 76F10, 76M25)

Baggett, Lawrence W. (*with* Medina, Herbert A.; Merrill, Kathy D.) Simultaneously symmetric functions. *Amer. Math. Monthly* **104** (1997), *no.* 6, 520–528. (W. T. Whitley) **98f:26006** 26A99 (47A35)

— (*with* Kaniuth, Eberhard; Moran, William) Primitive ideal spaces, characters, and Kirillov theory for discrete nilpotent groups. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 175–203. (Siegfried Echterhoff) **98k:22025** 22D15 (46L05)

Baggs, Geraldine E. (*with* Nagaraja, H. N.) Order statistics of bivariate exponential random variables. (English summary) *Statistical theory and applications*, 129–141, *Springer, New York*, 1996. (Summary) **98c:62096** 62G30

— (*with* Nagaraja, H. N.) Reliability properties of order statistics from bivariate exponential distributions. (English summary) *Comm. Statist. Stochastic Models* **12** (1996), *no.* 4, 611–631. 62N05 (62G30)

Bagh, Adib Epi/hypo-convergence: the slice topology and saddle points approximation. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 1, 13–39. (Roberto Lucchetti) **98b:49013** 49J45 (46N10, 47N10, 54C99, 90C48)

— (*with* Wets, Roger J.-B.) Convergence of set-valued mappings: equi-outer semicontinuity. (English summary) *Set-Valued Anal.* **4** (1996), *no.* 4, 333–360. (Summary) **98f:54019** 54C60 (49J45, 54B20, 58C06)

Bagheri, Mohammad Mathematical problems of the famous Iranian poet Nāṣer-e Khosrow. (English, Arabic and Persian summaries) *Historia Math.* **24** (1997), *no.* 2, 193–196. (Y. Dold) **98g:01017** 01A30

— A newly found letter of al-Kāshī on scientific life in Samarkand. (English, Arabic and Farsi summaries) Translated from the Persian. *Historia Math.* **24** (1997), *no.* 3, 241–256. (Summary) **98d:01007** 01A30

Bagina, Helen Yu. (*with* Kruglikov, Sergei V.) Corporate advertising allocation: problem of site evaluation. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 215–220, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 90B80 (90C90)

Bagini, V. (*with* Palma, C.) Extension of the Fresnel transform to *ABCD* systems. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 8, 1774–1779. (Summary) **98f:78003** 78A05

Baginskaya, S. N. (*with* Davydov, È. G.) Fredholm equations of the first kind. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 226–230. (Summary) **98h:45001** 45B05 (45L05)

Bagley, Scott W. Polynomial near-rings: polynomials with coefficients from a near-ring. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 179–190, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (C. J. Maxson) **98i:16046** 16Y30 (12K05)

— Distributor and J_2-radical ideals of generalized centralizer near-rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3405–3425. (Kirby C. Smith) **98f:16031** 16Y30

Bagnara, Roberto A hierarchy of constraint systems for data-flow analysis of constraint logic-based languages. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 119–155. (Summary) **98m:68030** 68N17 (68T20)

Bagnato, V. S. (*with* de Lima, A. F.; Marques, G. C.; Baseia, B.) Even and odd coherent states are "shadowed-like" states. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 411–412. (Le Man Kuang) **98h:81044** 81R30

— (*with* Baseia, B.; Moussa, M. H. Y.) Hole burning in Fock space. (English summary) *Phys. Lett. A* **240** (1998), *no.* 6, 277–281. 81V80

Bagni, Giorgio Tomaso Differential equations in the works of Jacopo and Vincenzo Riccati. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **4** (1995), 7–13 (1996). (Introduction) **98f:01025** 01A50 (34–03)

Bagno, A. M. (*with* Guz', A. N.) Elastic waves in prestressed bodies that interact with a fluid (a survey). (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 6, 3–39; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 6, 435–465. 73D15 (73K70)

Bagota, Mónika On the order of magnitude of double Fourier transforms. *Approximation theory and function series* (*Budapest*, 1995), 163–174, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (Elijah Liflyand) **98m:42013** 42B10 (42B08)

— The maximal Riemann operator is bounded from $H^1(\mathbf{T})$ into $L^1(\mathbf{T})$. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 3-4, 557–564. (Mario Milman) **98b:47040** 47B38 (42B25, 42B30)

— (*with* Dăng Vũ Giang; Móricz, Ferenc) On the order of magnitude of Fourier transforms. *Acta Math. Hungar.* **75** (1997), *no.* 3, 227–243. (Elijah Liflyand) **98m:42005** 42A38 (42A24)

Bagrets, A. A. (*with* Bagrets, D. A.) Nonintegrability of two problems in vortex dynamics. (English summary) *Chaos* **7** (1997), *no.* 3, 368–375. (Jair Koiller) **98i:58084** 58F05 (70H05, 76C05)

Bagrets, D. A. (*with* Bagrets, A. A.) Nonintegrability of two problems in vortex dynamics. (English summary) *Chaos* **7** (1997), *no.* 3, 368–375. (Jair Koiller) **98i:58084** 58F05 (70H05, 76C05)

Bagrov, V. G. (*with* Samsonov, B. F.) Darboux transformation, factorization and supersymmetry in one-dimensional quantum mechanics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 356–367; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1051–1060 (1996). (Violeta V. Tretynyk) **98m:81042** 81Q60 (34L40, 81U40)

— (*with* Obukhov, V. V.; Osetrin, K. E.) The problem of exact integration of mathematical physics equations in curved space-times. *Gravity, particles and space-time*, 1–18, *World Sci. Publishing, River Edge, NJ*, 1996. (Francisco Diego Mazzitelli) **98j:81225** 81T20 (83C10, 83C47)

— (*with* Istomin, A. D.; Obukhov, V. V.; Osetrin, K. E.) The problem of the classification of conformally Stäckel spaces in the Vaidya problem. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **39** (1996), *no.* 8, 48–53; *translation in Russian Phys. J.* **39** (1996), *no.* 8, 744–749 (1997). (Jan Novotný) **98b:83021** 83C20

— (*with* Samsonov, B. F.) Darboux transformation of the Schrödinger equation. *Phys. Particles Nuclei* **28** (1997), *no.* 4, 374–397; *translated from Fiz. Élementar. Chastits i Atom. Yadra* **28** (1997), *no.* 4, 951–1012, 1115–1116 (*Russian. English and Russian summaries*). (Violeta V. Tretynyk) **98j:81098** 81Q60 (35Q40, 81R30, 81R40)

— (*with* Obukhov, V. V.; Sakhapov, A. G.) Integration of Einstein-Dirac equations for Stäckel spaces of (3, 1) type. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 2, 3–9; *translation in Russian Phys. J.* **40** (1997), *no.* 2, 117–123. (Summary) **98a:83031** 83C20

— (*with* Obukhov, V. V.; Osetrin, K. E.) Nontrivial conformally Stäckel metrics of Einstein spaces. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 10, 74–78; *translation in Russian Phys. J.* **40** (1997), *no.* 10, 995–999 (1998). (Jan Novotný) **98m:83012** 83C20 (83C15)

Bagui, Subhash C. (*with* Ghosh, Dilip Kumar; Patel, A. H.; Hemasinha, Rohan) Construction of balanced ternary designs and proper balanced $(m+1)$-ary designs. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 257–264. 62K10 (05B05)

— (*with* Ghosh, Dilip Kumar; Thannippara, Alex) Some Latin squares type $L_r(n)$ designs. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 117–121. 62K10

Baguis, P. (*with* Stavracou, T.) Marsden-Weinstein reduction on graded symplectic manifolds. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1670–1684. (Jesús Marín-Solano) **98g:58053** 58F05 (58A50, 70H33)

Bagyinszki, János PR-maximal and PR-complete clones of functions defined on a finite set. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 321–328 (1997). (Summary) **98c:03063** 03B50

Bagyrov, Sh. G. On the existence of a positive solution of second-order parabolic equations with time-periodic coefficients. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 86–89. 35K20 (35B05)

Bahaa, Mohamed S. (*with* Zaher, Adel M.; Ismail, Moshira A.) Bayesian type I censored designs for the Weibull lifetime model: information based criterion. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 127–150. 62N05 (62F15)

Bahadir, A. R. (*with* Kutluay, S.; Özdeş, A.) The numerical solution of one-phase classical Stefan problem. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 135–144. (Summary) **98b:65099** 65M06

Bahar, Leon Y. A non-linear non-holonomic formulation of the Appell-Hamel problem. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 1, 67–83. (Ranislav Bulatović) **98f:70012** 70F25 (70E15)

Bahar, Sonya Chaotic attractors generated by iterated function systems: "harmonic decompositions" and the onset of chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 3, 303–312. (Athanasios Yannacopoulos) **98b:58105** 58F13

— Symbolic dynamics for IFS attractors. (English summary) *Fractals* **5** (1997), *no.* 2, 237–246. (Peter R. Massopust) **98g:58042** 58F03

— Orbits embedded in IFS attractors. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 741–749. (Peter R. Massopust) **98g:58111** 58F13

Baharav, Zachi (*with* Leviatan, Yehuda) Impedance matrix compression (IMC) using iteratively selected wavelet basis. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 2, 226–233. (Summary) **98j:78001** 78–08 (78A40)

Bahcall, John N. *see* **Unsolved problems in astrophysics, 98i:85001**

Bahei-El-Din, A. (*with* Dvorak, G. J.) Inelastic composite materials: transformation analysis and experiments. (English summary) *Continuum micromechanics*, 1–59, *CISM Courses and Lectures*, 377, *Springer, Vienna*, 1997. (*see* **98d:73002**) 73S10 (73E99, 73K20)

Bahhar, A. (*with* Baranger, Jacques; Sandri, D.) Galerkin discontinuous approximation of the transport equation and viscoelastic fluid flow on quadrilaterals. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 97–114. (Leonid K. Antanovskiĭ) **98j:76084** 76M10 (65M60, 76A10)

Bahig, H. M. (*with* Khairat, M. K.; El-Zahar, Mohamed H.) An exact graph coloring algorithm using color exchange. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 65–71. (Summary) **98g:05061** 05C15

Bahlali, K. (*with* Mezerdi, B.) Some L^p local estimates related to the solutions of stochastic differential equations and application to stochastic flows. (English summary) *Random Oper. Stochastic Equations* **4** (1996), *no.* 1, 7–16. (Marek Rutkowski) **98e:60092** 60H10 (60J60)

— (*with* Mezerdi, B.; Ouknine, Youssef) Some generic properties of stochastic differential equations. (English summary) *Stochastics Stochastics Rep.* **57** (1996), *no.* 3-4, 235–245. (Tomás Caraballo) **98a:60080** 60H10 (60H15)

Bahrami, Farid (*with* Shahgholian, Henrik) Uniqueness for an overdetermined boundary value problem for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 745–750. (Summary) **98h:31007** 31B20 (35J65, 35N10)

Bahrampour, Y. (*with* Nekooei, R.) Preholomorphic sections. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 279–281, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **98j:32039** 32L99

Bahri, Abbas (*with* Li, Yan Yan; Rey, Olivier) On a variational problem with lack of compactness: the topological effect of the critical points at infinity. (English and French summaries) *Calc. Var. Partial Differential Equations* **3** (1995), *no.* 1, 67–93. (From the introduction) **98c:35049** 35J65 (35J20, 58E05)

— (*with* Lions, Pierre-Louis) On the existence of a positive solution of semilinear elliptic equations in unbounded domains. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 365–413. (Gabriella Tarantello) **98k:35047** 35J60 (35B05, 58E05)

— (*with* Aubin, Thierry) Méthodes de topologie algébrique pour le problème de la courbure scalaire prescrite. (English and French summaries) [Methods of algebraic topology for the problem of prescribed scalar curvature] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 6, 525–549. (David L. Finn) **98g:53068** 53C21 (58G30)

— (*with* Taimanov, Iskander A.) Periodic orbits in magnetic fields and Ricci curvature of Lagrangian systems. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2697–2717. (Jair Koiller) **98k:58051** 58E10 (53C80, 58F22, 70G05)

Bahti, S. S. (*with* Singhal, J. P.) Integral representation involving the H-function of two variables. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 3, 191–199. (M. K. Jain) **98k:33021** 33C60

Bahturin, Y. *see* **Bakhturin, Yu. A.**

Bahturin, Y. A. *see* **Bakhturin, Yu. A.**

Bahturin, Yuri *see* **Bakhturin, Yu. A.**

Bai, Cheng Ming (*with* Meng, Dao Ji) Doubly symmetric algebras. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 15, 1606–1610. 17A30

Bai, Do Sun *see* **Cramer, Erhard, 98c:62035**

Bai, Er-Wei Digital identification of a continuous-time system and some related issues. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 149–170. 93B30 (93C60)

— (*with* Tempo, Roberto; Dabbene, F.) Probabilistic robustness analysis: explicit bounds for the minimum number of samples. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 237–242. (Summary) **98c:93033** 93B35 (93C41, 93E10)

— (*with* Tempo, Roberto; Nagpal, Krishan M.) Recursive system identification in the presence of noise and model uncertainties. (English summary) *Systems Control Lett.* **32** (1997), *no.* 1, 57–62. (Summary) **98e:93104** 93E12 (93B30)

Bai, Fengshan (*with* Champneys, Alan R.) Numerical detection and continuation of saddle-node homoclinic bifurcations of codimension one and two. (English summary) *Dynam. Stability Systems* **11** (1996), *no.* 4, 325–346. (Mark J. Friedman) **98a:34036** 34C23 (34A50, 34C37, 65L10)

Bai, Fengtu (*with* Gu, Yong Geng; Miao, Changxing) Fractional order evolution equation interpolating both heat and wave equation. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 160–167. (Sergiu Aizicovici) **98g:35039** 35G05 (34K30, 45K05, 47N20)

Bai, Guo Qiang (*with* Ma, Run Nian) $[0,k_1]_1^m$-factorization orthogonal to a star. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 2, 13–16. 05C70

— (*with* Ma, Run Nian) Longest cycles in 2-connected $K_{1,3}$-free graphs. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 29–32. 05C38

Bai, Jin Dong Oscillation of a class of second-order nonlinear difference equations. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 3, 431–437. 39A10

— Positive nondecreasing solutions of a nonlinear difference equation. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 4, 605–610. (Summary) **98m:39006** 39A10

Bai, Jushan Estimating multiple breaks one at a time. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 315–352. (Luis Firinguetti) **98h:62131** 62M10 (62P20)

— (*with* Perron, Pierre) Estimating and testing linear models with multiple structural changes. (English summary) *Econometrica* **66** (1998), *no.* 1, 47–78. (Summary) **98m:62184** 62J05 (62P20)

Bai, Li Hua (*with* He, Shang Lu) A linear programming method for solving some minimax problems. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **16** (1997), *no.* 3, 83–86. 90C05

Bai, M.-R. (*with* Chen, H.-P.) Development of a feedforward active noise control system by using the H_2 and H_∞ model matching principle. (English summary) *J. Sound Vibration* **201** (1997), *no.* 2, 189–204. (Summary) **98a:93020** 93B36 (93E10)

Bai, Peng (*with* Pan, Jian-Xin; Wang, Xue-Ren) Bayesian influence analysis in a growth curve model (RSS). (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 3, 247–254. 62H12 (62F15)

Bai, Qingyuan (*with* Xie, Licong; Lin, Pengcheng) Difference scheme of uniform convergence in the L^∞ norm for singular perturbation of the third BVP. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 85–93. (Summary) **98f:34021** 34B05 (34A45, 34E15, 65L12)

Bai, R. *see* **Bai, Runyuan**

Bai, Ruipu (*with* Wu, Zhende; Liu, Zongze) The cobordism classification of involution on DOLD manifold $P(1,2I)$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 9–20. (Summary) **98f:57060** 57S25 (57R85, 57S17)

Bai, Runyuan (*with* Mata, C.; Joseph, Daniel D.) Levitation of core flows. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials (Tobago,* 1997), 65–84, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08

— (*with* Joseph, Daniel D.; Kelkar, K.) Axisymmetric wavy core flow in a heavy viscous oil. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials (Tobago,* 1997), 85–130, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08

Bai, Sherman X. (*with* Tsai, Y.-K.; Elhafsi, Mohsen; Deng, K.) Production scheduling in a price competition. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 5–19. (Summary) **98a:90052** 90B35 (90A12)

— (*with* Elhafsi, Mohsen) The common cycle economic lot scheduling problem with backorders: benefits of controllable production rates. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 283–303. (Roman Słowiński) **98e:90073** 90B35 (90B05)

— (*with* Wiktorsson, M.; Varanasi, S.) An optimal production flow control problem with impulsive demand. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 53–67. (Summary) **98f:90034** 90B70 (93E20)

Bai, Shi-Zhong Q-convergence of nets and weak separation axioms in fuzzy lattices. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 379–386. (Summary) **98d:54013** 54A40 (04A72, 06D99)

— Strongly S-irresolute order homomorphisms on fuzzy lattices. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 3, 1–6. (Summary) **98j:54005** 54A40 (04A72, 06B99)

— (*with* Wang, Wan-Liang) Fuzzy non-continuous mappings and fuzzy pre-semi-separation axioms. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 261–268. 54A40 (54C10, 54D15)

Bai, Shu Wei Some notes on associative algebras. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 3–5. 16U60

Bai, Su Hua Zhao Ke at age 85. (Chinese) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 1–3. 01A70

Bai, Wen The quadrilateral "Mini" finite element for the Stokes problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 41–47. (Summary) **98c:76061** 76M10 (76D07)

— (*with* Zhou, Tian-Xiao; Hu, Bing) Mini mixed finite elements for solving the Stokes problem. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 731–735. 65N30 (76D07, 76M10)

Bai, Xue (*with* Wang, Hai Yan[3]; Liu, Hui Jie) (DG) fuzzy integral equations on L-fuzzy sets. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 3, 16–18. 45A05 (04A72)

Bai, Yong Cheng (*with* Zheng, Ya Lin) Properties of relative grades of membership, relative fuzzy sets and their associated subspaces. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 20–24. 04A72

Bai, Yu Shan (*with* Sheng, Zhong Ping; Lin, Zheng Hua) Structural analysis of the digital characteristics of approximate numbers. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 4, 21–24. 65G99

Bai, Yuan Huai Filtrations of representations of quantum groups with rank 1. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 547–556. (Shao-Ming Fei) **98a:17014** 17B37 (20G05)

— Tensor products of modules and indecomposable modules for quantum algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 301–307. (Shao-Ming Fei) **98d:17019** 17B37 (17B35)

Bai, Zhaojun (*with* Orlandi, Antonio; Smith, William T.) Moment matching method for numerical solution of MTL equations in interconnect analysis. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 3–16. (Summary) **98h:65008** 65C20 (65F15)

— (*with* Demmel, James W.; Gu, Ming) An inverse free parallel spectral divide and conquer algorithm for nonsymmetric eigenproblems. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 279–308. (Guo Rong Wang) **98d:65043** 65F15

— (*with* Demmel, James W.; Dongarra, Jack; Petitet, A.; Robinson, H.; Stanley, K.) The spectral decomposition of nonsymmetric matrices on distributed memory parallel computers. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1446–1461. (Summary) **98d:65027** 65F05 (65F30, 65Y05)

Bai, Zhidong (*with* Babu, Gutti Jogesh) Mixtures of global and local Edgeworth expansions and their applications. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 282–307. (R. T. Smythe) **98d:62023** 62E20

— Circular law. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 494–529. (Summary) **98k:60040** 60F15 (62H99)

— (*with* Zhao, Lin Cheng; Chao, Chern-Ching; Liang, Wen-Qi) Error bound in a central limit theorem of double-indexed permutation statistics. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2210–2227. (Sh. A. Khashimov) **98i:60024** 60F05 (62E20, 62G10)

— (*with* Sarkar, Sanat K.; Wang, Wenjin) Positivity of the best unbiased L-estimator of the scale parameter with complete or selected order statistics from location-scale distribution. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 181–188. (Sotiris Loukas) **98i:62024** 62G05 (62G30)

— (*with* Miao, Bai Qi; Tsay, Jhishen) A note on the convergence rate of the spectral distributions of large random matrices. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 95–101. (Summary) **98c:60040** 60F99

— (*with* Wu, Yue Hua) On necessary conditions for the weak consistency of minimum L_1-norm estimates in linear models. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 193–199. (C. R. Rao) **98m:62185** 62J05 (62F10)

Bai, Zhong-Zhi On the comparisons of the multisplitting unsymmetric AOR methods for M-matrices. (English summary) *Calcolo* **32** (1995), *no.* 3-4, 207–220 (1997). (Ljiljana Cvetković) **98m:65038** 65F10

— Parallel matrix multisplitting block relaxation iteration methods. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 238–252. (Hong Yuan Fu) **98i:65032** 65F30 (65F10, 65Y05)

— (*with* Axelsson, Owe) A unified framework for the construction of various algebraic multilevel preconditioning methods. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II (Nijmegen,* 1996), 63–76, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (Summary) **98d:65137** 65N22 (65F35, 65N30)

— (*with* Sun, Jia Chang; Wang, De Ren) A unified framework for the construction of various matrix multisplitting iterative methods for large sparse system of linear equations. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 12, 51–76. (Derek S. Henderson) **98c:65076** 65F50

— Parallel hybrid iteration methods for block bordered linear systems. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 1, 37–60. (Heike Faßbender) **98e:65042** 65F50 (65F10, 65Y05)

— (*with* Wang, De Ren) Asynchronous parallel multisplitting nonlinear Gauss-Seidel iteration. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 179–194. (Zuhe Shen) **98m:65091** 65H10 (65Y05)

— A parallel projection iterative algorithm for large-scale overdetermined nonlinear systems of equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 1–7. (Zuhe Shen) **98m:65092** 65H10

— (*with* Evans, David J.) Matrix multisplitting relaxation methods for linear complementarity problems. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 309–326. (Summary) **98d:90121** 90C33 (65K05)

— (*with* Evans, David J.) Blockwise matrix multi-splitting multi-parameter block relaxation methods. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 103–118. (Summary) **98d:65037** 65F10 (65H20)

— On the convergence of parallel chaotic nonlinear multisplitting Newton-type methods. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 317–334. (R. P. Tewarson) **98c:65084** 65H10 (65Y20)

— (*with* Wei, Yi-min) On the convergence of the linear approximation methods for variational and complementarity problems. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 206–218. (Muhammad Aslam Noor) **98e:49019** 49J40 (65K10, 90C33)

— (*with* Wang, De Ren) A class of new hybrid algebraic multilevel preconditioning methods. (English summary) *Linear Algebra Appl.* **260** (1997), 223–255. (Mark Ainsworth) **98i:65035** 65F35

— A class of two-stage iterative methods for systems of weakly nonlinear equations. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 295–319. (Tetsuro Yamamoto) **98d:65068** 65H10

— Asynchronous parallel matrix multisplitting block relaxation iteration methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 1, 28–39. 65F30 (65Y05)

— (*with* Evans, David J.; Wang, De Ren) A class of multi-parameter relaxed parallel multisplitting methods for large sparse linear complementarity problems. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 113–127. (Summary) **98f:90066** 90C33 (65F30, 65Y05)

— The convergence of the two-stage iterative method for Hermitian positive definite linear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 1–5. 65F10 (15A06)

Baicheva, Tsonka Stefanova (*with* Velikova, Evguenia) Covering radii of ternary linear codes of small dimensions and codimensions. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2057–2061. 94B05
— The covering radius of ternary cyclic codes with length up to 25. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 223–227. (Summary) **98i:94038** 94B15 (94B75)
Baidakova, N. V. Approximation of some functions by nonlinear sets of linear and bilinear splines. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 133–145, 375, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Alexander Alipkanovich Zhensykbaev) **98j:41003** 41A15
Baier, Christel (*with* Majster-Cederbaum, Mila E.) A categorical characterization of consistency results. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 473–486, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98f:68169** 68Q55 (68Q60)
— (*with* Majster-Cederbaum, Mila E.) Denotational linear time semantics and sequential composition. (English summary) *Inform. Process. Lett.* **59** (1996), *no.* 3, 135–143. (John Shawe-Taylor) **98g:68096** 68Q55 (03B35, 06A23, 68Q45)
— (*with* Majster-Cederbaum, Mila E.) Metric completion versus ideal completion. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 145–171. (Guo-Qiang Zhang) **98c:68129** 68Q55
— (*with* Clarke, Edmund M.; Hartonas-Garmhausen, Vasiliki; Kwiatkowska, Marta; Ryan, Mark) Symbolic model checking for probabilistic processes. (English summary) *Automata, languages and programming (Bologna, 1997)*, 430–440, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60
— (*with* Kwiatkowska, Marta) Domain equations for probabilistic processes (extended abstract). (English summary) *EXPRESS'97 (Santa Margherita Ligure, 1997)*, 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q55)
— (*with* Kwiatkowska, Marta) On topological hierarchies of temporal properties. (English summary) *Partial order methods in verification (Princeton, NJ, 1996)*, 141–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 29, *Amer. Math. Soc., Providence, RI*, 1997. (Gabriel Ciobanu) **98h:68163** 68Q60 (03B70)
— (*with* Majster-Cederbaum, Mila E.) Metric semantics from partial order semantics. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 701–735. (Chris Brink) **98j:68099** 68Q55
— Trees and semantics. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 217–250. (Peter Bachmann) **98i:68175** 68Q55 (68Q05, 68Q10)
Baig, M. (*with* Espriu, Domènec; Johnston, Desmond Alexander; Malmini, Ranasinghe P. K. C.) String tension in gonihedric three-dimensional Ising models. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7695–7706. 82B20
Baig, M. Shafique Invariants of energy function $W(\mathbf{E}, \mathbf{S}, \mathbf{A}, \eta)$ over the crystal class $3m$. (English summary) *Punjab Univ. J. Math. (Lahore)* **29** (1996), 43–50. 82D25
— Decomposition of traceless tensors over crystallographic point groups. (English summary) *Punjab Univ. J. Math. (Lahore)* **29** (1996), 51–56. 20H15
Baigent, Steve (*with* Norbury, John) Two discrete models for semi-geostrophic dynamics. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 333–342. (Summary) **98h:86002** 86A10
Baik, Bong Sin (*with* Hur, Kul; Rhee, Choon Jai) R'-sets and contractibility. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 309–319. (Summary) **98b:54014** 54B20 (54F15)
Baik, Seung Il (*with* Kim, Jong Youl; Kim, Hee Sik) Q-upper algebras with the condition (S). (English summary) *Math. Japon.* **46** (1997), *no.* 3, 419–425. (Summary) **98g:06029** 06F35 (06A06)
Baik, Y. G. (*with* Bogley, W. A.; Pride, S. J.) On the asphericity of length four relative group presentations. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 3, 277–312. (Martin Edjvet) **98g:20047** 20F05
Baikoussis, Christos (*with* Blair, David E.) On the geometry of the 7-sphere. *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 75–79, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **97i:53001**) 53C25
— A characterization of real hypersurfaces in complex space forms in terms of the Ricci tensor. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 257–265. (Makoto Kimura) **98h:53087** 53C40
Baikov, V. A. (*with* Ibragimov, N. Kh.; Aksenov, A. V.; Chugunov, V. A.; Gazizov, R. K.; Meshkov, A. G.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 2. Applications in engineering and physical sciences. Edited by Ibragimov. *CRC Press, Boca Raton, FL*, 1995. xx+546 *pp. ISBN* 0-8493-2864-0 (Juha Pohjanpelto) **98b:58175** 58G35 (00A05, 00A20, 00A79, 22E70, 34A34, 35A30, 58–02)
— (*with* Anderson, Robert Leonard; Gazizov, R. K.; Hereman, Willy; Ibragimov, N. Kh.; Mahomed, F. M.; Meleshko, S. V.; Nucci, M. C.; Olver, Peter J.; Sheftel', M. B.; Turbiner, A. V.; Vorob'ev, E. M.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 3. New trends in theoretical developments and computational methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1996. xvi+536 *pp. ISBN* 0-8493-9419-8 (Juha Pohjanpelto) **98b:58176** 58G35 (00A20, 22E05, 34A34, 35–04, 35A30, 58–02)
— (*with* Gazizov, R. K.; Ibragimov, N. Kh.; Kovalev, Vladimir F.) Water redistribution in irrigated soil profiles: invariant solutions of the governing equation. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 395–409. (Summary) **98c:76100** 76S05 (35Q35, 86A05)
Bailey, Colin G. Relativized projecta and β-r.e. sets. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 289–296. (Julia Y. Yasuda) **98m:03093** 03D60
Bailey, David H. (*with* Borwein, Jonathan M.; Borwein, P. B.) Ramanujan, modular equations, and approximations to pi or How to compute one billion digits of pi [MR 90d:11143]. *Organic mathematics (Burnaby, BC, 1995)*, 35–71, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 11Y60 (01A60, 11F03, 33E20)
— (*with* Plouffe, Simon) Recognizing numerical constants. (English summary) *Organic mathematics (Burnaby, BC, 1995)*, 73–88, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Samuel S. Wagstaff, Jr.) **98i:11111** 11Y60 (11F03, 11M06)
— (*with* Borwein, P. B.; Plouffe, Simon) On the rapid computation of various polylogarithmic constants. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 903–913. (Andreas Guthmann) **98d:11165** 11Y60
— (*with* Borwein, Jonathan M.; Borwein, P. B.; Plouffe, Simon) The quest for pi. *Math. Intelligencer* **19** (1997), *no.* 1, 50–57. (Introduction) **98b:01045** 01A99
Bailey, F. N. (*with* Helton, J. William; Merino, Orlando) Performance functions and sublevel sets for frequency domain design of single loop feedback control systems with plant uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 3, 227–263. (Summary) **98m:93045** 93B51 (93B36, 93B52, 93C41, 93C80)
— (*with* Helton, J. William; Merino, Orlando) Alternative approaches in frequency domain design of single loop feedback systems with plant uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 3, 265–277. (Summary) **98m:93046** 93B51 (93B36, 93B52, 93C70)
Bailey, Herbert R. (*with* Bannister, Robert) A stronger triangle inequality. *College Math. J.* **28** (1997), *no.* 3, 182–186. (Barry Monson) **98b:51021** 51M16 (51M04)
Bailey, K. R. (*with* Fitzpatrick, Ben G.) Estimation of groundwater flow parameters using least squares. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 117–127. 76M20 (76S05, 86A05)
Bailey, Paul On the approximation of eigenvalues of singular Sturm-Liouville problems by those of suitably chosen regular problems. *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 171–182, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (T. E. Simos) **98d:34045** 34B24 (34L99, 65L15)
Bailey, R. A. (*with* Anderson, Ian) Completeness properties of conjugates of Latin squares based on groups, and an application to bipartite tournaments. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 95–99. (Summary) **98d:05032** 05B15
— A Howell design admitting A_5. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 65–71. (V. A. Zinov'ev) **98h:05039** 05B15 (05B30)
— (*with* Chigbu, P. E.) Enumeration of semi-Latin squares. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 73–84. (V. A. Zinov'ev) **98g:05026** 05B15
— (*with* Royle, Gordon F.) Optimal semi-Latin squares with side six and block size two. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1903–1914. (Sanpei Kageyama) **98k:62130** 62K05 (05B15, 62K10)
— *see also* **Surveys in combinatorics, 98e:05002**
Bailey, Toby N. (*with* Eastwood, Michael G.) Zero-energy fields on real projective space. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 245–258. (Stephen Huggett) **98h:32054** 32L25 (53C65)
— (*with* Dunne, Edward G.) A twistor correspondence and Penrose transform for odd-dimensional hyperbolic space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1245–1252. (Michael G. Eastwood) **98h:32055** 32L25 (22E45, 32C35, 43A85)
— *see also* **Representation theory and automorphic forms, 98i:22001** *and* **Eastwood, Michael G., 98j:32037**
Bailhache, Patrice Cordes vibrantes et consonances chez Beeckman, Mersenne et Galilée. [Vibrating strings and consonance in Beeckman, Mersenne and Galileo] *Musique et mathématiques*, 73–91, *Sci. Tech. Perspect.*, 23, *Univ. Nantes, Nantes*, 1993. (J. S. Joel) **98a:01009** 01A45 (00A69)
— Canonical models for temporal deontic logic. *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 3–21. (Marcus Kracht) **98c:03040** 03B45
— Temporalized deontic worlds with individuals. *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 23–42. (Sharon Livingston) **98h:03022** 03B45
Baillieul, J. (*with* Weibel, S.; Kaper, T. J.) Global dynamics of a rapidly forced cart and pendulum. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 2, 131–170. (Summary) **98b:70027** 70K40 (34C15, 34H05, 70Q05, 93C15)
Baillon, J.-B. (*with* Clément, Philippe; Greven, Andreas; den Hollander, Frank) On the attracting orbit of a nonlinear transformation arising from renormalization of hierarchically interacting diffusions. II. The non-compact case. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 236–298. (Jean Vaillancourt) **98g:60177** 60K35 (47H99, 47N30)
Bailly, C. (*with* Comte-Bellot, G.; Blanc-Benon, P.) Modelling tools for flow noise and sound propagation through turbulence. *New tools in turbulence modelling (Les Houches, 1996)*, 141–162, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (*see* **98i:76001**) 76F99 (76Q05)
Bailly, F. *see* **Bailly, Francis**
Bailly, Florence (*with* Clouet, J. F.; Fouque, Jean-Pierre) Parabolic and Gaussian white noise approximation for wave propagation in random media. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 5, 1445–1470. (Kazimierz Sobczyk) **98e:60105** 60H15 (35Q99, 35R60, 73B35, 73D25)
Bailly, Francis (*with* Destainville, N.; Mosseri, R.) Configurational entropy of codimension-one tilings and directed membranes. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 697–754. (Alexander I. Barvinok) **98i:52029** 52C22 (82D25)
moret-Bailly, Laurent *see* **Moret-Bailly, Laurent**
Bainbridge, John (*with* Whitty, Robin) Recent results in the theory of program flowgraphs. (English summary) *Applications of combinatorial mathematics (Oxford, 1994)*, 15–30, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Summary) **98f:68208** 68R10 (05C85, 68Q50)
Baines, M. J. (*with* Hubbard, M. E.) Conservative multidimensional upwinding for the steady two-dimensional shallow water equations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 419–448. (Summary) **98i:76060** 76M20 (76B15)
— Grid adaptation via node movement. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 77–96. (Summary) **98j:65065** 65M50
— *see also* **Roe, Philip L., (98h:70003)**
Bainov, Drumi D. (*with* Cui, Bao Tong) Oscillatory properties for damped hyperbolic equations with deviating arguments. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 23–30, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 35R10 (35B05, 35L10)
— (*with* Nenov, Svetoslav I.) Limit sets of impulsive dynamical systems. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 31–38, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 34A37 (34C35, 58F25)

— (*with* Stamova, I. M.) Lipschitz stability of impulsive systems of differential-difference equations. (English summary) *Note Mat.* **14** (1994), *no.* 2, 167–178 (1997). (Summary) **98b:34024** 34A37 (34K05, 34K20)
— (*with* Kamont, Zdzisław; Minchev, Emil; Pączkowska-Prządka, Katarzyna) Difference methods for impulsive partial differential equations. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 23–38, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 65L05
— (*with* Dimitrova, Margarita; Dishliev, A. B.) Oscillating solutions of nonlinear impulsive differential equations with a deviating argument. (English summary) *Note Mat.* **15** (1995), *no.* 1, 45–54 (1997). (Yuri V. Rogovchenko) **98m:34133** 34K15 (34A37)
— (*with* Stamova, I. M.; Vatsala, A. S.) On global stability of sets for linear impulsive differential-difference equations. (English summary) *Note Mat.* **15** (1995), *no.* 1, 55–64 (1997). (Yuri V. Rogovchenko) **98m:34150** 34K20 (34A37)
— (*with* Covachev, V. Chr.) Periodic solutions of impulsive systems with delay viewed as small parameter. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 9–25. (Eduardo Liz) **98j:34015** 34A37 (34K15)
— (*with* Minchev, Emil) Monotone iterative methods for impulsive hyperbolic equations. *Advances in nonlinear dynamics*, 209–216, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (*see* **98e:34002**) 35R10 (35A35, 35L99)
— (*with* Dishliev, A. B.; Khristova, S. G.) Monotone iterative technique for impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 13–27, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Eduardo Liz) **98h:34116** 34K05 (34A37, 34A45)
— (*with* Dimitrova, Margarita) Oscillation of sub- and superlinear impulsive differential equations with constant delay. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 57–67. (Summary) **98b:34087** 34K15 (34A37)
— (*with* Stamova, I. M.) An application of Lyapunov's direct method investigating stability of solutions to impulsive functional-differential equations. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 2, 9–10. 34A37 (34K20)
— (*with* Minchev, Emil; Myshkis, A. D.) Periodic boundary value problems for impulsive hyperbolic systems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 1–14. (Summary) **98b:35209** 35R10 (35L50)
— (*with* Dishliev, A. B.) The phenomenon "beating" of the solutions of impulsive functional-differential equations. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 435–441. (Eduardo Liz) **98e:34019** 34A37 (34K15)
— (*with* Minchev, Emil) Upper estimate of the interval of existence of solutions of a nonlinear Timoshenko equation. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 219–222. (Hideo Yamagata) **98d:35147** 35L70 (35B60, 35Q72, 73D35)
— (*with* Khristova, S. G.; Simeonov, Pavel) Linear integro-summation inequalities for scalar functions of two variables. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 521–524. (Summary) **98a:26016** 26D10
— (*with* Domshlak, Yu. I.; Simeonov, Pavel) On the oscillation properties of first-order impulsive differential equations with a deviating argument. (English summary) *Israel J. Math.* **98** (1997), 167–187. (Jun Jie Wei) **98k:34017** 34A37 (34K15)
— (*with* Khristova, S. G.) Integral inequalities of Gronwall type for piecewise continuous functions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 1, 89–94. (Jerzy Popenda) **98a:26017** 26D10
— (*with* Petrov, Vasil Angelov; Proytcheva, V. S.) Existence and asymptotic behaviour of nonoscillatory solutions of second-order neutral differential equations with "maxima". (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 237–249. (From the introduction) **98g:34112** 34K15 (34K25)
— (*with* Dimitrova, Margarita; Dishliev, A. B.) Asymptotic properties of solutions of a class of impulsive differential equations of second order with a retarded argument. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 120–126. (Eduardo Liz) **98e:34020** 34A37 (34K15, 34K25)
— (*with* Simeonov, Pavel) Positive solutions of a superlinear first-order differential equation with delay depending on the unknown function. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 95–101. (Summary) **98m:34135** 34K15
— (*with* Simeonov, Pavel) Nonoscillatory solutions of neutral delay differential equations. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 1, 7–12. (Oleg M. Odarich) **98m:34134** 34K15 (34A37, 34K40)
— *see also* **Proceedings: Colloquium on Differential Equations**, **98a:00007**; **98b:00027**; **98c:00012** *and* **98c:00013**

Baiocchi, Claudio On some properties of doubly-periodic words. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 1, 39–47. (Friedrich Otto) **98k:68139** 68R15 (20M05)
— An overview of variational inequalities. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 631–648. 49J40 (47H19)

Baioletti, M. (*with* Marcugini, S.; Milani, Alfredo) A weakest precondition semantics for conditional planning. (English summary) *Topics in artificial intelligence (Florence, 1995)*, 291–302, *Lecture Notes in Comput. Sci.*, 992, *Springer, Berlin*, 1995. (Summary) **98c:68187** 68T20

Baïou, Mourad (*with* Mahjoub, Ali Ridha) Steiner 2-edge connected subgraph polytopes on series-parallel graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 505–514. (Dimiter T. Ivanchev) **98j:90085** 90C35 (05C35)

Bair, J. (*with* Hansen, Guillermo Leonardo) The infinite shadow of a convex set. (English summary) *Bull. Soc. Roy. Sci. Liège* **65** (1996), *no.* 6, 407–416. (Béla Uhrin) **98c:52005** 52A20

Bairamov, È. M. (*with* Çelebi, A. Okay) Spectral properties of the Klein-Gordon s-wave equation with complex potential. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 813–824. (Federico Finkel) **98j:81056** 81Q05 (34L40, 81Q10)
— (*with* Çakar, Öner; Çelebi, A. Okay) Quadratic pencil of Schrödinger operators with spectral singularities: discrete spectrum and principal functions. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 303–320. (Horst Behncke) **98k:34131** 34L05 (34L40, 47E05)

Bairamov, I. G. Some distribution free properties of statistics based on record values and characterizations of the distributions through a record. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 1, 17–25. (Peter Flusser) **98d:62016** 62E10 (62G30)

Baird, B. B. (*with* Magill, Kenneth D., Jr.) Green's $\mathscr{R}$, $\mathscr{D}$ and $\mathscr{H}$ relations for generalized polynomials. *Semigroup Forum* **55** (1997), *no.* 3, 267–293. (John D. P. Meldrum) **98h:20111** 20M20 (26A15)

Baird, Henry S. (*with* Mallows, Colin L.) The evolution of a problem. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 211–220. (Krzysztof Szajowski) **98i:62064** 62L15 (60G40, 62H30)

Baird, Paul (*with* Ou, Ye-Lin) Harmonic maps and morphisms from multilinear norm-preserving mappings. (English summary) *Internat. J. Math.* **8** (1997), *no.* 2, 187–211. (Anne-Joëlle Vanderwinden) **98d:58038** 58E20

Baisnab, A. P. (*with* Bandyopadhyay, Rupa) Fixed point theorems of a multivalued mapping in a bi-quasi metric space with an application in a dissipative dynamical system. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 523–534. 54H25
— (*with* Chikkala, Raghu) Fixed point theorems in quasi-proximity space. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 235–241. 54H25 (54E05)

Baiti, Paolo (*with* Jenssen, Helge Kristian) Well-posedness for a class of 2×2 conservation laws with L^∞ data. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 161–185. (Christophe Cheverry) **98k:35122** 35L65

Bajaj, A. K. (*with* Georgiou, I. T.; Corless, Martin) Dynamics of singularly perturbed nonlinear systems with two degrees-of-freedom. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 9–16, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K99 (34C15, 34E15)
— (*with* Banerjee, Bappaditya) Amplitude modulated chaos in two degree-of-freedom systems with quadratic nonlinearities. (English summary) *Acta Mech.* **124** (1997), *no.* 1-4, 131–154. (Summary) **98g:70018** 70K50 (34C15, 58F13)
— (*with* Samaranayake, S.) Subharmonic oscillations in harmonically excited mechanical systems with cyclic symmetry. (English summary) *J. Sound Vibration* **206** (1997), *no.* 1, 39–60. (Summary) **98f:70019** 70K40 (70K50, 73K12)
— (*with* Georgiou, I. T.; Corless, Martin) Slow and fast invariant manifolds, and normal modes in a two degree-of-freedom structural dynamical system with multiple equilibrium states. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 275–300. (Summary) **98d:73046** 73K12 (70K99)

Bajaj, C. L. (*with* Bernardini, F.; Xu, Guo Liang) Reconstructing surfaces and functions on surfaces from unorganized three-dimensional data. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 243–261. (Summary) **98c:65022** 65D17 (65Y25)
— (*with* Xu, Guo Liang) Piecewise rational approximations of real algebraic curves. (English summary) *J. Comput. Math.* **15** (1997), *no.* 1, 55–71. (Michael M. Dediu) **98a:65017** 65D17 (41A20)

Bajaj, Prem N. An operator approach to an identity. *Math. Today (Ahmedabad)* **15** (1997), 67. (From the text) **98m:39050** 39A70

Bajaj, Renu (*with* Malik, S. K.) Convective instability and pattern formation in magnetic fluids. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 172–191. (John Adam) **98b:76031** 76E25 (76E15, 76E30, 76W05)

Bajer, J. (*with* Miranowicz, A.; Opatrný, T.) Harmonic oscillator states in finite-dimensional Hilbert space. (English summary) *Quantum optics and the spectroscopy of solids (Ankara, 1995)*, 225–236, *Fund. Theories Phys.*, 83, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:81400**) 81R30 (81S05)

Bajer, Konrad (*with* Moffatt, H. K.) On the effect of a central vortex on a stretched magnetic flux tube. (English summary) *J. Fluid Mech.* **339** (1997), 121–142. (Summary) **98d:76163** 76W05 (76C05, 76F99, 85A30)

Bajger, Mariusz (*with* Zdun, Marek Cezary) On rational flows of continuous functions. (English summary) *Iteration theory (Batschuns, 1992)*, 265–276, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98k:39007** 39B12 (58F25)
— A generalized Pexider equation. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 43–54. (Prasanna Sahoo) **98j:39015** 39B52
— Iterative Pexider equation modulo a subset. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 155–161. (Summary) **98k:39008** 39B12 (39B52)
— Functional equations of iterative type. *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 175–176. 39B12 (39B52)

Bajguz, W. (*with* Kwaśniewski, A. K.) On generalized Clifford algebras—recent applications. (English summary) *Clifford algebras with numeric and symbolic computations*, 229–231, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

Bajnok, Z. On the free field realization of WBC_π algebras. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 81–86. (Josep Herrero) **98m:81056** 81R10 (17B68)

Bajo, Ignacio (*with* Liz, Eduardo) Periodic boundary value problem for first order differential equations with impulses at variable times. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 1, 65–73. (A. Reinfelds) **98f:34013** 34A37 (34B15)
— (*with* Benayadi, Saïd) Lie algebras admitting a unique quadratic structure. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2795–2805. (Alberto Medina) **98g:17009** 17B20
— Prederivations of Lie algebras and isometries of bi-invariant Lie groups. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 281–291. (Philippos J. Xenos) **98h:53100** 53C50 (17B40, 22E60)

Bajpai, Priti Lacunary interpolation on Laguerre abscissas. (English summary) *Ganita* **48** (1997), *no.* 1, 51–55. (Summary) **98k:41002** 41A05 (33C45)

Bajpai, S. D. Two new class of two-dimensional expansions of Fox's H-function involving Legendre functions and Hermite polynomials. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 2, 91–93. 33C60 (33C45)
— (*with* Al-Hawaj, A. Y.) Fourier sine series for Fox's H-function of several variables. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **32** (1994), *no.* 2, 3–6. (A. N. Srivastava) **98c:33015** 33C60
— (*with* Al-Hawaj, A. Y.) Some relations involving a class of hypergeometric functions and Fox's H-function. (English summary) *An. Univ. Bucureşti Mat.* **45** (1996), 3–9. (Mridula Garg) **98k:33019** 33C60
— (*with* Al-Hawaj, A. Y.) Fourier cosine series for Fox's H-function of several variables. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 3, 127–130. 33C60
— Fourier Bessel series for the products of Fox's H-function of several variables and trigonometric cosines. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 3, 153–157. 33C60

Bajracharya, P. M. The continuity with respect to a general displacement in the Orlicz and the Orlicz-Sobolev spaces. (English summary) *Nepali Math. Sci. Rep.* **15** (1996), *no.* 1-2, 1–9. (Abdelmoujib Benkirane) **98d:46031** 46E30 (46E35)

Bajracharya, Shanti Group-theoretic study of certain generating function of Brenke type polynomials. (English summary) *Nepali Math. Sci. Rep.* **15** (1996), *no.* 1-2, 63–68. (Summary) **98b:33039** 33D80 (33D45)

— (*with* Shreshtha, R. M.) Group theoretical study of a bilateral generating function. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 147–152. (Summary) **98c:33012** 33C45 (33C80)

Bajunid, I. (*with* Jamjoom, F. B. H.; Zaheer, N.) A generalization of Walsh's two-circle theorem to vector spaces. *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 459–471. (Aleksandar Lipkovski) **98d:12001** 12D10

Bak, Anthony (*with* Weibel, Charles) A tribute to Robert Wayne Thomason (1952–1995). *K-Theory* **12** (1997), *no.* 1, 1–2. (Editors) **98f:01057a** 01A70

— Global actions: an algebraic double of a topological space. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 71–112; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 955–996. (Stanisław Betley) **98k:18004** 18B99 (54H99, 55U99, 57S99)

Bak, Dongsu (*with* Amelino-Camelia, Giovanni; Seminara, D.) Area-preserving structure of massless matter-gravity fields in $1+1$ dimensions. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 239–244, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98c:81002**) 81T40

— (*with* Min, Hyunsoo) Radiation damping of a BPS monopole: an illustration of S duality. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6665–6672. (Summary) **98j:81323** 81T60 (81T13)

Bak, É. *see* **Bak, Anthony**

Bak, Ok Boon (*with* Kim, Suh-Ryung; Park, Chang Hoon; Nam, Yunsun) On CCE-orientable graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 129–137. (Summary) **98k:05074** 05C20

Bakaev, A. V. (*with* Abgaryan, K. K.; Zdan'ski, A. K.) Determination of the metric parameters of an elementary cell with given Wyckoff positions. (Russian) *Mathematical modeling of composite objects* (*Russian*), 90–93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

— (*with* Abgaryan, K. K.) Representation of symmetry operations of point groups in zone computations. (Russian) *Mathematical modeling of composite objects* (*Russian*), 94–101, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

— Computations of the electronic characteristics of materials in an approximation of tight binding. (Russian) *Mathematical modeling of composite objects* (*Russian*), 102–112, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 81V55

— (*with* Khachaturov, V. R.; Abgaryan, K. K.; Galiulin, R. V.; Kabanovich, V. I.) A system for predicting the properties of materials with a given chemical formula on a personal computer. (Russian) *Mathematical modeling of composite objects* (*Russian*), 113–131, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

Bakaev, N. Yu. On the bounds of approximations of holomorphic semigroups. (English summary) *BIT* **35** (1995), *no.* 4, 605–608. (P. L. Butzer) **98h:47056** 47D06

— On the stability bounds of generalized solutions of abstract discrete boundary value problems. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 437–445. (Ke Chen) **98g:65080** 65M12 (34G10, 65N12)

— On the Galerkin finite element approximations to multi-dimensional differential and integro-differential parabolic equations. (English summary) *BIT* **37** (1997), *no.* 2, 237–255. (K. Najzar) **98c:65165** 65M60 (34A45, 34G10, 65M12)

Bakalov, B. (*with* Khorozov, E. I.; Yakimov, M.) Bäcklund-Darboux transformations in Sato's Grassmannian. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 571–586. (Alexander V. Shapovalov) **98i:58111** 58F07 (58F37)

Bakan, A. G. (*with* Craven, Thomas; Csordas, George; Golub, A. P.) Weakly increasing zero-diminishing sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 547–570. (P. L. Walker) **98k:26025** 26C10 (30D15)

Bakan, G. M. (*with* Volosov, V. V.; Kussul', N. N.) Estimation of the state of continuous dynamical systems by the ellipsoid method. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 72–91, 185; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 804–820 (1997). (Andrzej Świerniak) **98f:93018** 93E10 (93B27, 93D20)

Bakanov, G. B. (*with* Kabanikhin, S. I.) The optimizational method for solving the discrete inverse problem for hyperbolic equation. (English summary) *J. Inverse Ill-Posed Probl.* **4** (1996), *no.* 6, 513–530. (Peter B. Monk) **98e:65074** 65M30 (35L05, 35R30)

— (*with* Kabanikhin, S. I.) A discrete analogue of the Gel'fand-Levitan method. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 157–160. (Rémi Vaillancourt) **98k:35205** 35R30 (34A55, 35L05, 39A12, 65M30)

Bakanov, S. P. (*with* Roldugin, V. I.) The effect of phase transition on boundary conditions for rarefied gases. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 761–767; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 753–758. 82C40 (76P05)

Bakas, Ioannis Solitons of axion-dilaton gravity. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6424–6434. (Summary) **98b:81175** 81T30 (83E30)

— (*with* Sfetsos, Konstadinos) Toda fields of SO(3) hyper-Kahler metrics and free field realizations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 14, 2585–2611. (Krzysztof Galicki) **98h:53073** 53C25 (32L25, 53C55, 58D27)

van Bakel, Steffen Rank 2 intersection type assignment in term rewriting systems. (English summary) *Fund. Inform.* **26** (1996), *no.* 2, 141–166. (Summary) **98f:68142** 68Q42 (68N15, 68Q55)

— (*with* Liquori, Luigi; Ronchi della Rocca, Simona; Urzyczyn, Pawel) Comparing cubes of typed and type assignment systems. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 267–303. (Adolfo Piperno) **98i:03016** 03B15 (03B40, 68N15, 68Q55)

— (*with* Fernández, Maribel) Normalization results for typeable rewrite systems. (English summary) *Inform. and Comput.* **133** (1997), *no.* 2, 73–116. (Summary) **98j:68072** 68Q42

Baker, Brenda S. (*with* Coffman, Edward G., Jr.) Mutual exclusion scheduling. (English summary) *Theoret. Comput. Sci.* **162** (1996), *no.* 2, 225–243. (Summary) **98b:68002** 68M20 (68Q25, 90B35)

— Parameterized duplication in strings: algorithms and an application to software maintenance. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1343–1362. (Victor N. Kas'yanov) **98i:68110** 68Q20 (68R15)

Baker, C. R. (*with* Chao, I.-F.) Information capacity of channels with partially unknown noise. I. Finite-dimensional channels. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 3, 946–963. (Zhao Zhi Zhang) **98c:94008** 94A15 (90D80, 94A40)

— (*with* Chao, I.-F.) Information capacity of channels with partially unknown noise. II. Infinite-dimensional channels. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 4, 1461–1472. (Zhao Zhi Zhang) **98c:94009** 94A15 (90D80, 94A40)

Baker, C. W. Weak forms of openness based upon denseness. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 389–394. (Summary) **98f:54015** 54C10

— Contra-open functions and contra-closed functions. (English summary) *Math. Today* (*Ahmedabad*) **15** (1997), 19–24. (Summary) **98f:54016** 54C10

— Subcontra-continuous functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 19–24. 54C08 (54C10)

Baker, Garth A. (*with* Dodziuk, Józef) Stability of spectra of Hodge-de Rham Laplacians. *Math. Z.* **224** (1997), *no.* 3, 327–345. (Friedbert Prüfer) **98h:58191** 58G25 (35P99, 58G20)

Baker, Gregory R. (*with* Alpatov, Philip; Edwards, Carter; Gunnels, John; Morrow, Greg; Overfelt, James; van de Geijn, Robert; Wu, Yuan-Jye J.) PLAPACK: parallel linear algebra package. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

— (*with* Nie, Qing) The asymptotic motion of an accelerating, thick layer of inviscid liquid. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 101–112. (Summary) **98j:76012** 76B99 (76E99, 76M99)

Baker, Irvine Noel On factorizing meromorphic functions. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 87–101. (Fred Gross) **98h:30042** 30D05 (30D35)

Baker, John Walter (*with* Filali, Mahmoud) Minimal ideals in group algebras and their biduals. (English summary) *Math. Proc. Cambridge Philos. Soc.* **120** (1996), *no.* 3, 475–488. (Brian E. Forrest) **98f:22004** 22D15 (22D05)

Baker, Lynne Rudder Why constitution is not identity. *J. Philos.* **94** (1997), *no.* 12, 599–621. 03A05

Baker, M. *see* **Baker, Marshall**

Baker, Mark D. On boundary slopes of immersed incompressible surfaces. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1443–1449. (Erhard Luft) **98a:57023** 57N10 (57M50)

Baker, Marshall (*with* Ball, J. S.; Brambilla, N.; Prosperi, G. M.; Zachariasen, F.) Erratum: "Confinement: understanding the relation between the Wilson loop and dual theories of long distance Yang-Mills theory" [Phys. Rev. D (3) **54** (1996), no. 4, 2829–2844; MR 97f:81172]. *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2475. 81V05 (81T13)

Baker, R. C. (*with* Harman, Glyn) The sequence x/n and its subsequences. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 795–814. (S. W. Graham) **98d:11109** 11N25 (11L07, 11L20)

Baker, Ronald D. (*with* Ebert, G. L.; Hemmeter, J.; Woldar, A. J.) Maximal cliques in the Paley graph of square order. (English summary) Special issue on orthogonal arrays and affine designs. Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 33–38. (A. A. Makhnev) **98a:05084** 05C35

Baker, T. H. (*with* Jarvis, P. D.) Quantum superspin chains. (English summary) *Perspectives on solvable models*, 175–187, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82007** 82B20 (81Q60)

— Vertex operator realization of symplectic and orthogonal S-functions. (English summary) *J. Phys. A* **29** (1996), *no.* 12, 3099–3117. (Naihuan Jing) **98g:05150** 05E05 (17B69)

— (*with* Forrester, Peter J.) Finite-N fluctuation formulas for random matrices. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1371–1386. (Estelle L. Basor) **98m:82029** 82B41 (11Z05)

— (*with* Forrester, Peter J.) The Calogero-Sutherland model and polynomials with prescribed symmetry. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 682–716. (Kazuhiro Hikami) **98f:81379** 81V70 (33C80)

Baker, Timothy J. Mesh adaptation strategies for problems in fluid dynamics. (English summary) *Finite Elem. Anal. Des.* **25** (1997), *no.* 3-4, 243–273. (J. T. Oden) **98b:76043** 76M10

Baker, William D. (*with* Pomeranz, Shirley B.; Kirk, Adrian W.) An asymptotically exact finite element error estimator based on C^1 stress recovery. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 319–329. (Summary) **98m:73084** 73V05

Bakhrakh, S. M. (*with* Simonov, G. P.) Rayleigh-Taylor instability of a thin liquid layer under three-dimensional perturbations. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 609–611. 76E99

Bakhtin, A. K. (*with* Bakhtina, G. P.) On extremal problems for symmetric nonoverlapping domains. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 179–185; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 197–203. (L. A. Aksent'ev) **98i:30035** 30C75

Bakhtin, I. A. (*with* Asarin, E. A.; Bobylev, N. A.; et al.) Mark Alexandrovich Krasnosel'skii (April 27, 1920–February 13, 1997). (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 119–126. (Editors) **98f:01056a** 01A70

Bakhtina, G. P. (*with* Bakhtin, A. K.) On extremal problems for symmetric nonoverlapping domains. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 179–185; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 197–203. (L. A. Aksent'ev) **98i:30035** 30C75

Bakhturin, Yu. A. (*with* Fischman, D.; Montgomery, Susan) On the generalized Lie structure of associative algebras. (English summary) *Israel J. Math.* **96** (1996), *part A*, 27–48. (Antonio Giambruno) **98d:16048** 16W30 (17B01)

— (*with* Benkart, Georgia) Highest weight modules for locally finite Lie algebras. *Modular interfaces* (*Riverside, CA*, 1995), 1–31, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Jean Marion) **98m:17009** 17B10

— (*with* Giambruno, Antonio; Zaĭtsev, M. V.) Symmetric identities in graded algebras. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 461–464. (Amitai Regev) **98j:16015** 16R10 (16W50)

— Addendum to: "Centers of enveloping algebras for locally finite-dimensional simple Lie algebras" [Comm. Algebra **24** (1996), no. 3, 1157–1172; MR 96m:17016] by Bahturin

and I. A. Yanson. *Comm. Algebra* **25** (1997), *no.* 2, 671–672. (From the text) **98a:17011** 17B35

Bakhvalov, N. S. (*with* Eglit, Margarita E.) Energy bounds in the case of the inapplicability of the Korn inequality, and orthogonal expansions in matrix spaces. (Russian) *Trudy Mat. Inst. Steklov.* **203** (1994), *Izbran. Voprosy Mat. Fiz. i Anal.*, 21–32; *translation in Proc. Steklov Inst. Math.* **1995,** *no.* 3 (203), 19–28. (Anna-Margarete Sändig) **98e:73025** 73C02

— The application of the ideas of P. L. Chebyshev in modern numerical mathematics. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 6, 5–11, 109; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 1–6 (1997). 65–03 (01A60, 41–03)

— Fictitious domains methods for solving elasticity problems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 223–226. (*see* **98b:65005**) 73V20 (65N55, 73K20)

— (*with* Eglit, Margarita E.) Effective moduli of thin-wall constructions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 6, 53–56, 81. 73K20 (73B27)

Bakić, Radoš On a theorem of Frobenius. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 41–43. (Summary) **98e:20026** 20D10

Bakier, A. Y. (*with* Hassanien, I. A.; Gorla, R. S. R.) Natural convection boundary layer flow of a micropolar fluid. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 751–755. 76R10 (76A99, 76D10)

Bakier, M. Y. On fuzzy α-structure and fuzzy β-structure. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 383–386. 54A40 (04A72)

Bakirov, N. K. Local asymptotic normality for stationary Gaussian sequences with degenerate spectral density. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 2, 68–76; *translation in Problems Inform. Transmission* **32** (1996), *no.* 2, 197–204. (Vladimir Zaiats) **98b:62029** 62F12 (62M15)

— (*with* Sultanov, A. Kh.) A nonparametric method for the search for a multidimensional change-point. (Russian. Russian summary) *Avtomat i Telemekh.* **1997,** *no.* 8, 80–90; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1314–1322 (1998). 62G05

Bakirova, M. I. (*with* Nikishin, V. V.; Tyurina, N. N.; Favorskiĭ, A. P.) Energy-consistent conservative schemes for the transport equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 993–994, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 1000–1002 (1998). (Summary) **98m:65135** 65M06

Bakkaloğlu, A. (*with* Şuhubi, Erdoğan S.) Symmetry groups for arbitrary motions of hyperelastic solids. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 637–657. (Stan Chiriţă) **98e:73041** 73C50 (73B10, 73G05)

Bakkaloğlu, B. (*with* Erciyeş, K.; Koç, Çetin Kaya) A parallelization of Parlett's algorithm for functions of triangular matrices. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 61–69. (Summary) **98c:65208** 65Y05 (65F30)

de Bakker, Bas V. (*with* Smit, Jan) Gravitational bending in 4D dynamical triangulation. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 476–492. (Annalisa Marzuoli) **98f:83029** 83C27 (81V17, 83C45)

Bakker, Rembrandt (*with* De Korte, R. J.; Schouten, J. C.; Van den Bleek, C. M.; Takens, F.) Neural networks for prediction and control of chaotic fluidized bed hydrodynamics: a first step. (English summary) *Fractals* **5** (1997), *no.* 3, 523–530. 76F20 (76S05)

Bakmaz, Miodrag (*with* Lazović, Slobodan) The procedure to determine microstate probabilities in a trunk group serving overflow traffic. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 285–292. 90B06

Bakonyi, Mihály (*with* Constantinescu, Tiberiu) Operator-valued nonstationary Szegö limit theorems. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 807–819. (Summary) **98f:47015** 47A57 (42B25, 47B35, 47N30)

— (*with* Kaftal, Victor G.; Weiss, Gary; Woerdeman, Hugo J.) Bounds for operator/Hilbert-Schmidt norm minimization using entropy. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 405–425. (Joseph A. Ball) **98j:47034** 47A57 (47B10, 47N70, 93B36)

Bakry, Dominique (*with* Concordet, D.; Ledoux, M.) Optimal heat kernel bounds under logarithmic Sobolev inequalities. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 391–407 (*electronic*). (Thierry Coulhon) **98k:58212** 58G11 (35K99, 47D07)

— Remarques sur les semigroupes de Jacobi. (French summary) [Remarks on Jacobi semigroups] Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 23–39. (Thierry Coulhon) **98c:33006** 33C45 (26D10, 47D07)

— (*with* Qian, Zhongmin) On Harnack estimates for positive solutions of the heat equation on a complete manifold. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1037–1042. (Alberto G. Setti) **98g:58165** 58G11 (35B05, 35K05)

— (*with* Milhaud, Xavier; Vandekerkhove, Pierre) Statistique de chaînes de Markov cachées à espace d'états fini. Le cas non stationnaire. (English and French summaries) [Statistics of hidden Markov chains with finite state space. The nonstationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 203–206. (Summary) **98c:62164** 62M05

Baksalary, J. K. (*with* Hauke, J.; Styan, George P. H.) On some distributional properties of quadratic forms in normal variables and on some associated matrix partial orderings. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 111–121, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H10 (15A99)

Bakule, Lubomír (*with* Rodellar, José) Decentralized control and overlapping decomposition of mechanical systems. I. System decomposition. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 559–570. 93A14 (93C85)

— (*with* Rodellar, José) Decentralized control and overlapping decomposition of mechanical systems. II. Decentralized stabilization. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 571–587. 93A14 (93C85)

Bakulin, A. V. (*with* Molotkov, L. A.) An effective model of a fractured medium with fractures described by displacement discontinuity surfaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 118–137, 223; *translation in J. Math. Sci. (New York)* **86** (1997), *no.* 3, 2735–2746. (Summary) **98h:73038** 73D15 (73B27, 73N20)

Bakuradze, Maikhaz The transfer and symplectic cobordism. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4385–4399. (Vincent Giambalvo) **98b:55004** 55N22 (57R12)

Bal, Guillaume (*with* Allaire, Grégoire) Homogénéisation d'une équation spectrale du transport neutronique. (English and French summaries) [Homogenization of a spectral equation in neutron transport] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1043–1048. (Summary) **98h:35016** 35B27 (45K05, 82D75)

Bal, Subrata (*with* Shajesh, K. V.; Basu, Debabrata[2]) A unified treatment of the characters of SU(2) and SU(1, 1). (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3209–3229. (A. J. Coleman) **98f:81089** 81R05 (22E70, 81–01)

Bala, Mohan (*with* Martin, Kipp) A mathematical programming approach to data base normalization. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 1–14. (Summary) **98k:68044** 68P15 (90C10, 90C90)

Bala, Pawan On pre-pararefleXive operator algebras. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 99–104. (Warren R. Wogen) **98j:47095** 47D25

Bala, Venkatesh Reconstructing dynamics from intertemporal economic data. (English summary) *Econom. Theory* **9** (1997), *no.* 2, 325–339. (Lorenzo Peccati) **98a:90032** 90A16 (90A20)

Balabaev, V. E. On the Dirichlet problem for invariant Dezin elliptic systems. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 7–10. (Zinovi Sheftel) **98g:35060** 35J55

Balaban, Tadeusz The variational problems for classical N-vector models. (English summary) *Comm. Math. Phys.* **175** (1996), *no.* 3, 607–642. (Summary) **98b:81164** 81T25 (81T17, 82B20, 82B28)

— Localization expansions. I. Functions of the "background" configurations. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 33–82. (A. L. Rebenko) **98b:81129** 81T08 (81T17)

— A low temperature expansion for classical N-vector models. II. Renormalization group equations. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 675–721. (A. L. Rebenko) **98i:81159** 81T17 (81T25, 82B20, 82B28)

— (*with* O'Carroll, Michael L.) A simple method for correlation functions via the effective actions in the renormalization group framework. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 1–8. (A. L. Rebenko) **98i:81160** 81T17

Balabane, Mikhaël On nonlinear Klein-Gordon equation. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 1–38, *World Sci. Publishing, River Edge, NJ*, 1996. (Tohru Ozawa) **98c:35112** 35L70 (35Q53, 58G16)

Bălăcenoiu, Ion (*with* Andrei, M.; Dumitrescu, Constantin A.; Rădescu, E.; Rădescu, N.; Seleacu, Vasile) A linear combination with Smarandache function to obtain the identity. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 437–439, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 11A25

— (*with* Seleacu, Vasile) Properties of the triplets p^*. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 152–155. 11A41

— The semilattice with consistent return. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 156–163. 11A25

Balachandran, A. P. (*with* Bimonte, G.; Ercolessi, E.; Teotonio-Sobrinho, Paulo) Finite approximations to quantum physics: quantum points and their bundles. (English summary) *Constraint theory and quantization methods (Montepulciano, 1993)*, 1–17, *World Sci. Publishing, River Edge, NJ*, 1994. (Francois Vanderseypen) **98j:81196** 81S99 (58B30)

Balachandran, K. *see* **Balachandran, Krishnan**

Balachandran, Krishna (*with* Anderson, John B.) Reduced complexity sequence detection for nonminimum phase intersymbol interference channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 275–280. 94A05 (94A40)

Balachandran, Krishnan (*with* Gnanambal, Y.; Sundaram, Palaniappan) On generalized locally semi-closed sets and GLSC-continuous functions. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 189–200. 54C10

— (*with* Arockia Rani, I.; Ganster, Maximilian) Regular generalized locally closed sets and RGL-continuous functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 661–669. 54C99 (54A99)

— (*with* Subramaniam, Rakkianna Gounder) Existence of solutions of general nonlinear stochastic integral equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 775–789. (Stanisław Wędrychowicz) **98k:60109** 60H20

— (*with* Dauer, Jerald P.) Existence of solutions of perturbed fuzzy integral equations in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1461–1468. (Summary) **98m:45008** 45G10 (47H15, 47N20, 47S40)

— (*with* Chandrasekaran, M.) Existence of solutions of nonlinear integrodifferential equation with nonlocal condition. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 279–288. (Summary) **98f:34118** 34K30 (45J05, 47D06, 47N20)

— (*with* Arockia Rani, I.) On regular generalised continuous maps in topological spaces. *Kyungpook Math. J.* **37** (1997), *no.* 2, 305–314. (Mohan L. Tikoo) **98j:54017** 54C08

— (*with* Subramaniam, Rakkianna Gounder) Existence of solutions of stochastic integral equations using integral contractors. (English summary) *Libertas Math.* **17** (1997), 89–100. (Summary) **98h:60094** 60H20 (45G10, 47G10, 47H40)

— (*with* Dauer, Jerald P.) Sample controllability of general nonlinear stochastic systems. *Libertas Math.* **17** (1997), 143–153. 93E03 (93B05)

— (*with* Ilamaran, S.) Existence and uniqueness of mild and strong solutions of a Volterra integrodifferential equation with nonlocal conditions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 93–100. (Shu Chun Gao) **98g:45007** 45J05 (34K30, 47D06, 47H15, 47N20)

— (*with* Dauer, Jerald P.) Existence of solutions of a nonlinear mixed neutral equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 23–28. (Summary) **98k:34105** 34K05 (34K40)

— (*with* Devi, Ramasamy; Maki, Haruo) Generalized α-closed maps and α-generalized closed maps. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 37–49. 54C10

— (*with* Dauer, Jerald P.) Controllability of Sobolev-type integrodifferential systems in Banach spaces. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 335–348. (Hong Xing Zhou) **98k:93011** 93B05 (47N70, 93C25)

— (*with* Gnanambal, Y.) β-locally closed sets and β-LC-continuous functions. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 35–44. (Summary) **98j:54018** 54C08

Balacheff, Nicolas *see* **Brousseau, Guy**

Baladi, Viviane (*with* Nogueira, Arnaldo C. R.) Lyapunov exponents for non-classical multidimensional continued fraction algorithms. (English summary) *Nonlinearity* **9** (1996), *no.* 6, 1529–1546. (G. Ramharter) **98e:11085** 11J70 (11K50, 28D05)
— Correlation spectrum of quenched and annealed equilibrium states for random expanding maps. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 671–700. (Bernard Schmitt) **98i:58188** 58F19 (60H99)
— *see also* **Knauf, Andreas**, **98k:58181**
Balaganskiĭ, V. S. (*with* Vlasov, L. P.) The problem of the convexity of Chebyshev sets. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 125–188; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1127–1190. (S. Cobzaş) **98e:46007** 46B20 (41A65, 46N10)
— Some remarks on relative Chebyshev centers. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 372–379. (Carlos Benítez) **98e:46024** 46C05 (41A65, 46B20)
Balaguer, A. (*with* Villacampa, Y.; Usó, J. L.) A study of a semi-infinite integral. (English summary) *SIAM Rev.* **39** (1997), *no.* 3, 494–495. (Summary) **98h:26003** 26A09
Bălaj, Mircea Sufficient conditions for the compatibility of some systems of convex inequalities. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 41–44. 90C08
— *m*-families and common transversals. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **60(74)** (1996), 75–80. (John R. Reay) **98a:52002** 52A07 (52A35)
— Intersectional properties of certain families of sets with convex union. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 173–176, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 52A07
— On separation of sets by convex functionals. *Mathematica* **39(62)** (1997), *no.* 1, 17–20. 46N10 (46A22, 90C25)
Balaji, K. (*with* Sridharan, M. R.) On self-complementary chordal graphs. (English summary) *Nat. Acad. Sci. Lett.* **20** (1997), *no.* 11-12, 157–163. 05C75
Balaji, V. (*with* Seshadri, C. S.) Remarks on the moduli space of principal bundles. *Analysis, geometry and probability*, 16–32, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (Alexander E. Polishchuk) **98k:14010** 14D20 (14H60)
— (*with* King, A. D.; Newstead, P. E.) Algebraic cohomology of the moduli space of rank 2 vector bundles on a curve. (English summary) *Topology* **36** (1997), *no.* 2, 567–577. (Nitin Nitsure) **98c:14009** 14D20 (14C25, 14C30, 14F25, 14H40)
Balakin, A. B. (*with* Popov, V. A.) Exact solutions of the equations of covariant hydrodynamics of superfluid in the field of gravitational radiation. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 375–386. (Gh. Procopiuc) **98g:83050** 83C55 (76Y05)
Balakotaiah, V. (*with* Subramanian, Sudhakar) Analysis and classification of reaction-driven stationary convective patterns in a porous medium. (English summary) *Phys. Fluids* **9** (1997), *no.* 6, 1674–1695. (Summary) **98c:76106** 76S05 (76E15, 76R05, 80A25)
Balakrishna, C. (*with* Layton, Jeffrey B.; Ganguly, Snehasis; Kane, J. H.) A symmetric Galerkin multi-zone boundary element formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 2913–2931. 73V10
Balakrishna, N. (*with* Jayakumar, K.) Bivariate autoregressive minification process. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 129–141. (Summary) **98e:62125** 62M10
— (*with* Jayakumar, K.) Bivariate semi-Pareto distributions and processes. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 149–165. (Summary) **98d:62017** 62E10
Balakrishnan, A. V. Vibrating systems with singular mass-inertia matrices. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 23–32, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 73K12 (73D30)
— On superstable semigroups of operators. (English summary) *Dynam. Systems Appl.* **5** (1996), *no.* 3, 371–383. (Stuart Townley) **98b:47052** 47D06 (47N70, 93B28)
— Theoretical limits of damping attainable by smart beams with rate feedback. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 204–215, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K05, 73K50, 93D15)
Balakrishnan, E. (*with* Swift, Adrian; Wake, G. C.) Multiple solutions in hollow geometries in the theory of thermal ignition. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 41–46. (Summary) **98d:80012** 80A25
Balakrishnan, Janaki (*with* Ashok, B.) Effective potential for φ^6 theory in three-dimensional curved spacetime. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3999–4011. 81T20 (81T16)
Balakrishnan, Jeyendran (*with* Narendra, Kumpati S.) Adaptive control using multiple models. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 171–187. (Vladimir G. Sragovich) **98b:93039** 93C40 (93C83)
Balakrishnan, Narayanaswamy (*with* Ambagaspitiya, R. S.) Classical classification procedure based on k dichotomous and one continuous variables. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 1–11. 62H30
— (*with* Chan, Ping Shing) A comparison of conditional and unconditional inference relating to log-gamma distribution. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 29–37, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62F10 (62N05)
— (*with* Cutler, Colleen D.) Maximum likelihood estimation of Laplace parameters based on type-II censored samples. (English summary) *Statistical theory and applications*, 145–151, *Springer, New York*, 1996. (Summary) **98g:62040** 62F10 (62G30)
— (*with* Aggarwala, Rita) Relationships for moments of order statistics from the right-truncated generalized half logistic distribution. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 519–534. (A. H. Khan) **98f:62147** 62G30
— (*with* Aggarwala, Rita) Recurrence relations for single and product moments of progressive type-II right censored order statistics from exponential and truncated exponential distributions. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 757–771. (M. M. Siddiqui) **98m:62153** 62G30
— (*with* Aki, Sigeo; Mohanty, Sri Gopal) Sooner and later waiting time problems for success and failure runs in higher order Markov dependent trials. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 773–787. (Moshe Shaked) **98e:60024** 60E10
— (*with* Balasubramanian, Krishnaswami) Characterizations of uniform distributions. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 259–266, xiv. (Summary) **98d:62018** 62E10
— (*with* Nevzorov, V. B.) Stirling numbers and records. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 189–200, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Barry C. Arnold) **98h:60070** 60G70 (05A10, 11B73, 62G30)
— (*with* Kotz, Samuel) Advances in urn models during the past two decades. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 203–257, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:60012** 60C05 (62E15)
— (*with* Rao, Calyampudi Radhakrishna) Large-sample approximations to the best linear unbiased estimation and best linear unbiased prediction based on progressively censored samples and some applications. (English summary) *Advances in statistical decision theory and applications*, 431–444, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:62080** 62G05 (62N05)
— (*with* Johnson, Norman Lloyd[2]) Samuel Kotz—life and works. *Advances in the theory and practice of statistics*, 3–19, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Editors) **98f:01068** 01A70
— (*with* Johnson, Norman Lloyd[2]) A recurrence relation for discrete multivariate distributions and some applications to multivariate waiting time problems. (English summary) *Advances in the theory and practice of statistics*, 367–376, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:60008** 60C05 (62E15)
— (*with* Nevzorova, L. N.; Nevzorov, V. B.) Characterizations of distributions by extremes and records in Archimedean copula processes. (English summary) *Advances in the theory and practice of statistics*, 469–478, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98i:62006** 62E10 (60G70, 62G30)
— (*with* Mohanty, Sri Gopal; Aki, Sigeo) Start-up demonstration tests under Markov dependence model with corrective actions. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 155–169. (Anant P. Godbole) **98f:60009** 60C05 (60J10)
— Joint distributions of numbers of success-runs and failures until the first consecutive k successes in a binary sequence. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 519–529. (Summary) **98j:62011** 62E15 (60C05)
— (*with* Childs, Aaron) Maximum likelihood estimation of Laplace parameters based on general type-II censored examples. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 343–349. 62F10
— (*with* Hamada, Michael S.) Analyzing unreplicated factorial experiments: a review with some new proposals. (English summary) With comments by Claudio Benski, Perry D. Haaland, Russell V. Lenth and a rejoinder by the authors. *Statist. Sinica* **8** (1998), *no.* 1, 1–41. 62K15
— *see also* **Advances in combinatorial methods and applications to probability and statistics**, **98a:60001**; **Advances in statistical decision theory and applications**, **98e:62005**; **Advances in the theory and practice of statistics**, **98e:62006** *and* **Tiku, Moti L.**
Balakrishnan, R. *see* **Balakrishnan, Rangaswami**
Balakrishnan, Radha (*with* Blumenfeld, Raphael) Transformation of general curve evolution to a modified Belavin-Polyakov equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5878–5888. (Basil J. Papantoniou) **98k:58052** 58E10 (53A04)
— (*with* Dhamankar, Rohit) Exact nonlinear spin waves in some models of interacting classical spins on a one-dimensional lattice. (English summary) *Phys. Lett. A* **237** (1997), *no.* 1-2, 73–79. 82B20
Balakrishnan, Rangaswami (*with* Selvam, A.) k-neighbourhood regular graphs. (English summary) *Graph theory and its applications (Tirunelveli, 1996)*, 35–45, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98g:05156** 05E30
— (*with* Selvam, A.; Yegnanarayanan, V.) On felicitous labelings of graphs. (English summary) *Graph theory and its applications (Tirunelveli, 1996)*, 47–61, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98g:05131** 05C78
— (*with* Selvam, A.; Yegnanarayanan, V.) Some results on elegant graphs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 905–916. (Summary) **98g:05132** 05C78
Balakrishnan, Venkataraman H^∞-controller synthesis with time-domain constraints. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1179–1186. (Summary) **98e:93033** 93B36 (93B50)
— (*with* Nicolis, Grégoire; Nicolis, C.) Recurrence time statistics in chaotic dynamics. I. Discrete time maps. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 191–212. (M. Courbage) **98e:82034** 82C05 (58F13)
— (*with* Seshadri, S.; Lakshmibala, S.) Geometric phases for generalized squeezed coherent states. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 869–875. (Vítor R. Vieira) **98e:81064** 81R30
Balakumar, Sivanandan Changepoint detection using nonparametric procedures. (English summary) *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 178–183. 62G10
Balamurugan, K. (*with* Vasudeviah, M.) Heat transfer in a slip-flow past a sphere. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 5, 281–296. 76R05
dhana Balan, A. P. *see* **Dhana Balan, A. P.**
Bălan, R. On homogeneous polynomial approximations of nonlinear control systems. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **39** (1994), *no.* 4, 503–511. (Zbigniew Bartosiewicz) **98g:93010** 93B30 (93B29, 93C10, 93C60)
Bălan, Ş. (*with* Bizdadea, C.; Saliu, S. O.) A covariant BRST approach of self-dual p-forms without extra fields. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5997–6007. (Ion V. Vancea) **98k:81282** 81T70 (58Z05)
Balan, Vladimir (*with* Udrişte, Constantin) Runge-Kutta approximation of Kawaguchi autoparallel curves. (English summary) In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 128–137. (Zoltan Kovacs) **98f:53022** 53B40 (53B15)
— (*with* Čomić, Irena) The $F(2)$-type structures in the decomposable Riemannian spaces. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 1-2, 55–60. (L. Tamássy) **98a:53029** 53B20
— (*with* Stavrinos, P. C.) Deviations of geodesics in fibered Finslerian approach. *Lagrange and Finsler geometry*, 65–73, *Fund. Theories Phys.*, 76, *Kluwer Acad. Publ., Dordrecht*, 1996. (Aurel Bejancu) **98b:53066** 53C60 (53C22)
— (*with* Stavrinos, P. C.; Prezas, N.) The field equations of generalized conformally flat spaces of metric $g_{\mu\nu}(x, \frac{\varepsilon}{c}, \frac{\varepsilon^2}{c^2}) = e^{2\sigma(x, \frac{\varepsilon}{c}, \frac{\varepsilon^2}{c^2})}\eta_{\mu\nu}$. *New developments in differential geometry (Debrecen, 1994)*, 373–377, *Math. Appl.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1996. (Aurel Bejancu) **98b:53064** 53C50 (53C07)

— (*with* Udrişte, Constantin; Udrişte, Aneta; Postolache, Mihai) Equilibrium points of magnetic fields generated around filiform electrical circuits. *Tensor (N.S.)* **57** (1996), *no.* 2, 119–134. (Marius Mitrea) **98k:78022** 78A30

Balandin, A. V. On a zero curvature representation of a system that is reducible to the nonlinear Klein-Gordon equation. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 95–98, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (Summary) **98c:35113** 35L70 (35Q53, 58F07)

Balandin, D. V. Limit possibilities for the control of the vibrations of a rod situated on a moving base. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 35–47, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 93D15 (93C20)

Bălănescu, Tudor (*with* Gheorghe, Marian) Contextual cooperating grammar systems. (English summary) *Mathematical linguistics and related topics*, 24–29, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q50 (68Q45)

— (*with* Georgescu, Horia; Gheorghe, Marian) Grammar systems with counting derivation and dynamical priorities. (English summary) *New trends in formal languages*, 150–166, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68167** 68Q50 (68Q45)

Balankin, A. S. (*with* Sandoval, Francisco J.) Self-affine properties of fracture surfaces. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 4, 545–591. 73B99 (82B24)

Balanov, Z. (*with* Schwartzman, Efim) Asymptotically linear elliptic equations with resonance at infinity. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 35–39. (Summary) **98h:35068** 35J65 (58E05)

Balaria, Felice Verifying invariants by approximate image computation. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems (Bologna, 1997)*, 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q60

Balas, Egon Recognizing facet defining inequalities. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 7–28. (K. G. Murty) **98k:90061** 90C10 (52B11)

— A modified lift-and-project procedure. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 19–31. (Jürgen Köhler) **98f:90038** 90C09

— (*with* Lancia, Giuseppe; Serafini, Paolo; Vazacopoulos, Alkiviadis) Job shop scheduling with deadlines. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 329–353. (Summary) **98k:90040** 90B35

Balashevich, N. V. (*with* Gabasov, R.; Kirillova, F. M.) Stabilization of dynamical systems in the presence of delays in the feedback channel. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 31–39; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 1, 794–800. (Grigory M. Sklyar) **98b:93053** 93D15 (49K25)

Balashova, Galina S. Sobolev spaces of infinite order with rapidly decreasing sequence. *Function spaces, differential operators and nonlinear analysis (Paseky nad Jizerou, 1995)*, 183–188, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 46E35

— On Sobolev spaces of infinite order. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 2, 151–152. 46E35 (35R50)

Balasin, Herbert Geodesics for impulsive gravitational waves and the multiplication of distributions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 455–462. (Michael Kunzinger) **98a:83046** 83C35 (46F10)

Balaska, S. (*with* Maeder, Joachim; Rühl, W.) The perturbative approach to the critical behaviour of two-matrix models in the limit $N \to \infty$. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 673–695. (Summary) **98b:81166** 81T27 (81T40)

Balasko, Yves Pareto optima, welfare weights, and smooth equilibrium analysis. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 2-3, 473–503. (Anjan Mukherji) **98a:90025** 90A14 (90A09)

— Equilibrium analysis of the infinite horizon model with smooth discounted utility functions. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 783–829. (Jeffrey L. Coles) **98h:90023** 90A16 (90A14)

— (*with* Crès, Hervé) The probability of Condorcet cycles and super majority rules. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 237–270. (Solomon Marcus) **98i:90010** 90A08

— The natural projection approach to the infinite-horizon model. (English summary) *J. Math. Econom.* **27** (1997), *no.* 3, 251–265. (Summary) **98a:90026** 90A14 (90A10)

Balasubramaniam, P. (*with* Dauer, Jerald P.) Null controllability of semilinear integrodifferential systems in Banach space. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 117–123. 93B05 (34K35, 93C25)

Balasubramanian, Ganesan A characterization of anti-hereditarily nearly compact spaces. *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 103–104. 54D30

— On fuzzy β-compact spaces and fuzzy β-extremally disconnected spaces. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 3, 271–277. (Summary) **98d:54014** 54A40 (04A72)

Balasubramanian, K. *see* **Balasubramanian, Krishnaswami**

Balasubramanian, Krishnan Are there signed cospectral graphs? (English summary) *J. Chem. Inf. Comput. Sci.* **34** (1994), *no.* 5, 1103–1104. 05C50

Balasubramanian, Krishnaswami Application of difference sets and Galois fields to block designs. *Applied abstract algebra (Delhi, 1995)*, 1–18, *Univ. Delhi, Delhi*, 1996. (*see* **98b:00017**) 05B05 (05B10)

— (*with* Balakrishnan, Narayanaswamy) Characterizations of uniform distributions. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 259–266, xiv. (Summary) **98d:62018** 62E10

— (*with* Beg, M. I.; Bapat, R. B.) An identity for the joint distribution of order statistics and its applications. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 13–21. (Jagdish Saran) **98f:62148** 62G30

— (*with* Beg, M. I.) Concomitant of order statistics in Morgenstern type bivariate exponential distributions. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 233–245. 62G30

— (*with* Dey, Aloke) Distributions characterized through conditional expectations. (English summary) *Metrika* **45** (1997), *no.* 3, 189–196. (Moshe Shaked) **98g:60023** 60E05 (62E10)

Balasubramanian, Ramachandran (*with* Raman, Venkatesh) Path balance heuristic for self-adjusting binary search trees. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 338–348, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68037** 68P05 (68Q25)

— (*with* Agarwal, Ashok Kumar[1]) Generalized gonal numbers and a new class of partitions. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 153–160. (David M. Bressoud) **98d:11120; EA 98m** 11P81 (05A17)

— (*with* Langevin, Michel; Shorey, T. N.; Waldschmidt, Michel) On the maximal length of two sequences of integers in arithmetic progressions with the same prime divisors. (English summary) *Monatsh. Math.* **121** (1996), *no.* 4, 295–307. (Author's review (M.L.)) **98a:11124** 11N25 (11J86)

— (*with* Raman, Venkatesh; Srinivasaraghavan, G.) Finding scores in tournaments. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 380–394. (Moshe Rosenfeld) **98g:05064** 05C20 (68Q25)

— (*with* Nagaraj, S. V.) Density of Carmichael numbers with three prime factors. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1705–1708. (Andrew Granville) **98d:11110** 11N25 (11Y11)

— (*with* Ramachandra, Kanakanahalli) Some local-convexity theorems for the zeta-function-like analytic functions. III. *Number theory (Tiruchirapalli, 1996)*, 243–256, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Matti Jutila) **98i:11064** 11M06 (30A10)

— (*with* Shorey, T. N.) Perfect powers in products of terms in an arithmetical progression. IV. *Number theory (Tiruchirapalli, 1996)*, 257–263, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (A. Pethő) **98b:11112** 11N13

— (*with* Fellows, Michael R.; Raman, Venkatesh) An improved fixed-parameter algorithm for vertex cover. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 163–168. (Summary) **98m:68198** 68R10 (68Q15, 68Q25)

Balasubramanian, T. (*with* Chandrasekhara Rao, K.) Some classes of entire sequences. (English summary) *J. Ramanujan Math. Soc.* **11** (1996), *no.* 2, 145–159. (Robert DeVos) **98b:46012** 46A45 (40E05, 40H05)

Balasubramanian, Vijay (*with* Larsen, Finn) Extremal branes as elementary particles. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 206–218. (Summary) **98f:81234** 81T30 (83C57, 83E30)

— (*with* Larsen, Finn) Relativistic brane scattering. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 61–83. (Summary) **98i:81187** 81T30 (83E30)

— (*with* Leigh, Robert G.) D-branes, moduli, and supersymmetry. (English summary) *Phys. Rev. D (3)* **55** (1997), *no.* 10, 6415–6422. (C. Gauthier) **98c:81153** 81T30 (81T60)

Balavoine, David Deformations of algebras over a quadratic operad. *Operads: Proceedings of Renaissance Conferences (Hartford, CT/Luminy, 1995)*, 207–234, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. Stasheff) **98a:17031** 17B55 (16E40, 16S80)

Balázs, János *see* **Schipp, Ferenc, 98f:01086**

Balázs, Katherine On the search for simultaneous approximation constants. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 33–38, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A28

Balbás, A. (*with* Jimenez Guerra, Pedro) Sensitivity in multiobjective programming by differential equations methods. The case of homogeneous functions. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 188–196, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Vasile Postolică) **98k:90093** 90C29 (90C31)

Balberg, I. (*with* Drory, Alon; Berkowitz, Brian; Parisi, Giorgio) Theory of continuum percolation. III. Low-density expansion. (English summary) *Phys. Rev. E (3)* **56** (1997), *no.* 2, 1379–1395. (C. Chris Wu) **98m:82033** 82B43

Balbes, R. A lattice of interpolants with applications to computer graphics. *Algebra Universalis* **36** (1996), *no.* 3, 331–356. (Editors) **98f:06012** 06D99 (65D17, 65Y25, 68U05)

Balbiani, Philippe A modal logic for data analysis. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 167–179, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68T27 (03B45, 03B70, 68T30)

— (*with* Fariñas del Cerro, Luis) A relational model of movement. (English summary) *Logique et Anal. (N.S.)* **39** (1996), *no.* 155-156, 369–378. 03B30

— (*with* Fariñas del Cerro, Luis; Tinchev, Tinko; Vakarelov, Dimit^{n}r) Modal logics for incidence geometries. (English summary) *J. Logic Comput.* **7** (1997), *no.* 1, 59–78. (Silvio Ghilardi) **98a:03018** 03B45 (03B30)

Balbinot, R. (*with* Fabbri, Alessandro) Two-dimensional black holes in accelerated frames: quantum aspects. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 463–476. (Asghar Qadir) **98b:83052** 83C57 (81T20, 83C47)

— (*with* Ansoldi, S.; Aurilia, A.; Spallucci, E.) Classical and quantum shell dynamics, and vacuum decay. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2727–2755. (Summary) **98f:83038** 83C45

Balbo, Gianfranco *see* **Application and theory of Petri nets, 98i:68002**

Balbuena, C. (*with* Carmona, Angeles; Fàbrega, Josep; Fiol, M. A.) Extraconnectivity of graphs with large minimum degree and girth. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 85–100. (Prabir Das) **98d:05088** 05C40

Balbuena, M. C. (*with* Carmona, Angeles; Fàbrega, Josep; Fiol, M. A.) Connectivity of large bipartite digraphs and graphs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 3–17. (Alexander M. Barg) **98k:05101** 05C40

— (*with* Carmona, Angeles; Fàbrega, Josep; Fiol, M. A.) On the order and size of s-geodetic digraphs with given connectivity. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 19–27. (Summary) **98f:05071** 05C20 (05C40)

Balcar, Bohuslav (*with* Simon, Petr) Miroslav Katětov (1918–1995). *Math. Bohem.* **122** (1997), *no.* 1, 97–111. (Roman Duda) **98c:01038** 01A70 (01A60)

Balcázar, José L. The complexity of searching succinctly represented graphs. (English summary) *Automata, languages and programming (Szeged, 1995)*, 208–219, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q15 (68Q25, 68T20)

— The complexity of searching implicit graphs. (English summary) *Artificial Intelligence* **86** (1996), *no.* 1, 171–188. (M. I. Dekhtyar) **98a:68088** 68Q25 (03D15, 68Q15, 68T20)

— (*with* Díaz, Josep; Gavaldà, Ricard; Watanabe, Osamu[2]) Algorithms for learning finite automata from queries: a unified view. (English summary) *Advances in algorithms,*

languages, and complexity, 53–72, *Kluwer Acad. Publ., Dordrecht*, 1997. (Nicolae Ţândăreanu) **98f:68228** 68T05 (68Q45)

— (*with* Gavaldà, Ricard; Watanabe, Osamu[2]) Coding complexity: the computational complexity of succinct descriptions. (English summary) *Advances in algorithms, languages, and complexity*, 73–91, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98a:68063** 68Q15 (03D15, 68Q30)

— (*with* Gavaldà, Ricard; Hermo, Montserrat) Compressibility of infinite binary sequences. (English summary) *Complexity, logic, and recursion theory*, 75–91, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Marius Zimand) **98i:68130** 68Q30

— (*with* Allender, Eric; Immerman, Neil) A first-order isomorphism theorem. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 557–567. (Christine Charretton) **98a:68062** 68Q15 (03D15)

moreno-Balcázar, Juan J. *see* **Moreno-Balcázar, Juan J.**

Balcerzak, Marek Functions with fibres large on each nonvoid open set. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 7 (1995), 3–10. (Harry I. Miller) **98b:28002** 28A05

— Generalized projections of Borel and analytic sets. *Colloq. Math.* **71** (1996), *no.* 1, 47–53. (From the text) **98d:54067** 54H05 (04A15, 54E45)

— (*with* Rogowska, Dorota) Making some ideals meager on sets of size of the continuum. (English summary) *Topology Proc.* **21** (1996), 1–13. (Summary) **98k:54063** 54H05 (54E52)

— (*with* Ciesielski, Krzysztof[2]; Natkaniec, Tomasz) Sierpiński-Zygmund functions that are Darboux, almost continuous, or have a perfect road. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 29–35. (Ryszard J. Pawlak) **98k:26005** 26A15 (03E50, 03E65)

Balcerzyk, Stanisław Representation ring of the sequence of alternating groups. *Colloq. Math.* **74** (1997), *no.* 1, 147–155. (Michael Klemm) **98e:20017** 20C30 (20D06)

Balchen, Jens G. (*with* Sandrib, Bjarne) Hard constraints in control and state variables of multivariable nonlinear processes resolved by elementary nonlinear decoupling. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 1, 3–11. 93B11 (93C10)

Balci, Mustafa (*with* Temizer, O. Faruk) On the first type linear Volterra integral equations with convolution kernel. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 101–103. 45D05

Balci, Sabahattin (*with* Serbetci, Ayhan) On the solution of lifting problem on the sheaf of relative homotopy groups. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 31–38. 55Q05

Baldan, Paolo (*with* Alessi, Fabio; Bellè, Gianna; Rutten, J. J. M. M.) Solutions of functorial and non-functorial metric domain equations. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68Q55 (18B30)

— (*with* Alessi, Fabio) A characterization of distance between 1-bounded compact ultrametric spaces through a universal space. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 113–127. (Summary) **98m:54034** 54E45 (54B30, 68Q55)

horvatić-Baldasar, Ksenija *see* **Horvatić-Baldasar, Ksenija**

Balder, Erik J. (*with* Hess, Christian) Two generalizations of Komlós' theorem with lower closure-type applications. (English summary) *J. Convex Anal.* **3** (1996), *no.* 1, 25–44. (Michel Valadier) **98c:49034** 49J45 (28B20, 47H04)

— Remarks on Nash equilibria for games with additively coupled payoffs. (English summary) *Econom. Theory* **9** (1997), *no.* 1, 161–167. (Nicholas C. Yannelis) **98b:90176** 90D10

— Consequences of denseness of Dirac Young measures. *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 536–540. (Michel Valadier) **98h:49048** 49Q20 (28B20)

Baldi, Paolo (*with* Andriani, Cristina) Sharp estimates of deviations of the sample mean in many dimensions. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 3, 371–385. (Anatolii A. Pukhal'skiĭ) **98g:60051** 60F10

Balding, D. J. (*with* Bruno, W. J.; Knill, Emanuel; Torney, D. C.) A comparative survey of non-adaptive pooling designs. (English summary) *Genetic mapping and DNA sequencing (Minneapolis, MN, 1994)*, 133–154, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98e:92006**) 92D20 (62K99, 62P10)

Baldinger, Robert (*with* McCammond, Jonathan) Gaps in the categories of finite directed and finite transitive graphs. *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 35–60. (Introduction) **98m:18001** 18A10 (05C20, 05C25, 18B99, 68R10)

Baldino, Roberto Ribeiro (*with* Sad, Lígia Arantes; Teixeira, Marcos Vieira) A conception of history: Cauchy and the problem of pointwise convergence. (Portuguese) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics (Portuguese) (São Paulo, 1997)*, 247–255, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A55

Baldo, Sisto (*with* Orlandi, Giandomenico) Cycles of least mass in a Riemannian manifold, described through the "phase transition" energy of the sections of a line bundle. *Math. Z.* **225** (1997), *no.* 4, 639–655. (Harold Parks) **98j:49058** 49Q20 (53C65, 58E15)

Baldoni, F. (*with* Rajagopal, K. R.) Conditions of compatibility for the solid-liquid interface. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 401–420. (Summary) **98c:80001** 80A22 (73B30)

Baldoni, M. Welleda *see* **Baldoni, Welleda**

Baldoni, Matteo (*with* Giordano, Laura; Martelli, Alberto) Translating a modal language with embedded implication into Horn clause logic. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 19–33, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:03031** 03B70 (68N17)

— (*with* Giordano, Laura; Martelli, Alberto; Patti, Viviana) An abductive proof procedure for reasoning about actions in modal logic programming. (English summary) *Non-monotonic extensions of logic programming (Bad Honnef, 1996)*, 132–150, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98i:68045** 68N17 (68T27, 68T30)

Baldoni, Welleda General representation theory of real reductive Lie groups. *Representation theory and automorphic forms (Edinburgh, 1996)*, 61–72, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (D. Miličić) **98m:22020** 22E46

— (*with* Möseneder Frajria, Pierluigi) The quantum analog of a symmetric pair: a construction in type $(C_n, A_1 \times C_{n-1})$. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 8, 3235–3276. (Anthony Joseph) **98b:17011** 17B37

Baldwin, J. F. (*with* Lawry, J.; Martin, T. P.) A note on the conditional probability of fuzzy subsets of a continuous domain. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 211–222. 28E10 (60E99)

Baldwin, John T. Near model completeness and 0-1 laws. *Logic and random structures (New Brunswick, NJ, 1995)*, 1–13, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Feodor Alexandrovich Murzin) **98m:03064** 03C13 (03C10, 05C80)

Baldwin, R. L. (*with* de France, J. F.; Dijkstra, Jan; Dhanoa, M. S.) Biomathematical applications in ruminant nutrition. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 241–258. (*see* **98i:92001**) 92C99

Baldwin, Stewart (*with* Alsedà, Lluís; Llibre, Jaume; Misiurewicz, Michał) Entropy of transitive tree maps. (English summary) *Topology* **36** (1997), *no.* 2, 519–532. (Summary) **98f:54031** 54H20

Baldwin, Thomas Modal fictionalism and the imagination. *Analysis (Oxford)* **58** (1998), *no.* 2, 72–75. 03B45 (03A05)

Bale, D. S. (*with* Cooker, M. J.; Weidman, P. D.) Reflection of a high-amplitude solitary wave at a vertical wall. (English summary) *J. Fluid Mech.* **342** (1997), 141–158. (Summary) **98d:76026** 76B25 (76B15, 76M15)

Balean, Robin The null-timelike boundary problem for the linear wave equation. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1325–1360. (Reinhard Racke) **98h:35139** 35L05

Băleanu, Dumitru The stochastic quantization in the extended space. (English summary) *Romanian J. Phys.* **40** (1995), *no.* 4-5, 427–432. (Summary) **98a:81093** 81S20

— Exact solutions to the Langevin equations for systems with second class constraints. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 3-4, 213–219. (Helmut Rumpf) **98f:81155** 81S20

— Geodesic motion on extended Taub-NUT spinning space. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 195–207. (Volker Perlick) **98k:83009** 83C10

Balek, Vladimír (*with* Mizera, Ivan) The closeness of the range of a probability on a certain system of random events—an elementary proof. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 621–624. 60C05

Balenović, Neven (*with* Antonic, Nenad) On a variational problem related to a model of black and white printing. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 1–11 (1998). 49N55 (49Q10)

Balescu, R. (*with* Misguich, J. H.; Reuss, Jean Daniel; Elskens, Y.) Motion in a stochastic layer described by symbolic dynamics. (English summary) *Chaos* **8** (1998), *no.* 1, 248–256. (Summary) **98m:76171** 76X05 (58F03, 58F40)

Bali, Raj (*with* Ali, Mahbub) Expanding and shearing universe with two degrees of freedom in general relativity. (English summary) *Progr. Math. (Varanasi)* **27** (1993), *no.* 1-2, 63–70 (1996). (Summary) **98c:83014** 83C15

— (*with* Jain, Vimal Chand) Some viscous fluid cosmological models in general relativity. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 1, 13–23. 83C15 (83C55, 83F05)

puente-Baliarda, Carles *see* **Puente-Baliarda, Carles**

Balibrea Gallego, Francisco (*with* La Paz, Claudio) Omega-limit sets for smooth maps. (English summary) *Iteration theory (Batschuns, 1992)*, 24–37, *World Sci. Publishing, River Edge, NJ*, 1996. (Katarina Jankova) **98d:58112** 58F12 (26A18)

— (*with* La Paz, Claudio) Turbulent maps and their ω-limit sets. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 223–226. (Summary) **98k:58154** 58F13 (26A18)

— (*with* Valero, José) Estimates of dimension of attractors of reaction-diffusion equations in the non-differentiable case. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 759–764. (Igor D. Chueshov) **98j:47155** 47H20 (34G20, 35B40, 35K57, 58F39)

Balieiro, Inocêncio F. (*with* Baroni, Rosa L. S.) The concept of infinitesimal in J. A. de Cunha's *Mathematical principles*. (Portuguese) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics (Portuguese) (São Paulo, 1997)*, 361–368, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A05

Baliga, Ganesh R. (*with* Shende, Anil M.) Learning-theoretic perspectives of acceptable numberings. (English summary) Artificial intelligence and mathematics, V (Fort Lauderdale, FL, 1994). *Ann. Math. Artificial Intelligence* **17** (1996), *no.* 3-4, 177–187. (Lei Qian) **98b:68158** 68T05 (03D20)

— (*with* Jain, Sanjay[1]; Sharma, Arun K.) Learning from multiple sources of inaccurate data. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 961–990. (Summary) **98c:68179** 68T05 (68Q99)

Baliga, Sandeep (*with* Corchon, Luis C.; Sjöström, Tomas) The theory of implementation when the planner is a player. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 15–33. (Summary) **98f:90083** 90D35 (90A05)

Baliński, K. T. (*with* Quintas, L. V.) Properties of the transition digraph of the random 2-graph process. (English summary) *Caribbean J. Math. Comput. Sci.* **5** (1995), *no.* 1-2, 53–68. (Lyuben R. Mutafchiev) **98g:05137** 05C80 (05C20, 60C05)

Balinski, Michel L. How should data be rounded? (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 33–44, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98g:60004**) 60E99 (60F99, 65G05)

— (*with* Rachev, Svetlozar T.) Rounding proportions: methods of rounding. (English summary) *Math. Sci.* **22** (1997), *no.* 1, 1–26. (Summary) **98b:62004** 62-07 (65G05)

Bálint, Vojtech Two packing problems. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 233–236. (Summary) **98f:05041** 05B40

del Balio, R. *see* **Del Balio, R.**

Balk, Bert M. The decomposition of cost efficiency and the canonical form of cost function and cost share equations. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 45–51. 90A11

Balk, M. B. Polyanalytic functions and their generalizations [MR 93f:30050]. *Complex analysis, I*, 195–253, *Encyclopaedia Math. Sci.*, 85, *Springer, Berlin*, 1997. (*see* **98d:30002**) 30G30 (30A05)

Balk, P. I. (*with* Balk, T. V.) The inverse gravimetry problem with implications for structure and mineralization. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 6, 32–41. (Summary) **98i:86010** 86A22

— The parametrization problem and the reliability of the solution of the nonlinear inverse gravimetry problem. (Russian. Russian summary) *Fiz. Zemli* **1997**, *no.* 10, 14–32. (Summary) **98k:86020** 86A20

Balk, T. V. (*with* Balk, P. I.) The inverse gravimetry problem with implications for structure and mineralization. (Russian. Russian summary) *Fiz. Zemli* **1995**, *no.* 6, 32–41. (Summary) **98i:86010** 86A22

Balke, Ludwig Deformations of simplicial structures. *Math. Ann.* **310** (1998), *no.* 2, 251–277. (Andrew Vince) **98i:57041** 57Q05 (57Q15)

Balke, Nathan S. (*with* Fomby, Thomas B.) Threshold cointegration. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 627–645. 90A14 (90D12)

Balkema, A. A. Stopping times and sample path regularity. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan′, 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 352–355. (Jia Gang Wang) **98b:60085** 60G40 (60G17)

Balkhi, Zaid T. (*with* Benkherouf, Lakdere) On an inventory model for deteriorating items and time-varying demand. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 221–233. (Summary) **98a:90041** 90B05

Balkovsky, E. (*with* Falkovich, G.; Kolokolov, I. V.; Lebedev, V. V.) Viscous instanton for Burgers' turbulence. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3223–3245. (Summary) **98k:76069** 76F99 (76M35)

— (*with* Falkovich, G.) Two complementary descriptions of intermittency. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, R1231–R1234. (Summary) **98i:76044** 76F99 (76M35)

Ball, Frank Threshold behaviour in stochastic epidemics among households. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 253–266, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (*see* **98e:60004**) 92C60

Ball, J. M. Continuity properties and global attractors of generalized semiflows and the Navier-Stokes equations. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 5, 475–502. (Woodford W. Zachary) **98j:58071a** 58F12 (34D45, 34G20, 35Q30, 47H20, 58F39, 76D05)

— Erratum: "Continuity properties and global attractors of generalized semiflows and the Navier-Stokes equations". *J. Nonlinear Sci.* **8** (1998), *no.* 2, 233. (Woodford W. Zachary) **98j:58071b** 58F12 (34D45, 34G20, 35Q30, 47H20, 58F39, 76D05)

Ball, J. S. (*with* Baker, Marshall; Brambilla, N.; Prosperi, G. M.; Zachariasen, F.) Erratum: "Confinement: understanding the relation between the Wilson loop and dual theories of long distance Yang-Mills theory" [Phys. Rev. D (3) **54** (1996), no. 4, 2829–2844; MR 97f:81172]. *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2475. 81V05 (81T13)

Ball, Joseph A. The nonlinear Nevanlinna-Pick interpolation problem. (English summary) *Topics in operator theory, operator algebras and applications* (*Timişoara*, 1994), 1–27, *Rom. Acad., Bucharest*, 1995. (Adolf A. Nudelman) **98a:47012** 47A57 (30E05, 47H99, 47N70, 93B36)

— Commutant lifting and interpolation: the time-varying case. (English summary) *Integral Equations Operator Theory* **25** (1996), *no.* 4, 377–405. (From the introduction) **98c:47006** 47A20 (47A57, 47D25, 47N70, 93B25)

— (*with* Gohberg, Israel; Kaashoek, M. A.) Nudelman interpolation and the band method. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 253–284. (Hugo Jan Woerdeman) **98b:47020** 47A57 (15A48, 30E05, 42A70)

Ball, Kenneth S. (*with* Kuo, Dah-Chyi) Taylor-Couette flow with buoyancy: onset of spiral flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2872–2884. (Summary) **98g:76031** 76E10 (76C99)

Ball, Michael O. (*with* Colbourn, Charles J.; Provan, J. Scott) Network reliability. *Network models*, 673–762, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 68M15 (90B25, 94C12)

— *see also* **Network models, 98d:90002**

Ball, Richard N. (*with* Hagler, James N.) The Gleason cover of a flow. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 13–33, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (L. Janos) **98g:54095** 54H20

— (*with* Hagler, James N.) Actions on Archimedean lattice-ordered groups with strong unit. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 81–121, *Kluwer Acad. Publ., Dordrecht*, 1997. (Michael Darnel) **98f:06016** 06F20

— (*with* McCleary, Stephen H.) Tyings in lattice-ordered permutation groups. (English summary) *Algebra Universalis* **37** (1997), *no.* 1, 24–69. (W. C. Holland) **98a:06025** 06F15 (20B27)

— (*with* McCleary, Stephen H.) The closure of a lattice-ordered permutation group. (English summary) *Algebra Universalis* **37** (1997), *no.* 3, 342–373. (Gerard Buskes) **98m:06020** 06F15 (20B27, 54F05, 54H12)

Ball, Simeon Multiple blocking sets and arcs in finite planes. (English summary) *J. London Math. Soc.* (2) **54** (1996), *no.* 3, 581–593. (Christine M. O'Keefe) **98g:51008** 51E21

— (*with* Blokhuis, Aart; Mazzocca, Francesco) Maximal arcs in Desarguesian planes of odd order do not exist. (English summary) *Combinatorica* **17** (1997), *no.* 1, 31–41. (Tamás Szőnyi) **98h:51014** 51E21 (05B25)

— On small complete arcs in a finite plane. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 29–34. (Antonio Cossidente) **98j:51012** 51E21 (05B25)

Balla, Katalin Boundary conditions and their transfer for differential-algebraic equations of index 1. (English summary) *Comput. Math. Appl.* **31** (1996), *no.* 10, 1–5. (Vladimir A. Danilov) **98j:65053** 65L99 (34A09, 34A45)

— (*with* Benkő, J. M.) The diamagnetic Coulomb problem at high field strength. Numerical analysis. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6747–6764. (Alexei D. Kiselev) **98g:81223** 81V45

— (*with* März, Roswitha) Transfer of boundary conditions for DAEs of index 1. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2318–2332. (Alexander Ostermann) **98a:65099** 65L10

Ballalij, M. (*with* Sadok, H.) New interpretation of related Huang's methods. (English summary) *Linear Algebra Appl.* **269** (1998), 183–195. (Hongyuan Zha) **98i:65016** 65F05 (15A06, 15A23)

Balland, Philippe (*with* Süli, Endre) Analysis of the cell-vertex finite volume method for hyperbolic problems with variable coefficients. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1127–1151. (Stanly L. Steinberg) **98i:65089** 65N12 (65N06, 65N30, 76M25)

Ballard, Jean *see* **Le Lionnais, François, 98j:01001**

Balle, Susanne M. (*with* Pedersen, Palle M.) SVD computations on the connection machine CM-5/CM-5E: implementation and accuracy. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1462–1478. 65F30 (65Y05)

calsina Ballesta, Ángel *see* **Calsina Ballesta, Ángel**

Ballester-Bolinches, A. (*with* Pedraza-Aguilera, M. C.; Pérez-Ramos, M. D.) On $\mathcal{F}$-subnormal subgroups and $\mathcal{F}$-residuals of finite soluble groups. *J. Algebra* **186** (1996), *no.* 1, 314–322. (Yan Ming Wang) **98d:20020** 20D10 (20D15)

— (*with* Pedraza-Aguilera, M. C.; Pérez-Ramos, M. D.) On π-normally embedded subgroups of finite soluble groups. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 115–120. (A. Scarselli) **98b:20023** 20D10 (20D20)

— Saturated formations, theta series and completions in finite groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 243–250, i; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 207–212. (Alexander N. Skiba) **98d:20021** 20D10

Ballestero, Enrique Efficient frontier derived from opinions and the utility optimization problem. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 356–364, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90A10)

Ballesteros, Angel (*with* Herranz, Francisco J.; Del Olmo, Mariano A.; Pereña, C. M.; Santander, Mariano) Non-standard quantum $(1+1)$ Poincaré group: a T-matrix approach. (English summary) *J. Phys. A* **28** (1995), *no.* 24, 7113–7125. (Władysław Marcinek) **98g:81067** 81R50 (16W30, 17B37)

— (*with* Del Olmo, Mariano A.) Contractions of Poisson-Lie groups, Lie bialgebras and quantum deformations. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 261–271, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (From the text) **98m:17020** 17B37 (81R50)

— (*with* Herranz, Francisco J.; Parashar, Preeti) Quantum Heisenberg-Weyl algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L149–L154. (Michèle Irac-Astaud) **98e:17016** 17B37 (16W30, 17B35, 81R50)

— (*with* Herranz, Francisco J.; Pereña, C. M.) Null-plane quantum universal R-matrix. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 71–77. (Peter Prešnajder) **98e:81068** 81R50 (58B30)

nuño Ballesteros, J. J. *see* **Nuño Ballesteros, J. J.**

Ballestreros, A. (*with* Corsetti, M.; Ragnisco, Orlando) N-dimensional classical integrable systems from Hopf algebras. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1153–1163. (Andrey V. Tsiganov) **98a:58081** 58F07 (16W30, 81R50, 82B23)

Ballico, Edoardo Spanned vector bundles on algebraic curves and linear series. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **27** (1995), *no.* 1-2, 137–156 (1996). (Summary) **98f:14025** 14H60 (14C20)

— On projective degenerations of Veronese spaces. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 45–51, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (D. Sundararaman) **98g:14036** 14J25 (20F36)

— (*with* Russo, Barbara) On the geometry and Brill-Noether theory of spanned vector bundles on curves. *Higher-dimensional complex varieties* (*Trento*, 1994), 23–38, *de Gruyter, Berlin*, 1996. (Montserrat Teixidor i Bigas) **98f:14026** 14H60

— (*with* Russo, Barbara) On the stability of the restriction of $T\mathbf{P}^n$ to projective curves. *Complex analysis and geometry* (*Trento*, 1995), 7–18, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (*see* **98f:32002**) 14J60

— On the stability of the restricted bundle of space curves contained in a quartic surface. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 429–436. (Rafael Hernandez) **98k:14041** 14H50 (14H60)

— Stable bundles on algebraic curves arising as extensions. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 769–773. (Summary) **98i:14034** 14H60

— (*with* Coppens, Marc) Very ample line bundles on blown-up projective varieties. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 437–447. (Letterio Gatto) **98k:14019** 14E25 (14C20, 14N05)

— (*with* Bertolini, Marina; Turrini, Cristina) On the class of some projective varieties. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 281–287. (Gian Mario Besana) **98j:14054** 14J40 (14N05)

— On the gonality of curves in $\mathbf{P}^n$. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 177–186. (James N. Brawner) **98d:14041** 14H45 (14N05)

— On the differential properties of algebraic morphisms into Grassmannians. *Compositio Math.* **106** (1997), *no.* 1, 71–85. (Raquel Mallavibarrena) **98i:14047** 14M15 (14J60)

— (*with* Mirò-Roig, Rosa Maria) Rank 2 stable vector bundles on Fano 3-folds of index 2. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 213–220. (Yuri G. Prokhorov) **98h:14050** 14J60 (14J45)

— (*with* Cossidente, Antonio) Subvarieties of Segre varieties and trisecant lines. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 251–260. (Susan J. Colley) **98g:14069** 14N05 (14J25, 51E21)

— On the number of components of the moduli schemes of stable torsion-free sheaves on integral curves. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2819–2824. (Alexander E. Polishchuk) **98d:14013** 14D20 (14H20)

— Joins and secant varieties of subvarieties of a Grassmannian. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 29–36. (Aigli Papantonopoulou) **98k:14074** 14N05 (14M15)

— On the minimal free resolution of general k-gonal curves. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 85–90. (Juan C. Migliore) **98k:13013** 13D02 (14H45)

— (*with* Bolondi, Giorgio; Ellia, Philippe; Mirò-Roig, Rosa Maria) Curves of maximum genus in range A and stick-figures. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4589–4608. (Gunnar Fløystad) **98b:14030** 14H50

— (*with* Kim, Seon Jeong) Weierstrass multiple loci of n-pointed algebraic curves. *J. Algebra* **199** (1998), *no.* 2, 455–471. (Masaaki Homma) **98k:14044** 14H55

— On the Picard group of the moduli scheme of stable curves in positive characteristic. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 1–5. (Summary) **98i:14028** 14H10 (14C22)

— *see also* **Complex analysis and geometry, 98f:32002**

Ballinger, G. (*with* Liu, Xinzhi) Permanence of population growth models with impulsive effects. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 59–72. (Summary) **98j:92011** 92D25 (34A37, 34D99)
— (*with* Liu, Xinzhi) On boundedness of solutions of impulsive systems. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 121–131. (Yuri V. Rogovchenko) **98e:34021** 34A37 (34C11)
Ballmann, W. (*with* Świątkowski, J.) On L^2-cohomology and property (T) for automorphism groups of polyhedral cell complexes. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 4, 615–645. (Alain Valette) **98m:20043** 20F32 (20J05, 22D10, 53C23, 57M07)
Balmaceda, Jose Maria P. Multiplicity-free actions of the alternating groups. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 453–467. (Martin W. Liebeck) **98d:20002** 20B35
Balmforth, N. J. (*with* Cvitanović, Predrag; Ierley, G. R.; Spiegel, E. A.; Vattay, G.) Advection of vector fields by chaotic flows. *Stochastic processes in astrophysics (Gainesville, FL, 1993)*, 148–160, *Ann. New York Acad. Sci., 706, New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 76F20 (76W05)
— (*with* Tresser, Charles; Worfolk, Patrick; Wu, Chai Wah) Master-slave synchronization and the Lorenz equations. (English summary) *Chaos* **7** (1997), *no.* 3, 392–394. (Yong-In Kim) **98i:58154** 58F13 (34C99)
— (*with* Ierley, G. R.; Worthing, Rodney A.) Pulse dynamics in an unstable medium. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 205–251. (Andrew C. Fowler) **98b:35141** 35Q35 (34C23, 35B25, 35Q55, 58F39)
— (*with* Llewellyn Smith, Stefan G.; Young, W. R.) Dynamics of interfaces and layers in a stratified turbulent fluid. (English summary) *J. Fluid Mech.* **355** (1998), 329–358. (Summary) **98i:76094** 76V05 (76E99, 76F99)
— (*with* Casti, Alexander; Julien, K. A.) Thermohaline convection with nonlinear salt profiles. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 819–828. 76R99
— (*with* Casti, Alexander) Convection in a slowly diffusing, weakly stratified salt field. (English summary) *Phys. Lett. A* **238** (1998), *no.* 1, 35–42. (Summary) **98k:76124** 76Rxx (76E15, 76S05)
Balo, Tapan Kr. (*with* Roy, Probir Kr.) Trisection and pentasection of any angle by dividers. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 343–347. (E. J. F. Primrose) **98e:51028** 51M15
Balog, J. (*with* Forgács, P.; Horváth, Zalán; Palla, L.) Quantum corrections of abelian duality transformations in sigma models. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 294–301. (Summary) **98f:81172** 81T10
Balog, Laszlo (*with* Bărbosu, Dan; Pop, Nicolae) On a Bernstein type operator. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 23–28. (Summary) **98k:41036** 41A35
Balogh, Zoltan M. (*with* Popovici, Irina; Vol′berg, A. L.) Conformally maximal polynomial-like dynamics and invariant harmonic measure. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 1–27. (Feliks Przytycki) **98k:58189** 58F23 (30C85, 31A05, 58F11)
Balogh, Zoltan T. There is a paracompact Q-set space in ZFC. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1827–1833. (J. R. Isbell) **98g:54084** 54G20 (54H05)
— A normal screenable nonparacompact space in ZFC. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1835–1844. (J. R. Isbell) **98g:54041** 54D15 (54D20, 54G20)
— Nonshrinking open covers and K. Morita's third conjecture. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 185–198. (Summary) **98m:54025** 54D20 (54D15, 54F65)
Baloshin, Yu. A. (*with* Kostin, Alekseĭ Vadimovich) An approach to the exterior Dirichlet problem in $\mathbf{R}^2$ with applications to wave scattering. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 32–37, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35J05 (35J25, 78A45)
Balsara, Dinshaw (*with* Quinlan, Daniel J.) Parallel object-oriented adaptive mesh refinement. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M55 (65Y05)
Balser, Werner An integral equation for normal solutions to meromorphic differential equations. (English summary) *J. Dynam. Control Systems* **1** (1995), *no.* 3, 367–378. (Donald A. Lutz) **98b:34010** 34A20 (34E05, 45D05)
— Formal solutions of non-linear systems of ordinary differential equations. (English summary) *The Stokes phenomenon and Hilbert's 16th problem (Groningen, 1995)*, 25–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Donald A. Lutz) **98g:34015a** 34A25 (34A20, 34A34, 34C20, 34E05)
— (*with* Beck, Andreas) Necessary and sufficient conditions for matrix summability methods to be stronger than multisummability. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 5, 1349–1357. (Sarjoo Prasad Yadav) **98e:40004** 40D25 (34A25, 34E05, 40C05, 40G10)
— Existence and structure of complete formal solutions of non-linear meromorphic systems of ordinary differential equations. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 261–282. (Donald A. Lutz) **98g:34015b** 34A25 (34A20, 34A34, 34C20, 34E05)
— Multisummability of complete formal solutions for non-linear systems of meromorphic ordinary differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 19–24. (Summary) **98i:34002** 34A20 (34A34)
— Moment methods and formal power series. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 289–305. (Alexander Tovbis) **98m:34114** 34E05 (30E15, 34A25, 40A25, 44A60)
Balshaw, R. (*with* Dean, C. B.) Efficiency lost by analyzing counts rather than event times in Poisson and overdispersed Poisson regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1387–1398. (Summary) **98m:62226** 62M07
Balsters, H. *Lambda calculus extended with segments*: Chapter 1, Sections 1.1 and 1.2 (Introduction). *Selected papers on Automath*, 339–367, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B40
Baltag, I. A. On a property of semi-Euclidean symmetry planes of point lattices in Minkowski space language. (Romanian) *Proceedings of 23rd Conference on Geometry and Topology (Cluj-Napoca, 1993)*, 20–26, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 1994. (From the text) **98b:51020** 51M09 (53A35)
— (*with* Soloveĭ, L. E.) Construction of some Bravais types of point wise lattices in the Euclidean five-dimensional space. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 217–229. (Martin Henk) **98e:52014** 52C07 (82D25)
Baltag, V. A. (*with* Gheorghiu, L. E.; Vulpe, Nicolae) The repartition of multiplicity between four infinite singular points of cubic differential system. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 76–88, 114, 117. (Sui Lin Cai) **98k:34040** 34C05
Baltagi, Badi H. ★ Econometrics. (English summary) *Springer-Verlag, Berlin*, 1998. xiv+398 *pp. ISBN* 3-540-63617-X 62P20
— ★ Solutions manual for *Econometrics. Springer-Verlag, Berlin*, 1998. viii+321 *pp. ISBN* 3-540-63896-2 62P20
Baltrunas, A. On a local limit theorem on one-sided large deviations for dominated-variation distributions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 1, 1–9; *translation in Lithuanian Math. J.* **36** (1996), *no.* 1, 1–7. (S. A. Book) **98g:60052** 60F10
— Asymptotic behavior of the probabilities of one-sided large deviations. I. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 2, 155–162; *translation in Lithuanian Math. J.* **36** (1996), *no.* 2, 125–130 (1997). (S. A. Book) **98g:60053** 60F10
— Asymptotic behavior of the probabilities of one-sided large deviations. II. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 271–280; *translation in Lithuanian Math. J.* **36** (1996), *no.* 3, 215–223 (1997). (S. A. Book) **98g:60054** 60F10
Baltus, Christopher Asymptotic series and continued fractions: Stieltjes and after. *Comm. Anal. Theory Contin. Fractions* **5** (1996), 34–38. (K. E. Hirst) **98b:01020** 01A55 (01A60, 40-03, 41-03)
Balu, Mini N. (*with* Sabnis, S. V.) Preservation of certain dependent structures under bivariate homogeneous Poisson shock models. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 91–100. (Philip J. Boland) **98j:62068** 62N05 (60K10, 90B25)
Balueva, A. V. (*with* Kuznetsov, Sergei Vladimirovich^2) Crack in an anisotropic medium. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 2, 245–252. (*see* **98d:80001**) 73M25 (73B40, 73C99, 73V20)
— (*with* Kuznetsov, Sergei Vladimirovich^2) Cracks in anisotropic elastic media. (English summary) *Comput. Mech.* **20** (1997), *no.* 1-2, 75–78. (Summary) **98e:73105** 73M25 (73B40, 73V20)
Balzano, Michele (*with* Corbo Esposito, Antonio; Paderni, G.) Nonlinear Dirichlet problems in randomly perforated domains. (English and Italian summaries) *Rend. Mat. Appl. (7)* **17** (1997), *no.* 2, 163–186. (Jan I. Seidler) **98m:35058** 35J65 (35B25, 35R60, 49J45, 49J55)
Bambah, R. P. The conjectures of Minkowski, Watson and others. *Math. Student* **65** (1996), *no.* 1-4, 176–178. 11H50
Bamber, Nicholas (*with* Kossak, Roman) On two questions concerning the automorphism groups of countable recursively saturated models of PA. (English summary) *Arch. Math. Logic* **36** (1996), *no.* 1, 73–79. (Alexandre Ivanov) **98m:03073** 03C57 (03C15, 03C62, 03H15, 20B27)
Bamberger, Alain (*with* Glowinski, Roland; Tran, Quang Huy) A domain decomposition method for the acoustic wave equation with discontinuous coefficients and grid change. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 603–639. (Dennis C. Jespersen) **98c:65161** 65M55 (35L05, 46N40, 65M12)
Bambos, N. (*with* Prabhakar, B.; Mountford, T. S.) Convergence of departures in tandem networks of $\cdot/GI/\infty$ queues. (English summary) *Probab. Engrg. Inform. Sci.* **10** (1996), *no.* 4, 487–500. (Hirotaka Sakasegawa) **98c:60131** 60K25 (60F17)
Bambusi, Dario Long time stability of some small amplitude solutions in nonlinear Schrödinger equations. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 205–226. (Nakao Hayashi) **98m:35188** 35Q55 (35B35, 58F39)
lashkarizadeh Bami, Mahmood *see* **Lashkarizadeh Bami, Mahmood**
Bamigbola, O. M. (*with* Ibiejugba, M. A.; Evans, David J.) Analysis of Chebyshev finite element method for linear differential equations using equal interval elements. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 113–130. (Summary) **98c:65139** 65L60
Bamón, Rodrigo Singular cycles of vector fields. *International Conference on Dynamical Systems (Montevideo, 1995)*, 1–6, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (A. P. Sadovskiĭ) **98g:58121** 58F14
— (*with* de A. Moreira, Carlos Gustavo T.; Plaza S., Sergio; Vera V., Jaime) Differentiable structures of central Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1027–1042. (Remo Badii) **98g:28006** 28A78 (28A80, 58F12)
Bampis, E. (*with* Delorme, C.; König, J.-C.) Optimal schedules for d-D grid graphs with communication delays (extended abstact). (English summary) *STACS 96 (Grenoble, 1996)*, 655–666, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q22 (68M20)
Ban, Adrian I. Convex intuitionistic fuzzy sets. (English summary) *Notes IFS* **3** (1997), *no.* 2, 66–76. 03E72
— Convex temporal intuitionistic fuzzy sets. (English summary) *Notes IFS* **3** (1997), *no.* 2, 77–81. 03E72
— Entropy of fuzzy $\mathcal{J}$-dynamical systems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 351–362. 28D20 (28E10)
— (*with* Fechete, I.) The application of t-measures of fuzziness. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 163–169. 28E10 (04A72)
van den Ban, Erik P. Induced representations and the Langlands classification. (English summary) *Representation theory and automorphic forms (Edinburgh, 1996)*, 123–155, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (D. Miličić) **98k:22052** 22E46
— (*with* Flensted-Jensen, M.; Schlichtkrull, Henrik) Harmonic analysis on semisimple symmetric spaces: a survey of some general results. (English summary) *Representation theory and automorphic forms (Edinburgh, 1996)*, 191–217, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:43005** 43A85 (22E45)
— (*with* Schlichtkrull, Henrik) Expansions for Eisenstein integrals on semisimple symmetric spaces. *Ark. Mat.* **35** (1997), *no.* 1, 59–86. (Nobukazu Shimeno) **98e:22003** 22E30 (43A85)

— (*with* Schlichtkrull, Henrik) Fourier transform on a semisimple symmetric space. *Invent. Math.* **130** (1997), *no.* 3, 517–574. (Kyo Nishiyama) **98m:22016** 22E45 (22E30)

Ban, Gui Lin (*with* Ban, Gui Ning) Solutions of some conjectures of Curran. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 2, 159–162. (Summary) **98a:20023** 20D45

Ban, Gui Ning (*with* Ban, Gui Lin) Solutions of some conjectures of Curran. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 2, 159–162. (Summary) **98a:20023** 20D45

— (*with* Li, Shi Rong) Finite groups in which all second maximal subgroups of even order are PN-groups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 519–525. (Ji Ping Zhang) **98e:20029** 20D25

— (*with* Yu, Shuxia) A result about abelian automorphism groups. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 5, 494–500. (Yan Ming Wang) **98g:20035** 20D45

Ban, Masashi (*with* Kurokawa, Keiko; Momose, Rei; Hirota, Osamu) Optimum measurements for discrimination among symmetric quantum states and parameter estimation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1269–1288. (Koichiro Matsuno) **98h:81011** 81P15

— (*with* Osaki, Masao; Hirota, Osamu) The maximum mutual information without coding for binary quantum-state signals. (English summary) *J. Modern Opt.* **45** (1998), *no.* 2, 269–282. (Summary) **98k:81033** 81P99 (94A05)

Banach, R. DPO rewriting and abstract semantics via opfibrations. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95)* (*Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)

Banach, Zbigniew (*with* Piekarski, Slawomir) Gauge-invariant cosmological perturbation theory for collisionless matter: application to the Einstein-Liouville system. (English summary) *Gen. Relativity Gravitation* **28** (1996), *no.* 11, 1335–1359. (A. D. Popova) **98b:83050** 83C55 (83C25)

— (*with* Piekarski, Slawomir) Geometrization of linear perturbation theory for diffeomorphism-invariant covariant field equations. I. The notion of a gauge-invariant variable. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1787–1816. (Klaus Kirsten) **98k:81180** 81T20

— (*with* Piekarski, Slawomir) Geometrization of linear pertubation theory for diffeomorphism-invariant covariant field equations. II. Basic gauge-invariant variables with applications to de Sitter space-time. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1817–1842. (Klaus Kirsten) **98k:81181** 81T20

Bañados, Máximo (*with* Henneaux, Marc; Iannuzzo, C.; Viallet, Claude-M.) Gauge symmetries of pure Chern-Simons theories with p-form gauge fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2455–2468. (Viqar Husain) **98i:81153** 81T13 (53C80)

— Dilaton gravity (with a Gauss-Bonnet term) derived from five-dimensional Chern-Simons gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2051–2058. (José Luis López) **98b:83072** 83D05 (81V17, 83E99)

— (*with* Gomberoff, Andrés) Black hole entropy in the Chern-Simons formulation of $(2+1)$-dimensional gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6162–6167. (Sergiu I. Vacaru) **98e:83066** 83C57 (81T20, 81T40)

— Constant curvature black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1068–1072. (Viqar Husain) **98m:83040** 83C57

Banaja, Mona (*with* Sharaf, M. A.; Saad, Abdel-Naby S.; Najmuldeen, Samiha A.) Symbolic computing algorithm for the method of successive approximations for near-parabolic orbits. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 387–396. 70–08 (65D20, 70F15)

Banakh, T. O. (*with* Radul, Taras) On the functor of Radon probability measures. (Ukrainian. English and Russian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 16–20. 28C15 (18B30, 54B30)

— (*with* Cauty, Robert) Universalité forte pour les sous-ensembles totalement bornés. Applications aux espaces $C_p(X)$. [Strong universality for totally bounded subsets. Applications to the spaces $C_p(X)$] *Colloq. Math.* **73** (1997), *no.* 1, 25–33. (J. Schmets) **98c:46046** 46E10 (54C35, 57N17)

— (*with* Pikhurko, O.) On linear functorial operators extending pseudometrics. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 343–348. (Summary) **98c:54007** 54B30 (46M15, 54C20, 54E35)

— (*with* Pikhurko, O.) Correction: "On linear functorial operators extending pseudometrics" [Comment. Math. Univ. Carolin. **38** (1997), no. 2, 343–348; MR 98c:54007]. *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 815. 54B30 (46M15, 54C20, 54E35)

— (*with* Radul, Taras) Topology of spaces of probability measures. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 23–46; *translation in Sb. Math.* **188** (1997), *no.* 7, 973–995. (Dušan Repovš) **98k:54055** 54E70 (28C05, 57N20)

Banarasi (*with* Srivastava, C. P. L.; Srivastava, Siya Ram) Power of the test procedure for the scale parameter in exponential population. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 107–119. 62F03

Banaś, Józef Some properties of Urysohn-Stieltjes integral operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 79–88. (Isaac V. Shragin) **98j:47156** 47H30 (45G10, 45P05)

Banaschewski, Bernhard Recent results in pointfree topology. *Papers on general topology and applications (Brookville, NY, 1990)*, 29–41, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (From the introduction) **98g:54003** 54A05 (54D99, 54E99, 54H99)

— (*with* Gilmour, Christopher) Pseudocompactness and the cozero part of a frame. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 577–587. (Summary) **98f:54028** 54D20 (54C50)

— (*with* Vermeulen, J. J. C.) Polynomials and radical ideals. *J. Pure Appl. Algebra* **113** (1996), *no.* 3, 219–227. (L. J. Ratliff, Jr.) **98c:13004** 13A10 (13B25, 54H99)

— Pointfree topology and the spectra of f-rings. *Ordered algebraic structures (Curaçao, 1995)*, 123–148, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. R. Isbell) **98c:06027** 06F25 (54H10)

— (*with* Mulvey, Christopher J.) A constructive proof of the Stone-Weierstrass theorem. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 25–40. (J. Wick Pelletier) **98d:46028** 46E25 (03F60, 18B25, 46M15, 46S30, 54B40)

— (*with* Pultr, A.) On Cauchy homomorphisms of nearness frames. (English summary) *Math. Nachr.* **183** (1997), 5–18. (Marcel Erné) **98g:06012** 06A23 (06D10, 54B30, 54E15, 54E17)

— On proving the existence of complete ordered fields. *Amer. Math. Monthly* **105** (1998), *no.* 6, 548–551. 12J15

Banasiak, J. (*with* Mika, J. R.) ★ Singularly perturbed evolution equations with applications to kinetic theory. Series on Advances in Mathematics for Applied Sciences, 34. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. x+310 *pp. ISBN* 981-02-2125-8 (Gershon Wolansky) **98b:35208** 35Q99 (34E10, 34E15, 34G10, 35B25, 47N20)

— Singular perturbations of resonance type with applications to the kinetic theory. *Recent developments in evolution equations (Glasgow, 1994)*, 53–67, *Pitman Res. Notes Math. Ser.*, 324, *Longman Sci. Tech., Harlow*, 1995. (Jiang Furu (Zbl 829.35008)) **98g:35194** 35Q99 (35B25, 47N55, 82C70)

— Singularly perturbed linear and semilinear hyperbolic systems: kinetic theory approach to some folk's theorems [folk theorems]. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 2, 199–228. (Alexander A. Pankov) **98k:35125** 35L70 (35B25, 35Q99)

— Diffusion approximation for the linear Boltzmann equation of semiconductor theory with analysis of the initial layer. *J. Math. Anal. Appl.* **205** (1997), *no.* 1, 216–238. (Ll. G. Chambers (Zbl 879.35146)) **98m:35211** 35Q99 (45K05, 82C40)

— Asymptotic analysis of the linear Boltzmann equation with and without an external field: comparison of various approaches. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 103–119. (Luisa Arlotti) **98k:82142** 82C40 (45K05)

Banaszak, Grzegorz (*with* Zelewski, Piotr) On the map between K-groups of Henselization and completion of some local rings. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 2, 161–165. (Summary) **98g:19002** 19D50 (13B40)

Banaszak, Zbigniew A. (*with* Obuchowicz, Andrzej; D'Souza, Kelwyn A.) An algebraic approach to modelling and performance optimisation of a traffic route system. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 335–365. 90C90 (90C27)

Banaszczyk, W. The Minlos lemma for positive-definite functions on additive subgroups of $\mathbf{R}^n$. (English summary) *Studia Math.* **126** (1997), *no.* 1, 13–25. (Wilfried Hazod) **98m:43008** 43A35 (43A05, 43A40, 60B11)

Banaszek, Konrad (*with* Wódkiewicz, Krzysztof) Accuracy of sampling quantum phase space in a photon counting experiment. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2441–2454. (Summary) **98g:81229** 81V80

Banaszewski, Dariusz On the continuous (A, B)-Darboux functions. *Problemy Mat. No.* 14 (1995), 3–14. (Clifford E. Weil) **98a:26008** 26A21

— Universally bad Darboux functions in the class of additive functions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 284–291. (Marek Balcerzak) **98g:26006** 26A24 (26A15)

Banavar, J. R. (*with* Maritan, A.; Cieplak, M.; Colaiori, F.; Flammini, A.; Giacometti, A.; Rinaldo, A.; Rodriguez-Iturbe, I.) Statistical mechanics of river networks. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 262–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 86A05 (82-02, 82B99)

Bancewicz, Małgorzata Matrix elements of p^k in the Morse oscillator basis. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3461–3467. 81V55 (81S30)

Banchio, Enrique G. (*with* Godoy, Luis A.) Sensitivity of critical states in structural instability via singular perturbations. (Spanish. English and Spanish summaries) MECOM'96 (Spanish) (Tucumán, 1996). *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 4, 467–486. (*see* **98k:73002**) 73H05

Banchoff, Thomas F. Remembering Nicolaas Kuiper [1920–1994]. *Tight and taut submanifolds (Berkeley, CA, 1994)*, xiii–xv, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98f:53001**) 01A70

— (*with* Johnson, Ockle) The normal Euler class and singularities of projections for polyhedral surfaces in 4-space. (English summary) *Topology* **37** (1998), *no.* 2, 419–439. (R. E. Stong) **98j:57036** 57Q35

garcía de la Banda, María *see* **García de la Banda, María**

Banda, Siva S. (*with* Lin, Zongli; Pachter, Meir; Shamash, Yacov) Stabilizing feedback design for linear systems with rate limited actuators. *Control of uncertain systems with bounded inputs*, 173–186, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (*see* **98c:93008**) 93D21 (93B51)

— (*with* Reigelsperger, William C.; Hammett, Kelly D.) Robust control law design for lateral-directional modes of an F-16/MATV using μ-synthesis and dynamic inversion. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 8, 777–795. 93C95 (93B36, 93B51)

— (*with* Yeh, Hsi-Han; Hsu, Chin Shui; Rawson, Jenny L.) Reduced-order robust compensator design with real parameter uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1029–1045. 93B51 (93C42)

— (*with* Lin, Zongli; Pachter, Meir) Toward improvement of tracking performance—nonlinear feedback for linear systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 1–11. 93B52 (93C05)

febrero-Bande, M. *see* **Febrero-Bande, M.**

Bandeen-Roche, Karen (*with* Miglioretti, Diana L.; Zeger, Scott L.; Rathouz, Paul J.) Latent variable regression for multiple discrete outcomes. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1375–1386. 62H17 (62J12)

Bandelloni, G. *see* **Constrained dynamics and quantum gravity, 98f:83002**

Bandelow, U. (*with* Rehberg, Joachim; Wünsche, H.-J.; Wenzel, H.) Spectral properties of a system describing fast pulsating DFB lasers. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 75–77. (Vladimir Georgescu) **98d:34116** 34L40 (34L10, 35P05, 35Q99, 47N20, 81V80)

Bandemer, Hans (*with* Hartmann, Silvio) A fuzzy approach to stability of fuzzy controllers. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 161–172. (From the summary) **98m:93068** 93C42 (93D99)

Bandle, Catherine (*with* Flucher, M.) Applications of harmonic transplantation to variational problems. *Progress in elliptic and parabolic partial differential equations (Capri, 1994)*, 9–18, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (J. Hersch) **98c:31007** 31B35 (35J20, 49R05)

— (*with* Greco, Antonio; Porru, Giovanni) Large solutions of quasilinear elliptic equations: existence and qualitative properties. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11**

(1997), *no.* 1, 227–252. (H. J. Kuiper) **98i:35056** 35J65 (35B40)
— (*with* Marcus, Moshe) On second-order effects in the boundary behaviour of large solutions of semilinear elliptic problems. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 23–34. (Summary) **98m:35049** 35J60 (34C99, 35B40)
— (*with* Brillard, A.; Flucher, M.) Green's function, harmonic transplantation, and best Sobolev constant in spaces of constant curvature. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1103–1128. (H. Triebel) **98g:35045** 35J05 (46E35)
Bandler, John W. (*with* Biernacki, Radek M.; Chen, Shao Hua; Hemmers, Ronald H.; Madsen, Kaj) Space mapping optimization for engineering design. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 1–15, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (*see* **98b:90003**) 90C90 (49N55)
Bandler, Wyllis (*with* Kohout, Ladislav J.) On the universality of the triangle superproduct and the square product of relations. (English summary) *Internat. J. Gen. Systems* **25** (1997), *no.* 4, 399–403. (From the summary) **98c:04001** 04A05 (03E72, 06A06)
Bandlow, Jason (*with* Molina, Robert) Reconstruction of bit strings from their substrings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 71–83. (Summary) **98j:05016** 05A99
Bandman, T. M. (*with* Agranovskiĭ, M. L.) Remarks on a conjecture of Ruscheweyh. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 3, 249–258. (Summary) **98g:30013** 30C45 (30C55)
— (*with* Dethloff, Gerd-E.) Estimates of the number of rational mappings from a fixed variety to varieties of general type. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 3, 801–824. (Luciana Picco Botta) **98h:14016** 14E05 (14J30)
Bando, Shigetoshi (*with* Siu, Yum-Tong) Stable sheaves and Einstein-Hermitian metrics. *Geometry and analysis on complex manifolds*, 39–50, *World Sci. Publishing, River Edge, NJ*, 1994. (Daniel Huybrechts) **98e:32053** 32L07 (53C07)
Bandos, Igor A. (*with* Maznytsia, Alexey; Rudychev, Igor; Sorokin, D. P.) On the BRST quantization of the massless bosonic particle in twistor-like formulation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 18, 3259–3273. (Liviu Tătar) **98f:81329** 81T70 (81R25)
— String-like description of gravity and possible applications for F-theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 11, 799–810. (Fermin Aldabe) **98h:83085** 83E30 (81T30)
— (*with* Sorokin, D. P.; Tonin, Mario) Generalized action principle and superfield equations of motion for $D = 10$ Dp-branes. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 275–294. (Sergey Nikolaevich Roshchupkin) **98j:81244** 81T30 (83E30)
— (*with* Lechner, Kurt; Nurmagambetov, Alekseĭ; Pasti, Paolo; Sorokin, D. P.; Tonin, Mario) On the equivalence of different formulations of the M theory five-brane. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 135–141. (Angel Maria Uranga) **98j:81245** 81T30 (83E30)
— (*with* Lechner, Kurt; Nurmagambetov, Alekseĭ; Pasti, Paolo; Sorokin, D. P.; Tonin, Mario) Covariant action for the super-five-brane of M theory. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 23, 4332–4334. (Summary) **98e:81127** 81T30 (83E30)
Bandral, Balraj Singh (*with* Banerjee, Mihir B.; Shandil, R. G.; Prakash, Jyoti; Lal, Prem; Kanwar, Vinay) On Howard's conjecture in heterogeneous shear flows instability of modified s-waves. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 825–834. (Nikolai A. Belov) **98f:76031** 76E05
— (*with* Banerjee, Mihir B.; Shandil, R. G.) The importance of Tollmien's counter example and equilibrium of homogeneous shear flows revisited. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 955–968. (Murad Brutyan) **98k:76045** 76E05
Bandt, Christoph Self-similar tilings and patterns described by mappings. (English summary) *The mathematics of long-range aperiodic order (Waterloo, ON, 1995)*, 45–83, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Richard Kenyon) **98d:52030** 52C22 (28A80, 52C20)
Bandtlow, O. F. (*with* Antoniou, Ioannis E.; Suchanecki, Zdzisław) Resonances of dynamical systems and Fredholm-Riesz operators on rigged Hilbert spaces. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 95–102. (Makoto Mori) **98f:58153** 58F19 (47A10, 47B38)
Bandyopadhyay, B. (*with* Upadhye, Avinash; Ismail, Osman) γ-δ Routh approximation for interval systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1127–1130. (Summary) **98e:93029** 93B30 (65G10, 93B40)
— (*with* Ismail, Osman; Gorez, R.) Discrete interval system reduction using Padé approximation to allow retention of dominant poles. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1075–1078. 93B60
— (*with* Patre, B. M.; Werner, Herbert) Control of discrete two-time scale system by using piecewise constant periodic output feedback. (English summary) *Systems Sci.* **23** (1997), *no.* 3, 23–37. 93B52 (93C55)
Bandyopadhyay, Chhanda (*with* Chattopadhyay, Chandan) Some generalized continuous functions and resolvable and irresolvable spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1289–1293. 54C10 (54D15)
Bandyopadhyay, D. (*with* Ganguly, D. K.) Fixed point theorems for multifunctions. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 77–86. 54H25 (54C60)
Bandyopadhyay, Pratul ★ Geometry, topology and quantization. (English summary) Mathematics and its Applications, 386. *Kluwer Academic Publishers Group, Dordrecht*, 1996. x+230 *pp. ISBN* 0-7923-4305-0 (Jeffrey K. Lawson) **98b:58001** 58–02 (57R57, 58F06, 81–02, 81S10)
— (*with* Basu, Banasri) The hierarchy of fractional quantum Hall states and Berry phase. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 1, 49–62. (Summary) **98k:81327** 81V70 (81Q99)
Bandyopadhyay, Rupa (*with* Baisnab, A. P.) Fixed point theorems of a multivalued mapping in a bi-quasi metric space with an application in a dissipative dynamical system. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 523–534. 54H25
Bandyopadhyay, Sanghamitra (*with* Pal, Sankar Kumar; Maulik, U.) Incorporating chromosome differentiation in genetic algorithms. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 293–319. 68T05
— (*with* Pal, Sankar Kumar; Murthy, C. A.) Simulated annealing based pattern classification. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 165–184. 68T10
Bandyopadhyay, T. (*with* Ganguly, Sobhakar) Partially ordered topological spaces and semigroups. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 213–222. (Introduction)
98d:54060 54F05 (06F30, 22A15)
Banegas, Jesús *see* **Alcolea-Banegas, Jesús**
Banek, T. (*with* Batko, W.) Time estimation of disturbance occurrences in monitoring systems. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 107–114. 73K50 (73K12, 73V30)
Banerjea, Sudeshna (*with* Chakrabarti, Aloknath; Mandal, Birendra Nath; Sahoo, T.) A unified approach to problems of scattering of surface water waves by vertical barriers. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 93–103. (F. Ursell) **98f:76010** 76B15
— (*with* Chakrabarti, Aloknath; Mandal, Birendra Nath; Basu, U.) Solution of a hypersingular integral equation of the second kind. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 319–320. (Philip Heywood) **98e:45001** 45E05 (30E20)
— (*with* Mandal, Birendra Nath) Scattering of water waves by a submerged thin vertical wall with a gap. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 318–331. (Summary) **98i:76010** 76B15
Banerjee, A. (*with* Sharma, Birendra Kumar; Thakur, Balwant Singh) Coincidence and fixed point theorems for 2-compatible mappings in Saks space. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 1, 66–74. 54H25
Banerjee, Asit Kumar (*with* Kleber, Antares; Santos, Nilton O.) Static cylindrically symmetric gravitational field with cosmological constant. (English summary) *Astrophys. Space Sci.* **245** (1996), *no.* 1, 139–149. (Shin-ichi Kitamura) **98g:83008** 83C15 (83C20)
— (*with* Das, Ajanta; Sil, A.) Generalized singularity-free cosmological model in five dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8099–8102. (Summary) **98i:83070** 83E15
— (*with* Beesham, Aroonkumar; Chatterjee, Sujit; Sen, A. A.) Global monopole in scalar tensor theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 645–652. (Summary) **98k:83070** 83D05
— (*with* Das, Ajanta) Domain walls in higher dimensions. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 81–88. 83E15 (83F05)
Banerjee, Bappaditya (*with* Bajaj, A. K.) Amplitude modulated chaos in two degree-of-freedom systems with quadratic nonlinearities. (English summary) *Acta Mech.* **124** (1997), *no.* 1-4, 131–154. (Summary) **98g:70018** 70K50 (34C15, 58F13)
Banerjee, Dean (*with* Gregory, John[1]) New general analytic and numerical methods in constrained optimization with applications to optimal consumption. (English summary) *Util. Math.* **52** (1997), 123–128. 90A16 (90C90)
Banerjee, Dibyendu (*with* Lahiri, B. K.) A note on maximum modulus theorem for several complex variables. *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 218–219. 32A99
Banerjee, Mihir B. (*with* Shandil, R. G.; Kanwar, Vinay) A proof of Howard's conjecture in homogeneous parallel shear flows. II. Limitations of Fjortoft's necessary instability criterion. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **105** (1995), *no.* 2, 251–257. (Summary) **98b:76028** 76E05
— (*with* Shandil, R. G.; Prakash, Jyoti; Bandral, Balraj Singh; Lal, Prem; Kanwar, Vinay) On Howard's conjecture in heterogeneous shear flows instability of modified s-waves. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 825–834. (Nikolai A. Belov) **98f:76031** 76E05
— (*with* Shandil, R. G.; Bandral, Balraj Singh) The importance of Tollmien's counter example and equilibrium of homogeneous shear flows revisited. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 955–968. (Murad Brutyan) **98k:76045** 76E05
Banerjee, Mohua (*with* Chakraborty, Mihir K.) Rough algebra. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 293–297 (1994). (Jozef Šajda) **98a:03036** 03B60 (03B45, 03G25)
— (*with* Chakraborty, Mihir K.) Rough consequence. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 299–304 (1994). (Jozef Šajda) **98a:03037** 03B60
— (*with* Chakraborty, Mihir K.) Rough logic with rough quantifiers. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 305–315 (1994). (Jozef Šajda) **98a:03038** 03B60
— (*with* Chakraborty, Mihir K.) Rough sets through algebraic logic. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 211–221. (Summary) **98c:03131** 03G25 (03E72)
Banerjee, Mousumi (*with* Frees, Edward W.) Influence diagnostics for linear longitudinal models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 999–1005. (Summary) **98f:62219** 62J20
Banerjee, N. *see* **Banerjee, Narayan**
Banerjee, Nana Saheb (*with* Geer, James) Exponentially accurate approximations to piece-wise smooth periodic functions. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 253–287. (Yong Ping Liu) **98m:41032** 41A30 (65D15)
Banerjee, Narayan (*with* Banerjee, Rabin; Ghosh, Subir) Non-abelian bosonisation in three-dimensional field theory. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 421–430. (Javier Borlaf González) **98b:81137** 81T13
— (*with* Sen, Shibani) Exact scalar field cosmology with causal viscous fluid. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 1, 133–142. 83C15 (83C55, 83F05)
— (*with* Sen, Shibani) Does Brans-Dicke theory always yield general relativity in the infinite ω limit? (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1334–1337. (Summary) **98f:83088** 83D05
Banerjee, Rabin Duality and bosonisation in arbitrary dimensions. (English summary) *Nuclear Phys. B* **465** (1996), *no.* 1-2, 157–174. (Summary) **98c:81124** 81T10
— (*with* Mukherjee, Pradip) Spin of Chern-Simons vortices. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 235–244. (Avinash Khare) **98a:81114** 81T13 (81T99)
— (*with* Banerjee, Narayan; Ghosh, Subir) Non-abelian bosonisation in three-dimensional field theory. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 421–430. (Javier Borlaf González) **98b:81137** 81T13
— (*with* Barcelos-Neto, J.) Hamiltonian embedding of the massive Yang-Mills theory and the generalized Stückelberg formalism. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 453–478. (Liviu Tătar) **98e:81175** 81T70 (81T13)
— (*with* Marino, E. C.) Different approaches for bosonization in higher dimensions. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 501–518. 81T10
— (*with* Rothe, Heinz J.; Rothe, K. D.) Hamiltonian embedding of the self-dual model and equivalence with Maxwell-Chern-Simons theory. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6339–6343. (Liviu Tătar) **98f:81191** 81T13 (81T70)

— (*with* Marino, E. C.) Explicit bosonization of the massive Thirring model in 3 + 1 dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3763–3765. (Summary) **98g:81121** 81T10

— (*with* Abreu, Everton M. C.; Wotzasek, C.) Bose symmetry and chiral decomposition of 2D fermionic determinants. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 519–528. 81T10

Banerjee, S. *see* **Banerjee, Sanjoy**

Banerjee, S. K. *see* **Banerjee, Shyamal Kumar**

Banerjee, Sanjoy (*with* Salvetti, M. V.; Zang, Yan; Street, R. L.) Large-eddy simulation of free-surface decaying turbulence with dynamic subgrid-scale models. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2405–2419. 76F99 (76M25)

Banerjee, Shakti (*with* Philip, Jose; Kageyama, Sanpei) Construction of nested t-associate PBIB designs under restricted dualization. (English summary) *Util. Math.* **51** (1997), 27–32. (Summary) **98h:05027** 05B05 (62K10)

Banerjee, Shyamal Kumar (*with* Roy, S. R.) A Bianchi type II cosmological model of Petrov type D representing an imperfect fluid with a source-free magnetic field. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2845–2851. (Nora Bretón Báez) **98k:83015** 83C15 (83C55)

Banerji, P. K. (*with* Sinha, Deepali) Asymptotic expansion of an integral transform of generalized function. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 4, 311–314. (C. Carton-Lebrun) **98f:44001** 44A15 (41A60, 44A20, 46F12)

— (*with* Choudhury, Sudipto) Laguerre polynomial and heat conduction in the region $(0, \infty)$. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 219–223. 33C90 (33C45, 80A20)

— (*with* Vyas, D. N.) On Dirichlet averages. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 331–337. (Summary) **98i:26014** 26A33

— (*with* Choudhary, Sudipto) Fractional integral formulae involving general class of polynomials. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **66** (1996), *no.* 3, 271–277. 26A33 (33C05)

— (*with* Gehlot, Kuldeep S.; Saĭgo, Megumi) Stieltjes transform of a class of generalized functions. (English summary) *J. Fract. Calc.* **12** (1997), 71–76. (Summary) **98h:46040** 46F12 (33C05)

— (*with* Sinha, Deepali; Saĭgo, Megumi) Asymptotic representation of Weyl fractional integrals. (English summary) *J. Fract. Calc.* **12** (1997), 77–81. (Summary) **98k:26009** 26A33

— (*with* Sinha, Deepali) On the asymptotic representation of Okikiolu operator H_α. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 231–238. 42A50

le van Bang *see* **Le Van Bang**

Bang, Eunsook (*with* Ko, Bongsoo; Ko, Younhee; Kang, Dongshik) Strong-equiasymptotic stability of perturbed linear differential equations when the perturbation is large and depends on time. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 407–426. (T. A. Burton) **98j:34095** 34D05

Bang, Ha Huy *see* **Ha Huy Bang**

Bang, O. (*with* Christiansen, Peter L.; Rasmussen, K. Ø.; Johansson, Magnus; Gaĭdideĭ, Yu. B.) On some NLS systems and their applications. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 215–233, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35175** 35Q55 (81V55, 82C10)

— (*with* Bergé, L.; Rasmussen, J. Juul; Mezentsev, V. K.) Self-focusing and solitonlike structures in materials with competing quadratic and cubic nonlinearities. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 3, *part B*, 3555–3570. (Summary) **98a:78013** 78A60 (35Q55)

Bange, David W. (*with* Barkauskas, Anthony E.; Host, Linda H.; Clark, Lane H.) Efficient domination of the orientations of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 1–14. (Douglas F. Rall) **98i:05085** 05C20 (05C70)

Bangert, Claudia (*with* Prautzsch, Hartmut) Circle and sphere as rational splines. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 153–161. (*see* **98g:65008**) 65D17 (41A15)

Bangia, Anil K. (*with* Zimmermann, Martin G.; Firle, Sascha O.; Natiello, Mario A.; Hildebrand, Michael; Eiswirth, Markus; Bär, Markus; Kevrekidis, Ioannis G.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)

— (*with* Batcho, Paul F.; Kevrekidis, Ioannis G.; Karniadakis, George Em.) Unsteady two-dimensional flows in complex geometries: comparative bifurcation studies with global eigenfunction expansions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 775–805. (Summary) **98b:76022** 76D05 (35B32, 58F40, 76E30, 76F20, 76M25)

Bang-Jensen, Jørgen (*with* Gutin, Gregory; Yeo, Anders James) On k-strong and k-cyclic digraphs. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 1–11. (David M. Berman) **98d:05063** 05C20

— (*with* Gutin, Gregory; Yeo, Anders James) Hamiltonian cycles avoiding prescribed arcs in tournaments. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 255–261. (Stanislav Jendrol') **98h:05125** 05C45 (05C20)

— (*with* Gutin, Gregory) Paths and cycles in extended and decomposable digraphs. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 5–19. (Feng Tian) **98a:05073** 05C20 (05C38)

— (*with* Gutin, Gregory) Alternating cycles and paths in edge-coloured multigraphs: a survey. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 39–60. (R. C. Entringer) **98d:05080** 05C38 (05C15)

— (*with* Guo, Yubao; Gutin, Gregory; Volkmann, Lutz) A classification of locally semicomplete digraphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 101–114. (Summary) **98a:05121** 05C75 (05C20)

— (*with* Gutin, Gregory; Yeo, Anders James) Properly coloured Hamiltonian paths in edge-coloured complete graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 247–250. (Summary) **98k:05103** 05C45 (05C15)

Banicescu, Ioana (*with* Luke, Edward A.; Li, Jin) The optimal effectiveness metric for parallel application analysis. *Inform. Process. Lett.* **66** (1998), *no.* 5, 223–229. 68Q22

Banichuk, N. V. (*with* Sharanyuk, A. V.) Application of quaternions to 3-D optimization problems of material distributions in solids and structures. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 252–260, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 73K40 (73V99)

— Optimization of anisotropic properties for continuum bodies and structural elements using spectral methods of tensor analysis. (English summary) *Mech. Structures Mach.* **24** (1996), *no.* 1, 71–87. (V. K. Arya) **98h:73062** 73K40 (73B40)

— Free boundaries optimization under fracture mechanics constraints. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 13–19. 73M25 (73K40)

— The optimal design problem based on quasi-brittle fracture mechanics. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 40–43; *translation in Dokl. Phys.* **43** (1998), *no.* 1, 34–37. 73K40 (73M25)

Banik, Igor Colonies as systems of Turing machines without states. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 189–198, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q50 (68Q05)

Banik, K. K. (*with* Khodadad Khan, A. F. M.; Banu, S.) L-fuzzy sets on semigroups. (English summary) *Ganit* **15** (1995), 73–82. (Branimir Šešelja) **98h:20119** 20M99 (04A72)

Banik, Suman Kumar (*with* Ray, Deb Shankar) Linear systems with adiabatic fluctuations. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3937–3948. 82C31

Banionis, Juozas *see* **Volk, Otto, 98b:01043**

Banjerdpongchai, David (*with* Park, PooGyeon; Kailath, Thomas) The asymptotic stability of nonlinear (Lur'e) systems with multiple slope restrictions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 979–982. 93D20

Bank, B. (*with* Giusti, Marc; Heintz, Joos; Mbakop, G. M.) Polar varieties, real equation solving, and data structures: the hypersurface case. (English summary) *J. Complexity* **13** (1997), *no.* 1, 5–27. (Alexander I. Barvinok) **98h:68123** 68Q40 (14P10, 14Q10, 68Q25)

Bank, Randolph E. (*with* Smith, R. Kent) Mesh smoothing using a posteriori error estimates. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 979–997. (J. D. P. Donnelly) **98m:65162** 65M50 (65N50)

— ★ PLTMG: a software package for solving elliptic partial differential equations. (English summary) Users' guide 8.0. Software, Environments, and Tools. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xii*+110 *pp. ISBN* 0-89871-409-5 65-04 (65Nxx)

— A simple analysis of some a posteriori error estimates. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 153–164. (*see* **98i:65004**) 65M50 (65M15)

Bank, Steven Barry *see* **Kaufman, Robert, 98f:01070**

Banker, R. D. (*with* Cooper, W. W.) Validation and generalization of DEA and its uses. (English summary) With comments. *Top* **2** (1994), *no.* 2, 249–314. 90C08 (90A11)

Banković, Dragić General reproductive solutions of Postian equations. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 163–168. (Summary) **98c:06014** 06D25 (06E30)

— Horn sentences in Post algebras. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 269–275. (Summary) **98f:03054** 03G20

— Boolean ring equations. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 1–9. (Summary) **98j:06007** 06E20 (68Q40)

— Finite equations in n unknowns. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 1–5. (Summary) **98h:06029** 06E30

Banks, H. T. (*with* Emeric, P.; Plancke, L.) Modeling of nonsymmetrical damage in plate-like structures. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 55–65. (Summary) **98i:73030** 73K10 (73D30, 73K12, 73K50)

— (*with* Smith, Ralph C.; Brown, Donald E.; Silcox, R. J.; Metcalf, Vern L.) Experimental confirmation of a PDE-based approach to design of feedback controls. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1263–1296. (Summary) **98c:93061** 93C20 (93B40, 93B52)

Banks, John Regular periodic decompositions for topologically transitive maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 505–529. (Gary Froyland) **98d:54074** 54H20 (58F08)

Banks, S. P. (*with* McCaffrey, David Charles; Moser, Andreas) Clifford algebras, dynamical systems, and periodic orbits. (English summary) *IMA J. Math. Control Inform.* **13** (1996), *no.* 3, 279–298. (Jean Mawhin) **98a:58130** 58F22 (15A66, 34C25, 34C35, 93C10)

Banks, Tom (*with* Dine, Michael) Couplings and scales in strongly coupled heterotic string theory. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 173–196. (Summary) **98b:81176** 81T30

— (*with* Douglas, Michael R.; Seiberg, Nathan) Probing F-theory with branes. (English summary) *Phys. Lett. B* **387** (1996), *no.* 2, 278–281. (Summary) **98a:81152** 81T30

— (*with* Seiberg, Nathan; Shenker, Stephen H.) Branes from matrices. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 91–106. (Sergey Nikolaevich Roshchupkin) **98j:81246** 81T30

— (*with* Seiberg, Nathan) Strings from matrices. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 41–55. (From the introduction) **98m:81127** 81T30

— (*with* Dine, Michael) The cosmology of string-theoretic axions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 445–460. (Summary) **98g:83097** 83E30 (81T30)

— (*with* Seiberg, Nathan; Silverstein, Eva) Zero and one-dimensional probes with $N = 8$ supersymmetry. (English summary) *Phys. Lett. B* **401** (1997), *no.* 1-2, 30–37. (Daniel N. Kabat) **98h:81115** 81T60 (81T30)

— (*with* Fischler, Willy; Seiberg, Nathan; Susskind, Leonard) Instantons, scale invariance and Lorentz invariance in matrix theory. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 111–116. (Summary) **98j:81247** 81T30

— (*with* Fischler, Willy; Shenker, Stephen H.; Susskind, Leonard) M theory as a matrix model: a conjecture. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5112–5128. (Robbert Dijkgraaf) **98j:81248** 81T30 (81V17, 83E30)

— (*with* Fischler, Willy; Klebanov, Igor R.; Susskind, Leonard) Schwarzschild black holes from matrix theory. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 226–229. (Summary) **98k:83080** 83E30 (83C57)

Banks, William D. Twisted symmetric-square L-functions and the nonexistence of Siegel zeros on GL(3). *Duke Math. J.* **87** (1997), *no.* 2, 343–353. (David Ginzburg) **98d:11054** 11F70 (11F66, 22E55)

Bankston, Paul Topological measures of systems of sets. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 1–15, *Ann. New York Acad. Sci.*,

728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54002** 54A05 (05B35, 26A21, 54E52)
— Co-elementary equivalence, co-elementary maps, and generalized arcs. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3715–3720. (Jacek Nikiel) **98b:54018** 54B35 (03C20, 54C10, 54C20, 54F15)
Bannai, Eiichi (*with* Minashima, Shinri; Ozeki, Michio) On Jacobi forms of weight 4. *Kyushu J. Math.* **50** (1996), *no.* 2, 335–370. (Pavel Guerzhoy) **98b:11051** 11F55 (94B99)
— (*with* Ozeki, Michio) Construction of Jacobi forms from certain combinatorial polynomials. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 1, 12–15. (Pavel Guerzhoy) **98a:11060** 11F55
— (*with* Bannai, Etsuko; Jaeger, François) On spin models, modular invariance, and duality. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 203–228. (Paul-Hermann Zieschang) **98f:05150** 05E30 (57M25)
Bannai, Etsuko Modular invariance property and spin models attached to cyclic group association schemes. (English summary) Shanghai Conference Issue on Designs, Codes, and Finite Geometries, Part 1 (Shanghai, 1993). *J. Statist. Plann. Inference* **51** (1996), *no.* 2, 107–124. (Sylvia A. Hobart) **98a:05159** 05E30 (82B23)
— (*with* Bannai, Eiichi; Jaeger, François) On spin models, modular invariance, and duality. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 203–228. (Paul-Hermann Zieschang) **98f:05150** 05E30 (57M25)
Banneheka, Sarath G. (*with* Routledge, Richard D.; Schwarz, Carl J.) Stratified two-sample tag-recovery census of closed populations. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1212–1224. 62D05 (62P10)
Banning, E. J. (*with* van der Weele, J. P.; Ross, J. C.; Kettenis, M. M.; de Kleine, E.) Mode competition in a system of two parametrically driven pendulums; the dissipative case. (English summary) *Phys. A* **245** (1997), *no.* 1-2, 11–48. (Peter Ashwin) **98k:70009** 70K28 (34C15, 70K40, 70K50)
— (*with* van der Weele, J. P.; Ross, J. C.; Kettenis, M. M.) Mode competition in a system of two parametrically driven pendulums with nonlinear coupling. (English summary) *Phys. A* **245** (1997), *no.* 1-2, 49–98. (Peter Ashwin) **98k:70010** 70K28 (34C15, 70K40, 70K50)
Bannister, Robert (*with* Bailey, Herbert R.) A stronger triangle inequality. *College Math. J.* **28** (1997), *no.* 3, 182–186. (Barry Monson) **98b:51021** 51M16 (51M04)
Bannon, Peter R. A comparison of Ekman pumping in approximate models of the accelerating planetary boundary layer. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 8, 1446–1451. (Summary) **98m:86008** 86A10
Bannour, Tarek (*with* Ben Abda, Amel; Jaoua, Mohamed) A semi-explicit algorithm for the reconstruction of 3D planar cracks. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 899–917. (Summary) **98c:65198** 65N99 (78A55, 80A20)
Bansal, Anita (*with* Aggarwal, M. L.) Robust response surface design for quantitative and qualitative factors. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 89–106. 62K99
Bansal, Ashok K. Bayes estimation in a decapitated generalized negative binomial distribution and some of its applications. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 189–198. (Summary) **98f:62066** 62F15
Bansal, M. L. (*with* Singh, Sukhjinder) An improved estimator of population mean using power transformation. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 21–24. 62D05
Bansal, Naveen K. (*with* Gupta, Sudhir) On the natural selection rule in general linear models. (English summary) *Metrika* **46** (1997), *no.* 1, 59–69. (Summary) **98k:62113** 62J05
— (*with* Misra, Neeraj; van der Meulen, Edward C.) On the minimax decision rules in ranking problems. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 179–186. (Summary) **98a:62013** 62C20
Banshchikov, A. V. (*with* Burlakova, L. A.) On algorithms for symbolic computations in the investigation of stability. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 3, 72–80; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 173–179. 34-04 (34D20, 68Q40, 70K20)
Bantaş, Gheorghe (*with* Turinici, Mihai) Remarks about some hyperbolic mean value properties. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 349–364 (1997). (Mircea Ivan) **98f:26008** 26B05 (26B35)
— (*with* Turinici, Mihai) Remarks about some mean value theorems. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 37–46. 46G05 (26A24)
— (*with* Turinici, Mihai) Hyperbolic mean value theorems of non-differential form. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 1, 3–21. (Mircea Ivan) **98f:26007** 26B05 (26B35)
Bantay, Peter (*with* Zala, G.) Ultrametric matrices and representation theory. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6811–6820. (Editors) **98k:82088** 82B44 (22E70)
— The Frobenius-Schur indicator in conformal field theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 87–88. (Jens Böckenhauer) **98c:81195** 81T40
— The untwisted stabilizer in simple current extensions. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 183–185. (Christoph Schweigert) **98b:81222** 81T40 (14D20, 14H60)
— Characters and modular properties of permutation orbifolds. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 175–178. (Summary) **98m:81165** 81T40 (11F22)
Banu, S. (*with* Khodadad Khan, A. F. M.; Banik, K. K.) L-fuzzy sets on semigroups. (English summary) *Ganit* **15** (1995), 73–82. (Branimir Šešelja) **98h:20119** 20M99 (04A72)
Bañuelos, Rodrigo (*with* van den Berg, M.) Dirichlet eigenfunctions for horn-shaped regions and Laplacians on cross sections. *J. London Math. Soc.* (2) **53** (1996), *no.* 3, 503–511. (H. Ding (Zbl 863.35070)) **98f:35034** 35J25 (35B45)
— (*with* Kröger, Pawel) Isoperimetric-type bounds for solutions of the heat equation. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 83–91. (Ross Pinsky) **98k:35081** 35K05 (35B45, 60J65)
— (*with* Lindeman, Arthur, II) A martingale study of the Beurling-Ahlfors transform in $\mathbf{R}^n$. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 224–265. (Vasily A. Chernecky) **98a:30007** 30C40 (42B20, 47B38, 60G46)
— (*with* Smits, Robert G.) Brownian motion in cones. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 3, 299–319. (Zhan Shi) **98k:60065** 60G40 (60J65)
— (*with* Carroll, Tom; Housworth, Elizabeth Ann) Inradius and integral means for Green's functions and conformal mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 577–585. (Daniel Girela) **98g:30016** 30C45
al-Bany, Sumayya A. *see* **Al-Bany, Sumayya A.**
Banyaga, Augustin ★ The structure of classical diffeomorphism groups. (English summary) Mathematics and its Applications, 400. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xii+197 *pp. ISBN* 0-7923-4475-8 (Vladimir Pestov) **98h:22024** 22E65 (58B25, 58D05)
— Instantons and hypercontact structures. II. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 2, 136–148. (Hansjörg Geiges) **98a:53037** 53C07 (53C15, 53C25)
Bânzaru, Titu (*with* Rendi, Béla) Properties of separability on spaces of subsets. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 51–55 (1997). (Joe D. Mashburn) **98d:54022a** 54B20 (54C60, 54D20, 54D65)
— (*with* Rendi, Béla) On the Lindelöf property of spaces of subsets. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 57–61 (1997). (Joe D. Mashburn) **98d:54022b** 54B20 (54C60, 54D20, 54D65)
— (*with* Rendi, Béla) On the M-product of topological spaces. (English and Romanian summaries) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 76–79. (Summary) **98j:54012** 54B20 (54C60)
nguyen huu Bao *see* **Nguyen Huu Bao**
Bao, Cheng Guang (*with* Duan, Yi Wu; Yuan, Jian-Min) Periodic orbits of the hydrogen molecular ion. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 497–501, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81V55
— (*with* Xie, W. F.) An analysis of one-body densities of three-body systems based on symmetry. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 185–192. (Summary) **98m:81024** 81Q05
— (*with* Xie, W. F.; Ruan, W.-Y.) Unified analysis of the structures of three-boson and three-fermion systems. (English summary) *Few-Body Systems* **22** (1997), *no.* 3, 135–160. (Summary) **98j:81362** 81U99
Bao, Feng (*with* Igarashi, Yoshihide) Break finite automata public key cryptosystem. (English summary) *Automata, languages and programming (Szeged, 1995)*, 147–158, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (William R. Nico) **98m:94029** 94A60 (68P25, 68Q68)
— (*with* Igarashi, Yoshihide; Katano, Keiko) Broadcasting in hypercubes with randomly distributed Byzantine faults. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 215–229, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15)
— (*with* Akutsu, Tatsuya) Approximating minimum keys and optimal substructure screens. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 290–299, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:68053** 68P10 (68Q20, 92E10)
— (*with* Obokata, Koji; Iwasaki, Yukihiro; Igarashi, Yoshihide) Independent spanning trees of product graphs. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 73–79. (*see* **98a:68008**) 05C05
— (*with* Obokata, Koji; Iwasaki, Yukihiro; Igarashi, Yoshihide) Independent spanning trees of product graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 338–351, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05044** 05C05 (68R10)
— (*with* Mei, Aohan; Igarashi, Yoshihide) Average competitive ratios of on-line spanning trees. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 213–216. (Summary) **98a:68143** 68R10 (05C05, 05C85)
Bao, Gang[1] (*with* Symes, William W.) Regularity of an inverse problem in wave propagation. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 226–235, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 35R30 (35L05)
— (*with* Zhou, Zhengfang) Inverse diffraction by a doubly periodic structure. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 627–632. (Summary) **98c:78018** 78A45 (35J05, 35R30)
— (*with* Chen, Yun Mei) A nonlinear grating problem in diffractive optics. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 322–337. (I. Kay) **98b:78030** 78A45 (35J05, 35Q60)
— Smoothness between coefficients and boundary values for the wave equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 380–394 (*electronic*). (Summary) **98m:35221** 35R30 (35L05, 73D50, 86A22)
Bao, Han Wen On two exponential sums and their applications. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 115–130. (Mihai Caragiu) **98d:11153** 11T23 (94B99)
Bao, Ji Guang (*with* Li, Mei Sheng) Parabolic Monge-Ampère equations on general domains. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 22–26. 35K55
Bao, Jian Ren (*with* Zhou, Lu Wei) Why cannot the orbital angular momentum be $\hbar/2$? (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 5, 833–840. (Summary) **98j:81108** 81R05
— (*with* Zhou, Lu Wei) The approximations used in deriving the London equations. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 3, 280–282. 82D55 (81Q05)
Bao, Jie (*with* Lee, Peter L.; Wang, Fuyang; Zhou, Weibiao) New robust stability criterion and robust controller synthesis. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 49–59. (Summary) **98i:93064** 93D09
Bao, Jun (*with* Li, Zi-Ping) Quantal conserved laws in the non-abelian higher-derivative Chern-Simons theories. (English summary) *Europhys. Lett.* **39** (1997), *no.* 6, 599–604. 81T13
Bao, Jundong Asymptotic behavior of solutions for forced nonlinear delay differential systems. (English summary) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 1–5. (A. F. Ivanov) **98j:34136** 34K15
Bao, Ke-Da (*with* McPhedran, R. C.; Nicorovici, N. A.; Botten, L. C.) Green's function, lattice sums and Rayleigh's identity for a dynamic scattering problem. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 155–186, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:78040** 78A45 (35J05)
Bao, Rong Hao (*with* Xu, Bo Hou) Optimal truncation for random processes with prespecified coordinates. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 439–445. 93E10

Bao, Shang Lian (*with* You, Jiang Sheng) Derivation and analysis of a new reconstruction formula from cone-beam projections. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 491. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 399–408. (Summary) **98a:65182** 65R10

— (*with* You, Jiang Sheng) An analytic formula for complete three-dimensional image reconstruction. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 594–601. 65R10 (44A12)

— (*with* You, Jiang Sheng) A direct convolution algorithm for image reconstruction. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 251. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 139–150. (Summary) **98c:65203** 65R10 (65R30)

Bao, Shu-Qing (*with* Zhao, Xian-Geng; Zhang, Xin-Wei; Yan, Wei-Xian) Dynamics of a charged particle on a periodic binary sequence in an external field. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 185–190. 82C10

Bao, Wei Zhu (*with* Han, Hou De) The artificial boundary conditions for incompressible viscous flow in channels. (English summary) *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994), 47–57, Lecture Notes Numer. Appl. Anal., 14, Kinokuniya, Tokyo, 1995.* (*see* **98c:65005**) 76M25 (35Q30, 76D05)

— Artificial boundary conditions for two-dimensional incompressible viscous flows around an obstacle. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 263–273. (Summary) **98e:76083** 76M25 (76D05)

— (*with* Han, Hou De; Wang, Tao) Numerical simulation for the problem of infinite elastic foundation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 369–385. (Summary) **98e:73131** 73V05 (73C02)

— (*with* Han, Hou De) Local artificial boundary conditions for the incompressible viscous flow in a slip channel. (English summary) *J. Comput. Math.* **15** (1997), *no.* 4, 335–344. (Summary) **98h:76101** 76M25 (76D05)

— (*with* Han, Hou De) The artificial boundary conditions for incompressible materials on an unbounded domain. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 347–363. (Summary) **98f:73037** 73V05 (65N30, 73C02)

Bao, Xiaomin (*with* Batten, L. M.) Equitable colourings in the Witt designs. *Australas. J. Combin.* **16** (1997), 175–181. (Bronisław Ceranka) **98j:05018** 05B05

Bao, Xue-Wen (*with* Li, Nian Zu; Liu, Ru-Ying) Chromatic uniqueness of the complements of certain forests. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 79–84. (Summary) **98e:05041** 05C15 (05C05)

— (*with* Ye, Cheng Fu) New families of adjointly unique graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 155–162. (Summary) **98e:05095** 05C75 (05C15)

Bao, Yan Gang (*with* Wu, Ji Ke) A continuation method for periodic solutions after a Hopf bifurcation. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 5, 538–541. 34C05 (34C23)

Bao, Yong Guang Simultaneous approximation of functions and their derivatives by (0; 1; 2) Pál-type interpolation polynomials. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 3, 325–338. (Ying Guang Shi) **98b:41018** 41A25 (41A05)

Bao, Yufang (*with* Zhuang, Xingwu) The uniform dimension of generalized Brownian sheet. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 4, 575. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 3, 278–290. (Robert J. Adler) **98c:60043** 60G15 (60G17, 60G60)

Bao, Zheng (*with* Zhang, Jun Ying; Xu, Jin) Correlation analysis of Hopfield networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 446–454. 90B10 (93E10)

— (*with* Zhang, Jiankang; Yu, Hong Yi[2]) Analysis of orthogonal M-band wavelet approximation power. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 88–94. 42C15

Baotong, Cui *see* **Cui, Bao Tong**

Baouendi, M. S. Analyticity of CR mappings of algebraic hypersurfaces. *Multidimensional complex analysis and partial differential equations (São Carlos, 1995), 253–258, Contemp. Math., 205, Amer. Math. Soc., Providence, RI,* 1997. (Yi Fei Pan) **98b:32017** 32H02 (32H99)

Baoxiang, Wang *see* **Wang, Bao Xiang**

Bapat, R. B. (*with* Olesky, D. D.; van den Driessche, P.) Perron-Frobenius theory for a generalized eigenproblem. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 141–152. (Summary) **98c:15028** 15A18

— (*with* Ben-Israel, Adi) Singular values and maximum rank minors of generalized inverses. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 153–161. (Dao Sheng Zheng) **98a:15019** 15A18 (15A09)

— Matrices, matchings and matroids. *Applied abstract algebra (Delhi, 1995), 70–77, Univ. Delhi, Delhi,* 1996. (*see* **98b:00017**) 15A36 (05B35, 05C70)

— (*with* Balasubramanian, Krishnaswami; Beg, M. I.) An identity for the joint distribution of order statistics and its applications. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 13–21. (Jagdish Saran) **98f:62148** 62G30

— The Laplacian matrix of a graph. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 214–223. 05C50

— (*with* Raghavan, Tirukkannamangai E. S.) ★ Nonnegative matrices and applications. (English summary) Encyclopedia of Mathematics and its Applications, 64. *Cambridge University Press, Cambridge,* 1997. xiv+336 *pp. ISBN* 0-521-57167-7 (J. Parida) **98h:15038** 15A48 (90A14, 90C08)

— (*with* Jain, Surender Kumar; Pati, S.) Weighted Moore-Penrose inverse of a Boolean matrix. (English summary) *Linear Algebra Appl.* **255** (1997), 267–279. (Jian Long Chen) **98a:15007** 15A09

— (*with* Jain, Surender Kumar; Snyder, L. E.) Nonnegative idempotent matrices and the minus partial order. (English summary) *Linear Algebra Appl.* **261** (1997), 143–154. (Ronald L. Smith) **98c:15061** 15A48

— Moore-Penrose inverse of the incidence matrix of a tree. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 2, 159–167. (Summary) **98c:15012** 15A09 (05C05, 05C50)

— Structure of a nonnegative regular matrix and its generalized inverses. (English summary) *Linear Algebra Appl.* **268** (1998), 31–39. (Ronald L. Smith) **98m:15009** 15A09 (15A48)

Bapat, V. N. (*with* Subrahmanyam, A. V. B.; Mukhopadhyay, Siddhartha; Saha, D. C.) On the design of a continuous-time model estimator for bias distribution. (English summary) *Internat. J. Adapt. Control Signal Process* **11** (1997), *no.* 8, 699–725. 93E10 (93E12)

Bapeswara Rao, V. V. (*with* Rao, M. Bhaskara) A generalization of the Jerusalem ticket problem. (English summary) *Math. Sci.* **22** (1997), *no.* 1, 37–44. (Satgur Prasad Khare) **98i:05003** 05A15 (05A18)

Baptista, M. S. (*with* Caldas, I. L.) The parameter space structure of the kicked logistic map and its stability. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 447–457. (Summary) **98a:58061** 58F03

— Cryptography with chaos. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 50–54. (Summary) **98m:94030** 94A60 (58F13, 58F40)

Baquero S., Rafael (*with* Bonilla Estrada, M.; Loiseau, Jean-Jacques) A geometric proof of Rosenbrock's theorem on pole assignment. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 357–370. (K. B. Datta) **98j:93049** 93B55 (93B29)

Bär, Christian Metrics with harmonic spinors. (English summary) *Geom. Funct. Anal.* **6** (1996), *no.* 6, 899–942. (Patrick T. McDonald) **98a:58162** 58G25 (53C20)

— On nodal sets for Dirac and Laplace operators. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 709–721. (Uwe Semmelmann) **98g:58179** 58G25 (58G03)

Bär, Gert Berührende Schraubflächen mit Schraublinienkanten. (English summary) [Line contact between helicoids with edges] *Math. Pannon.* **8** (1997), *no.* 2, 225–236. (Hellmuth Stachel) **98j:53019** 53A17

Bär, Markus (*with* Zimmermann, Martin G.; Firle, Sascha O.; Natiello, Mario A.; Hildebrand, Michael; Eiswirth, Markus; Bangia, Anil K.; Kevrekidis, Ioannis G.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)

Barabanov, A. E. (*with* Sabbagh, Muhammed) Polynomial approach to H^∞ control problem with additional constraints. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. B Eng.* **22** (1997), *no.* 2, 259–273. 93B36 (93C05)

— (*with* Ambrosovskiĭ, V. M.; Gul'chak, A. M.; Miroshnikov, A. N.) Synthesis of tracking systems by the uniform-frequency optimization method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 3–13; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 519–527. 93C80 (93B51)

Barabanov, E. A. The structure of sets of values of lower and upper Bohl exponents of a linear differential system. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 3, 291–300, 428; *translation in Differential Equations* **32** (1996), *no.* 3, 295–303. (Alexander V. Lasunsky) **98d:34080** 34D08 (34A30)

Barabanov, Nikita E. (*with* Gelig, A. Kh.; Leonov, G. A.; Likhtarnikov, A. L.; Matveev, A. S.; Smirnova, V. B.; Fradkov, A. L.) The frequency theorem (the Yakubovich-Kalman lemma) in control theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 3–40; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1377–1407 (1997). (Summary) **98m:93002** 93–02 (49J15, 93C80, 93Dxx)

— (*with* Fu, Minyue) Improved upper bounds for the mixed structured singular value. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1447–1452. (Jacob Hammer) **98j:93029** 93B36 (93D09)

Barabanshchikov, A. V. (*with* Vasil'ev, M. A.; Prokushkin, S. F.) Free equations for massive matter fields in $(2+1)$-dimensional anti-de Sitter space from a deformed algebra of "oscillators". (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 372–384; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 295–304. (Paweł H. Węgrzyn) **98j:81226** 81T20

Baracco, Luca (*with* Zampieri, Giuseppe) Analytic discs attached to manifolds with boundary. *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 687–694. (J. Merker) **98m:32010** 32C16 (32D15)

Baragaña, I. (*with* Zaballa, I.) Feedback invariants of supplementary pairs of matrices. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2119–2130. (Gerhard Freiling) **98m:93012** 93B05 (93C05)

Baragar, Arthur Rational curves on $K3$ surfaces in $\mathbf{P}^1 \times \mathbf{P}^1 \times \mathbf{P}^1$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 637–644. (Dan Abramovich) **98h:14028** 14G05 (14J20, 14J28)

Baragona, R. (*with* Carlucci, F.) An optimality criterion for aggregating a set of time series in a composite index. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 1–9. (Roch Roy) **98e:62126** 62M10 (62M15)

Baraille, Rémy (*with* Hoang, Son Hong; De Mey, P.; Talagrand, O.) A new reduced-order adaptive filter for state estimation in high-dimensional systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1475–1498. 93E11 (93E35)

— (*with* Darblade, Gilles; Le Roux, Alain-Yves; Carton, Xavier; Pinchon, Didier) Conditions limites non réfléchissantes pour un modèle de Saint-Venant bidimensionnel barotrope linéarisé. (English and French summaries) [Nonreflecting boundary conditions for a two-dimensional linearized barotropic shallow-water model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 485–490. (Summary) **98a:76086** 76U05 (76B15, 76M20, 86A05)

— (*with* Hoang, Son Hong; Nguyen Thuc Loan; Talagrand, O.) Approximation approach for nonlinear filtering problem with time dependent noises. I. Conditionally optimal filter in the minimum mean square sense. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 409–425. (Michael Kohlmann) **98i:93082** 93E11 (93E25)

— (*with* Hoang, Son Hong; Talagrand, O.; Nguyen Thuc Loan; De Mey, P.) Approximation approach for nonlinear filtering problem with time dependent noises. II. Stable nonlinear filters. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 5, 557–576. (Michael Kohlmann) **98m:93113** 93E11 (93E25)

— (*with* Greenberg, James M.; Le Roux, Alain-Yves; Noussair, A.) Analysis and approximation of conservation laws with source terms. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1980–2007. (Stanisław Burys) **98k:65049** 65M06 (35L65)

Barakat, H. M. (*with* Nigm, E. M.) On the mixing property of order statistics with some applications. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 39–52. (Barry C. Arnold) **98j:60029** 60F05 (60G70, 62G30)

— (*with* Nigm, E. M.) Weak limit of sample geometric range. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 2, 85–95. (Summary) **98f:60036** 60F05 (60G70)

— Asymptotic properties of bivariate random extremes. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 203–217. (Summary) **98b:60037** 60F05 (60G70, 62G30)

Barakat, Richard (*with* Sandler, Barbara H.) Evaluation of first-order Hankel transforms using Filon quadrature philosophy. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 127–131. 65R10

— (*with* Parshall, Elaine; Sandler, Barbara H.) Zero-order Hankel transformation algorithms based on Filon quadrature philosophy for diffraction optics and beam propagation. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 3, 652–659. 78A10 (78A45)

Baraket, Sami Estimations of the best constant involving the L^∞ norm in Wente's inequality. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 373–385. (Friedrich Sauvigny) **98d:35041** 35J25 (35B45)

— Critical points of the Ginzburg-Landau system on a Riemannian surface. (English summary) *Asymptotic Anal.* **13** (1996), *no.* 3, 277–317. (Summary) **98i:35169** 35Q55 (58E50)

— (*with* Pacard, Frank) Construction of singular limits for a semilinear elliptic equation in dimension 2. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 1, 1–38. (Yoshihito Tomita) **98j:35057** 35J65 (35B25)

Barakhnin, V. B. (*with* Khakimzyanov, G. S.) Numerical modelling of fluid flows in the framework of a two-dimensional shallow-water model with the use of adaptive grids. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 95–110. (F. Milinazzo) **98e:76070** 76M20 (65M55, 76B15)

— (*with* Khakimzyanov, G. S.) On the algorithm for one nonlinear dispersive shallow-water model. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 293–317. (I. Christie) **98j:76092** 76M20 (65N50, 76B15, 76B25)

Baral, Chitta Relating logic programming theories of actions and partial order planning. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 131–151. (Summary) **98k:68033** 68N17 (68T20)

— Embedding revision programs in logic programming situation calculus. (English summary) *J. Logic Programming* **30** (1997), *no.* 1, 83–97. (Giovanni Criscuolo) **98d:68040** 68N17 (68T27)

— (*with* Gelfond, Michael) Reasoning about effects of concurrent actions. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 85–117. (Neculai Curteanu) **98e:68230** 68T27 (03B70, 68N17, 68T30)

— (*with* Gelfond, Michael; Provetti, Alessandro) Representing actions: laws, observations and hypotheses. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 201–243. (Summary) **98b:68176** 68T25 (03B70, 68T27)

— *see also* **Logic programming, nonmonotonic reasoning and reasoning about actions, 98b:68009**

Baramov, Lubomir (*with* Kimura, Hidenori) Nonlinear L_2-gain suboptimal control. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1247–1262. (Summary) **98e:93034** 93B36

Baran, M. *see* **Baran, Miroslaw**

Baran, Mehmet A notion of compactness in topological categories. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 221–234. (Summary) **98b:54016** 54B30 (18B30, 54A05, 54A20, 54D10)

— T_3 and T_4-objects in topological categories. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 59–69. 54B30 (18B30, 54D10)

Baran, Miroslaw (*with* Pleśniak, W.) Bernstein and van der Corput-Schaake type inequalities on semialgebraic curves. (English summary) *Studia Math.* **125** (1997), *no.* 1, 83–96. (Norman Levenberg) **98e:41016** 41A17 (14P10)

Baran, V. (*with* Raduta, A. A.; Delion, D. S.) Order and chaos described by a quadrupole boson Hamiltonian. (English summary) *Romanian J. Phys.* **40** (1995), *no.* 4-5, 433–451. (Summary) **98a:81267** 81V35 (58F13, 58F40, 81Q50)

contreras-Barandiarán, Gonzalo *see* **Contreras-Barandiarán, Gonzalo**

Baranger, Jacques (*with* Machmoum, A.) Existence of approximate solutions and error bounds for viscoelastic fluid flow: characteristics method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 39–52. (Leonid K. Antanovskiĭ) **98c:76005** 76A10 (76M10)

— (*with* Bahhar, A.; Sandri, D.) Galerkin discontinuous approximation of the transport equation and viscoelastic fluid flow on quadrilaterals. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 97–114. (Leonid K. Antanovskiĭ) **98j:76084** 76M10 (65M60, 76A10)

— *see also* **Elasticity, viscoelasticity and optimal control, 98g:73001**

Baranger, M. (*with* Meredith, D. C.; Haggerty, M. R.; Lauritzen, B.; Provost, Daniel; de Aguiar, Marcus A. M.) Periodic orbits of nonscaling Hamiltonian systems from quantum mechanics. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 491–496, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

Barannik, L. F. (*with* Basarab-Horwath, Peter; Fushchich, Vīl'gel'm Īllīch) Solutions of the relativistic nonlinear wave equation by solutions of the nonlinear Schrödinger equation. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 353–374. (Woodford W. Zachary) **98m:35133** 35L70 (35Q55, 81R05)

Baranov, A. A. *see* **Baranov, Aleksandr A.**

Baranov, A. M. Algebraic classification of bivectors in the Kaluza flat space, and a magnetic charge. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 1, 114–119; *translation in Russian Phys. J.* **40** (1997), *no.* 1, 102–106. (Summary) **98b:83022** 83C20

— (*with* Bardushko, N. M.) Algebraic classification of a stationary electromagnetic field as Kaluza spaces. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 1, 119–123; *translation in Russian Phys. J.* **40** (1997), *no.* 1, 107–111. (Summary) **98a:83032** 83C20 (83C50)

Baranov, A. S. On a special class of harmonic and biharmonic functions that are adapted to the solution of boundary value problems of mathematical physics on a spheroid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 395–403. (Summary) **98a:35012** 35C10 (31B99, 35Q72, 73C02)

Baranov, Aleksandr A. Locally finite quotient algebras of universal enveloping algebras. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 26–30, 122. (Summary) **98j:17005** 17B35

Baranov, V. V. (*with* Salyga, Valeriĭ I.) Methods for optimal dynamic decisions based on a criterion with overestimation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 144–155; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1354–1363 (1998). 90C40

— Structures and methods of dynamical decision-making. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2827–2833. (*see* **98i:00031**) 90A05 (90A16)

Baranovskaya, G. G. (*with* Baranovskaya, L. V.) On a differential-difference game of group pursuit. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 3, 12–15. 90D26 (34K35)

Baranovskaya, L. V. (*with* Baranovskaya, G. G.) On a differential-difference game of group pursuit. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 3, 12–15. 90D26 (34K35)

— (*with* Kirichenko, N. F.; Chikriĭ, Al. A.) On a class of linear differential-difference pursuit games. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 24–26. 90D25 (34K35)

Barański, Krzysztof Connectedness of the basin of attraction for rational maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1857–1866. (Peter M. Makienko) **98g:58146** 58F23 (30D05)

Bárány, Imre (*with* Onn, Shmuel) Colourful linear programming. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 1–15, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90087** 90C08

— (*with* Onn, Shmuel) Carathéodory's theorem, colourful and applicable. *Intuitive geometry* (*Budapest*, 1995), 11–21, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Rade Živaljević) **98f:52005** 52A35 (52B55)

— Affine perimeter and limit shape. (English summary) *J. Reine Angew. Math.* **484** (1997), 71–84. (Martin Henk) **98a:52026** 52C05 (11H06, 52B20)

— Approximation by random polytopes is almost optimal. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 43–50. (Summary) **98j:60014** 60D05

— *see also* **Intuitive geometry, 98c:52001**

Baras, F. (*with* Geysermans, P.) Stochastic description of a period-2 limit cycle. (English summary) *Europhys. Lett.* **40** (1997), *no.* 1, 1–6. (Summary) **98j:58072** 58F12 (58F13, 58F14, 58F40)

Baras, John S. (*with* Patel, Nital S.) Robust control of semiconductor manufacturing processes. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 37–54, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Qing Zhang) **98e:93056** 93C10 (90C39)

Barashenkov, I. V. (*with* Smirnov, Yu. S.) ★ Existence and stability of the externally driven, damped nonlinear Schrödinger solitons. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E5-97-80. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 31 *pp.* (Summary) **98b:35172** 35Q55

— (*with* Smirnov, Yu. S.; Alexeeva, N. V.) Bifurcation to multisoliton complexes in the ac-driven, damped nonlinear Schrödinger equation. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part B*, 2350–2364. (Summary) **98i:35170** 35Q55 (35B32)

Barashenkov, V. S. ★ Multi-time mechanics. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-34. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 17 *pp.* (Summary) **98a:83006** 83A05 (70G99, 70H99)

— ★ Six-dimensional space-time transformations. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-83. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* (Summary) **98b:83005** 83A05

— (*with* Pestov, A. B.; Yurʹiev, M. Z.) Time multidimension in gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1345–1351. (Alberto Saa Vazquez) **98f:83089** 83D05 (83E15)

Barata, J. C. A. (*with* Marchetti, Domingos H. U.) Griffiths' singularities in diluted Ising models on the Cayley tree. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 231–268. (Daniel Ueltschi) **98i:82005** 82B05 (82B20, 82B26, 82B44)

Barstchart, L. (*with* Saff, E. B.; Wielonsky, F.) A criterion for uniqueness of a critical point in H_2 rational approximation. (English summary) *J. Anal. Math.* **70** (1996), 225–266. (Yu. A. Brudnyĭ) **98b:41015** 41A20 (30E10)

— (*with* Leblond, Juliette; Partington, J. R.; Torkhani, N.) Robust identification from band-limited data. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1318–1325. (Summary) **98d:93097** 93E12 (93E35)

— (*with* Leblond, Juliette) Hardy approximation to L^p functions on subsets of the circle with $1 \le p < \infty$. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 41–56. (Yong Ping Liu) **98i:41041** 41A50 (30D55, 30E10)

Baratella, Paola (*with* Moroni, Paola) Asymptotic error bounds of product formulas for functions with interior singularity. (English summary) *Numer. Math.* **74** (1996), *no.* 2, 137–151. (Klaus-Jürgen Förster) **98a:41031** 41A35 (41A55, 65D15)

— A note on the convergence of product integration and Galerkin method for weakly singular integral equations. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 11–18. (Kai Diethelm) **98g:65124** 65R20 (45B05, 45L05)

Baratella, Stefano (*with* Berardi, Stefano) A parallel game semantics for linear logic. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 3, 189–217. (Henry Africk) **98m:03119** 03F50 (68Q55, 90D05)

— (*with* Prest, Mike) Pure-injective modules over the dihedral algebras. *Comm. Algebra* **25** (1997), *no.* 1, 11–31. (Henning Krause) **98d:16021** 16G60 (03B25, 03C60, 16D50)

Barb, Florin Dan (*with* de Koning, Willem L.) The optimal projection equations for finite-dimensional fixed-order $\mathscr{H}^2$-optimal control of infinite-dimensional discrete-time systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 641–655. 93B36 (93C25)

Bárbácioru, Cătălin Integer-valued polynomials on a subset. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 40–47. (Jean-Luc Chabert) **98g:13023** 13F20 (13F05)

Barback, Joseph On regressive isols and comparability of summands and a theorem of R. Downey. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 1, 83–91. (Charles Applebaum) **98a:03070** 03D50

— (*with* Dekker, J. C. E.) Extending finite subsets of an immune set. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 91–121. (Charles Applebaum) **98h:03060**

03D50

Barbanel, Julius B. (*with* Zwicker, William S.) Two applications of a theorem of Dvoretsky [Dvoretzky], Wald, and Wolfovitz to cake division. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 203–207. (Tamaki Tanaka) **98g:90029** 90C29 (52A37, 90B85)

Barbanera, Franco (*with* Berardi, Stefano) A constructive valuation semantics for classical logic. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 462–482. (Piotr Wojtylak) **98g:03016** 03B10 (03F07)

— (*with* Fernández, Maribel) Intersection type assignment systems with higher-order algebraic rewriting. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 173–207. (Betti Venneri) **98b:68006** 68N15 (03B15, 03B40, 68Q42, 68Q55)

— (*with* Berardi, Stefano; Schivalocchi, Massimo) "Classical" programming-with-proofs in $\lambda^{\mathrm{Sym}}_{\mathrm{PA}}$: an analysis of non-confluence. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 365–390, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 03B40 (03B70, 68Q10, 68Q60)

— (*with* Berardi, Stefano) The simply typed theory of β-conversion has no maximum extension. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 57–61. (Ying Jiang) **98m:03026** 03B40

— (*with* Fernández, Maribel; Geuvers, Herman) Modularity of strong normalization in the algebraic-λ-cube. (English summary) *J. Funct. Programming* **7** (1997), *no.* 6, 613–660. (Summary) **98k:03032** 03B40 (68N15)

Barbanis, B. (*with* Varvoglis, H.; Vozikis, Ch.) Transport in perturbed integrable Hamiltonian systems and the fractality of phase space. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 233–242, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 58F05 (70H05)

Barbargires, C. A. (*with* Karybakas, C. A.) Optimal control of first-order plants by dead-beat techniques. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 355–362. 49N55 (93C10)

Barbarin, F. (*with* Ragoucy, Eric; Sorba, P.) Remarks on finite $\mathcal{W}$ algebras. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1165–1178. (A. J. Coleman) **98f:17018** 17B68 (81R10)

— (*with* Ragoucy, Eric; Sorba, P.) $\mathcal{W}$-realization of Lie algebras: application to so(4, 2) and Poincaré algebras. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 393–411. (Josep Herrero) **98i:17031** 17B68 (17B81, 81R05, 81R10)

Barbaro, Daniele *see* **Field, J. V., 98f:01016**

Barbaro, M. B. (*with* Molinari, Alfredo; Palumbo, F.) Bosonization and even Grassmann variables. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 492–512. (George K. Savvidy) **98i:81143** 81T10 (81S40)

Barbaroux, J.-M. (*with* Combes, J. M.; Hislop, P. D.) Localization near band edges for random Schrödinger operators. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 16–43. (Marco Lenci) **98h:82028** 82B44 (47B80, 47F05, 47N50, 81Q10)

— (*with* Combes, J. M.; Montcho, R.) Remarks on the relation between quantum dynamics and fractal spectra. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 698–722. (Jean-Michel Ghez) **98g:81028** 81Q10 (47N50)

— (*with* Combes, J. M.; Hislop, P. D.) Landau Hamiltonians with unbounded random potentials. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 355–369. (Nariyuki Minami) **98i:82030** 82B44 (47F05, 47N50, 81Q10)

Barbasch, Dan (*with* Moy, Allen) Unitary spherical spectrum for p-adic classical groups. (English summary) Representations of Lie groups, Lie algebras and their quantum analogues. *Acta Appl. Math.* **44** (1996), *no.* 1-2, 3–37. (Introduction) **98k:22067** 22E50 (20G25)

— The spherical dual for p-adic groups. *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 1–19, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Volker J. Heiermann) **98k:22068** 22E50 (11S37, 22–02)

— (*with* Sepanski, Mark R.) Closure ordering and the Kostant-Sekiguchi correspondence. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 311–317. (Andrew Dancer) **98c:22004** 22E15 (58D27)

Barbashin, O. V. Construction of curvilinear difference grids on surfaces. (English summary) *Siberian J. Differential Equations* **1** (1997), *no.* 3, 197–232. (Bernd Heinrich) **98h:65057** 65N50 (65M50)

Barbashov, B. M. (*with* Chervyakov, A. M.) A new exact solution to the classical equations of motion of the relativistic string with massive ends. *Differential equations and its applications* (*Budapest*, 1991), 19–33, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 81T30 (83E30)

— (*with* Pestov, A. B.) Weyl connection, a nonabelian gauge field, and torsion. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 429–434; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1104–1107 (1996). (Gheorghe Zet) **98m:81096** 81T13 (53C80)

— Integrals of periodic motion for classical equations of relativistic string with masses at ends. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4651–4664. (Summary) **98j:81249** 81T30 (73K03)

— (*with* Pestov, A. B.) On spinor representations in the Weyl gauge theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1957–1968. (Yu. N. Obukhov) **98k:83071** 83D05 (81T13)

— Integrals of periodic motion for the classical equations of a relativistic string with masses at its ends. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 284–287. (*see* **98f:83002**) 81T30

— (*with* Pestov, A. B.) Antisymmetric tensor fields and the Weyl gauge theory. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 112–123; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1299–1308 (1998). (Kishore Marathe) **98k:83059** 83C60 (81T13, 83D05)

Barbati, A. (*with* Costantini, Camillo) On the density of the hyperspace of a metric space. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 349–360. (Summary) **98b:54015** 54B20 (54A25, 54E35)

Barbato, D. M. L. (*with* Fontanari, J. F.) Dilution in Boolean perceptrons that learn from noisy examples. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7003–7012. (Dimitri Petritis) **98a:82082** 82C32 (92B20)

Barbé, André M. Coarse-graining invariant orbits of one-dimensional Z_p-linear cellular automata. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*A*, 2237–2297. (Jean-Paul Allouche) **98c:58081** 58F08 (11B85, 68Q80, 68R15)

— Shift-add correlation patterns of orbits of one-dimensional linear cellular automata. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2507–2530. (M. Mendès France) **98d:58094** 58F08 (68Q80)

— Complex order from disorder and from simple order in coarse-graining invariant orbits of certain two-dimensional linear cellular automata. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1451–1496. (Jean-Paul Allouche) **98k:58133** 58F08 (68Q80)

Barbe, Philippe (*with* Broniatowski, M.) Functional Erdős-Rényi laws for processes indexed by sets. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan', 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 356–359. (J. Steinebach) **98a:60029** 60F15 (60F10, 60F17)

— Bootstrapping the renewal spacings processes. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 199–214. (Somnath Datta) **98k:62076** 62G09

— (*with* Broniatowski, M.) Deviation principle for set indexed processes with independent increments. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 393–418. (Tim Zajic) **98m:60037** 60F10 (60B12, 60F17)

Barbeau, Edward J. ★ Power play. (English summary) MAA Spectrum. *Mathematical Association of America, Washington, DC*, 1997. xii+185 *pp. ISBN* 0-88385-523-2 (Ákos Pintér) **98d:11001** 11-01 (11D09)

— (*with* Chew, John; Tanny, Stephen) A matrix dynamics approach to Golomb's recursion. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 16, 11 *pp.* (*electronic*). (S. W. Golomb) **98k:11016** 11B83 (39A11, 40C05)

Barbeau, M. (*with* Kabanza, F.; St-Denis, R.) An efficient algorithm for controller synthesis under full observation. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 144–161. (Summary) **98f:93010** 93C83 (68Q45)

Barbehenn, Michael A note on the complexity of Dijkstra's algorithm for graphs with weighted vertices. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 263. (Summary) **98k:68079** 68Q25 (05C85, 68R10)

Barber, J. R. (*with* Du, Shuqin; Zagrodzki, P.; Hulbert, G. M.) Finite element analysis of frictionally excited thermoelastic instability. (English summary) *J. Thermal Stresses* **20** (1997), *no.* 2, 185–201. (Summary) **98a:73010** 73B30 (73T05, 73V05)

— (*with* Castillo, José) Lateral contact of slender prismatic bodies. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2397–2412. (Summary) **98e:73116** 73T05

Barberà, Salvador Probabilistic collective decisions and judgments. (Spanish) *Current perspectives in logic and philosophy of science* (*Spanish*), 475–491, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 90A05 (90A20)

— (*with* Massó, Jordi; Neme, Alejandro) Voting under constraints. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 298–321. (Summary) **98e:90045** 90A28

Barberis, Maria Laura (*with* Dotti Miatello, Isabel) Hypercomplex structures on a class of solvable Lie groups. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 389–404. (Andrew Swann) **98k:53055** 53C25 (22E25, 53C30)

castro Barbero, Carlos *see* **Castro Barbero, Carlos**

Barbet, Luc Stability and differential sensitivity of optimal solutions of parametrized variational inequalities in infinite dimensions. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 25–41, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Alberto Seeger) **98c:49055** 49K40 (49J40, 90C31)

Barbieri, Francesco (*with* Degani Cattelani, Franca) ★ Catalogo della corrispondenza di Paolo Ruffini. (Italian) [Catalogue of the correspondence of Paolo Ruffini] Collana di Studi [Studies Collection], 16. *Accademia Nazionale di Scienze, Lettere e Arti, Modena; Edizioni ETS, Pisa*, 1997. 607 *pp. ISBN* 88-467-0000-7 (Editors) **98g:01001** 01–00 (00A15, 01A50, 01A55)

Barbieri, Giuseppina (*with* Avallone, Anna) Range of finitely additive fuzzy measures. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 231–241. (Summary) **98b:28034** 28E10 (04A72)

Barbieri Viale, Luca $\mathcal{H}$-cohomologies versus algebraic cycles. (English summary) *Math. Nachr.* **184** (1997), 5–57. (Thomas Geisser) **98d:14003** 14C17 (14C40, 14F20, 19E15, 19E20)

Barbiroli, Giancarlo (*with* Ritelli, Daniele; Fabbri, Paolo) Predation among technologies on the market: a modellistic analysis. (English summary) *J. Math. Econom.* **27** (1997), *no.* 3, 347–374. (Jeffrey L. Coles) **98h:90030** 90A60 (90A16)

Barbolosi, D. Une application due théorème ergodique sous-additif à la théorie métrique des fractions continues. (English summary) [An application of the subadditive ergodic theorem to the metric theory of continued fractions] *J. Number Theory* **66** (1997), *no.* 1, 172–182. (Thomas A. Schmidt) **98j:11060** 11K50 (28D99)

Barbón, J. L. F. (*with* Vázquez-Mozo, M. A.) Complex world-sheets from $N = 2$ strings. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 1-2, 244–270. (Rajesh Gopakumar) **98a:81153** 81T30 (81T40)

— (*with* Álvarez, Enrique; Borlaf González, Javier) T-duality for open strings. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 218–242. (Yolanda Lozano) **98b:81168** 81T30

— (*with* Vázquez-Mozo, M. A.) Dilute D-instantons at finite temperature. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 236–274. (Javier Borlaf González) **98k:81192** 81T30

— Rotated branes and $N = 1$ duality. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 59–63. (Yolanda Lozano) **98f:81235** 81T30

— Fermion exchange between D-instantons. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 33–40. (Summary) **98e:81128** 81T30

— (*with* Ramgoolam, Sanjaye) Some properties of unstable monopoles in super-QCD. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 1013–1020. (Summary) **98a:81253** 81V05 (81T13, 81T60)

— Remarks on the classical size of D-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2457–2460. (Summary) **98d:81073** 81T30 (83E30)

— (*with* Pasquinucci, Andrea) Softly broken MQCD and the theta angle. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 131–138. 81V05

Barbone, Paul E. (*with* Harari, Isaac; Montgomery, Joshua M.) Finite element formulations for exterior problems: application to hybrid methods, non-reflecting boundary conditions, and infinite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 15, 2791–2805. (Summary) **98e:76063** 76M10 (76Q05)

— (*with* Michael, Ofer) Galerkin formulation and singularity subtraction for spectral solutions of boundary integral equations. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 1, 95–111. 65R20 (65M60)

Barbosa, João Lucas Marques (*with* Colares, Antônio Gervasio) Stability of hypersurfaces with constant r-mean curvature. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 277–297. (M. Elisa G. G. de Oliveira) **98h:53091** 53C42 (53C40)

Barbosa, Luciano (*with* Rodrigues, Josemar; Leite, José Galvão) Inference for the software reliability using imperfect recapture debugging model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 27–37. 62N05 (62F15)

madsen Barbosa, Ruy *see* **Madsen Barbosa, Ruy**

Barbosa, Ruy Madsen *see* **Madsen Barbosa, Ruy**

Bârbosu, Dan (*with* Balog, Laszlo; Pop, Nicolae) On a Bernstein type operator. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 23–28. (Summary) **98k:41036** 41A35

— Generalized blending operators of Favard-Szasz type. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 45–51. (Weixing Zheng) **98d:41030** 41A35 (41A63)

— (*with* Pop, Nicolae) A computational method with finite elements for a coupled solution between mechanic and thermic contact problems. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 67–71. 73V05 (73B30, 73T05)

— On the approximation of three variate B-continuous functions. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 23–38. (Terence M. Mills) **98d:41037** 41A36 (41A63)

— (*with* Cioclu, Costel) A problem of construction. *Octogon Math. Mag.* **5** (1997), *no.* 1, 64. 51M15

— (*with* Zelina, I.) About the calculus of some limits. *Octogon Math. Mag.* **5** (1997), *no.* 2, 69–72. 26A03

Barbour, A. D. (*with* Heesterbeek, J. A. P.; Luchsinger, C. J.) Thresholds and initial growth rates in a model of parasitic infection. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1045–1074. (P. R. Parthasarathy) **98b:92020** 92D30 (60J85)

— (*with* Tavaré, Simon) A rate for the Erdös-Turán law [MR 95g:60033]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 71–80, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 60F05 (60C05)

— (*with* Godbole, Anant P.; Qian, Jinghua) Imperfections in random tournaments. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 1–15. (David A. Grable) **98d:05128** 05C80 (05C20)

— (*with* Phatarfod, R. M.) Dimensioning a multiple hashing scheme. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 477–486. (E. Rodney Canfield) **98b:60015** 60C05 (62E17, 68P20)

— (*with* Arratia, Richard; Tavaré, Simon) Random combinatorial structures and prime factorizations. *Notices Amer. Math. Soc.* **44** (1997), *no.* 8, 903–910. (Anant P. Godbole) **98i:60007** 60C05 (05A17, 11K99)

Barbour, Graham D. (*with* Raftery, James G.) On the degrees of permutability of subregular varieties. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 317–325. (Jaromír Duda) **98h:08004** 08B05 (06F35, 08A30)

Barbour, Julian B. The problem of time in quantum gravity and a radical proposal for solving it. *General relativity and gravitational physics* (*Rome*, 1996), 3–5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C45

— Nows are all we need. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 201–216, *Springer, Berlin*, 1997. (Summary) **98d:00007** 00A79

Barbu, Dorel On the global existence of mild solutions of initial value problems. (English summary) *C. R. Math. Rep. Acad. Sci. Canada* **18** (1996), *no.* 6, 253–256. (Uljana A. Anufrieva) **98b:34079** 34G20 (47D06, 47N20)

Barbu, Viorel ★ Probleme la limită pentru ecuaţii cu derivate parţiale. (Romanian) [Boundary value problems for partial differential equations] Analiză Modernă şi Aplicaţii. [Modern Analysis and Applications] *Editura Academiei Române, Bucharest*, 1993. 284 *pp. ISBN* 973-27-0387-3 (Editors) **98j:35001** 35–01

— (*with* Kunisch, Karl) Identification of nonlinear parabolic equations. (English summary) *Control Theory Adv. Tech.* **10** (1995), *no.* 4, *part* 5, 1959–1980. (Summary) **98d:93034** 93B30 (93C20)

— (*with* Kunisch, Karl; Ring, Wolfgang) Control and estimation of the boundary heat transfer function in Stefan problems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 6, 671–710. (Irina F. Sivergina) **98a:93037** 93C20 (35R30, 35R35, 80A22)

— (*with* Favini, Angelo) Periodic problems for degenerate differential equations. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 29–57 (1997). (Alfred S. Carasso) **98m:34119** 34G10 (34A09, 34C25, 35K99, 35L99, 47D06, 47N20)

— (*with* Pavel, N. H.) Optimal control of thermal conductivity of a rod under periodic conditions. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 205–217. (Jesús Hernández) **98h:49003** 49J20 (47N10, 80A23)

— Optimal control of the one-dimensional periodic wave equation. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 1, 77–90. (N. U. Ahmed) **98b:49006** 49J20 (35L05, 49K20)

— (*with* Pavel, N. H.) Determining the acoustic impedance in the 1-D wave equation via an optimal control problem. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1544–1556. (Summary) **98g:35209** 35R30 (35L05, 47N20, 49N55, 73D50)

— Optimal control of linear periodic resonant systems in Hilbert spaces. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2137–2156. (Nicolae H. Pavel) **98j:49004** 49J20

— The time optimal control of Navier-Stokes equations. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 93–100. (Maitine Bergounioux) **98e:49008** 49J20 (35Q30, 49K20, 76D05)

— Optimal control of Navier-Stokes equations with periodic inputs. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 15–31. (Alexander Yurjevich Chebotarev) **98j:49005** 49J20 (35Q30, 49K20, 76D05)

Barbuti, R. (*with* De Francesco, Nicoletta; Santone, Antonella) Algebraic computational models of OR-parallel execution of Prolog. (English summary) *Acta Inform.* **34** (1997), *no.* 6, 449–489. (Summary) **98g:68019** 68N17 (68Q55, 68Q60)

Barbuto, Fausto A. A. (*with* Cotta, Renato Machado) Integral transformation of elliptic problems within irregular domains: fully developed channel flow. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 778–793. 76M25

Barceló, Jaime A survey of some mathematical programming models in transportation. (English summary) *Top* **5** (1997), *no.* 1, 1–40. (Summary) **98c:90001** 90–02 (90B06, 90C35, 90C90)

Barcelos-Neto, J. (*with* Braga, Nelson R. F.; de Souza, S. M.) Trace anomaly in the field-antifield formalism. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 1149–1153. (Summary) **98h:81112** 81T50 (81T16)

— (*with* Silva, M. B. D.) Symplectic quantization of a vector-tensor gauge theory with topological coupling. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 7, 515–523. (Summary) **98j:81342** 81T70 (81S10, 81T13)

— Axial and gauge anomalies in the BV formalism. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5053–5066. (Ion V. Vancea) **98m:81173** 81T50 (81T15, 81T70)

— (*with* Oliveira, Wilson) Transformation of second-class into first-class constraints in supersymmetric theories. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5209–5221. 81T60

— (*with* Banerjee, Rabin) Hamiltonian embedding of the massive Yang-Mills theory and the generalized Stückelberg formalism. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 453–478. (Liviu Tătar) **98e:81175** 81T70 (81T13)

— BFFT quantization with nonlinear constraints. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2265–2273. (Ion V. Vancea) **98a:81237** 81T70

— (*with* Oliveira, Wilson) Gauging the nonlinear σ model through a non-abelian algebra. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2257–2264. (Bani Mitra Södermark) **98j:81343** 81T70 (81T13)

— (*with* Cabo, Alejandro) Faddeev-Jackiw quantization of massive tensor fields. (English summary) *Z. Phys. C* **74** (1997), *no.* 4, 731–735. (Summary) **98e:81176** 81T70

Barchini, L. (*with* Gindikin, Simon G.; Wong, Hon-Wai) Determinant functions and the geometry of the flag manifold for $SU(p,q)$. (English summary) *J. Lie Theory* **6** (1996), *no.* 2, 191–206. (Roger Zierau) **98e:22006** 22E40 (32M10, 32M15)

Barcilon, Victor Singular perturbation analysis of the Fokker-Planck equation: Kramers' underdamped problem. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 2, 446–479. (From the text) **98g:35195** 35Q99 (82C35)

Barclay, D. W. Wavefront expansions for non-linear axial shear wave propagation. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 259–274. (Summary) **98f:73017** 73D15 (73V15)

Barcucci, Elena (*with* Del Lungo, Alberto; Nivat, Maurice; Pinzani, Renzo) Reconstructing convex polyominoes from horizontal and vertical projections. II. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 295–306, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 68R05 (05B50, 68U05)

— (*with* Del Lungo, Alberto; Fezzi, S.; Pinzani, Renzo) Nondecreasing Dyck paths and q-Fibonacci numbers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 211–217. (Summary) **98d:05009** 05A15 (11B39)

— (*with* Bertoli, F.; Del Lungo, Alberto; Pinzani, Renzo) The average height of directed column-convex polyominoes having square, hexagonal and triangular cells. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 27–36. (Summary) **98j:05047** 05B50 (05A15, 82B41)

— (*with* Del Lungo, Alberto; Pergola, Elisa; Pinzani, Renzo) A methodology for plane tree enumeration. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 45–64. (T. R. S. Walsh) **98m:05090** 05C30 (05C05)

Barcza, S. The diamagnetic Coulomb problem at high field strength. Asymptotic analysis. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6765–6780. (Alexei D. Kiselev) **98h:81130** 81V45 (81V10)

Bard, Jonathan F. (*with* Shimizu, Kiyotaka; Ishizuka, Yo) ★ Nondifferentiable and two-level mathematical programming. (English summary) *Kluwer Academic Publishers, Boston, MA*, 1997. xii+470 *pp. ISBN* 0-7923-9821-1 (Doug Ward) **98c:90002** 90–02 (49J52, 65K05, 90C30, 90D65)

— (*with* Plummer, John; Sourie, Jean Claude) Determining tax credits for converting nonfood crops to biofuels: an application of bilevel programming. (English summary) *Multilevel optimization: algorithms and applications*, 23–50, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C90 (90A70)

Bardadym, T. A. The structure of polynomials of asymptotic expansions of the least squares estimate and a variance estimate. (Ukrainian. Ukrainian summary) *Teor. Imovir. Mat. Stat. No.* 53 (1995), 1–5. (Summary) **98d:62024** 62E20

Bardakov, V. G. The width of verbal subgroups of some Artin groups. (Russian) *Group and metric properties of mappings* (*Russian*), 8–18, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (J. Wiegold) **98k:20060** 20F36 (20E10)

Bardaro, Carlo (*with* Vinti, Gianluca) A general approach to the convergence theorems of generalized sampling series. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 203–217. (Summary) **98e:47046** 47B38 (41A35, 42A99, 47A58)

Bardek, V. (*with* Andrić, I.; Jonke, L.) Solitons in the Calogero-Sutherland collective field model. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 245–248, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81V70

— (*with* Andrić, I.; Jonke, L.) Multi-vortex solution in the Sutherland model. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 717–724. (Summary) **98f:81378** 81V70

Bardeen, B. T. (*with* Howell, Kathleen C.; Lo, M. W.) Application of dynamical systems theory to trajectory design for a libration point mission. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 2, 161–178. 70F15 (70M20)

Bardi, Martino (*with* Crandall, Michael G.; Evans, Lawrence C.; Soner, Halil Mete; Souganidis, Panagiotis E.) ★ Viscosity solutions and applications. Lectures given at the 2nd C.I.M.E. Session held in Montecatini Terme, June 12–20, 1995. Edited by I. Capuzzo Dolcetta and P. L. Lions. Lecture Notes in Mathematics, 1660. Fondazione C.I.M.E., [C.I.M.E. Foundation] *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1997. x+259 *pp. ISBN* 3-540-62910-6 (Editors) **98b:35005** 35–06 (49L25)

— (*with* Bagagiolo, F.; Capuzzo Dolcetta, I.) A viscosity solutions approach to some asymptotic problems in optimal control. (English summary) *Partial differential equation*

methods in control and shape analysis (Pisa), 29–39, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Fabio Camilli) **98d:49037** 49L25 (49K40)

— Some applications of viscosity solutions to optimal control and differential games. *Viscosity solutions and applications (Montecatini Terme*, 1995), 44–97, *Lecture Notes in Math.*, 1660, *Springer, Berlin*, 1997. (Katsuyuki Ishii) **98f:49029** 49L25 (35D99, 35F20, 90D25)

— (*with* Da Lio, Francesca) On the Bellman equation for some unbounded control problems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 491–510. (Fabio Camilli) **98m:49048** 49L25 (35B37, 49N10)

Bardin, Alexandr E. Regret concept in non-cooperative game. *Game theory and applications, III*, 1–5, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D10 (90D06)

Bardoe, Matthew Kirby The universal embedding for the $U_4(3)$ involution geometry. (English summary) *J. Algebra* **186** (1996), *no.* 2, 368–383. (Gernot Stroth) **98e:51015** 51E24 (20D06)

— The universal embedding for the involution geometry of the Suzuki sporadic simple group. (English summary) *J. Algebra* **186** (1996), *no.* 2, 447–460. (Gernot Stroth) **98e:51016** 51E24 (20D06)

— Embeddings, geometries and representations: connections and computations. (English summary) *Representation theory of finite groups (Columbus, OH*, 1995), 1–9, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Summary) **98k:51025** 51E24 (20D06)

Bardos, Claude (*with* Dumas, Laurent; Golse, François) Diffusion approximation for billiards with totally accommodating scatterers. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 351–375. (Nikolai Chernov) **98b:82063** 82C40 (58F13, 58F40, 82C05)

— (*with* Golse, François; Colonna, Jean-François) Diffusion approximation and hyperbolic automorphisms of the torus. (English summary) *Phys. D* **104** (1997), *no.* 1, 32–60. (Nikolai Chernov) **98h:82053** 82C40 (58F15)

Bárdossy, András (*with* Özelkan, Ertunga C.; Galambosi, Ágnes; Duckstein, Lucien) A multi-objective fuzzy classification of large scale atmospheric circulation patterns for precipitation modeling. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 127–142. 86A10

Bardushko, N. M. (*with* Baranov, A. M.) Algebraic classification of a stationary electromagnetic field as Kaluza spaces. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 1, 119–123; *translation in Russian Phys. J.* **40** (1997), *no.* 1, 107–111. (Summary) **98a:83032** 83C20 (83C50)

Bardy, Nicole *see* **Bardy-Panse, Nicole**

Bardybakhin, A. I. Optimal local heating of a semi-infinite rod by a mobile point heat source. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 6, 27–41; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 905–917. (Summary) **98d:49027** 49K20 (93C20)

Bardy-Panse, Nicole Systèms de racines infinis. (English and French summaries) [Infinite root systems] *Mém. Soc. Math. Fr. (N.S.) No.* 65 (1996), vi+188 *pp.* (Stefano Capparelli) **98m:17033** 17B67

Bardzell, Michael J. The alternating syzygy behavior of monomial algebras. (English summary) *J. Algebra* **188** (1997), *no.* 1, 69–89. (D. Zacharia) **98a:16009** 16E40 (16G20)

Bardzokas, Dem. (*with* Zobnin, A. I.; Parton, V. Z.; Shatalov, A. L.) The heating of composite material of periodic structure in a high-frequency electromagnetic field. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 1, 143–150; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 1, 130–136. (Alexander G. Kolpakov) **98e:73006** 73B27 (73K20, 78A25, 80A20)

Barefoot, C. A. (*with* Entringer, R. C.; Székely, László A.) Extremal values for ratios of distances in trees. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 37–56. (J. W. Moon) **98i:05047** 05C05 (05C12, 05C35)

van Barel, Marc *see* **Van Barel, Marc**

Barenblatt, G. I. ★ Scaling, self-similarity, and intermediate asymptotics. (English summary) With a foreword by Ya. B. Zeldovich. Cambridge Texts in Applied Mathematics, 14. *Cambridge University Press, Cambridge*, 1996. xxii+386 *pp. ISBN* 0-521-43516-1; 0-521-43522-6 (J. R. Ockendon) **98a:00005** 00A73 (35C20, 35Qxx, 73V99, 76M99, 80–02, 86–02)

— (*with* Chorin, Alexandre Joel) Scaling laws and vanishing-viscosity limits for wall-bounded shear flows and for local structure in developed turbulence. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 4, 381–398. (P. L. Sulem) **98a:76041** 76F10 (35Q72, 76D10, 76F05, 76M35)

— (*with* Beretta, Elena; Bertsch, M.) The problem of the spreading of a liquid film along a solid surface: a new mathematical formulation. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 19, 10024–10030. (Sam D. Howison) **98k:76038** 76D45 (76D08)

Barendregt, Henk (*with* Barthe, Gilles; Ruys, Mark) A two-level approach towards lean proof-checking. (English summary) *Types for proofs and programs (Torino*, 1995), 16–35, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03013** 03B35 (03B15, 03C05, 68Q40)

— The impact of the lambda calculus in logic and computer science. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 2, 181–215. (Hirofumi Yokouchi) **98k:03033** 03B40 (01A60, 03–03, 68N15, 68Q05, 68Q55)

Barendsen, Erik (*with* Smetsers, Sjaak) A derivation system for uniqueness typing. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68N15 (68Q42, 68R10)

— (*with* Bezem, Marc) Polymorphic extensions of simple type structures. With an application to a bar recursive minimization. (English summary) *Ann. Pure Appl. Logic* **79** (1996), *no.* 3, 221–280. (Summary) **98i:03023** 03B40

Barenghi, Carlo F. Vortex lines and transitions in superfluid hydrodynamics. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2025–2034. (Ioan Bâldea) **98k:82198** 82D50 (76Y05)

Barequet, Gill (*with* Dickerson, Matthew T.; Pau, Petru) Translating a convex polygon to contain a maximum number of points. (English summary) *Comput. Geom.* **8** (1997), *no.* 4, 167–179. (Rade Živaljević) **98f:52015** 52B55 (68U05)

Barg, A. M. Two families of low-correlated binary sequences. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 6, 433–437. 94B99 (11B83)

— The matroid of supports of a linear code. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 2, 165–172. (Summary) **98m:94041** 94B05

— A large family of sequences with low periodic correlation. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 21–27. (Summary) **98i:94014** 94A55

Barge, Jean Cohomologie des groupes et corps d'invariants multiplicatifs tordus. (English summary) [Cohomology of groups and fields of invariants under twisted multiplicative actions] *Comment. Math. Helv.* **72** (1997), *no.* 1, 1–15. (Claus Scheiderer) **98g:12006** 12G05

Barge, Marcy Periodic points for an orientation preserving homeomorphism of the plane near an invariant immersed line. (English summary) *Topology Proc.* **20** (1995), 1–13. (L. Janos) **98b:54051** 54H20

— (*with* Diamond, Beverly) Inverse limit spaces of infinitely renormalizable maps. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 103–108. (Leonard R. Rubin) **98j:54057** 54F15 (54B35, 58F12)

Bargiela, Andrzej (*with* Hartley, Joanna K.) Parallel state estimation with confidence limit analysis. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 155–167. (Summary) **98g:65136** 65U05 (65D10, 65Y05)

Bar-Hen, Avner A preliminary test in discriminant analysis. (English summary) *J. Multivariate Anal.* **57** (1996), *no.* 2, 266–276. (Chien-Pai Han) **98d:62106** 62H30

— (*with* Daudin, J.-J.) A test of a special case of typicality in linear discriminant analysis. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 39–48. (Summary) **98a:62082** 62H30

Barhorst, Alan A. (*with* Ortiz, José L.; Robinett, Rush D.) Flexible multibody systems-fluid interaction. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 3, 409–433. 73K70 (76B10)

di Bari, Maria *see* **Di Bari, Maria**

Bariev, R. Z. (*with* Klümper, A.; Zittartz, J.) Exact solution of the "colour" six-vertex model. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 401–404. (Ernest Baver) **98c:82008** 82B20 (82B23, 82B27)

— (*with* Alcaraz, Francisco C.) New integrable generalization of the one-dimensional *t-J* model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, *L233–L239*. 82D55 (82C20)

Bar-Ilan, Avner (*with* Strange, William C.) A model of sequential investment. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 437–463. (Summary) **98k:90010** 90A09

Baritompa, William (*with* Steel, Michael A.) Bounds on absorption times of directionally biased random sequences. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 279–293. (Summary) **98k:60117** 60J10 (60E15, 60J20)

Bark, Jai-Hyeong (*with* Ghattas, Omar) Large-scale SQP methods for optimization of Navier-Stokes flows. (English summary) *Large-scale optimization with applications, Part II (Minneapolis, MN*, 1995), 247–270, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98d:49039** 49M27 (65K10, 76D05, 90C30)

Bar-Kana, Izhak (*with* Kaufman, Howard; Sobel, Kenneth) ★ Direct adaptive control algorithms. (English summary) Theory and applications. Case studies contributed by David S. Bayard and Gregory W. Neat. Second edition. Communications and Control Engineering Series. *Springer-Verlag, New York*, 1998. xxviii+424 *pp. ISBN* 0-387-94884-8 (From the preface) **98h:93001** 93–02 (93B40, 93C40)

Barkaoui, Kamel (*with* Couvreur, J. M.; Dutheillet, C.) On liveness in extended non-self-controlling nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 25–44, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68151** 68Q90

— (*with* Pradat-Peyre, Jean-François) On liveness and controlled siphons in Petri nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 57–72, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (Summary) **98g:68117** 68Q90

Barkatou, Mohammed (*with* Henrot, Antoine) Un résultat d'existence en optimisation de forme en utilisant une propriété géométrique de la normale. (French summary) [An existence result in shape optimization using a geometric property of the normal] *ESAIM Control Optim. Calc. Var.* **2** (1997), 105–123 (*electronic*). (Maïtine Bergounioux) **98f:49040** 49Q10 (49J10)

Barkatou, Moulay Abdelfattah An algorithm to compute the exponential part of a formal fundamental matrix solution of a linear differential system. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 1–23. (W. Balser) **98j:34007** 34A20 (34–04, 34A25, 34A30)

— (*with* Richard-Jung, Françoise) Formal solutions of linear differential and difference equations. (Russian. Russian summary) Translated from the English by S. A. Abramov. *Programmirovanie* **1997,** *no.* 1, 24–42; *translation in Program. Comput. Software* **23** (1997), *no.* 1, 17–30. (Summary) **98h:34001** 34–04 (34A20, 34A25, 39A10, 68Q40)

Barkauskas, Anthony E. (*with* Bange, David W.; Host, Linda H.; Clark, Lane H.) Efficient domination of the orientations of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 1–14. (Douglas F. Rall) **98i:05085** 05C20 (05C70)

Barker, George Phillip (*with* Tam, Bit-Shun) Baer semirings and Baer *-semirings of cone-preserving maps. (English summary) *Linear Algebra Appl.* **256** (1997), 165–183. (I. K. Marek) **98c:46107** 46K99 (15A48, 16W60)

— *see also* **Wielandt, Helmut**, **98h:01040**

Barker, Peter *see* **Duhem, Pierre**, **98c:01048**

Barker, Stephen J. Material implication and general indicative conditionals. *Philos. Quart.* **47** (1997), *no.* 187, 195–211. (Jon M. Cogburn) **98g:03077** 03B65 (03B10)

Barkley, Dwight (*with* Dowle, Matthew; Mantel, Rolf Martin) Fast simulations of waves in three-dimensional excitable media. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2529–2545. 65C20 (92C05)

Barković, Dražen Fuzzy programming for media selection. (English summary) *SOR '97 Proceedings (Preddvor)*, 165–170, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90C70

Barkovskiĭ, L. M. (*with* Furs, A. N.) Maxwell's square roots from the metric tensors of wave surfaces and branches of solutions of the photon and phonon wave equations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4665–4675. (Summary) **98i:35189** 35Q60 (22E70, 78A10, 81V70, 81V80)

Barles, Guy Convergence of numerical schemes for degenerate parabolic equations arising in finance theory. *Numerical methods in finance*, 1–21, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Sergei A. Nemnyugin) **98i:65071** 65M12 (90A09)

— (*with* Blanc, Alain-Philippe) Large deviations estimates for the exit probabilities of a diffusion process through some vanishing parts of the boundary. *Adv. Differential Equations* **2** (1997), *no.* 1, 39–84. (Ross Pinsky) **98d:60055** 60F10 (35B05, 35R60, 49L25, 60J60)

— (*with* Georgelin, C.; Souganidis, Panagiotis E.) Front propagation for reaction-diffusion equations arising in combustion theory. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 3, 277–292. (Alexander L. Gladkov) **98g:35102** 35K57 (35B40, 80A25)

— (*with* Buckdahn, Rainer; Pardoux, Etienne) Backward stochastic differential equations and integral-partial differential equations. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 57–83. (Fabio Antonelli) **98d:60110** 60H10 (35K99, 35R60)

Barlet, D. (*with* Geandier, F.; Belgrade, R.) ★ Séminaire de Singularités. (French) [Seminar on Singularities] Papers from the seminar held at the Université Henri Poincaré (Nancy I), Vandoeuvre-les-Nancy, Institut Élie Cartan, 15. *Université de Nancy I, Institut Élie Cartan, Vandoeuvre-les-Nancy*, 1997. ii+174 *pp. ISBN* 2-903594-14-7 (Editors) **98g:32003** 32–06 (32Sxx)

Barletta, A. (*with* Zanchini, E.) Thermodynamics and information theory: entropy of quantum ensembles. (English and French summaries) *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 317–333. (Matthew J. Donald) **98b:82006** 82B10

Barletta, Elisabetta On the transverse Beltrami equation. *Comm. Partial Differential Equations* **21** (1996), *no.* 9-10, 1469–1485. (Eric Bedford) **98a:32020** 32F40

— (*with* Dragomir, Sorin) On the spectrum of a strictly pseudoconvex CR manifold. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 33–46. (Shanyu Ji) **98m:32029** 32F40 (32C16, 35P15)

— (*with* Dragomir, Sorin) New CR invariants and their application to the CR equivalence problem. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 193–203. (Andrea Spiro) **98h:32010** 32C16 (53C56)

— (*with* Dragomir, Sorin) On C-tangent foliations of maximum modulus sets. (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 143–153. (Summary) **98m:32027** 32F30 (53C15)

— (*with* Dragomir, Sorin) Transversally CR foliations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 1, 51–85. (Kimio Miyajima) **98m:53037** 53C12 (32C16)

Barlotti, A. *see* **Combinatorics, 98e:00015**

Barlow, Jesse L. (*with* Yoon, Peter A.; Zha, Hongyuan) An algorithm and stability theory for downdating the ULV decomposition. (English summary) *BIT* **36** (1996), *no.* 1, 14–40. (Jean-Marie Chesneaux) **98e:65033** 65F30 (15A23, 65G05)

— (*with* Yoon, Peter A.) Solving recursive TLS problems using the rank-revealing ULV decomposition. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 117–126, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

Barlow, Martin T. (*with* Hambly, B. M.) Transition density estimates for Brownian motion on scale irregular Sierpinski gaskets. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 5, 531–557. (Zoran Vondraček) **98k:60137** 60J65

— (*with* Hattori, Kumiko; Hattori, Tetsuya[1]; Watanabe, Hiroshi[2]) Weak homogenization of anisotropic diffusion on pre-Sierpiński carpets. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 1–27. (Ben Hambly) **98m:60122** 60J60

Barlow, Richard E. (*with* Tsai, Peisung) Foundational issues concerning the analysis of censored data. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 45–51, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98c:62187** 62N05 (62F15)

Barma, Mustansir (*with* Dhar, Deepak) Deposition and evaporation of k-mers: dynamics of a many-sector decomposable system. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 72–84, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82C22 (82–02)

el-Barmi, Hammou *see* **El-Barmi, Hammou**

Barmish, B. Ross (*with* Abrishamchian, Mehdi) Reduction of robust stabilization problems to standard H^∞ problems for classes of systems with structured uncertainty. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 8, 1101–1115. (B. T. Polyak) **98a:93066** 93D21 (93B36)

— (*with* Lagoa, C. M.) The uniform distribution: a rigorous justification for its use in robustness analysis. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 203–222. (B. T. Polyak) **98k:93080** 93D09

Bar-Moshe, D. (*with* Marinov, Michael) Berezin quantization and unitary representations of Lie groups. (English summary) *Topics in statistical and theoretical physics*, 1–21, *Amer. Math. Soc. Transl. Ser.* 2, 177, *Amer. Math. Soc., Providence, RI*, 1996. (Martin Schlichenmaier) **98a:81091** 81S10 (17B15, 22E70, 32C17, 58F06)

Barnard, Roger W. (*with* Pearce, Kent; Wheeler, William Anthony) On a coefficient conjecture of Brannan. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 51–61. (Summary) **98m:30021** 30C50

Bar-Natan, Dror (*with* Stoimenow, Alexander) The fundamental theorem of Vassiliev invariants. *Geometry and physics* (*Aarhus*, 1995), 101–134, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (J. S. Birman) **98c:57002** 57M25

Barnaveli, A. T. (*with* Gogberashvili, M. Ya.) Gravitationally repulsive bubbles with "non-Minkowski asymptotics". (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 346–352; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1491–1496 (1998). 83C99

Barndorff-Nielsen, O. E. *see* **Time series models, 98d:62170**

Barnea, Nir (*with* Novoselsky, Akiva) Construction of hyperspherical functions symmetrized with respect to the orthogonal and the symmetric groups. (English summary) *Ann. Physics* **256** (1997), *no.* 2, 192–225. (Summary) **98g:81221** 81V35 (20C35, 22E46, 81R05, 81V45)

Barnea, Yiftach (*with* Shalev, Aner) Hausdorff dimension, pro-p groups, and Kac-Moody algebras. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 5073–5091. (Marcus du Sautoy) **98b:20041** 20E18 (17B67)

Barner, Klaus Paul Wolfskehl und der Wolfskehl-Preis. (German summary) [Paul Wolfskehl and the Wolfskehl prize] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3, 4–11. (Editors) **98i:01028a** 01A70

— Paul Wolfskehl and the Wolfskehl Prize. *Notices Amer. Math. Soc.* **44** (1997), *no.* 10, 1294–1303. (Editors) **98i:01028b** 01A70

Barnes, Belinda (*with* Grimshaw, Roger H. J.) Analytical and numerical studies of the Bonhoeffer van der Pol system. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 427–453. (Alan R. Hausrath) **98d:34047** 34C05 (34C23, 34C25)

Barnes, Bruce A. The spectrum of elements of a commutative LMC-algebra relative to a Banach subalgebra. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 425–445. (M. Abel) **98g:46067** 46H30 (46J30)

— Common operator properties of the linear operators RS and SR. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1055–1061. (Harro Heuser) **98f:47003** 47A10

Barnes, Christopher F. (*with* Zaidan, Mahdi Y.; Wicker, Stephen B.) Use of σ-trees as constellations in trellis-coded modulation. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2005–2012. 94B12

Barnes, Earl R. *see* **Wielandt, Helmut, 98h:01040**

Barnes, Eric Christian Probabilities and epistemic pluralism. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 1, 31–47. 03B48

Barnes, George R. (*with* Cerrito, Patricia B.; Levi, Inessa) Alternate methods for generating interaction semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 19–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:92023** 92H30 (20M99)

Barnes, Greg (*with* Ruzzo, Walter L.) Undirected s-t connectivity in polynomial time and sublinear space. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 1, 1–28. (Summary) **98c:68085** 68Q25 (05C40, 05C85, 68Q05, 68Q10, 68Q15, 68R10)

Barnes, John A. (*with* Meili, Richard) A stationary Poisson departure process from a minimally delayed infinite server queue with non-stationary Poisson arrivals. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 767–772. (Summary) **98c:60051** 60G55 (60K25)

Barnes, Julia A. Applications of noninvertible ergodic theory to rational maps of the sphere. (English summary) *Diss. Summ. Math.* **1** (1996), *no.* 1-2, 49–53. (Summary) **98j:58095** 58F23 (28D99)

Barnes, R. Eric Rationality, dispositions, and the Newcomb paradox. *Philos. Stud.* **88** (1997), *no.* 1, 1–28. 90D40

Barnes, Tiffany M. (*with* Savage, Carla D.) Efficient generation of graphical partitions. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 17–26. (L. Bruce Richmond) **98h:05019** 05A17 (05C85)

Barnett, C. (*with* Voliotis, Seraphim) A homomorphic integral. *Soochow J. Math.* **23** (1997), *no.* 2, 119–140. (Ralph Henstock) **98k:28016** 28B05 (46G99, 46L50)

— (*with* Camillo, Victor) Stopping and projection of non-adapted processes. *Soochow J. Math.* **23** (1997), *no.* 2, 187–212. (Carlo Cecchini) **98c:46136** 46L50

Barnett, Glen (*with* Kohn, Robert Jacob; Sheather, Simon J.) Robust Bayesian estimation of autoregressive-moving-average models. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 11–28. (Francesco Battaglia) **98d:62154** 62M10

Barnett, Neil S. (*with* Tang, Pak F.) Dispersion control for multivariate processes. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 3, 235–251. (Summary) **98a:62124** 62N05

Barnett, Stephen M. (*with* Pegg, David T.; Phillips, Lee S.) Quantum phase distribution by projection synthesis. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2135–2148. (Apostolos Vourdas) **98k:81341** 81V80

— (*with* Chefles, Anthony) Diagonalisation of the Bell-CHSH operator. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 4–8. (S. Gudder) **98g:81009** 81P05 (81P15)

— (*with* Chefles, Anthony) Entanglement and unambiguous discrimination between non-orthogonal states. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 177–179. 81V80

— (*with* Chefles, Anthony) Collective observables and enhanced violation of Bell's inequality. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, 1721–1731. (Emilio Santos) **98j:81009** 81P05

— *see also* **Quantum dynamics of simple systems, 98m:81003**

Barnett, Vic (*with* Dixit, Ulhas J.; Moore, Karen L.) On the estimation of the power of the scale parameter of the exponential distribution in the presence of outliers generated from uniform distribution. (English and Italian summaries) *Metron* **54** (1996), *no.* 3-4, 201–211 (1997). (Summary) **98h:62026** 62F10

Barnett, William A. *see* **Nonlinear dynamics and economics, 98m:90004**

Barnette, D. W. Cycle covers of planar 2-edge-connected graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 315–323. (Martin Kochol) **98m:05105** 05C38 (05C70)

Barney, Stephen *see* **On the properties of discourse. A translation of** *Tractatus de proprietatibus sermonum*, **(98d:01013)**

Barnhart, Cynthia (*with* Hane, Christopher A.; Vance, Pamela H.) Integer multicommodity flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 17–31, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C10)

Barnich, Glenn (*with* Henneaux, Marc) Isomorphisms between the Batalin-Vilkovisky antibracket and the Poisson bracket. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5273–5296. (Summary) **98f:58069** 58E30 (17B65, 58F05, 81T70)

— (*with* Husain, Viqar) Geometrical representation of Euclidean general relativity in the canonical formalism. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1043–1058. (Alexander N. Petrov) **98e:83009** 83C05

Barnovska, M. (*with* Govorov, V. M.) An integral estimate for a generalized solution, in the class L_2, of the first boundary value problem for the heat equation. (Russian. English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 231–238. (N. L. Vulchanov) **98m:35078** 35K05 (35B45)

Bar-Noy, Amotz (*with* Kortsarz, Guy) The minimum color sum of bipartite graphs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 738–748, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (05C15, 05C85, 68Q25)

Barnsley, Michael F. (*with* Deliu, Anca; Xie, Ruifeng) Stationary stochastic processes and fractal data compression. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 551–567. (Peter R. Massopust) **98d:58165** 58F40 (28A80, 58F13)

Barnwal, Bhola Shankar (*with* Mishra, Shiva Kumar) On diametral dimensions for structure of nuclear spaces. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 189–191. 46A11

Barnyak, M. Ya. (*with* Lukovskiĭ, I. A.) An approximation method for constructing solutions of the problem of the eigenoscillations of an ideal liquid in a sloping circular

cylinder. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 28–32. 76B10 (76M30)

Barnyak, O. M. Determination of frequencies and decrements of normal oscillations of a viscous fluid that partially fills a circular horizontal channel. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 4, 89–98; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 4, 335–343. (Summary) **98d:76052** 76D99 (76M30)

— A projection method for constructing solutions of the problem of normal symmetric oscillations of a viscous fluid. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 315–320; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 349–355. (Summary) **98h:76035** 76D99 (76M25)

Baron, Gerd (*with* Drmota, Michael; Mutafchiev, Lyuben R.) Predecessors in random mappings. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 317–335. (Zbigniew Palka) **98a:05130** 05C80 (60C05)

Bar-On, Ilan (*with* Codenotti, Bruno; Leoncini, Mauro) A fast parallel Cholesky decomposition algorithm for tridiagonal symmetric matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 403–418. (L. W. Ehrlich) **98a:65032** 65F05 (15A23)

— (*with* Ryaboy, Victor) Fast diagonalization of large and dense complex symmetric matrices, with applications to quantum reaction dynamics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1412–1435. (Massimo Di Pierro) **98g:65036** 65F30 (15A18, 92E20)

Bar-on, Jonathan R. (*with* Grasse, Kevin A.) Global optimization of a quadratic functional with quadratic equality constraints. II. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 547–556. (Summary) **98c:90084** 90C20 (65K05)

— (*with* Grasse, Kevin A.) Regularity properties of the phase for multivariable systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1366–1386. (Summary) **98f:93009** 93C35 (93D05)

Baron, Karol (*with* Rätz, Jürg) On orthogonally additive mappings on inner product spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 3, 187–189. (László Székelyhidi) **98f:39019** 39B52 (46C05)

Baron, Michael On the first passage time for waiting processes. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 396–403; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 328–334 (1997). (Alexander V. Gnedin) **98k:60156** 60K05

— (*with* Rukhin, Andrew L.) Asymptotic behavior of confidence regions in the change-point problem. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 263–282. (Yanhong Wu) **98g:62051** 62F25 (62G15)

Baron, Simson (*with* Schipp, Ferenc) Identical classes of multipliers for Walsh series. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 13–30. (Sergei F. Lukomskiĭ) **98k:42032** 42C10 (46J99)

— (*with* Tietz, Hubert) Indexverschiebung bei Potenzreihenverfahren zur Limitierung von Doppelfolgen. (English summary) [Index shifting in power series for the limitation of double sequences] *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 83–97. (Summary) **98f:40008** 40G10

— (*with* Stadtmüller, U.) Tauberian theorems for power series methods applied to double sequences. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 574–589. (F. Móricz) **98f:40007** 40G05 (40E05)

— *see also* **Lorentz, George G., 98i:01036**

Baron, Yu. L. (*with* Grigoryan, A. K.; Kutanov, A. T.; Yuditskiĭ, S. A.) A formalized description of the structure and behavior of hierarchical systems with inclusion. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 209–218; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 1058–1065. 93A13

roelants van Baronaigien, Dominique *see* **Roelants van Baronaigien, Dominique**

Baronavski, A. P. (*with* Shaw, J. K.; Ladouceur, H. D.) Applications of the Walker method. *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 377–395, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (T. E. Simos) **98g:34045** 34B24 (34E20, 78A10)

Barone, Enzo On the concept of associative measure. (Italian. English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 195–206. (Summary) **98d:28002** 28A10

Barone, Florella (*with* Grassini, R.; Mendella, Giovanna) A generalized Lagrange equation in implicit form for non-conservative mechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1575–1590. (Manuel de León) **98g:58054** 58F05 (34A09, 70H35)

Baroni, Pietro (*with* Guida, Giovanni; Mussi, Silvano) Modeling uncertain relational knowledge: the AV-quantified production rules approach. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 18–27, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B70)

Baroni, Rosa L. S. (*with* Balieiro, Inocêncio F.) The concept of infinitesimal in J. A. de Cunha's *Mathematical principles*. (Portuguese) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics* (*Portuguese*) (*São Paulo*, 1997), 361–368, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A05

Baroudi, Djebar (*with* Somersalo, Erkki) Gas temperature mapping using impedance tomography. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1177–1189. 65J15

Barowski, Larry (*with* McCreary, Carolyn) Visualizing graphs on the World Wide Web. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 193–208. (*see* **98h:05005**) 05C10

Barr, Joseph R. Renyi's lemma and some of its applications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 855–864. 60C05

Barr, Michael Acyclic models. (English summary) *Canad. J. Math.* **48** (1996), *no.* 2, 258–273. (Summary) **98b:18021** 18G35 (55N40, 55U15)

— *-autonomous categories, revisited. (English summary) *J. Pure Appl. Algebra* **111** (1996), *no.* 1-3, 1–20. (Summary) **98b:18011** 18D15 (18D20)

— Cartan-Eilenberg cohomology and triples. (English summary) *J. Pure Appl. Algebra* **112** (1996), *no.* 3, 219–238. (Summary) **98g:18015** 18G60 (18C15)

— Note on a theorem of Putnam's. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 3, 45–49 (*electronic*). (Paul Bankston) **98g:03089** 03C52 (18B99)

Barra, Felipe (*with* Clerc, Marcel; Tirapegui, Enrique) Detailed balance in non-equilibrium systems. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 1, 61–70. (Yu. P. Virchenko) **98j:82047** 82C31 (60J25)

Barrabès, C. (*with* Frolov, V. P.) Creation of multiple de Sitter universes inside a Schwarzschild black hole. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 253–256. (Markku Lehto) **98a:83069** 83C57 (83C75)

— (*with* Bressange, G. F.; Hogan, P. A.) Implications of spontaneous glitches in the mass and angular momentum in Kerr space-time. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2109–2112. (Summary) **98d:83008** 83C15 (83C40)

Barraco, D. (*with* Dominguez, Eduardo; Guibert, R.; Hamity, V.) Conservation laws and symmetry properties of a class of higher order theories of gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 629–642. (Summary) **98m:83060** 83D05 (83C40)

Barral, Julien Une variante des martingales de B. Mandelbrot. (English and French summaries) [A variant of B. Mandelbrot's martingales] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 1, 93–98. (Summary) **98d:60084** 60G42

Barranco-Chamorro, I. (*with* López-Blázquez, Fernando; Moreno-Rebollo, J. L.) UMVU estimation for certain family of exponential distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 469–482. (Goetz Trenkler) **98b:62038** 62F10

Barrantes Lopez, Manuel (*with* Molina Fernández, Manuel; Gonzalez-Velasco, Miguel) Parametric inference in multivariate Markov models with dependence on covariates. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 133–143. 62J12 (62M99)

Barrat, Alain (*with* Franz, Silvio; Parisi, Giorgio) Temperature evolution and bifurcations of metastable states in mean-field spin glasses, with connections with structural glasses. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5593–5612. 82D30 (82–04)

— (*with* Franz, Silvio) Basins of attraction of metastable states of the spherical p-spin model. (English summary) *J. Phys. A* **31** (1998), *no.* 6, *L*119–*L*127. 82D30

Barraud, Jacques (*with* Kreweras, Germain) Anagrammes alternés. (English summary) [Alternating anagrams] *European J. Combin.* **18** (1997), *no.* 8, 887–891. (Renzo Sprugnoli) **98k:05004** 05A05 (11B37)

Barré, Katia *see* **Barré-Sireix, Katia**

Barreda, M. (*with* Olivert, J.) Relation between quasirigidity and L-rigidity in space-times of constant curvature and weak fields. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 3, 771–784. (Serguey M. Pokas') **98a:83017** 83C10 (83C25)

Barreira, Luis M. A non-additive thermodynamic formalism and applications to dimension theory of hyperbolic dynamical systems. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 871–927. (Boris Hasselblatt) **98a:58124** 58F15 (28A80, 28D20, 58F11, 58F12)

— (*with* Pesin, Yakov; Schmeling, Jörg) On a general concept of multifractality: multifractal spectra for dimensions, entropies, and Lyapunov exponents. Multifractal rigidity. (English summary) *Chaos* **7** (1997), *no.* 1, 27–38. (Dieter H. Mayer) **98g:58097** 58F11 (58F13, 58F15)

— (*with* Schmeling, Jörg) Invariant sets with zero measure and full Hausdorff dimension. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 114–118 (*electronic*). (Serge E. Troubetzkoy) **98f:58123** 58F11 (58F03)

Barreiro Blas, Antonio On the stabilizing conic sectors obtained using small-gain techniques. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1155–1161. (Summary) **98b:93054** 93D15

Barrenechea, Gabriel R. (*with* Gatica, Gabriel N.) On the coupling of boundary integral and finite element methods with nonlinear transmission conditions. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 181–210. 65N30 (65N55)

garcía Barreno, P. *see* **García Barreno, P.**

hernández Barrera, Antonio *see* **Hernández Barrera, Antonio**

Barrera Rosillo, D. (*with* Ibáñez Pérez, M. J.; López Carmona, A.) Compactly supported fundamental functions for bivariate Hermite spline interpolation and triangular finite elements of HCT type. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 414–421, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65D05 (41A63, 65D17)

Barré-Sireix, Katia Mesures de transcendance pour l'invariant modulaire. (English and French summaries) [Transcendence measures for the modular invariant] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 5, 447–452. (Michel Waldschmidt) **98b:11084** 11J82 (11F03, 11J91)

— Mesure d'approximation simultanée de q et $J(q)$. [Measure of simultaneous approximation for q and $J(q)$] *J. Number Theory* **66** (1997), *no.* 1, 102–128. (Michel Waldschmidt) **98f:11074** 11J82 (11F03, 11J91)

Barreto, Ernest (*with* Kostelich, Eric J.) Targeting and control of chaos. (English summary) With comments by K. Glass and I. Mareels. *Control and chaos* (*Honolulu, HI*, 1995), 158–169, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98b:58116** 58F13

— (*with* Casas, Fernando; Grebogi, Celso; Kostelich, Eric J.) Control of chaos: impact oscillators and targeting. (English summary) *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 17–26, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K50 (58F13)

Barreto, Rioco Kamei (*with* Muñoz Rivera, Jaime E.) Uniform rates of decay in anisotropic thermoviscoelasticity. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 3, 207–224. (Michael Renardy) **98m:35208** 35Q72 (35L99, 73B30, 73B40, 73F15)

Barreto, W. (*with* Ovalle, J.; Rodríguez, B.) A self-similar dynamics in viscous spheres. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 15–26. (Summary) **98i:83044** 83C55

Barrett, Bruce E. (*with* Gray, J. Brian) Leverage, residual, and interaction diagnostics for subsets of cases in least squares regression. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 1, 39–52. 62J05

Barrett, D. S. (*with* Anderson, Jamie M.; Streitlien, K.; Triantafyllou, M. S.) Oscillating foils of high propulsive efficiency. (English summary) *J. Fluid Mech.* **360** (1998), 41–72. 76B05

Barrett, Harrison (*with* Clarkson, Eric) Bounds on null functions of linear digital imaging systems. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1355–1360. (Summary) **98m:68286** 68U10

Barrett, John W. (*with* Kappmeier, H.; Knabner, Peter) Lagrange-Galerkin approximation for advection-dominated contaminant transport with nonlinear equilibrium or non-equilibrium adsorption. (English summary) *Modeling and computation in*

environmental sciences (*Stuttgart*, 1995), 36–48, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98j:76103** 76M25

— (*with* Crane, Louis) An algebraic interpretation of the Wheeler-DeWitt equation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2113–2121. (Seth A. Major) **98h:83024** 83C45 (81V17, 83C27)

— (*with* Galassi, Mark; Miller, Warner A.; Sorkin, Rafael D.; Tuckey, Philip A.; Williams, Ruth M.) Parallelizable implicit evolution scheme for Regge calculus. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 815–839. (Francois Vanderseypen) **98a:83038** 83C27 (83–08)

— (*with* Blowey, James F.) Finite element approximation of a model for phase separation of a multi-component alloy with non-smooth free energy. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 1–34. (Gert Lube) **98j:65066** 65M60 (65M12)

— (*with* Knabner, Peter) Finite element approximation of the transport of reactive solutes in porous media. I. Error estimates for nonequilibrium adsorption processes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 201–227. (Satish C. Reddy) **98c:65166** 65M60 (76M10, 76R50, 76S05)

— (*with* Knabner, Peter) Finite element approximation of the transport of reactive solutes in porous media. II. Error estimates for equilibrium adsorption processes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 455–479. (Satish C. Reddy) **98i:65077** 65M60 (76M10, 76S05)

Barrientos, Christian (*with* Dejter, Italo J.; Hevia, Héctor) Equitable labelings of forests. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 1–26, *World Sci. Publishing, River Edge, NJ*, 1995. (Martin Bača) **98g:05133** 05C78 (05C05)

Barrio, R. *see* **Barrio, Roberto**

Barrio, R. A. (*with* Aragón, J. L.; Varea, C.; Torres Hernanz, Manuel; Montero de Espinosa, F.) Hydrodynamic 5-fold diffusion-driven instabilities. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3339–3344. (*see* **98h:00034**) 76E99 (76D05)

Barrio, Roberto (*with* Sabadell, J.) Parallel evaluation of Chebyshev series. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 5 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65B10 (65Y05)

— (*with* Palacián, Jesús) Lie transforms for ordinary differential equations: taking advantage of the Hamiltonian form of terms of the perturbation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 12, 2289–2300. (Summary) **98b:34015** 34A25 (58F30, 70H05, 70H15, 70K99)

— Minimax Chebyshev coefficients of the real dilogarithm. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 51–54. 41A50 (65D99)

Barrionuevo, Jose A. A note on the Kakeya maximal operator. (English summary) *Math. Res. Lett.* **3** (1996), *no.* 1, 61–65. (Summary) **98k:42023** 42B25

González-Barrios, José M. *see* **González-Barrios, José M.**

izquierdo Barrios, Milagros *see* **Izquierdo Barrios, Milagros**

Barrlund, A. (*with* Wallin, Hans; Karlsson, Johan) Iteration of Möbius transformations and attractors on the real line. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 1–12. (Tadashi Kuroda) **98d:30037** 30D05 (30B70, 40A15, 58F23)

— (*with* Sjöstedt, S.) A computational method for estimating continuum factor models. (English summary) *Comput. Statist.* **12** (1997), *no.* 4, 481–495. 62M20

Barro, S. *see* **Congress: Fuzzy Logic and Technology, 98g:00019**

Barrodale, Ian (*with* Zala, Cedric) MJDP-BCS industrial liaison: applications to defence science. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 31–46, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98i:00037**) 65Y25

Barron, Andrew R. (*with* Yang, Yuhong) An asymptotic property of model selection criteria. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 95–116. (Summary) **98g:62076** 62G05

Barrón, C. *see* **Barrón R., Carlos**

Barron, E. N. (*with* Liu, Wenxiong) Calculus of variations in L^∞. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 3, 237–263. (Elvira Mascolo) **98a:49021** 49J45 (49K24)

— (*with* Jensen, Robert R.; Liu, Wenxiong) Hopf-Lax type formula for $u_t + H(u, Du) = 0$. II. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1141–1160. (Summary) **98g:35038** 35F25 (49L20)

— (*with* Jensen, Robert R.; Liu, Wenxiong) Explicit solution of some first-order PDE's. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 149–164. (Summary) **98c:35027** 35F20 (49L20)

Barron, Katrina A supergeometric interpretation of vertex operator superalgebras. *Internat. Math. Res. Notices* **1996**, *no.* 9, 409–430. (Alex Jay Feingold) **98a:17043** 17B69 (81R10)

shepherd-Barron, Nicholas *see* **Shepherd-Barron, Nicholas**

Barrón R., Carlos (*with* Gómez López, Susana; Romero, David) Lower energy icosahedral atomic clusters with incomplete core. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 25–28. 81V55

Barros, Carlos José Braga (*with* San Martin, Luiz A. B.) Chain control sets for semigroup actions. (English and Portuguese summaries) *Mat. Apl. Comput.* **15** (1996), *no.* 3, 257–276. (Jingbo Wu) **98b:93036** 93C25 (22E15, 93C10)

Barros, Felicio B. (*with* Franco, Jose Ricardo Queiroz; Oden, John Tinsley; Ponter, Alan R. S.) A posteriori error estimator and adaptive procedures for computation of shakedown and limit loads on pressure vessels. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 155–171. (Summary) **98i:73056** 73V05 (65N06, 73E20, 73K15)

de Barros, J. Acacio (*with* Suppes, Patrick; Sant'Anna, Adonai S.) Violation of Bell's inequalities with a local theory of photons. (English summary) *Found. Phys. Lett.* **9** (1996), *no.* 6, 551–560. (Emilio Santos) **98h:81008** 81P05

— (*with* Pinto-Neto, Nelson) Comments on: "Quantum potential approach to a class of quantum cosmological models" [Classical Quantum Gravity **13** (1996), no. 1, 39–49; MR 97f:83029] by A. Blaut and J. Kowalski-Glikman. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1993–1995. (Summary) **98d:83029** 83C45 (81V17)

— (*with* Pinto-Neto, Nelson) The causal interpretation of quantum mechanics and the singularity problem in quantum cosmology. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 247–250. (Summary) **98g:83032** 83C45 (81P05)

— (*with* Shapiro, I. L.) Renormalization group study of the higher derivative conformal scalar model. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 242–252. (Summary) **98j:81220** 81T17 (81T20, 83C47)

Barros, José (*with* Goguen, Joseph) Semantics of non-terminating rewrite systems using minimal coverings. (English summary) *Computer science logic* (*Paderborn*, 1995), 16–35, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q42 (68Q05)

de Barros, Luiz G. X. (*with* Juriaans, Stanley O.) Some loops whose loop algebras are flexible. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 2, 189–205. (Miklós Csikós) **98d:20076** 20N05 (17D05)

— (*with* Juriaans, Stanley O.) Units in alternative integral loop rings. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 266–281. (Harry F. Smith) **98d:17037** 17D05 (20N05)

Barros, Manuel (*with* Arroyo, J.; Garay, O. J.) A characterisation of helices and Cornu spirals in real space forms. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 37–49. (Pascual Lucas Saorin) **98m:53070** 53C40 (53A04)

— Willmore tori in non-standard 3-spheres. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 321–324. (Udo Hertrich-Jeromin) **98b:53052** 53C42

Barros, Rui Marcos de Oliveira (*with* Neto, Oziride Manzoli) Alexander modules of orientable surfaces in S^4. (Portuguese. English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 53–69. (Summary) **98d:57040** 57Q45 (57N13, 57N35)

Barros, T. E. (*with* Mukai, Juno) A classification of some S^3-bundles. *J. Fac. Sci. Shinshu Univ.* **31** (1996), *no.* 2, 55–58. (From the text) **98d:55023** 55R10

Barroso, Lúcia P. (*with* Bussab, Wilton O.; Knott, Martin) Best linear unbiased predictor in the mixed model with incomplete data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 121–129. 62J05

Barrow, Isaac *see* **Hill, Katherine, 98c:01013**

Barrow, John D. (*with* Tsagas, Christos G.) A gauge-invariant analysis of magnetic fields in general-relativistic cosmology. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2539–2562. (Wathek Talebaoui) **98m:83077** 83F05 (83C50)

— (*with* Levin, Janna) Geodesics in open universes. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 169–174. (Summary) **98f:83010** 83C10

— (*with* Dąbrowski, Mariusz P.) Kantowski-Sachs string cosmologies. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 630–638. (Summary) **98a:83113** 83E30 (81T30)

— (*with* Kunze, Kerstin E.) Inhomogeneous string cosmologies. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 741–752. (Sergey Nikolaevich Roshchupkin) **98f:83098** 83E30 (81T30)

— (*with* Levin, Janna) Chaos in the Einstein-Yang-Mills equations. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 4, 656–659. (Summary) **98j:83108** 83F05 (81T13)

Barry, D. A. (*with* Zhang, Hong^2; Hocking, G. C.) An analytical solution for critical withdrawal of layered fluid through a line sink in a porous medium. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 271–279. (Summary) **98i:76088** 76S05

Barry, J. H. (*with* Pant, P.; Wu, F. Y.) Exact results for a model ternary polymer mixture. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 169–174. (Summary) **98a:82104** 82D60

Barry, Michael J. J. Generalized Levi factor actions on the Lie algebra of an algebraic group. (English summary) *J. Algebra* **195** (1997), *no.* 2, 548–557. (Andy R. Magid) **98k:17022** 17B45 (14L99)

— (*with* Ward, Michael B.) Simple groups contain minimal simple groups. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 411–415. 20D05

Barry, P. D. On arc length. *College Math. J.* **28** (1997), *no.* 5, 338–347. 26A06

Barry, S. I. (*with* Mercer, G. N.) Effect of a moving boundary on the deformation of a poro-elastic cylinder. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), (*E*), 627–666 (*electronic*) (1998). (Summary) **98j:73065** 73K70 (76Z05)

Bars, Itzhak Duality and hidden dimensions. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 52–68, *World Sci. Publishing, River Edge, NJ*, 1996. (Miguel A. Vázquez-Mozo) **98e:81129** 81T30 (81R10, 83E30)

— Supersymmetry, p-brane duality, and hidden spacetime dimensions. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 5203–5210. (Daniel N. Kabat) **98c:81154** 81T30 (83E30)

— (*with* Kounnas, Costas) Theories with two times. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 25–32. (Summary) **98d:81074** 81T30 (83E30)

— A case for 14 dimensions. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 257–264. (Summary) **98k:81257** 81T60 (81R05, 81T30, 83E50)

— S theory. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2373–2381. (Bani Mitra Södermark) **98f:81314** 81T60 (17B81, 81R05, 81T30)

— Black hole entropy reveals a twelfth dimension. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3633–3641. (Hitoshi Nishino) **98g:83098** 83E30 (81T30, 83C57)

— (*with* Kounnas, Costas) String and particle with two times. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3664–3671. (C. Gauthier) **98j:81250** 81T30

— (*with* Deliduman, Cemsinan) Superstrings with new supersymmetry in (9, 2) and (10, 2) dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6579–6587. (Piret Kuusk) **98k:81193** 81T30 (83E30)

— Duality covariant type-IIB supersymmetry and nonperturbative consequences. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7954–7962. (Summary) **98i:81188** 81T30 (83E30)

Barsch, Titus (*with* Kunoth, Angela; Urban, Karsten) Towards object oriented software tools for numerical multiscale methods for PDEs using wavelets. (English summary) *Multiscale wavelet methods for partial differential equations*, 383–412, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Andreas Rieder) **98f:65003** 65–04 (42C15, 65N30)

Barsegyan, G. A. Remarks on connections between mutual distributions of zeros and poles of meromorphic functions and ramification. (Russian) *Math. Montisnigri* **6** (1996), 1–5. 30D20 (30D35)

— The principle of closeness of sufficiently large sets of a-points of meromorphic functions. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 451–456. (Pei-Chu Hu) **98i:30043** 30D35

Bar-Shira, Ziv (*with* Finkelshtain, Israel) Nonparametric analysis of pooled production data. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 173–178. 62M10 (62G10, 62P20)

Barskiĭ, I. L. Development of the method of investigating the special forms of the differential equations of A. A. Dorodnitsyn (1952) by extending the class of standard problems. (Russian) *Computational mathematics and information science* (*Russian*) (*Moscow*, 1995), 21–34, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (*see* **98b:00022**) 34Exx

Barsky, Daniel Younes Naït Slimane [1968–1996] and Mohammed Benchaou [1971–1996]. (French) *Gaz. Math. No.* 71 (1997), 34–35. (Summary) **98g:01057** 01A70

Bart, H. (*with* Gohberg, Israel; Kaashoek, M. A.) Wiener-Hopf equations and linear systems. (English summary) *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 115–128, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:47026** 47B35 (45E10, 47G10, 47N70, 93B28)

— (*with* Ehrhardt, Torsten; Silbermann, Bernd) Logarithmic residues, generalized idempotents, and sums of idempotents in Banach algebras. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 155–186. (Naum Ya. Krupnik) **98k:46079** 46J05 (46H30, 47D99)

Bartal, Yair (*with* Leonardi, Stefano) On-line routing in all-optical networks. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 516–526, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68M10 (90B12)

— (*with* Rosén, Adi) The distributed k-server problem—a competitive distributed translator for k-server algorithms. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 241–264. (Summary) **98a:68010** 68M10 (68Q25, 90B22)

Bartels, J. E. (*with* Mount, John; Welsh, Dominic J. A.) The polytope of win vectors. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 1–15. (Peter Mihók) **98k:05075** 05C20 (05C90)

Bartels, Robert Henry (*with* Krämer, Walter; Fiebig, Denzil G.) Another twist on the equality of OLS and GLS. (English summary) *Statist. Papers* **37** (1996), *no.* 3, 277–281. (Summary) **98k:62116** 62J05

Bartelt, Martin W. (*with* Li, Wu[3]) Haar theory in vector-valued continuous function spaces. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 39–46, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41026** 41A52 (41A65, 46E40)

— (*with* Li, Wu[3]) Characterization of generalized Haar spaces. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 101–115. (Francesco Altomare) **98m:41043** 41A50 (41A65, 46E15)

Barth, Dominique (*with* Heydemann, Marie-Claude) A new digraphs composition with applications to de Bruijn and generalized de Bruijn digraphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 2, 99–118. (Jean-Claude Bermond) **98h:05082** 05C20 (05C35, 05C70)

— (*with* Heydemann, Marie-Claude) Erratum: "A new digraphs composition with applications to de Bruijn and generalized de Bruijn digraphs [Discrete Appl. Math. **77** (1997), no. 2, 99–118; MR 98h:05082]. *Discrete Appl. Math.* **80** (1997), *no.* 1, 115. 05C20

Barth, Wilhelm Using special arithmetic in geometric algorithms. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 38–47, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (*see* **98a:65004**) 65G10

Bartha, Miklós The Gallai-Edmonds algebra of graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 205–219. (Summary) **98i:05156** 05C99

Barthe, Franck Inégalités de Brascamp-Lieb et convexité. (English and French summaries) [Brascamp-Lieb inequalities and convexity] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 885–888. (Summary) **98a:26022** 26D15 (26A51)

Barthe, Gilles A simple abstract semantics for equational theories. *Fundamentals of computation theory* (*Dresden*, 1995), 126–135, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q65 (03C05)

— Extensions of pure type systems. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 16–31, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Geuvers, Herman) Congruence types. (English summary) *Computer science logic* (*Paderborn*, 1995), 36–51, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q42 (03B15, 03B70)

— Implicit coercions in type systems. (English summary) *Types for proofs and programs* (*Torino*, 1995), 1–15, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03012** 03B35 (03B15, 03B70, 68Q40)

— (*with* Ruys, Mark; Barendregt, Henk) A two-level approach towards lean proof-checking. (English summary) *Types for proofs and programs* (*Torino*, 1995), 16–35, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03013** 03B35 (03B15, 03C05, 68Q40)

— (*with* Mellies, Paul-André) On the subject reduction property for algebraic type systems. (English summary) *Computer science logic* (*Utrecht*, 1996), 34–57, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98m:68023** 68N15 (03B40, 68Q65)

— (*with* Sørensen, Morten Heine) Domain-free pure type systems. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 9–20, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68N15 (03B40, 03B70)

— (*with* Hatcliff, John; Sørensen, Morten Heine) A notion of classical pure type system (preliminary version). (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 56 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 03B15

Barthel, Gottfried (*with* Brasselet, Jean-Paul; Fieseler, Karl-Heinz; Kaup, Ludger) Invariante Divisoren und Schnitthomologie von Torischen Varietäten. (English summary) [Invariant divisors and intersection homology of toric varieties] *Parameter spaces* (*Warsaw*, 1994), 9–23, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Joseph Gubeladze) **98j:14024** 14F32 (14M25)

— (*with* Fieseler, Karl-Heinz) Invariant divisors and homology of compact complex toric varieties. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3615–3624. (Mina Teicher) **98a:14066** 14M25 (14F25)

— (*with* Brasselet, Jean-Paul; Fieseler, Karl-Heinz; Kaup, Ludger) Diviseurs invariants et homomorphisme de Poincaré de variétés toriques complexes. (English and French summaries) [Invariant divisors and Poincaré homomorphism of complex toric varieties] *Tôhoku Math. J.* (2) **48** (1996), *no.* 3, 363–390. (Alicia Dickenstein) **98c:14044** 14M25 (14C20, 14F25)

Barthélemy, Louise Invariance d'un convexe fermé par un semi-groupe associé à une forme non-linéaire. (English summary) [Invariance of a closed convex set under a semigroup associated with a nonlinear form] *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 237–262. (Ioan I. Vrabie) **98k:47136** 47H20

Barthelet, P. (*with* Charru, François) Benjamin-Feir and Eckhaus instabilities with Galilean invariance: the case of interfacial waves in viscous shear flows. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 1, 1–18. (Summary) **98m:76077** 76E99 (76V05)

Barthès-Biesel, Dominique (*with* Quéguiner, Christophe) Axisymmetric motion of capsules through cylindrical channels. (English summary) *J. Fluid Mech.* **348** (1997), 349–376. (Summary) **98j:76155** 76Z05 (73K70, 76D07, 76M15)

Barthold, F.-J. (*with* Schmidt, Matthias; Stein, Erwin) Adaptive finite-element-method for Prandtl-Reuß elastoplasticity. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 25–30, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73V05 (65N30, 76E05)

Bartholdi, Laurent (*with* Cantat, Serge; Ceccherini-Silberstein, Tullio G.; de la Harpe, Pierre) Estimates for simple random walks on fundamental groups of surfaces. (English summary) *Colloq. Math.* **72** (1997), *no.* 1, 173–193. (Alain Valette) **98d:60133a** 60J15 (20F05, 31A05, 60B15)

Bartholomé, Andreas (*with* Porsch, Ulrich) Primitive Primteiler von $\Phi_d(a)$ in Ringen ganzer Zahlen. (German summary) [Primitive prime divisors of $\Phi_d(a)$ in rings of integers] *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 209–216. (Franz Lemmermeyer) **98d:11125** 11R04

goubet-Bartholoméûs, A. *see* **Goubet-Bartholoméûs, A.**

Bartholomew, D. J. Fifty years of multivariate analysis. *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 205–214. 01A60

Bartholomew-Biggs, M. C. Using forward accumulation for automatic differentiation of implicitly-defined functions. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 1, 65–84. (Summary) **98m:65029** 65D25

Bartkiewicz, Jarosław (*with* Niemiro, Wojciech) A comparison of some Manova-type tests based on least distances. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 403–430. 62J10

Bartlett, Peter L. (*with* Lee, Wee Sun; Williamson, Robert C.) Efficient agnostic learning of neural networks with bounded fan-in. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2118–2132. (Summary) **98c:68184** 68T05

— (*with* Long, Philip M.; Williamson, Robert C.) Fat-shattering and the learnability of real-valued functions. (English summary) Seventh Annual Workshop on Computational Learning Theory (COLT) (New Brunswick, NJ, 1994). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 1, 434–452. (John Shawe-Taylor) **98i:68234** 68T05 (62F11, 62F25, 65D10)

— (*with* Linder, Tamás; Lugosi, Gábor) A minimax lower bound for empirical quantizer design. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 210–222, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98i:94009** 94A29

— (*with* Baxter, Jonathan) A result relating convex n-widths to covering numbers with some applications to neural networks. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 251–259, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68190** 68T05

— (*with* Kammer, Leonardo C.; Bitmead, Robert R.) Optimal controller properties from closed-loop experiments. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 83–91. 93B50 (93D15)

— The sample complexity of pattern classification with neural networks: the size of the weights is more important than the size of the network. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 525–536. (Summary) **98i:68235** 68T05 (92B20)

Bartlett, Ron (*with* Garzon, Max) Bilinear cellular automata. (English summary) *Complex Systems* **9** (1995), *no.* 6, 455–476. (Karel Culik, II) **98c:68144** 68Q80

Bartnick, Jürgen Intransitive preference relations and preference differences. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 93–99, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90A07

Bartnik, Robert Einstein equations in the null quasispherical gauge. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2185–2194. (Simonetta Frittelli) **98h:83007** 83C05

— The structure of spherically symmetric su(n) Yang-Mills fields. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3623–3638. (Hans P. Künzle) **98d:53035** 53C07 (81T13)

— Shear-free null quasi-spherical space-times. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5774–5791. (Gennaro Miele) **98j:83015** 83C15 (83C20)

Bartocci, C. (*with* Bruzzo, U.; Hernández Ruipérez, D.; Pestov, V.) Supermanifold theory: towards a unifying approach. (English summary) *Differential geometry and its applications* (*Santiago de Compostela*, 1995), 1–16, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 1997. (Summary) **98i:58014** 58A50

— (*with* Bruzzo, U.; Carfora, Mauro; Marzuoli, Annalisa) Entropy of random coverings and 4D quantum gravity. (English summary) *J. Geom. Phys.* **18** (1996), *no.* 3, 247–294. (Summary) **98b:83033** 83C45 (53C23, 57Q10, 81V17, 83C27)

— (*with* Bruzzo, U.; Hernández Ruipérez, D.) A Fourier-Mukai transform for stable bundles on $K3$ surfaces. (English summary) *J. Reine Angew. Math.* **486** (1997), 1–16. (Antony Maciocia) **98i:14041** 14J60 (14J28)

Bartocci, Umberto (*with* Girardi, Antonella) Discrete semidynamical systems and finite Boolean nets. (Italian. English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 293–308. (Summary) **98h:54054** 54H20 (54B30)

Bartol, Wiktor H. Rasiowa's and C. Rauszer's contribution to algebra. Logic, algebra and computer science: Helena Rasiowa and Cecylia Rauszer, in memoriam (Warsaw, 1995). *Bull. Sect. Logic Univ. Łódź* **25** (1996), *no.* 3-4, 166–173. (Marcel Guillaume) **98h:03077** 03G10 (01A60, 01A70, 03G25, 96D25)

Bartolacci, Michael R. (*with* Wu, S. David) A virtual clustering approach for routing problems in telecommunication networks. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 12–24. 90B12 (90C35)

Bartoli, Lorenzo (*with* Totaro, Silvia) Approximation of B-bounded semigroups. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 579–600. (Hassan Emamirad) **98k:47075** 47D06 (47N55, 82C70)

Bartolini, G. (*with* Ferrara, Antonella; Usai, E.) Output tracking control of uncertain nonlinear second-order systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2203–2212. (Summary) **98k:93103** 93D21 (93C41)
— (*with* Ferrara, Antonella; Usai, E.) Chattering avoidance by second-order sliding mode control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 241–246. 93B12 (93C10)
di Bartolo, Cayetano *see* **Di Bartolo, Cayetano**
artal Bartolo, E. *see* **Artal Bartolo, E.**
Bartolo, Rossella (*with* Masiello, Antonio) On the existence of infinitely many trajectories for a class of static Lorentzian manifolds like Schwarzschild and Reissner-Nordström space-times. *J. Math. Anal. Appl.* **199** (1996), *no.* 1, 14–38. (Benjamin G. Lorica) **98b:58036** 58E10 (83C99)
— (*with* Masiello, Antonio) Morse theory for trajectories of Lagrangian systems on Riemannian manifolds with convex boundary. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 4, 593–618. (Maria Letizia Bertotti) **98a:58036** 58E10 (34B15, 58E05, 70H35)
— Periodic orbits on Riemannian manifolds with convex boundary. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 439–450. (Maria Letizia Bertotti) **98c:58022** 58E05 (34C25, 58F22)
de Bartolomeis, Paolo (*with* Tian, Gang) Stability of complex vector bundles. *J. Differential Geom.* **43** (1996), *no.* 2, 231–275. (Steven B. Bradlow) **98f:32031** 32L07 (53C07)
— Complex and holomorphic structures, their singularities and their invariants. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 353–382. (Paolo Lisca) **98i:53098** 53C56 (32L07, 53C15, 57R57, 58D10)
— Compactifications of the space of linear complex structures. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 327–346. (Massimiliano Pontecorvo) **98e:53122** 53C56 (32L25)
Barton, Paul I. (*with* Feehery, William F.; Tolsma, John E.) Efficient sensitivity analysis of large-scale differential-algebraic systems. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 41–54. (Summary) **98d:65084** 65L05 (34A09, 34A45, 65L99)
Barton, Robert J., III (*with* Butler, Jon T.; Herscovici, David Samuel; Sasao, Tsutomu) Average and worst case number of nodes in decision diagrams of symmetric multiple-valued functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 4, 491–494. (Summary) **98c:68087** 68Q25 (03B50, 03D15)
Bartoszek, Wojciech The structure of random walks on semidirect products. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 4, 277–282 (1996). (A. Mukherjea) **98a:60006** 60B15 (60J15)
— On concentrated probabilities on non-locally compact groups. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 635–640. (George A. Willis) **98b:60013** 60B15 (22D40, 43A05, 60J15)
— More on the equation $\nu * \rho * \mu = \rho$. *Demonstratio Math.* **29** (1996), *no.* 4, 807–811. (Wilfried Hazod) **98m:43001** 43A05 (22D40, 47A35, 60B15)
— One-parameter positive contraction semigroups are convergent. (English summary) *Univ. Iagel. Acta Math. No.* 33 (1996), 49–57. (Anton Schep) **98d:47075** 47B65 (47A35, 47D03)
— (*with* Brown, Thomas John) On Frobenius-Perron operators which overlap supports. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 17–24. (Radu Zaharopol) **98i:47006** 47A35 (28D05, 47B38, 60J35)
Bartoszewicz, Jarosław ★ Wykłady ze statystyki matematycznej. (Polish. Polish summary) [Lectures in mathematical statistics] Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 327 *pp. ISBN* 83-01-12095-9 62–01
— Dispersive functions and stochastic orders. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 4, 429–444. (Moshe Shaked) **98h:60019** 60E15 (60K10)
kania-Bartoszyńska, Joanna *see* **Kania-Bartoszyńska, Joanna**
Bartoszyński, Robert (*with* Pearl, Dennis K.; Lawrence, John P.) A multidimensional goodness-of-fit test based on interpoint distances. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 577–586. (Summary) **98f:62126** 62G10
Bartoszyński, Tomek Splitting number. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 2141–2145. (Pierre Matet) **98b:03065** 03E05 (03E35, 03E50)
Bartsch, René (*with* Pazderski, G.) Über Gruppen, deren irreduzible Charaktere sämtlich quasiprimitiv sind. (German summary) [On groups all of whose irreducible characters are quasiprimitive] *Darstellungstheoretage Jena* 1996, 1–17, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Wolfgang Knapp) **98b:20006** 20C15 (20D15)
Bartsch, Thomas Bifurcation of stationary and heteroclinic orbits for parametrized gradient-like flows. *Topology in nonlinear analysis (Warsaw*, 1994), 9–27, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (James F. Reineck) **98c:58025** 58E07 (47H12, 47H17, 58E40)
— A generalization of the Weinstein-Moser theorems on periodic orbits of a Hamiltonian system near an equilibrium. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 6, 691–718. (James F. Reineck) **98m:58109** 58F22 (34C25, 58F05, 70H05)
— (*with* Wang, Zhi Qiang[1]) Periodic solutions of spatially periodic, even Hamiltonian systems. *J. Differential Equations* **135** (1997), *no.* 1, 103–128. (Andrzej Szulkin) **98g:58144** 58F22 (34C25, 58E05, 58F05, 70H05)
— (*with* Wang, Zhi Qiang[1]) Periodic solutions of even Hamiltonian systems on the torus. *Math. Z.* **224** (1997), *no.* 1, 65–76. (Maria Letizia Bertotti) **98g:58143** 58F22 (34C25, 58E05, 58F05)
— (*with* Li, Shujie) Critical point theory for asymptotically quadratic functionals and applications to problems with resonance. *Nonlinear Anal.* **28** (1997), *no.* 3, 419–441. (A. Szulkin (Zbl 872.58018)) **98k:58041** 58E05 (35J65, 47H15, 49J27)
Bartuccelli, M. V. (*with* Gourley, S. A.) A population model with time-dependent delay. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 13–30. (Summary) **98j:92005** 92C15 (35K57)
— (*with* Woolcock, C. J.) The rate for decay of solutions in nonlinear dissipative partial differential equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 415–424. 35Q55 (35B40, 35Q53)
Bartulis, A. (*with* Kremenetsky, V.; Shcherbinin, E. V.) Theory of the axisymmetric boundary layer of the second type. *Magnetohydrodynamics* **32** (1996), *no.* 3, 266–273 (1997); *translated from Magnit. Gidrodinamika* **1996**, *no.* 3, 291–299 (*Russian*). 76W05 (76D10)
Bartušek, Miroslav Asymptotic behaviour of oscillatory solutions of nth order differential equations with quasiderivatives. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 245–259. (Uri Elias) **98g:34060** 34C10
— (*with* Došlá, Zuzana) On the limit-point/limit-circle problem for nonlinear third order differential equations. (English summary) *Math. Nachr.* **187** (1997), 5–18. (Anton Zettl) **98h:34047** 34B20 (34C10)
— On unbounded oscillatory solutions of nth order differential equations with quasiderivatives. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1595–1605. (Jan Andres) **98k:34053** 34C10
Bartzi, Anastasia A. (*with* Bekakos, Michael P.) Systolic bandwidth and profile reduction of sparse matrices on pipenets. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2883–2889. (*see* **98i:00031**) 65F50
Barua, B. (*with* De, U. C.; Ghosh, J. C.) On pseudo-symmetric and pseudo-Ricci symmetric contact manifolds. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 305–310. 53C15
Baruah, Hemanta K. (*with* Goswami, Pranita; Dutta, Papia) The Latin square design using fuzzy data. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 767–779. 62K10 (04A72)
Baruah, Sanjoy K. (*with* Pruesse, Gara) Routing with delays when storage is costly. (English summary) *Algorithms and data structures (Kingston, ON*, 1995), 303–314, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68M10
— (*with* Haritsa, Jayant R.) Scheduling for overload in real-time systems. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 1034–1039. 68M20
— (*with* Gehrk, Johannes E.; Plaxton, C. Gregory; Stoica, Ion; Abdel-Wahab, Hussein; Jeffay, Kevin) Fair on-line scheduling of a dynamic set of tasks on a single resource. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 43–51. (Summary) **98h:68021** 68M20
Barucci, Emilio (*with* Landi, Leonardo) Least mean squares learning in self-referential linear stochastic models. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 313–317. 62P20
Barucci, Valentina (*with* Izelgue, Lahoucine; Kabbaj, Salah-Eddine) Some factorization properties of $A + XB[X]$ domains. *Commutative ring theory (Fès*, 1995), 69–78, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Muhammad Zafrullah) **98a:13031** 13G05 (13B25, 13F15)
— (*with* Fröberg, Ralf) One-dimensional almost Gorenstein rings. *J. Algebra* **188** (1997), *no.* 2, 418–442. (Ngô Viêt Trung) **98a:13033** 13H10 (13B15)
— (*with* Fröberg, Ralf) Maximality properties for one-dimensional analytically irreducible local Gorenstein and Kunz rings. *Math. Scand.* **81** (1997), *no.* 1, 149–160 (1998). (Ralf Fröberg) **98m:13029** 13H10 (13B02)
Baruch, Ehud Moshe On Bessel distributions for GL_2 over a p-adic field. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 190–202. (Roman Bezrukavnikov) **98k:22042** 22E35 (11S37, 22E50)
Barucq, H. (*with* Hanouzet, B.) Asymptotic behavior of solutions to Maxwell's system in bounded domains with absorbing Silver-Müller's condition on the exterior boundary. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 1, 25–40. (Olivier Lafitte) **98k:78010** 78A25 (35B40, 35Q60, 78A45)
Barugola, A. (*with* Cathala, J. C.) An extension of the notion of chaotic area in two-dimensional endomorphisms. *Iteration theory (Batschuns*, 1992), 38–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Laura Gardini) **98a:58114** 58F13
Barut, Asim Orhan A fundamental chirality in nature: the helical motion of the spinning electron. (English summary) *Constraint theory and quantization methods (Montepulciano*, 1993), 91–98, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81143** 81R99
— *see also* **Obituary: Barut, Asim Orhan**, (**98f:81400**)
Barve, Rakesh D. (*with* Long, Philip M.) On the complexity of learning from drifting distributions. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 170–193. (Peter Auer) **98m:68226** 68T05
— (*with* Grove, Edward F.; Vitter, Jeffrey Scott) Simple randomized mergesort on parallel disks. (English summary) *Parallel Comput.* **23** (1997), *no.* 4-5, 601–631. (Summary) **98d:68054** 68P10 (68Q22)
Barve, Sukratu (*with* Singh, Tejinder Pal) Are naked singularities forbidden by the second law of thermodynamics? (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 32, 2415–2419. (Markku Lehto) **98j:83072** 83C75
Barvinok, A. I. (*with* Fomin, S. V.) Sparse interpolation of symmetric polynomials. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 271–285. (Summary) **98i:05164** 05E05 (68Q25, 68Q40)
— Computing mixed discriminants, mixed volumes, and permanents. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 2, 205–237. (Daniel Hug) **98m:52011** 52A39 (15A15, 52B55, 68Q25)
— Measure concentration in optimization. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 33–53. (Anna Rycerz) **98h:90055** 90C27
— On the Betti numbers of semialgebraic sets defined by few quadratic inequalities. *Math. Z.* **225** (1997), *no.* 2, 231–244. (A. R. Shastri) **98f:14044** 14P10 (14P25)
— Approximate counting via random optimization. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 187–198. (Mechthild Stoer) **98m:05009** 05A16 (90C15)
Barvinskiĭ, A. O. (*with* Gusev, Yu. V.; Vilkoviskiĭ, G. A.; Zhytnikov, V. V.) Covariant nonlocal effective action. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON*, 1993), 147–152, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83059** 83C47 (58G11, 81T20)
— (*with* Vilkoviskiĭ, G. A.; Gusev, Yu. V.; Zhytnikov, V. V.) Covariant curvature expansion and trace anomaly in four dimensions. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB*, 1994), 163–187, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Ivan G. Avramidi) **98a:81204** 81T50 (58G11, 81T16, 81T20)
— (*with* Gusev, Yu. V.) Heat kernel and loop currents by the generating-function method. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB*, 1994),

189–202, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Ivan G. Avramidi) **98a:81137** 81T20 (58G11, 58G18)

— (*with* Kamenshchik, A. Yu.) Quantum origin of the energy scale of inflation: no-boundary vs. tunnelling wavefunctions. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 825–843. (Summary) **98e:83128** 83F05 (81V17, 83C45)

— (*with* Solodukhin, S. N.) Non-minimal coupling, boundary terms and renormalization of the Einstein-Hilbert action and black hole entropy. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 305–318. (Daniel N. Kabat) **98a:83070** 83C57 (83C47)

Bārwald, O. (*with* Gebert, R. W.) Explicit determination of a 727-dimensional root space of the hyperbolic Lie algebra E_{10}. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2433–2446. (Duncan J. Melville) **98g:17024** 17B67 (17B69, 81R10)

al-Barwani, Muataz *see* **Al-Barwani, Muataz**

Barwick, S. G. Unitals in the Hall plane. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 26–42. (Gary L. Ebert) **98b:51013** 51E20 (51E23)

— (*with* O'Keefe, Christine M.) Unitals and inversive planes. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 43–52. (Gary L. Ebert) **98b:51014** 51E20 (51B10)

Barwise, K. Jon (*with* Moss, Lawrence S.) ★ Vicious circles. (English summary) On the mathematics of non-wellfounded phenomena. CSLI Lecture Notes, 60. *CSLI Publications, Stanford, CA*, 1996. x+390 *pp. ISBN* 1-57586-009-0; 1-57586-008-2 (M. Randall Holmes) **98a:03082** 03E70 (68Q99)

— (*with* Perry, John) Semantic innocence and uncompromising situations. *The philosophy of language*, 369–381, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

Baryshnikov, A. Yu. (*with* Livchak, A. B.) The languages PQL and FO + LFP are equivalent even without the presence of order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 4, 18–23; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 4, 16–21. (Martin Weese) **98i:03039** 03B70 (03C80, 03D70, 68P15, 68Q99)

Baryshnikov, Yulii Maratovich Bifurcation diagrams of quadratic differentials. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 71–76. (Sergei K. Lando) **98d:32041** 32S65 (58F27)

— Gaussian samples, regular simplices, and exchangeability. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 257–261. (Daniel Hug) **98a:52006** 52A22 (60D05)

le Barz, Patrick *see* **Le Barz, Patrick**

Barza, Sorina (*with* Pečarić, Josip E.; Persson, Lars-Erik) Reversed Hölder type inequalities for monotone functions of several variables. (English summary) *Math. Nachr.* **186** (1997), 67–80. (Tatjana Ostrogorski) **98h:26021** 26D15

— (*with* Burenkov, Viktor I.; Pečarić, Josip E.; Persson, Lars-Erik) Sharp multidimensional multiplicative inequalities for weighted L_p spaces with homogeneous weights. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 53–67. (L. Losonczi) **98k:26031** 26D15

Bārzdiņš, Jānis (*with* Sarkans, Uģis) Incorporating hypothetical knowledge into the process of inductive synthesis. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 156–168, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05

— (*with* Freivalds, Rūsiņš; Smith, Carl H.) Learning with confidence. (English summary) *STACS* 96 (*Grenoble*, 1996), 207–218, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68157** 68Q99 (68T05)

— (*with* Freivalds, Rūsiņš; Smith, Carl H.) Learning formulae from elementary facts. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 272–285, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98i:68210** 68Q99 (03C68, 68T05)

Basagni, S. (*with* Bruschi, D.; Ravasio, F.) On the difficulty of finding walks of length k. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 429–435. (Summary) **98m:68199** 68R10 (05C85, 68Q25)

Basak, Gopal K. (*with* Bisi, Arnab; Ghosh, Mrinal K.) Limit theorems for random degenerate diffusions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 211–222. (*see* **98i:00027**) 60F05 (60J60)

— (*with* Kannan, D.; Zhang, Hong) Stability in distribution and volume nullification of Levy flow. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 2, 151–186. (Summary) **98d:60154** 60J60 (60H10)

— (*with* Hu, Inchi; Wei, Ching-Zong) Weak convergence of recursions. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 65–82. (Götz Kersting) **98k:60029** 60F05 (60H10, 60J60)

— (*with* Bisi, Arnab; Ghosh, Mrinal K.) Controlled random degenerate diffusions under long-run average cost. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 121–140. (Summary) **98i:93086** 93E20 (49J55, 49L25, 60J10)

Basak, Indrani (*with* Basak, Prasanta) On the reliability of systems with dependent exponential and Lomax variables. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 181–195. (S. Panchapakesan) **98g:62185** 62N05 (62H10)

Basak, Jayanta (*with* Pal, Sankar Kumar; De, Rajat K.) Fuzzy feature evaluation index and connectionist realization. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 173–188. 68T10 (04A72)

Basak, Prasanta Lower record values and characterizations of exponential distribution. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 181-182, 1–7. (M. Sreehari) **98d:62019** 62E10 (60E05, 62G30)

— (*with* Basak, Indrani) On the reliability of systems with dependent exponential and Lomax variables. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 181–195. (S. Panchapakesan) **98g:62185** 62N05 (62H10)

Basak, Suleyman Consumption choice and asset pricing with a non-price-taking agent. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 437–462. 90A12 (90A09)

Basallote, Manuela (*with* Diaz Madrigal, Santiago) Finite representability by quotients. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 4, 319–326. (David Yost) **98i:46008** 46B08 (46B07, 46B10, 46B20)

Basalykas, A. (*with* Dičiūnas, V.; Raudys, Š.) Letter to editors: "The expected probability of misclassification of a linear zero empirical error classifier" [Informatica (Vilnius) **7** (1996), no. 2, 137–154; MR 97k:62138]. *Informatica* (*Vilnius*) **8** (1997), *no.* 2, 310–311. (From the text) **98k:62106** 62H30

— The rate of convergence for quadratic forms. (Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 259–279; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 3, 191–206 (1998). 60F05

— Erratum: "Functional limit theorems for random multilinear forms" [Stochastic Process. Appl. **53** (1994), no. 1, 175–191; MR 95f:60035]. *Stochastic Process. Appl.* **69** (1997), *no.* 2, 289. 60F17 (60F05, 60G42)

Basapur, Savita (*with* Walikar, H. B.) Deficiency of non-d-critical graphs. (English summary) *Graph theory and its applications* (*Tirunelveli*, 1996), 235–242, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98h:05109** 05C35

Başar, Feyzi Matrix sequences and certain spaces of double sequences. (English summary) *Soochow J. Math.* **23** (1997), *no.* 2, 213–226. (Juan Carlos Díaz Alcaide) **98g:46009** 46A45 (40C05)

Basarab, Şerban A. Directions and foldings on generalized trees. *Fund. Inform.* **30** (1997), *no.* 2, 125–149. (Frédéric Paulin) **98i:20025** 20E08 (08A02)

Basarab-Horwath, Peter (*with* Fushchich, Vīl′gel′m Īlīch; Roman, Olena) On a new conformal symmetry for a complex scalar field. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 150–154. (Stanislav V. Spichak) **98e:35011** 35A30 (35L70, 58G35, 81R05)

— (*with* Fushchich, Vīl′gel′m Īlīch; Barannik, L. F.) Solutions of the relativistic nonlinear wave equation by solutions of the nonlinear Schrödinger equation. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 353–374. (Woodford W. Zachary) **98m:35133** 35L70 (35Q55, 81R05)

Basaran, Osman A. (*with* Wilkes, Edward D.) Forced oscillations of pendant (sessile) drops. (English summary) *Phys. Fluids* **9** (1997), *no.* 6, 1512–1528. (Summary) **98c:76033** 76D45 (76M10, 76M20)

Başarir, Metin (*with* Et, Mikail) On matrix sequences on cs and bs. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 3, 243–246. (Mursaleen) **98f:40002** 40C05 (46A45)

Başarır Kıroğlu, G. Variable selection in nonparametric regression. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 133–152. 62G05

Basart, Josep M. (*with* Guitart, Pere) Graphs applied to the solution of games. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 17–25. 05C99

Basawa, Ishwar V. Inference for a class of causal spatial models. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 389–397, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **98f:62279** 62M30 (62M40)

— (*with* Bhat, U. Narayan; Lund, Robert B.) Maximum likelihood estimation for single server queues from waiting time data. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 155–167 (1997). (Martin Jacobsen) **98i:62066** 62M05 (60K25)

— (*with* Sethuraman, Sankara Narayanan) The asymptotic distribution of the maximum likelihood estimator for a vector time series model with long memory dependence. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 285–293. (S. M. Pandit) **98e:62137** 62M10

— (*with* Hwang, Sun Young) The local asymptotic normality of a class of generalized random coefficient autoregressive processes. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 165–170. (Adhir K. Basu) **98m:62246** 62M10

— (*with* Sajjan, S. G.) Estimation of unobserved counts from partially observed multinomial distributions. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 237–243. (Summary) **98b:62149** 62M05

Basch, Julien (*with* Guibas, Leonidas J.; Ramkumar, G. D. S.) Reporting red-blue intersections between two sets of connected line segments. (English summary) *Algorithms—ESA '96* (*Barcelona*), 302–319, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68245** 68U05

Basdevant, Claude (*with* Perrier, Valérie) Besov norms in terms of the continuous wavelet transform. Application to structure functions. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 5, 649–664. (Rodolfo Torres) **98b:42034** 42B25 (42B10, 46E35)

Basdevant, Jean-Louis (*with* Martin, André) I^P interpolation and optimized bounds on pairwise interacting fermion systems. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 5916–5927. (Giorgio Cattapan) **98b:81288** 81V70

Baseia, B. (*with* de Lima, A. F.; Marques, G. C.; Bagnato, V. S.) Even and odd coherent states are "shadowed-like" states. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 411–412. (Le Man Kuang) **98h:81044** 81R30

— (*with* Moussa, M. H. Y.) Generation of the reciprocal-binomial state. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 223–226. (Summary) **98m:81226** 81V80

— (*with* Moussa, M. H. Y.; Bagnato, V. S.) Hole burning in Fock space. (English summary) *Phys. Lett. A* **240** (1998), *no.* 6, 277–281. 81V80

Basermann, Achim (*with* Steffen, Bernhard) New preconditioned solvers for large sparse eigenvalue problems on massively parallel computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F50 (65Y05)

Basha, S. Sadiq (*with* Vetrivel, V.) Common fixed point theorems. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 1-2, 279–288. (Summary) **98e:47090** 47H10 (47H04, 54H25)

— (*with* Veeramani, P.) Best proximity pairs and best approximations. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 1-2, 289–300. (S. P. Singh) **98g:41037** 41A65 (47H10, 47H99)

Basheleishvili, M. O. Two-dimensional boundary value problems of statics of the theory of elastic mixtures. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **6** (1995), 59–105, 134. (Gianpietro Del Piero) **98c:73028** 73C35 (35Q72, 73B99)

— Analogues of the Kolosov-Muskhelishvili general representation formulas and Cauchy-Riemann conditions in the theory of elastic mixtures. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 223–242. (K. N. Srivastava) **98i:73010** 73C35 (35Q72, 73V35)

Bashir, M. A. (*with* Bayoumi, Aboubakr) Fixed points of holomorphic mappings of a complex manifold. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, I (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **19** (1995), 41–45. (Marco Abate) **98a:32037** 32H99

— A remark on totally real submanifolds in the six-dimensional sphere. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 251–258, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Ildefonso Castro) **98i:53085** 53C42 (53C40)

— (*with* Abdalla, M. Sebawe) Lie algebraic treatment of the degenerate parametric amplifier. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 171–182.

(Summary) **98i:81290** 81V80 (33D80, 81R05)
— Totally real surfaces in a six-dimensional sphere. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 1, 71–76. (Ion Mihai) **98i:53072** 53C40 (53C15)
el Bashir, Robert *see* **El Bashir, Robert**
Bashirov, A. É. (*with* Etikan, H.; Semi, N.) Filtering, smoothing and prediction for wide-band noise driven linear systems. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 4, 667–683. (V. N. Fomin) **98d:93090** 93E11 (93E14)
— (*with* Kerimov, Kerim R.) On controllability conception for stochastic systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 384–398. (Summary) **98k:93012** 93B05 (93E03)
Bashkene, A. L. *see* **Baškienė, A.**
Bashkirtseva, I. A. Application of characteristic series to the solution of the Goursat problem. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 199–209. (Murli M. Gupta) **98c:65170** 65M99 (65M12)
Bashmakova, I. G. ★ Diophantus and Diophantine equations. (English summary) Translated from the 1972 Russian original by Abe Shenitzer and updated by Joseph Silverman. The Dolciani Mathematical Expositions, 20. *Mathematical Association of America, Washington, DC*, 1997. xiv+90 *pp. ISBN* 0-88385-526-7 (Editors) **98g:11029** 11Dxx (01A05, 01A20, 11-03)
Basilio, J. C. (*with* Kouvaritakis, B.) The use of rational eigenvector approximations in commutative controllers. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 333–356. 93B60 (93B51)
— (*with* Kouvaritakis, B.) An algorithm for coprime matrix fraction description using Sylvester matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 107–125. (K. B. Datta) **98h:15058** 15A99
Basin, David (*with* Ganzinger, Harald) Complexity analysis based on ordered resolution. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 456–465, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98d:68180** 68T15 (03B35, 03D15)
— (*with* Matthews, Seán; Viganò, Luca) A topography of labelled modal logics. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 75–92, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Steve Kuhn) **98b:03027** 03B45 (03B22)
— (*with* Matthews, Seán) Adding metatheoretic facilities to first-order theories. (English summary) *J. Logic Comput.* **6** (1996), *no.* 6, 835–849. (P. C. Gilmore) **98b:03075** 03F07 (03B35, 68T15)
— (*with* Matthews, Seán; Viganò, Luca) A new method for bounding the complexity of modal logics. (English summary) *Computational logic and proof theory* (*Vienna*, 1997), 89–102, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98i:03025** 03B45 (03B25, 68Q25)
— (*with* Matthews, Seán; Viganò, Luca) Labelled propositional modal logics: theory and practice. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 685–717. (Summary) **98g:03049** 03B45 (68T27)
Basin, M. V. (*with* Pinsky, Mark A.) Impulse control in Kalman-like filtering problems. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 1–8. (Summary) **98m:93110** 93E11 (93C10)
Basios, V. (*with* Antoniou, Ioannis E.; Bosco, F.) Probabilistic control of chaos: chaotic maps under control. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 373–389. (Summary) **98j:58086** 58F19 (58F13, 93E99)
— (*with* Bonushkina, A. Yu.; Ivanov, Victor Vladimirovich) A method for approximating one-dimensional functions. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 687–693. (*see* **98i:00017**) 41A05 (33C45, 92B20)
Basit, Bolis (*with* Zhang, Chuanyi) New almost periodic type functions and solutions of differential equations. (English summary) *Canad. J. Math.* **48** (1996), *no.* 6, 1138–1153. (A. G. Baskakov) **98c:43010** 43A60 (28B05, 35K55, 47N20)
— Harmonic analysis and asymptotic behavior of solutions to the abstract Cauchy problem. (English summary) *Semigroup Forum* **54** (1997), *no.* 1, 58–74. (A. G. Baskakov) **98f:47049** 47D06 (34C27, 34G10, 47N20, 54C35)
Bask, Mikael (*with* Gençay, Ramazan) Testing chaotic dynamics via Lyapunov exponents. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 1–2. 58F13
Baskakov, A. G. ★ Лекции по алгебре. (Russian. Russian summary) [Lectures in algebra] *Izdatel'stvo Voronezhskogo Universiteta, Voronezh*, 1994. 256 *pp. ISBN* 5-85813-002-X 15-01 (13-01)
— Semigroups of difference operators in the spectral analysis of linear differential operators. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 1–11, 95; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 149–157 (1997). (Miroslav Lvovich Gorbachuk) **98b:47053** 47D06 (47A60, 47B39, 47E05, 47N20)
— Linear differential operators with unbounded operator coefficients, and semigroups of difference operators. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 6, 811–820, 959; *translation in Math. Notes* **59** (1996), *no.* 5-6, 586–593. (Valentina Ivanivna Gorbachuk) **98e:47059** 47D06 (34G10, 47A60, 47B39)
— Estimates for the elements of inverse matrices, and the spectral analysis of linear operators. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 3–26; *translation in Izv. Math.* **61** (1997), *no.* 6, 1113–1135. (A. Böttcher) **98m:47007** 47A30 (47B40, 47D30)
— Spectral analysis of difference operators with strongly continuous coefficients. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 3–12; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 1–10 (1998). (From the text) **98m:47050** 47B39 (39A70, 47A10, 47B38, 47D03)
— Asymptotic estimates for elements of matrices of inverse operators, and harmonic analysis. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 14–28, i; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 10–22. (V. V. Peller) **98k:47038** 47A99
Baskakov, V. N. On an analog of empirical distribution for multivariate censored data. (English summary) Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* **81** (1996), *no.* 4, 2779–2785. (A. P. Basu) **98a:62065** 62G30
Başkal, S. (*with* Kim, Young Suh) Little groups and Maxwell-type tensors for massive and massless particles. (English summary) *Europhys. Lett.* **40** (1997), *no.* 4, 375–380. 81R05
Baskharone, E. A. (*with* Hill, D. L.) Development of a multiblock pressure-based algorithm using mixed interpolation for turbulent flows. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 615–631. (Summary) **98h:76084** 76M10
Baškienė, A. Normal and integrable generalized metric (f, g, U, V, A)-structures. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 405–422; *translation in Lithuanian Math. J.* **36** (1996), *no.* 4, 323–336 (1997). (Valery Marenich) **98e:53024** 53B25 (53B20)
Baskin, R. J. (*with* Mogilner, A.; Mangel, M.) Motion of molecular motor ratcheted by internal fluctuations and protein friction. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 297–306. 92C40
Baskin, Robert M. (*with* Ghosh, Malay) On the robustness of Bayes estimators of the variance ratio in balanced one-way ANOVA models with covariates. (English summary) *Statistical theory and applications*, 217–231, *Springer, New York*, 1996. (Christine Hildegard Müller) **98j:62024** 62F15 (62F35, 62J10)
Basko, Mikhail (*with* Murakami, Masakatsu) Self-similar implosions and explosions of radiatively cooling gaseous masses. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 518–528. (Summary) **98m:76135** 76N15 (76X05, 80A20)
Baskoro, Edy Tri (*with* Branković, Ljiljana; Miller, Mirka; Plesník, Ján; Ryan, Joseph F.; Širáň, Jozef) Large digraphs with small diameter: a voltage assignment approach. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 161–176. (Roman Nedela) **98d:05070** 05C35 (05C25, 68R10)
Baskoutas, S. (*with* Jannussis, A. D.; Vlahos, E.; Mignani, R.) Generalized parametric oscillator in phase space. (English and French summaries) *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 311–316. (Vítor R. Vieira) **98a:81099** 81S30
Basmajian, Ara Selected problems in Kleinian groups and hyperbolic geometry. (English summary) *Lipa's legacy* (*New York*, 1995), 9–15, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98g:30072** 30F40
— Large parameter spaces of quasiconformally distinct hyperbolic structures. (English summary) *J. Anal. Math.* **71** (1997), 75–85. (Hiroshige Shiga) **98e:32035** 32G15 (30F35)
Basov, V. V. (*with* Bibikov, Yu. N.) On the stability of the equilibrium state in a case of periodic perturbation of the center. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 583–586, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 587–590 (1998). (Summary) **98k:34086** 34D10
Bass, F. G. (*with* Verbitskiĭ, V. I.; Shestopalov, V. P.) A surface polariton near the Morse critical point. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 464–467; *translation in Phys. Dokl.* **41** (1996), *no.* 8, 335–338. (Olga A. Hachay) **98g:86008** 86A25 (35Q99, 78A35)
— (*with* Freilikher, V.) Scattering of waves from nonlinear media with rough surfaces. (English summary) *Waves Random Media* **7** (1997), *no.* 3, 385–394. 78A45
Bass, Richard F. Uniqueness for the Skorokhod equation with normal reflection in Lipschitz domains. (English summary) *Electron. J. Probab.* **1** (1996), *no.* 11, *approx.* 29 *pp.* (*electronic*). (Zhen-Qing Chen) **98d:60155** 60J60 (60J50)
Bassalygo, Leonid A. (*with* Pinsker, Mark S.) On codes correcting weakly localized errors. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 363–364. (Summary) **98j:94035** 94B65
— (*with* Zinov'ev, V. A.) Polynomials of a special form over a finite field with a maximum modulus of a trigonometric sum. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 31–44; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 271–284. (Matti Jutila) **98g:11138** 11T23
al-Bassam, Sulaiman *see* **Al-Bassam, Sulaiman**
Bassan, M. *see* **General relativity and gravitational physics, 98i:83002**
Bassanezi, Rodney Carlos (*with* Rezende, Eliane Quelho Frota; Bacci, Ricardo Apparicio) Semi-group generated by K-limits. (English summary) *Proyecciones* **16** (1997), *no.* 1, 67–82. (K. D. Magill, Jr.) **98h:54003** 54A05 (20M99)
— (*with* Román-Flores, H.; Flores-Franulic, A.; Rojas-Medar, Marko Antonio) Stability of fixed points set of fuzzy contractions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 33–37. 54A40 (54H25)
Bassett, Bruce A. C. C. Gravitational lensing, wavefront geometry and the CMB. (English summary) *Quaestiones Math.* **19** (1996), *no.* 3-4, 417–431. (D. R. J. Chillingworth) **98a:83010** 83B05 (83F05)
— (*with* Dunsby, Peter K. S.; Ellis, George F. R.) Covariant analysis of gravitational waves in a cosmological context. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1215–1222. (J. B. Griffiths) **98a:83047** 83C35 (83C25, 83F05)
Bassett, Gilbert W., Jr. Robust sports ratings based on least absolute errors. (English summary) *Amer. Statist.* **51** (1997), *no.* 2, 99–105. 62F35 (62P99)
Bassetto, A. (*with* Nardelli, Giuliana) $(1 + 1)$-dimensional Yang-Mills theories in light-cone gauge. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1075–1090. (Summary) **98g:81126a** 81T13 (81T15)
— (*with* Nardelli, Giuliana) Errata: "$(1 + 1)$-dimensional Yang-Mills theories in light-cone gauge". *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2947. (Editors) **98g:81126b** 81T13 (81T15)
— (*with* Nardelli, Giuliana; Vianello, E.) Schwinger model in the light-cone gauge. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3631–3645. (Summary) **98g:81122** 81T10
— (*with* Nardelli, Giuliana) Class of two-dimensional Yang-Mills vacua and their relation to the nonlinear sigma model. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2628–2630. (Summary) **98j:81207** 81T13 (81T10)
Bassi, F. *see* **Bassi, Francesco**
Bassi, Frances (*with* Künsch, Hans R.; Papritz, A.) Generalized cross-covariances and their estimation. (English summary) *Math. Geol.* **29** (1997), *no.* 6, 779–799. (Summary) **98d:86014** 86A32
Bassi, Francesco (*with* Rebay, S.) High-order accurate discontinuous finite element solution of the 2D Euler equations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 251–285. (Summary) **98i:76050** 76M10 (76N10)
Bassily, Nader L. Inequalities for stopped random walks. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 31–44. (Allan Gut) **98g:60092** 60G50 (60G40, 60G42)
— (*with* Kátai, Imre) On the pairs of multiplicative functions satisfying some relations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 1–14. (Adolf Hildebrand) **98k:11125** 11N37 (11A25)

Bassino, Frédérique Star-height of an N-rational series. (English summary) *STACS 96 (Grenoble, 1996)*, 125–135, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68133** 68Q45

— (*with* Béal, Marie-Pierre; Perrin, Dominique) Enumerative sequences of leaves in rational trees. (English summary) *Automata, languages and programming (Bologna, 1997)*, 76–86, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68143** 68Q45 (94A29)

— Nonnegative companion matrices and star-height of N-rational series. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 61–80. (Heinrich Seidel) **98e:68134** 68Q45

Basso, Michele (*with* Genesio, R.; Tesi, Alberto) A frequency method for predicting limit cycle bifurcations. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 339–360. 34C05 (34C23, 34H05, 70K10)

— (*with* Genesio, R.; Tesi, Alberto) Controller design for extending periodic dynamics of a chaotic CO_2 laser. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 287–297. (Summary) **98k:93076** 93C95 (58F13, 58F40, 78A60)

Bassom, Andrew P. (*with* Milne, Alice E.; Clarkson, Peter A.) Application of the isomonodromy deformation method to the fourth Painlevé equation. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 421–439. (Andrei A. Kapaev) **98d:34016** 34A34 (34A05, 34A20, 34A55)

— (*with* Gilbert, Andrew D.) Nonlinear equilibration of a dynamo in a smooth helical flow. (English summary) *J. Fluid Mech.* **343** (1997), 375–406. (Manuel Núñez Jiménez) **98f:76079** 76W05 (76E25, 76M25)

— (*with* Seddougui, Sharon O.) Instability of hypersonic flow over a cone. (English summary) *J. Fluid Mech.* **345** (1997), 383–411. (Summary) **98i:76048** 76K05 (76E99, 76L05)

— (*with* Lewis, Samantha; Rees, D. A. S.) High wavenumber convection in tall porous containers heated from below. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 545–563. (Summary) **98j:76135** 76R05 (76E15, 76E30, 76S05)

— (*with* Milne, Alice E.; Clarkson, Peter A.) Bäcklund transformations and solution hierarchies for the third Painlevé equation. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 139–194. (Alexander Vladimirovich Kitaev) **98b:34023** 34A34 (34A05, 34A25, 39A10, 58F37)

Basten, Twan (*with* Voorhoeve, Marc) An algebraic semantics for hierarchical P/T nets. (English summary) *Application and theory of Petri nets 1995 (Turin)*, 45–65, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10, 68Q60)

— (*with* van der Aalst, W. M. P.) Life-cycle inheritance. A Petri-net-based approach. (English summary) *Application and theory of Petri nets 1997 (Toulouse)*, 62–81, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68N15 (68Q90)

Bastero, J. (*with* Milman, Mario; Ruiz Blasco, Francisco José) Calderón weights and the real interpolation method. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 73–89. (Evgeniy I. Pustylnik) **98a:46092** 46M35 (46E30)

Bastiaans, Martin J. Gabor's signal expansion in optics. (English summary) *Gabor analysis and algorithms*, 427–451, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **98b:42001**) 94A12 (78A10)

Bastian, Peter Load balancing for adaptive multigrid methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1303–1321 (*electronic*). 65N55

Bastianelli, Fiorenzo (*with* Lindström, Ulf) C-theorem for two-dimensional chiral theories. (English summary) *Phys. Lett. B* **380** (1996), *no.* 3-4, 341–345. (Kostas Skenderis) **98b:81223** 81T40 (81T17, 81T50)

— (*with* Consoli, Luca) A locally supersymmetric action for the scalar particle. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1291–1299. (Summary) **98b:81244** 81T60

— (*with* Corradini, O.) 't Hooft anomaly matching conditions for generalized symmetries in 2D. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 349–354. (Summary) **98i:81240** 81T50

Bastiansen, Tore J. (*with* Dahl, Ole-Johan; Owe, Olaf) Subtyping and constructive specification. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 1, 19–49. (Summary) **98m:68179** 68Q65 (68Q60)

Bastin, F. (*with* Laubin, P.) Singular spectrum and functional properties of kernels. (English summary) *Functional analysis (Trier, 1994)*, 21–28, *de Gruyter, Berlin*, 1996. (Valentin Napalkov) **98e:46048** 46F15 (32A45)

— (*with* Laubin, P.) Regular compactly supported wavelets in Sobolev spaces. *Duke Math. J.* **87** (1997), *no.* 3, 481–508. (Gilbert Walter) **98g:42048** 42C15 (41A65)

Bastin, Georges (*with* Viel, F.; Jadot, F.) Global stabilization of exothermic chemical reactors under input constraints. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1437–1448. 93D15 (93C95)

— (*with* Mahony, Robert; Mareels, Iven M. Y.; Campion, Guy) Output stabilization of square nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1571–1577. 93D15

Baštinec, Jaromír Singular Cauchy-Nicoletti problem for system of differential equations. (English summary) *Fasc. Math. No.* 27 (1997), 5–13. (L. E. Bobisud) **98i:34035** 34B15

Basto Gonçalves, J. Singularities of Euler equations and implicit Hamilton equations. (English summary) *Real and complex singularities (São Carlos, 1994)*, 203–212, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Raúl Ibáñez) **98g:58156** 58F36 (34A09, 34C99, 58F05, 70H05)

Bastolla, Ugo (*with* Parisi, Giorgio) Attraction basins in discretized maps. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3757–3769. (Michael Hurley) **98d:58113** 58F12

— (*with* Parisi, Giorgio) Attractors in fully asymmetric neural networks. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5613–5631. 82C32 (82-04)

Baston, Victor J. (*with* Garnaev, A. Yu.) A non-zero-sum war of attrition. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 197–211. (Jos Potters) **98e:90229** 90D12

Bastonero, Olivier (*with* Gouy, Xavier) Stabilité forte et incomplétude de la classe des modèles stables du λ-calcul pur. (English and French summaries) [Strong stability and incompleteness of the class of stable models of pure λ-calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 10, 905–908. (A. S. Kuzichev) **98b:03020** 03B40

Basu, A. K. (*with* Das, J. K.) Sequential shrinkage estimation of the autoregressive parameters in AR(p) model. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 267–282. (Pham Dinh Tuan) **98m:62217** 62L12 (62J07, 62M99)

— (*with* Das, J. K.) Sequential estimation of the autoregressive parameters in AR(p) model. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 1–24. (Ryszard Magiera) **98d:62142** 62L12 (62M10)

Basu, Abhik Screw dynamo and the generation of nonaxisymmetric magnetic fields. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2869–2874. (Manuel Núñez Jiménez) **98j:76148** 76W05 (76E20, 85A30)

Basu, Amit (*with* Blanning, Robert W.) A graph-theoretic approach to analyzing knowledge bases containing rules, models and data. (English summary) *Ann. Oper. Res.* **75** (1997), 3–23. (Summary) **98j:68152** 68T30 (68R10)

Basu, Asit P. (*with* Sun, Kai) Multivariate exponential distributions with constant failure rates. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 2, 159–169. (Mohamed E. Ghitany) **98f:62153** 62H05 (62E10, 62N05)

Basu, Ayanendranath (*with* Markatou, Marianthi; Lindsay, Bruce G.) Weighted likelihood estimating equations: the discrete case with applications to logistic regression. (English summary) Robust statistics and data analysis, II. *J. Statist. Plann. Inference* **57** (1997), *no.* 2, 215–232. (Friedrich Liese) **98g:62137** 62J12 (62A10)

— (*with* Sarkar, Sahadeb; Vidyashankar, A. N.) Minimum negative exponential disparity estimation in parametric models. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 349–370. (Xuming He) **98d:62039** 62F12 (62F35)

Basu, Banasri (*with* Bandyopadhyay, Pratul) The hierarchy of fractional quantum Hall states and Berry phase. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 1, 49–62. (Summary) **98k:81327** 81V70 (81Q99)

Basu, Debabrata[2] (*with* Bal, Subrata; Shajesh, K. V.) A unified treatment of the characters of SU(2) and SU(1, 1). (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3209–3229. (A. J. Coleman) **98f:81089** 81R05 (22E70, 81-01)

Basu, S. *see* **Basu, Saugata**

Basu, Sanjib[2] Local sensitivity, functional derivatives and nonlinear posterior quantities. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 405–418. (Marek Męczarski) **98f:62067** 62F15 (62C10, 62F35)

— Bayesian hypotheses testing using posterior density ratios. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 1, 79–86. (Yukio Suzuki) **98c:62028** 62F03 (62F15)

— (*with* DasGupta, Anirban) The mean, median, and mode of unimodal distributions: a characterization. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 336–352; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 210–223 (1997). (H. L. MacGillivray) **98j:60023** 60E15 (60E05)

Basu, Sankar (*with* Bush, James A.; Chirlian, Paul M.) Nonlinear digital filters mimicking cellular neural networks. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 69–83. (Summary) **98j:94039** 94C05 (92B20)

Basu, Saugata (*with* Pollack, Richard M.; Roy, Marie-Françoise) On the combinatorial and algebraic complexity of quantifier elimination. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 632–641, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 03C10 (03D15, 68Q25, 68Q40)

— (*with* Pollack, Richard M.; Roy, Marie-Françoise) On the combinatorial and algebraic complexity of quantifier elimination. (English summary) *J. ACM* **43** (1996), *no.* 6, 1002–1045. (Thanases Pheidas) **98c:03077** 03C10 (03B25, 03C60, 03D15, 68Q25, 68Q40)

— (*with* Pollack, Richard M.; Roy, Marie-Françoise) On computing a set of points meeting every cell defined by a family of polynomials on a variety. (English summary) *J. Complexity* **13** (1997), *no.* 1, 28–37. (Digen Zhang) **98d:14071** 14P10

Basu, Sujit K. (*with* Mitra, Murari) Shock models leading to non-monotonic ageing classes of life distributions. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 2, 131–138. (Nabendu Pal) **98g:62186** 62N05 (90B20)

Basu, U. (*with* Chakrabarti, Aloknath; Mandal, Birendra Nath; Banerjea, Sudeshna) Solution of a hypersingular integral equation of the second kind. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 319–320. (Philip Heywood) **98e:45001** 45E05 (30E20)

Basuki (*with* Chandra, Daniel; Nusantara, Toto; Imron, Moch. Aruman) On the formation of hotspot in microwave heating. (English summary) *Differential equations (Bandung, 1996)*, 245–255, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 80A20

Basu-Mallick, B. Spin-dependent extension of Calogero-Sutherland model through anyon-like representations of permutation operators. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 713–730. (Kazuhiro Hikami) **98a:81276** 81V70

— (*with* Ramadevi, P.; Jagannathan, Ramaswamy) Multiparametric and colored extensions of the quantum group $GL_N(N)$ and the Yangian algebra $Y(gl_N)$ through a symmetry transformation of the Yang-Baxter equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 5, 945–962. (Kazuhiro Hikami) **98a:81072** 81R50 (82B23)

— (*with* Kundu, Anjan) Multiparameter deformed and non-standard $Y(gl_M)$ Yangian symmetry in a novel class of spin Calogero-Sutherland models. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 705–728. (Kazuhiro Hikami) **98k:81328** 81V70 (82B23)

Baszenski, Günter (*with* Tasche, Manfred) Fast polynomial multiplication and convolutions related to the discrete cosine transform. (English summary) *Linear Algebra Appl.* **252** (1997), 1–25. (Manfred Tasche) **98f:65017** 65D15 (42C10, 65T99)

Bataineh, S. (*with* Al-Ibrahim, M.) Load management in loosely coupled multiprocessor systems. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 107–116. 65Y05 (90B12)

Batalin, I. A. (*with* Bering, Klaus; Damgaard, Poul H.) Gauge independence of the Lagrangian path integral in a higher-order formalism. (English summary) *Phys. Lett. B* **389** (1996), *no.* 4, 673–676. (Summary) **98j:81344** 81T70 (81S40, 81T13)

Batalina, I. A. *see* **Analysis, 98k:00023**

quezada-Batalla, R. *see* **Quezada-Batalla, R.**

Batanero, Carmen (*with* Green, David R.; Serrano, Luis Romero) Randomness, its meanings and educational implications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 1, 113–123. 01A99 (00A35)

Batanin, Mikhail A. Categorical strong shape theory. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 1, 3–66. (Timothy Porter) **98g:18009** 18D20 (55P55, 55U35)

Bătătorescu, Anton Computational procedures for a class of bottleneck problems. (English summary) *An. Univ. Bucureşti Mat. Inform.* **45** (1996), *no.* 2, 77–91. (Summary) **98c:49059** 49L20 (49M30)

Batchelor, George The formation of bubbles in fluidized beds. *Of fluid mechanics and related matters* (*La Jolla, CA*, 1990), 29–44, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (F. Feuillebois) **98i:76089** 76T05 (76E10, 76E15)

— ★ The life and legacy of G. I. Taylor. (English summary) *Cambridge University Press, Cambridge*, 1996. xvi+285 *pp. ISBN* 0-521-46121-9 (J. R. Ockendon) **98i:01029** 01A70 (76–03)

— (*with* Nitsche, J. M.) Break-up of a falling drop containing dispersed particles. (English summary) *J. Fluid Mech.* **340** (1997), 161–175. (From the summary) **98d:76153** 76R50 (76D99, 76T05)

Batchelor, Murray T. (*with* Yung, C. M.) q-deformations of quantum spin chains with exact valence-bond ground states. (English summary) *Perspectives on solvable models*, 197–206, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82009** 82B20 (81R50, 82B23)

— (*with* Seaton, K. A.) Magnetic correlation length and universal amplitude of the lattice E_8 Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L479–L484. (Summary) **98f:82014** 82B20 (82B27)

— (*with* Zhou, Yu Kui) Critical behaviour of the dilute O(n), Izergin-Korepin and dilute A_L face models: bulk properties. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 3, 646–664. (Miroslav Kolesík) **98b:82031** 82B27 (82B20)

— (*with* Zhou, Yu Kui) Spin excitations in the integrable open quantum group invariant supersymmetric t-J model. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 576–594. (Rodolfo Cuerno) **98d:82021** 82B23 (81R50, 82B20)

— (*with* McGuire, Justin; Davies, Brian) Linear and optimal non-linear control of one-dimensional maps. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 361–364. (Summary) **98d:58052** 58F03 (58F13)

Batcho, Paul F. (*with* Bangia, Anil K.; Kevrekidis, Ioannis G.; Karniadakis, George Em.) Unsteady two-dimensional flows in complex geometries: comparative bifurcation studies with global eigenfunction expansions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 775–805. (Summary) **98b:76022** 76D05 (35B32, 58F40, 76E30, 76F20, 76M25)

Bateman, Paul T. A theorem of Ingham implying that Dirichlet's L-functions have no zeros with real part one. *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 281–284. (Daniel A. Goldston) **98h:11107** 11M26 (11M20)

Batens, Diderik Introductory note [Leo Apostel: 1925–1995]. *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 109–110. 01A70

— Functioning and teachings of adaptive logics. (English summary) *Logic and argumentation* (*Amsterdam*, 1994), 241–254, *K. Ned. Akad. Wet. Verh. Afd. Lett.* (*N. S.*), 170, *North-Holland, Amsterdam*, 1996. (*see* **98f:03006**) 03B60 (03A05, 03B65)

Bates, D. M. (*with* Ritter, C.) Profile methods. *COMPSTAT* 1996 (*Barcelona*), 123–134, *Physica, Heidelberg*, 1996. (*see* **98h:62001**) 62A10

Bates, Jason W. On toroidal Green's functions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3679–3691. (Summary) **98b:35033** 35J05 (35J40, 78A30)

— (*with* Lewis, H. Ralph) Hamiltonian description of toroidal magnetic fields in vacuum. (English summary) *Phys. Plasmas* **4** (1997), *no.* 7, 2619–2630. (John Adam) **98f:76080** 76W05 (70H05, 76X05, 78A25)

Bates, Larry M. (*with* Cushman, Richard H.) ★ Global aspects of classical integrable systems. (English summary) *Birkhäuser Verlag, Basel*, 1997. xvi+435 *pp. ISBN* 3-7643-5485-2 (Lubomir Gavrilov) **98a:58083** 58F07 (58–01, 70E15, 70F05, 70H05)

— (*with* Lerman, Eugene) Proper group actions and symplectic stratified spaces. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 201–229. (Ágúst Sverrir Egilsson) **98i:58085** 58F05 (57S15, 57S20, 58D19)

Bates, Peter W. (*with* Fife, Paul C.; Ren, Xiaofeng; Wang, Xuefeng) Traveling waves in a convolution model for phase transitions. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 2, 105–136. (Vitaly A. Volpert) **98f:45004** 45K05 (35Q99, 73B30)

— (*with* Ren, Xiaofeng) Heteroclinic orbits for a higher order phase transition problem. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 149–163. (Peter G. Danilaev) **98g:80006** 80A22

Bates, S. M. On smooth, nonlinear surjections of Banach spaces. (English summary) *Israel J. Math.* **100** (1997), 209–220. (Marián Fabian) **98i:58016** 58B10 (46B20)

Bathe, Klaus-Jürgen (*with* Pantuso, Daniel) On the stability of mixed finite elements in large strain analysis of incompressible solids. (English summary) *Finite Elem. Anal. Des.* **28** (1997), *no.* 2, 83–104. (Summary) **98i:73060** 73V05

— (*with* Iosilevich, Alexander; Brezzi, Franco) On evaluating the inf-sup condition for plate bending elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3639–3663. (Pekka Neittaanmäki) **98h:73075** 73V05 (73K10)

— (*with* Wang, Xiaodong) On mixed elements for acoustic fluid-structure interactions. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 329–343. (Summary) **98c:73068** 73K70 (73V05, 76M10, 76Q05)

Bather, John Response adaptive allocation and selection bias. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 23–35, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62F03 (62L05)

— A conversation with Herman Chernoff. (English summary) *Statist. Sci.* **11** (1996), *no.* 4, 335–350. (From the summary) **98i:01030** 01A70

Batista, E. (*with* Gomes, J. F.; Lautenschleguer, I. J.) Non-abelian Sugawara construction and the q-deformed $N = 2$ superconformal algebra. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6281–6293. (Jun'ichi Shiraishi) **98m:81070** 81R50 (17B37)

Batista, Milan (*with* Usenik, Janez) On analytical solution of differential-delay equation. (English summary) *SOR '97 Proceedings* (*Preddvor*), 41–44, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90B05 (34A12)

— (*with* Usenik, Janez) On the car following theory. (English summary) *SOR '97 Proceedings* (*Preddvor*), 67–70, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 93A30 (93C85)

Batko, W. (*with* Banek, T.) Time estimation of disturbance occurrences in monitoring systems. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 107–114. 73K50 (73K12, 73V30)

Batra, P. K. (*with* Sreenath, P. R.; Parsad, Rajender) Robustness of block designs against interchange of treatments. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 156–167. 62K10

Batra, R. C. (*with* Liang, X. Q.; Kachroo, P.) Shape control of a nonlinear smart plate. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 518–525, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 49Q10 (73K10, 73K50, 93C90)

— (*with* dell'Isola, Francesco) Saint-Venant's problem for porous linear elastic materials. (English summary) *J. Elasticity* **47** (1997), *no.* 1, 73–81. (Summary) **98g:73005** 73C10 (73B99)

Batsuren, S. On the inverse function theorem for Lipschitzian mappings. (English summary) *J. Mong. Math. Soc.* **1** (1997), *no.* 1, 4–15. (Joe Thrash) **98a:58017** 58C15 (26A16, 46G05, 47H15)

Battaglini, Giuseppe *see* **Calleri, Paola**, **98k:01009**

al-Battānī *see* **Ragep, F. Jamil**, (**98d:01002**)

Battauz, Anna (*with* Zanolin, Fabio) Coexistence states for periodic competitive Kolmogorov systems. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 179–199. (J. M. Cushing) **98m:34086** 34C25 (92D25)

Battelli, Flaviano (*with* Fečkan, Michal) Subharmonic solutions in singular systems. (English summary) *J. Differential Equations* **132** (1996), *no.* 1, 21–45. (From the introduction) **98k:34068** 34C25 (34C23, 34C37)

— (*with* Lazzari, Claudio) On the bifurcation from critical homoclinic orbits in N-dimensional maps. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 289–303. (Bruce B. Peckham) **98i:58168** 58F14 (39A10, 58F30)

— (*with* Fečkan, Michal) Chaos in singular impulsive o.d.e. *Nonlinear Anal.* **28** (1997), *no.* 4, 655–671. (Peter Ashwin) **98b:34064** 34C37 (34D15, 58F13)

— (*with* Lazzari, Claudio) Discrete dichotomies and bifurcations from critical homoclinic orbits. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 200–228. (Michal Fečkan) **98m:39058** 39B12 (58F14)

Batten, L. M. (*with* Bao, Xiaomin) Equitable colourings in the Witt designs. *Australas. J. Combin.* **16** (1997), 175–181. (Bronisław Ceranka) **98j:05018** 05B05

Batten, Paul (*with* Ingram, D. M.; Causon, D. M.; Saunders, Robert) The representation of small scale obstructions in hydrocode calculations. (English summary) *Flow and dispersion through groups of obstacles* (*Cambridge*, 1994), 199–209, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05)

— (*with* Leschziner, M. A.; Goldberg, U. C.) Average-state Jacobians and implicit methods for compressible viscous and turbulent flows. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 38–78. (Summary) **98k:76095** 76M20 (76F99, 76N10)

— (*with* Clarke, Nicholas Richard; Lambert, Claire; Causon, D. M.) On the choice of wavespeeds for the HLLC Riemann solver. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1553–1570. (Dietmar Kröner) **98m:65136** 65M06 (76M20, 76N15)

Batten, Peggy (*with* Moneyhun, Kay; Stitzinger, Ernest) On characterizing nilpotent Lie algebras by their multipliers. (English summary) *Comm. Algebra* **24** (1996), *no.* 14, 4319–4330. (Hans F. de Groote) **98c:17011** 17B30

Batterman, Robert W. "Into a mist": asymptotic theories on a caustic. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 395–413. (From the text) **98m:78003** 78–03 (00A79, 01A60, 78A10)

Battersby, B. J. (*with* Bryant, Darryn E.; Rodger, C. A.) Factorizations of complete multigraphs. (English summary) *Australas. J. Combin.* **16** (1997), 35–43. (Summary) **98e:05083** 05C70

Battigalli, Pierpaolo On rationalizability in extensive games. (English summary) *J. Econom. Theory* **74** (1997), *no.* 1, 40–61. (Summary) **98c:90189** 90D10 (90A05, 90D40)

Battikh, Naoufel Excision en K-théorie hermitienne. (English and French summaries) [Excision in Hermitian K-theory] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 131–134. (Summary) **98h:19005** 19G38 (19G24, 19L99)

Battilotti, S. Universal controllers for robust control problems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 2, 188–202. (Gianna Stefani) **98k:93104** 93D21 (93D25, 93D30)

— A note on reduced order stabilizing output feedback controllers. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 71–81. (Summary) **98c:93085** 93D15 (93B11)

Battimelli, Giovanni "With no official connection": Tullio Levi-Civita and the International Congresses of Applied Mechanics. (Italian. English summary) *Riv. Stor. Sci.* (2) **4** (1996), *no.* 1, 51–80 (1997). (Summary) **98m:01038** 01A74 (01A70)

di Battista, Giuseppe *see* **Di Battista, Giuseppe**

Battiti, R. (*with* Protasi, M.) Solving MAX-SAT with non-oblivious functions and history-based heuristics. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 649–667, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C27 (68Q25, 90C90, 94C10)

— (*with* Bertossi, A.) Differential greedy for the 0-1 equicut problem. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 3–21, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:68005** 68M10 (68R10, 90C27)

Battle, Guy Heisenberg inequalities for wavelet states. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 2, 119–146. (Kathi Karima Selig) **98e:42027** 42C15 (42C20, 42C25)

Battogtokh, D. (*with* Preusser, A.; Mikhailov, A. S.) Controlling turbulence in the complex Ginzburg-Landau equation. II. Two-dimensional systems. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 327–362. (Summary) **98f:76038** 76F20 (35Q55, 76E30)

Batty, Charles J. K. (*with* Arendt, Wolfgang) Almost periodic solutions of first- and second-order Cauchy problems. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 363–383. (From the introduction) **98g:34099** 34G10 (34C27, 47D06, 47N20)

— (*with* Arendt, Wolfgang) The spectral function and principal eigenvalues for Schrödinger operators. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 415–436. (Günter Berger) **98g:35148** 35P05 (35J10, 47D06, 47F05)

— (*with* van Neerven, Jan; Räbiger, Frank) Local spectra and individual stability of uniformly bounded C_0-semigroups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2071–2085. (Jean Esterle) **98h:47054** 47D03 (47A11, 47D06)

— (*with* van Neerven, Jan; Räbiger, Frank) Tauberian theorems and stability of solutions of the Cauchy problem. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2087–2103. (Jean Esterle) **98h:47055** 47D03 (34G10, 44A10, 47D06)

Battyányi, Péter Jordan *-derivations with respect to the Jordan product. *Contributions to the theory of functional equations, II* (*Zamárdi*, 1995), 5–6, *Grazer Math. Ber.*, 327, *Karl-Franzens-Univ. Graz, Graz*, 1996. (*see* **98d:39001**) 47B47 (39B42, 46L70)

— On the range of a Jordan $*$-derivation. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 659–665. (A. Niknam) **98i:47032** 47B47 (46K05)

Battye, Richard A. (*with* Sutcliffe, Paul M.) Multi-soliton dynamics in the Skyrme model. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 150–156. (Bernd J. Schroers) **98b:81269** 81T80 (81V35)

— (*with* Sutcliffe, Paul M.) A Skyrme lattice with hexagonal symmetry. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 385–391. (Summary) **98k:81324** 81V55 (81V05, 92E10)

Batyrev, V. V. (*with* Borisov, Lev A.) On Calabi-Yau complete intersections in toric varieties. (English summary) *Higher-dimensional complex varieties* (*Trento*, 1994), 39–65, *de Gruyter, Berlin*, 1996. (Mark Gross) **98j:14052** 14J32 (14M25)

— (*with* Tschinkel, Yu.) Height zeta functions of toric varieties. (English summary) Algebraic geometry, 5. *J. Math. Sci.* **82** (1996), *no.* 1, 3220–3239. (Emmanuel Peyre) **98b:11067** 11G35 (14G05, 14G10, 14M25)

— (*with* Borisov, Lev A.) Dual cones and mirror symmetry for generalized Calabi-Yau manifolds. (English summary) *Mirror symmetry, II*, 71–86, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Dimitrios I. Dais) **98b:14033** 14J32 (14M25)

Batyrshin, Ildar (*with* Wagenknecht, Michael) Noninvolutive negations on [0, 1]. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 997–1010. (Summary) **98g:03071** 03B52

— (*with* Wagenknecht, Michael) Contracting and expanding negations on [0, 1]. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 133–140. (Summary) **98k:03062** 03B52

— (*with* Wagenknecht, Michael) On negations generated by compensations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 141–150. (Summary) **98j:03040** 03B52

Batzoglou, Serafim (*with* Agarwala, Richa; Dančík, Vlado; Decatur, Scott E.; Farach-Colton, Martin; Hannenhalli, Sridhar; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms* (*New Orleans, LA*, 1997), 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

Bau, David, III (*with* Trefethen, Lloyd N.) ★ Numerical linear algebra. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. xii+361 *pp. ISBN* 0-89871-361-7 (Moody T. Chu) **98k:65002** 65-01 (65-02, 65Fxx)

Bau, J. J. (*with* Chen, Hubert J.; Chen, Shun-Yi) Lower percentage points of Hartley's extremal quotient statistic and their applications. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 443–465. 62Q05

Baubec, Margarit (*with* Visarion, Viorel) Some strange properties of minimal surfaces in connection with Plateau's problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **141** (1997), *no.* 3-4, 311–333. (M. Elisa G. G. de Oliveira) **98h:53019** 53A10 (49Q05, 65K10)

Baublitz, Millard (*with* Shimony, Abner) Tension in Bohm's interpretation of quantum mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 251–264, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Bauderon, Michel Parallel rewriting of graphs through the pullback approach. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)

— (*with* Jacquet, Hélène) Node rewriting in hypergraphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 31–43, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68Q42 (68R10)

Baudhayāna *see* **Arora, Virendra**, **98e:01009**

Bauer, Claus A note on sums of five almost equal prime squares. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 1, 20–30. (Jie Wu) **98c:11110** 11P55 (11L07, 11P32)

Bauer, D. *see* **Bauer, Douglas**

Bauer, Dietmar (*with* Deistler, M.) Balanced parametrizations: a structure theory for identification. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 27–41, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:93053** 93E12 (62M10)

Bauer, Douglas (*with* van den Heuvel, J.; Morgana, Aurora; Schmeichel, Edward F.) The complexity of recognizing tough cubic graphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 35–44. (Summary) **98f:68209** 68R10 (05C85, 68Q25)

Bauer, Friedrich W. A strong shape theory with S-duality. (English summary) *Fund. Math.* **154** (1997), *no.* 1, 37–56. (Summary) **98g:55012** 55P55 (55M05, 55N20, 55P25)

— A functional S-dual in a strong shape category. (English summary) *Fund. Math.* **154** (1997), *no.* 3, 261–274. (Zvonko Čerin) **98k:55012** 55P55 (55M05, 55N20, 55P25)

Bauer, Heinz *see* **Hahn, Hans**, **98h:01035**

Bauer, Ingrid Irrational pencils on non-compact algebraic manifolds. *Internat. J. Math.* **8** (1997), *no.* 4, 441–450. (I. Dolgachev) **98i:14020** 14E20 (14C21)

— (*with* Catanese, Fabrizio) Generic lemniscates of algebraic functions. *Math. Ann.* **307** (1997), *no.* 3, 417–444. (Vagn Lundsgaard Hansen) **98f:57003** 57M12 (14H55, 57M15)

Bauer, K. W., Jr. (*with* Steppe, J. M.) Feature saliency measures. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 109–126. (Summary) **98a:92001** 92B20

Bauer, M. *see* **Bauer, Michel**

Bauer, Mathias Approximation algorithms and decision making in the Dempster-Shafer theory of evidence—an empirical study. (English summary) 1996 Uncertainty in AI (UAI '96) Conference. *Internat. J. Approx. Reason.* **17** (1997), *no.* 2-3, 217–237. (*see* **98c:68011**) 68T30

Bauer, Max A characterization of uniquely ergodic interval exchange maps in terms of the Jacobi-Perron algorithm. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **27** (1996), *no.* 2, 109–128. (Makoto Mori) **98a:58100** 58F11 (28D05)

Bauer, Michel (*with* Arnaudon, D.) Centre and representations of small quantum superalgebras at roots of unity. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1121–1129. (Ioannis Tsohantjis) **98b:17010** 17B37 (17B70, 81R50)

— (*with* Itzykson, Claude) Triangulations. (French) *Discrete Math.* **156** (1996), *no.* 1-3, 29–81. (Vagn Lundsgaard Hansen) **98m:14027** 14H15 (05A15, 11G99, 32G99, 57N05, 57Q15, 81T40)

— Galois actions for genus one rational conformal field theories. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 152–186, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Mark A. Walton) **98k:81246** 81T40 (11F06, 11F80, 11Z05)

— (*with* Arnaudon, D.; Frappat, L.) On Casimir's ghost. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 429–439. (Anargyros Fellouris) **98h:17010** 17B37 (17B35, 81R10, 81R50)

— (*with* Coste, Antoine; Itzykson, Claude; Ruelle, P.) Comments on the links between su(3) modular invariants, simple factors in the Jacobian of Fermat curves, and rational triangular billiards. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 2, 134–189. (Martin Schlichenmaier) **98g:81189** 81T40 (11F11, 11F22, 11G10, 11Z05, 14H40, 17B67)

— (*with* Arnaudon, D.) Scasimir operator, scentre and representations of $\mathscr{U}_q(\mathrm{osp}(1|2))$. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 307–320. (Władysław Marcinek) **98g:81066** 81R50 (17B37)

— (*with* Bernard, Denis) On root multiplicities of some hyperbolic Kac-Moody algebras. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 153–166. (Duncan J. Melville) **98k:17029** 17B67 (81R10)

Bauer, Oliver (*with* Mainieri, Ronnie) The convergence of chaotic integrals. (English summary) *Chaos* **7** (1997), *no.* 3, 361–367. (Summary) **98f:58134** 58F13 (65D30, 65D99)

Bauer, Peter H. (*with* Hung, H. M. James; O'Neill, Robert T.; Köhne, Karl) The behavior of the P-value when the alternative hypothesis is true. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 11–22. (Summary) **98a:62024** 62F03

— (*with* Yost, Sandra A.) Asymptotic stability of time-variant polynomials with diamond-shaped uncertainties. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 719–729. 93D09 (34D99)

Bauer, Petra The circuit polytope: facets. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 110–145. (Summary) **98m:90169** 90C35 (05C38, 90C27)

Bauer, Robert Bruce A hybrid adaptive ENO scheme. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 180–196. (Summary) **98e:65080** 65M60

Bauer, S. M. On the stability of spherical shells with imperfections. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 40–44, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73K15 (73H05)

Bauer, Thomas Seshadri constants of quartic surfaces. *Math. Ann.* **309** (1997), *no.* 3, 475–481. (Antonio Lanteri) **98i:14009** 14C20 (14J28)

— (*with* Szemberg, Tomasz) Higher order embeddings of abelian varieties. *Math. Z.* **224** (1997), *no.* 3, 449–455. (Andrew J. Sommese) **98a:14009** 14C20 (14E25, 14K99)

Bäuerle, G. G. A. Strings and the Frenkel-Kac-Segal mechanism. *Proceedings Seminar* 1989–1990 *Mathematical Structures in Field Theory* (*Amsterdam*), 71–117, *CWI Syllabi*, 39, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1996. (Jürgen Schulze) **98b:81177** 81T30 (17B81, 81-01, 81R10)

— (*with* de Kerf, E. A.; ten Kroode, A. P. E.) ★ Lie algebras. Part 2. Finite and infinite dimensional Lie algebras and applications in physics. Edited and with a preface by E. M. de Jager. Studies in Mathematical Physics, 7. *North-Holland Publishing Co., Amsterdam*, 1997. x+554 *pp. ISBN* 0-444-82836-2 (Joris Van der Jeugt) **98k:17002** 17Bxx (17B67, 17B68, 17B81, 81R05, 81R10)

Bäuerle, Nicole Monotonicity results for $MR/GI/1$ queues. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 514–524. (D. N. Shanbhag) **98j:60129** 60K25 (60K30)

Bauernöppel, Frank (*with* Kranakis, Evangelos; Krizanc, Danny; Maheshwari, Anil; Noy, Marc; Sack, Jörg-Rüdiger; Urrutia, Jorge) Optimal shooting: characterizations and applications. *Automata, languages and programming* (*Szeged*, 1995), 220–231, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68U05

— (*with* Kranakis, Evangelos; Krizanc, Danny; Maheshwari, Anil; Sack, Jörg-Rüdiger; Urrutia, Jorge) Planar stage graphs: characterizations and applications. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 239–255. (D. M. Campbell) **98e:68096** 68Q25 (05C75, 05C85, 68Q22, 68R10)

Baues, Hans-Joachim (*with* Hartl, Manfred) On the homotopy category of Moore spaces and the cohomology of the category of abelian groups. (English summary) *Fund. Math.* **150** (1996), *no.* 3, 265–289. (J. Aguadé) **98a:55009** 55P15 (18G99, 55P10)

— (*with* Tonks, Andy) On sum-normalised cohomology of categories, twisted homotopy pairs and universal Toda brackets. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 405–433. (Kathryn P. Hess) **98k:18010** 18G99 (18D20, 55S20, 55U35)

— (*with* Dzhibladze, M. A.; Tonks, Andy) Cohomology of monoids in monoidal categories. *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 137–165, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (R. H. Street) **98a:18007** 18D10 (18D35, 18G50)

— (*with* Conduché, Daniel) On the 2-type of an iterated loop space. (English summary) *Forum Math.* **9** (1997), *no.* 6, 721–738. (P. S. Green) **98k:55007** 55P35 (18G55, 55P10, 55S45, 57M20)

— On the cohomology of categories, universal Toda brackets and homotopy pairs. (English summary) *K-Theory* **11** (1997), *no.* 3, 259–285. (Timothy Porter) **98h:55020** 55Q05 (18D05, 18G60, 55U35)

— (*with* Hardie, K. A.; Kamps, K. H.) The self-equivalence groups in certain coherent homotopy categories. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 213–228. (A. H. Copeland, Jr.) **98g:55016** 55Q05 (55P10)

— The degree of maps between certain 6-manifolds. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 51–64. (R. E. Stong) **98k:57044** 57R19 (55S45, 57R35)

Bauget, Serge (*with* Gastin, Paul) On congruences and partial orders. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 434–443, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q10 (68Q45)

Baulieu, F. B. Two variant axiom systems for presence/absence based dissimilarity coefficients. (English summary) *J. Classification* **14** (1997), *no.* 1, 159–170. (Summary) **98d:62107** 62H30

Baulieu, Laurent B-V quantization and field–anti-field duality for p-form gauge fields, topological field theories and 2D gravity. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 431–458. (Liviu Tătar) **98a:81238** 81T70 (81T40)

— (*with* Green, Michael B.; Rabinovici, Eliezer) A unifying topological action for heterotic and type II superstring theories. (English summary) *Phys. Lett. B* **386** (1996), *no.* 1-4, 91–98. (Summary) **98i:81189** 81T30

— (*with* Rozenberg, Alexander; Schaden, Martin) Topological aspects of gauge-fixing Yang-Mills theory on S_4. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7825–7831. (Ion V. Vancea) **98b:81138** 81T13 (81T70)

— (*with* Green, Michael B.; Rabinovici, Eliezer) Superstrings from theories with $N > 1$ world-sheet supersymmetry. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 119–134. (Tsou Sheung Tsun) **98j:81251** 81T30 (83E30)

— (*with* Laroche, Céline; Picco, Marco; Ohta, Nobuyoshi) A note on consistent anomalies. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 77–84. (Mohamed Kachkachi) **98k:81253** 81T50

Baum, Carl E. Discrimination of buried targets via the singularity expansion. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 557–570. (Summary) **98d:78008** 78A45 (73D25, 76Q05)

Baum, Carl W. (*with* Daraiseh, Abdel-Ghani A.) Exact performance analysis of linear block codes in frequency-hop spread spectrum communication systems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1993–1999. (Summary) **98g:94043** 94B35 (94A40)

— (*with* Raghavan, Arvind R.) A reliability output Viterbi algorithm with applications to hybrid ARQ. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1214–1216. 94A05

Baum, Eric B. (*with* Smith, Warren D.) A Bayesian approach to relevance in game playing. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 195–242. 68T20

Baum, Gabriel A. (*with* Frias, Marcelo F.; Haeberer, Armando M.; Martínez López, Pablo E.) From specifications to programs: a fork-algebraic approach to bridge the gap. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 180–191, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q65 (03B70, 68Q60)

— (*with* Frias, Marcelo F.; Haeberer, Armando M.) Representability and program construction within fork algebras. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 227–257. (Summary) **98m:68180** 68Q65 (03G15)

Baum, Helga (*with* Friedrich, Thomas) Eigenvalues of the Dirac operator, twistors and Killing spinors on Riemannian manifolds. *Clifford algebras and spinor structures*, 243–256, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jean-Louis Milhorat) **98i:58235** 58G25 (58G30)

— The Dirac operator on Lorentzian spin manifolds and the Huygens property. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 42–64. (Uwe Semmelmann) **98j:58119** 58G16 (35L70, 53C50)

Baum, Paul (*with* Higson, Nigel; Plymen, Roger) A proof of the Baum-Connes conjecture for p-adic $\mathrm{GL}(n)$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 171–176. (Hiroshi Takai) **98m:46087** 46L80 (19K56)

Baumann, Gerd Symmetry analysis of differential equations with Mathematica. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 25–37. (Summary) **98g:34003** 34–04 (34A25, 35A30, 68Q40)

Baumann, K. *see* **Baumann, Klaus**

Baumann, Katrin (*with* Adams, Ernst Wilhelm; Grossmann, Ch.) Comparison of direct to shooting enclosures for an inverse-monotone boundary value problem with locally steep solution. (English summary) *Computing* **59** (1997), *no.* 1, 63–83. (Summary) **98g:65068** 65L10 (34B15, 34E15)

Baumann, Klaus Unboundedness of Bose fields in a one-dimensional model world. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 135–147. (Lech Jakóbczyk) **98g:81116** 81T05 (81T08, 81T40)

Baumann, Peter (*with* Lermer, Karl) A framework for the specification of reactive and concurrent systems in *Z*. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 62–79, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q60 (68Q10)

Baumann, Ulrike Representing groups by colourings of graphs. (English summary) *Math. Nachr.* **188** (1997), 17–22. (Kevin Lawrence McAvaney) **98k:05079** 05C25 (05C15, 20B25)

Baumeister, Barbara (*with* Pasechnik, D. V.) The universal covers of certain semibiplanes. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 491–496. (Antonio Pasini) **98f:51015** 51E24 (51E05)

— (*with* Meixner, Thomas; Pasini, Antonio) GF(2)-expansions. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 163–180. (Hendrik Van Maldeghem) **98m:51010** 51E24 (51A50)

— A computer-free construction of the third group of Janko. (English summary) *J. Algebra* **192** (1997), *no.* 2, 780–809. (Ronald Solomon) **98e:20023** 20D08 (20E42, 51E24)

— (*with* Pasini, Antonio) On flat flag-transitive $c.c^*$-geometries. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 1, 5–26. (Gernot Stroth) **98a:51008** 51E24 (20E42)

Baumeister, J. (*with* Scondo, W.; Demetriou, Michael A.; Rosen, I. G.) On-line parameter estimation for infinite-dimensional dynamical systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 678–713. (Bożenna Pasik-Duncan) **98c:93104** 93E10 (93B30)

Baumeister, K. J. (*with* Kreider, K. L.) Preconditioning the Helmholtz equation. (English summary) *J. Sound Vibration* **209** (1998), *no.* 1, 77–97. 76Q05 (76M20)

Bäumer, H.-P. (*with* Pfeifer, D.; Schleier-Langer, Ulrike) Errata to the article: "The 'minimal area' problem in ecology: a spatial Poisson process approach" [Comput. Statist. **11** (1996), no. 4, 415–428; MR 97h:62046]. *Comput. Statist.* **12** (1997), *no.* 3, 429–430. 62H11 (62M30)

Baumgarte, Thomas W. (*with* Scheel, Mark A.; Cook, Gregory B.; Shapiro, Stuart L.; Teukolsky, Saul A.) Numerical evolution of black holes with a hyperbolic formulation of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6320–6335. (Summary) **98k:83057** 83C57 (83–08)

— (*with* Rezzolla, L.; Abrahams, A. M.; Cook, Gregory B.; Scheel, Mark A.; Shapiro, Stuart L.; Teukolsky, Saul A.) Waveform propagation in black hole spacetimes: evaluating the quality of numerical solutions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1084–1091. 83C57

Baumgärtel, Hellmut A modified approach to the Doplicher/Roberts theorem on the construction of the field algebra and the symmetry group in superselection theory. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 3, 279–313. (Sze-Kai Tsui) **98i:46052** 46L05 (22D25, 46L60, 81T05)

Baumgarten, Christoph (*with* Farin, Gerald) Approximation of logarithmic spirals. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 515–532. (Summary) **98b:65018** 65D17 (41A63)

Baumgartner, Bernhard Interchannel resonances at a threshold. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 5928–5938. (Summary) **98i:81258** 81U05

— The existence of many-particle bound states despite a pair interaction with positive scattering length. (English summary) *J. Phys. A* **30** (1997), *no.* 22, L741–L747. (Summary) **98m:81218** 81V70 (81U99)

Baumgartner, James E. (*with* Foreman, Matthew; Spinas, Otmar) The spectrum of the Γ-invariant of a bilinear space. (English summary) *J. Algebra* **189** (1997), *no.* 2, 406–418. (Peter Vojtáš) **98a:15056** 15A63 (03E35, 03E75)

Baumgartner, Peter (*with* Furbach, Ulrich; Stolzenburg, Frieder) Model elimination, logic programming and computing answers. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 335–340, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68N17 (03B70)

— (*with* Furbach, Ulrich; Niemelä, Ilkka) Hyper tableaux. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 1–17, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98c:03028** 03B35 (68T15)

— Linear and unit-resulting refutations for Horn theories. (English summary) *J. Automat. Reason.* **16** (1996), *no.* 3, 241–319. (Summary) **98b:68166** 68T15 (03B35)

— (*with* Fröhlich, Peter; Furbach, Ulrich; Nejdl, Wolfgang) Tableaux for diagnosis applications. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 76–90, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 68T35 (03B35, 03B70, 68Q60)

— (*with* Brüning, Stefan) A disjunctive positive refinement of model elimination and its application to subsumption deletion. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 2, 205–262. (Summary) **98h:68206** 68T15 (03B35)

Bäumker, Armin (*with* Meyer auf der Heide, Friedhelm) Communication efficient parallel searching. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 233–254, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 68P10 (68Q05, 68Q22)

Baumslag, Gilbert (*with* Miller, Charles F., III) Experimenting and computing with infinite groups. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 19–30, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (E. F. Robertson) **98c:20057** 20F05 (20–04)

— (*with* Myasnikov, A. G.; Roman'kov, Vitalii A.) Two theorems about equationally Noetherian groups. (English summary) *J. Algebra* **194** (1997), *no.* 2, 654–664. (R. M. Bryant) **98k:20068** 20F99

— (*with* Bridson, Martin R.; Miller, Charles F., III; Short, Hamish) Finitely presented subgroups of automatic groups and their isoperimetric functions. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 292–304. (Panagiotis Papasoglu) **98j:20034** 20F05 (20F32)

Baumstein, Anatoly I. Modulation of gravity waves with shear in water. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 4, 365–390. (Summary) **98m:76015** 76B15 (76E99)

Baur, Lynne (*with* Heindorf, Lutz) Initial chain algebras on pseudotrees. (English summary) *Order* **14** (1997), *no.* 1, 21–38. (D. Monk) **98k:06013** 06E05 (54F05)

Baur, Walter Simplified lower bounds for polynomials with algebraic coefficients. (English summary) *J. Complexity* **13** (1997), *no.* 1, 38–41. (From the text) **98c:14046** 14Q99 (13P10)

Bausch, R. (*with* Foltin, G.; Blossey, R.) Critical holes in undercooled wetting layers. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2937–2946. (Summary) **98d:82022** 82B24

Bauschke, Heinz H. The approximation of fixed points of compositions of nonexpansive mappings in Hilbert space. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 1, 150–159. (Xie Ping Ding) **98c:47067** 47H10 (47H17)

— (*with* Borwein, Jonathan M.) On projection algorithms for solving convex feasibility problems. (English summary) *SIAM Rev.* **38** (1996), *no.* 3, 367–426. (F. Deutsch) **98f:90045** 90C25 (47N10, 49M45, 65J10)

— (*with* Borwein, Jonathan M.; Lewis, Adrian S.) The method of cyclic projections for closed convex sets in Hilbert space. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 1–38, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Alfredo N. Iusem) **98c:49069** 49M45 (47H99, 47N10, 65F10, 90C25)

— (*with* Borwein, Jonathan M.) Legendre functions and the method of random Bregman projections. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 27–67. (Alfredo N. Iusem) **98f:49038** 49M45 (65K10, 90C25)

Bause, Falko Analysis of Petri nets with a dynamic priority method. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 215–234, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98j:68118** 68Q90

Baushev, A. N. On the boundedness of the density of the distribution of the norm of a Gaussian random vector. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 403–409; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 334–340 (1997). (S. A. Chobanyan) **98h:60009** 60B11

Bauslaugh, Bruce L. Compactness and finite equivalence of infinite digraphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 115–126. (Summary) **98c:05072** 05C20

Bautier, K. (*with* Deser, S.; Henneaux, Marc; Seminara, D.) No cosmological $D = 11$ supergravity. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 49–53. (Summary) **98c:83104** 83E50 (81V17)

Bautin, S. P. (*with* Kazakov, A. L.) Gas flows with shock waves that diverge from the axis or center of symmetry with finite velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 3, 465–474; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 3, 463–472. (Corneliu Berbente) **98h:76076** 76L05 (76N15)

Bautista Ramos, Raymundo The mathematical influence of Maurice Auslander in Mexico. *Representation theory and algebraic geometry* (*Waltham, MA*, 1995), 21–29, *London*

Math. Soc. Lecture Note Ser., 238, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:16002**) 01A70 (16–03)

Bavard, Christophe Systole et invariant d'Hermite. [Systole and Hermite invariant] *J. Reine Angew. Math.* **482** (1997), 93–120. (Renaud Coulangeon) **98a:11085** 11H55 (14K99, 30F45)

Baviera, R. (*with* Virasoro, M. A.) Multiscale analysis of hierarchical landscapes. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 151–155. (M. Lawrence Glasser) **98k:82069** 82B31 (82B44, 82D30)

Bavinck, H. Differential operators having Sobolev-type Laguerre polynomials as eigenfunctions. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3561–3567. (Hans W. Volkmer) **98b:33019** 33C45 (34A35)

— (*with* Koekoek, J.; Koekoek, R.) On differential equations for Sobolev-type Laguerre polynomials. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 347–393. (Hans W. Volkmer) **98d:33003** 33C45 (34A35)

Bavrin, I. I. Univalent functions with weight. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 6, 727–728. (A. Z. Grinshpan) **98a:30021** 30C55

Bavula, Vladimir V. On the finite-dimensionality of derived functors. (Russian. English and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 7–9. 18E25

— Module structure of the tensor product of simple algebras of Krull dimension 1. Representation theory of groups, algebras, and orders (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **4** (1996), *no.* 2, 7–21. (*see* **97g:00023**) 16K40

— Classification of the simple modules of the quantum Weyl algebra and the quantum plane. *Quantum groups and quantum spaces* (*Warsaw*, 1995), 193–201, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Jacques Alev) **98m:16005** 16D60 (16S32)

— (*with* Van Oystaeyen, Freddy) The simple modules of certain generalized crossed products. (English summary) *J. Algebra* **194** (1997), *no.* 2, 521–566. (Darin R. Stephenson) **98e:16006** 16D60 (16S35, 16W50)

— Filter dimension and its application. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 1–12, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98h:16003**) 16W60 (16P60)

Bawa, Nisha (*with* Shukla, Girja Kant) Test of hypotheses based on cross-validation for non-nested linear regression models. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 177–188, x. 62J05

Bawin, M. (*with* Cugnon, J.; Sazdjian, H.) Strong Coulomb coupling in constraint dynamics. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 140–149, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81359** 81V10

Bax, Eric (*with* Franklin, Joel) A permanent formula with many zero-valued terms. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 33–39. (Summary) **98d:68094** 68Q25 (15A15, 68R05)

Baxa, Christoph On the distribution of the sequence $(n\alpha)$ with transcendental α. *Acta Arith.* **81** (1997), *no.* 4, 357–363. (Michael Drmota) **98m:11080** 11K06 (11K38)

Baxley, John V. On radially symmetric solutions of semilinear elliptic equations. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 39–47, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35J60 (35B05)

— (*with* Robinson, S. B.) Coexistence in the unstirred chemostat. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 41–65. (Summary) **98h:35111** 35K57 (35Q80, 80A32)

Baxter, B. J. C. (*with* Iserles, Arieh) On approximation by exponentials. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 39–54. (Dumitru Acu) **98c:41027** 41A30

Baxter, John R. (*with* Jain, Naresh C.) An approximation condition for large deviations and some applications. (English summary) *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 63–90, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Anatolii A. Pukhal'skiĭ) **98b:60050** 60F10 (60G15)

Baxter, Jonathan (*with* Bartlett, Peter L.) A result relating convex n-widths to covering numbers with some applications to neural networks. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 251–259, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68190** 68T05

Baxter, Kim (*with* Leherte, Laurence; Glasgow, Janice; Steeg, Evan; Fortier, Suzanne) Analysis of three-dimensional protein images. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 125–159 (*electronic*). 92C40 (92D20)

Baxter, Laurence A. (*with* Marlow, Norman A.) Cumulative operating time distributions for a class of non-Markovian series systems. (English summary) *Oper. Res. Lett.* **19** (1996), *no.* 3, 135–141. (Z. Khalil) **98b:62178** 62N05

— (*with* Harche, Farid; Yechiali, Uri) Note: minimizing the variability of the waiting times in a globally gated elevator polling system. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 605–611. (Summary) **98e:60147** 60K25 (90B22)

— Stochastic ordering of flows on manifolds. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 259–261. (Moshe Shaked) **98c:58137** 58F25 (60E15)

Baxter, M. J. (*with* Tokhi, M. O.; Fleming, Peter J.) A generic approach to parallelizing and developing control algorithms for heterogeneous architectures. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 443–460. (*see* **98e:93001**) 93B40 (65Y05)

Baxter, Martin W. Discounted additive functionals of Markov processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 5, 623–644. (L. Stoica) **98c:60030** 60F10 (60J27)

— General interest-rate models and the universality of HJM. *Mathematics of derivative securities* (*Cambridge*, 1995), 315–335, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (49L25)

Baxter, Rodney James (*with* Baake, Michael; Grimm, Uwe) A critical Ising model on the labyrinth. (English summary) *Perspectives on solvable models*, 131–152, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 82B20 (82B23, 82B27)

— Zero-temperature skewed chiral Potts model. (English summary) *The state of matter* (*Copenhagen*, 1992), 1–20, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B20 (82B23, 82B24)

— Star-triangle and star-star relations in statistical mechanics. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 27–37. (Gunter Schütz) **98a:82032** 82B23 (82–02, 82B20)

Baxter, Rohan A. (*with* Oliver, Jonathan J.) The kindest cut: minimum message length segmentation. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 83–90, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68U10)

Bay, Karlheinz (*with* Lay, Wolfgang) The spectrum of the quartic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2127–2131. (Jorge E. Stephany Ruiz) **98c:81030** 81Q05

— (*with* Lay, Wolfgang; Akopyan, Alexey) Avoided crossings of the quartic oscillator. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3057–3067. (Gabriel Alvarez) **98e:81025** 81Q05

Bayad, Abdelmejid (*with* Robert, Gilles) Amélioration d'une congruence pour certains éléments de Stickelberger quadratiques. (English and French summaries) [Improvement of a congruence for certain quadratic Stickelberger elements] *Bull. Soc. Math. France* **125** (1997), *no.* 2, 249–267. (Werner Bley) **98h:11138** 11R27 (11R29)

— Valuation q-adique et relation de distribution additive pour certaines fonctions q-périodiques. (French summary) [q-adic valuation and additive distribution relation for certain q-periodic functions] *J. Number Theory* **65** (1997), *no.* 1, 1–22. (Werner Bley) **98d:11061** 11G07 (11S80)

Bayada, Guy (*with* Łukaszewicz, Grzegorz) On micropolar fluids in the theory of lubrication. Rigorous derivation of an analogue of the Reynolds equation. (English summary) *Internat. J. Engrg. Sci.* **34** (1996), *no.* 13, 1477–1490. (A. J. Meir) **98g:76024** 76D08 (76A05)

— (*with* Chambat, Michele; Lhalouani, Khalid; Sassi, Taoufik) Éléments finis avec joints pour des problèmes de contact avec frottement de Coulomb non local. (English and French summaries) [On the mortar finite element method for contact problems with nonlocal Coulomb law] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1323–1328. (Summary) **98j:73086** 73V05 (65N30, 73T05)

— (*with* Chambat, Michele; Lakhal, A.; Rochet, L.) A dynamic frictionless contact problem using Signorini like compliance laws. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1245–1260. (Meir Shillor) **98h:73072** 73T05 (73V25)

Bayanova, N. V. Coverings in the lattice of quasivarieties of l-groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 379–388, 497; *translation in Algebra and Logic* **35** (1996), *no.* 4, 211–216. (Sergei A. Gurchenkov) **98g:06024** 06F15

Bayard, David S. (*with* Chiang, Richard Y.) Identification, uncertainty characterization and robust control synthesis applied to large flexible structures control. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 97–112. (*see* **98k:93006**) 93C85 (93B30)

— *see also* **Kaufman, Howard et al., 98h:93001**

Bayardo, Roberto J., Jr. (*with* Miranker, Daniel P.) On the space-time trade-off in solving constraint satisfaction problems. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 558–562, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20 (68Q25)

Bayarri, M. J. *see* **Greenhouse, Joel, (98e:62007)**

Bayat, M. A generalization of Wolstenholme's theorem. *Amer. Math. Monthly* **104** (1997), *no.* 6, 557–560. (Laurentiu Panaitopol) **98e:11007** 11A41

Baye, Daniel (*with* Sparenberg, Jean-Marc; Lévai, Géza) Phase-equivalent complex potentials. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 295–313, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U05

— (*with* Lévai, Géza; Sparenberg, Jean-Marc) Analytical results on generating phase-equivalent potentials by supersymmetry: removal and addition of bound states. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 363–372, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (Summary) **98m:81198** 81U05 (81Q60)

Bayer, Margaret M. (*with* Brandt, Keith A.) Discriminantal arrangements, fiber polytopes and formality. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 229–246. (Hiroaki Terao) **98f:52011** 52B30

Bayer, Pilar (*with* González Rovira, Josep) On the Hasse-Witt invariants of modular curves. (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 57–76. (Noriko Yui) **98h:11074** 11G10 (11G18, 14G35)

Bayes, Thomas *see* **Gómez Villegas, Miguel A., (98m:00014)**

Bayın, Selçuk Ş. (*with* Cooperstock, Fred I.; Faraoni, Valerio) A singularity-free cosmological model. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 361–365, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

— (*with* Özcan, Mustafa) Casimir energy of the massless conformal scalar field on S^2 by the point-splitting method. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5240–5255. (Alfred Actor) **98j:81227** 81T20 (81T16)

Baylis, William E. (*with* Jones, George) Covariance and Chevalley-Riesz spinors. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 354–358, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81108** 81R25 (15A66)

— (*with* Jancewicz, Bernard) Clifford-valued functions in Cl_3. (English summary) *Clifford algebras and spinor structures*, 313–324, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Wolfgang Sprössig) **98h:30067** 30G35 (78A30)

— Pauli-algebra calculations in MAPLE V. (English summary) *Clifford algebras with numeric and symbolic computations*, 69–82, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

— The paravector model of spacetime. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 237–252, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (15A66)

— Eigenspinors in electrodynamics. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 253–268, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 78A35 (15A90, 78A25)

— Eigenspinors in quantum theory. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 269–284, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (81Q99)

— Eigenspinors in curved spacetime. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 285–296, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (81T20)

— Eigenspinors and electron spin. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 197–213. (*see*

98b:81004 81R25 (81V10)
— *see also* **Clifford (geometric) algebras, 98f:15022**
Bayliss, Mike (*with* Stewart, Ian N.; Reynolds, Len; Saynor, Derek; Muldoon, Mark; Nicol, Matthew) Chaos theory and wire coilability: the FRACMAT project. I. Data analysis. (English summary) *Math. Today (Southend-on-Sea)* **33** (1997), *no.* 4, 104–110. 90B25 (58F13)
— (*with* Stewart, Ian N.; Reynolds, Len; Saynor, Derek; Muldoon, Mark; Nicol, Matthew) Chaos theory and wire coilability: the FRACMAT project. II. The test machine. (English summary) *Math. Today (Southend-on-Sea)* **33** (1997), *no.* 6, 176–180. 90B25 (58F13)
Bayly, Philip V. (*with* Schmitt, John M.) Bifurcations in the mean angle of a horizontally shaken pendulum: analysis and experiment. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 1–14. 70K40 (34C23, 70–05)
Bayne, Richard E. (*with* Joseph, James E.; Kwack, Myung H.; Lawson, Thomas H.) A note on linear differential equations with constant coefficients. *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 41–45. 34A30
Bayo, E. (*with* Cuadrado, J.; Cardenal, Jesús) Modeling and solution methods for efficient real-time simulation of multibody dynamics. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 3, 259–280. 70–08 (70E99)
Bayoumi, Aboubakr (*with* Bashir, M. A.) Fixed points of holomorphic mappings of a complex manifold. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, I (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **19** (1995), 41–45. (Marco Abate) **98a:32037** 32H99
— Infinite-dimensional holomorphy without convexity condition. I. The Levi problem in nonlocally convex spaces. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 287–306, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Jorge Mujica) **98m:46061** 46G20 (32K99, 46A16, 58B12)
Bayoumi, B. I. (*with* El-Zahar, Mohamed H.; Khamis, S. M.) Algorithmic counting of types of UPO graphs and posets. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 117–122. (Summary) **98j:05002** 05A15 (05C30, 06A07)
Bayoumi, Fatma (*with* Gähler, Werner; Kandil, Ali; Nouh, Ali) On global fuzzy neighborhood structures. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 151–180. (Summary) **98m:54013** 54A40
— Stratified fuzzy uniformities. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 339–349. 54A40
Bayoumi, Magdy A. (*with* Ayoubi, R.; Elchouemi, A.; Alhalabi, B.) An efficient mapping algorithm of multilayer perceptron on mesh-connected architectures. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 273–285. (Summary) **98j:65096** 65Y05 (68T05)
Bayraktar, Mustafa (*with* Kadıoğlu, Ekrem) On the subrings of the ring of analytic functions and conformally equivalence. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 55–60 (1997). (Summary) **98k:30011** 30C35
Bayram, Mustafa Automatic derivation of steady state rate laws using a computer algebra system. (English summary) *Proc. Indian Nat. Sci. Acad. Part A* **63** (1997), *no.* 3, 241–249. 92E20
el Baz, D. *see* **El Baz, D.**
Bazaĭkin, Ya. V. On a family of 13-dimensional closed Riemannian manifolds of positive curvature. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 6, 1219–1237, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 6, 1068–1085. (Iskander A. Taimanov) **98c:53045** 53C20 (53C21)
flores-Bazán, Fabián *see* **Flores-Bazán, Fabián**
Bazán, Fermín S. V. (*with* Bezerra, Licio H.) On zero locations of predictor polynomials. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 6, 459–468. (Ljiljana Petković) **98m:65048** 65F15 (30C15, 94A12)
Bażański, Stanisław L. Is the geodesic hypothesis in general relativity falsifiable? *Mathematics of gravitation, Part II (Warsaw, 1996)*, 273–285, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (W. B. Bonnor) **98f:83011** 83C10
Bazhanov, Vladimir V. (*with* Bobenko, A.; Reshetikhin, N. Yu.) Quantum discrete sine-Gordon model at roots of 1: integrable quantum system on the integrable classical background. (English summary) *Comm. Math. Phys.* **175** (1996), *no.* 2, 377–400. (Andrey V. Tsiganov) **98b:82023** 82B23 (17B37, 35Q53, 81R50)
— (*with* Luk′yanov, Sergeĭ L.; Zamolodchikov, Aleksandr B.) Quantum field theories in finite volume: excited state energies. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 3, 487–531. (Andrei Babichenko) **98c:81196** 81T40
Bazhlekov, Ivan B. (*with* Koleva, M. G.; Vasileva, D. P.) Numerical algorithm for simulation of coupled heat-mass transfer and chemical reaction in two-phase steady flow. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 38–45, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M06 (76M20, 76T05, 80–08)
— (*with* Shopov, Petr I.) Numerical simulation of dynamic contact-line problems. (English summary) *J. Fluid Mech.* **352** (1997), 113–133. (Summary) **98h:76129** 76T05 (76M10)
Bazzani, A. (*with* Siboni, S.; Turchetti, G.) Action diffusion for symplectic maps with a noisy linear frequency. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 27–36. (Summary) **98c:82052** 82C31 (58F40)
Beagley, Nathaniel (*with* Loe, Brian J.) The coffee cup caustic for calculus students. *College Math. J.* **28** (1997), *no.* 4, 277–284. (D. R. J. Chillingworth) **98i:58035** 58C27 (53A04, 78A05)
Béal, Marie-Pierre (*with* Carton, Olivier; Reutenauer, Christophe) Cyclic languages and strongly cyclic languages. (English summary) *STACS 96 (Grenoble, 1996)*, 49–59, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68121** 68Q45 (68Q70)
— (*with* Mignosi, Filippo; Restivo, Antonio) Minimal forbidden words and symbolic dynamics. (English summary) *STACS 96 (Grenoble, 1996)*, 555–566, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68135** 68Q45 (58F03, 68R15)
— (*with* Bassino, Frédérique; Perrin, Dominique) Enumerative sequences of leaves in rational trees. (English summary) *Automata, languages and programming (Bologna, 1997)*, 76–86, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68143** 68Q45 (94A29)
Beale, J. Thomas (*with* Hou, Thomas Y.; Lowengrub, J. S.) Convergence of a boundary integral method for water waves. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1797–1843. (From the introduction) **98b:76009** 76B15 (35Q35, 65M12, 76B45, 76M25)
— (*with* Hou, Thomas Y.; Lowengrub, J. S.) Stability of boundary integral methods for water waves. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 107–127, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:76013** 76B15 (65M12, 76M25)
Bealer, George Propositions. (English summary) *Mind* **107** (1998), *no.* 425, 1–32. 03A05 (03B65)
Beals, Michael Global time decay of the amplitude of a reflected wave. *Partial differential equations and mathematical physics (Copenhagen, 1995; Lund, 1995)*, 25–44, *Progr. Nonlinear Differential Equations Appl.*, 21, *Birkhäuser Boston, Boston, MA*, 1996. (Peter R. Popivanov) **98b:35109** 35L20 (35B30)
Beals, R. *see* **Beals, Robert**
Beals, Richard (*with* Gaveau, Bernard; Greiner, Peter C.) Subelliptic geometry and fundamental solutions. (English summary) *Partial differential equations and their applications (Toronto, ON, 1995)*, 1–7, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:35025** 35H05 (35A08, 58G11)
— (*with* Gaveau, Bernard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. I. *Bull. Sci. Math.* **121** (1997), *no.* 1, 1–36. (Gerald B. Folland) **98b:35032a** 35H05 (32F40, 35A08, 35C20)
— (*with* Gaveau, Bernard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. II. *Bull. Sci. Math.* **121** (1997), *no.* 2, 97–149. (Gerald B. Folland) **98b:35032b** 35H05 (32F40, 35A08, 35C20)
— (*with* Gaveau, Bernard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. III. *Bull. Sci. Math.* **121** (1997), *no.* 3, 195–259. (Gerald B. Folland) **98b:35032c** 35H05 (32F40, 35A08, 35C20)
— (*with* Gaveau, Bernard; Greiner, Peter C.) Subelliptic geometry. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 25–39, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Chu Li Fu) **98m:35026** 35H05 (35A08, 58G99)
— (*with* Sattinger, David; Williams, Eric) A Dirac sea and thermodynamic equilibrium for the quantized three-wave interaction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 1–29. (Ricardo Weder) **98k:81144** 81S99 (82B10)
Beals, Robert Towards polynomial time algorithms for matrix groups. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 31–54, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Stephen A. Linton) **98g:20028** 20C40 (20D99, 68Q40)
— Equivalence of binary and ternary algebraic decision trees. (English summary) *Algorithmica* **18** (1997), *no.* 4, 521–523. (Summary) **98c:68067** 68Q15 (68Q05, 68Q40)
Beame, Paul W. (*with* Impagliazzo, Russell; Krajíček, Jan; Pitassi, Toniann; Pudlák, Pavel) Lower bounds on Hilbert's Nullstellensatz and propositional proofs. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 794–806, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98k:68008**) 03F20 (03D15, 68Q15)
— (*with* Fich, Faith E.; Sinha, Rakesh Kumar) Separating the power of EREW and CREW PRAMs with small communication width. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 89–99. (Summary) **98f:68069** 68Q05 (68Q10, 68Q22)
— *see also* **Proof complexity and feasible arithmetics, 98g:03132**
Bean, N. G. (*with* Bright, L.; Latouche, G.; Pearce, Charles E. M.; Pollett, P. K.; Taylor, Peter G.) The quasi-stationary behavior of quasi-birth-and-death processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 134–155. (Charles Tier) **98f:60180** 60K25
— (*with* Gibbens, R. J.; Zachary, S.) Dynamic and equilibrium behavior of controlled loss networks. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 873–885. (Summary) **98g:60160** 60K25 (60F15, 60J27, 60K30)
— (*with* Kelly, F. P.; Taylor, Peter G.) Braess's paradox in a loss network. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 155–159. (Shaler Stidham, Jr.) **98c:60155** 60K30 (68M20, 90B12)
Bear, H. S. ★ An introduction to mathematical analysis. *Academic Press, Inc., San Diego, CA*, 1997. xx+252 *pp. ISBN* 0-12-083940-7 (Ryszard J. Pawlak) **98h:00001** 00A05 (26–01)
Bear, Jacob (*with* Sorek, Shaul; Borisov, V. M.) On the Eulerian-Lagrangian formulation of balance equations in porous media. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 505–530. (Summary) **98g:76068** 76S05 (76M25, 76T05)
Beard, J. T. B., Jr. (*with* Dorris, Ann D.) On uniquely realizable degree sequences. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 87–98. (Summary) **98i:05157** 05C99
— (*with* Link, M. Leanne) Iterated sums of polynomial divisors. (English summary) *Libertas Math.* **17** (1997), 111–124. (Mireille Car) **98j:11114** 11T06 (11T55)
Beardon, Alan F. ★ Limits. (English summary) A new approach to real analysis. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. x+189 *pp. ISBN* 0-387-98274-4 (D. H. Armitage) **98i:26001** 26–01
— Utility representation of continuous preferences. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 369–372. (K. Zimmermann) **98h:90016** 90A10
Beasley, John E. (*with* Lucena, Abilio) Branch and cut algorithms. *Advances in linear and integer programming*, 187–221, *Oxford Lecture Ser. Math. Appl.*, 4, *Oxford Univ. Press, New York*, 1996. (*see* **98j:90002**) 90C27 (90C10)
— (*with* Nascimento, E. M.) The vehicle routing-allocation problem: a unifying framework. (English summary) *Top* **4** (1996), *no.* 1, 65–86. (Summary) **98c:90202** 90C35 (90B06)
— *see also* **Advances in linear and integer programming, 98j:90002**
Beasley, Leroy B. (*with* Kim, An-Hyun; Lee, Woo Young) On a positive linear map preserving absolute values. (English summary) *Linear Algebra Appl.* **260** (1997), 311–318. (Summary) **98c:46110** 46L05
— (*with* Kirkland, Stephen J.) On the exponent of a primitive matrix containing a primitive submatrix. (English summary) *Linear Algebra Appl.* **261** (1997), 195–205. (Yao Zhang)

98c:15062 15A48 (05C20, 05C50)

— (*with* Dias da Silva, J. A.) Orthogonal decomposable symmetrized tensors. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 1–21. (John Chollet) **98h:15052** 15A69 (15A15, 15A72, 15A75)

— (*with* Loewy, Raphael) Rank preservers on spaces of symmetric matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 63–86. (Summary) **98k:15002** 15A04 (15A03, 15A57)

Beato-Moreno, A. (*with* Osuna-Gómez, R.; Luque-Calvo, P.; Rufián-Lizana, A.) Invex and pseudoinvex functions in multiobjective programming. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 228–234, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

— (*with* Luque-Calvo, P.; Osuna-Gómez, R.; Rufián-Lizana, A.) Finding efficient points in multiobjective quadratic programming with strictly convex objective functions. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 365–373, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Fred Behringer) **98m:90124** 90C29 (49N15)

Beatson, R. K. (*with* Light, W. A.) Fast evaluation of radial basis functions: methods for two-dimensional polyharmonic splines. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 343–372. (Summary) **98d:65016** 65D07 (41A15)

Beatty, Millard F. (*with* Pan, Feixia) On determinants having complex conjugate columns or rows. (English summary) *J. Elasticity* **47** (1997), *no.* 1, 69–72. (Tao Kai Lam) **98j:15006** 15A15 (73H05)

— (*with* Pan, Feixia) Instability of a Bell constrained cylindrical tube under end thrust. I. Theoretical development. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 243–273. (Summary) **98e:73070** 73H05 (73C50)

— (*with* Jiang, Qing) On compressible materials capable of sustaining axisymmetric shear deformations. II. Rotational shear of isotropic hyperelastic materials. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 2, 211–237. (Summary) **98d:73024** 73C50 (73G05)

— On the motion of lineal bodies subject to linear damping. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 1, 227–229. (Summary) **98d:70010** 70E99 (70J99, 73K99)

Beaucoup, Franck (*with* Borwein, P. B.; Boyd, David W.; Pinner, Christopher G.) Power series with restricted coefficients and a root on a given ray. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 715–736. (Vanja Hadzijski) **98k:30006** 30C15 (30B10)

Beaudry, Martin Languages recognized by finite aperiodic groupoids (extended abstract). (English summary) *STACS 96* (*Grenoble*, 1996), 113–124, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q45 (20N02)

— (*with* Lemieux, François; Thérien, Denis) Finite loops recognize exactly the regular open languages. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 110–120, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68Q70)

— (*with* McKenzie, Pierre; Péladeau, Pierre; Thérien, Denis) Finite monoids: from word to circuit evaluation. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 138–152. (Summary) **98k:68070** 68Q15 (20M99, 68Q25)

Beaulieu, Pat W. (*with* Palfrey, Tommy C.) The Galois number. *Math. Ann.* **309** (1997), *no.* 1, 81–96. (Jürgen Ritter) **98k:11040** 11E81 (19G12, 20B05)

girault-Beauquier, Danièle *see* **Girault-Beauquier, Danièle**

costa de Beauregard, O. *see* **Costa de Beauregard, O.**

Beauregard, Raymond A. (*with* Suryanarayan, E. R.) Arithmetic triangles. *Math. Mag.* **70** (1997), *no.* 2, 105–115. (Andrew Bremner) **98d:11033** 11D09

Beauville, Arnaud Quantum cohomology of complete intersections. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 384–398. (Andreas Gathmann) **98i:14053** 14N10 (14M10)

Beauzamy, Bernard (*with* Frot, Jean-Louis; Millour, Christian) Massively parallel computations on many-variable polynomials. (English summary) *Ann. Math. Artificial Intelligence* **16** (1996), *no.* 1-4, 251–283. (Summary) **98c:68078** 68Q22 (68Q40)

— *see also* **Fetter, Helga**, **98k:46013**

Beaver, Donald Precomputing oblivious transfer. (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 97–109, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98a:94018** 94A60

— (*with* Feigenbaum, Joan; Kilian, Joe; Rogaway, Phillip) Locally random reductions: improvements and applications. (English summary) *J. Cryptology* **10** (1997), *no.* 1, 17–36. (Claus-Peter Schnorr) **98g:94022** 94A60 (68Q15)

Beaver, Robert J. (*with* Rahman, Mezbahur; Gokhale, D. V.) A note on estimating the combining constant in semiparametric density estimation. (English summary) *Rebrape* **11** (1997), *no.* 1, 37–50. 62G05

Beazley, David M. (*with* Lomdahl, Peter S.; Grønbech-Jensen, Niels; Giles, Roscoe; Tamayo, Pablo) Parallel algorithms for short-range molecular dynamics. (English summary) *Annual reviews of computational physics, III*, 119–175, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98b:82075**) 82C80

Bebernes, Jerrold W. (*with* Li, Congming; Li, Yi^2) Travelling fronts in cylinders and their stability. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 123–150. (Sergei A. Vakulenko) **98e:35089** 35K57 (35B40)

Bebiano, Natália (*with* da Providência, João) On the dual of a result of Miranda and Thompson. (English summary) *Linear Algebra Appl.* **262** (1997), 119–129. (Summary) **98c:15022** 15A15

— (*with* Li, Chi-Kwong; da Providência, João) Determinant of the sum of a symmetric and a skew-symmetric matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 74–82. (Peter Butkovič) **98c:15023** 15A15 (15A18, 15A57)

Bécache, Éliane (*with* Joly, Patrick; Tsogka, Chrysoula) Étude d'un nouvel élément fini mixte permettant la condensation de masse. (English and French summaries) [Construction and analysis of a new mixed finite element allowing mass lumping] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1281–1286. (Summary) **98b:65056** 65J10 (65N30)

Bécarie, Cécile Intrinsically parallel solution of systems of linear partial differential equations. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 205–227. (Summary) **98g:65138** 65Y05 (35–04)

Beccacece, F. (*with* Cigola, M.) Increasing maps. (English summary) *Optimization* **35** (1995), *no.* 4, 293–299. (Summary) **98j:26008** 26B35

Becchi, Carlo M. (*with* Giusto, Stefano; Imbimbo, Camillo) Gauge dependence in topological gauge theories. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 342–348. (Bai-Ling Wang) **98c:81221** 81T70 (58D29, 81T13)

Beceanu, Maria (*with* Pletea, Ariadna-Lucia) Convergence of a finite-difference scheme for a weakly elliptical equation with constant coefficients. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 287–292 (1997). (Bernd Heinrich) **98c:65176** 65N06 (65N12)

— (*with* Pletea, Ariadna-Lucia) The finite element methods for a class of degenerate elliptic equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 1-2, 55–59. 65N30

— Finite difference approximations for a class of degenerate elliptic equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 65–70. 65N06

Becerra, R. (*with* Spavieri, G.; Nieves, L.) Semiclassical interpretation of the Aharonov-Bohm quantum effects. (English summary) *Hadronic J.* **18** (1995), *no.* 6, 509–523. (Summary) **98a:81054** 81Q99

Bech, Knut H. (*with* Andersson, Helge I.) Turbulent plane Couette flow subject to strong system rotation. (English summary) *J. Fluid Mech.* **347** (1997), 289–314. (From the summary) **98h:76064** 76F99 (76U05)

Becher, Gérard Cyclic connections. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 80–92, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03009** 03B35 (68T15)

Bechtell, H. Complementation and chief factors in finite groups. *Comm. Algebra* **25** (1997), *no.* 2, 381–400. (Giovanni Zacher) **98b:20029** 20D30

Bechtold, J. K. (*with* Booty, M. R.; Kriegsmann, Gregory A.) Microwave-induced combustion: a one-dimensional model. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 57–80. (Summary) **98m:80007** 80A25

Beck, Andreas (*with* Balser, Werner) Necessary and sufficient conditions for matrix summability methods to be stronger than multisummability. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1349–1357. (Sarjoo Prasad Yadav) **98e:40004** 40D25 (34A25, 34E05, 40C05, 40G10)

Beck, Christian Stochastic processes from deterministic dynamics. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 3–19, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98f:82098** 82C31 (58F40, 81P20, 82B03)

— Coupled map lattices simulating hydrodynamical turbulence. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 528–536. (Summary) **98f:76039** 76F20 (58F13, 58F40)

Beck, Desiree A. The combinatorics of symmetric functions and permutation enumeration of the hyperoctahedral group. (English summary) *Discrete Math.* **163** (1997), *no.* 1-3, 13–45. (Edward E. Allen) **98f:05149** 05E10 (05E15)

Beck, Hanno *see* **Nature, mathematics and history**

Beck, József Deterministic graph games and a probabilistic intuition [MR 95h:90191]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 81–94, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 90D35 (05C20)

— Games, randomness and algorithms. *The mathematics of Paul Erdős, I*, 280–310, *Algorithms Combin.*, 13, *Springer, Berlin*, 1997. (*see* **97f:00032**) 90D46 (05A99)

guttmann-Beck, Nili *see* **Guttmann-Beck, Nili**

Beck, Uwe (*with* Kramer, Peter; Ben-Abraham, Shelomo I.) Automorphisms and discrete fiber bundles. *Symmetries in science, IX* (*Bregenz*, 1996), 179–192, *Plenum, New York*, 1997. (Karel A. Dekimpe) **98h:20089** 20H15 (82D25)

Beckenstein, Edward (*with* Araujo, Jesús; Narici, Lawrence) Biseparating maps and rings of continuous functions. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 296–303, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54035** 54C40 (46E25, 46J10, 54D60)

— (*with* Narici, Lawrence) Detaching maps between spaces of continuous functions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **15** (1995), *no.* 4, 607–620 (1996). (V. Kannan) **98b:46027** 46E10 (54D60)

— (*with* Narici, Lawrence; Schikhof, W. H.) Isometries between valued fields. (English summary) *p-adic functional analysis* (*Nijmegen*, 1996), 29–38, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Bertin Diarra) **98g:46112** 46S10 (12J25, 46B04)

— (*with* Narici, Lawrence) The Hahn-Banach theorem: the life and times. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 193–211. (Summary) **98c:01033** 01A60 (46–03, 46A22)

Becker, Bernd (*with* Drechsler, Rolf; Theobald, Michael) OKFDDs versus OBDDs and OFDDs. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 475–486, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q05

Becker, Claas Reflection positivity for quantum vector fields. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 76–90, *World Sci. Publishing, River Edge, NJ*, 1996. (A. L. Rebenko) **98f:81170** 81T08 (46N50)

— (*with* Sengupta, Ambar) Sewing Yang-Mills measures and moduli spaces over compact surfaces. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 74–99. (Dana S. Fine) **98k:58033** 58D20 (58D30, 81T13)

Becker, Eberhard (*with* Wörmann, T.) Radical computations of zero-dimensional ideals and real root counting. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 561–569. (Summary) **98a:68103** 68Q40

— (*with* Grobe, Rudolf; Niermann, Michael) Radicals of binomial ideals. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 41–79. (Rafael H. Villarreal) **98k:13029** 13P10 (13A10, 13F20)

Becker, George (*with* Ramesh, Anavai; Murray, Neil V.) CNF and DNF considered harmful for computing prime implicants/implicates. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 3, 337–356. (Summary) **98b:68164** 68T05 (03B05, 03D15)

Becker, Greg (*with* Wu, Fen; Yang, Xin Hua; Packard, Andy) Induced L_2-norm control for LPV systems with bounded parameter variation rates. (English summary) Linear matrix inequalities in control theory and applications. *Internat. J. Robust Nonlinear*

Control **6** (1996), *no.* 9-10, 983–998. (Andrzej Świerniak) **98a:93044** 93C41 (93B35, 93D05)

Becker, Helmut A semantic base for the fuzzy extension-principle. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 4, 337–353. (Summary) **98f:04004** 04A72

Becker, Howard (*with* Kechris, Alexander S.) ★ The descriptive set theory of Polish group actions. (English summary) London Mathematical Society Lecture Note Series, 232. *Cambridge University Press, Cambridge*, 1996. xii+136 *pp. ISBN* 0-521-57605-9 (Klaas Pieter Hart) **98d:54068** 54H05 (04A15, 04A20, 28A05)

Becker, Katrin (*with* Becker, Melanie) Boundaries in $\mathcal{M}$-theory. (English summary) *Nuclear Phys. B* **472** (1996), *no.* 1-2, 221–230. (Fermin Aldabe) **98a:81154** 81T30 (83E30)

— (*with* Becker, Melanie) $\mathcal{M}$-theory on eight-manifolds. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 155–167. (Angel Maria Uranga) **98b:81178** 81T30 (83E30)

— (*with* Becker, Melanie; Morrison, David R.; Ooguri, Hirosi; Oz, Yaron; Yin, Zheng) Supersymmetric cycles in exceptional holonomy manifolds and Calabi-Yau four-folds. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 225–238. (Bruce Hunt) **98b:81179** 81T30 (14J32, 32J18, 32J81, 53C42)

— (*with* Becker, Melanie) A two-loop test of M(atrix) theory. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 48–60. (Summary) **98i:81190** 81T30

— (*with* Becker, Melanie; Polchinski, Joseph; Tseytlin, Arkady A.) Higher order graviton scattering in M(atrix) theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, R3174–R3178. (Summary) **98g:81150** 81T30 (83E30)

Becker, Melanie (*with* Becker, Katrin) Boundaries in $\mathcal{M}$-theory. (English summary) *Nuclear Phys. B* **472** (1996), *no.* 1-2, 221–230. (Fermin Aldabe) **98a:81154** 81T30 (83E30)

— (*with* Becker, Katrin) $\mathcal{M}$-theory on eight-manifolds. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 155–167. (Angel Maria Uranga) **98b:81178** 81T30 (83E30)

— (*with* Becker, Katrin; Morrison, David R.; Ooguri, Hirosi; Oz, Yaron; Yin, Zheng) Supersymmetric cycles in exceptional holonomy manifolds and Calabi-Yau four-folds. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 225–238. (Bruce Hunt) **98b:81179** 81T30 (14J32, 32J18, 32J81, 53C42)

— (*with* Becker, Katrin) A two-loop test of M(atrix) theory. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 48–60. (Summary) **98i:81190** 81T30

— (*with* Becker, Katrin; Polchinski, Joseph; Tseytlin, Arkady A.) Higher order graviton scattering in M(atrix) theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, R3174–R3178. (Summary) **98g:81150** 81T30 (83E30)

Becker, Niels G. (*with* Dietz, Klaus) Reproduction numbers and critical immunity levels for epidemics in a community of households. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 267–276, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (*see* **98e:60004**) 92C60

— (*with* Hasofer, Abraham M.) Estimation in epidemics with incomplete observations. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 415–429. (Niels Keiding) **98f:62299** 62P10 (62M05)

— (*with* Utev, Sergeĭ) The effect of community structure on the immunity coverage required to prevent epidemics. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 23–39. 92C60

Becker, Otwin (*with* Kührer, Martin; Leopold-Wildburger, Ulrike) Experiments in economics—a qualitative forecasting approach. (English summary) *SOR '97 Proceedings (Preddvor)*, 1–11, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90A19 (90A56)

Becker, Peter Construction of nearly optimal multiway trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 294–303, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68040** 68P05

Becker, Peter A. Normalization integrals of orthogonal Heun functions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3692–3699. (Summary) **98k:34005** 34A20 (33E30)

Becker, R. *see* **Becker, Roland**

Becker, Richard Edouard A new tool in the theory of integral representation. *J. Convex Anal.* **3** (1996), *no.* 2, 349–360. (Cho Ho Chu) **98i:46005** 46A55 (46A03)

Becker, Roland (*with* Rannacher, R.) A feed-back approach to error control in finite element methods: basic analysis and examples. (English summary) *East-West J. Numer. Math.* **4** (1996), *no.* 4, 237–264. (Summary) **98m:65185** 65N30 (65M60)

Beckermann, B. (*with* Graves-Morris, P. R.) The compass (star) identity for vector-valued rational interpolants. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 279–294. (John G. Stalker) **98c:41018** 41A20 (41A21, 41A63, 65D15)

Beckers, Jules (*with* Debergh, N.) On supersymmetry and generalized deformations. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 207–210, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R50

— (*with* Debergh, N.) On Green-Cusson ansätze and deformed supersymmetric quantum mechanics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5297–5309. (Avinash Khare) **98b:81054** 81Q60 (81R50)

Beckers, M. (*with* Trieling, R. R.; van Heijst, G. J. F.) Dynamics of monopolar vortices in a strain flow. (English summary) *J. Fluid Mech.* **345** (1997), 165–201. (Summary) **98g:76011** 76C05 (76–05, 76M20, 76V05)

— (*with* van Heijst, G. J. F.) The observation of a triangular vortex in a rotating fluid. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 5, 265–279. 76C05 (76–05)

Beckers, P. (*with* Maunder, E. A. W.; Zhong, H. G.) A posteriori error estimators related to equilibrium defaults of finite element solutions for elastostatic problems. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 3, 171–192. (Summary) **98e:73137** 73V05 (73E99)

Beckert, Bernhard (*with* Hähnle, Reiner) Deduction by combining semantic tableaux and integer programming. (English summary) *Computer science logic (Paderborn, 1995)*, 52–63, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03029** 03B35 (68T15, 90C10)

— (*with* Posegga, Joachim) lean *EA*: a lean evolving algebra compiler. (English summary) *Computer science logic (Paderborn, 1995)*, 64–85, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q05 (68N17, 68Q55)

— (*with* Pape, Christian) Incremental theory reasoning methods for semantic tableaux. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 93–109, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03010** 03B35 (68T15)

— (*with* Goré, Rajeev) Free variable tableaux for propositional modal logics. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 91–106, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03032** 03B45 (03B35)

— Semantic tableaux with equality. (English summary) *J. Logic Comput.* **7** (1997), *no.* 1, 39–58. (Alexander Leitsch) **98i:03020** 03B35 (03B10, 68T15)

Beckman, David Eugene (*with* Chari, Amalavoyal N.; Devabhaktuni, Srikrishna; Preskill, John) Efficient networks for quantum factoring. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 2, 1034–1063. (Summary) **98b:81026** 81P99 (68Q05)

Beckmann, Arnold (*with* Weiermann, Andreas) A term rewriting characterization of the polytime functions and related complexity classes. (English summary) *Arch. Math. Logic* **36** (1996), *no.* 1, 11–30. (Evangelos Kranakis) **98i:03053** 03D15 (68Q15)

Beckner, William Logarithmic Sobolev inequalities and the existence of singular integrals. (English summary) *Forum Math.* **9** (1997), *no.* 3, 303–323. (J. Michael Pearson) **98a:42010** 42B20 (46E35)

— (*with* Pearson, J. Michael) On sharp Sobolev embedding and the logarithmic Sobolev inequality. *Bull. London Math. Soc.* **30** (1998), *no.* 1, 80–84. (Petr Gurka) **98k:46048** 46E35 (26D10, 58G99)

van Beckum, F. P. H. (*with* Muksar, M.; Soewono, E.) Nonlinear Galerkin method for Hamiltonian systems; comparison of two approximation techniques. (English summary) *Differential equations (Bandung, 1996)*, 211–220, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 65M60 (35Q53)

Bector, C. R. (*with* Singh, Manohar) Duality for minmax B-vex programming involving n-set functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 112–131. (Jean-Pierre Crouzeix) **98k:90077** 90C26 (26B25, 49N15, 90C32)

— (*with* Gill, Avninder; Singh, Manohar) On solving a linear program with an infeasible optimal basic solution. (English summary) *Util. Math.* **51** (1997), 119–124. (Summary) **98i:90052** 90C05

Béda, Gyula Constitutive equations and nonlinear waves. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 397–407. (*see* **98i:00027**) 73B05 (73D99)

Béda, P. B. Material instability in dynamical systems. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 3, 501–513. (Summary) **98d:73041** 73H10 (34C99, 73E99)

Beddaa, A. Sur l'expression du radical et du spectre dans une algèbre normée non complète. [Expression of the radical and the spectrum in an incomplete normed algebra] *Extracta Math.* **11** (1996), *no.* 2, 261–267. (Maria Fragoulopoulou) **98h:46047** 46H05 (46H20)

Beddhu, Murali (*with* Jiang, Min-Yee; Taylor, Lafayette K.; Whitfield, David L.) Computation of steady and unsteady flows with a free surface around the Wigley hull. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 67–84. (*see* **98g:00021**) 76M20

Bedeaux, D. (*with* Murdoch, A. I.) A microscopic perspective on the physical foundations of continuum mechanics. I. Macroscopic states, reproducibility, and macroscopic statistics, at prescribed scales of length and time. (English summary) *Internat. J. Engrg. Sci.* **34** (1996), *no.* 10, 1111–1129. (Summary) **98j:73003** 73A05 (73B99, 82C03)

Bedekar, Anand S. (*with* Azizoğlu, Murat) The information-theoretic capacity of discrete-time queues. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 446–461. 60K25

matulič-Bedenič, Ida *see* **Matulič-Bedenič, Ida**

Bedford, David Quasi-orthogonal Latin squares and related designs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 213–224. (Summary) **98i:05024** 05B15

Bedford, Tim (*with* Meilijson, Isaac) The marginal distributions of lifetime variables which right censor each other. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 11–23, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62E10 (62G05, 62N05)

— (*with* Meilijson, Isaac) A characterization of marginal distributions of (possibly dependent) lifetime variables which right censor each other. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1622–1645. (Moshe Shaked) **98g:62095** 62G30 (62E10, 62N05)

— (*with* Meeuwissen, A. M. H.) Minimally informative distributions with given rank correlation for use in uncertainty analysis. (English summary) *J. Statist. Comput. Simulation* **57** (1997), *no.* 1-4, 143–174. 60E05 (62E25, 62H05, 94A17)

Bedivan, Dana M. (*with* Bochev, Pavel B.) Least-squares methods for Navier-Stokes boundary control problems. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1997), *no.* 1, 43–58. (Summary) **98k:76084** 76M10 (65M60, 76D05, 93C20)

— Existence of a solution for complete least squares optimal shape problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 495–505. (Maitine Bergounioux) **98i:49042** 49Q10 (49J10)

— (*with* Fix, George J.) Analysis of finite element approximation and quadrature of Volterra integral equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 663–672. (Jose Cuminato) **98i:65119** 65R20 (45L05)

Bedjaoui, Nabil Traveling waves solutions of a convective-dispersive system modeling two-phase fluid flows. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 887–908. (Shu Ming Sun) **98k:76140** 76T05 (35Q35, 76M10)

Bednář, M. (*with* Kolář, P.) On the relativistic spin projection operators. (English summary) *Czechoslovak J. Phys.* **43** (1993), *no.* 8, 777–782. (Summary) **98a:81065** 81R25

Bednarchuk, Debe Heat kernel for regular trees. *Harmonic functions on trees and buildings (New York, 1995)*, 111–112, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 58G11 (05C05, 39A12)

— (*with* Helm, Martin) A note on the Beck-Fiala theorem. (English summary) *Combinatorica* **17** (1997), *no.* 1, 147–149. (Miklós Bóna) **98d:05003** 05A05 (05D05)

Bednarczyk, Marek A. Logic of predicates with explicit substitutions. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 192–205, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Aldo Ursini) **98k:03119** 03F50 (03B60)

Bednarik, Robert G. (*with* Warner, Charles) Pleistocene knotting. *History and science of knots*, 3–18, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (01A10, 57–03, 57M25)

Bédos, Erik On Følner nets, Szegö's theorem and other eigenvalue distribution theorems. (English summary) *Exposition. Math.* **15** (1997), *no.* 3, 193–228. (G. V. Rozenblyum) **98h:47065a** 47D25 (43A07, 46E30, 46L99, 47B35, 47B39, 81Q10)

— *see also* **Errata: "On Følner nets, Szegő's theorem and other eigenvalue distribution theorems", 98h:47065b**

Bedran, M. L. (*with* Calvão, M. O.; Paiva, F. M.; Soares, Ivano Damião) Taub's plane-symmetric vacuum spacetime reexamined. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3431–3439. (Nora Bretón Báez) **98e:83023** 83C20 (83C15)

Bedre Özbakir, O. (*with* Aslim, G.) On some types of fuzzy continuous multifunctions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 217–230. 54A40 (54C60)

Bedrick, Edward J. (*with* Breslin, Frederick C.) Estimating the polyserial correlation coefficient. (English summary) *Psychometrika* **61** (1996), *no.* 3, 427–443. (Summary) **98k:62102** 62H20 (62P15)

— (*with* Christensen, Ronald) Testing the independence assumption in linear models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1006–1016. (Summary) **98f:62193** 62J05

Bedürftig, Gerald (*with* Frahm, Holger) Spectrum of boundary states in the open Hubbard chain. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4139–4149. (Summary) **98i:82013** 82B20

Beebee, Helen (*with* Papineau, David) Probability as a guide to life. *J. Philos.* **94** (1997), *no.* 5, 217–243. 03B48

op de Beeck, M. *see* **Op de Beeck, M.**

ter Beek, Maurice H. Teams in grammar systems: sub-context-free cases. (English summary) *New trends in formal languages*, 197–216, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68093** 68Q50 (68Q45)

van Beek, Paul (*with* van Sonsbeek, J. Th. M.; Urlings, H. A. P.; Bijker, P. G. H.; Hagelaar, J. F. L.) Mixed integer programming for strategic decision support in the slaughter by-product chain. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 159–168. (*see* **98e:90009**) 90C90 (90B70)

van Beek, Peter (*with* Dechter, Rina) Local and global relational consistency. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 240–257, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 68T20

— (*with* Dechter, Rina) Constraint tightness and looseness versus local and global consistency. (English summary) *J. ACM* **44** (1997), *no.* 4, 549–566. (Summary) **98h:68215** 68T30 (68Q25, 68T20)

Beel, Sarah R. (*with* Fisher, David C.) The 2-packing number of 3-dimensional grids. (English summary) *Ars Combin.* **48** (1998), 245–256. (Summary) **98m:05041** 05B45

Beem, John K. Lorentzian geometry in the large. (English summary) *Mathematics of gravitation, Part I* (*Warsaw*, 1996), 11–20, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Eduardo García-Río) **98k:53084** 53C50

Beeri, Catriel (*with* Milo, Tova) Comparison of functional and predicative query paradigms. (English summary) 11th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Diego, CA, 1992). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 1, 3–33. (Summary) **98i:68063** 68P15

Be'ery, Yair (*with* Berger, Yuval) The twisted squaring construction, trellis complexity, and generalized weights of BCH and QR codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1817–1827. (Summary) **98d:94045** 94B60

Bees, M. A. (*with* Hill, N. A.; Pedley, T. J.) Analytical approximations for the orientation distribution of small dipolar particles in steady shear flows. (English summary) *J. Math. Biol.* **36** (1998), *no.* 3, 269–298. (Summary) **98k:76155** 76Z05 (76M35)

— (*with* Hill, N. A.) Linear bioconvection in a suspension of randomly swimming, gyrotactic micro-organisms. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1864–1881. 76Z10

Beesham, Aroonkumar Friedmann models with bulk viscosity in Brans-Dicke theory. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 64–68, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83D05

— (*with* Banerjee, Asit Kumar; Chatterjee, Sujit; Sen, A. A.) Global monopole in scalar tensor theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 645–652. (Summary) **98k:83070** 83D05

— (*with* Singh, Tarkeshwar[2]; Mbokazi, W. S.) Bulk viscous cosmological models with variable G and Λ. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 573–581. 83D05

mari Beffa, Gloria *see* **Mari Beffa, Gloria**

Beffa, Gloria Mari *see* **Mari Beffa, Gloria**

Beg, Ismat (*with* Latif, Abdul; Minhas, Tahira Yasmeen) Some fixed point theorems in topological vector spaces. *Demonstratio Math.* **29** (1996), *no.* 3, 549–555. (Jagadish Achari) **98a:47057** 47H10 (54H25)

— (*with* Azam, Akbar) Construction of fixed points for generalized nonexpansive mappings. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 161–170. 54H25 (47H10, 54E40)

— (*with* Shahzad, Naseer) On random approximations and a random fixed point theorem for multivalued mappings defined on unbounded sets in Hilbert spaces. (English summary) *Stochastic Anal. Appl.* **14** (1996), *no.* 5, 507–511. 47H40 (47H04, 47H10, 60H25)

— Random fixed points of non-self-maps and random approximations. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 127–130. (Summary) **98a:47058** 47H10 (41A50, 47H40, 60H25)

— (*with* Islam, Misbah Ul) Fuzzy Archimedean spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 413–423. (W. J. Kotzé) **98h:46085** 46S40 (04A72, 06F20, 46A40)

— Random fixed points of random operators satisfying semicontractivity conditions. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 151–155. (A. Nowak) **98j:47127** 47H10 (47H40, 60H25)

— σ-complete fuzzy Riesz spaces. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 292–299. (Introduction) **98d:46087** 46S40 (04A72, 46A40)

— (*with* Popovici, Ioan Mircea; Danet, Rodica Mihaela) Decomposition of the space of regular operators. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 281–284. (W. A. J. Luxemburg) **98k:47071** 47B60 (46B28)

— (*with* Shahzad, Naseer) Measurable selections: in random approximations and fixed point theory. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 1, 19–29. (Tong Shan Lu) **98d:47157** 47H40 (47H10, 54H25, 60H25)

— Fixed points of fuzzy multivalued mappings with values in fuzzy ordered sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 127–131. 03E72 (06A06)

— Fixed point theorems in 2-metric spaces with an application to variational inequalities. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 1–7. 54H25 (47H10, 47H15, 49J40, 54C60)

Beg, M. I. (*with* Balasubramanian, Krishnaswami; Bapat, R. B.) An identity for the joint distribution of order statistics and its applications. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 13–21. (Jagdish Saran) **98f:62148** 62G30

— (*with* Balasubramanian, Krishnaswami) Concomitant of order statistics in Morgenstern type bivariate exponential distributions. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 233–245. 62G30

— Corrigendum: "On symmetric random variables" [J. Appl. Statist. Sci. **2** (1995), no. 1, 13–22; MR 96f:62024]. *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 319–320. 62E10 (62G30)

Begain, K. Discrete performance model of ATM multiplexer with on-off and CBR sources. (English summary) *Calcolo* **32** (1995), *no.* 3-4, 137–152 (1997). 90B15

Bege, Antal Two asymptotic formulas related to bi-unitary divisors. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 1, 7–14. (V. Siva Rama Prasad) **98g:11105** 11N37

Begehr, Heinrich (*with* Akal, M.) On the Pompeiu operator of higher order and applications. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 233–261. (Guo Chun Wen) **98f:35023** 35G15 (30E25, 35J55, 35Q15, 47B38, 47F05)

— (*with* Hile, Gerald N.) Higher order Cauchy Pompeiu operators. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 41–49, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Vladimir Mityushev) **98m:35046** 35J40 (30E25, 30G20, 35J25, 47B38)

— *see also* **Bliev, N., 98g:30075**

Begg, Colin B. (*with* Venkatraman, E. S.) A distribution-free procedure for comparing receiver operating characteristic curves from a paired experiment. (English summary) *Biometrika* **83** (1996), *no.* 4, 835–848. (Summary) **98b:62088** 62G10

Beggs, Edwin J. (*with* Johnson, Peter R.) Inverse scattering and solitons in A_{n-1} affine Toda field theories. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 653–681. (Henrik Aratyn) **98a:81251** 81U40 (58F07, 81T10)

Beghi, Alessandro (*with* Lepschy, Antonio; Viaro, Umberto) Approximating delay elements by feedback. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 9, 824–828. 93B30 (93B52)

— Continuous-time Gauss-Markov processes with fixed reciprocal dynamics. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 343–366. (Summary) **98g:60077** 60G15 (93E20)

Beghi, L. (*with* Xausa, E.; Tomat, L.; Zanforlin, M.) The depth effect of an oscillating tilted bar. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 11–18. (Summary) **98h:92058** 92J30

Begmatov, Akram Kh. Weakly ill-posed problems of integral geometry of Volterra type. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 3, 297–298. (Alexander S. Denisjuk) **98a:45003** 45D05 (44A12)

— A problem in integral geometry for a family of cones in an n-dimensional space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 500–505, i; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 430–435. (R. G. Mukhometov) **98a:53106** 53C65

— Volterra problems of integral geometry in the plane for curves with singularities. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 723–737; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 621–635. (Alexander S. Denisjuk) **98g:45001** 45D05

Begmuratov, K. A. (*with* Martynyuk, A. A.) Analytical construction of the hierarchical matrix Lyapunov function for impulse systems. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 548–557; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 4, 604–617 (1998). (Florin Iacob) **98i:34021** 34A37 (34D20, 93D30)

Begum, M. I. Afthab (*with* Nadarajan, R.) Multiserver Markovian queueing system with vacation. (English summary) *Optimization* **41** (1997), *no.* 1, 71–87. (Summary) **98b:60154** 60K25

Behboodian, J. (*with* Fazli, K.) Skorohod's theorem and convergence of types. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 73–74, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 60F05

Behera, Akrur (*with* Panda, G. K.) Nonlinear random variational inequality and complementarity problems in Banach spaces. (English summary) *Indian J. Math.* **38** (1996), *no.* 1, 27–37 (1997). (Summary) **98i:47058** 47H19 (47H40, 49J40, 60H25)

— (*with* Panda, G. K.) Variational inequality problem in Hausdorff topological vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 181–187. (Xie Ping Ding) **98c:49019** 49J40 (47H19)

— (*with* Panda, G. K.) Generalized variational-type inequality in Hausdorff topological vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 343–349. (Xie Ping Ding) **98c:49020** 49J40 (47H19)

— (*with* Panda, G. K.) A generalization of Minty's lemma. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 897–903. (Christian Michelot) **98j:47152** 47H19 (49J40)

— Fuzzy topological intersection theorem. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 119–123. 54A40

Beheshti, M. (*with* Berrashed, A.; de Korvin, A.; Hu, Chen-Yi; Sirisaengtaksin, O.) Fuzzy Petri nets for decision making in uncertain and variable environments. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 309–323. 90A05 (90C70)

Behn, Ulrich (*with* Düring, Alexander) Selective stabilisation of very long unstable periodic orbits in chaotic systems. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 177–182. (Summary) **98a:58116** 58F13 (58F22, 82C05)

Behncke, Horst (*with* Remling, Christian) Asymptotic integration of linear differential equations. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 585–597. (Donald A. Lutz) **98i:34012** 34A30 (34C99, 34E99)

— Optimization models for the force and energy in competitive running. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 375–390. 92C05

Behnia, Masud (*with* Le Quéré, Patrick) From onset of unsteadiness to chaos in a differentially heated square cavity. (English summary) *J. Fluid Mech.* **359** (1998), 81–107. 76E15 (76F20)

Behra, A. (*with* Panda, G. K.) A variational-type inequality and Minty's like lemma. (English summary) *Opsearch* **33** (1996), *no.* 4, 213–220. (Wan Tao Fu) **98m:49013**

49J40 (47H19, 90C33)

Behravesh, Houshang The minimal degree of a faithful quasi-permutation representation of an abelian group. *Glasgow Math. J.* **39** (1997), *no.* 1, 51–57. (Harold N. Ward) **98c:20011** 20C15 (20K01)

— Quasi-permutation representations of p-groups of class 2. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 251–260. (Gabriel Navarro) **98a:20005** 20C15

Behrend, K. (*with* Manin, Yurii Ivanovich) Stacks of stable maps and Gromov-Witten invariants. *Duke Math. J.* **85** (1996), *no.* 1, 1–60. (Barbara Fantechi) **98i:14014** 14D20 (14C25, 14D22)

— Gromov-Witten invariants in algebraic geometry. (English summary) *Invent. Math.* **127** (1997), *no.* 3, 601–617. (Barbara Fantechi) **98i:14015** 14D20 (14C25, 14D22)

— (*with* Fantechi, Barbara) The intrinsic normal cone. (English summary) *Invent. Math.* **128** (1997), *no.* 1, 45–88. (Tohru Nakashima) **98e:14022** 14F99 (14C15, 14D20)

Behrend, Roger E. (*with* Pearce, Paul A.) Reflection equations and exactly solvable lattice spin models. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1179–1187. (Summary) **98f:82041** 82B23 (81R50)

— (*with* Pearce, Paul A.) A construction of solutions to reflection equations for interaction-round-a-face models. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7827–7835. (Summary) **98d:82018** 82B23 (82B20)

— (*with* Pearce, Paul A.) Boundary weights for Temperley-Lieb and dilute Temperley-Lieb models. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 23, 2833–2847. (Takeo Kojima) **98m:82019** 82B23 (82B20)

Behrens, Jörn A parallel adaptive finite-element semi-Lagrangian advection scheme for the shallow water equations. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 49–60, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (*see* **98f:76003**) 76M10 (76B15)

— Atmospheric and ocean modeling with an adaptive finite element solver for the shallow-water equations. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 217–226. (*see* **98i:65004**) 65M50 (65M60)

Behringer, Fred Alois Concavity of the vector-valued functions occurring in fuzzy multiobjective decision-making. (English summary) *Applied mathematics and parallel computing*, 35–55, *Physica, Heidelberg*, 1996. (*see* **98c:65006**) 90C29 (90C70)

Behringer, R. P. *see* **Nonlinear dynamics and chaos**, **98f:58005** *and* **98f:58006**

Behrndt, Klaus (*with* Kallosh, Renata) $F\&H$ monopoles. (English summary) *Nuclear Phys. B* **468** (1996), *no.* 1-2, 85–112. (Clifford V. Johnson) **98c:81155** 81T30 (81T60, 83E30)

— (*with* Cardoso, Gabriel Lopes; Gaida, Ingo) Quantum $N = 2$ supersymmetric black holes in the S-T model. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 267–292. (Summary) **98m:83041** 83C57 (81T30, 83E30)

— (*with* Förste, Stefan; Schwager, Stefan) Instanton effects in string cosmology. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 391–408. (Summary) **98k:83081** 83E30 (81T30)

— Classical and quantum aspects of 4-dimensional black holes. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 11–22. (Summary) **98c:83056** 83C57 (81T20, 83E30)

— Quantum corrections for $D = 4$ black holes and $D = 5$ strings. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 77–84. (Summary) **98b:83084** 83E30 (81T30, 83C57)

— (*with* Sabra, Wafic A.) Static $N = 2$ black holes for quadratic prepotentials. (English summary) *Phys. Lett. B* **401** (1997), *no.* 3-4, 258–262. (Summary) **98c:83094** 83E30 (83C57)

— (*with* Gaida, Ingo) Subleading contributions from instanton corrections in $N = 2$ supersymmetric black hole entropy. (English summary) *Phys. Lett. B* **401** (1997), *no.* 3-4, 263–267. (Summary) **98a:83114** 83E30 (83C57)

— (*with* Bergshoeff, E. A.; Janssen, Bert) Intersecting D-branes in ten and six dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3785–3792. (Summary) **98f:81236** 81T30 (83E30)

— (*with* Cvetič, Mirjam) BPS-saturated bound states of tilted p-branes in type II string theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1188–1193. (Summary) **98f:81237** 81T30 (83E30)

— (*with* Mohaupt, Thomas) Entropy of $N = 2$ black holes and their M-brane description. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2206–2211. (Paulo Moniz) **98g:83099** 83E30 (81T30, 83C57)

— (*with* Lüst, Dieter; Sabra, Wafic A.) Moving moduli, Calabi-Yau phase transitions and massless BPS configurations in type II superstrings. (English summary) *Phys. Lett. B* **418** (1998), *no.* 3-4, 303–311. (Summary) **98m:81128** 81T30 (14J32, 32J81, 83E30)

Behroozi, F. On the equilibrium of coplanar forces. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 217–219. 70C20

Beibel, M. Bayes problems in change-point models for the Wiener process. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 1–6, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62L15 (62C10)

— (*with* Lerche, H. R.) A new look at optimal stopping problems related to mathematical finance. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 93–108. (Tõru Nakai) **98i:62065** 62L15 (60G40, 90A09)

Beidar, K. I. (*with* Fong, Yuen; Ke, Wen-Fong) On the simplicity of centralizer nearrings. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 139–146, *de Gruyter, Berlin*, 1996. (Geoffrey L. Booth) **98c:16059** 16Y30

— (*with* Fong, Yuen; Knauer, Ulrich; Mikhalëv, A. V.; Shum, Kar Ping) Semigroups with generalized polynomial identities. (English summary) *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 147–157, *de Gruyter, Berlin*, 1996. (Nikola Ruškuc) **98d:20065** 20M10 (20M50)

— (*with* Wiegandt, Richard) Radicals induced by the total of rings. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 149–159. (Edmund R. Puczyłowski) **98e:16021** 16N80 (16N60)

— On rings with zero total. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 233–239. (John Hannah) **98h:16046** 16S90 (16D50, 16E50, 16S50)

— (*with* Fong, Yuen; Lee, Pjek Hwee; Wang, Ts'ai Lien) On additive maps of prime rings satisfying the Engel condition. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3889–3902. (Summary) **98i:16022** 16R50 (16N60)

— (*with* Fong, Yuen; Stolin, Alexander) On antipodes and integrals in Hopf algebras over rings and the quantum Yang-Baxter equation. (English summary) *J. Algebra* **194** (1997), *no.* 1, 36–52. (Mitsuhiro Takeuchi) **98f:16026** 16W30 (16L60)

— (*with* Fong, Yuen; Stolin, Alexander) Symmetric algebras and Yang-Baxter equation. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 15–28. (Shao-Ming Fei) **98g:17012** 17B35 (81R50)

Beidleman, James C. (*with* Dixon, Martyn R.; Robinson, Derek J. S.) Normalizers of subnormal subgroups. *Infinite groups* 1994 (*Ravello*), 23–32, *de Gruyter, Berlin*, 1996. (*see* **98c:20004**) 20E15

— (*with* Robinson, Derek J. S.) On finite groups satisfying the permutizer condition. (English summary) *J. Algebra* **191** (1997), *no.* 2, 686–703. (Ji Ping Zhang) **98j:20016** 20D10

Beier, Klaus-Peter (*with* Chen, Yifan; Papageorgiou, Dimitris) Direct highlight line modification on NURBS surfaces. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 583–601. 65D17 (65D15)

Beig, Robert TT-tensors and conformally flat structures on 3-manifolds. (English summary) *Mathematics of gravitation, Part I* (*Warsaw*, 1996), 109–118, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Volker Perlick) **98k:53040** 53C20 (58G05)

— (*with* Hall, Graham S.; Capocci, M. S.) Zeros of conformal vector fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, L49–L52. (J. S. Joel) **98m:53030** 53B30

— (*with* Szabados, László B.) On a global conformal invariant of initial data sets. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3091–3107. (Jorge A. Pullin) **98k:83003** 83C05

— (*with* Chruściel, Piotr T.) The isometry groups of asymptotically flat, asymptotically empty space-times with timelike ADM four-momentum. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 585–597. (Charles G. Torre) **98m:83013** 83C20 (83C30)

Beige, Almut (*with* Hegerfeldt, Gerhard C.; Sondermann, Dirk G.) Atomic quantum Zeno effect for ensembles and single systems. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1671–1688. (Summary) **98k:81023** 81P15

— (*with* Hegerfeldt, Gerhard C.) Quantum Zeno effect and light-dark periods for a single atom. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1323–1334. (Yu. P. Rybakov) **98g:81007** 81P05 (81V45, 81V80)

Beigel, Richard (*with* Agrawal, Manindra; Thierauf, Thomas) Pinpointing computation with modular queries in the Boolean hierarchy. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 322–334, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68081** 68Q15

— (*with* Fu, Bin) Molecular computing, bounded nondeterminism, and efficient recursion. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 816–826, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68055** 68Q05 (68Q15)

— (*with* Gasarch, William Ian; Li, Ming[1]; Zhang, Louxin) Addition in $\log_2 n + O(1)$ steps on average. A simple analysis. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 245–248. (Summary) **98m:68110** 68Q25 (68Q30)

— *see also* **ACM Symposium: Theory of Computing**, **98d:68005**

Beigy, Hamid (*with* Eydgahi, Ali Mohammadzadeh) Fuzzy modeling of two-dimensional linear systems. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 41–45 (*reprinted on* 79–83), *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 93C42 (93A30)

van Beijeren, H. (*with* Appert, C.; Ernst, M. H.; Dorfman, J. R.) Thermodynamic formalism and localization in Lorentz gases and hopping models. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1253–1271. (Summary) **98g:82035** 82C40

Beil, R. G. Notes on a new Finsler metric function. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 1–6. (*see* **98k:53002**) 53B40 (53B50, 83D05)

Beimel, Amos (*with* Gál, Anna; Paterson, M. S.) Lower bounds for monotone span programs. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 1, 29–45. (Juraj Hromkovič) **98c:68086** 68Q25 (68Q15, 94A60, 94C10)

— (*with* Kushilevitz, Eyal) Learning boxes in high dimension. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 3–15, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98j:68143** 68T05 (68Q99)

Beineke, Lowell W. (*with* Goddard, Wayne; Lipman, Marc J.) Graphs with maximum edge-integrity. (English summary) *Ars Combin.* **46** (1997), 119–127. (Summary) **98d:05071** 05C35

— (*with* Henning, Michael A.) Opinion functions on trees. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 127–139. (Summary) **98a:05049** 05C05

— (*with* Vandell, Robert C.) Decycling graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 59–77. (Andreas Huck) **98b:05059** 05C38

— *see also* **Graph theory in computer science, chemistry, and other fields**, **98f:05002**

Beirão da Veiga, H. A new approach to the L^2-regularity theorems for linear stationary nonhomogeneous Stokes systems. (English summary) *Portugal. Math.* **54** (1997), *no.* 3, 271–286. (Peter E. Kloeden) **98i:35139** 35Q30 (35B30, 35B65, 76D07)

Beirlant, Jan (*with* Vynckier, Petra; Teugels, Józef L.) Excess functions and estimation of the extreme-value index. (English summary) *Bernoulli* **2** (1996), *no.* 4, 293–318. (Arnold Janssen) **98h:62086** 62G30

— (*with* Vynckier, Petra; Teugels, Józef L.) Tail index estimation, Pareto quantile plots, and regression diagnostics. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1659–1667. (Arnold Janssen) **98b:62094** 62G30 (62G05, 62G20)

— (*with* Einmahl, John H. J.) Maximal type test statistics based on conditional processes. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 1, 1–19. (Winfried Stute) **98k:62046** 62G05 (62G10, 62G20)

— (*with* Dudewicz, E. J.; Györfi, László; van der Meulen, Edward C.) Nonparametric entropy estimation: an overview. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 17–39. (Summary) **98d:62006** 62B10 (62G05)

— (*with* Caers, Jef; Vynckier, Petra) Bootstrap confidence intervals for tail indices. (English summary) *Comput. Statist. Data Anal.* **26** (1998), *no.* 3, 259–277. 62G09 (62G15)

Beissinger, Janet S. (*with* Peled, Uri N.) A note on major sequences and external activity in trees. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 4, *approx.* 10 *pp.* (*electronic*). (Renzo Sprugnoli) **98d:05004** 05A05 (05C50)

Bejan, Cornelia-Livia (*with* Ornea, Liviu) An example of an almost hyperbolic Hermitian manifold. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 613–618. (Andrew Bucki) **98m:53039** 53C15 (53C50)

Bejancu, Aurel The transversal vector bundle of a lightlike submanifold. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 9–21. 53C50

— Null hypersurfaces of Finsler spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 3, 547–558. (László Kozma) **98b:53067** 53C60

— Null hypersurfaces of semi-Euclidean spaces. *Saitama Math. J.* **14** (1996), 25–40. (Eduardo García-Río) **98h:53101** 53C50 (53C40)

Bejarano, J. D. *see* **Díaz Bejarano, José**

díaz Bejarano, José *see* **Díaz Bejarano, José**

arteaga Bejarano, José Ricardo *see* **Arteaga Bejarano, José Ricardo**

Bekakos, Michael P. (*with* Mousadis, Georgios Ioannis; Tsiligirides, T. A.) Analysis of some adaptive, feedback based schemes with applications to high speed data networks. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 325–333. 93C83 (93C95)

— (*with* Bartzi, Anastasia A.) Systolic bandwidth and profile reduction of sparse matrices on pipenets. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2883–2889. (*see* **98i:00031**) 65F50

— (*with* Mousadis, Georgios Ioannis; Tsiligirides, T. A.) A numerical approach in rate-based flow control analysis of single hop networks of high speed. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2915–2923. (*see* **98i:00031**) 90B12

Beker, Haluk SU(1, 1) perturbations of the s-wave Morse potential problem. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 999–1004. 81Q15

Békési, József (*with* Galambos, Gábor; Pferschy, Ulrich; Woeginger, Gerhard J.) Worst-case analysis for on-line data compression. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 288–300, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98b:68071** 68Q25 (68P99)

— (*with* Galambos, Gábor; Pferschy, Ulrich; Woeginger, Gerhard J.) Greedy algorithms for on-line data compression. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 274–289. (Summary) **98j:68020** 68P99

rofe-Beketov, F. S. *see* **Rofe-Beketov, F. S.**

Bekka, Karim (*with* Koike, Satoshi) The Kuo condition, Thom's type inequality and (c)-regularity. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 41–49. (Leslie Charles Wilson) **98c:58011** 58C27

— Regular quasi-homogeneous stratifications. *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 1–14, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Gérard Barbançon) **98i:58012** 58A35

— (*with* Koike, Satoshi) The Kuo condition, an inequality of Thom's type and (C)-regularity. *Topology* **37** (1998), *no.* 1, 45–62. (Leslie Charles Wilson) **98f:58032** 58C27

Bekka, Mohammed El Bachir (*with* Valette, Alain) Group cohomology, harmonic functions and the first L^2-Betti number. (English summary) *Potential Anal.* **6** (1997), *no.* 4, 313–326. (William Paschke) **98e:20056** 20J05 (31C05, 58G12)

— On uniqueness of invariant means. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 507–514. (Paul Jolissaint) **98d:43002** 43A07 (22E40)

— (*with* Kaniuth, Eberhard; Lau, Anthony T. M.; Schlichting, G.) Weak*-closedness of subspaces of Fourier-Stieltjes algebras and weak*-continuity of the restriction map. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2277–2296. (Siegfried Echterhoff) **98h:22004** 22D10 (43A30)

Bekker, Alexander (*with* Brinson, L. C.) Temperature-induced phase transformation in a shape memory alloy: phase diagram based kinetics approach. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 6, 949–988. (Summary) **98d:73006** 73B30

Bekker, Boris M. (*with* Netsvetaev, N. Yu.) Generalized Sperner lemma and subdivisions into simplices of equal volume. (Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **231** (1995), *Issled. po Topol.* 8, 245–254, 327 (1996). (Béla Uhrin) **98a:52015** 52B11 (05B45, 52C22)

Bekker, I. Kh. ★ Линейные преобразования векторных пространств (задачи и упражнения). (Russian. Russian summary) [Linear transformations of vector spaces (problems and exercises)] *Izdatel'stvo Tomskogo Universiteta, Tomsk*, 1993. 80 *pp. ISBN* 5-7511-0543-5 (Publisher's description) **98c:15001** 15-01 (15A04)

Bekker, Paul A. (*with* ten Berge, Jos M. F.) Generic global indentification in factor analysis. (English summary) *Linear Algebra Appl.* **264** (1997), 255–263. (Alexander Shapiro) **98h:62103** 62H25

Bekki, Naoaki (*with* Karakisawa, Takao) Bifurcation in 2-dimensional Boussinesq magnetic field convection. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 242–247. (*see* **98g:76052**) 76W05 (76E25)

Beklaryan, L. A. On the classification of the orientation-preserving homeomorphism groups of **R**. I. Invariant measures. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 3, 23–54; *translation in Sb. Math.* **187** (1996), *no.* 3, 335–364. (M. L. Blank) **98c:58088** 58F11 (58F03)

— On the classification of the orientation-preserving homeomorphism groups of **R**. II. Projective invariant measures. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 4, 3–28; *translation in Sb. Math.* **187** (1996), *no.* 4, 469–494. (M. L. Blank) **98c:58089** 58F11 (58F03)

Beklemishev, Lev D. Parameter free induction and reflection. (English summary) *Computational logic and proof theory* (*Vienna*, 1997), 103–113, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:03078** 03F30

— Induction rules, reflection principles, and provably recursive functions. (English summary) *Ann. Pure Appl. Logic* **85** (1997), *no.* 3, 193–242. (Mariko Yasugi) **98h:03072** 03F30 (03F05, 03F25, 03F40)

Bel, Liliane (*with* Oppenheim, G.; Robbiano, Luc; Viano, Marie-Claude) Distribution processes of the fractional ARMA type, mixing properties. (English summary) *Probab. Math. Statist.* **16** (1996), *no.* 2, 311–336. (V. V. Anh) **98d:60078** 60G20 (62M10)

Belabas, Karim Computing cubic fields in quasi-linear time. (English summary) *Algorithmic number theory* (*Talence*, 1996), 17–25, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Duncan A. Buell) **98a:11188** 11Y40 (11R16)

— Crible et 3-rang des corps quadratiques. (English and French summaries) [Sieve and 3-rank of quadratic fields] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 4, 909–949. (G. Greaves) **98b:11112** 11R29 (11N36, 11R47)

— (*with* Cohen, Henri) Binary cubic forms and cubic number fields. (English summary) *Organic mathematics* (*Burnaby, BC*, 1995), 175–204, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Duncan A. Buell) **98j:11084** 11R16 (11R29, 11Y40)

— (*with* Cohen, Henri) Binary cubic forms and cubic number fields. (English summary) *Computational perspectives on number theory* (*Chicago, IL*, 1995), 191–219, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Hidenori Katsurada) **98m:11027** 11E76 (11R16)

Belaïd, Karim (*with* Cherif, Bahri; Echi, Othman) On spectral binary relation [relations]. *Commutative ring theory* (*Fès*, 1995), 79–88, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Michael E. Detlefsen) **98a:06001** 06A06 (13A15, 54F05, 54H10)

Bélair, Jacques (*with* Olien, Leonard) Bifurcations, stability, and monotonicity properties of a delayed neural network model. (English summary) *Phys. D* **102** (1997), *no.* 3-4, 349–363. (Ovide Arino) **98h:34133** 34K20 (34K15, 58F14, 58F40, 92C20)

font Belaire, Begoña *see* **Font Belaire, Begoña**

Belaloui, N. (*with* Mebarki, N.; Haouchine, M.) No-ghost theorem for an open parabosonic string. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 1997–2006. (Sergey Nikolaevich Roshchupkin) **98m:81153** 81T30

— (*with* Mebarki, N.; Haouchine, M.) New critical dimensions for para-bosonic strings and para-superstrings. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 2007–2015. (Sergey Nikolaevich Roshchupkin) **98m:81154** 81T30

— (*with* Mebarki, N.; Haouchine, M.) Open parabosonic string BRST transformations and the critical dimension. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 2017–2026. (Sergey Nikolaevich Roshchupkin) **98m:81155** 81T30 (81T70)

— (*with* Mebarki, N.; Haouchine, M.) Modified Virasoro and super-Virasoro algebra. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 2, 173–181. (Bani Mitra Södermark) **98f:81101** 81R10 (17B68, 81T30)

Belan, E. P. (*with* Lykova, O. B.) A theorem on the central manifold of a nonlinear parabolic equation. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 8, 1021–1036; *translation in Ukrainian Math. J.* **48** (1996), *no.* 8, 1153–1170 (1997). (Daniel Ševčovič) **98b:35089** 35K57 (34C30, 34G20, 35B40, 58F39)

— Global solutions and invariant tori of differential-difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 11–24; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 9–24. (A. F. Ivanov) **98i:34100** 34K15 (34K20)

Belanger, Jay (*with* Wang, Jie[1]) Rankable distributions do not provide harder instances than uniform distributions. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 410–419, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98c:68068** 68Q15

— (*with* Wang, Jie[1]) Reductions and convergence rates of average time. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 300–309, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98g:68044** 68Q15

— (*with* Wang, Jie[1]) No NP problems averaging over ranking of distributions are harder. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 229–245. (Summary) **98j:68035** 68Q15

Belashov, V. Yu. (*with* Tyunina, S. G.) Qualitative analysis and the asymptotic behavior of solutions of generalized equations of the KdV class. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **40** (1997), *no.* 3, 328–344; *translation in Radiophys. and Quantum Electronics* **40** (1997), *no.* 3, 210–222. 35Q53 (35B40)

Belavin, A. A. Introduction to the conformal field theory. *Algebraic and geometric methods in mathematical physics* (*Kaciveli*, 1993), 167–185, *Math. Phys. Stud.*, 19, *Kluwer Acad. Publ., Dordrecht*, 1996. (Jan Sobczyk) **98a:81196** 81T40 (81–02)

— (*with* Fring, A.) On the fermionic quasi-particle interpretation in minimal models of conformal field theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 199–205. (Isabel P. Ennes) **98m:81166** 81T40

Belavkin, V. P. The interplay of classical and quantum stochastics: diffusion, measurement and filtering. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 21–40, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Kalyanapuram R. Parthasarathy) **98k:81131** 81S25 (46N50, 60G35, 60J60, 81–02)

— (*with* Melsheimer, O.) A derivation of irreversible mixing for a quantum system with spontaneous localization. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 71–82, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81024** 81P15 (82C10)

— On the general form of quantum stochastic evolution equation. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 91–106, *World Sci. Publishing, River Edge, NJ*, 1996. (Franco Fagnola) **98j:81181** 81S25 (47D06, 47N50)

— (*with* Stratonovich, R. L.) Dynamical interpretation for the quantum-measurement projection postulate. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2215–2228. (Kang-Jie Shi) **98a:81017** 81P15

— Quantum stochastic positive evolutions: characterization, construction, dilation. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 533–566. (Kalyanapuram R. Parthasarathy) **98k:81132** 81S25 (46N50, 47N50)

— The semilogics, quasilogics and other quantum structures. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 199–223. (Summary) **98c:03126** 03G12 (81P10)

— On generators of quantum stochastic evolution equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 46–60; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 35–46. (Andrzej Łuczak) **98m:81078** 81S25 (46N50)

Belbas, S. A. Non-classical dynamic programming in optimal control. *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 39–43, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 49L20 (90C39)
— Forward dynamic programming for the numerical solution of parabolic control problems. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 9–15, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 49L20 (49M25)
— Optimal control of Goursat systems over varying domains. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 17–21, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 49K20 (49M05)
Belcher, S. E. (*with* Jerram, N.; Hunt, J. C. R.) Turbulent flow through a distributed force—a model for the wind within and above an urban canopy. (English summary) *Flow and dispersion through groups of obstacles (Cambridge, 1994)*, 157–173, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 86A10
— (*with* Vassilicos, J. C.) Breaking waves and the equilibrium range of wind-wave spectra. (English summary) *J. Fluid Mech.* **342** (1997), 377–401. (Summary) **98e:86002** 86A05 (76F99, 76M35)
— (*with* Hunt, J. C. R.) Turbulent flow over hills and waves. (English summary) *Annual review of fluid mechanics, Vol. 30*, 507–538, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:86009** 86A10 (76C99)
— *see also* **Flow and dispersion through groups of obstacles, 98e:86001**
Belegradek, I. Some curious Kleinian groups and hyperbolic 5-manifolds. (English summary) *Transform. Groups* **2** (1997), *no.* 1, 3–29. (B. N. Apanasov) **98d:57066** 57S30 (57M60)
Belegradek, Oleg V. Higman's embedding theorem in a general setting and its application to existentially closed algebras. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 613–624. (Olivier Chapuis) **98m:03091** 03D45 (03C60, 03D40, 08C15, 20F10)
— (*with* Stolboushkin, A. P.; Taĭtslin, Mikhaĭl A.) Generic queries over quasi-o-minimal domains. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 21–32, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68P15 (03B70)
Belen'kaya, L. Kh. Onset of secondary periodic flows in a horizontal liquid layer with an admixture under the influence of vertical vibrations. *Fluid Dynam.* **32** (1997), *no.* 5, 672–680 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 5, 71–80 (*Russian. Russian summary*). 76E15
Belen'kiĭ, A. S. A 2-person game on a polyhedral set of connected strategies. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 99–125. (G. A. Heuer) **98d:90136** 90D10 (90D40)
— A noncooperative game on polyhedral sets. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 125–133. (Summary) **98h:90111** 90D10
Beletskiĭ, V. V. (*with* Salimova, O. P.) Hill's problem as a dynamic billiard. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 27–34, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70M20 (70F15)
Beleznay, Ferenc (*with* Foreman, Matthew) The complexity of the collection of measure-distal transformations. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 929–962. (Mahesh Nerurkar) **98f:28019** 28D05 (28A05)
Belfiore, Jean Claude (*with* Giraud, Xavier; Boutillon, Emmanuel) Algebraic tools to build modulation schemes for fading channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 938–952. (Felix Taubin) **98i:94013** 94A40
ben Belgacem, Faker *see* **Ben Belgacem, Faker**
Belgacem, Fethi ★ Elliptic boundary value problems with indefinite weights: variational formulations of the principal eigenvalue and applications. (English summary) Pitman Research Notes in Mathematics Series, 368. *Longman, Harlow*, 1997. xii+237 *pp. ISBN* 0-582-31597-2 (Kazuaki Taira) **98k:35026** 35Jxx (35Q80, 47F05, 47N50, 49R05)
ben Belgacem, Hafedh *see* **Ben Belgacem, Hafedh**
Belger, M. (*with* Schimming, Rainer; Wünsch, Volkmar) A survey on Huygens' principle. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 9–36. (Fernando D. Sasse) **98h:35138** 35Lxx (01A60, 35–03, 58G16)
— (*with* Beyer, K.-U.) Some remarks on geodesic and curvature preserving mappings. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 73–81. (Luis J. Alías) **98e:53021** 53B20 (53B25)
Belgiorno, F. (*with* Martellini, Maurizio) Black hole thermodynamics, Mach's principle and Eddington-Schrödinger unified theory. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 45–52, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C57 (83D05)
— (*with* Liberati, Stefano) Black hole thermodynamics, Casimir effect and induced gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1181–1194. (Seth A. Major) **98h:83042** 83C57 (81T20, 83C47)
Belgrade, R. (*with* Barlet, D.; Geandier, F.) ★ Séminaire de Singularités. (French) [Seminar on Singularities] Papers from the seminar held at the Université Henri Poincaré (Nancy I), Vandoeuvre-les-Nancy. Institut Élie Cartan, 15. *Université de Nancy I, Institut Élie Cartan, Vandoeuvre-les-Nancy*, 1997. ii+174 *pp. ISBN* 2-903594-14-7 (Editors) **98g:32003** 32–06 (32Sxx)
Belhachmi, Zakaria Nonconforming mortar element methods for the spectral discretization of two-dimensional fourth-order problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1545–1573. (Wu Zhang) **98i:65105** 65N35 (65C20)
Belhadji, Salid (*with* Isli, Amar) Temporal constraint satisfaction techniques in job shop scheduling problem solving. (English summary) *Constraints* **3** (1998), *no.* 2-3, 203–211. 90B35 (68T20)
Belhaq, M. (*with* Fahsi, A.) Higher-order approximation of subharmonics close to strong resonances in the forced oscillators. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 133–144. (Summary) **98a:34037** 34C23 (34C23, 34C29)
Beliaev, A. Yu. *see* **Belyaev, A. Yu.**
Belich, H. (*with* Paunov, R.) $A_n^{(1)}$ Toda solitons and the dressing symmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4108–4127. (Luigi Martina) **98f:58095** 58F07 (17B65, 35Q53, 58F37)
Belikhmaĭer, M. Ya. (*with* Goncharov, V. I.) Synthesis of correcting devices for automatic control systems on the basis of uniform approximation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 3–11; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 715–721. 93B50 (93C80)
Belikov, V. V. (*with* Semënov, A. Yu.) A numerical method of the decay of a discontinuity for the solution of equations in shallow water theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 1006–1019. (Summary) **98e:76071** 76M20 (76B15)
Belingeri, Carlo (*with* Ricci, Paolo Emilio) On asymptotic formulas for the first zero of the Bessel function J_ν. (English summary) *J. Inform. Optim. Sci.* **17** (1996), *no.* 2, 267–274. (Andrea Laforgia) **98c:33004** 33C10 (65D20, 65H05)
Belinskiĭ, A. V. In search of a resolution of Bell's paradox. *JETP Lett.* **64** (1996), *no.* 4, 325–328; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **64** (1996), *no.* 4, 294–296 (*Russian*). (Emilio Santos) **98c:81005** 81P05 (81P10)
Belinskiĭ, B. P. (*with* Dauer, Jerald P.) On a regular Sturm-Liouville problem on a finite interval with the eigenvalue parameter appearing linearly in the boundary conditions. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 183–196, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (L. V. Kritskov) **98e:34047** 34B24 (34L10, 47E05)
— (*with* Shubov, Marianna A.; Martin, Clyde F.; Dauer, Jerald P.) Exact controllability of the damped wave equation. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1773–1789. (Irina F. Sivergina) **98i:93009** 93B05 (35L05, 47N70, 93C20)
Belinskiĭ, È. S. (*with* Liflyand, E. R.; Trigub, R. M.) The Banach algebra A^* and its properties. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 103–129. (Colin C. Graham) **98a:42003** 42A16 (42A24, 42A28, 42A32, 43A45, 46J99)
— Summability of Fourier series with the method of lacunary arithmetical means at the Lebesgue points. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3689–3693. (F. Móricz) **98c:42003** 42A16 (42A24)
— Decomposition theorems and approximation by a "floating" system of exponentials. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 43–53. (Yuly Makovoz) **98d:42001** 42A10 (41A46, 42B99)
Belinskiy, B. P. *see* **Belinskiĭ, B. P.**
Belinskiy, Boris P. *see* **Belinskiĭ, B. P.**
Belinsky, E. S. *see* **Belinskiĭ, È. S.**
Belishev, M. I. On the justification of Huygens' rule. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 17–24, 220; *translation in J. Math. Sci. (New York)* **86** (1997), *no.* 3, 2667–2672. (Summary) **98g:35132** 35L15
— (*with* Gotlib, V. Yu.; Ivanov, Sergeĭ Alekseevich) The BC method in multidimensional spectral inverse problem: theory and numerical illustrations. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 307–327 (*electronic*). (Sergei A. Avdonin) **98k:93056** 93C20 (35P05, 35R30, 47F05)
— Boundary control in reconstruction of manifolds and metrics (the BC method). (English summary) *Inverse Problems* **13** (1997), *no.* 5, R1–R45. (Sergei A. Avdonin) **98k:58073** 58E25 (35L99, 35R30, 93C20)
— (*with* Avdonin, S. A.; Rozhkov, Yu. S.) The BC-method in the inverse problem for the heat equation. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 309–322. (Summary) **98f:80002** 80A20 (80–08)
— (*with* Blagoveshchenskiĭ, A. S.; Ivanov, Sergeĭ Alekseevich) The two-velocity dynamical system: boundary control of waves and inverse problems. (English summary) *Wave Motion* **25** (1997), *no.* 1, 83–107. (Guenter Leugering) **98g:73015a** 73D50 (35L05, 93B05, 93C20)
— *see also* **Errata: "The two-velocity dynamical system: boundary control of waves and inverse problems", 98g:73015b**
Bélisle, Claude (*with* Massé, Jean-Claude; Ransford, Thomas) When is a probability measure determined by infinitely many projections? (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 767–786. (Alexander Ulanovskiĭ) **98c:60011** 60E05 (60E10)
Belitskiĭ, G. Multidimensional functional equations generated by affine transformations. (English summary) *New results in operator theory and its applications*, 41–54, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Nicole Brillouët-Belluot) **98j:47067** 47B38 (39B42, 47N99)
Belitsky, Vladimir (*with* Nagamura, Tetsuhiro; Konno, Norio; Yamaguchi, Tadashi) Upper bounds on percolation probabilities for oriented bond percolation. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 115–121. 82B43
— (*with* Ferrari, Pablo A.; Konno, Norio; Liggett, Thomas M.) A strong correlation inequality for contact processes and oriented percolation. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 213–225. (Olle Häggström) **98e:60156** 60K35 (82C22)
Béliveau, A. (*with* Fortin, A.; Demay, Y.) Numerical solution of transport equations with applications to non-Newtonian fluids. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 311–322, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 65M06 (76A05, 76M25)
Belkasri, Abdel K. (*with* Huckaby, Dale A.) Presence of racemic phases at low temperatures in a three-dimensional lattice gas of enantiomers. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6205–6214. (Summary) **98j:82009** 82B20 (82B26)
Belkina, S. R. (*with* Lopatin, A. K.) Nonlinear system normalization technique: asymptotic proximity of solutions on manifolds. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 7, 15–20. (From the text) **98g:34069** 34C20 (34C29)
Belkina, T. A. (*with* Presman, È. L.) Controls that are asymptotically optimal in distribution for a linear stochastic system with a quadratic functional. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 106–115. (B. I. Anan'ev) **98d:93091** 93E11 (49K45)
Bel'ko, I. V. Transversal continuations of foliated Lie groupoids. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 27–29, 124. 58H05 (53C12)
Bell, Allen D. Prime ideals and radicals in rings graded by Clifford semigroups. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1595–1608. (R. F. Rossa) **98e:16022** 16N80 (16W50)
Bell, Charles (*with* Gordon, Louis; Pollak, Moshe) An efficient nonparametric detection scheme and its application to surveillance of a Bernoulli process with unknown baseline. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 7–27, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62L10 (62N10)

Bell, David Andrew (*with* Guan, Ji Wen; Guan, Z.) Bayesian probability on Boolean algebras and applications to decision theory. (English summary) *Inform. Sci.* **97** (1997), *no.* 3-4, 267–292. (Jerzy W. Grzymała-Busse) **98g:68161** 68T30 (60A99)

lynden-Bell, Donald *see* **Lynden-Bell, Donald**

Bell, Gavin J. (*with* Lamar, Bruce W.) Solution methods for nonconvex network flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 32–50, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

Bell, Howard E. On power maps, periodicity, and commutativity in rings. *Contributions to general algebra*, 9 (*Linz*, 1994), 49–54, *Hölder-Pichler-Tempsky, Vienna*, 1995. (*see* **98g:00020**) 16U80

— On derivations in near-rings. II. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 191–197, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30 (16W25)

— (*with* Klein, Abraham A.; Kappe, Luise-Charlotte) An analogue for rings of a group problem of P. Erdős and B. H. Neumann. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 57–67. (Yasuyuki Hirano) **98k:16047** 16U80 (16P10, 16U50)

Bell, J. *see* **Bell, Jason**

Bell, J. S. *see* **Sachs, Mendel**, **98g:81014** *and* **Goldstein, Sheldon**

Bell, James Robert (*with* Chan, Jennifer S. K.; Kuk, Anthony Y. C.; McGilchrist, Clyde A.) The analysis of methadone clinic data using marginal and conditional logistic models with mixture or random effects. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 1–10. 62P10

Bell, Jason (*with* Djoković, Dragomir Ž.) Construction of Baumert-Hall-Welch arrays and T-matrices. (English summary) *Australas. J. Combin.* **14** (1996), 93–107. (Summary) **98i:05025** 05B15 (05B10, 05B20)

Bell, John B. (*with* Howell, Louis H.) An adaptive mesh projection method for viscous incompressible flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 996–1013. (Summary) **98c:76079** 76M25 (65M06, 76C05, 76D05)

— (*with* Almgren, Ann S.; Colella, Phillip; Marthaler, Tyler) A Cartesian grid projection method for the incompressible Euler equations in complex geometries. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1289–1309. (Dennis C. Jespersen) **98d:76112** 76M20 (65M06, 76C05)

Bell, John L. (*with* Gebellato, Silvia) Precovers, modalities and universal closure operators in a topos. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 3, 289–299. (Wim Ruitenburg) **98c:03136** 03G30 (03B20, 03F55, 18B25)

Bell, Murray A compact ccc non-separable space from a Hausdorff gap and Martin's axiom. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 589–594. (J. E. Vaughan) **98a:54021** 54D30 (03E50, 54A25, 54A35, 54G20)

— (*with* Watson, W. Stephen) Not all dendroids have means. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 39–50. (Summary) **98g:54079** 54F50 (54C99)

lynden-Bell, R. M. *see* **Lynden-Bell, R. M.**

Bell, Robert A. On properties of the n-dimensional norm residue symbol in higher local class field theory. (English summary) *J. Pure Appl. Algebra* **108** (1996), *no.* 1, 1–6. (Yoshihiro Koya) **98d:11149** 11S31 (11S70, 19D45)

— On the properties of the Vostokov and Parshin pairing in higher local class field theory. (English summary) *J. Pure Appl. Algebra* **108** (1996), *no.* 1, 7–16. (Yoshihiro Koya) **98d:11150** 11S31 (11S70, 19D45)

Bell, S. R. (*with* Brylinski, Jean-Luc; Huckleberry, A. T.; Narasimhan, Raghavan; Okonek, Christian; Schumacher, Georg; Van de Ven, A.; Zucker, Steven M.) ★ Complex manifolds. Corrected reprint of the 1990 translation [*Several complex variables. VI*, Encyclopaedia, Math. Sci., 69, Springer, Berlin, 1990; MR 91i:32001]. *Springer-Verlag, Berlin*, 1998. *viii*+310 *pp. ISBN* 3-540-62995-5 (Editors) **98k:32002** 32–06

Bella, Angelo (*with* Arkhangel′skiĭ, A. V.) Countable fan-tightness versus countable tightness. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 565–576. (Gary Gruenhage) **98d:54005** 54A20 (54C10, 54D30)

— (*with* Malykhin, V. I.) Single non-isolated point spaces. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 101–113 (1997). (Summary) **98d:54003** 54A05 (54D40, 54F65)

— (*with* van Mill, Jan) Tight points and countable fan-tightness. (English summary) *Topology Appl.* **76** (1997), *no.* 1, 1–7. (R. Hodel) **98d:54008** 54A25

— (*with* Yashchenko, I. V.) Short note on products of pseudoradial spaces and a conjecture of Simon and Tironi. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 49–51. 54A25 (54D55)

— (*with* Yashchenko, I. V.) Embeddings into first countable spaces with H-closed like properties. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 53–61. (Ronnie Levy) **98k:54003** 54A25 (54D35)

di Bella, Beatrice *see* **Di Bella, Beatrice**

le Bellac, Michel *see* **Le Bellac, Michel**

Bellaïche, André The tangent space in sub-Riemannian geometry. *Sub-Riemannian geometry*, 1–78, *Progr. Math.*, 144, *Birkhäuser, Basel*, 1996. (Claudio Gorodski) **98a:53108** 53C99 (57R27)

— The tangent space in sub-Riemannian geometry. Dynamical systems, 3. *J. Math. Sci.* (*New York*) **83** (1997), *no.* 4, 461–476. (Fernand Pelletier) **98d:53045** 53C20 (53C23)

Bellan, P. M. An effective numerical method for linear mode conversion problems. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 654–659. (Summary) **98h:76090** 76M20 (76X05)

tamburini Bellani, Maria Chiara *see* **Tamburini Bellani, Maria Chiara**

Bellare, Mihir (*with* Rogaway, Phillip) Optimal asymmetric encryption. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 92–111, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (Summary) **98i:94016** 94A60

— (*with* Coppersmith, Don; Håstad, Johan; Kiwi, Marcos; Sudan, Madhu) Linearity testing in characteristic two. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1781–1795. (Summary) **98m:68111** 68Q25 (68Q15, 90C27)

— (*with* Micciancio, Daniele) A new paradigm for collision-free hashing: incrementality at reduced cost. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 163–192, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60 (68P20, 68P25)

— (*with* Jakobsson, Markus; Yung, Moti) Round-optimal zero-knowledge arguments based on any one-way function. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 280–305, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **98k:68071** 68Q15 (68P25)

Bellavia, S. (*with* Macconi, M.; Morini, B.) The switching-method in multiple shooting. (English summary) *Computing* **60** (1998), *no.* 3, 275–283. 65L10

— Inexact interior-point method. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 109–121. (Yin Zhang) **98m:90140** 90C30

Bellè, Dorella (*with* Parlamento, Franco) Decidability of the $\exists^*\forall^*$-class in the membership theory NWL. (English summary) *Gödel '96* (*Brno*, 1996), 183–194, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (P. Turakainen) **98a:03014** 03B25

— (*with* Parlamento, Franco) Undecidability in weak membership theories. (English summary) *Logic and algebra* (*Pontignano*, 1994), 327–337, *Lecture Notes in Pure and Appl. Math.*, 180, *Dekker, New York*, 1996. (Hisao Tanaka) **98c:03093** 03D35 (03E30)

Bellè, Gianna (*with* Alessi, Fabio; Baldan, Paolo; Rutten, J. J. M. M.) Solutions of functorial and non-functorial metric domain equations. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68Q55 (18B30)

— (*with* Moggi, Eugenio) Typed intermediate languages for shape analysis. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 11–29, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98i:68038** 68N15 (03B70, 68N20)

van Belleghem, Kristof *see* **Van Belleghem, Kristof**

Bellen, Alfredo (*with* Guglielmi, Nicola; Torelli, L.) Asymptotic stability properties of Θ-methods for the pantograph equation. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 279–293. (Summary) **98f:34093** 34K05 (34A45, 65L07)

— (*with* Torelli, L.) Unconditional contractivity in the maximum norm of diagonally split Runge-Kutta methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 528–543. (Neide Bertoldi Franco) **98c:65115** 65L06

Belleni-Morante, A. B-bounded semigroups and applications. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 359–376. (Hassan Emamirad) **98c:47049** 47D06 (47N55, 82C70)

Beller, Mara Bohm and the "inevitability" of acausality. *Bohmian mechanics and quantum theory: an appraisal*, 211–230, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— "Against the stream". Essay review of E. Schrödinger's *The interpretation of quantum mechanics: Dublin Seminars (1949–1955) and other unpublished essays* [Ox Bow Press, Woodbridge, CT, 1995]. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 421–432. 81P05

rey-Bellet, Luc *see* **Rey-Bellet, Luc**

Bellettini, Giovanni (*with* Paolini, M.; Venturini, Sergio) Some results on surface measures in calculus of variations. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 329–357. (Almut Burchard) **98e:49097** 49Q15 (49J10, 53C60)

— (*with* Cassandro, M.; Presutti, E.) Constrained minima of nonlocal free energy functionals. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 1337–1349. (Bálint Tóth) **98a:82005** 82B05 (82B24)

— (*with* Novaga, Matteo) Barriers for a class of geometric evolution problems. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 119–128. (Sisto Baldo) **98i:49047** 49Q20 (35K60)

— Variational approximation of functionals with curvatures and related properties. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 91–108. (Giandomenico Orlandi) **98k:49020** 49J45 (49Q20)

— (*with* Novaga, Matteo) Minimal barriers for geometric evolutions. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 76–103. (Marco Degiovanni) **98j:35083** 35K55 (28A75, 58E12)

Belleville, Patrice (*with* Arkin, Esther M.; Mitchell, Joseph S. B.; Mount, David M.; Romanik, Kathleen; Salzberg, Steven; Souvaine, Diane) Testing simple polygons. (English summary) *Comput. Geom.* **8** (1997), *no.* 2, 97–114. (Summary) **98a:68177** 68U05 (52B55)

Bellew, James Counting the number of compound and Nasik magic squares. (English summary) *Math. Today* (*Southend-on-Sea*) **33** (1997), *no.* 4, 111–118. 05B05

Belley, Jean-Marc (*with* Aït Ouassarah, Abderrahman; Fournier, Gilles) Note sur une méthode semi-variationnelle pour l'équation du pendule avec friction et forcing périodique de moyenne non nulle. (English and French summaries) [Note on a semivariational method for the pendulum equation with friction and periodic forcing of nonzero mean value] *Ann. Sci. Math. Québec* **20** (1996), *no.* 2, 109–117. (Jean Mawhin) **98a:58056** 58E30 (34B15, 34C25, 58F22)

Belli, Andrea (*with* Accardi, Alberto) Renormalization transformations of the 4-D BFYM theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2353–2366. (Liviu Tâtar) **98j:81341** 81T70 (81T13, 81T15)

— (*with* Accardi, Alberto; Martellini, Maurizio; Zeni, Mauro) Cohomology and renormalization of *BF* YM theory in three dimensions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 540–566. (Mohamed Kachkachi) **98i:81247** 81T70 (81T13, 81T15)

Belliard, Jean-Robert Sur la structure galoisienne des unités circulaires dans les $\mathbf{Z}_p$-extensions. (French summary) [Galois structure of circular units in $\mathbf{Z}_p$-extensions] *J. Number Theory* **69** (1998), *no.* 1, 16–49. (Cornelius Greither) **98k:11164** 11R33 (11R18, 11R34)

Belliart, Michel (*with* Liousse, Isabelle; Loray, Frank) Sur l'existence de points fixes attractifs pour les sous-groupes de $\mathrm{Aut}(\mathbf{C}_0)$. (English and French summaries) [Existence of attractive fixed points for the subgroups of $\mathrm{Aut}(\mathbf{C}_0)$] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 443–446. (J. S. Joel) **98e:58134** 58F23 (30D05)

— Actions sans points fixes sur les surfaces compactes. [Fixed-point-free actions on compact surfaces] *Math. Z.* **225** (1997), *no.* 3, 453–465. (Alexander I. Suciu) **98k:57055** 57S20 (57S25)

Bellin, Gianluigi Subnets of proof-nets in multiplicative linear logic with MIX. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 6, 663–699. (Aldo Ursini) **98m:03120** 03F50 (03B60, 68Q60)

Bellinger, James N. Symmetries of preon interactions modeled as a finite group. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3414–3426. (Markku Lehto) **98f:81371** 81V25 (81R05, 81V19)

Bellini, Mauricio (*with* Deza, R.; Giovanbattista, N.) Exact travelling annular waves in generalized reaction-diffusion equations. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 200–206. 35K57 (81U30)

— Time-dependent Popper argument. (Spanish. English and Spanish summaries) *Rev. Mexicana Fis.* **43** (1997), *no.* 3, 343–347. (Summary) **98f:81013** 81P05

Bellis, Paul Realizing homology boundary links with arbitrary patterns. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 87–100. (Kent E. Orr) **98d:57041** 57Q45

Bellis, Stephen J. (*with* Fish, Peter J.; Marnane, William P.) Optimal systolic arrays for real-time implementation of the modified covariance spectral estimator. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 71–96. 65Y05 (94A12)

Bellisai, D. (*with* Fucito, Francesco; Matone, Marco; Travaglini, Gabriele) Nonholomorphic terms in $N = 2$ supersymmetric Wilsonian actions and the renormalization group equation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5218–5232. (Summary) **98g:81199** 81T60 (81T13, 81T17)

Bellissard, Jean Noncommutative geometry and quantum Hall effect. (English summary) *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 1238–1246, *Birkhäuser, Basel*, 1995. (Albert Jeu-Liang Sheu) **98c:81249** 81V70 (46L60, 46L87, 58B30, 81Q10, 82D45, 82D55)

Bellissima, Fabio (*with* Pagli, Paolo) ★ Consequentia mirabilis. (Italian) Una regola logica tra matematica e filosofia. [A logical rule between mathematics and philosophy] Biblioteca di Storia della Scienza [Library of the History of Science], 38. *Leo S. Olschki Editore, Florence*, 1996. 232 *pp. ISBN* 88-222-4381-1 (Eduard Glas) **98b:03003** 03–03 (00A35, 01A99)

Bellman, Richard ★ Introduction to matrix analysis. (English summary) Reprint of the second (1970) edition. With a foreword by Gene Golub. Classics in Applied Mathematics, 19. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1997. xxviii+403 *pp. ISBN* 0-89871-399-4 (Editors) **98a:01021** 01A75 (15–01, 26–01, 65–01, 93–01)

Bellomo, N. (*with* Arlotti, L.; Lachowicz, M.; Polewczak, Jacek; Waluś, W.) ★ Lecture notes on the mathematical theory of the Boltzmann equation. Series on Advances in Mathematics for Applied Sciences, 33. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+255 *pp. ISBN* 981-02-2166-5 (A. Belleni-Morante) **98g:82036** 82C40 (35Q99, 76P05, 82–02, 82B40)

— (*with* Lachowicz, M.; Polewczak, Jacek) The evolution of the generalized shape in immunology. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 53–58. (Summary) **98g:92002** 92C40 (45G10, 45K05, 92D25)

— Nonlinear models and problems in applied sciences from differential quadrature to generalized collocation methods. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 13–34. (Summary) **98k:65059** 65M70

— (*with* Lo Schiavo, M.) From the Boltzmann equation to generalized kinetic models in applied sciences. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 43–76. (John Adam) **98k:82143** 82C40 (76P05)

— (*with* Polewczak, Jacek) The generalized Boltzmann equation solution and exponential trend to equilibrium. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 6, 661–677. (Yan Guo) **98k:82144** 82C40 (45K05, 76P05)

Belloni, Marino (*with* Risito, C.) Global existence in the future and partial boundedness of motions of a wide class of scleronomic holonomic systems. (Italian. English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 587–598. (Giovanni Leoni) **98e:34015** 34A34 (34A12, 70F20, 70H35)

— (*with* Kawohl, Bernhard) On Newton's problem under side constraints. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv*, 1996), 23–30, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 49N55 (70D99)

— (*with* Kawohl, Bernhard) A paper of Legendre revisited. (English summary) *Forum Math.* **9** (1997), *no.* 5, 655–667. (Niccolò Guicciardini) **98j:01017** 01A50 (49–03)

Belloni, Mario (*with* Chen, Lusheng; Haller, Kurt) Gauss's law, gauge invariance, and long-range forces in QCD. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 316–322. (Summary) **98f:81353** 81V05

comte-Bellot, G. *see* **Comte-Bellot, G.**

Bellotti, U. (*with* Bornatici, M.) Emission by multipoles: an exact result in terms of reducible multipoles. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4273–4281. (Summary) **98j:78020** 78A40

Bellouquid, Abdelghani Limite asymptotique pour le modèle de BGK. (English and French summaries) [Asymptotic limit for the BGK equation] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 951–956. (Anne Nouri) **98d:76146** 76P05 (35Q30, 76N10, 82C40)

Bellout, Hamid (*with* Nečas, Jindřich) The exterior problem in the plane for a non-Newtonian incompressible bipolar viscous fluid. *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1245–1260. (Adélia Sequeira) **98m:76002** 76A05 (35Q30)

Bellucci, Roberto (*with* Abadi, Martín; Curien, Pierre-Louis) A model for formal parametric polymorphism: a PER interpretation for system $\mathscr{R}$. (English summary) *Typed lambda calculi and applications (Edinburgh*, 1995), 32–46, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (68N15, 68Q55)

Bellucci, S. (*with* Krivonos, S.; Sorin, A. S.) The $W(\mathrm{sl}(N+3), \mathrm{sl}(3))$ algebras and their contractions to W_3. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 350–359. (Bani Mitra Södermark) **98c:81083** 81R10

— (*with* Akhundov, A.; Shiekh, A.) Gravitational interaction to one loop in effective quantum gravity. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 16–23. (Summary) **98b:83031** 83C45 (81V17, 81V22)

— (*with* Gribanov, V.; Ivanov, Evgeniĭ Alekseevich[2]; Krivonos, S.; Pashnev, A.) Non-linear realizations of superconformal and W-algebras as embeddings of strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 477–501. (Summary) **98j:81115** 81R10 (81T30, 81T40)

Belluce, L. P. Spectral closure for non-commutative rings. *Comm. Algebra* **25** (1997), *no.* 5, 1513–1536. (V. I. Arnautov) **98d:16001** 16D25 (16N60)

— Generalized fuzzy connectives on MV-algebras. *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 485–499. (Siegfried Gottwald) **98i:03084** 03G20 (03B50, 03E72, 06F99)

— (*with* Sessa, Salvatore) Orthogonal decompositions of MV-spaces. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 5–22. (Summary) **98c:03132** 03G25

Belmăloudi, Aziz (*with* Brossier, Françoise) Regularity results for a Navier-Stokes type problem related to oceanography. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 299–316. (Shouhong Wang) **98g:76019** 76D05 (35Q30, 76U05, 86A05)

— (*with* Brossier, Françoise) A control method for assimilation of surface data in a linearized Navier-Stokes-type problem related to oceanography. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2183–2197. (Summary) **98j:86001** 86A05 (76D05, 76M30, 76U05, 93C20)

Belna, Jean-Pierre Les nombres réels: Frege critique de Cantor et de Dedekind. (English and French summaries) [Real numbers: Frege as critic of Cantor and Dedekind] *Rev. Histoire Sci.* **50** (1997), *no.* 1-2, 131–158. (Roman Murawski) **98e:01016** 01A60 (00A30, 01A55)

Belnap, Nuel (*with* Horty, John F.) The deliberative stit: a study of action, omission, ability, and obligation. *J. Philos. Logic* **24** (1995), *no.* 6, 583–644. (George F. Schumm) **98c:03046** 03B45

— Agents in branching time. *Logic and reality (Christchurch*, 1989), 239–271, *Oxford Univ. Press, New York*, 1996. (*see* **98b:03006**) 03B45 (03B65)

— The display problem. (English summary) *Proof theory of modal logic (Hamburg*, 1993), 79–92, *Appl. Log. Ser.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1996. (Alexander V. Chagrov) **98g:03129** 03F07

— The very idea of an outcome. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 15–16. (Summary) **98b:06016** 06C15 (03G25)

Belogay, E. (*with* Cabrelli, Carlos A.; Molter, Ursula M.; Shonkwiler, R.) Calculating the Hausdorff distance between curves. *Inform. Process. Lett.* **64** (1997), *no.* 1, 17–22. (From the introduction) **98m:68285** 68U10 (68U05)

Belogrudov, A. N. On the asymptotic behavior of the degenerate solution of the second Painlevé equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 587–594, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 591–598 (1998). (From the text) **98m:34115** 34E05 (34A20)

Bělohlávek, Radim Algebra grammars. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 73–76. (Summary) **98f:68150** 68Q45 (03D05)

— (*with* Chajda, Ivan) A polynomial characterization of congruence classes. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 235–242. (Jaromir Duda) **98c:08003** 08A30 (08B10, 68Q25)

Belokon', A. V. (*with* Nasedkin, A. V.) On some properties of the natural frequencies of electro-elastic bodies of bounded dimensions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 1, 151–158; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 1, 145–152. (From the summary) **98d:73054** 73R05 (73D30, 73V25)

Belokurov, V. V. (*with* Pando Zayas, Leopoldo A.) One-loop analysis of the equivalence of different descriptions of the gauged Wess-Zumino-Witten models. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 6, 752–753; *translation in Phys. Dokl.* **41** (1996), *no.* 8, 346–347. (Stanislav Z. Pakuliak) **98f:81292** 81T40 (81T50)

— (*with* Kamchatnyĭ, V. V.) The renormalization group method for functions of several variables. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 2, 17–23. (A. L. Rebenko) **98b:81148** 81T17 (82B28)

— (*with* Solov'ev, Yuriĭ Petrovich; Shavgulidze, E. T.) Perturbation theory with convergent series for functional integrals with respect to the Feynman measure. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 155–156; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 392–393. 28C20

Belolipetskiĭ, V. M. (*with* Genova, S. N.) Numerical modelling of hydrothermal processes in well-drained basins. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 319–334. 86A05 (76M25, 76V05)

Belonogov, V. A. Small interactions in the groups $\mathrm{GL}_3(q)$, $\mathrm{GU}_3(q)$, $\mathrm{PGL}_3(q)$ and $\mathrm{PGU}_3(q)$. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 17–47, 374, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Abram I. Saksonov) **98j:20006** 20C15 (20C33, 20G05)

Belopolskaya, Ya. A priori estimates for solutions of the first initial-boundary-value problem for systems of fully nonlinear partial differential equations. (English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 3, 338–363; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 373–402 (1998). (Gabriella Tarantello) **98k:35020** 35F30 (35B45)

Belopolsky, Alexander De Rham cohomology of the supermanifolds and superstring BRST cohomology. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 47–50. (Summary) **98m:32009** 32C11 (32C81, 32G15, 58A50, 81T30, 81T70)

Beloshapka, Valeriĭ K. Automorphisms of degenerate hypersurfaces in $\mathbf{C}^2$ and a dimension conjecture. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 393–396. (Alexander V. Isaev) **98e:32026** 32F25 (32M05)

Belot, Gordon (*with* Earman, John) Chaos out of order: quantum mechanics, the correspondence principle and chaos. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 147–182. (Matthew J. Donald) **98m:81038** 81Q50 (00A30, 00A79, 58F13, 70K50)

Belotserkovskiĭ, D. L. (*with* Vishnevskiĭ, V. M.) A new algorithm for generating biconnected spanning subgraphs for the optimization of the topology of data transmission networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 108–120; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 2, 88–97. (Mechthild Stoer) **98b:94027** 94C15 (05C85, 90C35)

— Characterization of some extremal graphs with a diameter at most three. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 134–146; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 163–176. (Felix Lazebnik) **98h:05096** 05C35 (05C38)

Belotserkovskiĭ, O. M. (*with* Ivanov, S. A.; Yanitskiĭ, V. E.) Direct statistical modeling of some turbulence problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 489–503. (Summary) **98m:76092** 76F99 (76M35)

Belousek, Darrin W. Einstein's 1927 unpublished hidden-variable theory: its background, context and significance. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 4, 437–461 (1997). (Dennis Dieks) **98c:01030** 01A60 (81P05)

Belousov, E. G. On the continuity of point-set mappings connected with the method of penalty functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 3–8; *trans-*

lation in Russian Math. (Iz. VUZ) **40** (1996), *no.* 12, 1–6 (1997). (Nguyen Dong Yen) **98c:49068** 49M30 (90C25)

— (*with* Andronov, V. G.) On the weak convergence of the method of penalty functions with respect to the argument. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 404–414. (Nada I. Djuranović-Miličić) **98e:90147** 90C30 (49M37)

Belousov, K. I. (*with* Nazarova, L. A.; Roiter, Andrei V.) Finitely represented dyadic sets and their multielementary representations. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1997,** *no.* 6, 31 *pp.* (Summary) **98g:06008** 06A07

Belousov, V. D. *see* **Belyavskaya, Galina**

Belov, A. *see* **Belov, A. Ya.**

Belov, A. A. (*with* Antonov, Alexander; Chaltikian, Karén) Lattice conformal theories and their integrable perturbations. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 298–318. (Henrik Aratyn) **98i:81178** 81T25 (17B68, 58F07, 81R10, 81R50, 81T40)

Belov, A. S. (*with* Konyagin, Sergei) On the conjecture of Littlewood and minima of even trigonometric polynomials. (English and French summaries) *Harmonic analysis from the Pichorides viewpoint (Anogia,* 1995), 1–11, *Publ. Math. Orsay,* 96-01, *Univ. Paris XI, Orsay,* 1996. (J. D. Stegeman) **98b:42002** 42A05

— (*with* Konyagin, Sergei) An estimate for the free term of a nonnegative trigonometric polynomial with integer coefficients. (Russian) *Mat. Zametki* **59** (1996), *no.* 4, 627–629; *translation in Math. Notes* **59** (1996), *no.* 3-4, 451–453. (Z. Rubinstein) **98h:42002** 42A05

Belov, A. Ya. (*with* Gateva-Ivanova, T.) Radicals of monomial algebras. (English summary) *First International Tainan-Moscow Algebra Workshop (Tainan,* 1994), 159–169, *de Gruyter, Berlin,* 1996. (Richard Wiegandt) **98c:16021** 16N20 (16R10)

— Rationality of Hilbert series with respect to free algebras. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 153–154; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 394–395. (From the introduction) **98f:16018** 16R10

Belov, Alexander A. *see* **Belov, A. A.**

Belov, N. A. Instability of a tangential discontinuity in a two-dimensional flow with a stagnation point. *Fluid Dynam.* **32** (1997), *no.* 2, 219–222; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 2, 78–82 (*Russian. Russian summary*). (Summary) **98k:76054** 76E99

Belov, Pavel A. (*with* Simovski, Constantine R.; Kondratjev, Michael S.) Problem of the local field for plane grids with bi-anisotropic particles. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA),* 680–691, *Proc. SPIE,* 3039, *SPIE, Bellingham, WA,* 1997. (*see* **98d:00024**) 78A45 (78A50)

— (*with* Simovski, Constantine R.; Kondratjev, Michael S.; Tretyakov, Sergei A.) Excitation dyadics for the grids of chiral and omega particles. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA),* 692–703, *Proc. SPIE,* 3039, *SPIE, Bellingham, WA,* 1997. (*see* **98d:00024**) 78A45

Belov, S. P. Semantic aspects of the logic of states. (Russian) *Analysis and discrete mathematics (Russian),* 14–20, *Novosibirsk. Gos. Univ., Novosibirsk,* 1995. (Branislav Boričić) **98i:03033** 03B60

Belov, S. Ya. (*with* Belov, V. Ya.; Williams, Graham H.) Morse's oscillation theorem for a degenerate case. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 81–93. (Miguel Ramos) **98d:34060** 34C10 (34B05, 58E05)

Belov, Sergei Optimization of the shape of a domain in plane boundary value problems of elliptic type. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian),* 26–34, *Izdat. Nizhegorod. Gos. Univ., Nizhnïĭ Novgorod,* 1994. (Summary) **98c:49075** 49Q10 (49K20)

— (*with* Slugin, S. N.) Necessary conditions of optimality in constrained planar domain optimization. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 3. *Comput. Math. Model.* **7** (1996), *no.* 4, 356–362. (Alexander A. Kovalevsky) **98a:49063** 49Q10 (49K20)

— (*with* Fujii, Nobuo) Symmetry and sufficient condition of optimality in a domain optimization problem. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 45–56. (Pekka Neittaanmäki) **98i:49043** 49Q10 (49K20, 73K40)

Belov, V. Ya. (*with* Lavrent'ev, M. M., Jr.; Broadbridge, P.) Boundary value problems for strongly degenerate parabolic equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 1-2, 17–38. (Bo Guan) **98a:35078** 35K65 (35K60)

— (*with* Belov, S. Ya.; Williams, Graham H.) Morse's oscillation theorem for a degenerate case. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 81–93. (Miguel Ramos) **98d:34060** 34C10 (34B05, 58E05)

Belova, N. O. The weighted Poincaré inequality. (Russian) *Analysis and discrete mathematics (Russian),* 20–29, *Novosibirsk. Gos. Univ., Novosibirsk,* 1995. (From the text) **98c:46061** 46E35

von Below, Joachim (*with* Wagner, Renate) A note on the Perron root of a weighted tth order mean of nonnegative matrices. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 103–109. (Summary) **98f:15015** 15A48

— *see also* **Wielandt, Helmut, 98h:01040**

Beloyiannis, A. (*with* Katsaras, A. K.) Non-Archimedean weighted spaces of continuous functions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 545–562. (Ann Verdoodt) **98e:46094** 46S10 (46E10)

— (*with* Katsaras, A. K.) On non-Archimedean weighted spaces of continuous functions. (English summary) *p-adic functional analysis (Nijmegen,* 1996), 237–252, *Lecture Notes in Pure and Appl. Math.,* 192, *Dekker, New York,* 1997. (E. Beckenstein) **98h:46083** 46S10 (46E10, 46E40)

Belozerov, V. E. A geometric method for the design of dynamic feedback. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 4, 407–427. (F. M. Kirillova) **98m:93043** 93B50 (93B51, 93B52)

Belshoff, Richard (*with* Wickham, Cameron) A note on local duality. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 1, 25–31. (P. Schenzel) **98b:13016** 13D45 (13E99)

Belsky, V. (*with* Fish, Jacob) Generalized aggregation multilevel solver. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4341–4361. (Summary) **98j:65022** 65F10

Beltagy, M. On strictly convex bodies. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 3–10. (G. D. Chakerian) **98f:53048** 53C40 (52A20)

— (*with* Sakr, I. A.) Uniform convexity and focal points. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 21–28 (1997). (Summary) **98k:53050** 53C22 (53C20)

— (*with* Sakr, I. A.) Supporting function in Riemannian manifolds without focal points. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 145–151. (Thomas Hasanis) **98e:53103** 53C42

Beltrame, Philippe (*with* Chossat, Pascal; Laure, Patrice) Convection en double diffusion dans une coque sphérique. (English and French summaries) [Double diffusion in a spherical shell] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1049–1052. (Summary) **98j:76038** 76E15 (34C23, 58F14, 76Rxx)

Beltrametti, E. G. (*with* Bugajski, S.) Effect algebras and statistical physical theories. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3020–3030. (Sylvia Pulmannová) **98e:81011** 81P10 (06C15, 82B03)

Beltrametti, Luca (*with* Fiorentini, Riccardo; Marengo, Luigi; Tamborini, Roberto) A learning-to-forecast experiment on the foreign exchange market with a classifier system. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1543–1575. (*see* **98c:90003**) 90A60 (90A12)

Beltrametti, Mauro C. (*with* Sommese, Andrew J.) On the second adjunction mapping and the very ampleness of the triadjoint bundle. (English summary) *Birational algebraic geometry (Baltimore, MD,* 1996), 1–23, *Contemp. Math.,* 207, *Amer. Math. Soc., Providence, RI,* 1997. (Marino Palleschi) **98j:14003** 14C20 (14J30)

— (*with* Bădescu, Lucian; Francia, Paolo) Positive curves in polarized manifolds. (English summary) *Manuscripta Math.* **92** (1997), *no.* 3, 369–388. (Yoshiaki Fukuma) **98a:14008** 14C20 (14C25, 14D15)

Beltrami, Edward ★ Mathematics for dynamic modeling. Second edition. *Academic Press, Inc., Boston, MA,* 1998. xiv+219 *pp. ISBN* 0-12-085566-6 (Editors) **98g:00012** 00A71 (00A69, 34Cxx, 58F40)

Beltrami, Elisabetta (*with* Cromwell, Peter R.) Minimal arc-presentations of some nonalternating knots. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 137–145. (Michael Heusener) **98h:57012** 57M25 (57M15)

— (*with* Morton, Hugh R.) Arc index and the Kauffman polynomial. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 41–48. (Lee Rudolph) **98i:57015** 57M25

Beltrán, Antonio Actions with nilpotent fixed point subgroup. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 3, 177–184. (I. M. Isaacs) **98d:20024** 20D20 (20C15)

— (*with* Navarro, Gabriel) Actions and invariant character degrees. III. *J. Algebra* **191** (1997), *no.* 1, 141–148. (W. E. Deskins) **98a:20006** 20C15

Beltrán, J. V. (*with* Monterde, J.; Sánchez-Valenzuela, O. A.) Graded Jacobi operators on the algebra of differential forms. (English summary) *Compositio Math.* **106** (1997), *no.* 1, 43–59. (Janusz Grabowski) **98b:58007** 58A10 (58A50, 58F05)

marín Beltrán, M. *see* **Marín Beltrán, M.**

Beltran, Maria (*with* Castillo, Gilbert; Kreinovich, Vladik) Algorithms that still produce a solution (maybe not optimal) even when interrupted: Shary's idea justified. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 39–53. (Summary) **98m:65078** 65G10

Bel'tyukov, B. A. ★ Некоторые вопросы теории приближенных методов решения интегральных уравнений. Часть I. (Russian. Russian summary) [Some problems in the theory of approximate methods for solving integral equations. Part I.] Общие сведения и решение линейных уравнений II-го рода. [General information and solution of linear equations of the second kind] *Irkut-sk. Gos. Ped. Inst., Irkutsk,* 1994. 352 *pp. ISBN* 5-85827-016-6 (Andreas Rathsfeld) **98e:45012** 45L05 (45B05, 65R20)

Belukhina, I. G. On the accuracy of a quasipoint contact problem on regular triangular grids. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 7, 1170–1173, 1269; *translation in Differential Equations* **31** (1995), *no.* 7, 1110–1114 (1996). (Ján Lovišek) **98c:73072** 73V05 (65N30, 73T05)

— Point-source functions for the Laplace difference operator in the angle $5\pi/4$. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 914–922, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 918–926 (1998). (Summary) **98m:65173** 65N06 (39A70)

Belvedere, L. V. (*with* Carvalhaes, C. G.; Boschi Filho, H.; Natividade, C. P.) Algebraic isomorphism in two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 210–236. (Lech Jakóbczyk) **98i:81139** 81T05 (81T10, 81T50)

Belward, John A. (*with* Zhang, Jun^2) Chebyshev series approximations for the Bessel function $Y_n(z)$ of complex argument. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 275–286. (Sven Ehrich) **98h:65011** 65D20 (33C10, 41A60)

— (*with* Burrage, K.; Burrage, P. M.) A bound on the maximum strong order of stochastic Runge-Kutta methods for stochastic ordinary differential equations. (English summary) *BIT* **37** (1997), *no.* 4, 771–780. (Denis Talay) **98j:60079** 60H10 (65U05)

Belyaev, A. G. *see* **Fomenko, A. T., 98i:58001**

Belyaev, A. K. On the enumeration of elements of a symmetric semigroup. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 1, 46–56, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 35–43. (Siniša Crvenković) **98i:20062** 20M20

Belyaev, A. Yu. The homogenization of compressible flows in a random porous domain. (English summary) *Homogenization and applications to material sciences (Nice,* 1995), 31–43, *GAKUTO Internat. Ser. Math. Sci. Appl.,* 9, *Gakkōtosho, Tokyo,* 1995. (Robert Lipton) **98i:76084** 76S05 (35B27, 35Q30, 73B27, 73B35, 76D07, 76M35)

Belyaev, Anatolii Konstantinovich (*with* Ziegler, Franz) Effective loss-factor of heterogeneous elastic solids and fluids. *Trends in applications of mathematics to mechanics (Lisbon,* 1994), 3–13, *Pitman Monogr. Surveys Pure Appl. Math.,* 77, *Longman, Harlow,* 1995. (*see* **98d:00025**) 76Q05 (73B27, 73D99)

— Comparative study of various approaches to stochastic elastic wave propagation. (English summary) *Acta Mech.* **125** (1997), *no.* 1-4, 3–16. (Summary) **98h:73041** 73D70

Belyaev, V. B. (*with* Motovilov, A. K.) Perturbation of an eigenvalue embedded in a continuous spectrum by nearby resonance. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 77–93; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 454–466. (Summary) **98h:81134** 81V55 (81U99)

Belyaev, V. V. (*with* Hartley, Brian) Centralizers of finite nilpotent subgroups in locally finite groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 389–410, 497; *translation in Algebra and Logic* **35** (1996), *no.* 4, 217–228. (O. Yu. Dashkova) **98e:20040** 20F05

— (*with* Kuzucuoğlu, Mahmut) Barely transitive and Heineken Mohamed groups. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 261–263. (Brunella Bruno) **98e:20008** 20B35

(20F50)

Belyakov, I. V. Minimal deviation from zero of Chebyshev mappings that correspond to an equilateral triangle. (Russian) *Mat. Zametki* **59** (1996), *no.* 6, 919–922; *translation in Math. Notes* **59** (1996), *no.* 5-6, 664–668. (V. A. Baskakov) **98c:41042** 41A50 (41A10)

— (*with* Stepin, A. M.) Extremal properties of multidimensional Chebyshev mappings. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 22–24, 109; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 10–12 (1997). 32H99 (41A50)

— (*with* Stepin, A. M.) The extremal property of multidimensional Chebyshev mappings. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 11–14. (J. S. Joel) **98g:58031** 58E15 (14P05)

Belyakov, L. A. (*with* Glebskiĭ, L. Yu.; Lerman, L. M.) Abundance of stable stationary localized solutions to the generalized 1D Swift-Hohenberg equation. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 253–266. (Luigi Martina) **98i:35171** 35Q55 (58F39)

— (*with* Belyakova, G. V.) On bifurcations of periodic orbits in the van der Pol-Duffing equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 459–462. (From the text) **98d:34070** 34C25 (34C15, 34C23, 58F14, 70K40, 70K50)

Belyakova, G. V. (*with* Belyakov, L. A.) On bifurcations of periodic orbits in the van der Pol-Duffing equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 459–462. (From the text) **98d:34070** 34C25 (34C15, 34C23, 58F14, 70K40, 70K50)

Belyankov, A. Ya. *see* **Abaffy, József. 98g:65004**

Belyavskaya, Galina Centre and multiplication groups of quasigroups. (English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 81–89. 20N05

— The 70th anniversary of V. D. Belousov. *Quasigroups Related Systems* **2** (1995), *no.* 1, 1–5. 01A70

— Theory of quasigroups: nuclei, center and commutator. (Russian. English summary) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 2, 47–71. (Ján Duplák) **98k:20110** 20N05

Belyi, M. (*with* Shirinskaya, I.) Algorithms for the calculation of fundamental solutions of finite element and finite difference equations. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 45–49, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65N06 (65N30)

Belyi, S. V. (*with* Tsekanovskiĭ, E. R.) Realization theorems for operator-valued R-functions. (English summary) *New results in operator theory and its applications*, 55–91, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (J. Rovnyak) **98k:47018** 47A48 (47N70, 93B15, 93B28)

Belyi, Vladimir I. (*with* Andrievskiĭ, Vladimir; Dzyadyk, Vladislav Kirillovich) ★ Conformal invariants in constructive theory of functions of complex variable. Translated from the Russian by D. N. Kravchuk. Advanced Series in Mathematical Science and Engineering, 1. *World Federation Publishers Company, Atlanta, GA*, 1995. x+199 *pp.* *ISBN* 1-885978-04-9 (David A. Herron) **98j:30041** 30E10 (30C62)

— On a problem of approximation to the analytic function by analytic complex planar splines in the quasidisk. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 47–53, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:41003** 41A10 (30E10)

— Modern methods of the geometric theory of functions of a complex variable in approximation problems. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 3, 3–40; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 3, 421–453. (Yuri A. Farkov) **98h:30009** 30C35 (30C62, 30E10, 41A30)

— Nonlinear conformal modeling in approximating theory. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 291–300. (*see* **98i:00027**) 41A65 (30C35, 30E10)

Belykh, V. N. (*with* Bykov, V. V.) Bifurcations for heteroclinic orbits of a periodic motion and a saddle-focus and dynamical chaos. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 1–18. (Summary) **98k:58165** 58F14 (58F13)

Belytschko, Ted (*with* Liu, Wing Kam; Li, Shaofan) Moving least-square reproducing kernel methods. I. Methodology and convergence. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 113–154. (Zhangxin Chen) **98e:65098** 65N30 (76M10)

— (*with* Krongauz, Y.) Consistent pseudo-derivatives in meshless methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 3-4, 371–386. (Summary) **98e:65106** 65N50 (73V25)

— (*with* Krysl, Petr) Element-free Galerkin method: convergence of the continuous and discontinuous shape functions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 257–277. (Wu Zhang) **98j:73090** 73V05 (65M12, 65N30)

— (*with* Xu, Yonglin; Moran, Brian) Self-similar crack expansion method for three-dimensional crack analysis. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 4, 729–737. 73M25

— (*with* Chung, Heung-Jin) An error estimate in the EFG method. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 91–100. (Summary) **98m:73077** 73V05

— (*with* Liu, Wing Kam; Guo, Yong; Tang, Sing) A multiple-quadrature eight-node hexahedral finite element for large deformation elastoplastic analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 1-2, 69–132. (Summary) **98k:73065** 73V05 (73E99, 73G20)

— (*with* Krongauz, Y.) EFG approximation with discontinuous derivatives. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1215–1233. (Summary) **98k:73064** 73V05

Belyutin, S. V. Investigation of the exact integrability of the multiwave nonlinear Schrödinger equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 242–253; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 190–198. (Summary) **98f:35132** 35Q55 (58F07)

Belzunce, Felix (*with* Candel Ato, José; Ruiz Gómez, José María) The ageing curve and partial orderings of life distributions. (English summary) *Statist. Papers* **37** (1996), *no.* 2, 141–152. (S. N. Alam) **98f:62287** 62N05 (62G05)

— (*with* Navarro, Jorge; Ruiz Gómez, José María) New stochastic orders based on double truncation. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 395–402. (Summary) **98b:60151** 60K10 (60E99)

— (*with* Pellerey, Franco; Ruiz Gómez, José María; Shaked, Moshe) The dilation order, the dispersion order, and orderings of residual lives. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 263–275. (Robert Kertz) **98i:60014** 60E15 (62N05)

Bemelmans, J. (*with* Chipot, M.) Minimal energy for a free ball on an elastic membrane. *Energy methods in continuum mechanics* (*Oviedo*, 1994), 22–30, *Kluwer Acad. Publ., Dordrecht*, 1996. (Catherine Bandle) **98c:49021** 49J40 (70K99, 73V25)

van Bemmelen, T. (*with* Gragert, P. K. H.; Kersten, P. H. M.) Symmetries and conservation laws of the system: $u_x = vw_v$, $v_y = uw_u$, $uv + w_{xx} + w_{yy} = 0$. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 79–99. (Juha Pohjanpelto) **98b:35113** 35L65 (35A30, 58G37)

Bemporad, Alberto (*with* Casavola, Alessandro; Mosca, Edoardo) Nonlinear control of constrained linear systems via predictive reference management. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 340–349. (Andrzej Świerniak) **98a:93043** 93C41 (90C20, 93B51, 93C25)

— Reference governor for constrained nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 415–419. 93C10 (93B50)

garcia Ben, M. *see* **Garcia Ben, M.**

Benã, Maria Aparecida (*with* Dos Reis, José Geraldo) A stability theorem in terms of two measures. *Nonlinear Anal.* **29** (1997), *no.* 7, 737–740. (A. A. Martynyuk) **98g:34122** 34K20

Ben Abda, Amel (*with* Andrieux, Stéphane; Bui, Huy Duong) Sur l'identification de fissures planes via le concept d'écart à la réciprocité en élasticité. (English and French summaries) [Identification of planar cracks in elasticity via the reciprocity gap concept] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1431–1438. (Giovanni Crosta) **98e:73044** 73C99 (35Q72, 73M25)

— (*with* Bannour, Tarek; Jaoua, Mohamed) A semi-explicit algorithm for the reconstruction of 3D planar cracks. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 899–917. (Summary) **98c:65198** 65N99 (78A55, 80A20)

Benabdallah, Assia (*with* Ammar Khodja, Farid; Teniou, Djamal E.) Dynamical stabilizers and coupled systems. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 253–262 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Krystyn Styczeń) **98k:93091** 93D15 (34G10, 34H05, 47D06, 47N70, 93C20)

— (*with* Ammar Khodja, Farid; Teniou, Djamal E.) Sur la stabilisation d'un couplage ondes-advection. [Stabilization of a wave-advection coupling] *Portugal. Math.* **54** (1997), *no.* 3, 335–344. (De Xing Feng) **98i:93073** 93D15 (35L10, 93C20)

Ben Abdallah, Naoufel (*with* Degond, Pierre) The Child-Langmuir law in the kinetic theory of charged particles: semiconductors models. *Mathematical problems in semiconductor physics* (*Rome*, 1993), 76–102, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (Introduction) **98j:82074** 82D99 (78A55)

— (*with* Degond, Pierre) On a hierarchy of macroscopic models for semiconductors. (English summary) *J. Math. Phys.* **37** (1996), *no.* 7, 3306–3333. (Summary) **98b:82091** 82D99 (82C70)

— (*with* Unterreiter, Andreas) Stationary voltage current characteristics of a plasma. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 5, 575–605. (Summary) **98i:76109** 76X05 (34B15, 76M30, 82D10)

— (*with* Degond, Pierre; Markowich, Peter A.) On a one-dimensional Schrödinger-Poisson scattering model. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 135–155. (Summary) **98b:82092** 82D99 (34B24, 34L40, 82C70)

Ben Abdelaziz, F. (*with* Lang, Pascal; Nadeau, R.) Dominance and efficiency in multiobjective stochastic linear programming. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 160–169, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C15)

Benabdellah, H. (*with* Castaing, Charles; Salvadori, Anna; Syam, A.) Nonconvex sweeping process. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 2, 217–240. (Fabián Flores-Bazán) **98c:34096** 34G20 (34A60, 47N20, 49J24)

— (*with* Castaing, Charles; Salvadori, Anna) Compactness and discretization methods for differential inclusions and evolution problems. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 9–51. (Manuel D. P. Monteiro Marques) **98d:34025** 34A60 (34G20, 49J24)

Ben Abdesselem, Adnène (*with* Cherrier, Pascal) Équations de type Monge-Ampère sur certaines variétés de Fano. (English and French summaries) [Monge-Ampère equations on certain Fano manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 319–322. (Sławomir Kołodziej) **98h:32023** 32F07 (32L07)

— Équations de Monge-Ampère d'origine géométrique sur certaines variétés algébriques. (English summary) [Monge-Ampère equations of geometric origin on certain algebraic varieties] *J. Funct. Anal.* **149** (1997), *no.* 1, 102–134. (Sławomir Kołodziej) **98i:32020** 32F07 (32J18)

Bénabou, Jean Rapports entre le fini et le continu. [Relations between the finite and the continuous] *Le labyrinthe du continu* (*Cerisy-la-Salle*, 1990), 178–189, *Springer, Paris*, 1992. (M. Randall Holmes) **98h:03066** 03E70 (00A30, 03A05)

Ben-Abraham, Shelomo I. (*with* Kramer, Peter; Beck, Uwe) Automorphisms and discrete fiber bundles. *Symmetries in science, IX* (*Bregenz*, 1996), 179–192, *Plenum, New York*, 1997. (Karel A. Dekimpe) **98h:20089** 20H15 (82D25)

Ben Adda, Fayçal Fourier's transform and Nishimoto fractional calculus. (English summary) *J. Fract. Calc.* **10** (1996), 41–50. (Summary) **98g:26009** 26A33 (42A38)

— Geometric interpretation of the fractional derivative. (English summary) *J. Fract. Calc.* **11** (1997), 21–51. (Mridula Garg) **98f:26004** 26A33

Benaïm, Michel Vertex-reinforced random walks and a conjecture of Pemantle. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 361–392. (János Tóth) **98d:60128** 60J10 (34F05, 60J15)

— (*with* Fort, Jean-Claude; Pagès, Gilles) Convergence presque sûre de l'algorithme de Kohonen unidimensionnel. (English and French summaries) [The a.s. convergence of the one-dimensional Kohonen algorithm] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1407–1412. (Summary) **98d:60059** 60F15 (60J20, 62L20, 68T05, 92B20)

— On invariant hypersurfaces of strongly monotone maps. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 302–319. (Janusz Mierczyński) **98d:58114** 58F12 (34C30, 34C35, 34D35)

Benalycherif, Mohamed-Lyes (*with* Girault, Claude) Behavioural and structural composition rules preserving liveness by synchronization for colored FIFO nets. (English

summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 73–92, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (Summary) **98e:68189** 68Q90

Ben Amar, M. (*with* Pomeau, Y.) Crumpled paper. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1959, 729–755. (Pierre Aimé) **98c:53002** 53A05 (73K10)

Benameur, Moulay-Tahar A longitudinal Lefschetz theorem in K-theory. (English summary) *K-Theory* **12** (1997), *no.* 3, 227–257. (Hiroshi Takai) **98j:19007** 19L47 (19K56, 19M05, 58G12)

— Triangulations and the stability theorem for foliations. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 221–239. (Hiroshi Takai) **98e:46089** 46L85 (57R30, 58G12)

Benammar, Mabrouk (*with* Arnal, Didier; Selmi, Mohamed) Normalisation d'une représentation non linéaire d'une algèbre de Lie. (English and French summaries) [Normalization of a nonlinear representation of a Lie algebra] *Ann. Fac. Sci. Toulouse Math.* (5) **9** (1988), *no.* 3, 355–379. (Summary) **98h:17003** 17B10

Benamor, S. (*with* Besançon, Gildas; Hammouri, H.) State equivalence of discrete-time nonlinear control systems to state affine form up to input/output injection. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 1–10. (Summary) **98k:93021** 93B17 (93B07, 93C10)

Benamou, Jean-David A domain decomposition method with coupled transmission conditions for the optimal control of systems governed by elliptic partial differential equations. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2401–2416. (Pekka Neittaanmäki) **98b:65071** 65K10 (49M25, 65N30, 65Y05)

— (*with* Després, Bruno) A domain decomposition method for the Helmholtz equation and related optimal control problems. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 68–82. (Summary) **98c:65162** 65M55 (49K20)

Ben-Amram, Amir M. (*with* Galil, Zvi) Lower bounds on algebraic random access machines (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 360–371, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q05 (68Q25)

— (*with* Galil, Zvi) When can we sort in $o(n \log n)$ time? (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 345–370. (Friedhelm Meyer auf der Heide) **98m:68049** 68P10 (68Q05, 68Q25)

— Introducing: reasonable complete programming languages. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 153–155. 68N15 (68Q05)

Benaoum, H. B. (*with* Lagraa, M.) $U_q(2)$ Yang-Mills theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 553–568. (Mathias Pillin) **98m:81071** 81R50 (81T13)

Ben-Arie, Jezekiel (*with* Wang, Zhiqian) Gabor kernels for affine-invariant object recognition. (English summary) *Gabor analysis and algorithms*, 409–426, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **98h:42001**) 94A12 (68T10)

Ben Arous, Gérard (*with* Cerf, Raphaël) Metastability of the three-dimensional Ising model on a torus at very low temperatures. (English summary) *Electron. J. Probab.* **1** (1996), *no.* 10, *approx.* 55 *pp.* (*electronic*). (Peter Eichelsbacher) **98a:82086** 82C44 (05B50, 60J10, 60K35)

— (*with* Guionnet, Alice) Large deviations for Wigner's law and Voiculescu's non-commutative entropy. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 517–542. (Alexei Khorunzhy) **98i:15026** 15A52 (46L50, 60F10)

— (*with* Guionnet, Alice) Langevin dynamics for Sherrington-Kirkpatrick spin glasses. *Mathematical aspects of spin glasses and neural networks*, 323–353, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **98i:82002**) 82D30 (82C31)

Ben-Artzi, Matania (*with* Nemirovsky, Jonathan) Remarks on relativistic Schrödinger operators and their extensions. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 29–39. (Rainer Hempel) **98j:47103** 47F05 (35J10, 47N50, 81Q10)

— On spectral properties of the acoustic propagator in a layered band. (English summary) *J. Differential Equations* **136** (1997), *no.* 1, 115–135. (Yongzhi Xu) **98f:35111** 35P05 (35J05, 47F05)

Ben-Asher, Yosi (*with* Newman, Ilan) Geometric approach for optimal routing on a mesh with buses. (English summary) *J. Comput. System Sci.* **54** (1997), *no.* 3, 475–486. (Summary) **98d:68024** 68M10 (68Q10)

Benassi, Albert (*with* Jaffard, Stéphane; Roux, Daniel) Gaussian elliptic processes. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 35–48, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Akio Noda) **98e:60055** 60G15 (60G17, 60G18, 60G60)

— Arbres et grandes déviations. (English and French summaries) [Trees and large deviations] *Trees* (*Versailles*, 1995), 135–140, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Christian Maes) **98f:05042** 05C05 (60F10, 60G18)

— Arbres et grandes déviations. (English and French summaries) [Trees and large deviations] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 20, 6 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (Summary) **98h:60031** 60F10 (60G50)

— (*with* Jaffard, Stéphane; Roux, Daniel) Elliptic Gaussian random processes. (English and French summaries) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 19–90. (Christian Houdré) **98k:60056** 60G15 (60G60, 60J05)

Benassi, Paola (*with* Artosi, Alberto; Governatori, Guido; Rotolo, Antonino) Labelled proofs for quantified modal logic. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 70–86, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:03024** 03B45 (68T27)

Benatti, Fabio (*with* Floreanini, Roberto) Testing complete positivity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1465–1472. (Robert Alicki) **98f:82084** 82C10 (81V25)

— (*with* Floreanini, Roberto) Completely positive dynamical maps and the neutral kaon system. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 335–363. (Robert Alicki) **98d:82032** 82C10 (46L57, 46L60, 81V25)

Benavides, R. *see* **Benavides Gallardo, Raúl**

dominguez Benavides, Tomás *see* **Dominguez Benavides, Tomás**

Benavides Gallardo, Raúl (*with* Mallol, Cristián) Pierce [Peirce] transformation, automorphisms and derivations in train algebras of rank 3. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 4, 401–412. (Alexander V. Il'tyakov) **98a:17001** 17A30 (17D92)

Benayadi, Saïd Sur une famille d'algèbres de Lie idéalement finies. (French summary) [A family of ideally finite Lie algebras] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 23–31. (Tuong Ton That) **98c:17008** 17B20 (17B05)

— (*with* Bajo, Ignacio) Lie algebras admitting a unique quadratic structure. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2795–2805. (Alberto Medina) **98g:17009** 17B20

Benayed, Miloud Lie bialgebras real cohomology [Lie bialgebras and cohomology]. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 287–292. (Summary) **98i:17025** 17B55

Ben Belgacem, Faker (*with* Bernardi, Christine; Costabel, Martin; Dauge, Monique) Un résultat de densité pour les équations de Maxwell. (English and French summaries) [A denseness result for Maxwell's equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 731–736. (Rodolfo Torres) **98f:46027** 46E35 (35Q60, 78A25)

— (*with* Maday, Yvon) The mortar element method for three-dimensional finite elements. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 2, 289–302. (I. P. Gavrilyuk) **98e:65107** 65N55 (65N30)

Ben Belgacem, Hafedh Une méthode de Γ-convergence pour un modèle de membrane non linéaire. (English and French summaries) [A Γ-convergence method for a nonlinear membrane model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 845–849. (Summary) **98k:73041** 73K10 (49J45, 73C50, 73V25)

Benbitour, Mohamed Abdelwahab (*with* Hachemane, Mahmoud; Smida, Abdallah) Interaction in the geometro-differential conception of extended particles and the Galilei semigroup of trajectories. (English summary) *Found. Phys.* **27** (1997), *no.* 4, 579–594. (J.-P. Antoine) **98j:81170** 81R99 (81S99)

Benchalli, S. S. (*with* Malghan, S. R.; Navalagi, G. B.) Almost s-completely regular spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 85–95. 54D15 (54C08)

Benchaou, Mohammed *see* **Barsky, Daniel, 98g:01057**

Bench-Capon, Trevor J. M. (*with* Dunne, Paul E.) The maximum length of prime implicates for instances of 3-SAT. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 317–329. (Summary) **98f:68123** 68Q25 (03B05, 03D15)

Benchekroun, S. (*with* Moszkowski, P.) A bijective proof of an enumerative property of legal bracketings. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 273–277. (Godofredo Iommi Amunátegui) **98k:05012** 05A99 (05A15)

Benchiboun, M. D. Extension of Henrici's method to matrix sequences. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 1–21. (Gh. Adam) **98f:65047** 65F30 (65B05)

Benchimol, P. (*with* Montseny, G.) Index of performance as a degree of controllability for vibrating string with an internal point control. (English summary) *J. Vib. Control* **4** (1998), *no.* 2, 201–216. 93B05 (73K50, 93C20)

Benci, Vieri (*with* Fortunato, Donato) Geodesics on space-time manifolds: a variational approach. *Variational methods in nonlinear analysis* (*Erice*, 1992), 1–37, *Gordon and Breach, Basel*, 1995. (Anna Germinario) **98g:58027** 58E10 (49Q20, 53C22, 83C99)

— (*with* Abbondandolo, Alberto) Rotation numbers for Lagrangian systems and Morse theory. *Topology in nonlinear analysis* (*Warsaw*, 1994), 29–38, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Jean Mawhin) **98c:58023** 58E05 (34C25, 58F22, 70H35)

— Variational methods in the geometry of space-time. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 297–321. (Paolo Piccione) **98h:58040** 58E10 (58C50)

Bencze, Mihály Pál Erdős an eccentric titan and the Mozart of mathematics. *Octogon Math. Mag.* **5** (1997), *no.* 1, 3–9. 01A70

— (*with* Popovici, Florin) A new and simple proof of the change of variable formula in the Riemann integral in very general conditions. *Octogon Math. Mag.* **5** (1997), *no.* 1, 10–18. (S. N. Mukhopadhyay) **98h:26012** 26A42

— (*with* Popovici, Florin) The transfinite induction as a characteristic property of the well ordered sets. *Octogon Math. Mag.* **5** (1997), *no.* 1, 27–29. 04–01

— (*with* Popovici, Florin) A characterization of the set of natural numbers in the class of totally ordered sets. *Octogon Math. Mag.* **5** (1997), *no.* 1, 38–42. 04–01

— (*with* Popovici, Florin) Three new symbols useful in the mathematical analysis. *Octogon Math. Mag.* **5** (1997), *no.* 1, 48–53. 26A99

— (*with* Popovici, Florin; Negrea, Mihaela) Remarks regarding the geometrical motivation of the definition of the trigonometrical functions. (English summary) *Octogon Math. Mag.* **5** (1997), *no.* 1, 57–62. 26A09

— (*with* Popovici, Florin; Negrea, Mihaela) A characterization of the set of integer numbers in the class of totally ordered sets. *Octogon Math. Mag.* **5** (1997), *no.* 2, 10–17. 03B30

— (*with* Popovici, Florin) A characterization of the set of rational numbers in the class of totally ordered sets. *Octogon Math. Mag.* **5** (1997), *no.* 2, 18–31. 03B30

— (*with* Popovici, Florin) A refinement of the Euler's inequality $R \geq 2r$. *Octogon Math. Mag.* **5** (1997), *no.* 2, 39–45. 52A40 (51M16)

— (*with* Popovici, Florin; Smarandache, Florentin) About very perfect numbers. *Octogon Math. Mag.* **5** (1997), *no.* 2, 53–54. 11A25

— (*with* Popovici, Florin; Smarandache, Florentin) Inequalities for the integer part function. *Octogon Math. Mag.* **5** (1997), *no.* 2, 60–62. 26D20 (11A99)

— (*with* Dumitrescu, Constantin A.) References on Smarandache notions. I. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 225–233. 11–00

— (*with* Popovici, Florin; Szilágyi, Jutka) Mathematics and literature. *Octogon Math. Mag.* **6** (1998), *no.* 1, 39–41. 00A99

— A new proof of the arithmetic-geometric mean inequality. *Octogon Math. Mag.* **6** (1998), *no.* 1, 49–50. 26D15

— (*with* Popovici, Florin) An elementary solution of a problem of Paul Erdős. *Octogon Math. Mag.* **6** (1998), *no.* 1, 56–58. 51M16

— Noncongruent convex polygons which have equal perimeters and areas. *Octogon Math. Mag.* **6** (1998), *no.* 1, 61–63. 52A10 (51M25)

— (*with* Popovici, Florin) Two new proof of inequality between arithmetical and geometrical mean. *Octogon Math. Mag.* **6** (1998), *no.* 1, 65–66. 26D15

— (*with* Popovici, Florin; Smarandache, Florentin) One generalization of the Leibniz theorem. *Octogon Math. Mag.* **6** (1998), *no.* 1, 67–70. 51M04

— *see also* **Dánè, Károly**

Benczúr, András (*with* Novák, Ágnes B.; Révész, Péter Z.) Propositional and weighted knowledge base transformations. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 347–371 (1997). (János Demetrovics) **98i:68259** 68T30

— (*with* Harborth, Heiko; Jørgensen, Leif K.) Cube graph Ramsey numbers. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 151–157 (1997). (Stanisław P. Radziszowski) **98i:05120** 05C55

— (*with* Novák, Ágnes B.; Révész, Péter Z.) On the semantics of revision and model-fitting in weighted case. (English and Croatian summaries) *Zb. Rad. (Varaždin) No.* 20 (1996), 45–58. (David Makinson) **98d:68190** 68T30 (03B60, 03B70)

Bendali, F. (*with* Quilliot, A.) Représentation de familles ordonnées d'intervalles et applications. (English and French summaries) [Representation of ordered families of intervals, and applications] *RAIRO Rech. Opér.* **31** (1997), *no.* 1, 73–101. (Ştefan Ţigan) **98b:05070** 05C65 (90C35)

BenDaniel, D. J. On Wigner's suggestion of the unreasonable effectiveness of mathematics in physics. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 211–215, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81–03 (00A30, 01A70)

el-Bendary, Sherif *see* **El-Bendary, Sherif**

Bendat, Julius S. ★ Nonlinear system techniques and applications. (English summary) A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+474 *pp. ISBN* 0-471-16576-X (From the preface) **98h:93027** 93E12 (93–02, 93C10, 93E03)

Ben-David, Shai *see* **Computational learning theory, 98f:68007**

van Bendegem, Jean Paul *see* **Van Bendegem, Jean Paul**

Bendel, Christopher P. (*with* Suslin, A. A.; Friedlander, Eric M.) Infinitesimal 1-parameter subgroups and cohomology. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 693–728. (Daniel K. Nakano) **98h:14055b** 14L15 (20C20, 20G10)

— (*with* Suslin, A. A.; Friedlander, Eric M.) Support varieties for infinitesimal group schemes. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 729–759. (Daniel K. Nakano) **98h:14055c** 14L15 (20C20, 20G10)

Bender, Andreas Corrigendum: "Representations of an element in $SL(2, \mathbf{F}_p)$ as a short word in two generators" [Math. Proc. Cambridge Philos. Soc. **120** (1996), no. 1, 27–29; MR 96m:20078]. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 571. (From the text) **98j:20066** 20G40

Bender, Carl M. (*with* Tovbis, Alexander) Continuum limit of lattice approximation schemes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3700–3717. (Summary) **98a:34057** 34E15 (34A34, 81T27)

Bender, Edward A. (*with* Richmond, L. Bruce) Admissible functions and asymptotics for labelled structures by number of components. (English summary) *Electron. J. Combin.* **3** (1996), *no.* 1, 23 *pp.* (*electronic*). (Michael Drmota) **98a:05012** 05A16 (41A60)

— (*with* Canfield, E. Rodney) The fraction of subspaces of $GF(q)^n$ with a specified number of minimal weight vectors is asymptotically Poisson. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 3, *approx.* 8 *pp.* (*electronic*). (L. Bruce Richmond) **98a:11181** 11T99 (05A16, 11K99)

— (*with* Canfield, E. Rodney; McKay, Brendan D.) The asymptotic number of labeled graphs with n vertices, q edges, and no isolated vertices. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 124–150. (E. M. Palmer) **98i:05098** 05C30

— (*with* Williamson, S. Gill) Periodic sorting using minimum delay, recursively constructed merging networks. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 5, 21 *pp.* (*electronic*). (Summary) **98h:68014** 68M10

Bender, Helmut Endliche Fastkörper und Zassenhausgruppen. [Finite nearfields and Zassenhaus groups] *Group theory, algebra, and number theory (Saarbrücken, 1993)*, 97–143, *de Gruyter, Berlin*, 1996. (Ulrich Dempwolff) **98c:20001** 20–02 (17D99, 20B10)

Bender, I. (*with* Actor, A.) The zeta function constructed from the zeros of the Bessel function. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6555–6580. (Boro Döring) **98e:33009** 33E20 (33C10, 41A30, 65E05)

Bender, Michael A. (*with* Aumann, Yonatan) Efficient asynchronous consensus with the value-oblivious adversary scheduler. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 622–633, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68076** 68Q10

— (*with* Aumann, Yonatan; Zhang, Lisa) Efficient execution of nondeterministic parallel programs on asynchronous systems. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 1–16. (Summary) **98j:68025** 68Q10

Benderskiĭ, O. Ya. (*with* Litvinov, S. N.; Chilin, Vladimir I.) A description of commutative symmetric operator algebras in a Pontryagin space Π_1. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 201–222. (Victor S. Shul'man) **98j:47096** 47D25 (47B50)

Bendiab, O. (*with* Cherruault, Yves) Alienor and Twone: a comparative study. (English summary) *Kybernetes* **26** (1997), *no.* 4-5, 371, 453–458. 90C30 (65K05)

Bendiffalah, Belkacem Exponentielles d'éléments de Lie et calcul différentiel libre. (English and French summaries) [Exponentials of Lie elements and free differential calculus] *Ann. Sci. Math. Québec* **20** (1996), *no.* 2, 135–154. (Frédéric Patras) **98a:17005** 17B01 (17B40, 68R15)

Bendikov, A. D. ★ Potential theory on infinite-dimensional abelian groups. Translated from the Russian manuscript by Carol Regher. de Gruyter Studies in Mathematics, 21. *Walter de Gruyter & Co., Berlin*, 1995. vi+184 *pp. ISBN* 3-11-014283-X (G. Leha) **98i:31007** 31D05 (31–02, 60J45)

Bendito, E. (*with* Encinas, A. M.) Minimizing energy on locally compact spaces: existence and approximation. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 9-10, 843–865. (W. P. Ziemer) **98c:31008** 31C15 (31C20, 49J45)

Ben-Dor, A. (*with* Halevi, Shai; Schuster, Assaf) Potential function analysis of greedy hot-potato routing. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 41–61. (Summary) **98m:68006** 68M10 (68Q10)

Ben-Dor, G. (*with* Arad, M.; Segev, Reuven) Accuracy increase of finite difference calculations on arbitrary meshes by means of differentiation of the partial differential equations and their boundary conditions. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 541–552. (Summary) **98e:73147** 73V15

— (*with* Li, Huaidong) Analytical investigation of two-dimensional unsteady shock-on-shock interactions. (English summary) *J. Fluid Mech.* **340** (1997), 101–128. (V. D. Sharma) **98h:76078** 76L05

— (*with* Li, Huaidong) A parametric study of Mach reflection in steady flows. (English summary) *J. Fluid Mech.* **341** (1997), 101–125. (Summary) **98d:76100** 76L05 (76N15)

— (*with* Arad, M.; Yakhot, A.) A highly accurate numerical solution of a biharmonic equation. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 375–391. (Summary) **98c:65172** 65N06

— (*with* Yosibash, Zohar; Arad, M.; Yakhot, A.) An accurate semi-analytic finite difference scheme for two-dimensional elliptic problems with singularities. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 281–296. 65N06

Bendsøe, Martin Philip (*with* Hammer, V. B.; Lipton, Robert P.; Pedersen, P. Terndrup) Minimum compliance design of laminated plates. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 45–56, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98h:73063** 73K40 (73K10, 73K20)

— (*with* Lipton, Robert P.) Extremal overall elastic response of polycrystalline materials. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 11-12, 1765–1780. (Leonid V. Gibiansky) **98k:73053** 73K40 (73B27, 73C99)

— (*with* Zowe, Jochem; Kočvara, Michal) Free material optimization via mathematical programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 445–466. (Summary) **98e:90215** 90C40 (90C30)

— *see also* **Progress in industrial mathematics at ECMI 96, 98e:00021**

Bendtsen, Claus A parallel stiff ODE solver based on MIRKs. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 27–36. (Summary) **98c:65103** 65L05 (65Y05)

Bene, Gyula Quantum reference systems: a new framework for quantum mechanics. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 529–565. (Dennis Dieks) **98i:81007** 81P05 (03B30)

Bene, Julius (*with* Kaufmann, Zoltán; Lustfeld, Hans) New approach to the correlation spectrum near intermittency: a quantum mechanical analogy. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 605–632. 81Q50 (58F13)

Benecke, Ch. (*with* Grund, R.; Hohberger, R.; Kerber, Adalbert; Laue, Reinhard; Wieland, Thomas) Chemical isomerism, a challenge for algebraic combinatorics and for computer science. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 4–20, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the summary) **98a:92009** 92E10

Benedetto, D. (*with* Caglioti, E.; Pulvirenti, Mario) A kinetic equation for granular media. (English and French summaries) *RAIRO Modél. Math. Anal. Numer.* **31** (1997), *no.* 5, 615–641. (Nicola Bellomo) **98k:82145** 82C40 (45K05, 73E99, 76A99, 76P05)

di Benedetto, Fabio *see* **Di Benedetto, Fabio**

Benedetto, John J. Generalized harmonic analysis and Gabor and wavelet systems. (English summary) *Proceedings of the Norbert Wiener Centenary Congress, 1994 (East Lansing, MI, 1994)*, 85–113, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Walter Schempp) **98k:42004** 42A38 (42A65, 42C10, 42C15)

— (*with* Heil, Christopher; Walnut, David F.) Gabor systems and the Balian-Low theorem. (English summary) *Gabor analysis and algorithms*, 85–122, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42016** 42C15

Benedetto, Sergio (*with* Trott, Mitchell D.; Garello, Roberto; Mondin, Marina) Rotational invariance of trellis codes. I. Encoders and precoders. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 751–765. (Felix Taubin) **98e:94038** 94B12

— (*with* Garello, Roberto; Mondin, Marina; Trott, Mitchell D.) Rotational invariance of trellis codes. II. Group codes and decoders. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 766–778. (Felix Taubin) **98e:94039** 94B12

— (*with* Divsalar, Dariush; Montorsi, Guido; Pollara, Fabrizio) Serial concatenation of interleaved codes: performance analysis, design, and iterative decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 909–926. 94B35

Benedict, Eric (*with* Pi, So-Young) Entanglement entropy of nontrivial states. (English summary) *Ann. Physics* **245** (1996), *no.* 1, 209–224. (George K. Savvidy) **98d:83045** 83C57 (81R30, 81T20, 81T30)

Benedikt, Michael Nonstandard analysis in selective universes. *Developments in nonstandard mathematics (Aveiro, 1994)*, 211–223, *Pitman Res. Notes Math. Ser.*, 336, *Longman, Harlow*, 1995. (David Ross) **98b:03092** 03H05 (28E05, 54J05)

— (*with* Libkin, Leonid) On the structure of queries in constraint query languages. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 25–34, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68P15 (03B70, 03C13)

Benedikt, S. Decision-making with unreliable information. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 9, 151–157; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 2, 1344–1349 (1997). 90A05 (90A46)

Benediktovich, V. I. (*with* Sarvanov, V. I.) On the Hamiltonicity of cubic planar graphs. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 34–37, 123. 05C45

Benesh, Esther Induction theorems on the stable rationality of the center of the ring of generic matrices. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3571–3585. (E. Formanek) **98k:16034** 16R30

Ben-Eliyahu-Zohary, Rachel (*with* Apt, Krzysztof R.) Meta-variables in logic programming, or In praise of ambivalent syntax. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 23–36. (Summary) **98i:68044** 68N17 (03B70, 03D35)

— A hierarchy of tractable subsets for computing stable models. (English summary) *J. Artificial Intelligence Res.* **5** (1996), 27–52. (Summary) **98i:68257** 68T30

— (*with* Palopoli, Luigi) Reasoning with minimal models: efficient algorithms and applications. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 421–449. (Summary) **98i:68258** 68T30 (68N17, 68P15, 68T27)

Ben-El-Mechaiekh, H. (*with* Chebbi, S.; Florenzano, M.) A Leray-Schauder type theorem for approximable maps: a simple proof. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2345–2349. (L. Górniewicz) **98k:54080** 54H25 (47H10, 54C60)

Benenti, S. (*with* Kalnins, Ernest G.; Miller, Willard, Jr.) Integrability, Stäckel spaces, and rational potentials. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2345–2365. (Gerard Thompson) **98c:58072** 58F07 (58F17, 70H05, 70H20)

Beneš, Vaclav E. (*with* Elliott, Robert James) Finite-dimensional solutions of a modified Zakai equation. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 4, 341–351. (Onésimo Hernández Lerma) **98d:93092** 93E11 (93E20)

Beneš, Viktor Moment problems in stochastic geometry. *Distributions with given marginals and moment problems (Prague, 1996)*, 53–58, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60D05

— (*with* Krejčiř, Pavel) Decomposition in stereological unfolding problems. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 3, 245–258. (Summary) **98d:60026** 60D05 (60K35)

— *see also* **Distributions with given marginals and moment problems, 98k:60003**

Benet, L. (*with* Trautmann, D.; Seligman, Thomas H.) Chaotic scattering in the restricted three-body problem. I. The Copenhagen problem. (English summary) *Celestial Mech. Dynam. Astronom.* **66** (1996/97), *no.* 2, 203–228. (Summary) **98b:70012** 70F07 (58F13, 70K50)

Bénéteau, C. A natural extension of a nonsingular endomorphism of a measure space. *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1261–1273. (Karma Dajani) **98g:28016** 28D05

Benettin, G. (*with* Carati, A.; Gallavotti, Giovanni) A rigorous implementation of the Jeans-Landau-Teller approximation for adiabatic invariants. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 479–505. (Luigi Chierchia) **98d:58159** 58F30 (58F27, 70H05, 70K99, 81V55)

— (*with* Carati, A.; Fassò, F.) On the conservation of adiabatic invariants for a system of coupled rotators. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 253–268. (Summary) **98a:70016** 70H05 (70–08, 70K99, 82B05)

Beneventano, C. G. (*with* Santangelo, E. M.) Connection between ζ and cutoff regularizations of Casimir energies. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 16, 2871–2886. (Klaus Kirsten) **98g:81138** 81T16 (58G26)

Benevides, Mario R. F. Multiple database logic. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 28–35, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68P15 (03B70)

Benfatto, G. Renormalization group approach to zero temperature Bose condensation. (English summary) *Math. Phys. Electron. J.* **2** (1996), *Paper* 3, 9 *pp.* (*electronic*). (Summary) **98b:82032** 82B28 (82D50)

Benferhat, Salem (*with* Dubois, Didier; Prade, Henri) A local approach to reasoning under inconsistency in stratified knowledge bases. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 36–43, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98d:68184** 68T27 (03B70)

— (*with* Dubois, Didier; Prade, Henri) Possibilistic and standard probabilistic semantics of conditional knowledge. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997)*, 70–75, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T27 (03B48)

— (*with* Dubois, Didier; Prade, Henri) Nonmonotonic reasoning, conditional objects and possibility theory. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 259–276. (Summary) **98a:68165** 68T27 (03B60, 03B70, 68T30)

Ben Gerson, Levi *see* **ben Gerson, Levi**

Benghabrit, Y. (*with* Bouamaine, A.) Application d'un processus d'approximation stochastique à l'estimation séquentielle des facteurs d'une analyse factorielle des correspondances multiples. (English summary) [Application of a stochastic approximation process to the sequential estimation of the factors of a factorial analysis of multiple correspondences] *Afrika Mat.* (3) **6** (1996), 61–68. (Michel Benaïm) **98d:62144** 62L20 (62H25, 62L12, 65U05)

Ben Ghanem, Riadh Quadrature formulae using zeros of Bessel functions as nodes. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 323–336. (Kai Diethelm) **98c:65031** 65D32

Bengtsson, Ingemar (*with* Jacobson, Theodore A.) Degenerate metric phase boundaries. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3109–3121. (Jorge A. Pullin) **98k:83036** 83C45 (83C05)

— (*with* Kleppe, Astri) On chiral p-forms. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3397–3411. (Victor O. Rivelles) **98e:81182** 81T99

Benguria, Rafael D. (*with* Ashbaugh, Mark S.) The range of values of λ_2/λ_1 and λ_3/λ_1 for the fixed membrane problem. (English summary) *The state of matter (Copenhagen, 1992)*, 167–181, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 35P15 (35J25, 73D30)

— (*with* Ashbaugh, Mark S.; Laugesen, Richard Snyder) Inequalities for the first eigenvalues of the clamped plate and buckling problems. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 95–110, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Norbert Weck) **98j:35129** 35P15 (35J35, 73H05, 73K10)

— (*with* Ashbaugh, Mark S.) On the Payne-Pólya-Weinberger conjecture on the n-dimensional sphere. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 111–128, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Sergey A. Titarenko) **98k:35139** 35P15 (35J05, 58G25)

Benhabib, Jess (*with* Rustichini, Aldo) Optimal taxes without commitment. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 231–259. (Summary) **98j:90025** 90A70

Benhabib, Schérazade Loi du "tout ou rien" dans un jeu de pile ou face. (English and French summaries) [The "zero or one" law in a coin-tossing game] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 1–7. (Summary) **98g:60069** 60F99 (03H05)

Ben-Hador, Ronen (*with* Buchen, Peter W.) Perturbation formulas for linear dispersive waves in weak spatially non-uniform media. (English summary) *Wave Motion* **26** (1997), *no.* 2, 187–197. (Summary) **98g:35176** 35Q53 (35B20, 73D15, 73D35)

Ben-Haim, Yakov Beyond maximum entropy: exploring the structure of uncertainty. (English summary) *Uncertainty: models and measures (Lambrecht, 1996)*, 11–26, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (Philip L. Quinn) **98i:00005** 00A30 (03B48)

— (*with* Natke, H. Günther) Uncertainty: a discussion from various points of view. *Uncertainty: models and measures (Lambrecht, 1996)*, 267–276, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (*see* **98e:00024**) 00A30 (01A99)

— *see also* **Uncertainty: models and measures, 98e:00024**

Benham, Craig (*with* Miller, David C.) Fixed-writhe isotopies and the topological conservation law for closed, circular DNA. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 6, 859–866. (Erica Flapan) **98b:57019** 57M25 (92C40, 92D20)

Benhamou, Frédéric Heterogeneous constraint solving. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 62–76, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17 (68T20)

— (*with* Older, William J.) Applying interval arithmetic to real, integer, and Boolean constraints. (English summary) *J. Logic Programming* **32** (1997), *no.* 1, 1–24. (Eldar Musayev) **98h:68032** 68N17 (65G10, 68Q40)

— *see also* **Interval constraints, 98k:68008**

Benharbit, A. (*with* Siddiqui, A. M.) Hodograph transformation methods in incompressible second grade fluid. (English summary) *Mech. Res. Comm.* **24** (1997), *no.* 4, 436–472. (Rakesh Kumar Bhatnagar) **98e:76006** 76A05

Benhenni, Karim Approximation d'intégrales de processus stochastiques. (English and French summaries) [Approximating integrals of stochastic processes] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 659–663. (Summary) **98e:62122** 62M09

Benhida, Chafiq (*with* Timotin, Dan) Functional models and finite-dimensional perturbations of the shift. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 187–196. (Hari Bercovici) **98d:47032** 47A45 (47A55, 47B37)

Benhissi, Ali Puiseux's theorem for generalized power series field. *Commutative ring theory (Fès, 1995)*, 89–96, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Takashi Harase) **98a:13028** 13F25 (13J15)

— Corps des fractions de $A[X]$. [Quotient field of $A[X]$] *Comm. Algebra* **25** (1997), *no.* 9, 2861–2879. (Marco Fontana) **98g:13024** 13F25 (13B30, 13J05)

Beniaminov, E. M. (*with* Borshchev, V. B.) Categorical description of asynchronous parallel computations. (Russian. Russian summary) *Programmirovanie* **1996,** *no.* 6, 4–11; *translation in Program. Comput. Software* **22** (1996), *no.* 6, 273–278. (Summary) **98b:68039** 68Q10 (18B20)

Benić, Dalibor (*with* Pašagić, Husein; Šakić, Nikola) A framework for solving network problems. (English summary) *SOR '97 Proceedings (Preddvor)*, 121–126, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90B10 (90C35)

Bénilan, Philippe (*with* Maliki, Mohamed) Approximation de la solution de viscosité d'un problème d'Hamilton-Jacobi. (English summary) [Approximation of the viscosity solution of a Hamilton-Jacobi problem] *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 369–383. (Martino Bardi) **98f:35067** 35K55 (35D05, 35F25)

— (*with* Wrzosek, Dariusz) On an infinite system of reaction-diffusion equations. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 351–366. (Siegfried Carl) **98e:35090** 35K57

— (*with* Mougeot, Michel; Naegelen, Florence) Enchères asymétriques: contribution à la détermination numérique des stratégies d'équilibre bayésien. (English and French summaries) [Asymmetric auctions: a contribution to the numerical computation of Bayes-Nash equilibrium strategies] *Ann. Économ. Statist.* **1997,** *no.* 46, 225–251. 90A20 (90A60)

— (*with* Bouhsiss, Fouzia) Une remarque sur l'unicité des solutions pour l'opérateur de Serrin. (English and French summaries) [A remark on the uniqueness of solutions for the Serrin operator] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 611–616. (Summary) **98h:35002** 35A05 (35D05)

Benilov, E. S. (*with* Broutman, D.; Kuznetsova, E. P.) On the stability of large-amplitude vortices in a continuously stratified fluid on the f-plane. (English summary) *J. Fluid Mech.* **355** (1998), 139–162. (Summary) **98k:76049** 76E20 (76C05, 76V05, 86A10)

Bening, V. E. Estimates for the rate of convergence under alternatives of some statistics. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 151–152. (From the text) **98m:62037** 62E20 (62G20)

— On asymptotic efficiency and deficiency of some adaptive tests in the one-sample problem. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part I (Kazan', 1995). *J. Math. Sci.* **81** (1996), *no.* 5, 2894–2899. (Arnold Janssen) **98a:62057** 62G10

— (*with* Korolev, V. Yu.) Asymptotic behavior of generalized Cox processes. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1996,** *no.* 3, 55–68; *translation in Moscow Univ. Comput. Math. Cybernet.* **1996,** *no.* 3, 42–53 (1997). (Jia Gang Wang) **98c:60052** 60G55 (60F05)

— On the power of an adaptive test in the symmetry problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 1, 15–18, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997,** *no.* 1, 20–24. (Summary) **98h:62083** 62G10

— (*with* Korolev, V. Yu.) Asymptotic behavior of generalized nonordinary Cox processes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 4, 3–15, 52. (Summary) **98k:60075** 60G55

Benioff, Paul Tight binding Hamiltonians and quantum Turing machines. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 4, 590–593. (V. Ya. Kreinovich) **98g:81021** 81P99 (68Q75, 81V55, 82D25)

Ben-Israel, Adi (*with* Bapat, R. B.) Singular values and maximum rank minors of generalized inverses. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 153–161. (Dao Sheng Zheng) **98a:15019** 15A18 (15A09)

— Newton's method with modified functions. (English summary) *Recent developments in optimization theory and nonlinear analysis (Jerusalem, 1995)*, 39–50, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Carl T. Kelley) **98c:65080** 65H05 (65H20)

— (*with* Tang, Xueqing) Two consequences of Minkowski's 2^n theorem. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 279–282. (Summary) **98c:15058** 15A45

— (*with* Ben-Tal, Aharon) Duality and equilibrium prices in economics of uncertainty. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 51–85. (John van der Hoek) **98e:90024** 90A09 (49N15, 90C15)

Bénisti, D. (*with* Escande, D. F.) Nonstandard diffusion properties of the standard map. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4871–4874. 58F40 (58F13)

Benítez, Carlos (*with* Fernández García-Hierro, Manuel; Soriano, María L.) Suitable norms for simultaneous approximation. *Extracta Math.* **11** (1996), *no.* 3, 485–488. (Joseph M. Lambert) **98c:41024** 41A28 (41A65, 46B20)

— (*with* Fernández García-Hierro, Manuel; Soriano, María L.) Location of best simultaneous approximations. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 9-10, 867–875. (Summary) **98f:41031** 41A65 (46B20)

— (*with* Fernández García-Hierro, Manuel; Soriano, María L.) Suitable norms for simultaneous approximation. *Acta Math. Hungar.* **74** (1997), *no.* 4, 333–343. (Ion Badea) **98b:41019** 41A28 (41A65, 46B99)

almeida Benitez, P. R. *see* **Almeida Benitez, P. R.**

Ben-Jacob, Eshel (*with* Segev, Ronen) Self-wiring of neural networks. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 307–313. 92B20

Benjamin, Arthur T. (*with* Huggins, Eric) Optimal blackjack strategy with "lucky bucks". *UMAP J.* **14** (1993), *no.* 4, 309–318. (Introduction) **98b:90197** 90D60

Benjamin, Diane Coprimeness among irreducible character degrees of finite solvable groups. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2831–2837. (Alexandre Turull) **98c:20012** 20C15

Benjamin, Elliot Lower bounds on the 2-class number of the 2-Hilbert class field of imaginary quadratic number fields with elementary 2-class group of rank 3. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 11–37. (Peter Stevenhagen) **98f:11123** 11R37 (11R11)

Benjamin, Thomas Brooke (*with* Bridges, Thomas J.) Reappraisal of the Kelvin-Helmholtz problem. I. Hamiltonian structure. (English summary) *J. Fluid Mech.* **333** (1997), 301–325. (Alexander Lifschitz) **98g:76037a** 76E99 (58F40, 76M99)

— (*with* Bridges, Thomas J.) Reappraisal of the Kelvin-Helmholtz problem. II. Interaction of the Kelvin-Helmholtz, superharmonic and Benjamin-Feir instabilities. (English summary) *J. Fluid Mech.* **333** (1997), 327–373. (Alexander Lifschitz) **98g:76037b** 76E99 (58F40, 76M99)

— *see also* **Roseau, Maurice**, **98c:01046**

Benjamini, Itai (*with* Schramm, Oded) Random walks and harmonic functions on infinite planar graphs using square tilings. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1219–1238. (Paolo M. Soardi) **98d:60134** 60J15 (31C05, 31C25, 52C20)

— (*with* Kesten, Harry) Distinguishing sceneries by observing the scenery along a random walk path. (English summary) *J. Anal. Math.* **69** (1996), 97–135. (Alexandre S. Gajrat) **98f:60134** 60J15

— (*with* Lee, Susan) Conditioned diffusions which are Brownian bridges. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 733–736. (Summary) **98e:60131** 60J65 (60J60)

Benjamini, Y. (*with* Hochberg, Yosef; Stark, Philip B.) Confidence intervals with more power to determine the sign: two ends constrain the means. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 309–317. 62F25

Benkadda, S. (*with* Gabbai, P.; Zaslavskiĭ, G. M.) Passive particle dynamics in a flow exhibiting transition to turbulence. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2864–2870. (Summary) **98e:76051** 76F99 (76W05)

Benkafadar, N. M. (*with* Gel′man, B. D.) On a local degree for a class of multi-valued vector fields in infinite-dimensional Banach spaces. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 381–396. (Jacobo Pejsachowicz) **98k:47118** 47H11 (47H15, 58C30)

— (*with* Gel′man, B. D.) On the local degree for a class of multivalued fields. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 24–34; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 22–31. (Christian Fenske) **98k:47119** 47H11 (47H04, 55M25, 58C30)

Benkart, Georgia (*with* Bakhturin, Yu. A.) Highest weight modules for locally finite Lie algebras. *Modular interfaces (Riverside, CA, 1995)*, 1–31, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Jean Marion) **98m:17009** 17B10

— (*with* Britten, Daniel; Lemire, Frank) Modules with bounded weight multiplicities for simple Lie algebras. *Math. Z.* **225** (1997), *no.* 2, 333–353. (Alexander N. Rudyĭ) **98h:17004** 17B10 (17B20)

Benkhalti, R. (*with* Arino, O.; Ezzinbi, K.) Existence results for initial value problems for neutral functional-differential equations. *J. Differential Equations* **138** (1997), *no.* 1, 188–193. (From the introduction) **98d:34099** 34K05 (34K40)

Benkherouf, Lakdere Oil exploration and the generalized Euler distribution. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 55–57. 62E15 (60G40, 62L15)

— (*with* Owen, R. W.) Gittins indices and sensitivity analysis in a search model. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 1, 73–83. (Chandra M. Gulati) **98g:62152** 62L15 (62L05)

— On the optimality of a replenishment policy for an inventory model with deteriorating items and time-varying demand and shortages. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 59–67. (Stefanka Chukova) **98e:90060** 90B05

— (*with* Aggoun, Lakhdar; Tadj, Lotfi) A hidden Markov model for an inventory system with perishable items. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 423–430. (Summary) **98h:90031** 90B05

— (*with* Aggoun, Lakhdar; Tadj, Lotfi) An integer-valued EOQ model with stochastic demand and perishable items. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 77–84. 90B05

— (*with* Aggoun, Lakhdar; Tadj, Lotfi) Filtering of continuous-time Markov chains. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 73–83. (Summary) **98i:93081** 93E11 (60G35)

— (*with* Balkhi, Zaid T.) On an inventory model for deteriorating items and time-varying demand. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 221–233. (Summary) **98a:90041** 90B05

Benkiran, Taoufiq Étude d'un problème de perturbation singulière non classique. (Italian summary) [Study of a nonclassical singular perturbation problem] *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 1, 93–103. (Dietrich Göhde) **98c:35010** 35B25 (35J40)

Benkirane, A. (*with* Elmahi, A.) Almost everywhere convergence of the gradients of solutions to elliptic equations in Orlicz spaces and application. *Nonlinear Anal.* **28** (1997), *no.* 11, 1769–1784. (Tsvetomir Tsachev) **98b:35057** 35J65 (35B35)

Benkő, J. M. (*with* Balla, Katalin) The diamagnetic Coulomb problem at high field strength. Numerical analysis. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6747–6764. (Alexei D. Kiselev) **98g:81223** 81V45

Ben Larbi, Miloud Caractère lipschitzien et existence des dérivées directionnelles pour des solutions de systèmes différentiables non linéaires. (English and French summaries) [Lipschitz character and existence of directional derivatives for solutions of nonlinear differentiable systems] *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 23–35. (Abderrahim Jourani) **98e:90179** 90C31

— (*with* Bouali, S.; Cherki, S.) Une remarque sur l'orthogonalité de l'image au noyau d'une dérivation généralisée. (English summary) [A remark on the orthogonality of the image to the kernel of a generalized derivation] *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 167–171. (Volker Runde) **98c:47044** 47B47 (47B10, 47B20)

Ben-Menahem, Yemima Dummett vs Bell on quantum mechanics. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 277–290. (Summary) **98i:81006** 81P05 (00A30, 00A79)

Ben Messouda, F. (*with* Haddi, A.) The first braided homology group. *Commutative ring theory (Fès, 1995)*, 97–104, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Pilar C. Carrasco) **98b:13014** 13D03 (16E30, 17B55, 18D10)

Benmeziane, Zineb (*with* Ainouche, Ahmed) Stability number of a subclass of chair-free, net-free graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 79–90. (Summary) **98e:05090** 05C75

Benn, A. G. (*with* Kulperger, R. J.) Integrated marked Poisson processes with application to image correlation spectroscopy. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 215–231. (Summary) **98m:62274** 62M99

Benn, I. M. (*with* Charlton, Philip) Dirac symmetry operators from conformal Killing-Yano tensors. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1037–1042. (Wiesław J. Olędzki) **98h:58180** 58G03 (53C20)

— (*with* Charlton, Philip; Kress, Jonathan) Debye potentials for Maxwell and Dirac fields from a generalization of the Killing-Yano equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4504–4527. (Jorge Goncalves Cardoso) **98j:83070** 83C60 (81R20, 83C50)

Bennani, Mohammed (*with* Heiser, Willem J.) Triadic distance models: axiomatization and least squares representation. (English summary) *J. Math. Psych.* **41** (1997), *no.* 2, 189–206. (Ki Hang Kim) **98k:92022** 92G15

Ben Nasr, Fathi (*with* Bhouri, Imen) Spectre multifractal de mesures boréliennes sur $\mathbf{R}^d$. (English and French summaries) [The multifractal spectrum of Borel measures in $\mathbf{R}^d$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 253–256. (Summary) **98c:28005** 28A80

Ben Natan, Yaakov (*with* Benyamini, Yoav; Hedenmalm, Håkan; Weit, Yitzhak) Wiener's Tauberian theorem for spherical functions on the automorphism group of the unit disk. (English summary) *Ark. Mat.* **34** (1996), *no.* 2, 199–224. (H. G. Dales) **98b:43009** 43A20 (43A80)

Bennati, M. L. Wellposedness by perturbation in optimization problems and metric characterization. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 613–623. (Julian Revalski) **98i:49016** 49J45 (49K40)

Bennequin, Daniel Monopôles de Seiberg-Witten et conjecture de Thom (d'après Kronheimer, Mrowka et Witten). (French summary) [Seiberg-Witten monopoles and the Thom conjecture (following Kronheimer, Mrowka and Witten)] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 807, 3, 59–96. (Vicente Muñoz) **98i:57059** 57R57 (57N13, 57R15, 57R55, 58D27)

Benner, Peter (*with* Faßbender, Heike) An implicitly restarted symplectic Lanczos method for the Hamiltonian eigenvalue problem. (English summary) *Linear Algebra Appl.* **263** (1997), 75–111. (Lars Eldén) **98f:65039** 65F15 (15A18)

Benner, Steven A. (*with* Gonnet, Gaston H.) Probabilistic ancestral sequences and multiple alignments. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 380–391, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98i:92020** 92D10 (68Q20)

Bennethum, Lynn Schreyer (*with* Feng, Xiaobing) A domain decomposition method for solving a Helmholtz-like problem in elasticity based on the Wilson nonconforming element. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 1–25. (Summary) **98j:73101** 73V25 (65N55)

prügel-Bennett, Adam *see* **Prügel-Bennett, Adam**

Bennett, Brandon Carving up space: steps towards construction of an absolutely complete theory of spatial regions. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 337–353, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T30 (03B30, 03B70, 03B80)

— Modal logics for qualitative spatial reasoning. (English summary) *J. IGPL* **4** (1996), *no.* 1, 23–45. (Zoran Ognjanović) **98a:03019** 03B45 (68T27)

Bennett, Charles H. (*with* DiVincenzo, David P.; Smolin, John A.) Capacities of quantum erasure channels. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 16, 3217–3220. (Summary) **98f:81041** 81P99

Bennett, Colin *see* **Lorentz, George G.**, **98i:01037**

Bennett, Curtis D. (*with* Blass, Josef; Glass, A. M. W.; Meronk, David B.; Steiner, Ray P.) Linear forms in the logarithms of three positive rational numbers. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 97–136. (Yann Bugeaud) **98g:11085** 11J86

Bennett, D. L. (*with* Nielsen, Holger Bech; Woodard, R. P.) Initial value problem for maximally nonlocal actions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1167–1170. (Summary) **98k:81074** 81Q99 (70G50, 81S40)

Bennett, Elaine Multilateral bargaining problems. (English summary) *Games Econom. Behav.* **19** (1997), *no.* 2, 151–179. (Summary) **98a:90148** 90D12 (90D06)

— (*with* Houba, Harold) Odd man out: the proposal-making model. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 375–396. (Summary) **98h:90117** 90D35 (90A05)

— *see also* **Maschler, Michael**, **98c:01045**

Bennett, F. E. (*with* Mullin, Ronald C.; Ling, Alan C. H.; Abel, R. Julian R.) On the closure of subsets of $\{4, 5, \cdots, 9\}$ which contain $\{4\}$. *Ars Combin.* **45** (1997), 33–76. (Charles J. Colbourn) **98i:05016** 05B05

— (*with* Wei, Ruizhong) The existence of Schröder designs with equal-sized holes. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 15–28. (Michael Klemm) **98e:05010** 05B05 (20N05)

— (*with* Zhang, Xuebin) Perfect Mendelsohn designs with equal-sized holes and block size four. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 203–213. (D. V. Chopra) **98a:05016** 05B05

— (*with* Chang, Yan Xun; Yin, Jian Xing; Zhang, Hantao) Existence of HPMDs with block size five. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 257–273. (Sanpei Kageyama) **98d:05022** 05B05

— (*with* Wei, Ruizhong; Zhu, Lie[1]) Resolvable Mendelsohn triple systems with equal sized holes. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 329–340. (Charles C. Lindner) **98h:05029** 05B07

— (*with* Du, Bei Liang; Zhang, Hantao) Existence of conjugate orthogonal diagonal Latin squares. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 449–461. (Summary) **98i:05026** 05B15

— (*with* Yin, Jian Xing; Zhang, Hantao; Abel, R. Julian R.) Perfect Mendelsohn packing designs with block size five. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 5–22. (Charles J. Colbourn) **98m:05034** 05B30

— (*with* Du, Bei Liang; Zhang, Hantao) Existence of self-conjugate self-orthogonal diagonal Latin squares. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 51–62. (Summary) **98m:05022** 05B15

— (*with* Wei, Ruizhong; Zhang, Hantao) Holey Schröder designs of type $2^n u^1$. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 131–150. (Elena Brožiková) **98m:05015** 05B05

Bennett, Harold R. (*with* Lutzer, David J.) A note on property III in generalized ordered spaces. (English summary) *Topology Proc.* **21** (1996), 15–24. (Summary) **98j:54053** 54F05

— (*with* Lutzer, David J.) Diagonal conditions in ordered spaces. (English summary) *Fund. Math.* **153** (1997), *no.* 2, 99–123. (Ljubiša Kočinac) **98h:54043** 54F05 (54A25, 54D15, 54D30)

— (*with* Lutzer, David J.) A metric space of A. H. Stone and an example concerning σ-minimal bases. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2191–2196. (Worthen Hunsaker) **98j:54054** 54F05 (54D15, 54D30, 54E35)

Bennett, John M. (*with* Edwards, J. J.) A graph isomorphism algorithm using pseudoinverses. (English summary) *BIT* **36** (1996), *no.* 1, 41–53. (Summary) **98c:05117** 05C60 (05C85, 15A09)

Bennett, K. E. (*with* Firth, David) Robust models in probability sampling. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 3–21. 62D05

Bennett, Kristin P. (*with* Bredensteiner, Erin J.) Feature minimization within decision trees. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 111–126. 90C29 (68T05, 90A05, 90C35)

Bennett, M. K. (*with* Foulis, David J.) Interval and scale effect algebras. *Adv. in Appl. Math.* **19** (1997), *no.* 2, 200–215. (Joel Berman) **98m:06024** 06F20 (03G12, 08A55, 81P10)

Bennett, Michael A. Effective measures of irrationality for certain algebraic numbers. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 329–344. (Michel Waldschmidt) **98c:11070** 11J82 (11J25, 11J68)

— Solving families of simultaneous Pell equations. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 246–251. (Paul M. Voutier) **98j:11015** 11D09

— Explicit lower bounds for rational approximation to algebraic numbers. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 1, 63–78. (Tapani Matala-Aho) **98d:11082** 11J68 (11D75, 11J25)

— (*with* de Weger, Benjamin M. M.) On the Diophantine equation $|ax^n - by^n| = 1$. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 413–438. (Yuri Bilu) **98c:11024** 11D41 (11J82, 11Y50)

Bennett, Paul On the structure of inverse semigroup amalgams. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 5, 577–604. (Yow-Tzong Yeh) **98g:20095** 20M18

Bennett, Scott (*with* DeJong, Gerald) Extending classical planning to real-world execution with machine learning. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1153–1159, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20 (68T05)

Bennighof, Jeffrey K. (*with* Subramaniam, Murugan) Reduction of finite element subspace dimension based on estimated error. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 21–32. (Summary) **98i:73054** 73V05

Bennish, Joseph The mixed Dirichlet-Neumann-Cauchy problem for second order hyperbolic operators. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 243–254. (Akira Tsutsumi) **98e:35104** 35L20 (73D20, 73D25)

Ben-Nissan, B. (*with* Payten, W. M.; Mercer, D. J.) Optimal topology design using a global self-organisational approach. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 3-4, 219–237. (Summary) **98g:73028** 73K40 (73V05, 92C15)

Benois, Denis Périodes p-adiques et lois de réciprocité explicites. [p-adic periods and explicit reciprocity laws] *J. Reine Angew. Math.* **493** (1997), 115–151. (Guy Laffaille) **98m:11128** 11S31 (14L05)

Benois, O. (*with* Koukkous, A.; Landim, C.) Diffusive behavior of asymmetric zero-range processes. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 577–591. (Rossana Marra) **98j:82045** 82C22 (60K35)

Benoist, Joël Espace de liberté d'un sous-ensemble convexe de $\mathbf{R}^n$. (English and French summaries) [Space of freedom of a convex subset in $\mathbf{R}^n$] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 553–576. (Jacques F. Bair) **98g:52007** 52A20

— (*with* Salinier, Alain) ★ Exercices de calcul intégral. (French. French summary) [Exercises of integral calculus] Avec rappels de cours. [With course summaries] Enseignement des Mathématiques. [The Teaching of Mathematics] *Masson, Paris*, 1997. x+214 *pp. ISBN* 2-225-85512-9 (Editors) **98h:00003** 00A07 (28–01)

Benoist, Yves Orbites des structures rigides (d'après M. Gromov). [Orbits of rigid structures (after M. Gromov)] *Integrable systems and foliations/Feuilletages et systèmes intégrables (Montpellier*, 1995), 1–17, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Boris Hasselblatt) **98c:58126** 58F18 (53C23)

— Propriétés asymptotiques des groupes linéaires. (English and French summaries) [Asymptotic properties of linear groups] *Geom. Funct. Anal.* **7** (1997), *no.* 1, 1–47. (Scot Adams) **98b:22010** 22E15

Benoit, Claude (*with* Chenouni, Driss; Lakhliai, Zakia; Poussigue, Gérard; Sakout, Abdallah) Computation of electromagnetic waves diffraction by spectral moments method. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 2, 165–175. (Summary) **98j:78003** 78–08 (78A45)

Benoit, E. (*with* Brandon, J. A.) A note on Sarkovskii's theorem. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 10, 1587–1589. (José Miguel Moreno) **98i:58155** 58F13 (34C35, 70K50)

Benoit, Jean-Pierre[1] The nucleolus is contested-garment-consistent: a direct proof. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 192–196. (Summary) **98j:90106** 90D12

Benoit, Patricia M. (*with* Coley, Alan A.) A new class of spherically symmetric perfect fluid solutions with kinematic self-similarity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB*, 1995), 157–160, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Robert J. van den Hoogen) **98i:83018** 83C20

blanc-Benon, P. *see* **Blanc-Benon, P.**

Ben-Or, Michael Algebraic computation trees in characteristic $p > 0$ (extended abstract). (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM*, 1994), 534–539, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q40 (14G10, 68Q25)

Benoumhani, Moussa On Whitney numbers of Dowling lattices. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 13–33. (Andreja Tepavčević) **98a:06005** 06A07 (06B05)

— On some numbers related to Whitney numbers of Dowling lattices. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 106–116. (Stephen Tanny) **98f:05004** 05A15

Ben-Porath, Elchanan (*with* Gilboa, Itzhak; Schmeidler, David) On the measurement of inequality under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 194–204. (Summary) **98d:90029** 90A09 (90D10)

— Rationality, Nash equilibrium and backwards induction in perfect-information games. (English summary) *Rev. Econom. Stud.* **64** (1997), *no.* 1, 23–46. (Summary) **98b:90196** 90D60 (90D10)

Bensaid, Bernard (*with* Gary-Bobo, Robert J.) An exact formula for the lion's share: a model of preplay negotiation. (English summary) *Games Econom. Behav.* **14** (1996), *no.* 1, 44–89. (T. Parthasarathy) **98a:90139** 90D10

Bensaid, Nadia Nonparametric inference for thinned point process. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 253–258. (Summary) **98b:62090** 62G20 (62M99)

Ben Salem, N. (*with* Masmoudi, W.) Integro-differential equations associated with the Bessel operator on the complex domain. (English summary) *C. R. Math. Rep. Acad. Sci. Canada* **18** (1996), *no.* 6, 257–262. (E. R. Love) **98k:33006** 33C10 (30D99, 45J05)

Bensalma, A. (*with* Drias, H.) On the average number of solutions for SAT instances. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 295–307. (Summary) **98j:68050** 68Q25

Šilac-Benšić, M. *see* **Šilac-Benšić, M.**

Benšić, Mirta *see* **Šilac-Benšić, M.**

Benski, Claudio *see* **Hamada, Michael S.**

Benslimane, Mohamed (*with* Boudi, N.) Isomorphisms of Jordan-Banach algebras. *Extracta Math.* **11** (1996), *no.* 3, 414–416. (Antonio Fernández López) **98d:46048** 46H70 (17C65)

— (*with* Boudi, N.) Alternative Noetherian Banach algebras. *Extracta Math.* **12** (1997), *no.* 1, 41–46. (Angel Rodríguez-Palacios) **98m:46063** 46H70

Ben Slimane, Mourad Formalisme multifractal pour quelques généralisations des fonctions autosimilaires. (English and French summaries) [Multifractal formalism for generalized selfsimilar functions] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 981–986. (Summary) **98a:28003** 28A80

Benson, Chal (*with* Jenkins, Joe; Ratcliff, Gail; Worku, Tefera) Spectra for Gelfand pairs associated with the Heisenberg group. *Colloq. Math.* **71** (1996), *no.* 2, 305–328. (Jacek Cygan) **98b:22016** 22E30 (43A55)

— (*with* Jenkins, Joe; Lipsman, Ronald L.; Ratcliff, Gail) A geometric criterion for Gelfand pairs associated with the Heisenberg group. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 1–36. (Jean Ludwig) **98i:22012** 22E25 (22E60, 43A20)

Benson, D. J. *see* **Benson, David John**

Benson, David B. Multilinearity of sketches. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 11, 269–277 (*electronic*). (Peter Johnstone) **98j:18006** 18C10 (03G30, 18A30, 68Q65)

Benson, David John (*with* Carlson, Jon F.; Rickard, Jeremy) Thick subcategories of the stable module category. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 59–80. (P. Donovan) **98g:20021** 20C20 (20G40)

— (*with* Greenlees, J. P. C.) Commutative algebra for cohomology rings of virtual duality groups. (English summary) *J. Algebra* **192** (1997), *no.* 2, 678–700. (Ian J. Leary) **98d:20057** 20J05 (20C10, 55M05)

— (*with* Greenlees, J. P. C.) Commutative algebra for cohomology rings of classifying spaces of compact Lie groups. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 41–53. (Mark Hovey) **98j:57054** 57T10 (13H10, 14B15, 55N10)

Benson, Gary (*with* Amir, Amihood; Farach-Colton, Martin) Optimal two-dimensional compressed matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 354–379. (Summary) **98d:68081** 68Q20 (68P99)

Benson, H. P. (*with* Boger, G. M.) Multiplicative programming problems: analysis and efficient point search heuristic. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 487–510. (Fred Behringer) **98i:90079** 90C29 (90C26)

Benson, R. W. (*with* Schmitendorf, W. E.) Augmented system approach to measurement-based robust tracking. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 315–325. 93B36 (93B52)

Benson, Steve Students ask the darnedest things: a result in elementary group theory. *Math. Mag.* **70** (1997), *no.* 3, 207–212. (From the introduction) **98d:20059** 20K01

Bensoubaya, M. (*with* Iggidr, Abderrahman) New results on the stability of discrete-time systems and applications to control problems. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 392–414. (Vasile Drăgan) **98m:93086** 93D05 (93C55, 93D15)

Bensoussan, Alain New trends in applied mathematics. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 153–178, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 00A69

— (*with* Menaldi, Jose-Luis) Hybrid control and dynamic programming. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 395–442. (E. N. Barron) **98m:93119** 93E20 (49N25, 90C39)

— (*with* Rascanu, Aurel) Stochastic variational inequalities in infinite-dimensional spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 19–54. (John van der Hoek) **98e:34105** 34G20 (34A60, 34F05, 49J40)

— (*with* Nagai, Hideo) Min-max characterization of a small noise limit on risk-sensitive control. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1093–1115. (Daniel Hernández-Hernández) **98d:93100** 93E20 (49L20)

— (*with* Frehse, Jens; Nagai, Hideo) Some results on risk-sensitive control with full observation. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 1–41. (George Yin) **98i:93087** 93E20 (49L20)

— Leonid Frank (1934–1997). *Asymptot. Anal.* **16** (1998), *no.* 2, 85. 01A70

Bensuda, Ch. Tangential approximation on closed sets of the Brelot harmonic space. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 1, 16–33 (1996). (I. Netuka) **98h:31012** 31D05

Ben-Tal, Aharon (*with* Ben-Israel, Adi) Duality and equilibrium prices in economics of uncertainty. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 51–85. (John van der Hoek) **98e:90024** 90A09 (49N15, 90C15)

— (*with* Zibulevsky, Michael) Penalty/barrier multiplier methods for convex programming problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 347–366. (Vladimir I. Venets) **98c:90088** 90C25

— (*with* Nemirovskiĭ, A. S.) Robust truss topology design via semidefinite programming. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 991–1016. (Hubertus Th. Jongen) **98m:73068** 73K40 (90C30)

Benteftifa, M. Hafed (*with* Kurz, Ludwik) ★ Analysis of variance in statistical image processing. (English summary) *Cambridge University Press, Cambridge*, 1997. xiv+210 *pp. ISBN* 0-521-58182-6 (From the preface) **98c:68209** 68U10

Benth, Fred Espen A generalized Feynman-Kac formula for the stochastic heat problem with anticipating initial conditions. (English summary) *Stochastic analysis and related topics, V (Silivri, 1994)*, 121–133, *Progr. Probab.*, 38, *Birkhäuser Boston, Boston, MA*, 1996. (Rémi Léandre) **98i:60057** 60H15 (60G20)

— (*with* Potthoff, Jürgen) On the martingale property for generalized stochastic processes. (English summary) *Stochastics Stochastics Rep.* **58** (1996), *no.* 3-4, 349–367. (Isamu Dôku) **98d:60085** 60G48 (46N30, 46N50, 60G20, 60G44, 60H05)

— (*with* Deck, Th.; Potthoff, Jürgen) A white noise approach to a class of non-linear stochastic heat equations. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 382–415. (Isamu Dôku) **98g:60112** 60H15 (35K57, 35R60, 46G12)

— On the positivity of the stochastic heat equation. (English summary) *Potential Anal.* **6** (1997), *no.* 2, 127–148. (Tu Sheng Zhang) **98f:60119** 60H15 (35K05, 35R60, 46F25, 60G20)

van Benthem, Johan ★ Exploring logical dynamics. (English summary) Studies in Logic, Language and Information. *CSLI Publications, Stanford, CA; FoLLI: European Association for Logic, Language and Information, Amsterdam*, 1996. x+329 *pp. ISBN* 1-57586-058-9 (From the introduction) **98d:03042** 03B70 (03B60, 68Q60, 68S05, 68T27)

— Content versus wrapping: an essay in semantic complexity. *Arrow logic and multi-modal logic*, 203–219, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1996. (*see* **98b:03036**) 03A05 (03B45)

— Logic and argumentation. (English summary) *Logic and argumentation (Amsterdam, 1994)*, 27–41, *K. Ned. Akad. Wet. Verh. Afd. Lett. (N. S.)*, 170, *North-Holland, Amsterdam*, 1996. (*see* **98f:03006**) 03B65

— Modal logic as a theory of information. *Logic and reality (Christchurch, 1989)*, 135–168, *Oxford Univ. Press, New York*, 1996. (Zoran Ognjanović) **98k:03042** 03B45 (68T27, 68T30)

— (*with* D'Agostino, Giovanna; Montanari, Angelo; Policriti, Alberto) Modal deduction in second-order logic and set theory. I. (English summary) *J. Logic Comput.* **7** (1997), *no.* 2, 251–265. (Kazumi Inoue) **98c:03041** 03B45

— Modal foundations for predicate logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 259–286 (*electronic*). (Jānis Cīrulis) **98b:03015** 03B20 (03B45, 03G15)

— *see also* **Handbook: Logic and language, 98e:03025** *and* **Logic and argumentation, 98f:03006**

van Benthem Jutting, L. S. Description of AUT-68. *Selected papers on Automath*, 251–273, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— *Checking Landau's "Grundlagen" in the Automath system*: Appendix 9 (AUT-SYNT) [MR **58** #32124ab]. *Selected papers on Automath*, 299–301, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— A normal form theorem in a λ-calculus with types. *Selected papers on Automath*, 371–374, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B40

— The language theory of Λ_∞, a typed λ-calculus where terms are types. *Selected papers on Automath*, 655–683, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B40

— *Checking Landau's "Grundlagen" in the Automath system*: parts of Chapters 0, 1 and 2 (Introduction, Preparation, Translation) [MR **58** #32124ab]. *Selected papers on Automath*, 701–720, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— *Checking Landau's "Grundlagen" in the Automath system*: Chapter 4 (Conclusions) [MR **58** #32124ab]. *Selected papers on Automath*, 721–732, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— (*with* de Vrijer, R. C.) A text fragment from Zucker's "Real analysis". *Selected papers on Automath*, 733–761, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— *Checking Landau's "Grundlagen" in the Automath system*: Appendices 3 and 4 (The PN-lines; Excerpt for [from] "Satz 27") [MR **58** #32124ab]. *Selected papers on Automath*, 763–780, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— *Checking Landau's "Grundlagen" in the Automath system*: parts of Chapter 3 (Verification) [MR **58** #32124ab]. *Selected papers on Automath*, 805–808, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— An implementation of substitution in a λ-calculus with dependent types. *Selected papers on Automath*, 809–837, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— *see also* **Selected papers on Automath, 98g:03038**

Benthien, W. (*with* Schenck, A.) Nonexistence and nonuniqueness problems associated with integral equation methods in acoustics. (English summary) *Comput. & Structures* **65** (1997), *no.* 3, 295–305. (Summary) **98g:76067** 76Q05

Bentkus, Vidmantas (*with* Pap, Gyula) The accuracy of Gaussian approximations in nilpotent Lie groups. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 995–1017. (Daniel Neuenschwander) **98e:60014** 60B15 (60H05)

— (*with* Götze, Friedrich) On the lattice point problem for ellipsoids. *Acta Arith.* **80** (1997), *no.* 2, 101–125. (Werner Georg Nowak) **98h:11120** 11P21

— (*with* Götze, Friedrich; van Zwet, Willem R.) An Edgeworth expansion for symmetric statistics. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 851–896. (Summary) **98k:62017** 62E20

— (*with* Götze, Friedrich; Tikhomirov, A. N.) Berry-Esseen bounds for statistics of weakly dependent samples. (English summary) *Bernoulli* **3** (1997), *no.* 3, 329–349. (Lothar Heinrich) **98m:60023** 60F05 (62E20, 62G20, 62G30)

Bentler, Peter M. A testing method for covariance structure analysis. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 123–136, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H10 (62H25)

— (*with* Fang, Kai Tai; Yuan, Ke-Hai) Applications of number-theoretic methods to quantizers of elliptically contoured distributions. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 237–251, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H99

— (*with* Lee, Sik-Yum; Poon, Wai-Yin) Covariance and correlation structure analyses with continuous and polytomous variables. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 347–358, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H12

— (*with* Yuan, Ke-Hai) Mean and covariance structure analysis with missing data. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH, 1996)*, 307–326, *VSP, Utrecht*, 1996. (Alexander Shapiro) **98m:62176** 62H25

— (*with* Berkane, Maia) Bias and mean square error of the maximum likelihood estimators of the parameters of the intraclass correlation model. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 133–147, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (Summary) **98h:62098** 62H12 (62F10)

— (*with* Yuan, Ke-Hai) Optimal conditionally unbiased equivariant factor score estimators. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 259–281, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62H25

— (*with* Yuan, Ke-Hai) Mean and covariance structure analysis: theoretical and practical improvements. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 767–774. (Summary) **98h:62100** 62H12

— (*with* Yuan, Ke-Hai) Robust mean and covariance structure analysis. (English summary) *British J. Math. Statist. Psych.* **51** (1998), *no.* 1, 63–88. 62P15 (62F35)

— (*with* Yuan, Ke-Hai) Tests for linear trend in the smallest eigenvalues of the correlation matrix. (English summary) *Psychometrika* **63** (1998), *no.* 2, 131–144. 62H25

Bentley, H. L. (*with* Herrlich, Horst) Morita-extensions and nearness-completions. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 59–65. (Summary) **98m:54030** 54E17 (54D35, 54E15)

Benton, Nick (*with* Wadler, Philip) Linear logic, monads and the lambda calculus. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 420–431, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q55 (03B40, 03B70, 03F50, 68N15, 68Q60)

Benton, P. N. A mixed linear and non-linear logic: proofs, terms and models (extended abstract). (English summary) *Computer science logic (Kazimierz, 1994)*, 121–135, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03F50

Bentrad, A. On singular solutions of a second order operator with meromorphic coefficients in $\mathbf{C}^2$. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 139–148. 35A20 (35L80)

Benvegnù, Stefan Relativistic point interaction with Coulomb potential in one dimension. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 556–570. (Ivailo M. Mladenov) **98c:81051** 81Q10 (35Q40)

Benveniste, Albert *see* **Safavi, A. A., 98e:93030**

Benvenuti, Luca (*with* Farina, Lorenzo) Polyhedral reachable set with positive controls. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 364–380. (Boris G. Zaslavskiĭ) **98j:93007** 93B03 (93C55)

Ben Yakoub, L. (*with* Malliavin, Marie-Paule) Erratum: "Characterization of the inner derivations of the quantum Heisenberg and Weyl algebras" [Comm. Algebra **24** (1996), no. 10, 3131–3148; MR 97j:16050]. (French) *Comm. Algebra* **25** (1997), *no.* 10, 3377. 16W20 (81R50)

Benyamini, Yoav (*with* Ben Natan, Yaakov; Hedenmalm, Håkan; Weit, Yitzhak) Wiener's Tauberian theorem for spherical functions on the automorphism group of the unit disk. (English summary) *Ark. Mat.* **34** (1996), *no.* 2, 199–224. (H. G. Dales) **98b:43009** 43A20 (43A80)

Benyash-Krivets, V. V. (*with* Chernousov, V. I.) On varieties of representations of the fundamental group of the Klein bottle. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 9–13, 121. (Summary) **98i:20037** 20F34 (20C15)

— (*with* Chernousov, V. I.) On varieties of two-dimensional representations of fundamental groups of surfaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 5–9, 122. (Azniv Kasparian) **98m:20042** 20F29 (20F34)

— (*with* Rapinchuk, Andrei S.; Chernousov, V. I.) Representation varieties of the fundamental groups of compact orientable surfaces. (English summary) *Israel J. Math.* **93** (1996), 29–71. (William Harvey) **98a:57002** 57M05 (14H30, 20G05, 57N05)

— (*with* Chernousov, V. I.) On varieties of representations of the fundamental groups of compact nonorientable surfaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 439–442. (Vasily A. Chernecky) **98k:57003** 57M05 (20C15, 20F38)

— (*with* Chernousov, V. I.) Varieties of representations of fundamental groups of compact nonoriented surfaces. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 47–92; *translation in Sb. Math.* **188** (1997), *no.* 7, 997–1039. (Vasily A. Chernecky) **98j:57002** 57M05 (20C15)

Benyounes, Michèle Crochet de Jacobi non local sur un revêtement et ses applications à l'étude de l'équation de Burgers. [Nonlocal Jacobi bracket on a covering and its applications to the study of the Burgers equation] *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 505–510. (Jaime Muñoz Masqué) **98f:58096** 58F07

Benz, Walter Hyperbolic geometry based on distances. *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 12–21, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Sergey N. Astrakov) **98h:51030** 51M10 (51K05)

— Giuseppe Tallini—A view on some of his papers and words dedicated to a friend. *Results Math.* **32** (1997), *no.* 3-4, 197–201. 01A70

Benzaoula, A. (*with* Hmamed, A.) Componentwise stability of linear systems: a non-symmetrical case. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 11, 1023–1028. (Summary) **98k:93077** 93D05 (34D05)

Benzi, Michele Remarks on the numerical solution of certain linear complementarity problems. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 137–143. 90C33 (90C90)

— (*with* Szyld, Daniel B.) Existence and uniqueness of splittings for stationary iterative methods with applications to alternating methods. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 309–321. (Jin Yun Yuan) **98c:65041** 65F10 (15A06)

— (*with* Tůma, Miroslav) A sparse approximate inverse preconditioner for nonsymmetric linear systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 968–994 (*electronic*). (Summary) **98m:65071** 65F35 (65F50)

Benzi, R. (*with* Biferale, L.; Pasqui, M.) Generalized scaling in turbulent flows. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 74–91, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76070** 76F99

— (*with* Biferale, L.; Tripiccione, R.; Trovatore, E.) (1 + 1)-dimensional turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2355–2363. (Summary) **98e:76049** 76F20 (76M35)

Benzine, Rachid Asymptotic behavior of orthogonal polynomials corresponding to a measure with infinite discrete part off a curve. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 257–265. (Valeri Kaliaguine) **98g:42036** 42C05 (30E15)

Benzley, Steven (*with* Murdoch, Peter; Blacker, Ted; Mitchell, Scott A.) The spatial twist continuum: a connectivity based method for representing all-hexahedral finite element meshes. (English summary) *Finite Elem. Anal. Des.* **28** (1997), *no.* 2, 137–149. 65N50 (65M50)

Beorchia, Valentina Bounds for the genus of space curves. (English summary) *Math. Nachr.* **184** (1997), 59–71. (Alfio Ragusa) **98d:14044** 14H50

— (*with* Ellia, Philippe) On the equations defining quasicomplete intersection space curves. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 244–249. (Apostolos Thoma) **98k:14042** 14H50 (14M05, 14M07)

Bera, P. K. (*with* Panja, M. M.; Talukdar, B.) Isospectral interactions for three-body problems on the line. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 26, 2129–2138. (Avinash Khare) **98b:81274** 81U10

Beraldi, P. (*with* Guerriero, Francesca; Musmanno, R.) Efficient parallel algorithms for the minimum cost flow problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 501–530. (Summary) **98i:90110** 90C35 (65Y05)

— (*with* Guerriero, Francesca) A parallel asynchronous implementation of the ε-relaxation method for the linear minimum cost flow problem. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1021–1044. (Summary) **98e:90203** 90C35 (65Y05)

Beran, Jan (*with* Terrin, Norma) Testing for a change of the long-memory parameter. (English summary) *Biometrika* **83** (1996), *no.* 3, 627–638. (Juan Carlos Abril) **98a:62111** 62M10 (60F17)

Beran, Rudolf Bootstrap variable-selection and confidence sets. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 1–16, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98m:62126** 62G09

— (*with* Feuerverger, Andrey; Hall, Peter Gavin) On nonparametric estimation of intercept and slope distributions in random coefficient regression. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2569–2592. (Ewaryst Rafajłowicz) **98b:62055** 62G05 (62J05)

— (*with* Millar, P. W.) Multivariate symmetry models. *Festschrift for Lucien Le Cam*, 13–42, *Springer, New York*, 1997. (Margaret P. Gessaman) **98k:62047** 62G05 (62G10, 62H99)

— Diagnosing bootstrap success. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 1–24. (Gutti J. Babu) **98f:62152** 62G99

Bérard, Béatrice (*with* Gastin, Paul; Petit, Antoine) On the power of non-observable actions in timed automata. (English summary) *STACS 96* (*Grenoble*, 1996), 257–268, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q10 (68Q60, 68Q68)

Bérard, P. (*with* do Carmo, M.; Santos, Walcy) The index of constant mean curvature surfaces in hyperbolic 3-space. *Math. Z.* **224** (1997), *no.* 2, 313–326. (Ricardo Sa Earp) **98a:53008** 53A10 (53C42)

Bérard Bergery, L. (*with* Ikemakhen, A.) Sur l'holonomie des variétés pseudo-riemanniennes de signature (n, n). (English and French summaries) [Holonomy of pseudo-Riemannian manifolds of signature (n, n)] *Bull. Soc. Math. France* **125** (1997), *no.* 1, 93–114. (Summary) **98m:53087** 53C50

Berardi, Luigia (*with* Buratti, Marco; Innamorati, Stefano) 4-blocked Hadamard 3-designs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 35–46. (Mohan S. Shrikhande) **98j:05039** 05B30

— On blocking sets in a design. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 249–257. (Summary) **98f:05020** 05B05

— A note on 3-blocked designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 1, 61–69. (Summary) **98k:05015** 05B05

Berardi, Stefano (*with* Bezem, Marc; Coquand, Thierry) A realization of the negative interpretation of the axiom of choice. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 47–62, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:03053** 03F60

— (*with* Boerio, L.) Using subtyping in program optimization. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 63–77, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68Q60 (03B40, 03B70, 68N99)

— Pruning simply typed λ-terms. (English summary) *J. Logic Comput.* **6** (1996), *no.* 5, 663–681. (Summary) **98g:03039** 03B40 (68Q55)

— (*with* Barbanera, Franco) A constructive valuation semantics for classical logic. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 462–482. (Piotr Wojtylak) **98g:03016** 03B10 (03F07)

— (*with* Barbanera, Franco; Schivalocchi, Massimo) "Classical" programming-with-proofs in $\lambda^{\mathrm{Sym}}_{\mathrm{PA}}$: an analysis of non-confluence. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 365–390, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 03B40 (03B70, 68Q10, 68Q60)

— (*with* Boerio, L.) Minimum information code in a pure functional language with data types. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 30–45, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (*see* **98f:68017**) 68N15 (68N20)

— (*with* Baratella, Stefano) A parallel game semantics for linear logic. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 3, 189–217. (Henry Africk) **98m:03119** 03F50 (68Q55, 90D05)

— (*with* Barbanera, Franco) The simply typed theory of β-conversion has no maximum extension. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 57–61. (Ying Jiang) **98m:03026** 03B40

— *see also* **Types for proofs and programs, 98d:03006**

Berarducci, Alessandro (*with* Otero, Margarita) A recursive nonstandard model of normal open induction. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1228–1241. (Fuxing Shen) **98i:03049** 03C57 (03C62)

Berbente, C. (*with* Zancu, S.) The estimation of some parameters used in one-dimensional models. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 69–83. 76N15

Berceanu, S. On the geometry of complex Grassmann manifold, its noncompact dual and coherent states. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 2, 205–243. (J. Dorfmeister) **98j:53058** 53C35 (53C22, 53C80, 81R30)

Bercoff, Christiane A family of p-uniform tag systems for p-paperfolding sequences. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 3–12, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68R15 (11B85, 68Q45)

— Uniform tag systems for paperfolding sequences. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 2, 119–138. (Valérie Berthé) **98j:11014** 11B85 (68R15)

Bercovici, Hari (*with* Prunaru, Bebe) An improved factorization theorem with applications to subnormal operators. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 647–655. (Il Bong Jung) **98m:47069** 47D27 (28A20, 47A65, 47B20)

— (*with* Li, Wing Suet; Smotzer, Thomas) Classical linear algebra inequalities for the Jordan models of C_0 operators. (English summary) *Linear Algebra Appl.* **251** (1997), 341–350. (Joseph A. Ball) **98k:47017** 47A45 (15A21)

Bercovier, M. (*with* Gerbeau, J.-F.; Le Bris, C.) Spurious velocities in the steady flow of an incompressible fluid subjected to external forces. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 679–695. (Summary) **98h:76103** 76M25

fernández-Berdaguer, E. M. *see* **Fernández-Berdaguer, E. M.**

Berdichevskiĭ, V. L. ★ Thermodynamics of chaos and order. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 90. *Longman, Harlow*, 1997. x+267 *pp. ISBN* 0-582-08734-1 (Thierry Goudon) **98m:82002** 82–01 (34C99, 58F13, 58F40, 70K99, 76F99)

— (*with* Hazzledine, P.; Shoĭkhet, B. A.) Micromechanics of diffusional creep. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1003–1032. (Pham Duc Chinh) **98j:73076** 73S10 (73B05, 73B27)

Berdnikov, A. S. (*with* Compagner, A.; Turtia, S. B.; Larionov, A.) Rounding errors in random number generators. (English summary) *Comput. Phys. Comm.* **106** (1997), *no.* 3, 207–218. 65C10 (65G05)

Berdyshev, A. S. The Riesz basis property of a system of root functions of a nonlocal boundary value problem for an equation of mixed-composite type. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 253–259, i; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 213–219. (Summary) **98a:35100** 35P10 (35M20, 47F05)

Berdyshev, V. I. (*with* Arestov, V. V.; Subbotin, Yu. N.; Chernykh, N. I.) S. B. Stechkin and approximation theory. (Russian) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 3–16, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (F. Smithies) **98m:41001** 41–03 (01A60, 01A70, 42–03)

Berdyshev, Yu. I. (*with* Savinova, L. A.) On the construction of attainability domains in a Newtonian field. (Russian) *Radio age* (*Russian*), 151–159, 287, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (From the text) **98c:70025** 70Q05 (70F05, 70M20, 93B03)

Berdysheva, E. E. An extremal problem for entire functions of exponential type with non-negative mean value. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 393–401. (Summary) **98m:30043** 30D15

Bereaux, Y. (*with* Clermont, J. R.) Simulation numérique d'écoulements de fluides viscoélastiques dans des filières axisymétriques. (French summary) [Numerical simulation of viscoelastic fluid flows in axisymmetric stream-tubes] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 153–164 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 76M25 (76A10)

— (*with* Clermont, J. R.; Yassine, A.) Algorithme de région de confiance pour la simulation numérique d'écoulements de fluides viscoélastiques. (French summary) [A confidence-region algorithm for the numerical simulation of viscoelastic fluid flows] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 225–233 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 76M25 (76A10)

Berec, Luděk A multi-model method to fault detection and diagnosis: Bayesian solution. An introductory treatise. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 1, 81–92. 93E12 (90B25)

Bereda, Haile Michael Note on finite p-groups. (English summary) *SINET* **20** (1997), *no.* 2, 277–282. (Norberto Gavioli) **98j:20018** 20D15

Berej, W. (*with* Arvieu, R.; Rozmej, P.) Time-dependent partial waves and vortex rings in the dynamics of wavepackets. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5381–5392. (Summary) **98i:81036** 81Q05

Bereketoglu, H. (*with* Györi, I.) On the boundedness of the solutions of a third-order nonlinear differential equation. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 263–270. (Olusola Akinyele) **98g:34064** 34C11 (34B15)

— (*with* Györi, I.) Global asymptotic stability in a nonautonomous Lotka-Volterra type system with infinite delay. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 279–291. (Yang Kuang) **98b:34097** 34K20 (45J05)

Berele, Allan (*with* Giambruno, Antonio; Regev, Amitai) Involution codimensions and trace codimensions of matrices are asymptotically equal. (English summary) *Israel J. Math.* **96** (1996),, *part A*, 49–62. (Andrej A. Zolotykh) **98b:16023** 16R20 (15A24, 16R30, 16W10)

— Approximate multiplicities in the trace cocharacter sequence of two three-by-three matrices. *Comm. Algebra* **25** (1997), *no.* 6, 1975–1983. (Edward E. Allen) **98j:05129** 05E05 (16S50)

Berenbrink, Petra (*with* Meyer auf der Heide, Friedhelm; Stemann, Volker) Fault-tolerant shared memory simulations (extended abstract). (English summary) *STACS 96* (*Grenoble*, 1996), 181–192, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q10 (68M15, 68Q05)

Berend, Daniel On the parity of exponents in the factorization of $n!$. (English summary) *J. Number Theory* **64** (1997), *no.* 1, 13–19. (Aleksander Grytczuk) **98g:11019** 11B75

Berendsen, Carl (*with* Aldred, R. E. L.; Holton, Derek; Lonie, Andrew; Stearne, Martin) Research into matching extensions: a class exercise. (English summary) *Bull. Inst.*

Combin. Appl. **22** (1998), 41–51. 05C70

Berenguer, M. I. (*with* Villena Muñoz, Armando R.) Continuity of Lie mappings of the skew elements of Banach algebras with involution. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2717–2720. (Vladimir V. Kisil) **98k:46083** 46K05 (16W10, 17B40, 46H99)

Berens, Hubert (*with* Xu, Yuan[1]) *l*-1 Riesz means of the inverse Fourier integral. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 55–62, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42012** 42B10

— (*with* Xu, Yuan[1]) *l*-1 summability of multiple Fourier integrals and positivity. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 149–172. (Weiyi Su) **98g:42035** 42B99

— *see also* **Lorentz, George G., 98i:01037**

Berenstein, Arkady (*with* Fomin, S. V.; Zelevinsky, Andrei) Parametrizations of canonical bases and totally positive matrices. *Adv. Math.* **122** (1996), *no.* 1, 49–149. (Kailash C. Misra) **98j:17008** 17B37 (05E15, 20G05)

— (*with* Vaĭnshteĭn, A. D.) Concavity of weighted arithmetic means with applications. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 120–126. (M. Laczkovich) **98h:26022** 26D15 (26A51)

Berenstein, Carlos A. (*with* Yger, Alain) Residue currents and arithmetical applications. *Geometric complex analysis (Hayama, 1995)*, 51–56, *World Sci. Publishing, River Edge, NJ*, 1996. (Mohammed El Amrani) **98d:32008** 32C30 (32A27)

— $\mathscr{D}$-modules and exponential polynomials. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 81–88, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrea D'Agnolo) **98d:32010** 32C38 (32A15)

— (*with* Kawai, Takahiro; Struppa, Daniele C.; Takei, Yoshitsugu) Exponential representation of a holomorphic solution of a system of differential equations associated with the theta-zerovalue. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 89–102, *World Sci. Publishing, River Edge, NJ*, 1996. (Jacques Vauthier) **98h:35028** 35C99 (32N10, 35A20)

— (*with* Kawai, Takahiro; Struppa, Daniele C.) Interpolating varieties and the Fabry-Ehrenpreis-Kawai gap theorem. *Adv. Math.* **122** (1996), *no.* 2, 280–310. (Alex Méril) **98e:32018** 32E30 (35R50)

— (*with* Aizenberg, L. A.; Wertheim, L.) Mean-value characterization of pluriharmonic and separately harmonic functions. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 295–306. (Ahmed Zeriahi) **98i:32016** 32F05 (31B05)

— (*with* Khavinson, Dmitry) Do solid tori have the Pompeiu property? *Exposition. Math.* **15** (1997), *no.* 1, 87–93. 35A20 (31A99, 35J99, 43A85)

Berenstein, David (*with* Corrado, Richard) M(atrix)-theory in various dimensions. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 37–43. (Summary) **98i:81191** 81T30 (83E30)

Béres, László (*with* Illés, Tibor) Computational investigation of the covering number of finite projective planes with small order. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 397–411 (1997). 51E12 (05B25, 65Y25, 90C10)

Bereslavskiĭ, È. N. On differential equations of the Fuchs class associated with the conformal mapping of circular polygons in polar grids. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 296–301, 428; *translation in Differential Equations* **33** (1997), *no.* 3, 292–297. (Summary) **98m:30006** 30C20 (34A20)

— (*with* Polubarinova-Kochina, Pelageya Yakovlevna) Differential equations of the Fuchs class encountered in some problems of mechanics of liquids and gases. *Fluid Dynam.* **32** (1997), *no.* 5, 619–625 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 5, 9–17 (*Russian. Russian summary*). (Summary) **98m:34008** 34A20 (30C20, 76M99)

Beresnev, V. L. (*with* Lavrent'ev, Mikhail Mikhaĭlovich; Borovkov, A. A.; Godunov, S. K.; Ershov, Yu. L.; Kutateladze, Semën Samsonovich; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

Beresnevich, V. V. On the dependence of orders of approximations of points of plane curves and the vector of derivatives. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 125–129, 134. (Eugene M. Matveev) **98d:11087** 11J83 (41A29)

— Effective estimates for measures of sets of real numbers with a given order of approximation by quadratic irrationalities. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 4, 10–15, 140. (Eugene M. Matveev) **98d:11088** 11J83

Berest, Yu. Yu. Lacunae of hyperbolic Riesz kernels and commutative rings of partial differential operators. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 227–235. (R. Schimming) **98k:58103** 58F07 (35B30, 35L99, 58G16)

— (*with* Veselov, A. P.) Singularities of the potentials of exactly solvable Schrödinger equations, and the Hadamard problem. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 211–212; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 208–209. 35J10

Berestovskiĭ, V. N. Manifolds with an intrinsic metric with one-sided bounded curvature in the sense of A. D. Aleksandrov. (Russian. English, Russian and Ukrainian summaries) *Mat. Fīz. Anal. Geom.* **1** (1994), *no.* 1, 41–59. (Z. Nádenik) **98m:53083** 53C45

Berestycki, H. Qualitative properties of semilinear elliptic equations in unbounded domains. *Progress in elliptic and parabolic partial differential equations (Capri, 1994)*, 19–42, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (Elvira Mascolo) **98a:35033** 35J65 (35Bxx)

— (*with* Caffarelli, Luis A.; Nirenberg, Louis) Monotonicity for elliptic equations in unbounded Lipschitz domains. *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1089–1111. (Bernhard Kawohl) **98k:35064** 35J65 (35B05)

Beretta, E. *see* **Beretta, Elena**

Beretta, Edoardo (*with* Solimano, F.) On the combined use of characteristic equation and functionals for prey-predator delay-differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 4, 477–494. (Miklós Farkas) **98a:34073** 34K15 (34K20, 92D40)

— (*with* Takeuchi, Yasuhiro) Convergence results in SIR epidemic models with varying population sizes. *Nonlinear Anal.* **28** (1997), *no.* 12, 1909–1921. (Pauline van den Driessche) **98a:34082** 34K20 (92D30)

— (*with* Takeuchi, Yasuhiro; Ma, Wan Biao) Global asymptotic properties of a delay SIR epidemic model with varying population size and finite incubation times. (English summary) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 40–55. (*see* **98h:00040**) 92C60 (34K20)

Beretta, Elena Selfsimilar source solutions of a fourth order degenerate parabolic equation. *Nonlinear Anal.* **29** (1997), *no.* 7, 741–760. (Ya Zhe Chen) **98e:35131** 35Q35 (34B15, 35K55)

— (*with* Barenblatt, G. I.; Bertsch, M.) The problem of the spreading of a liquid film along a solid surface: a new mathematical formulation. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 19, 10024–10030. (Sam D. Howison) **98k:76038** 76D45 (76D08)

Bereux, François (*with* Sainsaulieu, Lionel) A Roe-type Riemann solver for hyperbolic systems with relaxation based on time-dependent wave decomposition. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 143–185. (Rémi Vaillancourt) **98d:65108** 65M06 (35L60, 76M25, 76N15)

— (*with* Bonnetier, Eric; LeFloch, Philippe G.) Gas dynamics system: two special cases. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 499–515. (Hermano Frid) **98d:76143** 76N15 (35L65, 65M12)

Béreux, Natacha (*with* Ammari, Habib; Nédélec, Jean-Claude) Resonances for Maxwell's equations in a periodic structure. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 211–215. (Summary) **98g:78003** 78A25 (35Q60)

Berezanskiĭ, I. A. *see* **Spivak, Michael David, 98f:58001**

Berezanskiĭ, L. M. (*with* Braverman, E. Ya.) Boundedness and stability of impulsively perturbed delay differential equations. (English summary) *Funct. Differ. Equ.* **3** (1995), *no.* 1-2, 19–30. (Eduardo Liz) **98f:34108** 34K20 (34A37, 34K25)

— (*with* Braverman, E. Ya.) On non-oscillation of a scalar delay differential equation. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 567–580. (Binggen Zhang) **98j:34137** 34K15

— (*with* Braverman, E. Ya.) Explicit conditions of exponential stability for a linear impulsive delay differential equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 439–458. (O. S. Chernikova) **98k:34122** 34K20 (34A37)

Berezanskiĭ, Yuriĭ Makarovich (*with* Livinskiĭ, V. A.; Litvinov, E. V.) A generalization of Gaussian white noise analysis. (English summary) *Methods Funct. Anal. Topology* **1** (1995), *no.* 1, 28–55. (Summary) **98k:60062** 60G20 (46F25, 46G12, 47N30, 60J30)

— Integration of nonlinear nonisospectral difference-differential equations by means of the inverse spectral problem. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 11–20, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:34107** 34K99 (47A10, 47B39, 47N20)

— Infinite-dimensional non-Gaussian analysis and generalized shift operators. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 61–65; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 269–272 (1997). (Vladimir I. Bogachev) **98j:46043** 46G12 (28C20, 46N30, 47N30)

— Generalized functions, connected with differential hypergroups. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 32–39, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Michael Voit) **98c:46080** 46F25 (43A62, 46G12)

— (*with* Korolyuk, V. S.; Kreĭn, Selim Grigor'evich; Mitropol'skiĭ, Yuriĭ Alekseevich; Samoĭlenko, A. M.; Skorokhod, Anatoliĭ Vladimirovich; Skrypnik, Igor'V.) Yuriĭ L'vovich Dalets'kiĭ (on the occasion of his seventieth birthday). (Ukrainian) *Ukrain. Mat. Zh.* **49** (1997), *no.* 3, 323–325; *translation in Ukrainian Math. J.* **49** (1997), *no.* 3, 357–359 (1998). 01A70

— Infinite-dimensional analysis associated with generalized shift operators. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 364–409; *translation in Ukrainian Math. J.* **49** (1997), *no.* 3, 403–450 (1998). (A. V. Uglanov) **98j:46038** 46F25 (46G12)

— (*with* Arnol'd, Vladimir Igorevich; Daletskiĭ, Yuriĭ L'vovich; Kutateladze, M. M.; Lavrent'ev, Mikhail Mikhaĭlovich; Reshetnyak, Yu. G.; Semënov, E. M.; Sklyadnev, S. A.) Selim Grigor'evich Kreĭn (on the occasion of his eightieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1349–1350. 01A70

Berezansky, L. *see* **Berezanskiĭ, L. M.**

Berezansky, Leonid *see* **Berezanskiĭ, L. M.**

Berezansky, Yu. M. *see* **Berezanskiĭ, Yuriĭ Makarovich**

Berezansky, Yurij M. *see* **Berezanskiĭ, Yuriĭ Makarovich**

Berezhnoĭ, E. I. An inverse problem in the theory of the interpolation of operators. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 3, 323–333, 478; *translation in Math. Notes* **59** (1996), *no.* 3-4, 227–233. (Mieczysław Mastyło) **98a:46093** 46M35 (46E30)

Berezin, S. (*with* Gurov, Dilian; Kapron, B. M.) A modal μ-calculus and a proof system for value passing processes. (English summary) *First International Workshop on Verification of Infinite State Systems (Pisa, 1996)*, 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68165** 68Q60 (03B45, 03B70, 68Q10)

Berezin, V. A. Quantum black hole model and Hawking's radiation. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 679–706. (Summary) **98f:83061** 83C57 (81T20)

— Square-root quantization: application to quantum black holes. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 181–183. (Introduction) **98f:83062** 83C57 (81T20)

— Quantum black hole model and Hawking's radiation. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2139–2151. (Viqar Husain) **98a:83071** 83C57 (81T20, 83C47)

— (*with* Boyarsky, A. M.; Neronov, A. Yu.) Quantum geometrodynamics for black holes and wormholes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1118–1128. (Gil De Oliveira-Neto) **98m:83028** 83C45 (83C57, 83E05)

— *see also* **Seminar: Quantum Gravity, 98a:83001**

Berezin, V. T. The geometric structure of the base, and the twisting of the graded fiber bundles used in modeling gravitation and elementary particles. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 1, 16–35; *translation in Theoret.*

and Math. Phys. **108** (1996), *no.* 1, 860–875 (1997). (Summary) **98j:58008** 58A50 (17B81, 81V25, 83C99)

— Group and geometrical properties of graded fibre bundles in modelling the gravitation and elementary particles. (English, Russian and Ukrainian summaries) *Ukrain. Fiz. Zh.* **41** (1996), *no.* 7-8, 645–653. (Summary) **98b:81067** 81R05 (22E70, 58A50, 81V22)

Berezin, Victor *see* **Berezin, V. A.**

Berezin, Yu. A. (*with* Trofimov, V. M.) A model of non-equilibrium turbulence with an asymmetric stress. Application to the problems of thermal convection. (English summary) *Contin. Mech. Thermodyn.* **7** (1995), *no.* 4, 415–437. (Roland Schiestel) **98c:76049** 76F10 (73B99, 76R10, 76U05)

— (*with* Hutter, Kolumban; Spodareva, L. A.) On stability of rapid granular shear flows. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 4, 229–240. (Summary) **98e:76011** 76A99 (73N20, 76E99, 76T05)

— (*with* Hutter, Kolumban) On large-scale vortical structures in (incompressible) fluids with thermal expansion. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 1, 113–123. (Summary) **98a:76079** 76R05 (76C05, 76E15, 76F99, 76U05)

— (*with* Spodareva, L. A.) On the stability of the Couette flow in granular media. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 41–48. 76E99 (76A99)

— (*with* Hutter, Kolumban; Spodareva, L. A.) Stability properties of shallow granular flows. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 647–658. (Summary) **98m:76010** 76A99 (73E99, 76E99)

Berezkina, N. S. (*with* Martynov, I. P.; Pron′ko, V. A.) On third-order partial differential equations of Painlevé type. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1280–1282, 1296; *translation in Differential Equations* **32** (1996), *no.* 9, 1280–1283 (1997). (Summary) **98i:35162** 35Q53

— (*with* Martynov, I. P.; Pron′ko, V. A.) On a third-order system with a cubic nonlinearity. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 416–417, 432; *translation in Differential Equations* **33** (1997), *no.* 3, 417–418. 34A25

Berezner, S. A. (*with* Krzesinski, A. E.; Taylor, Peter G.) A product-form "loss network" with a form of queueing. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1075–1078. (Richard F. Serfozo) **98k:60160** 60K25 (68M20)

Bereznyuk, S. L. (*with* Gaĭlit, M. V.) Generalizations of Selivanov's theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 506–518, i; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 436–446. (Andrzej Orlicki) **98a:03068** 03D45

Berezovskaya, F. S. Properties of the Emden-Fowler equation under stochastic disturbances that depend on parameters. Dynamical systems, 3. *J. Math. Sci. (New York)* **83** (1997), *no.* 4, 477–484. (Kiyomasa Narita) **98c:34092** 34F05 (34D20, 60H10, 60J35)

Berezovskiĭ, A. A. (*with* Mitropol′skiĭ, Yuriĭ Alekseevich; Berezovskiĭ, S. A.) Free boundary problems for nonlinear evolution equations in metallurgy, medicine and ecology. (English summary) *Nats. Akad. Nauk Ukraïn. Ĭnst. Mat. Preprint* **1997,** *no.* 2, 64 *pp.* 35R35 (35Q99, 92C05)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich) Problems with free boundaries and nonlocal problems for nonlinear parabolic equations. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 84–97; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 93–108. (Galina P. Lopushanska) **98c:35168** 35R35 (35K60)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich; Shkhanukov, M. Kh.) Nonlinear nonlocal problems for a parabolic equation in a two-dimensional domain. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 244–254; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 269–280. (Sergei A. Vakulenko) **98j:35106** 35K60 (35K20, 65M06)

Berezovs′kiĭ, M. A. One-dimensional problems with free boundaries in ecology. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 993–997; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1114–1119 (1998). 35R35 (35Q80)

Berezovskiĭ, S. A. (*with* Mitropol′skiĭ, Yuriĭ Alekseevich; Berezovskiĭ, A. A.) Free boundary problems for nonlinear evolution equations in metallurgy, medicine and ecology. (English summary) *Nats. Akad. Nauk Ukraïn. Ĭnst. Mat. Preprint* **1997,** *no.* 2, 64 *pp.* 35R35 (35Q99, 92C05)

Berezovsky, A. A. *see* **Berezovskiĭ, A. A.**

Berezovsky, S. A. *see* **Berezovskiĭ, S. A.**

Berg, Christian Moment problems and polynomial approximation. 100 ans après Th.-J. Stieltjes. *Ann. Fac. Sci. Toulouse Math.* (6) **1996,** *Special issue*, 9–32. (Olav Njåstad) **98h:44002** 44A60 (41A10)

— (*with* Durán Guardeño, Antonio J.) Measures with finite index of determinacy or a mathematical model for Dr. Jekyll and Mr. Hyde. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 2, 523–530. (Walter Van Assche) **98c:42021** 42C05 (44A60, 47A57, 47B39)

Berg, Gene A. (*with* Feng, Gui-Liang; Rao, T. R. N.; Zhu, Junmei) Generalized Bezout's theorem and its applications in coding theory. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1799–1810. (Antoine Lobstein) **98k:94010** 94B05 (94B65)

van den Berg, Gerard J. Association measures for durations in bivariate hazard rate models. (English summary) *J. Econometrics* **79** (1997), *no.* 2, 221–245. (Summary) **98d:62181** 62N05

van den Berg, J. *see* **van den Berg, Jacob**

van den Berg, J. I. (*with* Schippers, H.) Computation of flow about fighter aircraft. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 194–198, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 76M25 (76G25)

van den Berg, Jacob A constructive mixing condition for 2-D Gibbs measures with random interactions. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1316–1333. (B. M. Gurevich) **98k:60176** 60K35 (82B20, 82B43, 82B44)

— (*with* Meester, Ronald; White, Damien G.) Dynamic Boolean models. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 247–257. (Olle Häggström) **98j:60134** 60K35 (82C43)

Berg, Jordan M. (*with* Smith, Linda D.; Malas, James C., III) Optimal die shape and ram velocity design for metal forging. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 119–133, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (*see* **98b:90003**) 90C90 (49Q10, 73E99, 73K40)

— (*with* Kwatny, Harry G.) Unfolding the zero structure of a linear control system. (English summary) *Linear Algebra Appl.* **258** (1997), 19–39. (A. T. Barabanov) **98e:93019** 93B25 (58C27)

Berg, Kenneth (*with* Gove, David; Haddad, Kamel N.) Enveloping semigroups and mappings onto the two-shift. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 899–905. (Beverly Diamond) **98e:54037** 54H20 (58F03, 58F08)

Berg, Lothar On Bourlet's functional equation. (English summary) *Iteration theory (Batschuns, 1992)*, 51–54, *World Sci. Publishing, River Edge, NJ*, 1996. (Witold Jarczyk) **98m:39076** 39B52

— On an entry of Ramanujan concerning divergent series. (English summary) *Results Math.* **30** (1996), *no.* 3-4, 225–227. (H. P. Dikshit) **98d:40002** 40A99 (41A60)

— Asymptotic two-point approximations by rational functions. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 37–46. (Andrei Martínez Finkelshtein) **98k:41025** 41A21 (33B20, 41A60, 65D15)

van den Berg, M. (*with* Bañuelos, Rodrigo) Dirichlet eigenfunctions for horn-shaped regions and Laplacians on cross sections. *J. London Math. Soc.* (2) **53** (1996), *no.* 3, 503–511. (H. Ding (Zbl 863.35070)) **98f:35034** 35J25 (35B45)

— (*with* Levitin, M. R.) Functions of Weierstrass type and spectral asymptotics for iterated sets. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 493–509. (Timo Weidl) **98g:35152** 35P20

— (*with* Bolthausen, Erwin) On the expected volume of the Wiener sausage for a Brownian bridge. *Math. Z.* **224** (1997), *no.* 1, 33–48. (Jean Bertoin) **98f:60155** 60J65

de Berg, Mark Linear size binary space partitions for fat objects. (English summary) *Algorithms—ESA '95 (Corfu)*, 252–263, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Devillers, Olivier; van Kreveld, Marc; Schwarzkopf, Otfried; Teillaud, Monique) Computing the maximum overlap of two convex polygons under translations. (English summary) *Algorithms and computation (Osaka, 1996)*, 126–135, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05 (52B55)

— (*with* van Kreveld, Marc; Overmars, Mark H.; Schwarzkopf, Otfried) ★ Computational geometry. (English summary) Algorithms and applications. *Springer-Verlag, Berlin*, 1997. xii+365 *pp. ISBN* 3-540-61270-X (Hans-Dietrich Hecker) **98k:68162** 68U05 (52B55, 70B15)

— (*with* van Kreveld, Marc) Trekking in the Alps without freezing or getting tired. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 306–323. (Hans-Dietrich Hecker) **98j:68160** 68U05 (68Q25)

— (*with* de Groot, Marko; Overmars, Mark H.) New results on binary space partitions in the plane. (English summary) *Comput. Geom.* **8** (1997), *no.* 6, 317–333. (Rade Živaljević) **98j:52019** 52B55 (68U05)

— (*with* Devillers, Olivier; Dobrindt, Katrin; Schwarzkopf, Otfried) Computing a single cell in the overlay of two simple polygons. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 215–219. (Summary) **98h:68220** 68U05

Berg, Menachem Performance comparisons for maintained items. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 377–385. (Summary) **98d:90054** 90B25 (60K10)

van den Berg, Peter M. (*with* Kleinman, Ralph E.; Duchêne, Bernard; Lesselier, Dominique) Location and reconstruction of objects using a modified gradient approach. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 143–158, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (65J20)

— (*with* Kleinman, Ralph E.) Gradient methods in inverse acoustic and electromagnetic scattering. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 173–194, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98f:76067** 76Q05 (76M25, 78–08, 78A45)

— (*with* Kleinman, Ralph E.) Inverse scattering—a nonlinear optimization approach. *Ordinary and partial differential equations, Vol. V (Dundee, 1996)*, 33–50, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (*see* **98k:00018**) 65N30 (65K10)

— (*with* Rhebergen, Jan B.; Habashy, Tarek M.) Iterative reconstruction of images from incomplete spectral data. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 829–842. (Summary) **98a:65193** 65R30

— (*with* Kleinman, Ralph E.) A contrast source inversion method. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1607–1620. 78A45 (78–08)

Berg, W. *see* **Planck, Max, 98g:01067**

Bergadano, Francesco (*with* Bshouty, Nader H.; Tamon, Christino; Varricchio, Stefano) On learning branching programs and small depth circuits (extended abstract). (English summary) *Computational learning theory (Jerusalem, 1997)*, 150–161, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05 (68Q05)

Bergamaschi, Luca (*with* Gambolati, Giuseppe; Pini, Giorgio) Asymptotic convergence of conjugate gradient methods for the partial symmetric eigenproblem. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 2, 69–84. (Heike Faßbender) **98b:65040** 65F15 (15A18)

Bergamasco, Adalberto P. (*with* Cordaro, Paulo D.; Petronilho, Gerson) Global solvability for certain classes of underdetermined systems of vector fields. *Math. Z.* **223** (1996), *no.* 2, 261–274. (A. Alexandrou Himonas) **98e:58180** 58G99 (35H05)

— (*with* Caetano, Paulo A. S.; Kondo, Cezar I.) Global hypoellipticity and global solvability for a class of operators on compact manifolds. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 236–253. (A. Alexandrou Himonas) **98m:35027** 35H05 (58G15)

Bergantiños, Gustavo (*with* Sánchez- Rodríguez, Estela) On values for generalized characteristic functions. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 229–234. (Edward M. Bolger) **98k:90154** 90D12

Bergdolt, G. Orthonormal basis sets in Clifford algebras. (English summary) *Clifford algebras with numeric and symbolic computations*, 269–284, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

Berge, Claude ★ Topological spaces. (English summary) Including a treatment of multi-valued functions, vector spaces and convexity. Translated from the French original by E. M. Patterson. Reprint of the 1963 translation. *Dover Publications, Inc., Mineola, NY*, 1997. xiv+270 *pp. ISBN* 0-486-69653-7 (Editors) **98g:54001** 54-01 (04-01)

— Motivations and history of some of my conjectures. Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 61–70. (E. Keith Lloyd) **98a:05091** 05C38 (01A60, 05C15, 05C65)

— (*with* Fouquet, Jean-Luc) On the optimal transversals of the odd cycles. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 169–175. (Summary) **98c:05094** 05C38

— *see also* **Scheinerman, Edward R., 98m:05001**

Berge, Gerhard A Lyapunov functional for stability of ideal magnetohydrodynamic systems in arbitrary motion. (English summary) *Phys. Plasmas* **4** (1997), *no.* 5, *part* 1, 1201–1212. (Adelina Georgescu) **98j:76042** 76E25 (76U05, 76W05)

ten Berge, Jos M. F. (*with* Krijnen, Wim P.; Wansbeek, Tom) Best linear predictors for factor scores. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 12, 3013–3025. (Yutaka Kano) **98b:62107** 62H25

— (*with* Bekker, Paul A.) Generic global indentification in factor analysis. (English summary) *Linear Algebra Appl.* **264** (1997), 255–263. (Alexander Shapiro) **98h:62103** 62H25

— (*with* Kiers, Henk A. L.; Rocci, Roberto) Uniqueness of three-mode factor models with sparse cores: the $3 \times 3 \times 3$ case. (English summary) *Psychometrika* **62** (1997), *no.* 3, 349–374. (Summary) **98d:62105** 62H25 (62P15)

— *see also* **Cadima, Jorge**

Bergé, L. (*with* Bang, O.; Rasmussen, J. Juul; Mezentsev, V. K.) Self-focusing and solitonlike structures in materials with competing quadratic and cubic nonlinearities. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 3, *part B*, 3555–3570. (Summary) **98a:78013** 78A60 (35Q55)

Bergeles, G. C. (*with* Kadja, M.; Anagnostopoulos, J. S.) Implementation of newly developed algorithms in the simulation of atmospheric turbulent transports. (English summary) *Comput. & Fluids* **26** (1997), *no.* 5, 489–504. (Summary) **98f:86002** 86A10 (86–08)

— (*with* Varonos, A.) Development and assessment of a variable-order non-oscillatory scheme for convection term discretization. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 1, 1–16. (Summary) **98i:76061** 76M20

Bergelson, Vitaly (*with* Håland, Inger Johanne) Sets of recurrence and generalized polynomials. *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 91–110, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Thomas Ward) **98g:28026** 28D15 (05D10)

— Ergodic Ramsey theory—an update. *Ergodic theory of* $\mathbf{Z}^d$ *actions* (*Warwick*, 1993–1994), 1–61, *London Math. Soc. Lecture Note Ser.*, 228, *Cambridge Univ. Press, Cambridge*, 1996. (Karl Petersen) **98g:28017** 28D05 (05A18, 05D10, 11B25)

— (*with* Hindman, Neil) IP* sets in product spaces. (English summary) *Papers on general topology and applications* (*Gorham, ME*, 1995), 28–41, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (P. A. Biryukov) **98b:05098** 05D10 (20M99, 22A15, 54B10)

— (*with* Furstenberg, Harry; McCutcheon, Randall) IP-sets and polynomial recurrence. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 963–974. (Thomas Ward) **98c:28024** 28D15 (05D10)

— (*with* McCutcheon, Randall; Zhang, Qing^2) A Roth theorem for amenable groups. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1173–1211. (Scot Adams) **98k:28028** 28D15

— (*with* Hindman, Neil; Weiss, Benjamin) All-sums sets in (0, 1]-category and measure. (English summary) *Mathematika* **44** (1997), *no.* 1, 61–87. (Arnold W. Miller) **98m:03099** 03E05

van Bergen, A. R. D. (*with* Hendriks, E. M.; Walsh, J.) A general approach to association using cluster partition functions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1287–1306. (Summary) **98g:82024** 82B99

Bergen, Jeffrey (*with* Grzeszczuk, Piotr) Invariants of skew derivations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3481–3488. (Miguel Ferrero) **98b:16031** 16W20 (16W25)

— (*with* Passman, D. S.) Enveloping algebras of Lie color algebras: primeness versus graded-primeness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1627–1635. (Ellen E. Kirkman) **98g:17013** 17B35 (16S30, 17B70)

Bergendorff, Pia (*with* Hearn, Donald W.; Ramana, Motakuri V.) Congestion toll pricing of traffic networks. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 51–71, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90B10 (90C35)

Berger, A. J. (*with* Maranas, C. D.; Androulakis, I. P.; Floudas, Christodoulos A.; Mulvey, J. M.) Solving long-term financial planning problems via global optimization. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1405–1425. (*see* **98c:90003**) 90A09 (90C90)

Berger, Beverly K. Numerical investigation of cosmological singularities. (English summary) *Relativity and scientific computing*, 152–169, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83C75 (83–08)

— (*with* Chruściel, Piotr T.; Isenberg, James; Moncrief, Vincent) Global foliations of vacuum spacetimes with T^2 isometry. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 117–148. (Alan D. Rendall) **98j:83005** 83C05 (58G16)

Berger, Bonnie (*with* Brady, Martin; Brown, Donna Jean; Leighton, Frank Thomson) Nearly optimal algorithms and bounds for multilayer channel routing. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 500–542. (Michitaka Kameyama) **98d:68107** 68Q35

— (*with* Shor, Peter W.) Tight bounds for the maximum acyclic subgraph problem. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 1–18. (Peter B. Gibbons) **98h:68179** 68R10 (05C85, 68Q25)

— The fourth moment method. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1188–1207. (Mark R. Jerrum) **98e:68087** 68Q22 (05C85, 60E15, 68R10)

Berger, Clemens Opérades cellulaires et espaces de lacets itérés. (English and French summaries) [Cellular operads and iterated loop spaces] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 4, 1125–1157. (J. M. Boardman) **98c:55011** 55P35 (55P47, 55U35)

— Combinatorial models for real configuration spaces and E_n-operads. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 37–52, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (Peter J. Eccles) **98j:18014** 18D35 (06A07, 18B35, 20B30, 55P35, 55U10)

Berger, Erich Remarks on the analytic implicit function theorem. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 435–459. (Joe Thrash) **98h:58017** 58C15 (46G05, 46G20)

— Comparing sums of independent bounded random variables and sums of Bernoulli random variables. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 251–258. (Summary) **98a:60030** 60F15 (60G50)

Berger, Günter Asymptotic eigenvalue distribution of elliptic operators of second order in self-similar irregular domains of the Maz'ja class. *Differential equations and its applications* (*Budapest*, 1991), 35–47, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 35P20 (35J25, 47F05)

Berger, Harald (*with* Warnecke, Gerald G.; Wendland, Wolfgang L.) Analysis of a FEM/BEM coupling method for transonic flow computations. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1407–1440. (Natalya A. Vladimirova) **98c:76062** 76M10 (65N30, 76H05, 76M15)

Berger, James O. (*with* Pericchi, Luis R.) On the justification of default and intrinsic Bayes factors. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 276–293, *Springer, New York*, 1996. (Summary) **98b:62045** 62F15 (62A15)

— (*with* Boukai, Benzion; Wang, Yin Ping) Properties of unified Bayesian-frequentist tests. (English summary) *Advances in statistical decision theory and applications*, 207–223, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98j:62022** 62F15

— *see also* **Bayesian robustness, 98e:62007** *and* **West, Mike, (98e:62007)**

Berger, Jorge (*with* Rubinstein, Jacob) Formation of topological defects in thin superconducting rings. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1969–1978. (Ioan Bâldea) **98k:82199** 82D55 (82–04)

Berger, Jutta Chemische Mechanik und Kinetik: die Bedeutung der mechanischen Wärmetheorie für die Theorie chemischer Reaktionen. (English summary) [Chemical mechanics and kinetics: the importance of mechanical heat theory for the theory of chemical reactions] *Ann. of Sci.* **54** (1997), *no.* 6, 567–584. 01A60 (82–03, 92–03)

Berger, M. S. (*with* Zhang, Luping) Quasiperiodic solutions of saddle point type for the Duffing equations with small forcing. *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 123–145. (Thomas Bartsch) **98m:34094** 34C27 (35J60, 58F27)

Berger, Marcel French mathematics today. (Finnish) *In the forest of symbols* (*Finnish*), 72–87, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 01A65

— *see also* **Colin de Verdière, Yves, 98e:58169**

Berger, Michael A new parametric family of fuzzy connectives and their application to fuzzy control. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 1–16. 93C42 (04A72)

Berger, Robert W. Prefinite differential modules. *Ann. Univ. Sarav. Ser. Math.* **7** (1996), *no.* 2, *pp.* i–iv *and* 37–49. (Ruth I. Michler) **98c:13032** 13N05 (13C10)

— Kommutative Algebra. I. (German summary) [Commutative algebra. I] *Ann. Univ. Sarav. Ser. Math.* **8** (1997), *no.* 1, iv+148 *pp.* (Joachim Gräter) **98e:13001** 13–01 (13A15, 13A18, 13F05)

Berger, Roger L. (*with* Hsu, Jason C.) Bioequivalence trials, intersection-union tests and equivalence confidence sets. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **11** (1996), *no.* 4, 283–319. (Summary) **98e:62046** 62F25 (62P10)

— Likelihood ratio tests and intersection-union tests. (English summary) *Advances in statistical decision theory and applications*, 225–237, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:62039** 62F03 (62H15)

Berger, Thierry P. Automorphism groups and permutation groups of affine-invariant codes. (English summary) *Finite fields and applications* (*Glasgow*, 1995), 31–45, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (N. L. Manev) **98f:94022** 94B05 (11T71)

— (*with* Charpin, Pascale) The permutation group of affine-invariant extended cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2194–2209. (Summary) **98c:94027** 94B15

Berger, Thomas Karl (*with* Goldberg, J.; Dashen, Roger F.) Uniform high frequency approximation to scattering from infinite strip. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2308–2331. (I. Kay) **98e:78005** 78A45 (81V99)

Berger, Toby (*with* Zhang, Zhen^1; Viswanathan, Harish) The CEO problem. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 887–902. (Summary) **98a:94011** 94A29

— (*with* Chow, James) Failure of successive refinement for symmetric Gaussian mixtures. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 350–352. (Summary) **98k:94002** 94A15

— (*with* Ye, Zhong Xing) Critical distortion of Potts model. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 896–899. 94A34

Berger, U. (*with* Schwichtenberg, Helmut) The greatest common divisor: a case study for program extraction from classical proofs. *Types for proofs and programs* (*Torino*, 1995), 36–46, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (From the text) **98m:03018** 03B35 (03F65, 68Q99)

Berger, Vance (*with* Sackrowitz, Harold) Improving tests for superior treatment in contingency tables. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 700–705. 62H17

Berger, Yuval (*with* Be'ery, Yair) The twisted squaring construction, trellis complexity, and generalized weights of BCH and QR codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1817–1827. (Summary) **98d:94045** 94B60

Bergeron, Anne On the rational behaviors of concurrent timers. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 229–237. (Summary) **98f:68174** 68Q60 (68Q10)

bérard Bergery, L. *see* **Bérard Bergery, L.**

Berges, Jürgen (*with* Wetterich, Christof) Equation of state and coarse grained free energy for matrix models. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 675–720. (George K. Savvidy) **98j:82022** 82B26 (81T10, 82B27, 82B28)

Berggren, J. Lennart Islamic acquisition of the foreign sciences: a cultural perspective. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 263–283, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (*see* **98b:01002**) 01A30

— Mathematics and her sisters in medieval Islam: a selective review of work done from 1985 to 1995. (English, French and Arabic summaries) *Historia Math.* **24** (1997), *no.* 4, 407–440. (Summary) **98h:01005** 01A30 (01A20)

Berggren, Lennart *see* **Pi: a source book, 98f:01001**

van den Bergh, Michel *see* **Van den Bergh, Michel**

van den Bergh, Norbert *see* **Van den Bergh, Norbert**

Berghammer, Rudolf (*with* Schmidt, Gunther W.) Relational specifications. *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 167–190, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Andrew M. Mironov) **98g:03078** 03B70 (03G15, 68Q65)

— (*with* von Karger, Burghard) Computing kernels in directed bichromatic graphs. *Inform. Process. Lett.* **62** (1997), *no.* 1, 5–11. (D. Rosenblatt) **98d:68167** 68R10 (03G15, 05C15, 90D43)

Berghaus, Claudia (*with* Kahlert, Uwe; Schnakenberg, Jürgen) Current reversal induced by a cyclic stochastic process. (English summary) *Phys. Lett. A* **224** (1997), *no.* 4-5, 243–248. (Summary) **98a:82096** 82C99

vanden Berghe, Guido *see* **Vanden Berghe, Guido**

Bergin, James (*with* Sen, Arunava) Implementation in generic environments. (English summary) *Soc. Choice Welf.* **13** (1996), *no.* 4, 467–478. (Anjan Mukherji) **98b:90010** 90A08 (90A07)

Bergland, Olvar *see* **Economic and environmental risk and uncertainty, 98d:90007**

Berglas, Eitan (*with* Pines, David) Transaction costs in a Tiebout setup. (English and French summaries) *Ann. Économ. Statist.* **1997,** *no.* 45, 183–197. 90A12 (90A14)

perez Bergliaffa, Santiago E. *see* **Perez Bergliaffa, Santiago E.**

Berglund, Per (*with* Katz, Sheldon H.; Klemm, Albrecht Otto; Mayr, Peter) New Higgs transitions between dual $N = 2$ string models. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 209–228. (Summary) **98e:81130** 81T30 (14J32, 32J81, 83E30)

— (*with* Minic, D.) A note on effective Lagrangians in matrix theory. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 122–126. 81T30

Bergman, David J. (*with* Sali, Leora) Effective medium approximation for strongly nonlinear media. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 455–479. (Summary) **98a:73008** 73B27 (73K20, 78A25)

— Diffusion eigenstates of a porous medium with interface absorption. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4235–4244. (Summary) **98e:76100** 76S05 (76M35, 76R50, 82C70)

Bergman, George M. On the growth of algebras with bialgebra action. (English summary) *Israel J. Math.* **96** (1996), *part A*, 63–96. (G. Krause) **98c:16026** 16P90 (16S10, 16W30)

— Correction to: "On the growth of algebras with bialgebra action" [Israel J. Math. **96** (1996), part A, 63–96; MR 98c:16026]. *Israel J. Math.* **102** (1997), 347. 16P90 (16S10, 16W30)

Bergman, Oren Galilean supersymmetry in 2 + 1 dimensions. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1173–1182. (Hamid Kachkachi) **98g:81200** 81T60

— (*with* Gaberdiel, Matthias R.; Lifschytz, Gilad) Branes, orientifolds and the creation of elementary strings. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 194–215. (Summary) **98m:81129** 81T30 (83E30)

Bergman, Stefan *see* **Tikhomirov, V. M., 98f:01090**

Bergmann, Wolfgang R. (*with* Aita, Marco; Conti, Roberto[2]) Amenable groups and generalized Cuntz algebras. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 48–64. (Siegfried Echterhoff) **98k:46110** 46L55 (22D05, 46L05)

Bergounioux, Maitine Optimal control of an obstacle problem. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 147–172. (Fredi Tröltzsch) **98f:49006** 49J20 (49K20)

— Use of augmented Lagrangian methods for the optimal control of obstacle problems. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 101–126. (Ruxandra Stavre) **98j:49043** 49M29 (49J40)

— (*with* Kunisch, Karl) Augmented Lagrangian techniques for elliptic state constrained optimal control problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1524–1543. (J. Frédéric Bonnans) **98d:49040** 49M29 (49K20)

Bergqvist, Göran On the Penrose inequality and the role of auxiliary spinor fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2577–2583. (Simonetta Frittelli) **98j:83071** 83C60

— A Lanczos potential in Kerr geometry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3142–3154. (Simonetta Frittelli) **98a:83020** 83C15

— Spinor factorizations of the Bel-Robinson tensor. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 227–238. (Peter R. Law) **98k:83060** 83C60 (53C80, 83C40)

Bergshoeff, E. A. (*with* de Roo, Mees; Eyras, E.; Janssen, Bert; van der Schaar, J. P.) Intersections involving monopoles and waves in eleven dimensions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2757–2769. (André J. Van Tonder) **98j:83092** 83E30 (81T30, 83E50)

— (*with* Townsend, Paul K.) Super D-branes. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 145–162. (Daniel N. Kabat) **98f:81238a** 81T30 (83E30, 83E50)

— (*with* de Roo, Mees; Eyras, E.; Janssen, Bert; van der Schaar, J. P.) Multiple intersections of D-branes and M-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 119–143. (Gerardo Marcelo Aldazabal) **98d:81075** 81T30 (83E30)

— (*with* Cowdall, P. M.; Townsend, Paul K.) Massive IIA supergravity from the topologically massive D-2-brane. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 13–21. (C. Gauthier) **98i:83073** 83E30 (81T30)

— (*with* Janssen, Bert; Ortín, Tomás) Kaluza-Klein monopoles and gauged sigma-models. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 131–141. (Javier Borlaf González) **98k:81194** 81T30 (81T40, 83E30)

— (*with* de Roo, Mees; Eyras, E.) Gauged supergravity from dimensional reduction. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 70–78. (Summary) **98h:83086** 83E30 (81T30, 83E50)

— (*with* Behrndt, Klaus; Janssen, Bert) Intersecting D-branes in ten and six dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3785–3792. (Summary) **98f:81236** 81T30 (83E30)

— Properties of p-branes, D-branes and M-branes. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 75–85. (Summary) **98m:81130** 81T30 (81–02, 83E30)

Bergstra, Jan A. (*with* Heering, J.; Klop, Jan Willem) Object-oriented algebraic specification proposal for a notation and 12 examples. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 188–213, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 68Q65

— (*with* Baeten, J. C. M.) Discrete time process algebra with abstraction. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 1–15, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q10 (68Q55, 68Q60)

— (*with* Ştefănescu, Gheorghe) Processes with multiple entries and exits. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 136–145, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q10 (68Q55, 68Q60)

— (*with* Fokkink, Willem Jan; Middelburg, C. A.) Algebra of timed frames. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 227–255. (Summary) **98b:68040** 68Q10 (68Q55, 68Q60)

— (*with* Baeten, J. C. M.) Bounded stacks, bags and queues. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 104–118, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68075** 68Q10 (68Q55, 68Q60)

— (*with* Middelburg, C. A.; Ştefănescu, Gheorghe) Network algebra for asynchronous dataflow. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 57–88. (Summary) **98i:68076** 68Q10 (68Q55, 68Q60)

— (*with* Hillebrand, Joris A.; Ponse, Alban) Grid protocols based on synchronous communication. (English summary) *Sci. Comput. Programming* **29** (1997), *no.* 1-2, 199–233. (Summary) **98c:68056** 68Q10 (35–04, 68M10, 90B12, 94A05)

— (*with* Baeten, J. C. M.) Process algebra with propositional signals. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 381–405. (Gheorghe Ştefănescu) **98j:68026** 68Q10 (68Q60)

Bergstrom, Abram R. Gaussian estimation of mixed-order continuous-time dynamic models with unobservable stochastic trends from mixed stock and flow data. (English summary) *Econometric Theory* **13** (1997), *no.* 4, 467–505. (Luis Firinguetti) **98m:62295** 62P20 (62M10)

Bergström, Harald *see* **Råde, Lennart, 98h:01032**

Berhanu, S. On extreme points and the strong maximum principle for CR functions. (English summary) *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 1–13, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (J. Merker) **98e:32027** 32F25 (32C16)

— (*with* Meziani, Abdelhamid) Global properties of a class of planar vector fields of infinite type. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 1-2, 99–142. (Jorge Hounie) **98c:35003** 35A07 (58G35)

Berikelashvili, G. K. On the convergence of the difference solution of the third boundary value problem in elasticity theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 310–314. (From the text) **98j:73096** 73V15 (65N06, 73C02, 73T05)

Berinde, Vasile A fixed point theorem for mapping with contracting orbital diameters. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 29–38. 54H25

— On a homeomorphism theorem. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 73–78. (Józef Banaś) **98e:47086** 47H09 (46B20)

— (*with* Cosma, Ovidiu) An elementary geometric construction performed by a computer. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 99–107. (E. J. F. Primrose) **98e:51029** 51M15 (51–04)

— Conditions for the convergence of the Newton method. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 1, 22–28. (George W. Reddien) **98a:65067** 65H05

— Generalized contractions and higher order hyperbolic partial differential equations. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 39–54. (Tie Hu Qin) **98g:35147** 35L75 (47H15, 47N20)

— (*with* Sándor, József) On the generalized ratio test. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 55–58. 40A05

Bering, Klaus (*with* Damgaard, Poul H.; Alfaro, Jorge) Algebra of higher antibrackets. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 459–503. (Liviu Tătar) **98a:81239** 81T70 (17B81)

— (*with* Batalin, I. A.; Damgaard, Poul H.) Gauge independence of the Lagrangian path integral in a higher-order formalism. (English summary) *Phys. Lett. B* **389** (1996), *no.* 4, 673–676. (Summary) **98j:81344** 81T70 (81S40, 81T13)

— (*with* Alfaro, Jorge; Damgaard, Poul H.) BRST formulation of partition function constraints. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 15, 1119–1126. (Ion V. Vancea) **98c:81220** 81T70

Beris, Antony N. (*with* Dimitropoulos, Costas D.) An efficient and robust spectral solver for nonseparable elliptic equations. *J. Comput. Phys.* **133** (1997), *no.* 1, 186–191. (From the introduction) **98a:65170** 65N35

Berisha, F. M. (*with* Filipović, M. H.) On some transforms of trigonometric series. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 53–60. (Summary) **98g:42012** 42A32

Berkane, Maia (*with* Bentler, Peter M.) Bias and mean square error of the maximum likelihood estimators of the parameters of the intraclass correlation model. (English summary) *Latent variable modeling and applications to causality* (*Los Angeles, CA*, 1994), 133–147, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (Summary) **98h:62098** 62H12 (62F10)

— *see also* **Latent variable modeling and applications to causality, 98g:62007**

Berkani, M. (*with* Ouahab, A.) Théorème de l'application spectrale pour le spectre essentiel quasi-Fredholm. (English and French summaries) [Spectral mapping theorem for the quasi-Fredholm essential spectrum] *Proc. Amer. Math. Soc.* **125** (1997), *no.* 3, 763–774. (Răzvan Gelca) **98c:47002** 47A10 (47A05, 47A53)

— (*with* Ouahab, A.) Opérateurs essentiellement réguliers dans les espaces de Banach. (English and French summaries) [Essentially regular operators in Banach spaces] *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 131–160. (P. Aiena) **98k:47020** 47A53 (47A10, 47A55)

Berkaoui, Abdelkarem Approximation en norme Besov-Orlicz de la solution d'une équation différentielle stochastique. (English and French summaries) [Approximation in Besov-Orlicz norm of the solution of a stochastic differential equation] *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 241–253. (Summary) **98c:60056** 60H10

Berkelaar, Arjan B. (*with* Roos, Cornelis; Terlaky, Tamás) The optimal set and optimal partition approach to linear and quadratic programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 6.1–6.44, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (S. Zlobec) **98j:90035** 90C05 (90C20, 90C31)

Berkes, István (*with* Horváth, Lajos) Between local and global logarithmic averages. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 4, 369–378. (M. Csörgő) **98k:60044** 60F17 (60G15, 60G17)

— (*with* Horváth, Lajos) Almost sure invariance principles for logarithmic averages. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 1–24. (Peter Schatte) **98f:60054** 60F15 (60F05)

Berkolaiko, G. (*with* Rabinovich, Savely; Havlin, S.) Solving nonlinear recursions. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5828–5836. (F. J. Papp) **98e:39009** 39B42 (39A10)

— (*with* Rabinovich, Savely; Buldyrev, S.; Shehter, A.; Havlin, S.) Analytical solution of the logistic equation. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 837–838. (Summary) **98m:39063** 39B12

Berkooz, Gal (*with* Holmes, Philip J.; Lumley, John L.) ★ Turbulence, coherent structures, dynamical systems and symmetry. (English summary) Cambridge Monographs on Mechanics. *Cambridge University Press, Cambridge*, 1996. xviii+420 *pp. ISBN* 0-521-55142-0 (Charles R. Doering) **98d:76079** 76F20 (58F40, 76D05, 76M25)

— (*with* Elezgaray, Juan; Dankowicz, Harry; Holmes, Philip J.; Myers, Mark) Local models and large scale statistics of the Kuramoto-Sivashinsky equation. (English summary) *Multiscale wavelet methods for partial differential equations*, 441–471, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98d:65124** 65M60

— (*with* Holmes, Philip J.; Lumley, John L.; Mattingly, Jonathan C.; Wittenberg, Ralf W.) Low-dimensional models of coherent structures in turbulence. (English summary) *Phys. Rep.* **287** (1997), *no.* 4, 337–384. (P. L. Sulem) **98j:76065** 76F20 (58F39, 76M35)

Berkooz, Micha (*with* Leigh, Robert G.; Polchinski, Joseph; Schwarz, John H.; Seiberg, Nathan; Witten, Edward) Anomalies, dualities, and topology of $D = 6$ $N = 1$ superstring vacua. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 1-2, 115–148. (Summary) **98k:81254** 81T50 (81T30, 83E30)

— (*with* Douglas, Michael R.; Leigh, Robert G.) Branes intersecting at angles. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 265–278. (Edward Teo) **98d:81076** 81T30

— (*with* Leigh, Robert G.) A $D = 4$ $N = 1$ orbifold of type I strings. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 187–208. (Summary) **98b:81180** 81T30 (83E30)

— (*with* Aharony, Ofer) Membrane dynamics in M(atrix)-theory. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 184–200. (Daniel N. Kabat) **98c:81151** 81T30

— (*with* Douglas, Michael R.) Five-branes in M(atrix) theory. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 196–201. (Summary) **98b:81181** 81T30

— (*with* Rozali, Moshe; Seiberg, Nathan) Matrix description of M-theory on T^4 and T^5. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 105–110. (Summary) **98j:81252** 81T30

Berkovich, Alexander (*with* McCoy, Barry M.) Generalizations of the Andrews-Bressoud identities for the $N = 1$ superconformal model $SM(2, 4\nu)$. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 37–49. (Anne Schilling) **98k:11142** 11P82 (11B65, 33D20, 81T40, 82B23)

— (*with* McCoy, Barry M.; Schilling, Anne; Warnaar, S. Ole) Bailey flows and Bose-Fermi identities for the conformal coset models $(A_1^{(1)})_N \times (A_1^{(1)})_{N'}/(A_1^{(1)})_{N+N'}$. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 621–649. (Mirko Primc) **98m:81057** 81R10 (81T40)

— (*with* Andrews, George E.) A trinomial analogue of Bailey's lemma and $N = 2$ superconformal invariance. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 245–260. (Anne Schilling) **98m:11107** 11P82 (05A30, 33D80, 81T40)

Berkovich, L. M. (*with* Rozov, Nikolaĭ Khristovich) Transformations of linear differential equations of second order and adjoined nonlinear equations. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 75–98. (Summary) **98e:34012** 34A30 (34A05, 34A25)

Berkovich, Vladimir G. Vanishing cycles for formal schemes. II. *Invent. Math.* **125** (1996), *no.* 2, 367–390. (From the introduction) **98k:14031** 14G40 (14C25)

Berkovich, Yakov G. (*with* Longobardi, P.; Maj, M.) Finite and locally solvable periodic groups with given intersections of certain subgroups. (English summary) *Note Mat.* **14** (1994), *no.* 2, 147–154 (1997). (A. H. Rhemtulla) **98d:20035** 20F16

— (*with* Zhmud', E. M.) ★ Characters of finite groups. Part 1. (English summary) Translated from the Russian manuscript by P. Shumyatsky [P. V. Shumyatskiĭ] and V. Zobina. Translations of Mathematical Monographs, 172. *American Mathematical Society, Providence, RI*, 1998. xxiv+382 *pp. ISBN* 0-8218-4606-X (David Chillag) **98m:20011** 20C15

— (*with* Mann, Avinoam) On sums of degrees of irreducible characters. (English summary) *J. Algebra* **199** (1998), *no.* 2, 646–665. (I. M. Isaacs) **98j:20007** 20C15

Berkovits, Juha (*with* Mustonen, Vesa) Existence and multiplicity results for semilinear beam equations. *Differential equations and its applications (Budapest, 1991)*, 49–63, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 35Q72 (47H12, 47N20, 73K05)

— (*with* Mustonen, Vesa) On systems of telegraph equations. *Function spaces, differential operators and nonlinear analysis (Paseky nad Jizerou, 1995)*, 125–140, *Prometheus, Prague*, 1996. (Hiroyuki Takamura) **98k:35126** 35L70 (35B10, 47H15, 47N20)

— Some extensions of topological degree theory with applications to nonlinear problems. *Topological and variational methods for nonlinear boundary value problems (Cholin, 1995)*, 1–29, *Pitman Res. Notes Math. Ser.*, 365, *Longman, Harlow*, 1997. (Norman Dancer) **98m:47101** 47H11 (35L99, 47N20, 58C30)

— Local bifurcation results for systems of semilinear equations. *J. Differential Equations* **133** (1997), *no.* 2, 245–254. (Norman Dancer) **98a:47067** 47H15

— (*with* Mustonen, Vesa) On nonresonance for systems of semilinear wave equations. *Nonlinear Anal.* **29** (1997), *no.* 6, 627–638. (Sergiu Aizicovici) **98f:47067** 47H15 (35B99, 35L70, 47H11, 47N20)

Berkovits, Nathan (*with* Siegel, Warren) Covariant field theory for self-dual strings. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 139–152. 81T30

— Extra dimensions in superstring theory. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 731–745. (Sergiu I. Vacaru) **98k:81195** 81T30 (83E30)

— Local actions with electric and magnetic sources. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 28–35. (Edward Teo) **98e:81131** 81T30

— Super-Maxwell actions with manifest duality. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 79–82. (Summary) **98a:81213** 81T60 (81T13)

— (*with* Medina, Ricardo) Pasti-Sorokin-Tonin actions in the presence of sources. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6388–6390. (Mohamed Kachkachi) **98m:81095** 81T10 (81T13)

— Ramond-Ramond central charges in the supersymmetry algebra of the superstring. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 10, 1813–1816. (Summary) **98h:81091** 81T30

Berkowitz, Brian (*with* Drory, Alon; Parisi, Giorgio; Balberg, I.) Theory of continuum percolation. III. Low-density expansion. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1379–1395. (C. Chris Wu) **98m:82033** 82B43

Berkson, Earl (*with* Gillespie, Thomas Alastair) Sur certains opérateurs à moyennes bornées et un analogue ergodique du théorème de Littlewood-Paley. (English and French summaries) [On mean-bounded operators and an ergodic Littlewood-Paley theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 1, 59–62. (Yu. A. Abramovich) **98d:42004** 42A45 (42B25, 47B38, 47B49, 47B65)

— (*with* Doust, Ian; Gillespie, Thomas Alastair) Properties of AC-operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 249–271. (Jörg Eschmeier) **98e:47054** 47B40 (46E30, 46M35, 47A60)

— (*with* Gillespie, Thomas Alastair) The q-variation of functions and spectral integration of Fourier multipliers. *Duke Math. J.* **88** (1997), *no.* 1, 103–132. (Nakhlé Asmar) **98k:43007** 43A25 (42A45, 47B38, 47B40)

— (*with* Gillespie, Thomas Alastair) Mean-boundedness and Littlewood-Paley for separation-preserving operators. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 3, 1169–1189. (Loukas Grafakos) **98b:42011; EA 98m** 42A45 (46E30, 47B38)

— (*with* Asmar, Nakhlé H.; Gillespie, Thomas Alastair) Note on norm convergence in the space of weak type multipliers. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 139–149. (G. I. Gaudry) **98m:43004** 43A22 (46E30)

Berland, Marcel Sur le type de certaines fonctions entières. Application au problème de localisation des points singuliers. (English and French summaries) [On the type of certain entire functions. Application to the problem of localization of singular points] *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 37–51. (R. Parvatham) **98e:30028** 30D15

Berleant, Daniel (*with* Goodman-Strauss, Chaim) Bounding the results of arithmetic operations on random variables of unknown dependency using intervals. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 147–165. 65U05

Berloff, Natalia G. (*with* Howard, Louis N.) Solitary and periodic solutions of nonlinear nonintegrable equations. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 1, 1–24. (Pavel Krejčí) **98f:35125** 35Q53 (35B10)

— (*with* Howard, Louis N.) Nonlinear wave interactions in nonlinear nonintegrable systems. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 3, 195–213. 35Q53

Bertyand, Leonid (*with* Wehr, Jan) Non-Gaussian limiting behavior of the percolation threshold in a large system. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 73–92. (Wei-Shih Yang) **98h:60142** 60K35 (82B43)

Berman, Abraham (*with* Krupnik, Mark) Spectrum preserving lower triangular completions—the nonnegative nilpotent case. (English summary) *Electron. J. Linear Algebra* **2** (1997), 9–16 (*electronic*). (Hugo Jan Woerdeman) **98h:15021** 15A21 (15A48)

— (*with* Shasha, Dafna) Set inertia-preserving matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 169–179. (Summary) **98k:15011** 15A18 (93D05)

— (*with* Plemmons, Robert J.) A note on simultaneously diagonalizable matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 149–152. (Summary) **98k:15015** 15A21

Berman, David *see* **Berman, David Simon**

Berman, David M. (*with* Radcliffe, A. J.; Scott, Alexander D.; Wang, Hong; Wargo, Larry) All trees contain a large induced subgraph having all degrees 1 (mod k). (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 35–40. (Summary) **98h:05056** 05C05

Berman, David R. (*with* McLaurin, Sandra; Smith, Douglas D.) Additional results on fairness in spouse-avoiding mixed doubles round-robin tournaments for n couples. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 181–191. (Summary) **98i:05027** 05B15

Berman, David Simon Classical duality from dimensional reduction of self-dual 4-form Maxwell theory in 10 dimensions. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 250–256. (Martin Schlichenmaier) **98j:81253** 81T30 (81T13)

— SL(2, **Z**) duality of Born-Infeld theory from non-linear self-dual electrodynamics in 6 dimensions. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 153–159. (Summary) **98j:81254** 81T30

Berman, G. P. (*with* Campbell, David K.; Bulgakov, E. N.; Krive, Ilya V.) Quantum chaos in Aharonov-Bohm oscillations. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 290–297, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81031** 81Q50

Berman, Kenneth A. An application of the marriage theorem to invariant theory. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 27–33, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:15055** 15A72 (05C70)

— (*with* Schlipf, John S.; Franco, John V.) Computing the well-founded semantics faster. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 113–126, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98e:68027** 68N17 (68Q55)

— (*with* Liu, Yan Pei) Generalized bicycles. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 27–40. (W.-K. Chen) **98i:05105** 05C38 (05C20)

Berman, Oded (*with* Averbakh, I. L.) $(p-1)/(p+1)$-approximate algorithms for p-traveling salesmen problems on a tree with minmax objective. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 201–216. (Summary) **98d:90091** 90C27 (68Q25, 90C35)

Berman, Piotr (*with* Fujito, Toshihiro) On approximation properties of the independent set problem for degree 3 graphs. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 449–460, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (68R10)

— (*with* Karpinski, Marek; Larmore, Lawrence L.; Plandowski, Wojciech; Rytter, Wojciech) On the complexity of pattern matching for highly compressed two-dimensional texts. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 40–51, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98k:68080** 68Q25

— (*with* Diks, Krzysztof; Pelc, Andrzej) Reliable broadcasting in logarithmic time with Byzantine link failures. (English summary) *J. Algorithms* **22** (1997), *no.* 2, 199–211. (A. T. Amin) **98c:68026** 68M10 (90B12)

Berman, Simeon M. Rank inversions in scoring multipart examinations. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 3, 992–1005. (Summary) **98f:62174** 62H20

(62E15)

Berman, Stephen (*with* Allison, Bruce N.; Gao, Yun[1]; Pianzola, Arturo) A characterization of affine Kac-Moody Lie algebras. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 671–688. (Mirko Primc) **98h:17026** 17B67

hernández-Bermejo, Benito *see* **Hernández-Bermejo, Benito**

garcía-Bermejo Ochoa, Juan Carlos *see* **García-Bermejo Ochoa, Juan Carlos**

Bermond, Jean-Claude (*with* Gargano, Luisa; Rescigno, Adele A.; Vaccaro, Ugo) Fast gossiping by short messages. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 135–146, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68M10

— (*with* Gargano, Luisa; Pérennes, Stéphane; Rescigno, Adele A.; Vaccaro, Ugo) Efficient collective communication in optical networks. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 574–585, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 90B12 (68M10)

— (*with* Kodate, Takako; Pérennes, Stéphane) Gossiping in Cayley graphs by packets. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 301–315, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:68027** 68M10 (05C25, 68R10)

— (*with* Liu, Zhen[1]; Syska, Michel) Mean eccentricities of de Bruijn networks. (English summary) *Networks* **30** (1997), *no.* 3, 187–203. (Qing De Kang) **98j:05063** 05C12 (68R10)

— (*with* Dawes, Robin W.; Ergincan, Fahir Ö.) De Bruijn and Kautz bus networks. (English summary) *Networks* **30** (1997), *no.* 3, 205–218. (Summary) **98e:05102** 05C90 (68M10)

Bermúdez, Alfredo *see* **Bermúdez de Castro, Alfredo**

Bermúdez, B. (*with* Nicolás, A.; Sánchez, F. J.; Buendía, E.) Operator splitting and upwinding for the Navier-Stokes equations. (English summary) *Comput. Mech.* **20** (1997), *no.* 5, 474–477. (Summary) **98j:76085** 76M10 (76D05)

Bermudez, Manuel E. (*with* Colby, John E.) Lookahead LR parsing with regular right part grammars. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 1–15. (Summary) **98e:68154** 68Q52

Bermúdez, Teresa (*with* González, Manuel; Martinón, Antonio) Properties and applications of the local functional calculus. *Extracta Math.* **11** (1996), *no.* 2, 375–380. (Catalin Badea) **98a:47016** 47A60 (47A11)

— Meromorphic functional calculus and local spectral theory. *Extracta Math.* **12** (1997), *no.* 1, 87–91. 47A60 (47A11)

Bermúdez de Castro, Alfredo (*with* Durán, Ricardo; Rodríguez, Rodolfo) Finite element analysis of compressible and incompressible fluid-solid systems. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 111–136. (Igor Yu. Chudinovich) **98c:73073** 73V05 (65M60, 73K70, 76M10)

Bern, Marshall (*with* Eppstein, David; Guibas, Leonidas J.; Hershberger, J. E.; Suri, Subhash; Wolter, Jan) The centroid of points with approximate weights. (English summary) *Algorithms—ESA '95* (*Corfu*), 460–472, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

Bern, Zvi (*with* Dixon, Lance; Dunbar, David C.; Kosower, David A.) One-loop self-dual and $N = 4$ super Yang-Mills. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 105–115. (Summary) **98a:81214** 81T60 (81T13, 81V05)

Bernad, J. (*with* González, Santos; Martínez López, Consuelo) On nilpotency of the barideal of a Bernstein algebra. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2967–2985. (Mary Lynn Reed) **98h:17038** 17D92 (92D15)

rodriguez-Bernal, Anibal *see* **Rodriguez-Bernal, Anibal**

montañes Bernal, Antonio *see* **Montañes Bernal, Antonio**

pérez-Bernal, F. *see* **Pérez-Bernal, F.**

martinez-Bernal, José *see* **Martinez-Bernal, José**

rodriguez-Bernal, Maria Teresa *see* **Rodriguez-Bernal, Maria Teresa**

Bernal, Martin Animadversions on the origins of western science [Isis **83** (1992), 596–607]. *Ethnomathematics*, 83–99, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A15 (01A07, 01A13)

Bernal-González, Luis Universal functions for Taylor shifts. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 2, 121–129. (Sergey Georgievich Merzlyakov) **98h:47042** 47B38 (30E10, 46E99)

— Small entire functions with extremely fast growth. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 541–548. (Lev Sergeevich Maergoiz) **98b:30028** 30D15

Bernard, Alain (*with* Sidney, Stuart J.) Some ultrabornological normed function spaces. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 5, 409–417. (J. Schmets) **98j:46020** 46E10 (46A08)

Bernard, Denis On the relation between Yangians, affine Hecke algebras and long-range interacting models. *R.C.P. 25, Vol. 47* (*Strasbourg*, 1993–1995), 77–91, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Kazuhiro Hikami) **98f:82042** 82B23 (33C70, 81V70)

— Some simple (integrable) models of fractional statistics. *Géométries fluctuantes en mécanique statistique et en théorie des champs* (*Les Houches*, 1994), 479–503, *North-Holland, Amsterdam*, 1996. (Vitor R. Vieira) **98b:82007** 82B10 (81S05, 81V70)

— (*with* Babelon, O.; Smirnov, F. A.) Quantization of solitons and the restricted sine-Gordon model. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 319–354. (Andrei Babichenko) **98b:81132** 81T10 (58F07, 81T40, 82B23)

— (*with* Gawędzki, Krzysztof; Kupiainen, A.) Anomalous scaling in the N-point functions of a passive scalar. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 3, 2564–2572. (Summary) **98a:82070** 82C05 (82C31)

— (*with* Babelon, O.; Smirnov, F. A.) Null-vectors in integrable field theory. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 601–648. (Henrik Aratyn) **98h:81108** 81T40 (14H45, 58F07)

— (*with* Bauer, Michel) On root multiplicities of some hyperbolic Kac-Moody algebras. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 153–166. (Duncan J. Melville) **98k:17029** 17B67 (81R10)

— (*with* Maassarani, Z.; Mathieu, Pierre[1]) Logarithmic Yangians in WZW models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 8, 535–544. (Michael A. I. Flohr) **98d:81099** 81T40 (17B37, 81R10)

— (*with* LeClair, André) Erratum to: "Differential equations for sine-Gordon correlation functions at the free fermion point" [Nuclear Phys. B **426** (1994), no. 3, 534–558; MR 95i:81207]. *Nuclear Phys. B* **498** (1997), *no.* 3, 619–621. (From the text) **98f:81293** 81T40 (82B23)

Bernard, F. (*with* Dufour, F.; Bertrand, Pierre) On the JLQ problem with uncertainty. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 869–872. (Summary) **98d:93060** 93C42 (93B40, 93D09)

Bernard, Guy Existence theorems for certain elliptic and parabolic semilinear equations. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 755–776. (Achilles Tertikas) **98j:35052** 35J60 (35K55)

Bernard, Pierre *see* **Dobrushin, Roland L. et al., 98g:60002** *and* **Giné-Masdeu, Evarist et al., 98g:60003**

Bernardes, Nilson C., Jr. A property of semigroups on metric spaces. *Semigroup Forum* **54** (1997), *no.* 1, 128–130. (Simeon Reich) **98h:54053** 54H15 (54E35)

Bernardeschi, Cinzia (*with* Bondavalli, Andrea; Csertán, Gyorgy; Majzik, Istvan; Simoncini, Luca) Temporal analysis of data flow control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 169–182. 93C83 (93A30)

Bernardi, Christine (*with* Maday, Yvon) Spectral methods. *Handbook of numerical analysis, Vol. V*, 209–485, *Handb. Numer. Anal., V, North-Holland, Amsterdam*, 1997. (*see* **98i:65001**) 65M70 (65N35)

— (*with* Ben Belgacem, Faker; Costabel, Martin; Dauge, Monique) Un résultat de densité pour les équations de Maxwell. (English and French summaries) [A denseness result for Maxwell's equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 731–736. (Rodolfo Torres) **98f:46027** 46E35 (35Q60, 78A25)

Bernardi, Enrico (*with* Bove, Antonio; Nishitani, Tatsuo) Well-posedness of the Cauchy problem for a class of hyperbolic operators with a stratified multiple variety: necessary conditions. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 1–34. (Valery Covachev) **98g:35135** 35L30 (35A30, 35C20)

Bernardin, Laurent On square-free factorization of multivariate polynomials over a finite field. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 105–116. (Dirk Hachenberger) **98g:11137** 11T06

Bernardini, Davide (*with* Mariano, Paolo Maria) Flow rules for porous elastic plastic materials. *Mech. Res. Comm.* **25** (1998), *no.* 4, 443–448. 73E05

Bernardini, F. (*with* Bajaj, C. L.; Xu, Guo Liang) Reconstructing surfaces and functions on surfaces from unorganized three-dimensional data. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 243–261. (Summary) **98c:65022** 65D17 (65Y25)

Bernardis, Ana (*with* Aimar, Hugo) Fourier versus wavelets: a simple approach to Lipschitz regularity. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 219–224. (I. Ya. Novikov) **98e:42026** 42C15

— (*with* Aimar, Hugo) Wavelet characterization of functions with conditions on the mean oscillation. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 15–32, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Rodolfo Torres) **98m:42018** 42B25 (42B30, 42C15, 46E99)

Bernardo, José M. The concept of exchangeability and its applications. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 111–121. (Summary) **98a:62003** 62A15

Bernardo, Marco (*with* Gorrieri, Roberto) Extended Markovian process algebra. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 315–330, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q60)

— An algebra-based method to associate rewards with EMPA terms. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 358–368, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

Bernasconi, A. On the complexity of balanced Boolean functions. (English summary) *Algorithms and complexity* (*Rome*, 1997), 253–263, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98h:68082** 68Q15 (03D15, 06E30, 68Q25, 94C10)

Bernasconi, G. P. (*with* Boissonade, J.) Phyllotactic order induced by symmetry breaking in advected Turing patterns. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 224–230. (Summary) **98h:92010** 92C15

Bernasconi, Michele (*with* Bacharach, Michael) The variable frame theory of focal points: an experimental study. (English summary) *Games Econom. Behav.* **19** (1997), *no.* 1, 1–45. (Summary) **98c:90194** 90D12 (90D40)

Bernat, Andrew (*with* Kreinovich, Vladik) Is solar system stable? A remark. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 149–154. (Summary) **98m:85003** 85A99 (70F15)

Bernat, Josep (*with* Llibre, Jaume) Counterexample to Kalman and Markus-Yamabe conjectures in dimension larger than 3. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 3, 337–379. (Gary H. Meisters) **98c:34079** 34D20 (34C25, 34H05, 58F10, 93D20)

Bernatskiĭ, F. I. (*with* Pashchenko, F. F.) Synthesis of robust algorithms for the control of technological plants. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 12, 150–163; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 2, 1966–1977 (1998). 93B35 (93B40)

Bernátsky, László (*with* Ésik, Zoltán) Scott induction and equational proofs. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 28 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98g:68101** 68Q55 (03G30, 68N15)

— Regular expression star-freeness is PSPACE-complete. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 1–21. (Introduction) **98h:68136** 68Q45 (68Q15)

Bernatzki, Felicia On the existence and regularity of mass-minimizing currents with an elastic boundary. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 379–399. (Boris Buffoni) **98k:49055** 49Q20 (53C65, 58A25)

— Mass-minimizing currents with an elastic boundary. *Manuscripta Math.* **93** (1997), *no.* 1, 1–20. (Giandomenico Orlandi) **98e:49100** 49Q20

Berndl, Karin Global existence and uniqueness of Bohmian trajectories. *Bohmian mechanics and quantum theory: an appraisal*, 77–86, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— (*with* Teufel, Stefan; Dürr, Detlef; Goldstein, Sheldon; Zanghì, Nino) Locality and causality in hidden-variables models of quantum theory. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1217–1227. (S. Gudder) **98j:81030** 81P10 (81P15)

Berndt, Bruce C. (*with* Chan, Heng Huat; Zhang, Liang-Cheng) Explicit evaluations of the Rogers-Ramanujan continued fraction. *J. Reine Angew. Math.* **480** (1996), 141–159. (George E. Andrews) **98c:11007** 11A55 (11B65, 11F11, 33E05)

— (*with* Chan, Heng Huat; Zhang, Liang-Cheng) Ramanujan's remarkable product of theta-functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 583–612. (Duncan A. Buell) **98k:33029** 33D10 (11F20, 11F27, 33E05)

Berndt, Jürgen (*with* Kowalski, Oldřich; Vanhecke, Lieven) Geodesics in weakly symmetric spaces. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 153–156. (McKenzie Y. Wang) **98f:53037** 53C22 (53C30)

— (*with* Tondeur, Philippe; Vanhecke, Lieven) Examples of weakly symmetric spaces in contact geometry. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 1–10. (J. Alfredo Jiménez) **98i:53067** 53C30 (53C25, 53C35)

Berndt, Rolf Joachim Kähler's computation of his zeta function for an arithmetic curve of degree two. *Mitt. Math. Ges. Hamburg* **15** (1996), 103–122 (1997). (Ze-Li Dou) **98g:11077** 11G40 (14G10)

— Bruno Schoeneberg (1906–1995). (German) *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 2, 83–89. (Editors) **98f:01058** 01A70

Bernert, Klaus τ-extrapolation—theoretical foundation, numerical experiment, and application to Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 2, 460–478. (Timothy Nigel Phillips) **98f:65119** 65N55 (65N06, 76D05, 76M20)

Bernfeld, Stephen R. (*with* Vuillermot, Pierre A.) Asymptotic behavior of solutions of limiting differential equations. *Advances in nonlinear dynamics*, 23–32, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (George Seifert) **98j:34056** 34C11 (34D10)

— Connectors of bifurcating equilibria of planar homogeneous differential systems. *Libertas Math.* **17** (1997), 39–53. (Josef Hainzl) **98k:34042** 34C05 (34C15, 34C20, 34C23)

Bernhardsson, Bo (*with* Rantzer, Anders; Qiu, Li) A summary on the real stability radius and real perturbation values. *Stability theory* (*Ascona*, 1995), 11–18, *Internat. Ser. Numer. Math.*, 121, *Birkhäuser, Basel*, 1996. (Mark R. Liberzon) **98e:93079** 93D10 (34K20, 34K35, 93B40)

— (*with* Malmborg, Jörgen) Control and simulation of hybrid systems. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 337–347. (*see* **98i:00027**) 93C30 (93A30)

— (*with* Nilsson, Johan; Wittenmark, Björn) Stochastic analysis and control of real-time systems with random time delays. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 57–64. 93E05 (93C30)

Bernhardt, Chris (*with* Yuster, Thomas) Periodic points of the difference operator. *College Math. J.* **28** (1997), *no.* 1, 20–26. (Mihai Neagu) **98j:39011** 39A70

Bernido, Christopher C. Summation over histories for the Friedmann universe. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7902–7905. (Giampiero Esposito) **98a:83052** 83C45

Bernīk, V. Ī. (*with* Dodson, M. M.) The exact order of zero approximation by values of integral polynomials of a complex variable. (Belorussian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 10–13, 122. (Summary) **98j:11056** 11J83

Berning, M. (*with* Spatschek, K. H.) Predictions of finite Larmor radius reduced magnetohydrodynamics for Rayleigh-Taylor unstable plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2525–2527. 76E25 (76W05)

Bernis, Francisco Energy methods for higher order elliptic and parabolic problems. *Energy methods in continuum mechanics* (*Oviedo*, 1994), 31–37, *Kluwer Acad. Publ., Dordrecht*, 1996. (Michael Wiegner) **98g:35062** 35J60 (35K55)

— (*with* Kwong, Man Kam) A Picard method without Lipschitz continuity for some ordinary differential equations. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 577–585. (Summary) **98e:34005** 34A12

— (*with* Ferreira, Raul) Source-type solutions to thin-film equations in higher dimensions. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 5, 507–524. (Summary) **98j:35150** 35Q35 (76D08)

Bernoff, Andrew J. (*with* Atassi, Oliver V.; Lichter, Seth) The interaction of a point vortex with a wall-bounded vortex layer. (English summary) *J. Fluid Mech.* **343** (1997), 169–195. (Summary) **98e:76016** 76C05 (76D10)

— (*with* Rossi, Louis F.; Lingevitch, Joseph F.) Quasi-steady monopole and tripole attractors for relaxing vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2329–2338. (Summary) **98e:76026** 76D05 (76C05, 76F20, 76M25)

Bernot, Gilles (*with* Coudert, Sophie; Le Gall, Pascale) Towards heterogeneous formal specifications. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 458–472, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q65 (68Q60)

Bernoulli, Daniel *see* **Stigler, Stephen M.**, (**98b:62001**)

Bernoulli, Jacob I *see* **Thiele, Rüdiger**, **98m:01035**

Bernoulli, Johann ★ Dissertations. On the mechanics of effervescence and fermentation. On the mechanics of the movement of the muscles. With an introduction by Troels Kardel. Translated from the Latin and edited by Paul Maquet with the assistance of August Ziggelaar. Transactions of the American Philosophical Society, 87, Pt. 3. *American Philosophical Society, Philadelphia, PA*, 1997. vi+158 *pp. ISBN* 0-87169-873-0 (Thomas Archibald) **98g:01071** 01A75 (01A45)

— *see also* **Thiele, Rüdiger**, **98m:01035** *and* **Cox, David Roxbee**

brack-Bernsen, Lis *see* **Brack-Bernsen, Lis**

Bernshtein, A. S. (*with* Kornoushenko, E. K.) On applicability of the least squares method to deconvolution problem for discrete-time time-varying linear systems. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 39–44. 93C55

Bernstein, Daniel J. Fast ideal arithmetic via lazy localization. (English summary) *Algorithmic number theory* (*Talence*, 1996), 27–34, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Michel Olivier) **98d:11161** 11Y40

— (*with* Lagarias, Jeffrey C.) The $3x+1$ conjugacy map. (English summary) *Canad. J. Math.* **48** (1996), *no.* 6, 1154–1169. (Štefan Porubský) **98a:11027** 11B75 (11B83)

— Detecting perfect powers in essentially linear time. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1253–1283. (Dumitru Acu) **98j:11121** 11Y16 (11J86, 65G05)

Bernstein, David *see* **Bernstein, David Howard**

Bernstein, David H. (*with* Hobill, David; Seidel, Edward; Smarr, Larry; Towns, John) Gravitational waves from dynamic black hole spacetimes. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 312–316, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C35 (83C57)

Bernstein, David Howard (*with* Smith, Tony E.; Friesz, Terry L.; Suo, Zhong-Gui) A comparative analysis of two minimum-norm projective dynamics and their relationship to variational inequalities. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 405–424, *SIAM, Philadelphia, PA*, 1997. (Ruxandra Stavre) **98b:65072** 65K10 (49J40)

— (*with* Gabriel, Steven A.) Solving the nonadditive traffic equilibrium problem. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 72–102, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90B10 (90C35)

Bernstein, Dennis S. (*with* Tyan, Feng) Dynamic output feedback compensation for systems with input saturation. *Control of uncertain systems with bounded inputs*, 129–164, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Sophie Tarbouriech) **98i:93075** 93D21

— (*with* Wan, C. J.; Tsiotras, Panagiotis; Coppola, Vincent T.) Global asymptotic stabilization of a spinning top with torque actuators using stereographic projection. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 215–233. (Summary) **98c:70026** 70Q05 (70E15, 70K20, 93D15)

— (*with* Kapila, Vikram; Haddad, Wassim M.; Erwin, Richard S.) Robust controller synthesis via shifted parameter-dependent quadratic cost bounds. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1003–1007. 93B51

— (*with* Bupp, Robert T.; Coppola, Vincent T.) A benchmark problem for nonlinear control design. A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 307–310. (*see* **98k:93004**) 93A30 (70K99, 70Q05, 93C85)

— (*with* Bupp, Robert T.; Coppola, Vincent T.) Experimental implementation of integrator backstepping and passive nonlinear controllers on the RTAC testbed. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 435–457. (*see* **98k:93004**) 93B52 (70K99, 70Q05, 93C85)

— (*with* Erwin, Richard S.; Sparks, Andrew G.) Fixed-structure robust controller synthesis via decentralized static output feedback. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 6, 499–522. 93A14 (93B35, 93B52)

— *see also* **Nonlinear benchmark problem**, **98k:93004**

Bernstein, Joseph (*with* Braverman, Alexander; Gaitsgory, Dennis) The Cohen-Macaulay property of the category of $(\mathfrak{g}, K)$-modules. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 3, 303–314. (Eric N. Sommers) **98k:20073** 20G05 (13C14)

Bernstein, Karen L. (*with* Stark, Eugene W.) Operational semantics of a focusing debugger. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68N15 (68Q55)

Bernstein, Mira (*with* Sloane, Neil J. A.) Some lattices obtained from Riemann surfaces. (English summary) *Extremal Riemann surfaces* (*San Francisco, CA*, 1995), 29–32, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:52020** 52C07 (30F30)

— (*with* Sloane, Neil J. A.; Wright, Paul E.) On sublattices of the hexagonal lattice. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 29–39. (Haruo Hosoya) **98i:05045** 05B45 (52C20)

Bernstein, Swanhild Fundamental solutions for Dirac-type operators. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 159–172, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Klaus Gürlebeck) **98a:30062** 30G35 (35E05, 47F05, 47G10, 81R20)

Berntzen, Rainer Extreme points of the closed unit ball in C^*-algebras. *Colloq. Math.* **74** (1997), *no.* 1, 99–100. (From the text) **98c:46111** 46L05 (46K05)

— (*with* Sołtysiak, A.) On strong generation of $B(\mathscr{H})$ by two commutative C^*-algebras. (English summary) *Studia Math.* **125** (1997), *no.* 2, 175–178. (Robert S. Doran) **98c:47054** 47D25 (46L05, 47C15)

Bernués, J. (*with* Peña, Ana) On the shape of p-convex hulls, $0 < p < 1$. *Acta Math. Hungar.* **74** (1997), *no.* 4, 345–353. (Yehoram Gordon) **98b:46016** 46A55 (46B20, 52A21)

Beronov, Kamen N. (*with* Kida, Shigeo) Scalar vorticity transitions in viscous two-dimensional stagnation flow. Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 144–152. (*see* **98e:76004**) 76D99 (76C05)

— Vorticity layers in unbounded viscous flow with uniform rates of strain. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 4, 285–302. (Summary) **98f:76022** 76D05 (76C05, 76E99)

Berrahmoune, L. Stabilization of the wave equation with unbounded feedback of finite range. *Extracta Math.* **11** (1996), *no.* 3, 417–425. (Enrique Zuazua) **98h:35140** 35L05 (35B40, 93D15)

Berrashed, A. (*with* Beheshti, M.; de Korvin, A.; Hu, Chen-Yi; Sirisaengtaksin, O.) Fuzzy Petri nets for decision making in uncertain and variable environments. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 309–323. 90A05 (90C70)

Berrick, A. J. (*with* Keating, M. E.) Rectangular invertible matrices. *Amer. Math. Monthly* **104** (1997), *no.* 4, 297–302. (George D. Poole) **98c:15013** 15A09 (15A33)

— *see also* **Geometry from the Pacific Rim**, **98c:00011**

Berriel-Valdós, L. R. (*with* Ramos García, Rubén) The Wigner distribution function in iterative digital image processing. *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 113–117, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81063** 81S30 (94A12)

Berrizbeitia, Pedro A note on fixed points of polynomials. (English and Spanish summaries) *Acta Cient. Venezolana* **46** (1995), *no.* 3, 159–160. (Summary) **98f:13018** 13F20

Berroukeche, M. (*with* Saramito, B.; Maschke, E.; Boussari, A.; Pineau, E.) Problems of MHD stability in thermonuclear fusion plasmas. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3605–3616. (*see* **98h:00034**) 76W05 (76E25, 82D10)

Berrut, Jean-Paul (*with* Mittelmann, Hans D.) Lebesgue constant minimizing linear rational interpolation of continuous functions over the interval. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 77–86. (Summary) **98c:41015** 41A20 (65D15)

— The barycentric weights of rational interpolation with prescribed poles. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 45–52. (Summary) **98k:65004** 65D05 (41A20)

— (*with* Reifenberg, Michèle) Numerical solution of periodic Fredholm integral equations of the second kind by means of attenuation factors. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 1, 1–20. (Andreas Rathsfeld) **98d:45010** 45L05 (65R20)

— (*with* Mittelmann, Hans D.) Exponentially convergent linear rational interpolation between equidistant (and other) points. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 67–76. (Summary) **98c:41020** 41A25 (41A20, 65D15)

Berry, Donald A. (*with* Cheng, Yi[2]) Optimal designs for clinical trials in stages. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 124–138, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62C10 (62L05)

— (*with* Chen, Robert W.; Zame, Alan; Heath, David C.; Shepp, Larry A.) Bandit problems with infinitely many arms. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2103–2116. (Peter Watts Jones) **98h:62121** 62L05 (62C10)

Berry, John Stephen ★ Introduction to non-linear systems. (English summary) Modular Mathematics Series. *Arnold, London*, 1996. xii+212 *pp. ISBN* 0-340-67700-7 (From the preface) **98b:34001** 34–01 (34Cxx, 39–01)

Berry, Jonathan (*with* Dean, Nathaniel) Exploring hypergraphs with Link. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 5–13. (Summary) **98j:05105** 05C65

Berry, M. V. Two-state quantum asymptotics. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 303–317, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (Péter Pál Lévay) **98f:81085** 81Q99 (41A60, 81Q20)

— Quantum fractals in boxes. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6617–6629. (Christian Grosche) **98a:81045** 81Q50 (28A80)

— Quantum and optical arithmetic and fractals. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 281–294, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Jens Marklof) **98m:11143** 11Z05 (42A16, 81Q99)

— (*with* Klein, Susanne) Transparent mirrors: rays, waves and localization. (English and German summaries) *European J. Phys.* **18** (1997), *no.* 3, 222–228. (Summary) **98c:78005** 78A10 (78A45)

— (*with* Klein, Susanne) Diffraction near fake caustics. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 303–306. 78A10 (78A45)

— (*with* Geim, A. K.) Of flying frogs and levitrons. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 307–313. (Summary) **98f:78031** 78A55

— (*with* Sinclair, E. C.) Geometric magnetism in massive chaotic billiards. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2853–2861. (Christian Grosche) **98i:81052** 81Q20 (81Q50, 82B05)

— (*with* Robbins, J. M.) Indistinguishability for quantum particles: spin, statistics and the geometric phase. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1771–1790. (Péter Pál Lévay) **98j:81172** 81S05 (81Q99, 81R99)

Berry, Scott M. (*with* Kadane, Joseph B.) Optimal Bayesian randomization. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 813–819. 62A15 (62F15)

Berry, Thomas G. (*with* Patterson, Richard R.) The uniqueness of Bézier control points. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 877–879. 65D17 (41A10)

— Parameterization of algebraic space curves. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 81–95. (Gunnar Fløystad) **98f:14023** 14H50 (13P10, 14Q20)

Bers, Lipman *see* **Lipa's legacy**, **98e:00027**; **Kra, Irwin**, **98g:01063** *and* **Nirenberg, Louis**, (**98e:00027**)

Bershadsky, Michael (*with* Sadov, V.) Theory of Kähler gravity. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 26, 4689–4730. (Bruce Hunt) **98b:81182** 81T30 (32G81, 32J81)

— (*with* Johansen, Andrei) Colliding singularities in F-theory and phase transitions. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 122–138. (Bruce Hunt) **98e:81132** 81T30 (32J81, 32S45)

Berstel, Jean Recent results in Sturmian words. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 13–24, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68R15 (11B85)

— (*with* de Luca, Aldo) Sturmian words, Lyndon words and trees. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 171–203. (Véronique Bruyère) **98j:68138** 68R15

Bertacche, Rosita (*with* Pesarin, Fortunato) Treatment of missing data in multidimensional testing problems for categorical variables. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 135–149 (1998). 62H17

Bertaccini, Daniele Simulation of a filtration in a deformable porous medium. A numerical approach. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 663–668. (*see* **98i:00027**) 76M25 (76S05)

Bertail, Patrice Un test bootstrap dans un modèle AR(1). (English and French summaries) [A bootstrap test in an AR(1) model] *Ann. Économ. Statist.* **1994,** *no.* 36, 57–79. 62M10 (62G09)

— (*with* Combris, Pierre) Bootstrap généralisé d'un sondage. (English and French summaries) [Weighted bootstrap in survey sampling] *Ann. Économ. Statist.* **1997,** *no.* 46, 49–83. (Summary) **98i:62039** 62G09 (62D05)

— Second-order properties of an extrapolated bootstrap without replacement under weak assumptions. (English summary) *Bernoulli* **3** (1997), *no.* 2, 149–179. (Michael Falk) **98i:62040** 62G09

gillio Berta Mauri, Anna *see* **Gillio Berta Mauri, Anna**

Bertaut, Carol C. (*with* Haliassos, Michael) Precautionary portfolio behavior from a life-cycle perspective. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1511–1542. (*see* **98c:90003**) 90A09 (90A12)

Bertazzi, L. (*with* Speranza, Maria Grazia; Ukovich, Walter) An algorithm for the transportation problem with given frequencies. (English summary) *System modelling and optimization* (*Prague*, 1995), 535–542, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90B35 (90B05)

Berteloot, Francois (*with* Pinchuk, S.) A splitting property for proper holomorphic mappings between Reinhardt domains. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 57–65, *World Sci. Publishing, River Edge, NJ*, 1996. (Yi Fei Pan) **98c:32033** 32H35 (32A07)

— (*with* Loeb, Jean Jacques) New examples of domains with non-injective proper holomorphic self-maps. *Complex analysis and geometry* (*Trento*, 1995), 69–82, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Mario Landucci) **98j:32029** 32H35

Bertero, M. (*with* Boccacci, P.; Piana, M.) Resolution and super-resolution in inverse diffraction. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 1–17, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (Summary) **98j:65073** 65N30 (76Q05, 78A40)

— (*with* Caponnetto, A.) Tomography with a finite set of projections: singular value decomposition and resolution. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1191–1205. (Fritz Keinert) **98j:44001** 44A12 (65R10)

Berthé, Valérie Entropy in deterministic and random systems. *Beyond quasicrystals* (*Les Houches*, 1994), 441–463, *Springer, Berlin*, 1995. (Beloslav Riečan) **98b:28029** 28D20

— (*with* Allouche, Jean-Paul) Triangle de Pascal, complexité et automates. [Pascal's triangle, complexity and automata] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 1–23. (Peter J. Grabner) **98a:11030** 11B85 (05A10, 68R15)

Berthelot, Pierre Altérations de variétés algébriques (d'après A. J. de Jong). (French summary) [Alterations of algebraic varieties (following A. J. de Jong)] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 815, 5, 273–311. (Willem Veys) **98m:14021** 14F30 (14E15)

— Finitude et pureté cohomologique en cohomologie rigide. [Finiteness and cohomological purity in rigid cohomology] With an appendix in English by Aise Johan de Jong. *Invent. Math.* **128** (1997), *no.* 2, 329–377. (Adolfo Quirós) **98j:14023** 14F30 (11G25, 14G15, 14G20)

Berthet, Philippe On the rate of clustering to the Strassen set for increments of the uniform empirical process. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 557–579. (Karl Grill) **98j:60042** 60F15 (60F17)

boutet de monvel-Berthier, Anne-Marie *see* **Boutet de Monvel-Berthier, Anne-Marie**

Berthier, Michel (*with* Cerveau, D.; Lins Neto, A.) Sur les feuilletages analytiques réels et le problème du centre. [Real-analytic foliations and the problem of the center] *J. Differential Equations* **131** (1996), *no.* 2, 244–266. (Sergeĭ Yu. Yakovenko) **98a:58128** 58F18 (32L30, 34A20, 34C05)

— (*with* Loray, Frank) Cohomologie relative des formes résonnantes non dégénérées. [Relative cohomology of nondegenerate resonant forms] *Asymptot. Anal.* **15** (1997), *no.* 1, 41–54. (Robert Roussarie) **98h:32035** 32G34 (34A20, 34A25, 34C25)

Berthod, Marc (*with* Volden, Espen; Giraudon, Gérard) Information in Markov random fields and image redundancy. (English summary) *Information theory and applications, II* (*Lac Delage, PQ*, 1995), 250–268, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94A15 (68U10)

Berti, Patrizia (*with* Rigo, Pietro) A Glivenko-Cantelli theorem for exchangeable random variables. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 385–391. (Summary) **98j:60043** 60F15

— (*with* Regazzini, Eugenio; Rigo, Pietro) Well-calibrated, coherent forecasting systems. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 144–168; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 1, 82–102 (1998). (Zeno G. Swijtink) **98j:62001** 62A15

Bertin, Emile M. J. (*with* Cuculescu, Ion; Theodorescu, Radu) ★ Unimodality of probability measures. (English summary) Mathematics and its Applications, 382. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+251 *pp. ISBN* 0-7923-4318-2 (F. W. Steutel) **98k:60019** 60E05 (60E10, 60E15)

Bertini, L. (*with* Cancrini, N.) Reduction formula for moments of stochastic integrals. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4763–4770. (Summary) **98d:60100** 60H05

— (*with* Landim, C.; Olla, S.) Derivation of Cahn-Hilliard equations from Ginzburg-Landau models. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 365–381. (Timo Seppäläinen) **98h:60143** 60K35 (35Q55, 60F10, 60J60, 82C24)

Bertino, E. (*with* Catania, B.; Shidlovsky, B.) Towards optimal two-dimensional indexing for constraint databases. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 1–8. (Summary) **98f:68060** 68P15 (68T20)

Bertlmann, R. A. (*with* Sýkora, Tomáš) Point-splitting method of the commutator anomaly of Gauss law operators. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2236–2241. (Liviu Tătar) **98j:81318** 81T50 (81T70)

Bertocchi, Maria (*with* Dupačová, Jitka) Management of bond portfolios via stochastic programming—postoptimality and sensitivity analysis. (English summary) *System modelling and optimization* (*Prague*, 1995), 574–581, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C90 (90C15)

— (*with* Dupačová, Jitka; Abaffy, József; Hušková, Marie) On estimating the yield and volatility curves. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 659–673. (*see* **98i:90006**) 90A12 (90A09)

Bertoglio, N. (*with* Martínez, Servet A.; San Martín, Jaime) A pointwise spectrum and representation of operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 375–382. (Summary) **98d:47010** 47A10 (47A67)

Bertoin, Jean (*with* Caballero, Ma.-Emilia) On the rate of growth of subordinators with slowly varying Laplace exponent. (English summary) *Séminaire de Probabilités, XXIX*, 125–132, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Bert Fristedt) **98g:60134** 60J30

— ★ Lévy processes. Cambridge Tracts in Mathematics, 121. *Cambridge University Press, Cambridge*, 1996. x+265 *pp. ISBN* 0-521-56243-0 (Patrick Fitzsimmons) **98e:60117** 60J30 (60J55)

— (*with* Werner, Wendelin) Stable windings. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1269–1279. (Juha Vuolle-Apiala) **98a:60105** 60J30 (60G18, 60J15)

— Exponential decay and ergodicity of completely asymmetric Lévy processes in a finite interval. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 156–169. (M. G. Shur) **98d:60147** 60J30

— (*with* Doney, R. A.) Spitzer's condition for random walks and Lévy processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 167–178. (N. H. Bingham) **98a:60099** 60J15 (60J30)

— Regularity of the half-line for Lévy processes. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 5, 345–354. (Mamoru Kanda) **98m:60115** 60J30 (60G17)

— (*with* Le Gall, Jean-François; Le Jan, Yves) Spatial branching processes and subordination. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 24–54. (Ingemar Kaj) **98g:60151** 60J80 (60G57)

— (*with* Chaumont, L.; Yor, Marc) Two chain-transformations and their applications to quantiles. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 882–897. (Angelos Dassios) **98m:60116** 60J30 (60J20)

— A ratio ergodic theorem for Brownian additive functionals with infinite mean. (English summary) *Potential Anal.* **7** (1997), *no.* 2, 615–621. (Paul McGill) **98i:60076** 60J65 (60J55)

— Regenerative embedding of Markov sets. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 559–571. (Joanna B. Mitro) **98b:60013** 60D05 (60J30)

Bertol, Michael (*with* Ésik, Zoltán) Nonfinite axiomatizability of the equational theory of shuffle. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 27–38, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q45 (68Q10)

— Efficient rewriting in cograph trace monoids. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 146–155, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q42 (68Q10, 68Q45)

— (*with* Diekert, Volker) Trace rewriting: computing normal forms in time $O(n \log n)$. (English summary) *STACS 96* (*Grenoble*, 1996), 269–280, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68151** 68Q45 (68Q10, 68Q42)

Bertolami, O. Lorentz invariance and the cosmological constant. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2785–2791. (Summary) **98h:83025** 83C45 (83B05)

— Dualities, CPT symmetry and dimensional reduction in string theory. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 91–103. (Summary) **98g:81151** 81T30

— (*with* Fonseca, P. D.; Moniz, Paulo Rodrigues Lima Vargas) Quantum cosmological multidimensional Einstein-Yang-Mills model in an $\mathbf{R} \times S^3 \times S^d$ topology. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4530–4543. (Luis J. Garay) **98i:83069** 83E15 (83C45)

Bertolazzi, Paola (*with* De Simone, Caterina; Galluccio, Anna) A nice class for the vertex packing problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 3–19. (Gerard J. Chang) **98d:05118** 05C75 (05C70, 05C85)

Bertoli, F. (*with* Barcucci, Elena; Del Lungo, Alberto; Pinzani, Renzo) The average height of directed column-convex polyominoes having square, hexagonal and triangular cells. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 27–36. (Summary) **98j:05047** 05B50 (05A15, 82B41)

Bertolin, Cristiana *G*-fonctions et cohomologie des hypersurfaces singulières. (English summary) [*G*-functions and cohomology of singular hypersurfaces] *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 353–383. (Adolfo Quirós) **98m:11064** 11G25 (11S80, 12H25, 14G20)

Bertolini, A. F. (*with* Lam, Y. C.) Accelerated subspace iteration using adaptive multiple inverse iteration. (English summary) *Comput. & Structures* **66** (1998), *no.* 1, 45–57. 65F10

Bertolini, M. *see* **Bertolini, Matteo**

Bertolini, Marina (*with* Ballico, Edoardo; Turrini, Cristina) On the class of some projective varieties. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 281–287. (Gian Mario Besana) **98j:14054** 14J40 (14N05)

— (*with* Alzati, Alberto; Besana, Gian Mario) Projective normality of varieties of small degree. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3761–3771. (Yoshiaki Fukuma) **98j:14053** 14J40 (14C20)

Bertolini, Massimo Selmer groups and Heegner points in anticyclotomic $\mathbf{Z}_p$-extensions. (English summary) *Compositio Math.* **99** (1995), *no.* 2, 153–182. (Summary) **98a:11082** 11G40 (11G05, 11R23)

— *p*-adic heights and *p*-adic *L*-functions. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 193–206. (Andrea Mori) **98h:11069** 11G05 (11G40, 11R23)

— Elliptic curves and special values of *L*-series. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 31–39. (Fernando Rodriguez Villegas) **98m:11069** 11G40 (11G05)

Bertolini, Matteo (*with* Andrianopoli, Laura; Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

Bertolotti, Guido (*with* Miglioli, Pierangelo; Silvestrini, Daniela) Exhibiting wide families of maximal intermediate propositional logics with the disjunction property. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 4, 501–536. (Leo Esakia) **98k:03066** 03B55 (03C90)

Bertoluzza, Carlo (*with* Bodini, Antonella) A new proof of Nguyen's compatibility theorem in a more general context. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 99–102. 03E72

Bertoluzza, Silvia An adaptive collocation method based on interpolating wavelets. (English summary) *Multiscale wavelet methods for partial differential equations*, 109–135, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98d:65149** 65N35

Bertoni, Alberto (*with* Mereghetti, Carlo; Pighizzini, Giovanni) Strong optimal lower bounds for Turing machines that accept nonregular languages. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 309–318, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q25 (68Q05, 68Q68)

— (*with* Goldwurm, Massimiliano; Mauri, Giancarlo; Sabadini, Nicoletta) Counting techniques for inclusion, equivalence and membership problems. *The book of traces*, 131–163, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q45 (68Q10, 68R15)

— (*with* Campadelli, Paola; Cesa-Bianchi, Nicolò) Multilayer perceptrons and learning. (English summary) *Theoretical computer science* (*Ravello*, 1995), 43–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Peter Auer) **98c:68180** 68T05 (68Q15)

— (*with* Campadelli, Paola; Gangai, Cristina; Posenato, Roberto) Approximability of the ground state problem for certain Ising spin glasses. (English summary) *J. Complexity* **13** (1997), *no.* 3, 326–339. (Summary) **98i:82070** 82D30 (68Q25)

— (*with* Cattaneo, Gianpiero; Oggioni, D.) On the approximability of the "ground-state" problem for Ising spin glasses by quantum devices. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6821–6830. (Summary) **98j:82032** 82B44 (81P99, 82D30)

Bertoni, Stefano Periodic solutions for non-linear equations of structured populations. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 250–267. (Sergei A. Vakulenko) **98m:35209** 35Q80 (34G20, 35B10, 47N20, 92D25)

Bertossi, A. (*with* Battiti, R.) Differential greedy for the 0-1 equicut problem. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 3–21, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:68005** 68M10 (68R10, 90C27)

Bertotti, Maria Letizia (*with* Jeanjean, Louis) Multiplicity of homoclinic solutions for singular second-order conservative systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1169–1180. (Addolorata Salvatore) **98a:58064** 58F05 (34C37, 58E05, 70H05)

— (*with* Bolotin, S. V.) Doubly asymptotic trajectories of Lagrangian systems and a problem by Kirchhoff. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 93–100. (Summary) **98k:58086** 58F05 (34C11, 58E05, 70E15, 70H35)

Bertozzi, A. L. (*with* Pugh, M. C.) Long-wave instabilities and saturation in thin film equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 625–661. (Vladimir V. Shelukhin) **98m:35171** 35Q35 (35B35, 76D33)

Bertram, Aaron Quantum Schubert calculus. *Adv. Math.* **128** (1997), *no.* 2, 289–305. (Sara C. Billey) **98j:14067** 14M15 (14N10)

Bertram, Barbara S. (*with* Ruehr, Otto G.) Numerical transformations of divergent Neumann sequences for Fredholm integral equations of the second kind. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 63–70, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 65R20 (45B05, 45L05)

— Numerical solution of Fredholm integral equations using simple wavelet expansions. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 50–53, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65R20 (45L05)

Bertram, Edward (*with* Horák, Peter) Decomposing 4-regular graphs into triangle-free 2-factors. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 309–317. (Y. Roditty) **98c:05122** 05C70 (05C85, 68R10)

Bertram, Richard (*with* Sherman, Arthur) Population dynamics of synaptic release sites. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 142–169 (*electronic*). (Summary) **98k:92005** 92C20 (60H10)

Bertram, Wolfgang On some causal and conformal groups. (English summary) *J. Lie Theory* **6** (1996), *no.* 2, 215–247. (Gestur Ólafsson) **98d:53076** 53C35 (17C20, 32M15)

Bertram-Kretzberg, Claudia (*with* Hofmeister, Thomas) Multiple product modulo arbitrary numbers. (English summary) *Inform. and Comput.* **131** (1996), *no.* 1, 81–93. (Christoph Meinel) **98d:68095** 68Q25

— (*with* Hofmeister, Thomas; Lefmann, Hanno) An algorithm for Heilbronn's problem. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 23–31, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05 (68R10)

— (*with* Lefmann, Hanno) MOD_p-tests, almost independence and small probability spaces (extended abstract). (English summary) *STACS 97* (*Lübeck*), 141–152, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q10 (68Q20)

Bertrand, Daniel Duality on tori and multiplicative dependence relations. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 198–216. (John H. Loxton) **98f:11070** 11H06 (11G10, 11R27, 14K15)

Bertrand, F. (*with* Tanguy, P. A.; Thibault, F.) A three-dimensional fictitious domain method for incompressible fluid flow problems. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 719–736. (Summary) **98h:76081** 76M10

Bertrand, Gilles (*with* Aktouf, Zouina; Perroton, Laurent) A 3D-hole closing algorithm. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 36–47, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98h:68227** 68U10

— (*with* Malgouyres, Rémy) Some topological properties of discrete surfaces. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 325–336, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98k:68174** 68U10 (55M99)

Bertrand, Jacqueline (*with* Bertrand, Pierre) Microwave imaging of time-varying radar targets. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 621–645. (Summary) **98c:78019** 78A45

— (*with* Irac-Astaud, Michèle) Invariance quantum groups of the deformed oscillator algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2021–2026. (Nicolás Andruskiewitsch) **98g:81068** 81R50 (17B37)

Bertrand, Pierre (*with* Kutoyants, Yurii) A minimum distance estimator for partially observed linear stochastic systems. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 323–342. (H. Salehi) **98d:62145** 62M05 (60H10, 62F12, 93E10)

— (*with* Avesani, Renzo G.) Does volatility jump or just diffuse? A statistical approach. *Numerical methods in finance*, 270–289, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Lorenzo Peccati) **98h:62130** 62M10 (62G20, 62P20, 90A09)

— (*with* Bernard, F.; Dufour, F.) On the JLQ problem with uncertainty. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 869–872. (Summary) **98d:93060** 93C42 (93B40, 93D09)

— (*with* Bertrand, Jacqueline) Microwave imaging of time-varying radar targets. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 621–645. (Summary) **98c:78019** 78A45

Bertrand-Mathis, Anne Nombres normaux. (English and French summaries) [Normal numbers] *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 397–412. (R. C. Baker) **98c:11073** 11K16

— Ensembles normaux relatifs à des matrices non-commutantes. (English and French summaries) [Normal sets with respect to noncommuting matrices] *J. Number Theory* **63** (1997), *no.* 1, 180–190. (Rita Giuliano Antonini) **98f:11079** 11K16 (11K06)

Bertsch, M. (*with* Barenblatt, G. I.; Beretta, Elena) The problem of the spreading of a liquid film along a solid surface: a new mathematical formulation. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 19, 10024–10030. (Sam D. Howison) **98k:76038** 76D45 (76D08)

Bertschy, R. (*with* Monney, P. A.) A generalization of the algorithm of Heidtmann to non-monotone formula. (English summary) *J. Comput. Appl. Math.* **76** (1996), *no.* 1-2, 55–76. (Maria-Teresa Lamata) **98d:90055** 90B25 (68T30)

Bertsekas, Dimitri P. (*with* Castañon, David; Eckstein, Jonathan; Zenios, Stavros A.) Parallel computing in network optimization. *Network models*, 331–399, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C35 (65Y05, 68Q22)

— (*with* Tseng, Paul) An ε-relaxation method for generalized separable convex cost network flow problems. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 85–93, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90160** 90C35 (90B10)

— (*with* Polymenakos, Lazaros C.; Tseng, Paul) An ε-relaxation method for separable convex cost network flow problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 853–870. (Michael A. Trick) **98i:90111** 90C35 (90C25)

— A new class of incremental gradient methods for least squares problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 913–926. (B. T. Polyak) **98k:49043** 49M07 (65K10)

— (*with* Patek, Stephen D.) Play selection in American football: a case study in neuro-dynamic programming. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 189–213, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27 (90C90)

Bertsimas, Dimitris (*with* Teo, Chung-Piaw) Improved randomized approximation algorithms for lot-sizing problems. *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 359–373, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Horst W. Hamacher) **98c:90144** 90C30 (90B70, 90C15)

— (*with* Luo, Xiao-Dong) On the worst case complexity of potential reduction algorithms for linear programming. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 321–333. (Klaus Meer) **98b:90081** 90C05 (90C60)

— (*with* Teo, Chung-Piaw) The parsimonious property of cut covering problems and its applications. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 123–132. (B. I. Gol′dengorin) **98j:90041** 90C10 (90C27)

— (*with* Mourtzinou, Georgia) Transient laws of non-stationary queueing systems and their applications. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 115–155. (Summary) **98d:60173** 60K25

— (*with* Vohra, Rakesh V.) Rounding algorithms for covering problems. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 63–89. (Ignacy Kaliszewski) **98m:90112** 90C27 (90C10)

Bertuzzi, Alessandro (*with* Gandolfi, Alberto; Sinisgalli, Carmela; Iacoviello, Daniela) Steel's potential doubling time and its estimation in cell populations affected by nonuniform cell loss. (English summary) *Math. Biosci.* **143** (1997), *no.* 2, 61–89. 92C50 (92D25)

Berz, Ulrich ★ Die Analyse fehlspezifizierter Modelle mit latenten Variablen. (German. German summary) [The analysis of misspecified models with latent variables] Dissertation, Johann Wolfgang Goethe-Universität Frankfurt, Frankfurt am Main, 1995. Europäische Hochschulschriften. Reihe V. Volks- und Betriebswirtschaft [European University Publications. Series V. Economics and Management], 1918. *Verlag Peter D. Lang, Frankfurt am Main*, 1996. xviii+250 *pp. ISBN* 3-631-30041-7 (Publisher's description) **98b:62118** 62J05 (62P20)

Berzins, Martin (*with* Selwood, P. M.; Dew, P. M.) 3D parallel mesh adaptivity: data-structures and algorithms. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55

— (*with* Ahmad, Idrees) An algorithm for ODEs from atmospheric dispersion problems. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 137–149. (*see* **98g:65010**) 65L06 (65F30)

— (*with* Capon, Philip J.; Jimack, Peter K.) On spatial adaptivity and interpolation when using the method of lines. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 117–133. (*see* **98i:65004**) 65M20

Berzuini, Carlo (*with* Best, Nicola G.; Gilks, Walter R.; Larizza, Cristiana) Dynamic conditional independence models and Markov chain Monte Carlo methods. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1403–1412. 62F15 (60J10, 62E25, 65C05)

Besalú, Emili (*with* Carbó-Dorca, Ramon) Extending molecular similarity to energy surfaces: Boltzmann similarity measures and indices. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 247–261 (1997). (Summary) **98c:81246** 81V55

— (*with* Carbó-Dorca, Ramon) An iterative method to solve the algebraic eigenvalue problem. (English summary) *J. Math. Chem.* **21** (1997), *no.* 4, 395–412. (Summary) **98m:65049** 65F15 (65F10)

Besana, Gian Mario (*with* Alzati, Alberto; Bertolini, Marina) Projective normality of varieties of small degree. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3761–3771. (Yoshiaki Fukuma) **98j:14053** 14J40 (14C20)

Besançon, Gildas (*with* Bornard, Guy) Symbolic computation in nonlinear control systems analysis: the example of bilinearization. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 11–27. (Summary) **98d:93049** 93B40 (65–04)

— (*with* Hammouri, H.; Benamor, S.) State equivalence of discrete-time nonlinear control systems to state affine form up to input/output injection. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 1–10. (Summary) **98k:93021** 93B17 (93B07, 93C10)

Beshtoev, Kh. M. ★ Dynamical analogy of the Cabibbo-Kobayashi-Maskawa matrices (with CP-violation). (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-97-210. *Ob″ed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* 81V15

— (*with* Shogenov, V. Kh.) ★ К вероятностной интерпретации волновой функции уравнения Клейна—Фока—Гордона (КФГ). (Russian. English and Russian summaries) [On a probabilistic interpretation of the wave function of the Klein-Fock-Gordon (KFG) equation] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R2-98-4. *Ob″ed. Inst. Yadernykh Issled., Dubna*, 1998. 9 *pp.* 81S20 (81Q05, 82D55)

Besieris, Ioannis M. *see* **Overfelt, P. L., 98f:78015**

Beška, Marek (*with* Dziedziul, Karol) Multiresolution and approximation and Hardy spaces. (English summary) *J. Approx. Theory* **88** (1997), *no.* 2, 154–167. (I. Ya. Novikov) **98f:42027** 42C15 (42B30)

Bešlagić, Amer (*with* Levy, Ronnie) Irresolvable products. *Papers on general topology and applications* (*Gorham, ME*, 1995), 42–48, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Introduction) **98a:54017** 54D15 (54D10)

Besnard, Philippe (*with* Hunter, Anthony) Quasi-classical logic: non-trivializable classical reasoning from inconsistent information. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 44–51, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B53 (68T27)

— (*with* Schaub, Torsten H.) A simple signed system for paraconsistent reasoning. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 404–416, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 03B53 (68T27)

Besov, O. V. Weighted spaces of differentiable functions of variable smoothness. (Russian) In honor of the ninetieth birthday of Academician S. M. Nikol′skiĭ (Russian). *Trudy Mat. Inst. Steklov.* **210** (1995), *Teor. Funktsiĭ i Differ. Uravn.*, 31–40. (Jiří Rákosník) **98b:46036** 46E35

— (*with* Il′in, Valentin Petrovich; Nikol′skiĭ, S. M.) ★ Интегральные представления функций и теоремы вложения. (Russian. Russian summary) [Integral representations of functions, and embedding theorems] Second edition. *Fizmatlit "Nauka", Moscow*, 1996. 480 *pp. ISBN* 5-02-014532-7 (From the preface) **98b:46037** 46E35

— Interpolation and embeddings of function spaces B^λ_{pq} and F^λ_{pq} on a domain. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 727–730. 46E35 (46M35)

Bespalov, A. N. Fictitious domain method for the Maxwell equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 227–230. (*see* **98b:65005**) 78–08

— Application of algebraic fictitious domain method to the solution of 3D electromagnetic scattering problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 211–229. (Summary) **98g:78011** 78A45 (65M60, 78–08)

Bespalov, Yu. N. Crossed modules, quantum braided groups and ribbon structures. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 368–387; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 621–637. (V. A. Artamonov) **98g:18008** 18D10 (16S35, 16W30, 81R50)

— Crossed modules and quantum groups in braided categories. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 155–204. (Pilar C. Carrasco) **98k:18005** 18D10 (16W30, 81R50)

Bespamyatnykh, S. N. On constructing minimum spanning trees in R^k_1. (English summary) *Algorithmica* **18** (1997), *no.* 4, 524–529. (Summary) **98a:68089** 68Q25 (05C05, 05C85)

— An optimal algorithm for closest-pair maintenance. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 175–195. (Rade Živaljević) **98m:68267** 68U05 (52B55, 65Y25)

Bessaga, C. (*with* Hernando Boto, B.; Martín-Peinador, E.) ★ An introduction to nuclear space. (English summary) Monografías de la Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza [Monographs of the Academy of Exact, Physical, Chemical and Natural Science of Zaragoza], 9. *Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza, Zaragoza*, 1997. 48 *pp.* (Plamen Dzhakov) **98g:46002** 46A11 (46A35)

Besse, Philippe C. (*with* Cardot, Hervé) Approximation spline de la prévision d'un processus fonctionnel autorégressif d'ordre 1. (English and French summaries) [Spline approximation of the prediction of a first-order autoregressive functional process] *Canad. J. Statist.* **24** (1996), *no.* 4, 467–487. (Winfried Stute) **98c:62114** 62H25 (62G05, 62M20)

— (*with* Cardot, Hervé; Ferraty, Frédéric) Simultaneous non-parametric regressions of unbalanced longitudinal data. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 3, 255–270. (Summary) **98b:62056** 62G05

Bessenrodt, Christine (*with* Olsson, Jørn B.) Heights of spin characters in characteristic 2. (English summary) *Finite reductive groups* (*Luminy*, 1994), 51–71, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Marc Cabanes) **98c:20024** 20C30 (20C20, 20C25)

— (*with* Olsson, Jørn B.) The 2-blocks of the covering groups of the symmetric groups. (English summary) *Adv. Math.* **129** (1997), *no.* 2, 261–300. (Bhama Srinivasan) **98i:20011** 20C25 (20C20)

— (*with* Olsson, Jørn B.) On residue symbols and the Mullineux conjecture. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 227–251. (G. D. James) **98k:20015b** 20C30 (05E10)

Besser, Amnon On the finiteness of Ш for motives associated to modular forms. (English summary) *Doc. Math.* **2** (1997), 31–46 (*electronic*). (Jan Nekovář) **98d:11067** 11G18 (11F66, 11R34)

— On the Kolyvagin cup product. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4635–4657. (Jan Nekovář) **98b:11116** 11R34 (20J05)

Bessi, Ugo Arnold's diffusion with two resonances. *J. Differential Equations* **137** (1997), *no.* 2, 211–239. (Ernest Fontich) **98h:58059** 58F05 (34C37, 58F30, 70H05, 70K30)

— Arnold's example with three rotators. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 763–781. (Dmitry V. Treshchëv) **98c:58145** 58F30 (34C99, 70H05, 70K99)

Bessis, Daniel (*with* Mezincescu, G. Andrei; Fournier, Jean-Daniel; Mantica, Giorgio; Aaron, Francisc D.) Distribution of roots of random real generalized polynomials. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 675–705. (Kambiz Farahmand) **98e:60077** 60G99 (26C10, 30B20, 60F05)

Bessis, David Sur le corps de définition d'un groupe de réflexions complexe. [The field of definition of a complex reflection group] *Comm. Algebra* **25** (1997), *no.* 8, 2703–2716. (Burkhard Külshammer) **98g:20017** 20C15 (20F55, 20H15)

Bessis, G. (*with* Bessis, N.) Open perturbation and the Riccati equation: algebraic determination of the quartic anharmonic oscillator energies and eigenfunctions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5483–5492. (M. Znojil) **98j:81085** 81Q15 (34A45, 81Q05)

Bessis, N. (*with* Bessis, G.) Open perturbation and the Riccati equation: algebraic determination of the quartic anharmonic oscillator energies and eigenfunctions. (English

summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5483–5492. (M. Znojil) **98j:81085** 81Q15 (34A45, 81Q05)

Besson, Gérard (*with* Colbois, Bruno; Courtois, Gilles) Sur la multiplicité de la première valeur propre de l'opérateur de Schrödinger avec champ magnétique sur la sphère S^2. (French summary) [Multiplicity of the first eigenvalue of the Schrödinger operator with magnetic field on the sphere S^2] *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 331–345. (Robert Brooks) **98d:58188** 58G25

Besson, Vincent (*with* Shenton, Andrew Thomas) Interactive control system design by a mixed H^∞-parameter space method. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 946–955. (Dieter Franke) **98g:93015a** 93B36 (93B51, 93C80, 93D09)

— (*with* Shenton, Andrew Thomas) Correction to: "Interactive control system design by a mixed H^∞-parameter space method". *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1615. (Dieter Franke) **98g:93015b** 93B36 (93B51, 93C80, 93D09)

Bessot, Didier Les aspects épistémologiques de la pensée didactique de Desargues: l'usage des exemples génériques. [The epistemological aspects of Desargues's didactic thought: the use of generic examples] *Desargues en son temps*, 295–312, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45 (00A30)

Best, D. J. (*with* Rayner, J. C. W.) Goodness of fit for the binomial distribution. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 355–364. 62G10

— (*with* Rayner, J. C. W.) Extensions to the Kruskal-Wallis test and a generalised median test with extensions. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 1, 13–25. 62H17 (62G10)

Best, Eike (*with* Koutny, Maciej) A refined view of the box algebra. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 1–20, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

— (*with* Fleischhack, Hans; Fraczak, Wojciech; Hopkins, Richard P.; Klaudel, Hanna; Pelz, Elisabeth) A class of composable high level Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 103–120, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

— (*with* Koutny, Maciej) Solving recursive net equations. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 605–623, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q90

— ★ Semantics of sequential and parallel programs. (English summary) Translated from the German and revised by the author. Prentice Hall International Series in Computer Science. *Prentice Hall Europe, London*, 1996. xii+351 *pp. ISBN* 0-13-460643-4 (Siegmar Gerber) **98e:68157** 68Q55 (68–01, 68N05, 68Q60)

— (*with* Palamidessi, Catuscia) Linear constraint systems as high-level nets. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 498–513, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68200** 68Q90 (68Q10, 68Q25)

— (*with* Thielke, Thomas) Orthogonal transformations for coloured Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 447–466, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98j:68119** 68Q90

— (*with* Thielke, Thomas) Refinement of coloured Petri nets. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 105–116, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q90

Best, John P. Application of wavefront coordinates to acoustic ray tracing. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), (*E*), 601–625 (*electronic*) (1998). (Summary) **98i:76079** 76Q05

Best, Michael J. An algorithm for the solution of the parametric quadratic programming problem. (English summary) *Applied mathematics and parallel computing*, 57–76, *Physica, Heidelberg*, 1996. (Jürgen Guddat) **98k:90067** 90C20 (90C25)

— (*with* Ding, Baoyan) Global and local quadratic minimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 1, 77–90. (Vera V. Kovačević-Vujčić) **98c:90085** 90C20 (65K05)

Best, Nicola G. (*with* Berzuini, Carlo; Gilks, Walter R.; Larizza, Cristiana) Dynamic conditional independence models and Markov chain Monte Carlo methods. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1403–1412. 62F15 (60J10, 62E25, 65C05)

Bestehorn, Michael (*with* Eckert, Kerstin; Thess, André) Square cells in surface-tension-driven Bénard convection: experiment and theory. (English summary) *J. Fluid Mech.* **356** (1998), 155–197. 76E15 (76–05)

Bestvina, Mladen (*with* Feighn, M.; Handel, Michael) Laminations, trees, and irreducible automorphisms of free groups. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 215–244. (S. Andreadakis) **98c:20045** 20E05 (05C25, 20F28, 57M07)

— (*with* Feighn, M.; Handel, Michael) Erratum to: "Laminations, trees, and irreducible automorphisms of free groups" [Geom. Funct. Anal. **7** (1997), no. 2, 215–244; MR 98c:20045]. *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1143. (From the text) **98k:20034** 20E05 (05C25, 20F28, 57M07)

— (*with* Brady, Noel) Morse theory and finiteness properties of groups. (English summary) *Invent. Math.* **129** (1997), *no.* 3, 445–470. (John Meier) **98i:20039** 20F36 (20J05, 57M07)

Betancor, Jorge J. (*with* Rodríguez-Mesa, Lourdes; Srivastava, Hari M.) New classes of univalent analytic functions with negative coefficients. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 17–27. (Shigeyoshi Owa) **98f:30009** 30C45 (30C50, 30C55)

— (*with* Marrero, I.) McKennon-type spaces for the Hankel transformation. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 337–359. (C. Carton-Lebrun) **98b:46056** 46F12 (44A15, 46F05)

— (*with* Rodríguez-Mesa, Lourdes) Hankel convolution on distribution spaces with exponential growth. (English summary) *Studia Math.* **121** (1996), *no.* 1, 35–52. (Om P. Singh) **98e:46047** 46F12 (42A85, 44A35)

— (*with* Linares Linares, Manuel; Méndez-Pérez, J. M. R.) An operational sum method with Tchebycheff [Chebyshev] series expansions for solving difference equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 259–267. (Summary) **98m:39051** 39A70 (33C45, 44A55)

— A new characterization of the bounded operators commuting with Hankel translation. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 5, 403–408. (Richard D. Carmichael) **98m:46055** 46F12 (44A20, 47B38)

— (*with* Marrero, I.) Convolution operators on Kucera-type spaces for the Hankel transformation. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 47–72. (Om P. Singh) **98g:46052** 46F12 (44A35, 47G10)

— (*with* Jerez Diaz, C.) Convolution Watson integral transformations in spaces of generalized functions. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 209–216. (Gopi Ahuja) **98j:44002** 44A15 (46F12)

— (*with* Rodríguez-Mesa, Lourdes) The K_μ-transformation on McBride's spaces of generalized functions. (English summary) *Math. Nachr.* **185** (1997), 21–31. (Gopi Ahuja) **98f:46037** 46F12 (44A15)

— (*with* Rodríguez-Mesa, Lourdes) Pointwise convergence and a new inversion theorem for Hankel transforms. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 235–247. (Gopi Ahuja) **98f:46038** 46F12 (44A15)

— (*with* Rodríguez-Mesa, Lourdes) Hankel transformation of Colombeau type tempered generalized functions. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 293–320. (Bl. P. Damyanov) **98m:46056** 46F12 (44A35, 46F05)

— (*with* Rodríguez-Mesa, Lourdes) Characterizations of W-type spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1371–1379. (Stevan Pilipović) **98j:46034** 46F05 (44A15, 46E35)

Betensky, Rebecca A. An O'Brien-Fleming sequential trial for comparing three treatments. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1765–1791. (Mayer Alvo) **98b:62141** 62L05 (62F03)

— Early stopping to accept H_0 based on conditional power: approximations and comparisons. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 794–806. 62P10

Beth, Thomas (*with* Grassl, M.; Pellizzari, T.) Codes for the quantum erasure channel. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 33–38. (Summary) **98f:81044** 81P99 (94B60)

— (*with* Lazic, Dejan E.; Kalouti, Hakam) Spectra of long primitive binary BCH codes cannot approach the binomial distribution. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 294–295. (Summary) **98m:94058** 94B60

Bethke, Inge (*with* Klop, Jan Willem; de Vrijer, R. C.) Completing partial combinatory algebras with unique head-normal forms. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 448–454, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98d:68133** 68Q55 (03B40, 68N15, 68Q42)

Bethuel, Fabrice (*with* de Almeida, Luis Manuel Lopes Neves) Fonctionnelles de Ginzburg-Landau et espaces de configurations de particules positives et négatives. [Ginzburg-Landau functionals and configuration spaces of positive and negative particles] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. I*, 13 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 35Q55 (35J10, 58E20)

— (*with* de Almeida, Luis Manuel Lopes Neves; Guo, Yan) A remark on the instability of symmetric vortices with large coupling constant. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1295–1300. (Spyridon Kamvissis) **98g:35184** 35Q55 (82D55)

Betke, U. (*with* Henk, M.; Tsintsifa, L.) Inradii of simplices. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 365–375. (Keith Ball) **98d:52003** 52A20 (52A40)

Betley, Stanisław On stable K-theory with twisted coefficients. *Algebraic K-theory* (*Poznań*, 1995), 19–29, *Contemp. Math.*, 199, *Amer. Math. Soc., Providence, RI*, 1996. (Jacek Brodzki) **98a:19002** 19D55 (18G15, 18G60)

Betne, P. (*with* Katti, S. K.; Chandramouleeswaran, M. P.) Computing formulae in Fisherian designs through a three line APL-program. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 37–45. 62K10

Betounes, David (*with* Redfern, Mylan) The Stratonovich integral via the renormalization operator on Fock space. (English summary) *Stochastics Stochastics Rep.* **56** (1996), *no.* 3-4, 161–178. (Summary) **98f:60078** 60G20 (60H05)

Betrò, Bruno (*with* Guglielmi, Alessandra) Numerical robust Bayesian analysis under generalized moment conditions. (English summary) With a discussion by Elías Moreno and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 3–20, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98m:62066** 62F15 (62F35)

— *see also* **Bayesian robustness**, **98e:62007**

Betsakos, Dimitrios On certain harmonic measures on the unit disk. *Colloq. Math.* **73** (1997), *no.* 2, 221–228. (Vladimir N. Dubinin) **98f:30025** 30C85 (31A15)

Betta, M. F. Estimates for solutions of nonlinear degenerate elliptic equations. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 449–470. (Zuchi Chen) **98k:35065** 35J65 (35B45, 35J70)

Bettaieb, Hela (*with* Valette, Alain) Sur le groupe K_1 des C^*-algèbres réduites de groupes discrets. (English and French summaries) [On K_1 of reduced C^*-algebras of discrete groups] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 10, 925–928. (Judith A. Packer) **98b:46090** 46L80 (19K56, 19L64, 22D15, 46L05)

Bettayeb, Said (*with* Abuelrub, Emadeddin) Embedding rings into faulty twisted hypercubes. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 4, 425–441. (Summary) **98f:68019** 68M10 (68M15)

— (*with* Kulasinghe, Priyalal) Vertex-disjoint paths in Cayley color graphs. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 6, 583–597. (Joseph B. Klerlein) **98m:05110** 05C38 (05C25)

Betten, Anton (*with* Kerber, Adalbert; Kohnert, Axel; Laue, Reinhard; Wassermann, Alfred) The discovery of simple 7-designs with automorphism group $P\Gamma L(2, 32)$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 131–145, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Dobromir Todorov) **98f:05021** 05B05 (20B25)

— (*with* Betten, Dieter) Regular linear spaces. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 111–124. (Stanley E. Payne) **98a:51011** 51E26 (05B25, 05B30)

— (*with* Laue, Reinhard; Wassermann, Alfred) Simple 6- and 7-designs on 19 to 33 points. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 149–160. (*see* **98h:05002**) 05B05

Betten, Dieter On the classification of 4-dimensional flexible projective planes. (English summary) *Mostly finite geometries* (*Iowa City, IA*, 1996), 9–33, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Burkard Polster) **98f:51020** 51H10 (51H20)

— (*with* Betten, Anton) Regular linear spaces. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 111–124. (Stanley E. Payne) **98a:51011** 51E26 (05B25, 05B30)

Bettess, Peter (*with* Chadwick, Edmund) Modelling of progressive short waves using wave envelopes. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3229–3245. (Summary) **98i:78012** 78A40 (76M25, 76Q05, 78–08)

— (*with* Laghrouche, Omar) Derivation of a rectangular finite element for potential problems from consistency criteria. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 35–42. 65N30

Betti, Renato Formal theory of internal categories. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 35–52 (1997). (Summary) **98h:18001** 18B25

Bettinson, David (*with* Rowlands, George) Transverse stability of the one-dimensional kink solution of the discrete Cahn-Hilliard equation. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 169–178. (Summary) **98k:80007** 80A22 (80A32)

marini Bettolo Marconi, Umberto *see* **Marini Bettolo Marconi, Umberto**

Betts, Caroline M. (*with* Smith, Bruce D.) Money, banking, and the determination of real and nominal exchange rates. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 703–734. 90A09 (90A53)

Betts, Don *see* **Of fluid mechanics and related matters, 98h:76003**

Betts, J. T. Experience with a sparse nonlinear programming algorithm. *Large-scale optimization with applications, Part II (Minneapolis, MN, 1995)*, 53–72, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (K. Schittkowski) **98h:90073** 90C30 (65F50)

Beuermann, Klaus Nachruf auf Friedrich Hund [1896–1997]. [Obituary for Friedrich Hund [1896–1997]] *Gauss-Ges. Göttingen Mitt. No.* 34 (1997), 71–72. 01A70

Beukers, Frits (*with* Zagier, Don) Lower bounds of heights of points on hypersurfaces. *Acta Arith.* **79** (1997), *no.* 2, 103–111. (Emmanuel Peyre) **98h:11082** 11G35 (11R04, 14G25)

— On a sequence of polynomials. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 97–103. (Maurice Mignotte) **98e:11029** 11C08 (11J86)

Beutelspacher, Albrecht Some of Giuseppe Tallini's papers on Galois geometries. *Results Math.* **32** (1997), *no.* 3-4, 202–207. (Vikram Jha) **98k:51001** 51–03 (01A70, 51E21, 51E23)

Bevis, Jean H. (*with* Blount, Kevin K.; Davis, George J.; Domke, Gayla S.; Miller, Valerie A.) The rank of a graph after vertex addition. (English summary) *Linear Algebra Appl.* **265** (1997), 55–69. (Slobodan Simić) **98i:05116** 05C50

Bewley, Thomas R. (*with* Liu, Sharon) Optimal and robust control and estimation of linear paths to transition. (English summary) *J. Fluid Mech.* **365** (1998), 305–349. 76F99 (93B35)

Bey, Christian On incidence matrices of finite affine geometries. (English summary) *Ars Combin.* **47** (1997), 313–317. (Summary) **98h:05045** 05B25 (05B20)

Beyer, K.-U. (*with* Belger, M.) Some remarks on geodesic and curvature preserving mappings. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 73–81. (Luis J. Alías) **98e:53021** 53B20 (53B25)

Beyer, Robert T. *see* **von Neumann, John, 98b:81006**

Beyer, W. A. (*with* Louck, James D.) Transfinite function iteration and surreal numbers. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 333–350. (J. Matkowski) **98i:39005** 39B12 (04A10, 26A18)

Beyerlein, Irene J. (*with* Phoenix, S. Leigh; Raj, Rishi) Time evolution of stress redistribution around multiple fiber breaks in a composite with viscous and viscoelastic matrices. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3177–3211. 73K20 (73M25)

Beyl, F. Rudolf (*with* Latiolais, M. Paul; Waller, Nancy) Classifications of 2-complexes whose finite fundamental group is that of a 3-manifold. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 69–84. (Cynthia Hog-Angeloni) **98d:57009** 57M20 (57N10, 57Q10, 57R20)

Beylin, Ilya (*with* Dybjer, Peter) Extracting a proof of coherence for monoidal categories from a proof of normalization for monoids. (English summary) *Types for proofs and programs (Torino, 1995)*, 47–61, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03036** 03F55 (03B35, 18D10)

Beylkin, Gregory (*with* Keiser, James M.) An adaptive pseudo-wavelet approach for solving nonlinear partial differential equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 137–197, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Andreas Rathsfeld) **98i:65124** 65T20 (42C15)

Beyn, W.-J. (*with* Elsner, Ludwig F.) Infinite products and paracontracting matrices. (English summary) *Electron. J. Linear Algebra* **2** (1997), 1–8 (*electronic*). (L. W. Ehrlich) **98a:65036** 65F10

— (*with* Kleinkauf, J.-M.) Numerical approximation of homoclinic chaos. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 25–53. (Heinrich Steinlein) **98g:58130** 58F15 (58F03, 65L99)

Beysens, Daniel A. (*with* Nikolayev, Vadim S.) Coalescence limited by hydrodynamics. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3227–3234. (Summary) **98j:76031** 76D99 (76D45)

Bezdek, András On the Hadwiger number of a starlike disk. (English summary) *Intuitive geometry (Budapest, 1995)*, 237–245, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (W. Kuperberg) **98h:52008** 52A30 (52C15)

— *see also* **Geometry Festival, 98i:52001**

Bezdek, James C. (*with* Hemasinha, Rohan; Pal, Nikhil R.) The determinant of a fuzzy matrix with respect to t and co-t norms. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 297–306. (Summary) **98a:15011** 15A15 (04A72)

Bezdek, Károly (*with* Bisztriczky, Tibor) A proof of Hadwiger's covering conjecture for dual cyclic polytopes. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 29–41. (John R. Reay) **98k:52005** 52A15 (52A20, 52B11)

— Isoperimetric inequalities and the dodecahedral conjecture. (English summary) *Internat. J. Math.* **8** (1997), *no.* 6, 759–780. (Salvatore Vassallo) **98k:52043** 52C17 (05B40, 52B60)

— (*with* Connelly, Robert) Minimal translation covers for sets of diameter 1. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 23–27. (Summary) **98k:52042** 52C15 (52A40)

— *see also* **Geometry Festival, 98i:52001**

Bezem, Marc (*with* Berardi, Stefano; Coquand, Thierry) A realization of the negative interpretation of the axiom of choice. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 47–62, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:03053** 03F60

— (*with* Barendsen, Erik) Polymorphic extensions of simple type structures. With an application to a bar recursive minimization. (English summary) *Ann. Pure Appl. Logic* **79** (1996), *no.* 3, 221–280. (Summary) **98i:03023** 03B40

— (*with* Ponse, Alban) Two finite specifications of a queue. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 487–507. (Summary) **98b:68119** 68Q65 (68P05, 68Q10, 68Q60)

— *see also* **Computer science logic, 98k:03005**

Bezen, Alexandre (*with* Klebaner, Fima Chaim) The Riemann's function and its application to stochastic perturbations of a non-linear wave equation. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 307–318. 35L70 (35R60, 60H15, 65M99)

— (*with* Grimshaw, Roger H. J.; Pelinovskiĭ, E. N.) Hysteresis phenomena in the interaction of a damped solitary wave with an external force. (English summary) *Wave Motion* **26** (1997), *no.* 3, 253–274. (Summary) **98h:35206** 35Q53 (76B15, 76B25)

Bezerra, Licio H. (*with* Bazán, Fermin S. V.) On zero locations of predictor polynomials. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 6, 459–468. (Ljiljana Petković) **98m:65048** 65F15 (30C15, 94A12)

Bezerra, V. B. (*with* Letelier, P. S.) Loop variables and holonomics for a class of conical space-times. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6271–6282. (Viqar Husain) **98f:83040** 83C45

Bezerra do Ó, João Marcos Solutions to perturbed eigenvalue problems of the p-Laplacian in $\mathbf{R}^N$. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 11, 15 *pp.* (*electronic*). (P. Lindqvist) **98f:35050** 35J65 (35A15)

Bezgacheva, Julia V. Admissible rules for temporal logic LinTGrz. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 2, 60–66. (Regimantas Pliuškevičius) **98i:03026** 03B45

Bezhaeva, Z. I. (*with* Oseledets, V. I.) On an example of a "strange nonchaotic attractor". (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 1–9, 95; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 223–229 (1997). (Tadeusz Nadzieja) **98b:58106** 58F13

— (*with* Oseledets, V. I.) On the variance of sums for functions of a stationary Markov process. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 633–639; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 537–541 (1997). (M. Iosifescu) **98e:60107** 60J05 (60G10)

Bezhuashvili, Yu. (*with* Burchuladze, T.) Three-dimensional boundary value problems of elastothermodiffusion with mixed boundary conditions. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 243–258. (Andrzej Chrzęszczyk) **98c:73010** 73B30 (35Q72, 73C15)

Béziau, Jean-Yves (*with* da Costa, Newton C. A.) Théorie de la valuation. (French summary) [Theory of valuation] *Logique et Anal. (N.S.)* **37** (1994), *no.* 146, 95–117. (Décio Krause) **98h:03014** 03B22 (03B20, 03B25, 03B53)

— Théorie legislative de la négation pure. (English summary) [Pure legislative theory of negation] *Logique et Anal. (N.S.)* **37** (1994), *no.* 147-148, 209–225. (E. Mendelson) **98a:03010** 03B05 (03B20, 03B22, 03B30)

— (*with* da Costa, Newton C. A.; Bueno, Otávio) What is semantics? A brief note on a huge question. *Sorites No.* 3 (1995), 43–47 (*electronic*). (Max Urchs) **98a:03006** 03A05

— (*with* Krause, Décio) Relativizations of the principle of identity. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 327–338 (*electronic*). (Alena Vencovská) **98h:03037** 03B60

— *see also* **da Costa, Newton C. A., 98h:03011** *and* **Contemporary Brazilian research in logic, 98k:03006**

Bezirgyan, G. S. Theory of MHD flows of an incompressible conducting fluid on a channel with an inclined bottom. *Magnetohydrodynamics* **33** (1997), *no.* 1, 19–24. 76W05

Bezivin, Jean-Paul Sur les suites récurrentes à coefficients polynômes. (English summary) [Recurrent sequences with polynomial coefficients] *J. Number Theory* **66** (1997), *no.* 2, 282–290. (Maurice Mignotte) **98h:11027** 11B83 (11B37)

Beznea, Lucian (*with* Boboc, Nicu) Once more about the semipolar sets and regular excessive functions. (English summary) *Potential theory—ICPT 94 (Kouty, 1994)*, 255–274, *de Gruyter, Berlin*, 1996. (Patrick Fitzsimmons) **98j:31009** 31D05 (60J40, 60J45)

— (*with* Boboc, Nicu) Condensation points for the fine topology. (English summary) *Analysis* **17** (1997), *no.* 1, 13–23. (Klaus Janssen) **98m:31014** 31D05 (31C40, 60J45)

Bezrukov, Sergei On oriented embedding of the binary tree into the hypercube [MR 95j:05073]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 95–106, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C10 (05C05)

— On k-partitioning the n-cube. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 44–55, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98i:68215** 68R10 (05C35)

— (*with* Rovan, Branislav) On partitioning grids into equal parts. (English summary) Special issue on parallel and distributed computing (Bratislava, 1996). *Comput. Artificial Intelligence* **16** (1997), *no.* 2, 153–165. (Summary) **98f:68210** 68R10 (65S05, 68Q22)

Bezuglyĭ, S. I. On recurrence and superrecurrence of H-cocycles. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 3–17. (Karma Dajani) **98m:28039** 28D15 (22D40)

— (*with* Golodets, Valentin Ya.) Dynamical entropy for Bogoliubov actions of free abelian groups on the CAR-algebra. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 757–782. (Aldo J. Lazar) **98h:46075** 46L55 (81T05)

Bezuidenhout, Anne Pragmatics, semantic underdetermination and the referential/attributive distinction. (English summary) *Mind* **106** (1997), *no.* 423, 375–409. 03B65

Bezzazi, Hassan (*with* Makinson, David; Pino Pérez, Ramón) Beyond rational monotony: some strong non-Horn rules for nonmonotonic inference relations. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 605–631. (Zoran Ognjanović) **98m:03056** 03B60 (03B70, 68T27)

Bhaduri, R. K. (*with* Khare, Avinash; Reimann, S. M.; Tomusiak, E. L.) The Riemann zeta function and the inverted harmonic oscillator. (English summary) *Ann. Physics* **254** (1997), *no.* 1, 25–40. (Christian Grosche) **98b:11131** 11Z05 (11M06, 81Q50)

— (*with* Sen, Diptiman) Applications of the collective field theory for the Calogero-Sutherland model. (English summary) *Ann. Physics* **260** (1997), *no.* 2, 203–223. (Summary) **98j:81390** 81V70

— (*with* Khare, Avinash; Law, Jimmy; Murthy, M. V. N.; Sen, Diptiman) Novel correlations in two dimensions: two-body problem. (English summary) *J. Phys. A* **30** (1997),

no. 7, 2557–2576. (Summary) **98d:81008** 81Q05 (81V70)

Bhadury, J. (*with* Chandru, V.; Maheshwari, Anil; Chandrasekaran, R.) Art gallery problems for convex nested polygons. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 100–110. (Summary) **98e:68246** 68U05 (65Y25)

Bhagavathi, D. (*with* Bokka, V.; Gurla, H.; Olariu, Stephan; Schwing, J. L.) Time-optimal tree computations on sparse meshes. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 201–220. (Summary) **98d:68025** 68M10

Bhagavatula, Ravi (*with* Chen, Kan; Jayaprakash, C.) Earthquakes in quasistatic models of fractures in elastic media: formalism and numerical techniques. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2297–2315. 86A15 (86–04)

Bhagwandas (*with* Misra, B. L.) A class of neighbour designs. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 1, 45–54. (Sanpei Kageyama) **98g:62142** 62K10

Bhakat, S. K. (*with* Das, Phullendu) A note on fuzzy Archimedean ordering. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 91–94. (Summary) **98f:06014** 06F15 (04A72, 20N25)

Bhaker, U. S. (*with* Hooda, D. S.) On a weighted entropy generating function. (English summary) *Res. Bull. Panjab Univ. Sci.* **45** (1995), *no.* 1-4, 181–189. (Prasanna Sahoo) **98g:94009** 94A15

Bhalla, R. S. (*with* Kapoor, A. K.; Panigrahi, P. K.) Quantum Hamilton-Jacobi analysis of phases of supersymmetry in quantum mechanics. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 10, 1875–1894. (Summary) **98i:81064** 81Q60

— (*with* Kapoor, A. K.; Panigrahi, P. K.) Energy eigenvalues for a class of one-dimensional potentials via quantum Hamilton-Jacobi formalism. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 5, 295–306. (Summary) **98a:81023** 81Q05

Bhambani, Ambika (*with* Bagga, P. C.) Sequencing with restrictions in processing times. (English summary) *Opsearch* **34** (1997), *no.* 2, 116–127. 90B35

Bhamini, M. P. *see* **Nayar, Bhamini M. P.**

Bhandari, S. K. (*with* Das Gupta, Somesh) Unlinking theorem for symmetric convex functions. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 137–141, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H10

Bhandary, Madhusudan Test for generalized variance in signal processing. (English summary) *Statist. Probab. Lett.* **27** (1996), *no.* 2, 155–162. (Yasunori Fujikoshi) **98b:62101** 62H15 (94A12)

Bhansali, R. J. Recent developments in analysis of time series with infinite variance: a review. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 42–54, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62156** 62M10

— Asymptotically efficient autoregressive model selection for multistep prediction. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 577–602. (Zuzana Prášková) **98b:62153** 62M10 (62M20)

— Robustness of the autoregressive spectral estimate for linear processes with infinite variance. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 3, 213–229. (P. A. Morettin) **98i:62075** 62M15 (62M20)

— Direct autoregressive predictors for multistep prediction: order selection and performance relative to the plug in predictors. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 425–449. (Summary) **98f:62245** 62M10

Bhanukumar, Hosangadi (*with* Trahan, Jerry L.) Parallel random access machines without Boolean operations. (English summary) *Parallel Process. Lett.* **4** (1994), *no.* 1-2, 117–124. (Wojciech Rytter) **98f:68074** 68Q05 (68Q15, 68Q22)

Bharati, Rajan (*with* Arumugam, S.; Rajasingh, Indra; Pushpam, Roushini Leely) On graphs whose graphoidal covering number is one less than its cyclomatic number. (English summary) *Graph theory and its applications (Tirunelveli, 1996)*, 29–34, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98g:05107** 05C70

— (*with* Parvatham, R.; Swaminathan, A.) On subclasses of uniformly convex functions and corresponding class of starlike functions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 17–32. (Frode Rønning) **98e:30009** 30C45

Bhardwaj, A. K. (*with* Prasad, Jagdish) Some methods of construction of generalized cyclic row-column designs. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 113–120. 62K10 (05B05)

Bhardwaj, Dheeraj (*with* Jain, Padam Chand; Shankar, Rama) Numerical solution of the Korteweg-de Vries (KdV) equation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 6, 943–951. (Summary) **98b:65107** 65M12

Bhardwaj, Rashmi (*with* Bhatnagar, K. B.) Chaos in nonlinear planar oscillation of a satellite in an elliptical orbit under the influence of third body torque. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 391–422. (Summary) **98b:70015** 70F15 (58F13, 70K50, 70M20)

Bhargava, Alok Some properties of exact tests for unit roots. (English summary) *Biometrika* **83** (1996), *no.* 4, 944–949. (Sung K. Ahn) **98e:62127** 62M10 (62P20)

Bhargava, Manjul Congruence preservation and polynomial functions from Z_n to Z_m. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 15–21. (Zhibo Chen) **98m:05002** 05A10 (11A07)

— *P*-orderings and polynomial functions on arbitrary subsets of Dedekind rings. (English summary) *J. Reine Angew. Math.* **490** (1997), 101–127. (W. Narkiewicz) **98j:13016** 13F05 (13F20)

Bhargava, Srinivasamurthy (*with* Adiga, Chandrashekar) A basic bilateral series summation formula and its applications. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 3, 165–184. (Hukum Chand Agrawal) **98f:33032** 33D20 (11B65, 33D05)

— A simple proof of the quintuple product identity. (English summary) *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 226–228. (David M. Bressoud) **98e:33007** 33D45 (11B65, 11P81)

Bhargava, Vijay K. (*with* Gulliver, T. Aaron) Some best rate $1/p$ quasi-cyclic codes over GF(5). (English summary) *Information theory and applications, II (Lac Delage, PQ, 1995)*, 28–40, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94B05

— (*with* Gulliver, T. Aaron) New optimal binary linear codes of dimensions 9 and 10. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 314–316. (Summary) **98k:94011** 94B05

— (*with* Fair, Ivan J.; Wang, Qiang) Characteristics of guided scrambling encoders and their coded sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 342–347. (Summary) **98j:94001** 94A05

Bharucha-Reid, A. T. ★ Elements of the theory of Markov processes and their applications. (English summary) Reprint of the 1960 original. *Dover Publications, Inc., Mineola, NY*, 1997. xii+468 *pp. ISBN* 0-486-69539-5 (Editors) **98d:60001** 60-01 (60Jxx)

Bhaskar, V. Informational constraints and the overlapping generations model: folk and anti-folk theorems. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 135–149. (Summary) **98j:90021** 90A40

Bhāskara II *see* **Gupta, Radha Charan**, **98g:01021**

Bhaskara Rao, M. *see* **Rao, M. Bhaskara**

Bhat, B. V. Rajarama (*with* Fagnola, F.) On minimality of Evans-Hudson flows. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 671–683. (Timothy M. W. Eyre) **98i:81124** 81S25

Bhat, Girish (*with* Cleaveland, Rance) Efficient model checking via the equational μ-calculus. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 304–312, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60 (03B45, 03B70, 68Q68)

— (*with* Peled, Doron A.) Adding partial orders to linear temporal logic. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 119–134, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q60 (03B45, 68Q10)

Bhat, U. Narayan (*with* Basawa, Ishwar V.; Lund, Robert B.) Maximum likelihood estimation for single server queues from waiting time data. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 155–167 (1997). (Martin Jacobsen) **98i:62066** 62M05 (60K25)

— (*with* Miller, Gregory K.) Estimation for renewal processes with unobservable gamma or Erlang interarrival times. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 355–372. (Summary) **98b:62152** 62M09

Bhati, S. S. (*with* Joshi, Sunil) Certain transformation formulae for basic hypergeometric functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 131–134. (David M. Bressoud) **98d:33008** 33D20

— (*with* Joshi, Sunil) Fourier series for generalized functions. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 4, 269–276. 33C99

Bhatia, D. *see* **Bhatia, Davinder**

Bhatia, D. P. (*with* Prasad, M. A.; Arora, D.) Asymptotic results for the number of multidimensional partitions of an integer and directed compact lattice animals. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2281–2285. (Summary) **98f:82065** 82B41 (05A16, 11P82)

Bhatia, Davinder (*with* Kumar, Promila) Sufficient optimality conditions and duality for strongly pseudo-convex n-set problems. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 5–15. (Summary) **98k:90094** 90C29 (49N15, 90C30)

— (*with* Kumar, Promila) Duality for variational problems with B-vex functions. (English summary) *Optimization* **36** (1996), *no.* 4, 347–360. (Gert Wanka) **98a:49030** 49K05 (49N15, 90C26)

— (*with* Kumar, Promila) Pseudolinear vector optimization problems containing n-set functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 439–453. (Harold P. Benson) **98c:90119** 90C29 (49N15)

— (*with* Kumar, Narender; Bhudraja, R. K.) Duality theorems for nondifferentiable multiobjective programs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1031–1042. (Bruce D. Craven) **98k:90095** 90C29 (49N15)

— (*with* Mehra, Aparna) Lagrangian duality for preinvex set-valued functions. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 599–612. (Tetsuzo Tanino) **98j:90057** 90C29 (49N15)

— (*with* Kumar, Promila) A note on fractional minmax programs containing n-set functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 283–292. (Laura Martein) **98j:90078** 90C32

Bhatia, N. P. (*with* Egerland, W. O.) New proof and extension of Sarkovskiĭ's theorem. (English summary) *Far East J. Math. Sci.* **1996**, *Special Volume, Part I*, 53–67. (Louis Block) **98c:58048** 58F03 (54H20)

Bhatia, P. K. (*with* Taneja, H. C.) Coding theorems on a generalized "useful" inaccuracy. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 29–36. (Summary) **98d:94015** 94A24 (94A17)

— On measures of information energy. (English summary) *Inform. Sci.* **97** (1997), *no.* 3-4, 233–240. (Summary) **98a:94007** 94A15 (94A17)

Bhatia, Praveen (*with* Mukherjee, Amitabha; Agarwal, Manish) A qualitative discretization for two-body contacts. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 915–921, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30 (70B15)

Bhatia, Rajendra ★ Matrix analysis. (English summary) Graduate Texts in Mathematics, 169. *Springer-Verlag, New York*, 1997. xii+347 *pp. ISBN* 0-387-94846-5 (R. J. Bumcrot) **98i:15003** 15-02 (47-02)

— (*with* Šemrl, Peter) Approximate isometries on Euclidean spaces. *Amer. Math. Monthly* **104** (1997), *no.* 6, 497–504. (S. Cobzaş) **98g:46016** 46B20

— A note on the Lyapunov equation. (English summary) *Linear Algebra Appl.* **259** (1997), 71–76. (Vladimir B. Larin) **98c:93032** 93B35 (15A24, 93C05)

— Erratum: "An operator inequality and matrix normality" [Linear Algebra Appl. **240** (1996), 105–110; MR 97b:47011] by C. R. Johnson and F. Zhang. *Linear Algebra Appl.* **260** (1997), 323. (From the text) **98d:47045** 47A63 (15A60)

— (*with* Kittaneh, Fuad) Some inequalities for norms of commutators. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 258–263. (Masatoshi Fujii) **98c:47009** 47A30 (15A45, 47A63, 47B10)

— (*with* Kittaneh, Fuad) Norm inequalities for positive operators. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 225–231. (T. Ando) **98m:47008** 47A30 (47A55, 47B15)

— *see also* **Analysis, geometry and probability**, **98e:00025**

Bhatia, Satvinder Singh (*with* Ram, Babu) On weighted integrability of double cosine series. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 510–519. (F. Móricz) **98h:42011** 42B05 (42A32)

Bhatnagar, K. B. (*with* Bhardwaj, Rashmi) Chaos in nonlinear planar oscillation of a satellite in an elliptical orbit under the influence of third body torque. (English summary)

Indian J. Pure Appl. Math. **28** (1997), *no.* 3, 391–422. (Summary) **98b:70015** 70F15 (58F13, 70K50, 70M20)

Bhatnagar, Nirdosh Discrete Fourier transform computation using prime Ramanujan numbers. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 1, 95–100. (Summary) **98c:11140** 11Y16

Bhatnagar, Shalabh (*with* Borkar, Vivek S.) Multiscale stochastic approximation for parametric optimization of hidden Markov models. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 509–522. (Andor Dobò) **98k:93126** 93E25 (60K20, 62L20)

— (*with* Gupta, V. H.) An optimal fuel-injection policy for performance enhancement in internal combustion engines. (English summary) *Sādhanā* **22** (1997), *no.* 4, 545–552. 93C95

Bhatt, Abhay G. (*with* Kallianpur, Gopinath; Karandikar, R. L.; Xiong, Jie) On interacting systems of Hilbert-space-valued diffusions. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 151–188. (Constantin Tudor) **98m:60123** 60J60 (60B10, 60H15)

— *see also* **Analysis, geometry and probability, 98e:00025**

Bhatt, B. S. (*with* Khan, Q. J. A.) Stability of an epidemic model with density dependent transmission coefficient and death rate. (English summary) *Math. Japon.* **43** (1996), *no.* 3, 487–495. (H. R. Thieme) **98a:92008** 92D30

— Steady flow of a power law fluid through an elastically deformable porous media. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials (Tobago, 1997)*, 203–221, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76S05

Bhatt, R. C. (*with* Samtani, R. K.) Relations between functions contiguous to certain hypergeometric functions of four variables. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 1, 39–50. (H. M. Srivastava) **98d:33005** 33C70

Bhatt, S. K. (*with* Kathal, P. D.) Criterion for (S_H) $(C, 1)$ summability of Fourier series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 1, 31–39. 42A24

Bhatt, Subhash J. Norm-free topological algebra characterizations of C^*-algebras and uniform Banach algebras. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 117–122. (John Duncan) **98j:46050** 46K05 (46J10, 46L05)

parameshwara Bhatta, S. *see* **Parameshwara Bhatta, S.**

Bhattacharjee, Amitava (*with* Bhattacharyya, Sati Nath) Effect of the flow continuum on magnetohydrodynamic stability. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3744–3748. (Summary) **98f:76034** 76E25 (76W05)

Bhattacharjee, B. (*with* Nandi, Kamal K.; Alam, S. M. K.; Evans, James Carl) Brans-Dicke wormholes in the Jordan and Einstein frames. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 823–828. 83D05 (83E05)

Bhattacharjee, G. P. (*with* Pal, Madhumangal) An optimal parallel algorithm for all-pairs shortest paths on unweighted interval graphs. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 342–356. (Summary) **98j:68133** 68R10 (65Y05, 68Q25, 90C35)

Bhattacharjee, Manish C. (*with* Sen, Pranab Kumar[1]) Kolmogorov-Smirnov type tests for NB(W)UE alternatives under censoring schemes. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 25–38, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G10

— Stochastic comparisons and bounds for aging renewal process shock models and their applications. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 645–662. (E. Arjas) **98i:60086** 60K05

Bhattacharjee, Meenaxi Some interesting finitely presented infinite amalgamated free products. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 189, 1–10. (S. Andreadakis) **98b:20037** 20E06 (20E08)

Bhattacharjee, Nil Ratan On Milloux theorem. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **20** (1996), *no.* 1, 95–101. (Indrajit Lahiri) **98e:30032** 30D35

Bhattacharjee, Tapan K. (*with* Mazumdar, Arun K.) Axiomatisation of fuzzy multivalued dependencies in a fuzzy relational data model. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 343–352. 68P15 (04A72)

Bhattacharya, Bhargab B. (*with* Nandy, Subhas C.; Nandakumar, G. N.) Efficient algorithms for single- and two-layer linear placement of parallel graphs. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 121–135. (Summary) **98i:68224** 68R10 (05C85, 68Q35)

Bhattacharya, Bhaskar Tests of bivariate symmetry with a one-sided alternative in the analysis of variance. (English summary) *Biometrical J.* **38** (1996), *no.* 7, 791–808. (M. Hušková) **98b:62131** 62J10

— Testing multinomial parameters under order restrictions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1839–1865. (Subhash C. Kochar) **98m:62043** 62F05 (62F30)

Bhattacharya, Binay K. (*with* Kaller, Damon) An $O(m + n \log n)$ algorithm for the maximum-clique problem in circular-arc graphs. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 336–358. (Václav Koubek) **98g:05139** 05C85 (68Q25, 68R10)

— (*with* Akl, Selim G.) Computing maximum cliques of circular arcs in parallel. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 305–320. (Summary) **98j:68041** 68Q22

Bhattacharya, D. (*with* Bhaumik, R. N.) Regular G-delta embeddings. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 167–179. (Summary) **98k:54028** 54C45 (54C50)

Bhattacharya, Joydeep Credit market imperfections, income distribution, and capital accumulation. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 171–200. 90A09 (90A60)

Bhattacharya, Kaushik (*with* Kohn, Robert V.) Elastic energy minimization and the recoverable strains of polycrystalline shape-memory materials. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 2, 99–180. (Pablo Pedregal) **98j:73025** 73C50 (49J99, 49S05, 73B27, 73V25)

Bhattacharya, P. K. *see* **Bhattacharya, Prodyot Kumar**

Bhattacharya, Partha P. (*with* Tassiulas, Leandros; Ephremides, Anthony) Optimal scheduling with deadline constraints in tree networks. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1703–1705. 90B12 (90B35)

Bhattacharya, Prabir (*with* Heisterkamp, Douglas R.) Invariants of families of coplanar conics and their applications to object recognition. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 3, 253–267. (Summary) **98b:68165** 68T10 (51N20)

Bhattacharya, Prodyot Kumar Some aspects of change-point analysis. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 28–56, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62–02 (62E20, 62F05, 62F10, 62F25, 62G05, 62G10, 62L15)

— (*with* Zhou, Hong) A rank-CUSUM procedure for detecting small changes in a symmetric distribution. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 57–65, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 60G40 (62G99, 62L15, 62N10)

— (*with* Zhao, Peng-Liang) Semiparametric inference in a partial linear model. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 244–262. (Keh-Wei Chen) **98f:62081** 62G05 (62J02)

Bhattacharya, Rabi N. (*with* Lee, Oesook) Correction: "Asymptotics of a class of Markov processes which are not in general irreducible" [Ann. Probab. **16** (1988), no. 3, 1333–1347; MR 89m:60148]. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1541–1543. (Summary) **98g:60118** 60J05 (60B10, 60F05, 60F17)

— A hierarchy of Gaussian and non-Gaussian asymptotics of a class of Fokker-Planck equations with multiple scales. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 257–263. (*see* **98i:00027**) 35Q99 (76S05, 86A05)

Bhattacharya, Sumankumar (*with* Yeh, Arthur B.) A robust process capability index. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 565–589. 62N10

Bhattacharya, T. K. Recent trends and applications of spline approximations and wavelet transform. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 25–43. 41A15 (42C15)

Bhattacharya, Tilak (*with* Leonetti, Francesco) On improved regularity of weak solutions of some degenerate, anisotropic elliptic systems. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 241–255. (Sulaimon A. Ishokov) **98e:35078** 35J70 (35B65, 35D10)

Bhattacharyya, Anil Kumar *see* **Sen, Pranab Kumar[1]**

Bhattacharyya, B. B. (*with* Killam, Bart) Time series modeling of SO_2 pollution data and the distribution of yearly maximum. (English summary) *J. Appl. Statist. Sci.* **4** (1996), *no.* 4, 285–303. 62M10

— (*with* Richardson, Gary D.; Franklin, L. A.) Asymptotic inference for near unit roots in spatial autoregression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1709–1724. (Sung K. Ahn) **98m:62232** 62M10 (60F05)

Bhattacharyya, Paritosh (*with* Pal, Manindra Chandra) Feeble and strong forms of preirresolute functions. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 63–75. 54C08

Bhattacharyya, S. *see* **Bhattacharyya, Sati Nath**

Bhattacharyya, S. K. *see* **Bhattacharyya, Subroto Kumar**

Bhattacharyya, S. P. *see* **Bhattacharyya, Shankar Prashad**

Bhattacharyya, Sati Nath (*with* Bhattacharjee, Amitava) Effect of the flow continuum on magnetohydrodynamic stability. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3744–3748. (Summary) **98f:76034** 76E25 (76W05)

— (*with* Pal, Ajit; Datta, Nanigopal; Nath, G. Baikunth) Unsteady rotating flow of a compressible fluid over a finite disk. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 243–253. 76U05 (76N10)

Bhattacharyya, Shankar Prashad (*with* Howze, J. W.) Robust tracking, error feedback, and two-degree-of-freedom controllers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 980–983. 93B36 (93B52)

— (*with* Keel, L. H.) Robust, fragile, or optimal? (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1098–1105. (Summary) **98c:93038** 93B36 (93D09)

— (*with* Ho, Ming-Tzu; Datta, Aniruddha) An elementary derivation of the Routh-Hurwitz criterion. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 405–409. 93D05

Bhattacharyya, Subroto Kumar (*with* Manoj, K. G.) A block solver for large, unsymmetric, sparse, banded matrices with symmetric profiles. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3279–3295. 65F30 (65F10)

Bhattacharyya, Sudebi (*with* Das, K. P.) Fourth-order nonlinear evolution equations for surface gravity waves in the presence of a thin thermocline. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 214–229. (Summary) **98i:76011** 76B15 (76C10, 76E20, 86A05)

Bhattacharyya, Tirthankar On tuples of commuting compact operators. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 5, 785–795. (Ameer Athavale) **98c:47004** 47A13 (47B07)

Bhatti, F. M. (*with* Brak, R.; Essam, J. W.; Lookman, T.) Series expansion analysis of the backbone properties of two-dimensional percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6215–6232. (Summary) **98k:82083** 82B43 (82–04, 82B27)

Bhatti, N. M. (*with* Paisley, M. F.) Comparison of multigrid methods for neutral and stably stratified flows over two-dimensional obstacles. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 581–610. 76M25 (76V05)

Bhatti, Shaban Ali Isomorphism theorems in BCI-algebras. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 1–7. 06F35 (03G25)

Bhaumik, Debajyoti (*with* Bagchi, Bijan Kumar) Coherent states for parabosons. (English summary) *J. Phys. A* **30** (1997), *no.* 17, L593–L597. (Summary) **98k:81103** 81R30 (81S05)

Bhaumik, R. N. (*with* Bhattacharya, D.) Regular G-delta embeddings. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 167–179. (Summary) **98k:54028** 54C45 (54C50)

— (*with* Mukherjee, Anjan) Induced fuzzy supra-topological spaces. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 123–126. 54A40 (04A72)

Bhavanari, Satyanarayana (*with* Kuncham, Syam Prasad) A result on E-direct systems in N-groups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 285–287. 20N99 (16Y30)

durga Bhavani, S. *see* **Durga Bhavani, S.**

Bhavnagri, Burzin (*with* Le, Huiling) On simplifying shapes by subjecting them to collinearity constraints. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 315–323. (Rade Živaljević) **98g:68173** 68U10 (68T10)

Bhaya, Amit Real matrices with positive determinant are homotopic to the identity. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 335–340 (*electronic*). 15A15 (93B05)

— *see also* **Wirth, Fabian R., 98k:93089**

Bhimasankaram, Pochiraju (*with* Sengupta, Debasis) On the roles of observations in collinearity in the linear model. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1024–1032. (Summary) **98h:62114** 62J05

— (*with* SahaRay, Rita) On a partitioned linear model and some associated reduced models. (English summary) *Linear Algebra Appl.* **264** (1997), 329–339. (I. S. Alalouf) **98m:62186** 62J05

Bhoj, Dinesh S. Estimation of parameters using modified ranked set sampling. (English summary) *Applied statistical science, II* (*Malang*, 1996), 145–163, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62F10

— (*with* Ahsanullah, Mohammad) Inference problems of modified power function distribution based on records. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 143–159. (Syed N. U. A. Kirmani) **98g:62026** 62E15 (62F10)

Bhojak, Bharti (*with* Suri, Komal; Rathie, Arjun K.) On a double integral involving $\overline{H}$-function. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **15** (1996), *no.* 1, 33–36. (Khélifa Trimèche) **98g:33025** 33C60

Bhoosnurmath, Subhas S. (*with* Devadas, Manjunath V.) Subclasses of univalent functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 57–67. (Summary) **98g:30017** 30C45

— (*with* Devadas, Manjunath V.) Subclasses of Robertson functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 177–185. (Summary) **98f:30010** 30C45

— (*with* Hombali, Chhaya M.) On a result of Hayman. (English summary) *Ganita* **48** (1997), *no.* 2, 81–90. (Summary) **98k:30042** 30D35

— (*with* Devadas, Manjunath V.) Subclasses of spirallike functions defined by Ruscheweyh derivatives. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 59–65. (Alan D. Gluchoff) **98g:30018** 30C45

Bhouri, Imen (*with* Ben Nasr, Fathi) Spectre multifractal de mesures boréliennes sur $\mathbf{R}^d$. (English and French summaries) [The multifractal spectrum of Borel measures in $\mathbf{R}^d$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 253–256. (Summary) **98c:28005** 28A80

Bhowmick, J. L. (*with* Shil, R. N.) A general method of constructing 6×2^3 design in 6×2 plots block. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 63–67. 62K10 (05B05)

Bhowmik, Gautami (*with* Wu, Jie[1]) On the asymptotic behaviour of the number of subgroups of finite abelian groups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 95–104. (Simon T. Wong) **98i:11079** 11N45 (20D60, 20K01)

— (*with* Ramaré, O.) Errata to: "Average orders of multiplicative arithmetical functions of integer matrices" [Acta Arith. **66** (1994), no. 1, 45–62; MR 95d:11131]. *Acta Arith.* **85** (1998), *no.* 1, 97–98. 11N64

Bhudraja, R. K. (*with* Bhatia, Davinder; Kumar, Narender) Duality theorems for nondifferentiable multiobjective programs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1031–1042. (Bruce D. Craven) **98k:90095** 90C29 (49N15)

Bhunia, A. K. (*with* Maiti, Manoranjan) A deterministic two storage inventory model for variable production and inventory-level-dependent demand rate. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 17–24. (Summary) **98h:90032** 90B05

Bhuruth, M. (*with* Evans, David J.) Block iterative methods for the nine-point approximation to the convection-diffusion equation. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 321–335. (Summary) **98c:65173** 65N06

— (*with* Evans, David J.) Block alternating group explicit preconditioning (BLAGE) for a class of fourth order difference schemes. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 121–136. (Summary) **98d:65060** 65F35 (65N06)

— (*with* Evans, David J.) Strides reduction algorithms for block tridiagonal linear systems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 165–180. 65F10

Bhuyan, Pradip (*with* Sarmah, Pranita) Nonparametric test for an 1-out-of-2: *G* repairable system. (English summary) *Contrib. Appl. Math. Stat.* **1** (1995), 25–32. 62N05 (62G10)

Bi, Guang Qing Applications of abstract operators to partial differential equations. I. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 7–14. (You-Shi Lou) **98i:35021** 35G10 (35A25, 35C15, 47N20)

Bi, Jian Dong (*with* Ye, Feng; Sun, Xi Wen; Qian, Guo Liang) A logical method for formalizing abductive reasoning. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 4, 57–61. 03B60 (03B70, 68T27)

Bi, Jinbo Efficient algorithm for unconstrained optimization problems—a positive definite update from negative Broyden family. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 4, 299–304. 90C30 (65K05)

Bi, Qiang (*with* Wang, Qing Guo; Hang, Chang-Chieh) Relay-based estimation of multiple points on process frequency response. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1753–1757. 93C80 (93E10)

Bi, Qin Sheng (*with* Chen, Yu Shu) An analytic expression for the transition boundaries of the solutions of Duffing systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 5, 573–581. 34C15

— (*with* Wu, Zhi Qiang; Chen, Yu Shu) Normal form of the nonsemi-simple bifurcation problem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 4, 349–354; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 325–330 (*Chinese. English and Chinese summaries*). (Josef Hainzl) **98f:34052** 34C20 (34C23)

— (*with* Chen, Yu Shu; Wu, Zhi Qiang) Bifurcation in a nonlinear Duffing system with multi-frequency external periodic forces. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 121–128; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 113–120 (*Chinese. English and Chinese summaries*). 34C15 (34C23, 70K40)

Bi, Qiu Xiang Some properties of random walks in random environments on a half-line. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 120–124. 60J15

— The distribution of extinction time in a class of random environment branching processes. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 236–239. 60J80

Bi, Wei Ping (*with* Li, Wen Lin) A design method for variable structure control using output information. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 206–209. 93B10 (93B52)

Biacino, Loredana (*with* Gerla, Giangiacomo) Connection structures: Grzegorczyk's and Whitehead's definitions of point. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 431–439. (Victor V. Pambuccian) **98b:03017** 03B30 (00A30, 51F99)

Biagioni, Hebe A. (*with* Gramchev, Todor) On the 2D Navier-Stokes equation with singular initial data and forcing term. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 1–20. (Maria Specovius-Neugebauer) **98b:35132** 35Q30 (76D05)

— (*with* Linares, Felipe) On the Benney-Lin and Kawahara equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 131–152. (Shu Ming Sun) **98e:35140** 35Q53 (35B40, 76B15)

— (*with* Cadeddu, Lucio; Gramchev, Todor) Parabolic equations with conservative nonlinear term and singular initial data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2489–2496. (Alexander L. Gladkov) **98k:35110** 35K65 (35K55, 35Q53)

Bialas, Piotr (*with* Burda, Zdzislaw; Petersson, Bengt; Tabaczek, Joachim) Appearance of mother universe and singular vertices in random geometries. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 3, 463–476. (Summary) **98b:83028** 83C27

— (*with* Burda, Zdzislaw) Collapse of 4D random geometries. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 281–285. 83C27 (83C45)

Bialecki, Bernard (*with* Dryja, Maksymilian) Preconditioned conjugate gradient multilevel methods for orthogonal spline collocation discretization of the Dirichlet problem for Poisson's equation. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 77–89, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (Summary) **98e:65104** 65N35

Bialostocki, A. (*with* Caro, Yair; Roditty, Y.) On zero sum Turán numbers. Twelfth British Combinatorial Conference (Norwich, 1989). *Ars Combin.* **29** (1990), *A*, 117–127. (C. C. Rousseau) **98d:05072** 05C35 (05C55)

— (*with* Dierker, P.) On zero sum Ramsey numbers: small graphs. Twelfth British Combinatorial Conference (Norwich, 1989). *Ars Combin.* **29** (1990), *A*, 193–198. (Wen Li Chen) **98b:05067** 05C55 (05D10)

Bialy, Misha Hamiltonian form and infinitely many conservation laws for a quasilinear system. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 925–930. (Iskander A. Taimanov) **98c:58054** 58F05 (70H05)

Bialynicki-Birula, A. (*with* Święcicka, J.) A combinatorial approach to geometric invariant theory. *The Sophus Lie Memorial Conference* (*Oslo*, 1992), 115–127, *Scand. Univ. Press, Oslo*, 1994. (V. L. Popov) **98k:14066** 14L30 (14D25)

Bialynicki-Birula, Iwo Triumphs and failures of quantum electrodynamics. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2403–2408. (H. S. Green) **98d:81129** 81V10

— Hydrodynamics of relativistic probability flows. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 64–71, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98j:81047** 81P99

Bian, Gang *see* **Qu, An Jing, 98h:01004**

Bian, Guorui (*with* Wong, Wing-Keung) An alternative approach to estimate regression coefficients. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 1, 21–44. 62J05 (62F15)

— (*with* Tiku, Moti L.) Bayesian inference based on robust priors and MML estimators. II. Skew location-scale distributions. (English summary) *Statistics* **29** (1997), *no.* 1, 81–99. (Summary) **98g:62048** 62F15

— (*with* Tiku, Moti L.) Bayesian inference based on robust priors and MML estimators. I. Symmetric location-scale distributions. (English summary) *Statistics* **29** (1997), *no.* 4, 317–345. (Summary) **98d:62044** 62F15 (62F35)

— Bayesian inference in location-scale distributions with independent bivariate priors. (English summary) *Test* **6** (1997), *no.* 1, 137–157. (Marek Męczarski) **98h:62033** 62F15 (62C10, 62F10, 62F35)

Bian, Zhao Qi (*with* Ni, Lin; Wang, Wen Yuan) A novel knowledge-based nonlinear filtering method for fingerprint images. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 628–635. 65T20 (42C15)

Bianchi, Gabriele Non-existence of positive solutions to semilinear elliptic equations on $\mathbf{R}^n$ or $\mathbf{R}^n_+$ through the method of moving planes. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1671–1690. (Philip W. Schaefer) **98g:35063** 35J60 (35B05)

sassoli de Bianchi, M. *see* **Sassoli de Bianchi, M.**

Bianchi, M. Pandolfi (*with* Soares, Ana Jacinta) A kinetic approach to steady detonations wave problems. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part II (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part II* (1996), 501–511. (Summary) **98h:80018** 80A32 (80A25)

Bianchi, Massimo Type I superstrings without D-branes. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 99–109, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:81131** 81T30 (83E30)

— Duality symmetries in string theory. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 149–164. (C. Gauthier) **98j:81255** 81T30

Bianchi, Monica Some properties of pseudo-*P*-convex functions. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **18** (1995), *no.* 2, 131–142. (Dorel Duca) **98c:90095** 90C26 (90C48)

— (*with* Hadjisavvas, N.; Schaible, S.) Vector equilibrium problems with generalized monotone bifunctions. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 527–542. (Valentin V. Gorokhovik) **98a:90086** 90C29 (46N10, 47N10, 90C48)

cesa-Bianchi, Nicolò *see* **Cesa-Bianchi, Nicolò**

Bianchini, Bruno (*with* Rigoli, Marco) Nonexistence and uniqueness of positive solutions of Yamabe type equations on nonpositively curved manifolds. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4753–4774. (David L. Finn) **98c:53048** 53C21 (35J60, 58G30)

Bianchini, Carlo (*with* Docci, Mario; Migliari, Riccardo) Les "vies parallèles" de Girard Desargues et de Guarino Guarini, fondateurs de la science moderne de la représentation. [The "parallel lives" of Girard Desargues and Guarino Guarini, founders of the modern science of representation] *Desargues en son temps*, 395–412, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45 (01A70)

Bianchini, Stefano (*with* Cerf, Raphaël; Mariconda, Carlo) Two-dimensional zonoids and Chebyshev measures. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 512–526. (Erik J. Balder) **98e:28012** 28A99 (41A50, 49Q20)

Bianco, Ana M. (*with* Garcia Ben, M.; Martinez, E. J.; Yohai, Victor J.) Robust procedures for regression models with ARIMA errors. (English summary) *COMPSTAT* 1996 (*Barcelona*), 27–38, *Physica, Heidelberg*, 1996. (*see* **98h:62001**) 62F35 (62M10)

— (*with* Yohai, Victor J.) Robust estimation in the logistic regression model. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 17–34, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98h:62039** 62F35 (62J12)

Bianco, Andrea (*with* de Alfaro, Luca) Model checking of probabilistic and nondeterministic systems. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 499–513, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98c:68132** 68Q60

Bianco, L. (*with* Dell'Olmo, Paolo; Giordani, S.) The traveling salesman problem with precedence constraints and binary costs. (English summary) *System modelling and optimization* (*Prague*, 1995), 543–550, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C27

— (*with* Błażewicz, Jacek; Dell'Olmo, Paolo; Drozdowski, Maciej) Preemptive multiprocessor task scheduling with release times and time windows. (English summary) *Ann. Oper. Res.* **70** (1997), 43–55. (Jan Węglarz) **98f:68206** 68R05 (68M20, 68Q10, 68Q25, 90B35)

— (*with* Dell'Olmo, Paolo; Giordani, S.) An optimal algorithm to find the jump number of partially ordered sets. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 197–210. (Summary) **98b:90162** 90C39 (65K10)

Bianconi, Ricardo (*with* Gusevskiĭ, N. A.; Klimenko, E. Ya.) Schottky type groups and Kleinian groups acting on S^3 with the limit set a wild Cantor set. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **26** (1995), *no.* 1, 1–45. (From the introduction) **98c:57039** 57S30 (30F40, 57M60)

— On the convergence of the integrals of a truncated Henstock-Kurzweil integrable function. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 247–250. 26A39

Biane, Philippe Intertwining of Markov semi-groups, some examples. (English summary) *Séminaire de Probabilités, XXIX*, 30–36, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Fabio Cipriani) **98k:46117** 46L57 (47D07)

— Free hypercontractivity. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 457–474. (Roland Speicher) **98g:46097** 46L50 (47N50, 81S05)

— Some properties of crossings and partitions. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 41–53. (Konrad Engel) **98h:05020** 05A18 (05C25, 06A07)

di Biase, Fausto *see* **Di Biase, Fausto**

di Biase, Giuseppe *see* **Di Biase, Giuseppe**

de Biase, L. *see* **De Biase, L.**

Biasi, Carlos (*with* Saeki, Osamu) On bordism invariance of an obstruction to topological embeddings. *Osaka J. Math.* **33** (1996), *no.* 3, 729–735. (Luce Gouyon) **98g:57032** 57N35 (57N70)

— (*with* Saeki, Osamu) Self-intersection set of a generic map and a characterization of embeddings. (English summary) Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 147–160. (Summary) **98c:57034** 57R35 (55N05, 57R40, 57R45)

— (*with* Saeki, Osamu) On the Betti number of the image of a generic map. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 72–83. (Edgar H. Brown, Jr.) **98i:57056** 57R40 (55N05, 57R20, 57R35, 57R42)

— (*with* Saeki, Osamu) On the self-intersection set and the image of a generic map. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 5–24. (R. E. Stong) **98f:57052** 57R40 (57R20)

Bibel, Wolfgang (*with* Hu, Yunfa) Reduction of cycle unification of type Cpg + r. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 18–24. (Summary) **98m:68237** 68T15

Bibikov, Yu. N. Quasiperiodic perturbations of an oscillator with a cubic restorative force. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1593–1598, 1724; *translation in Differential Equations* **32** (1996), *no.* 12, 1586–1591 (1997). (Summary) **98i:34061** 34C15 (34C27, 34D05)

— (*with* Basov, V. V.) On the stability of the equilibrium state in a case of periodic perturbation of the center. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 583–586, 716; *translation in Differential Equations* **33** (1997), *no.* 5, 587–590 (1998). (Summary) **98k:34086** 34D10

Bibiloni, Lluís (*with* Paradís, Jaume; Viader, Pelegrí) On actually computable bijections between **N** and $\mathbf{Q}^+$. (English summary) *Order* **13** (1996), *no.* 4, 369–377. (Summary) **98b:04005** 04A20

Bičák, Jiří (*with* Semerák, Oldřich) The interplay between forces in the Kerr-Newman field. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3135–3147. (Leonardo Fernández-Jambrina) **98m:83009** 83C10 (83C15)

— (*with* Ashtekar, Abhay; Schmidt, Bernd G.) Behavior of Einstein-Rosen waves at null infinity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 687–694. (Carlos N. Kozameh) **98e:83039** 83C30

— (*with* Katz, Joseph; Lynden-Bell, Donald) Relativistic conservation laws and integral constraints for large cosmological perturbations. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5957–5969. (Alexander N. Petrov) **98m:83025** 83C40

— (*with* Hájiček, P.) Gauge-invariant Hamiltonian formalism for spherically symmetric gravitating shells. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4706–4719. (Jörg Frauendiener) **98k:83053** 83C57 (83C55)

— (*with* Kuchař, Karel V.) Null dust in canonical gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4878–4895. (Jörg Frauendiener) **98k:83004** 83C05

Bican, Ladislav A characterization of B_2-groups. *Contributions to general algebra*, 9 (*Linz*, 1994), 55–60, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Frank Okoh) **98h:20096** 20K20 (04A30)

Bicchieri, Cristina (*with* Schulte, Oliver) Common reasoning about admissibility. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 299–325. (Summary) **98a:90140** 90D10 (62C99)

Bichara, Alessandro Some papers by Tallini on Grassmann spaces. *Results Math.* **32** (1997), *no.* 3-4, 208–212. 51-03 (01A70, 51E15)

— *see also* **Combinatorics, 98e:00015**

Bickel, Holger Stiffness in four-dimensional stable planes. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 47–60. (Markus Stroppel) **98f:51021** 51H10

Bickel, Peter J. (*with* Ritov, Ya'acov) Inference in hidden Markov models. I. Local asymptotic normality in the stationary case. (English summary) *Bernoulli* **2** (1996), *no.* 3, 199–228. (Tobias Rydén) **98b:62175** 62M99

— (*with* Ritov, Ya'acov) Local asymptotic normality of ranks and covariates in transformation models. *Festschrift for Lucien Le Cam*, 43–54, *Springer, New York*, 1997. (Erich Haeusler) **98j:62027** 62G05 (62E20, 62G20)

— (*with* Bühlmann, Peter) Closure of linear processes. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 445–479. (Vladimir Zaiats) **98j:60058** 60G12 (60G10, 62M10)

— (*with* van der Laan, Mark J.; Jewell, Nicholas P.) Singly and doubly censored current status data: estimation, asymptotics and regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 289–307. (Patricia B. Cerrito) **98m:62103** 62G05

— (*with* Götze, Friedrich; van Zwet, Willem R.) Resampling fewer than n observations: gains, losses, and remedies for losses. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 1–31. (Erich Haeusler) **98g:62079** 62G09 (62G05, 62G15, 62G20)

Bidaut-Véron, Marie-Françoise Rotationally symmetric hypersurfaces with prescribed mean curvature. (English summary) *Pacific J. Math.* **173** (1996), *no.* 1, 29–67. (David L. Finn) **98b:58041** 58E15 (35J60, 53A10)

— (*with* Grillot, Philippe) Estimations a priori pour les singularités isolées d'un système elliptique hamiltonien. (English and French summaries) [A priori estimates for the isolated singularities of a Hamiltonian elliptic system] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 617–622. (Summary) **98h:35059** 35J60

— Local behaviour of solutions of Hamiltonian systems with diffusion or absorption. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3245–3254. (*see* **98h:00034**) 35J45 (35J60)

Bideau, Daniel (*with* Auradou, Harold; Hansen, Alex; Måløy, Knut Jørgen) Motion of a ball dropped onto a one-dimensional self-affine surface. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4915–4924. (Summary) **98k:82177** 82C99

Bidoit, Michel (*with* Hennicker, Rolf) Behavioural theories and the proof of behavioural properties. (English summary) Fourth International Conference on Algebraic and Logic Programming (Madrid, 1994). *Theoret. Comput. Sci.* **165** (1996), *no.* 1, 3–55. (Eric G. Wagner) **98e:68174** 68Q65 (03B70)

— (*with* Hennicker, Rolf; Wirsing, Martin) Proof systems for structured specification with observability operators. (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 393–443. (Summary) **98i:68199** 68Q65

Bidoit, N. (*with* Maabout, S.) Update programs versus revision programs. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 151–170, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (*see* **98h:68010**) 68N17 (68P15, 68T27, 68T30)

Bie, Rong Fang The omitting-types theorem in the lattice-valued model theory of the language $\mathscr{L}_{\omega_1\omega}$ and its application. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 3, 307–311. (Summary) **98b:03055** 03C90 (03C75)

Biedenharn, Lawrence C. (*with* Lohe, M. A.) Quantum groups as a model of quantized space. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 343–351, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98b:81091** 81R50 (17B37)

— (*with* Lohe, M. A.) A concise introduction to quantum groups. *Quantum groups and their applications in physics* (*Varenna*, 1994), 1–52, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (Alexei Zhedanov) **98a:81073** 81R50 (16W30, 17B37)

— *see also* **Greiner, Walter**

Biedl, Therese C. Optimal orthogonal drawings of triconnected plane graphs. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 333–344, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68Q25 (68R10, 68U05)

— (*with* Kant, Goos; Kaufmann, Michael) On triangulating planar graphs under the four-connectivity constraint. (English summary) *Algorithmica* **19** (1997), *no.* 4, 427–446. (Summary) **98e:68195** 68R10 (05C10, 05C85)

— (*with* Dreyer, Paul A., Jr.) Rectangle breaking in grids. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 19–32. (Summary) **98j:05046** 05B45

— (*with* Kant, Goos) A better heuristic for orthogonal graph drawings. (English summary) *Comput. Geom.* **9** (1998), *no.* 3, 159–180. (Summary) **98j:68161** 68U05 (05C10, 05C85, 68R10)

— Relating bends and size in orthogonal graph drawings. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 111–115. (Summary) **98i:68262** 68U05 (68R10)

Biegańska, Teresa The lattice of rough subsets of a rough set. The category of rough sets. *Demonstratio Math.* **30** (1997), *no.* 2, 247–262. (V. Topencharov) **98i:03072** 03E72

Biegler, Lorenz T. (*with* Schmid, Claudia; Ternet, David) A multiplier-free, reduced Hessian method for process optimization. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 101–127, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Christian Zillober) **98i:90086** 90C30 (65K05)

— *see also* **Large-scale optimization with applications, 98b:90003**; **98d:90008** *and* **98f:90003**

Biehl, Ingrid (*with* Meyer, Bernd[1]) Protocols for collusion-secure asymmetric fingerprinting (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 399–412, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68P25 (94A60)

Biehl, Morten (*with* Klarlund, Nils; Rauhe, Theis) Algorithms for guided tree automata. (English summary) *Automata implementation* (*London, ON*, 1996), 6–25, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (*see* **98i:68003**) 68Q60 (68Q68)

guille-Biel, Claire *see* **Guille-Biel, Claire**

Bielak, Jacobo (*with* Kallivokas, Loukas F.; MacCamy, Richard C.) A simple impedance-infinite element for the finite element solution of the three-dimensional wave equation in unbounded domains. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 235–262. (Summary) **98e:76066** 76M10 (73K70, 76Q05)

Bielawski, Dariusz Generic properties of some boundary value problems for differential equations. *Colloq. Math.* **73** (1997), *no.* 2, 173–181. (Lew Lefton) **98f:47068** 47H15 (34B15, 35L99, 47N20)

Bielawski, Roger Betti numbers of 3-Sasakian quotients of spheres by tori. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 6, 731–736. (Andrew Dancer) **98j:53051** 53C25

— Hyper-Kähler structures and group actions. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 400–414. (Andrew Swann) **98g:53081** 53C25 (53C07, 53C55)

Bielefeld, B. (*with* Asvestas, J. S.; Deng, Yue-Fan; Glimm, James; Simanca, Santiago R.; Tangerman, F. M.) Electromagnetic scattering from large cavities: iterative methods. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 37–47. 65R20 (45B05, 78A45)

Bielewicz, E. (*with* Walukiewicz, H.; Górski, Jarostaw) Simulation of nonhomogeneous random fields for structural applications. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 491–498. (*see* **98b:73001**) 73K35 (73V30)

Bieliavsky, P. (*with* Cahen, M.; Gutt, Simone) A class of homogeneous symplectic manifolds. (English summary) *Geometry and nature* (*Madeira*, 1995), 241–255, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Raúl Ibáñez) **98e:53039** 53C15 (53C30, 53C35)

Bielińska-Wąż, D. (*with* Karwowski, Jacek; Jurkowski, J.) Statistical properties of spectra of finite systems. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 67–76, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:81222** 81V70 (82B99)

Bien, Zeungnam (*with* Lee, Hak-Sung) A note on convergence property of iterative learning controller with respect to sup norm. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1591–1593. 93E35

Bienia, W. (*with* Letrouit, V.) Sur les α-flots. (English and French summaries) [On α-flows] *RAIRO Rech. Opér.* **31** (1997), *no.* 1, 67–71. (Summary) **98c:90034** 90B10 (90C35)

Bienstock, Daniel (*with* Langston, Michael A.) Algorithmic implications of the graph minor theorem. *Network models*, 481–502, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 05C85 (68Q25, 68R10)

Bier, Thomas Eine Charakterisierung zyklischer Polytope durch Kettenbrüche. (German summary) [A characterization of cyclic polytopes by continued fractions] *Arch. Math. (Basel)* **69** (1997), *no.* 5, 372–374. (Yu. A. Shashkin) **98k:52023** 52B05 (11A55, 52B12)

— (*with* Kleinschmidt, Axel) Centrally symmetric and magic rectangles. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 29–42. (Rong Si Chen) **98i:05028** 05B15

Bier, Vicki M. (*with* Huang, Yeu-Shiang) A natural conjugate prior for the non-homogeneous Poisson process with a power law intensity function. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 525–551. 62F15 (62N05)

Bierbrauer, Jürgen (*with* Black, Stephen; Edel, Yves) Some *t*-homogeneous sets of permutations. (English summary) Second Upper Michigan Combinatorics Workshop on Designs, Codes and Geometries (Houghton, MI, 1994). *Des. Codes Cryptogr.* **9** (1996), *no.* 1, 29–38. (Douglas R. Stinson) **98b:05027** 05B30

— Universal hashing and geometric codes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 207–221. (Chao Ping Xing) **98d:94041** 94B27 (68P10, 68P25)

— (*with* Edel, Yves) New code parameters from Reed-Solomon subfield codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 953–968. (Summary) **98d:94038** 94B15

— (*with* Edel, Yves) Lengthening and the Gilbert-Varshamov bound. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 991–992. (Summary) **98a:94033** 94B05

— (*with* Edel, Yves) Twisted BCH-codes. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 377–389. (Vikram Jha) **98g:94038a** 94B15 (51E22, 94B65)

— (*with* Edel, Yves) A family of 2-weight codes related to BCH-codes. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 391–396. (Vikram Jha) **98g:94038b** 94B15 (51E22, 94B65)

Bierens, Herman J. Nonparametric cointegration analysis. (English summary) *J. Econometrics* **77** (1997), *no.* 2, 379–404. (Peter M. Robinson) **98b:62154** 62M10

— Testing the unit root with drift hypothesis against nonlinear trend stationarity, with an application to the US price level and interest rate. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 29–64. (Summary) **98k:62184** 62P20 (62M10)

Bierman, G. M. What is a categorical model of intuitionistic linear logic? (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 78–93, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03F50

— Towards a classical linear λ-calculus (preliminary report). (English summary) *Linear logic* 96 (*Tokyo*), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B40 (03B70, 03F50)

Biermann, Kurt-R. (*with* Schwarz, Ingo) Aus der Gauß-Forschung: Amerikanischer Besuch in Göttingen vor 160 Jahren. [Miscellanea from Gauss research: an American visit in Göttingen 160 years ago] *Gauss-Ges. Göttingen Mitt. No.* 34 (1997), 25–29. 01A70 (01A55)

Biernacki, Radek M. (*with* Bandler, John W.; Chen, Shao Hua; Hemmers, Ronald H.; Madsen, Kaj) Space mapping optimization for engineering design. (English summary) *Large-scale optimization with applications, Part I* (*Minneapolis, MN*, 1995), 1–15, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (*see* **98b:90003**) 90C90 (49N55)

Bierstone, Edward (*with* Milman, Pierre D.) Canonical desingularization in characteristic zero by blowing up the maximum strata of a local invariant. (English summary) *Invent. Math.* **128** (1997), *no.* 2, 207–302. (Joseph Lipman) **98e:14010** 14E15 (32S45)

barthès-Biesel, Dominique *see* **Barthès-Biesel, Dominique**

Bieszczad, Andrzej (*with* Pagurek, Bernard) Neurosolver: neuromorphic general problem solver. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 239–277. 68T20 (92B20)

Bieszk, Leon Classification of five-dimensional Lie algebras of class T_2. *Demonstratio Math.* **30** (1997), *no.* 2, 403–424. (Roger Carles) **98k:17004** 17B05 (53C30)

Bietenholz, W. (*with* Brower, Richard C.; Chandrasekharan, Shailesh; Wiese, U.-J.) Perfect lattice topology: the quantum rotor as a test case. (English summary) *Phys. Lett. B* **407** (1997), *no.* 3-4, 283–289. (Summary) **98g:81145** 81T25

Biey, Mario (*with* Bonani, Fabrizio; Gilli, Marco; Maio, Ivan) Qualitative analysis of the dynamics of the time-delayed Chua's circuit. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 6, 486–500. 58F40 (58F13, 94C05)

Biferale, L. (*with* Wirth, Achim) A minimal model for intermittency of passive scalars. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 65–73, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98j:76070** 76F99 (76M35)

— (*with* Benzi, R.; Pasqui, M.) Generalized scaling in turbulent flows. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 74–91, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76070** 76F99

— (*with* Cencini, M.; Pierotti, Dario; Vulpiani, A.) Intermittency in stochastically perturbed turbulent models. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1117–1138. (Summary) **98h:76065** 76F99 (76M35)

— (*with* Benzi, R.; Tripiccione, R.; Trovatore, E.) (1 + 1)-dimensional turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2355–2363. (Summary) **98c:76049** 76F20 (76M35)

— (*with* Pierotti, Dario; Vulpiani, A.) Time-reversible dynamical systems for turbulence. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 21–32. (Summary) **98m:76087** 76F20

teixidor i Bigas, Montserrat *see* **Teixidor i Bigas, Montserrat**

Bigatti, Anna M. Computation of Hilbert-Poincaré series. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 237–253. (Ralf Fröberg) **98f:13014** 13D40 (68Q40)

Bigdeli, B. (*with* Kelly, D. W.) C^*-convergence in the finite element method. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4405–4425. (Summary) **98i:73055** 73V05

Bigdeli-Jahed, Fariba Placing the d-cube in lexicographic order. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 47–52, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **98j:52014** 52B05

Biggins, J. D. (*with* Kyprianou, A. E.) Branching random walk: Seneta-Heyde norming. (English and French summaries) *Trees* (*Versailles*, 1995), 31–49, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (P. Jagers) **98f:60166** 60J80

— (*with* Kyprianou, A. E.) Seneta-Heyde norming in the branching random walk. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 337–360. (Edward C. Waymire) **98a:60118** 60J80

— (*with* Grey, D. R.) A note on the growth of random trees. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 339–342. (Summary) **98j:60116** 60J80

bartholomew-Biggs, M. C. *see* **Bartholomew-Biggs, M. C.**

Biggs, Norman L. (*with* Anthony, Martin) ★ Computational learning theory. (English summary) An introduction. Corrected reprint of the 1992 original. Cambridge Tracts in Theoretical Computer Science, 30. *Cambridge University Press, Cambridge*, 1997. xii+157 *pp. ISBN* 0-521-41603-5; 0-521-59922-9 (Editors) **98i:68233** 68T05 (68–02, 92B20, 92J10, 92J40)

— Potential theory on distance-regular graphs [MR 95b:94048]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 107–119, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 94C15 (05C80, 05E30)

— Algebraic potential theory on graphs. *Bull. London Math. Soc.* **29** (1997), *no.* 6, 641–682. (Carsten Thomassen) **98m:05120** 05C50 (31C99, 94C05)

Bigi, Stefano (*with* Söderström, Torsten; Fan, Hong; Carlsson, Bengt) Least squares parameter estimation of continuous-time ARX models from discrete-time data. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 659–673. (Han Fu Chen) **98f:93019** 93E10 (62M10)

Biglieri, Ezio (*with* Caire, Giuseppe; Taricco, Giorgio; Ventura-Traveset, Javier) A multiuser approach to narrowband cellular communications. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1503–1517. 94A13 (94A12)

— (*with* Caire, Giuseppe; Taricco, Giorgio) Bit-interleaved coded modulation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 927–946. 94A40 (94A14)

Bigolin, Bruno Remarques sur les idéaux de polynômes et de formes différentielles extérieures. I. [Remarks on the ideals of polynomials and of exterior differential forms. I] *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 67–70, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Salvatore Vassallo) **98f:13019** 13F20 (58A15)

Bigun, Ya. I. Existence, uniqueness and continuous dependence on a parameter of the solution of functional-differential equations with ordinary and partial derivatives. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 5, 715–719; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 798–804 (1998). (Ya. A. Roitberg) **98h:35228** 35R10 (35L60)

Biham, Eli On Matsui's linear cryptanalysis. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 341–355, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— Cryptanalysis of multiple modes of operation. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 45–58. 94A60

Bihari, Barna L. (*with* Harten, Ami) Multiresolution schemes for the numerical solution of 2-D conservation laws. I. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 2, 315–354. (Claude Carasso) **98f:65092** 65M12 (35L65)

Bijker, P. G. H. (*with* van Sonsbeek, J. Th. M.; van Beek, Paul; Urlings, H. A. P.; Hagelaar, J. F. L.) Mixed integer programming for strategic decision support in the slaughter by-product chain. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 159–168. (*see* **98e:90009**) 90C90 (90B70)

Bijker, R. (*with* Leviatan, A.) Algebraic model of an oblate top. *Symmetries in science, IX* (*Bregenz*, 1996), 9–24, *Plenum, New York*, 1997. (A. Ventura) **98j:81373** 81V25 (81R05)

— (*with* Frank, Alejandro; Lemus, R.; Pérez-Bernal, F.; Arias, J. M.) A symmetry adapted algebraic approach to molecular spectroscopy. *Symmetries in science, IX* (*Bregenz*, 1996), 99–115, *Plenum, New York*, 1997. (*see* **98e:81003**) 81V55 (81R05)

Bijsterveld, Marcel (*with* Backhouse, Roland; van Geldrop, Rik; van der Woude, Jaap) Categorical fixed point calculus. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 159–179, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:68124** 68Q55 (03G30, 06B99, 18B35, 68Q65)

Bikhchandani, Sushil (*with* Mamer, John W.) Competitive equilibrium in an exchange economy with indivisibilities. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 385–413. (Yeneng Sun) **98d:90035** 90A14 (90A60, 90C10)

Biktashev, V. N. (*with* Holden, Arun V.; Nikolaev, E. V.) Spiral wave meander and symmetry of the plane. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12A, 2433–2440. (Summary) **98c:58158** 58F40 (58F13)

Bilal, Adel Non-local extensions of the conformal algebra: matrix W-algebras, matrix KdV-hierarchies and non-abelian Toda theories. (English summary) *R.C.P. 25, Vol. 47* (*Strasbourg*, 1993–1995), 93–125, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Henrik Aratyn) **98e:58091** 58F07 (17B68, 81R10)

— (*with* Ferrari, Frank) Curves of marginal stability, and weak- and strong-coupling BPS spectra in $N = 2$ supersymmetric QCD. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 3, 589–619. (Summary) **98a:81215** 81T60 (81T13, 81V05)

— Duality in $N = 2$ SUSY SU(2) Yang-Mills theory: a pedagogical introduction. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 21–43, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Summary) **98k:81258** 81T60 (81-02, 81T13)

— Discontinuous BPS spectra in $N = 2$ SUSY QCD. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 305–313. (*see* **98g:81005**) 81T70 (81T60, 81V05)

— Exact semiclassical and non-perturbative BPS spectra in $N = 2$ SUSY QCD. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 199–207. (Summary) **98c:81212** 81T60

Bilardi, Gianfranco (*with* Preparata, Franco P.) Lower bounds to processor-time tradeoffs under bounded-speed message propagation. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 1–12, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q10

— (*with* Preparata, Franco P.) Processor-time tradeoffs under bounded-speed message propagation. I. Upper bounds. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 523–546. (Julian Padget) **98i:68077** 68Q10 (68Q25)

— *see also* **Solving irregularly structured problems in parallel**, **98j:65097**

Bil'chenko, G. G. (*with* Avkhadiev, F. G.; Aksent'ev, L. A.) Classes of univalent and multivalent Christoffel-Schwarz integrals and their applications. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 64–67; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 3, 63–66. (Vladimir Mityushev) **98i:30003** 30C20 (30C55)

Bil'chenko, N. G. (*with* Ovchinnikov, V. A.) On a Lie group that admits a nonlinear system of partial differential equations of parabolic type. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 69–74; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 1, 66–71. 35A30 (35K55, 76N10, 76W05)

Bilen, L. (*with* Yalnız, A.) The premiums of motor third party liability insurance with Bühlmann and Bühlmann-Straub models. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 207–232. 62P05

Bilenko, V. I. (*with* Letichevskiĭ, Aleksandr Adol'fovich; Denisenko, P. N.; Volkov, V. A.) Realization of numerical-analytic methods for the approximation of functions by given ordinary differential equations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 108–112, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 85–88. 65D15

Biler, Piotr (*with* Nadzieja, Tadeusz) A singular problem in electrolytes theory. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 9, 767–782. (Gershon Wolansky) **98k:35196** 35Q99 (35K55, 35M10, 76R99, 76X05)

— (*with* Nadzieja, Tadeusz; Raczyński, Andrzej) Nonlinear singular parabolic equations. *Reaction diffusion systems* (*Trieste*, 1995), 21–36, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Yoshihito Tomita) **98i:35084** 35K55 (35K65)

Biles, Daniel C. A necessary and sufficient condition for existence of solutions for differential inclusions. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 311–315. (Péter Tallós) **98k:34023** 34A60 (34A12)

Bilge, Ayşe Hümeyra (*with* Dereli, Tekin; Koçak, Şahin) The geometry of self-dual two-forms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4804–4814. (Peter R. Law) **98h:53117** 53C80 (15A75, 53C07, 81T13)

— (*with* Dereli, Tekin; Koçak, Şahin) Seiberg-Witten equations on $\mathbf{R}^8$. *Turkish J. Math.* **21** (1997), *no.* 1, 87–92. (Vicente Muñoz) **98d:57054** 57R57 (57R15, 58D27)

— (*with* Hortaçsu, M.; Özdemir, N.) Can an Unruh detector feel a cosmic string? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 861–876. 83C47 (83F05)

Bilgin, Tunay Strong A_α-summability defined by a modulus. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **53** (1994), 89–95 (1996). (Mursaleen) **98a:40008** 40H05 (40J05, 46A45)

Bilhan, G. (*with* Alizade, R.; Pancar, Ali) On direct sums of proper classes. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 391–400. (Temple H. Fay) **98m:20070** 20K40

Bilias, Yannis (*with* Gu, Ming Gao[2]; Ying, Zhiliang) Towards a general asymptotic theory for Cox model with staggered entry. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 662–682. (Jan Beirlant) **98e:62082** 62G20 (62E20, 62J12, 62N05)

Biliński, Krzysztof (*with* Dagless, Erik L.) High level synthesis of synchronous parallel controllers. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 93–112, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 93C83 (68Q90)

Bilotti, Mauro (*with* Johnson, Norman Lloyd[1]) Variations on a theme of Dembowski. *Mostly finite geometries* (*Iowa City, IA*, 1996), 139–168, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Ivano Pinneri) **98j:51004** 51A30 (51A40, 51E15, 51E23)

Bilke, S. (*with* Burda, Zdzislaw; Petersson, Bengt) Topology in 4d simplicial quantum gravity. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 4–9. (José A. Zapata) **98a:83039** 83C27 (81V17, 83C45)

— (*with* Burda, Zdzislaw; Petersson, Bengt) Universality of hypercubic random surfaces. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 173–176. 82B41 (82B27)

Bilker, Warren B. (*with* Wang, Mei-Cheng) Bootstrapping left truncated and right censored data. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 141–171. (Summary) **98d:62077** 62G09 (62N05)

Billard, Lynne (*with* Kim, Won Kyung) Existence condition for the stationary ergodic new Laplace autoregressive model of order p-NLAR(p). (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 521–530. 62M10

Billera, Louis J. (*with* Ehrenborg, Richard; Readdy, Margaret A.) The c-$2d$-index of oriented matroids. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 79–105. (Laura M. Anderson) **98h:05051** 05B35 (52B05, 52B40)

Billett, S. J. (*with* Toro, Eleuterio F.) On the accuracy and stability of explicit schemes for multidimensional linear homogeneous advection equations. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 1, 247–250. (Summary) **98a:76058** 76M20

Billey, Sara C. (*with* Haiman, Mark) Schubert polynomials for the classical groups. *J. Amer. Math. Soc.* **8** (1995), *no.* 2, 443–482. (From the introduction) **98e:05109** 05E15 (14M15)

— Kostant polynomials and the cohomology ring for G/B. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 1, 29–32. (Venkatramani Lakshmibai) **98e:14051** 14M15 (05E15)

Billger, D. V. J. (*with* Folkow, Peter D.) The imbedding equations for the Timoshenko beam. (English summary) *J. Sound Vibration* **209** (1998), *no.* 4, 609–634. (Summary) **98i:73036** 73K12 (73F15, 73K05)

Billhardt, Bernd Extensions of semilattices by left type-A semigroups. *Glasgow Math. J.* **39** (1997), *no.* 1, 7–16. (D. C. Jackson) **98d:20066** 20M10

Billig, Yu. V. (*with* Riley, David M.; Tasić, Vladimir) Nonmatrix varieties and nil-generated algebras whose units satisfy a group identity. (English summary) *J. Algebra* **190** (1997), *no.* 1, 241–252. (Antonio Giambruno) **98g:16030** 16U60

Billigheimer, C. E. *see* **Pólya, George**

Billingham, J. (*with* King, Andrew C.) Uniform asymptotic expansions for the Barnes double gamma function. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1817–1829. (Summary) **98i:33016** 33C70 (39A99, 76Q05)

Billings, S. A. (*with* Zhang, H.; Zhu, Quan Min) Frequency response functions for nonlinear rational models. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1073–1097. 93C80 (93C05)

— (*with* Aguirre, Luis A.) Improved structure selection for nonlinear models based on term clustering. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 569–587. 93A30 (93B11)

— (*with* Zhu, Quan Min) Model validation tests for multivariable nonlinear models including neural networks. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 749–766. 93A25 (93C10, 93C83)

— (*with* Coca, D.) Continuous-time system identification for linear and nonlinear systems using wavelet decompositions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 87–96. (Summary) **98a:93072** 93E10 (93B30)

— (*with* Luo, Wan) Structure selective updating for nonlinear models and radial basis function neural networks. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 4, 325–345. 93C40 (93B30, 93C83)

Billington, Elizabeth J. (*with* Fu, Chin-Mei; Fu, Hung-Lin) 2-colouring $\{C_3, C_4\}$-designs. *Bull. Inst. Combin. Appl.* **20** (1997), 62–64. (From the text) **98d:05023** 05B05

— (*with* Adams, Peter; Hoffman, D. G.) On the spectrum for $K_{m+2} \setminus K_m$ designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 1, 49–60. (Summary) **98g:05030** 05B30 (05C70)

— (*with* Hoffman, D. G.) The intersection problem for star designs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 217–222. (Summary) **98g:05031** 05B30

Billington, Jonathan *see* **Application and theory of Petri nets**, **98d:68008**

Billionnet, Alain (*with* Faye, Alain) A lower bound for a constrained quadratic 0-1 minimization problem. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 135–146. (Gerald Hammer) **98d:90072** 90C09 (90C20)

Billiot, Jean-Michel Asymptotic properties of Takacs-Fiksel estimation method for Gibbs point processes. (English summary) *Statistics* **30** (1997), *no.* 1, 69–89. (Summary) **98d:62150** 62M09

Billó, Marco (*with* Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Regge, Tullio; Soriani, Paolo; Van Proeyen, Antoine) A search for non-perturbative dualities of local $N = 2$ Yang-Mills theories from Calabi-Yau 3-folds. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 831–864. (Summary) **98a:32026** 32G81 (14J32, 32J17, 32J81, 53C25, 81T30)

— (*with* Fré, Pietro; D'Auria, Riccardo; Ferrara, Sergio; Soriani, Paolo; Van Proeyen, Antoine) R symmetry and the topological twist of $N = 2$ effective supergravities of heterotic strings. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 2, 379–418. (J. A. H. Samtleben) **98e:83112** 83E30 (81T30, 83E50)

— (*with* Cangemi, Daniel; Di Vecchia, Paolo) Boundary states for moving D-branes. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 63–70. (Summary) **98d:81077** 81T30

Billon, Jean-Paul The disconnection method: a confluent integration of unification in the analytic framework. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 110–126, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 03B35 (68T15)

Billor, Nedret (*with* Arslan, Olcay) Robust ridge regression estimation based on the GM-estimators. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 1–9. 62J07

Billups, Stephen C. (*with* Ferris, Michael C.) QPCOMP: a quadratic programming based solver for mixed complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 533–562. (Summary) **98k:90121** 90C33 (65K10, 90C20)

Billyard, Andrew (*with* Wesson, Paul S.) A wave-like solution in Kaluza-Klein theory. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 161–165, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Vasily A. Chernecky) **98e:83106** 83E15 (83-04)

— (*with* Coley, Alan A.) On the correspondence between exact solutions in Kaluza-Klein theory and in scalar-tensor theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 28, 2121–2132. (Alberto Saa Vazquez) **98e:83096** 83D05 (83E15)

— (*with* Coley, Alan A.) Comment on five-dimensional geodesy. *Modern Phys. Lett. A* **12** (1997), *no.* 29, 2223–2226. (Mark D. Roberts) **98e:83107** 83E15 (83C10)

Bilodeau, Martin Estimating a multivariate treatment effect under a biased allocation rule. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1119–1124. (Summary) **98g:62121** 62H30 (62L10)

Bilski, Tomasz Optimum embedding of complete graphs in books. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 21–28. (Summary) **98m:05050** 05C10 (94C15)

Bilstein, Ulrich (*with* Wehefritz, Birgit) Spectra of non-Hermitian quantum spin chains describing boundary induced phase transitions. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4925–4938. 82B20 (82-04)

Biltagy, Mohamed SH. (*with* Osman, Mohamed S.; Saad, Omar M.) Assessment procedure for the scaling constants of multiattribute additive utility function under fuzzy environment. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 51–61. 90C70 (90C29)

Bilu, Yuri F. Quantitative Siegel's theorem for Galois coverings. (English summary) *Compositio Math.* **106** (1997), *no.* 2, 125–158. (Paul M. Voutier) **98d:11071** 11G30 (11D41, 11J86)

— Limit distribution of small points on algebraic tori. *Duke Math. J.* **89** (1997), *no.* 3, 465–476. (Dan Abramovich) **98m:11067** 11G35 (11G25, 11J68, 14G05, 14G25)

— Addition of sets of integers of positive density. (English summary) *J. Number Theory* **64** (1997), *no.* 2, 233–275. (Georges Grekos) **98e:11013** 11B13 (11B05)

Bilyalov, R. F. The symmetric energy-momentum tensor of spinor fields. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 2, 306–314; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 2, 1093–1099 (1997). (Gheorghe Zet) **98b:83066** 83C60 (81T20)

— Different methods for applying Noether's theorem to the construction of the symmetric energy-momentum tensor of spinor fields. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 6, 13–18; *translation in Russian Phys. J.* **40** (1997), *no.* 6, 514–518. (Kishore Marathe) **98j:83034** 83C40 (83C60)

Bimbirekov, B. L. Frequency method for determining the controller parameters for a linear system with two separate subsystems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 8, 3–13; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1063–1071 (1997). 93B51 (93C80)

Bimenov, M. A. The three-dimensional Cauchy-Poisson problem in classes of functions of finite smoothness. (Russian. English and Russian summaries) *Dinamika Sploshn. Sredy No.* 109 (1994), 65–78, 125, 128. (Nikolay G. Kuznetsov) **98c:76009** 76B15 (35Q35)

Bimonte, G. (*with* Balachandran, A. P.; Ercolessi, E.; Teotonio-Sobrinho, Paulo) Finite approximations to quantum physics: quantum points and their bundles. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 1–17, *World Sci. Publishing, River Edge, NJ*, 1994. (Francois Vanderseypen) **98j:81196** 81S99 (58B30)

— (*with* Ercolessi, E.; Landi, Giovanni; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 318–328. (Francois Vanderseypen) **98b:58015** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Ercolessi, E.; Landi, Giovanni; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Noncommutative lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 329–348. (Francois Vanderseypen) **98b:58016** 58B30 (46L99, 54H12, 81T25, 81T27)

chan kuok Bin' *see* **Chan Kuok Bin'**

Bin, Lan (*with* Chakravarthy, Srinivas R.) A finite capacity queue with nonrenewal input and exponential dynamic group services. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 3, 276–287. 60K25

Bina, Behzad (*with* Günaydin, Murat) Real forms of non-linear superconformal and quasi-superconformal algebras and their unified realization. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 713–740. (Isabel P. Ennes) **98m:81058** 81R10 (81T40)

Binder, Franz Characterization of polynomial prime bidecompositions: a simplified proof. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 61–72, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Summary) **98h:12001** 12E05

Binder, K. (*with* Heermann, D. W.) ★ Monte Carlo simulation in statistical physics. (English summary) An introduction. Third edition. Springer Series in Solid-State Sciences, 80. *Springer-Verlag, Berlin*, 1997. x+150 *pp. ISBN* 3-540-63265-4 (Sergei A. Nemnyugin) **98m:82036** 82B80 (82–01, 82C80)

Binding, Paul A. (*with* Drábek, Pavel; Huang, Yin Xi) The range of the p-Laplacian. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 77–82. (Summary) **98g:34035** 34B15 (35J65, 47H12, 47N20)

— (*with* Drábek, Pavel; Huang, Yin Xi) On the Fredholm alternative for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3555–3559. (Summary) **98b:35058** 35J65 (35P30)

— (*with* Browne, Patrick J.) Oscillation theory for indefinite Sturm-Liouville problems with eigenparameter-dependent boundary conditions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1123–1136. (Aad Dijksma) **98j:34037** 34B24 (34C10, 34L40, 47A75)

— (*with* Browne, Patrick J.; Seddighi, K.) Two parameter asymptotic spectra in the uniformly elliptic case. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 1–13. (Hans W. Volkmer) **98a:47022** 47A75 (34L20, 47A10, 47A70, 47N20)

Binétruy, Pierre (*with* Pillon, F.; Girardi, G.; Grimm, Richard) The 3-form multiplet in supergravity. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 175–199. (W. Cox) **98c:81213** 81T60 (83E50)

— (*with* Irges, Nikolaos; Lavignac, Stéphane; Ramond, Pierre) Anomalous U(1) and low-energy physics: the power of D-flatness and holomorphy. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 38–46. (Summary) **98f:81310** 81T50 (81T13, 81T30, 81V22)

— (*with* Gaillard, Mary K.; Wu, Yi-Yen) Supersymmetry breaking and weakly vs. strongly coupled string theory. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 288–295. (Summary) **98k:81196** 81T30 (81R40, 81V22, 83E30)

Bingham, Michael S. Central limit theory on locally compact abelian groups. *Probability measures on groups and related structures, XI* (*Oberwolfach*, 1994), 14–37, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **97d:60003**) 60B15 (60F05)

— (*with* Gaiser, Jürgen) An analogue on locally compact abelian groups of Kolmogorov's three series criterion. *Probability measures on groups and related structures, XI* (*Oberwolfach*, 1994), 38–43, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **97d:60003**) 60B15 (22B99)

— A functional central limit theorem under uniform mixing on a locally compact abelian group. (English summary) *Probab. Math. Statist.* **16** (1996), *no.* 2, 185–199. (Alexander D. Bendikov) **98h:60008** 60B10 (60B15, 60F17)

Bingham, N. H. The strong arc-sine law in higher dimensions. *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 111–116, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Endre Csáki) **98b:60058** 60F15 (60F05, 60J65)

— *see also* **Switzer, Paul**

Bingulac, Stanoje (*with* Mahmoud, Magdi S.) Robust design of stabilizing controllers for interconnected time-delay systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 795–800. 93D15 (93B51)

tran quoc Binh *see* **Tran Quoc Binh**

Binh, Duong Thi Thanh (*with* Dinh Van Ruy; Nguyen Thanh Long) On a nonexistence of positive solution of Laplace equation in upper half-space. *Demonstratio Math.* **30** (1997), *no.* 1, 7–14. (Rolando Magnanini) **98f:35031** 35J05 (35B05)

Binh, T. Q. *see* **Tran Quoc Binh**

Bini, D. *see* **Bini, Donato**

Bini, Dario Andrea (*with* Meini, Beatrice) Improved cyclic reduction for solving queueing problems. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 57–74. (Cs. J. Hegedüs) **98i:65125** 65U05 (60J10, 60K25, 90B22)

Bini, Donato (*with* Carini, Paolo; Jantzen, Robert T.) The intrinsic derivative and centrifugal forces in general relativity. I. Theoretical foundations. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 1, 1–38. (Volker Perlick) **98f:83012** 83C10

— (*with* Gemelli, G.) Scattering of spinning test particles by gravitational plane waves. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 165–171. (W. B. Bonnor) **98j:83031** 83C35 (83C10)

— (*with* Ruffini, R.; Spoliti, G.) Gravitoelectromagnetism in rotating black-hole space-times. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 173–180. (Summary) **98m:83036** 83C50 (83C57)

Binks, D. *see* **Binks, Doug**

Binks, D. J. (*with* Mullin, Tom) Cell number selection in electrohydrodynamic convection in liquid crystals. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2109–2122. (Summary) **98i:76008** 76A15 (76–05, 76E15, 76W05)

Binks, Doug (*with* Molenaar, Jaap; de Weger, John; van de Water, Willem) The dynamics of a near-grazing oscillator. *Differential equations* (*Bandung*, 1996), 325–334, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 70K99 (34C15)

— (*with* de Weger, John; Molenaar, Jaap; van de Water, Willem) Universal bifurcations in impact oscillators. (English summary) *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 417–424, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98h:70035**) 70K99 (34C15, 58F40)

Binmore, Kenneth G. (*with* Samuelson, Larry; Vaughan, Richard) Erratum: "Musical chairs: modeling noisy evolution" [Games Econom. Behav. **11** (1995), no. 1, 1–35; MR 97e:90121]. *Games Econom. Behav.* **21** (1997), *no.* 1-2, 325. 90D10 (92D25, 92D50)

— (*with* Samuelson, Larry) Muddling through: noisy equilibrium selection. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 235–265. (Anjan Mukherji) **98m:90031** 90A14 (90A16, 90A56)

Bianenhei, Carsten On the even CAR algebra. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 91–93. (Jens Böckenhauer) **98e:81082** 81S05 (46L05, 81T05)

Binz, E. (*with* Oellers, P.) The mass-squared operator and the Einstein-Hilbert action for rescaled Lorentz metrics. *Symmetries in science, IX* (*Bregenz*, 1996), 25–35, *Plenum, New York*, 1997. (R. Schimming) **98k:58223** 58G16 (83C05)

— Structural capillarity, equilibrium configurations and vibrational modes of an idealized skin made up by finitely many particles. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 213–243. (J. E. Marsden) **98b:73004** 73B99 (70F99, 73C99)

Binzar, Tudor On a convergence in multifunction spaces. (English and Romanian summaries) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 71–75. (Summary) **98j:54033** 54C60 (54A20)

Bioch, Jan C. (*with* Ibaraki, Toshihide; Makino, Kazuhisa) Minimum self-dual decompositions of positive dual-minor Boolean functions. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 183–190. (Summary) **98m:68112** 68Q25 (94C10)

Biondi, Paola A classification of finite $\{n-2, n-1\}$-point-biregular spaces. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 47–71. (Anne Delandtsheer) **98m:05031** 05B25

Biondini, G. (*with* De Lillo, S.) Stochastic effects on NLS solitons. *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 262–265, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q55 (35R60)

— (*with* Ablowitz, Mark J.; De Lillo, S.) On the well-posedness of the Eckhaus equation. (English summary) *Phys. Lett. A* **230** (1997), *no.* 5-6, 319–323. (Summary) **98d:35202** 35Q55

Biosca, Hélène Caractérisation de l'existence de polynômes de Bernstein relatifs associés à une famille d'applications analytiques. (English and French summaries) [Characterization of the existence of relative Bernstein polynomials associated to analytic maps] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 395–398. (Aleksandr G. Aleksandrov) **98j:32045** 32S40 (32S15)

Biquard, Olivier Fibrés de Higgs et connexions intégrables: le cas logarithmique (diviseur lisse). (English summary) [Higgs bundles and integrable connections: the logarithmic case (smooth divisor)] *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 41–96. (Nitin Nitsure) **98e:32054** 32L07 (14J60)

— (*with* García-Prada, Oscar) Parabolic vortex equations and instantons of infinite energy. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 3, 238–254. (Hans U. Boden) **98h:32033** 32G13 (14D20, 14H60, 32L07)

— Métriques d'Einstein à cusps et équations de Seiberg-Witten. (English summary) [Einstein metrics with cusps and Seiberg-Witten equations] *J. Reine Angew. Math.* **490** (1997), 129–154. (Liviu I. Nicolaescu) **98h:53074** 53C25 (53C55, 58G03)

eriksson-Bique, Sirkka-Liisa *see* **Eriksson-Bique, Sirkka-Liisa**

Biradar, R. S. (*with* Singh, Housila P.) Almost unbiased ratio-cum-product estimators. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 1–9. 62D05

Biran, P. Symplectic packing in dimension 4. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 3, 420–437. (Hansjörg Geiges) **98i:57057** 57R40 (57R15, 58F05)

Birbir, F. (*with* Büyükaksoy, A.; Erdoğan, Eren; Uzgören, G.) Plane wave diffraction by a rectangular groove in a reactive surface. (English summary) *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 101–120, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (Summary) **98f:78019** 78A45

Birch, P. (*with* Oswald, A.) Some comments on near-rings of mappings. *Contributions to general algebra*, 9 (*Linz*, 1994), 73–80, *Hölder-Pichler-Tempsky, Vienna*, 1995. (*see* **98g:00020**) 16Y30

Bird, Alexander The logic in logicism. (French summary) *Dialogue* **36** (1997), *no.* 2, 341–360. (Siegfried Gottwald) **98d:03007** 03A05 (00A30)

Bird, C. M. (*with* Aston, Philip J.) Analysis of the control of chaos—extending the basin of attraction. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1413–1429. (Summary) **98h:58113** 58F13 (58F40)

— (*with* Aston, Philip J.) Targeting in the presence of noise. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 251–259. (Summary) **98k:93051** 93C10 (58F13, 93C41)

— (*with* Aston, Philip J.) Synchronization of coupled systems via parameter perturbations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2787–2794. (Summary) **98k:58153** 58F13

Bird, G. A. Recent advances and current challenges for DSMC. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 1–14. (Summary) **98i:76074** 76M35 (76P05)

Bird, J. F. Variational wave-scattering theory for a sinusoidal reflection grating. (English summary) *J. Modern Opt.* **44** (1997), *no.* 8, 1453–1473. (Summary) **98h:78010** 78A45

Bird, Richard *see* **Bird, Richard S.**

Bird, Richard H. (*with* Zou, Zhihong; Schnabel, Robert B.) A stochastic/perturbation global optimization algorithm for distance geometry problems. (English summary) *J. Global Optim.* **11** (1997), *no.* 1, 91–105. 90C90 (92C40)

Bird, Richard S. (*with* Ravelo, Jesús N.) On computing representatives. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 1–7. (Summary) **98d:68160** 68R05 (68N05, 68Q60)

— Functional pearl: on building trees with minimum height. *J. Funct. Programming* **7** (1997), *no.* 4, 441–445. 68Q25 (68N15)

— (*with* Jones, Geraint; de Moor, Oege) More haste, less speed: lazy versus eager evaluation. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 541–547. (Summary) **98j:68004** 68N15

— Meertens number. *J. Funct. Programming* **8** (1998), *no.* 1, 83–88. 68N15

Birdsall, Charles K. (*with* Fuss, Dieter) Clouds-in-clouds, clouds-in-cells physics for many-body plasma simulation [J. Comput. Phys. **3** (1969), no. 4, 494–511]. (English summary) With an introduction by A. Bruce Langdon. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 139–148. (*see* **98h:70003**) 76M25 (76W05)

Birge, John R. (*with* Rosa, Charles H.) Parallel decomposition of large-scale stochastic nonlinear programs. (English summary) Stochastic programming, algorithms and models (Lillehammer, 1994). *Ann. Oper. Res.* **64** (1996), 39–65. (Riho Lepp) **98k:90064** 90C15 (65Y05)

— Stochastic programming computation and applications. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 111–133. (A. H. Žilinskas) **98i:90001** 90–02 (90C15)

Birgé, Lucien (*with* Massart, Pascal) From model selection to adaptive estimation. *Festschrift for Lucien Le Cam*, 55–87, *Springer, New York*, 1997. (Uttara V. Naik-Nimbalkar) **98m:62086** 62G05

— Estimation of unimodal densities without smoothness assumptions. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 970–981. (Ulrich Stadtmüller) **98g:62056** 62G05 (41A25)

Birget, Jean-Camille (*with* Hong, Dawei) Probabilistic approximation of some NP optimization problems by finite-state machines. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 151–164, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68087** 68Q25 (68Q68)

Birikh, R. V. (*with* Briskman, V. A.; Velarde, M. G.; Cherepanov, A. A.) The influence of the thermocapillary effect on the parametric excitation of waves. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 616–619; *translation in Phys. Dokl.* **42** (1997), *no.* 2, 93–96. (Vladan D. Djordjević) **98h:76032** 76D33 (76D45, 76E99)

Birindelli, Isabeau (*with* Capuzzo Dolcetta, I.; Cutrì, A.) Liouville theorems for semilinear equations on the Heisenberg group. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 295–308. (Maria J. Esteban) **98d:35049** 35J60 (22E25, 22E30, 35B05)

— Nonlinear Liouville theorems. *Reaction diffusion systems* (*Trieste*, 1995), 37–50, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Yoshihito Tomita) **98h:35069** 35J65 (35B05)

Biringen, Sedat (*with* Reichert, Robert S.) Applications of direct numerical simulation to complex turbulent flows. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 182–206, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98j:76071** 76F99 (76M25)

Birkedal, Lars (*with* Harper, Robert) Relational interpretations of recursive types in an operational setting (summary). (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 458–490, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15

Birkendorf, Andreas On fast and simple algorithms for finding maximal subarrays and applications in learning theory. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 198–209, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98j:68144** 68T05

Birkenmeier, Gary F. Andrunakievich's lemma in near-rings. *Contributions to general algebra*, 9 (*Linz*, 1994), 1–12, *Hölder-Pichler-Tempsky, Vienna*, 1995. (G. Alan Cannon) **98m:16055** 16Y30

— (*with* Heatherly, Henry E.; Lee, Enoch K. S.) Special radicals for near-ring. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 281–288. (Stefan Veldsman) **98c:16060** 16Y30 (16N80)

— (*with* Kim, Jin Yong; Park, Jae Keol) Splitting theorems and a problem of Müller. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 39–47, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (S. S. Page) **98m:16006** 16D70 (16N99)

— (*with* Heatherly, Henry E.; Pilz, Günter F.) Near-rings and rings generated by homomorphisms on groups. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 199–210, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (C. J. Maxson) **98k:16065** 16Y30

— (*with* Groenewald, Nico J.; Heatherly, Henry E.) Minimal and maximal ideals in rings with involution. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 217–225. (Geoffrey L. Booth) **98i:16031** 16W10

— (*with* Heatherly, Henry E.; Pilz, Günter F.) Homomorphisms on groups. I. Distributive and d.g. near-rings. *Comm. Algebra* **25** (1997), *no.* 1, 185–211. (John D. P. Meldrum) **98d:16056** 16Y30 (16S50)

— (*with* Wiegandt, Richard) Pseudocomplements in the lattice of torsion classes. *Comm. Algebra* **26** (1998), *no.* 1, 197–220. (L. Bican) **98m:16036** 16S90

Birkes, David (*with* Li, Yulan; Thomas, David R.) The residual likelihood ratio test for the variance ratio in a linear model with two variance components. (English summary) *Biometrical J.* **38** (1996), *no.* 8, 961–972. (I. S. Alalouf) **98k:62117** 62J05 (62F03)

Birkhoff, Garrett (*with* Mac Lane, Saunders) ★ Algèbre. (French) [Algebra] Et solutions développées des exercices. [With detailed solutions of the exercises] Structures fondamentales. Les grands théorèmes. Théorie de Galois. [Fundamental structures. The major theorems. Galois theory] Translated from the 1965 English edition and with a foreword by J. Weil. With a preface by J. Dieudonné. Reprint of the French editions, published 1970–1973. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1996. 737 *pp. ISBN* 2-87647-138-8 (Editors) **98g:01075** 01A75 (00A05)

— *see also* **Mac Lane, Saunders** *and* **Young, David M.**

Birman, Joan S. (*with* Menasco, William W.) Erratum: "Special positions for essential tori in link complements [Topology **33** (1994), no. 3, 525–556; MR 95i:57006]. *Topology* **37** (1998), *no.* 1, 225. (From the text) **98j:57004** 57M25

— *see also* **Special Issue: Braid groups and related topics, 98b:57001**

Birman, Joseph L. (*with* Zang, Jun; Bishop, Alan R.; Wang, Lihong) Nonequilibrium transport and population inversion in double quantum dot systems. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 12, 1463–1475. (Summary) **98f:82120** 82C70 (81V70)

— (*with* Tevlin, L. S.) Current and dynamical correlators in the Calogero-Sutherland model. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 387–394. (Summary) **98d:81135** 81V70

Birman, Mikhail Sh. (*with* Laptev, Ari) "Non-standard" spectral asymptotics for a two-dimensional Schrödinger operator. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 9–16, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:35003**) 35P20 (35J10, 47F05)

— (*with* Suslina, T. A.) The two-dimensional periodic magnetic Hamiltonian is absolutely continuous. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 1, 32–48; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 1, 21–32. (George D. Raikov) **98g:47038** 47F05 (35J10, 47N50, 81Q10)

— (*with* Laptev, Ari; Solomyak, M. Z.) The negative discrete spectrum of the operator $(-\Delta)^l - \alpha V$ in $L_2(\mathbf{R}^d)$ for d even and $2l \geq d$. (English summary) *Ark. Mat.* **35** (1997), *no.* 1, 87–126. (Günter Berger) **98d:35167** 35P20 (35J10, 47F05)

— (*with* Pushnitskiĭ, A. B.) Spectral shift function, amazing and multifaceted. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 2, 191–199. (Summary) **98m:47012** 47A55

Birmingham, Danny (*with* Sachs, Ivo; Sen, Siddhartha[1]) Three-dimensional black holes and string theory. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 281–286. (Summary) **98h:83043** 83C57 (81T30, 81T40, 83E30)

— A closed contour of integration in Regge calculus. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 83–103. (Francois Vanderseypen) **98m:83020** 83C27

Birnbaum, Léon La temporalité de la logique. [The temporality of logic] *Metalogicon* **3** (1990), *no.* 2, 101–106. 03B65

Biró, A. On L_∞ universally bad sequences in ergodic theory. *Illinois J. Math.* **41** (1997), *no.* 2, 309–314. (Joseph Max Rosenblatt) **98m:28030** 28D05

Biro, Zsolt (*with* Kersner, Robert) On the compactly supported solutions of KPP or Fischer type equations. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 129–137, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **98h:35095** 35K55 (35Q53)

— Attractors in a density-dependent diffusion-reaction model. *Nonlinear Anal.* **29** (1997), *no.* 5, 485–499. (Anibal Rodriguez-Bernal) **98h:35112** 35K57 (35B40, 58F39)

— (*with* Michaletzky, György) The first passage density of the Brownian motion to a Lipschitz-continuous boundary. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 25–41. (Chull Park) **98g:60144** 60J65 (60J70)

Birol, İnanç (*with* Hacınlıyan, Avadis) Determining zero Lyapunov exponents in continuous time dynamical systems. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 131–135. (Eric Cornelis) **98j:34098** 34D08 (34D20, 93D05)

— (*with* Hacınlıyan, Avadis) Some algebraic properties of continuous time dynamical systems. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 137–142. (Eric Cornelis) **98j:34099** 34D08 (34D45)

— (*with* Hacınlıyan, Avadis) Signs and approximate magnitudes of Lyapunov exponents in continuous time dynamical systems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4594–4605. (Bei Ye Feng) **98g:58091** 58F10 (34C35, 34D08)

— (*with* Hacınlıyan, Avadis; Perdahçi, N. Ziya) Simulating a dynamical system in the presence of a $1/f$ noise. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 265–271. 58F13 (58F40)

Biroli, Marco An embedding property of Schechter's type for Dirichlet forms on an homogeneous space. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 2, 247–255 (1995). (W. P. Ziemer) **98f:46028** 46E35 (31C25)

— (*with* Tchou, N. A.) Asymptotic behaviour of relaxed Dirichlet problems involving a Dirichlet-Poincaré form. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 281–309. (Peter Stollmann) **98h:35045** 35J25 (31C25, 35B25, 35B40)

Birsan, Temistocle Une extension du principe de la majoration uniforme. (Romanian summary) [An extension of the uniform upper bound principle] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 61–65. 54E35 (46A99)

bialynicki-Birula, A. *see* **Bialynicki-Birula, A.**

bialynicki-Birula, Iwo *see* **Bialynicki-Birula, Iwo**

Biryulina, M. (*with* Moser, T. J.; Ryzhikov, G. A.) Born inversion in realistic backgrounds by means of recursive Green's functions. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 306–322, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 86A15 (73D50)

Biś, Andrzej Entropy of topological directions. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 59–75. (Summary) **98d:54039** 54C70

Bisbas, A. (*with* Karanikas, C.; Proios, G.) On the distribution of digits in dyadic expansions. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 40–49. (V. Drobot) **98m:11084** 11K55 (28D99)

Biscari, Paolo (*with* Cercignani, Carlo) Stress and heat flux in non-inertial reference frames. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 1, 1–11. (C. R. Garibotti) **98i:82051** 82C40 (73B30, 80A20)

Biscay, R. (*with* Jimenez, Juan Carlos; Riera, J. J.; Valdes-Sosa, Pedro A.) Local linearization method for the numerical solution of stochastic differential equations. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 631–644. (Shigetoku Kawabata) **98b:60107** 60H10 (65U05)

— (*with* Jimenez, Juan Carlos; Valdes-Sosa, Pedro A.; Rodriguez, L. M.; Riera, J. J.) Computing the noise covariance matrix of the local linearization scheme for the numerical solution of stochastic differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 19–23. 65U05

Bischof, Christian H. (*with* Bouaricha, Ali; Khademi, Peyvand M.; Moré, Jorge J.) Computing gradients in large-scale optimization using automatic differentiation. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 185–194. 90C30 (90–04)

— (*with* Hovland, P.; Spiegelman, Donna; Casella, Mario) Efficient derivative codes through automatic differentiation and interface contraction: an application in biostatistics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1056–1066. (Summary) **98c:65004** 65–04 (65D25, 92B15)

— (*with* Quintana-Ortí, Gregorio; Sun, Xiaobai) A BLAS-3 version of the QR factorization with column pivoting. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1486–1494 (*electronic*). 65F25 (65F05)

Bischoff, Eberhard E. Palletisation efficiency as a criterion for product design. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 139–145. (*see* **98e:90009**) 90B70

Bischoff, Jan (*with* Lechtenfeld, Olaf) Path-integral quantization of the (2, 2) string. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4933–4971. (Ion V. Vancea) **98k:81197** 81T30 (81R10, 81T70)

Bischoff, Wolfgang On distribution whose conditional distributions are normal. A vector space approach. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 443–463. (Barry C. Arnold) **98g:60024** 60E05 (62C10, 62E10, 62H05)

Bisegna, Paolo (*with* Luciano, Raimondo) Bounds on the off-diagonal coefficients of the homogenized constitutive tensor of a composite material. *Mech. Res. Comm.* **23** (1996), *no.* 3, 239–245. (Summary) **98c:73005** 73B27 (73K20)

— A theory of piezoelectric laminates. (Italian. English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 137–165. (Summary) **98j:73073** 73R05 (73K20, 78A25)

— (*with* Luciano, Raimondo) On methods for bounding the overall properties of periodic piezoelectric fibrous composites. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 8, 1329–1356. (David J. Bergman) **98f:73004** 73B27 (73K20, 73R05)

— (*with* Sacco, Elio) A rational deduction of plate theories from the three-dimensional linear elasticity. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 349–366. (Tomasz Lewiński) **98e:73076** 73K10 (73C02)

Bisgaard, Torben Maack Embeddability in L^p-spaces. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 153–180. (Da Chun Yang) **98g:43008** 43A35 (46E30)

— Semigroups of moment functions. *Ark. Mat.* **35** (1997), *no.* 1, 127–156. (Paşc Gâvruţa) **98e:43003** 43A35

Bishaev, A. M. (*with* Rykov, V. A.) Application of variational principles to the computation of the slip coefficient of a gas. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 230–238. (A. D. Khon'kin) **98d:76147** 76P05 (49S05, 76M30)

Bishop, Alan J. *see* **Handbook: Mathematics education. 98a:00004**

Bishop, Alan R. Nonlinear equations and structural phase transitions. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 191–214, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35202** 35Q99 (35B99, 82B26)

— (*with* Sánchez, Angel; Cai, David; Grønbech-Jensen, Niels) On some conjectures about surface smoothing. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 339–343, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65D17

— (*with* Zang, Jun; Birman, Joseph L.; Wang, Lihong) Nonequilibrium transport and population inversion in double quantum dot systems. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 12, 1463–1475. (Summary) **98f:82120** 82C70 (81V70)

— (*with* Raghavan, Srikanth; Kenkre, V. M.) Phase-nonlinearity interplay in small quantum systems. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 73–78. 81Q99

— *see also* **Landscape paradigms in physics and biology. 98g:82002**

Bishop, Christopher J. Minkowski dimension and the Poincaré exponent. *Michigan Math. J.* **43** (1996), *no.* 2, 231–246. (G. M. Lyan) **98h:30061** 30F40 (20H10)

— (*with* Jones, Peter Wilcox) The law of the iterated logarithm for Kleinian groups. (English summary) *Lipa's legacy* (*New York*, 1995), 17–50, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Vasily A. Chernecky) **98j:30051** 30F40 (28A78, 30C35, 31A15)

— (*with* Jones, Peter Wilcox) Hausdorff dimension and Kleinian groups. *Acta Math.* **179** (1997), *no.* 1, 1–39. (Bernd O. Stratmann) **98k:22043** 22E40 (30F40)

Bishop, Matthew (*with* Andrews, Peter B.) On sets, types, fixed points, and checkerboards. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 1–15, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03007** 03B35 (03B15, 68T15)

Bishop, Nigel T. (*with* Gómez, Roberto; Holvorcem, Paulo R.; Matzner, Richard A.; Papadopoulos, Philippos O.; Winicour, Jeffrey) Cauchy-characteristic evolution and waveforms. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 140–167. (Summary) **98e:76084** 76M25 (76Q05)

— (*with* Gómez, Roberto; Lehner, Luis R.; Maharaj, Manoj; Winicour, Jeffrey) High-powered gravitational news. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6298–6309. (Richard Hansen) **98j:83028** 83C30 (83–04)

Bishop, Richard L. (*with* Alexander, Stephanie B.) Racetracks and extremal problems for curves of bounded curvature in metric spaces. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 331–341. (G. D. Chakerian) **98h:53116** 53C70 (52A40)

Bishop, S. R. (*with* Clifford, M. J.) The use of manifold tangencies to predict orbits, bifurcations and estimate escape in driven systems. (English summary) Non-linear dynamics and chaos in mechanical systems (L'Aquila, 1994). *Chaos Solitons Fractals* **7** (1996), *no.* 10, 1537–1553. (Helena E. Nusse) **98c:58115** 58F14 (34C15, 34C23, 70K40)

— (*with* Xu, Daolin) Control of the parametrically excited pendulum. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 43–50, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K40 (70Q05)

Bisi, Arnab (*with* Basak, Gopal K.; Ghosh, Mrinal K.) Limit theorems for random degenerate diffusions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 211–222. (*see* **98i:00027**) 60F05 (60J60)

— (*with* Basak, Gopal K.; Ghosh, Mrinal K.) Controlled random degenerate diffusions under long-run average cost. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 121–140. (Summary) **98i:93086** 93E20 (49J55, 49L25, 60J10)

Biskamp, D. Collisional and collisionless magnetic reconnection. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1964–1968. (Summary) **98f:82127** 82D10

Biskri, Ismail (*with* Desclés, Jean-Pierre) Applicative and combinatory categorical grammar (from syntax to functional semantics). (English summary) *Recent advances in natural language processing* (*Tzigov Chark*, 1995), 71–84, *Amst. Stud. Theory Hist. Linguist. Sci. Ser. IV Curr. Issues Linguist. Theory*, 136, *Benjamins, Amsterdam*, 1997. (*see* **98k:68143**) 68S05 (03B65)

Bismuth, Sophie (*with* Aubin, Thierry) Courbure scalaire prescrite sur les variétés riemanniennes compactes dans le cas négatif. (English summary) [Prescribed scalar curvature on compact Riemannian manifolds in the negative case] *J. Funct. Anal.* **143** (1997), *no.* 2, 529–541. (Robert McOwen) **98g:53067** 53C21 (35J60, 58G30)

Bisquert, J. (*with* Aldaya, Víctor; Guerrero, Julio; Navarro-Salas, J.) Group-theoretical construction of the quantum relativistic harmonic oscillator. (English summary) *Rep. Math. Phys.* **37** (1996), *no.* 3, 387–418. (Summary) **98a:81022** 81Q05 (81R05)

Bisseling, Rob H. Basic techniques for numerical linear algebra on bulk synchronous parallel computers. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 46–57, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65Y05 (65F10)

Bisson, Terrence P. (*with* Joyal, André) *Q*-rings and the homology of the symmetric groups. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 235–286, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. M. Boardman) **98e:55021** 55S12 (20B30, 20J06, 55P47)

Bissu, S. K. (*with* Joshi, C. M.) Inequalities for some special functions. II. (English summary) *Tamkang J. Math.* **26** (1995), *no.* 3, 235–242. (Pascal Maroni) **98h:33003** 33C10 (26D07, 33C15)

— (*with* Joshi, C. M.) Inequalities for some special functions. (English summary) *J. Comput. Appl. Math.* **69** (1996), *no.* 2, 251–259. (Pascal Maroni) **98h:33002** 33C10

Bist, Vikas (*with* Vasudeva, Harkrishan L.) Second order perturbation bounds. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 1, 59–71. (Frank Hansen) **98b:47018** 47A55 (47A56)

Bistarelli, Stefano (*with* Montanari, Ugo; Rossi, Francesca) Constraint solving over semirings. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 624–630, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20

— (*with* Montanari, Ugo; Rossi, Francesca) Semiring-based constraint satisfaction and optimization. (English summary) *J. ACM* **44** (1997), *no.* 2, 201–236. (Florica Luban) **98j:68147** 68T20

Bistrőm, Peter Relations between exponential laws for spaces of C^∞-functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 209–218. (Andreas Kriegl) **98c:46082** 46G05 (46G20)

Biswal, Bibhudananda (*with* Chowdhury, Debashish) Interfacial dynamics in disordered magnets: relaxation, critical dynamics and domain growth. (English summary) *Annual reviews of computational physics, I*, 55–105, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82087** 82C44 (82C24, 82C80)

Biswal, M. P. (*with* Verma, Rakesh Kumar; Biswas, Arabinda) Fuzzy programming technique to solve multi-objective transportation problems with some non-linear membership functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 37–43. 90C70 (04A72)

— (*with* Verma, Rakesh Kumar; Biswas, Arabinda) Fuzzy analytic hierarchy process to solve a multi-objective transportation problem. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 593–604. 90C29 (04A72, 90C70)

— (*with* Verma, Rakesh Kumar; Biswas, Arabinda) Fuzzy programming approach to multi-objective stair-case transportation problems. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 865–873. 90C70 (04A72, 90C29)

— (*with* Sinha, Surendra B.; Hulsurkar, Suwarna) Fuzzy programming approach to the multi-objective probabilistic linear programming problems when only b_i's are probabilistic. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 63–73. 90C70 (90C29)

Biswas, A. *see* **Biswas, Arabinda**

Biswas, Animikh A harmonic-type maximal principle in commutant lifting. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 373–381. (László Kérchy) **98m:47005** 47A20 (47A57)

Biswas, Anindya K. On orientifold constructions of type IIA dual pairs. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2382–2387. (Sergey Nikolaevich Roshchupkin) **98f:81239** 81T30

Biswas, Arabinda (*with* Verma, Rakesh Kumar; Biswal, M. P.) Fuzzy programming technique to solve multi-objective transportation problems with some non-linear membership functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 37–43. 90C70 (04A72)

— (*with* Verma, Rakesh Kumar; Biswal, M. P.) Fuzzy analytic hierarchy process to solve a multi-objective transportation problem. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 593–604. 90C29 (04A72, 90C70)

— (*with* Verma, Rakesh Kumar; Biswal, M. P.) Fuzzy programming approach to multi-objective stair-case transportation problems. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 865–873. 90C70 (04A72, 90C29)

Biswas, B. K. (*with* Dutta, Tapan Kumar[1]) Fuzzy congruence and quotient semiring of a semiring. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 737–748. (Udo Hebisch) **98c:16063** 16Y60 (04A72)

Biswas, Debabrata (*with* Lawande, S. V.) Periodic orbit theory and quantum-classical correspondence. (English summary) Chaos, disorder and fractals. *Proc. Nat. Acad. Sci. India Sect. A* **66** (1996), *Special Issue*, 79–89. (Christian Grosche) **98c:58129** 58F22 (58F13, 81Q20)

Biswas, Haider Ali (*with* De, U. C.) On generalised 3-recurrent spaces. (English summary) *Ganit* **14** (1994), *no.* 1-2, 85–88. (Lovejoy S. K. Das) **98b:53019** 53B20

Biswas, Indranil Green-Lazarsfeld sets and the logarithmic Dolbeault complex for Higgs line bundles. *Internat. Math. Res. Notices* **1996**, *no.* 2, 83–91. (G. Horrocks) **98b:14014**

14F05 (14C30)
— Determinant bundle over the universal moduli space of vector bundles over the Teichmüller space. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 3, 885–914. (Daniel Huybrechts) **98i:32025** 32G13 (14D20, 58G26)
— Parabolic bundles as orbifold bundles. *Duke Math. J.* **88** (1997), *no.* 2, 305–325. (Yves Laszlo) **98m:14045** 14J60
— Parabolic ample bundles. *Math. Ann.* **307** (1997), *no.* 3, 511–529. (Laurent Manivel) **98e:14041** 14J60 (14F17)
Biswas, Ranjit On fixed fuzzy set theorems in fuzzy metric spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 535–541. 54A40
— On fuzzy sets and intuitionistic fuzzy sets. (English summary) *Notes IFS* **3** (1997), *no.* 1, 3–11. 03E72
— Intuitionistic fuzzy subgroups. (English summary) *Notes IFS* **3** (1997), *no.* 2, 53–60. 20N25 (04A72)
— (*with* De, Supriya Kumar; Roy, Akhil Ranjan) Optimal selection of the most suitable method cut of n alternatives: an intuitionistic fuzzy approach. (English summary) *Notes IFS* **3** (1997), *no.* 3, 97–104. 90B50 (04A72)
— (*with* De, Supriya Kumar; Roy, Akhil Ranjan) On intuitionistic fuzzy sets. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 14–20. (*see* **98e:03031**) 03E72
— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) A note on union and intersection of intuitionistic fuzzy sets. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 34–39. (*see* **98e:03031**) 03E72
— R-partition of rings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 403–404. 16Y99
Biswas, Rupak (*with* Strawn, Roger C.) Tetrahedral and hexahedral mesh adaptation for CFD problems. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 135–151. (*see* **98i:65004**) 76M25 (65M50, 65M70)
Biswas, S. C. (*with* De, U. C.) On a type of semi-symmetric non-metric connection on a Riemannian manifold. (English summary) *Ganita* **48** (1997), *no.* 2, 91–94. 53B15
— (*with* De, U. C.) On a type of semi-symmetric metric connection on a Riemannian manifold. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 90–96. (Andrew Bucki) **98h:53040** 53C05
Biswas, Sandip K. (*with* Kannan, Sampath) Minimizing space usage in evaluation of expression trees. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 377–390, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68020** 68N15 (68N20, 68Q25)
Biswas, Saroj K. (*with* Chen, Shih-J.; Satyanarayana, A.) Optimal temperature tracking for accelerated cooling processes in hot rolling of steel. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 327–340. 93C20 (93C95)
Bisztriczky, Tibor (*with* Bezdek, Károly) A proof of Hadwiger's covering conjecture for dual cyclic polytopes. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 29–41. (John R. Reay) **98k:52005** 52A15 (52A20, 52B11)
— Ordinary $(2m+1)$-polytopes. (English summary) *Israel J. Math.* **102** (1997), 101–123. (Margaret M. Bayer) **98k:52024** 52B05 (52B11)
Bit, A. K. Multiobjective geometric programming problems: fuzzy programming with hyperbolic membership function. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 27–32. 90C70 (90C28)
— Multiobjective fuzzy transportation problems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 43–49. 90C70 (90C08)
Bitmead, Robert R. (*with* Kammer, Leonardo C.; Bartlett, Peter L.) Optimal controller properties from closed-loop experiments. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 83–91. 93B50 (93D15)
Bitner, James (*with* Jain, Jawahar; Abadir, Magdy S.; Abraham, Jacob A.; Fussell, Donald S.) Indexed BDDs: algorithmic advances in techniques to represent and verify Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1230–1245. (Summary) **98j:94043** 94C10 (68Q05, 68Q60)
Bitossi, Marco On the effective calculation of holonomy groups. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 293–302 (1997). (Alcides José Prazeres Caetano) **98f:53023** 53C05
Bitsakis, Eftichios The riddle of locality: the EPR paradox revisited. (English and French summaries) *Phys. Essays* **9** (1996), *no.* 3, 487–495. (Koichiro Matsuno) **98b:81018** 81P15
Bitsas, Th. (*with* Kolèza, E.; Skordoulès, K.) Historical development of the concept of dimension: from Euclid's *Elements* to fractal geometry. (Greek. English and Greek summaries) *Mathematics—education and applications (Nicosia, 1997)*, 237–246, *Cyprus Pedagog. Inst., Nicosia*, 1997. (Summary) **98c:01010** 01A45 (54F45)
Bittner, Kai (*with* Chui, Charles K.; Prestin, Jürgen) Multivariate cosine wavelets. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 29–43, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Summary) **98g:42049** 42C15
Bittner, Ryszard *see* **Fichtenholz, G. M.**
Bitzarakis, S. (*with* Papadrakakis, M.; Kotsopulos, A.) Parallel solution techniques in computational structural mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 75–104. (Summary) **98b:73042** 73V20 (65Y05, 73K12)
Bitzer, Donald L. (*with* Dholakia, Ajay; Koorapaty, Havish; Vouk, Mladen A.) On locally invertible rate-$1/n$ convolutional encoders. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 420–422. 94B99
Biwa, Shiro (*with* Storåkers, Bertil; Larsson, Per-Lennart) Similarity analysis of inelastic contact. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 24, 3061–3083. (Summary) **98e:73126** 73T05 (73E60, 73G20)
— (*with* Murphy, Jeremiah G.) Nonmonotonic cavity growth in finite, compressible elasticity. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 29, 3859–3872. (Summary) **98h:73029** 73C50 (73G05)
Biyanov, Andrey Y. Characterization of the duals of lattices of continuous functions with respect to disjointness preserving groups. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 9, 2571–2579. (Anton Schep) **98f:47045** 47B65 (46E05, 47D03)
Bižaca, Žarko (*with* Etnyre, John) Smooth structures on collarable ends of 4-manifolds. (English summary) *Topology* **37** (1998), *no.* 3, 461–467. (Richard Stong) **98j:57046** 57R55 (57N13)
Bizdadea, C. The Hamiltonian BRST quantization of massive abelian p-form gauge fields. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 3985–3991. (Kostas Skenderis) **98b:81257** 81T70 (81T13)
— (*with* Saliu, S. O.) The BRST quantization of first-order systems. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 590–597. (Summary) **98a:81240** 81T70
— (*with* Bălan, Ş.; Saliu, S. O.) A covariant BRST approach of self-dual p-forms without extra fields. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 5997–6007. (Ion V. Vancea) **98k:81282** 81T70 (58Z05)
Bizon, C. (*with* Werne, J.; Predtechenskiĭ, A. A.; Julien, K. A.; McCormick, W. D.; Swift, J. B.; Swinney, Harry L.) Plume dynamics in quasi-2D turbulent convection. (English summary) *Chaos* **7** (1997), *no.* 1, 107–124. (Summary) **98a:76080** 76R05 (76-05, 76E15, 76F99)
Bizoń, Piotr (*with* Chmaj, Tadeusz) Harmonic maps between spheres. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1957, 403–415. (Anne-Joëlle Vanderwinden) **98d:58039** 58E20
Bjærum, Mary *see* **Strøm, Elin**, **98e:01018**
Bjelica, Momčilo Refinement and reverse of Brunk-Olkin inequality. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 61–64, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 26D15
— Area and length for roulettes via curvature. (English summary) *Differential geometry and applications (Brno, 1995)*, 245–248, *Masaryk Univ., Brno*, 1996. (Themis Koufogiorgos) **98d:53004** 53A04
— Inequalities for power mean value. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 99–104, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 26D15
— Pedals, autoroulettes and Steiner's theorem. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Mat. Vesnik* **49** (1997), *no.* 1, 23–26. (Thomas Hasanis) **98j:53002** 53A04 (52A10)
— Fixed points and inequalities. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2325–2328. (From the text) **98j:26001** 26A06
— Refinements of Ostrowski's and Fan-Todd's inequalities. (English summary) *Recent progress in inequalities (Niš, 1996)*, 445–448, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:00021**) 26D15
Bjerregard, Pablo Alberca (*with* Martín González, Cándido) Automorphism groups of composition algebras and quark models. (English summary) *Hadronic J.* **19** (1996), *no.* 6, 637–653. (Waldyr Alves Rodrigues, Jr.) **98b:17031** 17B81 (17D99, 81R05, 81V05)
Björck, Åke Newton and Rayleigh quotient methods for total least squares problems. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling (Leuven, 1996)*, 149–160, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20
Björk, Tomas (*with* Johansson, Björn) Parameter estimation and reverse martingales. (English summary) *Stochastic Process. Appl.* **63** (1996), *no.* 2, 235–263. (C. C. Heyde) **98f:62237** 62M05
— (*with* Gombani, Andrea) The reduction of multiplicity in systems modeling. (English summary) *Operators, systems, and linear algebra (Kaiserslautern, 1997)*, 23–32, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Summary) **98m:93024** 93B15 (93A30)
Björn, Anders Removable singularities for Hardy spaces. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 1, 1–25. (Summary) **98k:32018** 32D20 (30D55, 32A35, 46E15, 46J15)
— (*with* Riesel, Hans) Factors of generalized Fermat numbers. (English summary) With microfiche supplement. *Math. Comp.* **67** (1998), *no.* 221, 441–446. (Andreas Guthmann) **98e:11008** 11A51 (11Y05)
Björner, Anders (*with* Ekedahl, Torsten) Subspace arrangements over finite fields: cohomological and enumerative aspects. (English summary) *Adv. Math.* **129** (1997), *no.* 2, 159–187. (Volkmar Welker) **98h:52021** 52B30 (11G25, 14F30)
— (*with* Vrećica, Siniša) On f-vectors and Betti numbers of multicomplexes. (English summary) *Combinatorica* **17** (1997), *no.* 1, 53–65. (Dmitry N. Kozlov) **98h:05180** 05E25
— (*with* Butler, Lynne M.; Matveev, Andreĭ O.) Note on a combinatorial application of Alexander duality. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 163–165. (Summary) **98h:05181** 05E25
— (*with* Wachs, Michelle L.) Shellable nonpure complexes and posets. II. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 3945–3975. (Volkmar Welker) **98b:06008** 06A08 (05E99)
Bjørner, Nikolaj S. (*with* Browne, Anca; Manna, Zohar) Automatic generation of invariants and intermediate assertions. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 589–623, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68162** 68Q60
— (*with* Stickel, Mark E.; Uribe, Tomás E.) A practical integration of first-order reasoning and decision procedures. (English summary) *Automated deduction—CADE-14 (Townsville, 1997)*, 101–115, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 03B35 (68T15)
Bjørstad, Petter E. (*with* Smith, Barry F.; Gropp, William D.) ★ Domain decomposition. (English summary) Parallel multilevel methods for elliptic partial differential equations. *Cambridge University Press, Cambridge*, 1996. xii+224 *pp. ISBN* 0-521-49589-X (Lutz Tobiska) **98g:65003** 65-01 (65M55, 65N55)
— *see also* **Proceedings: Conference on Parallel Processing for Scientific Computing**, **98h:65004**
Bkouche, Rudolphe Desargues au XIXe siècle: l'influence d'un livre non lu. [Desargues in the XIXth century: the influence of an unread book] *Desargues en son temps*, 207–217, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45 (51-03)
Blache, Raimund Explicit bounds for rational curves on Kähler surfaces of non-negative Kodaira dimension. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 1, 81–104. (Ulf Persson) **98h:14042** 14J29 (32J15)
Blachman, Nelson M. The shape of low excursions of the envelope of a signal plus noise. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 882–886. 94A05

Black, Kelly Approximation of Navier-Stokes incompressible flow using a spectral element method with a local discretization in spectral space. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 587–599. (Hisashi Okamoto) **98g:65089** 65M60 (76D05, 76M25)

— Putting constraints in optimization for first-year calculus students. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 310–312. (Summary) **98a:49001** 49–01 (90–01)

— Spectral elements on infinite domains. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1667–1681 (*electronic*). 65M70 (65N35)

Black, Paul K. Geometric structure of lower probabilities. (English summary) *Random sets (Minneapolis, MN, 1996)*, 361–383, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 04A72 (60A99, 60D05)

Black, Stephen (*with* Bierbrauer, Jürgen; Edel, Yves) Some t-homogeneous sets of permutations. (English summary) Second Upper Michigan Combinatorics Workshop on Designs, Codes and Geometries (Houghton, MI, 1994). *Des. Codes Cryptogr.* **9** (1996), *no.* 1, 29–38. (Douglas R. Stinson) **98b:05027** 05B30

Blackaby, Nicholas D. (*with* Hall, Philip[2]) The nonlinear evolution of the inviscid secondary instability of streamwise vortex structures. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **352** (1995), *no.* 1700, 483–502. (Corneliu Berbente) **98a:76024** 76D10 (76E30)

— (*with* Dando, Andrew; Hall, Philip[2]) The nonlinear evolution of inviscid Görtler vortices in three-dimensional boundary layers. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 975–1016. (James P. Denier) **98d:76068** 76E30 (76D10)

Blackadar, Alfred K. ★ Turbulence and diffusion in the atmosphere. (English summary) Lectures in environmental sciences. With 2 IBM-PC floppy disks (3.5 inch; HD). *Springer-Verlag, Berlin*, 1997. x+185 *pp. ISBN* 3-540-61406-0 (Radyadour Kh. Zeytounian) **98a:86008** 86A10 (76F99, 76R50)

Blackadar, Bruce (*with* Kirchberg, Eberhard) Generalized inductive limits of finite-dimensional C^*-algebras. *Math. Ann.* **307** (1997), *no.* 3, 343–380. (Terry A. Loring) **98c:46112** 46L05 (46L35)

Blackburn, James Kent (*with* Detweiler, Steven L.) Slowly evolving black hole binary systems. *Nonlinear problems in relativity and cosmology (Gainesville, FL, 1990)*, 137–142, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83C57

Blackburn, Norman (*with* Héthelyi, László) Some further properties of soft subgroups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 365–371. (Walter Carlip) **98j:20019** 20D15 (20E15)

Blackburn, Patrick (*with* Meyer-Viol, Wilfried; de Rijke, Maarten) A proof system for finite trees. (English summary) *Computer science logic (Paderborn, 1995)*, 86–105, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98j:03011** 03B35 (03B45, 03B70, 03D15, 68Q45, 68Q60, 68S05)

— (*with* de Rijke, Maarten) Why combine logics? (English summary) *Studia Logica* **59** (1997), *no.* 1, 5–27. (G. Mirkowska) **98m:03033** 03B45 (03B60)

— *see also* **Specifying syntactic structures, 98d:03041**

Blackburn, Simon R. A generalisation of the discrete Fourier transform. (English summary) *Applications of finite fields (Egham, 1994)*, 111–116, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Michael Clausen) **98b:94010** 94A55 (11T71, 94A60)

— A generalized rational interpolation problem and the solution of the Welch-Berlekamp key equation. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 223–234. (J. J. Stiffler) **98h:13028** 13F25 (94B05)

— (*with* Murphy, Sean; Paterson, Kenneth G.) Comments on: "Theory and applications of cellular automata in cryptography" [IEEE Trans. Comput. **43** (1994), no. 12, 1346–1357; MR 95k:94023] by S. Nandi, B. K. Kar and P. Pal Chaudhuri. (English summary) With a reply by Nandi and Pal Chaudhuri. *IEEE Trans. Comput.* **46** (1997), *no.* 5, 637–639. (Summary) **98b:94011** 94A60 (68Q80)

— Fast rational interpolation, Reed-Solomon decoding, and the linear complexity profiles of sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 537–548. (Summary) **98c:94012** 94A55 (65D05, 94B35)

— Orthogonal sequences of polynomials over arbitrary fields. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 99–111. (Maurice Mignotte) **98m:11013** 11C08

Blacker, Ted (*with* Murdoch, Peter; Benzley, Steven; Mitchell, Scott A.) The spatial twist continuum: a connectivity based method for representing all-hexahedral finite element meshes. (English summary) *Finite Elem. Anal. Des.* **28** (1997), *no.* 2, 137–149. 65N50 (65M50)

Blackford, L. S. (*with* Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

Blackman, J. A. (*with* Gonçalves, J. R.; Poulter, J.) Bond and site defects in fully frustrated two-dimensional Ising systems. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2947–2962. (Summary) **98d:82030** 82B44 (82B20)

Blackmore, A. (*with* Hunt, G. W.) Homoclinic and heteroclinic solutions of upheaval buckling. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2185–2195. (Summary) **98g:73019** 73H05 (34C37)

Blackmore, D. L. (*with* Prikarpat-skiĭ, A. K.; Pritula, N. N.; Kopych, M. I.) Transversal splitting of the separatrix manifolds of a generalized Hénon-Heiles Hamiltonian system. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 52–55 (1997). (Vassili G. Gelfreich) **98c:58146** 58F30 (34C37, 58F05, 70H05)

— (*with* Prikarpat-skiĭ, A. K.; Gentosh, O. E.) The finite-dimensional Moser type reduction of modified Boussinesq and super-Korteweg-de Vries Hamiltonian systems via the gradient-holonomic algorithm and dual moment maps. I. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 455–469. (Iskander A. Taimanov) **98j:58058** 58F07 (35Q53)

— (*with* Leu, M. C.; Wang, Li Ping; Jiang, Haitao) Swept volumes: a retrospective and prospective view. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 81–101. (*see* **98g:65008**) 65D17 (65–02)

Blackmore, Kim L. (*with* Williamson, Robert C.; Mareels, Iven M. Y.) Decision region approximation by polynomials or neural networks. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 903–907. (Summary) **98a:68157** 68T05

Blackmore, T. D. Derivations from totally ordered semigroup algebras into their duals. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 133–142. (A. T.-M. Lau) **98k:43003** 43A20 (46H25, 46J99)

— Weak amenability of discrete semigroup algebras. *Semigroup Forum* **55** (1997), *no.* 2, 196–205. (H. G. Dales) **98h:43001** 43A20 (22A20, 46H20)

Blackorby, Charles (*with* Bossert, Walter; Donaldson, David) Birth-date dependent population ethics: critical-level principles. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 260–284. (Summary) **98j:90009** 90A08

Blackwell, David (*with* Diaconis, Persi) A non-measurable tail set. *Statistics, probability and game theory*, 1–5, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (K. P. S. Bhaskara Rao) **98m:28001** 28A05

— Large deviations for martingales. *Festschrift for Lucien Le Cam*, 89–91, *Springer, New York*, 1997. (R. J. Tomkins) **98j:60024** 60E15 (60G42)

— *see also* **Statistics, probability and game theory, 98c:60006** *and* **Ferguson, Thomas S. et al., 98f:01064**

Bladt, Mogens The variance constant for the actual waiting time of the $PH/PH/1$ queue. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 3, 766–777. (Srinivas Chakravarthy) **98b:60155** 60K25 (60K05)

Blaga, Alin Perturbation methods with Lie series. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 3, 11–28. (A. Giorgilli) **98m:70001** 70–04 (34–04, 34C99, 58F30, 68Q40, 70F15)

Blaga, Lucia Rodica (*with* Lupşa, Liana; Lupşa, Nicolaie) An application of pseudo-Boolean programming in electric network. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 21–28, *Transilvania, Cluj-Napoca*, 1997. (Jürgen Köhler) **98i:90054** 90C09 (90C90, 94C10)

Blaga, P. *see* **Blaga, Petru P.**

Blaga, Paul A. (*with* Tătaru, Liviu; Vancea, Ion V.) BRST cohomology for 2D gravity. (English summary) *Romanian J. Phys.* **40** (1995), *no.* 8-9, 773–788. (Bani Mitra Södermark) **98c:81222** 81T70 (81T50)

Blaga, Petru P. Smoothing by polynomial splines of fourth degree. (English summary) *Research Seminar on Numerical and Statistical Calculus*, 13–26, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (Mao Dong Ye) **98h:65010** 65D10 (41A15, 65D07)

— (*with* Micula, G.; Akca, Haydar) On the use of spline functions of even degree for the numerical solution of the delay differential equations. (English summary) *Calcolo* **32** (1995), *no.* 1-2, 83–101 (1996). (N. N. Vakhania) **98b:65026** 65L05 (65D17)

— *see also* **Approximation and optimization, 98g:41001** *and* **98g:41002**

Blagoveschensky, Yu. N. *see* **Blagoveshchenskiĭ, Yu. N.**

Blagoveshchenskiĭ, A. S. (*with* Belishev, M. I.; Ivanov, Sergei Alekseevich) The two-velocity dynamical system: boundary control of waves and inverse problems. (English summary) *Wave Motion* **25** (1997), *no.* 1, 83–107. (Guenter Leugering) **98g:73015a** 73D50 (35L05, 93B05, 93C20)

— *see also* **Errata: "The two-velocity dynamical system: boundary control of waves and inverse problems", 98g:73015b**

Blagoveshchenskiĭ, Yu. N. T-normal distribution on the Bayesian belief networks. *Computational learning and probabilistic reasoning*, 161–166, *Wiley, Chichester*, 1996. (*see* **98h:68007**) 68T30 (62H99)

Blagovestchenskii, A. *see* **Blagoveshchenskiĭ, A. S.**

Blaheta, Radim (*with* Axelsson, Owe) Convergence of inexact Newton-like iterations in incremental finite element analysis of elasto-plastic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **141** (1997), *no.* 3-4, 281–295. (Carsten Carstensen) **98h:73035** 73V05 (73E05)

— Convergence of Newton-type methods in incremental return mapping analysis of elastoplastic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 1-2, 167–185. (Summary) **98g:73035** 73V05 (73E99)

— (*with* Axelsson, Owe; Kohut, Roman) Inexact Newton solvers in plasticity: theory and experiments. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 133–152. (Robin Olivian Simionescu-Panait) **98e:73130** 73V05 (73E05)

Blahut, Richard E. (*with* Weeks, William, IV) The capacity and coding gain of certain checkerboard codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1193–1203. (Summary) **98m:94061** 94B60 (94A45)

Blair, David E. (*with* Baikoussis, Christos) On the geometry of the 7-sphere. *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 75–79, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **97i:53001**) 53C25

Blair, Howard A. Game characterizations of logic program properties. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 99–112, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98d:68041** 68N17 (03B70, 03D80)

— Designing dependencies. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 37–54. (M. I. Dekhtyar) **98a:68022** 68N17 (03D35)

— (*with* Chidella, Jagan; Dushin, Fred; Ferry, Audrey; Humenn, Polar) A continuum of discrete systems. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 153–186. (Summary) **98k:68034** 68N17 (68Q80)

Blair, Jean R. S. (*with* Heggernes, Pinar; Telle, Jan Arne) Making an arbitrary filled graph minimal by removing fill edges. (English summary) *Algorithm theory—SWAT '96 (Reykjavík, 1996)*, 173–184, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98e:05098** 05C85 (68Q25)

— (*with* Lloyd, Errol L.) River routing with a generalized model. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 525–544. (Summary) **98c:68119** 68Q35

Blair, K. B. (*with* Krousgrill, C. M.; Farris, T. N.) Harmonic balance and continuation techniques in the dynamic analysis of Duffing's equation. (English summary) *J. Sound Vibration* **202** (1997), *no.* 5, 717–731. (Summary) **98b:70001** 70–08 (34C15, 70K40, 70K50)

Blais, François Asymptotique dans un corps de Hardy. (English and French summaries) [Asymptotics in a Hardy field] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 77–103.

(Antoine Delcroix) **98k:26003** 26A12 (03H05, 26E35)

Blaisdell, Gregory A. (*with* Hamba, Fujihiro) Towards modeling inhomogeneous compressible turbulence using a two-scale statistical theory. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2749–2768. (Summary) **98g:76040** 76Fxx (76M35)

Blaive, Bruno (*with* Cadilhac, Michel) Upper limit of the discrete hydrogen-like wave functions: expansion in the inverse principal quantum number n^{-1}. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6061–6071. (Summary) **98j:81057** 81Q05 (33C90)

Blake, Douglas C. Application of unstructured grid domain decomposition techniques to overset grids. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55

Blake, George I. (*with* Leslie, Frank M.; Towler, Mike J.) Switching and induced flow effects in chiral smectic C liquid crystals. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 263–271. (Summary) **98e:76009** 76A15 (73B99, 82D30)

Blake, Ian F. (*with* Gao, Shuhong; Lambert, Robert J.) Construction and distribution problems for irreducible trinomials over finite fields. (English summary) *Applications of finite fields* (*Egham*, 1994), 19–32, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Igor E. Shparlinski) **98a:11170** 11T06

— (*with* Tarokh, Vahid) Trellis complexity versus the coding gain of lattices. I. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1796–1807. (Patrick Solé) **98h:94025** 94B12 (94B75)

— (*with* Tarokh, Vahid) Trellis complexity versus the coding gain of lattices. II. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1808–1816. (Patrick Solé) **98h:94026** 94B12 (94B75)

— (*with* Wang, Muzhong) Normal basis of the finite field $\mathbf{F}_{2^{(p-1)p^m}}$ over $\mathbf{F}_2$. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 737–739. (Dirk Hachenberger) **98c:11136** 11T30

— (*with* Gao, Shuhong; Mullin, Ronald C.) Specific irreducible polynomials with linearly independent roots over finite fields. (English summary) *Linear Algebra Appl.* **253** (1997), 227–249. (Dirk Hachenberger) **98a:11171** 11T06

Blake, J. R. (*with* Hooton, M. C.; Robinson, P. B.; Tong, R. P.) Collapsing cavities, toroidal bubbles and jet impact. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 537–550. (Summary) **98a:76002** 76B10 (76M15)

Blakley, G. R. (*with* Kabatyanskiĭ, G. A.) Generalized ideal secret sharing schemes, and matroids. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 102–110; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 277–284 (1998). (Ivan Landgev) **98m:94031** 94A60 (05B35, 94A17)

Blanc, Alain-Philippe (*with* Barles, Guy) Large deviations estimates for the exit probabilities of a diffusion process through some vanishing parts of the boundary. *Adv. Differential Equations* **2** (1997), *no.* 1, 39–84. (Ross Pinsky) **98d:60055** 60F10 (35B05, 35R60, 49L25, 60J60)

— Deterministic exit time control problems with discontinuous exit costs. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 399–434. (Fabio Camilli) **98a:49045** 49L25 (35F30, 49L20)

Blanc, David Colimits for the pro-category of towers of simplicial sets. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **37** (1996), *no.* 4, 258–278. (Timothy Porter) **98b:18003** 18A30

— Mapping spaces and M-CW complexes. (English summary) *Forum Math.* **9** (1997), *no.* 3, 367–382. (Carles Casacuberta) **98i:55015** 55P99 (55P60, 55Q70, 55S37)

— Loop spaces and homotopy operations. (English summary) *Fund. Math.* **154** (1997), *no.* 1, 75–95. (R. E. Stong) **98b:55014** 55P45 (55Q35)

Blanc, F. (*with* Nazarov, Sergei A.) Asymptotics of solutions to the Poisson problem in a perforated domain with corners. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 893–911. (Summary) **98h:35017** 35B27 (35J05)

Blanc, J. P. C. The power-series algorithm for polling systems with time limits. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 221–237. 90B22

Blancafort, Cristina On Hilbert functions and cohomology. *J. Algebra* **192** (1997), *no.* 1, 439–459. (Lê Tuân Hoa) **98e:13017** 13D45 (13A30, 13D40)

— Hilbert functions of graded algebras over Artinian rings. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 55–78. (J. K. Verma) **98m:13023** 13D40 (13A02)

Blanc-Benon, P. (*with* Comte-Bellot, G.; Bailly, C.) Modelling tools for flow noise and sound propagation through turbulence. *New tools in turbulence modelling* (*Les Houches*, 1996), 141–162, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (*see* **98i:76001**) 76F99 (76Q05)

Blanch, Gertrude *see* **Grier, David Alan, 98f:01065**

Blanchard, Dominique Renormalized solutions for parabolic problems with L^1 data. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 177–185, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Henghui Zou) **98h:35096** 35K55 (35D05)

— (*with* Redwane, Hicham) Sur la résolution d'un problème quasi-linéaire à coefficients singuliers par rapport à l'inconnue. (English and French summaries) [Solutions of a quasilinear problem with blowing-up coefficients with respect to the unknown] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1263–1268. (Summary) **98j:35102** 35K60 (35J65)

— (*with* Murat, François) Renormalised solutions of nonlinear parabolic problems with L^1 data: existence and uniqueness. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1137–1152. (Summary) **98i:35096** 35K60

Blanchard, Etienne Subtriviality of continuous fields of nuclear C^*-algebras. (English summary) *J. Reine Angew. Math.* **489** (1997), 133–149. (Robert S. Doran) **98d:46072** 46L45 (46L05, 46L80, 46M20)

Blanchard, François (*with* Host, B.; Maass, Alejandro) Représentation par automate de fonctions continues du tore. (French summary) [Representation by automata of continuous functions of the torus] *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 1, 205–214. (Fernanda Botelho) **98d:11025; EA 98m** 11B85 (68Q80)

— (*with* Maass, Alejandro) Dynamical behaviour of Coven's aperiodic cellular automata. (English summary) *Theoret. Comput. Sci.* **163** (1996), *no.* 1-2, 291–302. (Summary) **98i:68208** 68Q80

— (*with* Glasner, Eli; Host, B.) A variation on the variational principle and applications to entropy pairs. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 29–43. (Manfred Denker) **98k:54073** 54H20 (28D05)

— (*with* Maass, Alejandro) Dynamical properties of expansive one-sided cellular automata. (English summary) *Israel J. Math.* **99** (1997), 149–174. (Michael Hurley) **98g:58089** 58F08 (28D20, 68Q80)

— (*with* Kwiatkowski, Jan) Minimal self-joinings and positive topological entropy. II. (English summary) *Studia Math.* **128** (1998), *no.* 2, 121–133. (Krzysztof Ciesielski) **98m:54042** 54H20 (28D20, 58F03)

Blanchard, Peter Floodstrand Exceptional group ring automorphisms for some metabelian groups. I, II. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2727–2733, 2735–2742. (Eugene Spiegel) **98k:20007** 20C05 (16W20)

Blanchard, Ph. (*with* Jadczyk, A.) Theory of events. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 265–272, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81025** 81P15

— (*with* Jadczyk, A.) Time of events in quantum theory. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 613–635. (Guido A. Raggio) **98f:81014** 81P05 (81P15)

Blanchard, Wade (*with* Ronchetti, Elvezio; Field, Christopher A.) Robust linear model selection by cross-validation. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1017–1023. (Summary) **98f:62204** 62J05 (62F35)

Blanchet-Sadri, F. On semidirect and two-sided semidirect products of finite $\mathcal{J}$-trivial monoids. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 5, 457–482. (Jorge Almeida) **98b:20094** 20M07 (08B20, 20M05)

— Equations on semidirect products of commutative semigroups. (English summary) *Semigroup Forum* **55** (1997), *no.* 1, 80–88. (Jorge Almeida) **98d:20062** 20M07 (20M14)

Blanchette, Mathieu (*with* Sankoff, David) The median problem for breakpoints in comparative genomics. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 251–263, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 92D15 (68Q20)

Blanchette, Patricia A. Frege and Hilbert on consistency. *J. Philos.* **93** (1996), *no.* 7, 317–336. (Siegfried Gottwald) **98g:03004** 03A05 (01A55, 01A60, 03–03)

Blanchini, Franco (*with* Mesquine, Fouad; Miani, Stefano) Constrained stabilization with an assigned initial condition set. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 601–617. 93D15

— (*with* Miani, Stefano) Constrained stabilization of continuous-time linear systems. (English summary) *Systems Control Lett.* **28** (1996), *no.* 2, 95–102. (Summary) **98b:93055** 93D15

— (*with* Miani, Stefano) Nonlinear controllers for the constrained stabilization of uncertain dynamic systems. *Control of uncertain systems with bounded inputs*, 97–117, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Han Sheng Wu) **98g:93040** 93D21 (93C41, 93D09, 93D15, 93D30)

— (*with* Miani, Stefano; Sznaier, M.) Robust performance with fixed and worst-case signals for uncertain time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2183–2189. 93B36 (93C41)

— (*with* Rinaldi, Franca; Ukovich, Walter) A network design problem for a distribution system with uncertain demands. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 560–578. (Summary) **98m:90059** 90B10 (90C60, 90D43)

Blanck, Jens Domain representability of metric spaces. (English summary) *Ann. Pure Appl. Logic* **83** (1997), *no.* 3, 225–247. (Summary) **98j:03063** 03D45 (54E35, 68Q99)

corral Blanco, Norberto *see* **Corral Blanco, Norberto**

magnucka-Blandzi, E. *see* **Magnucka-Blandzi, E.**

Blanes, S. (*with* Casas, Fernando; Oteo, J. A.; Ros, J.) Magnus and Fer expansions for matrix differential equations: the convergence problem. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 259–268. (Summary) **98m:34019** 34A30 (34A45)

Blank, Brian E. (*with* Fan, Dashan) S and g_λ^*-functions on compact Lie groups. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 327–344. (Norman J. Weiss) **98f:43004** 43A15 (22E30, 43A75)

Blank, Michael (*with* Aurell, Erik; Frisch, Uriel; Noullez, A.) Bifractality of the Devil's staircase appearing in the Burgers equation with Brownian initial velocity. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1151–1164. (Summary) **98e:60104** 60H15 (35Q53, 35R60)

— (*with* Keller, Gerhard) Stochastic stability versus localization in one-dimensional chaotic dynamical systems. (English summary) *Nonlinearity* **10** (1997), *no.* 1, 81–107. (Takehiko Morita) **98a:58101** 58F11 (28D05, 58F13, 58F19)

— Generalized phase transitions in finite coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 34–50. (Volker Matthias Gundlach) **98d:58100** 58F11 (58F10, 58F15)

Blanke, D. (*with* Bosq, Denis) Accurate rates of density estimators for continuous-time processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 185–191. (Summary) **98a:62041** 62G05

Blankertz, Benjamin (*with* Weiermann, Andreas) How to characterize provably total functions by the Buchholz operator method. (English summary) *Gödel '96* (*Brno*, 1996), 205–213, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Thomas McLaughlin) **98c:03116** 03F30 (03D20, 03D60, 03F15)

Blanleil, Vincent (*with* Michel, Françoise) A theory of cobordism for non-spherical links. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 30–51. (J. P. Levine) **98h:57049** 57Q45 (14B05, 32S55, 57Q60)

Blanning, Robert W. (*with* Basu, Amit) A graph-theoretic approach to analyzing knowledge bases containing rules, models and data. (English summary) *Ann. Oper. Res.* **75** (1997), 3–23. (Summary) **98j:68152** 68T30 (68R10)

Blanter, Ya. M. (*with* Fazio, Rosario; Schön, Gerd) Duality in Josephson junction arrays. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 79–90. (*see* **98f:81004**) 82D55

Blănuţă, Victor Almost r-π-structures on the cotangent bundle. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 17–21. (Aurel Bejancu) **98f:53026** 53C15

— (*with* Purcaru, Monica) The integrability of almost 2-π structures in the bundle of accelerations. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *suppl.*, 197–206. (Makoto Matsumoto) **98g:53123** 53C60

Blanze, C. (*with* Champaney, L.; Cognard, J.-Y.; Ladevèze, P.) A modular approach to structure assembly computations: application to contact problems. *Engrg. Comput.* **13** (1996), *no.* 1, 15–32. (Summary) **98b:73043** 73V20 (73T05, 73V05)

barreiro Blas, Antonio *see* **Barreiro Blas, Antonio**

villegas-Blas, Carlos *see* **Villegas-Blas, Carlos**

Blaschke-Kaltenbacher, Barbara (*with* Engl, Heinz W.; Grever, W.; Klibanov, Michael V.) An application of Tikhonov regularization to phase retrieval. (English summary) *Nonlinear World* **3** (1996), *no.* 4, 771–786. (Hans-Jürgen Reinhardt) **98d:65080** 65J20 (42A38, 65T20)

— (*with* Neubauer, Andreas; Scherzer, Otmar) On convergence rates for the iteratively regularized Gauss-Newton method. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 421–436. (V. V. Vasin) **98f:65066** 65J20 (47H17, 65J15)

— Some Newton-type methods for the regularization of nonlinear ill-posed problems. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 729–753. (V. V. Vasin) **98h:65025** 65J20

Blasco, Fernando Complementation in spaces of symmetric tensor products and polynomials. *Extracta Math.* **11** (1996), *no.* 3, 489–492. 46G20 (46A32)

— Complementation in spaces of symmetric tensor products and polynomials. (English summary) *Studia Math.* **123** (1997), *no.* 2, 165–173. (Jorge Mujica) **98d:46043** 46G20 (46A32)

— Polynomials on Köthe echelon spaces. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 147–152. (Summary) **98h:46046** 46G20 (46A08, 46A32)

ruiz Blasco, Francisco José *see* **Ruiz Blasco, Francisco José**

Blasco, Jordi (*with* Codina, Ramon) A finite element formulation for the Stokes problem allowing equal velocity-pressure interpolation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 3-4, 373–391. (Adélia Sequeira) **98j:76086** 76M10 (65M60, 76D07)

Blasco, Jose L. On linear extension operators from growths of compactifications of products. (English summary) *Topology Appl.* **71** (1996), *no.* 2, 193–200. (Summary) **98f:54009** 54B10 (54C15, 54C35, 54D35)

Blasco, Oscar Vector-valued analytic functions of bounded mean oscillation and geometry of Banach spaces. *Illinois J. Math.* **41** (1997), *no.* 4, 532–558. (S. Cobzaş) **98h:46034** 46E40 (30G30, 46B20, 46B28, 46J15)

Blashchak, N. Ī. (*with* Pelyukh, G. P.) On periodic solutions of systems of nonlinear functional-differential equations with a linearly transformed argument, and their properties. (Ukrainian. Ukrainian summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996,** *no.* 19, 20 *pp.* (A. F. Ivanov) **98j:34138** 34K15

— On periodic solutions of second-order differential equations of hyperbolic type. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 4, 18–22. (Ya. A. Roĭtberg) **98m:35120** 35L20 (35B10, 35L70)

Blasi, Alberto *see* **Constrained dynamics and quantum gravity, 98f:83002**

di Blasio, Bianca *see* **Di Blasio, Bianca**

di Blasio, Gabriella *see* **Di Blasio, Gabriella**

di Blasio, Paolo *see* **Di Blasio, Paolo**

Blasius, Don Modular forms and abelian varieties. *Séminaire de Théorie des Nombres, Paris, 1989–90*, 23–29, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Ben Moonen) **98h:11066** 11F80 (11G10)

— *see also* **Olga Taussky-Todd: in memoriam, 98i:00038**

Blasone, M. (*with* Graziano, Elvira; Pashaev, O. K.; Vitiello, Giuseppe) Dissipation and topologically massive gauge theories in the pseudo-Euclidean plane. (English summary) *Ann. Physics* **252** (1996), *no.* 1, 115–132. (Summary) **98f:81192** 81T13 (81V70)

Blass, Andreas (*with* Sagan, Bruce E.) Möbius functions of lattices. (English summary) *Adv. Math.* **127** (1997), *no.* 1, 94–123. (Joseph Kung) **98c:06001** 06A07 (05A15, 05A17, 05E25, 06A08)

— Some semantical aspects of linear logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 4, 487–503 (*electronic*). (Aldo Ursini) **98j:03084** 03F50 (03B70)

Blass, Josef (*with* Bennett, Curtis D.; Glass, A. M. W.; Meronk, David B.; Steiner, Ray P.) Linear forms in the logarithms of three positive rational numbers. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 97–136. (Yann Bugeaud) **98g:11085** 11J86

Blaszczyk, Aleksander (*with* Vermeer, Johannes) Some old and some new results on combinatorial properties of fixed-point free maps. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 1–16, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54100** 54H25 (54D30, 54G05, 54H20)

Blaszczyk, Marek Logique multivalente. [Multivalued logic] *Introduction aux logiques non classiques*, 57–89, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B50

Blaszczyszyn, Bartlomiej (*with* Rolski, Tomasz; Schmidt, Volker[1]) Light-traffic approximation in queues and related stochastic models. (English summary) *Advances in queueing*, 379–406, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1995. (Ravi Mazumdar) **98g:60161** 60K25

Blatov, I. A. On Galerkin's finite element method for singularly perturbed parabolic initial-boundary value problems. I. Main result and estimates for the norms of projectors. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 5, 661–669, 718; *translation in Differential Equations* **32** (1996), *no.* 5, 668–678. (Erwin Schechter) **98b:65113** 65M60

— On bounds for LU-factorizations of sparse matrices and their applications to incomplete factorization methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 259–276. (Summary) **98a:65059** 65F35 (15A23, 65N99)

Blatt, Hans-Peter (*with* Mhaskar, H. N.) A discrepancy theorem concerning polynomials of best approximation in $L_w^p[-1,1]$. (English summary) *Monatsh. Math.* **120** (1995), *no.* 2, 91–103. (N. Misra) **98a:41038** 41A50 (41A05)

— A discrepancy lemma for oscillating polynomials and sign changes of the error function of best approximants. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 55–66. (Martin Bartelt) **98a:41005** 41A10 (41A50)

— (*with* Andrievskiĭ, Vladimir) A discrepancy theorem on quasiconformal curves. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 363–379. (Ralitza Kovacheva) **98d:30007** 30C10 (30C15, 41A10)

Blatter, Jörg (*with* König, Heinz J. E.) A note on Irving Glicksberg's pseudocompactness papers. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 71–78, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Denny Gulick) **98m:46029** 46E15

Blau, Matthias (*with* Thompson, George) Localization and diagonalization: a review of functional integral techniques for low-dimensional gauge theories and topological field theories. (English summary) *Functional integration (Cargèse, 1996)*, 363–410, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (Bai-Ling Wang) **98j:58023** 58D20 (57R57, 58D27, 58D30, 81S40, 81T13)

— (*with* Thompson, George) Aspects of $N_f \geq 2$ topological gauge theories and D-branes. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 545–590. (Summary) **98f:58047** 58D29 (81T70)

Blaut, Arkadiusz (*with* Kowalski-Glikman, Jerzy) Solutions of quantum gravity coupled to the scalar field. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 33–36. (Subenoy Chakraborty) **98j:83036** 83C45

— *see also* **de Barros, J. Acacio, 98d:83029**

Blawzdziewicz, J. (*with* Bruneau, D.; Feuillebois, F.; Anthore, R.) Three-dimensional intrinsic convection in dilute and dense dispersions of settling spheres. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 55–59. 76R99 (76T05)

Blayo, E. (*with* Debreu, L.) On the Schwarz alternating method for oceanic models on parallel computers. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 93–111. (Summary) **98m:86001** 86–08 (86A05)

Blażewicz, Jacek (*with* Bianco, L.; Dell'Olmo, Paolo; Drozdowski, Maciej) Preemptive multiprocessor task scheduling with release times and time windows. (English summary) *Ann. Oper. Res.* **70** (1997), 43–55. (Jan Węglarz) **98f:68206** 68R05 (68M20, 68Q10, 68Q25, 90B35)

— (*with* Drozdowski, Maciej) Distributed processing of divisible jobs with communication startup costs. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 21–41. (Summary) **98b:68041** 68Q10 (68M20)

— *see also* **Colloquium: Graphs and Optimization, 98b:00021**

Blažić, Novica (*with* Bokan, Neda; Rakić, Zoran) The first order PDE system for type III Osserman manifolds. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 113–119. (María Elena Vázquez-Abal) **98m:53029** 53B30 (53C50)

— *see also* **Seminar: Geometrical, 98h:53005**

Blázquez, C. Miguel (*with* Tuma, Elias) Shil'nikov's type solutions under nonlinear, nonautonomous perturbation. (English summary) *Proyecciones* **15** (1996), *no.* 2, 101–110. (Alexandre N. Carvalho) **98e:34106** 34G20 (34C30, 34D05, 47N20)

lópez-Blázquez, Fernando *see* **López-Blázquez, Fernando**

Blázquez, Miguel *see* **Blázquez, C. Miguel**

Bleaney, Brebis The physical sciences in Oxford, 1918–1939 and earlier. *Notes and Records Roy. Soc. London* **48** (1994), *no.* 2, 247–261. 01A73

Blecher, David P. Some general theory of operator algebras and their modules. *Operator algebras and applications (Samos, 1996)*, 113–143, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Michael Frank) **98g:46079** 46L05 (46H25, 46M05, 47D25)

— A new approach to Hilbert C^*-modules. *Math. Ann.* **307** (1997), *no.* 2, 253–290. (Christian Le Merdy) **98d:46063** 46L05 (46C50, 46H25)

— Factorizations in universal operator spaces and algebras. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 151–167. (Kenneth R. Davidson) **98d:46064** 46L05 (47D25)

Blecksmith, Richard (*with* Brillhart, John; Gerst, Irving) A lattice proof of a modular identity. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1275–1287. (Richard P. Lewis) **98e:11123** 11P83 (11F11)

— (*with* Brillhart, John; Gerst, Irving) A constructive theory of triple and quintuple product identities of the second degree. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 797–814. (Heng Huat Chan) **98g:11047** 11F11 (11P81)

Bleecker, David D. (*with* Csordas, George) ★ Basic partial differential equations. *International Press, Cambridge, MA*, 1996. xviii+735 *pp. ISBN* 1-57146-036-5 (Editors) **98m:35001** 35–01

— Isometric deformations of compact hypersurfaces. (English summary) *Geom. Dedicata* **64** (1997), *no.* 2, 193–227. (Summary) **98f:53049** 53C40 (53A07)

— (*with* Wallen, Lawrence J.) The world's biggest taco. *College Math. J.* **29** (1998), *no.* 1, 2–12. (Andrew Bucki) **98m:53004** 53A04 (49K35, 53A05)

van den Bleek, C. M. *see* **Van den Bleek, C. M.**

Bleher, Pavel M. (*with* Di, Xiaojun) Correlations between zeros of a random polynomial. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 269–305. (Kambiz Farahmand) **98m:60078** 60G99 (26C99, 60K99)

— (*with* Kel'bert, M. Ya.) All sorts of sorting. *Quantum* **7** (1997), *no.* 6, 13–17. (Jan W. Owsiński) **98g:68151** 68T10

Bleichenbacher, Daniel (*with* Maurer, Ueli M.) Optimal tree-based one-time digital signature schemes. (English summary) *STACS 96 (Grenoble, 1996)*, 363–374, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98g:94023** 94A60 (06A07, 68P25, 68R10)

Bleikli, R. G. *see* **Blakley, G. R.**

Bleistein, Norman (*with* de Hoop, Maarten V.) Generalized Radon transform inversions for reflectivity in anisotropic elastic media. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 669–690. (Alexander S. Denisjuk) **98g:73012** 73D25 (44A12, 73B40, 73D50, 86A15, 86A22)

Blekher, P. *see* **Bleher, Pavel M.**

Blekhman, I. I. (*with* Fradkov, A. L.; Nijmeijer, Henk; Pogromsky, A. Yu.) On self-synchronization and controlled synchronization. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 299–305. (Summary) **98k:93052** 93C10 (34C99, 58F40)

Blelloch, Guy E. (*with* Narlikar, Girija) A practical comparison of N-body algorithms. (English summary) *Parallel algorithms (Piscataway, NJ, 1994)*, 81–96, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 30, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:70003** 70–08 (68Q22, 70F10)

— (*with* Leiserson, Charles E.; Maggs, Bruce M.; Plaxton, C. Gregory; Smith, Stephen Joseph; Zagha, M.) An experimental analysis of parallel sorting algorithms. (English

summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 135–167. 68Q22 (68P10)
— *see also* **ACM Symposium: Parallel Algorithms and Architectures, 98d:68004**
Blenk, S. (*with* Muschik, Wolfgang; Ehrentraut, Harald; Papenfuss, Christina) The connection between Ericksen-Leslie equations and the balances of mesoscopic theory of liquid crystals. (English summary) *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 185–194, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 76A15 (82D30)
Blettner, Maria (*with* Ziegler, Andreas; Kastner, Christian) The generalised estimating equations: an annotated bibliography. (English summary) *Biom. J.* **40** (1998), *no.* 2, 115–139. 62–00 (62F10)
Blevins, R. D. Probability density of finite Fourier series with random phases. (English summary) *J. Sound Vibration* **208** (1997), *no.* 4, 617–652. 60G99
Bley, W. Computing associated orders and Galois generating elements of unit lattices. (English summary) *J. Number Theory* **62** (1997), *no.* 2, 242–256. (Abdelmejid Bayad) **98a:11147** 11R33 (11R27)
Bleyer, Ulrich (*with* Treder, Hans-Jürgen; Liebscher, Dierck-E.) Jacobi's principle and Hertz' definition of time. *Gravity, particles and space-time*, 207–215, *World Sci. Publishing, River Edge, NJ*, 1996. (Francisco Diego Mazzitelli) **98f:83056** 83C47 (70A05, 70H40)
Bliev, N. ★ Generalized analytic functions in fractional spaces. Translated from the 1985 Russian original by H. Begehr and R. Radok [Jens Rainer Maria Radok]. Pitman Monographs and Surveys in Pure and Applied Mathematics, 86. *Longman, Harlow*, 1997. x+145 *pp. ISBN* 0-582-28861-4 (Editors) **98g:30075** 30G20 (30E25, 35Jxx, 46E35, 46N20, 47F05)
Blikle, Andrzej Why denotational? Remarks on applied denotational semantics. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 55–85. (T. Rus) **98c:68125** 68Q55
Bliman, P.-A. (*with* Sorine, Michel; Vladimirov, A. A.; Krasnosel'skiĭ, A. M.) Forced oscillations in control systems with hysteresis. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 4, 458–461. (J. W. Macki) **98b:34056** 34C25 (34C23, 34H05, 34K15, 47H15, 47N20, 93C15)
— (*with* Krasnosel'skiĭ, A. M.; Sorine, Michel; Vladimirov, A. A.) Nonlinear resonance in systems with hysteresis. *Nonlinear Anal.* **27** (1996), *no.* 5, 561–577. (Pyotr M. Simonov) **98b:34057** 34C25 (34A34, 34C15, 47H30, 47N20)
Blind, G. (*with* Blind, R.) Cubical d-polytopes with few vertices for $d > 4$. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 247–255. (P. McMullen) **98d:52015** 52B12
— (*with* Blind, R.) Cubical 4-polytopes with few vertices. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 223–231. (Ren Ding) **98g:52018** 52B05 (52B12)
Blind, R. (*with* Blind, G.) Cubical d-polytopes with few vertices for $d > 4$. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 247–255. (P. McMullen) **98d:52015** 52B12
— (*with* Blind, G.) Cubical 4-polytopes with few vertices. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 223–231. (Ren Ding) **98g:52018** 52B05 (52B12)
Blinkhorn, S. F. Past imperfect, future conditional: fifty years of test theory. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 175–185. 01A60
Blinov, A. L. Semantic games with chance moves. (Russian. Russian summary) *Logical investigations, No.* 3 (*Russian*), 257–275, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B45
Blinov, A. V. (*with* Izhutkin, V. S.; Petropavlovskiĭ, M. V.) The center and the barrier function methods using reduced directions for the nonlinear progamming problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 30–41; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 27–38 (1997). (Stefan M. Stefanov) **98c:90135** 90C30 (65K05)
Blinov, S. P. The method of dynamic programming and internal parallels for the approximate solution of the Dirichlet problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 925–932. (Summary) **98f:65068** 65K05 (90C39)
Blinovskiĭ, V. M. ★ Asymptotic combinatorial coding theory. (English summary) The Kluwer International Series in Engineering and Computer Science, 415. *Kluwer Academic Publishers, Boston, MA*, 1997. xxviii+93 *pp. ISBN* 0-7923-9988-9 (Ian Blake) **98m:94050** 94B25 (94–02, 94B65)
Bliznyakov, N. M. (*with* Borisovich, Yu. G.; Izrailevich, Ya. A.; Fomenko, T. N.) ★ Введение в топологию. (Russian. English and Russian summaries) [Introduction to topology] Second edition. *Fizmatlit "Nauka", Moscow*, 1995. 416 *pp. ISBN* 5-02-014118-6 (Alexander N. Dranishnikov) **98f:55001** 55–01 (54–01, 57–01)
Blizorukov, M. G. On the construction of solutions of linear difference systems with continuous time. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 1, 127–128, 143; *translation in Differential Equations* **32** (1996), *no.* 1, 133–134. (A. Ya. Dorogovtsev) **98e:39010** 39B62 (39A10)
Bloch, Anthony M. (*with* Marsden, Jerrold E.; Sánchez de Alvarez, Gloria) Feedback stabilization of relative equilibria for mechanical systems with symmetry. (English summary) *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 43–64, *Birkhäuser Boston, Boston, MA*, 1997. (Jair Koiller) **98e:70019** 70Q05 (58F05, 70E15, 70H33, 70H35, 70K20, 93D15)
— (*with* El Hadrami, Mohamed Ould; Flaschka, Hermann; Ratiu, Tudor S.) Maximal tori of some symplectomorphism groups and applications to convexity. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 201–222, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Valentino Zocca) **98k:58029** 58D05 (22E65, 58F05)
— (*with* Brockett, Roger W.; Crouch, Peter E.) Double bracket equations and geodesic flows on symmetric spaces. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 357–373. (L. E. Faybusovich) **98g:58136** 58F17
Bloch, Francis (*with* Ghosal, Sayantan) Stable trading structures in bilateral oligopolies. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 368–384. (Summary) **98d:90044** 90A60
Bloch, Isabelle (*with* Maître, Henri; Anvari, Morteza) Fuzzy adjacency between image objects. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 6, 615–653. (Summary) **98j:68168** 68U10
Bloch, S. *see* **Bloch, Spencer J.**
Bloch, S. A. (*with* Buss, Jonathan F.; Goldsmith, Judy) Sharply bounded alternation and quasilinear time. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 187–214. (Summary) **98m:68084** 68Q15
Bloch, Spencer J. Zeta values and differential operators on the circle. (English summary) *J. Algebra* **182** (1996), *no.* 2, 476–500. (Jun'ichi Shiraishi) **98a:11117** 11M41 (11F22, 17B68)
— (*with* Gillet, H.; Soulé, Christophe) Algebraic cycles on degenerate fibers. *Arithmetic geometry* (*Cortona*, 1994), 45–69, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Fumio Hazama) **98i:14011** 14C25 (14D07)
— (*with* Esnault, Hélène) Algebraic Chern-Simons theory. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 903–952. (Burt Totaro) **98i:32050** 32L10 (14C30, 32J25, 57R20)
Block, Henry W. (*with* Qian, Shi Xian; Sampson, Allan R.) Isotonic regression on permutations. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 45–64, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98j:62028** 62G05 (20B30)
— (*with* Mi, Jie; Savits, Thomas H.) Burn-in at the component and system level. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 53–57, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62179** 62N05
— (*with* Costigan, Tim; Sampson, Allan R.) A review of orthant probability bounds. (English summary) *Advances in the theory and practice of statistics*, 535–550, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:60025** 60E15 (62H05)
— (*with* Savits, Thomas H.; Singh, Harshinder) The reversed hazard rate function. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 69–90. (Summary) **98m:62277** 62N05
Block, Jonathan (*with* Lazarev, A. Yu.) Homotopy theory and generalized duality for spectral sheaves. *Internat. Math. Res. Notices* **1996**, *no.* 20, 983–996. (L. Gaunce Lewis, Jr.) **98b:18020** 18F20 (18D15, 19J25, 55N05, 55N30, 55U35)
— (*with* Weinberger, Shmuel) Large scale homology theories and geometry. *Geometric topology* (*Athens, GA*, 1993), 522–569, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (A. A. Ranicki) **98h:57001** 57M07 (18G60, 55N35, 58G12)
— (*with* Mathai, Varghese; Weinberger, Shmuel) Homotopy invariance of Novikov-Shubin invariants and L^2 Betti numbers. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3757–3762. (Patrick T. McDonald) **98d:58175** 58G12 (57R20, 58G05)
Block, Richard E. *see* **Modular interfaces, 98f:17001**
Blocki, Zbigniew The complex Monge-Ampère operator in hyperconvex domains. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 721–747 (1997). (Yang Xing) **98j:32009** 32F07 (35J60)
Blodgett, Robert J. Adding functions to ensure regression converges. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1203–1214. (Summary) **98a:62087** 62J02
Bloemen, I. (*with* Thas, J. A.; Van Maldeghem, Hendrik) Elation generalized quadrangles of order (p, t), p prime, are classical. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 49–55. (Stanley E. Payne) **98c:51007** 51E12 (51A50)
Blok, Willem J. (*with* Raftery, James G.) Varieties of commutative residuated integral pomonoids and their residuation subreducts. *J. Algebra* **190** (1997), *no.* 2, 280–328. (Ralph Freese) **98j:08001** 08A05 (06F05, 08B05)
Blokh, A. M. (*with* Misiurewicz, Michał) New order for periodic orbits of interval maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 565–574. (Alla Kolganova) **98i:58191** 58F20 (58F03)
— On the tomb of Sof'ya Kovalevskaya. (Russian) *Priroda* **1997**, *no.* 1, 92–93. 01A70
— (*with* Misiurewicz, Michał) Dense set of negative Schwarzian maps whose critical points have minimal limit sets. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 141–158. (Fuyao Ren) **98i:58134** 58F10 (58F03)
Blokhin, A. M. (*with* Krymskikh, D. A.) Strong discontinuities in a superfluid. (Russian. Russian summary) *Theoretical and computational problems in mathematical physics* (*Russian*), 20–62, 174, *Trudy Inst. Mat.*, 24, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Darko Kapor) **98g:82052** 82D55 (35Q99, 76Y05)
— (*with* Trakhinin, Yu. L.) Stability of shock waves for a model of radiative hydrodynamics. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **37** (1996), *no.* 6, 3–14; *translation in J. Appl. Mech. Tech. Phys.* **37** (1996), *no.* 6, 775–784 (1997). (From the text) **98a:76047** 76L05 (76E25, 76N99, 76W05, 85A25, 85A30)
— (*with* Krymskikh, D. A.) Strong discontinuities in a superfluid [translation of *Theoretical and computational problems in mathematical physics (Russian)*, 20–62, 174, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1994; MR 98g:82052]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 4, 1–52. (*see* **98k:00026**) 82D55 (35L60, 35Q99, 76A99)
— (*with* Romano, Vittorio; Trakhinin, Yu. L.) Stability of shock waves in relativistic radiation hydrodynamics. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 2, 145–180. (Ilija Lukačević) **98g:85003** 85A30 (35L67, 76L05, 76Y05)
Blokhuis, Aart (*with* Ball, Simeon; Mazzocca, Francesco) Maximal arcs in Desarguesian planes of odd order do not exist. (English summary) *Combinatorica* **17** (1997), *no.* 1, 31–41. (Tamás Szönyi) **98h:51014** 51E21 (05B25)
Blom, Stefan (*with* Ariola, Zena M.) Cyclic lambda calculi. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 77–106, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15 (03B40)
Blömer, Johannes (*with* Albanese, Andres; Edmonds, Jeff; Luby, Michael; Sudan, Madhu) Priority encoding transmission. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1737–1744. (*see* **98c:94001**) 94C05 (94A05)
Blommestein, Hans J. (*with* Koper, Nick A. M.) The influence of sample size on the degree of redundancy in spatial lag operators. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 317–333. 62P20
chapeau-Blondeau, François *see* **Chapeau-Blondeau, François**
Blondel, Corinne Critère d'injectivité pour l'application de Jacquet. (English and French summaries) [Injectivity criterion for the Jacquet map] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1149–1152. (David Manderscheid) **98k:22069** 22E50
Blondel, Vincent D. (*with* Tsitsiklis, John N.) When is a pair of matrices mortal? (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 283–286. (Summary) **98f:15023** 15A99 (03D15, 03D35, 68Q25)
— (*with* Tsitsiklis, John N.) NP-hardness of some linear control design problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2118–2127. (B. T. Polyak) **98k:93081** 93D09 (15A18, 68Q25)

Bloo, Carolus Johannes ★ Preservation of termination for explicit substitution. (English and Dutch summaries) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. IPA Dissertation Series, 1997-05. *Eindhoven University of Technology, Eindhoven*, 1997. viii+175 *pp. ISBN* 90-386-0551-X (Summary) **98g:68015** 68N15 (03B40, 03D05, 68Q42)

Bloo, Roel (*with* Rose, Kristoffer H.) Combinatory reduction systems with explicit substitution that preserve strong normalisation. (English summary) *Rewriting techniques and applications (New Brunswick, NJ, 1996)*, 169–183, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98h:68128** 68Q42 (03B40)

Bloom, Bard (*with* Dsouza, Ashvin) On the expressive power of CCS. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 309–323, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q10 (68Q60)

Bloom, David M. Singles in a sequence of coin tosses. *College Math. J.* **29** (1998), *no.* 2, 120–127. 60C05

Bloom, Frederick ★ Mathematical problems of classical nonlinear electromagnetic theory. Pitman Monographs and Surveys in Pure and Applied Mathematics, 63. *Longman Scientific & Technical, Harlow; copublished in the United States with John Wiley & Sons, Inc., New York*, 1993. viii+386 *pp. ISBN* 0-582-21021-6 (From the preface) **98c:78001** 78–01

— Linearized stability of the viscous incompressible bipolar equations. *Nonlinear Anal.* **27** (1996), *no.* 9, 1013–1030. (From the introduction) **98a:76038** 76E99 (73B25, 76A99, 76D05)

— (*with* Heindel, T. J.) Mathematical modelling of the flotation deinking process. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 13–58. (Summary) **98b:76072** 76T05 (76D99, 76M35, 82C99)

Bloom, Stephen L. (*with* Sabadini, Nicoletta; Walters, R. F. C.) Matrices, machines and behaviors. (English summary) *Appl. Categ. Structures* **4** (1996), *no.* 4, 343–360. (Anna Labella) **98a:68049** 68Q05 (18B20, 68Q10, 68Q68)

— (*with* Ésik, Zoltán) The equational logic of fixed points. *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 1–60. (Heinrich Seidel) **98i:68176** 68Q55 (03C05)

Bloom, Steven First and second order Opial inequalities. (English summary) *Studia Math.* **126** (1997), *no.* 1, 27–50. (Maria J. Carro) **98g:26016** 26D10

Bloom, Thomas (*with* Calvi, Jean-Paul) Kergin interpolants of holomorphic functions. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 569–583. (Ragnar Sigurdsson) **98h:32021** 32E30 (32A10)

— Orthogonal polynomials in $\mathbf{C}^n$. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 427–452. (Norman Levenberg) **98j:32006** 32F05 (41A17)

— (*with* Calvi, Jean-Paul) A continuity property of multivariate Lagrange interpolation. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1561–1577. (Len Bos) **98a:41001** 41A05 (41A63)

— Some applications of the Robin function to multivariable approximation theory. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 1–21. (Dietrich Braess) **98k:32021** 32E30 (41A10)

Bloomfield, Lynn J. (*with* Kerr, Ross C.) Turbulent fountains in a stratified fluid. (English summary) *J. Fluid Mech.* **358** (1998), 335–356. (Summary) **98m:76151** 76V05 (76–05, 76F99, 86A60)

Bloor, Malcolm I. G. (*with* Wilson, Michael John) Generating parametrizations of wing geometries using partial differential equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 125–138. (Summary) **98e:76085** 76M25 (76B05, 76G25)

Bloshanskiĭ, I. L. (*with* Ivanova, O. K.; Roslova, T. Yu.) Generalized localization and equiconvergence of expansions in a double trigonometric series, and the Fourier integral of functions in $L(\ln^+ L)^2$. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 437–441; *translation in Math. Notes* **60** (1996), *no.* 3-4, 324–327 (1997). (Elijah Liflyand) **98h:42010** 42B05 (42A63, 42B10)

Bloshchitsyn, V. Ya. On automorphisms of symplectic groups of small dimension. (Russian) *Group and metric properties of mappings (Russian)*, 19–25, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (Tatiana V. Fomina) **98e:20051** 20G15 (20F28)

Blossey, Peter (*with* Lumley, John L.) Control of turbulence. (English summary) *Annual review of fluid mechanics, Vol. 30*, 311–327, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76F99

Blossey, R. (*with* Foltin, G.; Bausch, R.) Critical holes in undercooled wetting layers. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2937–2946. (Summary) **98d:82022** 82B24

Blot, Joël (*with* Hayek, Naïla) Second-order necessary conditions for the infinite-horizon variational problems. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 979–990. (Urszula Ledzewicz) **98a:49032** 49K15

Blount, Douglas Diffusion limits for a nonlinear density dependent space-time population model. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 639–659. (Summary) **98c:60138** 60K35 (60B10, 60H15, 60J60)

Blount, Kevin K. (*with* Bevis, Jean H.; Davis, George J.; Domke, Gayla S.; Miller, Valerie A.) The rank of a graph after vertex addition. (English summary) *Linear Algebra Appl.* **265** (1997), 55–69. (Slobodan Simić) **98i:05116** 05C50

Blount, S. (*with* Galambosi, Ágnes; Yakowitz, Sidney J.) Nonlinear and dynamic programming for epidemic intervention. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 123–136. (Summary) **98h:92041** 92D30 (92C60)

Blower, Gordon Multipliers for semigroups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 2, 241–252. (Matthias Hieber) **98c:47046** 47D03 (46E30)

— Quadratic integrals and factorization of linear operators. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 333–346. (Françoise Lust-Piquard) **98k:46060** 46E40 (47A68, 47B10)

— Complete polynomial bounds for matrices. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 189, 11–15. (Kenneth R. Davidson) **98j:47015** 47A45 (15A45, 47A30, 47B40)

Blowey, James F. (*with* Barrett, John W.) Finite element approximation of a model for phase separation of a multi-component alloy with non-smooth free energy. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 1–34. (Gert Lube) **98j:65066** 65M60 (65M12)

Bludov, V. V. On Frobenius groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1219–1221, *i*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1054–1056. (Summary) **98m:20029** 20E22 (20F60)

Bluhm, J. (*with* de Boer, Reint) The volume fraction concept in the porous media theory. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 8, 563–577. (Summary) **98h:76125** 76S05 (73B99)

Blum, Avrim L. (*with* Langley, Pat) Selection of relevant features and examples in machine learning. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 245–271. (Summary) **98j:68145** 68T05

— (*with* Kannan, Ravindran) Learning an intersection of a constant number of halfspaces over a uniform distribution. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 371–380. (Peter Auer) **98g:68138** 68T05 (68Q99)

Blum, Edward K. (*with* Wang, Xin[2]; Parker, D. Stott, Jr.; Massey, Daniel) The dance party problem and its application to collective communication in computer networks. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1141–1156. (From the summary) **98i:68213** 68R05 (68M10)

Blum, Jacques Identification et contrôle de l'équilibre du plasma dans un Tokamak. (English summary) [Identification and control of plasma equilibrium in a Tokamak] Mathematical models in plasma physics (Spanish) (Madrid, 1991/1992). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **30** (1995), 23–48. (Summary) **98i:76110** 76X05 (82D10, 93C20)

— (*with* Buvat, H.) An inverse problem in plasma physics: the identification of the current density profile in a tokamak. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 17–36, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98e:76109** 76X05 (76M25, 76M30, 82D10)

— *see also* **Elasticity, viscoelasticity and optimal control. 98g:73001**

Blum, Julie D. (*with* Zaffaroni, Alberto[1]) An orientifold from F theory. (English summary) *Phys. Lett. B* **387** (1996), *no.* 1, 71–74. (Fermin Aldabe) **98a:81155** 81T30 (14J32, 32J81)

— F-theory orientifolds, M-theory orientifolds, and twisted strings. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 34–48. (Summary) **98f:81240** 81T30 (83E30)

— H-dyons and S-duality. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 245–258. (C. Gauthier) **98j:81256** 81T30 (81T13, 81T60)

— (*with* Dienes, Keith R.) Duality without supersymmetry: the case of the SO(16) × SO(16) string. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 260–268. (Summary) **98g:81152** 81T30 (83E30)

Blum, Karl ★ Density matrix theory and applications. Second edition. Physics of Atoms and Molecules. *Plenum Press, New York*, 1996. xvi+323 *pp. ISBN* 0-306-45341-X (W. Witschel) **98c:81001** 81–01 (81V45, 81V55)

Blum, Lenore (*with* Cucker, Felipe; Shub, Michael; Smale, Steve) Algebraic settings for the problem "P ≠ NP?". (English summary) *The mathematics of numerical analysis (Park City, UT, 1995)*, 125–144, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Klaus Meer) **98a:68064** 68Q15 (12E99)

Blum, Manuel (*with* Wasserman, Hal) Program result-checking: a theory of testing meets a test of theory. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 382–392, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98b:68008**) 68N05

Blum, Norbert (*with* Koch, Robert) Greibach normal form transformation, revisited. (English summary) *STACS 97 (Lübeck)*, 47–54, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68091** 68Q50

Blum, Rick S. (*with* Deans, Matthew C.) Distributed random signal detection with multibit sensor decisions. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 516–524. 94A13

Blum, Yosef (*with* Roth, Alvin E.; Rothblum, Uriel G.) Vacancy chains and equilibration in senior-level labor markets. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 362–411. (Summary) **98e:90056** 90A50

Bluman, George (*with* Shtelen', V. M.) New classes of Schrödinger equations equivalent to the free particle equation through non-local transformations. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4473–4480. (Arlen Anderson) **98e:81026** 81Q05 (35Q40)

— (*with* Anco, Stephen C.) Nonlocal symmetries and nonlocal conservation laws of Maxwell's equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3508–3532. (W. E. Williams) **98m:78013** 78A25 (35A30, 35L65, 35Q60)

— (*with* Anco, Stephen C.) Direct construction of conservation laws from field equations. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 15, 2869–2873. (Jaime Muñoz Masqué) **98a:58057** 58E30 (35L99)

Blume, Janet A. (*with* Lei, Hin-Chi) Lie group and invariant solutions of the plane-strain equations of motion of a neo-Hookean solid. (English summary) *Internat. J. Non-Linear Mech.* **31** (1996), *no.* 4, 465–482. (Karen A. Ames) **98k:73037** 73G05 (35Q72, 73B10, 73C50)

Blume, Siegfried Some applications of the spherical multipole analysis of scalar and electromagnetic fields to engineering problems. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt, 1996)*, 15–30, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (*see* **98e:35001**) 78A45 (35Q60, 76Q05)

Blömel, R. (*with* Kohler, Achim; Killesreiter, G. H. M.) Ray splitting in a class of chaotic triangular step billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2691–2701. (Roberto Markarian) **98f:58136** 58F13 (70D99, 81Q50, 82C05)

Blumen, Alexander (*with* Koch, Martin; Sommer, Jens-Uwe) Variational methods for constrained polymer dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5007–5022. 82D60

Blumen, William A model of inertial oscillations with deformation frontogenesis. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 22, 2681–2692. (Summary) **98k:86010** 86A10 (76U05)

Blumenfeld, Raphael (*with* Balakrishnan, Radha) Transformation of general curve evolution to a modified Belavin-Polyakov equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5878–5888. (Basil J. Papantoniou) **98k:58052** 58E10 (53A04)

— (*with* Mandelbrot, Benoît B.) Lévy dusts, Mittag-Leffler statistics, mass fractal lacunarity, and perceived dimension. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 112–118. (Summary) **98f:82099** 82C31

— Planar curve representation of many-body systems and dynamics. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 7, 1203–1206. (Summary) **98b:70013** 70F10 (70H05, 81V70)

Blumenhagen, Ralph (*with* Schimmrigk, Rolf; Wißkirchen, Andreas) (0, 2) mirror symmetry. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 598–628. (Bruce Hunt) **98a:81156** 81T30 (32J81)

— (*with* Sethi, Savdeep S.) On orbifolds of (0, 2) models. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 263–278. (Bruce Hunt) **98f:81294** 81T40 (32J81, 81T30)

— (*with* Flohr, Michael A. I.) Aspects of (0, 2) orbifolds and mirror symmetry. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 41–48. (Bruce Hunt) **98f:81241** 81T30 (32J81)

Blümlinger, Martin Functions with a finite number of negative squares on compact groups. *Arch. Math. (Basel)* **67** (1996), *no.* 1, 70–75. (Zoltán Sasvári) **98c:43006** 43A35 (22A20)

Blundo, Carlo (*with* Gaggia, A. Giorgio; Stinson, Douglas R.) On the dealer's randomness required in secret sharing schemes. (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 35–46, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* Cresti, Antonella) Space requirements for broadcast encryption. (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 287–298, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* De Santis, Alfredo; Persiano, Giuseppe; Vaccaro, Ugo) On the number of random bits in totally private computation. (English summary) *Automata, languages and programming (Szeged, 1995)*, 171–182, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98f:68077** 68Q10 (68Q25, 94A60)

— (*with* Frota-Mattos, Luis A.; Stinson, Douglas R.) Trade-offs between communication and storage in unconditionally secure schemes for broadcast encryption and interactive key distribution. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 387–400, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

— (*with* Ateniese, Giuseppe; De Santis, Alfredo; Stinson, Douglas R.) Constructions and bounds for visual cryptography. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 416–428, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98g:94020** 94A60 (68P25)

— (*with* Ateniese, Giuseppe; De Santis, Alfredo; Stinson, Douglas R.) Visual cryptography for general access structures. (English summary) *Inform. and Comput.* **129** (1996), *no.* 2, 86–106. (Luis Hernández Encinas) **98a:94017** 94A60 (68P25, 94C15)

— (*with* De Santis, Alfredo; Vaccaro, Ugo) Randomness in distribution protocols. (English summary) *Inform. and Comput.* **131** (1996), *no.* 2, 111–139. (Mu Lan Liu) **98e:94014** 94A60 (68P25, 94A17)

— (*with* De Santis, Alfredo; de Simone, Roberto; Vaccaro, Ugo) Tight bounds on the information rate of secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 107–122. (Douglas R. Stinson) **98b:94012** 94A60

— (*with* Gaggia, A. Giorgio; Stinson, Douglaš R.) On the dealer's randomness required in secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 235–259. (James W. Snively, Jr.) **98e:94015** 94A60 (68P25)

— (*with* Stinson, Douglas R.) Anonymous secret sharing schemes. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 1, 13–28. (Summary) **98d:94020** 94A60 (68P25)

— (*with* De Santis, Alfredo) Lower bounds for robust secret sharing schemes. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 317–321. (Summary) **98j:94012** 94A60 (68P25)

Bluskov, Iliya (*with* Hämäläinen, Heikki O.) New upper bounds on the minimum size of covering designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 21–41. (Barbu C. Kestenband) **98k:05016** 05B05

Blute, R. F. (*with* Scott, P. J.) A noncommutative full completeness theorem (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 11 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03F50

— (*with* Cockett, J. R. B.; Seely, R. A. G.) ! and ?—storage as tensorial strength. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 4, 313–351. (Aldo Ursini) **98a:03094** 03F50 (03B60, 18C99, 18D05)

— (*with* Cockett, J. R. B.; Seely, R. A. G.) Categories for computation in context and unified logic. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 49–98. (R. Gylys) **98f:68170** 68Q55 (03B60, 03F05, 03F07, 18D05, 18D25, 68Q65)

Blyth, Colin R. (*with* Staudte, Robert G.) Hypothesis estimation and acceptability profiles. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 69–81. 62F03 (62F10)

— (*with* Staudte, Robert G.) Hypothesis estimates and acceptability profiles for 2×2 contingency tables. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 694–699. 62H17

Blyth, T. S. (*with* Mendes Martins, Paula) On associate subgroups of regular semigroups. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2147–2156. (Branka P. Alimpić) **98f:20044** 20M17

— (*with* Fang, Jie; Varlet, J. C.) Ockham algebras with pseudocomplementation. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3605–3615. (Miroslav Haviar) **98m:06017** 06D30 (08B26)

— (*with* Silva, H. J.) Endomorphism regular Ockham algebras of finite Boolean type. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 1, 99–110. (M. E. Adams) **98h:06025** 06D99

— (*with* Almeida Santos, M. H.) On quasi-orthodox semigroups with inverse transversals. (English summary) *Proc. Edinburgh Math. Soc. (2)* **40** (1997), *no.* 3, 505–514. (R. J. Warne) **98k:20103** 20M17

— (*with* Robertson, Edmund F.) ★ Basic linear algebra. (English summary) Revised reprint of *Matrices and vector spaces* [Chapman and Hall, New York, 1986; MR 89b:00001b]. Springer Undergraduate Mathematics Series. *Springer-Verlag London, Ltd., London*, 1998. xii+201 *pp. ISBN* 3-540-76122-5 15-01

Bo, Chzhan *see* **Zhang, Bo[5]**

Bo, Jian Guo (*with* Zhao, Si Hua; Tang, Jian Guo) Robust strict positive realness of continuous and discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 337–342. 93B36

dal Bo, S. *see* **Dal Bo, S.**

Bo, Yu *see* **Yu, Bo[1]**

Bo, Zhang *see* **Zhang, Bo[5]**

Boabbas, W. M. (*with* Chawla, M. M.; Al-Zanaidi, M. A.) Extended two-step P-stable methods for periodic initial-value problems. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 4, 505–520. (H. Brunner) **98c:65118** 65L06 (65L20)

Boada, Fernando (*with* Liang, Zhi-Pei; Haacke, E. Mark) Improved parametric reconstruction using variable projection optimization. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 19–27. (Summary) **98m:44003** 44A12 (65R10, 92C55)

Boals, Alfred J. (*with* Chartrand, Gary; Nouh, Jamal; VanderJagt, Donald W.; Yates, Julie) Path vectors and optimal trees. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 145–159. (Summary) **98k:05044** 05C05 (05C20)

Board, John A., Jr. *see* **Greengard, Leslie**, (**98h:70003**)

Boardman, John P. Quasi-measures on completely regular spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 447–470. (Summary) **98e:46031** 46E15 (28C15, 46J10)

Boas, Harold P. (*with* Khavinson, Dmitry) Bohr's power series theorem in several variables. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2975–2979. (Richard M. Timoney) **98i:32002** 32A05

villas-Boas, J. Miguel *see* **Villas-Boas, J. Miguel**

van emde Boas, Peter *see* **van Emde Boas, Peter**

Boasso, Enrico Joint spectra and nilpotent Lie algebras of linear transformations. (English summary) *Linear Algebra Appl.* **263** (1997), 49–62. (Vladimir Müller) **98h:47008** 47A13 (15A04, 17B30)

— On the spectral set of a solvable Lie algebra of operators. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 85–94. (Vladimir Müller) **98d:47018** 47A13 (17B30, 47D99)

ortiz-Bobadilla, Laura *see* **Ortiz-Bobadilla, Laura**

Bobbio, Andrea (*with* Telek, Miklós) Markov regenerative stochastic Petri nets with age type general transitions. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 471–489, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68M20)

Bobenko, A. (*with* Bazhanov, Vladimir V.; Reshetikhin, N. Yu.) Quantum discrete sine-Gordon model at roots of 1: integrable quantum system on the integrable classical background. (English summary) *Comm. Math. Phys.* **175** (1996), *no.* 2, 377–400. (Andrey V. Tsiganov) **98b:82023** 82B23 (17B37, 35Q53, 81R50)

— (*with* Eitner, U.; Kitaev, A. V.) Surfaces with harmonic inverse mean curvature and Painlevé equations. (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 187–227. (Rabah Souam) **98j:53008** 53A10 (34A34, 34E05)

Bobisud, L. E. (*with* Do, Tae S.) A nonlocal heat conduction problem. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 381–389. 35K05 (80A20)

— (*with* Calvert, J. E.) A priori bounds, forbidden values, and existence for nonlocal problems for steady-state Burgers' equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 323–338. (Peter E. Zhidkov) **98h:34037** 34B15

Bobkov, S. G. (*with* Houdré, Christian) Variance of Lipschitz functions and an isoperimetric problem for a class of product measures. (English summary) *Bernoulli* **2** (1996), *no.* 3, 249–255. (Iosif Pinelis) **98e:60022** 60E05 (60A10, 60G15)

— (*with* Houdré, Christian) Characterization of Gaussian measures in terms of the isoperimetric property of half-spaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 31–38, 356. (Werner Linde) **98e:60056** 60G15 (52A40, 60B11)

— (*with* Houdré, Christian) Isoperimetric constants for product probability measures. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 184–205. (Werner Linde) **98g:60032** 60E15 (28A35)

— An isoperimetric inequality on the discrete cube, and an elementary proof of the isoperimetric inequality in Gauss space. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 206–214. (Werner Linde) **98g:60033** 60E15 (60G15)

— (*with* Houdré, Christian) Some connections between isoperimetric and Sobolev-type inequalities. (English summary) *Mem. Amer. Math. Soc.* **129** (1997), *no.* 616, viii+111 *pp.* (Luboš Pick) **98b:46038** 46E35 (49Q20, 60E15)

— (*with* Ledoux, M.) Poincaré's inequalities and Talagrand's concentration phenomenon for the exponential distribution. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 383–400. (Iosif Pinelis) **98e:60026** 60E15 (28A35, 46N30)

— (*with* Houdré, Christian) Converse Poincaré-type inequalities for convex functions. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 37–42. (Iosif Pinelis) **98g:60034** 60E15 (26D10)

— Isoperimetric problem for uniform enlargement. (English summary) *Studia Math.* **123** (1997), *no.* 1, 81–95. (Werner Linde) **98d:60006** 60B05 (28A35, 60E15)

Bobkov, V. V. (*with* Bobkova, N. A.) The scale diversity problem and the requirements of methods for the numerical solution of systems of ordinary differential equations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 2, 52–54, 80. 65L99 (34A45)

Bobkova, N. A. (*with* Bobkov, V. V.) The scale diversity problem and the requirements of methods for the numerical solution of systems of ordinary differential equations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 2, 52–54, 80. 65L99 (34A45)

gary-Bobo, Robert J. *see* **Gary-Bobo, Robert J.**

Boboc, Nicu (*with* Beznea, Lucian) Once more about the semipolar sets and regular excessive functions. (English summary) *Potential theory—ICPT 94 (Kouty, 1994)*, 255–274, *de Gruyter, Berlin*, 1996. (Patrick Fitzsimmons) **98j:31009** 31D05 (60J40, 60J45)

— (*with* Bucur, Gheorghe) Dilation operators in excessive structures; existence and uniqueness. (English summary) *Potential theory—ICPT 94 (Kouty, 1994)*, 311–339, *de Gruyter, Berlin*, 1996. (Sirkka-Liisa Eriksson-Bique) **98c:31011** 31D05 (60J45, 60J57)

— (*with* Beznea, Lucian) Condensation points for the fine topology. (English summary) *Analysis* **17** (1997), *no.* 1, 13–23. (Klaus Janssen) **98m:31014** 31D05 (31C40, 60J45)

Bobochko, V. N. Asymptotic behavior of the solution of a system of differential equations with a multiple turning point. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1283–1285, 1296; *translation in Differential Equations* **32** (1996), *no.* 9, 1284–1287 (1997). (Summary) **98h:34101** 34E20

Boboilă, C. (*with* Moldovan, G.) Une approache sur la modélisation d'héritage dans un système orienté-objet. (French summary) [An approach to modelling inheritance in object-oriented systems] *Stud. Univ. Babeş-Bolyai Inform.* **1** (1996), *no.* 1, 39–44. 68P15

Bobrik, G. I. (*with* Golovan, A. A.; Matasov, A. I.) The Kalman filter in the guaranteed approach to the solution of the topographic attachment problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 34–47; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1581–1591 (1998). (Summary) **98k:93125** 93E24 (70Q05, 93C95, 93E11, 93E20)

Bobrov, A. M. (*with* Trubitsyn, V. P.) Rearrangement times of the structure of mantle flows beneath continents. (Russian. Russian summary) *Fiz. Zemli* **1995,** *no.* 7, 5–13. 86A17

Bobrov, P. B. (*with* Ostrovskiĭ, E. I.) Confidence intervals in adaptive nonparametric regression estimation. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 51–59; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 262–269 (1997). (B. L. Granovskiy) **98e:62050** 62G05 (62G20)

Bobrovsky, B. Z. (*with* Liptser, R. Sh.; Steinberg, Yossef; Schuss, Z.) Fixed lag smoothing of scalar diffusions. I. The filtering-smoothing equation. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 237–255. (Michael A. Kouritzin) **98f:60080** 60G35 (60J60, 93E11)

Bobrowski, Adam On the generation of non-continuous semigroups. (English summary) *Semigroup Forum* **54** (1997), *no.* 2, 237–252. (From the introduction) **98d:47078** 47D03 (47D06)

Bobrowski, Dobiesław (*with* Lutomska, Barbara) On approximation of the discrete life time distribution by the geometric distribution. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 197–203. (Olcay Akman) **98i:62008** 62E17 (62N05)

Bobylev, A. V. (*with* Toscani, Giuseppe) Two-dimensional half-space problems for the Broadwell discrete velocity model. (English summary) *Contin. Mech. Thermodyn.* **8** (1996), *no.* 5, 257–274. (V. Protopopescu) **98j:76126** 76P05 (82C40)

— Exact solutions of discrete kinetic models and stationary problems for the plane Broadwell model. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 10, 825–845. (Giuseppe Toscani) **98h:82054** 82C40 (76P05)

— (*with* Rjasanow, S.) Difference scheme for the Boltzmann equation based on the fast Fourier transform. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 2, 293–306. (Anne Nouri) **98e:82057** 82C40 (76M20, 76P05)

— (*with* Maaø, Frank A.; Hansen, Alex; Hauge, E. H.) There is more to be learned from the Lorentz model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1205–1228. (Summary) **98g:82037** 82C40

— (*with* Dukes, Peter; Illner, Reinhard; Victory, Harold Dean, Jr.) On Vlasov-Manev equations. I. Foundations, properties, and nonglobal existence. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 885–911. (Carlo Cercignani) **98j:85001** 85A05 (45K05, 70F10, 82D10)

Bobylev, N. A. (*with* Korovin, S. K.; Kutuzov, A. A.) Gradient methods in infinite-dimensional problems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1701–1707, 1774 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1668–1675 (1996). (A. M. Galperin) **98a:90131** 90C48 (46N10, 47H19, 49M07)

— (*with* Korovin, S. K.) An iterative algorithm for the approximate construction of cycles of autonomous systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 3, 301–306, 428; *translation in Differential Equations* **32** (1996), *no.* 3, 304–310. (Mark J. Friedman) **98a:34027** 34C05 (34A50, 34B15, 65L99)

— (*with* Bulatov, A. V.; Korovin, S. K.; Kutuzov, A. A.) Some properties of mathematical models of neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 179–189; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 474–483. (Summary) **98i:92006** 92B20

— (*with* Babloyantz, A.; Korovin, S. K.; Nosov, A. P.) Approximating of unstable cycle in nonlinear autonomous systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 333–354. (W. S. Loud) **98i:34045** 34C05 (34A45, 34K15)

— (*with* Ismailov, I. G.; Korovin, S. K.) Gradient procedures in problems with nonisolated extremals. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 11–13. (Ján Lovíšek) **98m:49014** 49J40 (35J85, 49M07, 65K10)

— (*with* Emel′yanov, S. V.; Korovin, S. K.) On a problem in the theory of robustness. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 747–749. (From the text) **98j:93062** 93D09 (15A42)

— (*with* Asarin, E. A.; Bakhtin, I. A.; et al.) Mark Alexandrovich Krasnosel′skiĭ (April 27, 1920–February 13, 1997). (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 119–126. (Editors) **98f:01056a** 01A70

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich) Principles of affinity in nonlinear problems. Dynamical systems, 3. *J. Math. Sci. (New York)* **83** (1997), *no.* 4, 485–521. (Jean Mawhin) **98h:47081** 47H11 (34B15, 34C25, 34H05, 34K10, 47N20)

— (*with* Kloeden, Peter E.) Periodic solutions of autonomous systems under discretization. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 659–665. (Summary) **98f:34056** 34C25 (34A45, 47H11, 47N20)

— *see also* **Kloeden, Peter E.**

Boca, Florin P. (*with* Zaharescu, Alexandru) Facteurs de type III associés aux ensembles de nombres premiers. (English and French summaries) [Type-III factors associated with sets of prime numbers] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 797–800. (Paul Jolissaint) **98e:46079** 46L35

— The structure of higher-dimensional noncommutative tori and metric Diophantine approximation. (English summary) *J. Reine Angew. Math.* **492** (1997), 179–219. (Jonathan M. Rosenberg) **98k:46096** 46L35 (11J13, 46L87)

Boccacci, P. (*with* Bertero, M.; Piana, M.) Resolution and super-resolution in inverse diffraction. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996),* 1–17, *Lecture Notes in Phys.*, 486, *Springer, Berlin,* 1997. (Summary) **98j:65073** 65N30 (76Q05, 78A40)

Boccaletti, Dino (*with* Pucacco, Giuseppe) Killing equations in classical mechanics. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 181–212. (Mircea Crasmareanu) **98j:70021** 70H33 (58F05, 70G05, 70H40)

— (*with* Di Bari, Maria; Cipriani, Piero; Pucacco, Giuseppe) Dynamical behavior of Lagrangian systems on Finsler manifolds. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6448–6458. (Miguel C. Muñoz-Lecanda) **98f:58080** 58F05 (53C60, 70H35)

Boccaletti, S. (*with* Farini, A.; Arecchi, F. Tito) Adaptive strategies for recognition, control and synchronization of chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1431–1448. 58F13 (93D15)

Boccara, Nino (*with* Fukś, Henryk; Zeng, Qi) Car accidents and number of stopped cars due to road blockage on a one-lane highway. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3329–3332. (Summary) **98f:90019** 90B12 (82C70)

— (*with* Fukś, Henryk; Geurten, Servie) A new class of automata networks. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 145–154. (Summary) **98e:68186** 68Q80 (82C20)

Boccardo, Lucio (*with* Dall'Aglio, Andrea; Orsina, Luigi) A corrector result for the G-convergence of Dirichlet problems in L^1. (English summary) *Homogenization and applications to material sciences (Nice, 1995),* 57–66, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo,* 1995. (Vicenţiu Rădulescu) **98g:35016** 35B27 (35J65)

— (*with* Arcoya, D.) Nontrivial solutions to some nonlinear equations via minimization. *Variational methods in nonlinear analysis (Erice, 1992),* 49–53, *Gordon and Breach, Basel,* 1995. (Wen Xiong Chen) **98f:35043** 35J60 (49J20)

— The role of truncates in nonlinear Dirichlet problems in L^1. *Nonlinear partial differential equations (Fès, 1994),* 42–53, *Pitman Res. Notes Math. Ser.*, 343, *Longman, Harlow,* 1996. (Srinivasan Kesavan) **98d:35069** 35J65 (35R05, 47N20)

— (*with* Gallouët, Thierry) Summability of the solutions of nonlinear elliptic equations with right-hand side measures. *J. Convex Anal.* **3** (1996), *no.* 2, 361–365. (David L. Finn) **98c:35050** 35J65 (35B45, 35D10)

— Homogenization and continuous dependence for Dirichlet problems in L^1. (English summary) *Partial differential equation methods in control and shape analysis (Pisa),* 41–52, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York,* 1997. (Patrizia Donato) **98h:35018** 35B27 (35B30, 35J65)

— Elliptic and parabolic differential problems with measure data. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 439–461. (Ioan I. Vrabie) **98i:35198** 35R05 (35J60, 35K55)

— Quelques problèmes de Dirichlet avec données dans de grands espaces de Sobolev. (English and French summaries) [Some Dirichlet problems with data in large Sobolev spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1269–1272. (Summary) **98k:35066** 35J65 (35D05)

— (*with* Dall'Aglio, Andrea; Gallouët, Thierry; Orsina, Luigi) Nonlinear parabolic equations with measure data. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 237–258. (Summary) **98c:35093** 35K60 (35R05)

— (*with* Fleckinger, Jacqueline Pellé; de Thélin, François) Elliptic systems with various growth. *Reaction diffusion systems (Trieste, 1995),* 59–66, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York,* 1998. (Rolando Magnanini) **98i:35041** 35J45

Boccuto, A. (*with* Sambucini, A. R.) The monotone integral with respect to Riesz space-valued capacities. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 3, 491–524. (Emma D'Aniello) **98c:28010** 28B15 (60B12)

Bocea, Marian F. Multiple solutions for a class of eigenvalue problems involving a nonlinear monotone operator in hemivariational inequalities. (English summary) *Appl. Anal.* **65** (1997), *no.* 3-4, 395–407. (Summary) **98j:47059** 47H19 (47H12, 49J40, 65F15)

— (*with* Rădulescu, Vicenţiu D.) Problèmes elliptiques avec non-linéarité discontinue et second membre L^1. (English and French summaries) [Elliptic problems with discontinuous nonlinearity and L^1 data] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 169–172. (Jesús Hernández) **98b:35059** 35J65 (35D05, 47H15, 49J40, 58E05)

Bocharov, O. B. (*with* Monakhov, V. N.) On the solvability of boundary value problems of the nonisothermic filtration of two immiscible inhomogeneous fluids in porous media. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 583–586. (From the text) **98g:76069** 76S05 (35Q35)

Bocharov, P. P. Stationary distribution of a finite queue with a recurrent input flow and Markov servicing. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 9, 66–78; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 1, 1274–1283 (1997). 60K25 (90B22)

Bocharov, V. A. (*with* Bolotov, A. E.; Gorchakov, A. E.) A proof search algorithm for a classical natural deduction calculus. (Russian) *Logical investigations, No.* 3 (*Russian*), 181–186, "*Nauka*", *Moscow,* 1995. (*see* **98i:03005**) 03B35

Bocharova, I. E. (*with* Kudryashov, Boris D.) Rational rate punctured convolutional codes for soft-decision Viterbi decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1305–1313. 94B35

Boche, H. Ein Problem von A. Papoulis zu den Shannonschen Abtastreihen. [A problem of A. Papoulis on Shannon's sampling series] *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 5, 5–10. (Gilbert Walter) **98g:94003** 94A11 (41A05)

Bochenek, Jan Cosine operator functions and condition (F). (English summary) *Selected problems of mathematics,* 13–24, *50th Anniv. Cracow Univ. Technol. Anniv. Issue,* 6, *Cracow Univ. Technol., Kraków,* 1995. (Carlos Lizama) **98d:47091** 47D09 (34G10, 47N20)

Böcherer, S. (*with* Schulze-Pillot, R.) Siegel modular forms and theta series attached to quaternion algebras. II. (English summary) With errata to: "Siegel modular forms and theta series attached to quaternion algebras" [Nagoya Math. J. **121** (1991), 35–96; MR 92f:11066]. *Nagoya Math. J.* **147** (1997), 71–106. (Aloys Krieg) **98i:11028** 11F46 (11F27, 11F55)

Bochev, M. A. (*with* Krukier, L. A.) An alternatively triangular skew-symmetric iterative method for solving linear systems with a nonsymmetric sign-definite matrix. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 55–68. 65F30 (65F10)

— (*with* Krukier, L. A.) On an iterative solution of strongly nonsymmetric systems of linear algebraic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1283–1293. (Summary) **98i:65036** 65F35

Bochev, Pavel B. (*with* Bedivan, Dana M.) Least-squares methods for Navier-Stokes boundary control problems. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1997), *no.* 1, 43–58. (Summary) **98k:76084** 76M10 (65M60, 76D05, 93C20)

— Least-squares methods for optimal control. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1875–1885. (*see* **98i:00029**) 49M25 (65M70)

— Analysis of least-squares finite element methods for the Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1817–1844. (Michael Fröhner) **98g:76053** 76M10 (65M60, 76D05)

Bochkarev, S. V. de la Vallée-Poussin series in the spaces BMO, L_1 and $H^1(D)$, and multiplicative inequalities. (Russian) In honor of the ninetieth birthday of Academician S. M. Nikol'skiĭ (Russian). *Trudy Mat. Inst. Steklov.* **210** (1995), *Teor. Funktsiĭ i Differ. Uravn.*, 41–64. (Petr Gurka) **98b:42004** 42A10 (26D05, 30D55, 46E30)

Bochman, Alexander Default consequence relations as a logical framework for logic programs. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 245–258, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55)

— On a logical basis of normal logic programs. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 223–245. (Summary) **98d:68042** 68N17 (03B70)

— On logics and semantics for general logic programs. (English summary) *Non-monotonic extensions of logic programming (Bad Honnef, 1996)*, 37–56, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98h:68033** 68N17 (03B70, 68Q55)

Bochnak, Jacek (*with* Kucharz, Wojciech) Complete intersections in differential topology and analytic geometry. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 1019–1041. (Donald W. Kahn) **98b:57045** 57R40 (14P15, 32C05)

— (*with* Buchner, M.; Kucharz, Wojciech) Equivalence of analytic and rational functions. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 37–42. (Kamil Rusek) **98d:32005** 32B15

— (*with* Kucharz, Wojciech) On dividing real algebraic varieties. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 263–271. (Alessandro Tancredi) **98m:14055** 14P25 (14J99)

Bochniak, M. Computation of coefficients in the asymptotics of solutions for 2D elastic interface problems. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 31–35, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73B50 (35C20, 35Q72, 73C02)

Bock, Hans Georg (*with* Hoàng Xuân Phú; Schlöder, Johannes P.) The method of orienting curves and its application to manipulator trajectory planning. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 213–225. (Summary) **98a:49008** 49J15 (70B15, 70Q05)

— (*with* Schulz, Volker; Longman, Richard) Computer-aided motion planning for satellite mounted robots. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 733–755. (Summary) **98m:70009** 70B15 (70-04, 70Q05, 93C85)

Bock, Hans-Hermann Probability models and hypotheses testing in partitioning cluster analysis. *Clustering and classification*, 377–453, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:62115**) 62H30

— Probability models for convex clusters. (English summary) *Classification and knowledge organization (Freiburg, 1996)*, 3–14, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1997. (*see* **98h:62002**) 62H30

— *see also* **Data analysis and information systems**, **98g:62006**

Bock, R. Darrell (*with* Schilling, Steven) High-dimensional full-information item factor analysis. *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 163–176, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62H25

Bock, W. J. (*with* Zaremba, M. B.; Porada, E.) Building approximation networks through combined numerical and qualitative geometric analysis. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 419–427. 65Y25 (65C20)

Böckenhauer, Jens An algebraic formulation of level one Wess-Zumino-Witten models. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 7, 925–947. (Stephen J. Summers) **98b:81124** 81T05 (17B67, 46L60, 46N50, 81R10, 81S05, 81T10, 81T40)

Bocquet, Lydéric (*with* Piasecki, Jarosław) Microscopic derivation of non-Markovian thermalization of a Brownian particle. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1005–1035. (Summary) **98g:82043** 82C41

Bocu, Dorin On the short-term behaviour of genetic algorithms. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 1, 55–63. 90C27 (68T05)

Bodart, Olivier (*with* Demeestère, Pierre) Contrôle frontière de l'explosion en temps fini de la solution d'une équation de combustion. (English and French summaries) [Boundary control of the finite-time blowup of the solution of an equation of combustion] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 841–845. (Vitaly A. Volpert) **98i:35097** 35K60 (80A25)

Bode, M. Front-bifurcations in reaction-diffusion systems with inhomogeneous parameter distributions. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 270–286. (Summary) **98i:92010** 92C15 (35K57, 35Q80)

Bodei, Chiara (*with* Degano, Pierpaolo; Priami, Corrado) Mobile processes with a distributed environment. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 490–501, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (68Q60)

Boden, Hans U. (*with* Yokogawa, Kōji) Moduli spaces of parabolic Higgs bundles and parabolic $K(D)$ pairs over smooth curves. I. (English summary) *Internat. J. Math.* **7** (1996), *no.* 5, 573–598. (Nitin Nitsure) **98a:14017** 14D20 (14F25, 14H60)

— Invariants of fibred knots from moduli. *Geometric topology (Athens, GA, 1993)*, 259–267, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Nitin Nitsure) **98j:57005** 57M25 (14D20)

— Integrality of the averaged Jones polynomial of algebraically split links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 303–306. (Sergei K. Lando) **98f:57008** 57M25 (81Q30)

Bodendiek, Rainer (*with* Lang, Rainer) ★ Lehrbuch der Graphentheorie. Band 1. (German) [Textbook of graph theory. Vol. 1] Spektrum-HochschulTaschenbuch. [Spectrum University Paperback] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1995. viii+324 *pp. ISBN* 3-86025-667-X (Jozef Širáň) **98g:05002a** 05-01

— (*with* Lang, Rainer) ★ Lehrbuch der Graphentheorie. Band 2. (German) [Textbook of graph theory. Vol. 2] Spektrum-HochschulTaschenbuch. [Spectrum University Paperback] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1996. iv+378 *pp. ISBN* 3-86025-668-8 (Jozef Širáň) **98g:05002b** 05-01

— (*with* Walther, Gerd) (a, d) antimagic parachutes. II. (English summary) *Ars Combin.* **46** (1997), 33–63. (Yixun Lin) **98i:05143** 05C78

Bodenschatz, Eberhard (*with* Roberts, Bruce W.; Sethna, James P.) A bound on the decay of defect-defect correlation functions in two-dimensional complex order parameter equations. (English summary) *Phys. D* **99** (1996), *no.* 2-3, 252–268. (Oktay K. Pashaev) **98d:35209** 35Q55 (35R60)

Bódi, Richard Smooth stable planes. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 300–321. (Harald Löwe) **98e:51021** 51H25

Bodineau, Thierry Interface for one-dimensional random Kac potentials. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 5, 559–590. (Timo Seppäläinen) **98k:60036** 60F10 (82B20, 82B44)

Bodini, Antonella (*with* Bertoluzza, Carlo) A new proof of Nguyen's compatibility theorem in a more general context. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 99–102. 03E72

Bodlaender, Hans L. (*with* de Fluiter, Babette) Intervalizing k-colored graphs. (English summary) *Automata, languages and programming (Szeged, 1995)*, 87–98, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68R10 (05C15, 05C85, 68Q25)

— (*with* Hagerup, Torben) Parallel algorithms with optimal speedup for bounded treewidth. (English summary) *Automata, languages and programming (Szeged, 1995)*, 268–279, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98e:68196** 68R10 (68Q22)

— (*with* de Fluiter, Babette) Parallel algorithms for series parallel graphs. (English summary) *Algorithms—ESA '96 (Barcelona)*, 277–289, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (05C85, 68R10)

— (*with* de Fluiter, Babette) Reduction algorithms for constructing solutions in graphs with small treewidth. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 199–208, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:05131** 05C85 (68Q22, 68R10)

— (*with* de Fluiter, Babette) On intervalizing k-colored graphs for DNA physical mapping. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 55–77. (Dietmar Dorninger) **98d:92008** 92D20 (05C15, 05C90, 68Q25)

— (*with* Kloks, Ton) Efficient and constructive algorithms for the pathwidth and treewidth of graphs. (English summary) *J. Algorithms* **21** (1996), *no.* 2, 358–402. (Pavol Hell) **98g:68122** 68R10 (05C85)

— (*with* Yamazaki, Koichi; de Fluiter, Babette; Thilikos, Dimitris M.) Isomorphism for graphs of bounded distance width. (English summary) *Algorithms and complexity (Rome, 1997)*, 276–287, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q25 (05C60, 05C85, 68R10)

— (*with* Thilikos, Dimitris M.) Constructive linear time algorithms for branchwidth. (English summary) *Automata, languages and programming (Bologna, 1997)*, 627–637, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (05C85)

— (*with* Thilikos, Dimitris M.) Treewidth for graphs with small chordality. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 45–61. (Summary) **98h:68106** 68Q25 (05C85)

— (*with* Kant, Goos) Triangulating planar graphs while minimizing the maximum degree. (English summary) *Inform. and Comput.* **135** (1997), *no.* 1, 1–14. (Gary MacGillivray) **98m:68213** 68R10 (05C10, 05C85, 68Q25)

— (*with* Engelfriet, Joost) Domino treewidth. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 94–123. (Gary MacGillivray) **98m:68200** 68R10 (05C85, 68Q25)

Bodnar', T. A. Stability of a polytropic chemical reactor. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **37** (1996), *no.* 5, 127–134; *translation in J. Appl. Mech. Tech. Phys.* **37** (1996), *no.* 5, 720–726 (1997). (Alexandre Fedorov) **98f:80004** 80A25 (80A30, 92E20)

Bodnarchuk, Yu. V. On the isomorphism of wreath products of groups. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 6, 725–734 (1995). (Piroska Lakatos) **98e:20038** 20E22

Bodócs, László A stability condition for the method of quasi-isometric conjugate pairs. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 267–277 (1997). 65F30

Bodonyi, R. J. (*with* Kluwick, A.) Transonic trailing-edge flow. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 297–310. 76H05

Bodroža, Olga (*with* Gutman, Ivan M.; Cyvin, Sven J.) Fibonacci numbers and algebraic structure count of some non-benzenoid conjugated polymers. *Fibonacci Quart.* **35** (1997), *no.* 1, 75–83. (Rong Qin Sheng) **98b:05072** 05C70 (05A15, 05C90, 11B39, 92E10)

— Algebraic structure count of some cyclic hexagonal-square chains. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 1–12. (Zhibo Chen) **98k:05132** 05C90 (92E10)

Bodson, Marc (*with* Douglas, Scott C.) Narrowband disturbance rejection using adaptive feedback algorithms. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 45–56, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C40 (93B52)

— (*with* Douglas, Scott C.) Adaptive algorithms for the rejection of sinusoidal disturbances with unknown frequency. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2213–2221. 93B40 (93E35)

Bodurov, T. G. Solitary waves interacting with an external field. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2489–2499. (Hans P. Künzle) **98b:58051** 58E30

— De Broglie-type relations from nonlinear evolution equations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1771–1785. (V. S. Ol'khovskiĭ) **98k:81075** 81Q99

Body, G. (*with* Ehrenmark, U.) The effect of pumping and ripples on the classical 2-D plane beach problem. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 61–67. 76B15 (86A05)

Boe, Brian D. (*with* Fu, Joseph H. G.) Characteristic cycles in Hermitian symmetric spaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 417–467. (Eric N. Sommers) **98j:14068** 14M15 (14F32, 22E47)

Boë, Jean-Marie Une formulation alternative de la conjecture de factorisation des codes. (French summary) [An alternative formulation of the factorization conjecture for codes] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 45–52. (Danièle Beauquier) **98c:68110** 68Q45 (94A45)

de Boeck, Paul *see* **De Boeck, Paul**

Boeck, Thomas (*with* Chapman, S. J.) Bifurcation to vortex solutions in superconducting films. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 125–148. (Ioan Bâldea) **98h:82069** 82D55

— (*with* Thess, André) Inertial Bénard-Marangoni convection. (English summary) *J. Fluid Mech.* **350** (1997), 149–175. (Summary) **98j:76133** 76R05 (76E15)

Boeckx, Eric (*with* Kowalski, Oldřich; Vanhecke, Lieven) ★ Riemannian manifolds of conullity two. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xviii+300 *pp.* *ISBN* 981-02-2768-X (Andrea Spiro) **98h:53075** 53C25 (53C12, 53C21)

— (*with* Gillard, J.; Vanhecke, Lieven) Semi-symmetric and semi-parallel geodesic spheres and tubes. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 8, 771–777. (Vicente Miquel) **98a:53051** 53C20 (53C21)

Boel, René (*with* Van Horebeek, Johan) Ergodicity properties of rerouting strategies in queueing networks. (English summary) *Queueing Systems Theory Appl.* **22** (1996), *no.* 3-4, 323–343. (Wojciech Szpankowski) **98h:90034** 90B22 (60K25)

Boente, Graciela (*with* Fraiman, Ricardo; Meloche, Jean) Robust plug-in bandwidth estimators in nonparametric regression. (English summary) Robust statistics and data analysis, I. *J. Statist. Plann. Inference* **57** (1997), *no.* 1, 109–142. (Lin-Cheng Zhao) **98g:62057** 62G05 (62G20)

de Boer, Frank S. (*with* Gabbrielli, Maurizio) Infinite computations in concurrent constraint programming. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98g:68038** 68Q10 (68Q55)

de Boer, Henk (*with* van Keulen, Fred) Padé approximants applied to a non-linear finite element solution strategy. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 7, 593–602. 65D15 (41A21)

de Boer, Jan (*with* Skenderis, Kostas) Covariant computation of the low-energy effective action of the heterotic superstring. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 129–187. (Summary) **98k:81198** 81T30

— (*with* Harmsze, Frederique; Tjin, Tjark) Non-linear finite W-symmetries and applications in elementary systems. (English summary) *Phys. Rep.* **272** (1996), *no.* 4, 139–214. (Liviu Tătar) **98b:58068** 58F07 (17B68, 58F35, 81R10)

— (*with* Halpern, M. B.) Unified Einstein-Virasoro master equation in the general nonlinear sigma model. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 8, 1551–1605. (Yao Zhong Zhang) **98c:81197** 81T40 (81R10)

Boer, M. P. (*with* Kooi, B. W.; Kooijman, S. A. L. M.) Complex dynamic behaviour of autonomous microbial food chains. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 24–40. (Summary) **98j:92019** 92D40 (34C05, 34C23)

de Boer, P. M. C. (*with* Harkema, R.) A new approach to maximum likelihood estimation of sum-constrained linear models in case of undersized samples. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 72–89. (Summary) **98k:62026** 62F10

de Boer, Reint (*with* Bluhm, J.) The volume fraction concept in the porous media theory. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 8, 563–577. (Summary) **98h:76125** 76S05 (73B99)

Boerio, L. (*with* Berardi, Stefano) Using subtyping in program optimization. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 63–77, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68Q60 (03B40, 03B70, 68N99)

— (*with* Berardi, Stefano) Minimum information code in a pure functional language with data types. (English summary) *Typed lambda calculi and applications (Nancy, 1997)*, 30–45, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (*see* **98f:68017**) 68N15 (68N20)

Boerlijst, Maarten C. (*with* Nowak, Martin A.; Sigmund, Karl) Equal pay for all prisoners. *Amer. Math. Monthly* **104** (1997), *no.* 4, 303–305. (Hans Peters) **98e:90222** 90D05 (90D35)

Boersma, A. (*with* Meynen, S.; Wriggers, Peter) Application of a parallel algebraic multigrid method for the solution of elastoplastic shell problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 223–238. (Summary) **98b:73036** 73V05 (73E99, 73K15, 73V20)

Boersma, B. J. (*with* Kooper, M. N.; Nieuwstadt, F. T. M.; Wesseling, P.) Local grid refinement in large-eddy simulations. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 161–175. 76M25 (76F99)

Boersma, J. *see* **Boersma, Johannes**

Boersma, Jelle P. Time orientable identification of the Kruskal manifold. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2174–2176. (Charles G. Torre) **98a:83072** 83C57

Boersma, Johannes (*with* Anthonissen, M. J. H.) ★ Calculations in Mathematica on low-frequency diffraction by a circular disk. (English summary) EUT Report-WSK, 95-01. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1995. ii+77 *pp.* (Summary) **98m:78021** 78A45 (45-04, 45L05, 65R20, 76Q05)

Boesch, Francis T. (*with* Gross, Daniel; Suffel, Charles) Bounds for the k-node operating component reliability model. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 33–41. (*see* **98h:05002**) 68M15

Boffa, Maurice *see* **Meeting: Model Theory, 98h:03038**

Boffetta, G. (*with* Aurell, Erik; Crisanti, A.; Paladin, G.; Vulpiani, A.) Predictability in the large: an extension of the concept of Lyapunov exponent. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 1–26. (Summary) **98a:82069** 82C05

— (*with* Artale, V.; Celani, A.; Cencini, M.; Vulpiani, A.) Dispersion of passive tracers in closed basins: beyond the diffusion coefficient. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3162–3171. (Summary) **98i:76043** 76F99 (76R50)

Boffi, Daniele (*with* Alessandrini, Elisa; Torelli, Alessandro) Study of an obstacle vortex free boundary problem. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 747–757. (Summary) **98g:35217** 35R35 (30E25, 35J55, 76B10)

— (*with* Lovadina, Carlo) Analysis of new augmented Lagrangian formulations for mixed finite element schemes. (English summary) *Numer. Math.* **75** (1997), *no.* 4, 405–419. (Reinhard Scholz) **98b:65126** 65N30

— Three-dimensional finite element methods for the Stokes problem. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 664–670. (Jaroslaw Jelen) **98a:65160** 65N30 (76D07, 76M10)

Bogachev, K. Yu. Justification of the method of fictitious domains for the solution of mixed boundary value problems for quasilinear elliptic equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 16–23, 91. (Summary) **98a:65174** 65N55 (35J65)

Bogachev, L. V. On the localization of random discrete measures. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 153–156. 60G57 (60K35, 82B44)

Bogachev, Vladimir I. Onsager-Machlup functions for Gaussian measures. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 4, 439–441. (Sheng Wu He) **98d:60009** 60B11

— (*with* Krylov, Nicolai V.; Röckner, Michael) Regularity of invariant measures: the case of non-constant diffusion part. (English summary) *J. Funct. Anal.* **138** (1996), *no.* 1, 223–242. (Patrick Cattiaux) **98d:60120** 60H15 (31C25, 46G12, 47D07, 60J35)

— Gaussian measures on linear spaces. Analysis, 8. *J. Math. Sci.* **79** (1996), *no.* 2, 933–1034. (Ali Süleyman Üstünel) **98a:60004** 60B11 (28C20, 46G12, 60G15, 60H07)

— (*with* Accardi, Luigi) The Ornstein-Uhlenbeck process associated with the Lévy Laplacian and its Dirichlet form. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 95–114. (Zhi Ming Ma) **98d:60143** 60J25 (31C25, 47D07, 60B11)

Bogacki, Przemysław (*with* Weinstein, Stanley; Xu, Yuesheng) Distances between oriented curves in geometric modeling. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 593–621. (Michael Kallay) **98j:65032** 65G99 (65D17, 65Y25)

Bogaevskiĭ, I. A. Perestroikas of fronts in evolutionary families. (Russian) *Trudy Mat. Inst. Steklov.* **209** (1995), *Osob. Gladkikh Otobrazh. s Dop. Strukt.*, 65–83. (V. D. Sedykh) **98d:58010** 58C27 (57R75, 58G28)

Bogataj, Ludvig (*with* Horvat, Liljana) Finite magnitude perturbations in the inventory systems. (English summary) *SOR '97 Proceedings (Preddvor)*, 45–52, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90B05

Bogataya, S. I. (*with* Bogatyĭ, Semen A.) A remark on a theorem of Steinlein. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 32–35, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 33–35. (Summary) **98e:57049** 57S17 (57S25)

Bogatyĭ, Semen A. On the nonexistence of iterative roots. (English summary) Proceedings of the Fourth Russian-Japanese Colloquium on General Topology (Moscow, 1995). *Topology Appl.* **76** (1997), *no.* 2, 97–123. (I. N. Baker) **98c:58135** 58F23 (30D05, 39B12)

— (*with* Bogataya, S. I.) A remark on a theorem of Steinlein. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 32–35, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 33–35. (Summary) **98e:57049** 57S17 (57S25)

Bogdan, Krzysztof The boundary Harnack principle for the fractional Laplacian. (English summary) *Studia Math.* **123** (1997), *no.* 1, 43–80. (Zhong Xin Zhao) **98g:31005** 31B25 (31C05, 35S99, 60J65)

Bogdanov, A. N. Modeling the transient regime of the operation of a transonic nozzle. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 9, 117–126. 76H05

Bogdanov, A. V. (*with* Gevorkyan, Ashot S.) New perturbation theory for the nonstationary anharmonic oscillator. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7413–7425. (Summary) **98i:81049** 81Q15

Bogdanov, E. I. Action-angle variables in the theory of superconductivity and superfluidity phenomena. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 5, 70–79; *translation in Russian Phys. J.* **40** (1997), *no.* 5, 465–474. (Summary) **98f:82137** 82D50 (58F40, 70H05, 82D55)

Bogdanov, L. V. (*with* Konopelchenko, B. G.) Continuous, lattice and q-difference integrable systems and their transformation properties via $\overline{\partial}$-dressing method. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 29–36, *World Sci. Publishing, River Edge, NJ*, 1996. (F. Pempinelli) **98f:58178** 58F37 (35Q53, 39A12, 58F07)

— (*with* Konopelchenko, B. G.) Generalized integrable hierarchies and Combescure symmetry transformations. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1591–1603. (Giorgio Tondo) **98i:58112** 58F07 (35Q58, 58F37)

Bogdanov, R. I. Factorization of diffeomorphisms over phase portraits of vector fields in the plane. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 67–70; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 126–128. (D. R. J. Chillingworth) **98m:58098** 58F14 (34C20)

Bogdanović, Stojan (*with* Ćirić, Miroslav) Positive quasi-orders with the common multiple property on a semigroup. (English summary) *Proceedings of the Mathematical Conference in Priština 1994, 1–6, Univ. Priština, Priština*, 1995. (*see* **98b:08030**) 20M99

— (*with* Ćirić, Miroslav; Petković, Tatjana) The lattice of positive quasi-orders on an automaton. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 143–156. (H.-J. Hoehnke) **98h:68171** 68Q70 (06A15)

— (*with* Ćirić, Miroslav) The lattice of positive quasi-orders on a semigroup. (English summary) *Israel J. Math.* **98** (1997), 157–166. (Boris M. Schein) **98h:20118** 20M99 (06A23, 06F05)

— (*with* Ćirić, Miroslav; Novikov, B. V.) Bands of left Archimedean semigroups. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 85–101. (Mohan S. Putcha) **98m:20073** 20M10 (20M07)

Bogenschütz, Thomas (*with* Kowalski, Zbigniew S.) Exactness of skew products with expanding fibre maps. (English summary) *Studia Math.* **120** (1996), *no.* 2, 159–168. (U. Krengel) **98a:28013** 28D05 (58F11)

Beger, G. M. (*with* Benson, H. P.) Multiplicative programming problems: analysis and efficient point search heuristic. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 487–510. (Fred Behringer) **98i:90079** 90C29 (90C26)

Begeskov, Tom The cycloid as timekeeper. A geometric presentation of an analytic function. (Danish. English summary) *Normat* **45** (1997), *no.* 1, 25–31, 48. (Summary) **98d:51018** 51N20

Boggiatto, Paolo Sobolev spaces associated to a polyhedron and Fourier integral operations in $\mathbf{R}^n$. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 15–40. (Georgi E. Karadzhov) **98a:46042** 46E35 (35S30, 47G30)

— Multi-quasi-elliptic operators and anti-Wick symbols. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 139–149 (1997). (Elmar Schrohe) **98i:35221** 35S05 (35G05, 35J99, 47G30)

Boggs, Paul T. (*with* Tolle, Jon W.; Kearsley, Anthony J.) On the convergence of a trust region SQP algorithm for nonlinearly constrained optimization problems. (English summary) *System modelling and optimization (Prague, 1995)*, 3–12, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C30 (65K05)

Boghiu, D. (*with* Marghitu, D. B.; Sinha, S. C.) Stability and control of a parametrically excited rotating system. I. Stability analysis. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 5–18. 70Q05 (70K99, 93C85)
— (*with* Sinha, S. C.; Marghitu, D. B.) Stability and control of a parametrically excited rotating system. II. Controls. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 19–35. 70Q05 (70K99, 93C85)
Boghosian, Bruce M. (*with* Taylor, Washington, IV) Quantum lattice-gas model for the many-particle Schrödinger equation in *d* dimensions. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 54–66. (Summary) **98m:82048** 82C20 (81P99, 81Q05)
— *see also* **Proceedings: Conference on Discrete Models for Fluid Mechanics**
Boglaev, I. P. (*with* Sirotkin, V. V.) Solution of a singularly perturbed parabolic problem by domain decomposition with time extrapolation. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 2, 75–90. (From the introduction) **98g:65117** 65N55 (35B25)
— Iterative algorithms of domain decomposition for the solution of a quasilinear elliptic problem. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 299–316. (Włodzimierz Proskurowski) **98d:65154** 65N55 (65Y05)
Bogley, W. A. (*with* Dyer, M. N.) A group-theoretic reduction of J. H. C. Whitehead's asphericity question. (English summary) *Groups—Korea '94* (*Pusan*), 15–24, *de Gruyter, Berlin*, 1995. (Stephan Rosebrock) **98f:57005** 57M20 (20F19, 57M35)
— (*with* Baik, Y. G.; Pride, S. J.) On the asphericity of length four relative group presentations. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 3, 277–312. (Martin Edjvet) **98g:20047** 20F05
Bognar, Gabriella Existence theorem for eigenvalues of a nonlinear eigenvalue problem. *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 2, 93–102. (Jesús Hernández) **98e:35065** 35J65 (35P30, 58E05)
Bognár, M. On the Moore-Menger theorem. *Acta Math. Hungar.* **71** (1996), *no.* 1-2, 91–101. (From the text) **98g:54062** 54E35 (54G20)
— On Peano mappings. *Acta Math. Hungar.* **74** (1997), *no.* 3, 221–227. (Beverly Diamond) **98b:54059** 54H99 (54C99)
— On some variants of connectedness. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 117–122. (From the text) **98m:54023** 54D05
Bognárová, Marta (*with* Kubáček, Lubomír; Volaufová, Júlia) Comparison of MINQUE and LMVQUIE by simulation. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 25–38 (1997). (Summary) **98g:62135** 62J10 (62F15)
Bogolepov, V. V. (*with* Lipatov, I. I.) Effect of compressibility on the development of Taylor-Görtler vortices at high Reynolds numbers. *Fluid Dynam.* **32** (1997), *no.* 1, 28–38; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 1, 36–47 (*Russian. Russian summary*). (James P. Denier) **98e:76098** 76N20 (76E30)
Bogoliubov, N. M. *see* **Bogolyubov, N. M.**
Bogoliubov, Nikolai M. *see* **Bogolyubov, N. M.**
Bogolubov, N. N., Jr. *see* **Bogolyubov, N. N., Jr.**
Bogolubskaya, A. A. *see* **Bogolyubskaya, A. A.**
Bogolubsky, I. L. *see* **Bogolyubskiĭ, I. L.**
Bogolyubov, N. M. (*with* Bullough, Robin; Timonen, J.) Exact solution of generalized Tavis-Cummings models in quantum optics. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6305–6312. (Summary) **98a:81284** 81V80 (81U40)
— (*with* Izergin, A. G.; Kitanin, N. A.) Correlators of the phase model. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 347–352. (Summary) **98f:82015** 82B20
— (*with* Nassar, Tarek) On the spectrum of the non-Hermitian phase-difference model. (English summary) *Phys. Lett. A* **234** (1997), *no.* 5, 345–350. (Summary) **98j:82017** 82B23 (81V80)
Bogolyubov, N. N., Jr. (*with* Seke, Josip; Soldatov, A. V.) A new technique for the construction of effective Hamiltonians. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 361–372. (K. Wódkiewicz) **98k:81053** 81Q10 (81Q15)
Bogolyubskaya, A. A. (*with* Bogolyubskiĭ, I. L.) 2D topological solitons in the gauged easy-axis Heisenberg antiferromagnet model. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 269–274. (Summary) **98b:82021** 82B21 (81T10)
Bogolyubskiĭ, I. L. (*with* Bogolyubskaya, A. A.) 2D topological solitons in the gauged easy-axis Heisenberg antiferromagnet model. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 269–274. (Summary) **98b:82021** 82B21 (81T10)
Bogomol'nyĭ, E. B. Introduction to models on constant negative curvature surfaces. *Quantum dynamics of simple systems* (*Stirling*, 1994), 1–47, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (*see* **98m:81003**) 81Q50 (58F13, 70H99)
— (*with* Bohigas, O.; Lebœuf, P.) Quantum chaotic dynamics and random polynomials. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 5-6, 639–679. (Christian Grosche) **98a:81046** 81Q50 (82B44)
— (*with* Bohigas, O.; Pato, M. P.) Distribution of eigenvalues of certain matrix ensembles. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6707–6718. (Summary) **98d:82025** 82B41
Bogomolov, F. A. On the cohomology ring of a simple hyper-Kähler manifold (on the results of Verbitsky). *Geom. Funct. Anal.* **6** (1996), *no.* 4, 612–618. (Andrew Swann) **98b:32025** 32J27 (32G05, 32G20, 53C25)
Bogopol'skiĭ, O. V. Infinite commensurable hyperbolic groups are bi-Lipschitz equivalent. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 259–272, 357; *translation in Algebra and Logic* **36** (1997), *no.* 3, 155–163. (Summary) **98h:57002** 57M07 (30F45, 54H11)
volkov-Bogorodsky, D. B. *see* **Volkov-Bogorodsky, D. B.**
Bogoyavlenskiĭ, O. I. Necessary conditions for existence of non-degenerate Hamiltonian structures. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 253–289. (Alexander V. Shapovalov) **98f:58097** 58F07
Bogul'skiĭ, I. O. (*with* Anisimov, S. A.) An algorithm for the independent approximation of nondifferential terms in the numerical solution of boundary value problems for systems of hyperbolic equations. (Russian. English and Russian summaries) *Dinamika Sploshn. Sredy No.* 109 (1994), 34–48, 124, 127. (From the text) **98a:65111** 65M06 (73D99, 73K10, 73V20)
Bogush, A. A. (*with* Fedorovykh, A. M.) On a generalization of the algebra of complex numbers to the multidimensional case with a nonlinear multiplication operation. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 49–53, 125. (Summary) **98k:81081** 81R05 (81T13)
— On matrices and vector parameters of quantum Lorentz transformations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 4, 60–65, 142. (Nicolás Andruskiewitsch) **98g:81069** 81R50 (17B37)
— (*with* Otchik, V. S.) Problem of two Coulomb centres at large intercentre separation: asymptotic expansions from analytical solutions of the Heun equation. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 559–571. (Summary) **98f:81376** 81V55 (33C90)
Boguslavskaya, E. V. Exact solution of a problem of the optimal control of investments in a diffusion model. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 157–158; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 396–397. 90A16 (49K15)
Boguslavsky, M. On the number of solutions of polynomial systems. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 287–299. (Marc Perret) **98m:11132** 11T06 (05B30, 11D79, 11T71, 94B27)
Bogusławski, Andrzej On what is impossible entailing everything. *Discourse and meaning*, 111–118, *Benjamins, Amsterdam*, 1996. (Otávio Bueno) **98d:03008** 03A05
Boháč, Zdeněk Transformation of spaces of vector functions of scalar argument. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 7–19. (F. Neuman) **98h:15001** 15A03 (34A30)
Bohatier, Claude Perspectives for solution of thermomechanical problems by space-time finite element method. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 41–49, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (*see* **98i:00024**) 73B30 (73V05, 80–08)
Bohigas, O. (*with* Bogomol'nyĭ, E. B.; Lebœuf, P.) Quantum chaotic dynamics and random polynomials. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 5-6, 639–679. (Christian Grosche) **98a:81046** 81Q50 (82B44)
— (*with* Bogomol'nyĭ, E. B.; Pato, M. P.) Distribution of eigenvalues of certain matrix ensembles. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6707–6718. (Summary) **98d:82025** 82B41
Bohl, Erich (*with* Marek, Ivo) A model of amplification. (English summary) International Symposium on Mathematical Modelling and Computational Methods Modelling 94 (Prague, 1994). *J. Comput. Appl. Math.* **63** (1995), *no.* 1-3, 27–47. (John W. Lee) **98b:47048** 47B60 (34G10, 47N20, 92J30)
Bohl, H. (*with* Reif, Ulrich) Degenerate Bézier patches with continuous curvature. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 8, 749–761. (Bert Jüttler) **98m:65022** 65D17 (65D07)
Bohm, Arno (*with* Kielanowski, Piotr) Time-reversal and irreversibility. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2295–2317. (Robert Alicki) **98f:81042** 81P99
— (*with* Gadella, M.; Maxson, S.) Extending the stationary quantum mechanics of being to a nonstationary quantum theory of becoming and decaying. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 427–466. (M. J. Mączyński) **98k:81055** 81Q15 (47A70, 47N50, 81P15)
— (*with* Loewe, Mark; Patuleanu, P.; Püntmann, C.) Jordan blocks and exponentially decaying higher-order Gamow states. (English summary) *Found. Phys.* **27** (1997), *no.* 5, 613–624. (V. S. Ol'khovskiĭ) **98g:81213** 81U20
— *see also* **Schulte, Christoph, 98b:81123**
Bohm, David Joseph *see* **Goldstein, Sheldon**
Böhm, Max (*with* Speckenmeyer, Ewald; Heusch, Peter) On the imbalance of distributions of solutions of CNF-formulas and its impact on satisfiability solvers. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 669–676, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:68063** 68Q25 (03B05, 68T20)
Böhm, Walter M. Nonintersecting paths and applications in queueing theory. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 287–299, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Wolfgang Stadje) **98g:60132** 60J27 (60K25)
— (*with* Mohanty, Sri Gopal) On the Karlin-McGregor theorem and applications. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 314–325. (Wolfgang Stadje) **98g:60131** 60J27 (60K25)
Bohman, Jan (*with* Fröberg, Carl-Erik) Generalized Goldbach problems. (Swedish. English summary) *Normat* **45** (1997), *no.* 4, 167–177, 188. (Summary) **98i:11084** 11P32
Bohman, Tom A construction for sets of integers with distinct subset sums. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 3, 14 *pp.* (*electronic*). (Yuri Bilu) **98k:11014** 11B75 (05D10)
Bohner, Martin Riccati matrix difference equations and linear Hamiltonian difference systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 2, 147–159. (Guang Zhang) **98b:39001** 39A10 (34C10, 93C55)
— Asymptotic behavior of discretized Sturm-Liouville eigenvalue problems. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 289–295. (Summary) **98m:34048** 34B24 (34L20, 65L10)
Bohr, Niels *see* **Laudisa, Federico, 98f:01045** *and* **Peierls, Rudolf**
Bohr, Tomas (*with* Putkaradze, Vakhtang; Krug, Joachim) Global estimates and shocks for the noiseless conserved Kardar-Parisi-Zhang equation. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 823–847. (Summary) **98d:35198** 35Q53 (35A20, 35B99, 82C24)
— (*with* Huber, Greg; Ott, Edward) The structure of spiral-domain patterns and shocks in the 2D complex Ginzburg-Landau equation. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 95–112. (Summary) **98b:35173** 35Q55 (76E30)
Bohre, S. K. (*with* Ram, R. N.) Fixed point theorem in Banach space. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 129–131. 47H10
Boicescu, V. (*with* Filipoiu, A.) On Post algebras and representation by continuous functions. Part one. (English and Romanian summaries) *Politeh. Univ. Buchar. Sci. Bull. Ser. B Chem. Mater. Sci.* **55** (1993), *no.* 3-4, 17–25. (Summary) **98a:06019** 06D25 (03G20)
Bolchuk, A. A. (*with* Chuĭko, S. M.) Generalized Green operator for a linear quasiperiodic problem. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 450–457, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 451–458. (Summary) **98c:34075** 34C27 (34B27)
— (*with* Samoĭlenko, A. M.; Zhuravlev, V. F.) Weakly nonlinear boundary value problems for operator equations with impulse action. (Russian. English and Ukrainian

summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 272–288; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 302–319. (Florin Iacob) **98j:34126** 34G20 (34A37, 34B15, 34K30, 35R10)

Boiko, Andreĭ Vladislavovich (*with* Kozlov, Viktor Vladimirovich; Scherbakov, V. A.; Syzrantsev, V. V.) Transition control by riblets in a swept wing boundary layer with an embedded streamwise vortex. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 465–482. 76D10 (76F99)

Boĭko, S. S. (*with* Dubovoĭ, V. K.) Unitary couplings and regular factorizations of operator functions in L^∞. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 41–44. (Dmitriy S. Kalyuzhniy) **98k:47016** 47A40 (47A15, 47A45, 47A56)

— (*with* Dubovoĭ, V. K.) On some extremal problem connected with the suboperator of the scattering through inner channels of the system. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 7–11. (J. Rovnyak) **98m:47009** 47A40 (47A45, 47A57)

— (*with* Dubovoĭ, V. K.; Kirstein, Bernd; Fritzsche, Bernd) Contraction operators, defect functions, and scattering theory. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 481–489; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 529–538 (1998). (Dmitriy S. Kalyuzhniy) **98j:47020** 47A48 (47A40, 47A56)

Boĭkov, I. V. An approximation of analytical functions by local splines. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 3, 59–67. (Zygmunt Wronicz) **98c:41007** 41A15 (30E05, 41A63)

— On the application of the method of local corrections to the approximate solution of inverse problems of gravimetry. (Russian) *Fiz. Zemli* **1996**, *no.* 3, 86–90. (Alexander S. Denisjuk) **98c:86007** 86A22

— Iterative methods of solution for integral equations with convolution. *Integral methods in science and engineering, Vol.* 1 (*Oulu*, 1996), 38–42, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 45L05 (45E10, 65R20)

— Optimal algorithms of solution for weakly singular integral equations. *Integral methods in science and engineering, Vol.* 2 (*Oulu*, 1996), 54–58, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65R20 (45E05, 45L05)

Boĭkova, A. Methods for the approximate calculation of the Hadamard integral and solution of integral equations with Hadamard integrals. *Integral methods in science and engineering, Vol.* 2 (*Oulu*, 1996), 59–63, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 45L05 (45E05, 65R20)

Boileau, Michel (*with* Wang, Shicheng) Non-zero degree maps and surface bundles over S^1. *J. Differential Geom.* **43** (1996), *no.* 4, 789–806. (From the introduction) **98g:57023** 57N10 (57M50)

— *see also* **Progress in knot theory and related topics**, **98g:57002**

Boillat, Guy On nonlinear plane waves. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 69–72. (Ivan Straškraba) **98d:35130** 35L60

— (*with* Ruggeri, Tommaso) Hyperbolic principal subsystems: entropy convexity and subcharacteristic conditions. (English summary) *Arch. Rational Mech. Anal.* **137** (1997), *no.* 4, 305–320. (Carlo Cercignani) **98h:82055** 82C40 (35L65, 76P05)

— Sur la forme générale du système de Monge-Ampère. (English and French summaries) [On the general form of the Monge-Ampère system] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 339–342. 35J60

— (*with* Ruggeri, Tommaso) Moment equations in the kinetic theory of gases and wave velocities. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 4, 205–212. (Nicola Bellomo) **98j:82053** 82C40 (76P05)

Boĭmatov, K. Kh. Averaging of the multidimensional distribution function for elliptic almost periodic operators. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 439–443. (Günter Berger) **98g:35017** 35B27 (35J40, 35P20, 47F05)

— Spectral asymptotics of nonselfadjoint elliptic differential operators in the whole space. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 727–730. (Günter Berger) **98g:35153** 35P20 (35J40, 47F05)

— On the spectrum of a selfadjoint polynomial pencil. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 71–74; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 204–207 (1998). (Petru A. Kozhukharʹ) **98i:47012** 47A56 (47A10, 47F05)

Boisseau, B. (*with* Linet, B.) Exact metric for the exterior of a global string in the Brans-Dicke theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 963–973. 83D05

Boisson, H. C. (*with* Guivarch, R.; Spiteri, P.; Miellou, J. C.) Schwarz alternating parallel algorithm applied to incompressible flow computation in vorticity stream function formulation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 205–225. (Summary) **98j:76108** 76M25 (65M55, 65Y05, 76D05)

Boissonade, J. (*with* Bernasconi, G. P.) Phyllotactic order induced by symmetry breaking in advected Turing patterns. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 224–230. (Summary) **98h:92010** 92C15

Boiti, C. (*with* Nacinovich, Mauro) The overdetermined Cauchy problem. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 1, 155–199. (Nicolai N. Tarkhanov) **98a:35095** 35N05 (32A15, 35Axx)

Boiti, M. (*with* Pempinelli, F.; Pogrebkov, A. K.) Spectral theory of solitons on a generic background for the KPI equation. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 37–52, *World Sci. Publishing, River Edge, NJ*, 1996. (Elena Medina Reus) **98g:35175** 35Q53 (46F10, 46N20)

— (*with* Pempinelli, F.; Leon, Jérôme Jp.) Bäcklund and Darboux transformations for the Ablowitz-Ladik spectral problem. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 261–268, *World Sci. Publishing, River Edge, NJ*, 1996. (Victor V. Zharinov) **98d:58163** 58F37 (35Q58)

— (*with* Pempinelli, F.; Pogrebkov, A. K.) Solving the Kadomtsev-Petviashvili equation with initial data not vanishing at large distances. (English summary) *Inverse Problems* **13** (1997), *no.* 3, L7–L10. (Summary) **98b:35151** 35Q53

— (*with* Pempinelli, F.) Some integrable finite-dimensional systems and their continuous counterparts. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 919–937. (Jérôme Leon) **98j:58087** 58F19 (34A55, 39A12)

Boivin, André (*with* Dwilewicz, Roman) Extension and approximation of CR functions on tube manifolds. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1945–1956. (J. Merker) **98h:32011** 32C16 (32D10, 32D15)

Boixader, Dionis Some properties concerning the quasi-inverse of a t-norm. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 5–12. 04A72

Boja, Nicolae On the aggregate rigidity matrices in the networks analysis. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 1, 29–37. (N. Gass) **98a:65054** 65F30 (73V05, 94C15)

Bojanczyk, Adam (*with* Heinig, Georg) Transformation techniques for Toeplitz and Toeplitz-plus-Hankel matrices. I. Transformations. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 193–226. (Israel Koltracht) **98e:15026** 15A57

Bojanov, B. *see* **Boyanov, Borislav D.**

Bojanov, Borislav *see* **Boyanov, Borislav D.**

Bojdecki, Tomasz (*with* Gorostiza, Luis G.) A nuclear space of distributions on Wiener space and application to weak convergence. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 12–25, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (David Nualart) **98a:60046** 60G20 (46F05, 46F25, 60H07)

— (*with* Gorostiza, Luis G.) Self-intersection local time for Gaussian $\mathscr{S}'$-processes, and application to fluctuation limits of branching particle systems. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 49–55, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Summary) **98d:60071** 60G15 (60G20, 60J55, 60J80)

— (*with* Gorostiza, Luis G.; Nualart, David) Time-localization of random distributions on Wiener space. (English summary) *Potential Anal.* **6** (1997), *no.* 2, 183–205. (Author's review (D.N.)) **98g:60082** 60G20 (46N30, 60J35)

Slavtchova-Bojkova, Maroussia N. *see* **Slavtchova-Bojkova, Maroussia N.**

Bojović, Dejan (*with* Jovanović, Boško S.) Convergence of a finite difference method for the heat equation—interpolation technique. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Arandelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 257–264. (Summary) **98m:65151** 65M12 (46N40, 65M06)

Bokaev, N. A. (*with* Nurkhanov, M. A.) Generalization of a uniqueness theorem for multiple series in systems of characters of Vilenkin groups. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1995**, *no.* 5, 29–34 (1996). (Michael Tkačenko) **98m:22005** 22C05

— On the uniqueness of the representation of functions by multiple series in generalized Haar systems. (Russian) *Mat. Zametki* **60** (1996), *no.* 1, 127–130; *translation in Math. Notes* **60** (1996), *no.* 1-2, 94–96 (1997). (W. R. Wade) **98b:42043** 42C10

Bokan, Neda (*with* Gilkey, Peter B.; Simon, Udo) Local affine invariants of second order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995**, *no.* 5, 11–15; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 5, 8–12. (Jürgen Eichhorn) **98a:53089** 53C42 (53A15, 53A55, 58G11)

— (*with* Gilkey, Peter B.; Simon, Udo) Geometry on differential operators on Weyl manifolds. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2527–2536. (Uwe Semmelmann) **98m:58132** 58G11 (53C25)

— (*with* Blažić, Novica; Rakić, Zoran) The first order PDE system for type III Osserman manifolds. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 113–119. (María Elena Vázquez-Abal) **98m:53029** 53B30 (53C50)

— *see also* **Seminar: Geometrical**, **98h:53005**

Bokareva, T. A. On the solvability of the Cauchy problem for a semilinear equation of Sobolev type with respect to a sectorial operator. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 814–820, 863; *translation in Differential Equations* **32** (1996), *no.* 6, 819–825 (1997). (Piotr Biler) **98b:34080** 34G20 (35G99, 47N20, 76A10)

Bokhari, Ashfaque H. (*with* Qadir, Asghar; Ahmed, M. Shahan; Asghar, Mohammad) Classification of spherically symmetric static space-times by their curvature collineations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3639–3649. (Summary) **98b:83023** 83C20

Bokhari, S. M. Husnain (*with* Bunday, B. D.; Khan, K. H.) A new algorithm for the normal distribution function. (English summary) *Test* **6** (1997), *no.* 2, 369–377. 65U05

Bokhove, Onno Slaving principles, balanced dynamics, and the hydrostatic Boussinesq equations. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 12, 1662–1674. (Summary) **98e:76023** 76C99 (76U05, 76V05, 86A10)

Bokka, V. (*with* Bhagavathi, D.; Gurla, H.; Olariu, Stephan; Schwing, J. L.) Time-optimal tree computations on sparse meshes. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 201–220. (Summary) **98d:68025** 68M10

Bokor, Imre On genus and cancellation of polyhedra with cells only in dimensions $2n+1$ and $4n+2$. (English summary) *Exposition. Math.* **15** (1997), *no.* 4, 359–366. (Jesper M. Møller) **98j:55006** 55P15 (55P60)

Bokor, J. (*with* Schipp, Ferenc) L^∞ system approximation algorithms generated by φ summations. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2019–2024. (Summary) **98k:93027** 93B30 (93B40)

Bokowski, Jürgen (*with* Guedes de Oliviera, António; Thiemann, Ulrich; Veloso da Costa, António) On the cube problem of Las Vergnas. (English summary) *Geom. Dedicata* **63** (1996), *no.* 1, 25–43. (Ilda P. F. da Silva) **98e:52013** 52B40 (05B35, 52B15)

— (*with* Roudneff, J.-P.; Strempel, T.-K.) Cell decompositions of the projective plane with Petrie polygons of constant length. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 377–392. (P. McMullen) **98j:52026** 52B70 (52B30)

Bol, Roland (*with* Groote, Jan Friso) The meaning of negative premises in transition system specifications. (English summary) *J. ACM* **43** (1996), *no.* 5, 863–914. (Gheorghe Ştefănescu) **98e:68059** 68Q10 (68Q55)

— (*with* Degerstedt, Lars) Tabulated resolution for the well-founded semantics. (English summary) *J. Logic Programming* **34** (1998), *no.* 2, 67–109. (Summary) **98h:68034** 68N17 (68Q55)

Boland, N. L. A dual-active-set algorithm for positive semi-definite quadratic programming. (English summary) *Math. Programming* **78** (1997), *no.* 1, *Ser. A*, 1–27. (Summary) **98d:90081** 90C20 (90C30)

Boland, Philip J. A reliability comparison of basic systems using hazard rate functions. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 377–384. 62N05

Bolat, Ahmet Efficient methods for sequencing minimum job sets on mixed model assembly lines. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 419–437. (Summary) **98b:90063** 90B35

Bölcskei, Helmut (*with* Hlawatsch, Franz) Oversampled modulated filter banks. (English summary) *Gabor analysis and algorithms*, 295–322, *Appl. Numer. Harmon. Anal.*, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **98h:42001**) 94A12 (42C15)

Boldi, Paolo (*with* Vigna, Sebastiano) Minimal sense of direction and decision problems for Cayley graphs. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 6, 299–303. (Summary) **98j:68046** 68Q25 (68M10)

Boldin, A. Yu. (*with* Dmitrieva, V. V.; Safin, S. S.; Sharipov, R. A.) Dynamical systems on Riemannian manifolds that admit normal shift. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 256–266; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 543–549. (Valery Covachev) **98m:58114** 58F25 (34A26, 53B20, 70H99)

— (*with* Bronnikov, A. A.; Dmitrieva, V. V.; Sharipov, R. A.) Complete normality conditions for dynamical systems on Riemannian manifolds. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 267–275; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 550–555. (Valery Covachev) **98m:58115** 58F25 (34A26, 53B20, 70H99)

Boldin, M. V. On the least absolute deviation estimator in nonstationary autoregression, and testing for stationarity. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 409–417; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 340–348 (1997). (Jiří Anděl) **98e:62128** 62M10 (60F17)

— (*with* Simonova, G. I.; Tyurin, Yu. N.) ★ Sign-based methods in linear statistical models. (English summary) Translated from the Russian manuscript by D. M. Chibisov. Translations of Mathematical Monographs, 162. *American Mathematical Society, Providence, RI*, 1997. xii+234 *pp. ISBN* 0-8218-0371-9 (M. Hušková) **98f:62189** 62J05 (62F03, 62F10)

— On rank estimates and the empirical distribution function of residuals in autoregression with a possibly infinite variance. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 70–91. (Claudia Klüppelberg) **98m:62233** 62M10 (62G05, 62G20)

— Sign tests in the simplest autoregression with a coefficient in $\mathbf{R}^1$. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 163–164; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 607–608. 62M10 (62G10)

Boldo, J. L. (*with* Pimentel, B. M.; Tomazelli, J. L.) Causal phase in QED_3. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1565–1574. (Summary) **98f:81360** 81V10

Boldrighini, C. (*with* Soloveĭchik, M. R.) On the Einstein relation for a mechanical system. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 4, 493–515. (Peter Eichelsbacher) **98h:82045** 82C21 (60F05, 60J60, 82C31)

— (*with* Minlos, R. A.; Pellegrinotti, A.) Almost-sure central limit theorem for a Markov model of random walk in dynamical random environment. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 245–273. (Wan Ding Ding) **98m:60108** 60J15 (60F05, 60G60, 60K35, 82B41)

Boldrin, Luca A substructural connective for possibilistic logic. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 60–68, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B60 (03B70)

Boldrini, José Luiz (*with* Lorca, Sebastian Antonio) The initial value problem for a generalized Boussinesq model: regularity and global existence of strong solutions. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part II (Rio de Janeiro, 1995). *Mat. Contemp.* **11** (1996), 71–94. (Leonid V. Bogdanov) **98b:35146** 35Q35

— (*with* Rojas-Medar, Marko Antonio) Global strong solutions of the equations for the motion of nonhomogeneous incompressible fluids. *Numerical methods in mechanics (Concepción, 1995)*, 35–45, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Jürgen Socolowsky) **98k:35144** 35Q30 (76D05)

— (*with* Rojas-Medar, Marko Antonio) Global strong solutions of equations of magneto-hydrodynamic type. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 3, 291–306. (P. L. Sulem) **98a:35111** 35Q35 (76W05)

— (*with* Lukaszczyk, J. P.) Flow through isotropic granular (nonconsolidated) porous media. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 25–44. (Adrian Carabineanu) **98k:35157** 35Q35 (35Q30, 76S05)

Bolduc, Denis (*with* Kalulumia, Pene) Generalized mixed estimator for nonlinear models: a maximum likelihood approach. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 93–107. (A. L. Nagar) **98f:62196** 62J05 (62P20)

Boldyrev, S. A. Velocity-difference probability density functions for Burgers turbulence. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6907–6910. (Summary) **98d:76082** 76F99 (76D99, 76M35)

— Nonlinear magnetosonic waves in a multi-ion-species plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1315–1320. 76X05

Bolfarine, Heleno (*with* Arellano-Valle, R. B.; Vilca-Labra, F.) Ultrastructural elliptical models. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 2, 207–216. (Yutaka Kano) **98a:62027** 62F05 (62J05)

— (*with* Arellano-Valle, R. B.) Elliptical structural models. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 10, 2319–2341. (Yasunori Fujikoshi) **98f:62163** 62H12 (62H15)

— (*with* Zacks, Shelemyahu; Sandoval, Mônica C.) On predicting the population total under regression models with measurement errors. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 63–76. (Tommy Wright) **98c:62012** 62D05

— (*with* Yoshida, Olga S.; Leite, José Galvão) Bayes' estimation of the number of component processes of a superimposed process. (English summary) *Probab. Engrg. Inform. Sci.* **10** (1996), *no.* 3, 443–461. (Uttara V. Naik-Nimbalkar) **98a:62036** 62F15 (62M05)

— (*with* Lima, Claudia R. O. P.; Sandoval, Mônica C.) Linear calibration in functional regression models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2307–2328. (Summary) **98f:62190** 62J05

— (*with* Rodrigues, Josemar; Cordeiro, Gauss M.) Nonlinear quasi-Bayesian theory and inverse linear regression. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2347–2361. (Summary) **98m:62204** 62J12 (62F15)

Bolia, Mamta (*with* Raina, R. K.) Characterization properties for starlike and convex functions involving a class of fractional integral operators. (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 61–71. (Shigeyoshi Owa) **98i:30018** 30C45 (26A33)

Bolibok, Krzysztof Constructions of Lipschitzian mappings with non-zero minimal displacement in spaces $L^1(0,1)$ nd $L^2(0,1)$. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **50** (1996), 25–31. (Tomás Domínguez Benavides) **98j:47123** 47H09 (46B20, 46E30)

Bolibrukh, A. A. The Riemann-Hilbert problem and Fuchsian differential equations on the Riemann sphere. *Proceedings of the International Congress of Mathematicians, Vol. 1, 2 (Zürich, 1994)*, 1159–1168, *Birkhäuser, Basel*, 1995. (V. V. Chueshev) **98e:32038** 32G34 (14D05, 30E25, 34A20)

— Holomorphic bundles, associated with linear differential equations and the Riemann-Hilbert problem. (English summary) *The Stokes phenomenon and Hilbert's 16th problem (Groningen, 1995)*, 51–70, *World Sci. Publishing, River Edge, NJ*, 1996. (V. V. Chueshev) **98c:32022** 32G34 (30E25, 34A20)

— (*with* Arnol'd, Vladimir Igorevich; Gamkrelidze, R. V.; Maslov, V. P.; Mishchenko, E. F.; Novikov, S. P.; Osipov, Yu. S.; Sinaĭ, Yakov Grigor'evich; Stepin, A. M.; Faddeev, L. D.) Dmitriĭ Viktorovich Anosov (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 437–445. (Editors) **98f:01055** 01A70

— (*with* Anosov, Dmitriĭ Viktorovich; Vassiliev, V. A.; et al.) Vladimir Igorevich Arnol'd (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 235–255; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1117–1139. (Editors) **98k:01015** 01A70

Bolik, Jürgen A priori estimates for differential forms with components in $C^{1,\lambda}$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 227–238. (Alberto Valli) **98k:58005** 58A10 (31B20, 35B45)

— (*with* von Wahl, Wolf) Estimating $\nabla \mathbf{u}$ in terms of div $\mathbf{u}$, curl $\mathbf{u}$, either $(\nu, \mathbf{u})$ or $\nu \times \mathbf{u}$ and the topology. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 9, 737–744. (H. Triebel) **98d:35023** 35B45 (35J99, 46N20)

Bolina, O. (*with* Parreira, J. Rodrigo; Perez, J. Fernando) Néel order in the ground state of Heisenberg antiferromagnetic chains with long-range interactions. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1095–1100. (Bálint Tóth) **98i:82017** 82B20 (82D40)

— (*with* Parreira, J. Rodrigo; Perez, J. Fernando) Néel order in the ground state of spin-$\frac{1}{2}$ Heisenberg antiferromagnetic multilayer systems. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1367–1371. (Summary) **98c:82016** 82B20

ballester-Bolinches, A. *see* **Ballester-Bolinches, A.**

Boling, Guo *see* **Guo, Bo Ling**

Bolintinéanu, S. (*with* El Maghri, M.) Pénalisation dans l'optimisation sur l'ensemble faiblement efficient. (English and French summaries) [Penalization in optimization over the weakly efficient set] *RAIRO Rech. Opér.* **31** (1997), *no.* 3, 295–310. (Alberto Cambini) **98e:90134** 90C29 (90C26)

rios-Bolivar, M. *see* **Rios-Bolivar, M.**

Bollé, D. (*with* Shim, G. M.; Wong, K. Y. M.) Dynamics of temporal activity in multi-state neural networks. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2637–2652. (Dimitri Petritis) **98f:82103** 82C32 (68T05, 92B20)

Bolle, Friedel Necessary conditions for efficient multiple-bid auctions. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 123–143, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A60 (90A43)

Bollerslev, Tim (*with* Domowitz, Ian; Wang, Jianxin) Order flow and the bid-ask spread: an empirical probability model of screen-based trading. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1471–1491. (*see* **98c:90003**) 90A60

Bolley, Catherine (*with* Helffer, Bernard) Rigorous results on Ginzburg-Landau models in a film submitted to an exterior parallel magnetic field. II. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 121–152. (J. R. Ockendon) **98c:82075** 82D55 (35Q55)

— (*with* Helffer, Bernard) Proof of the De Gennes formula for the superheating field in the weak κ limit. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 597–613. (Guang Shan Tian) **98h:82070** 82D55 (34B15)

— (*with* Helffer, Bernard) The Ginzburg-Landau equations in a semi-infinite superconducting film in the large κ limit. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 347–367. (Summary) **98k:82200** 82D55 (34B15)

— (*with* Helffer, Bernard) Superheating in a semi-infinite film in the weak κ limit: numerical results and approximate models. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 121–165. (J. R. Ockendon) **98b:82089** 82D55 (34B15, 82B80)

Bollhöfer, Matthias Algebraic domain decomposition. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II (Nijmegen, 1996)*, 91–104, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65F50

Bolliat, G. (*with* Dafermos, C. M.; Lax, Peter D.; Liu, Tai-Ping) ★ Recent mathematical methods in nonlinear wave propagation. Lectures given at the 1st C.I.M.E. Session held in Montecatini Terme, May 23–31, 1994. Edited by T. Ruggeri. Lecture Notes in Mathematics, 1640. Fondazione C.I.M.E.. [C.I.M.E. Foundation] *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1996. vi+142 *pp. ISBN* 3-540-61907-0 (Editors) **98g:35002** 35–06

Bollig, Beate (*with* Wegener, Ingo) Read-once projections and formal circuit verification with binary decision diagrams. (English summary) *STACS 96 (Grenoble, 1996)*, 491–502, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q60 (68Q25)

Bölling, Reinhard Kummer vor der Erfindung der "idealen complexen Zahlen": Das Jahr 1844. [Kummer before the invention of the "ideal complex numbers": the year 1844] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 145–157. (Jeremy Gray) **98m:01012** 01A55

— Georg Cantor—ausgewählte Aspekte seiner Biographie. [Georg Cantor—selected aspects of his biography] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 2, 49–82. (R. L. Cooke) **98b:01027** 01A70 (01A55)

Bollini, C. G. (*with* Oxman, L. E.; Rocca, M. C.) A family of unitary higher order equations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2915–2926. (Summary) **98j:81223** 81T18 (81V10)

Bollobás, Béla (*with* Kohayakawa, Yoshiharu) On Richardson's model on the hypercube. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993),

129–137, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98j:05122** 05C99 (05C90, 60K35, 92D30)

— Paul Erdős—life and work. *The mathematics of Paul Erdős, I*, 1–41, *Algorithms Combin.*, 13, *Springer, Berlin*, 1997. (Jerrold W. Grossman) **98b:01028** 01A70 (05–03, 11–03)

— (*with* Thomason, Andrew) Hereditary and monotone properties of graphs. (English summary) *The mathematics of Paul Erdős, II*, 70–78, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Peter Mihók) **98a:05085** 05C35 (05C30)

— (*with* Leader, Imre) An Erdős-Ko-Rado theorem for signed sets. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 9–13. (Ian Anderson) **98k:05134** 05D05

— (*with* Szabó, Tamás) Domination in oriented graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 55–64. (Summary) **98i:05099** 05C35 (05C20)

— (*with* Brightwell, Graham) Random walks and electrical resistances in products of graphs. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 1, 69–79. (Walter M. Böhm) **98c:60085** 60J15 (05C90, 60C05, 94C15)

— (*with* Leader, Imre) Matchings and paths in the cube. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 1–8. (Summary) **98c:05123** 05C70

— (*with* Scott, Alexander D.) Independent sets and repeated degrees. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 41–49. (R. H. Schelp) **98g:05117** 05C75 (05C35, 05C80)

— (*with* Hegyvári, Norbert; Jin, Guoping) On a problem of Erdős and Graham. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 253–257. (Yuri Bilu) **98h:11016** 11B13 (11B05, 11B25, 11B75)

— (*with* Scott, Alexander D.) Judicious partitions of hypergraphs. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 15–31. (Jaroslav Ivančo) **98e:05082** 05C65 (05C70)

— (*with* Thomason, Andrew) On the girth of Hamiltonian weakly pancyclic graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 165–173. (Felix Lazebnik) **98m:05106** 05C38 (05C35, 05C45)

— (*with* Riordan, Oliver) On some conjectures of Graffiti. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 223–230. (Summary) **98k:05062** 05C15

— *see also* **Combinatorics, geometry and probability**, **98d:00027**

Bollweg, Wilfried (*with* Mäurer, Helmut[2]; Kroll, Herbert) Numerical prediction of crystal structures by simulated annealing. (English summary) *Developments in global optimization* (*Szeged*, 1995), 253–288, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C30 (90C90)

Bologna, M. (*with* Nocera, L.; Califano, F.) Homoclinic chaos in a forced hydromagnetic cavity. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 131–148. (Summary) **98h:76138** 76W05 (58F40, 85A30, 86A25)

Bolondi, Giorgio Combinatorial properties of stick-figures. *Geometry Seminars*, 1994–1995 (*Italian*) (*Bologna*), 35–45, *Univ. Stud. Bologna, Bologna*, 1996. (Fyodor L. Zak) **98j:14046** 14H50 (14N05)

— (*with* Ballico, Edoardo; Ellia, Philippe; Mirò-Roig, Rosa Maria) Curves of maximum genus in range A and stick-figures. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4589–4608. (Gunnar Fløystad) **98b:14030** 14H50

Bolotin, S. V. On supports of minimal invariant measures of Hamiltonian systems. (Russian. Russian summary) Chebyshev Lectures—1994 (Russian). *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 38–45, 117. (*see* **98i:00023**) 58F05 (70H05)

— (*with* Bertotti, Maria Letizia) Doubly asymptotic trajectories of Lagrangian systems and a problem by Kirchhoff. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 93–100. (Summary) **98k:58086** 58F05 (34C11, 58E05, 70E15, 70H35)

— Homoclinic trajectories of invariant sets of Hamiltonian systems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 359–389. (Vittorio Coti Zelati) **98h:58034** 58E05 (34C37, 58F05, 70H05)

— (*with* MacKay, Robert S.) Multibump orbits near the anti-integrable limit for Lagrangian systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1015–1029. (Boris Buffoni) **98h:34090** 34C37 (34E99, 58F05, 70H35)

Bolotin, V. V. (*with* Kovekh, V. M.) The effect of microdamages on fatigue crack growth. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1029–1038; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 1007–1015. 73M25

— (*with* Grishko, A. A.; Kounadis, Anthony N.; Gantes, Ch.; Roberts, J. B.) Influence of initial conditions on the postcritical behavior of a nonlinear aeroelastic system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 63–81. 73K70 (58F40, 73H10)

Bolotin, Yu. L. (*with* Virchenko, Yu. P.) Statistics of the quasi-energies of quantum mechanical systems for regular and chaotic regimes with Hamiltonians that periodically change over time. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 3, 431–447; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 3, 1195–1207 (1997). (J. S. Joel) **98c:81068** 81Q50

Bolotnikov, Vladimir (*with* Alpay, Daniel; Loubaton, Philippe) Dissipative periodic systems and symmetric interpolation in Schur classes. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 5, 371–387. (Sergei Treil) **98f:47014** 47A57 (47N70, 93B30)

— On a general moment problem on the half axis. (English summary) *Linear Algebra Appl.* **255** (1997), 57–112. (Tiberiu Constantinescu) **98h:44003** 44A60 (15A45, 47A57)

— (*with* Alpay, Daniel; Loubaton, Philippe) On a new positive extension problem for block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 247–287. (Adolf A. Nudelman) **98k:47008** 47A15 (15A57, 30E05)

Bolotnikov, Yu. V. (*with* Tarakanov, V. E.) Partially decomposable and totally indecomposable nonnegative matrices. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 5, 643–662, 797; *translation in Math. Notes* **59** (1996), *no.* 5-6, 463–476. (Anna Ryczerz) **98d:15018** 15A48

Bolotov, A. A. On metric clustering. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 62–78; *translation in Discrete Math. Appl.* **6** (1996), *no.* 5, 449–466. (Jan W. Owsiński) **98k:62107** 62H30 (05A16)

Bolotov, A. E. (*with* Bocharov, V. A.; Gorchakov, A. E.) A proof search algorithm for a classical natural deduction calculus. (Russian) *Logical investigations, No.* 3 (*Russian*), 181–186, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B35

Bolsch, Andreas Repulsive periodic points of meromorphic functions. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 1, 75–79. (I. N. Baker) **98c:30033** 30D05 (30D30, 58F23)

Bol'shakov, Yu. I. (*with* van der Mee, Cornelis V. M.; Ran, André C. M.; Reichstein, Boris; Rodman, Leiba) Polar decompositions in finite-dimensional indefinite scalar product spaces: general theory. (English summary) *Linear Algebra Appl.* **261** (1997), 91–141. (T. Ya. Azizov) **98e:15019** 15A23 (47B50)

— (*with* van der Mee, Cornelis V. M.; Ran, André C. M.; Reichstein, Boris; Rodman, Leiba) Extension of isometries in finite-dimensional indefinite scalar product spaces and polar decompositions. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 752–774. (Aurelian Gheondea) **98g:15019** 15A23 (15A63)

Bolsinov, A. V. (*with* Fomenko, A. T.; Zhang, Xing Ru) Three types of bordisms of integrable systems with two degrees of freedom. Computation of bordism groups. (Russian) *Trudy Mat. Inst. Steklov.* **205** (1994), *Novye Rezul't. v Teor. Topol. Klassif. Integr. Sistem*, 32–72; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 4 (205), 29–62. (Sergey S. Anisov) **98d:58078** 58F07 (55N22, 57R90, 58F05)

— Fomenko invariants in the theory of integrable Hamiltonian systems. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 113–132; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 997–1015. (Ya. L. Umanskiy) **98m:58048** 58F07 (58F05, 70H05)

— *see also* **Fomenko, A. T.**, **98i:58001**

Bolthausen, Erwin (*with* Schmock, Uwe) On self-attracting d-dimensional random walks. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 531–572. (Thomas Polaski) **98a:60022** 60F05 (60F10, 60J15, 60K35)

— (*with* den Hollander, Frank) Localization transition for a polymer near an interface. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1334–1366. (Wolfgang König) **98h:60149** 60K99 (60K35, 82B24, 82B26)

— (*with* van den Berg, M.) On the expected volume of the Wiener sausage for a Brownian bridge. *Math. Z.* **224** (1997), *no.* 1, 33–48. (Jean Bertoin) **98f:60155** 60J65

Boltje, Robert Glauberman's correspondence via canonical induction formulae. *Darstellungstheoretage Jena* 1996, 19–35, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Burkhard Külshammer) **98a:20007** 20C15

— Class group relations from Burnside ring idempotents. (English summary) *J. Number Theory* **66** (1997), *no.* 2, 291–305. (Norberto Gavioli) **98i:20006** 20C10 (11R29, 12F10, 19A22, 20C11)

Bolton, Gary E. (*with* Fong, Duncan K. H.) Analyzing ultimatum bargaining: a Bayesian approach to the comparison of two potency curves under shape constraints. (English summary) *J. Bus. Econom. Statist.* **15** (1997), *no.* 3, 335–344. 62F15

Bolton, J. (*with* Woodward, L. M.) Minimal surfaces and the Toda equations for the classical groups. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 22–30, *World Sci. Publishing, River Edge, NJ*, 1996. (G. R. Jensen) **98f:58061** 58E20 (53C42, 58F07)

— (*with* Woodward, L. M.) Some geometrical aspects of the 2-dimensional Toda equations. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 69–81, *de Gruyter, Berlin*, 1997. (Martin A. Guest) **98m:58049** 58F07 (58E20)

Boltyanskiĭ, Vladimir Grigor'evich (*with* Martí Vazques, J.) On Bellman spheres for linear controlled objects of second order. (English summary) *J. Appl. Anal.* **1** (1995), *no.* 1, 13–27. (Summary) **98j:49002** 49J15 (49K15, 49N05)

— An alternative model of general relativity theory. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 81–94. (Yu. N. Obukhov) **98a:83103** 83D05 (83C15)

— (*with* Martini, Horst; Soltan, Petru S.) ★ Excursions into combinatorial geometry. (English summary) Universitext. *Springer-Verlag, Berlin*, 1997. xiv+418 *pp. ISBN* 3-540-61341-2 (Marek Lassak) **98b:52001** 52–01 (52–02)

— Delaying systems for convex bodies. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 3, 3–16; *translation in Sb. Math.* **188** (1997), *no.* 3, 327–339. (Darko Veljan) **98e:52002** 52A20 (52A35)

Bolviken, Erik (*with* Skovlund, Eva) Confidence intervals from Monte Carlo tests. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1071–1078. (I. D. Dhariyal) **98a:62037** 62F25

Bolyai, János *see* **Montesinos-Amilibia, José Maria**, **98g:01043** *and* **Kiss, Elemér**

Bolyak, R. I. (*with* Lozovanu, D. D.) Determination of the tree of minimax paths in a weighted digraph. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 40–44, 114, 117. (Summary) **98i:05048** 05C05 (05C20)

Bolzano, Bernard *see* **Zeilhammer, Gregor**, **98f:01040**

Bolzern, P. (*with* Colaneri, Patrizio; De Nicolao, G.) Finite escapes and convergence properties of guaranteed-cost robust filters. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 1, 31–47. (Ryszard Gessing) **98c:93109** 93E11 (93B36)

Boman, J. (*with* Kurasov, Pavel) Finite rank singular perturbations and distributions with discontinuous test functions. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1673–1683. (Horst Behncke) **98g:47012** 47A55 (34L40, 47E05, 81Q15)

Bombal, Fernando The origins of functional analysis. (Spanish) *History of mathematics in the XIXth century, Part* 2 (*Spanish*) (*Madrid*, 1993), 35–56, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (M. Valdivia) **98m:01013** 01A55 (46–03)

— (*with* Emmanuele, G.) Remarks on completely continuous polynomials. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 85–93. (Ignacio Zalduendo) **98e:46052** 46G20 (46B20)

Bombieri, E. (*with* van der Poorten, Alfred J.; Vaaler, Jeffrey D.) Effective measures of irrationality for cubic extensions of number fields. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 2, 211–248. (Michael A. Bennett) **98d:11083** 11J68 (11J82)

— (*with* Zannier, Umberto) Heights of algebraic points on subvarieties of abelian varieties. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 779–792 (1997). (Salman Abdulali) **98j:11043** 11G10 (14G25, 14K15)

— The equivariant Thue-Siegel method. *Arithmetic geometry* (*Cortona*, 1994), 70–86, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Yann Bugeaud) **98f:11071** 11J68 (11J82)

— (*with* Mueller, Julia H.; Poe, M.) The unit equation and the cluster principle. *Acta Arith.* **79** (1997), *no.* 4, 361–389. (Yann Bugeaud) **98a:11037** 11D57 (11D61)

— (*with* Cohen, Paula Beazley) Effective Diophantine approximation on $\mathbf{G}_M$. II. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 205–225. (Michel Waldschmidt)

98m:11076 11J82 (11J61)

van Bommel, Patrick (*with* Kovács, György) Framework for generating object-oriented databases from conceptual specifications. (English summary) *Acta Cybernet.* **13** (1997), *no.* 2, 103–140. 68P15

Bomze, Immanuel M. (*with* Pelillo, Marcello; Giacomini, Robert) Evolutionary approach to the maximum clique problem: empirical evidence on a larger scale. (English summary) *Developments in global optimization* (*Szeged*, 1995), 95–108, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C27 (90C35)

— (*with* Eichberger, Jürgen) Evolutive vs. naive Bayesian learning. (English summary) *The dynamics of norms*, 109–130, *Cambridge Stud. Probab. Induc. Decis. Theory, Cambridge Univ. Press, Cambridge*, 1997. (P. Neumann) **98b:90189** 90D20 (92B05, 92D15, 92D25)

— Evolution towards the maximum clique. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 143–164. (Panos M. Pardalos) **98m:90141** 90C30

— Global escape strategies for maximizing quadratic forms over a simplex. (English summary) *J. Global Optim.* **11** (1997), *no.* 3, 325–338. (Pham Trong Quat) **98i:90060** 90C20

— *see also* **Developments in global optimization, 98e:90005**

Bona, C. *see* **Bona Garcia, Carles**

Bona, Carles *see* **Bona Garcia, Carles**

Bona, Elisabetta (*with* Sacchetti, Dario) The inverse distribution for a dichotomous random variable. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 385–394. (Évelyne Bernadac) **98d:60031** 60E05 (62E10)

Bona, Jerry L. (*with* Li, Yi A.) Decay and analyticity of solitary waves. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 5, 377–430. (Shu Ming Sun) **98e:35141** 35Q53 (35B40, 76B15, 76B25)

Bóna, Miklós The number of permutations with exactly r 132-subsequences is P-recursive in the size! (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 4, 510–522. (Patrick Solé) **98b:05003** 05A15 (03D15)

— Permutations avoiding certain patterns: the case of length 4 and some generalizations. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 55–67. (Markus E. Fulmek) **98k:05002** 05A05 (05A16)

— Exact enumeration of 1342-avoiding permutations: a close link with labeled trees and planar maps. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 257–272. (Giuseppe Pellegrino) **98j:05003** 05A15 (05C05)

— Permutations with one or two 132-subsequences. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 267–274. (Summary) **98h:05009** 05A05 (05A15)

Bona Garcia, Carles Four lectures on numerical relativity. (English summary) *Relativity and scientific computing*, 69–87, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–08

— (*with* Massó, Joan; Seidel, Edward; Stela, J.) First order hyperbolic formalism for numerical relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3405–3415. (Summary) **98e:83005** 83–08 (83C05)

— (*with* Arbona, A.; Carot, Jaume; Mas, Lluis; Massó, Joan; Stela, J.) Stuffed black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2397–2402. 83C57

Bonahon, Francis Geodesic laminations with transverse Hölder distributions. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 2, 205–240. (Athanase Papadopoulos) **98b:57027** 57N05 (57R30)

garibay Bonales, Fernando *see* **Garibay Bonales, Fernando**

Bonaly, A. (*with* Bounias, M.) Some theorems on the empty set as necessary and sufficient for the primary topological axioms of physical existence. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 4, 633–643. (Frank Antonsen) **98k:81017** 81P10 (03A05, 03E70)

— (*with* Sharma, Birendra Kumar; Sahu, D. R.; Bounias, M.) Fixed points for non-surjective expansion mappings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 277–288. (Summary) **98m:54049** 54H25 (54E40)

Bonami, Aline (*with* Hilhorst, Danielle; Logak, Elisabeth; Mimura, Masayasu) A free boundary problem arising in a chemotaxis model. *Free boundary problems, theory and applications* (*Zakopane*, 1995), 368–373, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 92C99 (92D40)

— (*with* Chang, Der-Chen; Grellier, Sandrine) Commutation properties and Lipschitz estimates for the Bergman and Szegö projections. *Math. Z.* **223** (1996), *no.* 2, 275–302. (Gregor Herbort) **98a:32033** 32H10 (47B38)

— (*with* Durand, Sylvain; Weiss, Guido) Wavelets obtained by continuous deformations of the Haar wavelet. (English summary) *Rev. Mat. Iberoamericana* **12** (1996), *no.* 1, 1–18. (Summary) **98k:42033** 42C10 (42C15)

Bonani, Fabrizio (*with* Biey, Mario; Gilli, Marco; Maio, Ivan) Qualitative analysis of the dynamics of the time-delayed Chua's circuit. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 6, 486–500. 58F40 (58F13, 94C05)

Bonanno, Alfio Mass inflation in a rotating charged hole. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 167–171, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83046** 83C57

Bonanno, Giacomo (*with* Nehring, Klaus) On the logic and role of negative introspection of common belief. (English summary) *Math. Social Sci.* **35** (1998), *no.* 1, 17–36. (Summary) **98m:90214** 90D35 (90A05)

Bonanos, S. Closed 3-forms in Ricci-flat spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, L83–L86. (Jörg Frauendiener) **98g:53125** 53C80 (53C50, 83C20, 83C40)

Bonanzinga, Maddalena Preservation and reflection of properties acc and hacc. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 1, 147–153. (Michael V. Matveev) **98b:54030** 54D20 (54D30)

— (*with* Matveev, Mikhail Valer'evich) More on the property of a space being Lindelöf in another. (English summary) *Topology Proc.* **21** (1996), 25–32. (Summary) **98k:54037** 54D20

— On the product of a compact space with an hereditarily absolutely countably compact space. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 557–562. (Summary) **98g:54042** 54D20 (54B10, 54D55)

Bonanzinga, Vittoria (*with* Seydi, Hamet; Restuccia, Gaetana; Cangemi, Maria Rosa; Utano, Rosanna) Sur la théorie des anneaux excellents en caractéristique p. III. Algèbres kählériennes. (French summary) [On the theory of excellent rings of characteristic p. III. Kähler algebras] *Afrika Mat.* (3) **6** (1996), 69–100. (Gerhard Pfister) **98a:13016** 13B22 (13A35)

— F_m-integrable derivations. II. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 513–526. 13B10

— (*with* Matsumura, Hideyuki) F_m-strongly integrable derivations. *Comm. Algebra* **25** (1997), *no.* 12, 4039–4046. (Andrzej Tyc) **98i:13011** 13B10

Bonatsos, Dennis (*with* Kolokotronis, P.; Daskaloyannis, C.; Ludu, Andrei; Quesne, Christianne) Nonlinear deformed su(2) algebras involving two deforming functions. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1189–1196. (Summary) **98f:81120** 81R50

— (*with* Raïchev, P. P.; Roussev, R. P.; Terziev, P. A.; Lo Iudice, N.) Simplified boson realization of the $so_q(3)$ subalgebra of $u_q(3)$ and matrix elements of $so_q(3)$ quadrupole operators. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6939–6949. (Joris Van der Jeugt) **98b:81102** 81R50 (17B37, 81V35)

— (*with* Daskaloyannis, C.; Kolokotronis, P.; Lenis, D.) Quantum algebras in nuclear structure. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 1-2, 109–192. (Summary) **98b:81092** 81R50 (81V35)

— (*with* Kolokotronis, P.; Lenis, D.; Daskaloyannis, C.) Deformed u(2) algebra as the symmetry algebra of the planar anisotropic quantum harmonic oscillator with rational ratio of frequencies. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3335–3346. (Aleksei P. Isaev) **98e:81069** 81R50 (81S05)

Bonatti, Christian (*with* Pumariño, António; Viana, Marcelo) Lorenz attractors with arbitrary expanding dimension. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 883–888. (Dario Bambusi) **98m:58082** 58F12 (58F11)

Bonatti, Piero A. Sequent calculi for default and autoepistemic logics. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 127–142, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03012** 03B35 (03B60, 03B70, 68T27)

— (*with* Olivetti, N.) A sequent calculus for skeptical default logic. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 107–121, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B60 (03B70, 68T27)

Bonavero, Laurent Sur des variétés de Moishezon dont le groupe de Picard est de rang un. (English and French summaries) [Moishezon manifolds with Picard group of rank one] *Bull. Soc. Math. France* **124** (1996), *no.* 3, 503–521. (Ulf Persson) **98a:14056** 14J35 (14J05, 32J20)

— (*with* Voisin, Claire) Schémas de Fano et variétés de Moishezon. (English and French summaries) [Fano schemes and Moishezon manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 9, 1019–1024. (Takao Fujita) **98a:14057** 14J40 (14C20, 14E05, 14J45, 32J18)

Boncinelli, P. (*with* Dahlburg, R. B.; Einaudi, G.) The evolution of plane current-vortex sheets. (English summary) *Phys. Plasmas* **4** (1997), *no.* 5, *part* 1, 1213–1226. (Summary) **98d:76064** 76E25 (76C05, 76E30, 76W05)

— (*with* Dahlburg, R. B.; Einaudi, G.) The evolution of a plane jet in a neutral sheet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 79–93. (Summary) **98h:76135** 76W05 (76E25)

Boncuţ, Mioara (*with* Brădeanu, P.) Une formulation variationnelle duale pour un problème Dirichet-Neumann de conduction de la chaleur. [A dual variational formulation of a Dirichlet-Neumann problem of heat conduction] *Mathematica* **37(60)** (1995), *no.* 1-2, 29–40. 35J20 (35K05, 65N30)

— A variational method applied to the Navier-Stokes equation. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 29–32, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 76M10 (65N30, 76D05)

Bond, Eric W. (*with* Gresik, Thomas A.) Competition between asymmetrically informed principals. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 227–240. (Summary) **98c:90190** 90D10 (90A08)

Bondar', A. V. Differential properties of mappings into a Banach space. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 4, 500–509; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 550–560 (1998). (Marián Fabian) **98g:46057** 46G05 (46B22, 58C20)

Bondar', V. D. A plane problem of elasticity in the case of incompressibility and geometric nonlinearity. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 2, 152–161; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 2, 303–311. (Gennady S. Mishuris) **98e:73034** 73C50 (73V35)

Bondarenko, A. G. (*with* Phan Minh Dung; Kowalski, Robert; Toni, Francesca) An abstract, argumentation-theoretic approach to default reasoning. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 63–101. (Summary) **98d:03038** 03B60 (03B70, 68T27)

Bondarenko, B. A. Normalized systems of solutions of polylinear vector-matrix Lamé equations. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 103 (1997), 11–20, 150. (Summary) **98m:73018** 73C02 (35Q99)

— (*with* Karachik, V. V.) Normalized systems of polyharmonic polynomials and their application to the solution of the Riquier problem. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 103 (1997), 87–96, 152. 31B35 (35J99)

Bondarenko, V. G. Diffusion sur une variété de courbure non positive. (English and French summaries) [Diffusion on a manifold of nonpositive curvature] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1099–1103. (Jacques Vauthier) **98g:58166** 58G11

— Some properties of diffusion measures in a Hilbert space. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 14–18. 60J60 (35R15)

Bondarenko, Yu. A. Conservative splitting of the energy equation in difference schemes of "cross" type for Lagrangian gas dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 1020–1023. (Summary) **98e:76072** 76M20 (76N15)

Bondarčv, B. V. A stochastic variant of V. P. Maslov's theorems. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 6–16. (Alexei Khorunzhy) **98d:47076** 47B80 (34F05, 47A50)

— (*with* Korolev, M. E.) The S. N. Bernstein inequality in the averaging of elliptic systems in periodic random media. (Russian. English and Ukrainian summaries) *Ukraïn. Mat.*

Zh. **48** (1996), *no.* 12, 1638–1650; *translation in Ukrainian Math. J.* **48** (1996), *no.* 12, 1852–1867 (1997). (Alexander A. Pankov) **98c:35014** 35B27 (34E15, 35J99, 35R60)

— (*with* Korolev, M. E.) On averaging elliptic systems in periodic random media. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 1, 69–80. (Ya. Ī. Bilopol′s′ka) **98f:60120** 60H15 (34E15, 34F05, 35B27, 35R60)

— On the Kolmogorov-Hájek-Rényi inequality for normalized integrals of processes with a weak dependence. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 225–238; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 213–224 (1998). (I. G. Zhurbenko) **98j:60054** 60G10

— (*with* Korolev, M. E.) A functional law of the iterated logarithm for normalized integrals of processes with weak dependence. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 4, 490–499; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 539–549 (1998). (Summary) **98h:60034** 60F15 (60F17)

Bondarevskiĭ, V. G. Energetic systems and global attractors for the 3D Navier-Stokes equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 799–810. (Ivan Straškraba) **98k:35145** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

Bondari, Siamack Constructing the polynomial identities and central identities of degree < 9 of 3×3 matrices. (English summary) *Linear Algebra Appl.* **258** (1997), 233–249. (Vesselin Drensky) **98d:16037** 16R10 (16–04, 16R30)

Bondarko, M. V. (*with* Vostokov, S. V.; Zhukov, I. B.) Additive Galois modules in complete discrete valuation fields. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 28–46; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 675–693. (Ivan Fesenko) **98k:11173** 11S15

Bondarko, V. A. Discretization of infinite-dimensional linear dynamical systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1312–1321, 1437; *translation in Differential Equations* **32** (1996), *no.* 10, 1309–1318 (1997). (Vladimir Veliov) **98m:93098** 93D15 (34H05, 49M25, 93C15, 93C25)

Bondavalli, Andrea (*with* Bernardeschi, Cinzia; Csertán, Gyorgy; Majzik, Istvan; Simoncini, Luca) Temporal analysis of data flow control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 169–182. 93C83 (93A30)

Bondi, Hermann (*with* Rindler, Wolfgang) An addendum to Birkhoff's theorem. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 515–517. (Edson Stédile) **98a:83096** 83C99

— (*with* Samuel, Joseph) The Lense-Thirring effect and Mach's principle. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 121–126. (Summary) **98h:83009** 83C10

gracia-Bondía, José M. *see* **Gracia-Bondía, José M.**

Bondioli, Cristiana Sobolev spaces of integer order on compact homogeneous manifolds and invariant differential operators. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 4, 219–233. (Georgi E. Karadzhov) **98f:46029** 46E35 (58D15)

Bondy, J. A. Counting subgraphs: a new approach to the Caccetta-Häggkvist conjecture. Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 71–80. (W. K. Chen (Zbl 872.05016)) **98k:05084** 05C30

— (*with* Vince, Andrew) Cycles in a graph whose lengths differ by one or two. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 11–15. (Zheng Sheng Wu) **98m:05107** 05C38

Bonechi, F. (*with* Celeghini, Enrico; Giachetti, Riccardo; Tarlini, M.; Sorace, E.) Physical applications of inhomogeneous quantum groups. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1265–1272. (Marcelo R. Ubriaco) **98i:81100** 81R50 (17B37, 81V70)

— (*with* Sorace, E.; Tarlini, M.; Giachetti, Riccardo) The $*$-product quantization of the Heisenberg group. *Quantum groups and their applications in physics* (*Varenna*, 1994), 581–593, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (From the introduction) **98a:58074** 58F06 (81R50, 81S10)

— (*with* Giachetti, Riccardo; Del Olmo, Mariano A.; Sorace, E.; Tarlini, M.) Quantum homogeneous spaces and special functions with a dimensional deformation parameter. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7973–7982. (Jan Sobczyk) **98j:81140** 81R50 (33D80)

Boneh, Arnon (*with* Caron, Richard J.; Boneh, Shahar) Redundancy. (English summary) *Advances in sensitivity analysis and parametric programming*, 13.1–13.41, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **98k:90058** 90C08 (90C15)

— (*with* Hofri, Micha) The coupon-collector problem revisited—a survey of engineering problems and computational methods. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 1, 39–66. (Ding Zhu Du) **98a:60009** 60C05 (05A05, 90B22)

— (*with* Boneh, Shahar; Caron, Richard J.) Estimating the prediction function and the number of unseen species in sampling with replacement. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 372–379. (Summary) **98m:62050** 62F10

Boneh, Dan (*with* Lipton, Richard J.) Quantum cryptanalysis of hidden linear functions (extended abstract). (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 424–437, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98a:94019** 94A60 (11T71)

— (*with* Dunworth, Christopher; Lipton, Richard J.; Sgall, Jiří) On the computational power of DNA. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 79–94. (Eric Bach) **98b:68042** 68Q10 (68Q05, 92C40, 92D20)

— (*with* DeMillo, Richard A.; Lipton, Richard J.) On the importance of checking cryptographic protocols for faults (extended abstract). (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 37–51, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Boneh, Shahar (*with* Caron, Richard J.; Boneh, Arnon) Redundancy. (English summary) *Advances in sensitivity analysis and parametric programming*, 13.1–13.41, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **98k:90058** 90C08 (90C15)

— (*with* Boneh, Arnon; Caron, Richard J.) Estimating the prediction function and the number of unseen species in sampling with replacement. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 372–379. (Summary) **98m:62050** 62F10

Bonelli, Antonio (*with* Ruffo, Stefano) Exchanges of "quanta" among distinguishable and indistinguishable objects. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 19, 2281–2301. (Roland Speicher) **98i:11086** 11P81 (11Z05, 81S99, 82B03)

Bonelli, Giulio (*with* Matone, Marco; Tonin, Mario) Solving $N = 2$ supersymmetric Yang-Mills theory by reflection symmetry of quantum vacua. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6466–6470. (Tomasz Brzeziński) **98g:81201** 81T60 (14H52, 81T13)

Bonet, J. *see* **Bonet, José**

Bonet, Javier (*with* Wood, Richard D.) ★ Nonlinear continuum mechanics for finite element analysis. (English summary) *Cambridge University Press, Cambridge*, 1997. xviii+248 *pp. ISBN* 0-521-57272-X (Publisher's description) **98g:73006** 73C50 (65N30, 73B99, 73V05)

— (*with* Burton, A. J.) A simple average nodal pressure tetrahedral element for incompressible and nearly incompressible dynamic explicit applications. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 437–449. 73V05

Bonet, José Intersections of Fréchet Schwartz spaces and their duals. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 320–325. (Paweł Domański) **98a:46007** 46A11 (46A04)

— (*with* Melikhov, S. N.) Interpolation of entire functions and projective descriptions. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 454–460. (Summary) **98f:32015** 32E30 (32A15)

— Closed linear maps from a barrelled normed space into itself need not be continuous. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 177–179. (Summary) **98k:46005** 46A30 (46B20)

— (*with* Domański, Paweł; Lindström, Mikael; Taskinen, Jari) Composition operators between weighted Banach spaces of analytic functions. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 101–118. (H. Jarchow) **98m:47039** 47B38 (30D55, 46E15)

Bonet, Maria (*with* Pitassi, Toniann; Raz, Ran) Lower bounds for cutting planes proofs with small coefficients. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 708–728. (M. Tetruashvili) **98m:03084** 03D15 (03F20, 68Q15)

Bonetto, F. (*with* Mastropietro, V.) Critical indices for the Yukawa$_2$ quantum field theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 541–554. (A. L. Rebenko) **98i:81141** 81T08 (81T17)

— (*with* Gallavotti, Giovanni; Garrido, Pedro L.) Chaotic principle: an experimental test. (English summary) *Phys. D* **105** (1997), *no.* 4, 226–252. (Nikolai Chernov) **98g:82027** 82C05 (58F13, 82–04, 82C70)

Bonfert, Petra On iteration in planar domains. *Michigan Math. J.* **44** (1997), *no.* 1, 47–68. (Walter Bergweiler) **98b:30027** 30D05 (58F23)

Bonfiglioli, A. (*with* Deconinck, Herman) Multidimensional upwind schemes for the 3D Euler equations on unstructured tetrahedral meshes. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 141–185, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76073** 76M20 (65M99, 76G25, 76K05)

Bonfim, Valdair (*with* Neves, Aloisio Freiria) A one-dimensional heat equation with mixed boundary conditions. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 319–338. (Ioan I. Vrabie) **98i:35098** 35K60 (47N20)

Bongartz, Klaus On degenerations and extensions of finite-dimensional modules. (English summary) *Adv. Math.* **121** (1996), *no.* 2, 245–287. (Christof Geiß) **98e:16012** 16G10 (14L30, 16G60, 16G70)

— A note on algebras of finite uniserial type. *J. Algebra* **188** (1997), *no.* 2, 513–515. (Flávio Ulhoa Coelho) **98d:16014** 16G10 (16G60)

Bongiorno, Benedetto (*with* Di Piazza, Luisa; Skvortsov, Valentin) On continuous major and minor functions for the n-dimensional Perron integral. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 318–327. (Š. Schwabik) **98b:26007** 26A39 (26A42, 26A45)

Bongiovanni, Giancarlo (*with* Crescenzi, Pierluigi; De Agostino, Sergio) MAX SAT and MIN SET COVER approximation algorithms are P-complete. (English summary) *Parallel Process. Lett.* **5** (1995), *no.* 2, 293–298. (Summary) **98a:68090** 68Q25 (68Q15)

— *see also* **Algorithms and complexity, 98b:68004**

hui-Bon-Hoa, Alain *see* **Hui-Bon-Hoa, Alain**

Bonifort, M. A. (*with* Morganti, M.; Sciortino, G.) Triadic resonant modes: dynamical model and truncation criterion. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 4, 249–261. (Summary) **98f:76023** 76D05 (76E30, 76F10, 76F20)

Bonilla, A. (*with* Fariña Gil, Juan Carlos) C^m-approximation with C^m-extension on closed sets. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **10** (1996), *no.* 3, 679–690. (Summary) **98d:41026** 41A30 (30E10)

— (*with* Pérez-González, Fernando^2; Trujillo-González, R.) Mergelyan sets for certain classes of harmonic functions. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 1, 9–18. (J. Siciak) **98b:31003** 31B05

lópez-Bonilla, J. L. *see* **López-Bonilla, J. L.**

Bonilla, Luis L. Gunn instabilities in extrinsic semiconductors. *Mathematical problems in semiconductor physics* (*Rome*, 1993), 118–131, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (*see* **98e:82001**) 82D99 (78A55)

— (*with* Hernando, P. J.; Herrero, Miguel A.; Kindelan, M.; Velázquez, Juan J. L.) Asymptotics of the trap-dominated Gunn effect in p-type Ge. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 168–190. (Summary) **98k:78046** 78A55 (78–04, 82D99)

— (*with* Carrillo, José A.; Soler, Juan) Asymptotic behavior of an initial-boundary value problem for the Vlasov-Poisson-Fokker-Planck system. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1343–1372. (R. Glassey) **98j:35176** 35Q99 (35B40, 76X05, 82D10)

— (*with* Acebrón, J. A.) Asymptotic description of transients and synchronized states of globally coupled oscillators. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 296–314. 34C15

Bonilla Estrada, M. (*with* Loiseau, Jean-Jacques; Baquero S., Rafael) A geometric proof of Rosenbrock's theorem on pole assignment. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 357–370. (K. B. Datta) **98j:93049** 93B55 (93B29)

Böning, Rolf Curvature surfaces of submanifolds of pseudo-Riemannian manifolds with applications to complex space forms. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 31–40, *World Sci. Publishing, River Edge, NJ*, 1996. (Jürgen Berndt) **98b:53059** 53C50 (53C40)

Bonini, M. (*with* Marchesini, Giuseppe; Simonato, M.) Beta function and flowing couplings in the exact Wilson renormalization group in Yang-Mills theory. (English

summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 475–494. (Summary) **98a:81131** 81T17

— (*with* Vian, Federica) Chiral gauge theories and anomalies in the Wilson renormalization group approach. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 479–494. (Summary) **98j:81221** 81T17 (81T50)

Boniolo, Giovanni On a unified theory of models and thought experiments in natural sciences. (English summary) *Internat. Stud. Philos. Sci.* **11** (1997), *no.* 2, 121–142. 00A30

Bonisoli, Arrigo (*with* Cossidente, Antonio; Saeli, Donato) Partitioning projective geometries into Segre varieties. (English summary) *J. Geom.* **57** (1996), *no.* 1-2, 58–62. (J. W. P. Hirschfeld) **98b:51015** 51E23

— On a theorem of Hering and two-transitive ovals with a fixed external line. *Mostly finite geometries (Iowa City, IA, 1996)*, 169–183, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (William Cherowitzo) **98h:51015** 51E21

— (*with* Korchmáros, Gábor; Szönyi, Tamás) Some multiply derived translation planes with SL(2, 5) as an inherited collineation group in the translation complement. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 109–114. (M. J. Kallaher) **98b:51009** 51E15

Bonitz, M. (*with* Kremp, D.; Kraeft, W. D.; Schlanges, M.) Non-Markovian Boltzmann equation. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 320–359. (Carlo Cercignani) **98m:82062** 82C40 (76P05)

Bonjour, Filipe (*with* Anderson, Malcolm R.; Gregory, Ruth; Stewart, John Malcolm) Effective action and motion of a cosmic string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8014–8028. (Summary) **98i:83089** 83F05 (81V17, 83E30)

Bonk, Mario (*with* Minda, David; Yanagihara, Hiroshi[1]) Distortion theorems for locally univalent Bloch functions. (English summary) *J. Anal. Math.* **69** (1996), 73–95. (Summary) **98g:30058** 30D45

— The addition formula for theta functions. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 54–72. (B. Choczewski) **98k:39015** 39B32 (33D10)

— (*with* Minda, David; Yanagihara, Hiroshi[2]) Distortion theorems for Bloch functions. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 241–262. (David Bekolle) **98g:30059** 30D45 (30C80)

Bonk, Thomas Newtonian gravity, quantum discontinuity and the determination of theory by evidence. (English summary) *Synthese* **112** (1997), *no.* 1, 53–73. (Lawrence Sklar) **98h:00020** 00A79 (00A30, 81P05)

Bonnal, Liliane (*with* Fougère, Denis; Sérandon, Anne) Evaluating the impact of French employment policies on individual labour market histories. (English summary) Evaluation of training and other social programmes (Madrid, 1993). *Rev. Econom. Stud.* **64** (1997), *no.* 4, 683–713. (*see* **98g:90006**) 90A50 (90A11)

Bonnans, J. Frédéric Exact penalization with a small nonsmooth term. (English summary) *Rev. Mat. Apl.* **17** (1996), *no.* 2, 37–45. (Jan Rückmann) **98c:90129** 90C30 (49M30, 90C31)

— (*with* Potra, Florian A.) On the convergence of the iteration sequence of infeasible path following algorithms for linear complementarity problems. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 378–407. (Shu Zhong Zhang) **98e:90191** 90C33 (90C20)

— (*with* Pola, Cecilia) A trust region interior point algorithm for linearly constrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 717–731. (Robert W. Owens) **98e:90148** 90C30 (65K05)

— Mathematical study of very high voltage power networks. I. The optimal DC power flow problem. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 979–990. (Summary) **98j:94038** 94C05 (90C31, 94C10)

— Extended quadratic tangent optimization problems. (English summary) *Mathematical programming with data perturbations*, 31–45, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Alexander Shapiro) **98i:90087** 90C30 (90C31)

Bonnard, B. (*with* Kupka, Ivan A. K.) Generic properties of singular trajectories. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 167–186. (Fernand Pelletier) **98f:93004** 93B27 (58E25, 93C10)

— (*with* Agrachev, A. A.; Chyba, M.; Kupka, Ivan A. K.) Sub-Riemannian sphere in Martinet flat case. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 377–448 (*electronic*). (Fernand Pelletier) **98i:53059** 53C22 (53C20)

Bonnaud, G. (*with* Bouchut, F.) Numerical simulation of relativistic plasmas in hydrodynamic regime. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 287–290. (*see* **98b:65005**) 76X05 (82D10)

Bonneau, Guy Einstein-Weyl structures corresponding to diagonal Kähler Bianchi IX metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2123–2135. (Ian A. B. Strachan) **98g:53082** 53C25 (83C20)

Bonnecaze, Alexis (*with* Solé, Patrick; Bachoc, Christine; Mourrain, Bernard) Type II codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 969–976. (From the summary) **98e:94025** 94B05

— (*with* Duursma, Iwan M.) Translates of linear codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1218–1230. (Summary) **98e:94026** 94B05

Bonnell, G. (*with* Papini, G.) Quantum neural network. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2855–2875. 82C32 (92B20)

Bonner, Anthony J. (*with* Imielinski, Tomasz) Reusing and modifying rulebases by predicate substitution. (English summary) 11th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Diego, CA, 1992). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 1, 136–166. (Marc Gyssens) **98g:68029** 68P15 (03B70, 68N17)

— A logical semantics for hypothetical rulebases with deletion. (English summary) *J. Logic Programming* **32** (1997), *no.* 2, 119–170. (Summary) **98a:68043** 68P15 (68N17)

— Intuitionistic deductive databases and the polynomial time hierarchy. (English summary) *J. Logic Programming* **33** (1997), *no.* 1, 1–47. (Minoru Ito) **98h:68049** 68P15 (03B70, 03D15, 03F55, 68Q15, 68T15)

Bonnet, Alexis Propagation of flames in the limit of zero ignition temperature. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 3, 205–238. (Gawtum Namah) **98i:80011** 80A25 (35K57, 35Q99, 80A30)

Bonnet, Jean-Paul (*with* Delville, J.) General concepts on structure identification. (English summary) *Eddy structure identification (Udine, 1994)*, 1–59, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (Summary) **98d:76083** 76F99 (76M25)

— (*with* Friang, Jean-Patrick; Duc, Gilles) Robust autopilot for a flexible missile: loop-shaping H_∞ design and real ν-analysis. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 129–153. (Summary) **98m:93083** 93C95 (93B36)

— *see also* **Eddy structure identification, 98b:76002**

Bonnet, Marc Differentiability of strongly singular and hypersingular boundary integral formulations with respect to boundary perturbations. (English summary) *Comput. Mech.* **19** (1997), *no.* 3, 240–246. (Carsten Carstensen) **98d:73065** 73V10

— (*with* Frangi, Attilio) A Galerkin symmetric and direct BIE method for Kirchhoff elastic plates: formulation and implementation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 2, 337–369. (Summary) **98i:73063** 73V10 (73K10)

— (*with* Guiggiani, Massimo) Tangential derivative of singular boundary integrals with respect to the position of collocation points. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1255–1275. (Summary) **98m:73087** 73V10 (45E05, 45L05)

valderrama Bonnet, Mariano J. *see* **Valderrama Bonnet, Mariano J.**

Bonnetier, Eric (*with* Allaire, Grégoire; Francfort, Gilles; Jouve, François) Shape optimization by the homogenization method. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 27–68. (Robert V. Kohn) **98a:73046** 73K40 (49Q15, 65K10, 73B27, 73V05, 73V25)

— (*with* Bereux, François; LeFloch, Philippe G.) Gas dynamics system: two special cases. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 499–515. (Hermano Frid) **98d:76143** 76N15 (35L65, 65M12)

Bonnisseau, Jean-Marc Caractérisation des optima de Pareto dans une économie avec effets externes. (English and French summaries) [Characterization of Pareto optima in an economy with externalities] *Ann. Économ. Statist.* **1994**, *no.* 36, 97–112. (From the summary) **98c:90019** 90A14 (90C29, 90D10)

— (*with* Chabchoub, Najoua) Une approche générale de l'externalité dans un réseau de communication. (English and French summaries) [A general approach to externality in a communication network] *Ann. Économ. Statist.* **1997**, *no.* 46, 183–202. 90A53 (94A05)

Bonnor, W. B. (*with* Piper, M. S.) The gravitational wave rocket. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2895–2904. (Ruth Lazkoz) **98j:83032** 83C35 (83C15)

Bono, Viviana (*with* Liquori, Luigi) A subtyping for the Fisher-Honsell-Mitchell lambda calculus of objects. (English summary) *Computer science logic (Kazimierz, 1994)*, 16–30, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68N15 (03B40, 03B70, 68Q55)

— (*with* Bugliesi, Michele; Liquori, Luigi) A lambda calculus of incomplete objects. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 218–229, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68N15 (03B40)

— (*with* Bugliesi, Michele) Matching constraints for the lambda calculus of objects. (English summary) *Typed lambda calculi and applications (Nancy, 1997)*, 46–62, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98i:68039** 68N15 (03B40)

Bonome, Agustín (*with* Castro, Regina; García-Río, Eduardo; Hervella, L. M.; Matsushita, Yasuo) Pseudo-Chern classes and opposite Chern classes of indefinite almost Hermitian manifolds. *Acta Math. Hungar.* **75** (1997), *no.* 4, 299–316. (Vicente Miquel) **98i:53037** 53C15 (53C50, 57R20)

— (*with* Castro, Regina; García-Río, Eduardo; Hervella, L. M.) Curvature of indefinite almost contact manifolds. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 66–86. (Hideya Hashimoto) **98a:53044** 53C15

— (*with* Castro, Regina; García-Río, Eduardo; Hervella, L. M.; Vázques-Lorenzo, R.) Nonsymmetric Osserman indefinite Kähler manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2763–2769. (Pascual Lucas Saorin) **98m:53088** 53C50 (53C55)

Bonomi, Andrea Transparency and specificity in intentional contexts. *On Quine (San Marino, 1990)*, 164–185, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B45 (03B65)

Bonora, L. Exact approach to multi-matrix models. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 1–12, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81295** 81T40

— (*with* Nesti, F.; Vinteler, E.) Multimatrix models: integrability properties and topological content. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 10, 1797–1830. (Summary) **98b:81224** 81T40 (81R50)

— (*with* Chu, Chong-Sun) On the string interpretation of M(atrix) theory. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 142–150. (Richard A. Corrado) **98i:81192** 81T30

Bonsangue, Marcello M. ★ Topological dualities in semantics. (English summary) Electronic Notes in Theoretical Computer Science, 8. *Elsevier Science B.V., Amsterdam*, 199?. *Front matter + 299 pp.* (*electronic*). (From the introduction) **98k:68112** 68Q55 (03B70, 68N15)

— (*with* Kok, Joost N.) Infinitary domain logic for finitary transition systems. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 213–232, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 03B70 (68Q60)

— (*with* van Breugel, Franck; Rutten, J. J. M. M.) Generalized metric spaces: completion, topology, and powerdomains via the Yoneda embedding. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 1–51. (Summary) **98i:54015** 54E35 (18B30, 54B30, 68Q55)

Bontems, Philippe (*with* Bourgeon, Jean-Marc) Régulation par la production ou par l'intrant en présence d'incertitude. (English and French summaries) [Input versus output regulatory incentive schemes under uncertainty] *Ann. Économ. Statist.* **1996**, *no.* 43, 181–193. 90A11 (90A70)

Bonushkina, A. Yu. (*with* Ivanov, Victor Vladimirovich; Zrelov, P. V.) Multivariate data analysis based on the ω_n^k-criteria and multilayer perceptron. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 677–685. (*see* **98i:00017**) 92B20

— (*with* Basios, V.; Ivanov, Victor Vladimirovich) A method for approximating one-dimensional functions. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 687–693. (*see* **98i:00017**) 41A05 (33C45, 92B20)

Bony, Jean-Michel Caractérisations des opérateurs pseudo-différentiels. [Characterizations of pseudodifferential operators] *Séminaire sur les Équations aux Dérivées Partielles, 1996–1997, Exp. No.* XXIII, 17 *pp., École Polytech., Palaiseau*, 1997. (Luigi Rodino) **98m:35233** 35S05 (47G30)

Bonzani, I. Solution of nonlinear evolution problems by parallelized collocation interpolation methods. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 71–79. 65M70

Bonzini, Celestina (*with* Cherubini, Alessandra) A family of permutable completely regular semigroups. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 63–80 (1997). (D. C. Jackson) **98m:20076** 20M17

Boo, Jörgen The H^p corona theorem in analytic polyhedra. (English summary) *Ark. Mat.* **35** (1997), *no.* 2, 225–251. (Steven George Krantz) **98i:46050** 46J15 (32A35, 46E15)

Boo, K. J. (*with* Bose, N. K.) Asymptotic eigenvalue distribution of block-Toeplitz matrices. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 858–861. (Summary) **98j:65026** 65F15 (15A18, 15A57)

Book, David L. (*with* Boris, Jay P.) Flux-corrected transport. I. SHASTA, a fluid transport algorithm that works [J. Comput. Phys. **11** (1973), no. 1, 38–69]. (English summary) With an introduction by Steven T. Zalesak. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 170–186. (*see* **98h:70003**) 76M20 (65M60)

— Extensions and applications of the Bogema-Davidson inversion theorem. (English summary) *Phys. Plasmas* **4** (1997), *no.* 6, 2090–2094. (Summary) **98c:82070** 82D10 (76X05)

Book, Ronald V. (*with* Vollmer, Heribert; Wagner, Klaus W.) On type-2 probabilistic quantifiers. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 369–380, *Lecture Notes in Comput. Sci., 1099, Springer, Berlin*, 1996. (Summary) **98e:68070** 68Q15 (03B48, 03C80, 03D15)

— *see also* **Obituary: Book, Ronald V.**

Boole, George ★ Selected manuscripts on logic and its philosophy. (English summary) Edited and with an introduction by Ivor Grattan-Guinness and Gérard Bornet. Science Networks. Historical Studies, 20. *Birkhäuser Verlag, Basel*, 1997. lxiv+236 *pp. ISBN* 3-7643-5456-9 (Joseph W. Dauben) **98h:01033** 01A75 (00A30, 01A55, 03–03)

— *see also* **Franksen, Ole Immanuel**, **98m:01014** *and* **Forster, Paul**

Boolos, George Stephen Quotational ambiguity. *On Quine (San Marino*, 1990), 283–296, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03A05

— Constructing Cantorian counterexamples. (English summary) *J. Philos. Logic* **26** (1997), *no.* 3, 237–239. (Péter Komjáth) **98c:04002** 04A05

— *see also* **Goldfarb, Warren**

Boon, Jean Pierre (*with* Suárez, Alberto) Nonlinear lattice gas hydrodynamics. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1123–1130. (Summary) **98h:82060** 82C40 (76P05)

Boon, Pieta C. (*with* Albers, Willem; Kallenberg, Wilbert C. M.) Testing equality of two normal means using a variance pre-test. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 221–227. 62F05 (62F03)

Boonstra, Harm Jan (*with* Peeters, Bas; Skenderis, Kostas) Duality and asymptotic geometries. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 59–67. (Summary) **98j:81257** 81T30 (83E30)

de Boor, Carl A multivariate divided difference. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX*, 1995), 87–96, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (P. Vértesi) **98k:41003** 41A05 (39A99, 41A63)

— (*with* Ron, Amos; Shen, Zuowei) On ascertaining inductively the dimension of the joint kernel of certain commuting linear operators. II. (English summary) *Adv. Math.* **123** (1996), *no.* 2, 223–242. (Grzegorz Lewicki) **98g:41027** 41A35 (47A99)

— On the Meir/Sharma/Hall/Meyer analysis of the spline interpolation error. (English summary) *Approximation theory and optimization (Cambridge*, 1996), 47–58, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98k:41013** 41A15

Boos, Dennis D. (*with* Zhang, Jie) Mantel-Haenszel test statistics for correlated binary data. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1185–1198. 62H17

— (*with* Zhang, Jie) Generalized Cochran-Mantel-Haenszel test statistics for correlated categorical data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1813–1837. (Summary) **98e:62090** 62H17

Boos, Waldemar (*with* Thess, André) Thermocapillary flow in a Hele-Shaw cell. (English summary) *J. Fluid Mech.* **352** (1997), 305–330. 76D45 (76D99)

Booss, Bernhelm (*with* Morchio, G.; Strocchi, F.; Wojciechowski, Krzysztof P.) Grassmannian and chiral anomaly. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 3, 219–244. (Tosiaki Kori) **98d:58186** 58G20 (35Q40, 58B25, 58G10, 81T50)

Booten, A. (*with* Fokkema, Diederik R.; Sleijpen, Gerard L. G.; Van der Vorst, Henk A.) Jacobi-Davidson methods for generalized MHD-eigenvalue problems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 131–134. (*see* **98b:65005**) 65F15

Booth, David Douglas *see* **Finsler, Paul**, **98g:03008**

Booth, Geoffrey L. (*with* Groenewald, Nico J.) Special radicals of Ω-groups. (English summary) *Nearrings, nearfields and K-loops (Hamburg*, 1995), 211–218, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16N80 (16Y99)

Booth, H. S. (*with* Radford, C. J.) The Dirac-Maxwell equations with cylindrical symmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1257–1268. (Summary) **98d:81009** 81Q05 (35Q40, 35Q60, 81V10)

Booth, James G. (*with* Hobert, James P.) Standard errors of prediction in generalized linear mixed models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 262–272. (Summary) **98m:62201** 62J12

— (*with* Presnell, Brett) Allocation of Monte Carlo resources for the iterated bootstrap. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 92–112. 62G09

Booth, Victoria (*with* Carr, Thomas W.; Erneux, Thomas) Near-threshold bursting is delayed by a slow passage near a limit point. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1406–1420. (Summary) **98f:34079** 34D15 (34C23, 34E15, 92C45)

Booty, M. R. (*with* Bechtold, J. K.; Kriegsmann, Gregory A.) Microwave-induced combustion: a one-dimensional model. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 57–80. (Summary) **98m:80007** 80A25

Boozer, Allen H. (*with* Tang, Xianzhu) Hamiltonian structure of Hamiltonian chaos. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 476–482. 58F13 (58F05, 82C05)

— (*with* Punjabi, Alkesh; Ali, Halima) Symmetric simple map for a single-null divertor tokamak. (English summary) *Phys. Plasmas* **4** (1997), *no.* 2, 337–346. (Summary) **98c:76131** 76X05 (58F40)

— Nonsingular canonical coordinates for the drift Hamiltonian in magnetic field with a separatrix. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2962–2966. (Summary) **98e:76104** 76W05 (82D10)

Bopp, Nicole (*with* Rubenthaler, Hubert) Une fonction zêta associée à certaines familles d'espaces symétriques réels. (English and French summaries) [A zeta function associated to certain families of real symmetric spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 355–360. (Jacques Faraut) **98h:11110** 11M41 (22E46, 32M99, 43A85)

Boppana, Ravi B. The average sensitivity of bounded-depth circuits. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 257–261. (Summary) **98f:68093** 68Q15

— *see also* **Logic and random structures**, **98b:03005**

Bor, Gil (*with* Segert, Jan) Symmetric instantons and the ADHM construction. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 183–203. (Antony Maciocia) **98g:53044** 53C07 (58D19, 58D27, 81T13)

Bor, Hüseyin On $[\bar{N}, p_n; \delta]_k$ summability factors of infinite series. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 327–332. (Summary) **98m:40005** 40G05

el-Borai, Mahmoud M. *see* **El-Borai, Mahmoud M.**

Bora-Senta, E. (*with* Camarinopoulos, L.; Zioutas, G.) An optimisation technique for robust autoregressive estimates. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 102–114, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M10 (62F35)

— (*with* Angelis, L.; Moyssiadis, C.) Optimal designs with a single two-level factor and *n* autocorrelated observations. (English summary) *Util. Math.* **52** (1997), 29–42. (Summary) **98i:05011** 05B05

Boratav, Oluş N. (*with* Pelz, Richard B.) Pressure and intermittency in the inertial range of turbulence. (English summary) *Turbulence modeling and vortex dynamics (Istanbul*, 1996), 109–122, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98h:76066** 76F99

— (*with* Greene, John M.) Evidence for the development of singularities in Euler flow. (English summary) *Phys. D* **107** (1997), *no.* 1, 57–68. 35Q30 (76C05)

— On recent intermittency models of turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 5, 1206–1208. (Summary) **98h:76037** 76F05

— (*with* Pelz, Richard B.) Structures and structure functions in the inertial range of turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 5, 1400–1415. (Summary) **98a:76039** 76F05 (76M99)

— On longitudinal and lateral moment hierarchy in turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3120–3122. 76F05

— *see also* **Turbulence modeling and vortex dynamics**, **98b:76005**

Boratyńska, Agata Stability of Bayesian inference in exponential families. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 173–178. (Summary) **98k:62005** 62C10 (62F15, 62F35)

Borba, Marcelo C. Ethnomathematics and education [For the Learning of Math. **10** (1990), no. 1, 39–43]. *Ethnomathematics*, 261–272, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 00A35 (01A07)

Borba de Andrade, B. (*with* Rathie, P. N.) A bibliography on measures of information. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 107–134. 94–00 (00A15, 94A15, 94A17)

— (*with* Rathie, P. N.) A bibliography on measures of information. II. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 211–234. 94A17

Borbély, Albert Convexity at infinity and bounded harmonic functions. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 63–68. (Valery Marenich) **98e:53053** 53C20

— (*with* Bovdi, V. A.; Brindza, B.; Krausz, T.) Covering theorems for Artinian rings. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 323–329. 16P20

— Some results on the convex hull of finitely many convex sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1515–1525. (Zhongmin Shen) **98j:53039** 53C20

Borcea, Liliana (*with* Papanicolaou, George C.) A hybrid numerical method for high contrast conductivity problems. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 61–77. (Summary) **98i:65086** 65N06 (76M25)

Borcea, Veronica T. (*with* Neagu, Al.) Sequences of θ-mappings. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 23–27. 30C65

— (*with* Neagu, Al.) Regular mappings in Finsler spaces. II. Characterizations of quasiconformality in vectorial normed spaces. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 29–36. 53B40

Borcherding, Malte On the number of authenticated rounds in Byzantine agreement. (English summary) *Distributed algorithms (Le Mont-Saint-Michel*, 1995), 230–241, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M10, 68M15)

Borcherds, Richard E. (*with* Ryba, Alex J. E.) Modular Moonshine. II. *Duke Math. J.* **83** (1996), *no.* 2, 435–459. (Koichiro Harada) **98b:17030** 17B69 (11F22, 20D08)

Borchers, Al (*with* Du, Ding Zhu) The *k*-Steiner ratio in graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 857–869. (Ortrud R. Oellermann) **98h:05057** 05C05 (05C85, 68R10)

Borchers, Brian (*with* Joy, Steve; Mitchell, John E.) A branch and cut algorithm for MAX-SAT and weighted MAX-SAT. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ*, 1996), 519–536, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C10 (03B05, 65K10, 90C90)

— (*with* Mitchell, John E.) A computational comparison of branch and bound and outer approximation algorithms for 0-1 mixed integer nonlinear programs. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 699–701. 90C09 (90–04)

Borchers, H. J. On the lattice of subalgebras associated with the principle of half-sided modular inclusion. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 371–390. (Stephen J. Summers) **98c:46127** 46L10 (46L40, 46L60, 81T05)

Borchers, W. *see* **Visualization methods in high performance computing and flow simulation**

Borchert, Bernd (*with* Stephan, Frank C.) Looking for an analogue of Rice's theorem in circuit complexity theory. (English summary) *Computational logic and proof theory*

(*Vienna*, 1997), 114–127, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:68021** 68Q05 (03D15)

— (*with* Silvestri, Riccardo) A characterization of the leaf language classes. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 153–158. (Summary) **98e:68071** 68Q15

Bordag, L. A. (*with* Dryuma, V. S.) Investigation of dynamical systems using tools of the theory of invariants and projective geometry. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 725–743. (Jair Koiller) **98j:34012** 34A26 (34C20, 58F36)

Bordag, Michael (*with* Kirsten, Klaus; Dowker, J. S.) Heat-kernels and functional determinants on the generalized cone. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 371–393. (Emili Elizalde) **98d:58193** 58G26 (58G11)

— (*with* Lindig, J.; Mostepanenko, V. M.; Pavlov, Yu. V.) Vacuum stress-energy tensor of nonconformal scalar field in quasi-Euclidean gravitational background. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 4, 449–463. 83C47 (81T20)

— (*with* Elizalde, E.; Kirsten, Klaus; Leseduarte, S.) Casimir energies for massive scalar fields in a spherical geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4896–4904. (Summary) **98g:81142** 81T20 (81T16)

— (*with* Lindig, J.; Mostepanenko, V. M.) Particle creation and vacuum polarization of a non-conformal scalar field near the isotropic cosmological singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 581–602. (Summary) **98k:83043** 83C47 (81T20)

Bordakov, E. V. (*with* Repnikov, V. D.; Khukhryanskiĭ, Yu. P.) On some function series containing roots of a transcendental equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 568–569, 576; *translation in Differential Equations* **32** (1996), *no.* 4, 575–577. (Eugene M. Matveev) **98b:35023** 35C10 (11Y99, 35K99, 44A10)

Bordakov, G. A. (*with* Il′yasov, Kh. Kh.; Mikolaevskiĭ, Ė. Yu.; Sekerzh-Zen′kovich, S. Ya.) On the influence of a quasi-thin fluid-saturated porous layer on Rayleigh and Stoneley surface waves. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 651–658. 73D20 (76S05)

Bordalo, Gabriela (*with* Monjardet, Bernard) Reducible classes of finite lattices. (English summary) *Order* **13** (1996), *no.* 4, 379–390. (N. K. Thakare) **98h:06014** 06B05 (06C05, 06C10, 06D15)

Bordan, V. G. Bounded semidirect products of topological algebras. (Moldavian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 14–17, 113, 115. 16W80

— (*with* Ursul, M. I.) One class of topologically simple pro-Noetherian rings. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 7–11, 113, 116. 16W80

— Topological rings whose subrings are linearly compact. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 17–19, 120, 122. (Summary) **98k:54071** 54H13

Borde, Arvind (*with* Vilenkin, Alexander) Singularities in inflationary cosmology: a review. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 813–824. (Summary) **98b:83094** 83F05 (83C75)

— Regular black holes and topology change. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7615–7617. (Asghar Qadir) **98g:83053** 83C57 (83C75)

— (*with* Vilenkin, Alexander) Violation of the weak energy condition in inflating spacetimes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 717–723. (Summary) **98e:83129** 83F05

Borde, Pascal Théorie unifiée de l'intégrale. [Unified integration theory] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 6, 14 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (S. Foglio) **98h:26033** 26E35 (03H05, 26A39, 26A42)

— Application d'un théorème de transfert partiel à un problème de mesurabilité. (English and French summaries) [Application of the partial transfer principle to a measurability problem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 695–700. (From the text) **98g:03152** 03H05 (03E70)

Bordemann, Martin (*with* Waldmann, Stefan) Formal GNS construction and WKB expansion in deformation quantization. *Deformation theory and symplectic geometry* (*Ascona*, 1996), 315–319, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ*, *Dordrecht*, 1997. (Mohsen Masmoudi) **98i:58105** 58F06 (81Q20, 81S10)

— (*with* Waldmann, Stefan) A Fedosov star product of the Wick type for Kähler manifolds. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 243–253. (Martin Schlichenmaier) **98h:58069** 58F06 (32C17)

Border, Kim C. (*with* Segal, Uzi) Preferences over solutions to the bargaining problem. (English summary) *Econometrica* **65** (1997), *no.* 1, 1–18. (Akira Okada) **98d:90022** 90A07 (90D12)

— (*with* Aliprantis, Charalambos D.; Burkinshaw, Owen) Economies with many commodities. (English summary) *J. Econom. Theory* **74** (1997), *no.* 1, 62–105. (Jacques F. Bair) **98c:90031** 90A58

Bordes, J. (*with* Anton, F.; Abdurrahman, A.) The three-vertex in the closed half-string field theory and the general gluing and resmoothing theorem. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L113–L116. (Paweł H. Węgrzyn) **98d:81072** 81T30 (83E30)

Bordihn, Henning (*with* Fernau, Henning) Accepting grammars and systems: an overview. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 199–208, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q42 (68Q50)

— (*with* Csuhaj-Varjú, Erzsébet) On competence and completeness in CD grammar systems. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 347–360. (Juhani Karhumäki) **98d:68128** 68Q50

— (*with* Fernau, Henning) Accepting grammars and systems via context condition grammars. (English summary) Second International Conference on Developments in Language Theory (Magdeburg, 1995). *J. Autom. Lang. Comb.* **1** (1996), *no.* 2, 97–112. (Jetty Kleijn) **98a:68122** 68Q50 (68Q45)

— A grammatical approach to the LBA problem. (English summary) *New trends in formal languages*, 1–9, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68168** 68Q50 (68Q45, 68Q68)

Bordley, Robert F. Filling in incomplete survey responses. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1631–1651. 62D05

— Stochastic mechanics and classical mechanics with finite differences. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 10, 3026–3030. (Summary) **98g:81020** 81P20

— Discrete-time general relativity and hyperspace. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 4, 561–574. (Summary) **98i:83065** 83D05

— Experiment-dependent probabilities in quantum mechanics and psychology. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 401–406. 81P05

Bordner, Andrew J. Linear canonical transformations in quantum mechanics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3427–3434. (Ivailo M. Mladenov) **98g:81096** 81S05 (81Q99, 81T99)

— Operator transformations between exactly solvable potentials and their Lie group generators. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3927–3936. (Summary) **98e:81186** 81U05

— Smooth bosonization as a quantum canonical transformation. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7739–7748. (Summary) **98e:81153** 81T40 (81T10)

Bordone, P. (*with* Nedyalkov, M.; Dimov, Ivan T.; Brunetti, R.; Jacoboni, C.) Using the Wigner function for quantum transport in device simulation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 33–53. 81S30

Bordulyak, M. T. (*with* Sheremeta, Myroslav M.) On the existence of entire functions of bounded l-index and l-regular growth. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 9, 1166–1182; *translation in Ukrainian Math. J.* **48** (1996), *no.* 9, 1322–1340 (1997). (Adam Janik) **98a:30034** 30D15

Boreale, Michele Symbolic bisimulation for timed processes. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 321–335, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98f:68078** 68Q10 (68Q55, 68Q60)

— On the expressiveness of internal mobility in name-passing calculi. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 163–178, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68078** 68Q10 (68Q60)

— (*with* De Nicola, Rocco; Pugliese, Rosario) Basic observables for processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 482–492, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q10

— On the expressiveness of internal mobility in name-passing calculi. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 205–226. (Summary) **98m:68064** 68Q10 (03B70, 68Q55, 68Q60)

Borel, Armand Mathematics: art and science [MR 86b:00005]. (Finnish) *In the forest of symbols* (*Finnish*), 11–36, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 00A30

— Introduction to automorphic forms in one variable. (Chinese. English and Chinese summaries) Translated from the English by Xu Ning Feng. *Adv. in Math.* (*China*) **25** (1996), *no.* 2, 97–158. (Ze-Li Dou) **98c:11036** 11F12

— ★ Automorphic forms on $SL_2(\mathbf{R})$. (English summary) Cambridge Tracts in Mathematics, 130. *Cambridge University Press, Cambridge*, 1997. x+192 *pp. ISBN* 0-521-58049-8 (M. Ram Murty) **98j:11028** 11Fxx (11R39, 22-01, 22E40, 22E46)

— *see also* **Krickeberg, Klaus**

Borel, E. *see* **Dell'Aglio, Luca**, **98h:01018**

Borel, Jean-Pierre Opérations sur les mots de Christoffel. (English and French summaries) [Computation on Christoffel words] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 239–242. (Jean-Paul Allouche) **98k:11018** 11B85 (68R15)

Borelli, Massimo Some qualitative aspects of a nonlinear heat equation with variable coefficients. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 283–287. (Elias Tuma) **98d:35092** 35K55 (35B05)

Boretto, G. (*with* Farina, Angiolo; Cocito, P.) Flow in deformable porous media: modelling and simulations of compression moulding processes. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 1–15. 73K70 (73K20, 76M25, 76S05)

Borg, Ingwer (*with* Groenen, Patrick J. F.) ★ Modern multidimensional scaling. (English summary) Theory and applications. Springer Series in Statistics. *Springer-Verlag, New York*, 1997. xviii+471 *pp. ISBN* 0-387-94845-7 (Rudolf Mathar) **98e:62092** 62H99 (62H30, 62P15)

Borge, Dan (*with* Sanford, Charles S., Jr.) The risk management revolution. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 313–328, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:00039**) 90A46 (62P05)

Börger, Egon (*with* Schmitt, Peter H.) A description of the tableau method using abstract state machines. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 659–681. (Summary) **98f:68070** 68Q05 (03B70, 68N17)

Börger, Reinhard (*with* Kemper, Ralf) A cogenerator for preseparated superconvex spaces. (English summary) *Appl. Categ. Structures* **4** (1996), *no.* 4, 361–370. (D. Pumplün) **98g:46108** 46M15 (18A20, 18C05, 46B99, 52A05)

Börgers, Christoph A fast iterative method for computing particle beams penetrating matter. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 323–339. (George Rowlands) **98c:92005** 92C50 (92–08)

Börgers, Tilman (*with* Sarin, Rajiv) Learning through reinforcement and replicator dynamics. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 1–14. (Vivek S. Borkar) **98j:93087** 93E35 (90D40, 92H10)

Borges, Carlos R. (*with* Wehrly, Albert C.) Correction: "Another study of D-spaces" [Questions Answers Gen. Topology **14** (1996), no. 1, 73–76; MR 96m:54033]. *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 77–78. (From the text) **98m:54026** 54D20 (54E18)

— $D^*(\mathbf{R}; \leq)$ does not imply $D^*_\uparrow$. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 67–69. (Summary) **98k:54024** 54C30 (54C20)

Borges, Dibio L. *see* **Advances in artificial intelligence**, **98h:68002**

Borges, Lavinia A. (*with* Pontes, Ivaldo D. S.; Zouain, Nestor; Lopes, Francisco R.) An approach to limit analysis with cone-shaped yield surfaces. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 4011–4032. (Summary) **98h:73045** 73E20 (73N20, 73Q05, 73V05)

Borges, Manoel Ferreira Bianchi identities for $N = 2$, $d = 5$ supersymmetric Yang-Mills theory on the group manifold. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 2-3, 142–148. (Krzysztof Galicki) **98a:81216** 81T60 (53C80, 81T13)

— Mathematical structure for a five-dimensional Cartan theory of space-time. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 81–89. (Summary) **98g:83090** 83E15

— (*with* Longhi, Jussara) Exterior covariant derivatives for an extended Cartan theory. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 91–96. (Summary) **98g:83091** 83E15

Borggaard, Jeff (*with* Burns, John A.) A PDE sensitivity equation method for optimal aerodynamic design. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 366–384. (Summary) **98i:76047** 76G25 (49Q20, 65K10, 76M30)

Borghero, Francesco (*with* Bozis, George) A new formulation of the two-dimensional inverse problem of dynamics. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 41–51. (Florin N. Diacu) **98m:70010** 70D99 (70F99)

Borghese, F. (*with* Fucile, E.; Denti, P.; Saija, R.; Sindoni, O. I.) Optical properties of a sphere in the vicinity of a plane surface. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1505–1514. (Summary) **98f:78005** 78A10 (78A45)

Borghi, Riccardo (*with* Santarsiero, Massimo; Frezza, Fabrizio; Schettini, Giuseppe) Plane-wave scattering by a dielectric circular cylinder parallel to a general reflecting flat surface. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1500–1504. (Summary) **98a:78011** 78A45

Borghoff, Uwe M. (*with* Pareschi, Remo; Arcelli, Francesca; Formato, Ferrante) Constraint-based protocols for distributed problem solving. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 201–225. (*see* **98k:68005**) 68T20 (68Q10)

Borgioli, Giovanni (*with* Gerasimenko, V.; Lauro, Giuliana; Monaco, Roberto) Many particles dynamical system formulation for the discrete Enskog gas. (English summary) Proceedings of the Second International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems (Sanremo, 1994). *Transport Theory Statist. Phys.* **25** (1996), *no.* 3-5, 581–592. (Giuseppe Toscani) **98h:82056** 82C40

— (*with* Totaro, Silvia) 3D-streaming operator with multiplying boundary conditions: semigroup generation properties. *Semigroup Forum* **55** (1997), *no.* 1, 110–117. (Hassan Emamirad) **98d:82043** 82C70 (47D06, 47N55)

Borichev, A. A. (*with* Hedenmalm, Håkan) Harmonic functions of maximal growth: invertibility and cyclicity in Bergman spaces. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 761–796. (Kristian Seip) **98a:30066** 30H05 (46E20, 46J15, 47A15)

Boričić, Branislav Validity measurement in some propositional logics. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 550–558. (Frans Voorbraak) **98m:03050** 03B48 (03B20, 03B45, 03B50, 03B55, 03B60, 03C80)

Bories-Longuet, Francette (*with* Jarraud, Pierre; Lévy-Bruhl, Anne) ★ Algèbre et géométrie. (French. French summary) [Algebra and geometry] Avec rappels de cours. [With course summaries] Problèmes de Mathématiques. Écrit du CAPES 1991–1996. [Mathematics Problems. CAPES Exams 1991–1996] *Masson, Paris*, 1997. vi+351 *pp. ISBN* 2-225-85511-0 00A07 (12–01, 15–01)

Borino, G. (*with* Polizzotto, C.; Fuschi, P.) A thermodynamically consistent formulation of nonlocal and gradient plasticity. *Mech. Res. Comm.* **25** (1998), *no.* 1, 75–82. 73E05 (73B30)

Boris, Jay P. (*with* Book, David L.) Flux-corrected transport. I. SHASTA, a fluid transport algorithm that works [J. Comput. Phys. **11** (1973), no. 1, 38–69]. (English summary) With an introduction by Steven T. Zalesak. Commemoration of the 30th anniversary [of J. Comput. Phys.]. *J. Comput. Phys.* **135** (1997), *no.* 2, 170–186. (*see* **98h:70003**) 76M20 (65M60)

Borisavljević, Mirjana Linear multicategories. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 7–15, *Univ. Priština, Priština*, 1995. (Wim Ruitenburg) **98h:03074** 03F50 (03B40, 03F55)

Borisenko, A. A. (*with* Ostroumov, S. A.) On the cylindricity of complete strongly parabolic Kähler submanifolds in a complex Hermitian space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 284–295. (Andrew Bucki) **98j:53080** 53C55 (53C40)

— On compact submanifolds of nonpositive extrinsic curvature in a Riemannian space. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 1, 3–10, 157; *translation in Math. Notes* **60** (1996), *no.* 1-2, 3–7 (1997). (Valery Marenich) **98c:53049** 53C21 (53C40)

Borisenok, S. V. (*with* Adzhemyan, L. Ts.; Girina, V. I.) The renormalization group and the operator expansion methods in the theory of developed turbulence: asymptotics of the triple simultaneous correlation function. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 450–461; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1556–1565 (1996). (Summary) **98m:76091** 76F99 (81T17)

Borisov, A. V. *see* **Borisov, Andrei V.**

Borisov, Adriyan V. Measurable sets of cycles in the Galilean plane. *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 85–92, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (V. Oproiu) **98h:53006** 53A04

Borisov, Alexandr Minimal discrepancies of toric singularities. (English summary) *Manuscripta Math.* **92** (1997), *no.* 1, 33–45. (Klaus Altmann) **98b:14001** 14B05 (14M25)

Borisov, Andrei V. (*with* Pankov, A. R.) Problems of minimax estimation of random elements with values in Hilbert spaces. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 61–75; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 1, 819–830. (Wilfried Grecksch) **98d:93086** 93E10 (62C20)

Borisov, I. S. Bounds for characteristic functions of additive functionals of some Markov processes. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 4, 53–63. (Endre Csáki) **98m:60121** 60J55 (60E10)

— (*with* Skilyagina, G. I.) On the asymptotic expansion of the moments of smooth functions in the central limit theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 519–525, i; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 447–453. (Vladimir I. Chebotarev) **98e:60030** 60F05

Borisov, Lev A. (*with* Batyrev, V. V.) On Calabi-Yau complete intersections in toric varieties. (English summary) *Higher-dimensional complex varieties (Trento*, 1994), 39–65, *de Gruyter, Berlin*, 1996. (Mark Gross) **98j:14052** 14J32 (14M25)

— (*with* Batyrev, V. V.) Dual cones and mirror symmetry for generalized Calabi-Yau manifolds. (English summary) *Mirror symmetry, II*, 71–86, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Dimitrios I. Dais) **98b:14033** 14J32 (14M25)

Borisov, N. M. (*with* Panin, M. P.) Adjoint importance Monte Carlo simulation for gamma ray deep penetration problem. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 3, 241–250. (Summary) **98i:82074** 82D99 (82C80)

Borisov, V. F. On the number of limit cycles in the factor system of the n-dimensional Fuller problem. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 12, 3–20; *translation in Sb. Math.* **187** (1996), *no.* 12, 1737–1753. (Hubertus Th. Jongen) **98c:34040** 34C05 (34H05, 93C10)

Borisov, V. G. (*with* Gul'ko, F. B.; Grigor'ev, F. N.; Kuznetsov, N. A.) On control systems that are unsynchronized with respect to measurements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 98–111; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1146–1156. (Summary) **98m:93056** 93C15

Borisov, V. M. (*with* Bear, Jacob; Sorek, Shaul) On the Eulerian-Lagrangian formulation of balance equations in porous media. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 505–530. (Summary) **98g:76068** 76S05 (76M25, 76T05)

Borisov, V. V. (*with* Simonenko, Irina I.) Construction of Bessel-Gauss type solutions for the telegraph equation. (English summary) *J. Physique I* **7** (1997), *no.* 8, 923–930. 35Q99 (35C15)

— Uniform resolvent convergence of linear operators under singular perturbations. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 87–97. (Philippe Briet) **98b:47010** 47A55 (35B25, 35J10, 47A10, 47B25, 47F05)

Borisov, Viacheslav *see* **Borisov, V. M.**

Borisov, Victor *see* **Borisov, V. V.**

Borisov, Victor V. *see* **Borisov, V. V.**

Borisov, Yu. F. The removal of a priori constraints in a theorem on the complete system of invariants of a curve in $\mathbf{E}^n_+$. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 485–503, i; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 411–427. (Jerzy Krawczyk) **98i:53003** 53A04

Borisova, S. V. Explicit analytical expressions for the densities of stable laws. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1104–1108. (Summary) **98g:60028** 60E07

Borisovich, A. Yu. (*with* Kucharski, Z.; Marzantowicz, Wacław) Relative Nielsen number and a lower estimate of the number of components of an algebraic set. (Russian summary) *Global and stochastic analysis (Russian)*, 9–19, 91, *Nonue Global. Anal.*, 15, *Izdat. Voronezh. Univ., Voronezh*, 1995. (Christopher K. McCord) **98a:55002** 55M20 (14A10)

— A functional-operator method for investigating bifurcations in the equivariant Plateau problem. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 56–65; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 51–60. (Ulrich Kosel) **98g:58026** 58E07 (47H15)

Borisovich, Yu. G. (*with* Bliznyakov, N. M.; Izrailevich, Ya. A.; Fomenko, T. N.) ★ Введение в топологию. (Russian. English and Russian summaries) [Introduction to topology] Second edition. *Fizmatlit "Nauka", Moscow*, 1995. 416 *pp. ISBN* 5-02-014118-6 (Alexander N. Dranishnikov) **98f:55001** 55–01 (54–01, 57–01)

— Topological characteristics and investigation of the solvability of nonlinear problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 3–23; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 1–21. (Jacobo Pejsachowicz) **98k:58028** 58C30 (47H11, 47H15)

— A generalized degree of multivalued mappings and its applications to nonlinear problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 101–109. (Christian Fenske) **98j:47141** 47H11 (47H04, 47N20, 58C06)

Borissov, Roumen Operator calculations in loop quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 237–240. (Summary) **98g:83033** 83C45

— Regularization of the Hamiltonian constraint and the closure of the constraint algebra. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2059–2068. (Hugo A. Morales-Técotl) **98j:83037** 83C45 (81T20, 81V17)

— Graphical evolution of spin network states. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6099–6111. (Francois Vanderseypen) **98d:83023** 83C27 (83C45)

Borkar, Vivek S. ★ Probability theory. (English summary) An advanced course. Universitext. *Springer-Verlag, New York*, 1995. xiv+138 *pp. ISBN* 0-387-94558-X (K. M. Ramachandran) **98e:60001** 60–01

— Recursive self-tuning control of finite Markov chains. (English summary) *Appl. Math. (Warsaw)* **24** (1996), *no.* 2, 169–188. (George Yin) **98c:93120a** 93E35 (93E20)

— Correction to: "Recursive self-tuning control of finite Markov chains". *Appl. Math. (Warsaw)* **24** (1997), *no.* 3, 355. (George Yin) **98c:93120b** 93E35 (93E20)

— (*with* Soumyanath, K.) An analog scheme for fixed point computation. I. Theory. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 351–355. (E. Kaucher) **98f:65056** 65H10

— (*with* Bhatnagar, Shalabh) Multiscale stochastic approximation for parametric optimization of hidden Markov models. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 509–522. (Andor Dobó) **98k:93126** 93E25 (60K20, 62L20)

Borkovskaya, I. M. (*with* Marchenko, Vladimir Matveevich) On an approach to the problem of the stabilization of systems with delay. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 4, 531–541; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 4, 529–539. (R. F. Datko) **98c:93086** 93D15 (34K35, 93C25)

Borlaf González, Javier (*with* Álvarez, Enrique; Barbón, J. L. F.) T-duality for open strings. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 218–242. (Yolanda Lozano) **98b:81168** 81T30

— T-duality for open strings. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 23–29. (Summary) **98c:81156** 81T30

— (*with* Álvarez, Enrique; León, José H.) T-duality without quantum corrections. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 97–100. (Summary) **98a:81149** 81T30

Borm, Peter (*with* Otten, Gert-Jan; Storcken, Ton; Tijs, Stef) Decomposable effectivity functions. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 277–289. (Summary) **98a:90154** 90D12

— (*with* Facchini, Giovanni; van Megen, Freek; Tijs, Stef) Congestion models and weighted Bayesian potential games. (English summary) *Theory and Decision* **42** (1997), *no.* 2, 193–206. (Summary) **98a:90141** 90D10 (90A14)

— (*with* Fiestras-Janeiro, M. Gloria; van Megen, Freek) Protective and prudent behaviour in games. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 167–175. (Summary) **98k:90172** 90D40 (90D05)

Bormasova, S. M. *see* **Anishchenko, V. S., 98b:58104**

Born, Rainer Re-interpreting Frege. (English and German summaries) *Conceptus* **28** (1995), *no.* 73, 185–253. (Ignacio Angelelli) **98g:03005** 03A05 (01A55, 01A60, 03–03)

Bornard, Guy (*with* Besançon, Gildas) Symbolic computation in nonlinear control systems analysis: the example of bilinearization. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 11–27. (Summary) **98d:93049** 93B40 (65–04)

Bornatici, M. (*with* Bellotti, U.) Emission by multipoles: an exact result in terms of reducible multipoles. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4273–4281. (Summary) **98j:78020** 78A40

Borne, P. (*with* Duflos, E.; Penel, P.; Vanheeghe, P.) Towards a new approach to model guidance laws. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 41–54, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (Yurii Ulybyshev) **98i:70020** 70Q05 (93C15)

— (*with* Hajri, S.; Vanheeghe, P.) Output tracking via robust sliding mode controller. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 221–229, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93D15 (93B12)

— (*with* Perruquetti, W.; Richard, Jean-Pierre; Grujić, Ljubomir T.) On practical stability with the settling time via vector norms. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 173–189. 93D09

Borneas, M. (*with* Cristeas, M.) A Lagrangian formalism for extended supersymmetry equations. (English summary) *Hadronic J.* **19** (1996), *no.* 5, 465–472. (Summary) **98k:58075** 58E30

Bornemann, Folkmar A. (*with* Deuflhard, Peter) The cascadic multigrid method for elliptic problems. (English summary) *Numer. Math.* **75** (1996), *no.* 2, 135–152. (S. F. McCormick) **98a:65175** 65N55 (65F10, 65N30)

— (*with* Erdmann, Bodo; Kornhuber, Ralf) A posteriori error estimates for elliptic problems in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 3, 1188–1204. (Rolf Rannacher) **98a:65161** 65N30 (65N50)

Börner, Ferdinand Varieties of partial algebras. (English summary) *Beiträge Algebra Geom.* **37** (1996), *no.* 2, 259–287. (H.-J. Hoehnke) **98a:08004** 08A55 (03G99, 08B05)

Börner, Walter (*with* Richter, Christian) Entropy, capacity and arrangements on the cube. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 227–232. (Konrad J. Swanepoel) **98g:52008** 52A21 (46B20, 47B06, 52C17)

Bornet, Gérard *see* **Boole, George, 98h:01033**

Bornscheuer, Sven-Erik (*with* Thielscher, Michael) Explicit and implicit indeterminism: reasoning about uncertain and contradictory specifications of dynamic systems. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 119–155. (Summary) **98a:68166** 68T27 (03B70, 68Q60)

Bornside, David E. (*with* Salamon, Todd R.; Armstrong, Robert C.; Brown, Robert Arthur) Local similarity solutions for the stress field of an Oldroyd-B fluid in the partial-slip/slip flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2191–2209. (Summary) **98e:76008** 76A10

Borobia, Alberto A practical criterion for multivariate majorization. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 93–100. (Jacques Dubois) **98h:15041** 15A51

— Higher order Voronoi diagrams. (English summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 217–221, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

— (*with* Mazurovskiĭ, Vladimir F.) Nonsingular configurations of 7 lines of $\mathbf{RP}^3$. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 751–783. (Nguyen H. V. Hung) **98m:57028** 57N37 (57Q37, 57R52)

— (*with* Moro, Julio) On nonnegative matrices similar to positive matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 365–379. (Thomas L. Markham) **98g:15032** 15A48

— (*with* Chumillas, Valerio) *-graphs of vertices of the generalized transitive tournament polytope. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 49–57. (Summary) **98k:05076** 05C20

— (*with* Cantó, Rafael) Matrix scaling: a geometric proof of Sinkhorn's theorem. (English summary) *Linear Algebra Appl.* **268** (1998), 1–8. (D. J. Hartfiel) **98k:15030** 15A51 (15A48)

Bőröczky, Károly, Jr. Isoperimetric problems for polytopes with a given number of vertices. *Mathematika* **43** (1996), *no.* 2, 237–254 (1997). (A. Florian) **98d:52021** 52B60 (52A40)

— Closeness and least tight (or friendly) systems of points on the 2-sphere. *Intuitive geometry (Budapest, 1995)*, 247–264, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (R. Blind) **98h:52031** 52C15

— Packings of four and five balls. (English summary) *Intuitive geometry (Budapest, 1995)*, 265–276, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Martin Henk) **98i:52024** 52C17 (52A40)

— (*with* Wills, J. M.) Finite sphere packings and critical radii. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 193–211. (Martin Henk) **98i:52025** 52C17 (05B40, 52A40)

— *see also* **Intuitive geometry, 98c:52001**

Borodich, Feodor M. Parametric-homogeneity and self-similar phenomena. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 409–417. (*see* **98i:00027**) 73V99 (73M25, 92E20)

Borodin, Allan Tribute to Roman Smolensky [1960–1995]. *Comput. Complexity* **6** (1996/97), *no.* 3, 195–198. 01A70

Borodin, Andrei N. (*with* Salminen, Paavo) ★ Handbook of Brownian motion—facts and formulae. Probability and its Applications. *Birkhäuser Verlag, Basel*, 1996. xiv+462 *pp. ISBN* 3-7643-5463-1 (Sándor Csörgő) **98i:60077** 60J65 (60–00, 60H05, 60J25, 60J55, 60J60)

— On the distribution of functionals of Brownian motion stopped at a time that is inverse to the sojourn time. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 39–56, 357. (H.-J. Engelbert) **98i:60078** 60J65 (60J55)

Borodin, O. V. Colorings and topological representations of graphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 3–27, 95. (Konrad Engel) **98m:05065** 05C15 (05C10)

— (*with* Kostochka, A. V.; Woodall, Douglas R.) Total colourings of planar graphs with large girth. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 19–24. (Moshe Rosenfeld) **98k:05063** 05C15

Borodin, P. A. On polynomials that deviate most from zero on a domain boundary. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 18–22, 78; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 18–21. (Vanja Hadzijski) **98j:30042** 30E10 (41A10)

Boroomand, B. (*with* Zienkiewicz, Olgierd C.) An improved REP recovery and the effectivity robustness test. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3247–3277. (From the summary) **98g:73036** 73V05

Boros, Endre (*with* Ibaraki, Toshihide; Makino, Kazuhisa) Boolean analysis of incomplete examples. (English summary) *Algorithm theory—SWAT '96 (Reykjavík, 1996)*, 440–451, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98h:68191** 68T05 (03D15, 06E30, 68Q05)

— (*with* Čepek, Ondřej) On perfect 0, ±1 matrices. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 81–100. (Summary) **98g:05028** 05B20 (05C15, 05C50)

— (*with* Atkin, A. O. L.; Cechlárová, Katarína; Peled, Uri N.) Powers of circulants in bottleneck algebra. (English summary) *Linear Algebra Appl.* **258** (1997), 137–148. (Ronald L. Smith) **98c:15050** 15A30 (04A72, 15A57)

— (*with* Gurvich, Vladimir A.) A corrected version of the Duchet kernel conjecture. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 231–233. (Summary) **98g:05065** 05C20

Boros, Zoltán Representation of vectors in generalized number systems. *Contributions to the theory of functional equations, II (Zamárdi, 1995)*, 7–10, *Grazer Math. Ber.*, 327, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Vsevolod F. Lev) **98h:11015** 11A67 (11C20)

Borosh, Itshak (*with* Hensley, Douglas; Hobbs, Arthur M.) Vertex prime graphs and the Jacobsthal function. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 193–222. (Summary) **98j:05117** 05C78

Borouchaki, Houman Triangulation sous contraintes en dimension quelconque. (English and French summaries) [Constrained triangulation in any dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 711–716. (Summary) **98a:65173** 65N50 (65D15, 65M50)

— (*with* Frey, Pascal J.) Triangulation des surfaces implicites. (English and French summaries) [Triangulation of implicit surfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 101–106. (Summary) **98c:65026** 65D17 (65Y25)

— (*with* Frey, Pascal J.) Qualité des maillages de surfaces. (English and French summaries) [Quality of surface meshes] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 925–930. (Summary) **98j:49053** 49Q05 (49Q10, 65N50)

— (*with* George, Paul Louis; Hecht, Frédéric; Laug, Patrick; Saltel, Eric) Delaunay mesh generation governed by metric specifications. I. Algorithms. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 61–83. (Pieter W. Hemker) **98c:65163** 65M55 (76M10)

— (*with* George, Paul Louis; Mohammadi, Bijan) Delaunay mesh generation governed by metric specifications. II. Applications. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 85–109. (Pieter W. Hemker) **98c:65164** 65M55 (76M10)

— (*with* Frey, Pascal J.) Adaptive triangular-quadrilateral mesh generation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 915–934. 65N55 (65D17)

Borovanský, Peter (*with* Kirchner, Claude; Kirchner, Hélène) Controlling rewriting by rewriting. (English summary) *First International Workshop on Rewriting Logic and its Applications (Pacific Grove, CA, 1996)*, 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (Summary) **98i:68135** 68Q42

Borovik, A. V. (*with* Gel'fand, Izrail' Moiseevich; Vince, Andrew; White, Neil) The lattice of flats and its underlying flag matroid polytope. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 17–26. (Volkmar Welker) **98j:05043** 05B35 (52B40)

— (*with* Altınel, Tuna; Cherlin, Gregory L.) Groups of mixed type. *J. Algebra* **192** (1997), *no.* 2, 524–571. (O. V. Belegradek) **98d:03047** 03C60 (03C45, 20A15, 20D05)

— (*with* Gel'fand, Izrail' Moiseevich; White, Neil) On exchange properties for Coxeter matroids and oriented matroids. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 59–72. (Laura M. Anderson) **98m:05037** 05B35

Borovikov, V. A. On the large-time asymptotics of Green's function for internal gravity waves. (English summary) *Wave Motion* **26** (1997), *no.* 3, 275–289. (Summary) **98j:76018** 76C10 (86A05)

— The far field of the moving and oscillating source: the resonance case. (English summary) *Wave Motion* **26** (1997), *no.* 3, 291–305. (Summary) **98j:76009** 76B15 (86A05)

Borovkov, A. A. (*with* Lavrent'ev, Mikhail Mikhaĭlovich; Beresnev, V. L.; Godunov, S. K.; Ershov, Yu. L.; Kutateladze, Semën Samsonovich; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

Borovkov, K. A. On random walks with jumps scaled by cumulative sums of random variables. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 409–416. (Allan Gut) **98m:60109** 60J15 (60F05, 60G40, 60G50)

— (*with* Vatutin, V. A.) Reduced critical branching processes in random environment. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 225–240. (Kiyoshi Kawazu) **98i:60082** 60J80 (60J15)

Borovoĭ, M. V. (*with* Kunyavskiĭ, B. È.) Spherical spaces for which the Hasse principle and weak approximation fail. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 41–52. (Lucy Moser-Jauslin) **98i:14049** 14M17 (11G25)

— Abelian Galois cohomology of reductive groups. (English summary) *Mem. Amer. Math. Soc.* **132** (1998), *no.* 626, *viii*+50 *pp.* (James E. Humphreys) **98j:20061** 20G10 (11E72, 14E20, 18G50)

Borovskich, Yu. V. (*with* Korolyuk, V. S.) ★ Theory of U-statistics. (English summary) Translated from the 1989 Russian original by P. V. Malyshev and D. V. Malyshev and revised by the authors. Mathematics and its Applications, 273. *Kluwer Academic Publishers Group, Dordrecht*, 1994. x+552 *pp. ISBN* 0-7923-2608-3 (Editors) **98e:60033** 60F05 (60F10, 60F15, 60F17)

Borovskikh, Yu. V. ★ U-statistics in Banach spaces. *VSP, Utrecht*, 1996. xii+420 *pp. ISBN* 90-6764-200-2 (Alfredas Račkauskas) **98b:60010** 60B11 (60B12)

— (*with* Puri, Madan L.; Sazonov, Vyacheslav Vasil'evich) Normal approximation of U-statistics in a Hilbert space. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 481–504; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 405–424 (1997). (Igor S. Borisov) **98g:60013** 60B12

Borowiec, Andrzej (*with* Kharchenko, Vladislav K.) First order optimum calculi. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, I (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **19** (1995), 75–88. (Summary) **98i:58020** 58B30 (16W25)

— Cartan pairs. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1197–1202. (Janusz Grabowski) **98a:17015** 17B37 (16W30, 81R50)

— (*with* Kharchenko, Vladislav K.; Oziewicz, Zbigniew) First order calculi with values in right-universal bimodules. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 171–184, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98k:16002** 16D20 (16W25)

Borowiecki, Mieczysław (*with* Michalak, Danuta; Sidorowicz, Elżbieta) Generalized domination, independence and irredundance in graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 147–153. 05C35 (05C70)

Borrajo, Daniel (*with* de Ledesma, Luis; Pérez, Aurora; Laita, Luis M.) A computational approach to George Boole's discovery of mathematical logic. (English summary) *Artificial Intelligence* **91** (1997), *no.* 2, 281–307. (Marcel Guillaume) **98c:01026** 01A55 (03–03, 68T30, 68T35)

Borrás, F. (*with* Almiñana, Marc; Pastor, Jesús T.) A hierarchical location model: biobjective programming vs FDH. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 347–355, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90B80 (90C29)

Borrego-Diaz, Joaquin (*with* Fernández-Margarit, Alejandro; Pérez-Jiménez, Mario) On overspill principles and axiom schemes for bounded formulas. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 3, 341–348. (A. J. Wilkie) **98c:03117** 03F30 (03C62, 03H15)

Borrelli, A. (*with* Patria, M. C.) Decay and other estimates for a semi-infinite magnetoelastic cylinder: Saint-Venant's principle. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 6, 1087–1099. (Summary) **98d:73055** 73R05 (73C10)

Borrelli, Robert L. (*with* Coleman, Courtney S.) ★ Differential equations. (English summary) A modeling perspective. *John Wiley & Sons, Inc., New York*, 1998. xiv+706 *pp. ISBN* 0-471-04230-7 (Publisher's description) **98g:34001** 34–01

Borriello, Gaetano (*with* Walkup, Elizabeth A.) A general linear max-plus solution technique. *Idempotency* (*Bristol*, 1994), 406–415, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 90C27 (93A30)

Borş, A. G. (*with* Pitas, I.; Kotropoulos, C.; Nikolaidis, N.) Robust and adaptive techniques in self-organizing neural networks. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4517–4528. (*see* **98i:00032**) 68T05 (42B20)

Borş, C. I. Two-body problem in a non-inertial frame of reference and the advance of perihelion. (English summary) International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 174–178. (Florin N. Diacu) **98d:70012** 70F05 (70F15)

— Relativistic models for Newtonian conservative systems. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 105–108. (Ll. G. Chambers) **98k:70008** 70H40 (70H35, 82C10)

— Relativistic model for a material particle in a non-inertial frame. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 325–329 (1997). (D. K. Sen) **98c:83012** 83C10 (70H40)

Borsari, I. (*with* Degli Esposti, M.; Graffi, S.; Unguendoli, F.) Deterministic spin models with a glassy phase transition. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L155–L159. (Azer Kerimov) **98k:82029** 82B20 (82B26)

Borsboom, Mart Development of an error-minimizing adaptive grid method. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 13–21. (*see* **98i:65004**) 65M50 (65L06)

Borshchev, V. B. (*with* Beniaminov, E. M.) Categorical description of asynchronous parallel computations. (Russian. Russian summary) *Programmirovanie* **1996,** *no.* 6, 4–11; *translation in Program. Comput. Software* **22** (1996), *no.* 6, 273–278. (Summary) **98b:68039** 68Q10 (18B20)

Borsík, Ján Sums of quasicontinuous functions defined on pseudometrizable spaces. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 328–337. (Summary) **98a:54008** 54C08 (54C30, 54E99)

— Algebraic structures generated by real quasicontinuous functions. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 175–184. (Summary) **98e:54012** 54C08

— *see also* **Real functions '94, 98d:00022**

Borst, S. C. ★ Polling systems. CWI Tract, 115. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1996. vi+232 *pp. ISBN* 90-6196-467-9 (Micha Hofri) **98d:60174** 60K25 (68M20, 90B22)

Borthakur, A. (*with* Choudhury, Gautam) On a Poisson queue with random idle period. (English summary) *Contrib. Appl. Math. Stat.* **1** (1995), 33–42. 60K25

Borthwick, David (*with* Uribe, Alejandro) Almost complex structures and geometric quantization. (English summary) *Math. Res. Lett.* **3** (1996), *no.* 6, 845–861. (Martin Schlichenmaier) **98e:58084** 58F06 (58G15)

— (*with* McRae, Alan; Taylor, Edward C.^{2}) Quasirigidity of hyperbolic 3-manifolds and scattering theory. *Duke Math. J.* **89** (1997), *no.* 2, 225–236. (Bruno Zimmermann) **98e:58168** 58G25 (30F40, 57M50)

Bortoff, Scott A. Approximate state-feedback linearization using spline functions. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1449–1458. 93B18 (93B40)

— (*with* Lynch, Alan F.) Non-linear observer design by approximate error linearization. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 161–172. (Summary) **98j:93017** 93B07 (93B18)

Borue, Vadim (*with* Orszag, Steven A.) Spectra in helical three-dimensional homogeneous isotropic turbulence. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 7005–7009. (Summary) **98d:76074** 76F05 (76M25)

Borůvka, Otakar *see* **Neuman, František, 98f:01079a; Šarmanová, Petra, 98f:01079b; Kruskal, Joseph B., 98g:01064** *and* **Nešetřil, Jaroslav, 98g:01065**

Borwein, David (*with* Borwein, Jonathan M.; Pinner, Christopher G.) Convergence of Madelung-like lattice sums. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3131–3167. (Hartmut Menzer) **98k:11135** 11P21 (11M41, 11Z05, 30B50, 40A05)

Borwein, Jonathan M. (*with* Bauschke, Heinz H.) On projection algorithms for solving convex feasibility problems. (English summary) *SIAM Rev.* **38** (1996), *no.* 3, 367–426. (F. Deutsch) **98f:90045** 90C25 (47N10, 49M45, 65J10)

— (*with* Wong, Erick Bryce) A survey of results relating to Giuga's conjecture on primality. (English summary) *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 13–27, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Andrew Granville) **98i:11005** 11A51 (11Y11)

— (*with* Bailey, David H.; Borwein, P. B.) Ramanujan, modular equations, and approximations to pi or How to compute one billion digits of pi [MR 90d:11143]. *Organic mathematics* (*Burnaby, BC*, 1995), 35–71, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 11Y60 (01A60, 11F03, 33E20)

— (*with* Garvan, F. G.) Approximations to π via the Dedekind eta function. *Organic mathematics* (*Burnaby, BC*, 1995), 89–115, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Bruce C. Berndt) **98j:11030** 11F20 (11Y60)

— (*with* Bauschke, Heinz H.; Lewis, Adrian S.) The method of cyclic projections for closed convex sets in Hilbert space. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 1–38, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Alfredo N. Iusem) **98c:49069** 49M45 (47H99, 47N10, 65F10, 90C25)

— (*with* Fabian, Marián J.; Vanderwerff, Jon D.) Characterizations of Banach spaces via convex and other locally Lipschitz functions. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 53–69. (Warren B. Moors) **98k:46019** 46B20 (46G99, 52A41)

— (*with* Bradley, David; Broadhurst, D. J.) Evaluations of k-fold Euler/Zagier sums: a compendium of results for arbitrary k. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 5, *approx.* 21 *pp.* (*electronic*). (Pavel Guerzhoy) **98b:11091** 11M41 (11Y60)

— (*with* Bradley, David) Empirically determined Apéry-like formulae for $\zeta(4n+3)$. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 181–194. (F. Beukers) **98m:11142** 11Y60 (11M06)

— (*with* Bauschke, Heinz H.) Legendre functions and the method of random Bregman projections. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 27–67. (Alfredo N. Iusem) **98f:49038** 49M45 (65K10, 90C25)

— (*with* Moors, Warren B.) Essentially smooth Lipschitz functions. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 305–351. (Marián Fabian) **98i:58028** 58C20 (46G05, 46N10, 49J52)

— (*with* Bailey, David H.; Borwein, P. B.; Plouffe, Simon) The quest for pi. *Math. Intelligencer* **19** (1997), *no.* 1, 50–57. (Introduction) **98b:01045** 01A99

— (*with* Moors, Warren B.; Wang, Xianfu) Lipschitz functions with prescribed derivatives and subderivatives. *Nonlinear Anal.* **29** (1997), *no.* 1, 53–63. (Summary) **98j:49019** 49J52 (46G05, 47N10, 58C05)

— (*with* Sun, Wei Wei) The stability analysis of dynamic SPECT systems. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 283–298. (Dominikus Noll) **98k:65076** 65R30 (44A12, 65R20, 92C55)

— A generalization of Young's l^p inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 131–136. (Gérard Lebourg) **98m:90099** 90C25 (26B25, 52A41)

— Brouwer-Heyting sequences converge. *Math. Intelligencer* **20** (1998), *no.* 1, 14–15. 11A63

— (*with* Treiman, Jay S.; Zhu, Qiji J.) Necessary conditions for constrained optimization problems with semicontinuous and continuous data. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2409–2429. (B. Mordukhovich) **98k:90108** 90C48 (49J52)

— (*with* Borwein, David; Pinner, Christopher G.) Convergence of Madelung-like lattice sums. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3131–3167. (Hartmut Menzer) **98k:11135** 11P21 (11M41, 11Z05, 30B50, 40A05)

— *see also* **Organic mathematics, 98f:00027** *and* **PI: a source book, 98f:01001**

Borwein, P. B. (*with* Rakhmanov, E. A.; Saff, E. B.) Rational approximation with varying weights. I. (English summary) *Constr. Approx.* **12** (1996), *no.* 2, 223–240. (D. J. Leeming) **98b:41016** 41A20

— (*with* Bailey, David H.; Borwein, Jonathan M.) Ramanujan, modular equations, and approximations to pi or How to compute one billion digits of pi [MR 90d:11143]. *Organic mathematics* (*Burnaby, BC*, 1995), 35–71, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 11Y60 (01A60, 11F03, 33E20)

— (*with* Pinner, Christopher G.) Polynomials with $\{0, +1, -1\}$ coefficients and a root close to a given point. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 887–915. (Maurice Mignotte) **98m:11014** 11C08 (11R06)

— (*with* Erdélyi, Tamás) On the zeros of polynomials with restricted coefficients. *Illinois J. Math.* **41** (1997), *no.* 4, 667–675. (Raphaële Supper) **98g:30008** 30C15

— (*with* Bailey, David H.; Plouffe, Simon) On the rapid computation of various polylogarithmic constants. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 903–913. (Andreas Guthmann) **98d:11165** 11Y60

— (*with* Bailey, David H.; Borwein, Jonathan M.; Plouffe, Simon) The quest for pi. *Math. Intelligencer* **19** (1997), *no.* 1, 50–57. (Introduction) **98b:01045** 01A99

— (*with* Erdélyi, Tamás) Markov- and Bernstein-type inequalities for polynomials with restricted coefficients. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 309–323. (M. Lachance) **98m:41021** 41A17

— (*with* Beaucoup, Franck; Boyd, David W.; Pinner, Christopher G.) Power series with restricted coefficients and a root on a given ray. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 715–736. (Vanja Hadzijski) **98k:30006** 30C15 (30B10)

— *see also* **Organic mathematics, 98f:00027** *and* **PI: a source book, 98f:01001**

Boryczka, Grzegorz (*with* Tovar, Luis Manuel) Hyperbolic-like manifolds, geometrical properties and holomorphic mappings. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 53–66, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Azniv Kasparian) **98b:32021** 32H20 (32H15)

Borzdov, G. N. Frequency domain wave-splitting techniques for plane stratified bianisotropic media. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6328–6366. (Summary) **98k:78029** 78A45

Borzellino, Joseph E. Orbifolds with lower Ricci curvature bounds. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3011–3018. (Shun Hui Zhu) **98e:53060** 53C21 (53C20)

von Borzeszkowski, Horst-Heino (*with* Treder, Hans-Jürgen) Mach's principle and hidden matter. (English summary) *Found. Phys.* **27** (1997), *no.* 4, 595–603. (Helmuth K. Urbantke) **98e:83097** 83D05 (83C99)

— (*with* Treder, Hans-Jürgen) The Weyl-Cartan space problem in purely affine theory. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 455–466. (Alberto Saa Vazquez) **98b:83073** 83D05

— (*with* Treder, Hans-Jürgen) Dark matter versus Mach's principle. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 273–290. (Summary) **98m:83061** 83D05 (83F05)

Borzi, A. (*with* Vanmaele, M.; Morton, K. W.; Süli, Endre) Analysis of the cell vertex finite volume method for the Cauchy-Riemann equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 2043–2062. (Do Young Kwak) **98m:65200** 65N30

Bos, Len (*with* Calvi, Jean-Paul) Kergin interpolants at the roots of unity approximate C^2 functions. (English summary) *J. Anal. Math.* **72** (1997), 203–221. (Günther Nürnberger) **98j:41001** 41A05 (30E05, 41A10, 41A63)

Bosanac, S. Danko Relativistic classical theory of a free particle. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3895–3907. (Martin Daumer) **98e:81022** 81P99

Bosc, Patrick (*with* Dubois, Didier; Pivert, Olivier; Prade, Henri) Flexible queries in relational databases—the example of the division operator. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 281–302. (Summary) **98g:68030** 68P15 (04A72)

Boscaiu, V. g-divergences on image measure. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 1, 11–21. 62H30 (62B10)

ten Bosch, B. I. M. (*with* Weisenborn, A. J.) On a variational principle for the drag in linear hydrodynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 1–14 (*electronic*). (Summary) **98m:76048** 76D05 (76M30)

van den Bosch, Frank (*with* de Roos, André) The dynamics of infectious diseases in orchards with roguing and replanting as control strategy. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 129–157. (Summary) **98h:92042** 92D30

van den Bosch, P. P. J. (*with* Luo, Jian-san; Johnson, Alan) Lyapunov stability robust analysis and robustness design for linear continuous-time systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1233–1251. 93D09

— (*with* Luo, Jian-san) Independent of delay stability criteria for uncertain linear state space models. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 2, 171–179. (Andrzej W. Olbrot) **98e:93075** 93D09 (93C30)

Bosch, Roger (*with* Bagaria, Joan) Projective forcing. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 237–266. (Miroslav Repický) **98j:03068** 03E15 (03E35)

Bosch, Siegfried Component groups of abelian varieties and Grothendieck's duality conjecture. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1257–1287. (Dino J. Lorenzini) **98k:14061** 14K05 (11G10, 14G20, 14K15)

Boschi, D. (*with* De Martini, F.; Di Giuseppe, G.) Test of the violation of local realism in quantum mechanics without Bell inequalities. (English summary) *Phys. Lett. A* **228** (1997), *no.* 4-5, 208–214. (Summary) **98e:81014** 81P15 (81V80)

— (*with* Branca, S.; De Martini, F.; Hardy, Lucien) Ladder proof of nonlocality without inequalities: theoretical and experimental results. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 15, 2755–2758. 81P05

Boschi Filho, H. (*with* Carvalhaes, C. G.; Belvedere, L. V.; Natividade, C. P.) Algebraic isomorphism in two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 210–236. (Lech Jakóbczyk) **98i:81139** 81T05 (81T10, 81T50)

Bosco, F. (*with* Antoniou, Ioannis E.; Basios, V.) Probabilistic control of chaos: chaotic maps under control. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 373–389. (Summary) **98j:58086** 58F19 (58F13, 93E99)

— (*with* Akishin, P. G.; Vinitskiĭ, S. I.) Helmholtz problem for plane periodical structures. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 613–625. (Summary) **98j:81053** 81Q05 (35J05)

— (*with* Antoniou, Ioannis E.; Suchanecki, Zdzislaw) Spectral decomposition of expanding probabilistic dynamical systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 153–158. 28D05 (39B12, 58F11, 82C05)

Boscovich, R. J. *see* **Bošković, Rudjer Josip**

Bose, A. (*with* Carey, Graham F.; Pehlivanov, A. I.; Shen, Yun; Wang, K. C.) Least-squares finite elements for fluid flow and transport. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 97–107. (Summary) **98k:76085** 76M10

Bose, Anil K. (*with* Cover, Alan S.; Reneke, James A.) Sufficient conditions for point dissipative quadratic nonlinear dynamical systems. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 13–22, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 93B52 (34H05, 93C05)

Bose, Arup (*with* Boukai, Benzion) Estimation with prescribed proportional accuracy for a two-parameter exponential family of distributions. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1792–1803. (Adhir K. Basu) **98a:62106** 62L12 (62F12)

Bose, Bella (*with* Tallini, Luca G.; Capocelli, Renato M.) Design of some new efficient balanced codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 790–802. (Summary) **98a:94045** 94B60

— (*with* Bae, Myung M.) Resource placement in torus-based networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1083–1092. (Summary) **98f:68021** 68M10 (94B99, 94C99)

Bose, Christopher J. (*with* Illner, Reinhard; Ukai, S.) On shock wave solutions for discrete velocity models of the Boltzmann equation. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 35–66. (Alexander Orlov) **98m:82061** 82C40 (76P05)

Bose, M. K. (*with* Nath, R. K.) Generalizations of the Cesàro-Perron integrals. (English summary) *Soochow J. Math.* **22** (1996), *no.* 4, 457–475. (Cheng-Ming Lee) **98e:26008** 26A39

Bose, Mausumi Some efficient incomplete block sequences. (English summary) *Biometrika* **83** (1996), *no.* 4, 956–961. (Shinji Kuriki) **98f:62227** 62K10 (05B05)

Bose, N. K. (*with* Boo, K. J.) Asymptotic eigenvalue distribution of block-Toeplitz matrices. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 858–861. (Summary) **98j:65026** 65F15 (15A18, 15A57)

Bose, Prosenjit (*with* Bremner, David; van Kreveld, Marc) Determining the castability of simple polyhedra. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 84–113. (Summary) **98b:68186** 68U05 (52B55)

— (*with* Toussaint, Godfried) Characterizing and efficiently computing quadrangulations of planar point sets. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 8, 763–785. 65D17 (65D15)

— (*with* Guibas, Leonidas J.; Lubiw, Anna; Overmars, Mark H.; Souvaine, Diane; Urrutia, Jorge) The floodlight problem. (English summary) Workshop on Computational Geometry (Raleigh, NC, 1993). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 1-2, 153–163. (Rade Živaljević) **98c:52018** 52B55 (68U05)

— (*with* McAllister, Michael; Snoeyink, J. S.) Optimal algorithms to embed trees in a point set. (English summary) *J. Graph Algorithms Appl.* **1** (1997), *no.* 2, 15 *pp.* (*electronic*). (Summary) **98i:68216** 68R10 (05C85)

— (*with* Buss, Jonathan F.; Lubiw, Anna) Pattern matching for permutations. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 277–283. (Summary) **98m:68113** 68Q25 (68R05)

Bose, Ramendra Krishna (*with* Ganguly, Ashok; Chandel, Raghvendra Singh) Fixed point theorems for metrically inward set valued mappings in metric space. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 193–206. 54H25 (54C60)

— Ky Fan minimax inequality and non-linear variational inequalities. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4161–4170. (*see* **98i:00032**) 49J40 (47H19, 47N10)

Bose, Subir Kumar (*with* Gupta, Ram Naresh) Deformation of the unitary group SU(3) and Gell-Mann–Okubo mass relation for mesons and baryons. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1507–1515. 81V22 (81R50)

— Exact bound states of the relativistic Schrödinger equation for the central potential $V(r) = -\alpha/r + \beta/r^{1/2}$. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 4, 635–638. (Summary) **98k:81037** 81Q05

Bose, Sudip *see* **Gustafson, Paul**, **98f:62068**

Bose, Sukanta (*with* Parker, Leonard; Peleg, Yoav) Lorentzian approach to black hole thermodynamics in the Hamiltonian formulation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 987–1000. (Summary) **98g:83054** 83C57

— (*with* Kar, Sayan) Exact solutions in two-dimensional string cosmology with back reaction. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, R4444–R4448. (Summary) **98g:83117** 83F05 (83C15)

Bosgiraud, Jacques Exemple de test statistique non standard. (English and French summaries) [An example of a nonstandard statistical test] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 9–13. (Summary) **98d:62027** 62F03 (03H05)

Boshernitzan, Michael (*with* Jones, Roger L.; Wierdl, Máté) Integer and fractional parts of good averaging sequences in ergodic theory. (English summary) *Convergence in ergodic theory and probability (Columbus, OH, 1993)*, 117–132, *Ohio State Univ. Math. Res. Inst. Publ., 5, de Gruyter, Berlin*, 1996. (V. Losert) **98e:28022** 28D10

— (*with* Galperin, G.; Krüger, Tyll; Troubetzkoy, Serge) Periodic billiard orbits are dense in rational polygons. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3523–3535. (Serge L. Tabachnikov) **98k:58179** 58F20

Boshnakov, Georgi N. The asymptotic covariance matrix of the multivariate serial correlations. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 2, 251–258. (Francesco Battaglia) **98f:62246** 62M10

Boshuizen, Frans A. A replacement model with general age-dependent failure rates. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 213–228. (Howard Taylor) **98g:60084** 60G40 (60J75, 90B25)

Bosi, Gianni (*with* Isler, Romano) Representing preference relations with nontransitive indifference by a single real-valued function. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 257–262, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A06

Bosi, M. (*with* Salvatori, M. C.) Some nonhomogeneous deformations for a special class of isotropic constrained materials. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 689–713. (Marian Aron) **98d:73025** 73C50 (73G05)

Bošković, Jovan D. Adaptive control of a class of nonlinearly parameterized plants. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 930–934. 93C40 (93D15)

Bošković, Rudjer Josip *see* **Grmek, Mirko D.**, **98i:01013**; **Pappas, John**, **98i:01014** *and* **Taton, René**, **98i:01015**

Bosma, Wieb (*with* Stevenhagen, Peter) On the computation of quadratic 2-class groups. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 283–313. (F. Diaz y Diaz) **98e:11129a** 11R29 (11R11, 11Y40)

— (*with* Cannon, John J.; Playoust, Catherine) The Magma algebra system. I. The user language. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 235–265. (*see* **98f:68006**) 68Q40

— *see also* **Errata: "On the computation of quadratic 2-class groups"**, **98e:11129b**

Bosnjak, Ivica (*with* Grulović, Milan Z.) On one absorption law in groupoid theory. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 389–395. 20N02

Bosq, Denis (*with* Lessi, O.) Recursive nonparametric estimation of nonlinear systems of Volterra type. (English and Italian summaries) *Statistica (Bologna)* **55** (1995), *no.* 3, 263–284 (1996). (Thomas Mikosch) **98c:62082** 62G07 (62G20)

— ★ Nonparametric statistics for stochastic processes. Estimation and prediction. Lecture Notes in Statistics, 110. *Springer-Verlag, New York*, 1996. xii+169 *pp. ISBN* 0-387-94713-2 (Sidney J. Yakowitz) **98j:62061** 62M09 (60G25, 62G05)

— Limit theorems for Banach-valued autoregressive processes. Applications to real continuous time processes. (English and French summaries) *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 5, 537–555. (Alexander G. Kukush) **98d:60011** 60B12 (60F05, 60G10, 62M10)

— Nonparametric estimation and prediction for continuous time processes. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3547–3551. (*see* **98h:00034**) 62M20 (62G05)

— (*with* Blanke, D.) Accurate rates of density estimators for continuous-time processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 185–191. (Summary) **98a:62041** 62G05

Bossaerts, Peter (*with* Hillion, Pierre) Testing the mean-variance efficiency of well-diversified portfolios in very large cross-sections. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 40, 93–124. 90A09 (62P20)
— (*with* Werker, Bas J. M.) Martingale-based hedge error control. *Numerical methods in finance*, 290–304, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Thomas W. Epps) **98h:90014** 90A09
Bossard, Benoît Coanalytic families of norms on a separable Banach space. *Illinois J. Math.* **40** (1996), *no.* 2, 162–181. (Marián Fabian) **98a:46015** 46B03 (46B20, 54H05)
— An ordinal version of some applications of the classical interpolation theorem. (English summary) *Fund. Math.* **152** (1997), *no.* 1, 55–74. (Marián Fabian) **98d:46008** 46B15 (04A15, 54H05)
Bossavit, Alain (*with* Kettunen, Lauri; Forsman, Kimmo) Formulation of the eddy current problem in multiply connected regions in terms of *h*. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 935–954. (Summary) **98m:78007** 78–08
Bosscher, D. J. B. (*with* Griffioen, W. O. D.) Regularity for a large class of context-free processes is decidable. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 182–193, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68079** 68Q10 (68Q60)
Bosse, Abraham *see* **Bottineau-Fuchs, Yves**, **98d:01014** *and* **Fiorani, Francesca**, **98f:01018**
Bosselaers, Antoon (*with* De Win, Erik; Vandenberghe, Servaas; De Gersem, Peter; Vandewalle, Joos) A fast software implementation for arithmetic operations in GF(2^n). (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 65–76, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (68P25, 68Q40)
Bossert, Walter (*with* Blackorby, Charles; Donaldson, David) Birth-date dependent population ethics: critical-level principles. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 260–284. (Summary) **98j:90009** 90A08
Bossy, Mireille (*with* Fezoui, Loula; Piperno, Serge) Comparison of a stochastic particle method and a finite volume deterministic method applied to Burgers equation. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 2, 113–140. (Sergei A. Nemnyugin) **98f:65008** 65C05 (65M60, 76M10, 76M35)
charron-Bost, Bernadette *see* **Charron-Bost, Bernadette**
Bost, Jean-Benoît Périodes et isogenies des variétés abéliennes sur les corps de nombres (d'après D. Masser et G. Wüstholz). (French summary) [Periods and isogenies of abelian varieties over number fields (after D. Masser and G. Wüstholz)] Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 795, 4, 115–161. (Summary) **98k:11073** 11G10 (14K02, 14K15)
Bostan, Mihai (*with* Poupaud, Frédéric) Solutions périodiques du système de Vlasov-Poisson avec conditions aux limites. (English and French summaries) [Periodic solutions of the Vlasov-Poisson system with boundary conditions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1333–1336. (Summary) **98h:35226** 35Q99 (76X05, 82D10)
Bostock, David ★ Intermediate logic. (English summary) *The Clarendon Press, Oxford University Press, New York*, 1997. x+393 *pp. ISBN* 0-19-875142-7 (Branislav Boričić) **98i:03001** 03–01
Boston, Brian (*with* Glimm, James; Grove, John W.; Holmes, Richard L.; Zhang, Qiang[1]) Multiscale structure for hyperbolic waves. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 1–9, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65
Boston, Nigel Some calculus and open problems in finite group theory. *Proceedings of the First Jamaican Conference on Group Theory and its Applications (Kingston, 1996)*, 12–13, *Univ. West Indies, Kingston*, 1997. (*see* **98g:20004**) 20D99
Boston, Raymond C. *see* **Biomathematics**, **98i:92001**
Boswell, Sharon G. (*with* Simpson, R. Jamie) Edge-disjoint maximal planar graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 235–241. (Summary) **98g:05045** 05C10
Boswell, Terry A note on John Venn as a collector and bibliographer of works on logic. (English summary) *Hist. Philos. Logic* **16** (1995), *no.* 1, 121–125. (Summary) **98d:01022** 01A55 (01A60, 03–03)
Boswijk, H. Peter Testing identifiability of cointegrating vectors. (English summary) *J. Bus. Econom. Statist.* **14** (1996), *no.* 2, 153–160. 62M10
— (*with* Urbain, Jean-Pierre) Lagrange-multiplier tests for weak exogeneity: a synthesis. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 21–38. (Baldev Raj) **98a:62128** 62P20
— (*with* Franses, Philip Hans; Haldrup, Niels) Multiple unit roots in periodic autoregression. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 167–193. (Alastair R. Hall) **98i:62069** 62M10
Botelho, Fernanda (*with* Jagota, Arun Kumar; Garzon, Max) Decoding independent sets from an analog Hopfield network. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 3, 263–276. (Răzvan Andonie) **98c:92002** 92B20
— (*with* Garzon, Max) Erratum to: "Boolean neural nets are observable" [Theoret. Comput. Sci. **134** (1994), no. 1, 51–61; MR 95j:68119]. *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 257. (From the text) **98i:68209** 68Q80 (68Q10)
Botelho, Luiz C. L. Fermionic string representation for the three-dimensional Ising model. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1338–1340. (Helmut Rumpf) **98i:82014** 82B20 (81T27, 81T30)
— (*with* da Silva, Edson P.) The Caldirola-Kanai theory from "Brownian" path integral quantum mechanics. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 14-15, 569–573. 81S40 (82C31)
Botero, Alonso (*with* Matzner, Richard A.; Huq, Mijan; Choi, Dae Il; Kask, Üllar; Lara, Juan; Liebling, Steven; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05
Botezat, V. (*with* Selchuk, V. N.) Numerical implementation of mechanical quadratures method for solving singular integral equations given on closed smooth contours. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 287–299. 65R20
Both, N. (*with* Purdea, I.) Some refinements in the two-valued logic. *Mathematica* **37(60)** (1995), *no.* 1-2, 41–44. 03B10
— (*with* Purdea, I.) Quantifiers in powers. *Mathematica* **38(61)** (1996), *no.* 1-2, 21–26. 03G15
Botha, J. D. Products of matrices with prescribed nullities and traces. (English summary) *Linear Algebra Appl.* **252** (1997), 173–198. (Morris Newman) **98a:15031** 15A24 (15A23)
— Triangularizing matrices over GF(2) by congruence. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 2, 109–158. (Carl Riehm) **98c:15080** 15A63 (11C20, 15A21)
— Products of diagonalizable matrices. (English summary) *Linear Algebra Appl.* **273** (1998), 65–82. (N. J. Pullman) **98k:15016** 15A23 (15A33)
Botha, Sazette G. Quasi-ideals and bi-ideals in categories. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 219–224, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98j:18015** 18D35 (16Y30)
Bothe, Dieter Upper semicontinuous perturbations of *m*-accretive operators and differential inclusions with dissipative right-hand side. *Topology in nonlinear analysis (Warsaw, 1994)*, 139–148, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Kiyoko Furuya) **98d:47116** 47H06 (34A60, 34G20, 47N20)
— Flow invariance for perturbed nonlinear evolution equations. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 417–433. (Marco Degiovanni) **98k:34098** 34G20 (35K57)
— Reaction-diffusion systems with discontinuities. A viability approach. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 677–686. (Werner Horn) **98k:35097** 35K57 (34G20, 35R05)
Bothe, H. G. Shift spaces and attractors in noninvertible horseshoes. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 267–289. (James Andrew Walsh) **98c:58097** 58F12 (54H20, 58F03)
Botkin, Nikolai D. Parameters estimation of some electroelasticity models. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 31–38, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 73C02 (73C50, 73K50, 73R05)
— Estimation of parameters of a linear thin plate excited by a piezoelectric patch. (English summary) *Analysis* **17** (1997), *no.* 4, 367–378. (Summary) **98k:73054** 73K50 (35Q72, 73K10, 93C20)
turova-Botkina, V. L. *see* **Turova-Botkina, V. L.**
hernando Boto, B. *see* **Hernando Boto, B.**
Botrić, S. On the separation of the point charge field in classical electrodynamics. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 10, 1161–1172. (Summary) **98b:78016** 78A35 (78A25)
Bott, Raoul Critical point theory in mathematics and in mathematical physics. *Turkish J. Math.* **21** (1997), *no.* 1, 9–40. (Esther Pérez) **98k:58037** 58D29 (57R57, 58E50, 81T13)
— (*with* Earle, Clifford J.; Hejhal, Dennis; Jenkins, James A.; Jorgensen, Troels; Marden, Albert; Osserman, Robert) Lars Valerian Ahlfors (1907–1996). Edited and with an introduction by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 248–255. (Editors) **98m:01028** 01A70
— *see also* **Current developments in mathematics**, **98d:00016**
Botta, E. F. F. (*with* Dekker, K.; Notay, Yvan; van der Ploeg, A.; Vuik, C.; Wubs, F. W.; de Zeeuw, P. M.) How fast the Laplace equation was solved in 1995. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 4, 439–455. (Summary) **98c:65003** 65–04 (65Y10)
— (*with* van der Ploeg, A.) Renumbering strategies based on multi-level techniques combined with ILU-decompositions. (English summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1294–1300. 65F30 (65N30)
Bottaro, Alessandro (*with* Carrière, Philippe; Metzener, P.) Wavelength selection in Rayleigh-Bénard convection between horizontal boundaries of finite conductivity. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 483–508. 76E15
Bottasso, C. L. (*with* Shephard, Mark S.; Flaherty, Joseph E.; de Cougny, H. L.; Özturan, Can; Simone, M. L.) Parallel automatic adaptive analysis. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1327–1347. (*see* **98f:76004**) 65Y05 (65M55, 73V20, 76M25)
Bottazzini, Umberto (*with* Gray, Jeremy J.) Complex function theory from Zurich (1897) to Zurich (1932). Studies in the history of modern mathematics, II. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 44 (1996), 85–111. (Heinrich Begehr) **98d:01028** 01A60 (01A55, 30–03)
Böttcher, Albrecht (*with* Karlovich, Yu. I.) Submultiplicative functions and spectral theory of Toeplitz operators. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 181–202. (Richard Rochberg) **98m:47032** 47B35 (26A12, 45E10, 47A50)
— (*with* Karlovich, Yu. I.) ★ Carleson curves, Muckenhoupt weights, and Toeplitz operators. (English summary) Progress in Mathematics, 154. *Birkhäuser Verlag, Basel*, 1997. xvi+397 *pp. ISBN* 3-7643-5796-7 (Richard Rochberg) **98m:47031** 47B35 (45E10, 47A50)
— (*with* Wolf, Hartmut) Spectral approximation for Segal-Bargmann space Toeplitz operators. (English summary) *Linear operators (Warsaw, 1994)*, 25–48, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98d:47055** 47B35 (46L99, 47A10, 47A30, 47A53)
— On the approximation numbers of large Toeplitz matrices. (English summary) *Doc. Math.* **2** (1997), 1–29 (*electronic*). (Estelle L. Basor) **98d:47056** 47B35 (15A57, 47A75, 47B06)
— (*with* Grudskiĭ, S. M.; Silbermann, Bernd) Norms of inverses, spectra, and pseudospectra of large truncated Wiener-Hopf operators and Toeplitz matrices. (English summary) *New York J. Math.* **3** (1997), 1–31 (*electronic*). (Estelle L. Basor) **98d:47057** 47B35 (47A75)
Botten, L. C. (*with* McPhedran, R. C.; Nicorovici, N. A.; Bao, Ke-Da) Green's function, lattice sums and Rayleigh's identity for a dynamic scattering problem. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 155–186, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:78040** 78A45 (35J05)
Bottineau-Fuchs, Yves Abraham Bosse "interprète" de Girard Desargues. [Abraham Bosse as "interpreter" of Girard Desargues] *Desargues en son temps*, 371–388, *Libr. Sci. A. Blanchard, Paris*, 1994. (Victor V. Pambuccian) **98d:01014** 01A45
Böttner, Michael A collective extension of relational grammar. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 175–193. (*see* **98k:68018**) 03B65 (68S05)
Bottoni, Paolo (*with* Mauri, Giancarlo; Mussio, Piero) On controlling rewriting by properties of strings and symbols. (English summary) *New trends in formal languages*, 71–94, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68136** 68Q42

— (*with* Di Zenzo, Silvano; Mussio, Piero) A notion of information related to computation. *Inform. Process. Lett.* **64** (1997), *no.* 4, 207–215. (B. H. Mayoh) **98m:68057** 68Q05 (68Q55)

Botvich, D. D. (*with* Zamyatin, A. A.) On fluid approximations for conservative networks. (English summary) *Markov Process. Related Fields* **1** (1995), *no.* 1, 113–140. (Summary) **98g:60162** 60K25

Botvinnik, B. I. (*with* Gilkey, Peter B.; Stolz, Stephan) The Gromov-Lawson-Rosenberg conjecture for groups with periodic cohomology. *J. Differential Geom.* **46** (1997), *no.* 3, 374–405. (Jonathan M. Rosenberg) **98i:58227** 58G12 (53C21, 55N15, 55N22, 57R40, 57R50)

Botyuk, A. O. (*with* Khoma, L. G.; Khoma, N. G.) Existence of Vejvoda-Stedry spaces. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 302–308; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 334–341. (Summary) **98h:35011** 35B10 (35L20, 46E99)

— Exact solution of a periodic boundary value problem. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 998–1001; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1120–1124 (1998). 35L20

Botz, Martin (*with* Hagedorn, Peter) Elastic plates in multibody systems: a treatment using existing rigid body codes. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 4, 351–359. 73K12 (70–08, 73K10, 73V20)

Bouajjani, Ahmed (*with* Habermehl, Peter) Constrained properties, semilinear systems, and Petri nets. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 481–497, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68185** 68Q60 (68Q10, 68Q45, 68Q68, 68Q90)

— (*with* Esparza, Javier; Maler, Oded) Reachability analysis of pushdown automata: application to model-checking. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 135–150, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q68 (68Q60)

Bouali, S. (*with* Cherki, S.) Approximation by generalized commutators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 273–278. (Hong W. Kim) **98j:47077** 47B47 (47A58, 47B10)

— (*with* Ben Larbi, Miloud; Cherki, S.) Une remarque sur l'orthogonalité de l'image au noyau d'une dérivation généralisée. (English summary) [A remark on the orthogonality of the image to the kernel of a generalized derivation] *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 167–171. (Volker Runde) **98c:47044** 47B47 (47B10, 47B20)

Bouamaine, A. (*with* Benghabrit, Y.) Application d'un processus d'approximation stochastique à l'estimation séquentielle des facteurs d'une analyse factorielle des correspondances multiples. (English summary) [Application of a stochastic approximation process to the sequential estimation of the factors of a factorial analysis of multiple correspondences] *Afrika Mat.* (3) **6** (1996), 61–68. (Michel Benaïm) **98d:62144** 62L20 (62H25, 62L12, 65U05)

de Bouard, Anne (*with* Saut, Jean Claude) Langmuir solitary waves in a weakly magnetized plasma. (English summary) *Nonlinear waves (Sapporo*, 1995), 31–37, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98j:35166** 35Q55 (76X05, 82D10)

— (*with* Saut, Jean Claude) Solitary waves of generalized Kadomtsev-Petviashvili equations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 211–236. (Song Mu Zheng) **98a:35115** 35Q53 (35Q51)

— (*with* Hayashi, Nakao; Saut, Jean Claude) Global existence of small solutions to a relativistic nonlinear Schrödinger equation. (English and French summaries) *Comm. Math. Phys.* **189** (1997), *no.* 1, 73–105. (Elaine Machtyngier) **98k:35174** 35Q55 (35B60, 81V80)

Bouaricha, Ali (*with* Bischof, Christian H.; Khademi, Peyvand M.; Moré, Jorge J.) Computing gradients in large-scale optimization using automatic differentiation. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 185–194. 90C30 (90–04)

Bouas-Dockery, K. (*with* Gladwell, I.; Brankin, R. W.) A Fortran 90 separable Hamiltonian system solver. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 207–217. (*see* **98g:65010**) 65–04 (34A45, 65L05)

Boucekkine, Raouf (*with* Germain, Marc; Licandro, Omar) Replacement echoes in the vintage capital growth model. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 333–348. (Summary) **98d:90037** 90A16 (90A09)

Bouchakour, Mustapha (*with* Mahjoub, Ali Ridha) One-node cutsets and the dominating set polytope. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 101–123. (Jaroslav Ivančo) **98e:05062** 05C35 (52B12)

Bouchal, Zdeněk (*with* Peřina, Jan) Electromagnetic concept of phase conjugation. (English summary) *J. Modern Opt.* **45** (1998), *no.* 2, 425–436. (Summary) **98i:78011** 78A40

santini-Bouchard, Marie-Line *see* **Santini-Bouchard, Marie-Line**

Bouchard, P. (*with* Fong, Yuen; Ke, Wen-Fong; Yeh, Yeong Nan) Counting f such that $f \circ g = g \circ f$. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 14–27. (Stanley Gill Williamson) **98c:05003** 05A15 (20D99)

Bouchaud, Jean-Philippe (*with* Sornette, Didier; Potters, Marc) Option pricing in the presence of extreme fluctuations. (English summary) *Mathematics of derivative securities (Cambridge*, 1995), 112–125, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Bouche, Daniel (*with* Molinet, Frédéric; Mittra, Raj) ★ Asymptotic methods in electromagnetics. (English summary) Translated from the 1994 French original by Patricia and Daniel Gogny and revised by the authors. *Springer-Verlag, Berlin*, 1997. xxii+525 *pp. ISBN* 3-540-61574-1 (Philip Huddleston) **98m:78002** 78–02 (78A45)

Bouche, Thierry Asymptotic results for Hermitian line bundles over complex manifolds: the heat kernel approach. (English summary) *Higher-dimensional complex varieties (Trento*, 1994), 67–81, *de Gruyter, Berlin*, 1996. (Christophe Mourougane) **98k:32042** 32L05 (32L10, 58G11)

Bouchemakh, Isma (*with* Engel, Konrad) The order-interval hypergraph of a finite poset and the König property. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 51–61. (Douglas B. West) **98f:05116** 05C65 (06A07)

Boucherie, Richard J. On the transition matrix of Markov chains obtained via cyclic mappings. (English summary) *Ten years LNMB*, 115–120, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Summary) **98c:60076** 60J10 (90B22)

— (*with* Boxma, Onno J.; Sigman, Karl) A note on negative customers, $GI/G/1$ workload, and risk processes. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 305–311. (Summary) **98f:60181** 60K25

bramaud du Boucheron-Mariaux, Bernadette *see* **Bramaud du Boucheron-Mariaux, Bernadette**

Bouchet, André (*with* Schwärzler, Werner) The delta-sum of matching delta-matroids. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 53–63. (Laura Bertani) **98j:05044** 05B35

Bouchiba, Samir (*with* Girolami, Florida; Kabbaj, Salah-Eddine) The dimension of tensor products of AF-rings. *Commutative ring theory (Fès*, 1995), 141–153, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (David F. Anderson) **98b:13009** 13C15 (13A15)

Bouchitté, Guy (*with* Buttazzo, Giuseppe; Seppecher, Pierre) Shape optimization solutions via Monge-Kantorovich equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1185–1191. (Bernard Rousselet) **98i:49044** 49Q10

— (*with* Buttazzo, Giuseppe; Seppecher, Pierre) Energies with respect to a measure and applications to low-dimensional structures. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 1, 37–54. (Jie Yang) **98a:35022** 35J20 (35Q72, 49J45)

— (*with* Felbacq, D.) Homogenization of a set of parallel fibres. (English summary) *Waves Random Media* **7** (1997), *no.* 2, 245–256. (Summary) **98b:78031** 78A45 (73B27, 78A25)

Bouchitté, Vincent (*with* Rampon, Jean-Xavier) On-line algorithms for orders. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 225–238. (N. Prabhakara Rao) **98f:68110** 68Q20 (06A07, 68R05)

Bouchon-Meunier, Bernadette Spécificité et potentialités de la logique floue. [Specificity and potentialities of fuzzy logic] *Introduction aux logiques non classiques*, 223–234, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B52

— (*with* Heindl, Gerhard; Kreinovich, Vladik) Geometry of errors revisited: a natural way to vector-valued metric spaces. (English summary) *Geombinatorics* **7** (1997), *no.* 2, 47–60. 54E35

— (*with* Rifqi, Maria) A framework to unify and generate measures of comparison. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 89–97. (Summary) **98j:04002** 04A72 (28E10)

Bouchouev, Ilia (*with* Isakov, Victor) The inverse problem of option pricing. (English summary) *Inverse Problems* **13** (1997), *no.* 5, L11–L17. (Dave Furth) **98m:90014** 90A09

Bouchut, F. (*with* Bonnaud, G.) Numerical simulation of relativistic plasmas in hydrodynamic regime. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 287–290. (*see* **98b:65005**) 76X05 (82D10)

— On the discrete conservation of the Gauss-Poisson equation of plasma physics. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 23–34. 82D10 (82–08)

— (*with* Perthame, Benoît) Kružkov's estimates for scalar conservation laws revisited. (English and French summaries) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2847–2870. (Alexander Doktor) **98m:65156** 65M15 (35L65)

Bouckaert, Remco R. (*with* Studený, Milan) Chain graphs: semantics and expressiveness. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg*, 1995), 69–76, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30

le Boudec, Jean-Yves *see* **Le Boudec, Jean-Yves**

Boudet, Alexandre (*with* Contejean, Evelyne; Marché, Claude) AC-complete unification and its application to theorem proving. (English summary) *Rewriting techniques and applications (New Brunswick, NJ*, 1996), 18–32, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q42 (68T15)

Boudet, Roger On the relativistic calculation of the Lamb shift. (English summary) *Generalizations of complex analysis and their applications in physics (Warsaw/Rynia*, 1994), 337–342, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Frans R. Klinkhamer) **98g:81218** 81V10

Boudhraa, Zineddine Resolution of singularities of determinantal rings. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 349–354. (Şerban Bărcănescu) **98a:14063** 14M12 (13C40, 14E15)

— D-spaces and resolution. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 395–401. (Summary) **98k:54038** 54D20 (54D10, 54D30)

Boudi, N. (*with* Benslimane, Mohamed) Isomorphisms of Jordan-Banach algebras. *Extracta Math.* **11** (1996), *no.* 3, 414–416. (Antonio Fernández López) **98d:46048** 46H70 (17C65)

— (*with* Benslimane, Mohamed) Alternative Noetherian Banach algebras. *Extracta Math.* **12** (1997), *no.* 1, 41–46. (Angel Rodríguez-Palacios) **98m:46063** 46H70

Boudine, A. (*with* Mebarki, N.; Aissaoui, H.; Maasmi, A.) The q-deformed Virasoro algebra. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 8, 755–759. (Summary) **98g:81084** 81R50 (17B68, 81T30)

— (*with* Mebarki, N.; Aissaoui, H.; Maasmi, A.) New critical dimensions for q-deformed bosonic string. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 8, 761–764. 81T30 (81R50)

Boudol, Gerard (*with* Laneve, Cosimo) Termination, deadlock and divergence in the λ-calculus with multiplicities. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA*, 1995), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68N15 (03B40, 03B70, 68Q55)

Boudot, Maurice Les doctrines de la vraisemblance sont-elles un substitut viable de la logique inductive? [Are the doctrines of verisimilitude a viable substitute for inductive logic?] *The legacy of Rudolf Carnap (Italian) (Cesena*, 1992), 187–205, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 03A05

Boudourides, Moses A. (*with* Eleutheriadis, Georgios I.) Integral separation, Lyapunov transformations, and the small change in the direction of the solutions of periodic linear systems of ordinary differential equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 590–604. (Sergei Mazanik) **98g:34021** 34A30 (34C20, 34D08)

Boudriga, Noureddine (*with* Ahmed, Chiheb Ben) Reducing network latency and server load in hypermedia systems. (English summary) *Inform. Sci.* **102** (1997), *no.* 1-4, 1–29. (Summary) **98e:90065** 90B10 (90B25)

Boufkhad, Y. (*with* Dubois, O.) A general upper bound for the satisfiability threshold of random r-SAT formulae. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 395–420. (Summary) **98e:68103** 68Q25

Boufoussi, B. (*with* Kamont, Anna) Temps local brownien et espaces de Besov anisotropiques. (English and French summaries) [Brownian local time and anisotropic Besov spaces] *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 89–105. (Summary) **98e:60132** 60J65 (60G17, 60J55)

Bougerol, Philippe (*with* Babillot, Martine; Elie, Laure) The random difference equation $X_n = A_n X_{n-1} + B_n$ in the critical case. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 478–493. (Charles M. Goldie) **98c:60075** 60J10 (60B15, 60J15, 60K05)

Bougoffa, Lazhar Problèmes aux limites pour une classe d'équations composites parabolo-elliptiques. (English and French summaries) [Boundary value problems for a class of composite equations of parabolic-elliptic type] *Bull. Soc. Roy. Sci. Liège* **65** (1996), *no.* 6, 399–406. (Manfred Schneider) **98a:35094** 35M20 (35D05)

Bougourzi, A. Hamid (*with* Couture, Michel Josaphat; Kacir, M.) From quantum affine groups to the exact dynamical correlation function of the Heisenberg model. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 103–107. (Summary) **98f:82043** 82B23 (81R10, 81R50)

— Bosonized Wakimoto construction in the principal gradation [grading]. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 3, 261–267. (Stanislav Z. Pakuliak) **98a:81059** 81R10 (17B67)

— (*with* Vinet, Luc) On the relation between $U_q(\widehat{\mathrm{sl}(2)})$ vertex operators and q-zonal functions. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 299–311. (Hai Sheng Li) **98k:33039** 33D80 (17B69, 81R50)

— (*with* Abada, A.; Si-Lakhal, B.) Exact four-spinon dynamical correlation function of the Heisenberg model. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 3, 733–753. (Takeo Kojima) **98h:82011** 82B20

Bouhar, Mustapha Sur la symétrie radiale et l'unicité de solutions d'équations elliptiques semi-linéaires. (English and French summaries) [Radial symmetry and uniqueness of solutions of semilinear elliptic equations] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 105–120. (C. A. Swanson) **98i:35048** 35J60 (34B15, 35B05)

Bouhsiss, Fouzia (*with* Bénilan, Philippe) Une remarque sur l'unicité des solutions pour l'opérateur de Serrin. (English and French summaries) [A remark on the uniqueness of solutions for the Serrin operator] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 611–616. (Summary) **98h:35002** 35A05 (35D05)

Boukaabar, Kaddour Median with respect to the minimum-element-moves metric. (English summary) Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **119** (1996), 129–149. (C. G. Wagner) **98a:05013** 05A18 (90A08, 92B10)

Boukai, Benzion (*with* Bose, Arup) Estimation with prescribed proportional accuracy for a two-parameter exponential family of distributions. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1792–1803. (Adhir K. Basu) **98a:62106** 62L12 (62F12)

— (*with* Berger, James O.; Wang, Yin Ping) Properties of unified Bayesian-frequentist tests. (English summary) *Advances in statistical decision theory and applications*, 207–223, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98j:62022** 62F15

— (*with* Flury, Leah; Flury, Bernhard) The discrimination subspace model. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 758–766. (Peter A. Lachenbruch) **98h:62106** 62H30

— (*with* Sarkar, Jyotirmoy) Sequential confidence intervals with fixed-proportional accuracy for the mean of NEF-PVF distributions. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 241–256. (Masafumi Akahira) **98k:62144** 62L12 (62F12)

— (*with* Zhou, H.) Nonparametric estimation in a two change-point model. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 3, 275–292. (Summary) **98g:62058** 62G05

Boukas, Andreas Quantum stochastic integral equations in Fock space. (English summary) *Math. Balkanica (N.S.)* **9** (1995), *no.* 4, 329–344. (Franco Fagnola) **98a:81097** 81S25 (60H10)

— Operator valued stochastic control in Fock space with applications to orbit tracking and noise filtering. (English summary) *Probab. Math. Statist.* **16** (1996), *no.* 2, 221–242. (Kalyan B. Sinha) **98k:81133** 81S25

Boukas, E. K. (*with* Kenne, J. P.) Maintenance and production control of manufacturing systems with setups. (English summary) *Mathematics of stochastic manufacturing systems (Williamsburg, VA, 1996)*, 55–70, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (George Yin) **98e:90070** 90B30 (93E20)

— (*with* Swierniak, A.; Yang, Hailiang) On the robustness of jump linear quadratic control. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 899–910. (Summary) **98g:93054** 93E20 (49N10, 93D15)

— (*with* Yang, Hailiang) Robust stabilization by dynamic combined state and output feedback compensator for nonlinear systems with jumps. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 63–75. (John Tsinias) **98a:93067** 93D21 (93D15, 93E15)

— (*with* Zhang, Qing[1]; Yin, Gang George) Controlled Markov chains with weak and strong interactions: asymptotic optimality and applications to manufacturing. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 169–194. (O. L. V. Costa) **98e:90214** 90C40 (93E20)

— (*with* Shi, Peng) H_∞-control for Markovian jumping linear systems with parametric uncertainty. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 75–99. (Dieter Franke) **98j:93034** 93B36 (93B51, 93C05, 93E20)

— (*with* Swierniak, A.; Simek, K.; Yang, Hailiang) Robust stabilization and guaranteed cost control of large scale linear systems with jumps. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 121–131. (*see* **98g:93001**) 93D21 (93C30)

— (*with* Yang, Jichuan; Yin, Gang George; Zhang, Qing[1]) Manufacturing systems: wear modeling and numerical procedures. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 269–293. (Yannis A. Phillis) **98d:90048** 90B05 (90B15, 93E20)

el Boukhari, Abderrahman *see* **El Boukhari, Abderrahman**

Boukhemis, Ammar A study of a sequence of classical orthogonal polynomials of dimension 2. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 435–454. (Pascal Maroni) **98m:42034** 42C05 (33C45)

Boukliev, Iliya (*with* Daskalov, Rumen N.; Kapralov, Stoyan) Optimal quaternary linear codes of dimension five. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1228–1235. (Summary) **98b:94017** 94B05

— Some new optimal ternary linear codes. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 5–11. (Summary) **98f:94023** 94B05

— (*with* Kapralov, Stoyan; Maruta, Tatsuya; Fukui, Masaharu) Optimal linear codes of dimension 4 over F_5. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 308–313. (Summary) **98m:94042** 94B05

— (*with* Dodunekov, Stefan M.; Helleseth, Tor; Ytrehus, Øyvind) On the [162, 8, 80] codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2055–2057. 94B05

— (*with* Buyuklieva, Stefka) Extremal self-dual codes with an automorphism of order 2. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 323–328. (Summary) **98g:94032** 94B05

— (*with* Buyuklieva, Stefka) Some new extremal self-dual codes with lengths 44, 50, 54, and 58. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 809–812. (Summary) **98i:94031** 94B05

Boukricha, Abderrahman Classe de Kato et équation de Schrödinger généralisée avec singularité isolée. [Kato class and generalized Schrödinger equation with isolated singularity] *Afrika Mat.* (3) **1** (1993), 41–54. (Alexander I. Kheyfits) **98a:31004** 31B05 (31B35, 35J10)

Boulanger, Ph. (*with* Hayes, Michael A.) Collected results on finite amplitude plane waves in deformed Mooney-Rivlin materials. *Mathematical problems in elasticity*, 1–45, *Ser. Adv. Math. Appl. Sci.*, 38, *World Sci. Publishing, River Edge, NJ*, 1996. (Ion Nistor) **98c:73034** 73D15 (73G05)

— (*with* Hayes, Michael A.) Wave propagation in sheared rubber. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 75–87. (Mohammad A. Dowaikh) **98e:73046** 73D15 (73C50, 73G05)

Boularan, Joël (*with* Ferré, Louis; Vieu, Philippe) Location of particular points in non-parametric regression analysis. (English summary) *Austral. J. Statist.* **37** (1995), *no.* 2, 161–168. (Michael B. Malyutov) **98f:62082** 62G05

Boulbibane, M. (*with* Weichert, D.) Application of shakedown theory to soils with nonassociated flow rules. *Mech. Res. Comm.* **24** (1997), *no.* 5, 513–519. 73Q05 (73E99)

Boulbrachene, Messaoud On the notion of approximate contraction mapping. Application to the finite element approximation of variational inequalities and quasi-variational inequalities with noncoercive operators. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 33–40, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 47H17 (47H09, 47H10, 47H19, 65K10)

Boulerice, Bernard (*with* Ducharme, Gilles R.) Smooth tests of goodness-of-fit for directional and axial data. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 154–175. (Michael James Prentice) **98f:62161** 62H11

Boulet, Benoit (*with* Francis, Bruce A.; Hughes, Peter C.; Hong, Tony) Daisy: a large flexible space structure testbed for advanced control experiments. *Trends in control (Rome, 1995)*, 115–139, *Springer, Berlin*, 1995. (From the introduction) **98c:93074** 93C85 (73K50)

Boulet, Pierre (*with* Darte, Alain; Silber, Georges-André; Vivien, Frédéric) Loop parallelization algorithms: from parallelism extraction to code generation. (English summary) *Parallel Comput.* **24** (1998), *no.* 3-4, 421–444. 68N20

Boulkhemair, A. Estimations L^2 précisées pour des intégrales oscillantes. [L^2-estimates for oscillating integrals] *Comm. Partial Differential Equations* **22** (1997), *no.* 1-2, 165–184. (From the introduction) **98m:42014** 42B10 (35S30, 47G30)

— Remarks on a Wiener type pseudodifferential algebra and Fourier integral operators. *Math. Res. Lett.* **4** (1997), *no.* 1, 53–67. (Josefina Alvarez) **98f:47057** 47G30 (35S05, 35S30)

Boullion, T. L. (*with* Odell, P. L.) Simultaneous diagonalization of rectangular matrices. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 93–96. (Summary) **98b:65030** 65F05 (15A21)

Boulmezaoud, Tahar Zamène Sur les champs de Beltrami linéaires dans des domaines tridimensionnels. (English and French summaries) [On the linear Beltrami fields in three-dimensional domains] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1235–1240. (Manuel Núñez Jiménez) **98m:76155** 76W05

Boumahdi, Rachid (*with* Thomas, Alban) Estimation des modèles de données de panel avec régresseurs temporels. (English and French summaries) [Estimation of panel data models with time-varying regressors] *Ann. Économ. Statist.* **1997**, *no.* 46, 23–48. 62P20 (62J05)

Boumenir, A. (*with* Chanane, Bilal) Eigenvalues of S-L systems using sampling theory. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 323–334. 65L15 (34L15)

— On the growth of the spectral measure. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 475–482. (M. M. Malamud) **98d:47011** 47A10 (34L05, 47B25, 47E05)

Bounabat, A. (*with* Gauthier, J. P.; Xu, Cheng-Zhong) An observer for infinite-dimensional skew-adjoint bilinear systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 31–50. (Henk Nijmeijer) **98k:93019** 93B07 (93B50, 93C25)

Bounds, S. (*with* Davey, Keith) A preconditioning strategy for the solution of linear boundary element systems using the GMRES method. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 443–456. (Summary) **98c:65045** 65F10 (65N38)

Bounias, M. (*with* Bonaly, A.) Some theorems on the empty set as necessary and sufficient for the primary topological axioms of physical existence. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 4, 633–643. (Frank Antonsen) **98k:81017** 81P10 (03A05, 03E70)

— Definition and some properties of set-differences, instans and their momentum, in the search for probationary mathematical spaces. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 2, 139–145. 04A03 (54E99, 54H25)

— (*with* Sharma, Birendra Kumar; Sahu, D. R.; Bonaly, A.) Fixed points for non-surjective expansion mappings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 277–288. (Summary) **98m:54049** 54H25 (54E40)

Bounit, H. (*with* Hammouri, H.) Stabilization of infinite-dimensional semilinear systems with dissipative drift. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 225–242. (Hong Xing Zhou) **98k:93093** 93D15 (47N70, 93C25)

Bountis, Tassos C. (*with* Vrahatis, M. N.; Kollmann, Michael) Periodic orbits and invariant surfaces of 4D nonlinear mappings. (English summary) *Internat. J. Bifur.*

Chaos Appl. Sci. Engrg. **6** (1996), *no.* 8, 1425–1437. (Summary) **98f:58158** 58F20
— (*with* Rothos, Vassilios M.) Melʹnikov analysis of phase space transport in a N-degree-of-freedom Hamiltonian system. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1365–1374. (*see* **98i:00029**) 70H05 (34C99, 58F05)
— (*with* Rothos, Vassilios M.) The dynamics of coupled perturbed discretized NLS equations. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 326–330. (*see* **98k:00013**) 35Q55 (39A12, 65M99)
Bourbaki, Nicolas *see* **Senechal, Marjorie**; **Krickeberg, Klaus** *and* **Pekonen, Osmo**, (**98d:00001**)
Bourceanu, G. (*with* Hokkanen, Veli-Matti; Moroşanu, Gheorghe; Joulain, P.; Locquet, V.) An application of the Fourier method in acoustics. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 69–77. (Summary) **98d:76150** 76Q05 (35Q35)
Bourdeau, Michel La théorie intuitionniste des types: sémantique des preuves et théorie des constructions. (English summary) [Intuitionistic type theory: semantics of proofs and theory of constructions] *Dialogue* **36** (1997), *no.* 2, 323–339. (Douglas S. Bridges) **98d:03061** 03F50 (03B15, 03F03, 03F55)
Bourdon, Marc Sur la dimension de Hausdorff de l'ensemble limite d'une famille de sous-groupes convexes co-compacts. (English and French summaries) [On the Hausdorff dimension of the limit set of a family of convex cocompact subgroups] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1097–1100. (Summary) **98m:57046** 57S25
— Immeubles hyperboliques, dimension conforme et rigidité de Mostow. (English and French summaries) [Hyperbolic buildings, conformal dimension and Mostow rigidity] *Geom. Funct. Anal.* **7** (1997), *no.* 2, 245–268. (Michel Coornaert) **98c:20056** 20E42 (20F32, 51E24, 57M50)
Bourdon, Paul S. (*with* Ansari, Shamim I.) Some properties of cyclic operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 195–207. (Warren R. Wogen) **98e:47009** 47A15 (47B38)
— Orbits of hyponormal operators. *Michigan Math. J.* **44** (1997), *no.* 2, 345–353. (Warren R. Wogen) **98e:47037** 47B20 (47A15)
— (*with* Shapiro, Joel H.) Riesz composition operators. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 231–246. (Wayne Stewart Smith) **98j:47068** 47B38 (47B06)
— Rudin's orthogonality problem and the Nevanlinna counting function. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 4, 1187–1192. (Summary) **98b:30034** 30D50
— Convergence of the Koenigs sequence. (English summary) *Studies on composition operators (Laramie, WY, 1996)*, 1–10, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:30040** 30D05 (47B38)
de la Bourdonnaye, Armel *see* **de La Bourdonnaye, Armel**
Bourely, Christophe (*with* Défourneaux, Gilles; Peltier, Nicolas) Building proofs or counterexamples by analogy in a resolution framework. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 34–49, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T15 (68T30)
— (*with* Défourneaux, Gilles; Peltier, Nicolas) Semantic generalizations for proving and disproving conjectures by analogy. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 27–45. (Summary) **98m:68249** 68T27 (68T15)
Bourgain, Jean Quasi-periodic solutions of Hamiltonian evolution equations. *Stochastic processes and functional analysis (Riverside, CA, 1994)*, 17–38, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Spyridon Kamvissis) **98b:58145** 58F27 (34C27, 34G20, 35Bxx, 35Q58)
— (*with* Kalai, Gil) Influences of variables and threshold intervals under group symmetries. *Geom. Funct. Anal.* **7** (1997), *no.* 3, 438–461. (Wolfgang Lusky) **98j:20005** 20B35 (05C80, 20B15)
— On the compactness of the support of solutions of dispersive equations. *Internat. Math. Res. Notices* **1997**, *no.* 9, 437–447. (Spyridon Kamvissis) **98a:35113** 35Q53
— On growth in time of Sobolev norms of smooth solutions of nonlinear Schrödinger equations in $\mathbf{R}^D$. (English summary) *J. Anal. Math.* **72** (1997), 299–310. (Masato Hisakado) **98j:35163** 35Q55 (35B05)
— Invariant measures for the Gross-Piatevskii equation. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 8, 649–702. (Peter E. Zhidkov) **98h:58102** 58F11 (35Q55, 58F39)
— On Melnikov's persistency problem. *Math. Res. Lett.* **4** (1997), *no.* 4, 445–458. (C. Eugene Wayne) **98h:58166** 58F27 (34C27, 58F05, 70H15)
— (*with* Golse, François; Wennberg, Bernt) On the distribution of free path lengths for the periodic Lorentz gas. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 491–508. (Nikolai Chernov) **98k:82146** 82C40 (58F40)
Bourgat, Jean-François (*with* Le Tallec, Patrick; Tidriri, Moulay D.) Coupling Boltzmann and Navier-Stokes equations by friction. (English summary) *J. Comput. Phys.* **127** (1996), *no.* 2, 227–245. 76M25 (76D05, 76P05)
Bourgault, Y. (*with* Habashi, Wagdi G.; Fortin, Michel; Dompierre, J.; Vallet, M.-G.) Anisotropic mesh adaptation: a step towards a mesh-independent and user-independent CFD. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 99–117, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98k:65055** 65M50 (76M25)
Bourgeat, Alain (*with* Marušić-Paloka, Eduard; Mikelić, Andro) Weak nonlinear corrections for Darcy's law. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 8, 1143–1155. (José Luiz Boldrini) **98c:35126** 35Q30 (35C20, 76S05)
— Two-phase flow. *Homogenization and porous media*, 95–127, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76T05 (76S05)
— (*with* Badea, A.) Numerical simulations by homogenization of two-phase flow through randomly heterogeneous porous media. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 13–24, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98i:76082** 76S05 (65U05, 73B27, 76M35, 76T05)
— (*with* Pankratov, L. S.) Homogenization of semilinear parabolic equations in domains with spherical traps. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 303–317. (Summary) **98b:35017** 35B27 (35K60, 73B27)
— (*with* Bravo Castillero, Julián; Otero, J. A.; Ramos, R. R.) Asymptotic homogenization of laminated piezocomposite materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 5-6, 527–541. (Summary) **98j:73074** 73R05 (73B27, 73K20)
Bourgeon, Jean-Marc (*with* Bontems, Philippe) Régulation par la production ou par l'intrant en présence d'incertitude. (English and French summaries) [Input versus output regulatory incentive schemes under uncertainty] *Ann. Économ. Statist.* **1996**, *no.* 43, 181–193. 90A11 (90A70)
Bourgne, Robert *see* **Galois, Évariste**, **98g:01073**
Bourguiba, Dorra (*with* Zarati, Said) Depth and the Steenrod algebra. With an appendix by J. Lannes. *Invent. Math.* **128** (1997), *no.* 3, 589–602. (Frank D. Grosshans) **98h:13005** 13A50 (55S10)
Bourguignon, Jean-Pierre An introduction to geometric variational problems. (English summary) *Lectures on geometric variational problems (Sendai, 1993)*, 1–41, *Springer, Tokyo*, 1996. (Liviu I. Nicolaescu) **98i:58058** 58Exx (53C07, 58E11, 58E20)
— Eugenio Calabi and Kähler metrics. *Manifolds and geometry (Pisa, 1993)*, 61–85, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (Henrik Pedersen) **98d:53096** 53C55 (01A60, 32C17, 32L07, 53–03, 53C25)
— The geometry of Killing spinors. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo (2) Suppl. No.* 49 (1997), 51–60. (Hans-Bert Rademacher) **98k:53056** 53C25 (58G25)
Bourjolly, Jean-Marie (*with* Laporte, Gilbert; Mercure, Hélène) A combinatorial column generation algorithm for the maximum stable set problem. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 1, 21–29. (Horst W. Hamacher) **98a:90082** 90C27 (05C85, 90C35)
Bourlès, Henri Correction to: "Local l_p-stability and local small gain theorem for discrete-time systems" [IEEE Trans. Automat. Control **41** (1996), no. 6, 903–907; MR 96m:93092]. *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 437–438. 93D05 (93C55)
Bourn, D. (*with* Janelidze, George) Protomodularity, descent, and semidirect products. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 2, 37–46 (*electronic*). (Summary) **98m:18006** 18G50 (18C10, 20J05)
Bournez, Olivier (*with* Cosnard, Michel) On the computational power of dynamical systems and hybrid systems. (English summary) Universal machines and computations (Paris, 1995). *Theoret. Comput. Sci.* **168** (1996), *no.* 2, 417–459. (Summary) **98j:68022** 68Q05 (58F08, 68Q68)
Bourquin, Daniel Les catégories syntaxico-sémantiques: petite histoire d'un grand problème. [Syntactico-semantical categories: brief history of a large problem] *Analyse catégorielle et logique*, 1–34, *Travaux Log.*, 10, *Univ. Neuchâtel, Neuchâtel*, 1996. (Roman Murawski) **98i:03036** 03B65 (01A60, 03–03)
Bouscaren, Elisabeth An introduction to independence and local modularity. *Algebraic model theory (Toronto, ON, 1996)*, 1–24, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Introduction) **98g:03087** 03C45 (03–02)
Bousdira, Wadoud (*with* Andrianarivelo, Nirina; Talbot, Jean-Marc) On theorem-proving in Horn theories with built-in algebras. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 320–338, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98i:68245** 68T15 (03B35)
Bousfield, A. K. Unstable localization and periodicity. *Algebraic topology: new trends in localization and periodicity (Sant Feliu de Guixols, 1994)*, 33–50, *Progr. Math.*, 136, *Birkhäuser, Basel*, 1996. (N. J. Kuhn) **98c:55014** 55P60 (55Q05)
— On λ-rings and the K-theory of infinite loop spaces. (English summary) *K-Theory* **10** (1996), *no.* 1, 1–30. (Robert D. Thompson) **98a:55006** 55N15 (19L20, 55P47, 55S25)
— Homotopical localizations of spaces. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1321–1354. (Dirk Scevenels) **98m:55009** 55P60
Bousquet-Mélou, Mireille (*with* Guttmann, Anthony J.) Enumeration of three-dimensional convex polygons. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 27–53. (Darko Veljan) **98j:05004** 05A15 (05C30, 52B55)
— (*with* Guttmann, Anthony J.) Three-dimensional self-avoiding convex polygons. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, R6323–R6326. (E. J. Janse van Rensburg) **98k:82071** 82B41 (05A15)
— New enumerative results on two-dimensional directed animals. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 73–106. (David G. Wagner) **98m:05004** 05A15 (82B41)
— *see also* **Combinatorics and physics**, **98h:00025**
Boussaf, Kamal Décomposition de Motzkin dans une algèbre d'éléments analytiques. (French summary) [Motzkin decomposition in an algebra of analytic elements] *Séminaire d'Analyse, 1993–1994 (Aubière), Exp. No.* 20, 24 *pp., Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II), Clermont-Ferrand*, 1996. (Alain Escassut) **98f:12008** 12J25 (46J99, 46S10)
— (*with* Escassut, Alain) Closed homomorphisms of algebras of analytic elements. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 39–47, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Summary) **98e:46092** 46S10 (46J15)
Boussari, A. (*with* Saramito, B.; Maschke, E.; Berroukeche, M.; Pineau, E.) Problems of MHD stability in thermonuclear fusion plasmas. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3605–3616. (*see* **98h:00034**) 76W05 (76E25, 82D10)
Boussel, Katy Opérateurs hypergéométriques réductibles: décompositions et groupes de Galois différentiels. (English and French summaries) [Reducible hypergeometric operators: decompositions and differential Galois groups] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 2, 299–362. (Daniel Bertrand) **98b:12004** 12H05 (33C20)
Boussios, C. (*with* Feron, Eric) Estimating the conservatism of Popov's criterion for real parametric uncertainties. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 173–183. (Summary) **98g:93031** 93D09 (93D10)
Bousso, Raphael (*with* Hawking, Stephen W.) Pair creation and evolution of black holes in inflation. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 261–264. (Markku Lehto) **98a:83073** 83C57 (83F05)
— (*with* Hawking, Stephen W.) Black holes in inflation. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 201–205. (Summary) **98g:83055** 83C57 (83F05)
— Charged Nariai black holes with a dilaton. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3614–3621. (Summary) **98a:83074** 83C57
Boutabaa, Abdelbaki Décomposition de fonctions méromorphes p-adiques. [Decomposition of p-adic meromorphic functions] *Séminaire d'Analyse, 1993–1994 (Aubière), Exp.*

No. 8, 11 pp., Sémin. Anal. Univ. Blaise Pascal (Clermont II), 9, Univ. Blaise Pascal (Clermont II), Clermont-Ferrand, 1996. (William A. Cherry) **98k:30051** 30D99 (30G06)

— On some p-adic functional equations. (English summary) *p-adic functional analysis (Nijmegen, 1996), 49–59, Lecture Notes in Pure and Appl. Math., 192, Dekker, New York*, 1997. (Alain Lasjaunias) **98g:12011** 12H25 (39B52)

— Les courbes méromorphes ultramétriques. [Ultrametric meromorphic curves] *Séminaire d'Analyse, 1994–1995 (Aubière)*, Exp. No. 17, 7 *pp., Sémin. Anal. Univ. Blaise Pascal (Clermont II), 10, Univ. Blaise Pascal (Clermont II), Clermont-Ferrand*, 1997. (From the text) **98d:32029** 32H30

— (*with* Escassut, Alain) Uniqueness of p-adic meromorphic functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 571–575. (Dinamérico P. Pombo, Jr.) **98m:30064** 30G06 (12J25, 30D35, 46S10)

Boutat, Moha Remarque sur l'unicité du cycle limite dans les déploiements génériques à 2 paramètres. (English and French summaries) [Remark on the uniqueness of the limit cycle in generic 2-parameter unfoldings] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 199–202. (Summary) **98c:34041** 34C05 (58F21)

Boutayeb, M. (*with* Rafaralahy, H.; Darouach, M.) Convergence analysis of the extended Kalman filter used as an observer for nonlinear deterministic discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 581–586. (Summary) **98b:93062** 93E11 (93C55)

Boutet de Monvel, A. *see* **Boutet de Monvel-Berthier, Anne-Marie**

Boutet de Monvel, Anne *see* **Boutet de Monvel-Berthier, Anne-Marie**

Boutet de Monvel, Louis Star products on conic Poisson manifolds of constant rank. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 143–151. (Mohsen Masmoudi) **98h:58070** 58F06

— Symplectic cones and Toeplitz operators. (English summary) *Multidimensional complex analysis and partial differential equations (São Carlos, 1995), 15–24, Contemp. Math., 205, Amer. Math. Soc., Providence, RI*, 1997. (Luigi Rodino) **98e:58162** 58G15 (35S30, 47B35, 47G30)

— (*with* Chueshov, I. D.; Rezunenko, A. V.) Long-time behaviour of strong solutions of retarded nonlinear P.D.E.s. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1453–1474. (Ludwik Byszewski) **98h:35229** 35R10 (35B40, 47H20, 58F39, 73K70)

Boutet de Monvel-Berthier, Anne-Marie (*with* Marchenko, Vladimir Aleksandrovich) Generalization of the Darboux transform. (English summary) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 479–504. (Piotr G. Grinevich) **98j:34163** 34L05 (34A25, 35Q99)

— (*with* Marchenko, A. V.; Pastur, Leonid Andreevich) The multistability in the stationary scattering problem for a nonlinear mean-field model. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 296–305. (Evgeni L. Korotyaev) **98m:35151** 35P25 (81U05)

— (*with* Khorunzhiĭ, A. M.; Vasilchuk, V.) Limiting eigenvalue distribution of random matrices with correlated entries. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 4, 607–636. (V. L. Girko) **98g:60060** 60F15 (62H99, 82B44)

— (*with* Albeverio, Sergio; Brzeźniak, Zdzisław) The trace formula for Schrödinger operators from infinite-dimensional oscillatory integrals. (English summary) *Math. Nachr.* **182** (1996), 21–65. (Xue-Ping Wang) **98f:81065** 81Q10 (35J10, 47F05)

— (*with* Marchenko, Vladimir Aleksandrovich) New inverse spectral problem and its application. *Inverse and algebraic quantum scattering theory (Lake Balaton, 1996), 1–12, Lecture Notes in Phys., 488, Springer, Berlin*, 1997. (*see* **98j:81005**) 34A55 (34L40, 35Q55, 35R30, 81U40)

— (*with* Shepel'skiĭ, D. G.) Inverse scattering approach for stratified chiral media. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996), 47–57, Lecture Notes in Phys., 486, Springer, Berlin*, 1997. (Summary) **98k:78030** 78A45 (34A55, 34L25)

— (*with* Marchenko, Vladimir Aleksandrovich) Asymptotic formulas for spectral and Weyl functions of Sturm-Liouville operators with smooth coefficients. (English summary) *New results in operator theory and its applications, 102–117, Oper. Theory Adv. Appl., 98, Birkhäuser, Basel*, 1997. (Alexander A. Kiselev) **98h:34144** 34L40 (34B20)

— (*with* Egorova, I. E.; Khruslov, Evgeniĭ Yakovlevich) Soliton asymptotics of the Cauchy problem solution for the Toda lattice. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 223–237. (Elena Medina Reus) **98f:35141** 35Q58 (34L25, 39A12, 47B99)

— (*with* Shepel'skiĭ, D. G.) Direct and inverse scattering problem for a stratified nonreciprocal chiral medium. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 239–251. (Summary) **98c:78013** 78A40 (35Q60)

— (*with* Marchenko, Vladimir Aleksandrovich) The Cauchy problem for nonlinear Schrödinger equation with bounded initial data. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 3–45. (Tohru Ozawa) **98k:35173** 35Q55 (34A55, 34L25)

— (*with* Anoshchenko, O. A.) The existence of the global generalized solution of the system of equations describing suspension motion. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 495–519. (Sergey L. Gavrilyuk) **98c:76107** 76T05 (35D05, 35Q35)

— (*with* Grinshpun, Vadim) Exponential localization for multi-dimensional Schrödinger operator with random point potential. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 425–451. (Alexei Khorunzhy) **98g:81029** 81Q10 (35J10, 35R60, 47B80, 47N50)

— (*with* Shepel'skiĭ, D. G.) Inverse scattering problem for a stratified bi-isotropic medium at oblique incidence. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 29–40. (Philip Huddleston) **98m:78023** 78A45 (34L25)

Boutilier, Craig (*with* Goldszmidt, Moisés) On the revision of conditional belief sets. (English summary) *Conditionals: from philosophy to computer science, 267–300, Stud. Logic Comput., 5, Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 68T27 (03B45)

— (*with* Goldszmidt, Moisés) The frame problem and Bayesian network action representations. (English summary) *Advances in artificial intelligence (Toronto, ON, 1996), 69–83, Lecture Notes in Comput. Sci., 1081, Springer, Berlin*, 1996. (*see* **98c:68004**) 68T20 (68T30)

— (*with* Bacchus, Fahiem; Grove, Adam J.) Structured solution methods for non-Markovian decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997), 112–117, AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C39

Boutillon, Emmanuel (*with* Giraud, Xavier; Belfiore, Jean Claude) Algebraic tools to build modulation schemes for fading channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 938–952. (Felix Taubin) **98i:94013** 94A40

Boutin, Samuel Using reflection to build efficient and certified decision procedures. (English summary) *Theoretical aspects of computer software (Sendai, 1997), 515–529, Lecture Notes in Comput. Sci., 1281, Springer, Berlin*, 1997. (*see* **98i:68019**) 68T15 (68Q60)

Boutreux, T. (*with* Raphaël, E.; de Gennes, P. G.) Propagation of a pressure step in a granular material: the role of wall friction. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part B*, 5759–5773. (Paul W. Cleary) **98k:76006** 76A99 (35Q99, 73B99, 73D99, 76D33)

Bouwkamp, C. J. (*with* Duijvestijn, A. J. W.) ★ Album of simple perfect squared squares of order 26. EUT Report-WSK, 94-02. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1994. xxiv+441 *pp.* 05B40

— ★ On Benjamin's pentomino cube. (English summary) EUT Report-WSK, 97-01. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1997. ii+21 *pp.* (Summary) **98m:00005** 00A08 (05B05)

— On step-2 transforms for simple perfect squared squares. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 243–252. (Summary) **98g:05038** 05B45

Bouwknegt, Peter (*with* Schoutens, Kareljan) The $SU(n)_1$ WZW models, spinon decomposition and Yangian structure. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 345–372. (Jun'ichi Shiraishi) **98e:81051** 81R10 (81T40)

— (*with* McCarthy, James G.; Pilch, Krzysztof) BV structure of the cohomology of nilpotent subalgebras and the geometry of ($\mathcal{W}$) strings. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 17–30. (Dražen Adamović) **98h:17024** 17B65 (81R10)

— (*with* McCarthy, James G.; van Nieuwenhuizen, Peter) Fusing the coordinates of quantum superspace. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 82–86. (Sergey Nikolaevich Roshchupkin) **98f:58022** 58B30 (58A50, 81R50)

Bouwmeester, Dik (*with* Pan, Jian-Wei; Weinfurter, Harald; Zeilinger, Anton) Experimental entanglement swapping: entangling photons that never interacted. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 18, 3891–3894. 81V80 (81P05)

Bouyekhf, R. (*with* El-Moudni, A.) On analysis of discrete singularly perturbed non-linear systems: application to the study of stability properties. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 2, 199–212. (G. A. Kurina) **98h:39001** 39A10 (34E15, 39A11)

Bouyssou, Denis Acyclic fuzzy preferences and the Orlovsky choice function: a note. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 1, 107–111. (Summary) **98b:90011** 90A08 (04A72)

Bouzakis, K. D. (*with* Natsiavas, S.; Aichouh, P.) Free vibration in a class of self-excited oscillators with 1:3 internal resonance. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 2, 109–128. (Summary) **98a:70022** 70K25 (34C15, 70K30)

Bouzette, Sabine (*with* Buekenhout, Francis; Dony, Edmond; Gottcheiner, Alain) A theory of nets for polyhedra and polytopes related to incidence geometries. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 115–136. (P. McMullen) **98a:52016** 52B11 (51M20)

Bouziad, Ahmed Préimages d'espaces héréditairement de Baire. (English summary) [Preimages of hereditarily Baire spaces] *Fund. Math.* **153** (1997), *no.* 2, 191–197. (Edward Azoff) **98h:54040** 54E52

— A quasi-closure preserving sum theorem about the Namioka property. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 163–170. (Vesko Valov) **98j:54016** 54C05 (54B10, 54D20, 54G12)

Bouziane, Zakaria (*with* Finkel, Alain) Cyclic Petri net reachability sets are semi-linear effectively constructible. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems (Bologna, 1997), 10 pp. (electronic), Electron. Notes Theor. Comput. Sci., 9, Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q90 (68Q60)

Bouziani, Abdelfatah Problème aux limites pour certaines équations de type non classique du troisième ordre. (English and French summaries) [A boundary value problem for certain nonclassical third-order equations] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **6** (1995), *no.* 7-12, 215–222. (Andreas Müller-Rettkowski) **98c:35023** 35D05 (35M99)

el Bouzid, H. *see* **El Bouzid, H.**

muñoz Bouzo, M. J. *see* **Muñoz Bouzo, M. J.**

Bovdi, A. A. On circle groups of nilpotent rings of characteristic 2. (English summary) *Period. Math. Hungar.* **32** (1996), *no.* 1-2, 31–34. (J. F. Watters) **98c:20034** 20D15 (16N20)

— (*with* Patay, Zoltán) On the central units of a modular group algebra. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 71–82. (Alexander Zimmermann) **98h:16048** 16U60 (20C07, 20F18, 20K12)

Bovdi, V. A. (*with* Parmenter, M. M.) Symmetric units in integral group rings. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 369–372. (Summary) **98c:16045** 16U60 (16S34)

— Structure of normal twisted group rings. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 279–293. (Donald S. Passman) **98j:16016** 16S35

— (*with* Borbély, Albert; Brindza, B.; Krausz, T.) Covering theorems for Artinian rings. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 323–329. 16P20

Bove, Antonio (*with* Tartakoff, David S.) Optimal non-isotropic Gevrey exponents for sums of squares of vector fields. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1263–1282. (Summary) **98f:35026** 35H05 (35A20)

— (*with* Bernardi, Enrico; Nishitani, Tatsuo) Well-posedness of the Cauchy problem for a class of hyperbolic operators with a stratified multiple variety: necessary conditions. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 1–34. (Valery Covachev) **98g:35135** 35L30 (35A30, 35C20)

Bovens, Luc Sequential counterfactuals, cotenability and temporal becoming. *Philos. Stud.* **90** (1998), *no.* 1, 79–101. 03B45

Bovet, Daniel Pierre *see* **Algorithms and complexity, 98h:68004**

Bovier, Anton (*with* Gayrard, Véronique) An almost sure large deviation principle for the Hopfield model. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1444–1475. (Summary) **98g:60055** 60F10 (82B44, 82C32)

— (*with* Gayrard, Véronique; Picco, Pierre) Distribution of overlap profiles in the one-dimensional Kac-Hopfield model. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 323–379. (Barbara Gentz) **98k:82089** 82B44 (60K35)

— (*with* Zahradník, Miloš) The low-temperature phase of Kac-Ising models. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 311–332. (Roberto Fernández) **98k:82030**

82B20 (82B26)
— (*with* Gayrard, Véronique) An almost sure central limit theorem for the Hopfield model. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 151–173. (Barbara Gentz) **98j:60044** 60F15 (60K35, 82B44, 82C32)
— (*with* Gayrard, Véronique) The retrieval phase of the Hopfield model: a rigorous analysis of the overlap distribution. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 1, 61–98. (Boguslaw Zegarlinski) **98b:82041** 82B44 (60K35, 82C32)
— *see also* **Mathematical aspects of spin glasses and neural networks, 98i:82002**
Bovik, Alan C. (*with* Acton, Scott T.) The impact of order statistics on signal processing. (English summary) *Statistical theory and applications*, 153–176, *Springer, New York*, 1996. (*see* **98b:62003**) 62G30 (68U10, 94A12)
Bowcock, P. (*with* Taormina, A.) Representation theory of the affine Lie superalgebra $\hat{sl}(2/1;\mathbf{C})$ at fractional level. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 467–493. (Hedi Benamor) **98i:17008** 17B10 (81R10, 81T30)
Bowden, G. J. (*with* Heseltine, T.) Some analytical results for *ABC*, *ABCD*, and *XBCD* coupled spin 1/2 systems. I. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 353–364. (A. Ventura) **98b:81289** 81V70 (82C23)
— (*with* Heseltine, T.; Prandolini, M. J.) Some analytical results for *ABC*, *ABCD*, and *XBCD* coupled spin 1/2 systems. II. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 365–374. (A. Ventura) **98b:81290** 81V70 (82C23)
— (*with* Heseltine, T.; Prandolini, M. J.) Some analytical results for spin 1/2 spin systems. III. The benzene ring. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 285–299 (1997). (A. Ventura) **98g:81225** 81V55 (81V70)
Bowes, D. (*with* Hannabuss, Keith) Weyl quantization and star products. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 319–348. (Mohsen Masmoudi) **98d:58073** 58F06
Bowick, Mark J. (*with* Golinelli, O.; Guitter, E.; Mori, Shintaro) Geometrical folding transitions of the triangular lattice in the face-centred cubic lattice. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 3, 583–607. (Summary) **98g:82023** 82B99 (82B20, 82B26)
— (*with* John, Varghese; Thorleifsson, Gudmar) The Hausdorff dimension of surfaces in two-dimensional quantum gravity coupled to Ising minimal matter. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 197–202. (Summary) **98f:81296** 81T40 (81T30, 83C99)
Bowler, J. R. (*with* Harfield, N.) A geometrical theory for eddy-current non-destructive evaluation. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1121–1152. (Summary) **98e:78008** 78A55 (78A45)
Bowling, S. (*with* Duncan, John) First order cohomology of Banach semigroup algebras. *Semigroup Forum* **56** (1998), *no.* 1, 130–145. (B. E. Johnson) **98m:46092** 46M20 (20M50, 46H25)
Bowman, Harold (*with* Lu, Hong Wen; Shiue, Peter Jau-Shyong) On a Diophantine equation related to symmetric design. *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 133–139. (E. F. Assmus, Jr.) **98h:05050** 05B30 (11D09)
— (*with* Golberg, M. A.; Chen, Ching Shyang; Power, H.) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 141–148. (Summary) **98m:65209** 65N38 (73V10)
Bowman, John C. (*with* Krommes, John A.) The realizable Markovian closure and realizable test-field model. II. Application to anisotropic drift-wave dynamics. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3895–3909. (Summary) **98h:76054** 76F05 (76M35)
Bowman, K. *see* **Bowman, Kevin**
Bowman, K. O. (*with* Shenton, L. R.) Replenishment-depletion urn in equilibrium. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 749–760. 60C05
— (*with* Shenton, L. R.; Gailey, Paul C.) Distribution of the ratio of gamma variates. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 1–19. 62E15
Bowman, Kevin (*with* Towers, D. A.) On power associative Bernstein algebras of arbitrary order. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 3, 295–322. (Sebastian Walcher) **98a:17059** 17D92 (17A05)
— (*with* Varea, V. R.) Modularity* in Lie algebras. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 99–110. (Mohammad Hailat) **98a:17006** 17B01
Bowtell, Phil (*with* Morton, Richard; Patefield, Mike) Estimating equations and non-linear functional relationships. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 149–167. (Summary) **98i:62017** 62F10
Box, George (*with* Luceño, Alberto) ★ Statistical control. (English summary) By monitoring and feedback adjustment. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xvi+327 *pp. ISBN* 0-471-19046-2 (Katsuji Uosaki) **98k:93111** 93E10 (62N10, 93B52, 93E20)
Boxall, John Une propriété des hauteurs locales de Néron-Tate sur les variétés abéliennes. [A property of Néron-Tate local heights on abelian varieties] Les Dix-huitièmes Journées Arithmétiques (Bordeaux, 1993). *J. Théor. Nombres Bordeaux* **7** (1995), *no.* 1, 111–119. (Gregory S. Call) **98c:11055** 11G10 (14K15)
Boxma, Onno J. Polling systems. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 215–230, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 60K25 (90B22)
— (*with* Lotov, V. I.) On a class of one-dimensional random walks. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 2, 349–362. (Haya Kaspi) **98a:60100** 60J15 (60K25)
— (*with* Yechiali, Uri) An $M/G/1$ queue with multiple types of feedback and gated vacations. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 773–784. (Summary) **98c:60116** 60K25
— (*with* Boucherie, Richard J.; Sigman, Karl) A note on negative customers, $GI/G/1$ workload, and risk processes. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 305–311. (Summary) **98f:60181** 60K25
Boya, Luis J. Analytical properties of unimodal scattering. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 216–219, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81U05
— (*with* Segui-Santonja, Antonio J.) Topological charges and the genus of surfaces. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 76–82. (Ian A. B. Strachan) **98g:32030** 32G15 (53A05, 58F07)
Boyaci, H. (*with* Pakdemirli, Mehmet) A comparison of different versions of the method of multiple scales for partial differential equations. (English summary) *J. Sound Vibration* **204** (1997), *no.* 4, 595–607. (George Rowlands) **98h:73056** 73K12 (35C99)
Boyadzhiev, L. I. (*with* Kalla, Shyam L.; Khajah, H. G.) Analytical and numerical treatment of a fractional integro-differential equation of Volterra-type. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 1–9. (Summary) **98g:45008** 45J05 (45L05, 65R20)
Boyanov, Borislav D. Total positivity of the spline kernel and its applications. (English summary) *Total positivity and its applications (Jaca, 1994)*, 3–34, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Walter Schempp) **98a:41014** 41A15 (41–02)
— Turán's inequalities for trigonometric polynomials. (English summary) *J. London Math. Soc.* (2) **53** (1996), *no.* 3, 539–550. (Summary) **98e:42002** 42A05
— Gaussian quadrature formulae for Tchebycheff systems. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 71–88. (I. P. Mysovskikh) **98c:41043** 41A55 (41A50)
— (*with* Petrova, Guergana) On minimal cubature formulae for product weight functions. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 113–121. (Summary) **98m:65032** 65D32 (41A55)
Boyanov, T. P. On the modulus of continuity of functions defined on the snowflake von Koch's curve. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 3, 5–8. 28A80 (26A30)
Boyar, Joan (*with* Fagerberg, Rolf; Larsen, Kim S.) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 270–281, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05 (68Q10)
Boyarchenko, S. I. (*with* Levendorskiĭ, S. Z.) Precise spectral asymptotics for perturbed magnetic Schrödinger operator. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 211–236. (Timo Weidl) **98d:35170** 35P20 (35J10, 47F05, 47N50, 81Q10)
— (*with* Levendorskiĭ, S. Z.) Spectral asymptotics with a remainder estimate of the Neumann Laplacian on horns: the case of the rapidly growing counting function. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 11–22. (Summary) **98m:35148** 35P20 (35J25, 58G18)
Boyars'kiĭ, O. M. (*with* Skrypnik, T.) Singular orbits of an adjoint representation of the Lie groups $SO(n)$. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 3(309), 181–182; *translation in Russian Math. Surveys* **51** (1996), *no.* 3, 541–542. (H. de Vries) **98c:22013** 22E46
— (*with* Skrypnik, T.) Degenerate orbits of the adjoint representation of orthogonal and unitary groups as algebraic submanifolds. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 7, 895–905; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1003–1015 (1998). (Summary) **98k:22078** 22E60
Boyarsky, A. *see* **Boyarsky, Abraham**
Boyarsky, A. M. (*with* Altshuler, B. L.; Neronov, A. Yu.) The problem of classical limit in quantum cosmology: the effective action language. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 869–884. (Michael B. Mensky) **98i:83028** 83C45 (81S40)
— (*with* Berezin, V. A.; Neronov, A. Yu.) Quantum geometrodynamics for black holes and wormholes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1118–1128. (Gil De Oliveira-Neto) **98m:83028** 83C45 (83C57, 83E05)
Boyarsky, Abraham (*with* Góra, Paweł; Lou, Y. S.) Lyapunov exponents for higher-dimensional random maps. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 209–218. (Volker Matthias Gundlach) **98h:58103** 58F11 (28D20)
— (*with* Góra, Paweł) A lattice spacetime for the slit experiments of quantum mechanics. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 263–269. (Summary) **98j:81034** 81P15
— (*with* Góra, Paweł) A new approach to controlling chaotic systems. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 1–15. (Remo Badii) **98i:58157** 58F13 (58F11)
Boyce, Jack (*with* Chiao, Raymond Y.; Garrison, John C.) Superluminal (but causal) effects in quantum physics. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 400–416, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P05
Boyce, William Comment on a formula for the gravitational harmonic coefficients of a triaxial ellipsoid. *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 2, 107–110. 70F15 (33C90)
Boyd, David W. The beta expansion for Salem numbers. *Organic mathematics (Burnaby, BC, 1995)*, 117–131, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Christopher Smyth) **98k:11146** 11R06 (11K16)
— On a problem of Byrnes concerning polynomials with restricted coefficients. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1697–1703. (Maurice Mignotte) **98a:11033** 11C08 (11Y99, 12D10, 94A99)
— (*with* Beaucoup, Franck; Borwein, P. B.; Pinner, Christopher G.) Power series with restricted coefficients and a root on a given ray. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 715–736. (Vanja Hadzijski) **98k:30006** 30C15 (30B10)
Boyd, J. E. (*with* Sworder, D. D.) Hybrid estimation algorithms. II. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 1–21. (Keigo Watanabe) **98d:93088** 93E10 (93B40)
Boyd, J. N. (*with* Raychowdhury, P. N.) A derivation in statistical mechanics with convex coordinates: a new technique. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 903–908. 82B03
Boyd, John Philip Construction of Lighthill's unitary functions: the imbricate series of unity. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 1, 1–10. (Summary) **98g:42013** 42A38
— Corrigendum: "Traps and snares in eigenvalue calculations with application to pseudospectral computations of ocean tides in a basin bounded by meridians" [J. Comput. Phys. **126** (1996), no. 1, 11–20; MR 97b:86001]. *J. Comput. Phys.* **136** (1997), *no.* 1, 227–228. 86A05 (86–08)
— Pseudospectral/Delves-Freeman computations of the radiation coefficient for weakly nonlocal solitary waves of the third-order nonlinear Schroedinger equation and their relation to hyperasymptotic perturbation theory. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 665–694. (Summary) **98j:78002** 78–08 (76B25, 78A60)
— (*with* Tan, Ben Kui) Dynamics of the Flierl-Petviashvili monopoles in a barotropic model with topographic forcing. (English summary) *Wave Motion* **26** (1997), *no.* 3, 239–251. (Summary) **98h:86005** 86A10 (85A30)
— Two comments on filtering (artificial viscosity) for Chebyshev and Legendre spectral and spectral element methods: preserving boundary conditions and interpretation of the filter as a diffusion. *J. Comput. Phys.* **143** (1998), *no.* 1, 283–288. 65D20 (65M70)

— (*with* Tan, Ben Kui) Davydov soliton collisions. (English summary) *Phys. Lett. A* **240** (1998), *no.* 6, 282–286. 81V55 (35Q55)
— Radiative decay of weakly nonlocal solitary waves. (English summary) *Wave Motion* **27** (1998), *no.* 3, 211–221. (Summary) **98m:76024** 76B25
Boy de la Tour, Thierry (*with* Demri, Stéphane) On the complexity of extending ground resolution with symmetry rules. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 289–295, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T15 (03B35)
Boyé, Anne Sur l'*Essai d'une nouvelle théorie de la musique* de L. Euler. [On L. Euler's *Essay of a new theory of music*] *Musique et mathématiques*, 93–145, *Sci. Tech. Perspect.*, 23, *Univ. Nantes, Nantes*, 1993. (J. S. Joel) **98a:01012** 01A50 (00A69)
Boye, Johan (*with* Małuszyński, Jan) Directional types and the annotation method. (English summary) *J. Logic Programming* **33** (1997), *no.* 3, 179–220. (Summary) **98c:68034** 68N17 (68Q60)
Boyer, Charles P. (*with* Galicki, Krzysztof) The twistor space of a 3-Sasakian manifold. (English summary) *Internat. J. Math.* **8** (1997), *no.* 1, 31–60. (Henrik Pedersen) **98e:53072** 53C25 (32L25, 53C56)
Boyer, Elizabeth D. Rank and biclique partitions of the complement of paths. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 111–122. (N. J. Pullman) **98m:05108** 05C38
Boyer, Steven (*with* Zhang, Xing Ru) Cyclic surgery and boundary slopes. *Geometric topology* (*Athens, GA*, 1993), 62–79, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Kimihiko Motegi) **98i:57005** 57M25
Boykett, Tim Seminearrings of polynomials over semifields: a note on Blackett's Fredericton paper. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 225–236, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30
Boyle, L. L. (*with* Angelova, Maia N.) On the classification and enumeration of the irreducible co-representations of magnetic space groups. (English summary) *J. Phys. A* **29** (1996), *no.* 5, 993–1010. (Summary) **98b:82080** 82D25 (20C35, 81R05)
Boyle, Mike (*with* Handelman, David) Orbit equivalence, flow equivalence and ordered cohomology. (English summary) *Israel J. Math.* **95** (1996), 169–210. (A. I. Danilenko) **98a:46082** 46L55 (46L85, 54H20, 55M10)
— (*with* Fiebig, Doris; Fiebig, Ulf-Rainer) A dimension group for local homeomorphisms and endomorphisms of onesided shifts of finite type. (English summary) *J. Reine Angew. Math.* **487** (1997), 27–59. (François Blanchard) **98i:54020** 54H20 (58F03, 58F08, 68Q80)
Boyle, Phelim P. (*with* Yang, Hailiang) Asset allocation with time variation in expected returns. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 3, 201–218. (Summary) **98m:90015** 90A09
— (*with* Broadie, Mark; Glasserman, Paul) Monte Carlo methods for security pricing. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1267–1321. (*see* **98c:90003**) 90A12 (65C05)
Boys, R. J. (*with* Glazebrook, K. D.; McCrone, C. M.) A Bayesian model for the optimal ordering of a collection of screens. (English summary) *Biometrika* **83** (1996), *no.* 2, 472–476. (Summary) **98g:62139** 62K05 (62F15)
Bozanis, Panayiotis (*with* Kitsios, Nectarios; Makris, Christos; Tsakalidis, Athanasios) New upper bounds for generalized intersection searching problems. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 464–474, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68U05
Bozapalidis, Symeon Convex algebras, convex modules and formal power series on trees. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 3, 165–180. (Summary) **98c:68143** 68Q75 (68Q70)
Iouscou-Bozapalidou, Olympia *see* **Louscou-Bozapalidou, Olympia**
Bożejko, Marek (*with* Leinert, Michael; Speicher, Roland) Convolution and limit theorems for conditionally free random variables. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 357–388. (D. Petz) **98j:46069** 46L50 (46K99, 46N50, 81S25)
— (*with* Kümmerer, Burkhard; Speicher, Roland) q-Gaussian processes: non-commutative and classical aspects. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 129–154. (Philippe Biane) **98h:81053** 81S05 (46L50, 81S25)
Bozhkov, Yuri On a quasilinear system involving K-Hessian operators. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 403–426. (Katsuyuki Ishii) **98a:35016** 35F30 (35J60)
— A Liouville theorem for radial k-Hessian equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 253–263. (Achilles Tertikas) **98k:35048** 35J60 (35B05, 35B50)
Božić, Milan (*with* Prešić, Marica D.) Intensional semantics approach to locative qualifiers. Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 41–53. (*see* **98a:00010**) 03B65
Božikov, Zdravka On symmetric block designs for (115, 19, 3) with a Frobenius group $F_{19\cdot 3}$. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 29–35. (Summary) **98e:05011** 05B05
Božin, Vladimir (*with* Đurčić, Dragan) A proof of an Aljančić hypothesis on $\mathscr{O}$-regularly varying sequences. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **62(76)** (1997), 46–52. (E. Omey) **98k:26004** 26A12 (40A30, 40D99, 40E99)
Božinović, Milan (*with* Protić, Petar V.; Stevanović, Nebojša) The natural partial order on the Abel-Grassmann's groupoids. (English summary) *Filomat No.* 10 (1996), 107–116. (Jaroslav Ježek) **98c:20117** 20N02
Bozis, George (*with* Stavinschi, Magda) Compatible potentials and orbits in synodic systems. (English summary) *Celestial Mech. Dynam. Astronom.* **64** (1996), *no.* 4, 351–361. (Summary) **98a:70011** 70F15 (70D99)
— (*with* Borghero, Francesco) A new formulation of the two-dimensional inverse problem of dynamics. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 41–51. (Florin N. Diacu) **98m:70010** 70D99 (70F99)
Bozkurt, Durmuş On bounds of Cauchy-Toeplitz matrices. (English summary) *Siberian J. Differential Equations* **1** (1997), *no.* 3, 233–240. (Israel Koltracht) **98h:15043** 15A57
Bozorg, Mohammad (*with* Nebot, Eduardo M.) Comments on: "A note on two methods related to stability robustness of polynomials in a sector (relative stability)" [IEEE Trans. Automat. Control **38** (1993), no. 2, 380–383; MR 93j:93106] by A. Katbab and E. I. Jury. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 712–714. (Summary) **98d:93070** 93D09
Bozorgnia, Abolghassem A strong law for arrays of i.i.d. random elements in a separable balance space [Banach space]. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol.* 2 (*Kerman*, 1995), 53–57, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **98i:60005** 60B12
— (*with* Patterson, Ronald F.; Taylor, Robert Lee) Weak laws of large numbers for negatively dependent random variables in Banach spaces. *Research developments in probability and statistics*, 11–22, *VSP, Utrecht*, 1996. (Nickolai A. Denis'evskiĭ) **98k:60007** 60B12 (60F05)
— (*with* Patterson, Ronald F.; Taylor, Robert Lee) Chung type strong laws for arrays of random elements and bootstrapping. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 651–669. (Andrew Rosalsky) **98m:60042** 60F15 (60B11, 60E12)
Boztaş, Serdar (*with* Arikan, Erdal) Comments on: "An inequality on guessing and its application to sequential decoding" [IEEE Trans. Inform. Theory **42** (1996), no. 1, 99–105; MR 96k:94005] by E. Arikan. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2062–2063. (Summary) **98i:94007** 94A17
Bozzo, Enrico A note on matrix displacement representation. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 368–372. (M. M. Konstantinov) **98k:15017** 15A23 (15A33)
— Algebras in matrix spaces with displacement structure. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 23–41. (Walter S. Sizer) **98a:15033** 15A30 (65F10)
Braasch, Peter On stationary solutions of the relativistic Vlasov-Maxwell system. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 8, 667–677. (D. ter Haar) **98f:82128** 82D10 (35Q60, 76X05, 76Y05, 82C40)
Brace, Alan (*with* Musiela, Marek) Swap derivatives in a Gaussian HJM framework. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 336–368, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (49L25)
Brach, Raymond M. Formulation of rigid body impact problems using generalized coefficients. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 1, 61–71. (A. Sumbatov) **98m:70022** 70F35 (70E99)
Bracha, Czesław ★ Teoretyczne podstawy metody reprezentacyjnej. (Polish. Polish summary) [Theoretical foundations of the representative method] *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 284 *pp. ISBN* 83-01-12123-8 62D05
Brachet, M. E. (*with* Debbasch, Fabrice) Non-linear acoustics in Galilean and relativistic barotropic fluids. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 135–146. (Summary) **98j:76153** 76Y05 (76N10, 76Q05)
— (*with* Nore, C.; Abid, Malek) Decaying Kolmogorov turbulence in a model of superflow. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2644–2669. 76F05 (76M25)
— (*with* Abid, Malek) Direct numerical simulations of the Batchelor trailing vortex by a spectral method. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 469–475. 76M25 (76C05)
Brachetti, P. (*with* De Felice Ciccoli, M.; Di Pillo, G.; Lucidi, S.) A new version of the Price's algorithm for global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 165–184. (A. H. Žilinskas) **98a:90094** 90C30 (65K05)
Bracho, Felipe (*with* Droste, Manfred; Kuske, Dietrich) Representation of computations in concurrent automata by dependence orders. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 67–96. (Wiesław Zielonka) **98d:68066** 68Q10 (68Q55)
Bračič, Janko Hausdorff metric and iterated function systems. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 3, 79–88. 54E35 (54B20)
Brack-Bernsen, Lis In memoriam: Olaf Schmidt (1913–1996). *Historia Math.* **24** (1997), *no.* 2, 131–134. (Editors) **98b:01032** 01A70
— In memoriam: Olaf Schmidt [1913–1996]. (English summary) *Normat* **45** (1997), *no.* 2, 82–84, 96. 01A70
Bracken, Anthony J. (*with* Gould, Mark D.; Zhang, Yao-Zhong; Delius, Gustav W.) Infinite families of gauge-equivalent R-matrices and gradations of quantized affine algebras. (English summary) *Perspectives on solvable models*, 231–243, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 17B37 (17B67, 81R50)
— (*with* Clark, Iain J.) Bound states in tubular quantum waveguides with torsion. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4527–4535. (Arlen Anderson) **98a:81026** 81Q05
Bracken, Paul The quantum group $SU_q(2)$, quasitriangularity, and application to the q-rotator model. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 217–230. (Alexei Zhedanov) **98b:81093** 81R50 (17B37, 81-01, 81V55)
Brackin, Stephen H. Deciding cryptographic protocol adequacy with HOL. (English summary) *Higher order logic theorem proving and its applications* (*Aspen Grove, UT*, 1995), 90–105, *Lecture Notes in Comput. Sci.*, 971, *Springer, Berlin*, 1995. (Summary) **98j:94013** 94A60
Brackx, F. (*with* Constales, D.) ★ Computer algebra with LISP and REDUCE. (English summary) An introduction to computer-aided pure mathematics. Mathematics and its Applications, 72. *Kluwer Academic Publishers, Dordrecht*, 1991. xii+264 *pp. ISBN* 0-7923-1441-7 68Q40
Braddock, R. D. (*with* Sander, G. C.; Cunning, I. F.; Norbury, John; Weeks, S. W.) Source solutions for the nonlinear diffusion-convection equation. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 28–45. (Summary) **98g:35097** 35K55 (35Q35, 76Rxx)
Brădeanu, Radu Dual variational formulation for a Dirichlet-Neumann problem of heat transfer in plates. Approximation error of hypercircle type. *Mathematica* **39(62)** (1997), *no.* 1, 21–27. 35J20
Brădeanu, P. (*with* Boncuț, Mioara) Une formulation variationnelle duale pour un problème Dirichet-Neumann de conduction de la chaleur. [A dual variational formulation of a Dirichlet-Neumann problem of heat conduction] *Mathematica* **37(60)** (1995), *no.* 1-2, 29–40. 35J20 (35K05, 65N30)
Braden, Harry W. R-matrices and generalized inverses. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L485–L493. (Andrey V. Tsiganov) **98k:58104** 58F07 (81R50, 81U40)
— (*with* Sasaki, Ryu) The Ruijsenaars-Schneider model. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1003–1017. (Kazuhiro Hikami) **98g:81226** 81V70 (58F07)
Bradfield, Julian (*with* Esparza, Javier; Mader, Angelika) An effective tableau system for the linear time μ-calculus. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 98–109, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68164** 68Q60 (03B45)

— The modal mu-calculus alternation hierarchy is strict. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 233–246, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68175** 68Q60 (68Q10)
— On the expressivity of the modal mu-calculus. (English summary) *STACS 96 (Grenoble, 1996)*, 479–490, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68163** 68Q60 (03B70)
Bradford, Phillip G. (*with* Capoyleas, Vasilis) Weak ε-nets for points on a hypersphere. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 83–91. (Rade Živaljević) **98g:52024** 52B55 (68U05)
— (*with* Fleischer, Rudolf; Smid, Michiel) More efficient parallel totally monotone matrix searching. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 386–400. (Ming Kui Chen) **98g:65037** 65F30 (65Y05)
Bradley, David (*with* Borwein, Jonathan M.; Broadhurst, D. J.) Evaluations of k-fold Euler/Zagier sums: a compendium of results for arbitrary k. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 5, *approx.* 21 *pp.* (*electronic*). (Pavel Guerzhoy) **98b:11091** 11M41 (11Y60)
— (*with* Borwein, Jonathan M.) Empirically determined Apéry-like formulae for $\zeta(4n+3)$. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 181–194. (F. Beukers) **98m:11142** 11Y60 (11M06)
Bradley, M. E. (*with* Lenhart, Suzanne) Bilinear optimal control of a Kirchhoff plate to a desired profile. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 3, 217–226. (Guenter Leugering) **98i:49001** 49J20 (73K10, 73K50)
Bradley, Richard C. On quantiles and the central limit question for strongly mixing sequences. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 507–555. (Toshio Mori) **98h:60024** 60F05 (60G10)
— Every "lower psi-mixing" Markov chain is "interlaced rho-mixing". (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 221–239. (I. G. Zhurbenko) **98m:60053** 60G10 (60J10)
Bradley, Robert E. The uniqueness of induced operators. (English summary) *Convergence in ergodic theory and probability (Columbus, OH, 1993)*, 133–136, *Ohio State Univ. Math. Res. Inst. Publ., 5, de Gruyter, Berlin*, 1996. (Introduction) **98k:47014** 47A35 (47B65)
Bradley, W. F. (*with* Sukhov, Yu. M.) The entropy of famous reals: some empirical results. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 349–359. (Summary) **98m:94016** 94A17 (11Y60)
Bradlow, Steven B. *see* **Geometry, topology and physics, 98k:00014**
Bradu, Dan Identification of outliers by means of L_1 regression: safe and unsafe configurations. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 3, 271–281. (Summary) **98b:62119** 62J05 (62G05)
Brady, David (*with* Zhang, Xuming) Asymptotic multiuser efficiencies for decision-directed multiuser detectors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 502–515. 94A13
Brady, Martin (*with* Berger, Bonnie; Brown, Donna Jean; Leighton, Frank Thomson) Nearly optimal algorithms and bounds for multilayer channel routing. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 500–542. (Michitaka Kameyama) **98d:68107** 68Q35
— (*with* Brown, Donna Jean; Powers, K. D.) Hexagonal models for channel routing. (English summary) *Algorithmica* **19** (1997), *no.* 3, 263–290. (Summary) **98e:68120** 68Q35 (68M10)
Brady, Noel (*with* Bestvina, Mladen) Morse theory and finiteness properties of groups. (English summary) *Invent. Math.* **129** (1997), *no.* 3, 445–470. (John Meier) **98i:20039** 20F36 (20J05, 57M07)
Brady, Patrick R. Quantum effects near mass inflation singularities. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 59–63, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83067** 83C57 (81T20, 83C47)
Brady, Ross T. Simplified Gentzenizations for contraction-less logics. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 45–67. (Hiroakira Ono) **98m:03049** 03B46 (03B20, 03F05)
— Relevant implication and the case for a weaker logic. (English summary) *J. Philos. Logic* **25** (1996), *no.* 2, 151–183. (Otávio Bueno) **98g:03060** 03B46
— Simple Gentzenizations for the normal formulae of contraction-less logics. *J. Symbolic Logic* **61** (1996), *no.* 4, 1321–1346. (Hiroakira Ono) **98h:03031** 03B46 (03B20, 03F05)
Braess, Dietrich ★ Finite elements. (English summary) Theory, fast solvers, and applications in solid mechanics. Translated from the 1992 German original by Larry L. Schumaker. *Cambridge University Press, Cambridge*, 1997. xvi+323 *pp. ISBN* 0-521-58187-7; 0-521-58834-0 (L. Greenberg) **98f:65002** 65–02 (65–01, 65M60, 65N30, 73V05, 76M10)
Brafman, Ronen I. (*with* Shoham, Yoav) Knowledge considerations in robotics. (English summary) *Reasoning with uncertainty in robotics (Amsterdam, 1995)*, 248–262, *Lecture Notes in Comput. Sci.*, 1093, *Springer, Berlin*, 1996. (*see* **98c:68017**) 68T30
— (*with* Tennenholtz, Moshe) On partially controlled multi-agent systems. (English summary) *J. Artificial Intelligence Res.* **4** (1996), 477–507. (Summary) **98a:93071** 93E05 (68T05, 90D40)
— (*with* Tennenholtz, Moshe) On the axiomatization of qualitative decision criteria. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997)*, 76–81, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90A05
— (*with* Tennenholtz, Moshe) Modeling agents as qualitative decision makers. (English summary) *Artificial Intelligence* **94** (1997), *no.* 1-2, 217–268. (Summary) **98h:90005** 90A05 (68T30, 90D40)
— (*with* Halpern, Joseph Y.; Shoham, Yoav) On the knowledge requirements of tasks. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 317–349. (Summary) **98m:68248** 68T27
Braga, Nelson R. F. (*with* Barcelos-Neto, J.; de Souza, S. M.) Trace anomaly in the field-antifield formalism. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 1149–1153. (Summary) **98h:81112** 81T50 (81T16)
— (*with* Abreu, Everton M. C.) Superspace formulation for the BRST quantization of the chiral Schwinger model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 493–500. (Summary) **98k:81281** 81T70 (81T10)
— (*with* Amorim, Ricardo) Global anomalies in the Batalin-Vilkovisky quantization. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1225–1232. (Summary) **98k:81252** 81T50 (81T70)
monti Bragadin, G. *see* **Monti Bragadin, G.**
de Bragança Pereira, Carlos A. *see* **Pereira, Carlos Alberto de Bragança**
vázquez-Brage, M. *see* **Vázquez-Brage, M.**
Braham, Stephen P. Quantum black holes and hypertime. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 173–178, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Lukas Ziewer) **98g:83034** 83C45 (81T80, 81V17)
— *see also* **Conference: General Relativity and Relativistic Astrophysics, 98b:83001**
Brahe, Tycho *see* **Gingerich, Owen**
Brainov, Ilia Convergence of a Crank-Nicolson difference scheme for heat equations with interface in the heat flow and concentrated heat capacity. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 58–65, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M06 (65M12)
Braides, Andrea (*with* Ambrosio, Luigi) Energies in SBV and variational models in fracture mechanics. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 1–22, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Pablo Pedregal) **98g:73044** 73V25 (49J45, 73B27, 73C50, 73E99, 73M25)
— (*with* Defranceschi, Anneliese; Vitali, Enrico) Homogenization of free discontinuity problems. *Arch. Rational Mech. Anal.* **135** (1996), *no.* 4, 297–356. (Georg K. Dolzmann) **98j:73009** 73B27 (35B27, 49J45, 73M25, 73V25)
— (*with* Chiadò Piat, Valeria) Integral representation results for functionals defined on $SBV(\Omega;\mathbf{R}^m)$. (English summary) *J. Math. Pures Appl.* (9) **75** (1996), *no.* 6, 595–626. (Anna Salvadori) **98c:49079** 49Q20 (46E99, 73M25, 73V25)
— (*with* Defranceschi, Anneliese; Vitali, Enrico) A relaxation approach to Hencky's plasticity. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 1, 45–68. (Summary) **98h:73046** 73E99 (49J45, 73V25)
— (*with* Dal Maso, Gianni) Non-local approximation of the Mumford-Shah functional. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 293–322. (Sisto Baldo) **98c:49080** 49Q20 (49J45, 49M30)
Brailovsky, I. (*with* Kortsarts, Y.; Gutman, Semion; Sivashinsky, G. I.) On the stability of stretched flames. (English summary) *Combust. Theory Model.* **1** (1997), *no.* 2, 143–156. (Summary) **98b:80011** 80A25
Brailsford, Sally C. (*with* Smith, Barbara M.; Hubbard, Peter M.; Williams, H. Paul) The progressive party problem: integer linear programming and constraint programming compared. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 36–52, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 90C10 (68T20)
— (*with* Williams, H. Paul) Computational logic and integer programming. *Advances in linear and integer programming*, 249–281, *Oxford Lecture Ser. Math. Appl.*, 4, *Oxford Univ. Press, New York*, 1996. (*see* **98j:90002**) 90C10 (90C27)
— (*with* Smith, Barbara M.; Hubbard, Peter M.; Williams, H. Paul) The progressive party problem: integer linear programming and constraint programming compared. (English summary) *Constraints* **1** (1996), *no.* 1-2, 119–138. 68T20 (90C10, 90C27)
Brak, R. (*with* Bhatti, F. M.; Essam, J. W.; Lookman, T.) Series expansion analysis of the backbone properties of two-dimensional percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6215–6232. (Summary) **98k:82083** 82B43 (82–04, 82B27)
— (*with* Owczarek, A. L.; Rechnitzer, A.; Guttmann, Anthony J.) On the hulls of directed percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6679–6691. 82B43 (82–04, 82–08)
Brakke, Kenneth A. The surface evolver and the stability of liquid surfaces. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1715, 2143–2157. (Renato H. de L. Pedrosa) **98a:53009** 53A10 (49Q10, 76B45, 76E99, 76M30)
Bramaud du Boucheron-Mariaux, Bernadette Existence et domaine de sous-analyticité de la tranche d'une chaîne sous-analytique. (English and French summaries) [Existence and domain of subanalyticity of the slice of a subanalytic chain] *Bull. Sci. Math.* **121** (1997), *no.* 3, 183–194. (Z. Denkowska) **98h:32008** 32B20 (49Q15)
Brambila-Paz, L. (*with* Grzegorczyk, I.; Newstead, P. E.) Geography of Brill-Noether loci for small slopes. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 4, 645–669. (Tohru Nakashima) **98k:14011** 14D20 (14H60)
Brambilla, Angelo (*with* D'Amore, Dario) A control-based approach to the solution of nonlinear algebraic equations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 366–369. (Summary) **98a:65072** 65H10
Brambilla, N. (*with* Baker, Marshall; Ball, J. S.; Prosperi, G. M.; Zachariasen, F.) Erratum: "Confinement: understanding the relation between the Wilson loop and dual theories of long distance Yang-Mills theory" [Phys. Rev. D (3) **54** (1996), no. 4, 2829–2844; MR 97f:81172]. *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2475. 81V05 (81T13)
Bramble, James H. (*with* King, J. Thomas) A finite element method for interface problems in domains with smooth boundaries and interfaces. (English summary) *Adv. Comput. Math.* **6** (1996), *no.* 2, 109–138 (1997). (Robert Beauwens) **98e:65094** 65N30 (65F10)
— (*with* Pasciak, Joseph E.; Knyazev, Andrei Vladimirovich) A subspace preconditioning algorithm for eigenvector/eigenvalue computation. (English summary) *Adv. Comput. Math.* **6** (1996), *no.* 2, 159–189 (1997). (E. G. D'yakonov) **98c:65057** 65F15 (65N99)
— (*with* Pasciak, Joseph E.) Least-squares methods for Stokes equations based on a discrete minus one inner product. (English summary) TICAM Symposium (Austin, TX, 1995). *J. Comput. Appl. Math.* **74** (1996), *no.* 1-2, 155–173. (Max D. Gunzburger) **98h:73080** 73V20 (65F10, 65N30, 73C02, 76M25)
— (*with* Pasciak, Joseph E.) Iterative techniques for time dependent Stokes problems. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 13–30. (M. M. Sussman) **98e:65091** 65N22 (65M60, 76D07, 76M10)
— (*with* Pasciak, Joseph E.; Vassilev, Apostol T.) Analysis of the inexact Uzawa algorithm for saddle point problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1072–1092. (Shuzi Zhou) **98c:65182** 65N30 (65F10, 73V05, 76M10, 90C30)
— (*with* Pasciak, Joseph E.; Vassilev, Apostol T.) Analysis of non-overlapping domain decomposition algorithms with inexact solves. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 1–19. (Jan Mandel) **98k:65065** 65N30 (65F10)
Bramel, Julien (*with* Simchi-Levi, David) ★ The logic of logistics. (English summary) Theory, algorithms, and applications for logistics management. Springer Series in Operations Research. *Springer-Verlag, New York*, 1997. xiv+281 *pp. ISBN* 0-387-94921-6 (Gerard Sierksma) **98i:90002** 90–02 (68Q25, 90B06, 90C27)

Bramley, R. (*with* Winnicka, B.) Solving linear inequalities in a least squares sense. (English summary) Special issue on iterative methods in numerical linear algebra (Breckenridge, CO, 1994). *SIAM J. Sci. Comput.* **17** (1996), *no.* 1, 275–286. (Summary) **98c:65097** 65K05 (65F30)

Brams, Steven J. (*with* Kilgour, D. Marc) The truel. *Math. Mag.* **70** (1997), *no.* 5, 315–326. (G. A. Heuer) **98k:90145** 90D06 (00A08, 00A69)

Bramson, Maury (*with* Cox, J. T.; Greven, Andreas) Invariant measures of critical spatial branching processes in high dimensions. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 56–70. (Luis G. Gorostiza) **98a:60148** 60K35 (60J80)

cordero-Braña, Olga I. *see* **Cordero-Braña, Olga I.**

franco Brañas, J. R. *see* **Franco Brañas, J. R.**

Branca, S. (*with* Boschi, D.; De Martini, F.; Hardy, Lucien) Ladder proof of nonlocality without inequalities: theoretical and experimental results. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 15, 2755–2758. 81P05

Branco, Fernando Sequential auctions with synergies: an example. (English summary) *Econom. Lett.* **54** (1997), *no.* 2, 159–163. 90A60

Brand, A. (*with* Wolf, Thomas Otto) Examples of the investigation of differential equations with modularized programs. Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 133–139. (*see* **98b:35006**) 35–04 (34A25, 35A30)

Brand, Helmut R. (*with* Deissler, Robert J.) Pattern formation near an oscillatory instability for systems without "up-down" symmetry. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 179–184. 58F40 (58F13)

Brand, Neal (*with* Tejada, Débora Maria) Construction of universal branched coverings. (English summary) *Topology Appl.* **76** (1997), *no.* 1, 79–93. (Christine Lescop) **98d:57008** 57M12 (55Q52, 55R10, 57N80)

Brand, Rüdiger (*with* Freeden, Willi; Fröhlich, Jochen) An adaptive hierarchical approximation method on the sphere using axisymmetric locally supported basis functions. (English and German summaries) *Computing* **57** (1996), *no.* 3, 187–212. (Menachem Dishon) **98a:86001** 86–08 (33C55, 65D15, 65D20, 86A30)

Brandenberger, Robert *see* **Formation and interactions of topological defects, 98e:83004**

Brandenburg, Franz J. Homomorphic representations of certain classes of languages. (English summary) *Advances in algorithms, languages, and complexity*, 93–110, *Kluwer Acad. Publ., Dordrecht*, 1997. (Peter R. J. Asveld) **98h:68137** 68Q45 (68Q68)

Brandhuber, A. (*with* Stieberger, S.) Self-dual strings and stability of BPS states in $N = 2$ SU(2) gauge theories. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 199–222. (Summary) **98b:81183** 81T30 (81T13, 81T60)

— (*with* Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) Brane configurations and 4D field theory dualities. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 125–148. (Summary) **98k:81259** 81T60 (81T13, 81T30)

— (*with* Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) M-theory and Seiberg-Witten curves: orthogonal and symplectic groups. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 175–188. (C. Gauthier) **98j:81258** 81T30 (14H45, 81T60)

— (*with* Itzhaki, N.; Kaplunovsky, Vadim S.; Sonnenschein, Jacob; Yankielowicz, Shimon) Comments on the M theory approach to $N = 1$ SQCD and brane dynamics. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 27–35. 81V05 (81T30)

— (*with* Itzhaki, N.; Sonnenschein, Jacob; Yankielowicz, Shimon) More on probing branes with branes. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 238–246. (Summary) **98m:81132** 81T30 (83E30)

Brandl, Rolf (*with* Fedri, Valeria; Serena, Luigi) On self-centralizing Sylow subgroups of order four. *Rend. Sem. Mat. Univ. Padova* **95** (1996), 189–199. (Hiroyoshi Yamaki) **98b:20022** 20D05 (20D06, 20D08)

— (*with* Fedri, Valeria; Serena, Luigi) Groups with the same Cartan matrix as PSL(2, r). (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 805–820. (Hiroyoshi Yamaki) **98k:20083** 20G40 (20D06)

Brandolini, Luca (*with* Colzani, Leonardo) Fourier transform, oscillatory multipliers and evolution equations in rearrangement invariant function spaces. *Colloq. Math.* **71** (1996), *no.* 2, 273–286. (Guozhen Lu) **98f:35022** 35G10 (35B30, 42B15, 46E30, 46N20)

— (*with* Travaglini, Giancarlo) Pointwise convergence of Fejer type means. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 3, 323–336. (Norman J. Weiss) **98m:42010** 42B08 (43A55, 43A75)

Brandon, J. A. (*with* Benoit, E.) A note on Sarkovskiĭ's theorem. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 10, 1587–1589. (José Miguel Moreno) **98i:58155** 58F13 (34C35, 70K50)

Brands, Stefan Rapid demonstration of linear relations connected by Boolean operators. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 318–333, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **98j:94014** 94A60 (68P25)

Brandstädt, Andreas (*with* Dragan, Feodor F.) r-dominating cliques in graphs with hypertree structure. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 93–108. (Gerard J. Chang) **98b:05075** 05C70 (05C65, 05C85, 68Q25, 68R10)

— (*with* Dragan, Feodor F.; Nicolai, Falk) LexBFS-orderings and powers of graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 166–180, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98h:05157** 05C75 (68R10)

— (*with* Dragan, Feodor F.; Nicolai, Falk) LexBFS-orderings and powers of chordal graphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 27–42. (Daniel Turzík) **98h:05156** 05C75

— (*with* Le Van Bang; Szymczak, Thomas) Duchet-type theorems for powers of HHD-free graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 9–16. (Summary) **98f:05123** 05C75

— (*with* Chepoĭ, V. D.; Dragan, Feodor F.) Clique r-domination and clique r-packing problems on dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 109–127. (Gerard J. Chang) **98b:05073** 05C70 (05C85, 68Q25, 68R10)

— (*with* Dragan, Feodor F.; Nicolai, Falk) Homogeneously orderable graphs. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 209–232. (Henry Martyn Mulder) **98g:05118** 05C75 (05C85, 68R10)

Brandstätter, G. Fundamentals of algebro-projective photogrammetry. *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 57–109 (1997). 51N99

Brandt, Achi (*with* Zaslavskiĭ, L. Yu.) Multiscale algorithm for atmospheric data assimilation. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 949–956. (Summary) **98a:86009** 86A10 (65R10, 86–08)

Brandt, Friedemann Local BRST cohomology in minimal $D = 4$, $N = 1$ supergravity. (English summary) *Ann. Physics* **259** (1997), *no.* 2, 253–312. (Mohamed Kachkachi) **98k:83089** 83E50 (81T50, 81T70)

— Local BRST cohomology and covariance. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 459–489. (Henrik Aratyn) **98i:81249** 81T70 (58F05)

— Supergravity with gauged second order symmetry. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 79–85. (Sergiu I. Vacaru) **98j:83104** 83E50 (81V17)

— (*with* París, Jordi) Determination of anomalies in supersymmetric theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2398–2409. (Liviu Tătar) **98a:81205** 81T50 (81T15)

— (*with* Henneaux, Marc; Wilch, André) Extended antifield formalism. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 640–656. (Jan Sładkowski) **98k:81283** 81T70

— (*with* Gomis, Joaquim; Simón, Joan) The rigid symmetries of bosonic D-strings. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 148–156. (Summary) **98m:81133** 81T30

Brandt, Howard E. Quantum fields in the spacetime tangent bundle. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 265–275. 81T99 (81T15)

Brandt, Jorgen² (*with* Christensen, Jesper Heke; Dimov, Ivan T.; Georgiev, Krassimir; Uria, I.; Zlatev, Z.) Treatment of large air pollution models. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 66–77, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 86A10 (86–02)

Brandt, Keith A. (*with* Bayer, Margaret M.) Discriminantal arrangements, fiber polytopes and formality. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 229–246. (Hiroaki Terao) **98f:52011** 52B30

Brandt, Stephan A sufficient condition for all short cycles. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 63–66. (Summary) **98i:05106** 05C38

— (*with* Veldman, Henk Jan) Degree sums for edges and cycle lengths in graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 253–256. (Summary) **98b:05060** 05C38

— (*with* Amar, Denise; Brito, Daniel; Ordaz, Oscar) Neighborhood conditions for balanced independent sets in bipartite graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 31–36. (Summary) **98h:05111** 05C38 (05C45, 05C70)

— (*with* Brinkmann, Gunnar; Harmuth, Thomas) All Ramsey numbers $r(K_3, G)$ for connected graphs of order 9. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 7, 20 *pp.* (*electronic*). (C. C. Rousseau) **98m:05126** 05C55

Brandts, Jan H. Superconvergence similarities in standard and mixed finite element methods. (English summary) *Finite element methods (Jyväskylä, 1997)*, 19–39, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98k:65066** 65N30 (65N12)

szuba-Brandys, Jolanta *see* **Szuba-Brandys, Jolanta**

Brank, Boštjan (*with* Briseghella, Lamberto; Tonello, Nicola; Damjanić, Frano B.) On non-linear dynamics of shells: implementation of energy-momentum conserving algorithm for a finite rotation shell model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 409–442. 73K15 (73V05)

Branke, Jürgen (*with* Middendorf, Martin; Schneider, Frerk) Improved heuristics and a genetic algorithm for finding short supersequences. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 39–45. 68Q25 (68T05)

Brankin, R. W. (*with* Gladwell, I.; Bouas-Dockery, K.) A Fortran 90 separable Hamiltonian system solver. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 207–217. (*see* **98g:65010**) 65–04 (34A45, 65L05)

Brankov, I. G. (*with* Danchev, D. M.; Amin, M. E.) New surface critical exponents in the spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1387–1402. (Summary) **98f:82018** 82B20 (82B26, 82B27)

— (*with* Danchev, D. M.; Amin, M. E.) Surface critical exponents for a three-dimensional modified spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5645–5656. 82B27 (82B24)

Branković, Ljiljana (*with* Baskoro, Edy Tri; Miller, Mirka; Plesník, Ján; Ryan, Joseph F.; Širáň, Jozef) Large digraphs with small diameter: a voltage assignment approach. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 161–176. (Roman Nedela) **98d:05070** 05C35 (05C25, 68R10)

— (*with* Miller, Mirka; Plesník, Ján; Ryan, Joseph F.; Širáň, Jozef) A note on constructing large Cayley graphs of given degree and diameter by voltage assignments. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 9, 11 *pp.* (*electronic*). (Joseph B. Klerlein) **98m:05081** 05C25 (05C35)

Brannen, Noah Samuel Volumes of projection bodies. (English summary) *Mathematika* **43** (1996), *no.* 2, 255–264 (1997). (Carla Peri) **98e:52005** 52A38 (52A40)

Branner, Frank M. (*with* Enochs, Edgar E.) Homology with models and Tor. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 123–129. (Summary) **98c:18008** 18G15 (18A40, 18B20, 18G05)

Brännlund, U. (*with* Kiwiel, Krzysztof C.; Lindberg, P. O.) Preliminary computational experience with a descent level method for convex nondifferentiable optimization. (English summary) *System modelling and optimization (Prague, 1995)*, 387–394, *Chapman & Hall, London*, 1996. (Summary) **98d:90108** 90C30 (49J52)

Branquinho, A. (*with* Marcellán, Francisco) Some inverse problems for second order structure relations. (English summary) *Approximation and optimization in the Caribbean, II (Havana, 1993)*, 129–146, *Approx. Optim.*, 8, *Lang, Frankfurt am Main*, 1995. (Summary) **98b:33020** 33C45

— (*with* Aptekarev, A. I.; Marcellán, Francisco) Toda-type differential equations for the recurrence coefficients of orthogonal polynomials and Freud transformation. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 139–160. (Mayumi Ohmiya) **98f:33013** 33C45 (34A55, 58F07)

Brans, Carl H. Exotic smoothness structures in physics. (English summary) *Recent developments in gravitation and mathematical physics (Guanajuato, 1994)*, 146–155, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:57036** 57R55

— Exotic smoothness on spacetime. (English summary) *Relativity and scientific computing*, 355–377, *Springer, Berlin*, 1996. (*see* **98i:83003**) 57R55 (83C99)

Branson, Thomas P. (*with* Gilkey, Peter B.; Vasilevich, D. V.) The asymptotics of the Laplacian on a manifold with boundary. II. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 39–67. (Sylvie Desjardins) **98j:58124** 58G18 (58G11, 58G25)

— (*with* Hijazi, Oussama) Vanishing theorems and eigenvalue estimates in Riemannian spin geometry. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 921–934. (Uwe Semmelmann) **98k:58229** 58G25 (58G30)

— (*with* Ólafsson, Gestur) Helmholtz operators and symmetric space duality. (English summary) *Invent. Math.* **129** (1997), *no.* 1, 63–74. (Sergei S. Platonov) **98f:58188** 58G16 (43A85)

— (*with* Lano, R. P.; Rodgers, V. G. J.) Yang-Mills, gravity, and string symmetries. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 253–258. (Summary) **98k:81311** 81V17 (81R10, 81T30, 83E30)

— Spectral theory of invariant operators, sharp inequalities, and representation theory. The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 29–54. (Friedbert Prüfer) **98k:58237** 58G26 (58G10, 58G25)

— Second order conformal covariants. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1031–1042. (A. Rod Gover) **98f:53012** 53A30 (53A55)

Braslavsky, Julio H. (*with* Freudenberg, James S.; Middleton, Richard H.) Inherent design limitations for linear sampled-data feedback systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1387–1421. (Summary) **98m:93044** 93B50 (93C57)

— (*with* Freudenberg, James S.; Middleton, Richard H.) Robustness of zero shifting via generalized sampled-data hold functions. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1681–1692. (Summary) **98k:93068** 93C57 (93B35)

— (*with* Middleton, Richard H.; Freudenberg, James S.) L_2-induced norms and frequency gains of sampled-data sensitivity operators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 252–258. (Summary) **98k:93067** 93C57 (93B35)

Braß, Helmut Zur Konstruktion fast-optimaler Algorithmen der Numerik. [On the construction of almost optimal algorithms in numerics] *Abh. Braunschweig. Wiss. Ges.* **46** (1995), 71–78 (1996). 65D05

— On the quality of algorithms based on spline interpolation. (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 159–177 (1997). (S. Dubuc) **98b:65012** 65D07 (65D30)

Braß, Peter On the maximum number of unit distances among n points in dimension four. (English summary) *Intuitive geometry* (*Budapest*, 1995), 277–290, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Konrad J. Swanepoel) **98j:52030** 52C10

— (*with* Herburt, Irmina) On point sets fixing a convex body from within. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 87–90. (Peter M. Gruber) **98d:52004** 52A20

— On point sets with many unit distances in few directions. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 355–366. (Summary) **98k:52038** 52C10

Brass, Stefan (*with* Dix, Jürgen) Characterizations of the stable semantics by partial evaluation. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 85–98, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55)

— (*with* Dix, Jürgen) Characterizing D-WFS: confluence and iterated GCWA. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 268–283, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98f:68039** 68N17 (68Q55)

— (*with* Zukowski, Ulrich; Freitag, Burkhard) Transformation-based bottom-up computation of the well-founded model. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 171–201, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98i:68046** 68N17 (68P15, 68Q55)

— (*with* Dix, Jürgen) Characterizations of the disjunctive stable semantics by partial evaluation. (English summary) *J. Logic Programming* **32** (1997), *no.* 3, 207–228. (Summary) **98a:68023** 68N17 (68Q55)

Brassard, Gilles New trends in quantum computing. (English summary) *STACS* 96 (*Grenoble*, 1996), 3–10, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q05 (68P25, 81P99, 94A60)

— (*with* Crépeau, Claude; Sántha, Miklós) Oblivious transfers and intersecting codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1769–1780. (Summary) **98g:94024** 94A60 (94B27)

— (*with* Crépeau, Claude) Oblivious transfers and privacy amplification. (English summary) *Advances in cryptology—EUROCRYPT* '97 (*Konstanz*), 334–347, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Brasselet, Jean-Paul Aspects combinatoires des singularités. [Combinatorial aspects of singularities] *Singularity theory* (*Trieste*, 1991), 74–127, *World Sci. Publishing, River Edge, NJ*, 1995. (Enrique Artal Bartolo) **98b:55007** 55N33 (32S60, 57R20)

— An interpretation of the Poincaré morphism for compact toric varieties. Proceedings of the 1994 Workshop on Topology and Geometry (Zhanjiang). *Chinese Quart. J. Math.* **10** (1995), *no.* 4, 1–7. (G. Ewald) **98g:14066** 14M25 (14F25)

— (*with* Barthel, Gottfried; Fieseler, Karl-Heinz; Kaup, Ludger) Invariante Divisoren und Schnitthomologie von Torischen Varietäten. (English summary) [Invariant divisors and intersection homology of toric varieties] *Parameter spaces* (*Warsaw*, 1994), 9–23, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Joseph Gubeladze) **98j:14024** 14F32 (14M25)

— (*with* Fieseler, Karl-Heinz; Kaup, Ludger) Caractérisation des variétés homologiques à l'aide des invariants d'homologie d'intersection. (French summary) [Characterization of homology manifolds using intersection homology invariants] *Singularities and differential equations* (*Warsaw*, 1993), 19–22, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (J. S. Joel) **98d:55008** 55N33 (57N65)

— Intersection of algebraic cycles. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3625–3632. (Claire Voisin) **98a:14033** 14F32 (14C25, 55N33)

— Indices of vectorfields and residues of singular foliations after Nash transformation (about joint works with M. H. Schwartz and T. Suwa). Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 39–45. (M. G. Soares) **98c:32043** 32L30 (32S65)

— (*with* Barthel, Gottfried; Fieseler, Karl-Heinz; Kaup, Ludger) Diviseurs invariants et homomorphisme de Poincaré de variétés toriques complexes. (English and French summaries) [Invariant divisors and Poincaré homomorphism of complex toric varieties] *Tôhoku Math. J.* (2) **48** (1996), *no.* 3, 363–390. (Alicia Dickenstein) **98c:14044** 14M25 (14C20, 14F25)

Brasseur, James G. (*with* Khanna, Samir) Analysis of Monin-Obukhov similarity from large-eddy simulation. (English summary) *J. Fluid Mech.* **345** (1997), 251–286. 76F05

Bratsos, A. G. (*with* Twizell, E. H.) The solution of the sine-Gordon equation using the method of lines. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 271–292. (Summary) **98a:65129** 65M20

Bratteli, Ola (*with* Elliott, George A.) Small eigenvalue variation and real rank zero. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 47–59. (P. A. Fillmore) **98c:46113** 46L05

— (*with* Robinson, Derek W.) ★ Operator algebras and quantum statistical mechanics. 2. (English summary) Equilibrium states. Models in quantum statistical mechanics. Second edition. Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xiv+519 *pp. ISBN* 3-540-61443-5 (From the preface) **98e:82004** 82B10 (46Lxx, 81S05, 82-02, 82C10)

— (*with* Kishimoto, Akitaka; Robinson, Derek W.) Abundance of invariant and almost invariant pure states of C^*-dynamical systems. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 491–507. (Claire Anantharaman-Delaroche) **98i:46072** 46L55 (46L05, 46L30)

— (*with* Jorgensen, P. E. T.) Endomorphisms of $\mathscr{B}(\mathscr{H})$. II. Finitely correlated states on $\mathcal{O}_n$. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 323–373. (Steve Wright) **98c:46128** 46L10 (46L05, 47D25)

Bratten, Tim Realizing representations on generalized flag manifolds. (English summary) *Compositio Math.* **106** (1997), *no.* 3, 283–319. (Jen-Tseh Chang) **98j:22018** 22E46

— Finite rank homogeneous holomorphic bundles in flag spaces. *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 21–34, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Jen-Tseh Chang) **98j:22019** 22E46 (22E30)

— A comparison theorem for Lie algebra homology groups. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 23–36. (Yun Gao) **98m:17028** 17B56 (22E45)

Brattka, Vasco Order-free recursion on the real numbers. (English summary) Workshop on Computability, Complexity and Logic (Zinnowitz, 1996). *Math. Logic Quart.* **43** (1997), *no.* 2, 216–234. (Olivier Chapuis) **98m:03092** 03D45 (03F60, 68Q05)

Brau, F. (*with* Semay, C.) The three-dimensional Fourier grid Hamiltonian method. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 1, 127–136. 81Q05 (81–08)

große-Brauckmann, Karsten *see* **Große-Brauckmann, Karsten**

Brauer, Fred Continuous and discrete delayed-recruitment population models. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 245–252. (Wan Biao Ma) **98f:92006** 92D25 (39A11)

Brauer, Wilfried (*with* Schittenkopf, Christian; Deco, Gustavo) Finite automata-models for the investigation of dynamical systems. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 137–141. (Summary) **98h:58101** 58F08 (68Q45, 68Q68)

Braun, Amiram Localization, completion and the AR property in Noetherian P.I. rings. (English summary) *Israel J. Math.* **96** (1996),, *part A*, 115–140. (Antonio Giambruno) **98c:16025** 16P50 (16R99)

Braun, Oleg M. (*with* Kivshar, Yu. S.; Peyrard, Michel) Kink's internal modes in the Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 6050–6064. (Summary) **98h:82041** 82C20

Braun, Petr A. (*with* Gerwinski, Peter; Haake, Fritz; Schomerus, Henning) Semiclassics of rotation and torsion. (English summary) *Z. Phys. B* **100** (1996), *no.* 1, 115–127. (Summary) **98a:81040** 81Q20

Braun, Robert (*with* Müller-Stach, Stefan) Effective bounds for Nori's connectivity theorem. (English summary) *Higher-dimensional complex varieties* (*Trento*, 1994), 83–88, *de Gruyter, Berlin*, 1996. (Luca Barbieri Viale) **98g:14060** 14M10 (14C10)

— (*with* Cook, Michele) A smooth surface in $\mathbf{P}^4$ not of general type has degree at most 66. (English summary) *Compositio Math.* **107** (1997), *no.* 1, 1–9. (James E. Alexander) **98c:14029** 14J25

Braun, Rüdiger W. Surjectivity of partial differential operators on Gevrey classes. (English summary) *Functional analysis* (*Trier*, 1994), 69–80, *de Gruyter, Berlin*, 1996. (Michael Langenbruch) **98b:35028** 35E20 (35A05, 35B99, 47F05)

— (*with* Meise, Reinhold; Taylor, B. Alan) Uniform growth of analytic curves away from real points. *Ark. Mat.* **35** (1997), *no.* 2, 277–297. (Qing Yi Chen) **98k:35021** 35G05 (35E20, 35L25)

— (*with* Vogt, Dietmar) A sufficient condition for $\operatorname{Proj}^1\mathscr{P} = 0$. *Michigan Math. J.* **44** (1997), *no.* 1, 149–156. (José Bonet) **98c:46162** 46M40 (35E20, 46A13)

Braun, W. John (*with* Kulperger, R. J.) Properties of a Fourier bootstrap method for time series. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1329–1336. (Zuzana Prášková) **98f:62277** 62M15 (62G09, 62M10)

— (*with* Zhao, Yiqiang Q.; Li, Wei) On a decomposition for infinite transition matrices. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 127–130. 60J10

— (*with* Kulperger, R. J.) A bootstrap for point processes. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 2, 129–155. 62G05 (60G55, 62M09)

Braüner, Torben The Girard translation extended with recursion. (English summary) *Computer science logic* (*Kazimierz*, 1994), 31–45, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:03016** 03B40 (03B70, 03F50, 03F55, 68Q55)

— A simple adequate categorical model for PCF. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 82–98, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98g:68097** 68Q55 (03B70, 68N15)

Braunstein, Samuel L. (*with* Caves, Carlton M.) Geometry of quantum states. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 786–797, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (S. Gudder) **98j:81032** 81P15 (81P05)

Braverman, Alexander (*with* Bernstein, Joseph; Gaitsgory, Dennis) The Cohen-Macaulay property of the category of $(\mathfrak{g}, K)$-modules. (English summary) *Selecta Math.* (*N.S.*) **3** (1997), *no.* 3, 303–314. (Eric N. Sommers) **98k:20073** 20G05 (13C14)

— (*with* Etingof, Pavel; Gaitsgory, Dennis) Quantum integrable systems and differential Galois theory. (English summary) *Transform. Groups* **2** (1997), *no.* 1, 31–56. (Alexandru Buium) **98g:58070** 58F07 (12H05, 13N10)

Braverman, E. Ya. (*with* Berezanskiĭ, L. M.) Boundedness and stability of impulsively perturbed delay differential equations. (English summary) *Funct. Differ. Equ.* **3** (1995),

no. 1-2, 19–30. (Eduardo Liz) **98f:34108** 34K20 (34A37, 34K25)
— (*with* Berezanskiĭ, L. M.) On non-oscillation of a scalar delay differential equation. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 567–580. (Binggen Zhang) **98j:34137** 34K15
— (*with* Berezanskiĭ, L. M.) Explicit conditions of exponential stability for a linear impulsive delay differential equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 439–458. (O. S. Chernikova) **98k:34122** 34K20 (34A37)
Braverman, Leonid (*with* Oron, Alexander) Coupled double-diffusive thermocapillary instability: linear and nonlinear analysis. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 343–364. (Summary) **98i:76033** 76E15 (76D45, 76E30)
Braverman, Maxim (*with* Farber, Michael S.) Equivariant Novikov inequalities. (English summary) *K-Theory* **12** (1997), *no.* 4, 293–318. (Serge L. Tabachnikov) **98m:57043** 57R70 (57R91, 57S15)
— On self-adjointness of a Schrödinger operator on differential forms. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 617–623. (Friedbert Prüfer) **98g:58163** 58G03 (35J10, 35P05)
Braverman, Michael (*with* Samorodnitsky, Gennady) L^1 norm of Lévy processes with exponential tails. (English summary) *Math. Scand.* **78** (1996), *no.* 2, 213–232. (J. L. Mijnheer) **98d:60148** 60J30 (60G17)
— A remark on stochastic monotonicity. (English summary) *Statist. Probab. Lett.* **26** (1996), *no.* 3, 259–262. (D. N. Shanbhag) **98a:62017** 62E10 (60E05)
Bravo, A. *see* **Bravo-Mojica, Alejandro**
Bravo, José I. (*with* Fernández, Arturo J.; De Fuentes, Íñigo) Lifetime estimation from doubly censored data and Dirichlet process prior knowledge on the observable random vector. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1541–1558. (J. V. Deshpande) **98i:62028** 62G05 (62N05)
molina-Bravo, Juan M. *see* **Molina-Bravo, Juan M.**
Bravo Castillero, Julián (*with* Otero, J. A.; Ramos, R. R.; Bourgeat, Alain) Asymptotic homogenization of laminated piezocomposite materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 5-6, 527–541. (Summary) **98j:73074** 73R05 (73B27, 73K20)
Bravo-Mojica, Alejandro (*with* Uribe, F. J.; Díaz-Herrera, Enrique; Peralta-Fabi, R.) On the stability of the Jeffery-Hamel flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2798–2800. (Summary) **98g:76039** 76E99 (76M10)
Bravo Yuste, Santos Escape times of j random walkers from a fractal labyrinth. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 19, 3565–3568. (Summary) **98k:82072** 82B41 (60J15)
Brax, Ph. (*with* Mourad, Jihad) Open supermembranes in eleven dimensions. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 142–150. (Angel Maria Uranga) **98i:81193** 81T30 (83E30)
— (*with* Mourad, Jihad) Open supermembranes coupled to M-theory five-branes. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 295–302. (Summary) **98k:81199** 81T30
Bray, Alan J. Topological defects and phase ordering dynamics. *Formation and interactions of topological defects* (*Cambridge*, 1994), 105–138, *NATO Adv. Sci. Inst. Ser. B Phys.*, 349, *Plenum, New York*, 1995. (Summary) **98j:82069** 82D30
— (*with* Newman, T. J.) Strong-coupling behaviour in discrete Kardar-Parisi-Zhang equations. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7917–7928. (Summary) **98c:82049** 82C24 (35Q99, 39A12)
— Phase-ordering dynamics in one dimension. (English summary) *Nonequilibrium statistical mechanics in one dimension*, 143–165, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98h:82034**) 82B20
Brayton, Robert K. (*with* Taşıran, Serdar; Alur, Rajeev; Kurshan, Robert P.) Verifying abstractions of timed systems. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 546–562, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68180** 68Q60
Braza, Peter A. (*with* Tong, Jingcheng) A converse of the mean value theorem. *Amer. Math. Monthly* **104** (1997), *no.* 10, 939–942. (Introduction) **98i:26007** 26A24
Brazhnikov, Vadim A. $\Phi^{(2)}$ perturbations of the WZW model. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 3, 685–710. (Dileep P. Jatkar) **98i:81228** 81T40
— (*with* Luk'yanov, Sergeĭ L.) Angular quantization and form factors in massive integrable models. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 616–636. (Summary) **98k:81153** 81T10 (81R10)
Brazier, J.-Ph. (*with* Séror, S.; Zeitoun, D. E.; Schall, E.) Asymptotic defect boundary layer theory applied to thermochemical non-equilibrium hypersonic flows. (English summary) *J. Fluid Mech.* **339** (1997), 213–238. (From the summary) **98c:76091** 76N20 (76K05)
Brazil, M. (*with* Rubinstein, Joachim H.; Thomas, Doreen Anne; Weng, J. F.; Wormald, N. C.) Full minimal Steiner trees on lattice sets. *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 51–91. (R. S. Booth) **98c:05086** 05C35
— (*with* Thomas, Doreen Anne; Weng, J. F.) Gradient-constrained minimal Steiner trees. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 23–38, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:05045** 05C05 (68R10)
— (*with* Rubinstein, Joachim H.; Thomas, Doreen Anne; Weng, J. F.; Wormald, N. C.) Shortest networks on spheres. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 453–461, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:05046** 05C05
Breach, Derrick Rodney *see* **Street, Anne Penfold, 98f:01088**
Breazu-Tannen, Val (*with* Kesner, Delia; Puel, Laurence) A typed pattern calculus. (English summary) *Inform. and Comput.* **124** (1996), *no.* 1, 32–61. (Summary) **98b:68008** 68N15 (68Q55)
Brebbia, C. A. *see* **Moving boundaries, 98k:00017**
Brechner, Beverly L. (*with* Lee, Joo S.) A three-dimensional prime end theory. (English summary) *Topology Proc.* **20** (1995), 15–47. (Wayne Lewis) **98d:54047** 54D35 (30D40, 54C25, 57M50)
— (*with* Mislove, Michael W.; Shakhmatov, Dmitriĭ B.; Watson, W. Stephen) Electronic access for topology resources. *Papers on general topology and applications* (*Amsterdam*, 1994), 1–8, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (*see* **98f:54005**) 00A15 (54–00)
Brecht, Beatrix (*with* Brecht, Leo) Time-discrete nonparametric hazard model using panel data. (English summary) *Statist. Papers* **37** (1996), *no.* 2, 165–176. (Jan Beirlant) **98h:62044** 62G05 (62E20)
Brecht, Gerhard Bezeichnungen in der Mathematik. [Notation in mathematics] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3, 66–67. 00A20
Brecht, Leo (*with* Brecht, Beatrix) Time-discrete nonparametric hazard model using panel data. (English summary) *Statist. Papers* **37** (1996), *no.* 2, 165–176. (Jan Beirlant) **98h:62044** 62G05 (62E20)
Breckenridge, J. C. (*with* Myers, Robert C.; Peet, Amanda; Vafa, Cumrun) D-branes and spinning black holes. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 93–98. (Introduction) **98f:83099** 83E30 (83C57)
— (*with* Michaud, Guy; Myers, Robert C.) More D-brane bound states. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6438–6446. (Summary) **98d:81078** 81T30
— (*with* Michaud, Guy; Myers, Robert C.) New angles on D-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5172–5178. (Summary) **98g:81153** 81T30 (83E30)
Breckner, Wolfgang W. On the condensation of the singularities of families of nonlinear functions. (English summary) *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 35–44, *Transilvania, Cluj-Napoca*, 1997. (Pavel Kostyrko) **98k:26038** 26E25 (54E52)
— (*with* Trif, Tiberiu; Varga, Csaba) Some applications of the condensation of the singularities of families of nonnegative functions. II. (English summary) *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 193–202, *Transilvania, Cluj-Napoca*, 1997. (Summary) **98j:47047** 47B10 (41A65, 46B45, 47B06)
— (*with* Kassay, Gábor) A systematization of convexity concepts for sets and functions. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 109–127. (Constantin Zălinescu) **98h:52002** 52A07 (26B25, 46N10, 52A41, 90C29)
— Derived sets for weak multiobjective optimization problems with state and control variables. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 73–102. (A. Halanay) **98e:49059** 49K22 (90C29)
— *see also* **Approximation and optimization, 98g:41001** *and* **98g:41002**
azevedo Breda, Ana M. R. *see* **Azevedo Breda, Ana M. R.**
Breda d'Azevedo, A. J. The reflexible hypermaps of characteristic -2. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 131–153. (T. R. S. Walsh) **98j:05056** 05C10 (57M15)
Bredensteiner, Erin J. (*with* Bennett, Kristin P.) Feature minimization within decision trees. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 111–126. 90C29 (68T05, 90A05, 90C35)
Bredikhin, D. A. On algebras of relations. *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 191–199, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (D. Rosenblatt) **98b:03086** 03G15
— On semilattice ordered involuted monoids of binary relations. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 11–15, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:06013** 06F05 (20M99)
— On quasi-identities of relation algebras with Diophantine operations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 29–41, i; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 23–33. (Andrew M. Mironov) **98g:03144** 03G15 (08B05)
Bredon, Glen E. ★ Sheaf theory. (English summary) Second edition. Graduate Texts in Mathematics, 170. *Springer-Verlag, New York*, 1997. xii+502 *pp.* *ISBN* 0-387-94905-4 (Editors) **98g:55005** 55N30 (18F20, 54B40, 55-02)
Breger, Herbert *see* **Leibniz, Gottfried Wilhelm, 98b:01040** *and* **98d:01043**
Breidt, F. Jay (*with* Carriquiry, Alicia L.) Improved quasi-maximum likelihood estimation for stochastic volatility models. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 228–247, *Springer, New York*, 1996. (*see* **98a:62002**) 62F15
— (*with* Crato, Nuno; de Lima, Pedro J. F.) The detection and estimation of long memory in stochastic volatility. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 325–348. 62P20 (62M10)
Breiman, Leo (*with* Friedman, Jerome H.) Predicting multivariate responses in multiple linear regression. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 3–54. (Summary) **98f:62191** 62J05
Breiteig, Trygve (*with* Kirfel, Christoph) Primes in recursive sequences. (Norwegian. English summary) *Normat* **45** (1997), *no.* 3, 103–112, 143. (Summary) **98h:11008** 11A41
Breiter, Sławomir On the numerical transformation of variables in perturbation theory. (English summary) *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 4, 345–354. (Summary) **98b:70002** 70–08 (70F15)
Breitner, M. H. (*with* Koslik, B.) In optimal control problem in economics with four linear controls. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 619–634. 90A16 (49K15)
Breitung, Jörg (*with* Gouriéroux, Christian) Rank tests for unit roots. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 7–27. (Summary) **98k:62185** 62P20 (62G10, 62M10)
— Testing for unit roots in panel data using a GMM approach. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 253–269. 62M10 (62P20)
Breitung, K. (*with* Richter, W.-D.) A geometric approach to an asymptotic expansion for large deviation probabilities of Gaussian random vectors. (English summary) *J. Multivariate Anal.* **58** (1996), *no.* 1, 1–20. (Paolo Baldi) **98f:60050** 60F10
Brekke, Lee (*with* Collins, Sterrett J.; Imbo, Tom D.) Non-abelian vortices on surfaces and their statistics. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 465–485. (S. Timothy Swift) **98k:81316** 81V25 (20F36, 81T13, 81T40)
Brémaud, Pierre (*with* Malhamé, Roland P.; Massoulié, Laurent) A manufacturing system with general stationary failure process: stability and IPA of hedging control policies. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 155–170. (Qing Zhang) **98a:93079** 93E15 (90B70, 93E20)
Bremigan, R. J. Invariant analytic domains in complex semisimple groups. (English summary) *Transform. Groups* **1** (1996), *no.* 4, 279–305. (B. Gilligan) **98b:32030** 32M05 (22E10)
Bremke, Kirsten On generalized cells in affine Weyl groups. (English summary) *J. Algebra* **191** (1997), *no.* 1, 149–173. (Cheng Dong Chen) **98c:20077** 20F55
Bremner, Andrew Some special curves of genus 5. *Acta Arith.* **79** (1997), *no.* 1, 41–51. (Nguyen Khac-Viet) **98c:11058** 11G30 (11D25, 11G05, 11G35)
— Some interesting curves of genus 2 to 7. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 277–290. (Nguyen Khac-Viet) **98m:11066** 11G30 (11G05, 11G10, 14G05)

— (*with* Guy, Richard K.) Two more representation problems. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 1–17. (Michel Olivier) **98d:11037** 11D25 (11Y50)

Bremner, David Incremental convex hull algorithms are not output sensitive. (English summary) *Algorithms and computation* (*Osaka*, 1996), 26–35, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05 (52B55)

— (*with* Bose, Prosenjit; van Kreveld, Marc) Determining the castability of simple polyhedra. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 84–113. (Summary) **98b:68186** 68U05 (52B55)

— (*with* Avis, David; Seidel, Raimund) How good are convex hull algorithms? (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 265–301. (Rade Živaljević) **98c:52017** 52B55 (68U05)

Bremner, Murray Quantum deformations of simple Lie algebras. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 143–148. (Patrick Meessen) **98d:17020** 17B37 (57T05, 81R50)

Brémond-Grégoire, Patrice (*with* Choi, Jin-Young; Lee, Insup) A complete axiomatization of finite-state ACSR processes. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 124–159. (Summary) **98h:68065** 68Q10 (68Q55, 68Q60)

— (*with* Lee, Insup) A process algebra of communicating shared resources with dense time and priorities. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 179–219. (Gheorghe Ştefănescu) **98j:68027** 68Q10 (68Q60)

Brenier, Yann Homogénéisation variationnelle des équations d'Euler. [Variational homogenization of the Euler equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* X, 19 *pp.*, *École Polytech., Palaiseau*, 1997. (Rodolfo Salvi) **98m:76046** 76C99 (35B27, 35Q30, 49J45, 76M30)

— A homogenized model for vortex sheets. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 4, 319–353. (Vladimir V. Shelukhin) **98m:76030** 76C05 (35Q35, 49J40, 76M30)

Brenken, Berndt The local product structure of expansive automorphisms of solenoids and their associated C^*-algebras. (English summary) *Canad. J. Math.* **48** (1996), *no.* 4, 692–709. (Judith A. Packer) **98c:22003** 22D45 (46L05, 46L55)

Brennan, Bevin M. (*with* Adams, Colin C.; Greilsheimer, Deborah L.; Woo, Alexander K.) Stick numbers and composition of knots and links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 149–161. (Thang T. Q. Le) **98h:57010** 57M25

Brennan, Joseph P. Invariant theory in characteristic p: Hazlett's symbolic method for binary quantics. (English summary) *Factorization in integral domains* (*Iowa City, IA*, 1996), 257–269, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Joseph Kung) **98h:13006** 13A50 (05E05, 14D20, 14L30)

Brennan, Michael (*with* Holland, Finbarr) A linear system of impulsive differential equations. (English summary) *Irish Math. Soc. Bull. No.* 38 (1997), 9–20. (Summary) **98a:92003** 92C45 (34A30, 34A37, 34C11)

Brennan, Michael J. (*with* Crew, N. I.) Hedging long maturity commodity commitments with short-dated futures contracts. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 165–189, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Schwartz, Eduardo S.; Lagnado, Ronald) Strategic asset allocation. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1377–1403. (*see* **98c:90003**) 90A09 (93E03)

Brennen, Christopher E. (*with* d'Agostino, Luca; d'Auria, Fabrizio) On the inviscid stability of parallel bubbly flows. (English summary) *J. Fluid Mech.* **339** (1997), 261–274. (Summary) **98d:76056** 76E05 (76B10, 76T05)

Brenner, A. V. (*with* Shargorodskiĭ, E. M.) Boundary value problems for elliptic pseudodifferential operators. Translated from the Russian by Brenner. *Partial differential equations, IX*, 145–215, *Encyclopaedia Math. Sci.*, 79, *Springer, Berlin*, 1997. (V. S. Rabinovich) **98k:35217** 35S15 (35J99, 47G30)

Brenner, J. L. (*with* Alzer, Horst; Ruehr, Otto G.) On Mathieu's inequality. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 607–610. (Summary) **98i:26023** 26D15

Brent, Richard P. (*with* van der Poorten, Alfred J.; te Riele, Herman J. J.) A comparative study of algorithms for computing continued fractions of algebraic numbers. *Algorithmic number theory* (*Talence*, 1996), 35–47, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (B. M. M. de Weger) **98c:11144** 11Y65

— (*with* Zhou, Bing Bing) Jacobi-like algorithms for eigenvalue decomposition of a real normal matrix using real arithmetic. (English summary) Nineteenth Australasian Computer Science Conference (Melbourne, 1996). *Austral. Comput. Sci. Comm.* **18** (1996), *no.* 1, 367–375. (*see* **98k:68006**) 65F15 (05A18, 65–04)

Brenti, Francesco Combinatorial properties of the Kazhdan-Lusztig R-polynomials for S_n. (English summary) *Adv. Math.* **126** (1997), *no.* 1, 21–51. (Robert Bédard) **98d:20013** 20C30 (05E15, 06A07)

— Lattice paths and Kazhdan-Lusztig polynomials. *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 229–259. (Hiroshi Naruse) **98h:20072** 20F55 (05E15)

Brentjes, Sonja The relevance of non-primary sources for the recovery of the primary transmission of Euclid's *Elements* into Arabic. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 201–225, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (J. L. Berggren) **98m:01002** 01A30 (01A20)

Brešar, Matej Applying the theorem on functional identities. *Nova J. Math. Game Theory Algebra* **4** (1996), *no.* 1, 43–54. (J. F. Watters) **98e:16019** 16N60 (16R50)

— (*with* Martindale, W. S., 3rd; Miers, C. Robert) Maps preserving nth powers. *Comm. Algebra* **26** (1998), *no.* 1, 117–138. (Louis Rowen) **98k:16035** 16R50 (16N60)

— Derivations mapping into the socle. II. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 181–187. (Volker Runde) **98c:46088** 46H05 (47B47)

Bresch, Didier (*with* Lemoine, Jérôme; Simon, Jacques) Écoulement engendré par le vent et la force de Coriolis dans un domaine mince. I. Cas stationnaire. (English and French summaries) [Motion driven by wind and by Coriolis force in a thin domain. I. Stationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 807–812. (Summary) **98g:86001** 86A05 (76P05, 76U05)

— On bounds of the drag for Stokes flow around a body without thickness. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 665–679. (Jacqueline Mossino) **98m:76050** 76D07 (35Q35)

Breslauer, Dany (*with* Gąsieniec, Leszek) Efficient string matching on coded texts. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 27–40, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q22 (68Q25)

— On competitive on-line paging with lookahead. (English summary) *STACS* 96 (*Grenoble*, 1996), 593–603, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68034** 68N25 (68Q20)

— (*with* Gąsieniec, Leszek) Efficient string matching on packed texts. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 6, 521–544. (Wojciech Rytter) **98g:68057** 68Q22

— (*with* Apostolico, Alberto) An optimal $O(\log \log n)$-time parallel algorithm for detecting all squares in a string. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1318–1331. (Maxime Crochemore) **98b:68068** 68Q25 (68Q22, 68R15)

— (*with* Jiang, Tao[1]; Jiang, Zhigen) Rotations of periodic strings and short superstrings. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 340–353. (Summary) **98e:68097** 68Q25

— The suffix tree of a tree and minimizing sequential transducers. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 131–144. (Summary) **98k:68074** 68Q20 (68P05, 68Q68)

Breslavskiĭ, P. V. (*with* Mazhukin, V. I.) The dynamic adaptation method in problems of gas dynamics. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 12, 48–78. (Summary) **98j:76121** 76N15 (76L05, 76M20)

Bresler, Yoram (*with* Willis, N. Parker) Lattice-theoretic analysis of time-sequential sampling of spatiotemporal signals. I. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 190–207. (Dale H. Mugler) **98e:94005** 94A12 (43A99, 46N99, 94A29)

— (*with* Willis, N. Parker) Lattice-theoretic analysis of time-sequential sampling of spatiotemporal signals. II. Large space-bandwidth product asymptotics. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 208–220. (Dale H. Mugler) **98e:94006** 94A12 (43A99, 46N99, 94A29)

Breslin, Frederick C. (*with* Bedrick, Edward J.) Estimating the polyserial correlation coefficient. (English summary) *Psychometrika* **61** (1996), *no.* 3, 427–443. (Summary) **98k:62102** 62H20 (62P15)

Bressan, Alberto Viscosity solutions and uniqueness for systems of conservation laws. *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 284–292, *World Sci. Publishing, River Edge, NJ*, 1996. (Pavel Dubovskiĭ) **98d:35137** 35L65 (35B30, 35D05)

— (*with* LeFloch, Philippe G.) Uniqueness of weak solutions to systems of conservation laws. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 4, 301–317. (Vyacheslav V. Chistyakov) **98m:35125** 35L65 (35D05)

— (*with* Piccoli, Benedetto) Structural stability for time-optimal planar syntheses. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 335–371. (Kevin A. Grasse) **98e:49006** 49J15 (34H05, 49N35, 93D05)

villella-Bressan, Rosanna *see* **Villella-Bressan, Rosanna**

Bressange, G. F. (*with* Barrabès, C.; Hogan, P. A.) Implications of spontaneous glitches in the mass and angular momentum in Kerr space-time. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2109–2112. (Summary) **98d:83008** 83C15 (83C40)

— Plane light-like shells and impulsive gravitational waves in scalar-tensor theories of gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 225–238. 83D05 (83C35)

Bressloff, Paul C. A new Green's function method for solving linear PDE's in two variables. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 390–415. (B. A. Bondarenko) **98e:35009** 35A25 (35C15, 35Q53)

— (*with* Kearney, Michael J.; Dwyer, Vincent M.) On the convergence of a class of random geometric series with application to random walks and percolation theory. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L409–L414. (Stuart G. Whittington) **98k:82078** 82B41 (60J15, 82B43)

— (*with* Rowlands, George) Exact travelling wave solutions of an "integrable" discrete reaction-diffusion equation. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 255–269. (Hong Yuan Fu) **98j:39009** 39A12 (35K57, 35Q99)

— A self-organizing network in the weak-coupling limit. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 195–208. (Summary) **98j:70024** 70K99 (35Q99, 58F40, 92D20)

— (*with* Dwyer, Vincent M.; Kearney, Michael J.) Classical localization and percolation in random environments on trees. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6765–6775. (Summary) **98f:82118** 82C70 (82C43, 82C44)

Bressoud, D. M. On the proof of Andrews' q-Dyson conjecture. *Number theory and related topics* (*Bombay*, 1988), 31–39, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (Liang-Cheng Zhang) **98d:33006** 33D05 (05A10, 05A30, 33D20)

le Breton, Alain *see* **Le Breton, Alain**

le Breton, Michel *see* **Le Breton, Michel**

Breton, Michèle (*with* El Hachem, Saeb) A scenario aggregation algorithm for the solution of stochastic dynamic minimax problems. (English summary) *Stochastics Stochastics Rep.* **53** (1995), *no.* 3-4, 305–322. (Summary) **98k:90065** 90C15

Bretón Báez, Nora (*with* Denisova, T. E.; Manko, Vladimir S.) A Kerr black hole in the external gravitational field. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 7–11. (Charles G. Torre) **98d:83047** 83C57 (83C15)

Breu, Heinz (*with* Kirkpatrick, David G.) Unit disk graph recognition is NP-hard. (English summary) *Comput. Geom.* **9** (1998), *no.* 1-2, 3–24. (Summary) **98i:68263** 68U05 (05C85, 68Q25)

Breuer, Heinz-Peter (*with* Petruccione, Francesco) How to build master equations for complex systems. (English summary) *Contin. Mech. Thermodyn.* **7** (1995), *no.* 4, 439–473. (W. A. Woyczyński) **98f:76041** 76F99 (76M35, 82C31)

— (*with* Petruccione, Francesco) Hilbert space path integral representation for the reduced dynamics of matter in thermal radiation fields. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7837–7853. (Summary) **98d:82033** 82C10 (81S40)

— (*with* Petruccione, Francesco) A stochastic wave function approach to quantum measurement. (English summary) *Phys. Lett. A* **220** (1996), *no.* 6, 315–319. (Summary) **98a:81014** 81P15

— (*with* Petruccione, Francesco) Stochastic dynamics of reduced wave functions and continuous measurement in quantum optics. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 1, 39–78. (Summary) **98f:82085** 82C10 (81V80)

Breuer, Kenneth S. (*with* Cohen, Jacob; Haritonidis, Joseph H.) The late stages of transition induced by a low-amplitude wavepacket in a laminar boundary layer. (English summary) *J. Fluid Mech.* **340** (1997), 395–411. 76E05 (76–05, 76D10, 76F99)

Breuer, Peter (*with* Kühnel, Wolfgang) The tightness of tubes. (English summary) *Forum Math.* **9** (1997), *no.* 6, 707–720. (Summary) **98m:53073** 53C42

Breuer, Thomas Othmar Universell und unvollständig: Theorien über alles? (German summary) [Universal and incomplete: Theories of everything?] *Philos. Natur.* **34** (1997), *no.* 1, 1–20. (Summary) **98e:00004** 00A30 (00A79, 03B30, 81P05)

van Breugel, Franck A theory of metric labelled transition systems. (English summary) *Papers on general topology and applications (Gorham, ME, 1995)*, 69–87, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (John Shawe-Taylor) **98g:68098** 68Q55 (68Q45, 68Q90)

— Failures, finiteness and full abstraction. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 18 *pp. (electronic)*, *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68147** 68Q55 (68Q10)

— (*with* Bonsangue, Marcello M.; Rutten, J. J. M. M.) Generalized metric spaces: completion, topology, and powerdomains via the Yoneda embedding. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 1–51. (Summary) **98i:54015** 54E35 (18B30, 54B30, 68Q55)

Breuil, Christophe Topologie log-syntomique, cohomologie log-cristalline et cohomologie de Čech. (English and French summaries) [Log-syntomic topology, log-crystalline cohomology and Čech cohomology] *Bull. Soc. Math. France* **124** (1996), *no.* 4, 587–647. (Adolfo Quirós) **98d:14025** 14F30 (14F20, 14F40, 14G15, 14G20)

— Représentations p-adiques semi-stables et transversalité de Griffiths. [Semistable p-adic representations and Griffiths transversality] *Math. Ann.* **307** (1997), *no.* 2, 191–224. (Abdellah Mokrane) **98b:14016** 14F30 (11F85)

van Breukelen, Gerard J. P. *see* **Van Breukelen, Gerard J. P.**

Breulmann, S. Estimates for Fourier coefficients of Siegel cusp forms. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 159–164. (J. Spilker) **98k:11051** 11F30 (11F46)

Breutzmann, Josef M. (*with* Lutz, Jack H.) Equivalence of measures of complexity classes. (English summary) *STACS 97 (Lübeck)*, 535–545, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98h:68083** 68Q15

Brevdo, Leonid (*with* Bridges, Thomas J.) Local and global instabilities of spatially developing flows: cautionary examples. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1345–1364. (Summary) **98g:76030** 76Exx

— (*with* Bridges, Thomas J.) Absolute and convective instabilities of temporally oscillating flows. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 290–309. (Arjen Doelman) **98i:76034** 76E15 (35Q30)

Breveglieri, Luca (*with* Cherubini, Alessandra; Crespi Reghizzi, Stefano) Deterministic parsing for augmented context-free grammars. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 326–336, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q52

Brevik, Iver H. (*with* Straumsnes, S.) Electromagnetic modes in Schwarzschild geometry in an annular region. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 7, 837–850. (Summary) **98d:83041** 83C50

— (*with* Sollie, R.) On the Casimir energy for a $2N$-piece relativistic string. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2774–2785. (J.-P. Antoine) **98j:81228** 81T20 (81T30)

— (*with* Ocampo, Hernán; Odintsov, Sergei D.) ε-expansion in quantum field theory in curved space-time. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2857–2874. 81T20

Brewster, Richard C. (*with* Hell, Pavol; MacGillivray, Gary) The complexity of restricted graph homomorphisms. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 145–154. (Summary) **98c:05147** 05C85 (68Q25)

— (*with* MacGillivray, Gary) The homomorphism factoring problem. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 33–53. (N. J. Pullman) **98i:05086** 05C20

Brey, J. Javier (*with* Dufty, James W.; Santos, Andrés) Dissipative dynamics for hard spheres. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1051–1066. (Summary) **98g:82045** 82C70 (82C80)

— (*with* Pérez Prados, Antonio; Sánchez-Rey, B.) A dynamical Monte Carlo algorithm for master equations with time-dependent transition rates. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 709–734. 82C35 (82–08)

— (*with* Drozdov, A. N.) Higher-order quasilinear approximations for the propagator of the Kramers equation. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 119–125. 82B41

Breymann, Wolfgang (*with* Vollmer, Jürgen; Tél, Tamás) Equivalence of irreversible entropy production in driven systems: an elementary chaotic map approach. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 15, 2759–2762. (Summary) **98i:82062** 82C70 (58F13, 58F40)

Brézin, Edouard Matrix models of two-dimensional quantum gravity. *Gravitation et quantifications (Les Houches, 1992)*, 751–781, *North-Holland, Amsterdam*, 1995. (Henrik Aratyn) **98e:81133** 81T30 (81–02, 81T40)

— Dyson's universality in generalized ensembles of random matrices. (English summary) *The mathematical beauty of physics (Saclay, 1996)*, 1–11, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Estelle L. Basor) **98k:82073** 82B41

— Short distance universality in random matrix theory. Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 1–3. (*see* **98f:81004**) 82B44

— (*with* Hikami, S.) Spectral form factor in a random matrix theory. (English summary) *Phys. Rev. E (3)* **55** (1997), *no.* 4, 4067–4083. (Alexei Khorunzhy) **98g:15038** 15A52 (82B31)

Brezinski, Claude (*with* Redivo-Zaglia, M.) Vector and matrix sequence transformations based on biorthogonality. (English summary) *Appl. Numer. Math.* **21** (1996), *no.* 4, 353–373. (John P. Coleman) **98a:65005** 65B05 (65F10, 65H10)

— (*with* Redivo-Zaglia, M.) On the zeros of various kinds of orthogonal polynomials. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 67–78. (A. Bultheel) **98b:42039** 42C05 (30C15, 33C45)

— A transpose-free "Lanczos/orthodir" algorithm for linear systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 349–354. (Dimitrios Noutsos) **98c:65042** 65F10 (65F25)

— (*with* Redivo-Zaglia, M.; Sadok, H.) Breakdowns in the implementation of the Lánczos method for solving linear systems. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 31–44. (Summary) **98d:65052** 65F25

Brezis, Haïm (*with* Nirenberg, Louis) Degree theory and BMO. II. Compact manifolds with boundaries. With an appendix by the authors and Petru Mironescu. *Selecta Math. (N.S.)* **2** (1996), *no.* 3, 309–368. (Yi Hong Du) **98a:58024** 58C30 (46E35, 47B35, 47H11)

— (*with* Nirenberg, Louis) A Lyapounov-Schmidt procedure involving a nonlinear projection. *Multidimensional complex analysis and partial differential equations (São Carlos, 1995)*, 25–32, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Jacobo Pejsachowicz) **98g:47051** 47H15

— Degree theory: old and new. *Topological nonlinear analysis, II (Frascati, 1995)*, 87–108, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (Maria J. Esteban) **98d:58016** 58C30 (47H11)

Brezzi, Franco (*with* Franca, Leopoldo P.; Hughes, Thomas J. R.; Russo, Alessandro) $b = \int g$. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 329–339. (I. N. Molchanov) **98g:65086** 65M50 (65M60, 73V05)

— (*with* Iosilevich, Alexander; Bathe, Klaus-Jürgen) On evaluating the inf-sup condition for plate bending elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3639–3663. (Pekka Neittaanmäki) **98h:73075** 73V05 (73K10)

Brgan, Robert (*with* Poitrenaud, Denis) An efficient algorithm for the computation of stubborn sets of well formed Petri nets. (English summary) *Application and theory of Petri nets 1995 (Turin)*, 121–140, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q60 (68Q90)

Briales, E. (*with* Campillo, Antonio; Marijuán López, Carlos; Pisón, P.) Minimal systems of generators for ideals of semigroups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 7–30. (E. F. Robertson) **98k:20105** 20M25 (20M05, 20M14)

Briançon, J. Espaces conormaux relatifs. I. Conditions de transversalité. (English and French summaries) [Relative conormal spaces. I. Transversality conditions] *Ann. Sci. École Norm. Sup. (4)* **30** (1997), *no.* 5, 675–692. (Orlando Neto) **98i:32058** 32S40

Briand, Philippe Décomposition en chaos de Wiener des solutions d'équations différentielles stochastiques. (French summary) [Wiener chaos decomposition of the solutions of stochastic differential equations] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 15, 14 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (Summary) **98b:60108** 60H10

— Solutions de viscosité des équations aux dérivées partielles paraboliques. [Viscosity solutions of parabolic partial differential equations] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 9, 13 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 10, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1997. (Anna Mercaldo) **98g:35085** 35K10 (35D05)

Briane, Marc Homogenization of perforated laminates. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 21–57. (Summary) **98k:73005** 73B27 (35B27, 73K20)

— Homogenization of the torsion problem and the Neumann problem in nonregular periodically perforated domains. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 847–870. (Stanisław Migórski) **98h:35019** 35B27 (35J25, 73B27, 73K20)

Briaud, Daniel An explicit Eta rewrite rule. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 94–108, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (68N15)

Bribiesca, E. (*with* Wilson, Richard Gordon) A measure of 2D shape-of-object dissimilarity. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 107–115. 68U10

— Measuring 2-D shape compactness using the contact perimeter. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 1–9. (Summary) **98b:68192** 68U10

Brice, Charles W. (*with* Gökdere, Levent U.; Simaan, M. A.) Global asymptotic stability of indirect field-oriented speed control of current-fed induction motors. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 133–135. 93D05 (93C95)

Bricker, Harvey M. (*with* Bricker, Victoria R.; Wulfing, Bettina) Determining the historicity of three astronomical almanacs in the Madrid codex. (English summary) *Archaeoastronomy No. 22, suppl. J. Hist. Astronom.* 28 (1997), 517–536. (Summary) **98f:01006** 01A12

Bricker, Victoria R. (*with* Bricker, Harvey M.; Wulfing, Bettina) Determining the historicity of three astronomical almanacs in the Madrid codex. (English summary) *Archaeoastronomy No. 22, suppl. J. Hist. Astronom.* 28 (1997), 517–536. (Summary) **98f:01006** 01A12

Bricmont, J. (*with* Kupiainen, A.) Infinite-dimensional SRB measures. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 18–33. (Aernout C. D. van Enter) **98i:82040** 82C20 (58F11, 58F15, 82B20)

Bridgeman, Martin Average curvature of convex curves in H^2. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 221–224. (W. J. Firey) **98c:52012** 52A55 (52A38)

Bridger, Mark (*with* Alper, Joseph S.) Mathematics, models and Zeno's paradoxes. (English summary) A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 143–166. (Lawrence Sklar) **98c:03009** 03A05 (03E70, 03H05)

Bridges, Douglas S. ★ Foundations of real and abstract analysis. (English summary) Graduate Texts in Mathematics, 174. *Springer-Verlag, New York*, 1998. xiv+322 *pp. ISBN* 0-387-98239-6 (R. G. Bartle) **98m:00001** 00A05 (26–01, 46–01, 54–01)

Bridges, Thomas J. (*with* Benjamin, Thomas Brooke) Reappraisal of the Kelvin-Helmholtz problem. I. Hamiltonian structure. (English summary) *J. Fluid Mech.* **333** (1997), 301–325. (Alexander Lifschitz) **98g:76037a** 76E99 (58F40, 76M99)

— (*with* Benjamin, Thomas Brooke) Reappraisal of the Kelvin-Helmholtz problem. II. Interaction of the Kelvin-Helmholtz, superharmonic and Benjamin-Feir instabilities. (English summary) *J. Fluid Mech.* **333** (1997), 327–373. (Alexander Lifschitz) **98g:76037b** 76E99 (58F40, 76M99)

— Multi-symplectic structures and wave propagation. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 1, 147–190. (C. Eugene Wayne) **98d:58054** 58F05 (35Q35, 35Q55, 58F40)

— (*with* Brevdo, Leonid) Local and global instabilities of spatially developing flows: cautionary examples. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1345–1364. (Summary) **98g:76030** 76Exx

— A geometric formulation of the conservation of wave action and its implications for signature and the classification of instabilities. (English summary) *Proc. Roy. Soc.*

London Ser. A **453** (1997), *no.* 1962, 1365–1395. (Alex Mahalov) **98j:58101** 58F39 (35Q35, 58F05, 76B15, 76Exx, 76M99, 76U05)

— (*with* Brevdo, Leonid) Absolute and convective instabilities of temporally oscillating flows. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 290–309. (Arjen Doelman) **98i:76034** 76E15 (35Q30)

Bridson, Martin R. (*with* Gilman, Robert H.) Formal language theory and the geometry of 3-manifolds. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 525–555. (Lee Mosher) **98a:57024** 57N10 (20F32, 57M07, 57M50, 68Q45)

— (*with* Baumslag, Gilbert; Miller, Charles F., III; Short, Hamish) Finitely presented subgroups of automatic groups and their isoperimetric functions. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 292–304. (Panagiotis Papasoglu) **98j:20034** 20F05 (20F32)

Briec, W. Minimum distance to the complement of a convex set: duality result. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 301–319. (Gert Wanka) **98e:90113** 90C25 (49N15)

Brieden, A. (*with* Gritzmann, Peter) On Helly's theorem: algorithms and extensions. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 393–410. (Jürgen Eckhoff) **98h:52012** 52A35 (52B55, 68Q25)

Briem, Eggert (*with* Jarosz, Krzysztof) Operating functions for Banach function spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 169–180. (S. J. Sidney) **98i:46019** 46E15 (47H30)

Briend, Jean-Yves Exposants de Liapounoff des endomorphismes holomorphes de $\mathbf{CP}^k$. (English and French summaries) [Lyapunov exponents of holomorphic endomorphisms of $\mathbf{CP}^k$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1187–1190. (Sławomir Kołodziej) **98m:32042** 32H50

Brif, Constantin (*with* Vourdas, A.; Mann, Ady) Analytic representations based on SU(1, 1) coherent states and their applications. (English summary) *J. Phys. A* **29** (1996), *no.* 18, 5873–5885. (Jiu Qing Liang) **98a:81067** 81R30 (22E70, 81V80)

— (*with* Vourdas, A.; Mann, Ady) Factorization of analytic representations in the unit disc and number-phase statistics of a quantum harmonic oscillator. (English summary) *J. Phys. A* **29** (1996), *no.* 18, 5887–5898. (Jiu Qing Liang) **98d:81029** 81R30 (22E70, 81R05)

— SU(2) and SU(1, 1) algebra eigenstates: a unified analytic approach to coherent and intelligent states. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1651–1682. (Apostolos Vourdas) **98g:81048** 81R05 (81R30)

— (*with* Mann, Ady) Generation of single-mode SU(1, 1) intelligent states and an analytic approach to their quantum statistical properties. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 6, 899–920. (K. Wódkiewicz) **98k:81335** 81V80 (81R30)

Briggs, David A. (*with* Ferziger, Joel H.; Koseff, Jeffrey R.; Monismith, Stephen G.) Turbulent mixing in a shear-free stably stratified two-layer fluid. (English summary) *J. Fluid Mech.* **354** (1998), 175–208. 76F99 (76V05)

Briggs, K. M. (*with* Dixon, T. W.; Kenny, B. G.) On the universality of singular circle maps. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 359–366. 58F13

Brigham, Robert C. (*with* Cherry, Kathleen G.) Line greatest common subgraphs. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 151–160. (*see* **98h:05007**) 05C75

— (*with* Dutton, Ronald D.) Pairs of maximal "almost" disjoint isomorphic subgraphs of spiders. (English summary) *Util. Math.* **52** (1997), 161–172. (Summary) **98i:05100** 05C35

Bright, L. (*with* Bean, N. G.; Latouche, G.; Pearce, Charles E. M.; Pollett, P. K.; Taylor, Peter G.) The quasi-stationary behavior of quasi-birth-and-death processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 134–155. (Charles Tier) **98f:60180** 60K25

Brightwell, Graham (*with* Goodall, Sarah) The number of partial orders of fixed width. (English summary) *Order* **13** (1996), *no.* 4, 315–337. (Miklós Bóna) **98d:06004** 06A07 (05A16)

— (*with* Bollobás, Béla) Random walks and electrical resistances in products of graphs. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 1, 69–79. (Walter M. Böhm) **98c:60085** 60J15 (05C90, 60C05, 94C15)

Brihaye, Yves (*with* Giller, Stefan; Kosiński, Piotr; Nuyts, Jean) Irreducible representations of an algebra underlying hidden symmetries of a class of quasi-exactly solvable systems of equations. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 201–226. (Allina A. Suzko) **98h:81038** 81R05 (58F19, 81Q05, 81U40)

— (*with* Giller, Stefan; Kosiński, Piotr) Linear operators with invariant polynomial space and graded algebra. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 989–999. (Joris Van der Jeugt) **98b:81068** 81R05 (17A70, 22E70)

Brill, Dieter R. (*with* Louko, Jorma; Peldán, Peter) Thermodynamics of (3 + 1)-dimensional black holes with toroidal or higher genus horizons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3600–3610. (Gil De Oliveira-Neto) **98i:83047** 83C57 (83C15, 83E05)

— (*with* Anderson, Paul R.) Gravitational geons revisited. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4824–4833. (Valerio Faraoni) **98k:83033** 83C35 (83C40)

Brill, Manfred (*with* Hagen, Hans; Rodrian, Khans-Kristian; D'yachin, V.; Klimenko, S. V.) The use of the streamball technique for visualizing flows. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 63–73; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 266–269. 76M25 (76–04)

— (*with* Hagen, Hans; Rodrian, Khans-Kristian; Veimer, Khenrik; D'yachin, V.; Klimenko, S. V.) Implicit methods for the visualization of a fluid flow. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 74–79; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 270–271. 76M25 (76–04)

Brill, Percy H. (*with* Harris, Carl M.) $M/G/1$ queues with Markov-generated server vacations. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 491–521. (Summary) **98a:60132** 60K25

— (*with* Huang, Mei Ling) A level crossing density estimation method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4403–4414. (*see* **98i:00032**) 62G05

— (*with* Hlynka, M.) A single server N-line queue in which a customer may receive special treatment. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 905–931. 60K25

Brill, Stephen H. (*with* Pinder, George F.) A parallel preconditioned bi-conjugate gradient algorithm for two-dimensional elliptic and parabolic equations using Hermite collocation. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M55 (65N55, 65Y05)

Brilla, Jozef Laplace transform and new mathematical theory of viscoelasticity. (English and Italian summaries) Transform methods in solid mechanics (Munich, 1996). *Meccanica* **32** (1997), *no.* 3, 187–195. (*see* **98h:73004**) 73F15 (44A10, 73V25)

Brillard, A. (*with* Ganghoffer, J. F.) Models for contact and friction using a deductive approach. (English summary) *Contact mechanics, III* (*Madrid*, 1997), 23–32, *Comput. Mech., Southampton*, 1997. (*see* **98h:73001**) 73T05

— (*with* Bandle, Catherine; Flucher, M.) Green's function, harmonic transplantation, and best Sobolev constant in spaces of constant curvature. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1103–1128. (H. Triebel) **98g:35045** 35J05 (46E35)

Brillhart, John (*with* Morton, Patrick) A case study in mathematical research: the Golay-Rudin-Shapiro sequence. *Amer. Math. Monthly* **103** (1996), *no.* 10, 854–869. (G. J. Rieger) **98g:01048** 01A60 (11B83)

— (*with* Blecksmith, Richard; Gerst, Irving) A lattice proof of a modular identity. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1275–1287. (Richard P. Lewis) **98e:11123** 11P83 (11F11)

— (*with* Blecksmith, Richard; Gerst, Irving) A constructive theory of triple and quintuple product identities of the second degree. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 797–814. (Heng Huat Chan) **98g:11047** 11F11 (11P81)

Brillinger, David R. An analysis of an ordinal-valued time series. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 73–87, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62157** 62M10

— An application of statistics to meteorology: estimation of motion. (English summary) *Festschrift for Lucien Le Cam*, 93–105, *Springer, New York*, 1997. (Summary) **98h:62132** 62M10 (62G05, 86A10)

— *see also* **Modelling longitudinal and spatially correlated data**, **98h:62003**

Brilman, Matthieu (*with* Vincent, Jean-Marc) Dynamics of synchronized parallel systems. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 605–617. (Summary) **98b:68043** 68Q10 (68M15)

Brim, Luboš (*with* Gilbert, David Roger; Jacquet, Jean-Marie; Křetínský, Mojmír) A process algebra for synchronous concurrent constraint programming. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 165–178, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q10 (68N17, 68T20)

Brimkov, Valentin E. (*with* Danchev, Stefan S.; Leoncini, Mauro) On the algebraic complexity of certain integer linear programming problems. (English summary) *Theoretical computer science* (*Ravello*, 1995), 497–511, *World Sci. Publishing, River Edge, NJ*, 1996. (Nikolay N. Ivanov) **98e:90218** 90C60 (68Q25, 90C10)

— (*with* Danchev, Stefan S.) Real data—integer solution problems within the Blum-Shub-Smale computational model. (English summary) *J. Complexity* **13** (1997), *no.* 2, 279–300. (D. Bini) **98m:68114** 68Q25

Brinati, J. R. (*with* Mizrahi, Salomon S.; Prataviera, G. A.) Non-Markovian irreversibility and entropy. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 83–90, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:82040** 82C10 (81V80)

Brindley, J. (*with* Matthews, L.) Patchiness in plankton populations. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 1, 39–59. (Jian Hong Wu) **98g:92005** 92D40 (34C99, 35Q80)

— (*with* Kapitaniak, Tomasz) Preserving transient chaos. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 41–45. 58F13 (34D45)

— *see also* **Applications of chaos**, **98k:58002**

Brindza, B. On large values of binary forms. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 839–845. (Jeffrey Lin Thunder) **98f:11029** 11D75

— (*with* Pintér, Ákos) On the irreducibility of some polynomials in two variables. *Acta Arith.* **82** (1997), *no.* 3, 303–307. (T. N. Shorey) **98j:11019** 11D41 (11C08)

— (*with* Borbély, Albert; Bovdi, V. A.; Krausz, T.) Covering theorems for Artinian rings. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 323–329. 16P20

sánchez-Bringas, Federico *see* **Sánchez-Bringas, Federico**

Bringsjord, Selmer (*with* Zenzen, Michael) Cognition is not computation: the argument from irreversibility. (English summary) *Synthese* **113** (1997), *no.* 2, 285–320. 03A05 (00A30)

Brini, Andrea (*with* Teolis, Antonio G. B.) Grassmann progressive and regressive products and CG-algebras. *Hermann Günther Grassmann* (1809–1877): *visionary mathematician, scientist and neohumanist scholar* (*Lieschow*, 1994), 231–242, *Boston Stud. Philos. Sci.*, 187, *Kluwer Acad. Publ., Dordrecht*, 1996. (H. K. Farahat) **98c:15083** 15A75 (01A55, 01A60)

Brini, F. (*with* Siboni, S.; Turchetti, G.; Vaienti, S.) Decay of correlations for the automorphism of the torus $\mathbf{T}^2$. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1257–1268. (Nikolai Chernov) **98h:58133** 58F15 (58F11)

van den Brink, A. Maassen (*with* Dekker, H.; de Leeuw, G.) Boundary-layer turbulence modeling and vorticity dynamics. I. A kangaroo-process mixing model of boundary-layer turbulence. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 223–237, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (James P. Denier) **98m:76080** 76Fxx (76M35)

Brink, Chris From two- to four-valued logic. (English summary) *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 9–16, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Tôru Miyama) **98a:03031** 03B50

Brink, Lars (*with* Turbiner, A. V.; Wyllard, Niclas) Hidden algebras of the (super) Calogero and Sutherland models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1285–1315. (Kazuhiro Hikami) **98m:81059** 81R10 (17B81, 81R50, 81V70)

van den Brink, René An axiomatization of the disjunctive permission value for games with a permission structure. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 27–43. (Bernhard von Stengel) **98a:90149** 90D12

Brink, Ulrich (*with* Carstensen, Carsten; Stein, Erwin) Symmetric coupling of boundary elements and Raviart-Thomas-type mixed finite elements in elastostatics. (English summary) *Numer. Math.* **75** (1996), *no.* 2, 153–174. (Summary) **98g:65106** 65N30 (65R20, 73V05)

van den Brink, W. P. The improper use of social security: an estimation problem. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 1–5. 62F25 (60C05, 62P99)

Brinkman, John Minimal permutation representations of the two double covers of S_n. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 2, 285–289. (Jorn B. Olsson) **98b:20018** 20C30

Brinkmann, Gunnar (*with* Dress, Andreas W. M.; Perrey, S. W.; Stoye, J.) Two applications of the divide & conquer principle in the molecular sciences. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 71–97. (Summary) **98e:90220** 90C90 (92D20, 92E10)

— (*with* Brandt, Stephan; Harmuth, Thomas) All Ramsey numbers $r(K_3, G)$ for connected graphs of order 9. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 7, 20 *pp.* (*electronic*). (C. C. Rousseau) **98m:05126** 05C55

Brinksma, Ed (*with* Langerak, Rom; Katoen, Joost-Pieter) Causal ambiguity and partial orders in event structures. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 317–331, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q55)

Brinson, L. C. (*with* Bekker, Alexander) Temperature-induced phase transformation in a shape memory alloy: phase diagram based kinetics approach. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 6, 949–988. (Summary) **98d:73006** 73B30

Brînzănescu, Vasile ★ Holomorphic vector bundles over compact complex surfaces. Lecture Notes in Mathematics, 1624. *Springer-Verlag, Berlin*, 1996. x+170 *pp. ISBN* 3-540-61018-9 (Zhenbo Qin) **98g:32053** 32Lxx (14D20, 32G13, 32J15)

— (*with* Aprodu, Marian) Stable rank-2 vector bundles over ruled surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 295–300. (Giorgio Ottaviani) **98j:14009** 14D20 (14J26, 14J60)

Brion, Michel The push-forward and Todd class of flag bundles. *Parameter spaces* (*Warsaw*, 1994), 45–50, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (From the text) **98h:14059** 14M15 (14C15)

— (*with* Vergne, Michèle) Lattice points in simple polytopes. *J. Amer. Math. Soc.* **10** (1997), *no.* 2, 371–392. (Hartmut Menzer) **98a:11132** 11P21 (11H06, 14M25)

— (*with* Vergne, Michèle) Residue formulae, vector partition functions and lattice points in rational polytopes. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 797–833. (Alexander I. Barvinok) **98e:52008** 52B20 (05A17, 11P21, 14M25)

— (*with* Vergne, Michèle) An equivariant Riemann-Roch theorem for complete, simplicial toric varieties. *J. Reine Angew. Math.* **482** (1997), 67–92. (T. Oda) **98a:14067** 14M25 (14C40, 19L10, 52B20)

— The structure of the polytope algebra. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 1, 1–32. (P. McMullen) **98a:52019** 52B45 (14M25)

— Differential forms on quotients by reductive group actions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2535–2539. (V. L. Popov) **98k:14067** 14L30 (16S32)

Brioschi, Francesco[1] *see* **Zappa, Guido**, **98k:01012**

Briozzo, Adriana C. (*with* Tarzia, Domingo Alberto) Exact solutions of a free boundary problem for flows in a saturated-unsaturated medium with variable diffusivity. (Spanish. English and Spanish summaries) *Fifth Seminar on Free Boundary Value Problems and their Applications, Vol.* 2 (*Spanish*) (*Rosario*, 1994), 59–72, *Cuadern. Inst. Mat. Beppo Levi*, 26, *Univ. Nac. Rosario, Rosario*, 1995. (Summary) **98a:86002** 86A05

Briozzo, Carlos B. (*with* Osenda, Omar; Cáceres, Manuel O.) Stochastic Lorenz model for periodically driven Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, R3824–R3827. (Summary) **98c:76038** 76E15 (76F20)

— (*with* Osenda, Omar; Cáceres, Manuel O.) Noise and pattern formation in periodically driven Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 412–427. 76E15

le Bris, C. *see* **Le Bris, C.**

Brisaboa, Nieves R. (*with* Hernández, Héctor J.) Testing bag-containment of conjunctive queries. (English summary) *Acta Inform.* **34** (1997), *no.* 7, 557–578. (Summary) **98g:68031** 68P15

Briscolini, M. (*with* Carnevale, G. F.; Kloosterziel, R. C.; Vallis, Geoffrey K.) Three-dimensionally perturbed vortex tubes in a rotating flow. (English summary) *J. Fluid Mech.* **341** (1997), 127–163. (Summary) **98b:76016** 76C05 (76C20, 76E20, 76U05, 86A10)

Briseghella, Lamberto (*with* Brank, Boštjan; Tonello, Nicola; Damjanić, Frano B.) On non-linear dynamics of shells: implementation of energy-momentum conserving algorithm for a finite rotation shell model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 409–442. 73K15 (73V05)

Briskin, M. (*with* Yomdin, Y.) Algebraic families of analytic functions. I. *J. Differential Equations* **136** (1997), *no.* 2, 248–267. (Pierre D. Milman) **98h:34009b** 34A25 (12H20, 14P05, 32B05, 34A20, 34C05)

Briskman, V. A. (*with* Birikh, R. V.; Velarde, M. G.; Cherepanov, A. A.) The influence of the thermocapillary effect on the parametric excitation of waves. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 616–619; *translation in Phys. Dokl.* **42** (1997), *no.* 2, 93–96. (Vladan D. Djordjević) **98h:76032** 76D33 (76D45, 76E99)

salas-Brito, A. L. *see* **Salas-Brito, A. L.**

Brito, Daniel (*with* Amar, Denise; Brandt, Stephan; Ordaz, Oscar) Neighborhood conditions for balanced independent sets in bipartite graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 31–36. (Summary) **98h:05111** 05C38 (05C45, 05C70)

Brito, Lucília (*with* da Providência, Constança; da Providência, João; Avancini, S. S.; de Souza Cruz, F. F.; Menezes, D. P.; Watanabe Moraes, M. M.) The $SU_q(3)$ algebra: application to the 3-level Lipkin model. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 54–57, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98i:81275** 81V35 (17B37, 81R50)

Brito, Ricardo (*with* Asselah, Amine; Lebowitz, Joel L.) Self-diffusion in simple models: systems with long-range jumps. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1131–1144. (Roberto Fernández) **98k:82121** 82C22 (60J60, 82C20)

— (*with* Bussemaker, Harmen J.) Theory for diffusion-limited oscillating chemical reactions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1165–1178. (Summary) **98h:82066** 82C80 (80A32)

Britten, Daniel (*with* Benkart, Georgia; Lemire, Frank) Modules with bounded weight multiplicities for simple Lie algebras. *Math. Z.* **225** (1997), *no.* 2, 333–353. (Alexander N. Rudyĭ) **98b:17004** 17B10 (17B20)

Brittenham, Mark (*with* Naimi, Ramin; Roberts, Rachel) Graph manifolds and taut foliations. (English summary) *J. Differential Geom.* **45** (1997), *no.* 3, 446–470. (Torsten Asselmayer) **98j:57040** 57R30 (57N10)

Britton, John Leslie *see* **Collins, D. J.**, **98f:01059**

Britton, Tom Limit theorems and tests for within family clustering in epidemic models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 953–976. (M. M. Siddiqui) **98e:62026** 62E20

— A test to detect within-family infectivity when the whole epidemic process is observed. *Scand. J. Statist.* **24** (1997), *no.* 3, 315–330. (Niels Keiding) **98m:62225** 62M07 (62M02, 62P10)

le Brizaut, Jean-Sébastien *see* **Le Brizaut, Jean-Sébastien**

Brnetić, Ilko (*with* Agarwal, Ravi P.; Pečarić, Josip E.) Improved integral inequalities in n independent variables. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 27–38. (Gradimir V. Milovanović) **98f:26012** 26D10 (26D15)

— (*with* Pečarić, Josip E.) Note on the generalization of the Godunova-Levin-Opial inequality in several independent variables. *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 274–282. (B. G. Pachpatte) **98k:26029** 26D10

— (*with* Agarwal, Ravi P.; Pečarić, Josip E.) Improved discrete inequalities in n independent variables. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 91–97. 26D15

Broad, A. S. (*with* Porter, David; Sewell, Michael) New shallow flows over an obstacle. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 625–653. (Summary) **98j:76013** 76B99 (86A10)

Broadbridge, P. (*with* Lavrent'ev, M. M., Jr.; Belov, V. Ya.) Boundary value problems for strongly degenerate parabolic equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 1-2, 17–38. (Bo Guan) **98a:35078** 35K65 (35K60)

— (*with* Arrigo, D. J.; Tritscher, P.; Karciga, Y.) The depth of a steep evaporating grain boundary groove: application of comparison theorems. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 1–8. (Summary) **98c:80010** 80A99 (35K99, 35R35)

— (*with* Goard, J. M.) Steady unsaturated flow in two-dimensional scale-heterogeneous porous media. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 45–54. (Summary) **98i:76085** 76S05

Broadhurst, D. J. (*with* Borwein, Jonathan M.; Bradley, David) Evaluations of k-fold Euler/Zagier sums: a compendium of results for arbitrary k. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 5, *approx.* 21 *pp.* (*electronic*). (Pavel Guerzhoy) **98b:11091** 11M41 (11Y60)

— (*with* Kreimer, D.) Association of multiple zeta values with positive knots via Feynman diagrams up to 9 loops. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 403–412. (Louis H. Kauffman) **98g:11101** 11M41 (11Z05, 57M25, 81T18)

— (*with* Gracey, J. A.; Kreimer, D.) Beyond the triangle and uniqueness relations: non-zeta counterterms at large N from positive knots. (English summary) *Z. Phys. C* **75** (1997), *no.* 3, 559–574. (Răzvan Gelca) **98k:81178** 81T18 (57M25, 81Q30, 81T15)

Broadie, Mark (*with* Detemple, Jérôme B.) Recent advances in numerical methods for pricing derivative securities. *Numerical methods in finance*, 43–66, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (From the introduction) **98d:90033** 90A12 (90–02)

— (*with* Boyle, Phelim P.; Glasserman, Paul) Monte Carlo methods for security pricing. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1267–1321. (*see* **98c:90003**) 90A12 (65C05)

— (*with* Glasserman, Paul) Pricing American-style securities using simulation. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1323–1352. (*see* **98c:90003**) 90A12 (65C05)

— (*with* Detemple, Jérôme B.) The valuation of American options on multiple assets. (English summary) *Math. Finance* **7** (1997), *no.* 3, 241–286. (Summary) **98b:90012** 90A09

Broadwater, Adrienne (*with* Efe, Kemal; Fernández, Antonio) Embedding complete binary trees in product graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 56–66, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68R10 (05C10, 05C85)

Brock, Jeffrey F. Iteration of mapping classes on a Bers slice: examples of algebraic and geometric limits of hyperbolic 3-manifolds. (English summary) *Lipa's legacy* (*New York*, 1995), 81–106, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Feng Luo) **98k:30057** 30F40 (57M50, 57N10)

Brock, L. M. Some results for Rayleigh and Stoneley signals in thermoelastic solids. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 835–850. (Summary) **98e:73014** 73B30 (73D20)

— Transient three-dimensional Rayleigh and Stoneley signal effects in thermoelastic solids. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 12, 1463–1478. (Summary) **98b:73015** 73D20 (73B30)

— (*with* Rodgers, M. J.) Steady-state response of a thermoelastic half-space to the rapid motion of surface thermal/mechanical loads. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 225–240. (Summary) **98j:73013** 73B30

Brock, Paul William (*with* Kent, Darrell) Approach spaces, limit tower spaces, and probabilistic convergence spaces. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 99–110. (Summary) **98b:54017** 54B30 (18B30, 54A05, 54E70)

— (*with* Kent, Darrell) Probabilistic convergence spaces and regularity. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 637–646. (Summary) **98h:54042** 54E70 (54A20, 54D10)

— (*with* Kent, Darrell) On convergence approach spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 117–125. (Summary) **98m:54007** 54A20 (18B30, 54B30)

— Probabilistic convergence spaces and generalized metric spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 439–452. (Summary) **98m:54035** 54E70 (54A05, 54A20, 54B30)

Brock, Simon (*with* Ostheimer, Gerald) A process semantics for functional programming. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 7 *pp.* (*electronic*). *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68N15 (68Q55)

— (*with* Shand, Duncan) Proofs as graphs. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA*

'95) (*Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 03F07

Brock, William A. (*with* Scheinkman, José A.; Dechert, W. Davis; LeBaron, B.) A test for independence based on the correlation dimension. (English summary) *Econometric Rev.* **15** (1996), *no.* 3, 197–235. (Vipul A. Kalamkar) **98a:62112** 62M10 (62G10, 62P20)

— (*with* Hommes, Cars H.) A rational route to randomness. (English summary) *Econometrica* **65** (1997), *no.* 5, 1059–1095. (Jakša Cvitanić) **98i:90035** 90A56 (58F40)

Bröcker, Ludwig (*with* Andradas, Carlos; Ruiz, Jesús M.) ★ Constructible sets in real geometry. Ergebnisse der Mathematik und ihrer Grenzgebiete (3) [Results in Mathematics and Related Areas (3)], 33. *Springer-Verlag, Berlin*, 1996. x+270 *pp. ISBN* 3-540-60451-0 (Thomas C. Craven) **98e:14056** 14P10 (12J15, 13J25, 14P15)

— (*with* Kuppe, M.; Scheufler, W.) Inner metric properties of 2-dimensional semi-algebraic sets. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 51–78. (Akhil Ranjan) **98m:53084** 53C45 (14P10)

Brockett, Roger W. Oscillatory descent for function minimization. (English summary) *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 65–82, *Birkhäuser Boston, Boston, MA*, 1997. (Th. M. Liebling) **98c:90130** 90C30 (65K05, 90C27)

— Notes on stochastic processes on manifolds. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 75–100, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Jacques Vauthier) **98a:58172** 58G32 (68U10, 93E03)

— (*with* Bloch, Anthony M.; Crouch, Peter E.) Double bracket equations and geodesic flows on symmetric spaces. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 357–373. (L. E. Faybusovich) **98g:58136** 58F17

Brockmann, Michael (*with* Fan, Jianqing; Gasser, Theo; Gijbels, Irène; Engel, Joachim) Local polynomial regression: optimal kernels and asymptotic minimax efficiency. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 79–99. (Wolfgang Polonik) **98j:62030** 62G05 (62G20)

Brockwell, Peter J. On the use of continuous-time ARMA models in time series analysis. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 88–101, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62158** 62M10

— (*with* Stramer, O.; Tweedie, Richard L.) Continuous-time threshold AR(1) processes. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 3, 728–746. (H.-J. Engelbert) **98d:60116** 60H10 (60J25, 60J60, 62M10)

— (*with* Stramer, O.; Tweedie, Richard L.) Existence and stability of continuous time threshold ARMA processes. (English summary) *Statist. Sinica* **6** (1996), *no.* 3, 715–732. (B. M. Pötscher) **98d:60144** 60J25 (62M05, 62M10)

— (*with* Williams, Ruth J.) On the existence and application of continuous-time threshold autoregressions of order two. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 205–227. (Summary) **98a:60110** 60J60 (60J35, 60J70)

— (*with* Mitchell, Heather) Estimation of the coefficients of a multivariate linear filter using the innovations algorithm. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 2, 157–179. (Summary) **98d:62165** 62M10 (62M20)

Brod, Klaus (*with* Plaschko, Peter) Homoclinic bifurcations of plane motion in general cubic potentials. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 848–855. (Summary) **98f:34069** 34C37 (34C23, 58F13, 70H05, 70K50)

Broda, Bogusław A gauge-field approach to 3- and 4-manifold invariants. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 201–209, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Richard A. Corrado) **98f:57054** 57R57 (57R65, 81T13)

Broda, Sabine (*with* Damas, Luís) A new translation algorithm from lambda calculus into combinatory logic. (English summary) *Progress in artificial intelligence* (*Funchal*, 1995), 359–370, *Lecture Notes in Comput. Sci.*, 990, *Springer, Berlin*, 1995. (Summary) **98g:03040** 03B40 (68S05, 68T30)

— (*with* Damas, Luís) On combinatory complete sets of proper combinators. (English summary) *J. Funct. Programming* **7** (1997), *no.* 6, 593–612. (Summary) **98k:03034** 03B40

— (*with* Damas, Luís) Compact bracket abstraction in combinatory logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 729–740. (Henri Volken) **98m:03027** 03B40

Brodal, Gerth Stølting Fast meldable priority queues. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 282–290, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05

— Priority queues on parallel machines. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 416–427, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68P05 (68Q10)

— Predecessor queries in dynamic integer sets. (English summary) *STACS 97* (*Lübeck*), 21–32, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68023** 68P05 •

Broday, David (*with* Fichman, Mati; Shapiro, Michael; Gutfinger, Chaim) Motion of spheroidal particles in vertical shear flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 86–100. 76T05 (76E99)

Brodbeck, Othmar (*with* Heusler, Markus) Stationary perturbations and infinitesimal rotations of static Einstein-Yang-Mills configurations with bosonic matter. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6278–6283. (Summary) **98g:83080** 83C99 (81T13, 81T20)

Broder, Andrei Z. (*with* Mayr, Ernst W.) Counting minimum weight spanning trees. *J. Algorithms* **24** (1997), *no.* 1, 171–176. (E. M. Palmer) **98c:05080** 05C30 (05C05, 68R10)

Brodersen, Hans (*with* Ishikawa, Goo; Wilson, Leslie Charles) A criterion for finite topological determinacy of map-germs. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 662–700. (From the introduction) **98i:58029** 58C27

— On finite and infinite C^k-$\mathscr{A}$-determinacy. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 369–435. (Leslie Charles Wilson) **98d:58011** 58C27

Brodsik, Andrej (*with* Munro, J. Ian) Neighbours on a grid. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 309–320, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98e:68038** 68P05

Brodovich, M. T. On mappings of a three-dimensional domain that preserve angles and expansion along a system of rays. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 260–262, i; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 220–222. (Summary) **98b:30009** 30C35

Brodskii, German M. Lattice anti-isomorphisms of modules and the AB5* condition. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 171–175, *de Gruyter, Berlin*, 1996. (Stuart A. Steinberg) **98h:16004** 16D10

— Countable distributivity, linear compactness and the AB5* condition in modules. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 6, 727–728. (From the text) **98d:16004** 16D70 (16B50)

— The Grothendieck AB5* condition and generalizations of the distributivity of a module. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 3–13; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 1–11. (G. M. Bergman) **98k:16006** 16D70 (06D05, 16P60)

— (*with* Wisbauer, Robert) On duality theory and AB5* modules. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 17–27. (J. L. Gómez Pardo) **98i:16010** 16D90 (18E15)

Brodskiĭ, N. B. (*with* Shchepin, E. V.) Poincaré duality and Serre fibrations. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 55–61. (Dušan Repovš) **98k:54018** 54C10 (57N15)

Brodskiĭ, S. D. (*with* Howie, James) The universal torsion-free image of a group. (English summary) *Israel J. Math.* **98** (1997), 209–228. (Martin Edjvet) **98g:20048** 20F05

Brodskiĭ, Yu. A. (*with* Averbukh, È. D.) On the stationary states of perturbed equations of macrodynamics. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 36–45; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1277–1284 (1998). 93A30 (93C15)

Brodskij, N. B. *see* **Brodskiĭ, N. B.**

Brodsky, Anatol M. Casimir free energy of a spherical cavity in a dielectric medium. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5127–5142. (Summary) **98g:81219** 81V10 (81T15)

Brodsky, Mikhail An asymptotical inversion of the eigenfrequencies for a three-dimensional problem with spherical symmetry. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 472–484. (Carol Shubin) **98d:34022** 34A55 (34E20, 34L40, 86A15)

Brodsky, Sergei D. *see* **Brodskiĭ, S. D.**

Brodsky, Stanley J. (*with* Antonuccio, Francesco; Dalley, S.) Light-cone wavefunctions at small x. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 104–110. 81T13

— (*with* Huet, Patrick) Aspects of $SU(N_c)$ gauge theories in the limit of small number of colors. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 145–153. (Summary) **98j:81208** 81T13 (81V05)

Brody, Dorje C. (*with* Hughston, Lane P.) Generalised Heisenberg relations for quantum statistical estimation. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 257–262. (Summary) **98j:81048** 81P99 (82B10)

Bródy, F. *see* **von Neumann, John, 98b:01041**

Brodzki, Jacek (*with* Connes, Alain; Ellwood, D.) Polarized modules and Fredholm modules. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 15–24. (Éric Leichtnam) **98i:58021** 58B30 (46H25, 46L05, 47B50)

— Cyclic cohomology, supertraces and index theory. *Exposition. Math.* **15** (1997), *no.* 1, 1–24. (Donggeng Gong) **98g:46106** 46L85 (19D55, 46M20, 58G12)

vanden-Broeck, Jean-Marc *see* **Vanden-Broeck, Jean-Marc**

van den Broeck, Julien (*with* Arickx, Frans; Broeckhove, Jan; Dejonghe, Muriel) BSFM: a computer program for Bayesian stochastic frontier models. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 403–421. 62P20

Broecker, Claudia (*with* Schulz, Ralph-Hardo; Stroth, Gernot) Check character systems using Chevalley groups. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 137–143. (Leonard Chastkofsky) **98b:20027** 20D20 (20D15, 94B60)

Broeckhove, Jan (*with* Arickx, Frans; Dejonghe, Muriel; van den Broeck, Julien) BSFM: a computer program for Bayesian stochastic frontier models. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 403–421. 62P20

— (*with* Vanroose, W.; Van Leuven, P.; Arickx, Frans) Double poles of the S-matrix in a two-channel model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5543–5549. 81U05

Broeckx, Fernand C. M. *see* **Congress: Computational and Applied Mathematics, 98d:65005**

Broer, H. W. (*with* Verhulst, Ferdinand) Henri Poincaré. (Dutch. Dutch summary) *Summer course* 1996: *chaos* (*Dutch*), 47–62, *CWI Syllabi*, 41, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1996. (D. J. Struik) **98b:01037** 01A70

— (*with* Roussarie, Robert; Simó, Carles) Invariant circles in the Bogdanov-Takens bifurcation for diffeomorphisms. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1147–1172. (Ernest Fontich) **98a:58121** 58F14 (34C23, 34C35)

Broere, Izak (*with* Hajnal, Péter; Mihók, Peter) Partition problems and kernels of graphs. *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 311–313. 05C70

Broersma, H. J. (*with* van den Heuvel, J.; Jackson, Bill; Veldman, Henk Jan) Hamiltonicity of regular 2-connected graphs. (English summary) *J. Graph Theory* **22** (1996), *no.* 2, 105–124. (Summary) **98d:05090** 05C45 (05C40)

— (*with* Kloks, Ton; Kratsch, Dieter; Müller, Haiko) Independent sets in asteroidal triple-free graphs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 760–770, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 05C85 (68Q25, 68R10)

— (*with* Li, Hao[1]; Li, Jianping; Tian, Feng[1]; Veldman, Henk Jan) Cycles through subsets with large degree sums. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 43–54. (Zheng Sheng Wu) **98f:05094** 05C38 (05C45)

Brogi, Antonio (*with* Guarino, Cosimo) Pruning the search space of logic programs. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 35–49, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17

Brogliato, Bernard ★ Nonsmooth impact mechanics. Models, dynamics and control. Lecture Notes in Control and Information Sciences, 220. *Springer-Verlag London, Ltd., London*, 1996. xvi+400 *pp. ISBN* 3-540-76079-2 (P. D. Panagiotopoulos) **98f:70002** 70–02 (34A60, 34H05, 70B15, 70Q05, 73F99, 93–02, 93C85)

— (*with* Niculescu, Silviu-Iulian; Orhant, Pascal) On the control of finite-dimensional mechanical systems with unilateral constraints. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 200–215. (Clementina D. Mladenova) **98b:93046** 93C85 (70Q05)

de Broglie, Louis ★ Diverses questions de mécanique et de thermodynamique classiques et relativistes. (French. French summary) [Various questions of classical and relativistic mechanics and thermodynamics] Based on an unpublished manuscript by de

Broglie. Edited and with a preface and an introduction by Georges Lochak, Michel Karatchentzeff and Daniel Fargue. Lecture Notes in Physics. New Series m: Monographs, 32. *Springer-Verlag, Berlin*, 1995. xii+198 *pp. ISBN* 3-540-59446-9 (M. Fabrizio) **98a:70001** 70-01 (70H40, 80-01)

— Divers problèmes concernant les ondes et les corpuscules (suite). [Various problems concerning waves and particles (continuation)] Cours professé à l'institute Henri Poincaré en 1956–1957 [Course given at the Institut Henri Poincaré in 1956–1957]. *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 3, 221–236. 81-03 (01A75, 81P05)

— *see also* **Dugas, René**, **98a:01001** *and* **Nye, Mary Jo**

Brojewski, R. A method of modelling three-dimensional air flows in the lower layer of the atmosphere. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 3, 503–520. (Summary) **98i:86004** 86A10

Brokate, Martin (*with* Krejčí, Pavel) Maximum norm wellposedness of nonlinear kinematic hardening models. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 365–380. (Mircea Sofonea) **98m:73047** 73E50 (34G20, 47H30, 47N20)

— *see also* **Functional analysis with current applications in science, technology and industry**, **98i:00018**

Broline, Duane M. (*with* Loeb, Daniel E.) The combinatorics of Mancala-type games: Ayo, Tchoukaillon, and $1/\pi$. *UMAP J.* **16** (1995), *no.* 1, 21–36. (Richard J. Nowakowski) **98a:90166** 90D46 (05A99, 90D10)

Bromberg, Shirley (*with* López de Medrano, Santiago) C^r-sufficiency of quasihomogeneous functions. *Real and complex singularities (São Carlos, 1994)*, 179–188, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Maria Aparecida Soares Ruas) **98g:58011** 58C27

Bromley, D. A. *see* **Greiner, Walter**, **98i:81001**

Broncano, Fernando Truth and substitutes of truth in scientific and technological explanation. (Spanish) *Current perspectives in logic and philosophy of science (Spanish)*, 277–303, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 03A05

Broner, Fernando (*with* Goldsztein, Guillermo H.; Strogatz, Steven H.) Dynamical hysteresis without static hysteresis: scaling laws and asymptotic expansions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1163–1187. (Vladimir Chernorutskiĭ) **98k:34072** 34C25 (34C99, 34E05, 34H05, 82C20)

Bronevich, A. G. (*with* Karkishchenko, A. N.) Generalization of the concept of a statistical class and the measure of possibility inclusion. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 84–94; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 952–960. 28E10 (04A72, 60A99)

Broniatowski, M. (*with* Barbe, Philippe) Functional Erdös-Rényi laws for processes indexed by sets. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan', 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 356–359. (J. Steinebach) **98a:60029** 60F15 (60F10, 60F17)

— (*with* Barbe, Philippe) Deviation principle for set indexed processes with independent increments. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 393–418. (Tim Zajic) **98m:60037** 60F10 (60B12, 60F17)

Bronisz, Piotr (*with* Kruś, Lech) Solution concepts in multicriteria cooperative games without side payments. (English summary) *System modelling and optimization (Prague, 1995)*, 300–307, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90D12 (90C29)

Bronnikov, A. A. (*with* Boldin, A. Yu.; Dmitrieva, V. V.; Sharipov, R. A.) Complete normality conditions for dynamical systems on Riemannian manifolds. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 267–275; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 550–555. (Valery Covachev) **98m:58115** 58F25 (34A26, 53B20, 70H99)

Bronnikov, Kirill A. (*with* Fabris, Júlio C.) Weyl spacetimes and wormholes in D-dimensional Einstein and dilaton gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 831–842. (Alexander Yanovich Burinskiĭ) **98g:83092** 83E15

Brons, Morten (*with* Sturis, J.) Local and global bifurcations at infinity in models of glycolytic oscillations. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 119–132. (Summary) **98k:92008** 92C45 (34C23)

— *see also* **Progress in industrial mathematics at ECMI 96**, **98e:00021**

Bronsard, Lia (*with* Alama, Stanley; Gui, Changfeng) Stationary layered solutions in $\mathbf{R}^2$ for an Allen-Cahn system with multiple well potential. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 359–390. (Summary) **98c:35042** 35J60 (35B40, 35K57, 35Q99)

— (*with* Stoth, Barbara E. E.) Volume-preserving mean curvature flow as a limit of a nonlocal Ginzburg-Landau equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 769–807. (Summary) **98c:35148** 35Q55 (35B40)

Bronshtein, E. M. Extreme points of convex compacta in the Hilbert cube. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 65–68; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 273–275 (1997). (Michael M. Zarichnyi) **98e:54015** 54C25 (46A55)

— Metric entropy of some classes of sets. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 42–45, i; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 34–36. (A. I. Danilenko) **98g:54037** 54C70

Bronshteĭn, I. N. (*with* Semendyaev, K. A.) ★ Handbook of mathematics. (English summary) Translated from the German. Translation edited by K. A. Hirsch. Reprint of the third (1985) English edition. *Springer-Verlag, Berlin*, 1997. xvi+973 *pp. ISBN* 3-540-62130-X (Editors) **98a:00003** 00A20 (00A22)

— *see also* **Handbook: Mathematics**, **98a:00002**

Bronshteĭn, I. U. (*with* Nikolaev, I. V.) Peixoto graphs of Morse-Smale foliations on surfaces. (English summary) *Topology Appl.* **77** (1997), *no.* 1, 19–36. (Evgenii Zhuzhoma) **98e:57039** 57R30 (57M50, 58F18)

Bronski, Jared C. Semiclassical eigenvalue distribution of the Zakharov-Shabat eigenvalue problem. (English summary) *Phys. D* **97** (1996), *no.* 4, 376–397. (Woodford W. Zachary) **98c:81062** 81Q20 (35Q55)

— (*with* McLaughlin, David W.; Shelley, Michael J.) On the stability of time-harmonic localized states in a disordered nonlinear medium. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1077–1115. (Summary) **98i:82059** 82C44

— (*with* Kutz, J. Nathan) Asymptotic behavior of the nonlinear Schrödinger equation with rapidly varying, mean-zero dispersion. (English summary) *Phys. D* **108** (1997), *no.* 3, 315–329. (Summary) **98e:35151** 35Q55 (78A10)

— Nonlinear scattering and analyticity properties of solitons. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 161–182. (Summary) **98j:35164** 35Q55 (35Q51)

Bronstein, I. N. *see* **Bronshteĭn, I. N.**

Bronstein, Idel *see* **Bronshteĭn, I. U.**

Bronstein, Manuel On the factorisation of linear ordinary differential operators. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 387–389. (Summary) **98c:34012** 34A30 (12H20)

— ★ Symbolic integration. I. Transcendental functions. With a foreword by B. F. Caviness. Algorithms and Computation in Mathematics, 1. *Springer-Verlag, Berlin*, 1997. xiv+299 *pp. ISBN* 3-540-60521-5 (Jean Moulin Ollagnier) **98a:68104** 68Q40 (12H05, 33B10)

Bronzan, J. B. Modified WKB approximation. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 1, 41–51. (Summary) **98a:81041** 81Q20 (81T10, 81V45)

Brooke, J. A. (*with* Schroeck, Franklin E., Jr.) Localization of the photon on phase space. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 5958–5986. (J.-P. Antoine) **98c:81107** 81S30 (47N50, 81R30, 81V10)

Brooker, A. M. H. (*with* Patterson, John C.; Armfield, S. W.) Non-parallel linear stability analysis of the vertical boundary layer in a differentially heated cavity. (English summary) *J. Fluid Mech.* **352** (1997), 265–281. (Summary) **98j:76046** 76E30 (76E15)

Brookes, C. J. B. (*with* Roseblade, J. E.; Wilson, John S.) Exterior powers of modules for group rings of polycyclic groups. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 231–244. (Sergey P. Strunkov) **98k:20009** 20C07

Brookes, Melanie J. (*with* Campbell, Colin M.; Robertson, Edmund F.) Efficiency and direct products of groups. (English summary) *Groups—Korea '94 (Pusan)*, 25–33, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20F05

Brookes, Stephen (*with* Older, Susan) Full abstraction for strongly fair communicating processes. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68Q55 (68Q10)

— The essence of parallel Algol. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 164–173, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (68Q55)

— The essence of PARALLEL ALGOL. (English summary) *ALGOL-like languages, Vol. 2*, 331–348, *Progr. Theoret. Comput. Sci., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98c:68003b**) 68N15 (68Q10)

— Idealized CSP: combining procedures with communicating processes. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 68Q10 (68N15, 68Q55)

— *see also* **Mathematical foundations of programming semantics**, **98f:68012** *and* **98g:68006**

Brookfield, Gary Direct sum cancellation of Noetherian modules. (English summary) *J. Algebra* **200** (1998), *no.* 1, 207–224. (Mamoru Kutami) **98k:16007** 16D70 (16P40)

Brooks, James K. Stochastic processes in Banach spaces. Quasimartingales and stochastic integrals. Workshop on Measure Theory and Real Analysis (Italian) (Grado, 1993). *Rend. Istit. Mat. Univ. Trieste* **26** (1994), *suppl.*, 7–33 (1995). (Ali Süleyman Üstünel) **98f:60102** 60H05

Brooks, Michael J. (*with* Chojnacki, Wojciech; Gibbins, Daniel) Can the sun's direction be estimated from an image prior to the computation of object shape? (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 2, 139–147. (Summary) **98a:68186** 68U10 (35R30)

Brooks, Robert Wolfe (*with* Farkas, Hershel M.; Kra, Irwin) Number theory, theta identities, and modular curves. *Extremal Riemann surfaces (San Francisco, CA, 1995)*, 125–154, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (S. J. Patterson (Zbl 870.30030)) **98m:11030** 11F27 (11F06)

— (*with* Kopeliovich, Yaacov) Uniformization of some quotients of modular curves. (English summary) *Extremal Riemann surfaces (San Francisco, CA, 1995)*, 155–164, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:11075** 11G18 (11F12, 11F27, 14G35, 30F10)

— Some relations between graph theory and Riemann surfaces. *Proceedings of the Ashkelon Workshop on Complex Function Theory (1996)*, 61–73, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (I. Kra) **98h:30064** 30F99 (05C25)

Brooks, S. P. (*with* Dellaportas, P.; Roberts, Gareth O.) An approach to diagnosing total variation convergence of MCMC algorithms. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 3, 251–265. (Summary) **98d:62001** 62-04 (62F15)

Bros, J. (*with* Viano, G. A.) Connection between the harmonic analysis on the sphere and the harmonic analysis on the one-sheeted hyperboloid: an analytic continuation viewpoint. I. (English summary) *Forum Math.* **8** (1996), *no.* 5, 621–658. (Gestur Ólafsson) **98b:43018** 43A90 (32M12, 43A85, 81T05)

Brosche, Peter (*with* Odenkirchen, Michael) C. F. Gauß und die Einführung der Methode der kleinsten Quadrate. [C. F. Gauss and the introduction of the method of least squares] *Gauss-Ges. Göttingen Mitt. No.* 33 (1996), 11–20. (Craig G. Fraser) **98c:01021** 01A55

— Laplace schreibt nach Gotha. (English summary) [Laplace writes to colleagues in Gotha] *Ber. Wiss.gesch.* **20** (1997), *no.* 4, 306–308. (Summary) **98j:01020** 01A55 (01A50)

— (*with* Odenkirchen, Michael) Supplements to: "C. F. Gauss and the introduction of the method of least squares" [Gauss-Ges. Göttingen Mitt. No. 33 (1996), 11–20; MR 98c:01021]. (German) *Gauss-Ges. Göttingen Mitt. No.* 34 (1997), 43–44. 01A55

Brosilow, Benjamin J. (*with* Ford, Roseanne M.; Sarman, Sten; Cummings, Peter T.) Numerical solution of transport equations for bacterial chemotaxis: effect of discretization of directional motion. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1639–1663. (Summary) **98b:92024** 92D50 (82C70, 82C80, 92D25)

Brosowski, Bruno (*with* da Silva, Antonio R.) Jackson-type theorems on the real line. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 97–101, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:41017** 41A17 (41A10)

— On the lower semicontinuity of best rational Chebyshev approximation. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 79–94. (Asuman Aksoy) **98c:41016** 41A20 (41A29, 49J45)

Brossier, Françoise (*with* Belmiloudi, Aziz) Regularity results for a Navier-Stokes type problem related to oceanography. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 299–316. (Shouhong Wang) **98g:76019** 76D05 (35Q30, 76U05, 86A05)

— (*with* Belmiloudi, Aziz) A control method for assimilation of surface data in a linearized Navier-Stokes-type problem related to oceanography. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2183–2197. (Summary) **98j:86001** 86A05 (76D05, 76M30, 76U05, 93C20)

Broström, Göran A martingale approach to the changepoint problem. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1177–1183. (Summary) **98f:62127** 62G10

Broto, C. (*with* Aguadé, J.; Notbohm, D.) A mod two analogue of a conjecture of Cooke. *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 23–36. (J. P. C. Greenlees) **98b:55008** 55P15 (55S10)

Brotz, Thorsten Quantization of black holes in the Wheeler-DeWitt approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2349–2362. 83C57 (83C45)

Brouard, S. (*with* Sala, R.; Muga, J. G.) The Weyl-Wigner influence functional. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 176–179, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81S30

— (*with* Real, C. C.; Muga, J. G.) Comment on: "Quantum and classical probability distributions for position and momentum" [Amer. J. Phys. **63** (1995), no. 9, 823–832; MR 96f:81008] by R. W. Robinett. *Amer. J. Phys.* **65** (1997), *no.* 2, 157–158. (From the text) **98j:81016** 81P05

Broucke, Roger A. A comparison of the symplectic and other numerical integrators. *Stochastic processes in astrophysics (Gainesville, FL, 1993)*, 126–147, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 65L06 (70–08)

Brouë, Michel (*with* Michel, Jean Christian Marie) Sur certains éléments réguliers des groupes de Weyl et les variétés de Deligne-Lusztig associées. [Some regular elements of Weyl groups and the associated Deligne-Lusztig varieties] *Finite reductive groups (Luminy, 1994)*, 73–139, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Bhama Srinivasan) **98h:20077** 20G05 (20G40)

Broughan, Kevin (*with* Zhu, Nan) A note on reducing the number of variables in integer programming problems. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 3, 263–272. (Klaus Hofstedt) **98i:90057** 90C10

— (*with* Zhu, Nan) On dominated terms in the general knapsack problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 31–37. (Summary) **98d:90078** 90C10 (90C27)

Broumas, A. Effective p-descent. (English summary) *Compositio Math.* **107** (1997), *no.* 2, 125–141. (Kenneth Kramer) **98h:11070** 11G05 (11G07, 14H52)

Brousseau, Guy ★ Theory of didactical situations in mathematics. (English summary) Didactique des mathématiques, 1970–1990. [Didactics of mathematics, 1970–1990] Translated from the French, edited and with a preface by Nicolas Balacheff, Martin Cooper, Rosamund Sutherland and Virginia Warfield. Mathematics Education Library, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xii+304 *pp. ISBN* 0-7923-4526-6 00A35

Broutman, D. (*with* Benilov, E. S.; Kuznetsova, E. P.) On the stability of large-amplitude vortices in a continuously stratified fluid on the f-plane. (English summary) *J. Fluid Mech.* **355** (1998), 139–162. (Summary) **98k:76049** 76E20 (76C05, 76V05, 86A10)

Brouwer, A. E. Finite graphs in which the point neighbourhoods are the maximal independent sets. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 231–233, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 05C75

— (*with* van Eupen, Marijn) The correspondence between projective codes and 2-weight codes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 261–266. (Summary) **98a:94031** 94B05

Brouwer, Luitzen Egbertus Jan Life, art, and mysticism. (English summary) Translated from the German by Walter P. van Stigt. *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 389–429. (Wilfried Sieg) **98c:00008b** 00A30 (01A60, 01A75, 03–03)

— *see also* **Largeault, Jean**, **98b:03084** *and* **Van Stigt, Walter P.**, **98c:00008a**

Brovko, G. L. The modeling of nonhomogeneous media of complex structure, and the Cosserat continuum. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 5, 55–63, 104. (Summary) **98f:73005** 73B27 (73A05, 73B30)

Browder, Felix On a sharpened form of the Leray-Lions' ellipticity criterion. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 999–1004. (Peter R. Popivanov) **98e:35059** 35J60

Brower, Richard C. (*with* Bietenholz, W.; Chandrasekharan, Shailesh; Wiese, U.-J.) Perfect lattice topology: the quantum rotor as a test case. (English summary) *Phys. Lett. B* **407** (1997), *no.* 3-4, 283–289. (Summary) **98g:81145** 81T25

— (*with* Zhang, Chao; Kimura, S. Roy; Weng, Zhiping; Vajda, Sandor; Delisi, Charles) The waters of life. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 213–240. (*see* **98i:92001**) 92C40 (92–02, 92C45)

Brown, Aldric L. The derived mappings and the order of a set-valued mapping between topological spaces. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 195–208. (Summary) **98g:54034** 54C60 (54C65)

Brown, B. M. *see* **Brown, Bruce Maxwell**

Brown, B. Malcolm (*with* Eastham, M. S. P.; McCormack, D. K. R.) A new algorithm for computing the spectral matrix for higher-order differential equations and the location of discrete eigenvalues. *The mathematics of numerical analysis (Park City, UT, 1995)*, 145–156, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Tassilo Küpper) **98c:65134** 65L10 (65L15)

— (*with* Dias, N. G. J.) The HELP type integral inequalities for $2n$th order differential operators. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 179–192, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Victor S. Rykhlov) **98e:34046** 34B20 (26D10, 34L05, 47F05)

— (*with* Evans, William Desmond) The computation of the Titchmarsh-Weyl m-function. *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 197–210, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (From the introduction) **98c:34038** 34B20 (34L05)

— (*with* Eastham, M. S. P.; McCormack, D. K. R.) Spectral concentration and rapidly decaying potentials. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 333–348. (Günter Stolz) **98f:34126** 34L40 (34B24, 65L10)

— (*with* Eastham, M. S. P.; McCormack, D. K. R.) Spectral concentration and perturbed discrete spectra. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 415–425. (Summary) **98h:34145** 34L40 (34B24)

— (*with* Eastham, M. S. P.; McCormack, D. K. R.) A new algorithm for computing the asymptotic solutions of a class of linear differential systems. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 1, 119–131. (Archibald D. MacGillivray) **98h:34023** 34A45 (34–04, 34E05)

Brown, Barry W. (*with* Lee, J. Jack; Serachitopol, Dan M.) Likelihood-weighted confidence intervals for the difference of two binomial proportions. (English summary) *Biometrical J.* **39** (1997), *no.* 4, 387–407. 62F25

Brown, Bruce Maxwell (*with* Hettmansperger, Thomas P.) Normal scores, normal plots, and tests for normality. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1668–1675. (A. D. Gordon) **98a:62098** 62J20

— (*with* Hall, Peter Gavin; Young, G. Alastair) On the effect of inliers on the spatial median. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 88–104. 62H05

Brown, Bryan W. (*with* Newey, Whitney K.) Efficient semiparametric estimation of expectations. *Econometrica* **66** (1998), *no.* 2, 453–464. 62G05 (62P20)

Brown, D. E. *see* **Brown, Donald E.**

Brown, D. J. *see* **Brown, Donna Jean**

heath-Brown, D. R. *see* **Heath-Brown, D. R.**

Brown, D. W. (*with* McWhirter, J. G.) The design of a block-regularized parameter estimator by algorithmic engineering. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 381–393. (*see* **98e:93001**) 93B40 (65Y05, 93E10)

Brown, Danit (*with* Cohen, David M.; Heyman, Daniel P.; Rabinovich, Asya) A parallel implementation of the GTH algorithm. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 218–223. 65U05 (60J10)

Brown, Donald E. (*with* Banks, H. T.; Smith, Ralph C.; Silcox, R. J.; Metcalf, Vern L.) Experimental confirmation of a PDE-based approach to design of feedback controls. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1263–1296. (Summary) **98c:93061** 93C20 (93B40, 93B52)

Brown, Donna Jean (*with* Berger, Bonnie; Brady, Martin; Leighton, Frank Thomson) Nearly optimal algorithms and bounds for multilayer channel routing. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 500–542. (Michitaka Kameyama) **98d:68107** 68Q35

— (*with* Brady, Martin; Powers, K. D.) Hexagonal models for channel routing. (English summary) *Algorithmica* **19** (1997), *no.* 3, 263–290. (Summary) **98e:68120** 68Q35 (68M10)

Brown, Edgar H., Jr. (*with* Szczarba, Robert H.) Some algebraic constructions in rational homotopy theory. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 251–258. (Yves Félix) **98h:55017** 55P62 (55Q52)

— (*with* Li, Tian-Jun) KO-obstructions of non-abelian group action on spin manifolds. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 259–266. (V. P. Snaith) **98k:57042** 57R15 (57N80, 57S15)

— (*with* Szczarba, Robert H.) On the rational homotopy type of function spaces. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4931–4951. (Yves Félix) **98c:55015** 55P62

Brown, Ezra Directed graphs defined by arithmetic (mod n). *Fibonacci Quart.* **35** (1997), *no.* 4, 346–351. (S. I. Gendler) **98k:05077** 05C20 (11A07)

Brown, Gavin Positivity of some classical sums. (English summary) *Computational methods and function theory* 1994 (*Penang*), 100–109, *Ser. Approx. Decompos.*, 5, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:42003** 42A05 (33C45)

— (*with* Yin, Qinghe) Metrical theory for Farey continued fractions. *Osaka J. Math.* **33** (1996), *no.* 4, 951–970. (Wieb Bosma) **98a:11104** 11K50 (11J70)

— (*with* Moran, William; Pollington, Andrew D.) Normality with respect to powers of a base. *Duke Math. J.* **88** (1997), *no.* 2, 247–265. (Peter J. Hellekalek) **98m:11081** 11K16

— (*with* Wang, Kun Yang[1]) An extension of the Fejér-Jackson inequality. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 1, 1–12. (David Charles Wilson) **98e:42003** 42A05

— (*with* Koumandos, Stamatis) On a monotonic trigonometric sum. (English summary) *Monatsh. Math.* **123** (1997), *no.* 2, 109–119. (Gradimir V. Milovanović) **98j:42001** 42A05 (42A32)

— (*with* Yin, Qinghe) Box dimension for graphs of fractal functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 331–344. (Norbert Patzschke) **98k:28008** 28A80 (26A27, 58F12)

Brown, Harvey R. (*with* Elby, Andrew; Weingard, Robert) Cause and effect in the pilot-wave interpretation of quantum mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 309–319, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— (*with* Sjöqvist, Erik; Carlsen, Henrik) Galilean noninvariance of geometric phase. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 273–278. (Piotr Kosiński) **98c:81074** 81Q99

Brown, J. David (*with* Martinez, Erik A.; York, James W., Jr.) Rotating black holes, complex geometry, and thermodynamics. *Nonlinear problems in relativity and cosmology (Gainesville, FL, 1990)*, 225–234, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (Mark D. Roberts) **98j:83052** 83C57 (81T20)

— (*with* Husain, Viqar) Black holes with short hair. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 563–573. (Gil De Oliveira-Neto) **98m:83042** 83C57

— (*with* Lau, Stephen R.; York, James W., Jr.) Energy of isolated systems at retarded times as the null limit of quasilocal energy. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 1977–1984. (Roh Suan Tung) **98b:83029** 83C40

— Duality invariance of black hole creation rates. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1001–1004. (Summary) **98c:83057** 83C57

— Boundary states and black hole entropy. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2624–2627. (Summary) **98j:83053** 83C57 (81T20)

Brown, J. I. (*with* Achlioptas, Dimitris; Corneil, Derek G.; Molloy, Michael Sean O'Brien) The existence of uniquely $-G$ colourable graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 1–11. (Adrian Riskin) **98j:05065** 05C15

Brown, J. L. *see* **Brown, Jeffrey Lawrence**

Brown, James Robert Proofs and pictures. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 2, 161–180. (Pierre Kerszberg) **98g:03006** 03A05 (00A35)

Brown, Jason (*with* Wallen, Lincoln A.) Representing unification in a logical framework. *Computer science logic (Paderborn, 1995)*, 106–129, *Lecture Notes in Comput. Sci.*, 1092,

Springer, Berlin, 1996. (*see* **98a:68002**) 68T15 (03B35, 03B40, 03B70)

Brown, Jeffrey Lawrence Systems of coordinates associated with points scattered in the plane. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 547–559. (Summary) **98b:65016** 65D15 (41A63)

Brown, Johnny E. A proof of the Sendov conjecture for polynomials of degree seven. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 75–95. (Summary) **98m:30003** 30C10 (30C15)

Brown, K. J. (*with* Stavrakakis, Nikos M.) On the construction of super and subsolutions for elliptic equations on all of $\mathbf{R}^N$. *Nonlinear Anal.* **32** (1998), *no.* 1, 87–95. (Tomáš Roubíček) **98k:35049** 35J60 (35A35)

Brown, L. M. *see* **Brown, Lawrence Michael**

Brown, Laurie *see* **Rise of the standard model, 98h:81002**

Brown, Lawrence D. (*with* Low, Mark G.) Asymptotic equivalence of nonparametric regression and white noise. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2384–2398. (Philippe Vieu) **98a:62042** 62G05

— (*with* Low, Mark G.) A constrained risk inequality with applications to nonparametric functional estimation. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2524–2535. (Ulrich Stadtmüller) **98b:62091** 62G20 (62F11, 62F12, 62F35, 62M99)

— (*with* Tseng, Yu-Ling) Good exact confidence sets for a multivariate normal mean. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2228–2258. (Khursheed Alam) **98m:62081** 62F25 (62C15, 62H15)

Brown, Lawrence G. (*with* Pedersen, Gert K.) Approximation and convex decomposition by extremals in a C^*-algebra. *Math. Scand.* **81** (1997), *no.* 1, 69–85 (1998). (Vladimir Manuilov) **98m:46070** 46L05

Brown, Lawrence M. (*with* Diker, Murat) A bitopological view on weight and cardinality in almost stably locally compact spaces. (English summary) *Papers on general topology and applications (Amsterdam, 1994)*, 40–53, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54065** 54E55 (54A25)

— (*with* Diker, Murat) The biweight of pairwise fine p-spaces. (English summary) *Quaestiones Math.* **20** (1997), *no.* 2, 147–155. (Summary) **98g:54066** 54E55 (54A25)

Brown, Lawrence Michael Transition from laminar to rotational motion in plasticity. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1979–1990. (Summary) **98k:73033** 73E99

Brown, Lee H., Jr. (*with* Detweiler, Steven L.) Post-Minkowski expansion of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 826–841. (Summary) **98f:83024** 83C25

Brown, Leon (*with* Sadek, Jawad) On cyclic vectors in BMOA and VMOA. (English summary) *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **2** (1996), 15–19. (Dinesh Singh) **98k:30046** 30D50

Brown, M. D. (*with* Flynn, D.; McLoone, S.; Irwin, G. W.; Swidenbank, E.; Hogg, B. W.) Neural control of turbogenerator systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1961–1973. 93C95 (93C83)

Brown, Mark Estimation of an exponential distribution. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 341–359. (Summary) **98b:62035** 62F10

Brown, Peter G. A note on Ramanujan's conjectures regarding "Mersenne's primes". *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 4, 146–147. (Richard P. Lewis) **98m:11006** 11A41

Brown, R. *see* **Brown, Reggie**

Brown, R. C. *see* **Brown, Richard C.**

Brown, Reggie (*with* Gouesbet, G.; Le Sceller, L.; Letellier, C.; Buchler, J. Robert; Kolláth, Z.) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis (Gainesville, FL, 1995)*, 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

— (*with* Rulkov, Nikolai F.) Synchronization of chaotic systems: transverse stability of trajectories in invariant manifolds. (English summary) *Chaos* **7** (1997), *no.* 3, 395–413. (Summary) **98e:58115** 58F13

Brown, Richard C. (*with* Hinton, D. B.) Weighted interpolation and Hardy inequalities with some spectral-theoretic applications. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 55–70, *VSP, Utrecht*, 1994. (*see* **98c:06012**) 46N20 (34L05, 46E35)

— (*with* Edmunds, David E.; Hinton, D. B.; Rákosník, Jiří) Some weighted Poincaré-type inequalities in one and higher dimensions. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 49–58, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 46E35

— (*with* Hinton, D. B.) Norm eigenvalue bounds for some weighted Sturm-Liouville problems. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 129–144, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Anton Zettl) **98c:34134** 34L15 (34B24)

— (*with* Anderson, T. G.; Hinton, D. B.) Perturbation theory for a one-term weighted differential operator. *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 149–170, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Petru A. Kozhukhar') **98f:47054** 47E05 (34L05)

Brown, Robert Arthur (*with* Salamon, Todd R.; Bornside, David E.; Armstrong, Robert C.) Local similarity solutions for the stress field of an Oldroyd-B fluid in the partial-slip/slip flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2191–2209. (Summary) **98e:76008** 76A10

Brown, Ronald (*with* Al Ali, M. I. M.; Morris, Ifor; Shrimpton, J.; Wensley, C. D.) Higher-dimensional hypergroups. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 329–335. 20N20

— (*with* Janelidze, George) Van Kampen theorems for categories of covering morphisms in lextensive categories. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 255–263. (Donald M. Davis) **98c:18004** 18B99 (57M10)

Brown, Russell M. (*with* Uhlmann, Gunther A.) Uniqueness in the inverse conductivity problem for nonsmooth conductivities in two dimensions. *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 1009–1027. (Yongzhi Xu) **98f:35155** 35R30 (35J15)

— (*with* Shen, Zhongwei; Shi, Peter) Regularity of solutions to a contact problem. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4053–4063. (Mircea Sofonea) **98m:35200** 35Q72 (35B65, 73C02, 73C35, 73T05)

Brown, Thomas John (*with* Bartoszek, Wojciech) On Frobenius-Perron operators which overlap supports. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 17–24. (Radu Zaharopol) **98i:47006** 47A35 (28D05, 47B38, 60J35)

Brown, Tim C. (*with* Feigin, Paul D.; Pallant, Diana L.) Estimation for a class of positive nonlinear time series models. (English summary) *Stochastic Process. Appl.* **63** (1996), *no.* 2, 139–152. (Paul Embrechts) **98b:62155** 62M10 (60J05, 62E20, 62F12)

Brown, Tom *see* **Brown, Thomas John**

Brown, Tom C. (*with* Landman, Bruce M.; Mishna, Marni) Monochromatic homothetic copies of $\{1, 1+s, 1+s+t\}$. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 149–157. (T. C. Brown) **98c:05159** 05D10

Brown, William C. Constructing maximal commutative subalgebras of matrix rings in small dimensions. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3923–3946. (William H. Gustafson) **98k:16042** 16S50 (13E10, 15A30, 16P10)

Brownawell, W. Dale Transcendence in positive characteristic. (English summary) *Number theory (Tiruchirapalli, 1996)*, 317–332, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Laurent Denis) **98h:11092** 11J72 (11G09)

Browne, Anca (*with* Bjørner, Nikolaj S.; Manna, Zohar) Automatic generation of invariants and intermediate assertions. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 589–623, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68162** 68Q60

— (*with* Clarke, Edmund M.; Jha, Somesh; Long, David E.; Marrero, W.) An improved algorithm for the evaluation of fixpoint expressions. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 237–255. (Summary) **98b:68110** 68Q60

Browne, I. A. (*with* Manna, Zohar; Sipma, H. B.) Generalized temporal verification diagrams. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 484–498, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98c:68133** 68Q60

Browne, M. W. (*with* Strydom, H. F.) Non-iterative fitting of the direct product model for multitrait-multimethod matrices. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 229–245, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62P15

Browne, Patrick J. (*with* Sleeman, Brian D.) A uniqueness theorem for inverse eigenparameter dependent Sturm-Liouville problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1453–1462. (Summary) **98i:34022** 34A55 (34B24, 34L40)

— (*with* Binding, Paul A.) Oscillation theory for indefinite Sturm-Liouville problems with eigenparameter-dependent boundary conditions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1123–1136. (Aad Dijksma) **98j:34037** 34B24 (34C10, 34L40, 47A75)

— (*with* Binding, Paul A.; Seddighi, K.) Two parameter asymptotic spectra in the uniformly elliptic case. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 1–13. (Hans W. Volkmer) **98a:47022** 47A75 (34L20, 47A10, 47A70, 47N20)

Browne, Sid Survival and growth with a liability: optimal portfolio strategies in continuous time. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 468–493. (Jakša Cvitanić) **98c:90010** 90A09 (60G40, 60H10)

Browning, G. L. (*with* Kreiss, Heinz-Otto) The role of gravity waves in slowly varying in time mesoscale motions. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 9, 1166–1184. (Qin Xu) **98e:76022** 76C15 (35Q99, 86A10)

Brownstein, K. R. Some time evolution properties of an electromagnetic wave. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 6, 510–515. (Summary) **98c:78014** 78A40

Broy, Manfred Algebraic specification of reactive systems. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 487–503, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98g:68106** 68Q65 (68Q10, 68Q60)

— *see also* **Mathematical methods in program development, 98k:68010**

Brozovic, Douglas P. (*with* Solomon, Ronald M.) On groups of hyperbolic length. (English summary) *Israel J. Math.* **98** (1997), 61–99. (Alexandre Turull) **98h:20022** 20D06 (20E15, 20G40)

Bru, Rafael (*with* Coll, Carmen; Hernández, Vicente; Sánchez, Elena) Geometrical conditions for the reachability and realizability of positive periodic discrete systems. (English summary) *Linear Algebra Appl.* **256** (1997), 109–124. (Summary) **98k:93018** 93B07 (93B03, 93C55)

Brualdi, Richard A. (*with* Shao, Jia Yu) Generalized exponents of primitive symmetric digraphs. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 275–293. (Ke Min Zhang) **98c:05106** 05C50 (05C20, 15A48)

— (*with* Dias da Silva, J. A.) A retract characterization of posets with the fixed-point property. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 199–203. (Aleksander Rutkowski) **98f:06001** 06A06

Bruce, Andrew G. (*with* Gao, Hong-Ye[2]) Understanding WaveShrink: variance and bias estimation. (English summary) *Biometrika* **83** (1996), *no.* 4, 727–745. (Li-Xing Zhu) **98c:62058** 62G05 (62G15)

— (*with* Gao, Hong-Ye[2]) WaveShrink with firm shrinkage. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 855–874. (Summary) **98m:62094** 62G05

Bruce, Ian Some properties of cycloid trajectories. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 12, 1164–1167. 78A35

Bruce, J. W. (*with* Giblin, P. J.; Tari, F.) Families of surfaces: height functions, Gauss maps and duals. *Real and complex singularities (São Carlos, 1994)*, 148–178, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Maria Carmen Romero-Fuster) **98m:57037** 57R45 (58C27)

— (*with* Tari, F.) Implicit differential equations from the singularity theory viewpoint. *Singularities and differential equations (Warsaw, 1993)*, 23–38, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Oleg M. Myasnichenko) **98d:34001** 34A09 (34A26, 34C20, 58F36)

— (*with* Marar, W. L.) Images and varieties. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3633–3641. (Maria Aparecida Soares Ruas) **98a:58022** 58C27 (32S05)

— (*with* Tari, F.) Generic 1-parameter families of binary differential equations of Morse type. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 1, 79–90. (V. M. Zakalyukin) **98h:58123** 58F14 (58F36)

— (*with* West, J. M.) Functions on a crosscap. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 19–39. (Alexandru Dimca) **98j:58016** 58C27 (53A05)

Bruce, Kim B. (*with* Cardelli, Luca; Pierce, Benjamin C.) Comparing object encodings. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 415–438, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15

Bruce, S. (*with* Delgado, A.; Roa, L.) Comments on minimal interactions in quantum mechanics. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 4005–4018. (Avinash Khare) **98b:81055** 81Q60 (81Q99)
— *see also* **Dvoeglazov, V. V., 98j:81123**
Bruch, J. C., Jr. (*with* Sadek, I. S.; Sloss, J. M.; Adali, Sarp) Optimal boundary control of the longitudinal vibrations of a rod using a maximum principle. (English summary) *J. Vib. Control* **3** (1997), *no.* 2, 235–254. (Guenter Leugering) **98e:49057** 49K20 (49N55, 73D30, 73K50, 93C85)
Bruck, Jehoshua (*with* Ziv, Avi) An on-line algorithm for checkpoint placement. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 976–985. 68N99
— (*with* Cypher, Robert; Ho, Ching-Tien) Fault-tolerant meshes with small degree. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1764–1784. (A. T. Amin) **98k:68025** 68M15 (68R10)
Brück, Rainer Efficient summability of interpolatory polynomials in the roots of unity. (English summary) *Travaux mathématiques, Fasc. VIII*, 159–165, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1996. (Summary) **98h:30055** 30E05 (40C05)
— Lagrange interpolation in non-uniformly distributed nodes on the unit circle. (English summary) *Analysis* **16** (1996), *no.* 3, 273–282. (Summary) **98e:41004** 41A10 (30E05)
— Extensions of Walsh's equiconvergence theorem for Jordan domains with analytic boundary curve. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 155–171. (Yuan Ren Lou) **98e:30040** 30E05 (30E10, 41A05)
Bruck, Ronald E. A simple proof that the rate of asymptotic regularity of $(I + T)/2$ is $O(1/\sqrt{n})$. (English summary) *Recent advances on metric fixed point theory (Seville, 1995)*, 11–18, *Ciencias*, 48, *Univ. Sevilla, Seville*, 1996. (Behzad Djafari-Rouhani) **98d:47120** 47H09 (47H10, 47H17)
Brucker, Peter (*with* Jurisch, Bernd; Krämer, Andreas) Complexity of scheduling problems with multi-purpose machines. (English summary) *Ann. Oper. Res.* **70** (1997), 57–73. (Feng-Sheng Tu) **98f:90027** 90B35 (68Q25)
— (*with* Hurink, Johann; Jurisch, Bernd; Wöstmann, Birgit) A branch & bound algorithm for the open-shop problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 43–59. (Summary) **98e:90124** 90C27 (05C90, 90B35)
— (*with* Kravchenko, Svetlana A.; Sotskov, Yu. N.) On the complexity of two machine job-shop scheduling with regular objective functions. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 1, 5–10. (Summary) **98f:90028** 90B35
Brückmann, Peter The Hilbert polynomial of the sheaf Ω^T of germs of T-symmetrical tensor differential forms on complete intersections. (English summary) *Math. Ann.* **307** (1997), *no.* 3, 461–472. (Juan C. Migliore) **98a:14026** 14F10 (14M10, 14M17)
Bruckner, G. On the stabilization of approximation procedures for a class of integral equations of the first kind with noisy right-hand sides. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 117–127. (Summary) **98b:65141** 65R20 (45L05)
Brückner, Helmut (*with* Daduna, Hans) Renate Carlsson (1941–1997). (German) *Mitt. Math. Ges. Hamburg* **16** (1997), 5–6. 01A70
Bruckstein, Alfred M. (*with* Holt, Robert J.; Netravali, Arun N.) Discrete elastica. (English summary) *Discrete geometry for computer imagery (Lyon, 1996)*, 59–72, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 68U10 (68U05)
— (*with* Mallows, Colin L.; Wagner, Israel A.) Probabilistic pursuits on the grid. *Amer. Math. Monthly* **104** (1997), *no.* 4, 323–343. (N. N. Petrov) **98e:90243** 90D26
— (*with* Wagner, Israel A.) Row straightening via local interactions. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 3, 287–305. (Summary) **98a:94047** 94C05 (39A12, 92D50)
— (*with* Sapiro, Guillermo; Cohen, Albert) A subdivision scheme for continuous-scale B-splines and affine-invariant progressive smoothing. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 1, 23–40. (Yu Yu Feng) **98d:65021** 65D17 (41A15, 65D07, 68U05)
— (*with* Shaked, Doron) On projective invariant smoothing and evolutions of planar curves and polygons. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 3, 225–240. (Summary) **98c:68208** 68U10 (52B55)
Bruda, Ştefan On the computational complexity of context-free parallel communicating grammar systems. (English summary) *New trends in formal languages*, 256–266, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98k:68105** 68Q50
Bruder, J. Numerical results for a parallel linearly-implicit Runge-Kutta method. (English summary) *Computing* **59** (1997), *no.* 2, 139–151. 65L06
Brudnyi, Alexander A Bernstein-type inequality for algebraic functions. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 93–116. (Emil Straube) **98k:32008** 32A37 (26D20, 32A99, 41A17)
Brudnyĭ, Yu. A. Adaptive approximation of functions with singularities. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **55** (1994), 149–242, 365; *translation in Trans. Moscow Math. Soc.* **1994**, 123–186 (1995). (Bl. Sendov) **98f:41004** 41A15 (41A10, 41A30)
— (*with* Kruglyak, N. Ya.) Real interpolation of a family of spaces of smooth functions. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 6, 729–731. (L. Ĭ. Nikolova) **98d:46023** 46E15 (46M35)
— (*with* Shvartsman, Pavel) The trace of jet space $J^k\Lambda^\omega$ to an arbitrary closed subset of $\mathbf{R}^n$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1519–1553. (Gérard Barbançon) **98i:58010** 58A20 (46E35, 58C25)
Brueckner, Anthony Is "superassertible" a truth predicate? *Noûs* **32** (1998), *no.* 1, 76–81. 03A05 (03B65)
Brueggeman, Sharon A. Integers representable by $(x + y + z)^3/xyz$. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 107–116. (Andrew Bremner) **98i:11019** 11D85
Bruen, Aiden A. (*with* Wehlau, David L.) Partitioning quadrics, symmetric group divisible designs and caps. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 145–155. (J. W. P. Hirschfeld) **98e:51014** 51E22 (05B25)
— Giuseppe Tallini—some personal reminiscences. *Results Math.* **32** (1997), *no.* 3-4, 213–220. 01A70
— (*with* Haddad, Lucien; Wehlau, David L.) Caps and colouring Steiner triple systems. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 51–55. (Summary) **98k:05022** 05B07 (51E10)
Bruggeman, Roelof W. (*with* Miatello, R. J.) Estimates of Kloosterman sums for groups of real rank one. *Duke Math. J.* **80** (1995), *no.* 1, 105–137. (From the text) **98h:11060** 11F70 (11F12, 11L05)
— Automorphic forms, hyperfunction cohomology, and period functions. (English summary) *J. Reine Angew. Math.* **492** (1997), 1–39. (Alexey A. Panchishkin) **98i:11035** 11F67 (11F12, 11F37)
Brugnano, Luigi (*with* Amodio, Pierluigi) Stable parallel solvers for general tridiagonal linear systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 115–118. (*see* **98b:65005**) 65F10 (65Y05)
— Boundary value methods for the numerical approximation of ordinary differential equations. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 78–89, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L10
— (*with* Amodio, Pierluigi) Parallel ODE solvers based on block BVMs. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 5–26. (Summary) **98c:65101** 65L05 (65Y05)
— (*with* Trigiante, Donato) Block boundary value methods for linear Hamiltonian systems. (English summary) *Appl. Math. Comput.* **81** (1997), *no.* 1, 49–68. (B. M. Herbst) **98b:65081** 65L06 (58F05)
— (*with* Trigiante, Donato) A new mesh selection strategy for ODEs. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 1, 1–21. (Summary) **98c:65135** 65L10
— (*with* Trigiante, Donato) On the potentiality of sequential and parallel codes based on extended trapezoidal rules (ETRs). (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 169–184. (Summary) **98g:65069** 65L10
— Essentially symplectic boundary value methods for linear Hamiltonian systems. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 233–252. (Ram Krishan Sharma) **98k:65043** 65L12 (65L05, 65L10, 70–08, 70H05)
Bruguera, Javier D. (*with* Antelo, Elisardo; Lang, Tomás) Computation of $\sqrt{x/d}$ in a very high radix combined division/square-root unit with scaling and selection by rounding. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 152–161. 68M07 (65D99)
Bruguera, M. Montserrat Some properties of locally quasi-convex groups. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 87–94. (Jesús M. F. Castillo) **98k:22002** 22A05 (22B05, 46A16)
Bruguières, Alain Dualité tannakienne pour les quasi-groupoïdes quantiques. (English summary) [Tannaka duality for quasi-quantum groupoids] *Comm. Algebra* **25** (1997), *no.* 3, 737–767. (Amnon Neeman) **98d:16049** 16W30 (18D10)
choquet-Bruhat, Yvonne *see* **Choquet-Bruhat, Yvonne**
lévy-Bruhl, Anne *see* **Lévy-Bruhl, Anne**
Bruhn, B. Factorization of complex canonical transformations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3718–3734. (Wojciech Lisiecki) **98g:81107** 81S30 (58F05, 70H15, 82B10)
— (*with* Koch, B.-P.; Goepp, N.) Hopf bifurcations in balance equations of glow discharges. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 2118–2129. 76X05 (76E25, 82D10)
Bruhns, O. T. (*with* Xiao, Heng; Meyers, Albert Thomas) Logarithmic strain, logarithmic spin and logarithmic rate. (English summary) *Acta Mech.* **124** (1997), *no.* 1-4, 89–105. 73E05 (73B99)
— (*with* Xiao, Heng; Meyers, Albert Thomas) Hypo-elasticity model based upon the logarithmic stress rate. (English summary) *J. Elasticity* **47** (1997), *no.* 1, 51–68. (Summary) **98j:73029** 73C50 (73B99)
de Bruijn, N. G. Verification of mathematical proofs by a computer: a preparatory study for a project Automath. *Selected papers on Automath*, 57–72, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35
— The mathematical language Automath, its usage, and some of its extensions [MR **42** #9094]. *Selected papers on Automath*, 73–100, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— A survey of the project Automath [MR 81m:03017]. *Selected papers on Automath*, 141–161, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40, 68T15)
— Reflections on Automath. *Selected papers on Automath*, 201–228, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (00A30, 03A05, 03B40)
— AUT-SL, a single line version of Automath. *Selected papers on Automath*, 275–281, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— Some extensions of Automath: the AUT-4 family. *Selected papers on Automath*, 283–288, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— AUT-QE without type inclusion. *Selected papers on Automath*, 289–297, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— Generalizing Automath by means of a lambda-typed lambda calculus [MR 89b:03026]. (English summary) *Selected papers on Automath*, 313–337, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— Lambda calculus notation with nameless dummies, a tool for automatic formula manipulation, with application to the Church-Rosser theorem [MR **48** #71]. (English summary) *Selected papers on Automath*, 375–388, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— Example of a text written in Automath. *Selected papers on Automath*, 687–700, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)
— Set theory with type restrictions [MR **53** #2615]. *Selected papers on Automath*, 841–847, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35
— Formalization of constructivity in Automath. *Selected papers on Automath*, 849–864, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35
— The mathematical vernacular, a language for mathematics with typed sets. *Selected papers on Automath*, 865–935, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35
— Computer program semantics in space and time. *Selected papers on Automath*, 947–972, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 68Q55

(03B35, 03B40)

Bruijn, P. M. (*with* Verbruggen, H. B.) Fuzzy control and conventional control: what is (and can be) the real contribution of fuzzy systems? (English summary) Fuzzy sets: Where do we stand? Where do we go? (São Paulo, 1995). *Fuzzy Sets and Systems* **90** (1997), *no.* 2, 151–160. (Summary) **98h:93016** 93C42 (04A72)

de Bruin, Arie (*with* Nienhuys-Cheng, Shan-Hwei) Linear dynamic Kahn networks are deterministic. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 242–254, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q10

— (*with* Nienhuys-Cheng, Shan-Hwei) Linear dynamic Kahn networks are deterministic. (English summary) Mathematical foundations of computer science (Cracow, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 1, 3–32. (Summary) **98j:68028** 68Q10

Bruin, Henk (*with* Keller, Gerhard; St. Pierre, Matthias) Adding machines and wild attractors. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1267–1287. (Peter J. Grabner) **98m:58083** 58F12 (11A63, 58F13)

de Bruin, Marcel G. (*with* Sharma, Ambikeshwar) Equiconvergence of some simultaneous Hermite-Padé interpolants: multiple nodes. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 103–110, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:41019** 41A21 (41A10)

— (*with* Sharma, Ambikeshwar) Overconvergence of some simultaneous Hermite-Padé interpolants. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 239–259. (Marc Van Barel) **98d:41021** 41A21 (41A28)

— (*with* Ivanov, K. G.; Sharma, Ambikeshwar) A conjecture of Schoenberg. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 103–105. 30C15

de Bruin, Paul T. *see* **De Bruin, Paul T.**

Brukner, Časlav (*with* Zeilinger, Anton) Nonequivalence between stationary matter wave optics and stationary light optics. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 14, 2599–2603. (Summary) **98d:78001** 78A05 (81V80)

Brumby, S. P. (*with* Joshi, G. C.) Global effects in quaternionic quantum field theory. (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1591–1599. (M. I. Monastyrskiĭ) **98h:81126** 81V15 (81T99)

Brumer, Paul (*with* Wilkie, Joshua) Quantum-classical correspondence via Liouville dynamics. I. Integrable systems and the chaotic spectral decomposition. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 1, 27–42. (Summary) **98f:81080** 81Q50

— (*with* Wilkie, Joshua) Quantum-classical correspondence via Liouville dynamics. II. Correspondence for chaotic Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 1, 43–61. (Summary) **98f:81081** 81Q50

Brun, Todd A. (*with* Gisin, Nicolas; Rigo, Marco) From quantum to classical: the quantum state diffusion model. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 141–150, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81S25

— (*with* Gisin, Nicolas; O'Mahony, P. F.; Rigo, Marco) From quantum trajectories to classical orbits. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 267–272. (Summary) **98e:81005** 81P05 (81Q50, 81S25)

— Quantum jumps as decoherent histories. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 10, 1833–1837. (Apostolos Vourdas) **98c:81260** 81V80 (81P05, 82B10)

Bruna, Joaquim (*with* Ahern, Patrick; Cascante, Carme) H^p-theory for generalized M-harmonic functions in the unit ball. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 1, 103–135. (Hitoshi Arai) **98f:32008** 32A35 (31C05, 42B30)

Brunat, Josep M. (*with* Fiol, M. A.; Fiol, M. L.) Digraphs on permutations. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 73–86. (Joseph B. Klerlein) **98i:05087** 05C20

Bruneau, Catherine (*with* Nicolaï, Jean-Paul) Amélioration de la prévision et causalité entre deux séries d'un système multivarié autorégressif stationnaire. (English and French summaries) [Prediction improvement and causality between two series inside a multivariate stationary autoregressive framework] *Ann. Économ. Statist.* **1994,** *no.* 36, 1–22. 62M10 (62P20)

— (*with* Nocolaï, Jean-Paul) Causalité persistante entre séries non-stationnaires: application à l'étude comparée des politiques monétaires des pays du G5. (English and French summaries) [Persistent causality between integrated possibly cointegrated series: application to the comparison of the monetary policies in the G5 countries] *Ann. Économ. Statist.* **1995,** *no.* 40, 177–206. 62M10 (62P20)

Bruneau, Ch.-H. (*with* Di Menza, Laurent) Artificial boundary conditions for nonlinear Schrödinger equations. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 266–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q55

— (*with* Fabrie, Pierre) New efficient boundary conditions for incompressible Navier-Stokes equations: a well-posedness result. (English summary) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 7, 815–840. (Chang Hao Lin) **98f:35114** 35Q30 (76D05, 76M25)

— (*with* Fabrie, Pierre; Veersé, F.) Optimal control data assimilation with an atmospheric model. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 691–722. (Qin Xu) **98g:49026** 49N55 (86A10)

Bruneau, D. (*with* Feuillebois, F.; Bławzdziewicz, J.; Anthore, R.) Three-dimensional intrinsic convection in dilute and dense dispersions of settling spheres. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 55–59. 76R99 (76T05)

Brunella, Marco A global stability theorem for transversely holomorphic foliations. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 179–186. (James J. Hebda) **98d:53036** 53C12 (58G32)

— Feuilletages holomorphes sur les surfaces complexes compactes. (English and French summaries) [Holomorphic foliations on compact complex surfaces] *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 5, 569–594. (M. G. Soares) **98i:32051** 32L30 (14J99, 32J15)

— Some remarks on indices of holomorphic vector fields. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 527–544. (M. G. Soares) **98m:32052** 32S65 (32L30)

Brunelle, E. J. The general solution properties of linear elasticity. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 2, 169–176. (D. G. Natroshvili) **98c:73029** 73C35

Brunelli, J. C. (*with* Das, Ashok) A Lax description for polytropic gas dynamics. (English summary) *Phys. Lett. A* **235** (1997), *no.* 6, 597–602. (Summary) **98f:76066** 76N15 (35Q35, 58F07, 58F40)

Brunet, Bernard Sur l'épaisseur d'un espace topologique. [On the thickness of a topological space] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 3, 8 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 54J05 (54F45)

— Sur la dimension des espaces totalement ordonnés. [On the dimension of totally ordered spaces] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 5, 7 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 54F45 (06F30)

— Sur la compactification des espaces totalement ordonnés. [Compactification of totally ordered spaces] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 4, 11 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (*see* **98c:00016**) 54D35 (06F30, 54F05)

— On the dimension of ordered spaces. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 303–314. (A. H. Stone) **98j:54055** 54F05 (54F45)

Brunet, Eric (*with* Derrida, Bernard) Shift in the velocity of a front due to a cutoff. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2597–2604. (Summary) **98j:82048** 82C31 (35K55, 35Q99)

Brunet, Richard (*with* Nakamoto, Atsuhiro; Negami, Seiya) Diagonal flips of triangulations on closed surfaces preserving specified properties. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 2, 295–309. (Antonio F. Costa) **98c:57021** 57Q15

Brunetta, Lorenzo (*with* Conforti, Michele; Rinaldi, Giovanni) A branch-and-cut algorithm for the equicut problem. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 243–263. (Summary) **98j:90086** 90C35 (05C85, 90C27)

Brunetti, Maurizio Morava K-theories and dihedral groups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 31–40. (Summary) **98f:55004** 55N15 (20J05)

— The multiplicative structure of $K(n)^*(BA_4)$. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 605–612. (Summary) **98i:55007** 55N20 (55N22)

Brunetti, R. (*with* Fredenhagen, K.) Interacting quantum fields in curved space: renormalizability of φ^4. *Operator algebras and quantum field theory* (*Rome*, 1996), 546–563, *Internat. Press, Cambridge, MA*, 199?. (Rainer Verch) **98m:81110** 81T20 (81T05, 81T15)

— (*with* Fredenhagen, K.; Köhler, Martin) The microlocal spectrum condition and Wick polynomials of free fields on curved spacetimes. (English summary) *Comm. Math. Phys.* **180** (1996), *no.* 3, 633–652. (Michael Keyl) **98b:81153** 81T20 (46N50, 58G16, 81T05)

— (*with* Nedyalkov, M.; Dimov, Ivan T.; Bordone, P.; Jacoboni, C.) Using the Wigner function for quantum transport in device simulation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 33–53. 81S30

Brungs, H. H. (*with* Törner, G.) Right cones in groups. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 65–71, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98k:20041** 20F05

Brunhes, Edmond ★ Géométrie descriptive. Tome I. (French) [Descriptive geometry. Vol. I] Éléments. [Elements] Reprint of the fifth (1893) edition. *Éditions Jacques Gabay, Sceaux*, 1996. iv+216 *pp. ISBN* 2-87647-170-1 (Konrad Knitter) **98k:01047** 01A75 (51N05)

— ★ Géométrie descriptive. Tome II. (French) [Descriptive geometry. Vol. II] Exercices. [Exercises] Reprint of the fifth (1920) edition. *Éditions Jacques Gabay, Sceaux*, 1996. vi+582 *pp. ISBN* 2-87647-170-1 (Konrad Knitter) **98k:01048** 01A75 (51N05)

Bruni, Marco (*with* Van Elst, Henk; Uggla, Claes) Singularities in silent universes: state of the art. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 255–259, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C75

— (*with* Matarrese, Sabino; Mollerach, Silvia; Sonego, Sebastiano) On relativistic perturbations of second and higher order. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 389–393, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:53100** 53C80 (83C25, 83E15)

— (*with* Matarrese, Sabino; Mollerach, Silvia; Sonego, Sebastiano) Perturbations of spacetime: gauge transformations and gauge invariance at second order and beyond. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2585–2606. (Jorge A. Pullin) **98f:83023** 83C25

Bruni, Roberto (*with* Montanari, Ugo) Zero-safe nets, or Transition synchronization made simple. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q90

Brüning, Erwin A. K. How to reconstruct an analytic function from its asymptotic expansion? (English summary) *Complex Variables Theory Appl.* **30** (1996), *no.* 3, 199–220. (Alexander Tovbis) **98a:30044** 30E15 (40A99)

— Eigenvalue problems for global quasilinear partial differential operators. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 55–67. (Jan Bochenek) **98f:35024** 35G30 (35P30, 47F05, 47H12, 49R05)

Brüning, Jochen The signature theorem for manifolds with metric horns. *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1996), *Exp. No. II*, 10 *pp.*, *École Polytech., Palaiseau*, 1996. (Jürgen Eichhorn) **98a:58150** 58G10 (53C21, 58G11)

— Zeitgemäße Physiologien: Der Mathematiker. (German summary) [Contemporary physiologies: the mathematician] *Mitt. Dtsch. Math.-Ver.* **1997,** *no.* 3, 61–64. 01A99 (00A99)

Brüning, Stefan (*with* Baumgartner, Peter) A disjunctive positive refinement of model elimination and its application to subsumption deletion. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 2, 205–262. (Summary) **98h:68206** 68T15 (03B35)

Brunn, P. O. (*with* Ryssel, E.) The ω-D fluid: general theory with special emphasis on stationary two-dimensional flows. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 2, 73–82. (Summary) **98f:76006** 76A10 (73B99)

— (*with* Abu-Jdayil, B.) Fluids with transverse isotropy as models for electrorheological fluids. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 97–107. 76A05 (76W05)

Brunner, A. M. (*with* Sidki, Said) On the automorphism group of the one-rooted binary tree. (English summary) *J. Algebra* **195** (1997), *no.* 2, 465–486. (S. Andreadakis) **98i:20035** 20F29 (05C25, 20E22, 68Q70)

— The double cover of S^3 branched along a link. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 599–619. (Bruno Zimmermann) **98h:57004** 57M12

(57M25)

Brunner, Edgar (*with* Denker, Manfred) Preface [dedication to Madan L. Puri, on the occasion of his 65th birthday]. *Research developments in probability and statistics*, xi–xii, *VSP, Utrecht*, 1996. (*see* **98b:60004**) 01A70

— (*with* Akritas, Michael G.) Rank tests for patterned alternatives in factorial designs with interactions. (English summary) *Research developments in probability and statistics*, 277–288, *VSP, Utrecht*, 1996. (Summary) **98h:62079** 62G10 (62K15)

— (*with* Akritas, Michael G.) Nonparametric methods for factorial designs with censored data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 568–576. (Summary) **98f:62124** 62G10 (62K15)

— (*with* Dette, Holger; Munk, Axel) Box-type approximations in nonparametric factorial designs. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1494–1502. (Summary) **98m:62136** 62G10 (62K15)

— (*with* Akritas, Michael G.) A unified approach to rank tests for mixed models. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 249–277. (James N. Adichie) **98m:62134** 62G10 (62G20)

— *see also* **Research developments in probability and statistics, 98b:60004**

Brunner, Hermann (*with* Lin, Qun[1]; Yan, Ning Ning) The iterative correction method for Volterra integral equations. (English summary) *BIT* **36** (1996), *no.* 2, 221–228. (B. P. Parashar) **98b:45008** 45L05 (45D05, 65R20)

— Open problems in the discretization of Volterra integral equations. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 7-8, 717–736. (Jean-Paul Kauthen) **98f:45010** 45L10 (45D05, 65R20)

— 1896–1996: one hundred years of Volterra integral equations of the first kind. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 83–93. (F. Smithies) **98g:01049** 01A60 (01A55, 45–03, 45D05)

— (*with* Makroglou, Athena; Miller, Richard Keith[1]) On mixed collocation methods for Volterra integral equations with periodic solution. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 115–130. (Summary) **98g:65125** 65R20 (45D05, 45L05)

— (*with* Roth, Helmut Karl) Collocation in space and time: experience with the Korteweg-de Vries equation. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 369–390. (Summary) **98h:65041** 65M20

— (*with* Kauthen, J.-P.) Continuous collocation approximations to solutions of first kind Volterra equations. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1441–1459. (Summary) **98f:65128** 65R20 (45L05)

Brunner, Ilka (*with* Schimmrigk, Rolf) *F*-theory on Calabi-Yau fourfolds. (English summary) *Phys. Lett. B* **387** (1996), *no.* 4, 750–758. (Mark Gross) **98c:14035** 14J32 (32J81, 81T30)

— (*with* Lynker, Monika; Schimmrigk, Rolf) Unification of M- and F-theory Calabi-Yau fourfold vacua. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 156–174. (Bruce Hunt) **98f:32028** 32J18 (14J32, 32G81, 32J81, 81T30)

— (*with* Lynker, Monika; Schimmrigk, Rolf) Dualities and phase transitions for Calabi-Yau threefolds and fourfolds. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 120–135. (Bruce Hunt) **98g:32052** 32J81 (14J28, 14J32, 32G81, 32J17, 32J18, 81T30)

— (*with* Karch, Andreas) Branes and six-dimensional fixed points. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 109–116. (C. Gauthier) **98i:81194** 81T30 (81T50, 81T60)

Brunner, S. (*with* Vaclavik, J.) Global approach to the spectral problem of microinstabilities in a cylindrical plasma using a gyrokinetic model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 365–375. 76E25 (76X05)

Brunnett, Guido (*with* Wendt, Jörg) A univariate method for plane elastic curves. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 3, 273–292. (Marshall Walker) **98c:65023** 65D17 (41A15, 65D10, 73K99, 73V25)

Bruno, Alexander D. Newton polyhedron and applications. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 55–60, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 34C20 (34E05)

— (*with* Varin, V. P.) The fractal structure of periodic oscillations of a satellite. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 61–66, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 70K99 (34C15, 70M20)

— General approach to the asymptotic analysis of singular perturbations. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 11–17, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 34E15 (34C20, 34D15)

— The Newton polyhedron in nonlinear analysis. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1995,** *no.* 6, 45–51, 117; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 4–9 (1996). 34C20 (58F99)

— (*with* Soleev, A.) Newton polyhedra and Hamiltonian systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1995,** *no.* 6, 84–86, 119; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 36–38 (1996). 34C20 (58F05, 70H05)

— (*with* Soleev, A.) Hamiltonian truncations of a Hamiltonian system. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 153–155. (A. Sumbatov) **98a:58065** 58F05 (34C20, 58F36, 70H05)

— A general approach to asymptotic nonlinear analysis. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1996,** *no.* 6, 24–27, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 13–15 (1997). (Summary) **98g:34068** 34C20 (35C20)

— (*with* Petrovich, V. Yu.) Computation of the periodic oscillations of a satellite. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 6, 82–94. (Summary) **98h:70025** 70K99 (34C25, 70–08, 70M20)

— (*with* Varin, V. P.) Singularities of oscillations of a satellite of highly eccentric elliptic orbits. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2541–2546. (*see* **98i:00030**) 34C99 (70K99, 70M20)

Bruno, Andrea (*with* Matsuki, Kenji) Log Sarkisov program. *Internat. J. Math.* **8** (1997), *no.* 4, 451–494. (Yujiro Kawamata) **98h:14017** 14E05 (14E07, 14E30)

Bruno, Giordano ★ Über die Monas, die Zahl und die Figur als Elemente einer sehr geheimen Physik, Mathematik und Metaphysik. (German) [On the monas, the number and the figure [as elements of a very secret physics, mathematics and metaphysics]] Translated from the Latin, edited and supplied with footnotes by Elisabeth von Samsonow, Martin Mulsow, Ingomar Lorch and Matthias Reuss, with the collaboration of Miranda Alberti and Elisabeth Lehr. With an introduction by von Samsonow and a commentary by Mulsow. Philosophische Bibliothek [Philosophical Library], 436. *Felix Meiner Verlag, Hamburg*, 1991. l+282 *pp. ISBN* 3-7873-1330-3 (Eberhard Knobloch) **98e:01019** 01A75 (01A40)

— (*with* Grande, R.) A compactness criterion in $B^{\alpha}_{\infty p}$ spaces. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 95–121. (Nguyễn Hòng Thái) **98g:46047** 46E99 (34L05, 46N20, 47E05)

— (*with* Grande, R.) Compact embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 157–173. (J. Horváth) **98h:46030** 46E35 (42A75)

— *see also* **Lishevskiĭ, V. P.**

Bruno, J. L. (*with* Coffman, Edward G., Jr.) Optimal fault-tolerant computing on multiprocessor systems. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 881–904. (M. Dal Cin) **98j:68002** 68M20 (60K10, 68M15)

— (*with* Krishnaswamy, Vasudha; Agrawal, Divyakant; El Abbadi, Amr) Relative serializability: an approach for relaxing the atomicity of transactions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 344–354. (Summary) **98i:68067** 68P15 (68Q10)

Bruno, Oscar P. Energetics in martensites. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 14–24, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73B30

Bruno, W. J. (*with* Balding, D. J.; Knill, Emanuel; Torney, D. C.) A comparative survey of non-adaptive pooling designs. (English summary) *Genetic mapping and DNA sequencing (Minneapolis, MN, 1994)*, 133–154, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98c:92006**) 92D20 (62K99, 62P10)

Brunovský, P. (*with* Poláčik, P.) The Morse-Smale structure of a generic reaction-diffusion equation in higher space dimension. *J. Differential Equations* **135** (1997), *no.* 1, 129–181. (Gunter Bengel) **98e:35091** 35K57 (47H15, 47N20, 58F39)

Bruns, Günter (*with* Roddy, M. S.) Projective orthomodular lattices. II. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 147–153. (Mirko Navara) **98g:06014** 06C15 (81P10)

Bruns, Winfried (*with* Vasconcelos, Wolmer V.; Villarreal, Rafael H.) Degree bounds in monomial subrings. *Illinois J. Math.* **41** (1997), *no.* 3, 341–353. (Aron Simis) **98e:13013** 13B22 (13F20, 13H10)

— (*with* Herzog, Jürgen) Semigroup rings and simplicial complexes. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 185–208. (José A. Hermida-Alonso) **98m:13020** 13D02 (20M25)

Brunvoll, J. (*with* Cyvin, Sven J.; Cyvin, B. N.) Enumeration of tree-like octagonal systems. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 193–196. (Summary) **98e:05057** 05C30 (05C90, 92E10)

— (*with* Guo, Xiaofeng; Zhao, Biao; Cyvin, Sven J.; Cyvin, B. N.) Enumeration of concealed non-Kekuléan helicenes with $h = 14$. (English summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 1, 1–12. (Fu Ji Zhang) **98h:92052** 92E10 (05C90)

Bruschi, D. (*with* Basagni, S.; Ravasio, F.) On the difficulty of finding walks of length k. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 429–435. (Summary) **98m:68199** 68R10 (05C85, 68Q25)

Bruschi, Massimo Determinantal solution of the logistic map. (English summary) *J. Phys. A* **31** (1998), *no.* 7, *L*153–*L*155. 58F13

Brusentsev, A. G. On the essential selfadjointness of second-order semibounded elliptic operators that are not subject to the condition of the completeness of the Riemannian manifold. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 152–167. (Ya. A. Roĭtberg) **98k:35033** 35J15 (47F05, 58G03)

Brush, Stephen G. Prediction and theory evaluation: subatomic particles. (English summary) *Riv. Stor. Sci.* (2) **1** (1993), *no.* 2, 47–152. 81–03 (01A60)

Brushlinskiĭ, K. V. (*with* Zueva, N. M.; Mikhaĭlova, M. S.; Petrovskaya, N. B.) On the uniqueness and stability of solutions of two-dimensional problems in plasma statics. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 4, 73–86. (Summary) **98h:76133** 76W05 (76E25, 76X05, 82D10)

Brusin, V. A. (*with* Ugrinovskaya, E. Ya.) On decentralized adaptive control with a reference model. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 67–77; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1743–1752 (1997). 93A14 (93C40)

de la Bruslerie, Hubert *see* **de La Bruslerie, Hubert**

Bruss, F. Thomas (*with* Ferguson, Thomas S.) Half-prophets and Robbins' problem of minimizing the expected rank. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 1–17, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Alexander V. Gnedin) **98k:60066** 60G40 (62L15)

— (*with* Ferguson, Thomas S.) Multiple buying or selling with vector offers. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 959–973. (Minoru Sakaguchi) **98k:60067** 60G40 (62L15, 90B50, 90C39)

Brussee, Rogier The canonical class and the C^{∞} properties of Kähler surfaces. (English summary) *New York J. Math.* **2** (1996), 103–146 (*electronic*). (Zhenbo Qin) **98a:57041** 57R55 (14J99, 32J15, 57R57)

Brustein, Ram (*with* Ovrut, Burt A.) Nonperturbative effects in 2D string theory or, beyond the Liouville wall. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 20, 3477–3515. (Summary) **98f:81242** 81T30

— (*with* Madden, Richard) Graceful exit and energy conditions in string cosmology. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 110–118. (Summary) **98f:83113** 83F05 (83E30)

Brutman, Lev (*with* Passow, Eli) Rational interpolation to $|x|$ at the Chebyshev nodes. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 81–86. (Günther Nürnberger) **98i:41012** 41A20 (41A25)

— (*with* Nowominski, N.) Third-order modifications of Bairstow's method. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 479–487. 65H05 (65H10)

— (*with* Toledano, D.) An extremal problem of Erdős in interpolation theory. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 37–47. (Summary) **98j:65006** 65D05 (41A05)

— (*with* Passow, Eli) On rational interpolation to $|x|$. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 381–391. (J. Szabados) **98c:41017** 41A20

— (*with* Passow, Eli) On a divided differences problem. *East J. Approx.* **3** (1997), *no.* 4, 495–501. (Gerald D. Taylor) **98k:41004** 41A05

Brutyan, M. A. (*with* Kulikovskiĭ, A. G.) Instability and nonuniqueness of quasisteady flows of a viscoelastic liquid. *Fluid Dynam.* **31** (1996), *no.* 6, 819–827 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996**, *no.* 6, 29–39 (*Russian. Russian summary*). (Summary) **98d:76006** 76A10 (73F15, 76E99)

— (*with* Andrienko, Yu. A.; Obraztsov, I. F.; Yanovskiĭ, Yu. G.) The spurt effect for viscoelastic fluids in the 4-constant Oldroyd model. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 327–330; *translation in Phys. Dokl.* **42** (1997), *no.* 1, 43–46. (Leonid K. Antanovskiĭ) **98c:76004** 76A10 (73F15)

— Diffusion of vorticity in a viscoelastic liquid. *Fluid Dynam.* **32** (1997), *no.* 5, 626–630 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 5, 18–23 (*Russian. Russian summary*). (Summary) **98m:76005** 76A10

Bruus, Henrik (*with* Whelan, Niall D.) Edge diffraction, trace formulae and the cardioid billiard. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 1023–1047. (Christian Grosche) **98a:81047** 81Q50 (81Q20)

Bruyère, Véronique (*with* Latteux, Michel) Variable-length maximal codes. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 24–47, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Dong Yang Long) **98g:68078** 68Q45 (68R15, 94A45)

— (*with* De Felice, Clelia) Any lifting of a trace coding is a word coding. (English summary) *Inform. and Comput.* **130** (1996), *no.* 2, 183–193. (Yves Metivier) **98c:68111** 68Q45

— A completion algorithm for codes with bounded synchronization delay. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 87–97, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:94025** 94A45 (68Q45, 94B60)

— (*with* Hansel, Georges) Bertrand numeration systems and recognizability. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 17–43. (Jeffrey O. Shallit) **98i:68149** 68Q45 (03D05, 11A67, 11B85)

le Bruyn, Lieven *see* **Le Bruyn, Lieven**

de Bruyne, F. *see* **De Bruyne, F.**

Bruzzo, U. (*with* Bartocci, C.; Hernández Ruipérez, D.; Pestov, V.) Supermanifold theory: towards a unifying approach. (English summary) *Differential geometry and its applications* (*Santiago de Compostela*, 1995), 1–16, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Summary) **98i:58014** 58A50

— (*with* Bartocci, C.; Carfora, Mauro; Marzuoli, Annalisa) Entropy of random coverings and 4D quantum gravity. (English summary) *J. Geom. Phys.* **18** (1996), *no.* 3, 247–294. (Summary) **98b:83033** 83C45 (53C23, 57Q10, 81V17, 83C27)

— (*with* Bartocci, C.; Hernández Ruipérez, D.) A Fourier-Mukai transform for stable bundles on $K3$ surfaces. (English summary) *J. Reine Angew. Math.* **486** (1997), 1–16. (Antony Maciocia) **98i:14041** 14J60 (14J28)

Bry, François (*with* Yahya, Adnan) Minimal model generation with positive unit hyper-resolution tableaux. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 143–159, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 03B35 (68N17, 68T15)

Bryan, Jim Symplectic geometry and the relative Donaldson invariants of $\overline{\mathbf{CP}}^2$. (English summary) *Forum Math.* **9** (1997), *no.* 3, 325–365. (Paolo Lisca) **98b:57047** 57R57 (14D20, 32J27, 53C15, 57R55)

— (*with* Sanders, Marc) The rank stable topology of instantons of $\overline{\mathbf{CP}}^2$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3763–3768. (Vicente Muñoz) **98b:58028** 58D27 (55P15, 58B05)

— Seiberg-Witten à la Furuta and genus bounds for classes with divisibility. *Turkish J. Math.* **21** (1997), *no.* 1, 55–59. (Tedi C. Draghici) **98d:57061** 57R95 (57N13, 57R40, 57R57)

— (*with* Taubes, Clifford Henry) Donaldson-Floer theory. (English summary) *Gauge theory and the topology of four-manifolds* (*Park City, UT*, 1994), 195–221, *IAS/Park City Math. Ser.*, 4, *Amer. Math. Soc., Providence, RI*, 1998. (Vicente Muñoz) **98m:57042** 57R57 (57N13, 57R55, 58D29)

Bryan, Kirk A numerical method for the study of the circulation of the world ocean [J. Comput. Phys. **4** (1969), no. 3, 347–376]. (English summary) With an introduction by Albert J. Semtner. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 149–169. (*see* **98h:70003**) 86–08 (86A05)

Bryant, Darryn E. (*with* Battersby, B. J.; Rodger, C. A.) Factorizations of complete multigraphs. (English summary) *Australas. J. Combin.* **16** (1997), 35–43. (Summary) **98e:05083** 05C70

— (*with* Adams, Peter; Khodkar, A.) Uniform 3-factorisations of K_{10}. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 23–32. (Summary) **98i:05125** 05C70

— (*with* Oates-Williams, Sheila) Strongly 2-perfect cycle systems and their quasigroups. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 167–174. (Elena Brožíková) **98g:20103** 20N05 (05C12, 05C70)

— (*with* Rodger, C. A.; Spicer, Erin R.) Embeddings of m-cycle systems and incomplete m-cycle systems: $m \leq 14$. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 55–75. (A. Rosa) **98f:05095** 05C38 (05C70)

— (*with* Adams, Peter; El-Zanati, Saad I.; Vanden Eynden, Charles) d-cube decompositions of $K_n \setminus K_m$. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 1–7. (Chris Rodger) **98a:05037** 05B30 (05C70)

— $2m$-cycle systems of $K_{2m+1} \setminus C_m$. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 227–229. (Summary) **98d:05110** 05C70 (05C38)

— (*with* Khodkar, A.) On orthogonal double covers of graphs. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 103–105. (Summary) **98m:05141** 05C70

— (*with* Adams, Peter; Khodkar, A.) 3, 5-cycle decompositions. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 91–110. (Jaroslav Ivančo) **98k:05111** 05C70

Bryant, G. F. (*with* Halikias, G. D.) Optimal loop-shaping for systems with large parameter uncertainty via linear programming. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 557–568. 93C41 (90C05)

Bryant, John Lowrie (*with* Day, Roger; Lefkopoulou, Myrto) Adaptation of bivariate frailty models for prediction, with application to biological markers as prognostic indicators. (English summary) *Biometrika* **84** (1997), *no.* 1, 45–56. (Marcus W. Feldman) **98k:62182** 62P10

Bryant, Peter J. Forced, damped pendulums. *Of fluid mechanics and related matters* (*La Jolla, CA*, 1990), 45–54, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (*see* **98h:76003**) 70K40 (34C15, 70K50)

Bryant, Robert L. Classical, exceptional, and exotic holonomies: a status report. (English and French summaries) *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 93–165, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Andrew Swann) **98c:53037** 53C10 (53C05, 53C30)

— Projectively flat Finsler 2-spheres of constant curvature. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 2, 161–203. (David Bao) **98i:53101** 53C60

Bryc, Włodzimierz (*with* Dembo, Amir) Large deviations for quadratic functionals of Gaussian processes. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 307–332. (Vadim R. Fatalov) **98g:60056** 60F10 (60G15)

Bryce, R. A. (*with* Fedri, Valeria; Serena, Luigi) Covering groups with subgroups. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 469–476. (M. J. Tomkinson) **98h:20074** 20F99

Brychkov, Yu. A. *see* **Kölbig, K. S.**

Brydges, David C. (*with* Slade, Gordon) Statistical mechanics of the 2-dimensional focusing nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 485–504. (Tohru Ozawa) **98f:82097** 82C27 (35Q55)

Brykalov, S. A. Problems for functional-differential equations with monotone boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 731–738, 860; *translation in Differential Equations* **32** (1996), *no.* 6, 740–747 (1997). (Alexander I. Domoshnitsky) **98h:34120** 34K10 (34K15)

— Problems for ordinary differential equations with monotone boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1322–1330, 1437; *translation in Differential Equations* **32** (1996), *no.* 10, 1319–1326 (1997). (Michal Fečkan) **98j:34025** 34B15 (34G20, 47H15)

— Scalar problems with nonlinear monotone boundary conditions. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 714–716. (Jānis Cepītis) **98k:34026** 34B15

— Nonconvex differential inclusions with nonlinear monotone boundary conditions. (English summary) *Georgian Math. J.* **4** (1997), *no.* 6, 501–508. (G. Anichini) **98k:34024** 34A60 (34B15, 49K24, 54C65)

Brylawski, T. (*with* Varchenko, A. N.) The determinant formula for a matroid bilinear form. (English summary) *Adv. Math.* **129** (1997), *no.* 1, 1–24. (Laura M. Anderson) **98g:52022** 52B40 (52B30)

Brylinski, Jean-Luc (*with* McLaughlin, D. A.) Multidimensional reciprocity laws. *J. Reine Angew. Math.* **481** (1996), 125–147. (Philippe P. Eyssidieux) **98b:11072** 11G45 (11R37, 14F45, 19D45, 32J99)

— (*with* McLaughlin, D. A.) Characteristic classes and multidimensional reciprocity laws. *Math. Res. Lett.* **3** (1996), *no.* 1, 19–30. (J. P. C. Greenlees) **98g:19001** 19D45 (11G45, 19F05)

— (*with* McLaughlin, D. A.) Non-commutative reciprocity laws associated to finite groups. *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 421–438, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. P. C. Greenlees) **98g:58020** 58D29 (14F05, 19D99, 57M25)

— Coadjoint orbits of central extensions of gauge groups. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 351–365. (Michael Murray) **98m:22025** 22E65 (22E67, 58B25)

— (*with* Bell, S. R.; Huckleberry, A. T.; Narasimhan, Raghavan; Okonek, Christian; Schumacher, Georg; Van de Ven, A.; Zucker, Steven M.) ★ Complex manifolds. Corrected reprint of the 1990 translation [*Several complex variables. VI*, Encyclopaedia, Math. Sci., 69, Springer, Berlin, 1990; MR 91i:32001]. *Springer-Verlag, Berlin*, 1998. *viii+310 pp. ISBN* 3-540-62995-5 (Editors) **98k:32002** 32–06

Bryś, Krzysztof (*with* Lonc, Zbigniew) Clique and anticlique partitions of graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 67–72, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05136** 05C85 (05C70, 68R10)

— (*with* Lonc, Zbigniew) Clique and anticlique partitions of graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 41–49. (Summary) **98m:05142** 05C70 (05C85)

Bryson, N. A. (*with* Joseph, Anito; Gass, Saul I.) A computational study of an objective hyperplane search heuristic for the general integer linear programming problem. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 63–76. 90C10

Bryukhanov, O. V. Genetics of symplectic groups over commutative semilocal rings. (Russian) *Analysis and discrete mathematics* (*Russian*), 29–36, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (*see* **98b:00016**) 20G35

Bryuno, A. D. *see* **Bruno, Alexander D.**

Brzdęk, Janusz On the Cauchy difference on normed spaces. (English summary) *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 143–150. (Wolfgang Sander) **98b:39023** 39B52 (47A99)

— On the Baxter functional equation. (English summary) *Aequationes Math.* **52** (1996), *no.* 1-2, 105–111. (F. J. Papp) **98e:39007** 39B22

— On the increasing solutions of the translation equation. (English summary) *Ann. Polon. Math.* **64** (1996), *no.* 3, 207–214. (Wazir Hasan Abdi) **98c:39010** 39B52

Brzeskwiniewicz, Henryk (*with* Kłaczyński, Krzysztof) Consistency examination of linear inequality system. (English summary) *Mat. Stos.* **40** (1997), 83–87. (Summary) **98m:15029** 15A39

— Kronecker product of mutually associable PBB designs. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 413–418. (Summary) **98a:62101** 62K10

— (*with* Ceranka, Bronisław; Krzyszkowska, Jolanta) Reinforced block designs with standards. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 187–192. (Summary) **98e:62114** 62K10

Brzezinski, Juliusz A generalization of Eichler's trace formula. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 53–61. (Thomas R. Shemanske) **98j:11108** 11R52 (11R54)

Brzeziński, Tomasz Translation map in quantum principal bundles. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 349–370. (Summary) **98e:58021** 58B30 (55R10, 81R50)
— A note on coalgebra gauge theory. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 289–292, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Władysław Marcinek) **98j:58010** 58B30 (16W30, 17B37, 81R50)
— Quantum fibre bundles. An introduction. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 211–223, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Władysław Marcinek) **98j:81141** 81R50 (16W30, 17B37, 58B30)
— Crossed products by a coalgebra. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3551–3575. (Richard K. Molnar) **98i:16034** 16W30
Brzeźniak, Zdzisław (*with* Albeverio, Sergio; Boutet de Monvel-Berthier, Anne-Marie) The trace formula for Schrödinger operators from infinite-dimensional oscillatory integrals. (English summary) *Math. Nachr.* **182** (1996), 21–65. (Xue-Ping Wang) **98f:81065** 81Q10 (35J10, 47F05)
— On stochastic convolution in Banach spaces and applications. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 3-4, 245–295. 35R60 (47D07, 60H15)
Brzozowy, Mirosław The decomposition of any projectivity of the projective plane onto some special central collineations. *Demonstratio Math.* **30** (1997), *no.* 2, 451–460. (Viktor V. Vdovin) **98f:51006** 51A30
Bsaïes, Khaled (*with* Alexandre, Francis) A methodology for constructing logic programs. (English summary) *Fund. Inform.* **29** (1997), *no.* 3, 203–223. (Summary) **98g:68018** 68N17
Bshouty, Daoud (*with* Bshouty, Nader H.) A note on prime *n*-tuples. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 775–778. (R. C. Baker) **98j:11081** 11P82
Bshouty, Nader H. Simple learning algorithms using divide and conquer. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 2, 174–194. (Mark R. Jerrum) **98a:68080** 68Q20 (68T05)
— (*with* Tamon, Christino) On the Fourier spectrum of monotone functions. (English summary) *J. ACM* **43** (1996), *no.* 4, 747–770. (Summary) **98a:68091** 68Q25 (68Q15, 68T05)
— (*with* Tamon, Christino; Wilson, David K.) Learning matrix functions over rings (extended abstract). (English summary) *Computational learning theory* (*Jerusalem*, 1997), 27–37, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05
— (*with* Bergadano, Francesco; Tamon, Christino; Varricchio, Stefano) On learning branching programs and small depth circuits (extended abstract). (English summary) *Computational learning theory* (*Jerusalem*, 1997), 150–161, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05 (68Q05)
— (*with* Mansour, Yishay; Schieber, Baruch; Tiwari, Prasoon) A tight bound for approximating the square root. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 211–213. (Summary) **98i:68122** 68Q25 (65B15, 68Q40)
— (*with* Bshouty, Daoud) A note on prime *n*-tuples. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 775–778. (R. C. Baker) **98j:11081** 11P82
— (*with* Tamon, Christino; Wilson, David K.) On learning decision trees with large output domains. (English summary) *Algorithmica* **20** (1998), *no.* 1, 77–100. (Summary) **98k:68144** 68T05 (68Q99)
Bu, Chang Jiang (*with* Chen, Chao) Some results on strongly harmonious graphs. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 6–7. 05C78
Bu, Charles (*with* Duan, Jinqiao; Gao, Hong-jun; Taboada, Mario) On a coupled Kuramoto-Sivashinsky and Ginzburg-Landau-type model for the Marangoni convection. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2465–2474. (Summary) **98c:76037** 76E15 (35Q35, 76E30, 76R10)
— On a forced modified KdV equation. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 221–227. (Summary) **98c:35137** 35Q53
— (*with* Shull, Randy; Zhao, Kanyi) A periodic boundary value problem for a generalized 2D Ginzburg-Landau equation. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 197–211. (Summary) **98j:35165** 35Q55 (35B10, 35B60)
Bu, Qing Ying (*with* Fu, Yong Qiang) Orlicz-Pettis type theorem for compact operators. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 67–74. (Jan H. Fourie) **98g:46005** 46A32 (46A03, 46A35)
— (*with* Wu, Cong Xin) Unconditionally convergent series of operators on Banach spaces. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 291–299. (Victor Kaftal) **98c:47001** 47A05 (46B20, 47B07)
— (*with* Wu, Cong Xin) Operator spaces and characterizations of nuclearity. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 125–131. (A. Pietsch) **98h:47064** 47D15 (46B28, 47B10)
— A new characterization of nuclear locally convex spaces. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 47–49, 56. 46A11
Bu, Shangquan The Cesàro operator on vector-valued H^p spaces. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 27–36. (Aristomenis Siskakis) **98a:47030** 47B38 (46E15)
Bu, Xiao Ming A modified double set parameter method and its application in constructing rectangular thin plate elements. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 65–72. 65N30 (73K10, 73V05)
Bub, Jeffrey Why not take all observables as beables? *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 761–767, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (M. J. Mączyński) **98h:81005** 81P05
— Modal interpretations and Bohmian mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 331–341, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05
— (*with* Clifton, Rob) A uniqueness theorem for "no collapse" interpretations of quantum mechanics. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 2, 181–219. (Summary) **98k:81018** 81P10
Bubenchikov, A. M. (*with* Komarovskiĭ, L. V.; Kharlamov, S. N.) ★ Математические модели течения и теплообмена во внутренних задачах динамики вязкого газа. (Russian. English and Russian summaries) [Mathematical models of flow and heat exchange in interior problems of the dynamics of a viscous gas] *Izdatel'stvo Tomskogo Universiteta, Tomsk*, 1993. 184 *pp.* *ISBN* 5-7511-0048-8 (Corneliu Berbente) **98j:76122** 76N15 (76F99, 80A32)
Bubnov, B. M. (*with* Linden, P. F.) Diffusion circulation of a stratified rotating fluid. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 625–629; *translation in Phys. Dokl.* **42** (1997), *no.* 10, 557–561. (Yuri N. Skiba) **98m:76152** 76V05 (76–05, 76U05, 86A05)
— Convection in a closed vessel under slow rotation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 44–47; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 598–601. 76E15 (76R05, 76U05)
Bucataru, Ioan Connection map in the higher order geometry. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 253–258. (Zoltan Kovacs) **98h:53029** 53B15
Buccafurri, Francesco (*with* Greco, Sergio; Saccà, Domenico) The expressive power of unique total stable model semantics. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 849–859, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68031** 68N17
di Bucchianico, A. *see* **Di Bucchianico, A.**
Bucci, Francesca A remark on regularization of the wave equation with boundary input. *Partial differential equation methods in control and shape analysis* (*Pisa*), 53–62, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (J. P. Babary) **98e:49054** 49K20 (35L05, 65M30)
Bucciantini, Massimo After the *Sidereus nuncius*: Copernicanism in Italy from Galileo to Kepler. (Italian. English and Italian summaries) *Nuncius Ann. Storia Sci.* **9** (1994), *no.* 1, 15–35. (Summary) **98c:01011** 01A45
— *see also* **Spread of Copernicanism in Italy**, **98g:01027**
Bucciarelli, Antonio Logical reconstruction of bi-domains. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 99–111, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98i:68177** 68Q55 (03B40, 68N15)
— Degrees of parallelism in the continuous type hierarchy. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 59–71. (Cristian Calude) **98d:03043** 03B70 (03D55, 68Q55)
Buch, Anders (*with* Thomsen, Jesper Funch; Lauritzen, Niels; Mehta, Vikram) The Frobenius morphism on a toric variety. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 3, 355–366. (Konrad Drechsler) **98j:14020** 14F17 (14M15, 14M25)
Buchanan, J. L. (*with* Gilbert, Robert P.; Lin, Zhongyan) Direct and inverse problems in ocean acoustics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1535–1546. (*see* **98i:00029**) 76Q05 (76M25)
— (*with* Gilbert, Robert P.) Transmission loss in the far field over a one-layer seabed assuming the Biot sediment model. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 121–135. (Summary) **98c:76094** 76Q05 (73D99, 73K70, 73N20, 86A99)
Buchanan, John T. (*with* Henig, Mordechai I.) Tradeoff directions in multiobjective optimization problems. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser. A*, 357–374. (Gert Wanka) **98j:90058** 90C29
Buchberger, Bruno Symbolic computation: computer algebra and logic. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 193–219, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68086** 68Q40
— Mathematica: doing mathematics by computer? *Advances in the design of symbolic computation systems*, 2–20, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (*see* **98e:68125**) 68Q40 (00A35)
— Introduction to Groebner bases. (English summary) *Logic of computation* (*Marktoberdorf*, 1995), 35–66, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Joachim Apel) **98m:13032** 13P10 (68Q40)
Buchbinder, E. I. *see* **Bukhbinder, E. I.**
Buchbinder, I. *see* **Bukhbinder, I. L.**
Buchbinder, I. L. *see* **Bukhbinder, I. L.**
Buche, A. B. (*with* Khaparde, M. V.) Non-Markov functional equations. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **15** (1996), *no.* 2, 237–249. (Summary) **98b:60177** 60K99 (39B99, 47D07, 60J99)
Buchel, Alex (*with* Sethna, James P.) Statistical mechanics of cracks: fluctuations, breakdown, and asymptotics of elastic theory. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part B*, 7669–7690. (Summary) **98a:73049** 73M25 (73V35, 82C99)
Buchen, Peter W. (*with* Ben-Hador, Ronen) Perturbation formulas for linear dispersive waves in weak spatially non-uniform media. (English summary) *Wave Motion* **26** (1997), *no.* 2, 187–197. (Summary) **98g:35176** 35Q53 (35B20, 73D15, 73D35)
Buchenau, Artur *see* **Leibniz, Gottfried Wilhelm**, **98c:01049**
Buchert, Thomas (*with* Ehlers, Jürgen) Newtonian cosmology in Lagrangian formulation: foundations and perturbation theory. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 733–764. (Hans P. Künzle) **98d:58048** 58E50 (85A40)
Buchholz, Detlev Phase space properties of local observables and structure of scaling limits. (English and French summaries) New problems in the general theory of fields and particles, Part II (Paris, 1994). *Ann. Inst. H. Poincaré Phys. Théor.* **64** (1996), *no.* 4, 433–459. (Gerald Hofmann) **98c:81120** 81T05 (46L05)
— (*with* Ojima, Izumi) Spontaneous collapse of supersymmetry. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 228–242. (Michael Keyl) **98f:81315** 81T60 (81R40)
Buchholz, Peter A notion of equivalence for stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 161–180, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98b:68141** 68Q90
Buchholz, Ralph H. (*with* Rathbun, Randall L.) An infinite set of Heron triangles with two rational medians. *Amer. Math. Monthly* **104** (1997), *no.* 2, 107–115. (Guido M. Pinkernell) **98a:51015** 51M04 (11D25, 11G05)
Buchholz, Thilo (*with* Schulze, Bert-Wolfgang) Anisotropic edge pseudo-differential operators with discrete asymptotics. (English summary) *Math. Nachr.* **184** (1997), 73–125. (Ya. A. Roĭtberg) **98a:58158** 58G15 (35S15, 47G30, 47N20)
Buchholz, Thomas (*with* Kutrib, Martin) Some relations between massively parallel arrays. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1643–1662. (Summary) **98j:68029** 68Q10 (68Q80)
Buchholz, Wilfried A note on SLDNF-resolution. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 159–167. (Summary) **98m:68032** 68N17 (03B35, 68T15)

Buchin, V. A. (*with* Grigoryan, S. S.; Shaposhnikova, G. A.) Mathematical modeling of the development of mechanical instability in collapsing systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1039–1045; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 1017–1023. 73M25

Buchler, J. Robert (*with* Gouesbet, G.; Le Sceller, L.; Letellier, C.; Brown, Reggie; Kolláth, Z.) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

— *see also* **Stochastic processes in astrophysics, 98f:00030; Nonlinear problems in relativity and cosmology, 98g:83001** *and* **Nonlinear signal and image analysis, 98k:58003**

Buchmann, Johannes (*with* Jacobson, Michael J., Jr.; Teske, Edlyn) On some computational problems in finite abelian groups. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1663–1687. (Duncan A. Buell) **98a:11185** 11Y16 (20K01)

Buchner, M. (*with* Bochnak, Jacek; Kucharz, Wojciech) Equivalence of analytic and rational functions. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 37–42. (Kamil Rusek) **98d:32005** 32B15

Buchner, Teodor (*with* Żebrowski, Jan) Local entropies as a measure of ordering in discrete maps. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 19–28. (*see* **98k:58002**) 58F11 (94A17)

Buchsbaum, D. A. (*with* Flores de Chela, Delia) Intertwining numbers; the three-rowed case. *J. Algebra* **183** (1996), *no.* 2, 605–635. (From the introduction) **98k:13015** 13D25 (05A17, 20G05)

Buchsbaum, Steven B. (*with* Watson, Kenneth M.) Interaction of capillary waves with longer waves. I. General theory and specific applications to waves in one dimension. (English summary) *J. Fluid Mech.* **321** (1996), 87–120. (Summary) **98a:86007** 86A05 (76B45)

Buchstaber, V. M. *see* **Bukhshtaber, V. M.**

Buchta, Christian (*with* Reitzner, Matthias) Equiaffine inner parallel curves of a plane convex body and the convex hulls of randomly chosen points. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 3, 385–415. (Irene Hueter) **98f:52002** 52A22 (60D05)

— (*with* Reitzner, Matthias) On a theorem of G. Herglotz about random polygons. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 89–102. (Summary) **98k:60017** 60D05

Buchthal, D. C. (*with* Dey, Aloke; Midha, Chand K.) Efficiency of the residual design under the loss of observations in a block. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 237–248, xiii. (Sanpei Kageyama) **98h:62120** 62K10 (05B05)

Buchwald, Jed Z. *see* **Aspects of mid to late nineteenth century electromagnetism, 98d:01001**

Buchwald, V. T. The response of a strait to winds and tides. (English summary) *Of fluid mechanics and related matters* (*La Jolla, CA*, 1990), 83–96, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (*see* **98h:76003**) 76B15 (86A05)

Buchweitz, Ragnar-Olaf (*with* Chen, Qun^2) Hilbert-Kunz functions of cubic curves and surfaces. (English summary) *J. Algebra* **197** (1997), *no.* 1, 246–267. (Elsa Zatini) **98i:13025** 13D40 (13A35, 13C15)

— (*with* Avramov, Luchezar L.; Sally, Judith D.) Laurent coefficients and Ext of finite graded modules. *Math. Ann.* **307** (1997), *no.* 3, 401–415. (Nicolae Manolache) **98a:13025** 13D40 (13A02)

Buck, Bernhard (*with* Butzmann, Heinz-Peter) Free commutative convergence groups. *Rostock. Math. Kolloq. No.* 51 (1997), 159–166. (Summary) **98k:54066** 54H11 (54A20)

Buck, Gregory R. Random knots and energy: elementary considerations. (English summary) *Random knotting and linking* (*Vancouver, BC*, 1993), 123–131, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:57006** 57M25

— (*with* Simon, Jonathan K.) Energy and length of knots. *Lectures at KNOTS '96* (*Tokyo*), 219–234, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (Anders Linnér) **98f:58054** 58E10 (57M25)

Buckdahn, Rainer (*with* Quincampoix, Marc; Rascanu, Aurel) Propriété de viabilité pour des équations différentielles stochastiques rétrogrades et applications à des équations aux dérivées partielles. (English and French summaries) [Viability for backward stochastic differential equations, applications to PDE's] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1159–1162. (Summary) **98g:60104** 60H10 (49J55, 49L25)

— (*with* Barles, Guy; Pardoux, Etienne) Backward stochastic differential equations and integral-partial differential equations. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 57–83. (Fabio Antonelli) **98d:60110** 60H10 (35K99, 35R60)

— (*with* Malliavin, Paul; Nualart, David) Multidimensional linear stochastic differential equations in the Skorohod sense. (English summary) *Stochastics Stochastics Rep.* **62** (1997), *no.* 1-2, 117–145. (Summary) **98h:60080** 60H10 (60H07)

Böcker, H. Martin (*with* Sauren, Manfred) A variant of the biconjugate gradient method suitable for massively parallel computing. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 72–79, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65F30 (65Y05)

Buckholtz, Don Inverting the difference of Hilbert space projections. *Amer. Math. Monthly* **104** (1997), *no.* 1, 60–61. (Vladimir Rakočević) **98a:47002** 47A05 (47A62)

Bucki, Andrzej Special almost r-paracontact connections. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 4 (1996), 3–15. (Francisco M. Cabrera) **98g:53050** 53C15 (53C05)

Buckley, J. J. (*with* Eslami, Esfandiar) Fuzzy plane geometry. II. Circles and polygons. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 1, 79–85. (Summary) **98a:51018** 51M05 (04A72)

— (*with* Eslami, Esfandiar) Inverse approximate reasoning. II. Maximize entropy. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 291–295. (Summary) **98c:03064** 03B52

Buckley, Stephen M. (*with* Koskela, Pekka; Lu, Guozhen) Boman equals John. (English summary) *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 91–99, *de Gruyter, Berlin*, 1996. (Susan G. Staples) **98m:43013** 43A85 (30C65, 31C45)

— (*with* Koskela, Pekka) Criteria for imbeddings of Sobolev-Poincaré type. *Internat. Math. Res. Notices* **1996,** *no.* 18, 881–901. (M. Yu. Vasil'chik) **98g:46041** 46E35 (26D10, 30C65)

Buckmaster, J. Edge-flames. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 2-3, 269–284. (Summary) **98b:80009** 80A25 (76F99)

Bucur, Dorin (*with* Zolésio, Jean-Paul) Shape analysis of eigenvalues on manifolds. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 67–79, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (A. K. Nandakumaran) **98j:49054** 49Q10 (35J60, 58G25)

— (*with* Zolésio, Jean-Paul) Boundary optimization under pseudo curvature constraint. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 681–699 (1997). (Bernard Rousselet) **98j:49055** 49Q10

— (*with* Zolésio, Jean-Paul) Stabilité du spectre d'un opérateur elliptique par rapport au domaine. (English and French summaries) [Stability of the spectrum of an elliptic operator under domain perturbations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 191–194. (B. Hellwig) **98e:35121** 35P05 (35J05, 47F05)

Bucur, Gheorghe (*with* Boboc, Nicu) Dilation operators in excessive structures; existence and uniqueness. (English summary) *Potential theory—ICPT 94* (*Kouty*, 1994), 311–339, *de Gruyter, Berlin*, 1996. (Sirkka-Liisa Eriksson-Bique) **98c:31011** 31D05 (60J45, 60J57)

Bucurescu, Irina (*with* Pascu, Anca) Remarks about the abstract families of fuzzy languages. (English summary) *Mathematical linguistics and related topics*, 39–43, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45 (04A72)

Bucy, R. S. *see* **Udwadia, Firdaus E., 98d:70020**

Buczolich, Zoltán (*with* Weil, Clifford E.) Extending Peano differentiable functions. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 323–330. (Luděk Zajíček) **98b:26002** 26A24

— Arithmetic averages of rotations of measurable functions. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1185–1196. (Sanju L. Velani) **98g:28018** 28D05

— Another note on the gradient problem of C. E. Weil. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 775–784. (Wan Zhuang) **98g:26012** 26B12

— (*with* Pfeffer, Washek F.) Variations of additive functions. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 525–555. (B. Bongiorno) **98h:26017** 26B30 (26B05)

Budaev, B. V. ★ Diffraction by wedges. (English summary) Pitman Research Notes in Mathematics Series, 322. *Longman Scientific & Technical, Harlow*, 1995. viii+141 *pp. ISBN* 0-582-10310-X (Hideo Soga) **98b:35024** 35C15 (35J05, 35L05, 78A45)

Budaev, V. D. On Hilbert and Bessel inequalities for some sine, cosine and exponential systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 19–24, 141; *translation in Differential Equations* **33** (1997), *no.* 1, 18–23. (Summary) **98j:34166** 34L10 (34B05, 42C10)

— Hilbert and Bessel inequalities for some systems of functions. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 157–160. 42C10 (34L10)

Budczies, Jan (*with* Obukhov, Yu. N.; Mielke, Eckehard W.; Hehl, Friedrich W.) On the chiral anomaly in non-Riemannian spacetimes. (English summary) *Found. Phys.* **27** (1997), *no.* 9, 1221–1236. (Author's review (Yu.N.O.)) **98k:83076** 83D05 (53C80, 81T50)

Budd, C. J. (*with* Collins, G. J.) An invariant moving mesh scheme for the nonlinear diffusion equation. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 23–39. (*see* **98i:65004**) 65M50 (65M55)

— (*with* Humphries, A. R.) Adaptive methods for semi-linear elliptic equations with critical exponents and interior singularities. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 227–240. (*see* **98i:65004**) 65N50

Budde, Carlos E. (*with* Cáceres, Manuel O.; Fuentes, Miguel A.) Stochastic escape processes from a non-symmetric potential normal form. II. The marginal case. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2287–2296. (Summary) **98f:82100** 82C31 (82–04)

Budden, Tim Galileo's ship and spacetime symmetry. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 4, 483–516. (Philip L. Quinn) **98m:03017** 03B30 (03A05, 83D05)

Budhiraja, A. (*with* Kallianpur, Gopinath) Hilbert space valued traces and multiple Stratonovich integrals with statistical applications. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 26–32, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Introduction) **98h:60072** 60H05 (62G20)

— (*with* Kallianpur, Gopinath) The generalized Hu-Meyer formula for random kernels. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 2, 177–202. (Daniel Ocone) **98e:60081** 60H05 (60G15)

— (*with* Ocone, D.) Exponential stability of discrete-time filters for bounded observation noise. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 185–193. (Ofer Zeitouni) **98c:93110** 93E11 (60G35)

Budiarto, Rahmat (*with* Yamada, Masashi; Itoh, Hidenori; Seki, Hirohisa) A cat's cradle string diagram display method based on a genetic algorithm. (English summary) *Forma* **9** (1994), *no.* 1, 11–28. (Summary) **98i:57020** 57M25 (68T05, 68U05)

— (*with* Yamada, Masashi; Seki, Hirohisa; Itoh, Ken-ichi; Miyazaki, Tsuyoshi; Itoh, Hidenori) A system for simulating and displaying magic game in cat's cradle and a characterization method of its string state. (English summary) *Forma* **12** (1997), *no.* 1, 75–89. (Summary) **98i:57021** 57M25 (68T05, 68U05)

— (*with* Yamada, Masashi; Seki, Hirohisa; Itoh, Hidenori) Topology of cat's cradle diagrams and its characterization using knot polynomials. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1573–1582. 57M25

Budíková, Marie (*with* Horová, Ivana) A note on D. D. Stancu operators. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 397–407 (1996). (Octavian Agratini) **98i:41030** 41A35

Budimac, Zoran (*with* Maćoš, Dragan; Ivanović, Mirjana) An interpreter of extended λ-calculus using monads. (English summary) *PRIM '96* (*Budva*), 175–180, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 68N15 (03B40)

Budinčević, Mirko (*with* Škrinjar, M.; Kapor, D.) The solution of the system of difference equations appearing in the theory of surface magnetism. (English summary) *PRIM '96* (*Budva*), 399–409, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 86A25 (65F30)

— (*with* Kurilić, Miloš S.) A family of strict and discontinuous triangular norms. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 381–384. (Summary) **98k:04002**

04A72

Budinich, Marco Neural networks for NP-complete problems. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1617–1624. (*see* **98i:00029**) 68T05 (68Q15)

Budke, Georg (*with* Lasser, Rupert) A recursive algorithm for the solution of special non-linear stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 29–41. (Summary) **98m:60087** 60H10

Budkina, Natalia (*with* Asmuss, Svetlana; Oja, Peeter) On smoothing problems with weights and obstacles. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 4, 262–272. 41A15 (65D15)

Budworth, Geoffrey Trambles. *History and science of knots*, 299–316, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 57M25 (01A99, 57–03)

Budylin, A. M. (*with* Buslaev, Vladimir) Quasiclassical integral equations and the asymptotic behavior of solutions of the Korteweg-de Vries equation for large time values. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 4, 455–458. (Vladislav G. Dubrovsky) **98b:35152** 35Q53 (35B40)

Budzban, Greg (*with* Ruzsa, Imre Z.) Some results concerning convergence of convolution products of probability measures on discrete semigroups. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 185–200. (A. Mukherjea) **98d:60012** 60B15 (43A05)

Budzisz, Witold On the analogue of elliptical symmetry for some subclass of operator stable measures. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 35–38. (Summary) **98k:60024** 60E07

— Quasi-elliptical symmetry and decomposability by the pair of probability measures. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 3–12. 60E07

Budzyńska, Monika (*with* Kaczor, Wiesława; Koter-Mórgowska, Małgorzata) Asymptotic normal structure, semi-Opial property and fixed points. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 33–41. (Brailey Sims) **98g:47048** 47H10 (46B20, 47H09)

— (*with* Kaczor, Wiesława; Koter-Mórgowska, Małgorzata; Kuczumow, Tadeusz) Asymptotic normal structure and the semi-Opial property. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3505–3515. (Introduction) **98m:46011** 46B20 (47H09, 47H10)

Budzyński, Robert J. (*with* Kondracki, Witold) On the existence of the functional measure for 2D Yang-Mills theory. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 225–229, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Ambar Sengupta) **98d:58021** 58D20 (81T13)

— Remarks on tree-level topological string theories. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 2027–2037. (Alexandre I. Kabanov) **98k:58038** 58D29 (58F07, 81T40)

— *see also* **Symplectic singularities and geometry of gauge fields**, **98b:58006** *and* **Quantum groups and quantum spaces**, **98f:00028**

Buechler, Steven ★ Essential stability theory. (English summary) Perspectives in Mathematical Logic. *Springer-Verlag, Berlin*, 1996. xiv+355 *pp. ISBN* 3-540-61011-1 (U. Felgner) **98j:03050** 03C45 (03–02)

Buecker, Karsten Congruences between Siegel modular forms on the level of group cohomology. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 4, 877–897. (Summary (Zbl 853.11038)) **98f:11038** 11F46 (11F33)

Buehrer, Daniel J. (*with* Chang, Chin-Chen; Jiang, Ji-Han) A new method for temporal join using a priority search tree. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 3, 1–13. (Summary) **98f:68061** 68P15

Bueken, Peter (*with* Vanhecke, Lieven) Examples of curvature homogeneous Lorentz metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, L93–L96. (Fabio Podestà) **98c:53073** 53C50 (53C30)

— On curvature homogeneous three-dimensional Lorentzian manifolds. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 349–362. (Eduardo García-Río) **98i:53093** 53C50

Buekenhout, Francis (*with* Dehon, Michel; Cara, Philippe) Inductively minimal flag-transitive geometries. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 185–190, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Dmitrii V. Pasechnik) **98h:51020** 51E24 (05C25)

— (*with* Bouzette, Sabine; Dony, Edmond; Gottcheiner, Alain) A theory of nets for polyhedra and polytopes related to incidence geometries. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 115–136. (P. McMullen) **98a:52016** 52B11 (51M20)

Buekens, Filip A decision procedure for von Wright's OBS-calculus. *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 43–53. (J. M. Plotkin) **98c:03042** 03B45 (03B25)

Buell, D. A. *see* **Computational perspectives on number theory**, **98g:11001**

Buell, W. F. (*with* Shadwick, B. A.) Unitary integration: a numerical technique preserving the structure of the quantum Liouville equation. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 26, 5189–5193. 65D30

gamboa de Buen, Berta *see* **Gamboa de Buen, Berta**

hasfura-Buenaga, J. Roberto *see* **Hasfura-Buenaga, J. Roberto**

Buendia, E. (*with* Bermúdez, B.; Nicolás, A.; Sánchez, F. J.) Operator splitting and upwinding for the Navier-Stokes equations. (English summary) *Comput. Mech.* **20** (1997), *no.* 5, 474–477. (Summary) **98j:76085** 76M10 (76D05)

Bueno, F. (*with* Hermenegildo, Manuel; Montanari, Ugo; Rossi, Francesca) Partial order and contextual net semantics for atomic and locally atomic CC programs. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 51–82. (Summary) **98m:68166** 68Q55 (68Q10)

pérez Bueno, J. C. *see* **Pérez Bueno, J. C.**

cobos Bueno, José *see* **Cobos Bueno, José**

Bueno, Marcelo (*with* Assis, A. K. T.) Self-inductance of solenoids, bi-dimensional rings and coaxial cables. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 813–821. 78A25

Bueno, Otávio (*with* da Costa, Newton C. A.; Béziau, Jean-Yves) What is semantics? A brief note on a huge question. *Sorites No.* 3 (1995), 43–47 (*electronic*). (Max Urchs) **98a:03006** 03A05

— (*with* da Costa, Newton C. A.; French, Steven) Suppes predicates for space-time. (English summary) *Synthese* **112** (1997), *no.* 2, 271–279. (Summary) **98g:03029** 03B30

Bueno, V. C. (*with* Arizono, H.) Bounds on system reliability of used components under MIFR/$\mathfrak{Z}_t$ assumption. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 49–57. (Summary) **98k:62170** 62N05

Bueno Toledo, Antonio Our own game. (Spanish. Spanish summary) *Epsilon* **13** (1997), *no.* 3(39), 159–163. 05B45

Bueso, José L. (*with* Castro-Jiménez, F. J.; Jara, Pascual) Effective computation of the Gelfand-Kirillov dimension. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 111–117. (G. Krause) **98c:16027** 16P90 (13P10, 16S30)

Bueso, M. C. (*with* Alonso, F. J.; Angulo Ibañez, J. M.) Application of EM-type algorithms to spatial data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 669–683. (A. D. Gordon) **98c:62105** 62H11 (62M10)

Buet, C. (*with* Cordier, S.; Degond, Pierre; Lemou, M.) Fast algorithms for numerical, conservative, and entropy approximations of the Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 310–322. (Summary) **98a:82097** 82D10 (82–08, 82C35)

— Conservative and entropy schemes for Boltzmann collision operator of polyatomic gases. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 165–192. (Carlo Cercignani) **98b:82064** 82C40 (76P05)

Buevich, V. A. A variant of the proof of a completeness criterion for functions of k-valued logic. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 11–36; *translation in Discrete Math. Appl.* **6** (1996), *no.* 5, 505–530. (Slavcho Shtrakov) **98g:03067** 03B50 (08A02, 08A30, 08A62)

Bufardi, Ahmed On the characterization of fuzzy preference structures. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **36** (1996), *no.* 4, 227–237. 90A05 (90C70)

Buffa, Annalisa The Dirichlet problem for generalized mean curvature flows. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 137–156. (Summary) **98m:35101** 35K60 (35D05)

Buffenoir, E. (*with* Roche, Ph.) Link invariants and combinatorial quantization of Hamiltonian Chern-Simons theory. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 2, 331–365. (David H. Adams) **98d:57010** 57M25 (17B37, 58D29, 58Z05, 81T13)

Buffet, E. (*with* Pulé, J. V.) A model of continuous polymers with random charges. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5143–5152. (Dimitri Petritis) **98i:82058** 82C41 (82B41, 82D60)

Buffon, L. O. (*with* Zadra, A.; Dalmazi, D.) Classical and quantum $N = 1$ super W_∞-algebras. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 29, 2339–2349. (Josep Herrero) **98a:81060** 81R10 (17B65, 17B68, 17B81)

— (*with* Dalmazi, D.; Zadra, A.) Higher spin constraints and the super $(W_{\infty/2} \oplus W_{(1+\infty)/2})$ algebra in the super eigenvalue model. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 321–330. (Igor Polyubin) **98h:81040** 81R10

Buffoni, B. Nested axi-symmetric vortex rings. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 6, 787–797. (Maria J. Esteban) **98k:76019** 76C05 (35Q35, 76M30)

Bufler, H. On drilling degrees of freedom in nonlinear elasticity and a hyperelastic material description in terms of the stretch tensor. I. Theory. (English summary) *Acta Mech.* **113** (1995), *no.* 1-4, 21–35. (Summary) **98e:73035a** 73C50 (73G05)

— (*with* Sansour, C.; Müllerschön, H.) On drilling degrees of freedom in nonlinear elasticity and a hyperelastic material description in terms of the stretch tensor. II. Application to membranes. (English summary) *Acta Mech.* **115** (1996), *no.* 1-4, 103–117. (Summary) **98e:73035b** 73C50 (73G05, 73K15)

Bugaenko, V. O. (*with* Alekseevskiĭ, D. V.; Olshanskiĭ, Grigoriĭ; Popov, Vladimir Leonidovich; Shvartsman, O. V.) Ernest Borisovich Vinberg (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1335–1343. (Editors) **98k:01014** 01A70

madalińska-Bugaj, Ewa *see* **Madalińska-Bugaj, Ewa**

Bugajewski, D. On some applications of theorems on the spectral radius to differential equations. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 479–484. (Elena Litsyn) **98d:35223** 35R10 (35L70, 47A10, 47N20)

Bugajski, S. (*with* Beltrametti, E. G.) Effect algebras and statistical physical theories. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3020–3030. (Sylvia Pulmannová) **98e:81011** 81P10 (06C15, 82B03)

— (*with* Hellwig, K.-E.; Stulpe, W.) On fuzzy random variables and statistical maps. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 1–11. 60E99 (28E10, 81S25, 82B03)

Bugeaud, Yann ★ Formes linéaires de logarithmes et applications. (French. French summary) [Linear forms in logarithms and applications] Dissertation, Université de Strasbourg I, Strasbourg, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1996/7. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1996. 133 *pp.* (Michel Waldschmidt) **98d:11092** 11J86 (11D57, 11R06)

— On a property of Pisot numbers and related questions. *Acta Math. Hungar.* **73** (1996), *no.* 1-2, 33–39. (Christopher Smyth) **98c:11113** 11R06 (11B85)

— (*with* Laurent, Michel) Minoration effective de la distance p-adique entre puissances de nombres algébriques. (English summary) [Effective lower bound for the p-adic distance between powers of algebraic numbers] *J. Number Theory* **61** (1996), *no.* 2, 311–342. (Damien Roy) **98b:11086** 11J86

— On the Diophantine equation $x^2 - p^m = \pm y^n$. *Acta Arith.* **80** (1997), *no.* 3, 213–223. (Mao Hua Le) **98g:11037** 11D61 (11J86)

— Bounds for the solutions of superelliptic equations. *Compositio Math.* **107** (1997), *no.* 2, 187–219. (Yuri Bilu) **98c:11025** 11D41 (11J86)

Bäger, Matthias Self-similarity of Julia sets of the composition of polynomials. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1289–1297. (Walter Bergweiler) **98k:58190** 58F23 (30D05)

Bugiel, Piotr Application of Ulam's procedure for approximating invariant measures to the case of $C^{1+\alpha}$-smooth Markov maps in $\mathbf{R}^d$. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 7–27. (Jérôme Buzzi) **98i:58137** 58F11 (28D05, 47B38)

Bugir, M. K. The function of spherical mean value, and the nonoscillation of solutions of partial differential equations. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 10–15. (Zinovi Sheftel) **98m:35044** 35J30 (35B05, 35B50)

— Conditions for the nonoscillation of binomial systems of differential equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 836–841; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 935–942 (1998). (Ondřej Došlý) **98k:34054** 34C10

Bugliaro, L. (*with* Fefferman, Charles L.; Fröhlich, Jürg; Graf, Gian Michele; Stubbe, J.) A Lieb-Thirring bound for a magnetic Pauli Hamiltonian. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 567–582. (Hiroshi Isozaki) **98i:81044** 81Q10

Bugliesi, Michele (*with* Bono, Viviana; Liquori, Luigi) A lambda calculus of incomplete objects. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 218–229, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68N15 (03B40)

— (*with* Bono, Viviana) Matching constraints for the lambda calculus of objects. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 46–62, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98i:68039** 68N15 (03B40)

Bugrīĭ, A. I. (*with* Shadura, V. N.) *q*-deformed Grassmann field and the two-dimensional Ising model. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 388–412; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 638–659. (Andrey V. Tsiganov) **98j:82010** 82B20 (58B30, 81R50)

Bugrīĭ, E. A. Solution of the 2D Ising model on a triangular lattice by the auxiliary *q*-deformed Grassmann field method. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 441–463; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1590–1607 (1997). (Anatoliy Yu. Zakharov) **98h:82012** 82B20 (81T40, 82B26)

Bugrij, A. I. *see* **Bugrīĭ, A. I.**

Bugrov, D. I. A simulation model of an aircraft trajectory stabilization system. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 43–48, 79. 70Q05

Buhagiar, David (*with* Pasynkov, B.) On uniform paracompactness. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 4, 577–586. (Ivan L. Reilly) **98h:54036** 54E15 (54D20)

— Paracompact maps. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 203–223. (From the introduction) **98g:54038** 54C99 (54D20)

Buhamra, Sana S. (*with* Aly, Emad-Eldin A. A.) Nonparametric change point tests in two way repeated measures designs. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 1–10. 62G10 (62K99)

— (*with* Anderson, Donald A.) Prime power parallel flats fractions: representation and properties. (English summary) *Util. Math.* **51** (1997), 238–254. (Summary) **98k:05033** 05B30

de Buhan, Patrick (*with* de Felice, Gianmarco) A homogenization approach to the ultimate strength of brick masonry. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 7, 1085–1104. (Summary) **98b:73002** 73B27 (73E05, 73K20)

Buheerdun (*with* Wu, Garidi) Approximation by multivariate Kantorovich operators in Orlicz spaces. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1996**, *no.* 3, 11–15. 41A35 (41A36)

Bühler, Hans-Ulrich Complete partial orders and fixpoints. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 1–14. (*see* **98d:00023**) 06B30 (06A06, 68Q55, 68Q60)

Buhler, Joe (*with* Eisenbud, David; Graham, Ronald L.; Wright, Colin Douglas) Juggling drops and descents [MR 96a:05016]. *Organic mathematics* (*Burnaby, BC*, 1995), 133–154, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 05A99 (70B99, 70D99)

— (*with* Reichstein, Zinovy) On the essential dimension of a finite group. (English summary) *Compositio Math.* **106** (1997), *no.* 2, 159–179. (Helmut Völklein) **98e:12004** 12F10 (12E05, 14E05, 14L30)

— (*with* Schoen, Chad; Top, Jaap) Cycles, *L*-functions and triple products of elliptic curves. (English summary) *J. Reine Angew. Math.* **492** (1997), 93–133. (Jan Nekovář) **98j:11049** 11G40 (11G35, 14C25, 14G10, 14G25)

Bühler, K. (*with* Turbatu, S.; Zierep, J.) New solutions of the II. Stokes problem for an oscillating flat plate. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 25–30. 76D07

Bühler, Oliver (*with* McIntyre, Michael E.) On non-dissipative wave-mean interactions in the atmosphere or oceans. (English summary) *J. Fluid Mech.* **354** (1998), 301–343. (Summary) **98j:86005** 86A10 (76C20, 86A05)

Böhlmann, Hans (*with* Delbaen, Freddy; Embrechts, Paul; Shiryaev, Albert N.) No-arbitrage, change of measure and conditional Esscher transforms. Mathematics of finance, Part I. *CWI Quarterly* **9** (1996), *no.* 4, 291–317. (Jakša Cvitanić) **98h:90015** 90A09

Bühlmann, Peter (*with* Bickel, Peter J.) Closure of linear processes. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 445–479. (Vladimir Zaiats) **98j:60058** 60G12 (60G10, 62M10)

Buhmann, Martin D. (*with* Fletcher, Roger) M. J. D. Powell's contributions to numerical mathematics. *Approximation theory and optimization* (*Cambridge*, 1996), 1–30, *Cambridge Univ. Press, Cambridge*, 1997. (Editors) **98k:01017** 01A70 (65–03)

— (*with* Pinkus, Allan) On a recovery problem. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 129–142. (Tian Ping Chen) **98e:41026** 41A30 (65D15)

— *see also* **Approximation theory and optimization, 98i:00037**

Buhr, K. A. (*with* Carriere, Jacques F.) Simplifying conditional expectations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 71–75. 60A10

Buhrman, Harry (*with* Longpré, Luc) Compressibility and resource bounded measure. (English summary) *STACS* 96 (*Grenoble*, 1996), 13–24, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68072** 68Q15

— (*with* Thierauf, Thomas) The complexity of generating and checking proofs of membership. (English summary) *STACS* 96 (*Grenoble*, 1996), 75–86, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68094** 68Q15

— (*with* Fenner, Stephen A.; Fortnow, Lance) Results on resource-bounded measure. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 188–194, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

— (*with* Fortnow, Lance) Resource-bounded Kolmogorov complexity revisited. (English summary) *STACS* 97 (*Lübeck*), 105–116, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98i:68131** 68Q30 (68Q15)

— (*with* Mayordomo, Elvira) An excursion to the Kolmogorov random strings. (English summary) Tenth Annual Conference on Structure in Complexity Theory (Minneapolis, MN, 1995). *J. Comput. System Sci.* **54** (1997), *no.* 3, 393–399. (Marius Zimand) **98h:68119** 68Q30

Bui, D. B. (*with* Red'ko, V. N.) On the foundations of the theory of relational database models. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 4, 3–13, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 4, 471–478 (1997). (János Demetrovics) **98a:68047** 68P15

Bui, Huu Hung Compact quantum groups associated with monoidal functors. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1081–1088. (Siegfried Echterhoff) **98f:46048** 46L05 (18D10)

Bui, Huy Duong (*with* Andrieux, Stéphane; Ben Abda, Amel) Sur l'identification de fissures planes via le concept d'écart à la réciprocité en élasticité. (English and French summaries) [Identification of planar cracks in elasticity via the reciprocity gap concept] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1431–1438. (Giovanni Crosta) **98e:73044** 73C99 (35Q72, 73M25)

Bui, Marc (*with* Butelle, Franck; Lavault, Christian) A uniform self-stabilizing minimum diameter spanning tree algorithm (extended abstract). (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 257–272, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15, 68R10)

Buick, J. M. (*with* Greated, C. A.; Easson, W. J.) Investigation of a lattice gas model for surface gravity waves. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2585–2597. (Summary) **98d:76012** 76B15 (76M25)

— (*with* Easson, W. J.; Greated, C. A.) Numerical simulation of internal gravity waves using a lattice gas model. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 6, 657–676. (Summary) **98m:76042** 76C10 (76M25, 76V05)

Bui Minh Phong Characterizations of the logarithm as an additive function. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 45–67. (Adolf Hildebrand) **98h:11116** 11N64 (11A25)

— (*with* De Koninck, Jean-Marie; Kátai, Imre) A new characteristic of the identity function. *J. Number Theory* **63** (1997), *no.* 2, 325–338. (D. Wolke (Zbl 871.11063)) **98m:11097** 11N36 (11A25)

Buitenhek, Ronald (*with* Van Houtum, Geert-Jan; van Ommeren, Jan-Kees J. C. W.) On first-come first-served versus random service discipline in multiclass closed queueing networks. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 313–326. (Summary) **98b:60156** 60K25

Buium, Alexandru (*with* Voloch, José Felipe) Lang's conjecture in characteristic *p*: an explicit bound. *Compositio Math.* **103** (1996), *no.* 1, 1–6. (Juan-Carlos Naranjo) **98a:14038** 14G99 (14H40)

— Differential algebraic geometry and Diophantine geometry: an overview. *Arithmetic geometry* (*Cortona*, 1994), 87–98, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (From the introduction) **98g:14054** 14K15 (12H05)

— Arithmetic analogues of derivations. *J. Algebra* **198** (1997), *no.* 1, 290–299. (G. Eisenreich) **98k:12004** 12H05 (12H10)

— Differential characters and characteristic polynomial of Frobenius. *J. Reine Angew. Math.* **485** (1997), 209–219. (José Felipe Voloch) **98b:14023** 14G20 (11G10, 11G25)

— (*with* Pillay, Anand) A gap theorem for abelian varieties over differential fields. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 211–219. (Daniel Bertrand) **98k:14062** 14K05 (03C60, 12H05)

Bui Xuan Hai On subgroups in the special linear group over a division algebra that contain the subgroup of diagonal matrices. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 53–67. (Alexander W. Mason) **98j:20074** 20H25 (20H20)

Buja, Andreas What criterion for a power algorithm? (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 49–61, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98m:62159** 62G99

Bujade, V. G. (*with* Giri, R. D.; Wazalwar, A. K.) A commutativity result for a semisimple ring. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 175–177 (1996). 16U80

— (*with* Giri, R. D.) Commutativity aspect in semisimple ring. (English summary) *Math. Today* (*Ahmedabad*) **14** (1996), 71–72. 16U80

Bujalance, E. On compact Klein surfaces with a special automorphism group. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 1, 15–20. (Grzegorz Gromadzki) **98f:30041** 30F50 (20H10)

— (*with* Costa, Antonio F.) On symmetries of *p*-hyperelliptic Riemann surfaces. *Math. Ann.* **308** (1997), *no.* 1, 31–45. (Grzegorz Gromadzki) **98f:30042** 30F50 (14H55, 20H10)

Bukchin, B. G. (*with* Digas, B. V.; Maksimov, Vyacheslav I.) On the problem of reconstructing the intensity of point sources from the results of sensor observations. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 201–216, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ulrich Tautenhahn) **98j:35183** 35R30 (45D05, 65M30, 93B30, 93C20)

Bukhbinder, E. I. (*with* Bukhbinder, I. L.; Mishchuk, B. R.; Pershin, V. D.) Anomaly structure at canonical quantization of the bosonic string in background fields. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 2, 294–305; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 2, 1083–1092 (1997). (Sergey Nikolaevich Roshchupkin) **98b:81240** 81T50 (81T30)

— (*with* Bukhbinder, I. L.; Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.; Ovrut, Burt A.) Effective action of the $N = 2$ Maxwell multiplet in harmonic superspace. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 309–319. (Ilya Shapiro) **98k:81260** 81T60 (81T13)

— (*with* Bukhbinder, I. L.; Kuzenko, Sergei M.; Ovrut, Burt A.) The background field method for $N = 2$ super Yang-Mills theories in harmonic superspace. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 61–71. (Summary) **98k:81261** 81T60 (81T13)

Bukhbinder, I. L. (*with* Bukhbinder, E. I.; Mishchuk, B. R.; Pershin, V. D.) Anomaly structure at canonical quantization of the bosonic string in background fields. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 2, 294–305; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 2, 1083–1092 (1997). (Sergey Nikolaevich Roshchupkin) **98b:81240** 81T50 (81T30)

— (*with* Petrov, A. Yu.) On the structure of effective action in four-dimensional quantum dilaton supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 21–34. (Ilya Shapiro) **98a:83120** 83E50 (81T60)

— (*with* Pershin, V. D.; Toder, G. B.) Canonical approach to string theory in massive background fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 589–602. (Ilya Shapiro) **98a:81157** 81T30 (81T70, 83E30)

— (*with* Petrov, A. Yu.) Quantum dynamics of $N = 1$, $D = 4$ supergravity compensator. Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 351–353. (*see* **98g:81005**) 83E50 (81T18)

— (*with* Pershin, V. D.; Toder, G. B.) Generalized canonical quantization of a bosonic string model in massive background fields. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 280–283. (*see* **98f:83002**) 81T30

— (*with* Bukhbinder, E. I.; Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.; Ovrut, Burt A.) Effective action of the $N = 2$ Maxwell multiplet in harmonic superspace. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 309–319. (Ilya Shapiro) **98k:81260** 81T60 (81T13)

— (*with* Hindawi, Ahmed; Ovrut, Burt A.) A two-form formulation of the vector-tensor multiplet in central charge superspace. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 79–88. 81T13

— (*with* Bukhbinder, E. I.; Kuzenko, Sergei M.; Ovrut, Burt A.) The background field method for $N = 2$ super Yang-Mills theories in harmonic superspace. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 61–71. (Summary) **98k:81261** 81T60 (81T13)

Bukhgeĭm, A. L. (*with* Arbuzov, È. V.) The Carleman formula for A-analytic functions. (Russian) *Group and metric properties of mappings* (*Russian*), 105–116, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (T. Tonev) **98d:30057** 30G30

— (*with* Arbuzov, È. V.) The Cauchy problem for A-harmonic functions. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 586–587. (Alexander I. Kheyfits) **98j:35043** 35J25 (31B35, 35R20, 44A12)

— (*with* Kalinina, N. I.) Inverse problems of memory reconstruction. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 727–729. (From the text) **98e:45009** 45K05 (35R30, 45L05, 47D06, 47N20)

— (*with* Dyatlov, G. V.; Isakov, Victor) Stability of memory reconstruction from the Dirichlet-Neumann operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 738–749, i; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 636–646. (Summary) **98g:35210** 35R30 (35L10, 45K05)

— (*with* Kalinina, N. I.) Global convergence of the Newton method in inverse problems of memory reconstruction. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1018–1033, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 881–895. (Jaan Janno) **98h:45008** 45J05 (34K30, 47D06, 47D09)

Bukhshtaber, V. M. (*with* Perelomov, A. M.) On the functional equation related to the quantum three-body problem. (English summary) *Contemporary mathematical physics*, 15–34, *Amer. Math. Soc. Transl. Ser.* 2, 175, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **98j:39013** 39B22 (81U10)

— (*with* Veselov, A. P.) Integrable correspondences and algebraic representations of multivalued groups. *Internat. Math. Res. Notices* **1996,** *no.* 8, 381–400. (Elmer G. Rees) **98f:58098** 58F07 (14E10, 20N20)

— (*with* Veselov, A. P.) On a remarkable functional equation in the theory of generalized Dunkl operators and transformations of elliptic genera. *Math. Z.* **223** (1996), *no.* 4, 595–607. (Elmer G. Rees) **98j:57039** 57R20 (11F11, 39B32, 57R77)

— (*with* Énol′skiĭ, V. Z.; Leĭkin, D. V.) Hyperelliptic Kleinian functions and applications. (English summary) *Solitons, geometry, and topology: on the crossroad*, 1–33, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Gabino González Diez) **98b:14029** 14H42 (14H40, 33E05, 35Q53, 58F07)

— (*with* Rees, Elmer G.) Frobenius k-characters and n-ring homomorphisms. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 159–160; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 398–399. 20C99

— (*with* Novikov, S. P.) On the history of the N. I. Lobachevskiĭ prize (on the centenary of its first awarding in 1897). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 235–238; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 237–241. 01A70 (01A80)

Bukor, Jozef (*with* Šalát, Tibor; Tóth, János T.) Remarks on R-density of sets of numbers. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 159–165. (W. Narkiewicz) **98e:11012** 11B05 (11K16)

Bukov, V. N. (*with* Kulabukhov, V. S.; Maksimenko, I. M.; Ryabchenko, V. N.) The question of the uniqueness of a solution to problems in systems theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 12, 4–17; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1875–1885 (1998). (Summary) **98k:93008** 93A10 (93B30)

— (*with* Maksimenko, I. M.) Sufficiency of functional control. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 2, 170–172. 93C83 (93A30)

Bulant, Michal On the parity of the class number of the field $\mathbf{Q}(\sqrt{p}, \sqrt{q}, \sqrt{r})$. *J. Number Theory* **68** (1998), *no.* 1, 72–86. (Franz Lemmermeyer) **98k:11158** 11R29 (11R20)

Bulatov, A. V. (*with* Bobylev, N. A.; Korovin, S. K.; Kutuzov, A. A.) Some properties of mathematical models of neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 179–189; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 474–483. (Summary) **98i:92006** 92B20

Bulatov, M. V. The perturbation method for differential-algebraic systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 11, 3–9; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 11, 1–7 (1998). (Michael Hanke) **98m:34003** 34A09 (34C99, 34E15)

Bulatović, Ranislav Simultaneous reduction of symmetric and skew-symmetric matrices to canonical form. (Russian. English summary) *Math. Montisnigri* **8** (1997), 33–36. 15A21

Bulavskiĭ, V. A. (*with* Isac, George; Kalashnikov, Vyacheslav Vital′evich) Exceptional families, topological degree and complementarity problems. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 207–225. (Sehie Park) **98d:90124** 90C33 (47H11, 47N10, 49J40)

Bulavskiĭ, Yu. V. (*with* Temnikov, S. A.) Calculation of the optical characteristics of fractal clusters by the Monte Carlo method. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 231–247. (Summary) **98d:78002** 78A10 (65C05)

Bulboacă, Teodor A class of integral operators for alpha-convex functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 27–33. 30C45

— Integral subordinations for analytic functions. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 11–26, *Univ. Priština, Priština*, 1997. (Zhong Zhu Zou) **98d:30016** 30C45 (30C80)

— Integral operators that preserve the subordination. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 627–636. (David J. Hallenbeck) **98k:30029** 30C80 (30C45)

Bălbăl, A. A note on Lo-fuzzy nearly compact spaces. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 235–239. 54A40 (54C08)

Buldas, Ahto Congruence lattice of a graph. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 3, 155–170. (S. I. Gendler) **98j:05123** 05C99

Buldygin, V. V. (*with* Dykhovichnyĭ, A. A.) On some singular integrals and their applications to problems of statistical estimation. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 17–28. (Summary) **98d:62171** 62M15 (62M40)

— (*with* Shurenkova, A. V.) On a criterion of compactness in the space L_p. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 33–37. (Pedro J. Paúl) **98c:46055** 46E30 (46A50)

— (*with* Solntsev, S. A.) ★ Asymptotic behaviour of linearly transformed sums of random variables. Translated from the 1989 Russian original by Vladimir Zaiats and revised, updated and expanded by the authors. Mathematics and its Applications, 416. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xvi+500 *pp. ISBN* 0-7923-4632-7 (Rimas Norvaiša) **98m:60002** 60–02 (60B12, 60F15, 60G15)

— (*with* Dem′yanenko, O. O.) Asymptotic properties of an empirical correlogram of Gaussian vector fields. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 1, 45–49. 62M40 (62E20, 62M15)

Buldyrev, S. (*with* Rabinovich, Savely; Berkolaiko, G.; Shehter, A.; Havlin, S.) Analytical solution of the logistic equation. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 837–838. (Summary) **98m:39063** 39B12

Bulgac, Aurel (*with* Kusnezov, Dimitri; Dang, Giu Do) Turbulent-like diffusion in complex quantum systems. (English summary) *Phys. Lett. A* **234** (1997), *no.* 2, 103–107. (Summary) **98g:82030** 82C10

Bulgakov, E. N. (*with* Berman, G. P.; Campbell, David K.; Krive, Ilya V.) Quantum chaos in Aharonov-Bohm oscillations. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 290–297, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81031** 81Q50

Bulgakov, S. A. Wave dynamics in a stratified medium. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 271–275, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 78A40 (35Q99)

Bulgakov, V. I. (*with* Grin′, A. A.) On a bifurcation of a non-rough focus of a third-order autonomous system. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1703, 1727; *translation in Differential Equations* **32** (1996), *no.* 12, 1697–1698 (1997). (Summary) **98j:34040** 34C05 (34C23)

Bulgaru, Elena *see* **Flocos, E.**

Buligă, M. (*with* Puta, Mircea; Ivan, Gheorghe) ★ Une incursion à la théorie élémentaire des catastrophes. (French) [An excursion into elementary catastrophe theory] Monografii Matematice [Mathematical Monographs], 52. *Universitatea de Vest din Timişoara, Facultatea de Matematică, Timişoara*, 1995. 115 *pp.* (D. R. J. Chillingworth) **98d:58015** 58C28 (14B05)

Bulinskiĭ, A. V. (*with* Lifshits, M. A.) Estimates for the rate of convergence in the Strassen law for random broken lines. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 57–66, 357. (Summary) **98h:60035** 60F15

Bull, J. M. (*with* Freeman, T. L.) A comparison of parallel algorithms for multi-dimensional integration. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65D30 (65Y05)

Bullard, James (*with* Duffy, John) A model of learning and emulation with artificial adaptive agents. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 179–207. 90A60 (90A16)

Bullejos, M. A note on Hacque's cohomology of rings-groups and extensions of rings-groups by groups. *Extracta Math.* **11** (1996), *no.* 3, 426–434. (Kenneth A. Brown) **98m:18007** 18G50 (16E30, 20E22)

Bullen, P. S. (*with* Sarkhel, D. N.) Properties of derivative-like functions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 740–759. (Brian S. Thomson) **98g:26007** 26A24

— (*with* Alić, Mladen; Pečarić, Josip E.; Volenec, Vladimir) On the geometric-arithmetic mean inequality for matrices. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 125–128. 15A45

Bullock, Doug Rings of $SL_2(\mathbf{C})$-characters and the Kauffman bracket skein module. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 521–542. (Thang T. Q. Le) **98k:57008** 57M25 (57N10)

— On the Kauffman bracket skein module of surgery on a trefoil. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 37–51. (Kouki Taniyama) **98i:57006** 57M25

Bullock, Scott (*with* Goode, Stephen W.) Stiff matter G_2 cosmologies. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 249–252, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:83014** 83C15 (83C20)

Bullough, Robin (*with* Bogolyubov, N. M.; Timonen, J.) Exact solution of generalized Tavis-Cummings models in quantum optics. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6305–6312. (Summary) **98a:81284** 81V80 (81U40)

— (*with* Ma, Wen Xiu; Caudrey, P. J.) Graded symmetry algebras of time-dependent evolution equations and application to the modified KP equations. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 293–309. (Sen Yue Lou) **98m:35006** 35A30 (17B70, 35Q53)

— (*with* Hu, Xing-Biao) Bäcklund transformation and nonlinear superposition formula for an extended Lotka-Volterra equation. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3635–3641. (J. J. C. Nimmo) **98i:35159** 35Q51 (34K99)

— (*with* Ma, Wen Xiu; Caudrey, P. J.; Fushchich, Vīl′gel′m Īllīch) Time-dependent symmetries of variable-coefficient evolution equations and graded Lie algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5141–5149. (I. S. Krasil′shchik) **98i:58119** 58F07 (17B70, 35A30, 35Q53, 58F35)

— (*with* Hu, Xing-Biao; Clarkson, Peter A.) New integrable differential-difference systems. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L669–L676. (Summary) **98h:58177** 58F37 (35Q58, 35R10, 58F07)

— (*with* Hu, Xing-Biao) A Bäcklund transformation and nonlinear superposition formula of the Caudrey-Dodd-Gibbon-Kotera-Sawada hierarchy. (English summary) *J. Phys.*

Soc. Japan **67** (1998), *no.* 3, 772–777. (Summary) **98m:35182** 35Q53 (58F37)

Bulman-Fleming, Sydney (*with* Normak, Peeter) Flatness properties of monocyclic acts. (English summary) *Monatsh. Math.* **122** (1996), *no.* 4, 307–323. (Mark Verus Lawson) **98b:20109** 20M50 (20M30)

— (*with* Fountain, John B.) Products of idempotent endomorphisms of free acts of infinite rank. (English summary) *Monatsh. Math.* **124** (1997), *no.* 1, 1–16. (D. C. Jackson) **98j:20095** 20M30

— (*with* Kilp, Mati) Flatness properties of acts: some examples. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 167–176. (Carl Droms) **98f:20049** 20M50

Bul'onkov, M. A. (*with* Kochetov, D. V.) A scheme for the effective specialization of imperative programs. (Russian. Russian summary) *Programmirovanie* **1995,** *no.* 5, 33–45; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 244–253. 68N05

von Bülow, Christopher *see* **Frege, Gottlob, 98f:01043**

Bültel, Dirk Correction to: "Foundations for a robust theory of decision making: the simple case" [Test **1** (1992), no. 1, 69–78; MR 95d:62007] by D. Ríos-Insua. (English summary) *Test* **6** (1997), *no.* 2, 433–435. 62C05 (62A99, 62F35)

Bültermann, J. A new upper bound for the isoperimetric number of deBruijn networks. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 97–100. 05C35

Bultheel, Adhemar (*with* González-Vera, P.; Hendriksen, E.; Njåstad, Olav) A Favard theorem for rational functions with poles on the unit circle. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 21–37. (Yuri A. Farkov) **98c:42022** 42C05 (30C10)

— (*with* González-Vera, P.; Hendriksen, E.; Njåstad, Olav) Orthogonal rational functions and nested disks. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 344–371. (Boris Petrovich Osilenker) **98e:44004** 44A60 (30E05)

— (*with* Díaz-Mendoza, C.; González-Vera, P.; Orive Rodríguez, Ramón A.) Quadrature on the half-line and two-point Padé approximants to Stieltjes functions. II. Convergence. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 53–76. (Summary) **98a:41023** 41A21 (30E05, 42C05)

— (*with* Van Barel, Marc) Look-ahead methods for block Hankel systems. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 311–333. (Summary) **98k:65014** 65F05 (41A21)

— (*with* Díaz-Mendoza, C.; González-Vera, P.; Orive Rodríguez, Ramón A.) Quadrature on the half line and two-point Padé approximants to Stieltjes functions. III. The unbounded case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 95–117. (Summary) **98j:41033** 41A55 (30E05, 42C05, 65D32)

— (*with* Van Barel, Marc) A generalized minimal partial realization problem. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 527–551. (Tiberiu Constantinescu) **98a:93011** 93B15 (93B40)

— (*with* Van Barel, Marc) A lookahead algorithm for the solution of block Toeplitz systems. (English summary) *Linear Algebra Appl.* **266** (1997), 291–335. (Israel Koltracht) **98i:65034** 65F30

Bulychev, Yu. G. (*with* Burlaĭ, I. V.) Application of Kotel'nikov's theorem in the problem of differentiating functions with a finite spectrum on a nonuniform interpolation grid. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 60–71; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 270–280 (1997). (Radomir S. Stanković) **98f:94002** 94A11

— (*with* Burlaĭ, I. V.) Synthesis of an optimal control algorithm in the class of functions with compactly supported spectrum on a nonuniform interpolation grid. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 2, 3–17; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 153–164. (É. G. Al'brekht) **98d:49046** 49N35 (49K15, 49M05)

— (*with* Burlaĭ, I. V.) A method for the parametric identification of control systems under inexact specification of input data. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 56–65. 93B30 (93C42)

— (*with* Zhukovskiĭ, A. G.) New properties of Chebyshev polynomials and their application to variational methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 670–678. (A. M. Galperin) **98f:65078** 65L10 (33C45, 65D15, 65J99)

— (*with* Burlaĭ, I. V.) Problems of interpolation, approximation and differentiation in a class of functions with a compactly supported spectrum. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1034–1042. (Summary) **98f:65018** 65D15 (65D25)

Bulycheva, O. N. (*with* Sushko, V. G.) Uniform asymptotic behavior of the solution of a singularly perturbed equation of parabolic type with the angular characteristic of a degenerate equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 193–201. (Lumin Jiang) **98b:35015** 35B25 (35B40, 35K20)

Bump, Daniel (*with* Friedberg, Solomon; Furusawa, Masaaki) Explicit formulas for the Waldspurger and Bessel models. (English summary) *Israel J. Math.* **102** (1997), 125–177. (David Ginzburg) **98k:22070** 22E50

Bunce, L. J. (*with* Wright, John David Maitland) Approximately additive states on type I C^*-algebras. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 187, 269–277. (Carlo Cecchini) **98c:46133** 46L30

— (*with* Chu, Cho-Ho) Real contractive projections on commutative C^*-algebras. *Math. Z.* **226** (1997), *no.* 1, 85–101. (Khristo N. Boyadzhiev) **98h:46080** 46L70 (46J99, 47D25)

Bunch, Bryan ★ Mathematical fallacies and paradoxes. (English summary) Corrected reprint of the 1982 original. *Dover Publications, Inc., Mineola, NY*, 1997. viii+216 *pp. ISBN* 0-486-29664-4 (Editors) **98f:00004** 00A08 (00A05, 00A35, 00A79, 03A05)

Bunchaft, F. (*with* Carneiro, S.) Weber-like interactions and energy conservation. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 393–401. (Summary) **98j:78009** 78A25

Bunchaft, M. E. Froes Some extensions of the Lanczos-Ortiz theory of canonical polynomials in the tau method. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 609–621. (Summary) **98c:65104** 65L05 (65L10)

Bunday, B. D. (*with* O'Neill, Philip) The transient state probabilities of the $M/M/1/\infty$ queue via a random walk approach. (English summary) *Math. Sci.* **22** (1997), *no.* 1, 32–36. (Summary) **98a:60141** 60K25

— (*with* Bokhari, S. M. Husnain; Khan, K. H.) A new algorithm for the normal distribution function. (English summary) *Test* **6** (1997), *no.* 2, 369–377. 65U05

Bunder, Martin W. Combinatory logic and lambda calculus with classical types. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 69–79. (Sachio Hirokawa) **98k:03035** 03B40

— (*with* Megill, Norman D.) Weaker **D**-complete logics. (English summary) *J. IGPL* **4** (1996), *no.* 2, 215–225. (Summary) **98g:03023** 03B20

Bündgen, Reinhard Proof transformation for non-compatible rewriting. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 160–175, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98f:68136** 68Q40 (03B70, 68Q42)

— Buchberger's algorithm: the term rewriter's point of view. (English summary) *Theoret. Comput. Sci.* **159** (1996), *no.* 2, 143–190. (Klaus Madlener) **98g:68074** 68Q42 (13P10, 68Q40)

Bunegina, V. A. (*with* Onishchik, A. L.) Homogeneous supermanifolds associated with the complex projective line. Algebraic geometry, 1. *J. Math. Sci.* **82** (1996), *no.* 4, 3503–3527. (Anargyros Fellouris) **98c:32010** 32C11 (14M30, 17B70, 58A50)

Bunge, Carlos (*with* Jáuregui, Rocío; Ley-Koo, Eugenio) Electrons in atoms: how well can we describe them? (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 79–95. (*see* **98h:81004**) 81V45

Bunge, John Nested classes of C-decomposable laws. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 215–229. (O. K. Zakusilo) **98c:60016** 60E99 (60E07)

Bunge, M. *see* **Bunge, Marta C.**

Bunge, Mario In praise of intolerance to charlatanism in academia. *The flight from science and reason (New York, 1995)*, 96–115, *Ann. New York Acad. Sci.*, 775, *New York Acad. Sci., New York*, 1996. (*see* **98i:00013**) 00A35 (00A30)

Bunge, Marta C. Cosheaves and distributions on toposes. (English summary) *Algebra Universalis* **34** (1995), *no.* 4, 469–484. (Summary) **98g:18001** 18B25

— (*with* Funk, Jonathon) Spreads and the symmetric topos. (English summary) *J. Pure Appl. Algebra* **113** (1996), *no.* 1, 1–38. (Summary) **98f:18003** 18B25 (03G30, 18A32, 18C15, 54B30)

— (*with* Funk, Jonathon) Constructive theory of the lower power locale. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 1, 69–83. (Summary) **98f:18004** 18B25

— (*with* Moerdijk, Ieke) On the construction of the Grothendieck fundamental group of a topos by paths. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 99–113. (Peter Johnstone) **98b:18007** 18B25 (55Q05)

Bünger, Florian Products of involutions in unitary groups. (English summary) *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 93–100, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (E. W. Ellers) **98e:51018** 51F25 (20G15)

— (*with* Knüppel, Frieder) Products of quasi-involutions in unitary groups. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 313–321. (E. W. Ellers) **98e:51016** 51F25

— (*with* Knüppel, Frieder; Nielsen, Klaus) Products of symmetries in unitary groups. (English summary) *Linear Algebra Appl.* **260** (1997), 9–42. (G. E. Wall) **98c:20090** 20G15

Bungey, T. N. (*with* Priest, E. R.; Titov, Vyacheslav S.) The 3D topology and interaction of complex magnetic flux systems. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 1-2, 127–163. (Summary) **98m:76160** 76W05 (78A30, 85A15)

Bunich, A. L. Synthesis of high-accuracy control systems for linear discrete plants with deterministic perturbations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 6, 111–118; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 975–980. 93C55 (93B51)

Bunimovich, Leonid A. (*with* Babin, A. V.) Stable chaotic waves generated by hyperbolic PDEs. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 853–875. (Daniel Ševčovič) **98a:35088** 35L70 (57M05, 58F39)

— Non-equilibrium statistical mechanics and ergodic theory. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 138–148, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:58005**) 82C05

— (*with* Jiang, Miaohua) Dynamics of spatial averages. (English summary) *Chaos* **7** (1997), *no.* 1, 21–26. (Athanasios Yannacopoulos) **98b:58099** 58F11

— (*with* Rehacek, Jan) Nowhere dispersing 3D billiards with non-vanishing Lyapunov exponents. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 729–757. (András Krámli) **98h:58134** 58F15 (82C05)

— On localization of vorticity in Lorentz lattice gases. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 449–457. (Serge E. Troubetzkoy) **98c:82010** 82B20 (68Q80, 82B40)

— Coupled map lattices: some topological and ergodic properties. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 1–17. (Volker Matthias Gundlach) **98d:58101** 58F11 (58F15, 82C05)

— (*with* Franceschini, V.; Giberti, C.; Vernia, C.) On stability of structures and patterns in extended systems. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 412–418. (Volker Matthias Gundlach) **98d:58098** 58F10 (34D30)

kleine Büning, Hans *see* **Kleine Büning, Hans**

Büning, Herbert Robust analysis of variance. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 3, 319–332. (Summary) **98c:62133** 62J10 (62G10)

Bunke, Ulrich (*with* Olbrich, Martin) Fuchsian groups of the second kind and representations carried by the limit set. *Invent. Math.* **127** (1997), *no.* 1, 127–154. (Shin-ya Koyama) **98e:11065** 11F72 (20H10)

Bünner, M. J. (*with* Meyer, Thorsten; Kittel, A.; Parisi, J.) Hyperchaos in the generalized Rössler system. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5069–5082. (Summary) **98g:58117** 58F13

— (*with* Meyer, Thorsten; Kittel, A.; Parisi, J.) Recovery of the time-evolution equation of time-delay systems from time series. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5083–5089. 58F40 (34K15)

Bunse-Gerstner, Angelika (*with* Faßbender, Heike) A Jacobi-like method for solving algebraic Riccati equations on parallel computers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1071–1084. (Vladimir B. Larin) **98g:93018** 93B40 (65Y05)

Bünte, Tilman (*with* Ackermann, Jürgen E.) Automatic car steering control bridges over the driver reaction time. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 61–74. (*see* **98g:93001**) 93C95

Buntrock, Gerhard (*with* Niemann, Gundula) Weakly growing context-sensitive grammars. (English summary) *Chicago J. Theoret. Comput. Sci.* **1996,** *Article* 4, *approx.* 53 *pp.* (*electronic*). (Summary) **98j:68078** 68Q45 (03D05, 03D15, 68Q15, 68Q50)

Bunu, I. D. Essentially left Artinian rings and the co-atomicity of a lattice of pretorsions. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 1, 106–112, 115, 119. (Summary) **98k:16044** 16S90

— On strictly semiprime rings. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 1, 78–83, 132, 134. (Summary) **98i:16028** 16S90

Bunyakin, A. V. (*with* Chernyshenko, S. I.; Stepanov, G. Yu.) High-Reynolds-number Batchelor-model asymptotics of a flow past an aerofoil with a vortex trapped in a cavity. (English summary) *J. Fluid Mech.* **358** (1998), 283–297. (Summary) **98k:76039** 76D99 (76G25)

Buonanno, Alessandra (*with* Ungarelli, Carlo; Gasperini, Maurizio) A class of non-singular gravi-dilaton backgrounds. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 25, 1883–1889. (Summary) **98g:83100** 83E30 (81T30)

— (*with* Meissner, Krzysztof A.; Ungarelli, Carlo; Veneziano, Gabriele) Quantum inhomogeneities in string cosmology. (English summary) *J. High Energy Phys.* **1998,** *no.* 1, *Paper* 4, 24 *pp.* (*electronic*). (Summary) **98j:83038** 83C45 (83E30, 83F05)

— (*with* Meissner, Krzysztof A.; Ungarelli, Carlo; Veneziano, Gabriele) Classical inhomogeneities in string cosmology. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2543–2556. 83F05 (83E30)

nguyễn Bu'ô'ng *see* **Nguyễn Bu'ô'ng**

Buong, Nguyen *see* **Nguyễn Bu'ô'ng**

Bupp, Robert T. (*with* Bernstein, Dennis S.; Coppola, Vincent T.) A benchmark problem for nonlinear control design. A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 307–310. (*see* **98k:93004**) 93A30 (70K99, 70Q05, 93C85)

— (*with* Bernstein, Dennis S.; Coppola, Vincent T.) Experimental implementation of integrator backstepping and passive nonlinear controllers on the RTAC testbed. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 435–457. (*see* **98k:93004**) 93B52 (70K99, 70Q05, 93C85)

Burachik, Regina S. (*with* Alber, Yakov; Iusem, Alfredo Noel) A proximal point method for nonsmooth convex optimization problems in Banach spaces. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 97–120. (Bernard Lemaire) **98m:90185** 90C48 (46N10, 47N10, 49M45)

— (*with* Iusem, Alfredo Noel; Svaiter, B. F.) Enlargement of monotone operators with applications to variational inequalities. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 2, 159–180. (Bernard Lemaire) **98h:49010** 49J40 (47H05, 90C33)

Buraczewski, Adam (*with* Antonevich, Anatolii B.) Dynamics of linear mapping and invariant measures on sphere. *Demonstratio Math.* **29** (1996), *no.* 4, 817–824. 47A35 (28D99)

— (*with* Antonevich, Anatolii B.; Radyno, Ya.) On closability of nonclosable operators. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 37–51. (Seymour Goldberg) **98h:47006** 47A05 (46B20, 46B99, 46M35, 47N20)

Burago, D. Yu. (*with* Girault-Beauquier, Danièle; Slissenko, A. O.) On the complexity of finite memory policies for Markov decision processes. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 191–200, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q25 (90C40)

— (*with* Ivanov, Sergei Vladimirovich; Kleiner, Bruce) On the structure of the stable norm of periodic metrics. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 791–808. (Edoh Amiran) **98k:53051** 53C22 (53C20)

Burak, Ya. I. (*with* Pabirivs'kiĭ, V. V.) The method of analytic functions of several complex variables in temperature problems of the theory of elasticity. (English summary) *J. Math. Sci. (New York)* **88** (1998), *no.* 3, 360–363. 73V35 (73B30)

Burakovsky, L. (*with* Horwitz, L. P.; Schieve, William C.) Mass–proper time uncertainty relation in a manifestly covariant relativistic statistical mechanics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 6, 503–516. (Summary) **98k:82006** 82B03

Buratti, Marco Packing the blocks of a regular structure. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 49–58. (Summary) **98g:05037** 05B40

— From a $(G, k, 1)$ to a $(C_k + G, k, 1)$ difference family. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 1, 5–9. (N. Ito) **98h:05034** 05B10 (94B15)

— On resolvable difference families. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 1, 11–23. (N. Ito) **98h:05035** 05B10 (94B15)

— (*with* Berardi, Luigia; Innamorati, Stefano) 4-blocked Hadamard 3-designs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 35–46. (Mohan S. Shrikhande) **98j:05039** 05B30

— Cyclotomic conditions leading to new Steiner 2-designs. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 300–313. (Charles J. Colbourn) **98i:05012** 05B05

Buratto, Alessandra (*with* Viscolani, Bruno) Optimal study/advertising plan for a knowledge/goodwill evolution process with rank memory. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 211–228. (Summary) **98g:90042** 90C90 (49N55)

Burchard, A. Steiner symmetrization is continuous in $W^{1,p}$. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 5, 823–860. (Luboš Pick) **98m:46043** 46E35 (49Q20)

Burchard, Hans (*with* Petersen, Ole) Hybridization between σ- and z-co-ordinates for improving the internal pressure gradient calculation in marine models with steep bottom slopes. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 9, 1003–1023. (Summary) **98j:86002** 86A05 (86–08)

Burchuladze, T. Nonstationary initial-boundary value contact problems of generalized elastothermodiffusion. (English summary) *Georgian Math. J.* **4** (1997), *no.* 1, 1–18. (J. Ignaczak) **98c:73009** 73B30 (73C99, 73T05)

— (*with* Bezhuashvili, Yu.) Three-dimensional boundary value problems of elastothermodiffusion with mixed boundary conditions. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 243–258. (Andrzej Chrzęszczyk) **98c:73010** 73B30 (35Q72, 73C15)

Burckel, R. B. Three secrets about harmonic functions. *Amer. Math. Monthly* **104** (1997), *no.* 1, 52–56. (D. H. Armitage) **98b:31002** 31A05

Burckel, Serge The wellordering on positive braids. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 1, 1–17. (Mina Teicher) **98h:20062** 20F36

Bürckert, Hans-Jürgen (*with* Gräber, A.; Laux, Armin) Terminological reasoning with knowledge and belief. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 29–64, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Summary) **98f:68254** 68T30 (03B45, 03B70, 68T25)

— (*with* Hollunder, Bernhard; Laux, Armin) On Skolemization in constrained logics. (English summary) *Ann. Math. Artificial Intelligence* **18** (1996), *no.* 2-4, 95–131. (Ralph W. Wilkerson) **98c:03030** 03B35 (68N17, 68T15)

Burd, V. Sh. Resonant almost periodic oscillations in systems with slow varying parameters. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 6, 1143–1152. (James A. Murdock) **98h:34073** 34C15 (34C27, 34C29, 70K40)

Burda, Maike M. (*with* Lütkepohl, Helmut) Modified Wald tests under nonregular conditions. (English summary) *J. Econometrics* **78** (1997), *no.* 2, 315–332. (Xian Zhi George Yuan) **98f:62045** 62F03 (62P20)

Burda, Zdzisław (*with* Bialas, Piotr; Petersson, Bengt; Tabaczek, Joachim) Appearance of mother universe and singular vertices in random geometries. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 3, 463–476. (Summary) **98b:83028** 83C27

— (*with* Bilke, S.; Petersson, Bengt) Topology in 4d simplicial quantum gravity. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 4–9. (José A. Zapata) **98a:83039** 83C27 (81V17, 83C45)

— (*with* Bilke, S.; Petersson, Bengt) Universality of hypercubic random surfaces. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 173–176. 82B41 (82B27)

— (*with* Bialas, Piotr) Collapse of 4D random geometries. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 281–285. 83C27 (83C45)

Burdakov, O. P. A greedy algorithm for the optimal basis problem. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 591–599. (*see* **98f:65005**) 90C27 (65Y20, 68Q25)

— *see also* **Abaffy, József, 98g:65004**

Burde, Dietrich Étale affine representations of the Lie groups. *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 35–44, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Andrea Spiro) **98k:53066** 53C30 (22E27, 53A15)

— Simple left-symmetric algebras with solvable Lie algebra. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 397–411. (Alberto Elduque) **98m:17006** 17A30 (17D25)

Burde, Klaus Zur Zerlegung von Primelementen quadratischer Zahlkörper in relativ-quadratischen Oberkörpern. (German summary) [On the decomposition of prime elements of quadratic number fields in relatively quadratic overfields] *Math. Nachr.* **184** (1997), 127–134. (W. Narkiewicz) **98a:11139** 11R11

Burdeĭnik, A. G. (*with* Svishchuk, A. V.) Stability of semi-Markov evolution systems and its application in financial mathematics. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 10, 1386–1401; *translation in Ukrainian Math. J.* **48** (1996), *no.* 10, 1574–1591 (1997). (Summary) **98a:60129** 60K15

Burdet, G. (*with* Nencka, H.; Perrin, Martine Jacqueline) An example of dynamical behaviour of the relative entropy. (English summary) *Geometry and nature* (*Madeira*, 1995), 97–104, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:62009** 62B10

Burdick, Bruce S. Separation properties of the asymmetric hyperspace of a bitopological space. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 53–66, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:54010** 54B20 (54E55)

Burdík, Č. (*with* Navrátil, O.; Thoma, M.) The realizations of the Lie algebra G_2. (English summary) *Czechoslovak J. Phys.* **43** (1993), *no.* 7, 697–703. (Summary) **98c:17010** 17B25 (81R05)

— *see also* **Quantum groups and integrable systems, 98a:00008**

Burdina, V. I. Symmetry and super-symmetry group (symmetrizer) of the regular division of a three-dimensional sphere of revolution. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 1, 78–82. (Vojtěch Kopský) **98g:20077** 20H15 (22E43)

Burdujan, Ilie The linear quasigroup associated to a two-dimensional real division algebra is a homogeneous space. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 1–13. 20N05 (16K20)

— On split-modulaire extensions of BT-algebras. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 1–8. 17A40

— Binary triple algebras. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 1–12. 17A40

Burdyuk, V. Ya. (*with* Gorgo, Yu. N.) On a group choice problem with constraints. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 1, 131–136, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 105–108. (Fouad T. Aleskerov) **98i:90009** 90A07

Burdzy, Krzysztof (*with* Attal, S.; Émery, M.; Hu, Yueyun) Sur quelques filtrations et transformations browniennes. [Some filtrations and Brownian transformations] *Séminaire de Probabilités, XXIX*, 56–69, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Peter Imkeller) **98j:60111** 60J65 (60G05, 60G44, 60H05)

— (*with* Khoshnevisan, Davar) The level sets of iterated Brownian motion. (English summary) *Séminaire de Probabilités, XXIX*, 231–236, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Zhan Shi) **98k:60138** 60J65 (60G17)

Bureau, Florent Analytic functions and their derivatives. *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **12** (1997), 161 *pp.* (Heinrich Begehr) **98f:30031** 30D35 (30–02)

Burenkov, Viktor I. (*with* Evans, William Desmond) On compact embeddings of Sobolev spaces and extension operators which preserve some smoothness. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 17–26, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 46E35

— (*with* Evans, William Desmond) A weighted Hardy inequality for differences, and the complete continuity of the embedding of Sobolev spaces for domains of arbitrarily strong degeneration. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 583–585. 46E35 (46E15)

— (*with* Gusakov, V. A.) Exact constants in an inequality for the modulus of the derivative, and best approximations of a differentiation functional at a point of a segment. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 295–296. 41A35 (41A17)

— (*with* Gorbunov, A. L.) Sharp estimates for the minimal norm of extension operators for Sobolev spaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 1, 3–44; *translation in Izv. Math.* **61** (1997), *no.* 1, 1–43. (P. Szeptycki) **98b:46039** 46E35 (47B38)

— (*with* Barza, Sorina; Pečarić, Josip E.; Persson, Lars-Erik) Sharp multidimensional multiplicative inequalities for weighted L_p spaces with homogeneous weights. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 53–67. (L. Losonczi) **98k:26031** 26D15

Burési, Jérôme (*with* Mahé, Louis) Reducing inequalities with bounds. *Math. Z.* **227** (1998), *no.* 2, 231–243. (Thomas C. Craven) **98j:14073** 14P10 (11E10, 12D15)

Burgdörfer, Joachim (*with* Reinhold, Carlos) Evolution of Rydberg states in half-cycle pulses: classical, semiclassical, and quantum dynamics. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 469–482, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81V45

Burgee, Susan L. (*with* Watson, Layne T.) The promise (and reality) of multidisciplinary design optimization. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 301–324, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (*see* **98d:90008**) 90C90 (65Y05, 90C30)

Burger, Edward B. (*with* Morgan, Frank) Fermat's last theorem, the four color conjecture, and Bill Clinton for April Fools' Day. *Amer. Math. Monthly* **104** (1997), *no.* 3, 246–255. (Dennis F. Almeida) **98g:01037** 01A55 (00A35, 05C15, 11D41)

Burger, Marc (*with* Mozes, Shahar) Finitely presented simple groups and products of trees. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 747–752. (Olympia Talelli) **98g:20041** 20E08 (20E32)

— (*with* de la Harpe, Pierre) Constructing irreducible representations of discrete groups. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 223–235. (Michel Coornaert) **98k:22022** 22D10 (20F32, 20G15, 22D30)

Bürger, Raimund ★ Ein Anfangs-Randwertproblem einer quasilinearen entarteten parabolischen Gleichung in der Theorie der Sedimentation mit Kompression. (German) [An initial-boundary value problem of a quasilinear degenerate parabolic equation in the theory of sedimentation with compression] Dissertation, Universität Stuttgart, Stuttgart, 1996. *Universität Stuttgart, Stuttgart*, 1996. ii+118 *pp.* (Werner Horn) **98i:35107** 35K65 (35Q35, 76N99, 76T05)

— A mathematical model for sedimentation with compression. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 41–46, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 76T05 (35Q72)

— (*with* Wendland, Wolfgang L.) Existence, uniqueness, and stability of generalized solutions of an initial-boundary value problem for a degenerating quasilinear parabolic equation. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 207–239. (Andrzej Swiech) **98k:35104** 35K60 (35D05, 35L60)

Burger, Thomas (*with* Gritzmann, Peter; Klee, Victor) Polytope projection and projection polytopes. *Amer. Math. Monthly* **103** (1996), *no.* 9, 742–755. (Gerard Sierksma) **98i:52013** 52B11

Burgess, Clifford P. (*with* Myers, Robert C.; Quevedo, Fernando) Four-dimensional black holes and duality in superstring theory. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 1–18, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:83074** 83E30 (81T30, 83C57)

Burgess, D. A. On the average of character sums for a group of characters. *Acta Arith.* **79** (1997), *no.* 4, 313–332. (Ronald J. Evans) **98f:11089** 11L40

Burgess, J. A. What is minimalism about truth? *Analysis* (*Oxford*) **57** (1997), *no.* 4, 259–267. 03A05

— Supervaluations and the propositional attitude constraint. (English summary) *J. Philos. Logic* **26** (1997), *no.* 1, 103–119. (Alex Blum) **98b:03008** 03A05

Burgess, Kevin L. (*with* Passino, Kevin M.) Stability analysis of load balancing systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 357–393. 93D05 (93C85)

Burgess, W. D. (*with* Fuller, Kent R.) The Cartan determinant and generalizations of quasihereditary rings. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 23–32. (D. Zacharia) **98m:16010** 16E10 (16P20)

Burggraf, O. R. (*with* Xiao, Zhenhua; Conlisk, A. T.) The interacting boundary-layer flow due to a vortex approaching a cylinder. (English summary) *J. Fluid Mech.* **346** (1997), 319–343. (Summary) **98f:76028** 76D15 (76D10, 76E99)

van der Burgh, A. H. P. Parametric excitation in mechanical systems. *Differential equations* (*Bandung*, 1996), 3–16, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 70K40 (34C15, 34C29)

— (*with* Huiskes, M. J.) A double pendulum in a wind field: the non-resonant case. (English summary) *Differential equations* (*Bandung*, 1996), 281–299, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 70K40 (73K70)

Burghardt, Michael (*with* Laemmer, Lutz) Parallel mesh generation. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 1–12, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65M55 (65N55, 65Y05)

Bürgisser, Peter (*with* Clausen, Michael) Algebraische Komplexitätstheorie. I. Eine Einführung. (German summary) [Algebraic complexity theory. I. An introduction] *Sém. Lothar. Combin.* **36** (1996), *Art.* S36a, *approx.* 18*pp.* (*electronic*). (Claus-Peter Schnorr) **98d:68109** 68Q40 (68Q25)

— Algebraische Komplexitätstheorie. II. Schnelle Matrixmultiplikation und Kombinatorik. (German summary) [Algebraic complexity theory. II. Fast matrix multiplication and combinatorics] *Sém. Lothar. Combin.* **36** (1996), *Art.* S36b, *approx.* 16 *pp.* (*electronic*). (Claus-Peter Schnorr) **98d:68110** 68Q40 (68Q25)

Burguera, Margarita (*with* Viaño Rey, Juan M.) A numerical method in perfect plasticity with frictionless contact conditions and some applications. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 15–25, *Univ. Lleida, Lleida*, 199?. (*see* **98m:00023**) 73T05 (73E99, 73V05)

Burić, N. (*with* Mudrinić, M.; Todorović, K.) Equivalent classes of critical circles. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L161–L165. (Summary) **98c:58142** 58F27 (39B12)

Burie, J. B. (*with* Marion, Martine) Multilevel methods in space and time for the Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1574–1599. (M. M. Sussman) **98h:65047** 65M70 (35Q30, 76D05, 76M25)

Burinskii, A. Kerr spinning particle, strings, and superparticle models. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2392–2396. 83E30 (83E50)

Burk, Frank ★ Lebesgue measure and integration. (English summary) An introduction. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+292 *pp. ISBN* 0-471-17978-7 (Publisher's description) **98g:28001** 28–01

Burkard, Rainer E. (*with* Çela, Eranda; Rote, Günter; Woeginger, Gerhard J.) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 204–218, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Anton Volgenant) **98c:90103** 90C27 (90C10)

— (*with* Deĭneko, Vladimir G.; Woeginger, Gerhard J.) The travelling salesman and the PQ-tree. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 490–504, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (I. Bárány) **98d:90092** 90C27 (90C35)

— (*with* Demidenko, V. M.; Rudolf, Rüdiger) Generalized Supnick and Kalmanson conditions and their application to the symmetric and nonsymmetric traveling salesman problems. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fiz.-Mat. Navuk* **1996**, *no.* 3, 69–74, 132. (Johannes Terno) **98c:90104** 90C27 (90C35)

— (*with* Çela, Eranda; Dudás, Tibor) A communication assignment problem on trees: heuristics and asymptotic behavior. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 127–155, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **98m:90113** 90C27 (90C31)

— (*with* Zhang, Guo Chuan) Bounded space on-line variable-sized bin packing. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 63–76. (Summary) **98f:68121** 68Q25

— (*with* Yang, Qi Fan; Çela, Eranda; Woeginger, Gerhard J.) Hamiltonian cycles in circulant digraphs with two stripes. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 233–254. (Alexandra Kireeva) **98j:05096** 05C45 (05C20, 05C85, 68R10)

— Efficiently solvable special cases of hard combinatorial optimization problems. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 55–69. (Anton Volgenant) **98h:90056** 90C27 (90–02)

Burkart, Olaf (*with* Caucal, Didier; Steffen, Bernhard) An elementary bisimulation decision procedure for arbitrary context-free processes. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 423–433, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q10 (68Q60)

— (*with* Caucal, Didier; Steffen, Bernhard) Bisimulation collapse and the process taxonomy. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 247–262, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68079** 68Q10

— (*with* Steffen, Bernhard) Model checking the full modal mu-calculus for infinite sequential processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 419–429, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

— (*with* Quemener, Yves-Marie) Model-checking of infinite graphs defined by graph grammars. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (*see* **98g:68008**) 68Q60 (68Q50, 68R10)

— (*with* Esparza, Javier) More infinite results. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98k:68056** 68Q10 (68Q60)

— Model checking rationally restricted right closures of recognizable graphs. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems* (*Bologna*, 1997), 11 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q60

Burke, B. C. (*with* Freeman, Walter J.; Chang, Hung-Jen; Rose, P. A.; Badler, J.) Taming chaos: stabilization of aperiodic attractors by noise. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 989–996. (*see* **98g:93002**) 93D15 (58F13)

Burke, Dennis K. (*with* Hansell, Roger W.) Perfect maps and relatively discrete collections. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 54–56, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54085** 54H05 (54C10)

Burke, Douglas (*with* Matsubara, Yo) Ideals and combinatorial principles. *J. Symbolic Logic* **62** (1997), *no.* 1, 117–122. (W. W. Comfort) **98e:03029** 03E05 (03C50, 03E55, 04A20)

Burke, James V. (*with* Moro, Julio; Overton, Michael L.) On the Lidskiĭ-Vishik-Lyusternik perturbation theory for eigenvalues of matrices with arbitrary Jordan structure. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 793–817. (John Maroulas) **98k:15014** 15A18 (47A55, 65F15)

Burke, John P. (*with* Wu, Tiee-Jian; Davison, Daniel B.) A measure of DNA sequence dissimilarity based on Mahalanobis distance between frequencies of words. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1431–1439. (Summary) **98m:92019** 92D20

Burke, John R. Some remarks on the distribution of second order recurrences and a related group structure. *Applications of Fibonacci numbers, Vol.* 6 (*Pullman, WA*, 1994), 47–52, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the text) **98c:11074** 11K31 (11B39)

Burke, Maxim R. A proof of Hechler's theorem on embedding $\aleph_1$-directed sets cofinally into $(\omega^\omega, <^*)$. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 6, 399–403. (Judith Roitman) **98k:03101** 03E05 (04A05, 06A06)

Burkhardt, M. Remark on the normal forms of diversors of second order differential equations of normal hyperbolic type. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 107–111. (R. Schimming) **98g:58174** 58G16 (35L10)

Burkhardt, Theodore W. Free energy of a semiflexible polymer in a tube and statistics of a randomly-accelerated particle. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L167–L172. (Summary) **98f:82143** 82D60 (82B41)

— (*with* Guim, Ihnsouk) Star-triangle approach to boundary behavior in the two-dimensional Ising model. (English summary) *Phys. A* **251** (1998), *no.* 1-2, 12–26. (Summary) **98m:82013** 82B20 (82B26)

Burkhart, Richard H. Asymptotic expansion of the free-space Green's function for the discrete 3-D Poisson equation. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1142–1162. (Summary) **98d:76123** 76M25 (41A60, 76H05)

Burkholder, Donald L. Sharp norm comparison of martingale maximal functions and stochastic integrals. (English summary) *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 343–358, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Dominique Lépingle) **98f:60103** 60H05 (60E15, 60G42)

Burkill, John Charles *see* **Pitt, H. R., 98i:01033** *and* **Lesmes, Jaime et al., 98j:01037a**

Burkin, I. M. On the structure of the minimal global attractor of multidimensional systems with a unique equilibrium position. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 418–420, 432; *translation in Differential Equations* **33** (1997), *no.* 3, 419–422. (Summary) **98k:34091** 34D45 (34C25, 34H05)

Burkinshaw, Owen (*with* Aliprantis, Charalambos D.; Border, Kim C.) Economies with many commodities. (English summary) *J. Econom. Theory* **74** (1997), *no.* 1, 62–105. (Jacques F. Bair) **98c:90031** 90A58

Burko, Lior M. Comment on the Roberts solution for the spherically-symmetric Einstein-scalar field equations. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 2, 259–262. (Nora Bretón Bácz) **98a:83021** 83C15

— Structure of the black hole's Cauchy-horizon singularity. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 25, 4958–4961. (Summary) **98h:83044** 83C57 (83C75)

Burlal, I. V. (*with* Bulychev, Yu. G.) Application of Kotel′nikov's theorem in the problem of differentiating functions with a finite spectrum on a nonuniform interpolation grid. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 60–71; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 270–280 (1997). (Radomir S. Stanković) **98f:94002** 94A11

— (*with* Bulychev, Yu. G.) Synthesis of an optimal control algorithm in the class of functions with compactly supported spectrum on a nonuniform interpolation grid. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 2, 3–17; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 153–164. (È. G. Al′brekht) **98d:49046** 49N35 (49K15, 49M05)

— (*with* Bulychev, Yu. G.) A method for the parametric identification of control systems under inexact specification of input data. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 56–65. 93B30 (93C42)

— (*with* Bulychev, Yu. G.) Problems of interpolation, approximation and differentiation in a class of functions with a compactly supported spectrum. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1034–1042. (Summary) **98f:65018** 65D15 (65D25)

Burlakov, V. M. (*with* Darmanyan, S. A.) Instability of running waves in anharmonic lattices. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 276–283, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 82B20

Burlakova, L. A. (*with* Banshchikov, A. V.) On algorithms for symbolic computations in the investigation of stability. (Russian. Russian summary) *Programmirovanie* **1997,** *no.* 3, 72–80; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 173–179. 34–04 (34D20, 68Q40, 70K20)

Burlando, Laura On the iterates of a paracomplete operator. (English summary) *J. Operator Theory* **36** (1996), *no.* 2, 357–377. (R. W. Cross) **98b:47003** 47A05 (47A53)

Burlet, Michel (*with* Karzanov, A. V.) Minimum weight (T, d)-joins and multi-joins. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 65–76. (David Burns) **98k:05097** 05C38

Burley, W. R. (*with* Irani, Sandy) On algorithm design for metrical task systems. (English summary) *Algorithmica* **18** (1997), *no.* 4, 461–485. (Summary) **98d:68096** 68Q25 (68M20)

Burley, Walter Walter Burley, from the beginning of his *Treatise on the kinds of supposition (De suppositionibus)*. Translated from the Latin by Paul Vincent Spade. Medieval supposition theory. *Topoi* **16** (1997), *no.* 1, 95–102. (*see* **98d:01013**) 01A35 (03–03, 03A05, 03B65)

— *see also* **Spade, Paul Vincent, (98d:01013)**

Burman, Prabir (*with* Shumway, Robert H.) Semiparametric modeling of seasonal time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 127–145. (Summary) **98m:62234** 62M10

Burmeister, Peter On the equivalence of ECE- and generalized Kleene-equations for many-sorted partial algebras. *Contributions to general algebra*, 9 (*Linz*, 1994), 91–106, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Danica Jakubíková-Studenovská) **98m:08010** 08A55

— (*with* Wojdyło, Bolesław) The meaning of basic category theoretical notions in some categories of partial algebras. III. *Demonstratio Math.* **29** (1996), *no.* 4, 825–848. (Václav Koubek) **98a:08005** 08A55 (18A30)

— (*with* Rosselló-Llompart, Francesc; Torrens, Joan; Valiente Feruglio, Gabriel) Algebraic transformation for unary partial algebra. I. Double-pushout approach. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 145–193. (Andrea Maggiolo-Schettini) **98i:68137** 68Q42 (08A55, 08A70)

Burmester, Mike (*with* Desmedt, Yvo G.) Efficient and secure conference-key distribution. (English summary) *Security protocols* (*Cambridge*, 1996), 119–129, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94013** 94A60 (68P25)

— (*with* Desmedt, Yvo G.; Piper, F. C.; Walker, Michael) A general zero-knowledge scheme. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 13–37. (Joan Boyar) **98h:68057** 68P25 (94A60)

— (*with* Desmedt, Yvo G.; Kabatyanskiĭ, G. A.) Trust and security: a new look at the Byzantine generals problem. (English summary) *Network threats* (*New Brunswick, NJ*, 1996), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 38, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:68030** 68Q10 (68Q25, 90B12, 94A60)

Burmistrova, A. B. (*with* Abdullaev, A. R.) On a scheme for investigating the solvability of resonance boundary value problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 11, 14–22; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 11, 12–20 (1997). (Bogdan Przeradzki) **98a:47066** 47H15 (34B15, 34C15, 47N20)

Burnaev, B. E. (*with* Tarapov, I. E.) Sound waves in a medium of variable mass. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 399–407. (Summary) **98f:76064** 76N10 (76Q05)

Burnap, Charles (*with* Hoover, Thomas B.; Lambert, Alan) von Neumann algebras associated with composition operators. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 3-4, 565–582. (A. Böttcher) **98a:47031** 47B38 (46L99, 47C15)

Burnecki, Krzysztof (*with* Maejima, Makoto; Weron, Aleksander) The Lamperti transformation for self-similar processes. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 1, 25–42. (Piotr Kokoszka) **98g:60081** 60G18

Burnecki, M. Equality of coarse topologies in inverse transformations. (English summary) 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 3–5. (Summary) **98m:28031** 28D05 (47A35)

Burnetas, Apostolos N. (*with* Solow, Daniel; Agarwal, Rishi) An analysis and implementation of an efficient in-place bucket sort. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 687–700. 68P10

— (*with* Katehakis, Michael N.) On confidence intervals from simulation of finite Markov chains. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 241–250. 62F25

— (*with* Katehakis, Michael N.) Optimal adaptive policies for Markov decision processes. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 222–255. (Peter Köchel) **98c:90180** 90C40

Burns, D. *see* **Burns, David J.**

Burns, Dan (*with* Mazzeo, Rafe) On the geometry of cusps for $SU(n, 1)$. *Manifolds and geometry* (*Pisa*, 1993), 112–131, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (Kimio Miyajima) **98b:32008** 32C18 (32H20, 53C56)

Burns, David J. (*with* Chinburg, Ted) Adams operations and integral Hermitian-Galois representations. *Amer. J. Math.* **118** (1996), *no.* 5, 925–962. (T. Nguyen Quang Do (Zbl 865.11076)) **98g:11126** 11R33 (19A31, 20C05)

— (*with* Flach, M.) Motivic L-functions and Galois module structures. *Math. Ann.* **305** (1996), *no.* 1, 65–102. (Introduction) **98g:11127** 11R33 (11G40)

Burns, John *see* **Burns, John M.**

Burns, John A. (*with* Rubio, Diana; King, Belinda B.) Regularity of feedback operators for boundary control of thermal processes. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 67–73, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93C95 (93B52)

— (*with* Borggaard, Jeff) A PDE sensitivity equation method for optimal aerodynamic design. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 366–384. (Summary) **98i:76047** 76G25 (49Q20, 65K10, 76M30)

Burns, John M. (*with* Ellis, Graham) On the nilpotent multipliers of a group. *Math. Z.* **226** (1997), *no.* 3, 405–428. (Paul Igodt) **98h:20050** 20F14 (20F05)

Burns, Keith (*with* Paternain, Gabriel P.) On the growth of the number of geodesics joining two points. *International Conference on Dynamical Systems* (*Montevideo*, 1995), 7–20, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (Rafael Ruggiero Rodríguez) **98g:58137** 58F17 (53C22)

— (*with* Paternain, Gabriel P.) Counting geodesics on a Riemannian manifold and topological entropy of geodesic flows. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1043–1059. (Edoh Amiran) **98j:58083** 58F17 (58F11)

— (*with* Donnay, Victor J.) Embedded surfaces with ergodic geodesic flows. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1509–1527. (Rafael Ruggiero Rodríguez) **98j:58084** 58F17 (58F11)

Burns, Robert G. (*with* Macedońska, Olga; Medvedev, Yurii Aleksandrovich) Groups satisfying semigroup laws, and nilpotent-by-Burnside varieties. (English summary) *J. Algebra* **195** (1997), *no.* 2, 510–525. (J. J. Woeppel) **98h:20039** 20E10 (20E25, 20F45)

— (*with* Medvedev, Yurīĭ Aleksandrovich) A note on Engel groups and local nilpotence. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 92–100. (Javier Otal) **98k:20063** 20F45 (20E10, 20F19)

Burns, S. A. (*with* Mueller, K. M.; Savageau, M. A.) A comparison of the monomial method and the S-system method for solving systems of algebraic equations. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 167–180. 65H10

Burova, T. V. Topological characteristics of free bases of topological groups and topological vector spaces. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **231** (1995), *Issled. po Topol.* 8, 76–87, 323 (1996). (Plamen Dzhakov) **98b:46010** 46A35 (22A05, 54D30, 54F45, 54H11)

Burq, Nicolas Vitesse de convergence vers le réel des résonnances. [Rate of convergence of resonances to the reals] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1996), *Exp. No. VII*, 9 *pp.*, *École Polytech., Palaiseau*, 1996. (Ricardo Weder) **98b:35124** 35P05 (35A20, 47F05)

— Pôles de diffusion engendrés par un coin. [Scattering poles generated by a corner] *Astérisque No.* 242 (1997), ii+122 *pp.* (Peter R. Popivanov) **98m:35152** 35P25 (58G25)

— Contrôlabilité exacte des ondes dans des ouverts peu réguliers. (English and French summaries) [Exact controllability of waves in nonsmooth domains] *Asymptot. Anal.* **14** (1997), *no.* 2, 157–191. (Enrique Zuazua) **98e:93005** 93B05 (35L05, 93C20)

— (*with* Gérard, Patrick) Condition nécessaire et suffisante pour la contrôlabilité exacte des ondes. (English and French summaries) [A necessary and sufficient condition for the exact controllability of the wave equation] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 749–752. (Summary) **98j:93052** 93C20 (35L05, 93B05)

Burr, Alister G. (*with* Lunn, Timothy J.) Block-coded modulation optimized for finite error rate on the white Gaussian noise channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 373–385. 94B12

Burr, Peter (*with* Eich-Soellner, Edda; Lory, Peter; Kröner, Andreas) Stationary and dynamic flowsheeting in the chemical engineering industry. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 1–28. (Summary) **98d:65013** 65C20 (65L99, 65M99, 80A99)

Burrage, K. (*with* Suhartanto, H.) Parallel iterated methods based on multistep Runge-Kutta methods of Radau type. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 37–57. (Bernhard A. Schmitt) **98d:65091** 65L06 (65Y05)

— (*with* Suhartanto, H.) Parallel iterated method based on multistep Runge-Kutta of Radau type for stiff problems. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 59–77. (Gabriela Kirlinger) **98c:65116** 65L06 (65Y05)

— (*with* Burrage, P. M.; Belward, John A.) A bound on the maximum strong order of stochastic Runge-Kutta methods for stochastic ordinary differential equations. (English summary) *BIT* **37** (1997), *no.* 4, 771–780. (Denis Talay) **98j:60079** 60H10 (65U05)

— *see also* **Parallel methods for ODEs, 98b:65006**

Burrage, P. M. (*with* Burrage, K.; Belward, John A.) A bound on the maximum strong order of stochastic Runge-Kutta methods for stochastic ordinary differential equations. (English summary) *BIT* **37** (1997), *no.* 4, 771–780. (Denis Talay) **98j:60079** 60H10 (65U05)

Burrell, K. H. Effects of $E \times B$ velocity shear and magnetic shear on turbulence and transport in magnetic confinement devices. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1499–1518. (*see* **98b:76003**) 76X05 (76F99)

Burri, Urs For a fixed Turaev shadow Jones-Vassiliev invariants depend polynomially on the gleams. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 110–127. (Serge L. Tabachnikov) **98h:57013** 57M25

Burridge, Robert An apodized spherical transducer: analytical solution. (English summary) *Wave Motion* **26** (1997), *no.* 1, 13–24. 76Q05

Burris, Stanley Spectrally determined first-order limit laws. (English summary) *Logic and random structures* (*New Brunswick, NJ*, 1995), 33–52, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Denis Richard) **98j:03047** 03C13 (05A16, 11N99, 11U05)

— (*with* Sárközy, András) Fine spectra and limit laws. I. First-order laws. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 468–498. (Denis Richard and Djerzy Tomasik) **98k:03076a** 03C13 (05A16, 11N99, 11U05)

— (*with* Compton, Kevin J.; Odlyzko, Andrew; Richmond, L. Bruce) Fine spectra and limit laws. II. First-order 0-1 laws. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 641–652. (Denis Richard and Djerzy Tomasik) **98k:03076b** 03C13 (05A16, 11N99, 11U05)

Bursal, Faruk H. On interpolating between probability distributions. (English summary) *Appl. Math. Comput.* **77** (1996), *no.* 2-3, 213–244. (Summary) **98j:65094** 65U05

Burshtein, David Typical error pattern recovery of the Hopfield memory under error-tolerant conditions. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 861–865. (Summary) **98m:92002** 92B20

Burskil, V. P. On boundary value problems for a second-order differential equation with complex coefficients in a plane domain. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 11, 1457–1467; *translation in Ukrainian Math. J.* **48** (1996), *no.* 11, 1647–1658 (1997). (Min You Qi) **98g:35040** 35G15

Burstall, F. (*with* Hertrich-Jeromin, U.; Pedit, Franz; Pinkall, U.) Curved flats and isothermic surfaces. *Math. Z.* **225** (1997), *no.* 2, 199–209. (Jan Cieśliński) **98j:53004** 53A05 (53C35, 58F07)

Burstein, Alexander (*with* Wilf, Herbert S.) On cyclic strings without long constant blocks. *Fibonacci Quart.* **35** (1997), *no.* 3, 240–247. (W. Moser) **98h:05012** 05A15

Burthe, Ronald Joseph, Jr. Upper bounds for least witnesses and generating sets. *Acta Arith.* **80** (1997), *no.* 4, 311–326. (Francesco Pappalardi) **98h:11117** 11N69 (11A51)

— The average least witness is 2. *Acta Arith.* **80** (1997), *no.* 4, 327–341. (Francesco Pappalardi) **98h:11118** 11N69 (11A51, 11M26)

Burton, A. J. (*with* Bonet, Javier) A simple average nodal pressure tetrahedral element for incompressible and nearly incompressible dynamic explicit applications. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 437–449. 73V05

Burton, D. (*with* Pulleyblank, W. R.; Toint, Philippe L.) The inverse shortest paths problem with upper bounds on shortest paths costs. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 156–171, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C27)

Burton, F. Warren (*with* O'Neill, Melissa E.) A new method for functional arrays. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 487–513. 68N15 (68P05)

Burton, J. K., Jr. (*with* Henley, Christopher L.) A constrained Potts antiferromagnet model with an interface representation. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8385–8413. 82B20 (82–04, 82B24)

Burton, Robert M. (*with* Denker, Manfred; Smorodinsky, Meir) Finite state bilaterally deterministic strongly mixing processes. (English summary) *Israel J. Math.* **95** (1996), 115–133. (B. M. Gurevich) **98b:60069** 60G10 (28D05)

— (*with* Dehling, Herold G.; Venema, Rienk S.) Perceptron algorithms for the classification of non-separable populations. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 205–222. (Vivek S. Borkar) **98h:68192** 68T05 (92J40, 93E35)

Burton, T. A. (*with* Zhang, Bo[1]) Periodic solutions of finite- and infinite-dimensional functional-differential equations. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 1–19, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (Minkyu Kwak) **98h:34123** 34K15 (34K30, 35B10, 35R10)

— A fixed-point theorem of Krasnoselskii. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 85–88. (Summary) **98i:47053** 47H10

Burtschick, Hans-Jörg Comparing counting classes for logspace, one-way logspace, and first-order. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 139–148, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q15

Burusco Juandeaburre, A. (*with* Fuentes-González, R.) Conceptual knowledge from *L*-fuzzy contexts. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 889–903. (R. Gylys) **98a:03083** 03E72 (03G10, 06B05)

— (*with* Fuentes-González, R.) Concept lattices associated with *L*-fuzzy *W*-contexts. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 321–327. (*see* **98g:00019**) 03E72

— (*with* Fuentes-González, R.) The embedding of the formal concept analysis into the *L*-fuzzy concept theory. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 13–22. 03E72

Buryachenko, V. A. (*with* Rammerstorfer, Franz G.) Elastic stress fluctuations in random structure particulate composites. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 1, 79–102. (Pham Duc Chinh) **98a:73014** 73B35 (73E05, 73K20, 73S10)

— Some nonlocal effects in graded random structure matrix composites. *Mech. Res. Comm.* **25** (1998), *no.* 1, 117–122. 73K20 (73B27, 73B35)

Buryak, A. V. (*with* Champneys, Alan R.) On the stability of solitary wave solutions of the fifth-order KdV equation. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 58–62. (Summary) **98h:35202** 35Q53

Burýšek, Slavomír (*with* Burýšková, Věra) On solvability of nonlinear operator equations and eigenvalues of homogeneous operators. (English summary) *Math. Bohem.* **121** (1996), *no.* 3, 301–314. (B. V. Loginov) **98k:47121** 47H15 (47H12)

Burýšková, Věra (*with* Burýšek, Slavomír) On solvability of nonlinear operator equations and eigenvalues of homogeneous operators. (English summary) *Math. Bohem.* **121** (1996), *no.* 3, 301–314. (B. V. Loginov) **98k:47121** 47H15 (47H12)

Burzio, M. (*with* Ferrarese, G.) The subdivision graph of a graceful tree is a graceful tree. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 275–281. (Summary) **98k:05124** 05C78 (05C05)

Busard, Hubert L. L. Einiges über die Handschrift Leiden 399, 1 und die arabisch-lateinische Übersetzung von Gerhard von Cremona. (English summary) [Miscellanea on MS Leiden 399.1 and the Arabic-Latin translation by Gerhard von Cremona] *History of mathematics*, 173–205, *Academic Press, San Diego, CA*, 1996. (Y. Dold) **98a:01003** 01A20 (01A30, 01A35)

Busarkina, I. V. (*with* Podufalov, N. D.) The autotopism group of a p-primitive semifield plane of order q^4. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 334–344, 373; *translation in Algebra and Logic* **35** (1996), *no.* 3, 188–195. (E. J. F. Primrose) **98b:51012** 51E15 (20B25)

Busarova, T. N. Optimal reconstruction of a definite integral of monotone functions belonging to the class H^{ω}. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1011–1015; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1135–1139 (1998). (Summary) **98m:41030** 41A25

Busawon, K. (*with* Farza, M.; Hammouri, H.) A simple observer for a class of nonlinear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 27–31. 93B07 (93C10)

— (*with* Farza, M.; Hammouri, H.) Simple nonlinear observers for on-line estimation of kinetic rates in bioreactors. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 301–318. 93C95 (93C15)

Busby, Henry R. (*with* Dydo, James R.) An improved algorithm for developing "special" finite element shape functions. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 9, 687–693. 65N30 (65D15)

Busca, Jérôme (*with* Aftalion, Amandine) Symétrie radiale pour des problèmes elliptiques surdéterminés posés dans des domaines extérieurs. (English and French summaries) [Radial symmetry of overdetermined boundary value problems in exterior domains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 633–638. (Summary) **98a:35096** 35N10 (35B05, 35J65)

Buscaglia, Gustavo C. (*with* Dari, Enzo A.; Zavattieri, Pablo D.) Mesh optimization: some results in 3D elasticity. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 1–16 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98j:73087** 73V05 (65N55, 73B30)

Busch, Costas (*with* Mavronicolas, Marios) Impossibility results for weak threshold networks. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 85–90. (Summary) **98e:68060** 68Q10

Busch, Paul (*with* Lahti, Pekka J.; Mittelstaedt, Peter) ★ The quantum theory of measurement. Second edition. Lecture Notes in Physics. New Series m: Monographs, 2. *Springer-Verlag, Berlin*, 1996. xiv+181 *pp. ISBN* 3-540-61355-2 (Koichiro Matsuno) **98b:81019** 81P15 (00A30, 00A79, 01A60, 81–01)

— (*with* Shimony, Abner) Insolubility of the quantum measurement problem for unsharp observables. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 4, 397–404 (1997). (S. Gudder) **98c:81017** 81P15 (81P10)

— (*with* Lahti, Pekka J.) Remarks on separability of compound quantum systems and time reversal. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 2, 113–117. (M. J. Mączyński) **98f:82005** 82B10

Buschman, R. G. A convolution integral for number-theoretic functions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 91–96. 11A25

— Max-products. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 87–94. 11A25

Buschmann, Dirk A proof of the Ishii-Pastur theorem by the method of subordinacy. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 29–34. (Nariyuki Minami) **98i:82031** 82B44 (34L40, 47B80, 47N55, 81Q10)

Buşe, Constantin Nonuniform exponential stability and Orlicz functions. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 47–55. (Olusola Akinyele) **98g:34083** 34D05 (34D20, 47D06)

Bush, James A. (*with* Basu, Sankar; Chirlian, Paul M.) Nonlinear digital filters mimicking cellular neural networks. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 69–83. (Summary) **98j:94039** 94C05 (92B20)

Bushev, D. N. On the approximation of classes of convolutions by linear methods of summation of Fourier series. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 739–753; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 825–843 (1998). (Summary) **98h:42005** 42A24 (42A10)

Bushnell, Colin J. (*with* Henniart, Guy) Local tame lifting for GL(N). I. Simple characters. *Inst. Hautes Études Sci. Publ. Math. No.* 83 (1996), 105–233. (A. Deitmar (Zbl 878.11042)) **98m:11129** 11S37 (22E50)

— (*with* Henniart, Guy) An upper bound on conductors for pairs. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 183–196. (Ernst-Wilhelm Zink) **98h:11153** 11S37 (11F70, 22E50)

Busi, Nadia (*with* Pinna, G. Michele) Nonsequential semantics for contextual P/T nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 113–132, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q99

— (*with* Pinna, G. Michele) Synthesis of nets with inhibitor arcs. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 151–165, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q99

— (*with* Gorrieri, Roberto; Zavattaro, Gianluigi) On the Turing equivalence of Linda coordination primitives. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q05)

— (*with* Gorrieri, Roberto; Zavattaro, Gianluigi) A process algebraic view of Linda coordination primitives. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 167–199. (Summary) **98m:68065** 68Q10 (68Q55)

Büskens, Christof (*with* Malanowski, Kazimierz; Mäurer, Helmut[2]) Convergence of approximations to nonlinear optimal control problems. (English summary) *Mathematical programming with data perturbations*, 253–284, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Walter Alt) **98f:49033** 49M25 (49K15)

Buskes, G. J. H. M. On extension of Riesz homomorphisms. II. *J. Miss. Acad. Sci.* **33** (1988), 29–47. (Introduction) **98a:47037** 47B60 (46A40, 46B40, 47B65)

— (*with* van Rooij, Arnoud C. M.) ★ Topological spaces. (English summary) From distance to neighborhood. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xii+313 *pp. ISBN* 0-387-94994-1 (Editors) **98f:54001** 54–01

Buslaev, Vladimir Optical and acoustic Fourier processors [MR 92h:65204]. *Commutative harmonic analysis, III*, 129–175, 261–266, *Encyclopaedia Math. Sci.*, 72, *Springer, Berlin*, 1995. (*see* **98b:42001**) 65T99 (76Q05, 78A05, 94A12)

— (*with* Fedotov, Aleksandr A.) Spectral properties of the monodromy matrix for Harper equation. *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1996), Exp. No. IV, 11 pp., École Polytech., Palaiseau, 1996.* (Summary) **98m:81032** 81Q20 (39A10, 47B39)

— (*with* Budylin, A. M.) Quasiclassical integral equations and the asymptotic behavior of solutions of the Korteweg-de Vries equation for large time values. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 4, 455–458. (Vladislav G. Dubrovsky) **98b:35152** 35Q53 (35B40)

Busneag, Dumitru Hilbert algebras with valuations. (English summary) *Math. Japon.* **44** (1996), *no.* 2, 285–289. (Jerzy Kotas) **98a:03099** 03G25 (06F99)

Busoni, Giorgio Asymptotic behaviour and wave operators in charge exchange. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 190–208. (Hassan Emamirad) **98e:47116** 47N55 (45K05, 47A40, 82C70, 82D10)

Busqué, Claudi (*with* Facchini, Alberto) Abelian categories in which linear algebra is possible. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 2, 137–156. (Daniel Simson) **98g:18010** 18E15 (16D90)

Buss, Jonathan F. (*with* Frandsen, Gudmund Skovbjerg; Shallit, Jeffrey O.) The computational complexity of some problems of linear algebra (extended abstract). (English summary) *STACS 97 (Lübeck)*, 451–462, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q25 (15A03)

— (*with* Bose, Prosenjit; Lubiw, Anna) Pattern matching for permutations. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 277–283. (Summary) **98m:68113** 68Q25 (68R05)

— (*with* Simpson, R. B.) Planar mesh refinement cannot be both local and regular. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 1–10. (Summary) **98j:65087** 65N50

— (*with* Bloch, S. A.; Goldsmith, Judy) Sharply bounded alternation and quasilinear time. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 187–214. (Summary) **98m:68084** 68Q15

Buss, Samuel R. (*with* Pudlák, Pavel) How to lie without being (easily) convicted and the lengths of proofs in propositional calculus. (English summary) *Computer science logic (Kazimierz, 1994)*, 151–162, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:03049** 03F20 (03B05, 03D15, 68Q15)

— Alogtime algorithms for tree isomorphism, comparison, and canonization. (English summary) *Computational logic and proof theory (Vienna, 1997)*, 18–33, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:68047** 68Q25 (68R10)

— *see also* **Proof complexity and feasible arithmetics, 98g:03132**

Bussab, Wilton O. (*with* Barroso, Lúcia P.; Knott, Martin) Best linear unbiased predictor in the mixed model with incomplete data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 121–129. 62J05

van den Bussche, Jan *see* **Van den Bussche, Jan**

Busse, F. H. (*with* Müller, Ulrich[1]; Stieglitz, R.; Tilgner, A.) A two-scale homogeneous dynamo. An extended analytical model and an experimental demonstration under development. *Magnetohydrodynamics* **32** (1996), *no.* 3, 235–248 (1997); *translated from Magnit. Gidrodinamika* **1996**, *no.* 3, 259–271 (*Russian*). 76W05 (76–05)

— (*with* Petry, Martin; Finocchi, F.) Convection in a rotating cylindrical annulus in the presence of a magnetic field. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 6, 817–833. 76R10 (76E15, 76E25, 76W05)

— (*with* Wicht, J.) Magnetohydrodynamic dynamos in rotating spherical shells. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 103–129. (Summary) **98h:76141** 76W05 (76U05, 85A30, 86A25)

— (*with* Clever, R. M.) Tertiary and quaternary solutions for plane Couette flow. (English summary) *J. Fluid Mech.* **344** (1997), 137–153. (Summary) **98h:76053** 76E99 (76D05)

— (*with* Herrmann, Jürgen Georg) Convection in a rotating cylindrical annulus. IV. Modulations and transition to chaos at low Prandtl numbers. (English summary) *J. Fluid Mech.* **350** (1997), 209–229. 76E15 (76F20, 76R05, 76U05)

— (*with* Vitanov, N. K.) Bounds on the heat transport in a horizontal fluid layer with stress-free boundaries. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 310–324. (Summary) **98c:76098** 76R10 (76M25, 76M30)

— (*with* Auer, Manfred) Wavy rolls in the Taylor-Bénard problem. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 318–320. (Summary) **98h:76038** 76E15 (76U05)

Busse, Stéphane Modélisation des coques non linéairement élastiques faiblement courbée en coordonnées curvilignes. (English and French summaries) [Modeling of nonlinearly elastic shallow shells in curvilinear coordinates] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1175–1179. (Summary) **98d:73049** 73K15 (73C50)

— (*with* Ciarlet, Philippe G.; Miara, Bernadette) Justification d'un modèle linéaire bi-dimensionnel de coques "faiblement courbées" en coordonnées curvilignes. (English and French summaries) [Justification of a two-dimensional linear model of shallow shells in curvilinear coordinates] *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 409–434. (Juan M. Viaño Rey) **98e:73086** 73K15 (35Q72, 73C02)

Bussemaker, Frans (*with* Kaplansky, Irving; McKay, Brendan D.; Seidel, Johan Jacob) Determinants of matrices of the conference type. (English summary) *Linear Algebra Appl.* **261** (1997), 275–292. (Jorma Kaarlo Merikoski) **98d:15009** 15A15 (15A36)

Bussemaker, Harmen J. (*with* Brito, Ricardo) Theory for diffusion-limited oscillating chemical reactions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1165–1178. (Summary) **98h:82066** 82C80 (80A32)

Bussieck, M. R. (*with* Winter, Thomas; Zimmermann, Uwe T.) Discrete optimization in public rail transport. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 415–444. (Maretsugu Yamasaki) **98i:90038** 90B06 (90C27, 90C90)

Bustamante González, Jorge (*with* Escobedo Conde, Raul) Maximal ideal space of function algebras. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 78–90. (Sten Bjon) **98g:46070** 46J10 (46J20)

Bustince Sola, Humberto (*with* Mohedano, V.) About the complement in intuitionistic fuzzy sets. (English summary) *Notes IFS* **3** (1997), *no.* 1, 12–19. 03E72

— (*with* Mohedano, V.) About the intuitionistic fuzzy set generators. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 21–27. (*see* **98e:03031**) 03E72

fernández del Busto, Guillermo *see* **Fernández del Busto, Guillermo**

de Bustos, E. *see* **Current perspectives in logic and philosophy of science, 98m:00014**

Bustoz, Joaquin (*with* Ismail, Mourad E. H.) Turán inequalities for symmetric orthogonal polynomials. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 1–7. (R. K. Saxena) **98f:33014** 33C45

Buszkowski, Wojciech Grammatical structures and logical deductions. The First German-Polish Workshop on Logic & Logical Philosophy (Bachotek, 1995). *Logic Log. Philos. No.* 3 (1995), 47–86. (Anthony M. Ungar) **98a:03086** 03F03 (68S05)

— Extending Lambek grammars to basic categorial grammars. (English summary) *J. Logic Lang. Inform.* **5** (1996), *no.* 3-4, 279–295. (Jon M. Cogburn) **98k:03070** 03B65 (68S05)

— The finite model property for BCI and related systems. (English summary) *Studia Logica* **57** (1996), *no.* 2-3, 303–323. (Harold Schellinx) **98g:03021** 03B20 (03B40, 03F50)

Butaud, P. (*with* Mélin, R.) Glauber dynamics and ageing. (English summary) *J. Physique I* **7** (1997), *no.* 5, 691–710. (Summary) **98b:82076** 82C41 (82C20, 82C44, 82D30)

Butcher, J. C. Runge-Kutta methods as mathematical objects. (English summary) *Numerical analysis*, 39–55, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Ostermann) **98a:65091** 65L06

— (*with* Jackiewicz, Z.) Construction of diagonally implicit general linear methods of type 1 and 2 for ordinary differential equations. (English summary) *Appl. Numer. Math.* **21** (1996), *no.* 4, 385–415. (Masaharu Nakashima) **98a:65092** 65L06

— Order and stability of parallel methods for stiff problems. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 79–96. (David R. Hill) **98c:65105** 65L05 (65L20, 65Y05)

— An introduction to "almost Runge-Kutta" methods. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 331–342. (T. E. Simos) **98d:65092** 65L06

— (*with* Chartier, P.) A generalization of singly-implicit Runge-Kutta methods. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 343–350. (Masaharu Nakashima) **98m:65111** 65L06 (65L07)

— (*with* Tracogna, S.) Order conditions for two-step Runge-Kutta methods. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 351–364. (Alexander Ostermann) **98d:65093** 65L06

— Numerical methods for differential equations and applications. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 17–29. (Summary) **98m:65109** 65L06

— (*with* Jackiewicz, Z.; Mittelmann, Hans D.) A nonlinear optimization approach to the construction of general linear methods of high order. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 181–196. (Xu Hai Xu) **98f:65070** 65L06

— (*with* Chartier, P.; Jackiewicz, Z.) Nordsieck representation of DIMSIMs. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 209–230 (1998). (Summary) **98m:65130** 65L70

— (*with* Jackiewicz, Z.) Implementation of diagonally implicit multistage integration methods for ordinary differential equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2119–2141. (Iulian Coroian) **98m:65110** 65L06 (65L05, 65L70)

— (*with* Chan, R. P. K.) Efficient Runge-Kutta integrators for index-2 differential algebraic equations. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1001–1021. (T. E. Simos) **98j:65054** 65L99 (34A09, 34A45)

Butelle, Franck (*with* Lavault, Christian; Bui, Marc) A uniform self-stabilizing minimum diameter spanning tree algorithm (extended abstract). (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 257–272, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15, 68R10)

Buth, Manfred ★ Einführung in die formale Logik. (German. German summary) [Introduction to formal logic] Unter der besonderen Fragestellung: was ist Wahrheit allein aufgrund der Form? [With the particular question: what is truth based on form alone?]. *Peter Lang, Frankfurt am Main*, 1996. 209 *pp. ISBN* 3-631-30624-5 (Ignacio Angelelli) **98b:03001** 03–01 (03A05)

Butković, Davor On regular almost convergence. (English and Serbo-Croatian summaries) *Math. Commun.* **1** (1996), *no.* 2, 127–137. (Amnon Jakimovski) **98a:40006** 40B05 (40D09)

— *see also* **Meeting: Mathematicians, 98d:00019**

Butler, D. J. (*with* Forbes, G. W.; Gordon, R. L.; Asatryan, A. A.) Algebraic corrections for paraxial wave fields. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3300–3315. (Summary) **98k:78033** 78A45

Butler, Jon T. (*with* Sasao, Tsutomu) On the proportion of digits in redundant numeration systems. *Fibonacci Quart.* **35** (1997), *no.* 2, 172–180. (Marc Deléglise) **98e:11011** 11A67 (05A16)

— (*with* Herscovici, David Samuel; Sasao, Tsutomu; Barton, Robert J., III) Average and worst case number of nodes in decision diagrams of symmetric multiple-valued functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 4, 491–494. (Summary) **98c:68087** 68Q25 (03B50, 03D15)

Butler, Lynne M. (*with* Björner, Anders; Matveev, Andreĭ O.) Note on a combinatorial application of Alexander duality. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 163–165. (Summary) **98h:05181** 05E25

Butler, Michael J. (*with* Back, Ralph-Johan) Exploring summation and product operators in the refinement calculus. (English summary) *Mathematics of program construction (Kloster Irsee, 1995)*, 128–158, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60

Butler, Philip H. (*with* Smithies, Cindy R.) Knot polynomials from q-deformed algebras. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6413–6428. (Summary) **98g:57016** 57M25 (17B37, 81R50)

Butler, Ronald W. (*with* Huzurbazar, Aparna V.) Stochastic network models for survival analysis. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 246–257. (Benjamin Epstein) **98e:62140** 62N05

Butler, Steven M. (*with* Louis, Thomas A.) Consistency of maximum likelihood estimators in general random effects models for binary data. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 351–377. (B. L. S. Prakasa Rao) **98f:62214** 62J12

Butnariu, Dan (*with* Iusem, Alfredo Noel) Local moduli of convexity and their application to finding almost common fixed points of measurable families of operators. (English summary) *Recent developments in optimization theory and nonlinear analysis (Jerusalem, 1995)*, 61–91, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Brailey Sims) **98m:46012** 46B20 (41A65, 47H10, 47H40, 52A41)

— (*with* Censor, Yair; Reich, Simeon) Iterative averaging of entropic projections for solving stochastic convex feasibility problems. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 1, 21–39. (Summary) **98e:90101** 90C15 (90C30)

— (*with* Alber, Yakov) Convergence of Bregman projection methods for solving consistent convex feasibility problems in reflexive Banach spaces. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 33–61. (Summary) **98k:90069** 90C25 (65K10, 90C48)

— Methods of solving optimization problems and linear equations in the space of fuzzy vectors. (English summary) *Libertas Math.* **17** (1997), 1–7. 90C70 (04A72, 90C30)

— (*with* Iusem, Alfredo Noel) On a proximal point method for convex optimization in Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 723–744. (W. W. Breckner) **98k:90133** 90C48 (47N10)

Butoescu, Valentin Adrian Jean (*with* Popescu, Florica) Aerodynamic interference between a system of bodies of revolution in an unsteady subsonic flow. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 1959–1968. (*see* **98i:00030**) 76G25 (76H05)

Butt, Rizwan Penalty method for variational inequalities. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 4, 423–431. (Igor Bock) **98e:49020** 49J40 (35J85, 47H19)

— The material derivative method for shape optimization problem in electro-chemical machining. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 2, 279–293. (Summary) **98d:49049** 49Q10 (35Q99, 65N30)

— Design problem solved by optimal control theory. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 167–178. (Summary) **98b:49028** 49N55 (49Q10, 76B05, 76M30)

— Some aspects of elliptic variational inequalities. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 373–386. (Erich Miersemann) **98i:49009** 49J40 (47H19)

— Optimal shape design of systems governed by variational inequalities. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 47–55. (Sergei Pavlovich Ohezin) **98h:49045** 49Q10 (35Q72, 73K40)

Butt, Sohail (*with* Hussain, Malik Zawwar) Positivity preserving using rational cubics. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 159–170. (Petru P. Blaga) **98e:41023** 41A29 (41A15, 65D07)

Buttà, P. (*with* Merola, I.; Presutti, E.) On the validity of the van der Waals theory in Ising systems with long range interactions. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 63–88. (Christian Maes) **98f:82016** 82B20 (60K35, 82B26, 82B43)

Buttazzo, Giuseppe A general theory of relaxed controls and application to shape optimization problems. *Progress in elliptic and parabolic partial differential equations (Capri, 1994)*, 58–70, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (Alexander A. Kovalevsky) **98a:49022** 49J45 (49Q10)

— (*with* Dal Maso, Gianni; Garroni, Adriana; Malusa, Annalisa) On the relaxed formulation of some shape optimization problems. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 1–24. (Francesco Ferro) **98e:49095** 49Q10 (49J45)

— (*with* Bouchitté, Guy; Seppecher, Pierre) Shape optimization solutions via Monge-Kantorovich equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1185–1191. (Bernard Rousselet) **98i:49044** 49Q10

— (*with* Bouchitté, Guy; Seppecher, Pierre) Energies with respect to a measure and applications to low-dimensional structures. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 1, 37–54. (Jie Yang) **98a:35022** 35J20 (35Q72, 49J45)

— (*with* Faina, Loris) Existence for optimal control problems governed by noncoercive state equations. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 417–431. (Jean-Pierre Raymond) **98e:49009** 49J20 (49J45)

— (*with* Drakhlin, Mikhail E.; Freddi, L.; Stepanov, Eugene) Homogenization of optimal control problems for functional-differential equations. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 103–119. (Stanisław Migórski) **98d:49015** 49J45 (34K35, 49J25)

— (*with* Zeine, O. M.) Un problème d'optimisation de plaques. (English and French summaries) [An optimization problem for plates] *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 2, 167–184. (J. Saint Jean Paulin) **98b:73028** 73K40 (49J40, 49Q99, 73K10, 73V25)

— *see also* **Nonlinear analysis and continuum mechanics, 98h:00030**

Buttazzoni, Paola (*with* Fonda, Alessandro) Periodic perturbations of scalar second order differential equations. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 451–455. (Kurt Munk Andersen) **98c:34066** 34C25

Butter, René (*with* De Boeck, Paul; Verhelst, Norman) An item response model with internal restrictions on item difficulty. (English summary) *Psychometrika* **63** (1998), *no.* 1, 47–63. 62P15

Butterfield, Jeremy Vacuum correlations and outcome dependence in algebraic quantum field theory. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 768–785, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (Stephen J. Summers) **98g:81117** 81T05 (46L60, 81P05)

Buttimore, N. H. (*with* Mac Dónaill, D. A.) The exploitation of assembly language instructions in biological text manipulation. I. Nucleotide sequences. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 11, 29–38. (Summary) **98b:92014** 92D20 (92C40)

— (*with* Mac Dónaill, D. A.) The exploitation of assembly language instructions in biological text manipulation. II. Amino acid sequences. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 11, 39–45. (Summary) **98b:92015** 92D20 (92C40)

Butuzov, V. F. (*with* Nefedov, N. N.) Space-periodic contrast structures in singularly perturbed elliptic problems. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 731–734. (Alexander A. Pankov) **98h:35013** 35B25 (35J65, 35R35)

— (*with* Derkunova, E. A.) Asymptotic behavior of the solution of the heat equation with a nonlinear heat source in a thin rod. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 6, 68–85; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 6, 743–757. (Sergei A. Vakulenko) **98h:35113** 35K57 (35B25, 35C20)

— Contrast structures of spike type in a parabolic system of two singularly perturbed equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 415–428. (Lumin Jiang) **98d:35014** 35B25 (35K60)

Butzer, Paul L. (*with* Gessinger, A.) The approximate sampling theorem, Poisson's sum formula, a decomposition theorem for Parseval's equation and their interconnections. The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 143–160. (Peter A. McCoy) **98g:94005** 94A12 (42C15)

— (*with* Gessinger, A.) Connections between the approximation of semigroup and cosine operator functions. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 81–142. (Sen-Yen Shaw) **98j:47082** 47D06 (34G10, 47A35, 47D09)

— (*with* Jansche, Stefan) A direct approach to the Mellin transform. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 325–376. (Henri-Michel Maire) **98d:44003** 44A15 (44-01, 47G10)

Butzmann, Heinz-Peter (*with* Buck, Bernhard) Free commutative convergence groups. *Rostock. Math. Kolloq. No.* 51 (1997), 159–166. (Summary) **98k:54066** 54H11 (54A20)

Buvat, H. (*with* Blum, Jacques) An inverse problem in plasma physics: the identification of the current density profile in a tokamak. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 17–36, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98e:76109** 76X05 (76M25, 76M30, 82D10)

Bux, Kai-Uwe Finiteness properties of certain metabelian arithmetic groups in the function field case. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 308–322. (J. R. J. Groves) **98f:20035** 20J05 (20E08, 20F16)

Buyalo, S. V. Three-manifolds with Cr-structure. *Some questions of differential geometry in the large*, 1–26, *Amer. Math. Soc. Transl. Ser.* 2, 176, *Amer. Math. Soc., Providence, RI*, 1996. (Zhongmin Shen) **98a:53060** 53C23 (53C12)

— (*with* Arshinova, I. A.) Metrics with upper-bounded curvature on 2-polyhedra. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 163–188; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 825–844. (Vladimir G. Tkachev) **98b:53058** 53C45 (53C22)

Buyarov, V. S. (*with* Aptekarev, A. I.; Van Asse, V.; Dehesa, Jesús S.) Asymptotics of entropy integrals for orthogonal polynomials. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 4, 439–441. (Leonid B. Golinskiĭ) **98c:33005** 33C45 (42C05)

— On the information entropy of Gegenbauer polynomials. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 6, 8–11, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 6, 1–4 (1998). (Summary) **98m:94017** 94A17 (33C45, 81P99)

Büyükaksoy, A. (*with* Birbir, F.; Erdoğan, Eren; Uzgören, G.) Plane wave diffraction by a rectangular groove in a reactive surface. (English summary) *Direct and inverse electromagnetic scattering (Gebze, 1995)*, 101–120, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (Summary) **98f:78019** 78A45

— (*with* Polat, B.) Scalar wave diffraction by a rigid cylindrical rod of finite length with impedance ends. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 839–848. 76Q05

Büyükkılıç, F. (*with* Tirnakli, U.; Demirhan, D.) Comparison of standard statistical thermodynamics with generalized statistical thermodynamics results for Ising chain. (English summary) *Acta Phys. Polon. A* **91** (1997), *no.* 6, 1035–1042. 82B30

Buyuklieva, Stefka On the binary self-dual codes with an automorphism of order 2. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 39–48. (Summary) **98d:94028** 94B05

— New extremal self-dual codes of lengths 42 and 44. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1607–1612. 94B05

— (*with* Boukliev, Iliya) Extremal self-dual codes with an automorphism of order 2. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 323–328. (Summary) **98g:94032** 94B05

— (*with* Boukliev, Iliya) Some new extremal self-dual codes with lengths 44, 50, 54, and 58. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 809–812. (Summary) **98i:94031** 94B05

Buzacott, J. A. (*with* Iravani, S. M. R.; Posner, Morton J. M.) A two-stage tandem queue attended by a moving server with holding and switching costs. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 203–228. (Summary) **98g:60167** 60K25

Buzano, Ernesto Weyl formula for globally hypoelliptic operators in $\mathbf{R}^n$. *Microlocal analysis and spectral theory (Lucca, 1996)*, 263–306, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Maria Mascarello) **98i:35024** 35H05 (35P20, 47F05)

Buzas, Jeffrey S. Fast estimators of the jackknife. (English summary) *Amer. Statist.* **51** (1997), *no.* 3, 235–240. 62G09

— Instrumental variable estimation in nonlinear measurement error models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2861–2877. (Summary) **98m:62202** 62J12

Buzby, Bruce R. (*with* Webb, Ian R.; Campbell, Gerard M.) Cyclical schedules for the joint replenishment problem with dynamic demands. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 577–589. 90B35

Buzea, Călin Gh. (*with* Agop, Marcel; Rezlescu, N.; Buzea, Cristina) The kink solution of the Ginzburg-Landau equation. Topological analysis. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 93–97. 81Q05 (82D55)

Buzea, Cristina (*with* Agop, Marcel; Rezlescu, N.; Buzea, Călin Gh.) The kink solution of the Ginzburg-Landau equation. Topological analysis. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 93–97. 81Q05 (82D55)

Bužek, V. (*with* Hillery, M.) Quantum copying: beyond the no-cloning theorem. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1844–1852. (M. J. Mączyński) **98f:81026** 81P15

— (*with* Vedral, V.; Plenio, M. B.; Knight, P. L.; Hillery, M.) Broadcasting of entanglement via local copying. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3327–3332. (Summary) **98c:81006** 81P05

— (*with* Wünsche, Alfred) Reconstruction of quantum states from propensities. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 4, 631–653. (J.-P. Antoine) **98j:81193** 81S30 (81P15)

— (*with* Krähmer, D. S.; Fontenelle, Márcia T.; Schleich, Wolfgang P.) Quantum statistics of grey-body radiation. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 1–5. 82B10 (81V80)

— (*with* Derka, R.; Ekert, A. K.) Universal algorithm for optimal estimation of quantum states from finite ensembles via realizable generalized measurement. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 8, 1571–1575. (Summary) **98k:81024** 81P15

Buzhuf, Khamza (*with* Mukhin, V. V.) Topologies on semigroups and groups defined by families of deviations and norms. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 74–77; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 71–74. (Adolf R. Mirotin) **98k:22016** 22A99

Buzyakova, Raushan Z. On the condensation of Cartesian products onto normal spaces. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 17–19, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 13–14. (Summary) **98j:54040** 54D20 (54B10)

— Splittability of compacta over linearly ordered spaces and over the class of all linearly ordered spaces. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 81–84. (Ljubiša Kočinac) **98b:54044** 54F05 (54C10)

— A criterion that a pseudocompact space condenses onto a compact space. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 167–172. (Summary) **98i:54009** 54D20

— An example of a product of two normal groups that cannot be condensed to a normal space. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 59; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 42. (From the text) **98k:54008** 54B10 (54D15, 54H11)

Buzzard, Gregery T. (*with* Fornaess, John Erik) Compositional roots of Hénon maps. *Geometric complex analysis* (*Hayama*, 1995), 67–73, *World Sci. Publishing, River Edge, NJ*, 1996. (Marco Abate) **98d:32032** 32H50 (58F23)

— Infinitely many periodic attractors for holomorphic maps of 2 variables. *Ann. of Math.* (2) **145** (1997), *no.* 2, 389–417. (Marco Abate) **98c:32035** 32H50 (58F23)

— (*with* Forstneric, Franc) A Carleman type theorem for proper holomorphic embeddings. *Ark. Mat.* **35** (1997), *no.* 1, 157–169. (Yi Fei Pan) **98a:32028** 32H02

Buzzard, Kevin Integral models of certain Shimura curves. *Duke Math. J.* **87** (1997), *no.* 3, 591–612. (Conjeeveram S. Rajan) **98f:11064** 11G18 (11G05, 14G25, 14K15)

Buzzi, Andrea (*with* Fantini, Maurizio) Baroclinic waves in a shallow saturated layer. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 16, 2146–2154. 76C99 (86A10)

Buzzi, Jérôme Intrinsic ergodicity of affine maps in $[0,1]^d$. (English summary) *Monatsh. Math.* **124** (1997), *no.* 2, 97–118. (Pawel Gora) **98g:58098** 58F11 (28D20)

— Erratum to: "Number of equilibrium states of piecewise monotonic maps of the interval" [Proc. Amer. Math. Soc. **123** (1995), no. 9, 2901–2907; MR 95k:58091]. *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3131. (From the text) **98c:58090** 58F11 (28D20, 54H20, 58F03)

Byambazhav, D. On the central limit theorems for Markov chains. (English summary) *J. Mong. Math. Soc.* **1** (1997), *no.* 1, 16–20. (Summary) **98a:60090** 60J05 (60F05)

Bychkov, V. V. (*with* Travnikov, O. Yu.; Liberman, M. A.) Stability of a planar flame front in a compressible flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3935–3937. (Summary) **98j:76056** 76E99 (76N10, 80A25)

Byeon, Dongho A note on class numbers of the simplest cubic fields. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 175–178. (Charles J. Parry) **98i:11090** 11R16 (11R29)

— Quadratic twists of elliptic curves associated to the simplest cubic fields. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 10, 185–186. (Andrew Bremner) **98m:11047** 11G05 (11R16)

Byeon, Jaeyoung Existence of large positive solutions of some nonlinear elliptic equations on singularly perturbed domains. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1731–1769. (C. A. Swanson) **98i:35057** 35J65 (35B05)

— Existence of many nonequivalent nonradial positive solutions of semilinear elliptic equations on three-dimensional annuli. (English summary) *J. Differential Equations* **136** (1997), *no.* 1, 136–165. (C. A. Swanson) **98b:35060** 35J65 (35B05)

Byer, Owen D. Maximum number of K_4's in a 4-partite graph. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 27–32. (Summary) **98d:05073** 05C35

Byers, John W. (*with* Adler, Micah; Karp, Richard M.) Scheduling parallel communication: the h-relation problem. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 1–20, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98f:68026** 68M20 (68Q22)

Byers, Ralph (*with* Kunkel, Peter; Mehrmann, Volker) Regularization of linear descriptor systems with variable coefficients. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 117–133. (G. A. Kurina) **98c:93071** 93C50 (34H05, 93B10, 93B11)

— (*with* Geerts, Antonius Henricus Wilhelmus; Mehrmann, Volker) Descriptor systems without controllability at infinity. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 462–479. (Sauro Longhi) **98d:93026** 93B11 (93B27)

— (*with* He, Chun Yang; Mehrmann, Volker) The matrix sign function method and the computation of invariant subspaces. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 615–632. (Frank Uhlig) **98d:65035** 65F10 (65F30)

Bykov, V. I. (*with* Kytmanov, A. M.; Osetrova, T. A.) Computer algebra of polynomials. A modified method of elimination of unknowns. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 443–445. 68Q40 (13P99)

Bykov, V. V. One mechanism of appearance of a spiral quasiattractor involving heteroclinic contours. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 229–244. (Jörg M. Härterich) **98i:58169** 58F14 (34C23, 34C37, 58F15)

— (*with* Belykh, V. N.) Bifurcations for heteroclinic orbits of a periodic motion and a saddle-focus and dynamical chaos. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 1–18. (Summary) **98k:58165** 58F14 (58F13)

Bykovtsev, G. I. General properties of equations in the nonlinear theory of elasticity with piecewise-linear potentials. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 3, 505–515; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 3, 503–512. (Summary) **98a:73020** 73C50 (73B99)

Bylander, Tom Worst-case absolute loss bounds for linear learning algorithms. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 485–490, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T05

Bylka, Stanisław (*with* Komar, Jan) Intersection properties of line graphs. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 33–45. (Arthur M. Hobbs) **98c:05136** 05C75

Byott, Nigel P. Two constructions with Galois objects. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3513–3520. (George Szeto) **98h:16056** 16W30

— Galois structure of ideals in wildly ramified abelian p-extensions of a p-adic field, and some applications. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 201–219. (Martha Rzedowski-Calderón) **98h:11152** 11S23 (11S31, 16W30)

Byrd, P. F. *see* **Kölbig, K. S.**

Byrd, R. H. (*with* Shao, Chung-Shang; Eskow, E.; Schnabel, Robert B.) Global optimization for molecular clusters using a new smoothing approach. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 163–199, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92E10)

Byrne, Alex (*with* Hájek, Alan) David Hume, David Lewis, and decision theory. (English summary) *Mind* **106** (1997), *no.* 423, 411–428. 03B45

Byrne, Angelina Results pertaining to the Sendov conjecture. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 333–342. (Z. Rubinstein) **98h:30004** 30C15

Byrne, Graeme J. (*with* Smith, Simon J.) Some integer-valued trigonometric sums. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 393–401. (Simon T. Wong) **98k:33001** 33B10 (11B68, 11L03)

Byrne, H. M. (*with* Norbury, John) The effect of solid conversion on travelling combustion waves in porous media. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 321–342. (Summary) **98i:80012** 80A25 (76S05)

— The effect of time delays on the dynamics of avascular tumor growth. (English summary) *Math. Biosci.* **144** (1997), *no.* 2, 83–117. (Summary) **98h:92014** 92C50 (92C30)

— (*with* Gourley, S. A.) The role of growth factors in avascular tumour growth. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 35–55. 92C30 (93C50)

Byrnes, Christopher I. (*with* Lin, Wei[2]) H_∞-control of discrete-time nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 4, 494–510. (Summary) **98a:93063** 93D15 (93B36, 93C55)

— (*with* Delli Priscoli, Francesco; Isidori, Alberto) ★Output regulation of uncertain nonlinear systems. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+120 *pp. ISBN* 0-8176-3997-7 (Kevin A. Grasse) **98c:93001** 93–02 (93B52, 93C41, 93D15)

— (*with* Landau, Henry J.; Lindquist, Anders) On the well-posedness of the rational covariance extension problem. (English summary) *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 83–108, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:93026** 93B30 (42C99, 93E12)

— (*with* Lindquist, Anders) On duality between filtering and interpolation. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 101–136, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Engin Yaz) **98a:93075** 93E11 (93B15, 93B17)

— (*with* Delli Priscoli, Francesco; Isidori, Alberto; Kang, Wei) Structurally stable output regulation of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 369–385. (John Tsinias) **98c:93087** 93D15 (93B52)

Bystrov, P. I. Relevant systems with global rules of inference. (Russian) *Logical investigations, No.* 2 (*Russian*), 139–152, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B46

— A sequent calculus for formulas with temporal parameters. (Russian) *Logical investigations, No.* 3 (*Russian*), 81–97, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B45 (03B46)

Byszewski, Ludwik Existence, uniqueness and asymptotic stability of solutions of abstract nonlocal Cauchy problems. (English summary) *Dynam. Systems Appl.* **5** (1996), *no.* 4, 595–605. (Marlène Frigon) **98a:34090** 34K30 (34K20, 47H06, 47N20)

— (*with* Akca, Haydar) On a mild solution of a semilinear functional-differential evolution nonlocal problem. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 265–271. (Sergiu Aizicovici) **98i:34118** 34K30 (47D06, 47N20)

Bytsenko, Andrei A. (*with* Cognola, Guido; Zerbini, Sergio) Zeta-function regularization in topologically nontrivial spaces. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 381–386, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:81104** 81T16 (58G26, 81T20)

— (*with* Cognola, Guido; Zerbini, Sergio) Quantum fields in hyperbolic spacetimes with finite spatial volume. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 615–627. (Igor N. Nikitin) **98e:81118** 81T20 (11F72, 11Z05, 58G40)

— (*with* Cognola, Guido; Zerbini, Sergio) Determinant of the Laplacian on a non-compact three-dimensional hyperbolic manifold with finite volume. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3543–3552. (Jens Bolte) **98c:58174** 58G26 (11M36)

— (*with* Vanzo, Luciano; Zerbini, Sergio) Ray-Singer torsion for a hyperbolic 3-manifold and asymptotics of Chern-Simons-Witten invariant. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 641–659. (Bai-Ling Wang) **98m:58142** 58G26 (11M36, 57N10, 57R57, 58G18)

Byun, Linda H. (*with* Redlin, Lothar; Watson, Saleem) Local bounded inversion in rings of continuous functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 37–46. (Summary) **98j:54032** 54C40 (46E25)

–C–

Cabada, Alberto (*with* Nieto, Juan J.) Rapid convergence of the iterative technique for first order initial value problems. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 217–226. (Summary) **98f:34014** 34A45 (65L06)

— (*with* Liz, Eduardo) Discontinuous impulsive differential equations with nonlinear boundary conditions. *Nonlinear Anal.* **28** (1997), *no.* 9, 1491–1497. (Introduction) **98a:34013** 34A37 (34B15)

— (*with* Lois, Susana) Maximum principles for fourth and sixth order periodic boundary value problems. *Nonlinear Anal.* **29** (1997), *no.* 10, 1161–1171. (Iuliu Dan Coroian) **98k:34027** 34B15

— (*with* Pouso, Rodrigo L.) Existence result for the problem $(\varphi(u'))' = f(t,u,u')$ with periodic and Neumann boundary conditions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1733–1742. (L. E. Bobisud) **98j:34026** 34B15 (34C25)

— (*with* Nieto, Juan J.; Pita-da-Veiga, Rafael) A note on rapid convergence of approximate solutions for an ordinary Dirichlet problem. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 23–30. (Summary) **98k:34020** 34A45 (34B15, 65L10)

— (*with* Liz, Eduardo) Boundary value problems for higher order ordinary differential equations with impulses. *Nonlinear Anal.* **32** (1998), *no.* 6, 775–786. (A. S. Vatsala) **98m:34021** 34A37 (34A45, 34B15)

Caballé, Jordi (*with* Pomanskil, A. B.) Complete monotonicity, background risk, and risk aversion. (English summary) *Math. Social Sci.* **34** (1997), *no.* 3, 205–222. (Aleksandras Baltrūnas) **98m:90043** 90A46 (42A38, 60E10, 90A10)

González Caballero, Juan L. *see* **González Caballero, Juan L.**

Caballero, Ma.-Emilia (*with* Bertoin, Jean) On the rate of growth of subordinators with slowly varying Laplace exponent. (English summary) *Séminaire de Probabilités, XXIX*, 125–132, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Bert Fristedt) **98g:60134** 60J30

Caballero, O. (*with* Gómez, Alfredo; Aragón, J. L.; Dávila, F.) The applications of Clifford algebras to crystallography using Mathematica. (English summary) *Clifford algebras with numeric and symbolic computations*, 251–266, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (52C22, 82–04, 82D25)

Caballero, R. *see* **Caballero, Rodrigo**

Caballero, Rafael E. (*with* Rey, Lourdes; Ruiz, Francisco) Determination of satisfying and efficient solutions in convex multi-objective programming. (English summary) *Optimization* **37** (1996), *no.* 2, 125–137. (Summary) **98k:90096** 90C29 (90C25)

— (*with* Gómez, T.; González, Mercedes; Rey, Lourdes; Ruiz, Francisco) An algorithmic package for the resolution of dynamic multiobjective problems. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 265–273, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

— *see also* **Advances in multiple objective and goal programming. 98g:90002**

Caballero, Rodrigo (*with* Malguzzi, P.; Speranza, A.; Sutera, A.) Nonlinear amplification of stationary Rossby waves near resonance. II. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 20, 2441–2451. (Summary) **98k:86015** 86A10 (76C20)

Cabaña, Alejandra Transformations of the empirical measure and Kolmogorov-Smirnov tests. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2020–2035. (S. Rao Jammalamadaka) **98c:62089** 62G10 (62G20)

Cabannes, H. New analytic solutions for the Broadwell equations on discrete kinetic theory. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 1, 1–15. (C. R. Garibotti) **98a:76075** 76P05 (82C40)

Cabello, A. B. *see* **Cabello Pardos, A. B.**

Cabello, Adán A proof with 18 vectors of the Bell-Kochen-Specker theorem. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 59–62, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. Gudder) **98j:81023** 81P10

— (*with* Garcia Alcaine, Guillermo) Quantum mechanics and elements of reality inferred from joint measurements. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 725–732. (Summary) **98f:81027** 81P15

Cabello, J. G. *see* **G. Cabello, Julia**

Cabello, Juan Carlos *see* **Cabello Piñar, Juan Carlos**

g. Cabello, Julia *see* **G. Cabello, Julia**

Cabello Pardos, A. B. (*with* Hajto, Z.) Stratifications adapted to finite families of differential 1-forms (Pfaffian geometry. I). (English summary) *Rev. Mat. Univ. Complut. Madrid* **8** (1995), *no.* 2, 269–292. (Wiesław Pawlucki) **98a:32008** 32B20 (58A35)

Cabello Piñar, Juan Carlos (*with* Nieto, Eduardo) On JB^*-triples which are M-ideals in their biduals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2277–2283. (Cho Ho Chu) **98k:46118** 46L70 (46B20)

Cabello Sánchez, F. *see* **Congress: Examples and Counterexamples in Banach Spaces, 98k:46001**

Cabib, E. A counter-example in homogenization of functional with polynomial integrand. *Ricerche Mat.* **44** (1995), *no.* 1, 157–162. (Stanisław Migórski) **98d:49016** 49J45

Cabo, Alejandro (*with* Barcelos-Neto, J.) Faddeev-Jackiw quantization of massive tensor fields. (English summary) *Z. Phys. C* **74** (1997), *no.* 4, 731–735. (Summary) **98e:81176** 81T70

Cabra, Daniel C. (*with* Rothe, K. D.; Schaposnik, F. A.) BRST analysis of QCD_2 as a perturbed WZW theory. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 18, 3379–3391. (Kostas Skenderis) **98b:81258** 81T70 (81S40, 81T40)

— (*with* Dobry, Ariel; Greco, Andrés; Rossini, Gerardo L.) On the path integral representation for spin systems. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2699–2704. (Summary) **98j:82005** 82B10

— (*with* Rossini, Gerardo L.) Explicit connection between conformal field theory and $2+1$ Chern-Simons theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 23, 1687–1697. (Gloria Luzón) **98f:81297** 81T40 (81T13)

— (*with* Rothe, K. D.) Physical Hilbert space of two-dimensional QCD in the decoupled formulation. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2240–2246. (Summary) **98m:81167** 81T40 (81V05)

Cabral, Luis M. B. (*with* Mello, António S.) Exchange rate expectations and market shares. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 61–67. 90A60

— (*with* Mello, António S.) Erratum to: "Exchange rate expectations and market shares" [Econom. Lett. **55** (1997), no. 1, 61–67]. *Econom. Lett.* **57** (1997), *no.* 1, 127–128. 90A60

Cabras, Antonella (*with* Kolář, Ivan) On the iterated absolute differentiation on some functional bundles. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 23–35. (Fernando Etayo Gordejuela) **98m:58002** 58A20 (53C05)

Cabré, Xavier Nondivergent elliptic equations on manifolds with nonnegative curvature. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 7, 623–665. (David L. Finn) **98b:58157** 58G03 (35J60, 53C21)

Cabrelli, Carlos A. (*with* Hare, Kathryn E.; Molter, Ursula M.) Sums of Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1299–1313. (Irene Hueter) **98k:28009** 28A80 (28A78)

— (*with* Belogay, E.; Molter, Ursula M.; Shonkwiler, R.) Calculating the Hausdorff distance between curves. *Inform. Process. Lett.* **64** (1997), *no.* 1, 17–22. (From the introduction) **98m:68285** 68U10 (68U05)

— (*with* Molter, Ursula M.) A linear time algorithm for a matching problem on the circle. *Inform. Process. Lett.* **66** (1998), *no.* 3, 161–164. 68R05

martín-Cabrera, F. *see* **Martín-Cabrera, F.**

pijeira-Cabrera, Héctor *see* **Pijeira-Cabrera, Héctor**

Cabrera, Javier F. (*with* Maguluri, G.; Singh, Kesar) Indices of empirical robustness. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 49–62. (Lai K. Chan) **98g:62052** 62F35

ordóñez Cabrera, M. *see* **Ordóñez Cabrera, M.**

Cabrera, Miguel *see* **Cabrera García, Miguel**

Cabrera, Sergio D. (*with* Kosheleva, Olga; Gibson, Glenn A.; Koshelev, Misha) Fast implementations of fuzzy arithmetic operations using fast Fourier transform (FFT). (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 269–277. (Summary) **98g:04011** 04A72

Cabrera García, Miguel (*with* Anquela, José A.; Moreno Galindo, Antonio) Eater ideals in Jordan algebras. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 1–17. (I. P. Shestakov) **98m:17040** 17C05

Cabrerizo, José L. (*with* Guo, Zhen; Fernández, Luis M.; Fernandez Andrés, Manuel) On ξ-conformally flat contact metric manifolds. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 725–734. (José A. Oubiña) **98e:53042** 53C15 (53C25)

Čabrić, Branislav The trisection problem. (English summary) *Normat* **45** (1997), *no.* 2, 79–81, 96. (E. J. F. Primrose) **98h:51031** 51M15

Cacace, Filippo (*with* Lamperti, Gianfranco) ★ Advanced relational programming. (English summary) Mathematics and its Applications, 371. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xvi+394 *pp. ISBN* 0-7923-4081-7 68P15

Caccetta, Louis (*with* Huang, Jing) The maximum degree of a critical graph of diameter two. (English summary) *Australas. J. Combin.* **16** (1997), 245–258. (V. R. Kulli) **98j:05081** 05C35

— (*with* Anunchuen, N.) Matching extension and minimum degree. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 1–13. (Charles H. C. Little) **98c:05121** 05C70

— (*with* Jia, Rui-Zhong) Binary labeling of graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 119–137. (Yixun Lin) **98c:05142** 05C78

— (*with* Achuthan, N. R.; Hill, S. P.) On the vehicle routing problem. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4277–4288. (*see* **98i:00032**) 90B85 (90C27)

— (*with* Wang, Song; Teo, Kok Lay; Lee, H. W. J.) Solving 0-1 programming problems by a penalty approach. (English summary) *Opsearch* **34** (1997), *no.* 3, 196–206. 90C09

— (*with* Anstee, Richard) Orthogonal matchings. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 37–47. (Ian Anderson) **98m:05139** 05C70

Cáceres, Alberto Value sets of binomials over finite fields. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 171–177. (Summary) **98j:05017** 05A99

Caceres, Edson N. (*with* Dehne, Frank; Ferreira, Afonso Galvao; Flocchini, Paola; Rieping, I.; Roncato, A.; Santoro, Nicola; Song, S. W.) Efficient parallel graph algorithms for coarse grained multicomputers and BSP. (English summary) *Automata, languages and programming (Bologna, 1997)*, 390–400, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q22 (05C85, 68R10)

Cáceres, Elena (*with* Kaplunovsky, Vadim S.; Mandelberg, I. Michael) Large-volume string compactifications, revisited. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 73–100. (Angel Maria Uranga) **98f:81243** 81T30 (83E30)

Cáceres, José (*with* Márquez, Alberto) A linear algorithm to recognize maximal generalized outerplanar graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 225–230. (Michael Hofmeister) **98m:05051** 05C10 (05C85)

Cáceres, Manuel O. (*with* Chattah, Ana K.) On the Schrödinger-Langevin picture and the master equation. (English summary) *Phys. A* **234** (1996), *no.* 1-2, 322–340. (Vítor R. Vieira) **98a:82074** 82C10 (82C31)

— (*with* Fuentes, Miguel A.; Budde, Carlos E.) Stochastic escape processes from a non-symmetric potential normal form. II. The marginal case. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2287–2296. (Summary) **98f:82100** 82C31 (82–04)

— (*with* Osenda, Omar; Briozzo, Carlos B.) Stochastic Lorenz model for periodically driven Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, R3824–R3827. (Summary) **98c:76038** 76E15 (76F20)

— (*with* Osenda, Omar; Briozzo, Carlos B.) Noise and pattern formation in periodically driven Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 412–427. 76E15

Cachafeiro López, Ma. Alicia (*with* Marcellán, Francisco) On some properties of orthogonal polynomials related to a Sobolev-type inner product on the unit circle. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 67–78. (Summary) **98e:42021** 42C05

— (*with* Suárez Rodríguez, M. Carmen) About semiclassical polynomials on the unit circle corresponding to the class (2, 2). (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 123–144. (Summary) **98h:42024** 42C05 (33C45, 39A10)

— (*with* Marcellán, Francisco) Convex linear combinations of sequences of monic orthogonal polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8,

2323–2331. (Franz Peherstorfer) **98j:42011** 42C05

Cacoullos, T. (*with* Koutras, Markos V.) On the performance of minimum-distance classification rules for Kotz-type elliptical distributions. (English summary) *Advances in the theory and practice of statistics*, 209–224, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:62178** 62H30

— (*with* Papadatos, Nickos; Papathanasiou, V.) Variance inequalities for covariance kernels and applications to central limit theorems. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 195–201; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 1, 149–155 (1998). (T. J. Sweeting) **98g:60037** 60F05 (62E10)

Cadeddu, Lucio (*with* Gramchev, Todor) Delta waves for the Burgers' equation. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 6, 15–20. (Guenther Hoermann) **98d:35188** 35Q53 (35D05)

— (*with* Biagioni, Hebe A.; Gramchev, Todor) Parabolic equations with conservative nonlinear term and singular initial data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2489–2496. (Alexander L. Gladkov) **98k:35110** 35K65 (35K55, 35Q53)

Čadek, Martin (*with* Vanžura, Jiří) On Sp(2) and Sp(2) · Sp(1)-structures in 8-dimensional vector bundles. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 383–401. (Donald M. Davis) **98i:57053** 57R22 (57R15, 57R25)

— (*with* Vanžura, Jiří) On complex structures in 8-dimensional vector bundles. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 323–330. (Summary) **98m:57034** 57R22 (55R25, 57R25)

Cadenillas, A. (*with* Sethi, Suresh P.) Consumption-investment problem with subsistence consumption, bankruptcy, and random market coefficients. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 243–272. (N. H. Bingham) **98d:90042** 90A40 (90A60)

Cadet, S. (*with* Molinari, Alain) Propagative front in unstable thermal sensitive materials. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 193–212. (Summary) **98c:73011** 73B30 (73E50, 80A22)

Cadilhac, Michel (*with* Blaive, Bruno) Upper limit of the discrete hydrogen-like wave functions: expansion in the inverse principal quantum number n^{-1}. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6061–6071. (Summary) **98j:81057** 81Q05 (33C90)

Cadilhe, António M. R. (*with* Glasser, M. Lawrence; Privman, Vladimir) Exact solutions of low-dimensional reaction-diffusion systems. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 109–114. (Paul Krapivsky) **98c:82044** 82C20 (92E20)

Cadima, Jorge (*with* Jolliffe, Ian T.) Some comments on: "Optimality criteria for principal component analysis and generalizations" [British J. Math. Statist. Psych. **49** (1996), no. 2, 335–345] by J. M. F. ten Berge and H. A. L. Kiers. With a reply by ten Berge and Kiers. *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 365–368. 62H25

Cadoli, Marco ★ Tractable reasoning in artificial intelligence. Lecture Notes in Computer Science, 941. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1995. xviii+247 *pp. ISBN* 3-540-60058-2 (Lei Qian) **98c:68192** 68T27 (03B70, 68Q15)

— (*with* Schaerf, Marco) On the complexity of entailment in propositional multivalued logics. (English summary) *Ann. Math. Artificial Intelligence* **18** (1996), *no.* 1, 29–50. (Feodor Alexandrovich Murzin) **98a:03032** 03B50 (03D15, 68Q25)

— (*with* Donini, Francesco M.; Schaerf, Marco; Silvestri, Riccardo) On compact representations of propositional circumscription. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 183–202. (Summary) **98e:68231** 68T27 (68Q15)

— (*with* Weyhrauch, Richard W.; Talcott, Carolyn L.) Using abstract resources to control reasoning. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 1, 77–101. (Summary) **98k:68157** 68T27 (68T20)

Cadoni, Mariano Dualities of 3D dilaton gravity. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7378–7385. (Michael O. Katanaev) **98d:83074** 83D05

— Trace anomaly and Hawking effect in 2D dilaton gravity theories. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 188–191. (Summary) **98g:83056** 83C57 (81T20)

— Conformal equivalence of 2D dilaton gravity models. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 10–15. (Summary) **98b:81225** 81T40

Cadre, Benoît Un principe d'invariance fort pour le temps local d'intersection renormalisé du mouvement brownien plan. (English and French summaries) [A strong invariance principle for the renormalized local intersection time of planar Brownian motion] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1133–1136. (Summary) **98b:60142** 60J65 (60J55)

le Cadre, J. P. *see* **Le Cadre, J. P.**

de Caen, D. A lower bound on the probability of a union. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 217–220. (Summary) **98f:60026** 60E15 (60C05)

Caenepeel, S. (*with* Dăscălescu, S.; Militaru, G.; Panaite, Florin) Coalgebra deformations of bialgebras by Harrison cocycles, copairings of Hopf algebras and double crosscoproducts. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 647–671. (Mitsuhiro Takeuchi) **98k:16052** 16W30

— (*with* Militaru, G.; Zhu, Sheng Lin) Crossed modules and Doi-Hopf modules. (English summary) *Israel J. Math.* **100** (1997), 221–247. (E. J. Taft) **98h:16057** 16W30

— (*with* Militaru, G.; Zhu, Sheng Lin) A Maschke type theorem for Doi-Hopf modules and applications. (English summary) *J. Algebra* **187** (1997), *no.* 2, 388–412. (Yu. N. Bespalov) **98e:16034** 16W30

— (*with* Van Oystaeyen, Freddy; Zhang, Yin Huo) The Brauer group of Yetter-Drinfel'd module algebras. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 9, 3737–3771. (F. DeMeyer) **98c:16047** 16W30 (13A20)

— (*with* Militaru, G.; Zhu, Sheng Lin) Doi-Hopf modules, Yetter-Drinfel'd modules and Frobenius type properties. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4311–4342. (Bodo Pareigis) **98i:16035** 16W30 (16D90, 16L60, 16S40)

Caers, Jef (*with* Beirlant, Jan; Vynckier, Petra) Bootstrap confidence intervals for tail indices. (English summary) *Comput. Statist. Data Anal.* **26** (1998), *no.* 3, 259–277. 62G09 (62G15)

Caetano, Alcides José dos Prazeres On the kernel of holonomy. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 373–381. (Summary) **98d:53031** 53C05 (53C80)

Caetano, Paulo A. S. (*with* Bergamasco, Adalberto P.; Kondo, Cezar I.) Global hypoellipticity and global solvability for a class of operators on compact manifolds. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 236–253. (A. Alexandrou Himonas) **98m:35027** 35H05 (58G15)

Cafaro, M. (*with* Paternoster, B.) Computation of the interval of stability of Runge-Kutta-Nyström methods. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 383–394. 65L06 (65L20)

Caferra, Ricardo (*with* Peltier, Nicolas) Decision procedures using model building techniques. (English summary) *Computer science logic* (*Paderborn*, 1995), 130–144, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 03B35 (68Q60, 68T15)

— (*with* Peltier, Nicolas) A significant extension of logic programming by adapting model building rules. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 51–65, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17 (68T15)

— (*with* Peltier, Nicolas) A new technique for verifying and correcting logic programs. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 277–318. (Summary) **98h:68035** 68N17 (03B35, 03B70, 68Q60)

vergara Caffarelli, G. *see* **Vergara Caffarelli, G.**

Caffarelli, Luis A. (*with* Gutiérrez, Cristian E.) Properties of the solutions of the linearized Monge-Ampère equation. (English summary) *Amer. J. Math.* **119** (1997), *no.* 2, 423–465. (Summary) **98e:35060** 35J60 (35B05)

— The regularity of monotone maps of finite compression. *Comm. Pure Appl. Math.* **50** (1997), *no.* 6, 563–591. (Shiah-Sen Wang) **98d:35050** 35J60 (35A30, 35B65)

— (*with* Berestycki, H.; Nirenberg, Louis) Monotonicity for elliptic equations in unbounded Lipschitz domains. *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1089–1111. (Bernhard Kawohl) **98k:35064** 35J65 (35B05)

— (*with* Lederman, C.; Wolanski, Noemi) Uniform estimates and limits for a two phase parabolic singular perturbation problem. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 453–489. (Arnaldo do Nascimento) **98i:35099** 35K60 (35B25, 35R35)

Caflisch, Russel E. (*with* Sammartino, Marco) Zero viscosity limit for analytic solutions of the Navier-Stokes equations. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part II (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part II* (1996), 595–605. (Summary) **98d:35180** 35Q30 (35D99, 76C99, 76D05)

— (*with* Ercolani, Nicholas; Steele, Gregory) Geometry of singularities for the steady Boussinesq equations. (English summary) *Selecta Math. (N.S.)* **2** (1996), *no.* 3, 369–414. (Michael Siegel) **98f:35121** 35Q35 (35A20, 35B99, 65M99, 76C05, 76V05)

— (*with* Ercolani, Nicholas; Steele, Gregory) Generic singularities for the steady Boussinesq equations. (English summary) *Partial differential equations and their applications* (*Toronto, ON*, 1995), 17–23, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:35132** 35Q35 (76C05)

— (*with* Sammartino, Marco) Navier-Stokes equations on an exterior circular domain: construction of the solution and the zero viscosity limit. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 861–866. (Jürgen Socolowsky) **98f:35115** 35Q30 (76C99, 76D05, 76D10)

— (*with* Klapper, Isaac; Steele, Gregory) Remarks on singularities, dimension and energy dissipation for ideal hydrodynamics and MHD. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 443–455. (R. M. Gundersen) **98g:35156** 35Q30 (35D10, 76W05)

— (*with* Jin, Shi; Russo, Giovanni) Uniformly accurate schemes for hyperbolic systems with relaxation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 246–281. (P. K. Mahanti) **98a:65112** 65M06 (35L65, 76L05, 76M25, 76N15, 82B40)

Cagan, Jonathan (*with* Kotovsky, Kenneth) Simulated annealing and the generation of the objective function: a model of learning during problem solving. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 534–581. 68T20

Caginalp, Gunduz (*with* Xie, Wei Qing) Mathematical analysis of phase memory alloys. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 61–88, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Vitaly A. Volpert) **98i:80006** 80A22 (35R35)

— Renormalization and scaling methods for nonlinear parabolic systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1217–1229. (Summary) **98h:35029** 35C99 (35K55)

— (*with* Porter, David; Smith, Vernon) Initial cash/asset ratio and asset prices: an experimental study. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 2, 756–761 (*electronic*). 90A09

Caglioti, E. (*with* Benedetto, D.; Pulvirenti, Mario) A kinetic equation for granular media. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 615–641. (Nicola Bellomo) **98k:82145** 82C40 (45K05, 73E99, 76A99, 76P05)

Çağman, Naim (*with* Hindley, J. Roger) Combinatory weak reduction in lambda calculus. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 239–247. (Summary) **98k:03036** 03B40

Caha, R. (*with* Koubek, V.) Spanning regular caterpillars in hypercubes. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 249–266. (L. W. Beineke) **98a:05110** 05C70 (05C05)

Cahen, Benjamin Quantification d'une orbite massive d'un groupe de Poincaré généralisé. (English and French summaries) [Quantization of a massive orbit of a generalized Poincaré group] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 803–806. (A. H. Dooley) **98k:22036** 22E30 (22E60, 58F06, 81S10)

Cahen, M. (*with* Bieliavsky, P.; Gutt, Simone) A class of homogeneous symplectic manifolds. (English summary) *Geometry and nature* (*Madeira*, 1995), 241–255, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Raúl Ibáñez) **98c:53039** 53C15 (53C30, 53C35)

Cahen, Paul-Jean (*with* Chapman, Scott T.; Roegner, K.; Smith, William W.) Two classes of ideals determined by integer-valued polynomials. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 625–636. (W. Narkiewicz) **98b:13006** 13B25 (11R04, 13F05)

— (*with* Chabert, Jean-Luc) ★ Integer-valued polynomials. Mathematical Surveys and Monographs, 48. *American Mathematical Society, Providence, RI*, 1997. xx+322 *pp. ISBN* 0-8218-0388-3 (Scott Chapman) **98a:13002** 13-02 (13B25, 13C20, 13F05)

Cahill, Jason M. (*with* Dey, Tamal Krishna; Dillencourt, Michael B.; Ghosh, Subir Kumar) Triangulating with high connectivity. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 39–56. (Summary) **98c:65214** 65Y25

Cahit, Arf *see* **Meeting: Arf, Cahit**

Cahlon, Baruch (*with* Schmidt, Darrell; Shillor, Meir; Zou, Xiu Lin) Analysis of thermostat models. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 5, 437–455. (Bing Hong Wang) **98k:80004** 80A20 (34K15)

— (*with* Schmidt, Darrell) Stability criteria for certain delay integral equations of Volterra type. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 161–188. (Gustaf Gripenberg) **98g:45015** 45M05 (34K20)

samuel-Cahn, Ester *see* **Samuel-Cahn, Ester**

Cahn, John W. (*with* Novick-Cohen, Amy) Limiting motion for an Allen-Cahn/Cahn-Hilliard system. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 89–97, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Weiqing Xie) **98j:80007** 80A22 (35C20, 35Q99)

— (*with* Taylor, Jean E.) Diffuse interfaces with sharp corners and facets: phase field models with strongly anisotropic surfaces. (English summary) With an appendix by Jason Yunger. *Phys. D* **112** (1998), *no.* 3-4, 381–411. (Summary) **98i:35185** 35Q55 (58E50)

Cahyono, E. (*with* van Groesen, E.; Soewono, E.; Subarinah, S.) Genus-two solutions to the Kadomtsev-Petviashvili equation. (English summary) *Differential equations* (*Bandung*, 1996), 233–243, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98k:35163** 35Q53

Cai, Chuan Ren (*with* Chen, Jian Hua[2]) Graded rings of fractions of graded rings. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 17, 1541–1544. 16W50

Cai, Da Yong (*with* Chen, Xian Feng) Homotopy determinant algorithm with multi-initial zeros for solving eigenvalue problems. (English summary) Conference on Scientific Computation '94 (Shatin, 1994). *Southeast Asian Bull. Math.* **20** (1996), *no.* 3, 1–6. (Summary) **98a:65047** 65F15 (65H17)

— (*with* Hu, D. L.) RQI dynamics for non-normal matrices with real eigenvalues. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 138–148. (V. L. Makarov) **98g:65030** 65F15

Cai, David (*with* Sánchez, Angel; Bishop, Alan R.; Grønbech-Jensen, Niels) On some conjectures about surface smoothing. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 339–343, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65D17

Cai, Hai Tao (*with* Xie, Gui Liang; Wen, Ru Qing) Qualitative analysis of a reaction diffusion model of schistosomiasis. (Chinese. English summary) *Hunan Ann. Math.* **17** (1997), *no.* 1, 1–4. 35Q80 (35B99, 92D30)

Cai, Hongsheng Dispersive smoothing effects for KdV type equations. (English summary) *J. Differential Equations* **136** (1997), *no.* 2, 191–221. (Summary) **98b:35153** 35Q53 (35B65)

Cai, Hui (*with* Hu, Yu Da) Ordinary partial preference sets in group decision-making and voting paradoxes. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 2, 142–145. 90A05 (90A28)

Cai, Hui Jing A generalized Hölder inequality and BMO($\mathbf{R}^n, \varphi$) spaces. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 2, 1–4. (Summary) **98d:26010** 26D15

Cai, J. *see* **Cai, Jin-Yi**

Cai, Jian Le Kinetic differential equations expressed via HL-functions for holonomic conservative dynamical systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 1, 73–77. (Haiping Zhu) **98a:70012** 70F20 (70H05, 70H35)

Cai, Jianping Singular perturbation of third order nonlinear boundary value problem with two turning points. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 77–84. (Angela Slavova Dimitrova) **98e:34033** 34B15 (34E15)

Cai, Jianwen (*with* Qaqish, Bahjat F.; Zhou, Haibo) On case-control sampling of clustered data. (English summary) *Biometrika* **84** (1997), *no.* 4, 983–986. 62J12 (62D05, 62H17)

Cai, Jin-fang (*with* Ju, Guo-xing; Wu, Ke[1]; Wang, Shi-Kun) Super Yangian double $DY(\mathrm{gl}(1|1))$ and its Gauss decomposition. (English summary) *J. Phys. A* **30** (1997), *no.* 11, L347–L350. (Peter Prešnajder) **98j:81142** 81R50 (17B37)

Cai, Jin Shi (*with* Wang, Wen Zheng) Optimal algorithms for set member identification of parameters of MIMO systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 403–406. 93B40 (49M37)

Cai, Jin-Yi (*with* Fuchs, Wolfgang H.; Kozen, Dexter; Liu, Zi Cheng) Efficient average-case algorithms for the modular group. (English summary) *35th Annual Symposium on Foundations of Computer Science* (*Santa Fe, NM*, 1994), 143–152, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (20H10, 68Q15)

— (*with* Naik, Ashish V.; Sivakumar, D.) On the existence of hard sparse sets under weak reductions. (English summary) *STACS 96* (*Grenoble*, 1996), 307–318, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q15 (03D15)

— (*with* Selman, Alan L.) Fine separation of average time complexity classes. (English summary) *STACS 96* (*Grenoble*, 1996), 331–343, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68073** 68Q15 (03D15)

— (*with* Liu, Zi Cheng) The bounded membership problem of the monoid $\mathrm{SL}_2(\mathbf{N})$. (English summary) *Math. Systems Theory* **29** (1996), *no.* 6, 573–587. (Jay Belanger) **98b:68054** 68Q15 (20M35, 68Q25)

— (*with* Cai, Pu) On the 100% rule of sensitivity analysis in linear programming. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 460–469, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 90C05

— (*with* Cai, Pu; Naik, Ashish V.) Efficient algorithms for a scheduling problem and its applications to illicit drug market crackdowns. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 367–376. (Summary) **98k:90041** 90B35

Cai, Jingqiu (*with* Luo, Xudong; Zhang, Chengqi) The weighting issue in fuzzy logic. (English summary) Human-like systems using AI techniques. *Informatica* (*Ljubl.*) **21** (1997), *no.* 2, 255–262. (Summary) **98d:03036** 03B52

Cai, Jun (*with* Wu, Yanhong) Characterization of life distributions under some generalized stochastic orderings. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 711–719. (Summary) **98i:62005** 62E10 (62N05)

— (*with* Wu, Yanhong) Some improvements on the Lundberg bound for the ruin probability. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 395–403. (Paul Embrechts) **98k:62174** 62P05

Cai, Junliang (*with* Xu, Yong Hua[2]) On the optimal strongly connected orientations of city annular street graphs $H_{n_1\times n_2}$. I. $n_1 = 2$, $n_2 \equiv 0 \pmod 2$. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 34–49, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05072** 05C20

Cai, Lei (*with* Qin, Geng Sheng) Estimation for the asymptotic variance of parametric estimates in partial linear model with censored data. (English summary) *Acta Math. Sci.* (*English Ed.*) **16** (1996), *no.* 2, 192–208. (Andrzej S. Kozek) **98m:62109** 62G05 (62J02)

Cai, Leizhen On spanning 2-trees in a graph. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 203–216. (T. T. Raghunathan) **98b:05035** 05C05 (05C85)

— (*with* Keil, J. Mark) Computing visibility information in an inaccurate simple polygon. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 515–537. (Stelian S. Dumitrascu) **98k:52026** 52B55 (68U05)

Cai, Liming The computational complexity of PCGS with regular components. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 209–219, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68150** 68Q50 (68Q25, 68Q45)

— (*with* Abrahamson, Karl; Gordon, Steve) A grammar characterization of logarithmic-space computation. (English summary) *New trends in formal languages*, 247–255, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68166** 68Q50 (68Q05)

— (*with* Chen, Jianer; Downey, Rodney G.; Fellows, Michael R.) Advice classes of parameterized tractability. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 119–138. (William Gasarch) **98b:68055** 68Q15 (03D15)

— (*with* Chen, Jianer; Downey, Rodney G.; Fellows, Michael R.) On the parameterized complexity of short computation and factorization. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 321–337. (Mukkai S. Krishnamoorthy) **98m:68085** 68Q15 (03D15, 68Q25)

— (*with* Chen, Jianer) On the amount of nondeterminism and the power of verifying. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 733–750. (Gerhard Lischke) **98h:68058** 68Q05 (68Q10, 68Q15)

Cai, Mao-cheng Connected $[k, k+1]$-factors of graphs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 1–16. (W. T. Tutte) **98e:05084** 05C70

— (*with* Li, Yanjun) Inverse matroid intersection problem. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 235–243. (Ulrich Faigle) **98b:90111** 90C27

— (*with* Kang, Li Ying) Minus domination number in cubic graph. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 444–447. (Summary) **98m:05149** 05C70

Cai, Ming On the formulation of linear instability and forced problems for a zonally varying basic state in the complex domain. (English summary) *J. Atmospheric Sci.* **53** (1996), *no.* 15, 2283–2287. (Summary) **98a:86010** 86A10

Cai, Nai Xu *see* **Chai, Nai Xu**

Cai, Ning (*with* Ahlswede, Rudolf) Incomparability and intersection properties of Boolean interval lattices and chain posets. (English summary) *European J. Combin.* **17** (1996), *no.* 8, 677–687. (Douglas B. West) **98a:06004** 06A07 (05A19, 05D05)

— (*with* Ahlswede, Rudolf) On extremal set partitions in Cartesian product spaces [MR 95c:04002]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 23–32, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 04A20 (05C70, 05D05)

— (*with* Ahlswede, Rudolf) Cross-disjoint pairs of clouds in the interval lattice. (English summary) *The mathematics of Paul Erdős, I*, 155–164, *Algorithms Combin.*, 13, *Springer, Berlin*, 1997. (Ákos Seress) **98d:05142** 05D05 (06B99)

— (*with* Ahlswede, Rudolf) General edge-isoperimetric inequalities. I. Information-theoretical methods. *European J. Combin.* **18** (1997), *no.* 4, 355–372. (Sergeĭ L. Bezrukov) **98e:05060** 05C35

— (*with* Ahlswede, Rudolf) General edge-isoperimetric inequalities. II. A local-global principle for lexicographical solutions. *European J. Combin.* **18** (1997), *no.* 5, 479–489. (Sergeĭ L. Bezrukov) **98e:05061** 05C35

— (*with* Ahlswede, Rudolf) Correlated sources help transmission over an arbitrarily varying channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1254–1255. (Summary) **98d:94017** 94A29 (94A12)

— (*with* Ahlswede, Rudolf; Zhang, Zhen[1]) Zero-error capacity for models with memory and the enlightened dictator channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1250–1252. (Summary) **98m:94022** 94A40

Cai, Pu (*with* Cai, Jin-Yi) On the 100% rule of sensitivity analysis in linear programming. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 460–469, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 90C05

— (*with* Cai, Jin-Yi; Naik, Ashish V.) Efficient algorithms for a scheduling problem and its applications to illicit drug market crackdowns. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 367–376. (Summary) **98k:90041** 90B35

Cai, Qi Fu A conservative second-order algorithm for solving unsteady free-surface flows with shock waves. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 473–478. 76M20 (65M06, 76L05)

Cai, Qian Feng Common solutions for linear morphism equations in an abelian category and a class of equations having the same solutions. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 1, 10–12. 18E10

Cai, Rong-Gen (*with* Zhang, Yijun; Su, Ru-keng) Hawking evaporation for the $(2+1)$-dimensional radiating black hole. (English summary) *Chinese Phys. Lett.* **12** (1995), *no.* 7, 446–448. 83C57 (81T20)

— (*with* Myung, Yun Soo) Critical behavior for the dilaton black holes. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 339–362. (Summary) **98b:83085** 83E30 (83C57)

— (*with* Myung, Yun Soo) Black holes in the Brans-Dicke-Maxwell theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3466–3470. (Summary) **98e:83098** 83D05 (83C57)

— Effective spatial dimension of extremal nondilatonic black p-branes and the description on the world volume. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 13, 2531–2534. (Summary) **98d:83048** 83C57 (81T30, 83E30)

Cai, Shu Hui (*with* Zheng, Jin Cheng; Wang, Ren Zhi; Zheng, Yong Mei; Cheng, Can Dong) Approximate formulas for the probability integral. (Chinese. English summary) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 1, 147–149. 65D30

Cai, Sui Lin (*with* Xie, Xiang Dong) A sufficient condition for a class of planar maps to produce chaos, and its application. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **16** (1995), *no.* 5, 640–644. (Si Ming Zhu) **98b:58124** 58F13
— (*with* Xie, Xiang Dong) An extension of Smale's transverse homoclinic theorem and chaotic phenomena of the Lozi map. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 385–390. (Si Ming Zhu) **98c:58113** 58F13
— (*with* Li, Jin Ming) The number of closed solutions and conditions for their existence for the equation $dx/dt = x^n + \sum_{i=0}^{n-1} a_i(t)x^i$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 86–92. (Jinghuang Tian) **98k:34049** 34C05
Cai, Tian-Xin On the minimum area of convex lattice polygons. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 351–354. (Martin Henk) **98m:52026** 52C05 (11H06)
Cai, Wei (*with* Zhang, Wu) An adaptive spline wavelet ADI (SW-ADI) method for two-dimensional reaction-diffusion equations. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 1, 92–126. (Summary) **98k:65060** 65M70 (76M25, 80–08)
Cai, X. *see* **Cai, Xiao-Qiang**
Cai, X.-C. (*with* Gropp, William D.; Keyes, D. E.; Tidriri, Moulay D.) Parallel implicit methods for aerodynamics. (English summary) *Domain decomposition methods in scientific and engineering computing (University Park, PA, 1993)*, 465–470, *Contemp. Math.*, 180, *Amer. Math. Soc., Providence, RI*, 1994. (*see* **95i:65008**) 76M25 (76G25)
Cai, Xiao-Qiang (*with* Kloks, Ton; Wong, Chak Kuen) Shortest path problems with time constraints. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 255–266, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68R10 (05C85, 68Q25)
— (*with* Zhou, Sean) Sequencing jobs with random processing times to minimize weighted completion time variance. (English summary) *Ann. Oper. Res.* **70** (1997), 241–260. (Jean B. Lasserre) **98d:90056** 90B35 (68Q25)
— (*with* Zhou, Xian) General stochastic single-machine scheduling with regular cost functions. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 95–108. (Summary) **98e:90084** 90B35
— (*with* Zhou, Sean) Scheduling stochastic jobs with asymmetric earliness and tardiness penalties. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 531–557. (Summary) **98d:90057** 90B35
— (*with* Kloks, Ton; Wong, Chak Kuen) Time-varying shortest path problems with constraints. (English summary) *Networks* **29** (1997), *no.* 3, 141–149. (Summary) **98c:05095** 05C38
— (*with* Lo, Kam-Ming) Unit commitment by a genetic algorithm. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4289–4299. (*see* **98i:00032**) 90C27
— (*with* Lee, Chung-Yee; Li, Chung-Lun) Minimizing total completion time in two-processor task systems with prespecified processor allocations. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 231–242. (Summary) **98m:90069** 90B35 (68M10)
Cai, Xiao Qiu Statistical properties of multifractal parameters. (Chinese. English and Chinese summaries) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **11** (1997), *no.* 2, 109–113. 82B05 (28A75, 28D20, 58F11)
Cai, Ying Chun Density estimates for some classes of groups. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **30** (1995), *no.* 1, 8–12. (Summary) **98i:11080** 11N45
— A Diophantine inequality with prime variables. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 733–742. (Tao Zhan) **98g:11039** 11D75 (11L07)
— A remark on a problem of Srinivasan. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 3, 203–209. (Tian Ze Wang) **98c:11099** 11N45 (11N36)
— On the distribution of square-full integers. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 269–280. (R. C. Baker) **98j:11070** 11N25
Cai, Yu (*with* Wang, Lu-Yu; Guo, Han-Ying; Fei, Shao-Ming) Solutions of the Yang-Baxter equation and Temperley-Lieb algebraic structure. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 451–456. (Summary) **98f:82059** 82B23 (20C99)
Cai, Yuan Long (*with* He, Fei Yun; Wen, Mao Sheng) Nonblocking ATM switching networks. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 35–39, 45. 94C10
Cai, Yuanli (*with* Cui, Fangsen; Chew, C. H.; Xu, Jianxue) Bifurcation and chaos in the Duffing oscillator with a PID controller. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 3, 251–262. (Summary) **98a:34032** 34C15 (34C23, 34D99, 34H05, 70K50, 93C10)
Cai, Zhi Qiang (*with* Mandel, Jan; McCormick, Stephen F.) Multigrid methods for nearly singular linear equations and eigenvalue problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 178–200. (Charles I. Goldstein) **98j:65088** 65N55 (47A50, 65N25, 65N30)
— (*with* Manteuffel, Thomas A.; McCormick, Stephen F.) First-order system least squares for second-order partial differential equations. II. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 425–454. (Summary) **98m:65039** 65F10 (65F30)
— (*with* Manteuffel, Thomas A.; McCormick, Stephen F.) First-order system least squares for the Stokes equations, with application to linear elasticity. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1727–1741. (J. T. Oden) **98j:65074** 65N30 (73C02, 73V05, 76D07, 76M10)
Cai, Zhong Min (*with* Wei, Yi Qiang; Li, Qing Shi) The condition for applying slit island method. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 5, 463–470; *translated from Appl. Math. Mech.* **18** (1997), *no.* 5, 433–439 (*Chinese. English and Chinese summaries*). 28A78 (28A80, 73M25)
Cai, Zongwu (*with* Tsai, Chih-Ling; Wu, Xizhi) The examination of residual plots. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 445–465. 62J20
Caiani, Lando (*with* Casetti, Lapo; Pettini, Marco) Hamiltonian dynamics of the two-dimensional lattice φ^4 model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3357–3381. 81T25 (81T80)
Caicedo, Jose F. (*with* Castro, Alfonso) A semilinear wave equation with derivative of nonlinearity containing multiple eigenvalues of infinite multiplicity. (English summary) *Harmonic analysis and nonlinear differential equations (Riverside, CA, 1995)*, 111–132, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Sergiu Aizicovici) **98i:35122** 35L70 (34B15, 47H15, 47N20)
Caicedo, M. I. (*with* Restuccia, A.) *BF* topological theories and infinitely reducible systems. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 337–341. (Gloria Luzón) **98b:81259** 81T70 (53C80, 58D29, 81T13, 81T30)
Caicedo, Xavier Logic of sheaves of structures. (Spanish. English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **19** (1995), *no.* 74, 569–586. (Summary) **98g:03149** 03G30 (03B60, 03C90)
Caijun, Zhou *see* **Zhou, Cai Jun**
Caillaud, Bernard (*with* Combes, Pierre-Philippe; Jullien, Bruno) Common market with regulated firms. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 65–99. (*see* **98g:90010**) 90A53 (90A60)
Cailletaud, G. (*with* Forest, S.; Sievert, Rainer) A Cosserat theory for elastoviscoplastic single crystals at finite deformation. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 4, 705–736. (Victor A. L'vov) **98m:73032** 73C50 (73B27, 73E60, 73G25)
Cain, Bryan (*with* Hershkowitz, Daniel; Schneider, Hans) Theorems of the alternative for cones and Lyapunov regularity of matrices. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 487–499. (Jacques F. Bair) **98m:46002** 46A40 (15A24, 46N10, 52A05, 90C48)
— (*with* DeAlba, Luz M.; Hogben, Leslie; Johnson, Charles Royal) Multiplicative perturbations of stable and convergent operators. (English summary) *Linear Algebra Appl.* **268** (1998), 151–169. (Sing Cheong Ong) **98j:15009** 15A18 (47A99)
Cain, Michael Asymmetric quadratic loss adjustments for a predictive t variable. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 2, 141–150. 62J05 (62F15)
Caines, Peter E. (*with* Wang, Suning) Automated reasoning with function evaluation for COCOLOG. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 301–334. (Summary) **98e:93067** 93C83 (03B35)
— (*with* Gupta, Vineet; Shen, Gang) The hierarchical control of *ST*-finite-state machines. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 185–192. (Summary) **98k:93071** 93C83 (68Q68, 93A13, 93B05)
Caire, Giuseppe (*with* Taricco, Giorgio; Ventura-Traveset, Javier; Biglieri, Ezio) A multiuser approach to narrowband cellular communications. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1503–1517. 94A13 (94A12)
— (*with* Taricco, Giorgio; Biglieri, Ezio) Bit-interleaved coded modulation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 927–946. 94A40 (94A14)
Caires, Luis A language for the logical specification of processes and relations. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 150–164, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98f:68176** 68Q60 (03B70, 03F50, 68N17)
Cairnie, Niall (*with* Edwards, Keith) Some results on the achromatic number. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 129–136. (Hans L. Bodlaender) **98i:68217** 68R10 (05C15, 68Q25)
Cairns, Andrew J. G. (*with* Parker, Gary) Stochastic pension fund modelling. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 1, 43–79. 62P05
Cairns, Grant (*with* Kolganova, Alla) Chaotic actions of free groups. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 1015–1021. (Summary) **98c:58105** 58F13 (28D15)
— (*with* Jessup, Barry; Pitkethly, Jane) On the Betti numbers of nilpotent Lie algebras of small dimension. (English summary) *Integrable systems and foliations/Feuilletages et systèmes intégrables (Montpellier, 1995)*, 19–31, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Joyce O'Halloran) **98c:17018** 17B56 (17B30)
— (*with* Jessup, Barry) New bounds on the Betti numbers of nilpotent Lie algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 415–430. (Yun Gao) **98a:17032** 17B56 (17B30)
— (*with* Ghys, Étienne) The local linearization problem for smooth SL(n)-actions. (English and French summaries) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 133–171. (Michel Nguiffo B. Boyom) **98i:57067** 57S20 (57S25)
Cairns, R. A. (*with* Lashmore-Davies, C. N.; Thyagaraja, A.) The effect of nonlinear mode coupling on the stability of toroidal Alfvén eigenmodes. (English summary) *Phys. Plasmas* **4** (1997), *no.* 9, 3243–3253. 76E25 (76X05)
Cairó, Laurent (*with* Llibre, Jaume) Phase portraits of planar semi-homogeneous vector fields. I. *Nonlinear Anal.* **29** (1997), *no.* 7, 783–811. (Alexandru Şubă) **98e:34048** 34C05 (58F36)
Çakalli, H. Conservative series methods on complete topological groups. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 5–8. 40J05 (22A10)
— (*with* Çanak, G.) (P_n, s)-absolute almost convergent sequences. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 525–532. (Amnon Jakimovski) **98h:40002** 40F05 (40C05, 40G99)
Çakar, Öner (*with* Orhan, C.) Some inclusion theorems for absolute summability. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 4, 599–605. (D. C. Russell) **98e:40003** 40D05 (40F05)
— (*with* Bairamov, È. M.; Çelebi, A. Okay) Quadratic pencil of Schrödinger operators with spectral singularities: discrete spectrum and principal functions. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 303–320. (Horst Behncke) **98k:34131** 34L05 (34L40, 47E05)
Čakić, Nenad P. A note on Stirling numbers of the second kind. *Fibonacci Quart.* **36** (1998), *no.* 3, 204–205. 11B73
Çakmak, Z. On some inequality and convexity-preserving approximating polynomial operators. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 27–34. 41A29 (26A51)
de la Cal, Jesús (*with* Adell, José A.) Bernstein-type operators diminish the φ-variation. (English summary) *Constr. Approx.* **12** (1996), *no.* 4, 489–507. (Geetha S. Rao) **98e:41029** 41A35 (41A10, 60G99)
— (*with* Adell, José A.; Germán Badía, F.) On the iterates of some Bernstein-type operators. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 529–541. (Giuseppe Mastroianni) **98j:41021** 41A35 (39B12)
Calabrese, Antonio Distributed acyclic orientation of asynchronous anonymous networks. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 129–137, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68M10
Calabria, R. (*with* Pulcini, G.) Bayes inference for the modulated power law process. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2421–2438. 62N05 (62F15)

Calahan-Zijlstra, Rebecca (*with* Gardner, Robert Bentley; Micale, Biagio; Pennisi, Mario) Cyclic and rotational hybrid triple systems. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 121–139. (Chung Je Cho) **98f:05027** 05B07 (05B05)

— (*with* Gardner, Robert Bentley; Micale, Biagio; Pennisi, Mario) Cyclic and rotational hybrid triple systems. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 143–161. (Chung Je Cho) **98j:05028** 05B07 (05B05)

Calamoneri, Tiziana (*with* Alimonti, Paola) Improved approximations of independent dominating set in bounded degree graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 2–16, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68207** 68R10 (05C35, 05C85)

— (*with* Sterbini, Andrea) 3D straight-line grid drawing of 4-colorable graphs. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 97–102. 68U05

Calanchi, Marta (*with* Rodino, Luigi; Nguyen Minh Tri) Solutions of logarithmic type for elliptic and hypoelliptic equations. (English and Italian summaries) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 111–127 (1997). (Vladimir Tulovsky) **98h:35049** 35J30 (35B05, 35H05)

— (*with* Alessio, Francesca) Homoclinic-type solutions for an almost periodic semilinear elliptic equation on $\mathbf{R}^n$. *Rend. Sem. Mat. Univ. Padova* **97** (1997), 89–111. (Alexander A. Pankov) **98i:35046** 35J60 (35B15, 58E05)

Calandrini, G. (*with* Castro, Liliana; Paolini, E.; Desages, A. C.) Ritt's algorithm, Gröbner basis and discretization. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 67–77. (Summary) **98e:93013** 93B10 (70B15, 70Q05, 93B40)

Calarco, T. Temporal Bell inequalities and the uncertainty principle. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 63–69, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P15

Calbrix, Hugues (*with* Nivat, Maurice) Prefix and period languages of rational ω-languages. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 341–349, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:68152** 68Q45 (03D05)

— La théorie monadique du second ordre du monoïde inversif libre est indécidable. (English and French summaries) [The second-order monadic theory of the free inverse monoid is undecidable] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 53–65. (Wiktor Dańko) **98j:03060** 03D35 (03D05, 20M05, 68Q80)

Calbrix, Jean (*with* Arab, Meriem) Comparison of some classical topologies on hyperspaces within the framework of point spaces. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 47–55. (Summary) **98c:54006** 54B20 (54A20)

Caldarelli, G. (*with* Galluccio, S.; Marsili, Matteo; Zhang, Yi Cheng) Scaling in currency exhange. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 423–436. 90A09

quiroga de Caldas, Cruz Sonia *see* **Quiroga de Caldas, Cruz Sonia**

Caldas, I. L. (*with* Baptista, M. S.) The parameter space structure of the kicked logistic map and its stability. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 447–457. (Summary) **98a:58061** 58F03

Caldas Cueva, Miguel A separation axiom between semi-T_0 and semi-T_1. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 37–42. (Thomas W. Rishel) **98c:54015** 54D10

Caldeira, A. O. (*with* Moussa, M. H. Y.) Extension of the GRWP model to translation symmetry breaking processes. (English summary) *Found. Phys. Lett.* **9** (1996), *no.* 6, 521–534. (Summary) **98f:81034** 81P15 (81S20)

Calderbank, A. R. (*with* Gelblum, E. A.) A forbidden rate region for generalized cross constellations. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 335–341. (Summary) **98j:94029** 94B12

— (*with* Li, Wen-Ch'ing Winnie; Poonen, Bjorn) A 2-adic approach to the analysis of cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 977–986. (André Sesboüé) **98m:94049** 94B15 (11T71, 94B05)

— (*with* Cameron, Peter J.; Kantor, William M.; Seidel, Johan Jacob) Z_4-Kerdock codes, orthogonal spreads, and extremal Euclidean line-sets. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 436–480. (Jonathan I. Hall) **98i:94039** 94B27 (51E23)

— (*with* Tarokh, Vahid; Seshadri, Nambi) Space-time codes for high data rate wireless communication: performance criterion and code construction. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 744–765. 94A40

Calderbank, David *see* **Hitchin, N. J., 98f:58048**

Calderer, M. Carme (*with* Mukherjee, Bagisa) Chevron patterns in liquid crystal flows. (English summary) *Phys. D* **98** (1996), *no.* 1, 201–224. (Summary) **98c:76007** 76A15 (82D30)

Calderón, Calixto P. (*with* Vera de Serio, Virginia N.) Abel summability of Jacobi type series. *Illinois J. Math.* **41** (1997), *no.* 2, 237–265. (Walter Trebels) **98g:42043** 42C10 (33C45, 40G10, 42B08, 42B25)

Calderón, Catalina (*with* Zárate Azcuna, María José) Asymptotic formulae of generalized Chebyshev functions. (English summary) *Rev. Colombiana Mat.* **30** (1996), *no.* 1, 53–63. (H. G. Diamond) **98f:11100** 11N25

gomez-Calderon, Javier *see* **Gomez-Calderon, Javier**

rzedowski-Calderón, M. *see* **Rzedowski-Calderón, M.**

Caldiroli, Paolo (*with* Abenda, Simonetta; Montecchiari, Piero) Multibump solutions for Duffing-like systems. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 115–143 (1997). (Patricio L. Felmer) **98i:34071** 34C37 (34C15, 58F05, 70H05)

— (*with* Jeanjean, Louis) Homoclinics and heteroclinics for a class of conservative singular Hamiltonian systems. (English summary) *J. Differential Equations* **136** (1997), *no.* 1, 76–114. (Patricio L. Felmer) **98e:58038** 58E05 (34C25, 34C37, 58F05, 70H05)

— (*with* De Coster, Colette) Multiple homoclinics for a class of singular Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 556–573. (Maria Letizia Bertotti) **98e:58074** 58F05 (34C37, 58E05, 70H05)

— A new proof of the existence of homoclinic orbits for a class of autonomous second order Hamiltonian systems in $\mathbf{R}^N$. (English summary) *Math. Nachr.* **187** (1997), 19–27. (Maria Letizia Bertotti) **98i:58059** 58E05 (34C25, 58F05, 70H05)

Caldwell, James Integral equation solution of the Dirichlet problem. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 1, 11–18. 35J05

— Numerical approaches to the nonlinear Burgers' equation. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 1, 19–32. 65M06 (65M60)

— Use of cubic splines in the numerical solution of a model nonlinear PDE. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 2, 45–53. 65N06 (65D07)

— (*with* Chen, Ming Shi) A note on solution of potential problems using integral equations. (English summary) *J. Math. Sci.* (*Calcutta*) **8** (1997), *no.* 2, 51–58. 65R20 (45L05)

Caldwell, R. R. (*with* Allen, Bruce) Formation of kinks. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 76–87, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83F05

Caleiro, C. (*with* Saake, G.; Sernadas, A.) Deriving liveness goals from temporal logic specifications. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 521–553. (Summary) **98a:68128** 68Q60 (03B45, 03B70)

Calgaro, C. (*with* Laminie, J.; Temam, Roger) Dynamical multilevel schemes for the solution of evolution equations by hierarchical finite element discretization. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 403–442. (Summary) **98d:76124** 76M25 (65M99, 76F99, 76M10)

— (*with* Debussche, Arnaud; Laminie, J.) On a multilevel approach for the two-dimensional Navier-Stokes equations with finite elements. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 241–258. (Summary) **98m:76117** 76M25 (76D05, 76F99, 76M10)

Calhoun, William C. (*with* Slaman, Theodore A.) The Π^0_2 enumeration degrees are not dense. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1364–1379. (Michael Stob) **98g:03100** 03D20

Cali, Ana L. (*with* Sánchez, Cristián U.; Moreschi, José L.) Spheres in Hermitian symmetric spaces and flag manifolds. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 261–276. (José Carmelo González-Dávila) **98d:53078** 53C35 (53C40)

Calian, V. Quantum BRST operators in the extended BRST-anti-BRST formalism. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 95–98. (Liviu Tătar) **98e:81177** 81T70

Caliceti, E. (*with* Grecchi, Vincenzo; Maioli, M.) Perturbation theory, Borel summability, and asymptotics. (English summary) *Algebra i Analiz* **8** (1996), *no.* 1, 145–159; *reprinted in St. Petersburg Math. J.* **8** (1997), *no.* 1, 111–122. (H. Hogreve) **98a:81039** 81Q15 (34E10, 40G10, 47N20)

Califano, F. (*with* Nocera, L.; Bologna, M.) Homoclinic chaos in a forced hydromagnetic cavity. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 131–148. (Summary) **98h:76138** 76W05 (58F40, 85A30, 86A25)

— Turbulent transport in stably stratified fluids. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **20** (1997), *no.* 1, 23 *pp.* (Radyadour Kh. Zeytounian) **98k:76071** 76F99 (76V05, 86A05)

Caligaris, O. (*with* Oliva, P.) Reduction of problems associated with multidimensional integral functionals. (Italian. English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 139–161. (António Ornelas) **98k:49003** 49J10 (49J45)

— (*with* Oliva, P.) Subdifferential of functionals in abstract spaces and necessary conditions in calculus of variations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 885–899. (Vladimir L. Levin) **98m:49035** 49J52 (46N10, 49K27)

Călin, C. Geometry of leaves on a CR-submanifold of a quasi-Sasakian manifold. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 37–43. (Andrew Bucki) **98i:53073** 53C40 (53C25, 53C42)

— CR-product of quasi-Sasakian manifold. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 37–44. 53C25

— Normal contact CR-submanifolds of a trans-Sasakian manifold. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 9–15. (Andrew Bucki) **98j:53052** 53C25 (53C40)

— Normal contact anti-holomorphic submanifolds of a quasi-Sasakian manifold. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 5–14. (Andrew Bucki) **98k:53078** 53C42 (53C25)

Călinescu, Gruia (*with* Fernandes, Cristina G.) Finding large planar subgraphs and large subgraphs of a given genus. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 152–161, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05053** 05C10

Calinescu, Radu (*with* Evans, David J.) Bulk-synchronous parallel algorithms for QR and QZ matrix factorisation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 97–112. (Summary) **98c:65209** 65Y05 (65F05)

Caliński, Tadeusz The basic contrasts of a block design with special reference to the recovery of inter-block information. (English summary) ProbaStat '94 (Smolenice Castle, 1994). *Tatra Mt. Math. Publ.* **7** (1996), 23–37. (S. Mejza) **98d:62134** 62K10 (62F10)

Çalışkan, Mustafa (*with* Akdemir, Keziban; Kuruoğlu, Nuri) On the pair of konoidal ruled surfaces under the homothetic motions of the Euclidean space E^n. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 39–43. 53A25

Calixto, Manuel (*with* Aldaya, Víctor; Guerrero, Julio) Algebraic versus topologic anomalies. (English summary) *Differential geometry and applications* (*Brno*, 1995), 495–502, *Masaryk Univ., Brno*, 1996. (Summary) **98f:81149** 81S10 (22E40, 58F06, 81T50)

— (*with* Aldaya, Víctor; Guerrero, Julio) Algebraic quantization, good operators and fractional quantum numbers. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 2, 399–424. (Nicolaas P. Landsman) **98a:81090** 81S10 (58F06, 81R99)

— (*with* Aldaya, Víctor; Navarro, Miguel) The electromagnetic and Proca fields revisited: a unified quantization. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 20, 3609–3623. (Eugene K. Loginov) **98e:81174** 81T70 (81T13, 81V10)

— (*with* Navarro, Miguel; Aldaya, Víctor) Group quantization on configuration space: gauge symmetries and linear fields. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1454–1476. (Nicolaas P. Landsman) **98h:81057** 81S10 (58F06, 81T70)

van Calker, D. (*with* Lauer, Stefan; Timmer, J.; Maier, Dieter; Honerkamp, J.) Optimal weighted Bayesian design applied to dose-response-curve analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2879–2903. 62K05

Calkin, Neil J. (*with* Finch, Steven R.) Conditions on periodicity for sum-free sets. (English summary) *Experiment. Math.* **5** (1996), *no.* 2, 131–137. (Georges Grekos) **98c:11010** 11B13 (11B75)

— Dependent sets of constant weight vectors in GF(q). (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 49–53. (Summary) **98m:15001** 15A03

— Dependent sets of constant weight binary vectors. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 263–271. (Nikolai Volodin) **98e:60020** 60C05

— (*with* Erdös, Paul[1]; Tovey, Craig A.) New Ramsey bounds from cyclic graphs of prime order. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 381–387. (Stanisław P. Radziszowski) **98e:05078** 05C55

— (*with* Thomson, Jan McDonald) Counting generalized sum-free sets. (English summary) *J. Number Theory* **68** (1998), *no.* 2, 151–159. (Georges Grekos) **98m:11010** 11B13 (11B75)

Call, Gregory S. (*with* Goldstine, Susan W.) Canonical heights on projective space. *J. Number Theory* **63** (1997), *no.* 2, 211–243. (Dan Abramovich) **98c:11060** 11G35 (14G25)

de Callafon, R. A. (*with* Van den Hof, Paul M. J.) Suboptimal feedback control by a scheme of iterative identification and control design. (English summary) Model validation for control design. *Math. Model. Systems* **3** (1997), *no.* 1, 77–101. (Summary) **98k:93024** 93B30 (93B51, 93B52)

Callahan, Patrick J. Symmetric surgery on asymmetric knots. *Math. Ann.* **308** (1997), *no.* 1, 1–4. (Leonid Potyagailo) **98e:57007** 57M25

Callahan, Paul (*with* Goodrich, Michael T.; Ramaiyer, Kumar) Topology B-trees and their applications. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 381–392, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05

Callahan, T. K. (*with* Knobloch, Edgar) Symmetry-breaking bifurcations on cubic lattices. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1179–1216. (Philip J. Aston) **98h:58124** 58F14 (34C23, 35B32)

Callan, Curtis G., Jr. (*with* Klebanov, Igor R.) D-brane boundary state dynamics. (English summary) *Nuclear Phys. B* **465** (1996), *no.* 3, 473–484. (Summary) **98f:81244** 81T30

— (*with* Gubser, Steven S.; Klebanov, Igor R.; Tseytlin, Arkady A.) Absorption of fixed scalars and the D-brane approach to black holes. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 65–94. (Paulo Moniz) **98e:83068** 83C57 (81T30, 83E30)

Callan, David When does $m - n$ divide $f(m) - f(n)$? A look at column-finite matrices. *Fibonacci Quart.* **35** (1997), *no.* 4, 290–299. (Richard Stong) **98j:11011** 11B83 (11C20, 15A09, 15A36)

Callari, Giovanni (*with* Spagnolo, Filippo) A proposal for a philosophico-mathematical itinerary from the Scientific Revolution to today. (Italian) *Quad. Ric. Didatt. No.* 6 (1996), 78–94. 01A55 (00A30, 01A60)

Callebaut, D. K. (*with* Khater, A. H.; Ibrahim, R. S.; Shamardan, A. B.) Bäcklund transformations and Painlevé analysis: exact solutions for a Grad-Shafranov-type magnetohydrodynamic equilibrium. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 51–69. (Summary) **98c:76122** 76W05 (35Q35, 58G37, 85A30)

— (*with* El-Sayed, M. F.) Alternative kind of solitary waves. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 126–128. (Summary) **98e:35138** 35Q51

— (*with* Khater, A. H.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact solutions for the nonlinear isothermal magnetostatic atmospheres. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2853–2863. (Summary) **98e:76112** 76X05 (85A15, 85A30)

— (*with* Khater, A. H.; Shamardan, A. B.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for strongly rarefied relativistic cold plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3910–3922. (Summary) **98j:76152** 76X05 (35Q35, 76Y05)

— (*with* Khater, A. H.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for the unstable nonlinear Schrödinger equation modeling electron beam plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 395–400. (Summary) **98i:35179** 35Q55 (76X05)

Callejón Céspedes, José (*with* Herrerías Pleguezuelo, Rafael; Palacios González, Federico) Using generator function system to check independence of random variables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1211–1219. 62E10

Callender, Craig What is "the problem of the direction of time"? (English summary) PSA 1996, Part II (Cleveland, OH). *Philos. Sci.* **64** (1997), *no.* 4, *suppl.*, S223–S234. (Summary) **98k:82103** 82C03

Calleri, Paola (*with* Giacardi, Livia) The letters of Giuseppe Battaglini to Jules Hoüel (1867–1878). The spread of non-Euclidean geometry in Italy. (Italian) *Riv. Stor. Sci.* (2) **3** (1995), *no.* 1, 125–206 (1996). (Umberto Bottazzini) **98k:01009** 01A55

Callier, Frank M. On output-stabilizability and detectability of discrete-time LQ-optimal control systems. (English summary) *Operators, systems, and linear algebra (Kaiserslautern, 1997)*, 45–55, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Summary) **98m:93099** 93D15 (49N10, 93C55)

Calmelet-Eluhu, C. (*with* Majumdar, D. R.) Flow of a micropolar fluid through a circular cylinder subject to longitudinal and torsional oscillations. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 69–78. 76A05

Calmet, Jacques (*with* Campbell, John A.) A perspective on symbolic mathematical computing and artificial intelligence. (English summary) *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 3-4, 261–277. (Summary) **98b:68087** 68Q40 (01A60, 68T01)

— *see also* **Artificial intelligence and symbolic mathematical computation, 98d:68010** *and* **Computer algebra, 98e:00016**

Calogero, A. On the edge graph of a spatial tiling. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 187–202. (Bojan Mohar) **98c:52024** 52C22 (60J15)

Calogero, Francesco Integrable systems of coupled nonlinear ODEs and PDEs, and solvable nonlinear integrodifferential equations of Boltzmann type. (English summary) *Field theory and collective phenomena (Perugia, 1992)*, 323–350, *World Sci. Publishing, River Edge, NJ*, 1995. (Carlo Cercignani) **98a:58082** 58F07 (35Q99, 45K05, 82C40)

— (*with* Ji, Xiao Da) C-integrable nonlinear PDEs. IV. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6781–6794. (Emma Previato) **98b:58069** 58F07 (35F20, 35Q58, 58F37)

— Integrable nonlinear evolution equations in multidimensions. (English summary) *Nonlinear waves (Sapporo, 1995)*, 7–17, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98h:35185** 35Qxx (58D25)

— Remarkable matrices and trigonometric identities. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 127–130. (Summary) **98e:15020** 15A24 (15A18, 33B10)

— A class of integrable Hamiltonian systems whose solutions are (perhaps) all completely periodic. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5711–5719. (Efthymia Meletlidou) **98k:58105** 58F07 (58F05, 58F22, 70H05)

— (*with* Degasperis, A.; De Lillo, S.) The multicomponent Eckhaus equation. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5805–5814. (Summary) **98h:35213** 35Q55 (58F39)

Calov, R. (*with* Hutter, Kolumban) Large scale motion and temperature distributions in land-based ice shields; the Greenland ice sheet in response to various climatic scenarios. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 5, 919–962. (Summary) **98j:86010** 86A40

Caloz, Gabriel (*with* Rappaz, Jacques) Numerical analysis for nonlinear and bifurcation problems. *Handbook of numerical analysis, Vol. V*, 487–637, *Handb. Numer. Anal., V, North-Holland, Amsterdam*, 1997. (*see* **98i:65001**) 65H17

— Stability of the approximation of a regular solution branch. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 2, 285–303. (Atsushi Yagi) **98d:65077** 65J15 (34A45, 34L30, 47H17)

Calsina Ballesta, Àngel (*with* Solà-Morales, Joan; València, Marta) Bounded solutions of some nonlinear elliptic equations in cylindrical domains. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 343–372. (Norman Dancer) **98k:35037** 35J20 (34G20, 35B99, 47H20)

Calude, Cristian (*with* Zimand, Marius) Effective category and measure in abstract complexity theory (extended abstract). (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 156–170, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q15

— (*with* Hromkovič, Juraj) Complexity: a language-theoretic point of view. *Handbook of formal languages, Vol. 2*, 1–60, *Springer, Berlin*, 1997. (Robert M. Baer) **98k:68072** 68Q15 (03D05, 03D15, 68Q45)

— (*with* Calude, Elena; Svozil, Karl; Yu, Sheng) Physical versus computational complementarity. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1495–1523. (Sylvia Pulmannová) **98i:81029** 81P99 (68Q68, 81P15)

— (*with* Casti, John L.; Gibbons, Phillip B.; Lipponen, Marjo) Unconventional models of computation: a conventional report. *Complexity* **3** (1998), *no.* 4, 8–11. 68Q05

— *see also* **Chaitin, Gregory J., 98m:68056**

Calude, Elena (*with* Geidmanis, Dainis; Kaŋeps, Jānis; Apsītis, Kalvis; Taimiņa, Daina) Tally languages accepted by alternating multitape finite automata. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 422–430, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q68 (68Q45)

— (*with* Calude, Cristian; Svozil, Karl; Yu, Sheng) Physical versus computational complementarity. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1495–1523. (Sylvia Pulmannová) **98i:81029** 81P99 (68Q68, 81P15)

Călugăreanu, Grigore Note on a module-theoretic exercise. (English summary) *Mathematica* **37(60)** (1995), *no.* 1-2, 55–57. 05C05

— Cocompact lattices. (English summary) *Math. Pannon.* **7** (1996), *no.* 2, 185–190. (Ronald P. Morash) **98d:06012** 06C05

— (*with* Hamburg, Peter) ★ Exercises in basic ring theory. (English summary) Kluwer Texts in the Mathematical Sciences, 20. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xiv+198 pp. ISBN* 0-7923-4918-0 (From the preface) **98m:13001** 13–01 (00A07)

Calvão, M. O. (*with* Bedran, M. L.; Paiva, F. M.; Soares, Ivano Damião) Taub's plane-symmetric vacuum spacetime reexamined. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3431–3439. (Nora Bretón Báez) **98e:83023** 83C20 (83C15)

Calvario Acócal, J. L. (*with* Torres del Castillo, G. F.) On dynamical symmetry groups. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 4, 649–660. (Summary) **98f:81094** 81R05

Calvaruso, G. Four-dimensional conformally flat Riemannian manifolds. (English summary) *Note Mat.* **15** (1995), *no.* 2, 153–159 (1997). (Tedi C. Draghici) **98m:53051** 53C21 (53C20)

— (*with* Tondeur, Philippe; Vanhecke, Lieven) Four-dimensional ball-homogeneous and C-spaces. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 325–336. (Jürgen Berndt) **98i:53064** 53C25 (53C30)

Calvert, Bruce D. Unicursal resistive networks. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 3, 307–324. (Michał Tadeusiewicz) **98f:94026** 94C05 (47N70)

— (*with* Solomon, Wiremu; Ziedins, Ilze) Braess's paradox in a queueing network with state-dependent routing. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 134–154. (Peter Gerrard Taylor) **98f:60182** 60K25 (90B15)

— The Downs-Thomson effect in a Markov process. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 327–340. (Summary) **98b:60157** 60K25

Calvert, J. E. (*with* Bobisud, L. E.) A priori bounds, forbidden values, and existence for nonlocal problems for steady-state Burgers' equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 323–338. (Peter E. Zhidkov) **98h:34037** 34B15

garcía-Calvés, Pere *see* **García-Calvés, Pere**

gonzález Calvet, Ramon *see* **González Calvet, Ramon**

Calvetti, D. (*with* Levenberg, N.; Reichel, L.) Iterative methods for $X - AXB = C$. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 73–101. (Zuhe Shen) **98m:65066** 65F30

— (*with* Reichel, L.) Factorizations of Cauchy matrices. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 103–123. (Summary) **98i:65018** 65F10 (15A23)

— *see also* **Special Issue: Gragg, William B.**

le Calvez, Patrice *see* **Le Calvez, Patrice**

Calvi, Jean-Paul A new look at a Fekete-Szegő theorem. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 111–118, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:41005** 41A10 (30E10)

— (*with* Bloom, Thomas) Kergin interpolants of holomorphic functions. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 569–583. (Ragnar Sigurdsson) **98h:32021** 32E30 (32A10)

— (*with* Bos, Len) Kergin interpolants at the roots of unity approximate C^2 functions. (English summary) *J. Anal. Math.* **72** (1997), 203–221. (Günther Nürnberger) **98j:41001** 41A05 (30E05, 41A10, 41A63)

— (*with* Bloom, Thomas) A continuity property of multivariate Lagrange interpolation. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1561–1577. (Len Bos) **98a:41001** 41A05 (41A63)

Calvillo Vives, Gilberto (*with* Gitler, Isidoro; Martínez-Bernal, José) Intercalate matrices. I. Recognition of dyadic type. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997),

no. 1, 57–67. (Sergey Yuzvinsky) **98d:11029** 11C20 (05B99)

Calvin, James M. Average performance of a class of adaptive algorithms for global optimization. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 711–730. (A. H. Žilinskas) **98h:90048** 90C15

— (*with* Glynn, Peter W.) Average case behavior of random search for the maximum. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 632–642. (Summary) **98c:60102** 60J65

Calvo, Emilio *see* **Calvo Ramón, Emilio**

Calvo, Jorge Alberto Knot enumeration through flypes and twisted splices. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 785–798. (Swatee Naik) **98k:57009** 57M25

Calvo, M. *see* **Calvo Pinilla, Manuel**

landaluce Calvo, M. Isabel *see* **Landaluce Calvo, M. Isabel**

Calvo, Mari Paz (*with* Iserles, Arieh; Zanna, Antonella) Runge-Kutta methods on manifolds. (English summary) *Numerical analysis*, 57–70, *World Sci. Publishing, River Edge, NJ*, 1996. (W. S. Loud) **98c:65117** 65L06 (34A45, 34C30)

— (*with* Iserles, Arieh; Zanna, Antonella) Runge-Kutta methods for orthogonal and isospectral flows. (English summary) Special issue celebrating the centenary of Runge-Kutta methods. *Appl. Numer. Math.* **22** (1996), *no.* 1-3, 153–163. (Masaharu Nakashima) **98b:65082** 65L06 (34A45)

— (*with* Iserles, Arieh; Zanna, Antonella) Numerical solution of isospectral flows. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1461–1486. (Benedict J. Leimkuhler) **98d:65083** 65L05 (34C30, 58F07)

Calvo, N. (*with* Durany, J.; Vázquez Cendón, C.) Comparison of numerical algorithms for one-dimensional hydrodynamical lubrication problems with cavitation. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 2, 185–209. (Summary) **98f:76048** 76M10 (76D08, 76M30)

luque-Calvo, P. *see* **Luque-Calvo, P.**

Calvo Pinilla, Manuel (*with* Higham, Desmond J.; Montijano, Juan I.; Rández, L.) Stepsize selection for tolerance proportionality in explicit Runge-Kutta codes. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 361–382. (Summary) **98b:65083** 65L06

Calvo Ramón, Emilio (*with* Santos, Juan Carlos) Potentials in cooperative TU-games. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 175–190. (Dan Butnariu) **98k:90150** 90D12

Calzada, Juan A. (*with* Del Olmo, Mariano A.; Rodríguez, Miguel Angel^2) Classical superintegrable $SO(p,q)$ Hamiltonian systems. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 14–30. (Janusz Grabowski) **98e:58092** 58F07 (22E70, 58F05, 70H05, 70H33)

Calzada Canalejo, M. C. (*with* Cruz Soto, J. L.; Marín Beltrán, M.; Fernández-Cara, Enrique) A convergence result for a parallel algorithm for solving the Navier-Stokes equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 71–88. (Summary) **98m:76119** 76M25 (65M12, 76D05)

Calzetta, Esteban Relativistic fluctuating hydrodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 653–667. (Gh. Procopiuc) **98m:83038** 83C55 (76Y05)

li Calzi, M. *see* **Li Calzi, M.**

Calzolari, A. (*with* Nappo, G.) A filtering problem with counting observations: error bounds due to the uncertainty on the infinitesimal parameters. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 1–19. (Summary) **98e:60063** 60G35 (60G55)

le Cam, Lucien M. *see* **Le Cam, Lucien M.**

Camacho, Abel (*with* Macías, Alfredo; Dehnen, H.) Fermions in the 8-dimensional Kaluza-Klein theory. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 342–348, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83109** 83E15 (81V17)

— (*with* Macías, Alfredo; Mielke, Eckehard W.; Matos, Tonatiuh) Effective Weinberg-Salam model from higher dimensions. (English summary) *Recent developments in gravitation and mathematical physics (Guanajuato, 1994)*, 277–286, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:81197** 81V15 (81V17, 83E15)

Camacho, J. *see* **Camacho, Javier**

Camacho, James, Jr. On characterization and properties of replete Wallman spaces. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 113–121. (Carmen D. Vlad) **98m:28006** 28A12 (28C15, 54D60)

— On topological properties of certain Wallman spaces. (English summary) *J. Math. Sci. (Calcutta)* **7** (1996), *no.* 1, 33–44. (George Bachman) **98c:28013** 28C15 (28A12, 54D35)

Camacho, Javier (*with* Ferrer, M. V.; Navarro, E.) Analytic-numerical solutions with a prefixed accuracy for partial differential systems with coupled separated boundary value conditions. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 2, 138–155. (Hideo Yamagata) **98m:65157** 65M15 (35C99)

Camacho Machín, M. (*with* González-Vera, P.) Padé-type approximation to Chebyshev series. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 465–478. (Olav Njåstad) **98g:41016** 41A21 (65D15)

— (*with* González-Vera, P.) Rational functions associated with double infinite sequences of complex numbers. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 37–51. (Valeri Kaliaguine) **98m:41029** 41A21 (30E05)

Camara, Vincent A. R. (*with* Tsokos, Chris P.) The effect of loss functions on Bayesian reliability analysis. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 75–90, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 62N05

Camarinopoulos, L. (*with* Zioutas, G.; Bora-Senta, E.) An optimisation technique for robust autoregressive estimates. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II (1995)*, 102–114, *Lecture Notes in Statist., 115, Springer, New York*, 1996. (*see* **98f:62003**) 62M10 (62F35)

Camassa, Roberto (*with* Holm, Darryl D.; Levermore, C. David) Long-time effects of bottom topography in shallow water. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 258–286. (Yuri N. Skiba) **98a:76005** 76B15 (58F40, 76U05, 86A05)

— (*with* Holm, Darryl D.; Levermore, C. David) Long-time shallow-water equations with a varying bottom. (English summary) *J. Fluid Mech.* **349** (1997), 173–189. (Yuri N. Skiba) **98m:76031** 76C05 (35Q35, 76M30, 86A05)

Cambini, A. (*with* Martein, L.; Cambini, Riccardo) A new approach to second order optimality conditions in vector optimization. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 219–227, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (I. M. Stancu-Minasian) **98k:90097** 90C29

Cambini, Riccardo Generalized affine scalar functions. (Italian. English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **18** (1995), *no.* 2, 153–163. (Francesco Ferro) **98a:26012** 26B25

— (*with* Cambini, A.; Martein, L.) A new approach to second order optimality conditions in vector optimization. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 219–227, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (I. M. Stancu-Minasian) **98k:90097** 90C29

— Composition theorems for generalized concave vector valued functions. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 133–150. (Introduction) **98m:90100** 90C25

Camboa, Claude (*with* Mansour, N. N.; Godeferd, F. S.) Energy transfer in rotating turbulence. (English summary) *J. Fluid Mech.* **337** (1997), 303–332. (Summary) **98c:76050** 76F99 (76U05)

— (*with* Salhi, Abdelaziz) An analysis of rotating shear flow using linear theory and DNS and LES results. (English summary) *J. Fluid Mech.* **347** (1997), 171–195. (Summary) **98h:76059** 76F10 (76U05)

— (*with* Leblanc, Stéphane) On the three-dimensional instabilities of plane flows subjected to Coriolis force. (English summary) *Phys. Fluids* **9** (1997), *no.* 5, 1307–1316. (Alexander Lifschitz) **98d:76071** 76E99 (76C05, 76U05)

— (*with* Salhi, Abdelaziz; Speziale, Charles G.) Linear stability analysis of plane quadratic flows in a rotating frame with applications to modeling. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2300–2309. (Summary) **98e:76048** 76F10 (76E10, 76U05)

— (*with* Leblanc, Stéphane) Effects of the Coriolis force on the stability of Stuart vortices. (English summary) *J. Fluid Mech.* **356** (1998), 353–379. (Alexander Lifschitz) **98m:76072** 76E20 (76C05, 76U05, 86A10)

amelino-Camelia, Giovanni *see* **Amelino-Camelia, Giovanni**

Cámera, G. A. (*with* Báez-Duarte, Luis) Horizontal growth of harmonic functions. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 195–202. (David A. Herron) **98j:31003** 31B05

Cameron, A. Colin (*with* Windmeijer, Frank A. G.) An R-squared measure of goodness of fit for some common nonlinear regression models. (English summary) *J. Econometrics* **77** (1997), *no.* 2, 329–342. (Kurt Hoffmann) **98e:62095** 62J02 (62P20)

Cameron, Murray A. (*with* Turner, T. Rolf; Thomson, Peter J.) Hidden Markov chains in generalized linear models. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 107–125. 62M05 (62J12)

Cameron, Peter J. Cofinitary permutation groups. *Proceedings of the First Jamaican Conference on Group Theory and its Applications (Kingston, 1996)*, 16–21, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20B07

— (*with* Kantor, William M.) Random permutations: some group-theoretic aspects [MR 95b:20006]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 139–144, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 20B35 (05E99)

— On the probability of connectedness. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 175–187. (Edward A. Bender) **98c:05010** 05A16 (05C30, 06A07)

— (*with* Calderbank, A. R.; Kantor, William M.; Seidel, Johan Jacob) Z_4-Kerdock codes, orthogonal spreads, and extremal Euclidean line-sets. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 436–480. (Jonathan I. Hall) **98i:94039** 94B27 (51E23)

Camilli, Fabio (*with* Falcone, Maurizio) Analysis and approximation of an impulse control problem on an infinite time interval. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 169–184; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1203–1215. (Summary) **98m:49052** 49N25 (93C57)

— Approximation of integro-differential equations associated with piecewise deterministic process. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 6, 423–444. (Jose Luis Menaldi) **98m:49047** 49L20 (49L05, 49M25)

— (*with* Siconolfi, Antonio) Discontinuous solutions of a Hamilton-Jacobi equation with infinite speed of propagation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1420–1445. (Summary) **98h:35035** 35F20 (35B05, 35C99, 35D10, 49L20)

Camillo, Victor Row reduced matrices and annihilator semigroups. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1767–1782. (P. R. Jones) **98h:20112** 20M20 (16S50)

— (*with* Barnett, C.) Stopping and projection of non-adapted processes. *Sowchow J. Math.* **23** (1997), *no.* 2, 187–212. (Carlo Cecchini) **98c:46136** 46L50

Camina, Rachel Subgroups of the Nottingham group. *J. Algebra* **196** (1997), *no.* 1, 101–113. (John S. Wilson) **98j:20031** 20E18 (20E05)

Caminal, Ramon Nominal rigidities and market structure: some macroeconomic implications. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 133–161. 90A60 (90A70)

Caminero, Emilio (*with* Díaz-Emparanza, Ignacio) Estimation and testing of cointegration relationships with strongly seasonal monthly data. (English summary) Econometrics and operational research. *Kybernetika (Prague)* **33** (1997), *no.* 6, 607–631. (*see* **98i:90006**) 62M10 (62P20)

azcárate Camio, Cristina *see* **Azcárate Camio, Cristina**

Camion, Paul (*with* Canteaut, Anne) Generalization of Siegenthaler inequality and Schnorr-Vaudenay multipermutations. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 372–386, *Lecture Notes in Comput. Sci., 1109, Springer, Berlin*, 1996. (Summary) **98g:94019** 94A55 (94A60)

— (*with* Augot, Daniel) On the computation of minimal polynomials, cyclic vectors, and Frobenius forms. (English summary) *Linear Algebra Appl.* **260** (1997), 61–94. (William H. Gustafson) **98d:15012** 15A21 (15A33, 65F30, 68Q25)

Cammarata, G. (*with* Coquereaux, R.) Comments about Higgs fields, noncommutative geometry, and the standard model. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 27–50, *Lecture Notes in Phys., 469, Springer, Berlin*, 1996. (Gennaro Miele) **98k:81312** 81V22 (58B30)

Cammaroto, F. *see* **Cammaroto, Filippo[1]**

Cammaroto, Filippo *see* **Cammaroto, Filippo[2]**

Cammaroto, Filippo[1] (*with* Noiri, Takashi) Characterizations of upper and lower δ-continuous multifunctions. (English and Italian summaries) *Atti Accad. Peloritana*

Pericolanti Cl. Sci. Fis. Mat. Natur. **72** (1994), 389–400 (1996). (Janina Ewert) **98a:54009** 54C08 (54C60)

— (*with* Gutiérrez García, J.; Nordo, G.; De Prada Vicente, María Angeles) Introduction to H-closed spaces. Principal contributions to weak forms of compactness. Open problems. (Spanish. English summary) *Math. Notae* **38** (1995/96), 47–77 (1997). 54D25 (54C10, 54D10)

— Cleavability and divisibility over developable spaces. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 791–796. (Ljubiša Kočinac) **98c:54001** 54A20 (54C10, 54D20, 54E30)

Cammaroto, Filippo[2] (*with* Cubiotti, Paolo) Implicit integral equations with discontinuous right-hand side. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 241–246. (S. N. Askhabov) **98e:45005** 45G10 (47H15, 47N20)

Campadelli, Paola (*with* Bertoni, Alberto; Cesa-Bianchi, Nicolò) Multilayer perceptrons and learning. (English summary) *Theoretical computer science (Ravello, 1995)*, 43–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Peter Auer) **98c:68180** 68T05 (68Q15)

— (*with* Bertoni, Alberto; Gangai, Cristina; Posenato, Roberto) Approximability of the ground state problem for certain Ising spin glasses. (English summary) *J. Complexity* **13** (1997), *no.* 3, 326–339. (Summary) **98i:82070** 82D30 (68Q25)

Campana, Frédéric (*with* Peternell, Thomas) Cycle spaces. (Russian) *Complex analysis. Several variables*, 7 (*Russian*), 409–448, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform. (VINITI), Moscow*, 1996. (*see* **98f:32001**) 32G10 (32F10)

— Semi-négativité des courbes compactes des revêtements non compacts des surfaces projectives complexes. (English and French summaries) [Seminegativity of compact curves in noncompact covers of complex projective surfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1339–1342. (Summary) **98h:14053** 14J99 (14H99)

— Connexité abélienne des variétés kählériennes compactes. (English and French summaries) [Abelian connectedness of compact Kähler manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 755–758. (Bernd Kreussler) **98m:32044** 32J27 (32C17)

Campanato, Sergio Current formulation of the theory of near operators and current definition of elliptic operator. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 291–298 (1997). (Gianni Arioli) **98k:35038** 35J25 (47H99, 47N20)

Campanelli, Manuela (*with* Lousto, Carlos O.) Regularization of the Teukolsky equation for rotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6363–6369. (Summary) **98h:83045** 83C57

Campbell, Alain (*with* Nazarov, Sergei A.) Une justification de la méthode de raccordement des développements asymptotiques appliquée à un problème de plaque en flexion. Estimation de la matrice d'impédance. (English and French summaries) [A justification of the method of matching asymptotic expansions applied to a bending plate problem. Estimation of the impedance matrix] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 1, 15–54. (Wolfgang L. Wendland) **98f:73025** 73K10 (35C20, 35Q72, 47N20, 73C99, 73K12, 73K20)

Campbell, Bryan (*with* Dufour, Jean-Marie) Exact nonparametric tests of orthogonality and random walk in the presence of a drift parameter. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 1, 151–173. (Jean Diebolt) **98f:62128** 62G10 (62P20)

Campbell, C. M. *see* **Campbell, Colin M.**

Campbell, Charles S. Self-diffusion in granular shear flows. (English summary) *J. Fluid Mech.* **348** (1997), 85–101. 76A99 (73E99)

Campbell, Colin M. (*with* Brookes, Melanie J.; Robertson, Edmund F.) Efficiency and direct products of groups. (English summary) *Groups—Korea '94 (Pusan)*, 25–33, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20F05

— (*with* Robertson, Edmund F.; Williams, P. D.) Efficient presentations of direct powers of imperfect groups. (English summary) *Algebra Colloq.* **4** (1997), *no.* 1, 21–27. (J. Wiegold) **98c:20058** 20F05

— (*with* Robertson, Edmund F.; Ruškuc, N.; Thomas, Richard M.) Presentations for subsemigroups—applications to ideals of semigroups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 47–64. (Siniša Crvenković) **98m:20071** 20M05 (20M12)

Campbell, Connie Maude On cages for girth pair $(6, b)$. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 259–266. (Summary) **98f:05082** 05C35 (05C38)

— (*with* DeLaVina, Ermelinda; Harary, Frank) The maximum induced circumference of a graph. *Panamer. Math. J.* **7** (1997), *no.* 2, 37–39. (David Burns) **98b:05061** 05C38 (05C35)

Campbell, David K. (*with* Berman, G. P.; Bulgakov, E. N.; Krive, Ilya V.) Quantum chaos in Aharonov-Bohm oscillations. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 290–297, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81031** 81Q50

Campbell, Donald E. (*with* Kelly, Jerry S.) Preference aggregation. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 573–593. (Reinhard Suck) **98k:90002** 90A08 (90A07, 92J45)

Campbell, Duncan K. G. On the CLUMPS model of parallel computation. *Inform. Process. Lett.* **66** (1998), *no.* 5, 231–236. 68M10 (68Q22)

Campbell, Garikai Finding elliptic curves defined over **Q** of high rank. (English summary) *African Americans in mathematics (Piscataway, NJ, 1996)*, 107–109, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:11057** 11G05

Campbell, Gerard M. (*with* Webb, Ian R.; Buzby, Bruce R.) Cyclical schedules for the joint replenishment problem with dynamic demands. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 577–589. 90B35

Campbell, H. E. A. (*with* Hughes, I. P.; Shank, R. J.; Wehlau, David L.) Bases for rings of coinvariants. (English summary) *Transform. Groups* **1** (1996), *no.* 4, 307–336. (Andrzej Tyc) **98a:13011** 13A50

— (*with* Geramita, Anthony V.; Hughes, I. P.; Smith, G. G.; Wehlau, David L.) Hilbert functions of graded algebras. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 60–74, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Koji Nishida) **98d:13002** 13A02 (13D40)

— (*with* Hughes, I. P.) Vector invariants of $U_2(\mathbf{F}_p)$: a proof of a conjecture of Richman. (English summary) *Adv. Math.* **126** (1997), *no.* 1, 1–20. (Andrzej Tyc) **98c:13007** 13A50

Campbell, James T. (*with* Latushkin, Yu. D.) Sharp estimates in Ruelle theorems for matrix transfer operators. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 379–396. (Viviane Baladi) **98j:58088** 58F19 (47B38, 58F11)

Campbell, John A. (*with* Calmet, Jacques) A perspective on symbolic mathematical computing and artificial intelligence. (English summary) *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 3-4, 261–277. (Summary) **98b:68087** 68Q40 (01A60, 68T01)

— *see also* **Artificial intelligence and symbolic mathematical computation, 98d:68010**

Campbell, K. M. (*with* Davies, M. E.) The existence of inertial functions in skew product systems. (English summary) *Nonlinearity* **9** (1996), *no.* 3, 801–817. (Summary) **98c:58091** 58F11 (28D05, 34C30, 34D08)

— Observational noise in skew product systems. (English summary) *Phys. D* **107** (1997), *no.* 1, 43–56. (Peter Ashwin) **98e:58112** 58F12 (58F11, 60H30)

Campbell, L. Andrew Global univalence of partially proper local homeomorphisms. (English summary) *Appl. Math. Lett.* **9** (1996), *no.* 1, 27–32. (Ludwik M. Drużkowski) **98h:57045a** 57N99 (26B10, 54C99)

— Partial properness and the Jacobian conjecture. (English summary) *Appl. Math. Lett.* **9** (1996), *no.* 2, 5–10. (Ludwik M. Drużkowski) **98h:14018** 14E09 (32H99)

— Errata to: "Global univalence of partially proper local homeomorphisms" and to: "Partial properness and the Jacobian conjecture" [Appl. Math. Lett. **9** (1996), no. 2, 5–10; MR 98h:14018]. *Appl. Math. Lett.* **9** (1996), *no.* 5, 117–118. (Ludwik M. Drużkowski) **98h:57045b** 57N99 (26B10)

— Remarks on the real Jacobian conjecture and Samuelson maps. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 1–3. (Summary) **98c:58010** 58C25 (14E09)

— Jacobian pairs and Hamiltonian flows. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 1, 15–26. (Ludwik M. Drużkowski) **98e:14008** 14E07

Campbell, Louis Lorne Block coding and Rényi's entropy. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 41–47. (Francesco Fabris) **98i:94010** 94A29 (94A17)

— *see also* **Biography: Campbell, Louis Lorne**

Campbell, Paul J. (*with* Chavey, Darrah P.) Tchuka Ruma solitaire. *UMAP J.* **16** (1995), *no.* 4, 343–365. (Daniel Elliott Loeb) **98a:90164** 90D42 (05A99)

Campbell, S. *see* **Campbell, Stephen L.**

Campbell, Shannon R. (*with* Wang, DeLiang) Relaxation oscillators with time delay coupling. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 151–178. (Summary) **98j:34059** 34C15 (34K15, 92B20)

Campbell, Stephen L. (*with* Moore, Edward L.; Zhong, Yangchun) Constraint preserving integrators for unstructured higher index DAEs. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 83–86. (*see* **98b:65005**) 65L08

— (*with* Marszalek, Wieslaw) ODE/DAE integrators and MOL problems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 251–254. (*see* **98b:65005**) 65L06

— (*with* Marszalek, Wieslaw) DAEs arising from traveling wave solutions of PDEs. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 41–58. (Vladimir A. Danilov) **98m:34004** 34A09 (35A25, 65M20, 76W05)

Campbell, Sue Ann Resonant codimension two bifurcation in a neutral functional-differential equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4577–4584. (Introduction) **98k:34110** 34K15 (34C23, 34K40)

Campello, R. J. G. B. (*with* Nazzetta, R. M.; Amaral, W. C.) A highly adaptive algorithm for fuzzy modelling of systems. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 35–50. 93A30 (93C42)

van Campen, D. H. (*with* Heertjes, M. F.; van de Molengraft, M. J. G.; Kok, Jan Jakob) Vibration reduction of a harmonically excited beam with one-sided spring using sliding computed torque control. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 361–375. 93D15 (93C20)

— (*with* Schoofs, A. J. G.; van Houten, M. H.; Etman, L. F. P.) Global and mid-range function approximation for engineering optimization. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 335–359. (*see* **98j:90004**) 90C90

— *see also* **Interaction between dynamics and control in advanced mechanical systems, 98b:70035**

Campi, M. C. (*with* Prandini, M.; Leonardi, Riccardo) Optimal delay estimation and performance evaluation in blind equalization. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 621–640. 93E10

— A unique representation theorem for the conditional expectation of stationary processes and application to dynamic estimation problems. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 372–380. (Summary) **98a:60039** 60G10 (62G05)

Câmpian, Maria (*with* Pop, Maria S.) n-semigroups of fractions. *Mathematica* **38(61)** (1996), *no.* 1-2, 163–167. 20N15 (20M99)

Campillo, Antonio (*with* Giménez, Philippe) Graphes arithmétiques et syzygies. (English and French summaries) [Arithmetic graphs and syzygies] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 313–316. (Juan C. Migliore) **98a:13021** 13D02 (14M05)

— (*with* Galindo Pastor, Carlos) On the graded algebra relative to a valuation. (English summary) *Manuscripta Math.* **92** (1997), *no.* 2, 173–189. (Adrian R. Wadsworth) **98a:13003** 13A02 (13A18, 13D02)

— (*with* Briales, E.; Marijuán López, Carlos; Pisón, P.) Minimal systems of generators for ideals of semigroups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 7–30. (E. F. Robertson) **98k:20105** 20M25 (20M05, 20M14)

Campion, Guy (*with* Mahony, Robert; Mareels, Iven M. Y.; Bastin, Georges) Output stabilization of square nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1571–1577. 93D15

Campiti, Michele (*with* Metafune, Giorgio) Solutions of abstract Cauchy problems approximated by Stancu-Schnabl-type operators. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 81–93. (Summary) **98k:41041** 41A36 (35A35, 35C99)

— (*with* Metafune, Giorgio) Evolution equations associated with recursively defined Bernstein-type operators. (English summary) *J. Approx. Theory* **87** (1996), *no.* 3, 270–290. (Summary) **98d:41031** 41A35

— (*with* Raşa, Ion) On a best extension property with respect to a linear operator. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 189–202. (Summary) **98d:47039** 47A58 (34K30, 41A35, 47B38, 47N20)

di Campli, Giovanna *see* **Di Campli, Giovanna**

Campo, Antonio (*with* Campo, Luisa) An algebraic solution for a 2-D partial differential energy equation with a Robin boundary condition generated from the simpler solution for a Dirichlet boundary condition. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 101–114. 76R05 (35Q35)

— (*with* Salazar, A.) On the convergence of a certain type of nonlinear lumped energy equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 433–443. (J. D. P. Donnelly) **98h:80001** 80A20 (65L99, 80–08)

rivera-Campo, Eduardo *see* **Rivera-Campo, Eduardo**

Campo, Luisa (*with* Campo, Antonio) An algebraic solution for a 2-D partial differential energy equation with a Robin boundary condition generated from the simpler solution for a Dirichlet boundary condition. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 101–114. 76R05 (35Q35)

del Campo, S. The Starobinsky model in a Jordan-Brans-Dicke theory. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 197–206, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83104** 83D05

rapoport Campodónico, Diego Lucio *see* **Rapoport Campodónico, Diego Lucio**

Campolattaro, Alfonso Classical electrodynamics and relativistic quantum mechanics. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 167–173. (Jorge Goncalves Cardoso) **98m:81209** 81V10 (78A35)

Camporesi, Roberto (*with* Higuchi, Atsushi) On the eigenfunctions of the Dirac operator on spheres and real hyperbolic spaces. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 1, 1–18. (J. Alfredo Jiménez) **98c:58169** 58G25 (58G11)

— (*with* Astengo, Francesca; Di Blasio, Bianca) The Helgason Fourier transform on a class of nonsymmetric harmonic spaces. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 405–424. (Ewa Damek) **98j:22008** 22E30 (22E25, 43A80, 43A90)

— The spherical transform for homogeneous vector bundles over Riemannian symmetric spaces. (English summary) *J. Lie Theory* **7** (1997), *no.* 1, 29–60. (J. Alfredo Jiménez) **98j:58114** 58G15 (43A85, 43A90)

— On the analytic continuation of the Minakshisundaram-Pleijel zeta function for compact symmetric spaces of rank one. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 524–549. (Friedbert Prüfer) **98k:58238** 58G26

Campos, B. (*with* Martínez Alfaro, J.; Vindel, P.) Bifurcations of links of periodic orbits in non-singular systems with two rotational symmetries on S^3. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 163–176. (Ana Nunes) **98d:58097** 58F09 (34C23, 34C25, 57M25, 58F14)

— (*with* Martínez Alfaro, J.; Vindel, P.) Bifurcations of links of periodic orbits in non-singular Morse-Smale systems on S^3. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1339–1355. (Robert Ghrist) **98i:58133** 58F09 (57M25, 58F14, 58F22)

Campos, I. (*with* Jiménez, J. L.; Del Valle, G.) A canonical treatment of nonautonomous systems of type $\dot{v} = f(t) + c$. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 5, 449–471. (Summary) **98e:70010** 70H20

Campos, Juan² (*with* Ortega, Rafael; Tineo, Antonio) Homeomorphisms of the disk with trivial dynamics and extinction of competitive systems. *J. Differential Equations* **138** (1997), *no.* 1, 157–170. (L. Guillou) **98j:92012** 92D25 (54H20, 58F20, 58F40)

— (*with* Alonso, José Miguel) The index and the asymptotic stability of fixed points in two dimensions: a counterexample. *Nonlinear Anal.* **32** (1998), *no.* 6, 719–725. (Christian Fenske) **98k:58027** 58C30 (34C25, 47H11)

de Campos Ibáñez, Luis Miguel (*with* Gebhardt, Jörg; Kruse, Rudolf) Axiomatic treatment of possibilistic independence. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 77–88, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98e:68232** 68T27 (03B48, 03B70, 68T30)

de Campos Velho, H. F. (*with* Claeyssen, J. C. R.) A nonmodal approach for time-integration of a barotropic limited area model. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 1–13. (Summary) **98a:86011** 86A10 (86–08)

Camussi, R. (*with* Guj, G.) Orthonormal wavelet decomposition of turbulent flows: intermittency and coherent structures. (English summary) *J. Fluid Mech.* **348** (1997), 177–199. 76F99 (76M25)

Can, Mehmet (*with* Park, Sang Ro; Aliev, Fakhraddin Abbasoglu) Nonexistence of global solutions of some quasilinear hyperbolic equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 540–553. (Hiroyuki Takamura) **98i:35123** 35L70 (35B40)

— (*with* Mohammad, A. A.) Painlevé analysis and infinite Lie symmetries of the complex modified Korteweg-de Vries-II equation. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 303–309. (Yun Bo Zeng) **98k:58116** 58F07 (35A30, 35Q53)

Cañada, A. (*with* Gámez, José L.; Montero, J. A.) An optimal control problem for a nonlinear elliptic equation arising from population dynamics. *Calculus of variations, applications and computations* (*Pont-à-Mousson*, 1994), 35–40, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (Srdjan Stojanovic) **98f:49007** 49J20 (35J60, 92D25)

— (*with* Roca, F.) Existence and multiplicity of solutions of some conservative pendulum-type equations with homogeneous Dirichlet conditions. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1113–1122. (Alessandro Fonda) **98m:34033** 34B15 (34C25, 47H15, 47N20)

Çanak, G. (*with* Çakalli, H.) (P_u, s)-absolute almost convergent sequences. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 525–532. (Amnon Jakimovski) **98h:40002** 40F05 (40C05, 40G99)

Canale, Massimo (*with* Malan, Stefano A.; Milanese, Mario) Model quality evaluation in identification for H_∞ control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 125–132. (Summary) **98k:93025** 93B30 (93B36)

calzada Canalejo, M. C. *see* **Calzada Canalejo, M. C.**

Canals-Frau, Damian On some current misinterpretations in present physics. (English and French summaries) *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 4, 389–407. (Décio Krause) **98i:81008** 81P05 (00A30, 00A79)

— Comments on Gibbin's *Particles and paradoxes: the limits of quantum logic*. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 4, 568–572. 81P10

Canann, Scott A. (*with* Liu, Yong-Cheng; Mobley, Anton V.) Automatic 3D surface meshing to address today's industrial needs. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 185–198. (*see* **98a:65003**) 65N55 (65D17)

Canary, Richard D. (*with* Minsky, Yair N.) On limits of tame hyperbolic 3-manifolds. (English summary) *J. Differential Geom.* **43** (1996), *no.* 1, 1–41. (Ken-ichi Ohshika) **98f:57021** 57M50 (30F40, 57N10)

— (*with* Anderson, James W.; Culler, Marc; Shalen, Peter B.) Free Kleinian groups and volumes of hyperbolic 3-manifolds. *J. Differential Geom.* **43** (1996), *no.* 4, 738–782. (Frédéric Paulin) **98e:57012** 57M50 (20H10, 30F40, 57N10, 57S30)

Cañas, José (*with* París, Federico) ★ Boundary element method. (English summary) Fundamentals and applications. With 1 Macintosh floppy disk (3.5 inch; HD). Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1997. xvi+392 *pp. ISBN* 0-19-856537-2 (Carsten Carstensen) **98d:65002** 65–01 (65N38, 73V10)

Canas da Silva, A. (*with* Guillemin, Victor) On the Kostant multiplicity formula for group actions with non-isolated fixed points. *Adv. Math.* **123** (1996), *no.* 1, 1–15. (Eugene Lerman) **98a:58151** 58G10 (22E60, 58F05)

Cancelier, Claudy (*with* Franchi, Bruno) Subelliptic estimates for a class of degenerate elliptic integro-differential operators. (English summary) *Math. Nachr.* **183** (1997), 19–41. (Luca Capogna) **98d:35086** 35J70 (35B45, 35H05, 45K05)

Cancrini, N. (*with* Bertini, L.) Reduction formula for moments of stochastic integrals. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4763–4770. (Summary) **98d:60100** 60H05

Candan, M. (*with* Erar, A.) Robust estimators in linear regression analysis. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 267–283. 62J05 (62F35)

Candeal, Juan Carlos (*with* De Miguel, Juan Ramón; Induráin Eraso, Esteban) Topological additively representable semigroups. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 375–389. (Jimmie D. Lawson) **98k:22011** 22A15 (06F05)

— (*with* Chichilnisky, Graciela; Induráin Eraso, Esteban) Topological aggregation of preferences: the case of a continuum of agents. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 333–343. (Edward W. Packel) **98e:90014** 90A08

— (*with* Induráin Eraso, Esteban; Uriarte, José Ramón) Addendum to: "Some issues related to the topological aggregation of preferences" [Soc. Choice Welf. **9** (1992), no. 3, 213–227; MR 93i:90013]. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 359–361. (*see* **98c:90006**) 90A07 (90A06)

Candel, J. *see* **Candel Ato, José**

Candel, Math J. J. M. A probabilistic feature model for unfolding tested for perfect and imperfect nestings. (English summary) *J. Math. Psych.* **41** (1997), *no.* 4, 414–430. 90A06

— Exploring the set-theoretical structure of objects by additive trees. (English summary) *Psychometrika* **62** (1997), *no.* 1, 119–131. (Joachim Krauth) **98d:92021** 92J45 (62P15)

Candela, Anna Maria Lightlike periodic trajectories in space-times. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 131–158. (Maria Letizia Bertotti) **98c:58026** 58E10 (53C22, 53C50)

— (*with* Salvatore, Addolorata) Light rays joining two submanifolds in space-times. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 281–297. (Maria Letizia Bertotti) **98e:58046** 58E10 (53C50)

— Periodic trajectories in Lorentzian manifolds. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 579–587. (Maria Letizia Bertotti) **98i:58062** 58E10 (53C22, 53C50)

Candelas, Philip (*with* Perevalov, Eugene; Rajesh, Govindan) Comments on A, B, C chains of heterotic and type II vacua. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 594–612. (Bruce Hunt) **98k:81200** 81T30 (14J32, 14M25, 32J81)

— (*with* Perevalov, Eugene; Rajesh, Govindan) F-theory duals of non-perturbative heterotic $E_8 \times E_8$ vacua in six dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 613–628. (Gerardo Marcelo Aldazabal) **98j:81259** 81T30 (14J32, 14M25, 32J81, 83E30)

— (*with* Font, Anamaria) Duality between the webs of heterotic and type II vacua. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 295–325. (Bruce Hunt) **98m:81134** 81T30 (14J32, 14M25, 32G81)

Candel Ato, José (*with* Belzunce, Felix; Ruiz Gómez, José María) The ageing curve and partial orderings of life distributions. (English summary) *Statist. Papers* **37** (1996), *no.* 2, 141–152. (S. N. Alam) **98f:62287** 62N05 (62G05)

Candeloro, D. Riemann-Stieltjes integration in Riesz spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 563–585. (Beloslav Riečan) **98g:28012** 28B15 (46G10)

Candilera, Maurizio (*with* Cristante, Valentino) Geometric aspects of the complex Heisenberg group. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 3, 595–623. (Gerald B. Folland) **98b:22025** 22E45 (14K25, 22E25, 22E30)

Canepa, Margherita (*with* Martellini, Maurizio) Quantum autonomous agents: a Planck-like model to bound the explosion of the species. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 281–283. (Summary) **98i:92050** 92E20 (82B03)

Caner, Mehmet Weak convergence to a matrix stochastic integral with stable processes. (English summary) *Econometric Theory* **13** (1997), *no.* 4, 506–528. (Baldev Raj) **98m:62235** 62M10 (62P20)

Canfield, E. Rodney (*with* Bender, Edward A.) The fraction of subspaces of $\mathrm{GF}(q)^n$ with a specified number of minimal weight vectors is asymptotically Poisson. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 3, *approx.* 8 *pp.* (*electronic*). (L. Bruce Richmond) **98a:11181** 11T99 (05A16, 11K99)

— From recursions to asymptotics: on Szekeres' formula for the number of partitions. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 6, *approx.* 16 *pp.* (*electronic*). (Christian Krattenthaler) **98e:11120** 11P82 (05A16, 05A17)

— (*with* Bender, Edward A.; McKay, Brendan D.) The asymptotic number of labeled graphs with n vertices, q edges, and no isolated vertices. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 124–150. (E. M. Palmer) **98i:05098** 05C30

— (*with* Zhang, Guo-Qiang) The end of pumping? *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 275–279. (From the introduction) **98d:68127** 68Q45 (03D05, 68Q68)

Canfora, Albino An extension of the continuity method. (Italian) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 315–333 (1997). (Andrea Colesanti) **98j:47022** 47A53 (35J25, 47A55, 47N20)

— On a class of elliptic equations with non-VMO coefficients. (Italian. English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 85–129. (Maurizio Chicco) **98h:35046** 35J25 (35R05)

Cangellaris, Andreas C. (*with* Lee, Jin-Fa; Lee, Robert) Time-domain finite-element methods. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 3, 430–442. (Summary) **98a:78002** 78–08 (65M60, 78A40)

— (*with* Petropoulos, Peter G.; Zhao, Li) A reflectionless sponge layer absorbing boundary condition for the solution of Maxwell's equations with high-order staggered finite difference schemes. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 1, 184–208. (Summary) **98k:78003** 78–08

Cangelmi, L. Resolvents and Galois groups. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 207–222. (Fernando Barrera-Mora) **98h:12003** 12F10

Cangelosi, James S. (*with* Powell, James A.; Harris, Ann Marie) Games to teach mathematical modelling. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 87–95 (*electronic*). 00A71

Cangemi, Daniel Self-duality and maximally helicity violating QCD amplitudes. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1215–1225. (Summary) **98h:81123** 81V05 (81T13, 81T18)

— (*with* Billó, Marco; Di Vecchia, Paolo) Boundary states for moving D-branes. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 63–70. (Summary) **98d:81077** 81T30

— *see also* **Proceedings: Workshop on Low-dimensional Field Theory, 98f:81010**

Cangemi, Maria Rosa (*with* Seydi, Hamet; Restuccia, Gaetana; Bonanzinga, Vittoria; Utano, Rosanna) Sur la théorie des anneaux excellents en caractéristique p. III. Algèbres kählériennes. (French summary) [On the theory of excellent rings of characteristic p. III. Kähler algebras] *Afrika Mat.* (3) **6** (1996), 69–100. (Gerhard Pfister) **98a:13016** 13B22 (13A35)

Cangül, İsmail Naci Normal subgroups of the Hecke group $H(\sqrt{2})$. *Comm. Fac. Sci. Univ. Ankara Ser. A$_1$ Math. Statist.* **43** (1994), *no.* 1-2, 129–135 (1996). (Leonid Vulakh) **98b:20076** 20H05 (20H10)

— About some normal subgroups of Hecke groups. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 143–151. (John R. Parker) **98j:20070** 20H05 (11F06, 20H10)

— (*with* Singerman, David) Normal subgroups of Hecke groups and regular maps. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 59–74. (Leonid Vulakh) **98j:20071** 20H05 (20H10)

Čanić, Sunčica (*with* Keyfitz, Barbara Lee; Wagner, David H.) A bifurcation diagram for oblique shock interactions in the unsteady transonic small disturbance equation. (English summary) *Hyperbolic problems: theory, numerics, applications (Stony Brook, NY, 1994)*, 178–187, *World Sci. Publishing, River Edge, NJ*, 1996. (Philippe G. LeFloch) **98e:76059** 76L05 (35L67, 35Q35, 76H05)

— (*with* Karni, Smadar) Computations of slowly moving shocks. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 132–139. (Summary) **98c:76058** 76L05 (76M25)

Canille Martins, Julio Cesar (*with* Todesco, Ezio) Perturbative computation of analytic invariants of resonant diffeomorphisms of $(\mathbf{C}, 0)$. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 1, 155–172. (J. S. Joel) **98c:58136** 58F23 (30D05, 58F30)

Canino, Annamaria On a variational approach to some quasilinear problems. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 297–324. (Giovanna Citti) **98g:35074** 35J65 (35J20, 65K10)

— On a jumping problem for quasilinear elliptic equations. *Math. Z.* **226** (1997), *no.* 2, 193–210. (Alexander A. Pankov) **98j:35058** 35J65 (58E05)

Cannarsa, Piermarco (*with* Tessitore, Maria Elisabetta) Dynamic programming equation for a class of nonlinear boundary control problems of parabolic type. (English summary) Distributed parameter systems: modelling and control (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 3, 483–495. (Summary) **98c:49060** 49L20 (35R15, 49K27)

— (*with* Sinestrari, Carlo) An infinite-dimensional time optimal control problem. (English summary) *Optimization methods in partial differential equations (South Hadley, MA, 1996)*, 29–41, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Grigory M. Sklyar) **98k:49039** 49L20 (49K20, 49L25, 93C20)

— (*with* Giannini, Massimo; Tessitore, Maria Elisabetta) Dynamic optimization and foward looking processes. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 49–66. (Laura Gardini) **98k:90161** 90D25 (49K45, 93E20)

Cannas, Sergio A. (*with* de Magalhães, Aglaé C. N.) The one-dimensional Potts model with long-range interactions: a renormalization group approach. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3345–3361. 82B20 (82B28)

Cannata, F. (*with* Andrianov, A. A.; Ioffe, M. V.; Nishnianidze, D. N.) Matrix Hamiltonians: SUSY approach to hidden symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5037–5050. (Avinash Khare) **98k:81067** 81Q60

van Canneyt, M. *see* **Van Canneyt, M.**

Cannon, J. W. (*with* Floyd, William J.; Parry, Walter) Introductory notes on Richard Thompson's groups. *Enseign. Math.* (2) **42** (1996), *no.* 3-4, 215–256. (Michael L. Mihalik) **98g:20058** 20F32 (57M07)

— (*with* Swenson, E. L.) Recognizing constant curvature discrete groups in dimension 3. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 809–849. (Michel Coornaert) **98i:57023** 57M50 (20F32, 30F40, 57N10)

Cannon, John J. (*with* Bosma, Wieb; Playoust, Catherine) The Magma algebra system. I. The user language. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 235–265. (*see* **98f:68006**) 68Q40

— (*with* Holt, Derek F.) Computing chief series, composition series and socles in large permutation groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 285–301. (Eamonn A. O'Brien) **98m:20009** 20B40 (68Q40)

— (*with* Cox, Bruce C.; Holt, Derek F.) Computing Sylow subgroups in permutation groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 303–316. (Eamonn A. O'Brien) **98m:20010** 20B40 (20D20, 68Q40)

— *see also* **Computational algebra and number theory, 98f:68006**

Cannon, John R. (*with* DuChateau, Paul C.) An inverse problem for nonlinear source terms. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 101–116. (Summary) **98c:35165** 35R30 (35K60)

— (*with* Allegretto, W.; Lin, Yan Ping) A parabolic integro-differential equation arising from thermoelastic contact. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 217–234. (Song Jiang) **98a:35070** 35K60 (35B30, 45K05, 73B30, 73T05)

— (*with* Matheson, Alec L.) A free boundary value problem related to the combustion of a solid: flux boundary conditions. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 687–705. (Gawtum Namah) **98k:35210** 35R35 (35K57, 80A25)

Canny, J. F. (*with* Emiris, Ioannis Z.; Seidel, Raimund) Efficient perturbations for handling geometric degeneracies. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 219–242. (Summary) **98c:68205** 68U05 (65Y25)

Cano, B. (*with* Sanz-Serna, J. M.) Error growth in the numerical integration of periodic orbits, with application to Hamiltonian and reversible systems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1391–1417. (George W. Reddien) **98i:65052** 65L05 (34C25, 65L70, 70–08, 70H05)

Cano, J. Antonio *see* **Cano Sánchez, J. A.**

Canoğlu, Ahmet (*with* Allakhverdiev, B. P.) Spectral analysis of dissipative Schrödinger operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1113–1121. (Vladimir Ryzhov) **98m:47074** 47E05 (34L40, 47A40, 47A45)

Canon, Éric (*with* Pernin, Jean-Noel) Homogénéisation d'un problème de diffusion en milieu composite avec barrière à l'interface. (English and French summaries) [Homogenization of diffusion in a composite medium with interfacial barrier] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 123–126. (Summary) **98c:35015** 35B27 (73B27)

— (*with* Lenczner, M.) Models of elastic plates with piezoelectric inclusions. I. Models without homogenization. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 79–106. (Tomasz Lewiński) **98i:73031** 73K10 (73B27, 73K20, 73R05)

Canonero, Gabriella (*with* Serpico, Maria Ezia) A. B. Basset's inequality for the hypersurfaces of a hyperspace. (Italian. English and Italian summaries) *Atti Accad. Ligure Sci. Lett.* (5) **52** (1995), 165–170 (1996). (Ovidiu Păsărescu) **98h:14040** 14J17 (14J70)

— (*with* Catalisano, M. V.; Serpico, Maria Ezia) Inflection points of cubic hypersurfaces. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 161–185. (A. R. Shastri) **98e:14042** 14J70 (14Q10)

Cano Sánchez, J. A. (*with* Moreno, Elías; Martínez, Carmen) Local robustness and influence for contamination classes of prior distributions. (English summary) With a discussion by Larry Wasserman and a rejoinder by the authors. *Bayesian robustness (Rimini, 1995)*, 137–154, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62070** 62F15 (62F35)

Cano Sevilla, Francisco J. (*with* Munduate Del Río, Arantza; Pérez Prados, Antonio) New complexity criterion using an efficiency measure. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 349–362. 62H30

— (*with* Munduate Del Río, Arantza; Pérez Prados, Antonio) Linearity criterion for the selection of an optimal tree. (English summary) *Top* **5** (1997), *no.* 1, 127–142. 62H30

Canot, E. (*with* Machane, R.) High-order schemes in boundary element methods for transient non-linear free surface problems. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 10, 1049–1072. (Summary) **98b:76046** 76M15 (76B10, 76B15)

Canova, A. L. F. (*with* Cordeiro, R. R.; Vieira Martins, R.) Algebraic computation of eigenvectors, signatures, and stability of infinitesimally symplectic matrices. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 3, 215–224. (Summary) **98j:70017** 70H05 (70–08)

Cánovas, L. (*with* Pelegrín Pelegrín, Blas) An improvement and an extension of the Elzinga & Hearn's algorithm to the 1-center problem in $\mathbf{R}^n$ with l_{2k}-norms. (English summary) *Top* **4** (1996), *no.* 2, 269–284. 90C90 (90C25)

— (*with* Pelegrín Pelegrín, Blas) The minimum covering l_{pk}-hypersphere problem. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 1, 85–97. (Summary) **98m:90107** 90C25 (65Y25)

Cantarini, Nicoletta Representations of $\mathrm{sl}_q(3)$ at the roots of unity. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 4, 201–212. (Zhong Qi Ma) **98e:17017** 17B37 (17B10)

Cantat, Serge (*with* Bartholdi, Laurent; Ceccherini-Silberstein, Tullio G.; de la Harpe, Pierre) Estimates for simple random walks on fundamental groups of surfaces. (English summary) *Colloq. Math.* **72** (1997), *no.* 1, 173–193. (Alain Valette) **98d:60133a** 60J15 (20F05, 31A05, 60B15)

Canteaut, Anne (*with* Camion, Paul) Generalization of Siegenthaler inequality and Schnorr-Vaudenay multipermutations. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 372–386, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98g:94019** 94A55 (94A60)

— (*with* Chabaud, Florent) A new algorithm for finding minimum-weight words in a linear code: application to McEliece's cryptosystem and to narrow-sense BCH codes of length 511. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 367–378. (Summary) **98m:94043** 94B05

Cantó, Rafael (*with* Coll, Carmen; Sánchez, Elena) A stability problem for discrete-time linear periodic systems. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 69–73. 93D05 (93C55)

— (*with* Borobia, Alberto) Matrix scaling: a geometric proof of Sinkhorn's theorem. (English summary) *Linear Algebra Appl.* **268** (1998), 1–8. (D. J. Hartfiel) **98k:15030** 15A51 (15A48)

Cantone, Domenico A fast saturation strategy for set-theoretic tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 122–137, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B25 (68T15)

Cantoni, Antonio (*with* Zang, Zhu Quan; Teo, Kok Lay) Applications of $\mathscr{H}_\infty$ optimization method to envelope-constrained IIR filter design. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4267–4276. (*see* **98i:00032**) 93E11 (94A12)

Cantoni, M. W. (*with* Glover, Keith) H_∞ sampled-data synthesis and related numerical issues. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2233–2241. 93B36 (93C57)

Cantoni, Vittorio Relation between the Kähler equation and the Dirac equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 2, 385–393. (Summary) **98a:81064**

81R20 (81R05)

Cantor, Georg *see* **Bölling, Reinhard, 98b:01027; Rodríguez Salinas, Baltasar, 98f:01032; Séguin, Philippe, 98h:00021; Rigamonti, Gianni, 98j:00009** *and* **Hill, Claire Ortiz, 98m:01015**

Cantrell, Robert Stephen (*with* Ward, James Robert, Jr.) On competition-mediated coexistence. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1311–1327. (Summary) **98i:92041** 92D40 (35Q80, 58F40, 92D25)

Cantrijn, F. (*with* Sarlet, W.; Saunders, D. J.) A differential geometric setting for mixed first- and second-order ordinary differential equations. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4031–4052. (Manuel de León) **98h:58066** 58F05 (34A26, 70F25)

Cantwell, B. J. (*with* Chong, M. S.; Soria, Julio; Perry, A. E.; Chacin, J.; Na, Y.) Turbulence structures of wall-bounded shear flows found using DNS data. (English summary) *J. Fluid Mech.* **357** (1998), 225–247. (Summary) **98m:76094** 76F99

Canudas de Wit, C. (*with* Necsulescu, D. S.; de Carufel, J.) Investigation on the efficiency of acceleration feedback in servomechanism with friction. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 377–397. 93B52 (93C41)

Canuto, Claudio Multilevel decompositions and applications. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 383–417. 42C15

— (*with* Cravero, I.) A wavelet-based adaptive finite element method for advection-diffusion equations. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 265–289. (Tsorng-Whay Pan) **98d:65123** 65M60 (76M10)

Canuto, V. M. (*with* Dubovikov, M. S.) A new theory for fully developed turbulence. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 91–96, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 76F99

— (*with* Dubovikov, M. S.; Dienstfrey, A.) A dynamical model for turbulence. IV. Buoyancy-driven flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2118–2131. (Summary) **98d:76084** 76F99 (76R10)

— (*with* Dubovikov, M. S.) A dynamical model for turbulence. V. The effect of rotation. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2132–2140. (Summary) **98d:76085** 76F99 (76U05)

— (*with* Dubovikov, M. S.; Wielaard, D. J.) A dynamical model for turbulence. VI. Two-dimensional turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2141–2147. (Summary) **98d:76086** 76F99

— (*with* Christensen-Dalsgaard, J.) Turbulence in astrophysics: stars. (English summary) *Annual review of fluid mechanics, Vol.* 30, 167–198, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 85A15 (76F99, 76U05)

Cao, Bing Yuan Variational problems for conditional extrema of interval-valued and fuzzy-valued functionals. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 337–340. 49J99

— Research for a geometric programming model with T-fuzzy variations. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 625–632. 90C28 (04A72, 90C70)

Cao, C. *see* **Cao, Chun**

Cao, C. W. (*with* Wu, Yong Tang; Mitsui, Taketomo) Special solutions of soliton equations through the Runge-Kutta method. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 265–268, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65M70

— Classical integrable systems. *Soliton theory and its applications*, 152–191, 395, *Springer, Berlin*, 1995. (*see* **98j:58064**) 58F07 (70H05)

Cao, Chou Hua *see* **Cao, Zhuo Hua**

Cao, Chun The chordal norm of discrete Möbius groups in several dimensions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **21** (1996), *no.* 2, 271–287. (S. B. Agard) **98c:30051** 30F40 (30C65)

— (*with* Waterman, P. L.) Conjugacy invariants of Möbius groups. *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 109–139, *Springer, New York*, 1998. (Bruno Zimmermann) **98k:30058** 30F40 (57S30)

Cao, Cong (*with* Huang, Tian Lin) The classification of EC-semigroups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 1, 26–30. (Summary) **98d:20068** 20M10

— (*with* Yang, Haixuan; Yang, Bing Shen) Indentity elements of periodic semigroup rings. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 2, 11–13. 20M25

Cao, Daomin (*with* Li, Gongbao; Zhou, Huansong) The existence of two solutions to quasilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 3, 277–285. (Tsvetomir Tsachev) **98a:35026** 35J60 (35B32)

Cao, Dasong (*with* Chvátal, V.; Hoffman, Alan J.; Vince, Andrew) Variations on a theorem of Ryser. (English summary) *Linear Algebra Appl.* **260** (1997), 215–222. (Summary) **98c:15053** 15A36 (05B05)

— Bounds on eigenvalues and chromatic numbers. (English summary) *Linear Algebra Appl.* **270** (1998), 1–13. (Yuan Hong) **98j:05097** 05C50 (05C15, 15A18)

Cao, Dengqing Stability robustness measures of linear state-space models with structured perturbations. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 32–38. 93D09

Cao, Dexin (*with* Huang, Zhen Yu) An interval algorithm for a discrete minimax problem. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 74–82. (Summary) **98j:90069** 90C30 (49J35)

Cao, Guang Fu (*with* Sun, Shun Hua) Localization methods for Toeplitz operators on $H^2(S)$. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 583–588. (Li Zhong Peng) **98b:47037** 47B35 (47A53)

— Complete irreducibility and cyclic vectors of analytic Toeplitz algebras. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 335–342. (D. Sarason) **98i:47021** 47B35 (47A15, 47D25)

— (*with* Sun, Shun Hua) On composition operators on H^p-spaces in several variables. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 281–288. (John N. McDonald) **98h:47043** 47B38 (47A35, 47B35)

— (*with* Zhong, Changyong) Collectively compact Hankel operator sequences on Hardy spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 491–498. (Krzysztof Nowak) **98i:47022** 47B35

— (*with* Sun, Shun Hua) Toeplitz and composition operators on $H^2(B_n)$. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 578–584. (Miroslav Engliš) **98d:47063** 47B38 (47A13, 47B35)

Cao, Guo Xiang (*with* Li, Lige; Liu, Yaping) The relationships between equilibria and positive solutions of certain nonlinear elliptic systems. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 154–179. (Alexandra Kurepa) **98f:35040** 35J45 (35B05, 35J60, 35Q80)

Cao, Han Qiang (*with* Zhu, Guang Xi; Zhu, Yao Ting) A fast method for generating iterated function systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 9, 60–62. 68U10 (68Q99)

Cao, Huai-Dong Existence of gradient Kähler-Ricci solitons. (English summary) *Elliptic and parabolic methods in geometry (Minneapolis, MN, 1994)*, 1–16, *A K Peters, Wellesley, MA*, 1996. (Emmanuel Hebey) **98a:53058** 53C21 (53C55)

Cao, Huizhong A sum related to a class of additive arithmetical functions. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 447–454. (Y.-F. S. Pétermann) **98h:11114** 11N37

Cao, Jia-Ding A generalization of the Bernstein polynomials. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 140–146. (Heinz H. Gonska) **98a:41006** 41A10 (41A36)

Cao, Jian Wen (*with* Sun, Jia Chang) A class of local Green-like parallel preconditioner algorithms for discrete elliptic equations. II. Non-self-conjugate equations. (Chinese. English summary) *Math. Numer. Sin.* **18** (1996), *no.* 2, 189–198; *translation in Chinese J. Numer. Math. Appl.* **18** (1996), *no.* 3, 35–45. (Summary) **98g:65043** 65F35

— (*with* Sun, Jia Chang; Deng, Jian Xin; Wang, Ding Sheng; Zhang, Wen Qing; Li, Jun[5]) Parallel algorithm for generalized matrix eigen-problem and its application in calculation of crystal electronic structure. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1086–1089. 82–08 (82D25)

— (*with* Sun, Jia Chang; Deng, Jian Xin) A parallel block elimination algorithm for solving eigenvalue problems for higher-order Hermitian matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 125–134. 65F15

— (*with* Sun, Jia Xu; Deng, Jian Xin; Zhang, Wen Qing; Li, Jun[5]; Wang, Ding Sheng) Parallel computation of generalized eigenvalues and its application to energy bands of crystals. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 8, 819–822. 65F15 (65Y05)

Cao, Jianfu (*with* Han, Chong Zhao) Stability of nonlinear closed-loop control system based on generalized frequency response functions. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 794–802. 93D15 (93D05)

Cao, Jiang Ling (*with* Peng, Fang Zhi) Radiation of an Einstein-Maxwell dilaton black plane. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 376–380. 81T20 (83C22)

— (*with* Peng, Fang Zhi) Dirac particle radiation from an Einstein-Maxwell-dilaton black plane. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 2, 177–182. 83C47 (81T20)

Cao, Jianguo An isoperimetric comparison theorem for PL-manifolds of non-positive curvature. (English summary) *Proceedings of the Third Summer School on Differential Geometry, Partial Differential Equations and Numerical Analysis (Spanish) (Bogota, 1995)*, 1–7, *Colec. Mem., 7, Acad. Colombiana Cienc. Exact. Fis. Natur., Bogotá*, 1996. (J. E. Brothers) **98a:53061** 53C23 (49Q10)

Cao, Jiling (*with* Reilly, Ivan L.) On pairwise almost continuous multifunctions and closed graphs. (English summary) *Indian J. Math.* **38** (1996), *no.* 1, 1–17 (1997). 54E55 (54C60)

— (*with* Dontchev, Julian) On some weaker forms of continuity for multifunctions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 842–852. (Summary) **98h:54017** 54C08 (26A15, 54C60)

— (*with* Reilly, Ivan L.; Vamanamurthy, Mavina K.) Comparison of convergences for multifunctions. (English summary) *Demonstratio Math.* **30** (1997), *no.* 1, 171–182. (Vesko Valov) **98f:54020** 54C60 (54A20)

— (*with* Jiang, Shouli; Reilly, Ivan L.) Covering properties of some generalized metric spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 103–107. (Summary) **98m:54031** 54E35 (54D20)

Cao, Jin De (*with* Dai, Zheng De) Periodic solutions to a class of neutral second-order equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 102–106. (Summary) **98c:34108** 34K15 (34K40)

— (*with* Li, Yong Kun) The existence and uniqueness of periodic solutions to higher-dimensional periodic systems with delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 280–286. (Summary) **98e:34125** 34K15

— (*with* Wan, Shi Dong) The global asymptotic stability of a Hopfield neural network model with delays. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 60–63. (Summary) **98f:82102** 82C32 (34K20, 92B20)

— (*with* Lin, Yiping; Li, Ji Bin) The Hopf bifurcation direction of a four-dimensional electronic neural network system. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 337–343. 92B20 (34C23)

Cao, Jingjun Computer-extended perturbation solution for the large deflection of a circular plate. II. Central loading with clamped edge. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 3, 333–347. (Summary) **98e:73077** 73K10 (73V20)

Cao, Ju Sheng Periodic solutions to Newton's equations of motion for nonconservative systems. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 2, 8–11. (Yiming Long) **98j:34067** 34C25 (34B15, 47H15, 58F30)

Cao, Li *see* **Cao, Li[2]**

Cao, Li[1] (*with* Ke, Sheng Zhi; Wu, Da Jin) The Fokker-Planck equation for a multidimensional system driven by correlated white noises. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 68–69, 74. 60H10

Cao, Li[2] (*with* Chen, Shu Zhong) Right independent orders: a new invariant under regular state feedback. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 224–227. 93C05 (93B25)

Cao, Liya (*with* Hori, Yoichi) Mixed sensitivity optimization to avoid pole/zero cancellation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1379–1385. 93B60 (93B35)

Cao, R. *see* **Cao-Abad, R.**

Cao, Ricardo *see* **Cao-Abad, R.**

Cao, Rongmei The general conformally flat solution for a charged sphere in general relativity. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 1, 49–53. 83C22

Cao, S. G. (*with* Rees, N. W.; Feng, Gang[1]) Analysis and design for a class of complex control systems. I. Fuzzy modelling and identification. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1017–1028. (Summary) **98d:93005** 93A30 (04A72, 93B51, 93C42)

— (*with* Rees, N. W.; Feng, Gang[1]) Analysis and design for a class of complex control systems. II. Fuzzy controller design. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1029–1039. (Summary) **98d:93006** 93A30 (04A72, 93B51, 93C42)

Cao, Shi Yi (*with* Wang, Dacheng) Topological nonempty intersection theorems with applications. (English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 2, 1–11. (Xie Ping Ding) **98e:49017** 49J35 (54H25)

— (*with* Zhang, Shi Sheng; Wu, Xian[3]) Noncompact minimax theorems in interval spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 1, 31–36. (Xian Zhi George Yuan) **98d:47119** 47H07 (47N10, 49J35)

Cao, Thang Hierarchical basis methods for hypersingular integral equations. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 603–619. (Summary) **98h:45012** 45L05 (45E05)

Cao, Wei Ping (*with* Ma, Ji Pu) Local linearization of nonlinear maps. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 210–213. (Xian Zhi George Yuan) **98d:47146** 47H15 (58C20)

— (*with* Ma, Ji Pu) The pointwise continuity of the M-P generalized inverses A_α^+. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 287–295. (Guo Rong Wang) **98i:47001** 47A05 (45P05, 47G10)

Cao, Wei Qing (*with* Lu, Chuan Yi; Zhu, Jun[3]) Topological structure characteristics and an automatic method for generation of geared linkage mechanisms. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 78–82. 70B15

Cao, Weiming (*with* Guo, Ben Qi) A preconditioner for the h-p version of the finite element method in two dimensions. (English summary) *Numer. Math.* **75** (1996), *no.* 1, 59–77. (Mark Ainsworth) **98a:65060** 65F35 (65N30, 65N55)

— (*with* Guo, Ben-yu) A pseudospectral method for vorticity equations on spherical surface. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 176–187. (Yuri N. Skiba) **98f:76059** 76M25 (65M70, 76C05, 86–08, 86A10)

— (*with* He, Guoqiang) Rigorous analysis of an implicit spectral method for KdV equation. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 159–167. (Summary) **98m:65169** 65M70 (35Q53)

— (*with* Guo, Ben Qi) An iterative and parallel solver based on domain decomposition for the h-p version of the finite element method. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 71–85. (Svetozar D. Margenov) **98f:65036** 65F10 (65N55)

— (*with* Guo, Ben Qi) Additive Schwarz methods for the h-p version of the finite element method in two dimensions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1267–1288. (Larisa V. Maslovskaya) **98f:65107** 65N30 (65F30)

Cao, Xi-Fang (*with* Tian, Chou) Bäcklund transformations for surfaces with $aK + bH = c$. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 529–538; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 353–364 (1998). (Yun Bo Zeng) **98j:53014** 53A10 (35Q58, 58F37)

— (*with* Tian, Chou) Bäcklund transformations on surfaces with $(k_1 - m)(k_2 - m) = \pm I^2$ in $\mathbf{R}^{2,1}$. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6009–6020. (Iskander A. Taimanov) **98k:53005** 53A05 (35Q99, 53A40, 58F37)

Cao, Xi-Ren (*with* Chen, Han-Fu) Controllability is not necessary for adaptive pole placement control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1222–1229. (T. Kaczorek) **98i:93041** 93B55 (93B40)

Cao, Xian Bing Some properties of set-valued supermartingales. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 33–37. 60G48

— Geometric properties of Banach spaces and convergence of B-valued martingale-type sequences. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 2, 118–122. 60G48 (60B12)

Cao, Xiao Dong[1] (*with* Ren, Jian Hua) The number of nonisomorphic finite abelian groups with orders belonging to a short interval. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 29–34. (Wen-Bin Zhang) **98a:11129** 11N45

— (*with* Zhai, Wen Guang) On the average number of direct factors of finite abelian groups. *Acta Arith.* **82** (1997), *no.* 1, 45–55. (R. C. Baker) **98k:11129** 11N37 (11N45)

Cao, Xiu Guo (*with* Tian, Hui Sheng; Li, Yan Ning; Li, Ye) A new fuzzy feedforward network. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 1, 25–31. 90C35 (90C70)

Cao, Xuan Chuan New type of exactly solvable potential. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1465–1474. (Tuncay Aktosun) **98f:81054** 81Q05

Cao, Yanzhao (*with* Gunzburger, Max D.; Turner, James C., Jr.) The controllability of systems governed by parabolic differential equations. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 174–189. (Sergei A. Ivanov) **98j:93053** 93C20 (35K20, 93B05)

— (*with* Gunzburger, Max D.) Least-squares finite element approximations to solutions of interface problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 393–405 (*electronic*). (Summary) **98m:65186** 65N30

Cao, Yong (*with* Stepanenko, Yury; Su, Chun-Yi) Variable structure control of robotic manipulator with PID sliding surfaces. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 79–90. 93B12 (93C85)

Cao, Yong Luo The structure of the strange attractor of the Lozi map and of its basin. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 4, 315–320. (Summary) **98c:58098** 58F12 (58F13)

Cao, Yong-Yan (*with* Sun, You Xian) A counterexample of "Comments on: 'Stability margin evaluation for uncertain linear systems'" [IEEE Trans. Automat. Control **39** (1994), no. 12, 2523–2524] by J. H. Su, C. Gong and S. Thompson. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1601. 93D09

— (*with* Sun, You Xian) The design of minimal order output feedback stabilizers. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 105–108. 93D15 (93B40)

— (*with* Sun, You Xian) Static output feedback simultaneous stabilization: ILMI approach. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 803–814. 93D21

Cao, Yong Zhi (*with* Dong, Jian Xin; Zhou, Jian Jun) The structure and eigenvalues of symmetric r-cyclic matrices. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 129–132. (Summary) **98g:15007** 15A18

Cao, You An Orders of Chevalley groups over finite commutative rings. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 113–115. (Demetris I. Deriziotis) **98g:20074** 20G35

— Automorphisms of certain Lie algebras of upper triangular matrices over a commutative ring. (English summary) *J. Algebra* **189** (1997), *no.* 2, 506–513. (Harald Löwe) **98a:17025** 17B40 (17B30)

— Automorphisms of Borel subgroups over connected rings. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 2, 7–11. (Summary) **98h:20082** 20G35 (20F28)

— (*with* Yan, Wen) Proofs of some results on K types for split G_2. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 3, 25–28, 42. 22E46

Cao, Yuan (*with* Wu, Zongmin) A Darboux's problem for sequences of polygons. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 157–162. (Michael M. Dediu) **98a:65024** 65D17 (65Y25)

— (*with* Hua, Xuan Ji) Developable classification of quadratic parametric surfaces. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 159–164. (Chuan Yu Ma) **98g:53005** 53A05

— (*with* Liu, Songtao; Liu, Genhong) A proof on the convexity of functional splines. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 357–360. (Petru P. Blaga) **98h:41021** 41A29 (41A15, 65D07, 65D17)

Cao, Yun Juan (*with* Zhang, Zhen[2]) A logical comparison of fuzzy mathematics, random mathematics, and exact mathematics. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 88–94. 03E72

— (*with* Zhang, Zhen) First-order logic—the unity of fuzziness and randomness. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 185–195. (Summary) **98g:03124** 03E72

Cao, Z.-H. *see* **Cao, Zhi Hao**

Cao, Zexing (*with* Huang, Hongxin; Xie, Qingji; Liu, Shubin) Hartree-Fock quantum Monte Carlo method. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1090–1093. 81–08 (81V55, 92E99)

Cao, Zhen Chao Properties of solutions of a class of filtration equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 3, 331–334. 35K60 (35B05)

— (*with* Chen, Peng Nian) On global solutions to the third boundary value problem for semilinear parabolic equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 5, 666–668. 35K60 (35B60)

Cao, Zhen Fu (*with* Zhao, Dong Bin) The Diophantine equation $y^2 = ax^4 + bx^3 + cx^2 + dx + e$. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 1–3, 11. 11D09

— Very high speed deconvolution based on recursively computing discrete Fourier transforms. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 6, 4–6, 13. 65T20

Cao, Zhi Hao Convergence of two-stage iterative methods for the solution of linear systems. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 98–109. 65F10

— (*with* Evans, David J.) On quasi-minimal residual approach of iterative algorithms for solving nonsymmetric linear systems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 249–270. 65F30 (65Y05)

— A note on the convergence behavior of GMRES. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 13–20. (Summary) **98i:65019** 65F10

— (*with* Evans, David J.) On a relaxation procedure for domain decomposition methods with many subdomains and inexact solver. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 89–107. (Summary) **98m:65212** 65N55 (65N06)

— Avoiding breakdown in variants of the BI-CGSTAB algorithm. (English summary) *Linear Algebra Appl.* **263** (1997), 113–132. (Summary) **98c:65043** 65F10

Cao, Zhi Jiang (*with* Wang, Xiao Xia) The spectra and asymptotic formulas of regular symmetric Dirac operators. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 3, 320–329. (Jing Lin Liu) **98j:34176** 34L40 (34B05, 34L20, 47E05, 81Q05)

Cao, Zhuo Hua (*with* Yang, Zheng Qing) Stability and oscillation of a delay logistic equation. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 69–74. (Summary) **98g:34113** 34K15 (34K20, 92D25)

Cao-Abad, R. (*with* Devroye, Luc) The consistency of a smoothed minimum distance estimate. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 405–418. (G. Roussas) **98g:62059** 62G05 (62G07, 62G20)

— (*with* Febrero-Bande, M.; González-Manteiga, W.; Prada-Sánchez, J. M.; García-Jurado, Ignacio) Saving computer time in constructing consistent bootstrap prediction intervals for autoregressive processes. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 961–978. (Summary) **98d:62155** 62M10 (62G09)

Caouder, Nathalie (*with* Huet, Sylvie) Testing goodness-of-fit for nonlinear regression models with heterogeneous variances. (English summary) *Comput. Statist. Data Anal.* **23** (1997), *no.* 4, 491–507. (Gutti J. Babu) **98c:62120** 62J02 (62G10)

Čap, Andreas Translation of natural operators on manifolds with AHS-structures. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 4, 249–266. (John W. Rice) **98k:53029** 53C10 (22E47, 58H10)

— (*with* Slovák, Jan) On local flatness of manifolds with AHS-structures. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo (2) Suppl. No.* **43** (1996), 95–101. (A. Rod Gover) **98j:53059** 53C35 (53C15)

— (*with* Slovák, Jan; Souček, V.) Invariant operators on manifolds with almost Hermitian symmetric structures. I. Invariant differentiation. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 1, 33–69. (John W. Rice) **98m:53036** 53C10 (22E47, 53C35)

Capani, A. (*with* De Dominicis, G.; Niesi, G.; Robbiano, Lorenzo) Computing minimal finite free resolutions. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 105–117. (Ralf Fröberg) **98e:13026** 13P10 (13D02)

Capanu, M. (*with* Soós, E.) The three-dimensional theory of buckling of composite elastic bars. The influence of a lateral hydrostatic pressure. (English summary) *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **41** (1996), *no.* 3-4, 193–209. (Summary) **98a:73034** 73H05 (73B40, 73K05, 73K20, 73V25)

Capasso, V. (*with* Wilson, Richard Eddie) Analysis of a reaction-diffusion system modeling man-environment-man epidemics. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 327–346. (K. Gopalsamy) **98d:92020** 92D30 (35K57, 35Q80, 92C60)

— (*with* Micheletti, Alessandra) The stochastic geometry of polymer crystallization processes. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 355–373. (Summary) **98b:60178** 60K99 (60G55, 82D25, 82D60)

Capatina-Papaghiuc, Daniela (*with* Thomas, Jean-Marie) Approximations non conformes de problèmes dépendant d'un petit paramètre: résultat de convergence uniforme. (English and French summaries) [Nonconforming approximations of problems depending on a small parameter: a result of uniform convergence] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 97–100. (Summary) **98c:65183** 65N30

pujol Capdevila, J. *see* **Pujol Capdevila, J.**

Capecchi, Danilo (*with* Masiani, Renato; Vestroni, Fabrizio) Periodic and non-periodic oscillations of a class of hysteretic two degree of freedom systems. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 309–325. (Summary) **98c:34059** 34C15 (34C23, 70K30, 70K40)

Čápek, Vladislav Isothermal Maxwell daemon and active binding of pairs of particles. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5245–5258. 82C20

Capelas de Oliveira, E. *see* **de Oliveira, E. Capelas**

ventura Capell, Enric *see* **Ventura Capell, Enric**

Capéraà, Philippe (*with* Fougères, A.-L.; Genest, C.) A stochastic ordering based on a decomposition of Kendall's tau. (English summary) *Distributions with given marginals and moment problems* (*Prague, 1996*), 81–86, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E15 (62G99)

— (*with* Garralda Guillem, Ana Isabel) Taux de résistance des tests de rang d'indépendance. (English and French summaries) [Resistance rates of rank tests of independence] *Canad. J. Statist.* **25** (1997), *no.* 1, 113–124. (Yves Lepage) **98m:62137** 62G10

Capiński, Marek (*with* Parker, June M.) Continuity of measures on Hilbert space. (English summary) *Univ. Iagel. Acta Math. No.* 33 (1996), 33–47. (Vladimir I. Bogachev) **98c:28026** 28E05 (03H05, 28C20, 46G12, 60B11)

— (*with* Peszat, Szymon) Local existence and uniqueness of strong solutions to 3-D stochastic Navier-Stokes equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 185–200. (Wilfried Grecksch) **98c:60065** 60H15 (35Q30, 35R60, 76D05, 76M35)

— (*with* Cutland, Nigel J.) Attractors for three-dimensional Navier-Stokes equations. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2413–2426. (Alain Miranville) **98i:35140** 35Q30 (03H05, 35B40, 47H20, 58F39, 76D05)

Capizzi, Giovanna On stopping rules for the SETS scheme: an application of the success runs theory. (English summary) *Change-point problems* (*South Hadley, MA, 1992*), 66–77, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62L10 (62L15, 62N10)

Capobianco, Maria Rosaria (*with* Russo, M. G.) Extended interpolation in some Sobolev-type spaces. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 191–206 (1997). (Giuseppe Mastroianni) **98d:41003** 41A05 (41A65)

— (*with* Criscuolo, Giuliana; Junghanns, Peter) A fast algorithm for Prandtl's integro-differential equation. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 103–128. (Mohammad Iqbal) **98a:65186** 65R20 (45L05)

— (*with* Russo, M. G.) Uniform convergence estimates for a collocation method for the Cauchy singular integral equation. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 1, 21–45. (Andreas Rathsfeld) **98d:65166** 65R20 (45E05, 45L10)

— (*with* Mastroianni, Giuseppe) Uniform boundedness of Lagrange operator in some weighted Sobolev-type space. (English summary) *Math. Nachr.* **187** (1997), 61–77. (J. Szabados) **98e:41001** 41A05 (41A25)

Capocci, M. S. (*with* Hall, Graham S.; Beig, Robert) Zeros of conformal vector fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, L49–L52. (J. S. Joel) **98m:53030** 53B30

Capocelli, Renato M. (*with* Tallini, Luca G.; Bose, Bella) Design of some new efficient balanced codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 790–802. (Summary) **98a:94045** 94B60

Capodanno, P. Étude mathématique des petites oscillations d'un liquide dans un container élastiquement suspendu en apesanteur. [Mathematical study of the small oscillations of a liquid in an elastically suspended container under zero gravity] *Mech. Res. Comm.* **25** (1998), *no.* 2, 211–217. (Summary) **98j:73066** 73K70 (73K12, 76B10)

Capogna, Luca Regularity of quasi-linear equations in the Heisenberg group. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 9, 867–889. (Gerald B. Folland) **98k:22037** 22E30 (22E25, 30C65, 35B65, 35H05)

— (*with* Danielli, Donatella; Garofalo, Nicola) Subelliptic mollifiers and a basic pointwise estimate of Poincaré type. *Math. Z.* **226** (1997), *no.* 1, 147–154. (From the introduction) **98i:35025** 35H05

Capolino, Filippo (*with* Albani, Matteo; Maci, Stefano; Tiberio, Roberto) Double diffraction at a pair of coplanar skew edges. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 8, 1219–1226. (Summary) **98h:78011** 78A45

— (*with* Albani, Matteo; Maci, Stefano; Tiberio, Roberto) High-frequency analysis of an array of line sources on a truncated ground plane. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 570–578. 78A45

Capon, Philip J. (*with* Jimack, Peter K.) An inexact Newton method for systems arising from the finite element method. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 9–12. 65H10 (65M60)

— (*with* Berzins, Martin; Jimack, Peter K.) On spatial adaptivity and interpolation when using the method of lines. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 117–133. (*see* **98i:65004**) 65M20

Capon, Rachel Anne Progress towards a local expression for radiation reaction. (English summary) *Mathematics of gravitation, Part II* (*Warsaw, 1996*), 65–70, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (Summary) **98f:83031** 83C30 (83C35)

bench-Capon, Trevor J. M. *see* **Bench-Capon, Trevor J. M.**

Capone, Claudia (*with* Fiorenza, Alberto) Maximal inequalities in weighted Orlicz spaces. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **62** (1995), 213–224 (1996). (Ron Kerman) **98i:42009** 42B25 (46E30)

Capone, F. On the stability of Bénard problem for fluid mixture with viscosity and solute diffusivity depending on temperature. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 73–82. (Summary) **98c:76035** 76E15 (76T05)

— (*with* Rionero, Salvatore; Torcicollo, I.) On the stability of solutions of the remarkable equation $u_t = \Delta F(\mathbf{x}, u) - g(\mathbf{x}, u)$. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 83–90. (H. J. Kuiper) **98i:35100** 35K60 (35B35)

Caponnetto, A. (*with* Bertero, M.) Tomography with a finite set of projections: singular value decomposition and resolution. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1191–1205. (Fritz Keinert) **98j:44001** 44A12 (65R10)

Caporaso, L. Counting rational points on algebraic curves. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 223–229. (Constantin D. Manoil) **98i:11041** 11G30 (14G05)

Caporaso, Salvatore (*with* Zito, Michele; Galesi, Nicola; Covino, Emanuele) Syntactic characterization in Lisp of the polynomial complexity classes and hierarchy. (English summary) *Algorithms and complexity* (*Rome, 1997*), 61–73, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98b:68004**) 68Q15 (03D15)

Capotorti, A. (*with* Di Bacco, M.) A note on the equivalence between certain equivalent and least expected penalization criteria. (English and Italian summaries) *Statistica* (*Bologna*) **56** (1996), *no.* 2, 243–247 (1997). (J. W. Pratt) **98a:62005** 62A99 (62B99)

Capovilla, R. (*with* Guven, J.) Geometry of composite relativistic extended objects. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 273–275. (Summary) **98h:83087** 83E30 (81T30)

— *see also* **Complex systems and binary networks, 98f:00022**

Capoyleas, Vasilis On the area of the intersection of disks in the plane. (English summary) *Comput. Geom.* **6** (1996), *no.* 6, 393–396. (Jane R. Sangwine-Yager) **98b:52003** 52A10 (52C15)

— (*with* Bradford, Phillip G.) Weak ε-nets for points on a hypersphere. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 83–91. (Rade Živaljević) **98g:52024** 52B55 (68U05)

Capozziello, S. (*with* de Ritis, R.; Marino, A. A.) Some aspects of the cosmological conformal equivalence between the "Jordan frame" and the "Einstein frame". (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3243–3258. (Serguey M. Pokas') **98k:83010** 83C10

— (*with* de Ritis, R.; Marino, A. A.) Conformal equivalence and Noether symmetries in cosmology. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3259–3268. (Volker Perlick) **98m:83062** 83D05

— (*with* de Ritis, R.) Recovering the cosmological constant in scalar-tensor cosmologies. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 11, 1425–1444. 83D05

— (*with* Marmo, Giuseppe; Rubano, C.; Scudellaro, P.) Nöther symmetries in Bianchi universes. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 4, 491–503. (Janusz Grabowski) **98h:83018** 83C20 (53C80)

Capozzoli, Anthony Relative spectrum for smooth actions of Kazhdan groups on fiber bundles. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 307–312. (Alain Valette) **98e:58135** 58F19 (22D10, 22E46, 28A50)

Capparelli, S. Lie algebra representations, combinatorial identities and q-trinomial coefficients. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 231–243. (Yasmine B. Sanderson) **98d:17033** 17B69 (05A19, 11P83, 17B67, 33D80)

Cappelen, Herman (*with* Lepore, Ernest) Varieties of quotation. (English summary) *Mind* **106** (1997), *no.* 423, 429–450. 03B65 (03B45)

Cappelli, Andrea (*with* Trugenberger, Carlo A.; Zemba, Guillermo R.) Quantum Hall fluids as $W_{1+\infty}$ minimal models. (English summary) *Recent progress in statistical mechanics and quantum field theory* (*Los Angeles, CA, 1994*), 55–80, *World Sci. Publishing, River Edge, NJ*, 1995. (Fabio Bagarello) **98a:81277** 81V70 (81R10, 82D50)

— (*with* Trugenberger, Carlo A.; Zemba, Guillermo R.) $W_{1+\infty}$ minimal models and the hierarchy of the quantum Hall effect. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming, 1995*), 249–258, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Introduction) **98k:81329** 81V70 (81R10, 82D50)

— (*with* Trugenberger, Carlo A.; Zemba, Guillermo R.) $W_{1+\infty}$ field theories for the edge excitations in the quantum Hall effect. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1101–1111. (Summary) **98j:81381** 81V70 (81R10, 81T40)

Cappuccio, Nunzio (*with* Lubian, Diego) Spurious regressions between $I(1)$ processes with long memory errors. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 341–354. (N. Leonenko) **98m:62236** 62M10 (60F05, 60F17)

Capra, William B. (*with* Müller, Hans-Georg) An accelerated-time model for response curves. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 72–83. (Summary) **98a:62122** 62N05

Caprara, Alberto (*with* Fischetti, Matteo; Toth, Paolo; Vigo, Daniele; Guida, Pier Luigi) Algorithms for railway crew management. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 125–141. (Summary) **98e:90221** 90C90 (90B35)

Caprino, S. The initial value problem for a one-dimensional Boltzmann equation with diffusive boundary conditions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 187–206. (Anne Nouri) **98k:82147** 82C40 (35Q99, 45K05, 76P05)

Capriz, Gianfranco (*with* Giovine, Pasquale) On microstructural inertia. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 211–216. (Gérard A. Maugin) **98a:73001** 73A05 (73B25, 73S10)

Capuani, D. (*with* Willis, J. R.) Wave propagation in elastic media with cracks. I. Transient nonlinear response of a single crack. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 3, 377–408. (Paul Andrew Martin) **98f:73018** 73D15 (73M25)

Caputo, Michele Mean fractional-order-derivatives differential equations and filters. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1995), 73–84 (1997). (K. S. Miller) **98c:26004** 26A33 (34A99, 45J05)

Capuzzo Dolcetta, I. (*with* Bagagiolo, F.; Bardi, Martino) A viscosity solutions approach to some asymptotic problems in optimal control. (English summary) *Partial differential equation methods in control and shape analysis (Pisa)*, 29–39, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Fabio Camilli) **98d:49037** 49L25 (49K40)

— (*with* Birindelli, Isabeau; Cutrì, A.) Liouville theorems for semilinear equations on the Heisenberg group. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 295–308. (Maria J. Esteban) **98d:35049** 35J60 (22E25, 22E30, 35B05)

— *see also* **Bardi, Martino et al., 98b:35005**

Car, Mireille Quadratic forms on $\mathbf{F}_q[T]$. (English summary) *J. Number Theory* **61** (1996), *no.* 1, 145–180. (Lynne H. Walling) **98j:11025** 11E25 (11P55)

— Pólya's theorem for $\mathbf{F}_q[T]$. (English summary) *J. Number Theory* **66** (1997), *no.* 1, 148–171. (Jian Qiang Zhao) **98h:11149** 11R58

fernández-Cara, Enrique *see* **Fernández-Cara, Enrique**

Cara, Philippe (*with* Buekenhout, Francis; Dehon, Michel) Inductively minimal flag-transitive geometries. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 185–190, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Dmitrii V. Pasechnik) **98h:51020** 51E24 (05C25)

Carabineanu, Adrian A boundary element approach for the torsion of cylindrical bars. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 21–28. 73V10 (73K05)

— A boundary integral equations approach for the study of the subsonic compressible flow past a cusped airfoil. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3449–3454. (*see* **98h:00034**) 76G25 (76M15, 76N10)

Caracciolo, Sergio (*with* Causo, Maria Serena; Pelissetto, Andrea) Universality of subleading corrections for self-avoiding walks in the presence of one-dimensional defects. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4939–4961. 82B41 (82–04, 82B27)

Caragiu, Mellita (*with* Caragiu, Mihai) The $\mathrm{GL}(n, \mathbf{F}_p)$-invariance of the Potts Hamiltonian. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 33–36. (From the text) **98f:11090** 11L40 (11T24, 11Z05, 82B20)

Caragiu, Mihai (*with* Caragiu, Mellita) The $\mathrm{GL}(n, \mathbf{F}_p)$-invariance of the Potts Hamiltonian. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 33–36. (From the text) **98f:11090** 11L40 (11T24, 11Z05, 82B20)

suriñach Caralt, Jordi *see* **Suriñach Caralt, Jordi**

Caranti, A. (*with* Mattarei, S.; Newman, M. F.) Graded Lie algebras of maximal class. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 4021–4051. (Rolf Farnsteiner) **98a:17027** 17B50 (17B70)

Carasso, Alfred S. Error bounds in nonsmooth image deblurring. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 656–668. (Tomáš Roubíček) **98b:65109** 65M30 (68U10)

Carasso, Claude (*with* Panasenko, G. P.) Simulation and formal asymptotic analysis of processes in a catalytic converter. (English summary) *Numerical methods in mechanics (Concepción, 1995)*, 47–58, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Vitaly A. Volpert) **98k:80011** 80A32 (35Q80)

Carathéodory, C. ★ Conformal representation. (English summary) Reprint of the 1952 second edition. *Dover Publications, Inc., Mineola, NY*, 1998. x+115 *pp. ISBN* 0-486-40028-X 30Cxx (01A75)

Carati, A. (*with* Benettin, G.; Gallavotti, Giovanni) A rigorous implementation of the Jeans-Landau-Teller approximation for adiabatic invariants. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 479–505. (Luigi Chierchia) **98d:58159** 58F30 (58F27, 70H05, 70K99, 81V55)

— (*with* Benettin, G.; Fassò, F.) On the conservation of adiabatic invariants for a system of coupled rotators. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 253–268. (Summary) **98a:70016** 70H05 (70–08, 70K99, 82B05)

hermoso Carazo, Aurora *see* **Hermoso Carazo, Aurora**

Carazza, B. On the spatial density matrix for the centre of mass of a one-dimensional perfect gas. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 6, 581–590. 82B10

Carbery, Anthony (*with* Soria, Fernando) Sets of divergence for the localization problem for Fourier integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1283–1286. (Summary) **98h:42013** 42B10

— Harmonic analysis of the Calderón-Zygmund school, 1970–1993. *Bull. London Math. Soc.* **30** (1998), *no.* 1, 11–23. (Andreas Seeger) **98k:42014** 42B20 (01A65, 42–02)

Carbno, Collin C. Exploring generalizations of Clifford algebra. *Clifford (geometric) algebras (Banff, AB, 1995)*, 459–462, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66

Carbó-Dorca, Ramon (*with* Besalú, Emili) Extending molecular similarity to energy surfaces: Boltzmann similarity measures and indices. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 247–261 (1997). (Summary) **98c:81246** 81V55

— (*with* Besalú, Emili) An iterative method to solve the algebraic eigenvalue problem. (English summary) *J. Math. Chem.* **21** (1997), *no.* 4, 395–412. (Summary) **98m:65049** 65F15 (65F10)

— Fuzzy sets and Boolean tagged sets. (English summary) *J. Math. Chem.* **22** (1997), *no.* 2-4, 143–147 (1998). 04A72

sanmartin-Carbon, E. *see* **Sanmartin-Carbon, E.**

Carbon, Michel (*with* Garel, Bernard; Tran, Lanh Tat) Frequency polygons for weakly dependent processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 1–13. (M. P. Moklyachuk) **98h:62129** 62M09 (62G05)

— (*with* Tran, Lanh Tat; Wu, Berlin) Kernel density estimation for random fields (density estimation for random fields). (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 115–125. (Summary) **98k:62048** 62G05 (62M40)

Carbonaro, P. Similarity solutions in one-dimensional relativistic gas dynamics. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2896–2902. (Summary) **98h:76143** 76Y05 (76N15)

Carbone, A. *see* **Carbone, Antonio**

Carbone, Alessandra Interpolants, cut elimination and flow graphs for the propositional calculus. (English summary) *Ann. Pure Appl. Logic* **83** (1997), *no.* 3, 249–299. (G. E. Mints) **98i:03073** 03F05

— (*with* Semmes, Stephen) Making proofs without modus ponens: an introduction to the combinatorics and complexity of cut elimination. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **34** (1997), *no.* 2, 131–159. (Bienvenido F. Nebres) **98c:03112** 03F05

Carbone, Antonio (*with* Singh, Sankatha Prasad) On Fan's best approximation and applications. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 1, 35–52. (Sehie Park) **98i:41049** 41A65 (47H10, 49K27)

Carbone, Ingrid Some observations on the essential norm of the internal composition operator in Bergman space. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 1, 19–29 (1995). (Stefania A. M. Marcantognini) **98a:47032** 47B38

— (*with* Altomare, Francesco) On some degenerate differential operators on weighted function spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 308–333. (Miroslav Lvovich Gorbachuk) **98i:47036** 47D06 (41A36, 46E99, 47A58, 47N20)

Carbone, Luciano (*with* De Arcangelis, Riccardo) On the relaxation of some classes of unbounded integral functionals. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 221–252 (1997). (Francesco Ferro) **98k:49021** 49J45 (73V25)

— (*with* Nastasi, Pietro; Palladino, Franco) The Torelli–Cesàro, Landau–Cesàro and Cipolla–Cesàro correspondence, and some related questions. (Italian. English and Italian summaries) *Nuncius Ann. Storia Sci.* **11** (1996), *no.* 1, 151–225. (Umberto Bottazzini) **98c:01022** 01A55 (01A60)

— (*with* De Arcangelis, Riccardo) On integral representation, relaxation and homogenization for unbounded functionals. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 129–135. (Dan Poliševski) **98k:49022** 49J45 (35B27, 73B27, 73C50)

Carbonell, Jaime *see* **Franz, Alexander**

Carboni, Aurelio (*with* Johnstone, Peter) Connected limits, familial representability and Artin glueing. (English summary) Fifth Biennial Meeting on Category Theory and Computer Science (Amsterdam, 1993). *Math. Structures Comput. Sci.* **5** (1995), *no.* 4, 441–459. (Summary) **98f:18005** 18B25 (18A35, 18C15)

— (*with* Janelidze, George; Kelly, G. M.; Paré, R.) On localization and stabilization for factorization systems. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 1–58. (Walter Tholen) **98k:18001** 18A32 (12F10, 18A20, 18E40)

Carboni, Graciela (*with* Larotonda, Angel R.) Exactness of the Frobenius limit. (Spanish) *Math. Notae* **38** (1995/96), 39–45 (1997). 46A13 (46M40)

Carbou, Gilles Regularity for critical points of a nonlocal energy. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 5, 409–433. (Martin Fuchs) **98h:49041** 49N60 (58E50, 82D40)

Carcasses, Jean-Pierre Disappearance of a dovetail structure in the parameter plane of a one-dimensional map. (English summary) *Iteration theory (Batschuns, 1992)*, 55–64, *World Sci. Publishing, River Edge, NJ*, 1996. (Angela Maria Sitta) **98b:58021** 58C27 (58F14)

— A new kind of parametric singularities and their use for the study of the bifurcation structure of an n-dimensional map. *Nonlinear Anal.* **28** (1997), *no.* 5, 917–946. (Joan Carles Tatjer) **98f:58143** 58F14 (58F21)

Carcione, José M. (*with* Cavallini, Fabio) Reflection and transmission of anti-plane shear waves in anisotropic media. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 91–100. (Summary) **98e:73056** 73D25 (73B40, 73F15, 73N20, 86A15)

— Reflection and refraction of antiplane shear waves at a plane boundary between viscoelastic anisotropic media. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 919–942. (Philippe Boulanger) **98i:73019** 73D25 (73F15)

Cardaliaguet, Pierre A differential game with one target and two players. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 1, 69–74. (Summary) **98k:90162** 90D25

— (*with* Plaskacz, Sławomir) Viability and invariance for differential games with applications to Hamilton-Jacobi-Isaacs equations. *Topology in nonlinear analysis (Warsaw, 1994)*, 149–158, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Pierpaolo Soravia) **98m:90209** 90D25 (35F25, 49L20)

— (*with* Quincampoix, Marc; Saint-Pierre, Patrick) Optimal times for constrained nonlinear control problems without local controllability. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 1, 21–42. (E. N. Barron) **98c:49004** 49J15 (49K40, 93C15)

— Nonsmooth semipermeable barriers, Isaacs' equation, and application to a differential game with one target and two players. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 125–146. (Vladimir Veliov) **98f:90082** 90D25 (49K15)

— On the regularity of semipermeable surfaces in control theory with application to the optimal exit-time problem. I. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1638–1652. (N. N. Petrov) **98i:49002** 49J24 (49J52, 49N60)

— On the regularity of semipermeable surfaces in control theory with application to the optimal exit-time problem. II. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1653–1671. (N. N. Petrov) **98i:49003** 49J24 (49J52, 49N60)

Cardama, Angel (*with* Puente-Baliarda, Carles; Romeu, Jordi; Pous, Rafael) On the behavior of the Sierpinski multiband fractal antenna. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 4, 517–524. 78A50 (78–04)

Cardano, Gerolamo *see* **Nikiforovskiĭ, V. A.**

Cardell, N. Scott Variance components structures for the extreme-value and logistic distributions with application to models of heterogeneity. (English summary) *Econometric Theory* **13** (1997), *no.* 2, 185–213. (Summary) **98d:62192** 62P20 (62J10)

Cardelli, Luca (*with* Abadi, Martín) ★ A theory of objects. (English summary) Monographs in Computer Science. *Springer-Verlag, New York*, 1996. xiv+396 *pp. ISBN* 0-387-94775-2 (David B. Benson) **98e:68018** 68N15 (03B70, 68Q55)

— (*with* Bruce, Kim B.; Pierce, Benjamin C.) Comparing object encodings. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 415–438, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15

— *see also* **Castagna, Giuseppe, 98h:68025**

Cardenal, Jesús (*with* Cuadrado, J.; Bayo, E.) Modeling and solution methods for efficient real-time simulation of multibody dynamics. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 3, 259–280. 70–08 (70E99)

— (*with* Duff, Iain S.; Jiménez, José M.) Solution of sparse quasi-square rectangular systems by Gaussian elimination. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 165–177. (Summary) **98m:65077** 65F50 (65F05)

Cardenas, Angelina (*with* Hu, Chen-Yi; Hoogendoorn, Stephanie; Sepulveda, Pedro, Jr.) An interval polynomial interpolation problem and its Lagrange solution. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 27–38. (Summary) **98m:65018** 65D05

Cárdenas Escudero, Manuel Enrique (*with* Pedersen, Erik Kjær) On the Karoubi filtration of a category. (English summary) *K-Theory* **12** (1997), *no.* 2, 165–191. (Frank Neumann) **98g:18012** 18F25 (19D10)

Cárdenas-Morales, D. (*with* Muñoz-Delgado, F. J.) Almost convexity and quantitative Korovkin type results. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 105–108. 41A35

Cardew, P. T. (*with* Jones, A. F.; King-Hele, J. A.) A mathematical model of a hollow-fibre filter. (English summary) *Progress in industrial mathematics at ECMI 96* (*Lyngby*, 1996), 50–57, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76S05

Cardinal, J. P. (*with* Mourrain, Bernard) Algebraic approach of residues and applications. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 189–210, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Amnon Yekutieli) **98i:14056** 14Q20 (65F30, 68Q40)

Cardinali, Tiziana (*with* Papageorgiou, Nikolaos S.) Optimal control and admissible relaxation for subdifferential evolution inclusions. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 1–22. (Tzanko D. Donchev) **98m:49009** 49J24 (34A60, 34G20, 34H05)

— (*with* Papageorgiou, Nikolaos S.; Papalini, Francesca) On nonconvex functional evolution inclusions involving m-dissipative operators. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 135–148. (Giovanni Colombo) **98a:34091** 34K30 (34A60, 34G20, 47N20)

— (*with* Fiacca, Antonella; Papageorgiou, Nikolaos S.) On the solution set of nonlinear integrodifferential inclusions in $\mathbf{R}^N$. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 117–127. (Alexsander Ivan Bulgakov) **98i:34025** 34A60 (34K99, 45J05)

— (*with* Fiacca, Antonella; Papageorgiou, Nikolaos S.) Extremal solutions for nonlinear parabolic problems with discontinuities. (English summary) *Monatsh. Math.* **124** (1997), *no.* 2, 119–131. (Yoshihito Tomita) **98i:35101** 35K60

Cardon, David A. A Euclidean ring containing $\mathbf{Z}[\sqrt{14}]$. (English and French summaries) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 1, 28–32. (Franz Lemmermeyer) **98g:11121** 11R11 (11Y40)

Cardone, G. (*with* Gaudiello, A.) Homogenization of elliptic equations with quadratic growth in periodically perforated domains: the case of unbounded solutions. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 51–72. (Summary) **98b:35018** 35B27 (35J65)

Cardoso, Gabriel Lopes (*with* de Wit, Bernard; Lüst, Dieter; Mohaupt, Thomas; Rey, Soo-Jong) Higher-order gravitational couplings and modular forms in $N = 2$, $D = 4$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 353–388. (Summary) **98d:81096** 81T30 (11F11, 11Z05, 83E30)

— (*with* Curio, Gottfried; Lüst, Dieter; Mohaupt, Thomas) On the duality between the heterotic string and F-theory in 8 dimensions. (English summary) *Phys. Lett. B* **389** (1996), *no.* 3, 479–484. (Bruce Hunt) **98a:81158** 81T30 (14J28, 83E30)

— (*with* Behrndt, Klaus; Gaida, Ingo) Quantum $N = 2$ supersymmetric black holes in the S-T model. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 267–292. (Summary) **98m:83041** 83C57 (81T30, 83E30)

— Perturbative gravitational couplings and Siegel modular forms in $D = 4$, $N = 2$ string models. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 94–101. (Introduction) **98c:81157** 81T30 (11F46)

— (*with* de Wit, Bernard; Lüst, Dieter; Mohaupt, Thomas; Rey, Soo-Jong) Higher derivative couplings and duality in $N = 2$, $D = 4$ string theories. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 108–119. (C. Gauthier) **98j:81305** 81T30 (83E30)

Cardoso, J. G. Real wave equations and exactness relations for complexified Maxwell-Dirac fields. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 5, 1137–1153. (Alexander D. Popov) **98e:81055** 8'R20 (81R25)

— A diagrammatic description of the processes of mass scattering of Dirac fields. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 3, 269–304. (Summary) **98g:81061** 81R25 (81U99)

— Twistor diagrams for spinning massless free fields. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1641–1649. (Summary) **98g:81062** 81R25

— Wave equations and kinematical integrals for complexified Maxwell-Klein-Gordon fields. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2297–2307. (Andreas Bette) **98e:81058** 81R25

Cardot, Hervé (*with* Besse, Philippe C.) Approximation spline de la prévision d'un processus fonctionnel autorégressif d'ordre 1. (English and French summaries) [Spline approximation of the prediction of a first-order autoregressive functional process] *Canad. J. Statist.* **24** (1996), *no.* 4, 467–487. (Winfried Stute) **98c:62114** 62H25 (62G05, 62M20)

— (*with* Besse, Philippe C.; Ferraty, Frédéric) Simultaneous non-parametric regressions of unbalanced longitudinal data. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 3, 255–270. (Summary) **98b:62056** 62G05

Cardy, John Quantum Hamiltonians and self-organised criticality. (English summary) *Perspectives on solvable models*, 15–23, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82041** 82C10 (82C27)

— ★ Scaling and renormalization in statistical physics. (English summary) Cambridge Lecture Notes in Physics, 5. *Cambridge University Press, Cambridge*, 1996. xviii+238 *pp.* *ISBN* 0-521-49959-3 (Sergei A. Nemnyugin) **98m:82003** 82-01 (82B28, 82C28)

— Geometrical properties of loops and cluster boundaries. *Géométries fluctuantes en mécanique statistique et en théorie des champs* (*Les Houches*, 1994), 1011–1026, *North-Holland, Amsterdam*, 1996. (Summary) **98a:82057** 82B41 (81T40, 82B43)

— Renormalisation group approach to reaction-diffusion problems. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 113–125, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:82125** 82C28 (81T17)

— (*with* Jacobsen, Jesper Lykke) Critical behavior of random-bond Potts models. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 21, 4063–4066. (Summary) **98k:82063** 82B27 (82B20)

Carey, A. L. (*with* Murray, Michael K.) Mathematical remarks on the cohomology of gauge groups and anomalies. (English summary) *Confronting the infinite* (*Adelaide*, 1994), 136–148, *World Sci. Publishing, River Edge, NJ*, 1995. (C. J. Atkin) **98f:81311** 81T50 (55P91, 58D19, 58Z05, 81T70)

— (*with* Zhang, R. B.) Quantum groups at odd roots of unity and topological invariants of 3-manifolds. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 619–636. (Stephen F. Sawin) **98i:17019** 17B37 (57M25, 57N10, 81R50)

— (*with* Murray, Michael K.; Wang, Bai-Ling) Higher bundle gerbes and cohomology classes in gauge theories. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 2, 183–197. (J. P. C. Greenlees) **98e:58033** 58D29 (53C80, 55N30, 55R99, 58G40)

— (*with* Farber, Michael S.; Mathai, Varghese) Determinant lines, von Neumann algebras and L^2 torsion. (English summary) *J. Reine Angew. Math.* **484** (1997), 153–181. (Patrick T. McDonald) **98c:58175** 58G26 (46H25, 46L10, 46L85)

— (*with* Wang, Bai-Ling; Zhang, R. B.; McCarthy, James G.) Seiberg-Witten monopoles in three dimensions. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 3, 213–228. (Naichung Conan Leung) **98d:57055** 57R57 (58D29, 81T13, 81T70)

Carey, Graham F. (*with* Spotz, W. F.) Higher-order compact mixed methods. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 7, 553–564. 65N06

— (*with* Pehlivanov, A. I.) Local error estimation and adaptive remeshing scheme for least-squares mixed finite elements. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 125–131. (Summary) **98i:65095** 65N30

— (*with* Abbasian, Reza O.) Hybrid MPE-iterative schemes for linear and nonlinear systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 277–291. 65F10 (65H10)

— (*with* Pehlivanov, A. I.; Shen, Yun; Bose, A.; Wang, K. C.) Least-squares finite elements for fluid flow and transport. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 97–107. (Summary) **98k:76085** 76M10

Carfantan, Hervé (*with* Mohammad-Djafari, Ali) An overview of nonlinear diffraction tomography within the Bayesian estimation framework. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 107–124, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (Summary) **98k:65077** 65R30 (65R10, 78A45)

Carfora, Mauro (*with* Marzuoli, Annalisa; Vancheri, A.) Diffeomorphism invariance and quantum gravity. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 366–400, *World Sci. Publishing, River Edge, NJ*, 1994. (Francois Vanderseypen) **98h:83026** 83C45 (57Q15, 83C27)

— (*with* Bartocci, C.; Bruzzo, U.; Marzuoli, Annalisa) Entropy of random coverings and 4D quantum gravity. (English summary) *J. Geom. Phys.* **18** (1996), *no.* 3, 247–294. (Summary) **98b:83033** 83C45 (53C23, 57Q10, 81V17, 83C27)

— (*with* Ambjørn, Jan; Marzuoli, Annalisa) ★ The geometry of dynamical triangulations. (English summary) Lecture Notes in Physics. New Series m: Monographs, 50. *Springer-Verlag, Berlin*, 1997. viii+197 *pp.* *ISBN* 3-540-63330-8 (Francois Vanderseypen) **98i:83024** 83C27

— (*with* Gabrielli, D.; Gionti, G.) Recent developments in 4D-simplicial quantum gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 111–126, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:83027** 83C27 (83C45)

Cargo, Patricia (*with* Gallice, Gérard) Roe matrices for ideal MHD and systematic construction of Roe matrices for systems of conservation laws. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 446–466. (Summary) **98h:76091** 76M20 (76N15, 76W05)

Carillo, Sandra (*with* Oevel, Walter) Squared eigenfunction symmetries for soliton equations. I, II. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 161–178, 179–199. (Vladislav G. Dubrovsky) **98m:58062** 58F07 (35Q53, 35S05)

Carini, A. (*with* Diligenti, M.; Maier, Giulio) Symmetric boundary integral formulations of transient heat conduction: saddle-point theorems for BE analysis and BE-FE coupling. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 2, 253–283. (P. Rochus) **98i:80003** 80A20 (80–08)

— (*with* Castiglioni, L.; Symonds, P. S.) Regular and chaotic responses of a Hamiltonian beam model. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 341–368. (Summary) **98a:73036** 73K05 (58F13, 70K50, 73D05, 73E50, 73K12)

Carini, Paolo (*with* Bini, Donato; Jantzen, Robert T.) The intrinsic derivative and centrifugal forces in general relativity. I. Theoretical foundations. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 1, 1–38. (Volker Perlick) **98f:83012** 83C10

Caristi, Gabriella (*with* Mitidieri, Enzo) Nonexistence of positive solutions of systems of quasilinear differential inequalities. Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 151–165 (1997). (Ya. A. Roĭtberg) **98i:35217** 35R45 (34A40, 35B05)

— (*with* Mitidieri, Enzo) Nonexistence of positive solutions of quasilinear equations. *Adv. Differential Equations* **2** (1997), *no.* 3, 319–359. (C. A. Swanson) **98a:34011** 34A34 (34A40, 34B15, 34C10, 35B05, 35J60)

— *see also* **Reaction diffusion systems, 98d:35004**

Cârjă, Ovidiu (*with* Vrabie, Ioan I.) Some new viability results for semilinear differential inclusions. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 401–424. (Luc Doyen) **98h:34029** 34A60 (34G20, 49J24)

Carl, Bernd Metric entropy of convex hulls in Hilbert spaces. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 4, 452–458. (G. Schechtman) **98g:46023** 46C05 (41A46, 46B99)

— (*with* Defant, Andreas) Asymptotic estimates for approximation quantities of tensor product identities. (English summary) *J. Approx. Theory* **88** (1997), *no.* 2, 228–256. (Dirk Werner) **98a:46030** 46B28 (46M05, 47B06)

Carl, Siegfried An existence result for a class of parabolic hemivariational inequalities. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 91–98, *Dynamic, Atlanta, GA*, 1996. (P. D. Panagiotopoulos) **98g:35124** 35K85 (35R70, 47H19, 49J40)

— Enclosure of solutions for quasilinear dynamic hemivariational inequalities. (English summary) *Nonlinear World* **3** (1996), *no.* 3, 281–298. (P. D. Panagiotopoulos) **98g:35125** 35K85 (47H19, 49J40)

— An extremality result for quasilinear elliptic equations in $\mathbf{R}^N$. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 43–51. (Ya Zhe Chen) **98k:35050** 35J60

— Quasilinear elliptic equations with discontinuous nonlinearities in $\mathbf{R}^N$. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1743–1751. (Henghui Zou) **98m:35050** 35J60 (35R05, 47H15, 47N20)

— (*with* Heikkilä, Seppo) On a second order discontinuous implicit boundary value problem. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 219–232. (P. W. Eloe) **98j:34027** 34B15 (34A09, 34A45)

— (*with* Heikkilä, Seppo) Elliptic equations with discontinuous nonlinearities in $\mathbf{R}^N$. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 217–227. (Henghui Zou) **98m:35051** 35J60 (35R05, 47H15, 47N20)

Carlbom, Per (*with* Lötstedt, Per) Stability and non-normality of the k-ε equations. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 11–37. (Tomás Chacón Rebollo) **98j:76059** 76F05 (65N06, 76M25)

Carlen, Eric A. (*with* Loss, Michael) On the minimization of symmetric functionals. *The state of matter* (*Copenhagen*, 1992), 182–212, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 58E30 (46N10)

— Wiener and the problem of "hidden parameters" in quantum mechanics. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 213–224, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Lorenza Viola) **98e:81015** 81P15 (60J65, 81–02, 81P20)

— (*with* Carvalho, M. C.; Wennberg, Bernt) Entropic convergence for solutions of the Boltzmann equation with general physical initial data. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 373–378. (Anne Nouri) **98i:82052** 82C40

— *see also* **Advances in differential equations and mathematical physics, 98i:00016**

Carles, Roger Déformations dans les schémas définis par les identités de Jacobi. (English summary) [Deformations in schemes defined by Jacobi identities] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 33–62. (Joyce O'Halloran) **98f:17014** 17B56

Carleson, Lennart Wiener's Tauberian theorem. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 65–70, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Håkan Hedenmalm) **98k:43004** 43A20 (40E05, 42A38, 43A45)

Carlet, Claude Codes Z_{2^s}-linéaires. (English and French summaries) [Z_{2^s}-linear codes] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 111–116. (Summary) **98d:94040** 94B25

Carletti, Ettore (*with* Monti Bragadin, G.) Errata to the paper: "On a functional equation satisfied by certain Dirichlet series" [Acta Arith. **71** (1995), no. 3, 265–272; MR 96d:11094]. *Acta Arith.* **82** (1997), *no.* 1, 99–101. (Editors) **98i:11068** 11M35 (11M41, 58G26)

de Carli, Alessandro *see* **De Carli, Alessandro**

de Carli, Laura *see* **De Carli, Laura**

Carlier, Jacques (*with* Li, Yu; Lutton, Jean-luc) Reliability evaluation of large telecommunication networks. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 61–80. (Summary) **98c:90035** 90B12 (90B25)

— *see also* **Colloquium: Graphs and Optimization, 98b:00021**

Carlin, Bradley P. (*with* Sargent, Daniel J.) Robust Bayesian design and analysis of clinical trials via prior partitioning. (English summary) With a discussion by Joseph B. Kadane and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 175–193, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F15 (62F35)

— (*with* Gelfand, Alan E.; Sahu, S. K.) Efficient parametrizations for generalized linear mixed models. (English summary) *Bayesian statistics*, 5 (*Alicante*, 1994), 165–180, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Summary) **98c:62047** 62F15 (60J10)

— (*with* Kass, Robert E.; Gelman, Andrew; Neal, Radford M.) Markov chain Monte Carlo in practice: a roundtable discussion. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 93–100. 62F15 (60J10, 62C05, 62E25)

— (*with* Ghosh, Malay; Natarajan, Kannan; Stroud, T. W. F.) Generalized linear models for small-area estimation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 273–282. (Summary) **98m:62203** 62J12 (62F15)

Carling, Kenneth (*with* Jacobson, Tor) Identification of dependent competing risks models. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 59–63, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62180** 62N05

Carlini, Alberto (*with* Greensite, J.) A worldline approach to quantum gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 267–271, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C45 (81V17)

Carlip, Steven Six ways to quantize $(2+1)$-dimensional gravity. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 215–234, *World Sci. Publishing, River Edge, NJ*, 1994. (Introduction) **98d:83030** 83C45 (81V17)

— Statistical mechanics and black hole thermodynamics. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 8–12. (Summary) **98g:83057** 83C57 (81T20, 82B99)

— Spacetime foam and the cosmological constant. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 21, 4071–4074. (Summary) **98g:83035** 83C45

Carlip, Walter (*with* Jacobson, Eliot) Stability of two-term recurrence sequences with even parameter. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 1, 70–83. (Y. H. Harris Kwong) **98b:11014** 11B50 (11B37)

Carlsen, Henrik (*with* Sjöqvist, Erik; Brown, Harvey R.) Galilean noninvariance of geometric phase. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 273–278. (Piotr Kosiński) **98c:81074** 81Q99

Carlson, Bradley S. (*with* Lo, N. W.; Tao, D. L.) Fault tolerant algorithms for broadcasting on the star graph network. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1357–1362. 68M10 (68M15)

Carlson, D. A. *see* **Carlson, Dean A.**

Carlson, David H. (*with* Johnson, Charles Royal) Extremal patterns of distinct entries in vectors in the range of a matrix. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 283–297. (Summary) **98k:15020** 15A45

Carlson, Dean A. Asymptotic stability for a class of delay differential inclusions. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 219–236. (Stanisław Migórski) **98i:34111** 34K20 (34A60, 49J24)

— Overtaking optimal solutions for convex Lagrange problems with time delay. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 31–48. (Arie Leizarowitz) **98c:49051** 49K25 (34K35, 49J25, 90A16)

Carlson, James A. (*with* Toledo, Domingo) On fundamental groups of class VII surfaces. *Bull. London Math. Soc.* **29** (1997), *no.* 1, 98–102. (From the introduction) **98g:32044** 32J15 (58E20)

Carlson, Jon F. Varieties and induction. (English summary) *Bol. Soc. Mat. Mexicana* (3) **2** (1996), *no.* 2, 101–114. (Jeremy Rickard) **98g:20022** 20C20 (20J06)

— (*with* Peng, Chuang) Relative projectivity and ideals in cohomology rings. (English summary) *J. Algebra* **183** (1996), *no.* 3, 929–948. (Jeremy Rickard) **98g:20086** 20J06 (18G25, 20C20)

— (*with* Benson, David John; Rickard, Jeremy) Thick subcategories of the stable module category. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 59–80. (P. Donovan) **98g:20021** 20C20 (20G40)

— (*with* Green, Edward L.[1]; Schneider, Gerhard J. A.) Computing Ext algebras for finite groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 317–325. (D. F. Holt) **98k:20086** 20J05 (20–04)

— (*with* Clark, Douglas N.) Projectivity and extensions of Hilbert modules over $\mathbf{A}(\mathbf{D}^k)$. *Michigan Math. J.* **44** (1997), *no.* 2, 365–373. (Jörg Eschmeier) **98i:46047** 46H25 (32A35, 46J15, 46M10)

— *see also* **Group representations: cohomology, group actions and topology, 98h:20002**

Carlson, Robert Hill's equation for a homogeneous tree. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 23, 30 *pp.* (*electronic*). (Serge Nicaise) **98j:34039** 34B99 (34L40, 47E05)

— A Borg-Levinson theorem for Bessel operators. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 1–26. (Boris M. Levitan) **98b:34029** 34A55 (34B30, 34L05, 35J05, 35P05)

Carlsson, Bengt (*with* Söderström, Torsten; Fan, Hong; Bigi, Stefano) Least squares parameter estimation of continuous-time ARX models from discrete-time data. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 659–673. (Han Fu Chen) **98f:93019** 93E10 (62M10)

Carlsson, Gunnar (*with* Pedersen, Erik Kjær; Vogell, Wolrad) Continuously controlled algebraic K-theory of spaces and the Novikov conjecture. *Math. Ann.* **310** (1998), *no.* 1, 169–182. (Masayuki Yamasaki) **98k:19001** 19D10 (55N20, 57R67)

Carlsson, Renate *see* **Brückner, Helmut**

Carlsson, Svante (*with* Jonsson, Håkan) Computing a shortest watchman path in a simple polygon in polynomial-time. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 122–134, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

Carlstein, Edward (*with* Krishnamoorthy, Charu) Practical considerations in boundary estimation: model-robustness, efficient computation, and bootstrapping. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 177–193, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G05 (62G20)

— *see also* **Change-point problems, 98e:62008**

Carlucci, F. (*with* Baragona, R.) An optimality criterion for aggregating a set of time series in a composite index. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 1–9. (Roch Roy) **98e:62126** 62M10 (62M15)

Carlucci-Aiello, Luigia (*with* Amati, Giambattista; Pirri, Fiora) Definability and commonsense reasoning. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 169–199. (G. Mirkowska) **98h:68210** 68T27 (03B45, 03B70)

— (*with* Amati, Giambattista; Pirri, Fiora) Intuitionistic autoepistemic logic. (English summary) *Studia Logica* **59** (1997), *no.* 1, 103–120. (Petr Jirků) **98m:03055** 03B60 (03B70)

Carmack, Lori A. Numerical evaluation of a symmetric potential function. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 641–646. (John P. Coleman) **98g:65021** 65D30 (65D20)

Carmeli, M. Structure of cosmology in $\Omega = 1$ universe. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 1, 65–69. 83F05

— Cosmological general relativity. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 2, 159–168 (1997). 83D05

— Space, time, and velocity in cosmology. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 3, 757–770. (Jaume J. Carot) **98a:83007** 83A05 (83F05)

Carmichael, G. R. (*with* Jay, Laurent O.; Sandu, A.; Potra, Florian A.) Improved quasi-steady-state-approximation methods for atmospheric chemistry integration. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 182–202. (N. L. Vulchanov) **98c:65110** 65L05 (80–08)

Carmichael, H. Lorne (*with* MacLeod, W. Bentley) Gift giving and the evolution of cooperation. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 485–509. 90D12 (90A05)

Carminati, J. (*with* Cyganowski, S.) Shear-free perfect fluids in general relativity. III. Petrov type III spacetimes. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 7, 1805–1817. (Wathek Talebaoui) **98c:83051** 83C55

— (*with* Cyganowski, S.) Shear-free perfect fluids in general relativity. IV. Petrov type III spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1167–1181. (Wathek Talebaoui) **98j:83020** 83C20 (83C55)

Carminati, Lionel (*with* Iochum, Bruno; Schücker, Thomas) The noncommutative constraints on the standard model à la Connes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1269–1280. (Kamran Kaviani) **98e:81199** 81V22 (46L60, 46L87, 58B30)

Carminati, Rémi (*with* Nieto-Vesperinas, Manuel; Greffet, Jean-Jacques) Reciprocity of evanescent electromagnetic waves. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 3, 706–712. (Summary) **98k:78031** 78A45

Carmo, José (*with* Santos, Filipe) A modal action logic based framework for organization specification and analysis. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 119–133, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 03B80 (03B45, 68T27)

— (*with* Jones, Andrew J. I.) Deontic database constraints, violation and recovery. (English summary) Papers in deontic logic (Oslo, 1994). *Studia Logica* **57** (1996), *no.* 1, 139–165. (M. S. Burgin) **98h:03023** 03B45 (68P15)

do Carmo, M. (*with* Bérard, P.; Santos, Walcy) The index of constant mean curvature surfaces in hyperbolic 3-space. *Math. Z.* **224** (1997), *no.* 2, 313–326. (Ricardo Sa Earp) **98a:53008** 53A10 (53C42)

Carmody, Kevin Circular and hyperbolic quaternions, octonions, and sedenions—further results. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 1, 27–47. (Dominique Lambert) **98d:17004** 17A35

López Carmona, A. *see* **López Carmona, A.**

Carmona, Angeles (*with* Balbuena, C.; Fàbrega, Josep; Fiol, M. A.) Extraconnectivity of graphs with large minimum degree and girth. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 85–100. (Prabir Das) **98d:05088** 05C40

— (*with* Balbuena, M. C.; Fàbrega, Josep; Fiol, M. A.) Connectivity of large bipartite digraphs and graphs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 3–17. (Alexander M. Barg) **98k:05101** 05C40

— (*with* Balbuena, M. C.; Fàbrega, Josep; Fiol, M. A.) On the order and size of s-geodetic digraphs with given connectivity. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 19–27. (Summary) **98f:05071** 05C20 (05C40)

Carmona, Juan José (*with* Donaire, Juan Jesús) On removable singularities for the analytic Zygmund class. *Michigan Math. J.* **43** (1996), *no.* 1, 51–65. (Peter Boyadjiev) **98g:30005** 30B40

— (*with* Pommerenke, Christian) Twisting behaviour of conformal maps. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 16–36. (Christopher Bishop) **98h:30010** 30C35

Carmona, René A. Transport properties of Gaussian velocity fields. (English summary) *Real and stochastic analysis*, 9–63, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Jean-Pierre Fouque) **98k:60094** 60H10 (60G60, 60J70, 82C31)

— (*with* Xu, Lin) Homogenization for time-dependent two-dimensional incompressible Gaussian flows. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 265–279. (Jean-Pierre Fouque) **98a:60083** 60H15 (35K99, 35R60, 60F05, 60J25)

Carmony, Lowell A. (*with* Yarnold, Paul R.; Naeymi-Rad, Frank) One-tailed type I error rates for balanced two-category UniODA with a random ordered attribute. (English summary) *Ann. Oper. Res.* **74** (1997), 223–238. 62H30

Carnal, H. (*with* Fel′dman, G. M.) Phase retrieval for probability measures on abelian groups. II. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 1065–1074. (Michael Voit) **98j:60006** 60B15 (22B99, 43A25)

Carnap, Rudolf On the character of philosophical problems. (Spanish) *Carnap's program (Spanish)*, 25–43, *Textos Bronce*, 3, *Bronce, Barcelona*, 1996. (*see* **98k:03013**) 03A05

— *see also* **Frege, Gottlob**, **98f:01043**; **Grattan-Guinness, Ivor**, **98f:01044**; **Legacy of Rudolf Carnap**, **98h:00043**; **Carnap's program**, **98k:03013**; **Haller, Rudolf**, (**98m:00014**); **Liston, Michael**, (**98h:00043**); **Scardovi, Italo**, (**98h:00043**); **Festa, Roberto**, (**98h:00043**); **Fano, Vincenzo**, (**98h:00043**) *and* **Picardi, Eva**, (**98h:00043**)

Carneiro, S. (*with* Bunchaft, F.) Weber-like interactions and energy conservation. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 393–401. (Summary) **98j:78009** 78A25

Carnero, C. (*with* Carpena, P.; Aguiar, J.) The rolling body paradox: an oscillatory motion approach. (English and Spanish summaries) *European J. Phys.* **18** (1997), *no.* 6, 409–416. 70E99 (70F99)

Carnevale, G. F. (*with* Briscolini, M.; Kloosterziel, R. C.; Vallis, Geoffrey K.) Three-dimensionally perturbed vortex tubes in a rotating flow. (English summary) *J. Fluid Mech.* **341** (1997), 127–163. (Summary) **98b:76016** 76C05 (76C20, 76E20, 76U05, 86A10)

— (*with* Velasco Fuentes, O. U.; Orlandi, P.) Inviscid dipole-vortex rebound from a wall or coast. (English summary) *J. Fluid Mech.* **351** (1997), 75–103. (Summary) **98h:76015** 76C05 (86A05)

Carnicer, J. M. (*with* Floater, Michael S.) Piecewise linear interpolants to Lagrange and Hermite convex scattered data. (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 345–364 (1997). (Summary) **98k:41005** 41A05 (65D05)

— (*with* Floater, Michael S.; Peña, J. M.) Linear convexity conditions for rectangular and triangular Bernstein-Bézier surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 27–38. (Frederick N. Fritsch) **98m:65023** 65D17 (68U05, 68U07)

— (*with* Peña, J. M.) Bidiagonalization of oscillatory matrices. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 365–376. (Summary) **98g:15012** 15A21 (15A48)

Carnielli, W. A. (*with* D'Ottaviano, I. M. L.; Alves, E. H.) The centre for logic in Campinas and the development of logic in Brazil. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 15–29. (*see* **98k:03006**) 03–03 (01A72)

— (*with* Veloso, Paulo A. S.) Ultrafilter logic and generic reasoning. (English summary) *Computational logic and proof theory (Vienna, 1997)*, 34–53, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98k:03067** 03B60 (03B70, 68T27)

Carnot, Nicolas Léonard Sadi *see* **Kikuchi, Yoshiyuki et al.**

de Caro, Liberato *see* **De Caro, Liberato**

Caro, Yair (*with* Bialostocki, A.; Roditty, Y.) On zero sum Turán numbers. Twelfth British Combinatorial Conference (Norwich, 1989). *Ars Combin.* **29** (1990), *A*, 117–127. (C. C. Rousseau) **98d:05072** 05C35 (05C55)

— Remarks on a zero-sum theorem. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 315–322. (T. O. Hawkes) **98f:20005** 20D60

— (*with* Yuster, Raphael) Packing graphs: the packing problem solved. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 1, *approx.* 7 *pp.* (*electronic*). (Stanislav Jendrol') **98a:05111** 05C70

— (*with* Yuster, Raphael) Efficient covering designs of the complete graph. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 10, 8 *pp.* (*electronic*). (W. H. Mills) **98a:05048** 05B40 (05C70)

— Binomial coefficients and zero-sum Ramsey numbers. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 367–373. (Summary) **98g:05005** 05A10 (05C55)

— (*with* Alon, Noga; Yuster, Raphael) Covering the edges of a graph by a prescribed tree with minimum overlap. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 144–161. (Gerard J. Chang) **98h:05146** 05C70 (05C05, 05C85)

— (*with* Yuster, Raphael) Recognizing global occurrence of local properties. (English summary) *J. Complexity* **13** (1997), *no.* 3, 340–352. (Summary) **98f:68211** 68R10 (05C85, 68Q25)

— Subdivisions, parity and well-covered graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 85–94. (Bert L. Hartnell) **98e:05085** 05C70 (68R10)

— Problems in zero-sum combinatorics. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 427–434. (Y. Roditty) **98g:05100** 05C55

huber-Carol, Catherine *see* **Huber-Carol, Catherine**

Caron, Nathalie (*with* Robert, Christian P.) Noninformative Bayesian testing and neutral Bayes factors. (English summary) *Test* **5** (1996), *no.* 2, 411–437. (Françoise Garcia-Brouaye) **98f:62049** 62F03 (62C05, 62F15)

Caron, Richard J. (*with* Boneh, Arnon; Boneh, Shahar) Redundancy. (English summary) *Advances in sensitivity analysis and parametric programming*, 13.1–13.41, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **98k:90058** 90C08 (90C15)

— (*with* Boneh, Shahar; Boneh, Arnon) Estimating the prediction function and the number of unseen species in sampling with replacement. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 372–379. (Summary) **98m:62050** 62F10

Carot, Jaume (*with* da Costa, Jose) Symmetries of matter distributions. *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 179–183, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Garry Ludwig) **98g:83011** 83C20

— (*with* Sintes, A. M.) Homothetic perfect fluid spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1183–1205. (Summary) **98k:83017** 83C20 (83C15)

— (*with* Núñez, L. A.; Percoco, U.) Ricci collineations for type B warped space-times. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1223–1237. (Volker Perlick) **98k:83018** 83C20 (53C50, 53C80)

— (*with* Arbona, A.; Bona Garcia, Carles; Mas, Lluis; Massó, Joan; Stela, J.) Stuffed black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2397–2402. 83C57

Carota, Cinzia Local robustness of Bayes factors for nonparametric alternatives. (English summary) *Bayesian robustness (Rimini, 1995)*, 283–291, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F15 (62A15)

Carotenuto, Luigi (*with* Duan, Yu Rong; Monti, Rodolfo; Li, Yu Guang; Tang, Ze Mei) Numerical analysis of the temperature distribution in vertical free thin films during solidification. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 457–466. 80A22

Caroti, Stefano *see* **New physics of the XIVth century**, **98f:01003**

Carow-Watamura, Ursula (*with* Watamura, Satoshi; Hebecker, Arthur; Schlieker, Michael; Weich, Wolfgang) Bicovariant differential calculus on quantum groups and wave mechanics. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1279–1288. (Andreas Cap) **98g:58006** 58B30 (16W30, 17B37, 81R50)

— (*with* Watamura, Satoshi) Harmonic oscillators on quantum space. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 416–427, *World Sci. Publishing, River Edge, NJ*, 1995. (Marcelo R. Ubriaco) **98j:81143** 81R50

— (*with* Watamura, Satoshi) Chirality and Dirac operator on noncommutative sphere. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 365–382. (Raimar Wulkenhaar) **98f:58023** 58B30 (58G03)

Carozza, Menita A duality between Gehring and Muckenhoupt classes. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 173–181. (Javier Soria) **98g:26020** 26D15 (42B25)

— (*with* Passarelli di Napoli, Antonia) Composition of maximal operators. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 397–409. (Vladimir D. Stepanov) **98f:42013** 42B25 (47B38)

Carpena, P. (*with* Carnero, C.; Aguiar, J.) The rolling body paradox: an oscillatory motion approach. (English and Spanish summaries) *European J. Phys.* **18** (1997), *no.* 6, 409–416. 70E99 (70F99)

Carpenter, David Mark (*with* Hebert, Jaimie L.) Estimating guaranteed lifetimes of systems in a random environment. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 309–316. (A. M. Abouammoh) **98c:62188** 62N05

Carpenter, Laurel L. Oval designs in Desarguesian projective planes. (English summary) Second Upper Michigan Combinatorics Workshop on Designs, Codes and Geometries (Houghton, MI, 1994). *Des. Codes Cryptogr.* **9** (1996), *no.* 1, 51–59. (Raymond Hill) **98b:51004** 51E05

Carpenter, Mark *see* **Carpenter, David Mark**

Carpenter, Mark H. (*with* Gottlieb, David) Spectral methods on arbitrary grids. (English summary) *J. Comput. Phys.* **129** (1996), *no.* 1, 74–86. (Summary) **98f:65115** 65N35 (65M70)

— (*with* Casper, Jay H.) Computational considerations for the simulation of discontinuous flows. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 63–78, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (76L05, 76Q05)

Carpenter, Peter W. (*with* Cooper, A. J.) The stability of rotating-disc boundary-layer flow over a compliant wall. I. Type I and II instabilities. (English summary) *J. Fluid Mech.* **350** (1997), 231–259. (Summary) **98k:76055** 76E99 (73K70, 76D10, 76U05)

— (*with* Cooper, A. J.) The stability of rotating-disc boundary-layer flow over a compliant wall. II. Absolute instability. (English summary) *J. Fluid Mech.* **350** (1997), 261–270. (Summary) **98k:76056** 76E99 (73K70, 76D10, 76U05)

— (*with* Davies, Christopher) Instabilities in a plane channel flow between compliant walls. (English summary) *J. Fluid Mech.* **352** (1997), 205–243. (Summary) **98i:76031** 76E05 (73K70)

Carpentier, Romuald (*with* de La Bourdonnaye, Armel; Larrouturou, Bernard) On the derivation of the modified equation for the analysis of linear numerical methods. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 459–470. 65M15

Carpi, Arturo On the number of abelian square-free words on four letters. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 155–167. (Summary) **98j:68139** 68R15 (05A99, 20M05)

Carpinteri, A. *see* **Fractals and fractional calculus in continuum mechanics**, **98k:73001**

Carpio, A. Large time behaviour in convection-diffusion equations. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 551–574. (Yoshio Yamada) **98c:35074** 35K55 (35B40)

— (*with* Chapman, S. J.; Howison, S. D.; Ockendon, J. R.) Dynamics of line singularities. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2013–2024. (Summary) **98j:76015** 76C05 (73C99, 82D55)

Carr, B. J. Black holes in cosmology and astrophysics. *General relativity* (*Aberdeen*, 1995), 143–202, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (Asghar Qadir) **98a:83075** 83C57 (83F05)

Carr, Peter Paul (*with* AitSahlia, F.) American options: a comparison of numerical methods. *Numerical methods in finance*, 67–87, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (*see* **98c:90004**) 90A09

Carr, Robert Separating over classes of TSP inequalities defined by 0 node-lifting in polynomial time. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 460–474, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90153** 90C35 (05C85)

— Separating clique trees and bipartition inequalities having a fixed number of handles and teeth in polynomial time. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 257–265. (Peter Butkovič) **98f:90050** 90C27 (90C10)

Carr, Thomas W. (*with* Schwartz, Ira B.; Triandaf, Ioana) Tracking controlled chaos: theoretical foundations and applications. (English summary) *Chaos* **7** (1997), *no.* 4, 664–679. (Summary) **98i:58164** 58F13 (58F40, 93C15)

— (*with* Booth, Victoria; Erneux, Thomas) Near-threshold bursting is delayed by a slow passage near a limit point. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1406–1420. (Summary) **98f:34079** 34D15 (34C23, 34E15, 92C45)

Carra' Ferro, G. Differential Gröbner bases in one variable and in the partial case. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 1–10. (G. Eisenreich) **98h:12007** 12H05 (13N10, 68Q40)

salinas Carrasco, Luis *see* **Salinas Carrasco, Luis**

arroyo Carrasco, M. L. *see* **Arroyo Carrasco, M. L.**

Carrasco, P. (*with* Cegarra, A. M.) Schreier theory for central extensions of categorical groups. *Comm. Algebra* **24** (1996), *no.* 13, 4059–4112. (John G. Ratcliffe) **98a:55012** 55Q05 (18D10, 20J05)

Carrasco, R. C. Accurate computation of the relative entropy between stochastic regular grammars. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 437–444. (Summary) **98k:68099** 68Q45 (68Q75)

Carravetta, Francesco (*with* Germani, Alfredo; Raimondi, Massimo) Polynomial filtering of discrete-time stochastic linear systems with multiplicative state noise. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1106–1126. (Seihaku Higuchi) **98g:93045** 93E11

Carrell, James B. Vector fields, residues and cohomology. *Parameter spaces* (*Warsaw*, 1994), 51–59, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (E. Akyıldız) **98k:32055** 32S65 (14M99)

pla i Carrera, Josep *see* **Pla i Carrera, Josep**

Carreras, B. A. Problems with the concept of plasma equilibrium in tokamaks. Mathematical models in plasma physics (Spanish) (Madrid, 1991/1992). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **30** (1995), 49–72. (*see* **98h:00029**) 76W05 (76X05)

márquez-Carreras, David *see* **Márquez-Carreras, David**

Carreras, Francesc (*with* Owen, Guillermo) Automorphisms and weighted values. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 1–10. (V. A. Vasil'ev) **98d:90140** 90D12

Carreras, Francisco J. (*with* Giménez, Fernando; Miquel, Vicente) Immersions of compact Riemannian manifolds into a ball of a complex space form. *Math. Z.* **225** (1997), *no.* 1, 103–113. (Ildefonso Castro) **98g:53107** 53C42 (53C40)

— (*with* Giménez, Fernando; Miquel, Vicente) Bounded mean curvature isometric immersions of a compact Riemannian manifold with images contained in a tube. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 97–107. (Thomas Hasanis) **98m:53074** 53C42 (53C40)

Carrese, Rosalba (*with* Łazarow, Ewa) Baire classes of some generalized partial derivatives. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 9–15. (Zbigniew Grande) **98h:26007** 26A21 (26B05)

Carretero-González, R. (*with* Arrowsmith, David K.; Vivaldi, F.) Mode-locking in coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 381–403. (Summary) **98c:58106** 58F13

Carrier, Alain C. State-space formulae for all the stabilizing discrete controllers that satisfy an H_∞ norm bound. I. Main results and the full information problem. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 65–96. (Summary) **98m:93105** 93D21 (93B36, 93C55)

Carrière, Alain Paul (*with* Oudin, Louis-Rémi) Applications du calcul formel à la balistique. (English and French summaries) [Applications of computer algebra to ballistics] Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 263–284. (Summary) **98j:70001** 70–04 (34–04, 70D99, 76–04)

— *see also* **Computer algebra, 98e:00016**

Carriere, Jacques F. Valuation of the early-exercise price for options using simulations and nonparametric regression. (English summary) *Insurance Math. Econom.* **19** (1996), *no.* 1, 19–30. (Jan Beirlant) **98d:62187** 62P05 (62G05)

— Testing independence in bivariate distributions of claim frequencies and severities. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 1, 81–89. 62P05

— (*with* Buhr, K. A.) Simplifying conditional expectations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 71–75. 60A10

Carrière, Philippe (*with* Bottaro, Alessandro; Metzener, P.) Wavelength selection in Rayleigh-Bénard convection between horizontal boundaries of finite conductivity. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 483–508. 76E15

Carrillo, José A. (*with* Soler, Juan) On the Vlasov-Poisson-Fokker-Planck equations with measures in Morrey spaces as initial data. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 475–495. (R. Glassey) **98a:82080** 82C31 (35Q99, 45K05, 76X05, 82C21, 82D10)

— (*with* Bonilla, Luis L.; Soler, Juan) Asymptotic behavior of an initial-boundary value problem for the Vlasov-Poisson-Fokker-Planck system. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1343–1372. (R. Glassey) **98j:35176** 35Q99 (35B40, 76X05, 82D10)

— On a nonlocal elliptic equation with decreasing nonlinearity arising in plasma physics and heat conduction. *Nonlinear Anal.* **32** (1998), *no.* 1, 97–115. (Graeme C. Wake) **98m:35052** 35J60 (34B15, 35B32, 80A20)

— (*with* Soler, Juan) On functional solutions for the three-dimensional kinetic equations of Vlasov-type with bounded measures as initial data. *Nonlinear Anal.* **32** (1998), *no.* 2, 235–259. (Yan Guo) **98k:82148** 82C40 (35Q99, 45K05, 82D10)

díaz Carrillo, M. *see* **Díaz Carrillo, M.**

Carriquiry, Alicia L. (*with* Breidt, F. Jay) Improved quasi-maximum likelihood estimation for stochastic volatility models. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 228–247, *Springer, New York*, 1996. (*see* **98a:62002**) 62F15

Carrizosa, Emilio (*with* Conde, Eduardo; Pascual Acosta, Antonio; Romero-Morales, Dolores) Closest solutions in ideal-point methods. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 274–281, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Summary) **98i:90080** 90C29 (90A05)

— (*with* Conde, Eduardo; Romero-Morales, Dolores) Location of a semiobnoxious facility. A biobjective approach. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 338–346, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Summary) **98i:90081** 90C29 (90B80)

— (*with* Conde, Eduardo; Muñoz-Márquez, Manuel; Puerto Albandoz, Justo) Simpson points in planar problems with locational constraints. The round-norm case. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 276–290. (Rainer Burkard) **98m:90008** 90A08 (90B50, 90B80, 90C25)

— (*with* Conde, Eduardo; Muñoz-Márquez, Manuel; Puerto Albandoz, Justo) Simpson points in planar problems with locational constraints. The polyhedral-gauge case. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 291–300. (Rainer Burkard) **98m:90009** 90A08 (90B50, 90B80, 90C25)

Carro, Maria J. (*with* Cerdà, Joan; Soria, Javier) A unified approach for commutators theorems in interpolation theory, a survey. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 91–108. (Mario Milman) **98f:46061** 46M35 (46E30)

— (*with* Nikolova, Lyudmila Ĭ.) Interpolation of limited and weakly compact operators on families of Banach spaces. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 2, 151–177. (Evgeniy I. Pustylnik) **98m:46093** 46M35 (46E99)

— (*with* Soria, Javier) Transference theory on Hardy and Sobolev spaces. (English summary) *Colloq. Math.* **74** (1997), *no.* 1, 47–69. (Nakhlé Asmar) **98m:42028** 42B30 (43A15, 46E10, 46E30)

— (*with* Nikolova, Lyudmila Ĭ.; Peetre, Jaak; Persson, Lars-Erik) Some real interpolation methods for families of Banach spaces: a comparison. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 26–57. (Fernando Cobos) **98c:46158** 46M35

— (*with* Soria, Javier) The Hardy-Littlewood maximal function and weighted Lorentz spaces. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 146–158. (Aleš Založnik) **98g:42028** 42B25 (46E30)

Carroll, J. Douglas (*with* De Soete, Geert) Multiple trees: fitting two or more tree structures to proximity data. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 313–330, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 62H30 (92G30)

— (*with* Kumbasar, Ece; Romney, A. Kimball) An equivalence relation between correspondence analysis and classical metric multidimensional scaling for the recovery of Euclidean distances. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 1, 81–92. (Summary) **98d:62104** 62H25

Carroll, R. *see* **Carroll, Robert Wayne**

Carroll, Raymond J. Surprising effects of measurement error on an aggregate data estimator. (English summary) *Biometrika* **84** (1997), *no.* 1, 231–234. (Christine Hildegard Müller) **98h:62117** 62J12

— (*with* Fan, Jianqing; Gijbels, Irène; Wand, M. P.) Generalized partially linear single-index models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 477–489. (Summary) **98f:62215** 62J12

— (*with* Wang, Naisyin; Lin, Xihong; Gutierrez, Roberto G.) Bias analysis and SIMEX approach in generalized linear mixed measurement error models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 249–261. 62J12

— (*with* Kauermann, Göran; Müller, Marlene) The efficiency of bias-corrected estimators for nonparametric kernel estimation based on local estimating equations. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 41–47. 62G05

Carroll, Robert Wayne (*with* Kodama, Yuji) Characterization and solution of the dispersionless Hirota equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 53–59, *World Sci. Publishing, River Edge, NJ*, 1996. (Iskander A. Taimanov) **98c:58066** 58F07 (14H99, 35Q53)

— (*with* Chang, Jen Hsu) The Whitham equations revisited. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 343–378. (Summary) **98g:58071** 58F07 (14H55)

— Some kernels on a Riemann surface. (English summary) *Appl. Anal.* **65** (1997), *no.* 3-4, 333–352. 14H40 (30F30, 58F07)

— Some survey remarks on Whitham theory and EM duality. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 187–198. (Henrik Aratyn) **98j:58050** 58F07 (35Q53, 35Q58, 81T60)

— (χ, ψ) duality and enhanced dKdV on a Riemann surface. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 561–593. (Iskander A. Taimanov) **98j:58049** 58F07 (81T60)

Carroll, Thomas L. (*with* Pecora, Louis M.; Johnson, Gregg A.; Mar, Douglas J.; Heagy, James F.) Fundamentals of synchronization in chaotic systems, concepts, and applications. (English summary) *Chaos* **7** (1997), *no.* 4, 520–543. 58F13 (58F40)

— Multiple attractors and periodic transients in synchronized nonlinear circuits. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 365–368. 58F40 (34C15, 34D45, 58F13)

Carroll, Tom (*with* Twomey, J. B.) Conformal mappings of close-to-convex domains. *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 489–498. (T. J. Suffridge) **98f:30006** 30C20

— (*with* Bañuelos, Rodrigo; Housworth, Elizabeth Ann) Inradius and integral means for Green's functions and conformal mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 577–585. (Daniel Girela) **98g:30016** 30C45

Carscadden, Rob The orbit structure of the finite full transformation semigroups. *Transformation semigroups (Colchester, 1993)*, 11–17, *Univ. Essex, Colchester*, 199?. (*see* **98h:20003**) 20M20

Carsetti, Arturo Sense, meaning and information in the Carnapian perspective. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 373–390, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 03A05

Čársky, Petr (*with* Polášek, Martin) Evaluation of molecular integrals in a mixed Gaussian and plane-wave basis by Rys quadrature. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 266–277. 65D30

Carslaw, Horatio Scott *see* **Deakin, Michael A. B., 98d:01037**

Cârstea, A. S. (*with* Grecu, D.) On a class of rational and mixed soliton-rational solutions of the Toda lattice. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 1, 29–36. (Jorge P. Zubelli) **98d:58079** 58F07 (35Q53)

— On the dynamics of rational solutions for the 1D Volterra system. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 378–382. 35Q53

Cârsteanu, Alin (*with* Sapozhnikov, Victor B.; Venugopal, V.; Foufoula-Georgiou, Efi) Absolute optimal time-frequency basis—a research tool. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7133–7146. 94A05

Carstensen, Carsten (*with* Funken, Stefan A.; Stephan, Ernst P.) A posteriori error estimates for *hp*-boundary element methods. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 233–253. 65N38 (45L05)

— A posteriori error estimate for the symmetric coupling of finite elements and boundary elements. (English and German summaries) *Computing* **57** (1996), *no.* 4, 301–322. (J. T. Oden) **98b:65135** 65N38 (65N15)

— (*with* Brink, Ulrich; Stein, Erwin) Symmetric coupling of boundary elements and Raviart-Thomas-type mixed finite elements in elastostatics. (English summary) *Numer. Math.* **75** (1996), *no.* 2, 153–174. (Summary) **98g:65106** 65N30 (65R20, 73V05)

— (*with* Wriggers, Peter) On the symmetric boundary element method and the symmetric coupling of boundary elements and finite elements. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 2, 201–238. (Igor Yu. Chudinovich) **98c:65194** 65N38 (65N30, 73C35, 73V05, 73V10)

— A posteriori error estimate for the mixed finite element method. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 465–476. (Mohammad Asadzadeh) **98a:65162** 65N30 (65N15, 73V05)

— Domain decomposition for a non-smooth convex minimization problem and its application to plasticity. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 177–190. (Weimin Han) **98d:73067** 73V20 (49J45, 65N55, 73E05, 73V25)

— (*with* Gwinner, Joachim) FEM and BEM coupling for a nonlinear transmission problem with Signorini contact. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1845–1864. (Summary) **98i:73051** 73T05 (65N30, 73C50, 73V05, 73V10)

— (*with* Plecháč, Petr) Adaptive algorithms for scalar non-convex variational problems. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 203–216. (Summary) **98j:65046** 65K10 (49M25, 65N30)

Cartan, Henri *see* **Hirzebruch, Friedrich et al., 98h:00041**

Cartas-Fuentevilla, R. Perturbations of Einstein-Maxwell-dilaton fields. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7700–7707. (Summary) **98i:83022** 83C22

Carter, Brandon Extended tensorial curvature analysis for embeddings and foliations. (English summary) *Geometry and nature (Madeira, 1995)*, 207–219, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (S. Timothy Swift) **98c:53019** 53B20 (53B50, 83C99)

— Electromagnetic self-interaction in strings. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 246–252. (Summary) **98f:81245** 81T30

Carter, C. K. (*with* Kohn, Robert Jacob) Markov chain Monte Carlo in conditionally Gaussian state space models. (English summary) *Biometrika* **83** (1996), *no.* 3, 589–601. (Jean Diebolt) **98b:62036** 62F10 (60J10, 62F35, 62M10, 62P10)

Carter, D. M., Jr. (*with* Pandit, Sudhakar G.; Valaulikar, Y. S.) Monotone iterative schemes for initial-boundary and periodic-boundary value hyperbolic problems in three independent variables. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 19–29. (Long An Ying) **98b:65119** 65M99 (35A35, 35L75)

Carter, J. Scott (*with* Saito, Masahico) Knot diagrams and braid theories in dimension 4. (English summary) *Real and complex singularities (São Carlos, 1994)*, 112–147, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (From the introduction) **98g:57037** 57Q45

— (*with* Saito, Masahico) On formulations and solutions of simplex equations. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 24, 4453–4463. (Alexander Balinsky) **98g:17016** 17B37 (20F36, 57M07, 82B23)

— (*with* Rieger, Joachim H.; Saito, Masahico) A combinatorial description of knotted surfaces and their isotopies. (English summary) *Adv. Math.* **127** (1997), *no.* 1, 1–51. (Seiichi Kamada) **98c:57023** 57Q45

— (*with* Saito, Masahico) ★ Knotted surfaces and their diagrams. (English summary) Mathematical Surveys and Monographs, 55. *American Mathematical Society, Providence, RI*, 1998. xii+258 *pp. ISBN* 0-8218-0593-2 (Colin C. Adams) **98m:57027** 57N13

Carter, James Edgar Steinitz classes of nonabelian extensions of degree p^3. *Acta Arith.* **78** (1997), *no.* 3, 297–303. (Franz Lemmermeyer) **98b:11113** 11R29 (11R20, 11R33)

Carter, Roger The history of macramé. *History and science of knots*, 335–345, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (57–03)

Carter, Sheila The pushout space of a spherical submanifold. *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 96–99, *World Sci. Publishing, River Edge, NJ*, 1995. (Setsuo Nagai) **98i:53074** 53C40

— (*with* Dursun, Uğur) Isoparametric and Chen submanifolds. *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 41–45, *World Sci. Publishing, River Edge, NJ*, 1996. (Ivko Dimitric) **98e:53104** 53C42 (53A07, 53C40)

— (*with* Dursun, Uğur) On generalised Chen and *k*-minimal immersions. *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 125–134. (Yi Bing Shen) **98b:53053** 53C42

Cartier, Pierre Some fundamental techniques in the theory of integrable systems. *Lectures on integrable systems (Sophia-Antipolis, 1991)*, 1–41, *World Sci. Publishing, River Edge, NJ*, 1994. (Raúl Ibáñez) **98a:58066** 58F05 (22E60, 53C15, 58F07, 70H05)

— (*with* Dewitt-Morette, Cecile) A rigorous mathematical foundation of functional integration. (English summary) With an appendix by David Collins. *Functional integration (Cargèse, 1996)*, 1–50, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (John I. LaChapelle) **98k:58040** 58D30 (46G12, 46N50, 81S40)

— (*with* Dewitt-Morette, Cecile) Physics on and near caustics. (English summary) *Functional integration (Cargèse, 1996)*, 51–66, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (John I. LaChapelle) **98k:58053** 58E10 (58C28)

— Développements récents sur les groupes de tresses. Applications à la topologie et à l'algèbre. (English summary) [Recent developments in the study of braid groups. Applications to topology and algebra] *Functional integration (Cargèse, 1996)*, 213–246, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (*see* **98e:58004**) 20F36 (16W30, 17B37, 22D35, 32S40, 46L89)

— *see also* **Functional integration, 98e:58004** *and* **Senechal, Marjorie**

Carton, Olivier (*with* Perrin, Dominique) Chains and superchains in ω-semigroups. (English summary) *Semigroups, automata and languages (Porto, 1994)*, 17–28, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:00029**) 68Q70 (20M35, 68Q45)

— (*with* Béal, Marie-Pierre; Reutenauer, Christophe) Cyclic languages and strongly cyclic languages. (English summary) *STACS 96 (Grenoble, 1996)*, 49–59, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68121** 68Q45 (68Q70)

— Chain automata. (English summary) *Theoret. Comput. Sci.* **161** (1996), *no.* 1-2, 191–203. (Wolfgang Thomas) **98a:68133** 68Q68 (03D05, 68Q60)

Carton, Xavier (*with* Darblade, Gilles; Baraille, Rémy; Le Roux, Alain-Yves; Pinchon, Didier) Conditions limites non réfléchissantes pour un modèle de Saint-Venant bidimensionnel barotrope linéarisé. (English and French summaries) [Nonreflecting boundary conditions for a two-dimensional linearized barotropic shallow-water model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 485–490. (Summary) **98a:76086** 76U05 (76B15, 76M20, 86A05)

Cartwright, Donald I. A brief introduction to buildings. (English summary) *Harmonic functions on trees and buildings (New York, 1995)*, 45–77, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (Herbert Abels) **98k:51026** 51E24 (20E42, 20F55)

— (*with* Kuhn, M. Gabriella; Soardi, Paolo M.) Tensor product of spherical representations of the group of automorphisms of a homogeneous tree. (English summary) *Harmonic functions on trees and buildings (New York, 1995)*, 113–115, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 20E08 (22E50)

Cartwright, Robert (*with* You, Jia-Huai; Li, Ming[1]) Iterative belief revision in extended logic programming. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 383–406. (M. I. Dekhtyar) **98d:68051** 68N17 (03B70, 68T27)

de Carufel, J. (*with* Necsulescu, D. S.; Canudas de Wit, C.) Investigation on the efficiency of acceleration feedback in servomechanism with friction. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 377–397. 93B52 (93C41)

Caruso, Horacio A. A symbolic way to express paths and orbits of two iterated function systems. (English summary) *Complex Systems* **10** (1996), *no.* 1, 43–53. (Remo Badii) **98d:58049** 58F03 (28A80, 58F12)

Carvalhaes, C. G. (*with* Belvedere, L. V.; Boschi Filho, H.; Natividade, C. P.) Algebraic isomorphism in two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 210–236. (Lech Jakóbczyk) **98i:81139** 81T05 (81T10, 81T50)

Carvalho, Alexandre N. (*with* Cuminato, José Alberto) Reaction-diffusion problems in cell tissues. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 93–131. (Yoram Schiffmann) **98e:35092** 35K57 (35Q80, 92C40)

— (*with* Oliva, Sergio M.; Pereira, Antônio L.; Rodriguez-Bernal, Aníbal) Attractors for parabolic problems with nonlinear boundary conditions. *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 409–461. (Atsushi Yagi) **98d:35109** 35K60 (34G20, 35B40, 35K57, 47H20, 47N20)

de Carvalho, Francisco J. Craveiro (*with* Robertson, S. A.) Space curves and their duals. *Portugal. Math.* **54** (1997), *no.* 1, 95–100. (Chuan Yu Ma) **98e:53003** 53A04 (57R42)

vaz de Carvalho, Júlia *see* **Vaz de Carvalho, Júlia**

Carvalho, M. *see* **Carvalho, Marcelo Ferreira Lima**

Carvalho, M. C. (*with* Carlen, Eric A.; Wennberg, Bernt) Entropic convergence for solutions of the Boltzmann equation with general physical initial data. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 373–378. (Anne Nouri) **98i:82052** 82C40

Carvalho, Marcelo Ferreira Lima (*with* Vilar, L. C. Q.; Sasaki, C. A. G.; Sorella, S. P.) Becchi-Rouet-Stora cohomology of zero curvature systems. I. The complete ladder case. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5310–5324. (Liviu Tătar) **98b:81260** 81T70 (58Z05)

— (*with* Vilar, L. C. Q.; Sasaki, C. A. G.; Sorella, S. P.) Becchi-Rouet-Stora cohomology of zero curvature systems. II. The noncomplete ladder case. *J. Math. Phys.* **37** (1996), *no.* 11, 5325–5336. (Liviu Tătar) **98b:81261** 81T70 (58Z05)

Carvalho, Marcio S. (*with* Scriven, L. E.) Deformable roll coating flows: steady state and linear perturbation analysis. (English summary) *J. Fluid Mech.* **339** (1997), 143–172. 76D08 (73K70, 73T05, 76E99)

de Carvalho, Maria Entropy dimension of dynamical systems. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 19–40. (Karl Petersen) **98d:54075** 54H20 (54C70, 54F45, 58F08)

Carvalho, Maria Lucília A joint estimator for the eigenvalues of the reproduction mean matrix of a multitype Galton-Watson process. (English summary) *Linear Algebra Appl.* **264** (1997), 189–203. (Kosto V. Mitov) **98j:60117** 60J80 (15A18)

Carvalho, Paula A. A. B. Prime links in some skew-polynomial and skew-Laurent rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1443–1469. (K. R. Goodearl) **98d:16041** 16S35 (16P40, 16S36)

Carvalho e Silva, Jaime (*with* Collaço, M. Paula S. Oliveira) A complete comparison of 25 contraction conditions. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 471–476. (Summary) **98j:47124** 47H09 (47H10, 54H25)

Cary, John R. (*with* Shasharina, Svetlana G.) Omnigenity and quasihelicity in helical plasma confinement systems. (English summary) *Phys. Plasmas* **4** (1997), *no.* 9, 3323–3333. 76X05

Casacuberta, Carles (*with* Cassidy, Charles; Scevenels, Dirk) On genus and embeddings of torsion-free nilpotent groups of class two. (English summary) *Manuscripta Math.* **92** (1997), *no.* 4, 463–475. (Thomas A. Fournelle) **98b:20052** 20F18

— (*with* Rodríguez, José L.) On weak homotopy equivalences between mapping spaces. (English summary) *Topology* **37** (1998), *no.* 4, 709–717. (David A. Blanc) **98k:55006** 55P10 (55Q05, 55S37)

Casadio, Roberto (*with* Harms, Benjamin) Space-time singularities and the axion in the Poincaré coset models ISO(2, 1)/*H*. (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 243–247. (Carlos R. Fernández-Pousa) **98f:81298** 81T40 (81T20, 81T30)

— Semiclassical collapse of a sphere of dust and Hawking radiation. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 177–180. (Summary) **98g:83045** 83C47 (83C57)

— (*with* Harms, Benjamin; Leblanc, Y.; Cox, P. H.) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4948–4961. (Summary) **98e:83069** 83C57

— (*with* Harms, Benjamin; Leblanc, Y.) Statistical mechanics of Kerr-Newman dilaton black holes and the bootstrap condition. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1309–1312. 83C57

Casado, Alberto Parametric down-conversion experiments in the Wigner representation. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 71–76, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81V80 (81S30)

Casado, L. G. (*with* García-Fernández, I.; Ortigosa, P. M.; Herman, Gabor T.; Matej, S.) Multidimensional optimization in image reconstruction from projections. (English summary) *Developments in global optimization* (*Szeged*, 1995), 289–299, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C90 (65D15)

Casado-Díaz, Juan (*with* Garroni, Adriana) A nonhomogeneous extra term for the limit of Dirichlet problems in perforated domains. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 81–94, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Yoshihito Tomita) **98j:35015** 35B25 (35B20, 35J60)

— Existence of a sequence satisfying Cioranescu-Murat conditions in homogenization of Dirichlet problems in perforated domains. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 3, 387–413. (Patrizia Donato) **98c:35016** 35B27 (35J25)

— Homogenization of a quasi-linear problem with quadratic growth in perforated domains: an example. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 669–686. (Alexander A. Pankov) **98h:35020** 35B27 (35J65)

Casahorrán, J. A new supersymmetric version of the Abraham-Moses method for symmetric potentials. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 5, 655–668. (Summary) **98f:81336** 81U05 (81Q60)

Casal, Alfonso C. *see* **Collette, Jean-Paul, 98k:01001**

Casalbuoni, R. Integration over a generic algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5803–5826. (Ludwig Pittner) **98k:81145** 81S99 (81S40)

Casali, Maria Rita An infinite class of bounded 4-manifolds having regular genus three. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **10** (1996), *no.* 2, 279–303. (From the summary) **98f:57040** 57Q25 (57N13)

— Classifying PL 5-manifolds by regular genus: the boundary case. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 193–211. (Jože Vrabec) **98f:57043** 57Q99 (57M40)

— (*with* Gagliardi, Carlo) A combinatorial proof of Rohlin theorem. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 297–310. (Sergej V. Matveev) **98m:57030** 57Q20 (57M15, 57N10)

— Geometric topology by crystallization theory: results and problems. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 61–82. (Andrew Vince) **98m:57029** 57Q05 (05C10, 57M12, 57M15, 57M25)

— An equivalence criterion for 3-manifolds. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 1, 129–147. (Dušan Repovš) **98g:57024** 57N10 (05C10, 57M15, 57Q15)

Casal Piga, Alfonso *see* **Casal, Alfonso C.**

Casals, José (*with* Sotoca Lopez, Sonia) Exact initial conditions for maximum likelihood estimation of state space models with stochastic inputs. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 261–267. 62P20 (62M10)

Casanova, Gaston Sur les logarithmes dans les algèbres de Clifford de $\mathbf{R}(n, 0)$. (English summary) [On logarithms in Clifford algebras in $\mathbf{R}(n, 0)$] *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 35–36. (Summary) **98d:30059** 30G35

— Remarks on the article of P. Lounesto: "Counter-examples in Clifford algebras" [Adv. Appl. Clifford Algebras **6** (1996), no. 1, 69–104; MR 97k:15065]. (French) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 71–72. (Maurice Flamant) **98m:15050** 15A66 (15A75, 16S10, 22E15)

— Points invariants dans le produit de quatre inversions de centres non coplanaires. (English summary) [Invariant points in the product of four inversions with noncoplanar centers] *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 79–84. (R. J. Bumcrot) **98m:51012** 51M04 (15A66)

gonzález-Casanova, Pedro *see* **González-Casanova, Pedro**

Casanovas, E. (*with* Dellunde, P.; Jansana, Ramon) On elementary equivalence for equality-free logic. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 506–522. (Michał Krynicki) **98c:03075** 03C07 (03B10, 03C20)

Casarino, Valentina (*with* Percivale, Danilo) A variational model for nonlinear elastic plates. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 221–243. (Sisto Baldo) **98c:73032** 73C50 (49Q10, 73K10, 73V25)

Casartelli, Mario (*with* Alabiso, Carlo) Higher-order curvatures and harmonicity regression. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7009–7020. (Summary) **98k:70011** 70K50 (53B50, 70–08, 70H05, 82C05)

Casas, B. (*with* García-Jurado, Ignacio; Prada-Sánchez, J. M.) Bargaining with graph-restricted communication. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 25–41. (Summary) **98k:90151** 90D12 (90A60)

Casas, Eduardo *see* **Casas Renteria, Eduardo**

Casas, Fernando (*with* Barreto, Ernest; Grebogi, Celso; Kostelich, Eric J.) Control of chaos: impact oscillators and targeting. (English summary) *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 17–26, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K50 (58F13)

— (*with* Blanes, S.; Oteo, J. A.; Ros, J.) Magnus and Fer expansions for matrix differential equations: the convergence problem. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 259–268. (Summary) **98m:34019** 34A30 (34A45)

Casas, J. A. The problem of the stabilization of the dilaton in string theories. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 289–293. (Summary) **98j:81260** 81T30

— (*with* Gelmini, G. B.) Conditions for viable Affleck-Dine baryogenesis—implications for string theories. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 36–44. 81V22 (81V17, 83E50)

Casas, M. (*with* Raviculé, M.; Plastino, Angel Luis) Information and metrics in Hilbert space. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, 1695–1702. (Summary) **98d:81005** 81P99 (46N50)

Casasayas, Josefina (*with* Fontich, Ernest; Nunes, Ana) Homoclinic orbits to parabolic points. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 201–216. (Vassili G. Gelfreich) **98c:58147** 58F30 (34C37)

Casas Renteria, Eduardo The relaxation theory applied to optimal control problems of semilinear elliptic equations. (English summary) *System modelling and optimization* (*Prague*, 1995), 187–194, *Chapman & Hall, London*, 1996. (Francesco Ferro) **98i:49010** 49J40 (35J60, 49J45)

— Pontryagin's principle for state-constrained boundary control problems of semilinear parabolic equations. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1297–1327. (J. Frédéric Bonnans) **98e:49055** 49K20 (35K60)

Casasús Latorre, Luis (*with* González-Vera, P.; González-Pinto, S.) Uniform schemes for singularly perturbed scalar initial value problems. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 95–103, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65L20 (34B15, 34E15)

Casati, Giulio Band random matrices and quantum chaos. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 15–26, *VSP, Utrecht*, 1996. (*see* **98b:62002**) 81Q50 (82B41)

— Quantum chaos. (English summary) *Chaos* **6** (1996), *no.* 3, 391–398. (Christian Grosche) **98a:81048** 81Q50 (81–02, 81P15)

— (*with* Artuso, Roberto; Guarneri, Italo) Numerical study on ergodic properties of triangular billiards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6384–6390. (Roberto Markarian) **98g:58096** 58F11 (82C05)

Casati, Paolo (*with* Falqui, Gregorio; Magri, Franco; Pedroni, Marco) Darboux coverings and rational reductions of the KP hierarchy. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 291–305. (Luigi Martina) **98h:58074** 58F07 (35Q53)

Casavola, Alessandro A polynomial solution to the generalized H_∞ control problem with measurement noise. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 443–458. 93B36

— (*with* Bemporad, Alberto; Mosca, Edoardo) Nonlinear control of constrained linear systems via predictive reference management. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 340–349. (Andrzej Świerniak) **98a:93043** 93C41 (90C20, 93B51, 93C25)

— (*with* Mosca, Edoardo) Minimization of a closed-loop response to a fixed input for SISO systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1581–1587. (Summary) **98j:93042** 93B52 (49N55)

Casazza, Peter G. (*with* Nielsen, N. J.) A Gaussian average property of Banach spaces. *Illinois J. Math.* **41** (1997), *no.* 4, 559–576. (Anatolij M. Plichko) **98g:46013** 46Bxx

— Characterizing Hilbert space frames with the subframe property. *Illinois J. Math.* **41** (1997), *no.* 4, 648–666. (Anatolij M. Plichko) **98g:46024** 46C05 (46B15)

Cascante, Carme (*with* Ahern, Patrick; Bruna, Joaquim) H^p-theory for generalized M-harmonic functions in the unit ball. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 1, 103–135. (Hitoshi Arai) **98f:32008** 32A35 (31C05, 42B30)

— (*with* Ortega, Joaquín M.) On q-Carleson measures for spaces of $\mathcal{M}$-harmonic functions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 653–674. (Daniel H. Luecking) **98m:32002** 32A35 (31C15)

dominguez-Cascante, Raquel *see* **Dominguez-Cascante, Raquel**

Casciaro, Biagio (*with* Amici, Oriella; Francaviglia, Mauro) The second variation for non-linear gravitational Lagrangians. (English summary) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 263–285. (Jaime Muñoz Masqué) **98m:58024** 58E11 (53C50, 83C05)

— (*with* Amici, Oriella; Francaviglia, Mauro) Covariant second variation for first order Lagrangians on fibered manifolds. II. Generalized curvature and Bianchi identities. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 637–669. (Victor Tapia) **98d:58045** 58E30 (53C80)

lo Cascio, M. L. *see* **Lo Cascio, M. L.**

Casciola, G. (*with* Morigi, S.; Sánchez-Reyes, J.) Degree elevation of p-Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 313–322. (Summary) **98m:65024** 65D17

Casdagli, M. C. Recurrence plots revisited. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 12–44. (Hans-Peter Herzel) **98i:58209** 58F40

Case, James The modeling and analysis of financial time series. *Amer. Math. Monthly* **105** (1998), *no.* 5, 401–411. 62M10 (62P20)

Case, John (*with* Jain, Sanjay[1]; Stephan, Frank C.) Vacillatory and BC learning on noisy data. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 285–298, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68236** 68T05 (68Q99)

— (*with* Jain, Sanjay[1]; Sharma, Arun K.) Anomalous learning helps succinctness. (English summary) *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 13–28. (Summary) **98f:68229** 68T05 (68Q30)

— (*with* Jain, Sanjay[1]; Suraj, Mandayam) Control structures in hypothesis spaces: the influence on learning. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 286–300, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05

— (*with* Kinber, Efim; Sharma, Arun K.; Stephan, Frank C.) On the classification of computable languages. (English summary) *STACS* 97 (*Lübeck*), 225–236, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68079** 68Q45 (03D05, 68T05)

— (*with* Kaufmann, Susanne; Kinber, Efim; Kummer, Martin Walter) Learning recursive functions from approximations. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J.*

Comput. System Sci. **55** (1997), *no.* 1, *part* 2, 183–196. (Sanjay Jain) **98k:68131** 68Q99 (03D20, 68T05)

Casella, George (*with* Robert, Christian P.) Rao-Blackwellisation of sampling schemes. (English summary) *Biometrika* **83** (1996), *no.* 1, 81–94. (Tadashi Nakamura) **98b:62026** 62E25 (65C05)

— (*with* Goutis, Constantinos; Wells, Martin T.) Assessing evidence in multiple hypotheses. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1268–1277. (Ram Shanmugam) **98f:62042** 62F03

— (*with* Hobert, James P.) The effect of improper priors on Gibbs sampling in hierarchical linear mixed models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1461–1473. (Mauro Piccioni) **98b:62132** 62J10 (62F15, 65U05)

— (*with* Levine, Richard A.) Convergence of posterior odds. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 331–344. (Mohan Delampady) **98a:62035** 62F15

— Statistical inference and Monte Carlo algorithms. (English summary) With comments and a rejoinder by the author. *Test* **5** (1996), *no.* 2, 249–344. (Arnoldo Frigessi) **98f:62038** 62E99 (62F99)

— (*with* Strawderman, Robert L.; Wells, Martin T.) Correction to: "Practical small sample asymptotics for regression problems" [J. Amer. Statist. Assoc. **91** (1996), no. 434, 643–654; MR 97b:62116]. *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1657. 62J12 (62E17)

Casella, Mario (*with* Hovland, P.; Bischof, Christian H.; Spiegelman, Donna) Efficient derivative codes through automatic differentiation and interface contraction: an application in biostatistics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1056–1066. (Summary) **98c:65004** 65–04 (65D25, 92B15)

Caselles, Vicent (*with* Sbert, Catalina; Morel, Jean-Michel) A set of axioms for image interpolation. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 27–37, *Univ. Lleida, Lleida*, 199?. (*see* **98m:00023**) 65D05 (41A63, 65Y99, 68U10)

— (*with* Coll, Bartomeu) Snakes in movement. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2445–2456. (H. P. Dikshit) **98b:68193** 68U10 (65C20)

— (*with* Sapiro, Guillermo) Histogram modification via differential equations. (English summary) *J. Differential Equations* **135** (1997), *no.* 2, 238–268. (Françoise Dibos) **98g:35192** 35Q80 (35K57, 47H20, 49J10, 68U10)

— (*with* Kimmel, Ron; Sapiro, Guillermo; Sbert, Catalina) Minimal surfaces: a geometric three-dimensional segmentation approach. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 423–451. (Allen Tannenbaum) **98j:53009** 53A10 (65D17, 65Y25)

Caser, S. (*with* van Wijland, F.; Hilhorst, H. J.) Statistical properties of the set of sites visited by the two-dimensional random walk. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 507–531. (Summary) **98f:82073** 82B41 (60J15)

Casetti, Lapo (*with* Cerruti-Sola, Monica; Pettini, Marco; Cohen, E. G. D.) The Fermi-Pasta-Ulam problem revisited: stochasticity thresholds in nonlinear Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6566–6574. (Summary) **98f:82081** 82C05 (58F27, 82–04)

— (*with* Caiani, Lando; Pettini, Marco) Hamiltonian dynamics of the two-dimensional lattice φ^4 model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3357–3381. 81T25 (81T80)

Casey, James ★ Exploring curvature. (English summary) *Friedr. Vieweg & Sohn, Braunschweig*, 1996. xvi+291 *pp. ISBN* 3-528-06475-7 (Vladislav Goldberg) **98c:53001** 53–01

— (*with* Kaplan, Annie) Adhémar-Jean-Claude Barré de Saint-Venant: 23 August 1797–6 January 1886. *Math. Mech. Solids* **2** (1997), *no.* 4, 371–378. 01A70 (01A55)

— (*with* Krishnaswamy, S.) A characterization of internally constrained thermoelastic materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 71–89. (Summary) **98i:73005** 73B30

Cash, J. R. A comparison of some codes for the stiff oscillatory problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 51–57. 65L06 (65L20)

Casier, Yves (*with* Karatchentzeff, Michel) Barrières de potentiel et hydrodynamique quantique. (English and French summaries) [Potential barriers and quantum hydrodynamics] *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 4, 491–511. (Summary) **98a:81003** 81P05

Casini, H. (*with* Montemayor, R.) Gravitational effects on the vortex distribution in relativistic superfluid stars. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 849–859. 83C55 (83F05)

Casini, Roberto Algebraic proof of a sum rule occurring in Stark broadening of hydrogen lines. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3435–3445. (Summary) **98i:81277a** 81V45 (33C90, 81V10)

— Erratum: "Algebraic proof of a sum rule occurring in Stark broadening of hydrogen lines". *J. Math. Phys.* **38** (1997), *no.* 11, 6040. (Editors) **98i:81277b** 81V45 (33C90, 81V10)

Casmeridis, S. (*with* Wreszinski, Walter F.) Models of two-level atoms in quasiperiodic external fields. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1061–1068. (Summary) **98k:81323** 81V45

Casnati, Gianfranco (*with* Dolcetti, Alberto; Ellia, Philippe) On subcanonical curves lying on smooth surfaces in $\mathbf{P}^3$. *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 3-4, 289–300. (Angelo Lopez) **98d:14045** 14H50 (14H45, 14J60)

— Covers of algebraic varieties. III. The discriminant of a cover of degree 4 and the trigonal construction. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1359–1378. (I. Dolgachev) **98i:14021** 14E20 (14H30)

Caso, L. (*with* Transirico, M.) The Dirichlet problem for second order elliptic equations with singular data. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 1–16. (V. S. Rabinovich) **98g:35054** 35J25 (35R05)

Casolaro, F. (*with* D'Aniello, C.; Giovine, M. P.) Asymptotic inequalities for $\lg\Gamma(x)$. *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 303–312. (Andrea Laforgia) **98c:33002** 33B15 (33C90, 78A60)

Casolo, Carlo (*with* Dolfi, Silvio) Conjugacy class lengths of metanilpotent groups. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 121–130. (David Gluck) **98a:20021** 20D10 (20D60)

Caspard, Nathalie (*with* Monjardet, Bernard) On a dependence relation in finite lattices. (English and French summaries) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 497–505. (Maurice Salles) **98h:06015** 06B05

Casper, Jay H. (*with* Carpenter, Mark H.) Computational considerations for the simulation of discontinuous flows. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 63–78, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (76L05, 76Q05)

Casperson, Lee W. (*with* Hall, Dennis G.; Tovar, Anthony A.) Sinusoidal-Gaussian beams in complex optical systems. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3341–3348. 78A10 (78A40)

Cassaigne, Julien Special factors of sequences with linear subword complexity. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 25–34, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68212** 68R15

— Complexité et facteurs spéciaux. (English and French summaries) [Complexity and special factors] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 67–88. (Jean-Paul Allouche) **98c:68176** 68R15 (11B85)

— (*with* Karhumäki, Juhani) Toeplitz words, generalized periodicity and periodically iterated morphisms. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 497–510. (Jean-Paul Allouche) **98g:68131** 68R15 (11B85)

Cassandras, Christos G. (*with* Lafortune, Stéphane; Olsder, Geert Jan) Introduction to the modelling, control and optimization of discrete event systems. *Trends in control* (*Rome*, 1995), 217–291, *Springer, Berlin*, 1995. (C. Praagman) **98i:93055** 93C83 (93–02)

Cassandro, M. (*with* Bellettini, Giovanni; Presutti, E.) Constrained minima of nonlocal free energy functionals. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 1337–1349. (Bálint Tóth) **98a:82005** 82B05 (82B24)

— (*with* Presutti, E.) Phase transitions in Ising systems with long but finite range interactions. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 2, 241–262. (Matthias Löwe) **98e:82029** 82B26 (60K35)

— (*with* Marra, R.; Presutti, E.) Upper bounds on the critical temperature for Kac potentials. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 537–566. (Ellen Saada) **98m:82028** 82B27 (82B20)

serra Cassano, Francesco *see* **Serra Cassano, Francesco**

Casse, L. R. A. (*with* O'Keefe, Christine M.; Wild, P. R.) A representation of maximal (k, r)-sets of PG$(3n-1, q)$. (English summary) Twelfth British Combinatorial Conference (Norwich, 1989). *Ars Combin.* **29** (1990), *C*, 177–182. (Tamás Szönyi) **98b:51007** 51E14

Cassell, J. S. (*with* Hou, Zhanyuan) Initial value problem for mixed-type differential equations. (English summary) *Monatsh. Math.* **124** (1997), *no.* 2, 133–145. (Ovide Arino) **98h:34117** 34K05

Cassidy, Charles (*with* Casacuberta, Carles; Scevenels, Dirk) On genus and embeddings of torsion-free nilpotent groups of class two. (English summary) *Manuscripta Math.* **92** (1997), *no.* 4, 463–475. (Thomas A. Fournelle) **98b:20052** 20F18

Cassidy, Michael J. Divergences in the effective action for acausal spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3031–3040. (Summary) **98i:81165** 81T20 (83C47)

Cassinelli, Gianni (*with* De Vito, Ernesto; Levrero, Alberto) On the decompositions of a quantum state. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 472–483. (S. Gudder) **98f:81028** 81P15 (46N50, 47N50)

— (*with* De Vito, Ernesto; Levrero, Alberto) Integrability of the quantum adiabatic evolution and geometric phases. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6101–6118. (Péter Pál Lévay) **98i:81068** 81Q99 (47N50, 58F40, 81S10)

— (*with* De Vito, Ernesto; Lahti, Pekka J.; Levrero, Alberto) Symmetry groups in quantum mechanics and the theorem of Wigner on the symmetry transformations. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 921–941. (S. Gudder) **98k:81082** 81R05 (22E70)

Cassinello, Andrés (*with* Sánchez-Gómez, José Luis) On the probabilistic postulate of quantum mechanics. (English summary) *Found. Phys.* **26** (1996), *no.* 10, 1357–1374. (M. J. Mączyński) **98a:81007** 81P10

Cassirer, Ernst *see* **Leibniz, Gottfried Wilhelm, 98c:01049**

Casson, A. J. (*with* Ranicki, Andrew; Sullivan, D. P.; Armstrong, M. A.; Rourke, Colin; Cooke, G. E.) ★ The Hauptvermutung book. A collection of papers of the topology of manifolds. *K*-Monographs in Mathematics, 1. *Kluwer Academic Publishers, Dordrecht*, 1996. vi+190 *pp. ISBN* 0-7923-4174-0 (Oliver Attie) **98c:57024** 57Q25 (57–06)

— Generalisations and applications of block bundles. *The Hauptvermutung book*, 33–67, *K-Monogr. Math.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (Oliver Attie) **98c:57026** 57Q50

Cassou-Noguès, Philippe (*with* Jehanne, Arnaud) Formes primitives et représentations galoisiennes de type octaédral. (English and French summaries) [Primitive forms and Galois representations of octahedral type] *Experiment. Math.* **5** (1996), *no.* 4, 275–290. (Ian Kiming) **98a:11069** 11F80 (11R32, 11R39)

— (*with* Jehanne, Arnaud) Parité du nombre de classes des S_4-extensions de $\mathbf{Q}$ et courbes elliptiques. [Parity of the class number of S_4-extensions of $\mathbf{Q}$ and elliptic curves] *J. Number Theory* **57** (1996), *no.* 2, 366–384. (Philippe Satgé) **98a:11070** 11G05 (11R29)

Cassou-Noguès, Pierrette (*with* Ha Huy Vui) Théorème de Kuiper-Kuo-Bochnak-Lojasiewicz à l'infini. (English and French summaries) [The Kuiper-Kuo-Bochnak-Łojasiewicz theorem at infinity] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 387–406. (Mihai Tibăr) **98g:32061** 32S20

Castagliola, Philippe Approximation of the normal sample median distribution using symmetrical Johnson S_U distributions: application to quality control. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 289–301. 62E20 (62N10)

Castagna, Giuseppe ★ Object-oriented programming. (English summary) A unified foundation. With a foreword by Luca Cardelli. Progress in Theoretical Computer Science. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xviii+366 *pp. ISBN* 0-8176-3905-5 (From the text) **98h:68025** 68N15 (03B40, 03B70)

Castagnetti, Giuseppe (*with* Goenner, Hubert) Albert Einstein as pacifist and Democrat during World War I. (English summary) *Sci. Context* **9** (1996), *no.* 4, 325–386. 01A70

Castagnino, Mario (*with* Levinas, M. L.; Umérez, N.) Energy-momentum and equivalence principle in non-Riemannian geometries. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 691–703. (Summary) **98e:83044** 83C40 (53C80, 83D05)

— (*with* Laura, Roberto) Minimal irreversible quantum mechanics: pure-state formalism. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 108–119. (S. Gudder) **98d:81001** 81P15 (81Q10)

— *see also* **Proceedings: Workshop on Cosmology and Time Asymmetry, 98h:00036**

Castagnoli, Giuseppe Quantum nondeterministic computation based on statistics superselection rules. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 10, 1297–1309. (S. Gudder) **98d:81002** 81P15

Castaing, Charles (*with* Benabdellah, H.; Salvadori, Anna; Syam, A.) Nonconvex sweeping process. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 2, 217–240. (Fabián Flores-Bazán) **98c:34096** 34G20 (34A60, 47N20, 49J24)

— (*with* Benabdellah, H.; Salvadori, Anna) Compactness and discretization methods for differential inclusions and evolution problems. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 9–51. (Manuel D. P. Monteiro Marques) **98d:34025** 34A60 (34G20, 49J24)

— (*with* Amrani, Allal) Weak compactness in Pettis integration. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 139–150. (Pilar Cembranos) **98f:46021** 46E30 (28A20, 46E30, 46G10)

— (*with* Monteiro Marques, Manuel D. P.) Topological properties of solution sets for sweeping processes with delay. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 485–507. (Giovanni Colombo) **98k:34127** 34K30 (34A60, 49J24)

— (*with* Ezzaki, Fatima; Hess, Christian) Convergence of conditional expectations for unbounded closed convex random sets. (English summary) *Studia Math.* **124** (1997), *no.* 2, 133–148. (Zvi Artstein) **98i:28016** 28B20 (60D05)

Castañeda, Hector-Neri Quine's experiment with intensional objects and his existentialist quantified modal logic. (English summary) *On Quine* (*San Marino*, 1990), 140–163, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B45 (03B65)

ponte Castañeda, P. *see* **Ponte Castañeda, P.**

saorín Castaño, Manuel *see* **Saorín Castaño, Manuel**

Castaño Iglesias, F. (*with* Gómez Torrecillas, José; Năstăsescu, C.) Separable functors in coalgebras. Applications. *Tsukuba J. Math.* **21** (1997), *no.* 2, 329–344. (E. J. Taft) **98h:16058** 16W30

Castaños, David (*with* Bertsekas, Dimitri P.; Eckstein, Jonathan; Zenios, Stavros A.) Parallel computing in network optimization. *Network models*, 331–399, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C35 (65Y05, 68Q22)

Castaños, Octavio (*with* López-Peña, Ramón; Man'ko, Vladimir I.) Quadrature generating function for parametric Schrödinger cat states. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 144–147, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q05

— *see also* **School: Physics, 98f:81011**

Castel, M. Jesús (*with* Migallón, Violeta; Penadés, José) Convergence of non-stationary parallel multisplitting methods for Hermitian positive definite matrices. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 209–220. (Xinguo Liu) **98c:65044** 65F10 (65F15)

Castelan, Eugênio B. (*with* Trofino-Neto, Alexandre; Fischman, Arão) H_∞ output feedback control with state constraints. *Control of uncertain systems with bounded inputs*, 119–127, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Ian Petersen) **98i:93030** 93B36 (93B52)

pacheco Castelao, José Miguel *see* **Pacheco Castelao, José Miguel**

Castella, François (*with* Perthame, Benoît) Estimations de Strichartz pour les équations de transport cinétique. (English and French summaries) [Strichartz' estimates for kinetic transport equations] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 6, 535–540. (Giuseppe Toscani) **98f:35133** 35Q55 (82C40)

Castellani, Ilaria (*with* Amadio, Roberto M.; Sangiorgi, Davide) On bisimulations for the asynchronous π-calculus. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 147–162, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q60)

— (*with* Zhang, Guo-Qiang) Parallel product of event structures. *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 203–215. (Raymond Devillers) **98h:68066** 68Q10 (18B20, 68Q90)

— (*with* Amadio, Roberto M.; Sangiorgi, Davide) On bisimulations for the asynchronous π-calculus. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 291–324. (Summary) **98m:68061** 68Q10 (03B70, 68Q55, 68Q60)

Castellani, Leonardo (*with* Perotto, Alberto) Free differential algebras: their use in field theory and dual formulation. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 3, 321–330. (Andreas Cap) **98b:81262** 81T70 (16W30, 22E70, 81R50)

— Quantum groups and free differential algebras in field theory. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 170–182. (Władysław Marcinek) **98f:81121** 81R50 (17B37, 58H15)

dacunha-Castelle, Didier *see* **Dacunha-Castelle, Didier**

Castellet, Manuel *see* **Menal, Pere, 98e:01021**

Castelli, F. (*with* Lugiato, L. A.) Realization of the Einstein-Podolsky-Rosen paradox in the far-field of the optical parametric oscillator above threshold. (English summary) *J. Modern Opt.* **44** (1997), *no.* 4, 765–783. (Summary) **98e:81018** 81P15

Castelli, Vittorio (*with* Cover, Thomas M.) The relative value of labeled and unlabeled samples in pattern recognition with an unknown mixing parameter. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2102–2117. (Summary) **98b:62109** 62H30 (62F15, 68T10)

Castellini, G. Connectedness, disconnectedness and closure operators, a more general approach. (English summary) *Categorical topology* (*L'Aquila*, 1994), 129–138, *Kluwer Acad. Publ., Dordrecht*, 1996. (A. Pultr) **98a:18001** 18A05 (18A32, 18B30, 54B30, 54D05)

Castellón Serrano, Alberto (*with* García Martín, Amable; Martín González, Cándido) Strongly prime alternative triple systems with nonzero socle. (English summary) *J. Algebra* **192** (1997), *no.* 1, 277–293. (Antonio Fernández López) **98e:17005** 17A40 (17C50, 17D05)

Castelnuovo, Emma Federigo Enriques and Guido Castelnuovo. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 227–235. 01A70 (14-03)

Castelnuovo, Guido *see* **Castelnuovo, Emma**

Casten, R. F. (*with* Zhang, Jing ye; Zamfir, N. V.) A structural triangle for the geometric collective model. (English summary) *Phys. Lett. B* **407** (1997), *no.* 3-4, 201–206. 81V35

van Casteren, Jan A. On differences of self-adjoint semigroups. (English and French summaries) *Ann. Math. Blaise Pascal* **3** (1996), *no.* 1, 165–188. (Wilfried Hazod) **98a:47042** 47D07 (47D06, 47F05, 60J25)

— Boundedness properties of resolvents and semigroups of operators. (English summary) *Linear operators* (*Warsaw*, 1994), 59–74, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98d:47027** 47A30 (47A10, 47D06)

Casti, Alexander (*with* Balmforth, N. J.; Julien, K. A.) Thermohaline convection with nonlinear salt profiles. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 819–828. 76R99

— (*with* Balmforth, N. J.) Convection in a slowly diffusing, weakly stratified salt field. (English summary) *Phys. Lett. A* **238** (1998), *no.* 1, 35–42. (Summary) **98k:76124** 76Rxx (76E15, 76S05)

Casti, John L. Computing the uncomputable. *Complexity* **2** (1997), *no.* 3, 7–12. (Robert M. Baer) **98a:68050** 68Q05 (68Q20)

— (*with* Calude, Cristian; Gibbons, Phillip B.; Lipponen, Marjo) Unconventional models of computation: a conventional report. *Complexity* **3** (1998), *no.* 4, 8–11. 68Q05

Castiaux, A. (*with* Mayer, Alexandre; Vigneron, J.-P.) Electronic Green scattering with n-fold symmetry axis from block circulant matrices. (English summary) *Comput. Phys. Comm.* **109** (1998), *no.* 1, 81–89. 65F99 (65N99, 81U99)

Castiglioni, L. (*with* Carini, A.; Symonds, P. S.) Regular and chaotic responses of a Hamiltonian beam model. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 341–368. (Summary) **98a:73036** 73K05 (58F13, 70K50, 73D05, 73E50, 73K12)

Castillero, J. B. *see* **Bravo Castillero, Julián**

bravo Castillero, Julián *see* **Bravo Castillero, Julián**

Castillo, B. *see* **Castillo-Toledo, B.**

Castillo, Enrique (*with* Gutiérrez Llorente, José Manuel; Hadi, Ali S.) Parametric structure of probabilities in Bayesian networks. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 89–98, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30

— (*with* Arnold, Barry C.; Sarabia, José María) Specification of distributions by combinations of marginal and conditional distributions. (English summary) *Statist. Probab. Lett.* **26** (1996), *no.* 2, 153–157. (D. N. Shanbhag) **98c:62101** 62H10 (60E05)

— (*with* Iglesias, Andres) A package for symbolic solution of real functional equations of real variables. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 181–198. (Summary) **98m:39065** 39B22 (68Q40)

— (*with* Arnold, Barry C.; Sarabia, José María) The use of conditionally conjugate priors in the study of ratios of gamma scale parameters. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 2, 125–139. 62F15

torres del Castillo, G. F. *see* **Torres del Castillo, G. F.**

Castillo, Gilbert (*with* Kreinovich, Vladik) Was Stonehenge an observatory? (English summary) *Geombinatorics* **7** (1998), *no.* 3, 83–87. 01A10 (00A69)

— (*with* Beltran, Maria; Kreinovich, Vladik) Algorithms that still produce a solution (maybe not optimal) even when interrupted: Shary's idea justified. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 39–53. (Summary) **98m:65078** 65G10

del Castillo, Giuseppe *see* **Del Castillo, Giuseppe**

Castillo, Jesús M. F. (*with* González, Manuel; Sánchez Fernández, Fernando) Oscillation of weakly null and Banach-Saks sequences. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 685–695. (L. Gehér) **98k:54025** 54C30 (46B99)

— *see also* **Congress: Examples and Counterexamples in Banach Spaces, 98k:46001**

del Castillo, Joan *see* **Castillo Franquet, Joan**

Castillo, José (*with* Barber, J. R.) Lateral contact of slender prismatic bodies. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2397–2412. (Summary) **98e:73116** 73T05

Castillo, Jose E. (*with* Otto, James S.) A generalized length strategy for direct optimization in planar grid generation. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 441–456. 65N50 (65K10)

laguna-Castillo, Pablo *see* **Laguna-Castillo, Pablo**

Castillo, Paul (*with* Saad, Youcef) Tensor sum approximation preconditioners. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65D15

Castillo-Chavez, Carlos (*with* Dushoff, Jonathan; Huang, Wenzhang) Backwards bifurcations and catastrophe in simple models of fatal diseases. *J. Math. Biol.* **36** (1998), *no.* 3, 227–248. 92C60

Castillo Franquet, Joan (*with* Puig, Pedro) Testing departures from gamma, Rayleigh and truncated normal distributions. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 255–269. (Summary) **98f:62055** 62F10 (62F03)

del-Castillo-Negrete, D. (*with* Greene, John M.; Morrison, P. J.) Renormalization and transition to chaos in area preserving nontwist maps. (English summary) *Phys. D* **100** (1997), *no.* 3-4, 311–329. (Summary) **98g:58150** 58F27 (58F13)

Castillo-Toledo, B. (*with* Di Gennaro, S.; Monaco, Salvatore; Normand-Cyrot, Dorothée) On regulation under sampling. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 864–868. (Summary) **98a:93045** 93C57 (93C10)

Castin, Y. (*with* Villain, P.; Lewenstein, M.; Dum, R.; You, Li; Imamoğlu, A.; Kennedy, T. A. B.) Quantum dynamics of the phase of a Bose-Einstein condensate. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1775–1799. 82C10

Castro, Alfonso Semilinear elliptic differential equations. (Spanish. English summary) *Proceedings of the Third Summer School on Differential Geometry, Partial Differential Equations and Numerical Analysis* (*Spanish*) (*Bogota*, 1995), 45–51, *Colec. Mem.*, 7, *Acad. Colombiana Cienc. Exact. Fis. Natur., Bogotá*, 1996. (Juan J. Nieto) **98a:35034** 35J65

— (*with* Caicedo, Jose F.) A semilinear wave equation with derivative of nonlinearity containing multiple eigenvalues of infinite multiplicity. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 111–132, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Sergiu Aizicovici) **98i:35122** 35L70 (34B15, 47H15, 47N20)

— (*with* Cossio, Jorge; Neuberger, John M.) On multiple solutions of a nonlinear Dirichlet problem. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3657–3662. (Summary) **98h:35070** 35J65 (34B15)

— (*with* Gadam, Sudhasree; Shivaji, Ratnasingham) Positive solution curves of semipositone problems with concave nonlinearities. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 921–934. (Summary) **98j:35059** 35J65 (34B15, 35B05)

— (*with* Cossio, Jorge; Neuberger, John M.) A minmax principle, index of the critical point, and existence of sign-changing solutions to elliptic boundary value problems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 02, 18 *pp.* (*electronic*). (Vicenţiu Rădulescu) **98j:35060** 35J65 (35B32, 58E05)

— (*with* Shivaji, Ratnasingham) Positive solutions for a concave semipositone Dirichlet problem. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 91–98. (Minoru Murata) **98j:35061** 35J65 (34B15, 35B05)

bermúdez de Castro, Alfredo *see* **Bermúdez de Castro, Alfredo**

Castro, C. *see* **Castro Barbero, Carlos**

Castro, Carlos String theory, scale relativity and the generalized uncertainty principle. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 3, 273–293. 81P05 (81T30)

— A Moyal quantization of the continuous Toda field. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 53–62. (Summary) **98k:81123** 81S10 (58F06, 81S30)

Castro, Carlos Solving binary CSP using computational systems. (English summary) *First International Workshop on Rewriting Logic and its Applications* (*Pacific Grove, CA*, 1996), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (*see* **98g:68007**) 68T20 (68Q42)

Castro, Glaysar (*with* Seghier, Abdellatif) Recurrence relation for biorthogonal polynomials. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1413–1418. (Summary) **98c:65070** 65F30 (15A23, 33C45)

Castro, H. M. A. (*with* Oliva, W. M.) Poisson structures on the phase space of mechanical systems with constraint. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 85–92. (Miguel C. Muñoz-Lecanda) **98f:58078** 58F05 (70F99, 70H05)

Castro, Ildefonso (*with* Urbano, Francisco) On twistor harmonic surfaces in the complex projective plane. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 115–129. (Knut Smoczyk) **98d:53090** 53C42 (58E20)

— (*with* Urbano, Francisco) Examples of unstable Hamiltonian-minimal Lagrangian tori in $\mathbf{C}^2$. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 1–14. (Knut Smoczyk) **98m:53075** 53C42

Castro, J. *see* **Castro, Jordi**

ruiz-Castro, J. Eloy *see* **Ruiz-Castro, J. Eloy**

Castro, J. L. (*with* Trillas, Enric; Zurita, J. M.) Non-monotonic fuzzy reasoning. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 217–225. (Summary) **98k:03063** 03B52

Castro, Jordi (*with* Nabona, N.) Primal-dual interior point method for multicommodity network flows with side constraints and comparison with alternative methods. (English summary) *System modelling and optimization* (*Prague*, 1995), 451–458, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C35

— An implementation of a higher-order primal-dual interior point algorithm using a predictor-corrector method for linear programming. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 1, 103–116. 90C05

Castro, Jorge (*with* Seara, Carlos) Complexity classes between $\Theta_k^{\mathbf{P}}$ and $\Delta_k^{\mathbf{P}}$. (English summary) Probabilistic complexity classes and nonuniform computational models (Barcelona, 1993). *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 2, 101–121. (Gerhard Lischke) **98i:68099** 68Q15 (03D15)

— (*with* Guijarro, David; Lavín, Víctor) Learning nearly monotone k-term DNF. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 162–170, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68139** 68T05 (03B05, 68Q99)

Castro, José Antonio (*with* Moriyón, Roberto) Analytic conjugation of diffeomorphisms in $\mathbf{T}^n$. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 313–330. (Rafael Ruggiero Rodríguez) **98b:58132** 58F15

Castro, L. *see* **Castro, Liliana**

Castro, L. P. Integral equations of convolution type on unions of intervals. *Integral methods in science and engineering, Vol.* 1 (*Oulu*, 1996), 43–47, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 45E10 (47B35, 47G10, 47N20)

— (*with* Speck, F.-O.) A Fredholm study for convolution operators with piecewise continuous symbols on a union of a finite and a semi-infinite interval. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 171–187. (Summary) **98d:47058** 47B35 (35J05, 47A53, 47G10)

— (*with* Speck, F.-O.) A Fredholm study for a Sommerfeld diffraction problem. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 47–51, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35J05 (47B35, 76Q05, 78A45)

Castro, Liliana (*with* Calandrini, G.; Paolini, E.; Desages, A. C.) Ritt's algorithm, Gröbner basis and discretization. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 67–77. (Summary) **98e:93013** 93B10 (70B15, 70Q05, 93B40)

de oliveira Castro, Nelson Nery *see* **de Oliveira Castro, Nelson Nery**

Castro, R. *see* **Castro-Linares, Rafael**

Castro, Regina (*with* Bonome, Agustín; García-Río, Eduardo; Hervella, L. M.; Matsushita, Yasuo) Pseudo-Chern classes and opposite Chern classes of indefinite almost Hermitian manifolds. *Acta Math. Hungar.* **75** (1997), *no.* 4, 299–316. (Vicente Miquel) **98i:53037** 53C15 (53C50, 57R20)

— (*with* Bonome, Agustín; García-Río, Eduardo; Hervella, L. M.) Curvature of indefinite almost contact manifolds. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 66–86. (Hideya Hashimoto) **98a:53044** 53C15

— (*with* Bonome, Agustín; García-Río, Eduardo; Hervella, L. M.; Vázques-Lorenzo, R.) Nonsymmetric Osserman indefinite Kähler manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2763–2769. (Pascual Lucas Saorín) **98m:53088** 53C50 (53C55)

Castro, Sofia B. S. D. The disappearance of the limit cycle in a mode interaction problem with Z_2 symmetry. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 425–432. (Philip J. Aston) **98c:58116** 58F14 (34C23, 34C37)

estivill-Castro, Vladimir *see* **Estivill-Castro, Vladimir**

Castro Barbero, Carlos (*with* Zuazua, Enrique) Une remarque sur l'analyse asymptotique spectrale en homogénéisation. (English and French summaries) [A remark on spectral asymptotic analysis in homogenization] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 11, 1043–1047. (Gérard Michaille) **98f:35010** 35B27 (35J25)

— (*with* Zuazua, Enrique) Contrôlabilité de l'équation des ondes à densité rapidement oscillante à une dimension d'espace. (English and French summaries) [Controllability of the one-dimensional wave equation with rapidly oscillating density] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1237–1242. (Summary) **98d:93008** 93B05 (35B37, 35L05, 93C20)

— Asymptotic analysis and control of a hybrid system composed by two vibrating strings connected by a point mass. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 231–280 (*electronic*). (Florin Iacob) **98g:73013** 73D30 (35B25, 35L05, 73K50, 93C20)

Castro-Jiménez, F. J. (*with* Assi, A.; Granger, Michel) How to calculate the slopes of a $\mathscr{D}$-module. *Compositio Math.* **104** (1996), *no.* 2, 107–123. (Nobuyuki Tose) **98i:32010** 32C38

— (*with* Bueso, José L.; Jara, Pascual) Effective computation of the Gelfand-Kirillov dimension. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 111–117. (G. Krause) **98c:16027** 16P90 (13P10, 16S30)

de Castro Korgi, Rodrigo On the Erdős number. (Spanish) *Lect. Mat.* **17** (1996), *no.* 2, 163–179. (Jerrold W. Grossman) **98h:01041** 01A80 (01A70)

Castro-Linares, Rafael (*with* Velasco-Villa, M.; Álvarez-Gallegos, Jaime) Disturbance decoupling for time delay systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 847–864. (Jerzy Klamka) **98g:93026** 93C30 (93D05)

de Castro Martins, Ana Teresa (*with* Pequeno, Marcelino; Pequeno, Tarcísio) Well-behaved IDL theories. (English summary) *Advances in artificial intelligence* (*Curitiba*, 1996), 11–20, *Lecture Notes in Comput. Sci.*, 1159, *Springer, Berlin*, 1996. (*see* **98h:68002**) 68T30 (68T27)

Casukhela, Kameswarrao S. Symmetric distributions of random measures in higher dimensions. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 759–771. (Norbert Patzschke) **98i:60035** 60G09 (60G57)

Casulleras, Josep The last chapter of the *Kitāb al-asrār fī natā'ij al-afkār*. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II* (*Zaragoza*, 1993), 613–653, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (*see* **98d:01002**) 01A30

— *see also* **From Baghdad to Barcelona/De Bagdad a Barcelona**, **98d:01002**

Catalan, A. *see* **Catalán S., Abdón**

Catalán, O. R. G. (*with* Agud, L.; Garay, Jose) Two mathematical applications of Buckingham's Pi theorem. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 7–17. (I. Grattan-Guinness) **98c:00010** 00A73 (26B05)

Catalano, L. A. (*with* De Palma, P.; Napolitano, M.; Pascazio, G.) A very efficient local-adaptive multigrid method based on a simple-wave decomposition of the Euler equations. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 187–219, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— (*with* De Palma, P.; Napolitano, M.; Pascazio, G.) Genuinely multidimensional upwind methods for accurate and efficient solutions of compressible flows. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 221–250, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

Catalano, Michael Stable splittings of BP for some P of order thirty-two. (English summary) *J. Pure Appl. Algebra* **111** (1996), *no.* 1-3, 31–50. (N. J. Kuhn) **98a:55013** 55R35 (19A22, 20J06, 55P42)

Catalán S., Abdón (*with* Mallol, Cristián; Costa, Roberto C. F.) E-ideals in baric algebras: basic properties. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 491–503. (Santos González) **98k:17038** 17D92

de Cataldo, Mark Andrea A. Some adjunction-theoretic properties of codimension two non-singular subvarieties of quadrics. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 675–695. (Gian Mario Besana) **98k:14005** 14C20 (14M07)

— The genus of curves on the three-dimensional quadric. (English summary) *Nagoya Math. J.* **147** (1997), 193–211. (Luca Chiantini) **98k:14040** 14H45

Cataiin, Gherghe *see* **Gherghe, Cătălin**

Catalisano, M. V. (*with* Ellia, Philippe; Gimigliano, A.) Fat points on rational normal curves. *The Curves Seminar at Queen's, Vol. XI* (*Kingston, ON*, 1997), 75–89, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Martin Kreuzer) **98k:13016** 13D40 (14C99)

— (*with* Gimigliano, A.) A construction for projectively normal curves in $\mathbf{P}^4$ and their graded Betti numbers. *The Curves Seminar at Queen's, Vol. XI* (*Kingston, ON*, 1997), 90–97, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Alfio Ragusa) **98j:14044** 14H45 (13D40)

— (*with* Canonero, Gabriella; Serpico, Maria Ezia) Inflection points of cubic hypersurfaces. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 161–185. (A. R. Shastri) **98e:14042** 14J70 (14Q10)

Catanese, Fabrizio Fundamental groups with few relations. *Higher-dimensional complex varieties* (*Trento*, 1994), 163–165, *de Gruyter, Berlin*, 1996. (Christophe Mourougane) **98i:32047** 32J27

— Generalized Kummer surfaces and differentiable invariants of Noether-Horikawa surfaces. I. *Manifolds and geometry* (*Pisa*, 1993), 132–177, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (Arnaud Beauville) **98c:14032** 14J29 (14J10, 57N13, 57R55)

— Homological algebra and algebraic surfaces. *Algebraic geometry—Santa Cruz* 1995, 3–56, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Marco Andreatta) **98m:14039** 14J29 (14E20, 14J10, 14M05, 14M06)

— (*with* Bauer, Ingrid) Generic lemniscates of algebraic functions. *Math. Ann.* **307** (1997), *no.* 3, 417–444. (Vagn Lundsgaard Hansen) **98f:57003** 57M12 (14H55, 57M15)

— (*with* LeBrun, Claude) On the scalar curvature of Einstein manifolds. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 843–854. (Jongsu Kim) **98k:53057** 53C25 (32J15, 32J27, 32L07)

— (*with* Ciliberto, Ciro; Mendes Lopes, Margarida) On the classification of irregular surfaces of general type with nonbirational bicanonical map. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 275–308. (C. A. M. Peters) **98h:14043** 14J29 (14J25)

— *see also* **Arithmetic geometry**, **98d:11003** *and* **Demailly, Jean-Pierre et al.**, **98h:32001**

Catania, B. (*with* Bertino, E.; Shidlovsky, B.) Towards optimal two-dimensional indexing for constraint databases. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 1–8. (Summary) **98f:68060** 68P15 (68T20)

Catchpole, E. A. (*with* Morgan, B. J. T.) Detecting parameter redundancy. (English summary) *Biometrika* **84** (1997), *no.* 1, 187–196. (Mohsen Pourahmadi) **98i:62063**

62J12 (62J02)

Cateland, E. (*with* Allouche, Jean-Paul; Peitgen, Heinz-Otto; Skordev, Gencho; Shallit, Jeffrey O.) Automatic maps on a semiring with digits. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 663–677. (Summary) **98e:11027** 11B85 (16Y60)

— (*with* Allouche, Jean-Paul; Gilbert, W. J.; Peitgen, Heinz-Otto; Shallit, Jeffrey O.; Skordev, Gencho) Automatic maps in exotic numeration systems. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 3, 285–331. (Véronique Bruyère) **98a:68114** 68Q45 (11B85)

Cater, F. S. (*with* Thaheem, A. B.) On a pair of automorphisms of C^*-algebras. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 137–142. (C. J. K. Batty) **98c:46135** 46L40

Cates, J. E. (*with* Sturtevant, B.) Shock wave focusing using geometrical shock dynamics. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 3058–3068. 76M20 (76J20, 76L05)

Cates, M. E. (*with* Evans, R. M. L.) Diffusive evolution of stable and metastable phases. I. Local dynamics of interfaces. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 5738–5747. (Summary) **98m:82051** 82C24

Cates, Sharon (*with* Clark, Bradd) Algebraic obstructions to sequential convergence in Hausdorff abelian groups. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 93–96. (Summary) **98k:22004** 22A05

Cathala, J. C. (*with* Barugola, A.) An extension of the notion of chaotic area in two-dimensional endomorphisms. *Iteration theory* (*Batschuns*, 1992), 38–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Laura Gardini) **98a:58114** 58F13

— (*with* Gardini, Laura; Mira, Christian) Contact bifurcations of absorbing areas and chaotic areas in two-dimensional endomorphisms. (English summary) *Iteration theory* (*Batschuns*, 1992), 100–111, *World Sci. Publishing, River Edge, NJ*, 1996. (Remo Badii) **98a:58110** 58F12 (34C35, 58F13)

— On the boundaries of absorbing and chaotic areas in second-order endomorphisms. *Nonlinear Anal.* **29** (1997), *no.* 1, 77–119. (Laura Gardini) **98b:58107** 58F13

Cathelineau, Jean-Louis Remarques sur les différentielles des polylogarithmes uniformes. (English and French summaries) [Remarks on the differentials of uniform polylogarithms] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1327–1347. (J. Browkin) **98k:19006** 19F15 (20F05, 33E20)

nguyen Cat Ho *see* **Nguyen Cat Ho**

Cat Ho, Nguyen *see* **Nguyen Cat Ho**

Caticha, Nestor (*with* Simonetti, Roberta) On-line learning in parity machines. (English summary) *J. Phys. A* **29** (1996), *no.* 16, 4859–4867. (Dimitri Petritis) **98b:82060** 82C32 (68T05)

Cătinaş, Emil On some Steffensen-type iterative methods for a class of nonlinear equations. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 37–43. 65J15 (47H17)

Catino, F. (*with* Miccoli, M. M.) A note on IA-endomorphisms of two-generated metabelian groups. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 99–104. (Andreas Caranti) **98a:20034** 20F28 (20F16)

Catlin, David W. (*with* D'Angelo, John P.) Positivity conditions for bihomogeneous polynomials. *Math. Res. Lett.* **4** (1997), *no.* 4, 555–567. (Der-Chen E. Chang) **98e:32023** 32F20 (32H10)

Catoni, Olivier (*with* Cerf, Raphaël) The exit path of a Markov chain with rare transitions. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 95–144 (*electronic*). (Dominique Lépingle) **98f:60130** 60J10 (60F10)

— The Legendre transform of two replicas of the Sherrington-Kirkpatrick spin glass model. A free energy inequality. (English summary) *Probab. Theory Related Fields* **105** (1996), *no.* 3, 369–392. (Anton Bovier) **98a:82060** 82B44 (60K35)

— Erratum: "Metropolis, simulated annealing, and iterated energy transformation algorithms: theory and experiments" [J. Complexity **12** (1996), no. 4, 595–623; MR 97g:65293]. *J. Complexity* **13** (1997), *no.* 3, 384. 65Y25

Catsigeras, Eleonora (*with* Gambaudo, Jean-Marc; Moreira, Fernando) Infinitely renormalizable diffeomorphisms of the disk at the boundary of chaos. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 297–304. (Helena E. Nusse) **98c:58107** 58F13

Cattaneo, Alberto S. Abelian *BF* theories and knot invariants. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 795–828. (Esther Pérez) **98i:58052** 58D29 (57M25, 81T70)

Cattaneo, Carla The spectrum of the continuous Laplacian on a graph. (English summary) *Monatsh. Math.* **124** (1997), *no.* 3, 215–235. (Serge Nicaise) **98j:35127** 35P05 (05C50, 35J25, 47A10, 47F05)

Cattaneo, Gianpiero (*with* Formenti, Enrico; Mauri, Giancarlo) Rule space transformations and one-dimensional cellular automata. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 409–419, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q90

— (*with* Finelli, Michele; Margara, Luciano) Topological chaos for elementary cellular automata. (English summary) *Algorithms and complexity* (*Rome*, 1997), 241–252, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:58129** 58F08 (58F13, 68Q80)

— (*with* Formenti, Enrico; Manzini, Giovanni; Margara, Luciano) On ergodic linear cellular automata over Z_m. (English summary) *STACS* 97 (*Lübeck*), 427–438, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68115** 68Q80

— (*with* Marsico, Tiziana; Nisticò, Giuseppe; Bacciagaluppi, Guido) A concrete procedure for obtaining sharp reconstructions of unsharp observables in finite-dimensional quantum mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1323–1343. (Paul Busch) **98k:81010** 81P05

— (*with* Bertoni, Alberto; Oggioni, D.) On the approximability of the "ground-state" problem for Ising spin glasses by quantum devices. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6821–6830. (Summary) **98j:82032** 82B44 (81P99, 82D30)

— (*with* Flocchini, Paola; Mauri, Giancarlo; Quaranta Vogliotti, C.; Santoro, Nicola) Cellular automata in fuzzy backgrounds. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 105–120. (Summary) **98d:68151** 68Q80 (04A72, 54A40, 54H20)

— Generalized rough sets (preclusivity fuzzy-intuitionistic (BZ) lattices). (English summary) *Studia Logica* **58** (1997), *no.* 1, 47–77. (Summary) **98h:03067** 03E72

— (*with* Quaranta Vogliotti, C.) The "magic" rule spaces of neural-like elementary cellular automata. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 77–102. (Roland Vollmar) **98h:68172** 68Q80 (58F08)

Cattani, Carlo (*with* Laserra, Ettore) The Italian controversy on the composition of rigid motions. (English summary) *Riv. Stor. Sci.* (2) **2** (1994), *no.* 1, 1–14. (Peter M. Harman) **98d:01029** 01A60 (01A55, 70–03)

— Existence and uniqueness theorems in the linear magnetohydrodynamics with dissipative boundary conditions. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 121–133 (1997). (George D. Raikov) **98d:76164** 76W05 (35Q35)

— (*with* De Maria, Michelangelo) Geniality and rigor: the Einstein–Levi-Civita correspondence (1915–1917). (Italian. English summary) *Riv. Stor. Sci.* (2) **4** (1996), *no.* 1, 1–22 (1997). (Summary) **98m:01021** 01A60 (53–03, 83–03)

Cattani, Eduardo (*with* Cox, David A.; Dickenstein, Alicia) Residues in toric varieties. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 35–76. (I. Dolgachev) **98f:14039** 14M25 (14F10, 32A27)

— (*with* Dickenstein, Alicia) A global view of residues in the torus. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 119–144. (I. Dolgachev) **98i:14050** 14M25 (14F10)

Cattani, Gian Luca (*with* Sassone, Vladimiro) Higher-dimensional transition systems. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 55–62, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Winskel, Glynn) Presheaf models for concurrency. (English summary) *Computer science logic* (*Utrecht*, 1996), 58–75, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (*see* **98k:03005**) 68Q10 (18A35, 18A40, 18F20)

Catté, Francine Convergence of iterated affine and morphological filters by nonlinear semi-group theory. *ICAOS* '96 (*Paris*, 1996), 125–133, *Lecture Notes in Control and Inform. Sci.*, 219, *Springer, London*, 1996. (From the introduction) **98k:68175** 68U10

— Convergence of iterated affine and morphological filters by nonlinear semigroup theory. *Nonlinear Anal.* **28** (1997), *no.* 12, 1935–1942. (Ioan I. Vrabie) **98c:35075** 35K55 (35D05, 47H20, 47N20)

degani Cattelani, Franca *see* **Degani Cattelani, Franca**

Cattelani Degani, Franca *see* **Degani Cattelani, Franca**

Cattell, Kevin (*with* Dinneen, Michael J.; Fellows, Michael R.) Obstructions to within a few vertices or edges of acyclic. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 415–427, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98d:05132** 05C85 (68R10)

Catterall, S. (*with* Renken, R.; Kogut, John B.) Singular structure in 4D simplicial gravity. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 274–280. 83C27 (81V17, 83C45)

Catto, Peter J. (*with* Hazeltine, Richard D.; Helander, P.) Plasma transport near the separatrix of a magnetic island. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2920–2927. (Summary) **98e:76111** 76X05

Caubet, Jean-Pierre Relativity and gravitation: probabilistic germs and survey. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 71–82, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 00A79

— Matrix semigroups and differential equations: ergodism and asymptotic behaviour of solutions with or without impulses, a survey. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2753–2764. (Introduction) **98k:34010** 34A30 (34A37, 34D05, 60J27)

Caucal, Didier (*with* Burkart, Olaf; Steffen, Bernhard) An elementary bisimulation decision procedure for arbitrary context-free processes. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 423–433, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q10 (68Q60)

— On infinite transition graphs having a decidable monadic theory. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 194–205, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (03B25, 68Q60)

— (*with* Burkart, Olaf; Steffen, Bernhard) Bisimulation collapse and the process taxonomy. (English summary) *CONCUR* '96: *concurrency theory* (*Pisa*), 247–262, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68079** 68Q10

— *see also* **Workshop: Verification of Infinite State Systems, 98g:68008**

Cauchon, G. *see* **Noncommutative algebra, quantum groups and invariants, 98g:00028**

Cauchy, Augustin-Louis *see* **Rodríguez Salinas, Baltasar, 98d:01026**

Caudrey, P. J. (*with* Ma, Wen Xiu; Bullough, Robin) Graded symmetry algebras of time-dependent evolution equations and application to the modified KP equations. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 293–309. (Sen Yue Lou) **98m:35006** 35A30 (17B70, 35Q53)

— (*with* Ma, Wen Xiu; Bullough, Robin; Fushchich, Vīl′gel′m Īllīch) Time-dependent symmetries of variable-coefficient evolution equations and graded Lie algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5141–5149. (I. S. Krasil′shchik) **98i:58119** 58F07 (17B70, 35A30, 35Q53, 58F35)

Caughman, John S., IV The Terwilliger algebra for bipartite P- and Q-polynomial schemes (extended abstract). Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 108–109. (*see* **98k:00015**) 05E30

Causo, Maria Serena (*with* Caracciolo, Sergio; Pelissetto, Andrea) Universality of subleading corrections for self-avoiding walks in the presence of one-dimensional defects. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4939–4961. 82B41 (82–04, 82B27)

Causon, D. M. (*with* Ingram, D. M.; Batten, Paul; Saunders, Robert) The representation of small scale obstructions in hydrocode calculations. (English summary) *Flow and dispersion through groups of obstacles* (*Cambridge*, 1994), 199–209, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05)

— (*with* Jiang, B.; Ingram, D. M.; Saunders, Robert) Numerical prediction of confined gas cloud detonation. (English summary) *Flow and dispersion through groups of obstacles* (*Cambridge*, 1994), 211–225, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05, 76N15, 80–08)

— (*with* Batten, Paul; Clarke, Nicholas Richard; Lambert, Claire) On the choice of wavespeeds for the HLLC Riemann solver. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1553–1570. (Dietmar Kröner) **98m:65136** 65M06 (76M20, 76N15)

— (*with* Ivings, M. J.; Toro, Eleuterio F.) On hybrid high resolution upwind methods for multicomponent flows. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 645–668. (Summary) **98e:76088** 76M25 (65M06, 76L05, 76T05)

Cauty, Robert (*with* Banakh, T. O.) Universalité forte pour les sous-ensembles totalement bornés. Applications aux espaces $C_p(X)$. [Strong universality for totally bounded

subsets. Applications to the spaces $C_p(X)$] *Colloq. Math.* **73** (1997), *no.* 1, 25–33. (J. Schmets) **98c:46046** 46E10 (54C35, 57N17)

Cavaccini, V. (*with* Cella, C.; Georgescu, Georges) Pure ideals of MV-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 303–310. (C. S. Hoo) **98b:06013** 06B10

Cavaglià, Marco (*with* de Alfaro, Vittorio) Quantization of constrained systems: application to quantum string cosmology. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 273–277, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83E30 (83F05)

— (*with* de Alfaro, Vittorio) Time gauge fixing and Hilbert space in quantum string cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 773–787. (Paulo Moniz) **98e:83048** 83C45 (81V17, 83E30)

— Two-dimensional reduced theory and general static solution for uncharged black p-branes. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 287–292. (Summary) **98i:81195** 81T30 (83E30)

— *see also* **Constrained dynamics and quantum gravity, 98f:83002**

Cavagna, Andrea (*with* Giardina, Irene; Parisi, Giorgio) Structure of metastable states in spin glasses by means of a three replica potential. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4449–4466. 82D30

— (*with* Giardina, Irene; Parisi, Giorgio) An investigation of the hidden structure of states in a mean-field spin-glass model. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7021–7038. 82D30 (82B10)

— (*with* Giardina, Irene; Parisi, Giorgio) Corrigenda: "An investigation of the hidden structure of states in a mean-field spin-glass model" [J. Phys. A **30** (1997), no. 20, 7021–7038]. *J. Phys. A* **31** (1998), *no.* 13, 3115. 82D30 (82B10)

Cavagnac, Michel Le "dilemme des prisonniers": les arguments d'une coopération en information incomplète. (English and French summaries) [The "prisoners' dilemma": cooperation under incomplete information] *Ann. Économ. Statist.* **1994**, *no.* 35, 1–19. 90A05 (90D40)

domingos Cavalcanti, V. N. *see* **Domingos Cavalcanti, V. N.**

Cavalier, Laurent Sur l'efficacité asymptotique dans un problème de tomographie. (English and French summaries) [On asymptotic efficiency in a problem of tomography] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 903–906. (Summary) **98g:62092** 62G20

Cavalier, Vincent (*with* Haefliger, André) Réalisations feuilletées de quelques pseudogroupes. (French summary) [Foliated realizations of some pseudogroups] *Integrable systems and foliations/Feuilletages et systèmes intégrables* (*Montpellier*, 1995), 33–48, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98g:58190** 58H05 (32L30, 57R30)

Cavaliere, Luisa (*with* Di Lascio, Luigi; Gisolfi, Antonio) The algebraic properties of the linguistic truth-values. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 805–827. (Summary) **98g:03072** 03B52

Cavaliere, Paola (*with* D'Ottavio, A.; Leonetti, Francesco; Musciano, C.) Higher integrability for the gradient of solutions to some nonlinear elliptic systems. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 187–196 (1997). (Gong Qing Zhang) **98g:35064** 35J60 (49N60)

— (*with* Manzo, Giuliana; Vitolo, Antonio) Spaces of Morrey type and BMO spaces in unbounded domains of $\mathbf{R}^n$. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 123–140. (Petr Gurka) **98f:46023** 46E30 (42B30)

Cavalieri, Salvatore (*with* Milazzo, Lorenzo) A hypergraph theory-based approach to distributed system reliability evaluation. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 17–31. (Summary) **98c:90042** 90B25 (05C65, 68M15)

Cavallar, Stefania (*with* Montgomery, Peter L.; te Riele, Herman J. J.) A new world record for the special number field sieve factoring method. *CWI Quarterly* **10** (1997), *no.* 2, 105–107. (Samuel S. Wagstaff, Jr.) **98k:11182** 11Y05

Cavallari, Vittorio (*with* Puccio, Luigia; Cotronei, Mariantonia; Princi, Pietro) Recognition of biological shapes by means of wavelet analysis. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 351–358, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 65T20

Cavallini, Fabio (*with* Carcione, José M.) Reflection and transmission of anti-plane shear waves in anisotropic media. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 91–100. (Summary) **98e:73056** 73D25 (73B40, 73F15, 73N20, 86A15)

— (*with* Crisciani, Fulvio) Nonlinear asymptotic stability of quasi-geostrophic wind-driven ocean circulation. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 167–175. (Summary) **98b:86009** 86A10 (76E20)

Cavanaugh, Joseph E. Unifying the derivations for the Akaike and corrected Akaike information criteria. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 201–208. (Summary) **98b:62007** 62B10

— (*with* Shumway, Robert H.) A bootstrap variant of AIC for state-space model selection. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 473–496. 62G09

Cavazos-Gaither, Alma E. *see* **Statistically speaking, 98b:00010**

Caveing, Maurice ★ La constitution du type mathématique de l'idéalité dans la pensée grecque. Vol. I. Essai sur le savoir mathématique dans la Mésopotamie et l'Égypte anciennes. (French. French summary) [The constitution of the mathematical type of idealness in Greek thought. Vol. I. Essay on mathematical knowledge in ancient Mesopotamia and Egypt] Second edition. Histoire des Sciences. [History of Science] *Presses Universitaires de Lille, Villeneuve d'Ascq*, 1994. 419 *pp. ISBN* 2-85939-415-X (Jens Høyrup) **98b:01006** 01A16 (01A17)

Caveny, Deanna M. Commutative algebraic groups and refinements of the Gelfond-Feldman measure. (English summary) Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 889–935. (Michel Waldschmidt) **98a:11093** 11J85 (11J82, 11J89, 14L10)

Caves, Carlton M. (*with* Fuchs, Christopher A.) Bounds for accessible information in quantum mechanics. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 706–714, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (S. Gudder) **98j:81033** 81P15 (94A15)

— (*with* Braunstein, Samuel L.) Geometry of quantum states. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 786–797, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (S. Gudder) **98j:81032** 81P15 (81P05)

— (*with* Schack, Rüdiger) An information-theoretic characterization of quantum chaos. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 339–355, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50 (81R30, 94A15)

— (*with* Nielsen, M. A.) Reversible quantum operations and their application to teleportation. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 4, 2547–2556. (Summary) **98i:81021** 81P15

Cavicchioli, Alberto (*with* Hegenbarth, Friedrich) A note on four-manifolds with free fundamental groups. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 435–451. (Jonathan A. Hillman) **98e:57028** 57N13 (57N65, 57Q10, 57R67)

Caviglia, Giacomo (*with* Morro, Angelo) Non-uniqueness of reflected and transmitted waves. *Mech. Res. Comm.* **23** (1996), *no.* 6, 571–576. (From the introduction) **98j:73035** 73D25

— (*with* Morro, Angelo) Inhomogeneous waves in transversely isotropic solids. (English summary) *Quart. J. Mech. Appl. Math.* **49** (1996), *no.* 3, 451–469. (Summary) **98e:73054** 73D20 (73B40, 73D15, 73F15)

— (*with* Morro, Angelo) Asymptotic rays in prestressed, anisotropic, dissipative solids. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 857–877. (Summary) **98i:73013** 73D15 (73B40)

— (*with* Morro, Angelo) Causality and solvability of reflection-transmission problems. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 4, 301–314. (George Dassios) **98j:73036** 73D25 (73B40)

— (*with* Morro, Angelo) Energy flux and dissipation in pre-stressed solids. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 209–216. (Summary) **98m:73049** 73F15 (73B40)

Caviness, B. F. *see* **Broastein, Manuel, 98a:68104**

Cawley, Elise (*with* Marcus, Brian H.; Tuncel, Selim) Boundary measures of Markov chains. (English summary) *Israel J. Math.* **94** (1996), 111–123. (Summary) **98f:28020** 28D05 (54H20)

Cayley, Arthur *see* **Boole, George, 98h:01033**

Cayrol, Claudette On the relation between argumentation and non-monotonic coherence-based entailment. (English summary) *IJCAI-95, Vol. 1, 2* (*Montreal, PQ*, 1995), 1443–1448, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B60, 03B70)

— From non-monotonic syntax-based entailment to preference-based argumentation. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 99–106, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B70)

Cazals, Frédéric Combinatorial properties of one-dimensional arrangements. (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 87–94. (Jesús A. de Loera) **98i:52009** 52A37 (05A05, 05C75, 68R05)

Căzănescu, Virgil Emil The structure of the basic morphisms. (English summary) *New trends in formal languages*, 422–429, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98m:68178** 68Q65

— (*with* Roşu, Grigore) Weak inclusion systems. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 2, 195–206. (K. G. Peeva) **98d:18001** 18A05 (18A20, 18A30, 68Q99)

Cazassa, Peter G. (*with* Christensen, Ole) Perturbation of operators and applications to frame theory. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 543–557. (B. S. Rubin) **98j:47028** 47A55 (42C99, 46B15, 46C05)

Cazenave, Thierry (*with* Dickstein, Flavio; Kavian, Otared) A parameter determination problem for a linearized model of well-reservoir coupling. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 87–97. (Hamid Bellout) **98b:35203** 35Q99 (35R30, 76S05, 86A22)

— (*with* Weissler, Fred B.) Solutions self-similaires de l'équation de Schrödinger non-linéaire. [Self-similar solutions of the nonlinear Schrödinger equation] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. II*, 17 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 35Q55

arcos Cebrián, Antonio *see* **Arcos Cebrián, Antonio**

Ceccherini, Pier Vittorio In honour of Giuseppe Tallini: Speech pronounced at the opening ceremony of the Conference "Combinatorics '96", Assisi, 8–14 September 1996. *Results Math.* **32** (1997), *no.* 3-4, 221–233. (Editors) **98k:01018** 01A70

— Giuseppe Tallini. A view on some of his papers and remembering the first time that I met Giuseppe. *Results Math.* **32** (1997), *no.* 3-4, 234–240. 01A70 (51–03)

— *see also* **Combinatorics, 98e:00015**

Ceccherini-Silberstein, Tullio G. Approximately inner and centrally free commuting squares of type II_1 factors and their classification. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 296–336. (Yasuyuki Kawahigashi) **98b:46079** 46L37

— (*with* Bartholdi, Laurent; Cantat, Serge; de la Harpe, Pierre) Estimates for simple random walks on fundamental groups of surfaces. (English summary) *Colloq. Math.* **72** (1997), *no.* 1, 173–193. (Alain Valette) **98d:60133a** 60J15 (20F05, 31A05, 60B15)

— On a convexity problem on subfactors considered by Bhat, Pati and Sunder. *Math. Ann.* **307** (1997), *no.* 1, 139–142. (Yasuyuki Kawahigashi) **98b:46080** 46L37

Cecchi, M. *see* **Cecchi, Mariella**

morandi Cecchi, Maria *see* **Morandi Cecchi, Maria**

Cecchi, Mariella (*with* Marini, Mauro; Villari, Gabriele) On a cyclic disconjugate operator associated to linear differential equations. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 297–309. (Uri Elias) **98k:34055** 34C10 (34A30)

— (*with* Došlá, Zuzana; Marini, Mauro) Asymptotic behavior of solutions of third order delay differential equations. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 1-2, 99–108. (A. F. Ivanov) **98j:34156** 34K25

— (*with* Došlá, Zuzana; Marini, Mauro) Some properties of third order differential operators. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 729–748. (C. A. Swanson) **98k:34056** 34C10 (34A30)

de Cecco, Giuseppe *see* **De Cecco, Giuseppe**

Cecconi, F. (*with* Politi, Antonio) n-tree approximation for the largest Lyapunov exponent of a coupled-map lattice. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 4998–5003. 82C05 (58F40, 82D60)

Cechlárová, Katarína (*with* Kolesár, Karol) Strong regularity of matrices in a discrete bounded bottleneck algebra. (English summary) *Linear Algebra Appl.* **256** (1997), 141–152. (Peter Butkovič) **98c:15035** 15A21 (15–04)

— (*with* Atkin, A. O. L.; Boros, Endre; Peled, Uri N.) Powers of circulants in bottleneck algebra. (English summary) *Linear Algebra Appl.* **258** (1997), 137–148. (Ronald L. Smith) **98c:15050** 15A30 (04A72, 15A57)

— Efficient computation of the greatest eigenvector in fuzzy algebra. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 73–79. (Summary) **98j:15010** 15A18 (04A72)

Ceci, Claudia (*with* Gerardi, Anna; Mazliak, L.) Some results about stopping times of the marked tree space. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 578–590; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 3, 425–435 (1997). (Jochen Geiger) **98f:60167** 60J80 (60G40)

— (*with* Gerardi, Anna) Filtering of a branching process given its split times. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 565–574. (John Charles D'Souza) **98j:60118** 60J80 (93E11)

Cecil, Thomas E. Taut and Dupin submanifolds. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 135–180, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (James J. Hebda) **98j:53062** 53C40 (53A07, 53B25)

— (*with* Kühnel, Wolfgang) Bibliography on tight, taut and isoparametric submanifolds. *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 307–339, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98f:53001**) 53–00

— *see also* **Tight and taut submanifolds, 98f:53001**

~~majster-Cederbaum, Mila E.~~ *see* **Majster-Cederbaum, Mila E.**

Cederquist, Jan (*with* Negri, Sara) A constructive proof of the Heine-Borel covering theorem for formal reals. (English summary) *Types for proofs and programs* (*Torino*, 1995), 62–75, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03037** 03F60

Cedervall, Mats (*with* Stoica, Petre; Sorelius, Joakim; Söderström, Torsten) Errors-in-variables modeling: an instrumental variable approach. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 329–340, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

Cederwall, Martin (*with* von Gussich, Alexander; Sundell, Per) Deformations in closed string theory: canonical formulation and regularization. (English summary) *Nuclear Phys. B* **464** (1996), *no.* 1-2, 117–134. (Masoud Alimohammadi) **98c:81158** 81T30 (81T40)

— Boundaries of 11-dimensional membranes. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2641–2645. (Summary) **98j:81261** 81T30 (83E30)

— (*with* von Gussich, Alexander; Nilsson, Bengt E. W.; Westerberg, Anders) The Dirichlet super-three-brane in ten-dimensional type IIB supergravity. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 163–178. (Daniel N. Kabat) **98f:81238b** 81T30 (83E30, 83E50)

— (*with* von Gussich, Alexander; Nilsson, Bengt E. W.; Sundell, Per; Westerberg, Anders) The Dirichlet super-p-branes in ten-dimensional type IIA and IIB supergravity. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 179–201. (Daniel N. Kabat) **98f:81238c** 81T30 (83E30, 83E50)

— Aspects of D-brane actions. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 61–69. (Edward Teo) **98j:81262** 81T30

— (*with* von Gussich, Alexander; Miković, Aleksandar; Nilsson, Bengt E. W.; Westerberg, Anders) On the Dirac-Born-Infeld action for D-branes. (English summary) *Phys. Lett. B* **390** (1997), *no.* 1-4, 148–152. (Summary) **98c:81159** 81T30 (83E30)

Cedó, Ferran Strongly prime power series rings. *Comm. Algebra* **25** (1997), *no.* 7, 2237–2242. (J. F. Watters) **98c:16023** 16N60 (16S99)

— (*with* Herbera, Dolors) The maximum condition on annihilators for polynomial rings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2541–2548. (Carl Faith) **98k:13025** 13F20 (13E05)

Cegarra, A. M. (*with* Carrasco, P.) Schreier theory for central extensions of categorical groups. *Comm. Algebra* **24** (1996), *no.* 13, 4059–4112. (John G. Ratcliffe) **98a:55012** 55Q05 (18D10, 20J05)

Cegielski, Patrick *see* **Colloquium: Logic, 98i:03003**

Cegrell, Urban Some remarks on the pluricomplex Green function. *Geometric complex analysis* (*Hayama*, 1995), 75–79, *World Sci. Publishing, River Edge, NJ*, 1996. (M. Klimek) **98h:32022** 32F05 (32F07)

— (*with* Yamaguchi, Hiroshi[1]) Construction of equilibrium current densities. *Geometric complex analysis* (*Hayama*, 1995), 81–87, *World Sci. Publishing, River Edge, NJ*, 1996. (Mongi Blel) **98g:32017** 32C30 (31B15)

— (*with* Persson, Leif) An energy estimate for the complex Monge-Ampère operator. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 1, 95–102. (Zbigniew Błocki) **98i:32021** 32F07 (31C10)

Cejtlin, G. *see* **Tseitlin, G. E.**

Čekanavičius, Vydas Asymptotic expansions in the exponent: a compound Poisson approach. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 374–387. (Małgorzata Majsnerowska) **98d:60042** 60F05 (60E07)

— Approximation of the generalized Poisson-binomial distribution: asymptotic expansions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 1, 1–17; *translation in Lithuanian Math. J.* **37** (1997), *no.* 1, 1–12. (Małgorzata Majsnerowska) **98j:60030** 60F05 (62P05)

Cel, J. An optimal Krasnosel'skiĭ-type theorem for an open starshaped set. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 293–301. (Marilyn Breen) **98h:52009** 52A30 (52A07)

Çela, A. (*with* Hamam, Yskander; Nielsen, J. R.; Christensen, L. T.) Nonlinear approach to the control of multimachine power systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4301–4308. (*see* **98i:00032**) 93C95 (93B12)

Çela, Eranda (*with* Burkard, Rainer E.; Rote, Günter; Woeginger, Gerhard J.) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 204–218, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Anton Volgenant) **98c:90103** 90C27 (90C10)

— (*with* Burkard, Rainer E.; Dudás, Tibor) A communication assignment problem on trees: heuristics and asymptotic behavior. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 127–155, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **98m:90113** 90C27 (90C31)

— (*with* Yang, Qi Fan; Burkard, Rainer E.; Woeginger, Gerhard J.) Hamiltonian cycles in circulant digraphs with two stripes. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 233–254. (Alexandra Kireeva) **98j:05096** 05C45 (05C20, 05C85, 68R10)

Celakoski, N. (*with* Čupona, Ǵ.) Free objects in some varieties of groupoids. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 5–16. (A. A. Iskander) **98d:08010** 08B20 (08C15, 20L99)

Celani, A. (*with* Artale, V.; Boffetta, G.; Cencini, M.; Vulpiani, A.) Dispersion of passive tracers in closed basins: beyond the diffusion coefficient. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3162–3171. (Summary) **98i:76043** 76F99 (76R50)

Celani, Sergio Arturo Symmetric distributive lattices. (Spanish. English and Spanish summaries) *Lect. Mat.* **17** (1996), *no.* 2, 107–119. (Summary) **98b:06017** 06D05 (06B20, 08A35)

— (*with* Jansana, Ramon) A new semantics for positive modal logic. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 1–18. (Marcus Kracht) **98m:03034** 03B45

Çelebi, A. Okay (*with* Tiryaki, Aydın) On the nonoscillatory behavior of solutions of third order differential equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 89–97. (Summary) **98k:34057** 34C10

— (*with* Baĭramov, È. M.) Spectral properties of the Klein-Gordon s-wave equation with complex potential. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 813–824. (Federico Finkel) **98j:81056** 81Q05 (34L40, 81Q10)

— (*with* Baĭramov, È. M.; Çakar, Öner) Quadratic pencil of Schrödinger operators with spectral singularities: discrete spectrum and principal functions. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 303–320. (Horst Behncke) **98k:34131** 34L05 (34L40, 47E05)

Çelebioğlu, S. On a two-parametric family of copulas. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 103–110. 62E10

— Generating copulas by analytical means. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 153–173. 62E10

Celeghini, Enrico (*with* Bonechi, F.; Giachetti, Riccardo; Tarlini, M.; Sorace, E.) Physical applications of inhomogeneous quantum groups. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1265–1272. (Marcelo R. Ubriaco) **98i:81100** 81R50 (17B37, 81V70)

— (*with* Rasetti, Mario; Vitiello, Giuseppe) Algebraic aspects of quantum statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L125–L130. (Roland Speicher) **98e:81070** 81R50 (81S05)

— (*with* Rasetti, Mario) The Gaussian polynomial, restricted k-rowed plane partitions and Hopf algebras. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 171–176. (Christian Krattenthaler) **98j:05014** 05A30 (05A17, 16W30)

Çelik, Adem A note on Mohr's paper. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 60–63. (Summary) **98f:30005** 30C15

Celik, Halil Ibrahim (*with* Poletsky, Evgeny A.) Fundamental solutions of the complex Monge-Ampère equation. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 103–110. (M. Klimek) **98m:32021** 32F07 (31C10, 35J60)

— (*with* Poletsky, Evgeny A.) Order functions of plurisubharmonic functions. (English summary) *Studia Math.* **124** (1997), *no.* 2, 161–171. (Yang Xing) **98c:32017** 32F05 (31C10)

Çelik, Salih (*with* Hizel, Emanullah) h-deformation of Gr(2). (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4677–4680. (Władysław Marcinek) **98j:81144** 81R50

— Two-parametric extension of h-deformation of GL(1|1). (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 299–308. (Sorin Dăscălescu) **98k:16043** 16S80 (16W30, 81R50)

Celik, Y. (*with* Arslan, K.) Submanifolds in real space form with 3-planar geodesic normal sections. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 113–120. (Fabio Podestà) **98c:53067** 53C42 (53C22, 53C40)

Čelikovský, Sergej (*with* Vaněček, Antonín) Synthesis of chaos. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 271–282, *Cambridge Univ. Press, Cambridge*, 1997. (Frederick R. Marotto) **98i:58166** 58F13

— (*with* Nijmeijer, Henk) On the relation between local controllability and stabilizability for a class of nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 90–94. (Matthias Kawski) **98c:93013** 93B05 (93D15)

Cella, C. (*with* Cavaccini, V.; Georgescu, Georges) Pure ideals of MV-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 303–310. (C. S. Hoo) **98b:06013** 06B10

Celledoni, E. (*with* Moret, Igor) A Krylov projection method for systems of ODEs. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 365–378. (Marlis Hochbruck) **98g:65061** 65L05

Celler, Frank (*with* Leedham-Green, C. R.) Calculating the order of an invertible matrix. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 55–60, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Sarah E. Rees) **~~98g:20001~~** 20–04 (15A99, 20G40)

— (*with* Leedham-Green, C. R.) A non-constructive recognition algorithm for the special linear and other classical groups. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 61–67, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (D. F. Holt) **98c:20094** 20G40 (20–04)

Celletti, Alessandra (*with* Ferrara, Laura) An application of the Nekhoroshev theorem to the restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **64** (1996), *no.* 3, 261–272. (Summary) **98j:70008** 70F07 (70H05)

— (*with* Chierchia, Luigi) On the stability of realistic three-body problems. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 413–449. (A. D. Bruno) **98j:70009** 70F07 (58F30, 70H05, 70K20)

Cellina, Arrigo Minimizing a functional depending on ∇u and on u. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 339–352. (Wilfrid Gangbo) **98d:49001** 49J10 (49N60)

Cellucci, Carlo On Quine's approach to natural deduction. *On Quine* (*San Marino*, 1990), 314–335, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B10

Cembranos, Pilar c_0, l_1 and l_∞ in function spaces. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 129–134. (*see* **98k:46001**) 46E40 (46B20)

Cen, Jia Ping *see* **Shum, Kar Ping**

Cen, Jian Miao The problem of characterizing some partial orderings of the set of morphisms in a category. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 3, 35–39. 18A20

Cen, Yanbin (*with* Cen, Yanming) The generalization of Whitney's lemma and application. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 319–326. (Summary) **98i:58030** 58C27 (73E05)

Cen, Yanming (*with* Cen, Yanbin) The generalization of Whitney's lemma and application. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 319–326. (Summary) **98i:58030** 58C27 (73E05)

Cencelj, Matija Differentiable slice in the loop space. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 329–332. (C. J. Atkin) **98i:58043** 58D19 (58C15)

Cencini, M. (*with* Biferale, L.; Pierotti, Dario; Vulpiani, A.) Intermittency in stochastically perturbed turbulent models. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1117–1138. (Summary) **98h:76065** 76F99 (76M35)

— (*with* Artale, V.; Boffetta, G.; Celani, A.; Vulpiani, A.) Dispersion of passive tracers in closed basins: beyond the diffusion coefficient. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3162–3171. (Summary) **98i:76043** 76F99 (76R50)

Cendes, Z. J. (*with* Manges, J. B.) Tree-cotree decompositions for first-order complete tangential vector finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 9, 1667–1685. (Summary) **98b:78003** 78–08

vázquez Cendón, C. *see* **Vázquez Cendón, C.**

Cendra, H. (*with* Salthu, R.; Torresi, A.) Finding nondegenerate Hopf bifurcation points for four-dimensional two-parametric systems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 12, 115–124. (Helena E. Nusse) **98i:58170** 58F14 (34C23, 65H17)

Cengiz, Ahmet A study on the Epstein-Hubbell generalized elliptic-type integral using residue theory. (English summary) *Appl. Math. Comput.* **83** (1997), *no.* 1, 19–26. (Summary) **98b:33043** 33E20 (30E20)

Ceniceros, Héctor D. (*with* Hou, Thomas Y.) Convergence of a non-stiff boundary integral method for interfacial flows with surface tension. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 137–182. (Robert F. Almgren) **98c:76077** 76M25 (65M12, 76D45, 76E99)

Censor, Dan (*with* Zangari, Mark) Spectral representations: an alternative to the spatiotemporal world view. (English summary) *Synthese* **112** (1997), *no.* 1, 97–123. (I. Grattan-Guinness) **98k:00004** 00A30 (00A71, 76Q05)

— *see also* **Gaudiano, Paolo**, **98k:00005**

Censor, Yair (*with* Reich, Simeon) Iterations of paracontractions and firmly nonexpansive operators with applications to feasibility and optimization. (English summary) *Optimization* **37** (1996), *no.* 4, 323–339. (Summary) **98j:47161** 47N10 (47H09, 90C25)

— (*with* Butnariu, Dan; Reich, Simeon) Iterative averaging of entropic projections for solving stochastic convex feasibility problems. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 1, 21–39. (Summary) **98c:90101** 90C15 (90C30)

del Centina, A. *see* **Del Centina, A.**

Čenys, A. (*with* Tamaševičius, A.) Hyperchaos in dynamical systems with a monoactive degree of freedom. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 115–119. (Summary) **98m:94064** 94C05 (58F13, 58F40)

Cépa, Emmanuel Équations différentielles stochastiques multivoques. [Multivariate stochastic differential equations] *Séminaire de Probabilités, XXIX*, 86–107, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Jose Luis Menaldi) **98h:60081** 60H10 (60J60)

— (*with* Lépingle, Dominique) Diffusing particles with electrostatic repulsion. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 4, 429–449. (Sylvie Méléard) **98k:60177** 60K35 (60F05, 60H10)

Čepek, Ondřej (*with* Boros, Endre) On perfect 0, ±1 matrices. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 81–100. (Summary) **98g:05028** 05B20 (05C15, 05C50)

Čepička, Jan (*with* Drábek, Pavel; Jeníšková, Jolana) On the stability of periodic solutions of the damped pendulum equation. *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 712–723. (Rafael Ortega) **98j:34068** 34C25 (34D20)

Cerami, Giovanna The role of the domain shape on the existence and multiplicity of positive solutions of some elliptic nonlinear problems. *Variational methods in nonlinear analysis* (*Erice*, 1992), 263–286, *Gordon and Breach, Basel*, 1995. (C. A. Swanson) **98e:35066** 35J65 (35B32, 58E05)

— (*with* Passaseo, Donato) High energy positive solutions for mixed and Neumann elliptic problems with critical nonlinearity. *J. Anal. Math.* **71** (1997), 1–39. (C. A. Swanson) **98d:35070** 35J65 (35B32, 58E05)

— (*with* Passaseo, Donato) Nonminimizing positive solutions for equations with critical exponents in the half-space. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 867–885. (Summary) **98c:35051** 35J65 (35B05)

Ceranka, Bronisław (*with* Brzeskwiniewicz, Henryk; Krzyszkowska, Jolanta) Reinforced block designs with standards. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 187–192. (Summary) **98e:62114** 62K10

Čerāns, Kārlis (*with* Abdulla, Parosh Aziz; Jonsson, Bengt; Tsay, Yih-Kuen) General decidability theorems for infinite-state systems. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 313–321, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60

Cerchiai, Bianca Letizia (*with* Schupp, Peter[1]) Symmetries of an extended Hubbard model. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 361–368, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98j:81145** 81R50 (82B20, 82D55)

Cercignani, Carlo Recent results on the Boltzmann equation. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 2, 83–112. (Anne Nouri) **98c:82058** 82C40 (35Q99, 45K05)

— Trend to equilibrium of weak solutions of the Boltzmann equation in a slab with diffusive boundary conditions. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 3-4, 875–888. (Rossana Marra) **98b:82065** 82C40 (45K05, 76P05)

— Instabilities of the solutions of the Boltzmann equation. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 101–110. (*see* **98b:00028**) 82C40 (76P05)

— Initial-boundary value problems for the Boltzmann equation. (English summary) Proceedings of the Second International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems (Sanremo, 1994). *Transport Theory Statist. Phys.* **25** (1996), *no.* 3-5, 425–436. (Rossana Marra) **98b:82066** 82C40 (76P05)

— (*with* Martínez-Gamba, Irene; Levermore, C. David) High field approximations to a Boltzmann-Poisson system and boundary conditions in a semiconductor. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 111–117. (Luisa Arlotti) **98k:82210** 82D99 (82C40)

— (*with* Biscari, Paolo) Stress and heat flux in non-inertial reference frames. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 1, 1–11. (C. R. Garibotti) **98i:82051** 82C40 (73B30, 80A20)

— Temperature, entropy, and kinetic theory. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1097–1109. (Alexander Orlov) **98f:82106** 82C40 (80A10, 82B40, 82C35, 82C80, 82D05)

— (*with* Stefanov, S. K.) Monte Carlo simulation of the propagation of a disturbance in the channel flow of a rarefied gas. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 41–53. (*see* **98i:76002**) 76M35 (76P05)

— *see also* **Simulation methods in kinetic theory**, **98i:76002**

Cerdà, Joan (*with* Carro, María J.; Soria, Javier) A unified approach for commutators theorems in interpolation theory, a survey. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 91–108. (Mario Milman) **98f:46061** 46M35 (46E30)

— (*with* Martín, Joaquim) Conjugate Hardy's inequalities with decreasing weights. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2341–2344. (Luboš Pick) **98j:42010** 42B25 (26D10, 46E30)

velilla Cerdán, Santiago *see* **Velilla Cerdán, Santiago**

Cereceda, José L. Two-particle entanglement as a property of three-particle entangled states. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 3, 1733–1738. (Summary) **98i:81017** 81P15 (81P05)

Ceresole, Anna (*with* Billó, Marco; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Regge, Tullio; Soriani, Paolo; Van Proeyen, Antoine) A search for non-perturbative dualities of local $N = 2$ Yang-Mills theories from Calabi-Yau 3-folds. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 831–864. (Summary) **98a:32026** 32G81 (14J32, 32J17, 32J81, 53C25, 81T30)

— (*with* D'Auria, Riccardo; Ferrara, Sergio) The symplectic structure of $N = 2$ supergravity and its central extension. (English summary) S-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 67–74. (Krzysztof Galicki) **98a:81217** 81T60 (32J81, 81T30, 83E30, 83E50)

— (*with* D'Auria, Riccardo; Ferrara, Sergio; Lerche, Wolfgang; Louis, Jan; Regge, Tullio) Picard-Fuchs equations, special geometry and target space duality. (English summary) *Mirror symmetry, II*, 281–353, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Krzysztof Galicki) **98b:32015** 32G20 (32G81, 53C25, 81T30, 81T40, 83E30)

— (*with* Andrianopoli, Laura; Bertolini, Matteo; D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

— (*with* Zecchina, Riccardo) Ising model over Cayley lattices with local 2D geometry. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 6, 259–268. (Summary) **98a:82013** 82B20

Cerezo, Graciela M. A parameter identification problem arising from a two-dimensional airfoil section model. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 109–115, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 1997. (*see* **98b:00023**) 73K70 (34K30, 65J15)

Cerf, Corinne Nullification writhe and chirality of alternating links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 621–632. (Erica Flapan) **98h:57014** 57M25

Cerf, Nicolas J. (*with* Adami, Christoph) Negative entropy in quantum information theory. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 77–84, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P99 (94A17)

— (*with* Adami, Christoph) Entropic Bell inequalities. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3371–3374. (Emilio Santos) **98j:81008** 81P05 (81P10, 94A17)

— (*with* Cleve, Richard) Information-theoretic interpretation of quantum error-correcting codes. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 3, 1721–1732. (Dennis Dieks) **98j:81049** 81P99 (94B99)

— (*with* Adami, Christoph) Negative entropy and information in quantum mechanics. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 26, 5194–5197. (Summary) **98g:81008** 81P05 (82B10)

— (*with* Adami, Christoph; Kwiat, Paul G.) Optical simulation of quantum logic. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 3, R1477–R1480. 81P99

Cerf, Raphaël (*with* Catoni, Olivier) The exit path of a Markov chain with rare transitions. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 95–144 (*electronic*). (Dominique Lépingle) **98f:60130** 60J10 (60F10)

— A new genetic algorithm. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 3, 778–817. (Dominique Lépingle) **98b:60051** 60F10 (60J10)

— The dynamics of mutation-selection algorithms with large population sizes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 4, 455–508. (Dominique Lépingle) **98d:60129** 60J10 (60F10, 92D15)

— (*with* Ben Arous, Gérard) Metastability of the three-dimensional Ising model on a torus at very low temperatures. (English summary) *Electron. J. Probab.* **1** (1996), *no.* 10, *approx.* 55 *pp.* (*electronic*). (Peter Eichelsbacher) **98a:82086** 82C44 (05B50, 60J10, 60K35)

— (*with* Mariconda, Carlo) Oriented measures. (English summary) *J. Math. Anal. Appl.* **197** (1996), *no.* 3, 925–944. (Summary) **98f:28012** 28B05 (49Q20)

— (*with* Bianchini, Stefano; Mariconda, Carlo) Two-dimensional zonoids and Chebyshev measures. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 512–526. (Erik J. Balder) **98e:28012** 28A99 (41A50, 49Q20)

Cerimele, Maria Merceda (*with* Pistella, Francesca) Accurate numerical simulation of a conservation law with memory. Proceedings of the Second World Congress of

Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 359–364. (*see* **98i:00027**) 65M06 (35L65)

Čerin, Zvonko (*with* Gianella, Gian Mario) Tameness and movability in proper shape theory. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 57–68, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54033** 54C56 (54F45)

— Shape theory for arbitrary C^*-algebras. (English summary) *Papers on general topology and applications* (*Gorham, ME*, 1995), 88–105, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Carla Farsi) **98c:46151** 46L85 (54C56, 55P55)

— (*with* Sanjurjo, Jóse M. R.) Universal and proximately universal limits. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 1, 96–105. (Summary) **98e:54011** 54B35 (54C55, 54D30)

— Hyperbolas and orthologic triangles. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 201–214. (Summary) **98f:51027** 51M04

Cerioli, Andrea Comparing three partitions: an inferential approach based on multi-way contingency tables. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2457–2471. (Summary) **98j:62047** 62H17

Cerioli, Maura (*with* Meseguer, José) May I borrow your logic? (Transporting logical structures along maps). (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 311–347. (Guo-Qiang Zhang) **98c:03071** 03B70 (68Q60, 68Q65)

Cerlienco, L. (*with* Mureddu, M.) Matrix representation of compatible linear orders on $\mathbf{R}^n$ and $\mathbf{N}^n$. (Italian. English summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 1, 49–68. (B. Zelinka) **98c:06025** 06F20

Čermák, Libor (*with* Nedoma, Josef[2]; Ženíšek, Alexander) In memoriam Professor Miloš Zlámal [1924–1997]. *Appl. Math.* **43** (1998), *no.* 1, 77–79. 01A70

— (*with* Nedoma, Josef[2]; Ženíšek, Alexander) In memoriam Professor Miloš Zlámal. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 185–191. (Editors) **98k:01019** 01A70

Cermelli, Paolo (*with* Mazzucco, E.) A note on the model of crystalline defects in Ericksen-Pitteri neighborhoods. (English summary) *Phys. D* **99** (1996), *no.* 2-3, 350–358. (Gianpietro Del Piero) **98e:73112** 73S10 (73B10, 73B30, 82D30)

— (*with* Pastrone, Franco) Growth and decay of waves in microstructured solids. (English and Estonian summaries) EUROMECH Colloquium 348 "Nonlinear Dynamics of Heterogeneous and Microstructured Solids" (Tallinn, 1996). *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 1-2, 32–40. (*see* **98d:73001**) 73D15 (73S10)

— (*with* Pastrone, Franco) Growth and decay of waves in one-dimensional self-adaptive microstructures. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 3, 209–220. (Summary) **98j:73033** 73D15 (35Q72, 73D40, 73F15)

Černá, I. (*with* Křetínský, Mojmír; Kučera, Antonín) Bisimilarity is decidable in the union of normed BPA and normed BPP processes. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98m:68066** 68Q10 (68Q60)

Černe, Miran The Plateau problem. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **44** (1997), *no.* 5, 139–145. 53A10

Cernea, Aurelian (*with* Mirică, Ştefan) Minimum principle for some classes of nonconvex differential inclusions. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 307–324 (1997). (Luc Doyen) **98g:49004** 49J24 (34A60, 34H05)

— (*with* Mirică, Ştefan) Quasitangent differentiability and derived cones to reachable sets of control systems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 169–184. (Piermarco Cannarsa) **98k:49023** 49J52 (26E25, 28B20, 52A20, 93B03)

Černý, Anton (*with* Horák, Peter; Rosa, Alexander; Znám, Š.) Maximal pentagonal packings. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 2, 215–227. (Gerard J. Chang) **98b:05074** 05C70 (05C38)

— Description of words by cellular automata. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **24** (1997), *no.* 2, 199–215. (Karel Culik, II) **98k:68123** 68Q80

— On sequences resulting from iteration of modified quadratic and palindromic mappings. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 161–174. (Summary) **98k:68140** 68R15 (11B85)

Cerone, P. (*with* Sofo, A.; Watson, Donald) Stirling related polynomials. (English summary) *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 2, 66–73. (Summary) **98d:05006** 05A10

— (*with* Sofo, A.) On a Fibonacci related series. *Fibonacci Quart.* **36** (1998), *no.* 3, 211–215. 11B39

Cerrato, Claudio Modal sequents. *Proof theory of modal logic* (*Hamburg*, 1993), 141–166, *Appl. Log. Ser.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1996. (Silvio Ghilardi) **98a:03020** 03B45 (03F07)

Cerri, Cristina Non-commutative deformations of $C(\mathbf{T}^2)$ and K-theory. (English summary) *Internat. J. Math.* **8** (1997), *no.* 5, 555–571. (Evgeniĭ V. Troitskiĭ) **98j:46082** 46L87 (19K35, 46L80, 46L85)

Cerrito, Patricia B. (*with* Barnes, George R.; Levi, Inessa) Alternate methods for generating interaction semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 19–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:92023** 92H30 (20M99)

Cerrito, Serenella (*with* Cialdea Mayer, Marta) Hintikka multiplicities in matrix decision methods for some propositional modal logics. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 138–152, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B45 (03B25)

— (*with* Cialdea Mayer, Marta) A polynomial translation of S4 into T and contraction-free tableaux for S4. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 287–300 (*electronic*). (Zoran Ognjanović) **98a:03021** 03B45 (03B35)

fariñas del Cerro, Luis *see* **Fariñas del Cerro, Luis**

Cerruti-Sola, Monica (*with* Casetti, Lapo; Pettini, Marco; Cohen, E. G. D.) The Fermi-Pasta-Ulam problem revisited: stochasticity thresholds in nonlinear Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6566–6574. (Summary) **98f:82081** 82C05 (58F27, 82–04)

— (*with* Franzosi, Roberto; Pettini, Marco) Lyapunov exponents from geodesic spread in configuration space. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4872–4875. (Chalya S. Aravinda) **98i:58185** 58F17

Cerutti, R. A. The ultrahyperbolic Bessel operator: some basic properties. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 89–94. (B. S. Rubin) **98f:47056** 47G20 (46F10, 47F05)

Cerutti, Stefano (*with* Meneveau, Charles) Intermittency and relative scaling of subgrid-scale energy dissipation in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 928–937. (Summary) **98k:76065** 76F05

Cervantes, M. A. (*with* Kurmyshev, E. V.) Comparative analysis of Lummer-Gehrcke and Fabry-Perot interferometers. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 6, 1010–1020. 78A45

Cervantes-Cota, J. L. (*with* Chauvet, Pablo; Núñez-Yépez, H. N.) Cosmological solutions that are stable under anisotropic perturbations in Brans-Dicke theory. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 311–315, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:83079** 83D05

Červar, B. (*with* Uglešić, Nikica) Strictly canonical PL resolutions of spaces and mappings. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 125–140. (Summary) **98d:54027** 54B35 (54C10, 57Q05)

— (*with* Uglešić, Nikica) Paracompact locally compact spaces as inverse limits of polyhedra. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 69–78. (Summary) **98k:54013** 54B35 (54C10, 54D30, 57Q05)

Cerveau, D. (*with* Conze, J.-P.; Raugi, Albert) Ensembles invariants pour un opérateur de transfert dans $\mathbf{R}^d$. (English and French summaries) [Invariant sets for a transfer operator in $\mathbf{R}^d$] *Bol. Soc. Brasil. Mat.* (*N.S.*) **27** (1996), *no.* 2, 161–186. (Steen Pedersen) **98m:28044** 28D99 (42C15, 60J10)

— (*with* Berthier, Michel; Lins Neto, A.) Sur les feuilletages analytiques réels et le problème du centre. [Real-analytic foliations and the problem of the center] *J. Differential Equations* **131** (1996), *no.* 2, 244–266. (Sergeĭ Yu. Yakovenko) **98a:58128** 58F18 (32L30, 34A20, 34C05)

— Dérivations surjectives de l'anneau $\mathbf{C}[x, y]$. [Surjective derivations of the ring $\mathbf{C}[x, y]$] *J. Algebra* **195** (1997), *no.* 1, 320–335. (Alexandru Dimca) **98k:13007** 13B10

— (*with* Sad, Paulo) Liouvillian integration and Bernoulli foliations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3065–3081. (M. G. Soares) **98k:32044** 32L30 (58F18)

Cervesato, Iliano (*with* Pfenning, Frank) A linear logical framework. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 264–275, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60 (03B70, 03F50, 68N15)

— (*with* Hodas, Joshua S.; Pfenning, Frank) Efficient resource management for linear logic proof search. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 67–81, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17 (03B35, 03B70, 03F50, 68T15)

Cervone, Davide P. Tightness for smooth and polyhedral immersions of the projective plane with one handle. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 119–133, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Wolfgang Kühnel) **98j:53071** 53C42 (52B70, 57Q35)

Cesa-Bianchi, Nicolò (*with* Bertoni, Alberto; Campadelli, Paola) Multilayer perceptrons and learning. (English summary) *Theoretical computer science* (*Ravello*, 1995), 43–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Peter Auer) **98c:68180** 68T05 (68Q15)

— (*with* Fischer, Paul; Shamir, Eli; Simon, Hans Ulrich) Randomized hypotheses and minimum disagreement hypotheses for learning with noise (extended abstract). (English summary) *Computational learning theory* (*Jerusalem*, 1997), 119–133, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05 (68Q99)

— (*with* Freund, Yoav; Haussler, David; Helmbold, David P.; Schapire, Robert E.; Warmuth, Manfred K.) How to use expert advice. (English summary) *J. ACM* **44** (1997), *no.* 3, 427–485. (Peter Auer) **98e:68220** 68T05 (68Q99)

Cesaratto, E. The α-concentration of Procaccia of infinite words in finitely generated Fuchsian groups. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 127–139. (Summary) **98m:20064** 20H10

Cesàro, Ernesto *see* **Carbone, Luciano et al., 98c:01022**

Cesati, Marco (*with* Trevisan, Luca) On the efficiency of polynomial time approximation schemes. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 165–171. (Summary) **98h:68084** 68Q15 (68Q25)

— (*with* Di Ianni, Miriam) Computation models for parameterized complexity. (English summary) Workshop on Computability, Complexity and Logic (Zinnowitz, 1996). *Math. Logic Quart.* **43** (1997), *no.* 2, 179–202. (William Gasarch) **98b:68056** 68Q15 (03D10, 68Q25)

Cesco, J. (*with* Marchi, Ezio) KKM in an arbitrary product of simplices. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 13–21. (Wojciech Kryszewski) **98f:54021** 54C60 (47H04, 47H10, 54H25)

Cesi, F. (*with* Guadagni, G.; Martinelli, Fabio; Schonmann, Roberto H.) On the two-dimensional stochastic Ising model in the phase coexistence region near the critical point. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 1-2, 55–102. (Bálint Tóth) **98a:82014** 82B20 (82B26)

callejón Céspedes, José *see* **Callejón Céspedes, José**

moya-Cessa, H. *see* **Moya-Cessa, H.**

le Cessie, Saskia (*with* Sherman, Michael) A comparison between bootstrap methods and generalized estimating equations for correlated outcomes in generalized linear models. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 901–925. 62J12

Cesur, Y. (*with* Hasanov, Mahir) On a nonlinear eigenvalue problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 491–500. (L. Rodman) **98k:47036** 47A65 (47A75)

Cete, A. Ruhsen (*with* Meric, R. Alsan) An optimization approach for stream function solution of potential flows around immersed bodies. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 3, 253–269. (Summary) **98m:76129** 76M30

Ceterchi, Rodica The naturality of the semantics of recursion. *Mathematical linguistics and related topics*, 44–52, *Ed. Acad. Române, Bucharest*, 1995. (Stephen L. Bloom) **98i:68178** 68Q55 (03D75)

Cetinkaya, S. (*with* Parlar, Mahmut) Optimal nonmyopic gambling strategy for the generalized Kelly criterion. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 639–654. (John Charles D'Souza) **98f:90086** 90D60

Cetto, A. M. (*with* de la Peña, Luis) Wave mechanics: the interplay between stochastics and quanta. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 51–73, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98c:81025** 81P20

— (*with* de la Peña, Luis) Stochastic approach to the tunnel effect. *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 85–101, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P20

Ceulemans, A. (*with* Szopa, M.; Mys, G.) The canonical form of the Rabi Hamiltonian. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5402–5411. (Summary) **98i:81302** 81V80

— (*with* Szopa, M.) The canonical form of the $E \times \varepsilon$ Jahn-Teller Hamiltonian. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1295–1302. (Summary) **98e:81207** 81V70

goles Ch., Eric *see* **Goles Ch., Eric**

Cha, Hyungtai (*with* Chaparro, Luis F.) Adaptive morphological representation of signals: polynomial and wavelet methods. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 249–271. (Summary) **98c:94003** 94A12 (42C15)

Cha, Jian Zhong *see* **Zha, Jian Zhong**

Cha, Kyung-Joon (*with* Jang, Ho-Jong; Yoon, Dall Sun) Least squares approach for structural reanalysis. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 369–379. (Ivar Petersen) **98d:90082** 90C20 (62J12)

Chaatit, Fouad A representation of stable Banach spaces. *Arch. Math.* (*Basel*) **67** (1996), *no.* 1, 59–69. (Stephen J. Dilworth) **98a:46020** 46B20

— (*with* Mascioni, V.; Rosenthal, Haskell Paul) On functions of finite Baire index. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 277–295. (Luděk Zajíček) **98b:26001** 26A21 (54C30, 54H05)

Chabanol, Marie-Line (*with* Hakim, Vincent; Rappel, Wouter-Jan) Collective chaos and noise in the globally coupled complex Ginzburg-Landau equation. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 273–293. (Summary) **98c:35149** 35Q55 (58F13, 58F39)

Chabanov, Vladimir M. (*with* Zakhar′ev, B. N.) Qualitative physics in spectral, scattering and decay control. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 30–44, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81P99

— (*with* Zakhar′ev, B. N.) New situation in quantum mechanics (wonderful potentials from the inverse problem). (English summary) *Inverse Problems* **13** (1997), *no.* 6, R47–R79. (R. G. Newton) **98i:81262** 81U05 (34L25, 34L40, 81U40)

Chabás, José The perpetual almanac of Ferrand Martines. (Spanish) *Arch. Internat. Hist. Sci.* **46** (1996), *no.* 137, 261–308. 01A35

— Astronomy in Salamanca in the mid-fifteenth century: the *Tabulae resolutae*. *J. Hist. Astronom.* **29** (1998), *no.* 2, 167–175. 01A40

Chabaud, Florent On the security of some cryptosystems based on error-correcting codes. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 131–139, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* Vaudenay, Serge) Links between differential and linear cryptanalysis. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 356–365, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (Summary) **98i:94017** 94A60

— (*with* Canteaut, Anne) A new algorithm for finding minimum-weight words in a linear code: application to McEliece's cryptosystem and to narrow-sense BCH codes of length 511. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 367–378. (Summary) **98m:94043** 94B05

Chabchoub, Najoua (*with* Bonnisseau, Jean-Marc) Une approche générale de l'externalité dans un réseau de communication. (English and French summaries) [A general approach to externality in a communication network] *Ann. Économ. Statist.* **1997,** *no.* 46, 183–202. 90A53 (94A05)

Chabert, Jean-Luc (*with* Cahen, Paul-Jean) ★ Integer-valued polynomials. Mathematical Surveys and Monographs, 48. *American Mathematical Society, Providence, RI*, 1997. xx+322 *pp. ISBN* 0-8218-0388-3 (Scott Chapman) **98a:13002** 13–02 (13B25, 13C20, 13F05)

— (*with* Chapman, Scott T.; Smith, William W.) Algebraic properties of the ring of integer-valued polynomials on prime numbers. *Comm. Algebra* **25** (1997), *no.* 6, 1945–1959. (Amartya K. Dutta) **98f:13016** 13F05 (13B25)

Chaboud, Marcel Desargues Lyonnais. [Desargues the Lyonese] *Desargues en son temps*, 433–452, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A70 (01A45)

Chaboud, Thomas About planar Cayley graphs. *Fundamentals of computation theory* (*Dresden*, 1995), 171–180, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68R10 (05C25, 20F05)

— (*with* Kenyon, Claire) Planar Cayley graphs with regular dual. *Internat. J. Algebra Comput.* **6** (1996), *no.* 5, 553–561. (Martin Škoviera) **98a:05077** 05C25 (05C10)

Chabour, R. (*with* Oumoun, M.) A Jurdjevic-Quinn theorem for stochastic nonlinear systems. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 43–50. (Paolo Dai Pra) **98k:93116** 93E15 (60H10)

Chabrowski, J. (*with* Yang, Jianfu) Nonnegative solutions for semilinear biharmonic equations in $\mathbf{R}^N$. (English summary) *Analysis* **17** (1997), *no.* 1, 35–59. (Jann-Long Chern) **98f:35044** 35J60 (35B05)

— (*with* Arioli, G.) Periodic motions of a dynamical system consisting of an infinite lattice of particles. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 387–395. (Gabriella Tarantello) **98j:34066** 34C25 (49J40, 58E05, 70K99)

Chacarov, E. J. (*with* Pulov, V. I.; Uzunov, I. M.) Solutions and laws of conservation for coupled nonlinear Schrödinger equations: Lie group analysis. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part B*, 3468–3477. (Summary) **98k:35182** 35Q55 (35A30, 81Q05)

Chachólski, Wojciech Desuspending and delooping cellular inequalities. *Invent. Math.* **129** (1997), *no.* 1, 37–62. (David A. Blanc) **98i:55013** 55P60 (55P15, 55U05)

— A generalization of the triad theorem of Blakers-Massey. *Topology* **36** (1997), *no.* 6, 1381–1400. (P. S. Green) **98e:55014** 55Q20 (55P99, 55U35)

Chacín, J. (*with* Chong, M. S.; Soria, Julio; Perry, A. E.; Cantwell, B. J.; Na, Y.) Turbulence structures of wall-bounded shear flows found using DNS data. (English summary) *J. Fluid Mech.* **357** (1998), 225–247. (Summary) **98m:76094** 76F99

Chacon, Edgar (*with* De Sarrazin, Gisela; Szigeti, Ferenc) Pseudo-dynamic hybrid systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2533–2537. (*see* **98i:00030**) 93A30 (93C83)

Chacón, Elpidio Introduction to group theory. *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 3–32, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (*see* **98f:81011**) 22E70 (20C35)

Chadam, John (*with* Chen, Xinfu; Gianni, Roberto; Ricci, Riccardo) A reaction infiltration problem: classical solutions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 275–291. (Siegfried Carl) **98g:35103** 35K57 (35M10, 76S05)

— (*with* Qin, Yu) Spatial decay estimates for flow in a porous medium. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 808–830. (Summary) **98b:35142** 35Q35 (35B40, 76S05)

Chadan, Khosrow (*with* Colton, David L.; Päivärinta, Lassi; Rundell, William) ★ An introduction to inverse scattering and inverse spectral problems. (English summary) With a foreword by Margaret Cheney. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. x+198 *pp. ISBN* 0-89871-387-0 (Carol Shubin) **98a:34017** 34A55 (34L25, 34L40, 35P25, 35R30, 81U40)

— (*with* Kobayashi, Reido) A sufficient condition for the existence of bound states in a potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4900–4908. (Tuncay Aktosun) **98f:34122** 34L25 (34L15, 34L40, 81Q10)

Chademan, Arsalan (*with* Mirzapour, Farzollah) Boundedness properties of midconvex functions in locally compact groups. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 59–63, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Summary) **98k:22020** 22D05 (26A51)

Chadha, S. S. (*with* Heeg, Richard A.) A nonlinear fractional program and its dual. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 43–54. (Summary) **98i:90100** 90C32

Chadha, V. (*with* Mishra, Swami Nath; Singh, Shyam Lal) Coincidences and fixed points in fuzzy metric spaces. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 137–148. 54H25 (54A40, 54E70)

— (*with* Mishra, Swami Nath; Singh, Shyam Lal) Coincidences and fixed points in fuzzy metric spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 491–500. 54A40 (54H25)

Chadwick, Edmund (*with* Bettess, Peter) Modelling of progressive short waves using wave envelopes. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3229–3245. (Summary) **98i:78012** 78A40 (76M25, 76Q05, 78–08)

Chadwick, Peter The application of the Stroh formalism to prestressed elastic media. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 4, 379–403. (D. Ieşan) **98j:73030a** 73C99 (73B40, 73D20)

— (*with* Alshits, V. I.) Concavities on the zonal slowness section of a transversely isotropic elastic material. (English summary) *Wave Motion* **25** (1997), *no.* 4, 347–359. (Summary) **98d:73027** 73D15 (73B40)

— Errata: "The application of the Stroh formalism to prestressed elastic media". *Math. Mech. Solids* **3** (1998), *no.* 1, 125. (D. Ieşan) **98j:73030b** 73C99 (73B40, 73D20)

Chadzitaskos, G. (*with* Tolar, J.) Feynman path integral with underlying noncommutative "geometry" and quantum mechanics in external field. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1289–1292. (Summary) **98d:58026** 58D30 (58B30, 81S40)

— (*with* Tolar, J.) Quantization on Z_M and coherent states over $Z_M \times Z_M$. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2509–2517. (Apostolos Vourdas) **98f:81115** 81R30 (81S30)

— (*with* Odzijewicz, Anatol) Para-Grassmann star product calculation. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 199–209. (Summary) **98m:81066** 81R30 (58F06, 81R50, 81S10)

Chądzyński, Jacek (*with* Krasiński, Tadeusz) A set on which the Łojasiewicz exponent at infinity is attained. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 191–197. (Zbigniew Jelonek) **98j:14013** 14E05

Chae, Dongho (*with* Kim, Namkwon) Homogeneous statistical solutions and the vanishing interfacial energy limit of the Cahn-Hilliard equation. *Nonlinear Anal.* **29** (1997), *no.* 10, 1197–1216. (Jing Xue Yin) **98f:35068** 35K55 (35Q99, 82B24, 82B26, 82B31)

— (*with* Kim, Namkwon) Axisymmetric weak solutions of the 3-D Euler equations for incompressible fluid flows. *Nonlinear Anal.* **29** (1997), *no.* 12, 1393–1404. (Emmanuel Grenier) **98i:35141** 35Q30 (35D05, 76C99)

— (*with* Nam, Hee-Seok) Local existence and blow-up criterion for the Boussinesq equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 935–946. (Summary) **98e:35133** 35Q35 (35B05, 76F99)

Chae, K. C. (*with* Lee, Ho Woo; Chung, D. I.; Lee, S. S.) Server unavailability reduces mean waiting time in some batch service queuing systems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 559–567. (Summary) **98a:90050** 90B22

— (*with* Lee, Ho Woo) On the random sum with a stopping rule $S_N > T$. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 561–567. 60G40

Chae, Younki (*with* Kim, Ju-Young; Choi, In Sim) The semigroup of compact subsets of a topological group. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 25–30. (Anne L. Hudson) **98g:22002** 22A15

— (*with* Choi, Keunbae) Maximal subgroups in C_n^A semigroups. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 53–59. (Bernard L. Madison) **98f:22002** 22A15

— (*with* Choi, Keunbae) Reachable sets in Lie groups. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 3, 763–772. (Jimmie D. Lawson) **98m:93010** 93B03 (22A15)

— (*with* Lee, Sang Youl; Park, Chan-Young) A characterization of *-congruences on a regular *-semigroup. *Semigroup Forum* **56** (1998), *no.* 3, 442–445. 20M17

Chae, Yunki (*with* Choe, Tae Ho) Order-separating biframes for ordered topological spaces. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 135–143. (D. J. Lutzer) **98c:54008** 54B30 (54D30, 54E55, 54F05)

Chaganty, Narasinga R. (*with* Sethuraman, Jayaram) Multidimensional strong large deviation theorems. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 265–280. (M. P. Quine) **98f:60037** 60F05 (60F10, 60F15)

— (*with* Vaish, A. K.) An invariance property of common statistical tests. (English summary) *Linear Algebra Appl.* **264** (1997), 421–437. (Donald R. Jensen) **98m:62161** 62H05 (62J05)

Chagelishvili, G. D. (*with* Chanishvili, R. G.; Lominadze, J. G.; Tevzadze, A. G.) Magnetohydrodynamic waves linear evolution in parallel shear flows: amplification and mutual transformations. (English summary) *Phys. Plasmas* **4** (1997), *no.* 2, 259–269. (Summary) **98b:76078** 76W05 (85A30)

Chagrov, A. V. (*with* Shekhtman, V. B.) Algorithmic aspects of propositional tense logics. *Computer science logic* (*Kazimierz*, 1994), 442–455, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03B45 (03D35, 68Q60, 68T27)

— (*with* Zakhar'yashchev, M. V.) ★ Modal logic. Oxford Logic Guides, 35. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1997. xvi+605 *pp. ISBN* 0-19-853779-4 (J. M. Plotkin) **98e:03021** 03B45 (03–02)

Chahal, Jasbir Singh A remark on the torsion subgroups of elliptic curves. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 3, 321–323. (Alain Kraus) **98a:11071** 11G05

Chai, Feng-Shun A note on balanced generalized two-way elimination of heterogeneity designs. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 2, 131–141. (K. G. Russell) **98b:62140** 62K99

— (*with* Ting, Chao-Ping; Lin, Bing-Ying L.) A note on universally optimal row-column designs with empty nodes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 145–149. (Summary) **98d:62132** 62K05

Chai, Gen Xiang (*with* Qian, Wei Min) Asymptotic theory of two-stage estimators in a class of semiparametric regression models. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 77–82. 62G05 (62G20, 62J02)

Chai, Gui Ping (*with* Dena, Turehan; He, Xiu Li) Two theorems on uniform asymptotic stability criteria for neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 2, 30–34. (Guo Zhu Gao) **98e:34136** 34K20 (34K40)

Chai, Guo Qing An iterative method for finding positive solutions to polynomial Hammerstein integral equations of mixed type. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 3, 293–298. (Da Jun Guo) **98e:45006** 45G10 (47H30, 47N20)

Chai, Nai Xu (*with* Huang, Lu Bing; Zhang, Jian Ju) The Painlevé property and symmetries of the Zakharov-Kuznetsov equation in 3 + 1 dimensions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 34–38. (Summary) **98b:35158** 35Q53

Chai, Tian-You (*with* Li, Zhong-Hua; Wen, Changyun) Systematic design of robust controllers for nonlinear uncertain systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 871–892. 93D09 (93B51)

— (*with* Yu, Wen; de la Sen, Manuel) Robust model reference adaptive control with arbitrary nonlinear inputs. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 24–29. 93C40 (93E35)

— (*with* Zhang, Huan-Shui) The optimal recursive predicting method for a singular discrete stochastic system and its asymptotic stability. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 187–194. 93E10 (93E15)

— (*with* Wang, Wei-Hua; Soh, Cheong-Boon) Robust stabilization of MIMO nonlinear time-varying mismatched uncertain systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2197–2202. (Summary) **98k:93108** 93D21 (93B52, 93C41)

— (*with* Zhang, Guo Shan; Gu, Xing Yuan) Reduced-order observer design and parameterizations for generalized dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 584–588. 93B07 (93B11)

— (*with* Zhang, Huan-Shui) A unified scheme for optimal filtering, prediction, and smoothing estimation of singular discrete stochastic linear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 722–726. 93E11 (93E14)

— (*with* Tong, Shao Cheng; Zhang, Hua Guang) Notes on: "Multivariable fuzzy controller under Gödel's implication" [Fuzzy Sets and Systems **34** (1990), no. 3, 301–321; MR 91d:93040] by J. B. Kiszka, M. M. Gupta and G. M. Trojan. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 2, 261–263. (From the summary) **98d:93062** 93C42 (03B52)

— (*with* Tong, Shao Cheng) Adaptive fuzzy control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **26** (1997), *no.* 2, 87–91. 93C40 (93C42)

— (*with* Zhang, Huan-Shui; Liu, Xiang-Jie) A unified approach to optimal state estimation for stochastic singular systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 777–781. 93E10

— (*with* Wang, Wei-Hua; Soh, Cheong-Boon) Robust output tracking for MIMO nonlinear time-varying mismatched uncertain systems via hybrid control strategy. (English summary) *Dynam. Control* **8** (1998), *no.* 2, 191–208. (Summary) **98k:93050** 93B99 (93C41)

Chai, Y. D. A new lower bound for the integral of the $(N-2)$nd mean curvature over the boundary of a compact domain in $\mathbf{R}^N$. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 35–40. (W. J. Firey) **98f:52003** 52A22 (53C65)

— (*with* Kim, Yong Il) Geometric properties of curves in the Minkowski plane. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 107–116. (G. D. Chakerian) **98g:52003** 52A10 (52A39)

— (*with* Kim, Yong Il) Curves of constant relative breadth. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 365–370. (G. D. Chakerian) **98k:52010** 52A21 (52A10)

Chai, Yupu Shift sampling theory of Fourier transform computation. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 1, 21–27. (Vitězslav Veselý) **98m:65231** 65T20 (65T10)

Chaichian, M. (*with* Demichev, A. P.) Path integral with variables on the quantum plane. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 172–184, *World Sci. Publishing, River Edge, NJ*, 1994. (Marcelo R. Ubriaco) **98k:81140** 81S40 (58B30, 81R50)

— (*with* Demichev, A. P.) q-deformed path integral with commuting and non-commuting variables. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 401–406, *World Sci. Publishing, River Edge, NJ*, 1995. (Satoru Saito) **98g:81070** 81R50 (81S40)

— (*with* Kulish, Petr P.) Quantum group covariant systems. (English summary) *From field theory to quantum groups*, 99–111, *World Sci. Publishing, River Edge, NJ*, 1996. (Nicolás Andruskiewitsch) **98b:81094** 81R50 (17B37)

— (*with* Demichev, A. P.) Polynomial algebras and higher spins. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 14–20. (Peter Prešnajder) **98a:81074** 81R50 (81S05)

— (*with* Demichev, A. P.; Kulish, Petr P.) Quasi-classical limit in q-deformed systems, non-commutativity and the q-path integral. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 251–260. (Roland Speicher) **98f:81122** 81R50 (81S05, 81S40)

— (*with* González Felipe, R.; Louis-Martinez, Domingo) Spinning relativistic particle in an external electromagnetic field. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 188–192. (Summary) **98k:78011** 78A25

— (*with* Chen, Wen-Feng; Lee, Hoong Chien) Differential regularization of Chern-Simons-Maxwell spinor and scalar electrodynamics. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 325–330. (Summary) **98k:81167** 81T15 (81V10)

Chaika, Milton (*with* Sun, T. C.) On simulation of a Gaussian stationary process. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 79–93. (Mamikon S. Ginovian) **98a:62120** 62M15 (62G10, 62M10)

Chalakhyan, L. M. (*with* Mornev, O. A.; Aslanidi, O. V.) A soliton regime in a system of FitzHugh-Nagumo equations: the dynamics of a rotating spiral wave. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 682–686. 92C20 (35Q51)

Chaitin, Gregory J. Randomness & complexity in pure mathematics [95b:00005]. (English summary) *Complex systems and binary networks* (*Guanajuato*, 1995), 1–21, *Lecture Notes in Phys.*, 461, *Springer, Berlin*, 1995. (*see* **98f:00022**) 00A30 (11U05, 68Q30)

— The Berry paradox. *Complex systems and binary networks* (*Guanajuato*, 1995), 22–31, *Lecture Notes in Phys.*, 461, *Springer, Berlin*, 1995. (*see* **98f:00022**) 03D35 (03F30)

— ★ The limits of mathematics. (English summary) A course on information theory and the limits of formal reasoning. With a foreword by Cristian Calude. Springer Series in Discrete Mathematics and Theoretical Computer Science. *Springer-Verlag Singapore, Singapore*, 1998. xii+148 *pp. ISBN* 981-3083-59-X (Publisher's description) **98m:68056** 68Q05 (00A30, 03A05, 03D15, 68Q30)

Chajda, Ivan Tolerance lattice of algebras with restricted similarity type. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 59–62. (Ewa Graczyńska) **98d:08002** 08A30 (08A02)

— Varieties having the congruence extension property. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 63–68. (Katarzyna Hałkowska) **98d:08006** 08B05

— (*with* Czédli, Gábor; Rosenberg, Ivo G.) Kernels of tolerance relations. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 2, 189–193. (H. Peter Gumm) **98g:08003** 08A30 (08B05)

— Congruence semimodularity of conservative groupoids. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 43–45 (1997). (E. W. Kiss) **98m:08001** 08A30 (08B10)

— (*with* Rosenberg, Ivo G.) Ideals and congruence kernels of algebras. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 4, 733–744. (James G. Raftery) **98d:08003** 08A30 (08A40, 08B99)

— (*with* Rosenberg, Ivo G.) Remarks on Jónsson's lemma. (English summary) *Houston J. Math.* **22** (1996), *no.* 2, 249–262. (Ralph Freese) **98a:08007** 08B10 (03C05)

— (*with* Czédli, Gábor) Four notes on quasiorder lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 371–378. (Brian A. Davey) **98m:06011** 06B15 (08A30, 08A55)

— (*with* Bělohlávek, Radim) A polynomial characterization of congruence classes. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 235–242. (Jaromír Duda) **98c:08003** 08A30 (08B10, 68Q25)

— (*with* Halaš, Radomír) Finite basis of ideal terms in ideal determined varieties. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 243–252. (Aldo Ursini) **98d:08013** 08B99 (08A99)

— (*with* Graczyńska, Ewa) Jónsson's lemma for regular and nilpotent shifts of pseudovarieties. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 2, 85–93. (Sheila Oates-Williams) **98g:08013** 08C15 (08B15)

— (*with* Halaš, Radomír; Machala, František) Congruences and ideals in ternary rings. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 163–172. (Aldo Ursini) **98m:08002** 08A30 (17A40)

— (*with* Duda, Jaromír) Compact universal relation in varieties with constants. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 173–178. (James G. Raftery) **98c:08004** 08A30 (08B05)

— Ideals of algebras in congruence permutable varieties. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 123–129. 08A30 (08A40, 08B10)

— (*with* Kotrle, M.) The variety Boolean semiring. *Kyungpook Math. J.* **37** (1997), *no.* 1, 93–98. (R. Sh. Grigolia) **98e:06005** 06E20 (08B10, 16Y60)

— Rees ideal algebras. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 125–130. (Keith A. Kearnes) **98c:08005** 08A30 (08B05)

— (*with* Snášel, Václav) Congruences in ordered sets. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 95–100. (Summary) **98k:06002** 06A06 (06B10)

Chakaravarthy, Venkatesan T. (*with* Krithivasan, Kamala; Rama, Raghavan) Array splicing systems. (English summary) *New trends in formal languages*, 346–365, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q45

Chakerian, G. D. (*with* Lutwak, Erwin) Bodies with similar projections. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 1811–1820. (Jane R. Sangwine-Yager) **98a:52011** 52A39 (52B12)

Chaki, M. C. (*with* Mondal, S. P.) On generalized pseudosymmetric manifolds. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 35–42. (Andrew Bucki) **98e:53073** 53C25

Chakir, H. (*with* Elfallah, A.; Saidi, E. H.) On generalized fractional superstring theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2049–2060. (Marco Moriconi) **98m:81135** 81T30 (83E30)

Chakrabarti, A. *see* **Chakrabarti, Amitabha[1]**

Chakrabarti, Aloknath (*with* Banerjea, Sudeshna; Mandal, Birendra Nath; Sahoo, T.) A unified approach to problems of scattering of surface water waves by vertical barriers. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 93–103. (F. Ursell) **98f:76010** 76B15

— (*with* George, A. J.) Diagonalizable generalized Abel integral operators. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 568–575. (Khélifa Trimèche) **98a:45007** 45E99 (45P05)

— (*with* Mandal, Birendra Nath; Basu, U.; Banerjea, Sudeshna) Solution of a hypersingular integral equation of the second kind. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 319–320. (Philip Heywood) **98e:45001** 45E05 (30E20)

— (*with* Mandal, Birendra Nath) Derivation of the solution of a simple hypersingular integral equation. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 1, 47–53. (Summary) **98m:45004** 45E05

— (*with* Sahoo, T.) Reflection of water waves in the presence of surface tension by a nearly vertical porous wall. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 308–317. (Summary) **98i:76012** 76B15 (76B45, 76S05)

— (*with* Mandal, Nanigopal) Solutions of some dual integral equations. *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 141–144. (Summary) **98m:45007** 45F10 (33C10)

Chakrabarti, Amitabha[1] (*with* Abdesselam, B.; Chakrabarti, Ranabir) Irreducible representations of Jordanian quantum algebra $\mathcal{U}_h(\mathrm{sl}(2))$ via a nonlinear map. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 36, 2883–2891. (Mariano A. del Olmo) **98b:81090** 81R50 (17B37)

— (*with* Abdesselam, B.; Chakrabarti, Ranabir) On $\mathcal{U}_h(\mathrm{sl}(2))$, $\mathcal{U}_h(e(3))$ and their representations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2301–2319. (A. M. Gavrilik) **98e:81065** 81R50 (17B37)

Chakrabarti, Bikas K. (*with* Acharrya, Muktish) Ising system in oscillating field: hysteretic response. (English summary) *Annual reviews of computational physics, I*, 107–148, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82075** 82C20 (82C80)

Chakrabarti, P. P. (*with* Dasgupta, Pallab; DeSarkar, S. C.) A near optimal algorithm for the extended cow-path problem in the presence of relative errors. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 22–36, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68101** 68Q25 (68U05)

— (*with* Dasgupta, Pallab; DeSarkar, S. C.) A new competitive algorithm for agent searching in unknown streets. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 147–155, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68U05

— (*with* Mandal, C. A.; Ghose, Suranjan) A probabilistic estimator for the vertex deletion problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 1–4. (Summary) **98k:05131** 05C85 (68R10)

Chakrabarti, Ranabir (*with* Abdesselam, B.; Chakrabarti, Amitabha[1]) Irreducible representations of Jordanian quantum algebra $\mathcal{U}_h(\mathrm{sl}(2))$ via a nonlinear map. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 36, 2883–2891. (Mariano A. del Olmo) **98b:81090** 81R50 (17B37)

— (*with* Santhanam, T. S.) Kostant partition functions for affine Kac-Moody algebras. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 539–552. (Stefano Capparelli) **98e:17033** 17B67 (17B10)

— (*with* Abdesselam, B.; Chakrabarti, Amitabha[1]) On $\mathcal{U}_h(\mathrm{sl}(2))$, $\mathcal{U}_h(e(3))$ and their representations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2301–2319. (A. M. Gavrilik) **98e:81065** 81R50 (17B37)

Chakrabarty, Kankana (*with* Biswas, Ranjit; Nanda, Sudarsan) A note on union and intersection of intuitionistic fuzzy sets. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 34–39. (*see* **98e:03031**) 03E72

Chakraborti, S. (*with* Schaafsma, W.) Linear nonparametric tests against restricted alternatives: the simple-tree order and the simple order. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 483–506, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Nariaki Sugiura) **98i:62045** 62G10 (62G20, 62H15)

— (*with* van der Laan, Paul) An overview of precedence-type tests for censored data. (English summary) *Biometrical J.* **39** (1997), *no.* 1, 99–116. (Summary) **98c:62189** 62N05 (62G10)

— (*with* Kao, L.-H.) One-sided sign-type non-parametric procedures for comparing treatments with a control in a randomized complete block design. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 3, 251–264. 62G10

— (*with* Kao, L.-H.) Nonparametric procedures for comparing treatments with a control in a randomized complete block design. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 687–704. 62G10 (62K10)

Chakraborty, B. *see* **Chakraborty, Biswajit**

Chakraborty, B. C. (*with* Chanda, Rita) A class of entire functions of bounded index in several complex variables. (English summary) *J. Pure Math.* **12** (1995), 16–21. (Lev Sergeevich Maergoiz) **98h:32004** 32A15 (32A22)

Chakraborty, Biswajit (*with* Govindarajan, T. R.) Hamiltonian formulation of quantum Hall skyrmions with Hopf term. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 9, 619–630. (Guillermo Zemba) **98c:81125** 81T10 (81V70, 82D40, 82D55)

Chakraborty, M. *see* **Chakraborty, Monotosh**

Chakraborty, Mihir K. (*with* Banerjee, Mohua) Rough algebra. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 293–297 (1994). (Jozef Šajda) **98a:03036** 03B60 (03B45, 03G25)

— (*with* Banerjee, Mohua) Rough consequence. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 299–304 (1994). (Jozef Šajda) **98a:03037** 03B60

— (*with* Banerjee, Mohua) Rough logic with rough quantifiers. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 305–315 (1994). (Jozef Šajda) **98a:03038** 03B60

— (*with* Banerjee, Mohua) Rough sets through algebraic logic. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 211–221. (Summary) **98c:03131** 03G25 (03E72)

Chakraborty, Monotosh (*with* Dwivedi, R. K.; Singh, Darogi) Fuzzy mixed integer linear programming with nonequivalent objectives. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 617–624. 90C10 (04A72, 90C70)

— (*with* Gupta, Sandipan) Stochastic linear programming and decision: a fuzzy approach. (English summary) *Opsearch* **34** (1997), *no.* 3, 167–179. 90C70 (90C08)

Chakraborty, N. D. (*with* Ali, Sk. Jaker) Analytic weak Radon-Nikodym property in Banach spaces. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 213–225. (Anatolij M. Plichko) **98f:46013** 46B22 (46G10)

Chakraborty, Ranajit (*with* Polański, Andrzej; Kimmel, Marek; Deka, R.) Dynamic balance of segregation distortion and selection maintains normal allele sizes at the myotonic dystrophy locus. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 93–112. 92D20 (92C50)

Chakraborty, Sharmishtha (*with* Joshi, P. C.) Moments of Cauchy order statistics via Riemann zeta functions. (English summary) *Statistical theory and applications*, 117–127, *Springer, New York*, 1996. (Summary) **98f:62149** 62G30 (11M06, 62E15)

Chakraborty, Subesoy Fluid of membranes in a class of cosmological models and its possible consequences. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2167–2178. (Michael L. Fil'chenkov) **98i:83090** 83F05 (83C20, 83E15)

— The wave function of the universe in new variables. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1085–1093. (Summary) **98k:83027** 83C45 (81V17)

Chakravarthy, Srinivas R. (*with* Bin, Lan) A finite capacity queue with nonrenewal input and exponential dynamic group services. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 3, 276–287. 60K25

— (*with* Thiagarajan, S.) Two parallel finite queues with simultaneous services and Markovian arrivals. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 383–405. 90B22 (60K25)

Chakravarthy, Sukumar R. *see* **Barriers and challenges in computational fluid dynamics, 98j:76002**

Chakravarty, Manuel M. T. (*with* Guo, Yike; Köhler, Martin; Lock, Hendrik C. R.) GOFFIN: higher-order functions meet concurrent constraints. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 157–199. (*see* **98k:68005**) 68N15 (68Q10, 68T20)

Chakravarty, Sarbarish (*with* Villarroel, Javier; Ablowitz, Mark J.) On a $2+1$ Volterra system. (English summary) *Nonlinearity* **9** (1996), *no.* 5, 1113–1128. (Eugene Schlereth) **98g:35181** 35Q53

Chakravarty, Satya R. On Shorrocks' reinvestigation of the Sen poverty index. *Econometrica* **65** (1997), *no.* 5, 1241–1242. 90A09

Chakravorti, Bhaskar (*with* Conley, John; Taub, Bart) On uniquely implementing cooperation in the prisoners' dilemma. (English summary) *Econom. Theory* **8** (1996), *no.* 2, 347–366. (Peter Borm) **98b:90172** 90D05 (90D20)

— (*with* Conley, John; Taub, Bart) Corrigendum: "On uniquely implementing cooperation in the prisoners' dilemma" [Econom. Theory **8** (1996), no. 2, 347–366; MR 98b:90172]. *Econom. Theory* **9** (1997), *no.* 2, 377–378. (Peter Borm) **98f:90075** 90D05

Chakrone, Omar (*with* Anane, Aomar; Gossez, Jean-Pierre) Spectre d'ordre supérieur et problèmes de non-résonance. (English and French summaries) [Higher-order spectrum and problems of nonresonance] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 33–36. (Summary) **98d:35163** 35P05 (35J60)

Chakvetadze, G. On the ergodicity of a model of drilling. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 4, 485–502. (T. Y. Li) **98b:28022** 28D05

— Ergodic properties of invariant measures of a fiber bundle in a one-dimensional drilling model. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 223–224; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 824–825. 93A30 (28D05)

Chalabi, Z. S. (*with* Zhou, Wen Wen) Modifications of the Wolfe line search rules to satisfy second-order optimality conditions in unconstrained optimization. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 235–246. (Summary) **98k:92006** 92C30

Chalendar, Isabelle Hyperinvariant subspaces for certain compact perturbations of an operator. (English summary) *J. Operator Theory* **36** (1996), *no.* 1, 147–156. (M. M. Malamud) **98d:47020** 47A15 (47A55, 47B07)

— (*with* Jaeck, Frédéric) On the contractions in the classes $\mathbf{A}_{n,m}$. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 265–296. (Alfredo Octavio) **98m:47070** 47D27 (47A20, 47A65)

Chaleyat-Maurel, Mireille (*with* Nualart, David) Onsager-Machlup functionals for solutions of stochastic boundary value problems. (English summary) *Séminaire de Probabilités, XXIX*, 44–55, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Ofer Zeitouni) **98i:60050** 60H10 (60J65, 82C31)

Challal, S. (*with* Lyaghfouri, A.) A stationary flow of fresh and salt groundwater in a coastal aquifer with nonlinear Darcy's law. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 295–312. (Summary) **98k:76129** 76S05 (35Q35)

Chalmers, Bruce L. (*with* Bacopoulos, A.) Vectorially minimal projections. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 15–22, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A65 (90C29)

— (*with* Metcalf, Frederic T.) Construction of minimal projections. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 119–127, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Marco P. Baronti) **98k:46020** 46B20 (41A65)

— (*with* Metcalf, Frederic T.) The minimal projection from L^1 onto π_n. (English summary) *Stochastic processes and functional analysis (Riverside, CA, 1994)*, 61–69, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Summary) **98k:41046** 41A65 (46E30)

— (*with* Prophet, M. P.) Minimal shape-preserving projections onto Π_n. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 507–520. (D. Leviatan) **98j:41014** 41A29 (41A65, 46B99)

— (*with* Shekhtman, Boris) Actions that characterize $l_\infty^{(n)}$. (English summary) *Linear Algebra Appl.* **270** (1998), 155–169. (Summary) **98h:46008** 46B20

Chalmers, Gordon (*with* Hanany, Amihay) Three-dimensional gauge theories and monopoles. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 223–244. (C. Gauthier) **98g:81154** 81T30 (53C80, 58D27, 81T13)

Chaloner, Kathryn (*with* Clyde, Merlise) The equivalence of constrained and weighted designs in multiple objective design problems. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1236–1244. (A. I. Khuri) **98b:62135** 62K05

Chalov, P. A. Comparison of invariants for triples of Hilbert spaces. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 4, 493–501. (K. Floret) **98c:46044** 46C99 (46A99, 46B15)

Chaltikian, Karèn (*with* Antonov, Alexander; Belov, A. A.) Lattice conformal theories and their integrable perturbations. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 298–318. (Henrik Aratyn) **98i:81178** 81T25 (17B68, 58F07, 81R10, 81R50, 81T40)

Chalton, D. O. (*with* Raktoe, B. L.) On the norm of the alias matrix of a fractional factorial design under the most general partitioned linear model. (English summary) *South African Statist. J.* **30** (1996), *no.* 2, 81–89. (Summary) **98g:62125** 62J05 (62K15)

Chalub, F. A. C. C. (*with* Aarão Reis, F. D. A.; Riera, R.) Connective constant of SAWs on the Sierpinski gasket family. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4151–4160. 82B41 (60J15)

Chalykh, O. A. Additional integrals of the generalized quantum Calogero-Moser problem. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 28–33; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1269–1273 (1997). (Summary) **98m:58050** 58F07

— Duality of the generalized Calogero and Ruijsenaars problems. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 191–192; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1289–1291. 35Q55

— (*with* Feigin, M. V.; Veselov, A. P.) New integrable generalizations of Calogero-Moser quantum problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 695–703. (Kazuhiro Hikami) **98m:81219** 81V70 (82B23)

Chambat, Michele (*with* Bayada, Guy; Lhalouani, Khalid; Sassi, Taoufik) Éléments finis avec joints pour des problèmes de contact avec frottement de Coulomb non local. (English and French summaries) [On the mortar finite element method for contact problems with nonlocal Coulomb law] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1323–1328. (Summary) **98j:73086** 73V05 (65N30, 73T05)

— (*with* Bayada, Guy; Lakhal, A.; Rochet, L.) A dynamic frictionless contact problem using Signorini like compliance laws. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1245–1260. (Meir Shillor) **98h:73072** 73T05 (73V25)

Chamberland, Marc (*with* Siegel, David) Convex domains with stationary hot spots. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1163–1169. (Summary) **98g:35083** 35K05 (35B99, 35P99)

Chambers, Daniel (*with* Slud, Eric V.) Mixing for stationary processes with finite-order multiple Wiener-Itô integral representation. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 1087–1100. (Adam Jakubowski) **98g:60072** 60G10 (28D05, 60H05)

Chambers, Raymond L. (*with* Dorfman, Alan H.; Wang, Suojin) Limited information likelihood analysis of survey data. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 397–411. (Summary) **98m:62019** 62D05

Chambers, Robert G. (*with* Färe, Rolf; Jaenicke, Edward; Lichtenberg, Erik) Using dominance in forming bounds on DEA models: the case of experimental agricultural data. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 189–203. 62P20

Chamblin, Andrew Topology and causal structure. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 185–188, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Robert J. Low) **98h:83061** 83C75 (53C50, 81T17, 83C45)

— (*with* Gibbons, Gary W.) Nucleating black holes via nonorientable instantons. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2177–2185. (Charles G. Torre) **98a:83076** 83C57 (83C45)

Chambolle, Antonin (*with* Doveri, Francesco) Continuity of Neumann linear elliptic problems on varying two-dimensional bounded open sets. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 811–840. (Summary) **98c:35033** 35J20 (35B20)

— (*with* Doveri, Francesco) Minimizing movements of the Mumford and Shah energy. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 153–174. (Alan V. Lair) **98g:35091** 35K55 (47N20, 49Q20, 73M25)

— (*with* Lions, Pierre-Louis) Image recovery via total variation minimization and related problems. (English summary) *Numer. Math.* **76** (1997), *no.* 2, 167–188. (Tomáš Roubíček) **98c:65099** 65K10 (49J99, 68U10)

Chame, Anna (*with* de Mello, E. V. L.) The Onsager reciprocity relations within Tsallis statistics. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 159–163. (Summary) **98f:82104** 82C35

Chamizo, Fernando The large sieve in Riemann surfaces. *Acta Arith.* **77** (1996), *no.* 4, 303–313. (G. Greaves) **98b:11098** 11N35 (11F72)

— Some applications of large sieve in Riemann surfaces. *Acta Arith.* **77** (1996), *no.* 4, 315–337. (G. Greaves) **98b:11099** 11N36 (11F72, 11P21, 58G16)

— (*with* Córdoba, Antonio) One-dimensional crystals and quadratic residues. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 101–104. (Hartmut Menzer) **98f:11085** 11L03 (11A15, 11Z05, 82D25)

— Sums of squares in $\mathbf{Z}[\sqrt{k}]$. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 25–39. (D. R. Heath-Brown) **98k:11136** 11P21 (11E45, 11F72)

Chamkha, Ali J. Hydromagnetic natural convection from an isothermal inclined surface adjacent to a thermally stratified porous medium. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 975–986. 76W05 (76E15, 76R10)

barranco-Chamorro, I. *see* **Barranco-Chamorro, I.**

Champaney, L. (*with* Blanze, C.; Cognard, J.-Y.; Ladevèze, P.) A modular approach to structure assembly computations: application to contact problems. *Engrg. Comput.* **13** (1996), *no.* 1, 15–32. (Summary) **98b:73043** 73V20 (73T05, 73V05)

Champarnaud, Jean-Marc (*with* Ponty, Jean-Luc; Ziadi, Djelloul) A new quadratic algorithm to convert a regular expression into an automaton. (English summary) *Automata implementation (London, ON, 1996)*, 109–119, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (*see* **98i:68003**) 68Q45 (68Q68)

— (*with* Ziadi, Djelloul; Ponty, Jean-Luc) Passage d'une expression rationnelle à un automate fini non-déterministe. (French summary) [Passage from a rational expression to a nondeterministic finite automaton] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 177–203. (Nicolae Ţăndăreanu) **98b:68131** 68Q68

Champneys, Alan R. (*with* Bai, Fengshan) Numerical detection and continuation of saddle-node homoclinic bifurcations of codimension one and two. (English summary) *Dynam. Stability Systems* **11** (1996), *no.* 4, 325–346. (Mark J. Friedman) **98a:34036** 34C23 (34A50, 34C37, 65L10)

— (*with* Kuznetsov, Yuriĭ Aleksandrovich; Sandstede, Björn) A numerical toolbox for homoclinic bifurcation analysis. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 5, 867–887. (B. M. Herbst) **98b:65094** 65L99 (58F14)

— (*with* van der Heijden, G. H. M.; Thompson, J. M. T.) Homoclinic bifurcation and localised torsional buckling of elastic rods. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 143–150, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 73H05 (47H15, 58F14, 58F40, 73K05)

— (*with* Groves, Mark D.) A global investigation of solitary-wave solutions to a two-parameter model for water waves. (English summary) *J. Fluid Mech.* **342** (1997), 199–229. (Boris Buffoni) **98f:76015** 76B25 (34C37, 35Q35, 76B15)

— (*with* McKenna, P. J.) On solitary waves of a piecewise linear suspended beam model. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1763–1782. (Summary) **98k:73030** 73D35 (34C37, 35Q72, 58F40, 73K12)

— (*with* Lord, Gabriel James; Hunt, G. W.) Computation of localized post buckling in long axially compressed cylindrical shells. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2137–2150. (Summary) **98g:73020** 73H05 (34C37, 73K15)

— (*with* van der Heijden, G. H. M.; Thompson, J. M. T.) Spatially complex localization after one-twist-per-wave equilibria in twisted circular rods with initial curvature. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2151–2174. (Summary) **98j:73052** 73K05 (73D99, 73H05)

— (*with* Lord, Gabriel James) Computation of homoclinic solutions to periodic orbits in a reduced water-wave problem. (English summary) *Phys. D* **102** (1997), *no.* 1-2, 101–124. (Mark J. Friedman) **98b:34065** 34C37 (34A50, 35Q35, 58F40, 65L99, 76B15)

— (*with* Buryak, A. V.) On the stability of solitary wave solutions of the fifth-order KdV equation. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 58–62. (Summary) **98h:35202** 35Q53

Chamseddine, Ali H. (*with* Connes, Alain) Universal formula for noncommutative geometry actions: unification of gravity and the standard model. (English summary) *Phys. Rev. Lett.* **77** (1996), *no.* 24, 4868–4871. (Kamran Kaviani) **98h:58009** 58B30 (81T13, 81V17)

— The spectral action principle in noncommutative geometry and the superstring. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 87–96. (Raimar Wulkenhaar) **98i:81196** 81T30 (58B30, 81T60)

— (*with* Ferrara, Sergio; Gibbons, Gary W.; Kallosh, Renata) Enhancement of supersymmetry near a 5D black hole horizon. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3647–3653. (Summary) **98d:83049** 83C57 (83E30)

— Effective superstring spectral action. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3555–3567. (Gianpiero Mangano) **98i:81197** 81T30 (46N50, 58B30, 58G99, 83E30)

— (*with* Volkov, Mikhail S.) Non-abelian Bogomol'nyĭ-Prasad-Sommerfield monopoles in $N = 4$ gauged supergravity. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 18, 3343–3346. (Summary) **98g:83113** 83E50 (81T30, 83E30)

Chan, A. T. (*with* Chwang, A. T.) Interaction between porous media and wave motion. (English summary) *Annual review of fluid mechanics, Vol.* 30, 53–84, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:76016** 76B15 (76S05, 86A05)

Chan, Ada (*with* Godsil, Chris D.) Symmetry and eigenvectors. (English summary) *Graph symmetry (Montreal, PQ*, 1996), 75–106, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Norbert Seifter) **98i:05092** 05C25 (05C50)

Chan, Agnes (*with* Frankel, Yair; MacKenzie, Philip; Tsiounis, Yiannis) Mis-representation of identities in e-cash schemes and how to prevent it. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 276–285, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60

Chan, C. Y. *see* **Chan, Chok You**

Chan, Chiu Yeung Recent advances in quenching phenomena. (English summary) *Proceedings of Dynamic Systems and Applications, Vol.* 2 (*Atlanta, GA*, 1995), 107–113, *Dynamic, Atlanta, GA*, 1996. (Maura Ughi) **98a:35065** 35K57 (35B40, 35L20)

— (*with* Liu, Honhung Terence) Quenching in infinite time on the N-dimensional ball. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 3, 303–315. (Maura Ughi) **98a:35066** 35K57 (35B40, 35K60)

— (*with* Ozalp, N.) Beyond quenching for singular reaction-diffusion mixed boundary-value problems. *Advances in nonlinear dynamics*, 217–227, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Ying Guo Lei) **98m:35096** 35K57 (35B40)

— Impulsive quenching and blow-up of solutions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 887–894. (*see* **98i:00028**) 35K55 (35B40, 35R10)

— (*with* Kong, P. C.) Channel flow of a viscous fluid in the boundary layer. *Quart. Appl. Math.* **55** (1997), *no.* 1, 51–56. (J. R. Ockendon) **98c:35135** 35Q35 (35K99, 76D99)

— (*with* Yuen, S. I.) Impulsive effects on global existence of solutions for degenerate semilinear parabolic equations. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 97–116. (Summary) **98i:35199** 35R10 (35B05, 35K55, 35K65)

Chan, Chok You Discrete adaptive sliding-mode tracking controller. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 999–1002. (Summary) **98c:93022** 93B12 (93C40)

Chan, Claire C. Complete minimal hypersurfaces with prescribed asymptotics at infinity. (English summary) *J. Reine Angew. Math.* **483** (1997), 163–181. (H. R. Gluck) **98a:49061** 49Q05 (53A10)

Chan, Gin Hor (*with* Chiu, Kim Suan) A simple heuristic for multi-product dynamic lot sizing problems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 10, 969–979. 90B80 (90C27)

Chan, Gordon (*with* Finkelstein, Robert; Oganesyan, Vadim) The q-isotropic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2132–2147. (Roland Speicher) **98e:81083** 81S05 (81R50)

Chan, Grace (*with* Constantine, A. G.; Hall, Peter Gavin) Stochastic fractal models for multi-processed surfaces. (English summary) *Research developments in probability and statistics*, 329–341, *VSP, Utrecht*, 1996. (Summary) **98d:62178** 62M40

Chan, H. C. *see* **Chan, Ho Chung**

Chan, Heng Huat (*with* Berndt, Bruce C.; Zhang, Liang-Cheng) Explicit evaluations of the Rogers-Ramanujan continued fraction. *J. Reine Angew. Math.* **480** (1996), 141–159. (George E. Andrews) **98c:11007** 11A55 (11B65, 11F11, 33E05)

— (*with* Berndt, Bruce C.; Zhang, Liang-Cheng) Ramanujan's remarkable product of theta-functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 583–612. (Duncan A. Buell) **98k:33029** 33D10 (11F20, 11F27, 33E05)

Chan, Ho Chung (*with* Lam, James; Ho, Daniel W. C.) Robust eigenvalue assignment in second-order systems: a gradient flow approach. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 283–296. 93B55 (93B60)

Chan, Hong-Mo (*with* Faridani, Jacqueline; Pfaudler, Jakov; Tsou, Sheung Tsun) Rudiments of dual Feynman rules for Yang-Mills monopoles in loop space. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5015–5026. (Summary) **98a:81135** 81T18 (81T13, 81V10)

— (*with* Tsou, Sheung Tsun) 't Hooft's order-disorder parameters and the dual potential. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3646–3649. (Summary) **98g:81127** 81T13

Chan, Jennifer S. K. (*with* Kuk, Anthony Y. C.; Bell, James Robert; McGilchrist, Clyde A.) The analysis of methadone clinic data using marginal and conditional logistic models with mixture or random effects. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 1–10. 62P10

Chan, Jor-Ting Extremal properties related to operator radius. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 139–143. (Bryan E. Cain) **98j:47011** 47A30 (15A57, 15A60, 47A12)

Chan, Kai-Yuen (*with* Jing, Zhu Jun; Zeng, Xianwu) Harmonic and subharmonic bifurcation in the Brusselator model with periodic force. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 289–301. (Peter Ashwin) **98f:34058** 34C25 (34C23)

Chan, Kevin C. K. Charged dilaton black holes with unusual asymptotics. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 189–193, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98g:83058** 83C57

— Modifications of the BTZ black hole by a dilaton and scalar. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3564–3574. (Summary) **98b:83053** 83C57

Chan, Kit C. (*with* Seubert, Steven M.) Reducing subspaces of compressed analytic Toeplitz operators on the Hardy space. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 147–157. (D. Sarason) **98d:47059** 47B35 (47A15)

Chan, Kung-Sik On the validity of the method of surrogate data. (English summary) *Nonlinear dynamics and time series (Montreal, PQ, 1995)*, 77–97, *Fields Inst. Commun.*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Zuzana Prášková) **98c:62167** 62M10 (60G15, 62F03, 62G09)

Chan, Kwan-Leung Constant threshold correction to electrically charged dilatonic black holes. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1597–1603. (Summary) **98d:83050** 83C57 (83C22)

— Four-dimensional supersymmetric black holes of type IIA superstring. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 94–114. (Paulo Moniz) **98g:83101** 83E30 (81T30, 83C57)

Chan, Kwing L. The "stratified" approximation for computing geophysical flows. (English summary) Conference on Scientific Computation '94 (Shatin, 1994). *Southeast Asian Bull. Math.* **20** (1996), *no.* 3, 65–70. (Summary) **98a:86003** 86A05 (86–08, 86A10)

Chan, N. H. (*with* Tsay, Ruey S.) On the use of canonical correlation analysis in testing common trends. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 364–377, *Springer, New York*, 1996. (*see* **98a:62002**) 62M10

Chan, Nai Ng (*with* Mak, Tak K.) The circular functional model. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 143–148, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62J99 (62F10)

— (*with* Keung, Tsz-Kit) Linear hypotheses made explicit. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 387–400. (R. Kala) **98e:62097** 62J05 (62J10)

Chan, Onn (*with* Lam, T. K.) Hook immanantal inequalities for Laplacians of trees. (English summary) *Linear Algebra Appl.* **261** (1997), 23–47. (William Watkins) **98i:15011** 15A15 (15A45)

Chan, Ping Shing (*with* Balakrishnan, Narayanaswamy) A comparison of conditional and unconditional inference relating to log-gamma distribution. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 29–37, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62F10 (62N05)

— (*with* Wu, K. H. Eden) Distributions minimizing Fisher information for location in Kolmogorov neighbourhoods. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 541–554. (Summary) **98k:62004** 62B10

Chan, R. P. K. *A*-stability of implicit Runge-Kutta extrapolations. (English summary) Special issue celebrating the centenary of Runge-Kutta methods. *Appl. Numer. Math.* **22** (1996), *no.* 1-3, 179–203. (H. Brunner) **98b:65084** 65L06 (65L20)

— (*with* Butcher, J. C.) Efficient Runge-Kutta integrators for index-2 differential algebraic equations. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1001–1021. (T. E. Simos) **98j:65054** 65L99 (34A09, 34A45)

Chan, Raymond H. (*with* Cheung, Chun-pong; Sun, Hai-wei) Fast algorithms for problems on thermal tomography. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 90–97, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M30 (80A23, 92C55)

— (*with* Sun, Hai-wei; Chang, Qian-Shun) A note on the convergence of the two-grid method for Toeplitz systems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 1, 11–18. (Summary) **98i:65025** 65F10

— (*with* Wong, Chiu-Kwong) Sine transform based preconditioners for elliptic problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 351–368. (Rafael Bru) **98m:65072** 65F35 (65N22)

— (*with* Lin, Fu-Rong; Ng, Michael K.) Preconditioners for Wiener-Hopf equations with high-order quadrature rules. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1418–1431. (Summary) **98e:45013** 45L05 (45E10, 65R20)

— (*with* DeLillo, Thomas K.; Horn, Mark A.) The numerical solution of the biharmonic equation by conformal mapping. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1571–1582. (Summary) **98i:30005** 30C30 (65E05)

Chan, Shih-Ping (*with* Aslaksen, Helmer; Gulliksen, Tor) Invariants of S_4 and the shape of sets of vectors. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 53–57. (Kenneth A. Brown) **98g:13004** 13A50 (20C30)

Chan, Shing-Wai $\mathscr{L}$-classes on pseudomanifolds with one singular stratum. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 1955–1968. (John Roe) **98d:58176** 58G12 (46L87, 55N33, 57R20)

— Periodic cyclic cohomology Chern character for pseudomanifolds with one singular stratum. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 669–675. (Jonathan M. Rosenberg) **98g:58169** 58G12 (19D55, 19K56, 46L80)

Chan, So Kuen (*with* Lam, Yeh) Statistical inference for geometric processes with lognormal distribution. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 1, 99–112. (Summary) **98m:62276** 62M99

Chan, Timothy M. Deterministic algorithms for 2-d convex programming and 3-d online linear programming. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 464–472, *ACM, New York*, 1997. (Summary) **98c:90089** 90C25 (68U05, 90C05)

— (*with* Snoeyink, J. S.; Yap, Chee-Keng) Primal dividing and dual pruning: output-sensitive construction of four-dimensional polytopes and three-dimensional Voronoi diagrams. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 433–454. (Rephael Wenger) **98m:52023** 52B55 (68U05)

Chan, Tony F. (*with* Zou, Jun) A convergence theory of multilevel additive Schwarz methods on unstructured meshes. (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 365–398 (1997). (Tsorng-Whay Pan) **98d:65155** 65N55 (65F10, 65M55, 65N30)

— (*with* Szeto, Tedd) Composite step product methods for solving nonsymmetric linear systems. (English summary) *SIAM J. Sci. Comput.* **17** (1996), *no.* 6, 1491–1508. (From the summary) **98a:65037** 65F10 (65F25)

— (*with* Ye, Qiang) A mixed product Krylov subspace method for solving nonsymmetric linear systems. (English summary) *Asian J. Math.* **1** (1997), *no.* 3, 422–434. (Summary) **98j:65021** 65F10

— (*with* Tang, W. P.; Wan, W. L.) Wavelet sparse approximate inverse preconditioners. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 644–660. (*see* **98f:65005**) 65F35 (65Y05)

— (*with* Yeung, Man-Chung) Probabilistic analysis of Gaussian elimination without pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 499–517. (Michael J. Evans) **98a:65034** 65F05 (65G05)

— (*with* Ciarlet, Patrick, Jr.; Szeto, W. K.) On the optimality of the median cut spectral bisection graph partitioning method. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 943–948. (G. P. Bhattacharjee) **98d:65044** 65F15 (05C50, 65Y20, 68R10)

— (*with* Margenov, Svetozar D.; Vassilevski, Panayot S.) Performance of block-ILU factorization preconditioners based on block-size reduction for 2D elasticity systems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1355–1366. (Stefan A. Funken) **98k:65015** 65F10 (65N22, 65N30, 73V20)

— (*with* Wan, W. L.) Analysis of projection methods for solving linear systems with multiple right-hand sides. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1698–1721. (Marc Van Barel) **98m:65040** 65F10 (65F05)

Chan, W. H. (*with* Lam, Peter Che Bor; Shiu, Wai Chee) On bandwidth and cyclic bandwidth of graphs. (English summary) *Ars Combin.* **47** (1997), 147–152. (Summary) **98h:05163** 05C78

— (*with* Lam, Peter Che Bor; Shiu, Wai Chee; Lin, Yi Xun) On the bandwidth of convex triangulation meshes. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 285–289. (Summary) **98c:05143** 05C78

Chan, Wenyaw (*with* Chen, Lin-An; Lee, Tzong-Shi) Tensor product polynomial splines. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2093–2111. (Summary) **98j:62029** 62G05 (41A15)

Chan, William C. Y. (*with* Tse, Chi K.) Study of bifurcations in current-programmed dc/dc boost converters: from quasi-periodicity to period-doubling. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 12, 1129–1142. 94C05 (34C15, 34C23)

Chanane, Bilal (*with* Boumenir, A.) Eigenvalues of S-L systems using sampling theory. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 323–334. 65L15 (34L15)

— Bilinear quadratic optimal control: a recursive approach. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 273–282. 49K15 (49J15, 93C10)

— A new functional expansion for nonlinear systems. (English summary) *Systems Control Lett.* **32** (1997), *no.* 2, 91–98. (Summary) **98j:93051** 93C10 (93B15)

— Optimal control of nonlinear systems: a recursive approach. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 29–33. 49J15 (49K15)

Chanas, Stefan (*with* Zielinski, Pawel) Unfuzzy nondominated solutions in the linear programming problem with fuzzy coefficients in the objective functions. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 115–131. (Róbert Fullér) **98a:90133** 90C70 (04A72, 90C31)

— (*with* Florkiewicz, Bronisław) Mathematical programming problem with fuzzy coefficients—a general analysis. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 639–651. (Roman Słowiński) **98j:90099** 90C70 (04A72)

Chanda, Rita (*with* Chakraborty, B. C.) A class of entire functions of bounded index in several complex variables. (English summary) *J. Pure Math.* **12** (1995), 16–21. (Lev Sergeevich Maergoiz) **98h:32004** 32A15 (32A22)

Chandarana, Sharad L^p-bounds for hypersingular integral operators along curves. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 389–416. (Anthony Carbery) **98b:42029** 42B25 (44A15, 47B38)

Chandel, Raghvendra Singh (*with* Ganguly, Ashok; Bose, Ramendra Krishna) Fixed point theorems for metrically inward set valued mappings in metric space. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 193–206. 54H25 (54C60)

— (*with* Ganguly, Ashok; Tapi, U. D.) Correction: "On continuous and almost continuous multifunctions" [Math. Ed. (Siwan) **30** (1996), no. 3, 156–159]. *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 177–178. 54C60 (54C05, 54C08)

Chander, Parkash (*with* Tulkens, Henry) The core of an economy with multilateral environmental externalities. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 379–401. (Summary) **98h:90027** 90A43 (90D40)

— (*with* Wilde, Louis L.) A general characterization of optimal income tax enforcement. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 165–183. (Summary) **98j:90026** 90A70

Chandia, Osvaldo (*with* Zanelli, Jorge) Topological invariants, instantons, and the chiral anomaly on spaces with torsion. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7580–7585. (Sergiu I. Vacaru) **98h:53118** 53C80 (81T50, 83D05)

Chandler, Karen A. Regularity of the powers of an ideal. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3773–3776. (Summary) **98i:13040** 13F20

Chandler, Richard Eric (*with* Subba Rao, T.) A frequency domain approach for estimating parameters in point process models. (English summary) *Athens Conference on Applied*

Probability and Time Series Analysis, Vol. II (1995), 392–405, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62177** 62M10

— A spectral method for estimating parameters in rainfall models. (English summary) *Bernoulli* **3** (1997), *no.* 3, 301–322. (Summary) **98d:62172** 62M15

Chandler-Wilde, Simon N. (*with* Zhang, Bo[1]) On the solvability and numerical treatment of a class of second kind integral equations on unbounded domains. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 64–68, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 45A05 (45L05, 45P05, 47G10, 65R20)

— (*with* Zhang, Bo[1]) An integral equation method for electromagnetic scattering by an inhomogeneous layer on a perfectly conducting plate. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 225–229, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 78A45 (35Q60, 45A05)

— (*with* Zhang, Bo[1]) On the solvability of a class of second kind integral equations on unbounded domains. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 482–502. (A. Böttcher) **98f:45001** 45A05 (45E10, 45P05, 47G10)

— The impedance boundary value problem for the Helmholtz equation in a half-plane. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 10, 813–840. (J. M. H. Peters) **98h:35040** 35J05 (42A38, 45P05, 47G10)

Chandna, A. Flow past an elliptic cylinder. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 203–214. (Summary) **98f:76024** 76D05

Chandna, O. P. (*with* Husain, Iqbal; Latypov, Azat M.) Exact solutions of compressible plane potential flows—a new approach. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 2, 177–201. (Denis Serre) **98i:76076** 76N10 (35C05, 35Q35, 76N15)

harish-Chandra *see* **Harish-Chandra**

Chandra, Barun (*with* Halldórsson, Magnús M.) Facility dispersion and remote subgraphs. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 53–65, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98d:68097** 68Q25 (05C85, 90C35)

Chandra, Daniel (*with* Nusantara, Toto; Imron, Moch. Aruman; Basuki) On the formation of hotspot in microwave heating. (English summary) *Differential equations* (*Bandung*, 1996), 245–255, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 80A20

Chandra, Jagdish *see* **Smart structures and materials 1997: mathematics and control in smart structures, 98d:00024**

Chandra, Prabhat (*with* Kumar, Abhay) On midpoint convex set and midpoint convex hull of a set in a linear space. (English summary) *Math. Ed.* (*Siwan*) **31** (1997), *no.* 1, 14–16. 52A05

Chandra, Satish Efficacy of some numerical integration schemes to simulate chaotic behaviour. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 9, 739–751. 65H17 (58F13, 65L06)

Chandra Hari, K. True rationale of *Sūrya siddhānta*. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 3, 183–190. 01A32

Chandramouleeswaran, M. P. (*with* Katti, S. K.; Betne, P.) Computing formulae in Fisherian designs through a three line APL-program. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 37–45. 62K10

Chandrasekaran, M. (*with* Balachandran, Krishnan) Existence of solutions of nonlinear integrodifferential equation with nonlocal condition. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 279–288. (Summary) **98f:34118** 34K30 (45J05, 47D06, 47N20)

Chandrasekaran, R. (*with* Bhadury, J.; Chandru, V.; Maheshwari, Anil) Art gallery problems for convex nested polygons. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 100–110. (Summary) **98e:68246** 68U05 (65Y25)

— (*with* Chen, Bo; Galambos, Gábor; Narayanan, P. R.; van Vliet, André; Woeginger, Gerhard J.) A note on: "An on-line scheduling heuristic with better worst case ratio than Graham's list scheduling" [SIAM J. Comput. **22** (1993), no. 2, 349–355; MR 94b:90031] by Galambos and Woeginger. *SIAM J. Comput.* **26** (1997), *no.* 3, 870–872. (Introduction) **98b:90064** 90B35

Chandrasekaran, Shivkumar (*with* Sayed, Ali H.) Stabilizing the generalized Schur algorithm. (English summary) *SIAM J. Matrix Anal. Appl.* **17** (1996), *no.* 4, 950–983. (Summary) **98f:65048** 65F30 (15A23, 65F05)

— (*with* Golub, Gene H.; Gu, Ming; Sayed, Ali H.) Efficient algorithms for least squares type problems with bounded uncertainties. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 171–180, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Sayed, Ali H.) A fast stable solver for nonsymmetric Toeplitz and quasi-Toeplitz systems of linear equations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 107–139 (*electronic*). (A. Bultheel) **98m:65034** 65F05 (15A06, 15A23)

Chandrasekhar, P. (*with* Natarajan, Ramaswamy) Reliability analysis of a complex one unit system. (English summary) *Opsearch* **33** (1996), *no.* 3, 167–173. 90B25

Chandrasekhar, Subrahmanyan *see* **Pareja Heredia, Diego et al., 98j:01037b** *and* **Wali, Kameshwar C.**

Chandrasekharaiah, D. S. Complete solutions in the theory of thermoelasticity without energy dissipation. *Mech. Res. Comm.* **24** (1997), *no.* 6, 625–630. 73B30

— (*with* Srinath, K. S.) Thermoelastic interactions without energy dissipation due to a line heat source. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 243–251. 73B30

Chandrasekharan, Radha (*with* Wright, Gordon P.; Worobetz, N. Dan; Kang, Myong; Moorkerjee, Radha V.) OR/SM: a prototype integrated modeling environment based on structured modeling. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 134–153. 90C90 (90–04)

Chandrasekharan, Shailesh (*with* Wiese, U.-J.) Quantum link models: a discrete approach to gauge theories. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 455–471. (Summary) **98f:81227** 81T25 (81V25, 82B20)

— A large N chiral transition on a plaquette. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 83–88. (Summary) **98a:81144** 81T25 (81T13)

— (*with* Bietenholz, W.; Brower, Richard C.; Wiese, U.-J.) Perfect lattice topology: the quantum rotor as a test case. (English summary) *Phys. Lett. B* **407** (1997), *no.* 3-4, 283–289. (Summary) **98g:81145** 81T25

Chandrasekhara Rao, K. (*with* Balasubramanian, T.) Some classes of entire sequences. (English summary) *J. Ramanujan Math. Soc.* **11** (1996), *no.* 2, 145–159. (Robert DeVos) **98b:46012** 46A45 (40E05, 40H05)

— (*with* Veerapandi, T.) Fixed points in Dhage metric spaces. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 9–14. 54H25

— (*with* Gopalakrishnamoorthy, G.) Some commutativity theorems for certain semi-prime rings. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 1–5. 16U80

— (*with* Dhana Balan, A. P.) Some functions on a topological space. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 49–55. 54A40 (54C08)

Chandra Sekhara Rao, S. *see* **Rao, S. Chandra Sekhara**

Chandre, C. A comparison of two discrete mKdV equations. (English summary) *Phys. Scripta* **55** (1997), *no.* 2, 129–130. (Summary) **98f:39013** 39A12 (58F07)

Chandru, V. (*with* Bhadury, J.; Maheshwari, Anil; Chandrasekaran, R.) Art gallery problems for convex nested polygons. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 100–110. (Summary) **98e:68246** 68U05 (65Y25)

— *see also* **Foundations of software technology and theoretical computer science, 98i:68006**

Chandrupatla, Tirupathi R. An efficient quadratic fit–sectioning algorithm for minimization without derivatives. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 211–217. (*see* **98m:00024**) 90C30 (65K05)

Chandy, K. Mani (*with* Sanders, Beverly A.) Erratum: "Predicate transformers for reasoning about concurrent computation" [Sci. Comput. Programming **24** (1995), no. 2, 129–148; MR 96d:68145]. *Sci. Comput. Programming* **29** (1997), *no.* 3, 335. 68Q60 (68Q10)

Chang, Byung-Hwa (*with* Park, Bongjoo; Chang, Taejoo; Song, Iickho) Two-dimensional sequences of primitive polynomials. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 97–111. (Samuel S. Wagstaff, Jr.) **98i:11105** 11T06 (11A07)

Chang, C. F. *see* **Zhang, Zhong Fu**

Chang, C. L. *see* **Chang, Ching Lung**

Chang, Cheng (*with* Rzhetsky, Andrey; Ayala, Francisco José; Hsu, Lily C.; Yoshida, Akira) Fitting models of intron evolution to aldehyde dehydrogenase data. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 95–109, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92B05 (60G35)

Chang, Cheng-Shang (*with* Yao, David D.; Zajic, Tim) Moderate deviations for queues with long-range dependent input. (English summary) *Stochastic networks* (*New York*, 1995), 275–298, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Anatolii A. Pukhal'skiĭ) **98f:60051** 60F10 (60F17, 60G10, 60G18, 60K25)

— On deterministic traffic regulation and service guarantees: a systematic approach by filtering. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1097–1110. (Summary) **98m:94003** 94A05

Chang, Chia-Hsiang (*with* Paige, Robert) From regular expressions to DFA's using compressed NFA's. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 1–36. (Summary) **98c:68112** 68Q45 (68N20, 68Q25)

Chang, Chia-Ming (*with* Chen, Chien-Ming; King, Chung-Ta) Using integer linear programming for instruction scheduling and register allocation in multi-issue processors. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 1–14. 90B35 (90C90)

Chang, Chia-Yuang (*with* Hsiao, Feng-Hsiag; Lin, Chin E.; Yang, Ciann-Dong) H^∞-optimal observer-based controller design for nonlinear multivariable systems. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 573–596. (A. T. Barabanov) **98b:93023** 93B36 (93B07)

Chang, Chien-Cheng (*with* Wang, Chi-Tzung) Sound radiation by a vortex ring passing near the apex of a conical body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 743–761. 76Q05

Chang, Chih-Shyang (*with* Chen, Arbee L. P.) Efficient refinement of uncertain data by fuzzy integrity constraints. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 191–211. (Summary) **98h:68050** 68P15 (04A72)

Chang, Chin-Chen (*with* Hwang, Shin-Jia) A simple approach for generating RSA keys. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 19–21. (Summary) **98j:94015** 94A60 (68P25)

— (*with* Lee, Wei-Bin) Authenticated encryption schemes with linkage between message blocks. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 247–250. (Summary) **98i:94022** 94A60 (68P25)

— (*with* Lou, Der-Chyuan) Parallel computation of the multi-exponentiation for cryptosystems. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 9–26. (Summary) **98g:94025** 94A60 (68P25, 68Q22)

— (*with* Jiang, Ji-Han; Buehrer, Daniel J.) A new method for temporal join using a priority search tree. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 3, 1–13. (Summary) **98f:68061** 68P15

— (*with* Wu, Tzong-Chen) A smart card oriented password authentication scheme based on Rabin's public key cryptosystem. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 3, 63–73. (Summary) **98f:94014** 94A60

— (*with* Lou, Der-Chyuan) A parallel two-list algorithm for the knapsack problem. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 1985–1996. (Summary) **98b:90113** 90C27 (65Y05, 68Q22, 68Q25)

Chang, Ching Hui (*with* Pal, Nabendu) Risk analysis and robustness of four shrinkage estimators. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 181-182, 35–62. (V. I. Serdobol'skiĭ) **98d:62010** 62C15 (62F10, 62H12)

Chang, Ching Lung (*with* Nelson, John J.) Least-squares finite element method for the Stokes problem with zero residual of mass conservation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 480–489. (Jiří Nedoma) **98b:65127** 65N30 (76D07, 76M10)

Chang, Chiou-Mei (*with* Chang, Kuei-Fang; Shih, Sue-Jen) Regularity and vanishing moments of multiwavelets. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 303–314. (Summary) **98e:42028** 42C15 (42A38)

Chang, Chip-Hong (*with* Falkowski, Bogdan J.) Forward and inverse transformations between Haar spectra and ordered binary decision diagrams of Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1272–1279. (Summary) **98i:94054** 94C10

Chang, Chiu-Cheng On a class of Pólya property preserving operators. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 301–313. (Arman H. Karapetyan) **98i:30054** 30E20 (32A10, 32A17, 32A30, 47B38, 47G10)

Chang, Chiu-Chun (*with* Chang, Chiu-Yang) On uniqueness of positive solutions of non-linear differential equations. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 2, 83–90. (Giovanni Leoni) **98g:35065** 35J60 (34B15, 34C99, 35B05)

Chang, Chiu-Yang (*with* Chang, Chiu-Chun) On uniqueness of positive solutions of non-linear differential equations. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 2, 83–90. (Giovanni Leoni) **98g:35065** 35J60 (34B15, 34C99, 35B05)

Chang, Chun-Ye Susan (*with* McLane, Peter J.) Bit-error-probability for noncoherent orthogonal signals in fading with optimum combining for correlated branch diversity. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 263–274. 94A05 (94A40)

Chang, Chwen-Ming Some E-optimal regular graph designs. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 47–57. (Summary) **98d:62128** 62K05 (62K10)

Chang, Der-Chen On zero sets of holomorphic functions in Hardy classes. *Geometric complex analysis* (*Hayama*, 1995), 89–107, *World Sci. Publishing, River Edge, NJ*, 1996. (Mongi Blel) **98c:32005** 32A35 (32C30)

— (*with* Bonami, Aline; Grellier, Sandrine) Commutation properties and Lipschitz estimates for the Bergman and Szegö projections. *Math. Z.* **223** (1996), *no.* 2, 275–302. (Gregor Herbort) **98a:32033** 32H10 (47B38)

— (*with* Tie, Jingzhi) Estimates for spectral projection operators of the sub-Laplacian on the Heisenberg group. (English summary) *J. Anal. Math.* **71** (1997), 315–347. (Detlef Horst Müller) **98k:22038** 22E30 (22E25, 43A80, 47G30)

— (*with* Li, Bao Qin) Sobolev and Lipschitz estimates for weighted Bergman projections. (English summary) *Nagoya Math. J.* **147** (1997), 147–178. (Gregor Herbort) **98i:32035** 32H10 (46E20, 47B38)

Chang, Derek K. Binary bent sequences of order 64. (English summary) *Util. Math.* **52** (1997), 141–151. 05B20

Chang, Europa A history of lace. *History and science of knots*, 347–379, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (57–03)

Chang, Fan Ren (*with* Hsu, Lee-Chuang; Peng, Hsin-Min) Computation of transfer function matrices of generalized state-space systems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 4, 471–479. 93B40 (65F30)

— (*with* Huang, Junn-Chung) A design method for control systems possessing integrity and robust stability. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 139–147. 93B51 (93D09)

Chang, Feng Cheng (*with* Su, Ching-Tzong) More on quick evaluation of determinants. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 97–99. 65F30

Chang, Fu-Chuen (*with* Heiligers, Berthold) E-optimal designs for polynomial regression without intercept. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 371–387. (Bronisław Ceranka) **98e:62110** 62K05

— (*with* Lin, Ge-Chen) D-optimal designs for weighted polynomial regression. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 317–331. (Weng Kee Wong) **98m:62207** 62K05

Chang, Gengzhe (*with* Sederberg, Thomas W.) ★ Over and over again. (English summary) New Mathematical Library, 39. *Mathematical Association of America, Washington, DC*, 1997. xiv+309 *pp. ISBN* 0-88385-641-7 (From the preface) **98i:00001** 00–01 (39B12, 41–01, 51–01)

Chang, Gerard J. (*with* Jou, Min-Jen; Lin, Ch'iang; Ma, Tze-Heng) A finiteness theorem for maximal independent sets. (English summary) *Graphs Combin.* **12** (1996), *no.* 4, 321–326. (Summary) **98g:05078** 05C35

— (*with* Ho, Pei-Hsin) The β-assignment problem in general graphs. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 757–765. (Rainer Burkard) **98j:90087** 90C35 (05C90)

— (*with* Yan, Jing-Ho; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.) k-path partitions in trees. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 227–233. (Summary) **98f:05101** 05C38 (05C05, 05C85)

— (*with* Jou, Min-Jen) Maximal independent sets in graphs with at most one cycle. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 67–73. (Summary) **98f:05088** 05C35 (05C38)

— (*with* Kuo, David; Kwong, Y. H. Harris) Cordial labeling of mK_n. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 121–131. (Summary) **98a:05127** 05C78

— (*with* Yan, Jing-Ho; Lih, Ko-Wei; Kuo, David) Signed degree sequences of signed graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 111–117. (Tian Xing Yao) **98i:05160** 05C99 (05C78)

— (*with* Hwang, Frank K.; Tong, Li-Da) The Hamiltonian property of the consecutive-3 digraph. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 83–88. (Ding Zhu Du) **98j:05093** 05C45 (05C20)

— (*with* Hwang, Frank K.) Optimality of consecutive and nested tree partitions. (English summary) *Networks* **30** (1997), *no.* 2, 75–80. (Peter Mihók) **98h:90102** 90C35 (05C05)

— (*with* Yeh, Hong-Gwa) Algorithmic aspects of majority domination. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 343–350. (I. Broere) **98i:05150** 05C85 (05C70)

— (*with* Liaw, S. C.; Yeh, Hong-Gwa; Hwang, Frank K.) A simple and direct derivation for the number of noncrossing partitions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1579–1581. (Summary) **98g:05016** 05A18

Chang, H.-J. *see* **Chang, Hung-Jen**

Chang, H.-L. *see* **Chang, Hsiao-Lung**

Chang, Hai Ping (*with* Huang, Tai Ping) The auto-adjustable damping method for solving nonlinear equations. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 2, 163–168; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 151–155 (*Chinese. English and Chinese summaries*). 65H05

Chang, Hasok On the applicability of the quantum measurement formalism. (English summary) *Erkenntnis* **46** (1997), *no.* 2, 143–163. (Paul Busch) **98i:81018** 81P15 (81P05)

— Can Planck's constant be measured with classical mechanics? (English summary) *Internat. Stud. Philos. Sci.* **11** (1997), *no.* 3, 223–243. 81P05 (78A99)

Chang, Hsiao-Lung (*with* Cortelezzi, L.; Chen, Yen-Cheng) Nonlinear feedback control of the wake past a plate: from a low-order model to a higher-order model. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2009–2022. (Summary) **98d:76048** 76D25 (76M99, 93C20)

Chang, Hsueh-Chia (*with* Demëkhin, E. A.; Kalaidin, Evgeny) Generation and suppression of radiation by solitary pulses. (English summary) *Differential equations* (*Bandung*, 1996), 17–50, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 35Q53 (65M99)

Chang, Hua-Hua The asymptotic posterior normality of the latent trait for polytomous IRT models. (English summary) *Psychometrika* **61** (1996), *no.* 3, 445–463. (Summary) **98m:62294** 62P15 (62E20)

Chang, Hung-Jen (*with* Freeman, Walter J.; Burke, B. C.; Rose, P. A.; Badler, J.) Taming chaos: stabilization of aperiodic attractors by noise. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 989–996. (*see* **98g:93002**) 93D15 (58F13)

Chang, Hung-Wen (*with* Wu, Tso-Lun) Matrix Riccati equation formulation for radiative transfer in a plane-parallel geometry. (English summary) *Waves Random Media* **7** (1997), *no.* 1, 129–145. (Masamichi Matsumoto) **98i:85003** 85A25 (82C70)

— (*with* Wu, Tso-Lun) Numerical solutions of matrix Riccati equations for radiative transfer in a plane-parallel geometry. (English summary) *Waves Random Media* **7** (1997), *no.* 1, 147–168. (Masamichi Matsumoto) **98i:85004** 85A25 (82C70)

Chang, Hung-Yi (*with* Chen, Rong-Jaye) Embedding cycles in IEH graphs. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 23–27. 68M10 (68R10)

Chang, I-Shou (*with* Chen, Chen-Hsin; Hsiung, Chao A.) Estimation in change-point hazard rate models with random censorship. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 78–92, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62F10 (60G05, 62G20)

— (*with* Hsiung, Chao A.; Chuang, Yuan-Chuan) Applications of a frailty model to sequential survival analysis. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 127–138. (Richard A. Johnson) **98k:62146** 62L15 (62E20)

Chang, J. X. (*with* Zhang, Zhong Fu; Lü, Xin Zhong; Lam, Peter Che Bor; Wang, Jian Fang) Edge-face total chromatic number of outerplanar graphs with $\Delta(G) = 6$. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 396–399, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:05071** 05C15

Chang, Jen Hsu (*with* Carroll, Robert Wayne) The Whitham equations revisited. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 343–378. (Summary) **98g:58071** 58F07 (14H55)

Chang, Jer-Wei (*with* Yang, Jaw-Yen; Chen, Min-Hung; Tsai, I-Nan) A kinetic beam scheme for relativistic gas dynamics. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 19–40. (Summary) **98e:76092** 76M25 (76N15, 76Y05)

Chang, Jian Ming Normality criteria and singular directions for meromorphic functions and families. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 4, 540–542. (Yu Zan He) **98a:30038** 30D35 (30D45)

Chang, Jinn-Ja (*with* Hwang, Der-June; Lin, Mao-Chao) Some extended results on the search for good convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1682–1697. (Summary) **98e:94035** 94B10

Chang, Joseph T. Inconsistency of evolutionary tree topology reconstruction methods when substitution rates vary across characters. (English summary) *Math. Biosci.* **134** (1996), *no.* 2, 189–215. (Prem Narain) **98c:92007** 92D15

— (*with* Peres, Yuval) Ladder heights, Gaussian random walks and the Riemann zeta function. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 787–802. (N. H. Bingham) **98c:60086** 60J15 (11M06)

Chang, Jou-Ming (*with* Hsu, Chiun-Chieh; Wang, Yue-Li; Ho, Ting-Yem) Finding the set of all hinge vertices for strongly chordal graphs in linear time. (English summary) *Inform. Sci.* **99** (1997), *no.* 3-4, 173–182. (Summary) **98a:68144** 68R10 (05C85, 68M10, 68Q25)

— (*with* Ho, Chin-Wen) The recognition of geodetically connected graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 81–88. (Summary) **98j:68128** 68R10 (05C85, 68Q25)

Chang, Jung-Chan (*with* Shaw, Sen-Yen) Optimal and non-optimal rates of approximation for integrated semigroups and cosine functions. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 200–223. (Francesco Altomare) **98f:41019** 41A35 (47D06, 47D09)

— (*with* Shaw, Sen-Yen) Perturbation theory of abstract Cauchy problems and Volterra equations. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3521–3528. (*see* **98h:00034**) 34G10 (34K30, 47D06, 47N20)

Chang, Junhua Deadbeat control with disturbance rejection. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 253–258. (Summary) **98m:93048** 93B52 (93D15)

Chang, K. *see* **Zhang, Xing Ru**

Chang, K.-T. (*with* Liu, Philip L.-F.; Yeh, Harry; Lin, Pengzhi; Cho, Yong-Sik) Generation and evolution of edge-wave packets. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1635–1657. 76B15 (76–05)

Chang, Kaljung (*with* Tan, Yan Huat; Varol, Yaakov L.; Chu, Jiang-Hsing) A study on interleaving versus segmentation. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 319–324. 68Q25

Chang, Kou-Kung A. (*with* Lindquist, W. Brent) Mass-conserving front tracking for miscible two-phase flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1310–1327. (Summary) **98f:76060** 76M25 (65M60, 76S05, 76T05)

Chang, Kuei-Fang A wavelet-like unconditional basis. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 1–8, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:46033** 46E30 (42C15, 46B15)

— Strictly positive definite functions. (English summary) *J. Approx. Theory* **87** (1996), *no.* 2, 148–158. (Maria Torres de Squire) **98c:42009a** 42A82 (42A75)

— Addendum: "Strictly positive definite functions". *J. Approx. Theory* **88** (1997), *no.* 3, 384. (Maria Torres de Squire) **98c:42009b** 42A82 (42A75)

— (*with* Shih, Sue-Jen; Chang, Chiou-Mei) Regularity and vanishing moments of multiwavelets. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 303–314. (Summary) **98e:42028** 42C15 (42A38)

— Notes on multivariate pre-wavelet decomposition. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 69–85. (Summary) **98k:42038** 42C15

Chang, Kun Soo (*with* Ahn, Jae Moon; Kim, Jeong Gyoo; Ko, Jung Won; Ryu, Kun Sik) Existence theorems of an operator-valued Feynman integral as an $\mathscr{L}(L_1, C_0)$ theory. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 317–334. (Kun Sik Ryu) **98m:28027** 28C20 (46G12)

Chang, Kung Ching *see* **Zhang, Gong Qing**

Chang, Kuo-Hwa Extreme and high-level sojourns of the single server queue in heavy traffic. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 17–35. (Summary) **98h:60128** 60K25

Chang, Kwang-Chow (*with* Lee, Tian-Shyug) An alternative proof for a known result of noncentral Wishart distribution. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 523–529. 62H10

Chang, Lay Nam (*with* Soo, Chopin) Chiral fermions, gravity and GUTs. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 195–199, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81V22 (81V17)

— (*with* Soo, Chopin) Invariant regularization of anomaly-free chiral theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2410–2421. (Summary) **98a:81124** 81T15 (81T20, 81T50)

Chang, Long-Wen (*with* Lin, Yig-Shyang; Liu, Tsann-Shyong) A new bit rate control of MPEG with predictive and adaptive perceptual quantization. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 295–313. (Summary) **98d:94007** 94A12 (94A29)

Chang, Maw-Shang Algorithms for maximum matching and minimum fill-in on chordal bipartite graphs. (English summary) *Algorithms and computation* (*Osaka*, 1996), 146–155, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C70 (05C85, 68Q25, 68R10)

— (*with* Liang, Y. Daniel) Minimum feedback vertex sets in cocomparability graphs and convex bipartite graphs. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 337–346. (Dieter Kratsch) **98j:68132** 68R10 (05C85)

— (*with* Hsu, Chung-Chang) On minimum intersection of two minimum dominating sets of interval graphs. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 41–50. (Anthony E. Barkauskas) **98k:05086** 05C35 (05C85)

Chang, Mei-Chu On the Chern numbers of surfaces and 3-folds of codimension 2. *Tokyo J. Math.* **19** (1996), *no.* 2, 369–386. (Ulf Persson) **98f:14027** 14J10 (11L07, 14J30)

— *see also* **Liu, Xianfang, 98f:14031**

Chang, Pei-Chann (*with* Su, Ling-Huey; Lee, E. S.) A heuristic for scheduling general job shops to minimize maximum lateness. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 1–15. 90B35

Chang, Pen-Yuang (*with* Tsay, Jong-Chuang) An approach to designing modular extensible linear arrays for regular algorithms. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 212–216. 68M10

Chang, Qian-Shun (*with* Wong, Yau Shu; Gong, Lianger) An initial-boundary value problem of a nonlinear Klein-Gordon equation. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 1, 77–93. (P. Rochus) **98a:65120** 65M06

— (*with* Sun, Hai-wei; Chan, Raymond H.) A note on the convergence of the two-grid method for Toeplitz systems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 1, 11–18. (Summary) **98i:65025** 65F10

— (*with* Guo, Bo Ling) Convergence of a conservative difference scheme for the Zakharov equations in two dimensions. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 219–232. (Anne Nouri) **98k:65051** 65M12 (65M06, 76X05)

Chang, Roberto Financial integration with and without international policy coordination. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 547–564. 90A09 (90D40)

Chang, Ruay-Shiung (*with* Wei, Li-Chiun) Broadcast scheduling in packet radio networks by Hopfield neural networks. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 271–276. 90B12

— (*with* Leu, Shing-Jiuan) The minimum labeling spanning trees. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 277–282. (Summary) **98e:68197** 68R10 (05C05, 68Q25, 68T20)

Chang, S.-S. *see* **Zhang, Shi Sheng**

Chang, Seung Jun Convolution product and generalized analytic Fourier-Feynman transforms. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 707–723. (Summary) **98f:28018** 28C20 (46F25, 60J65)

Chang, Shih (*with* Weston, Vaughan H.) On the inverse problem of the 3D telegraph equation. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1207–1221. (Summary) **98i:35203** 35R30 (35L05, 65M30)

Chang, Shih-sen *see* **Zhang, Shi Sheng**

Chang, Shu-Cheng *see* **Chang, Shun Cheng**

Chang, Shu-Chu The rank of the first homology group. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 19–26, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:57004** 57M10 (55R10, 57M05)

Chang, Shun Cheng The Calabi flow $\partial\lambda/\partial t = \Delta R$ on Einstein manifolds. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 29–39, *Internat. Press, Cambridge, MA*, 1997. (Barbara Priwitzer) **98k:53058** 53C25 (35K99, 53C21, 58G11)

— Existence and convergence of solutions of non-linear evolution equations on 4-manifolds. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 41–50, *Internat. Press, Cambridge, MA*, 1997. (Barbara Priwitzer) **98k:53043** 53C21 (35K99, 58G11)

— Compactness theorems for critical Riemannian 4-manifolds with integral bounds on curvature. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 253–260. (Mingliang Cai) **98a:58042** 58E11 (53C25, 58D17)

Chang, Sun-Yung Alice (*with* Yang, Paul C.) Determinants and extremal metrics in conformal geometry. *Geometry from the Pacific Rim* (*Singapore*, 1994), 37–57, *de Gruyter, Berlin*, 1997. (Santiago R. Simanca) **98k:58057** 58E11 (53C20, 58G30)

— On zeta functional determinant. With notes taken by Jie Qing. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 25–50, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Jinsung Park) **98i:58243** 58G26

— (*with* Qing, Jie) The zeta functional determinants on manifolds with boundary. I. The formula. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 327–362. (Steven Rosenberg) **98f:58198** 58G26 (58G25)

— (*with* Qing, Jie) The zeta functional determinants on manifolds with boundary. II. Extremal metrics and compactness of isospectral set. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 363–399. (Steven Rosenberg) **98f:58199** 58G26 (58G25)

Chang, Taejoo (*with* Park, Bongjoo; Song, Iickho; Chang, Byung-Hwa) Two-dimensional sequences of primitive polynomials. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 97–111. (Samuel S. Wagstaff, Jr.) **98i:11105** 11T06 (11A07)

Chang, Ted (*with* Lu, Jiandong; Ko, Daijin) The standardized influence matrix and its applications. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1572–1580. 62J20 (62F35)

Chang, Tong-Huei Generalized KKM theorem and its applications. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 137–147. (B. C. Dhage) **98d:47131** 47H10 (47H19, 49J40, 54H25, 90C48)

— (*with* Yen, Chi-Lin) KKM property and fixed point theorems. *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 224–235. (Jagadish Achari) **98a:47059** 47H10 (47H19, 54H25)

Chang, Tung *see* **Zhang, Tong[1]**

Chang, W. K. (*with* Pilipchuk, V. N.; Ibrahim, R. A.) Fluid flow-induced nonlinear vibration of suspended cables. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 4, 377–406. 73K12 (73D35)

Chang, Xiao-Wen (*with* Xu, Hui Fu) Approximate Newton methods for nonsmooth equations. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 373–394. (Mihai Turinici) **98e:65047** 65H10 (90C30)

— (*with* Paige, Christopher C.; Stewart, G. W.) Perturbation analyses for the *QR* factorization. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 775–791. (Israel Koltracht) **98e:65038** 65F35 (15A23)

Chang, Y. *see* **Chang, Yan Xun**

Chang, Y. C. *see* **Chang, Yia-Chung**

Chang, Yan Xun A construction of holely perfect Mendelsohn designs. (English summary) *Ars Combin.* **47** (1997), 278–286. (Summary) **98h:05047** 05B30

— (*with* Bennett, F. E.; Yin, Jian Xing; Zhang, Hantao) Existence of HPMDs with block size five. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 257–273. (Sanpei Kageyama) **98d:05022** 05B05

Chang, Yao-Jen[1] (*with* Wah, Benjamin W.) Trace-based methods for solving nonlinear global optimization and satisfiability problems. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 107–141. (Summary) **98a:90106** 90C30 (90C10)

Chang, Yaw O. (*with* Karlof, John K.) Optimal permutation codes for the Gaussian channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 356–358. (Summary) **98j:94005** 94A24

Chang, Yaw-Wen (*with* Yang, Chang-Biau) A parallel algorithm for circulant tridiagonal linear systems. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 331–337. 65F30 (15A06, 65Y05)

Chang, Yia-Chung (*with* Santana, Ademir E.; Khanna, F. C.; Chu, Hanyou) Thermal Lie groups, classical mechanics, and thermofield dynamics. (English summary) *Ann. Physics* **249** (1996), *no.* 2, 481–498. (J. A. Brooke) **98c:81079** 81R05 (81T99)

Chang, Yoosoon (*with* Phillips, Peter C. B.) Time series regression with mixtures of integrated processes. (English summary) Trending multiple time series (New Haven, CT, 1993). *Econometric Theory* **11** (1995), *no.* 5, 1033–1094. (Summary) **98f:62247** 62M10 (62P20)

Chang, Yuan-Chin Ivan (*with* Simpson, Douglas G.) Reweighting approximate GM estimators: asymptotics and residual-based graphics. (English summary) Robust statistics and data analysis, II. *J. Statist. Plann. Inference* **57** (1997), *no.* 2, 273–293. (Wilfried Grossmann) **98j:62055** 62J05 (62F12, 62F35)

Chang, Zhi Hua Boundedness of maximum operators and mean operators over B-valued generalized aK_p martingale spaces. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 415–420. (Summary) **98e:60010** 60B11 (60G48)

Changbai, Xiao *see* **Xiao, Chang Bai**

Changjiang, Zhu *see* **Zhu, Chang Jiang**

Chanillo, Sagun Remarks on commutators of pseudo-differential operators. *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 33–37, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Luigi Rodino) **98g:47042** 47G30 (35S05)

— (*with* Treves, François) On the lowest eigenvalue of the Hodge Laplacian. (English summary) *J. Differential Geom.* **45** (1997), *no.* 2, 273–287. (Paulo Domingos Cordaro) **98i:58236** 58G25 (58G05)

Chanishvili, R. G. (*with* Chagelishvili, G. D.; Lominadze, J. G.; Tevzadze, A. G.) Magnetohydrodynamic waves linear evolution in parallel shear flows: amplification and mutual transformations. (English summary) *Phys. Plasmas* **4** (1997), *no.* 2, 259–269. (Summary) **98b:76078** 76W05 (85A30)

Chan Kuok Bin' (*with* Nguyễn Minh Chu'o'ng) On a fixed-point theorem. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 93–94; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 220–221 (1997). (K. Goebel) **98h:47072** 47H10

Chano, Ching-Hui *see* **Chang, Ching Hui**

Chanson, Samuel T. (*with* Hui, Chi-Chung) Minimal communication cost software construction in the Internet environment. (English summary) *Acta Inform.* **34** (1997), *no.* 8, 579–595. (Summary) **98c:68028** 68M10 (68R10)

Chanu, J. *see* **Prigogine, Ilya, 98g:01076**

Chan Van Khung (*with* Astakhov, N. D.; Fedoseev, A. V.) ★ О применении ускоренных алгоритмов решения задач транспортного типа. (Russian. Russian summary) [Application of accelerated algorithms for solving transportation-type problems] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 50 *pp.* (Publisher's description) **98c:90073** 90C08 (65K05, 90C90)

Chao, Anne (*with* Tsay, P. K.) A sample coverage approach to multiple-system estimation with application to census undercount. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 283–293. 62D05

Chao, Chen-Ching (*with* Zhao, Lin Cheng; Liang, Wen-Qi) Estimating the error of a permutational central limit theorem. (English summary) *Probab. Engrg. Inform. Sci.* **10** (1996), *no.* 4, 533–541. 60F05 (60C05)

— (*with* Zhao, Lin Cheng; Bai, Zhidong; Liang, Wen-Qi) Error bound in a central limit theorem of double-indexed permutation statistics. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2210–2227. (Sh. A. Khashimov) **98i:60024** 60F05 (62E20, 62G10)

Chao, Chi-chao (*with* Cheng, Jay) On generalized Hamming weights of binary primitive BCH codes with minimum distance one less than a power of two. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 294–299. (Summary) **98j:94025** 94B05

Chao, Chong-Yun (*with* Han, Shao-cen) On the classification and toughness of generalized permutation star-graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 431–452. (Samuel Stueckle) **98i:05134** 05C75 (05C40)

— A critically chromatic graph. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 3–7. (Summary) **98g:05056** 05C15

— (*with* Guo, Zhi Yi; Li, Nian Zu) On q-graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 9–16. (Summary) **98g:05119** 05C75

Chao, I.-F. (*with* Baker, C. R.) Information capacity of channels with partially unknown noise. I. Finite-dimensional channels. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 3, 946–963. (Zhao Zhi Zhang) **98c:94008** 94A15 (90D80, 94A40)

— (*with* Baker, C. R.) Information capacity of channels with partially unknown noise. II. Infinite-dimensional channels. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 4, 1461–1472. (Zhao Zhi Zhang) **98c:94009** 94A15 (90D80, 94A40)

Chao, I-Ming (*with* Golden, Bruce L.; Wasil, Edward A.) A new algorithm for the site-dependent vehicle routing problem. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 301–312, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C35 (90C08)

Chao, J. M. (*with* Kaneta, H.) A complete 24-arc in PG(2, 29) with the automorphism group PSL(2, 7). (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 537–544. (J. W. P. Hirschfeld) **98f:51011** 51E21 (51E22, 94B27)

— (*with* Kaneta, H.) Classical arcs in PG(r, q) for $11 \le q \le 19$. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 87–94. (Summary) **98f:05034** 05B25

Chao, John C. (*with* Phillips, Peter C. B.) An empirical Bayesian approach to cointegrating rank selection and test of the present value model for stock prices. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 325–349, *Springer, New York*, 1996. (Summary) **98c:62199** 62P20 (62C12, 90A09)

Chao, Kun-Mao Fast algorithms for aligning sequences with restricted affine gap penalties. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 264–273, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:92017** 92D20 (68Q20)

— (*with* Wu, Quincy Solomon; Lee, R. C. T.) The NPO-completeness of the longest Hamiltonian cycle problem. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 119–123. 68Q25 (68R10)

Chao, L.-F. (*with* LaPaugh, A.) Finding all minimal shapes in a routing channel. (English summary) *Algorithmica* **21** (1998), *no.* 2, 211–244. (Summary) **98m:68127** 68Q35

Chao, Lu The blowing-up of [the] solution of the Cauchy problem for high order parabolic equation. (English summary) *Math. Appl.* **9** (1996), *suppl.*, 81–84. (Dian K. Palagachev) **98a:35058** 35K55 (35B40)

— (*with* Zhang, Hong Qing[1]; Tang, Li Min) Symmetry groups of systems of partial differential equations and their applications to elasticity equations. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 3, 247–253. (Summary) **98e:35016** 35A30 (35Q72, 73C99)

Chao, Wu Zhong Real tunneling and black hole creation. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 111–127. 83C57 (81T20, 83C45)

Chao, XiaoLi (*with* Yu, Xiuyun) A global pinching theorem for submanifolds with isotropic second fundamental form on the sphere. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 261–262. (Bang-yen Chen) **98e:53086** 53C40

— The spectral geometry of harmonic maps into $\mathbf{HP}^n(c)$. *Kodai Math. J.* **20** (1997), *no.* 1, 33–40. (Yuan-Jen Chiang) **98h:58048** 58E20 (53C42, 58G18, 58G25)

Chao, Xiuli (*with* Chen, Hong[3]; Li, Wei) Optimal control for a tandem network of queues with blocking. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 4, 425–437. (Summary) **98k:90037** 90B22 (60K25, 93E20)

— (*with* Li, Wei; Shi, Ding Hua) Reliability analysis of $M/G/1$ queueing systems with server breakdowns and vacations. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 546–555. (Summary) **98a:60139** 60K25

— Partial balances in batch arrival batch service and assemble-transfer queueing networks. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 745–752. (Summary) **98h:60129** 60K25 (60J27)

— (*with* Gu, Jifa; Hu, Pingxian) Queueing network modeling and analysis in the design and evaluation of seaport systems. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 237–252. (Summary) **98e:60148** 60K25 (90B22)

Chaochen, Zhou *see* **Zhou, Chao Chen**

Chaos Urdampilleta, Fernando Angular distribution in the elastic collision of billiard balls. (Spanish. English and Spanish summaries) *Rev. Mexicana Fis.* **44** (1998), *no.* 1, 99–102. 70F35

Chaouech, Abdelaziz Auto-applications holomorphes propres des domaines polynomiaux rigides de $\mathbf{C}^2$. (English summary) [Proper holomorphic self-mappings of rigid polynomial domains in $\mathbf{C}^2$] *Publ. Mat.* **40** (1996), *no.* 1, 41–66. (Bernard Joseph Coupet) **98c:32034** 32H35

Chaowan, Yin *see* **Yin, Chao Wan**

Chaparro, Luis F. (*with* Cha, Hyungtai) Adaptive morphological representation of signals: polynomial and wavelet methods. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 249–271. (Summary) **98c:94003** 94A12 (42C15)

Chaparro, Raúl (*with* Albis González, Víctor Samuel) On a conjecture of Borevich and Shafarevich. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **21** (1997), *no.* 80, 313–319. (Martha Rzedowski-Calderón) **98g:11130** 11R58 (13A35)

Chapeau-Blondeau, François (*with* Janez, Fabrice; Ferrier, Jean-Louis) A dynamic adaptive relaxation scheme applied to the Euclidean Steiner minimal tree problem. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1037–1053. (Summary) **98k:90123** 90C35 (05C05)

Chapelle, Dominique A locking-free approximation of curved rods by straight beam elements. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 299–322. (Summary) **98f:73035** 73V05 (65N30, 73K05)

Chaperon, Marc (*with* Coudray, Fabienne) Invariant manifolds, conjugacies and blow-up. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 783–791. (C. Eugene Wayne) **98h:58173** 58F36 (34C20, 34C30, 58F15)

Chapko, Roman (*with* Kress, Rainer) Rothe's method for the heat equation and boundary integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 1, 47–69. (P. Rochus) **98e:65071** 65M20

Chaplin, J. R. (*with* Rainey, R. C. T.; Yemm, R. W.) Ringing of a vertical cylinder in waves. (English summary) *J. Fluid Mech.* **350** (1997), 119–147. 76B15 (76–05)

Chapman, Andrew (*with* Saad, Youcef; Kuznetsov, Sergey; Lo, Gen-Ching; Malevsky, Andrei) PSPARSLIB: a portable library of parallel sparse iterative solvers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04 (65F50)

Chapman, David C. A note on isolated convection in a rotating two-layer fluid. (English summary) *J. Fluid Mech.* **348** (1997), 319–325. (Summary) **98j:76143** 76U05 (76E20, 86A05)

Chapman, Robin J. Automorphism polynomials in cyclic cubic extensions. (English summary) *J. Number Theory* **61** (1996), *no.* 2, 283–291. (Summary) **98a:12004** 12F10 (11R16)

— Completely normal elements in iterated quadratic extensions of finite fields. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 1, 1–10. (Mireille Car) **98a:11172** 11T06

— Higher power residue codes. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 353–369. (Dingyi Pei) **98j:11117** 11T71 (94B05)

Chapman, S. J. (*with* Boeck, Thomas) Bifurcation to vortex solutions in superconducting films. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 125–148. (Ioan Bâldea) **98h:82069** 82D55

— (*with* Carpio, A.; Howison, S. D.; Ockendon, J. R.) Dynamics of line singularities. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2013–2024. (Summary) **98j:76015** 76C05 (73C99, 82D55)

— (*with* Richardson, Giles William) Vortex pinning by inhomogeneities in type-II superconductors. (English summary) *Phys. D* **108** (1997), *no.* 4, 397–407. (Ioan Bâldea) **98k:82201** 82D55

Chapman, Scott T. (*with* Cahen, Paul-Jean; Roegner, K.; Smith, William W.) Two classes of ideals determined by integer-valued polynomials. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 625–636. (W. Narkiewicz) **98b:13006** 13B25 (11R04, 13F05)

— (*with* Geroldinger, Alfred) Krull domains and monoids, their sets of lengths, and associated combinatorial problems. *Factorization in integral domains* (*Iowa City, IA*, 1996), 73–112, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (David F. Anderson) **98g:13017** 13F05 (13A05, 20M14)

— (*with* Chabert, Jean-Luc; Smith, William W.) Algebraic properties of the ring of integer-valued polynomials on prime numbers. *Comm. Algebra* **25** (1997), *no.* 6, 1945–1959. (Amartya K. Dutta) **98f:13016** 13F05 (13B25)

Chappell, Rick (*with* Pan, Wei[2]) Estimating survival curves with left truncated and interval censored data via the EMS algorithm. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 777–793. 62G05 (62N05)

Chapront, Pierre *see* **Abrial, J.-R., 98d:68034**

Chapuis, André Alternative revision theories of truth. (English summary) *J. Philos. Logic* **25** (1996), *no.* 4, 399–423. (Peter Milne) **98d:03009** 03A05

Charafi, A. (*with* Matravers, D. R.) On the use of radial basis functions in boundary integral equation methods. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 48–52, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35J05 (65N38, 65R20)

Charak, K. S. (*with* Singh, Anand P.) Factorization of certain classes of entire and meromorphic functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 81–93. (Chung-Chun Yang) **98k:30041** 30D30

Charakhch'yan, A. A. (*with* Ivanenko, S. A.) A variational form of the Winslow grid generator. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 385–398. 65N55

— An approach to reducing computational costs in the construction of curvilinear grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 344–350. 65M50 (65N50)

Charalambakis, Nicolas (*with* Georgiadis, Haralambos) Non-uniform straining of rate-sensitive materials with non-monotone yield stress. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 207–225. (Weimin Han) **98j:73043** 73E60 (35Q72, 73E05)

Charalambides, Ch. A. A unified derivation of occupancy and sequential occupancy distributions. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 259–273, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98b:60016** 60C05 (05A05)

Charalambopoulos, A. (*with* Dassios, George; Fotiadis, D. I.; Massalas, C. V.) Dynamic characteristics of the human skull-brain system. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 81–101. 92C10

— (*with* Dassios, George; Hadjinicolaou, M.) An analytic solution for low-frequency scattering by two soft spheres. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 370–386 (*electronic*). (Summary) **98m:35020** 35C99 (35J05, 35P25, 76Q05)

Charalambous, Charalambos D. (*with* Elliott, Robert James) Certain nonlinear partially observable stochastic optimal control problems with explicit control laws equivalent to LEQG/LQG problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 482–497. (Vivek S. Borkar) **98b:93068** 93E20 (93E11)

— Partially observable nonlinear risk-sensitive control problems: dynamic programming and verification theorems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1130–1138. (Daniel Hernández-Hernández) **98i:93076** 93E03 (49L20)

— The role of information state and adjoint in relating nonlinear output feedback risk-sensitive control and dynamic games. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1163–1170. (Daniel Hernández-Hernández) **98i:93077** 93E03 (49L20, 93E10)

— (*with* Abdelrahman, Mohamed A.; Naidu, D. Subbaram; Moore, Kevin L.) Finite-time disturbance attenuation control problem for singularly perturbed discrete-time systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 2, 137–145. 93B36 (93C70)

Charalambous, Hara Pointed simplicial complexes. *Illinois J. Math.* **41** (1997), *no.* 1, 1–9. (Ralf Fröberg) **98a:13024** 13D25

Charalambous, M. G. The dimension of paracompact normal κ-frames. (English summary) *Topology Proc.* **20** (1995), 49–66. (John J. Walsh) **98d:54065** 54F45 (54H12)

— A note on transfinite inductive dimension. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 73–76. (Summary) **98k:54058** 54F45

coimbra Charão, Ruy *see* **Coimbra Charão, Ruy**

Charap, John M. Mechanics as geometry? (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 436–446, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:70018** 70Hxx (01A99, 81-03)

Charatonik, Janusz J. An uncountable family of monotone homogeneous dendrites. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 289–294. (Edwin Duda) **98d:54029** 54C10 (54F15, 54F50)

— (*with* Charatonik, Włodzimierz J.) Periodic-recurrent property of some continua. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 109–118. (J. M. Aarts) **98m:54043** 54H20 (54F15)

— (*with* Charatonik, Włodzimierz J.) Monotone homogeneity of dendrites. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 361–370. (Summary) **98c:54030** 54F50 (54C10, 54H20)

— (*with* Charatonik, Włodzimierz J.; Omiljanowski, Krzysztof; Prajs, Janusz R.) Hyperspace retractions for curves. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **370** (1997), 34 *pp.* (J. R. Isbell) **98j:54061** 54F50 (54B20, 54C15, 54F15)

— (*with* Charatonik, Włodzimierz J.) Open mappings increasing order. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3725–3733. (Jacek Nikiel) **98b:54021** 54C10 (54F15, 54F50)

Charatonik, Włodzimierz J. (*with* Charatonik, Janusz J.) Periodic-recurrent property of some continua. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 109–118. (J. M. Aarts) **98m:54043** 54H20 (54F15)

— (*with* Charatonik, Janusz J.) Monotone homogeneity of dendrites. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 361–370. (Summary) **98c:54030** 54F50 (54C10, 54H20)

— (*with* Charatonik, Janusz J.; Omiljanowski, Krzysztof; Prajs, Janusz R.) Hyperspace retractions for curves. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **370** (1997), 34 *pp.* (J. R. Isbell) **98j:54061** 54F50 (54B20, 54C15, 54F15)

— (*with* Charatonik, Janusz J.) Open mappings increasing order. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3725–3733. (Jacek Nikiel) **98b:54021** 54C10 (54F15, 54F50)

Charbonneau, Martin (*with* Alvo, Mayer) The use of Spearman's footrule in testing for trend when the data are incomplete. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 193–213. (Edgar Brunner) **98a:62056** 62G10 (62G20)

Chari, Amalavoyal N. (*with* Beckman, David Eugene; Devabhaktuni, Srikrishna; Preskill, John) Efficient networks for quantum factoring. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 2, 1034–1063. (Summary) **98b:81026** 81P99 (68Q05)

Chari, Manoj K. (*with* Provan, J. Scott) Calculating K-connectedness reliability using Steiner bounds. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 905–921. (A. A. Chernyak) **98c:90043** 90B25 (05C40, 68R05)

— (*with* Provan, J. Scott) Counting problems associated with Steiner trees in graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 436–446. (D. de Werra) **98e:90205** 90C35 (05C05, 05C30)

— Two decompositions in topological combinatorics with applications to matroid complexes. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 3925–3943. (Ilda P. F. da Silva) **98g:52023** 52B40 (06A07, 06A08)

Chari, Suresh (*with* Rohatgi, Pankaj) On completeness under random reductions. (English summary) *J. Comput. System Sci.* **53** (1996), *no.* 3, 545–555. (Summary) **98f:68095** 68Q15

Chari, Vyjayanthi (*with* Pressley, Andrew) Factorization of representations of quantum affine algebras. (English summary) *Modular interfaces* (*Riverside, CA*, 1995), 33–40, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Jörg Feldvoss) **98k:17015** 17B37 (17B67, 81R50)

— (*with* Pressley, Andrew) Quantum affine algebras at roots of unity. (English summary) *Represent. Theory* **1** (1997), 280–328 (*electronic*). (Aleksandr Panov) **98e:17018** 17B37 (17B10, 17B67)

— *see also* **Modular interfaces, 98f:17001**

Charitos, Charalambos (*with* Tsapogas, Georgios) Geodesic flow on ideal polyhedra. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 696–707. (Athanase Papadopoulos) **98e:58133** 58F17 (53C23, 57R30)

— Compressible ends of leaves in foliated 3-manifolds. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 208–217. (Athanase Papadopoulos) **98g:57044** 57R30

— (*with* Tsapogas, Georgios) Complexity of geodesics on 2-dimensional ideal polyhedra and isotopies. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 343–358. (Frédéric Paulin) **98b:57006** 57M20

Charles, Josette (*with* Seddik, A.) Derivation and Jordan operators. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 120–124. (Khristo N. Boyadzhiev) **98b:47046** 47B47 (46L57)

de mora-Charles, Maria Sol *see* **de Mora-Charles, Maria Sol**

Charles, Richard (*with* Pozrikidis, C.) Significance of the dispersed-phase viscosity on the simple shear flow of suspensions of two-dimensional liquid drops. (English summary) *J. Fluid Mech.* **365** (1998), 205–234. 76T05 (76D99)

Charleston, Michael A. (*with* Page, Roderic D. M.) Reconciled trees and incongruent gene and species trees. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 57–70, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:92005** 92B10 (92D15)

Charlier, Alphonse (*with* Charlier, Marie-France; Roux, André) Tensors and Clifford algebra. (English summary) *Clifford algebras and spinor structures*, 15–38, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Piotr Kosiński) **98k:83001** 83A05 (15A66, 81R25)

le Charlier, Baudouin *see* **Le Charlier, Baudouin**

Charlier, Marie-France (*with* Charlier, Alphonse; Roux, André) Tensors and Clifford algebra. (English summary) *Clifford algebras and spinor structures*, 15–38, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Piotr Kosiński) **98k:83001** 83A05 (15A66, 81R25)

Charlton, Philip (*with* Benn, I. M.) Dirac symmetry operators from conformal Killing-Yano tensors. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1037–1042. (Wiesław J. Ołędzki) **98h:58180** 58G03 (53C20)

— (*with* Benn, I. M.; Kress, Jonathan) Debye potentials for Maxwell and Dirac fields from a generalization of the Killing-Yano equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4504–4527. (Jorge Goncalves Cardoso) **98j:83070** 83C60 (81R20, 83C50)

Charnes, Abraham *see* **From efficiency calculations to a new approach for organizing and analyzing: DEA fifteen yearslater, 98h:90003**

Charnes, C. (*with* Dempwolff, U.) The translation planes of order 49 and their automorphism groups. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1207–1224. (Gary L. Ebert) **98j:51007** 51E15 (51A40)

Charney, R. (*with* Davis, Michael Walter; Moussong, G.) Nonpositively curved, piecewise Euclidean structures on hyperbolic manifolds. *Michigan Math. J.* **44** (1997), *no.* 1, 201–208. (Athanase Papadopoulos) **98b:53034** 53C23

Charnotskii, Mikhail (*with* Tatarskii, Valerian I.) Universal behaviour of scattering amplitudes for scattering from a plane in an average rough surface for small grazing angles. (English summary) *Waves Random Media* **8** (1998), *no.* 1, 29–40. (Summary) **98k:78044** 78A45

Charon-Fournier, Irène (*with* Hudry, Olivier; Woirgard, Frédéric) A 16-vertex tournament for which Banks set and Slater set are disjoint. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 211–215. (Summary) **98h:05083** 05C20

Charpentier, I. (*with* Saint Jean Paulin, Jeannine) Limit behaviour of a three-dimensional thin tall structure depending on three small parameters. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 459–488 (1996). (Jacqueline Mossino) **98i:73003** 73B27 (35B27, 73K99)

— (*with* Saint Jean Paulin, Jeannine) Domain decomposition methods for the study of the particular behavior of a very thin long structure. (English summary) *Numer. Methods Partial Differential Equations* **12** (1996), *no.* 6, 643–655. (From the text) **98a:73060** 73V20 (65N55, 73B27, 73K99)

Charpentier, Philippe (*with* Dupain, Yves) Pseudodistances et courants positifs fermés dans les domaines de $\mathbf{C}^3$. [Pseudodistances and closed positive currents in domains in $\mathbf{C}^3$] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 299–350. (Mongi Blel) **98m:32013** 32C30 (32H15)

Charpin, Pascale (*with* Berger, Thierry P.) The permutation group of affine-invariant extended cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2194–2209. (Summary) **98c:94027** 94B15

— Self-dual codes which are principal ideals of the group algebra $\mathbf{F}_2[\{\mathbf{F}_{2^m}, +\}]$. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 79–92. (Ivan Landgev) **98b:94018** 94B05 (11T71, 94B65)

Charrier, Pierre (*with* Bachelot, Alain; Pujols, Agnès; Rouart, Danièle) Parallel algorithm for solving time convolution equations and application to CEM. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65Y05 (65R10)

Charrière, H. (*with* Gérard, Raymond) Étude des équations de la forme $\tau y = F(x, y)$ où τ est un champ de vecteurs singulier à l'origine de $\mathbf{C}^n$ et $F(x, y)$ une fonction holomorphe à l'origine de $\mathbf{C}^n$. [Study of equations of the form $\tau y = F(x, y)$, where τ is a vector field singular at the origin in $\mathbf{C}^n$ and $F(x, y)$ a function holomorphic at the origin in $\mathbf{C}^n$] *Funkcial. Ekvac.* **39** (1996), *no.* 1, 19–37. (Donald A. Lutz) **98c:35005** 35A20 (35C10, 35F20)

Charris, Jairo A. (*with* Prieto, Yadira L.) On distributional representations of moment functionals: sieved Pollaczek polynomials. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **19** (1994), *no.* 73, 305–315. (Summary) **98b:33021** 33C45 (44A60)

— (*with* Pareja Heredia, Diego; Zalamea, Fernando; O'Connor, John J.; Robertson, Edmund F.) Mathematical obituary: James Stoker (1905–1992), Halsey Royden (1928–1993), Alonzo Church (1903–1995), S. Chandrasekhar (1910–1995), Bartel van der Waerden (1903–1996). (Spanish) *Lect. Mat.* **17** (1996), *no.* 1, 77–91. (Editors) **98j:01037b** 01A70

Charron-Bost, Bernadette (*with* Cori, Robert; Petit, Antoine) Introduction à l'algorithmique des objets partagés. (English and French summaries) [Introduction to the algorithmics of shared objects] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 2, 97–148. (Summary) **98h:68067** 68Q10

— (*with* Tel, Gerard) Calculs approchés de la borne inférieure de valeurs réparties. (English and French summaries) [Approximate computations of the lower bound of distributed values] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 4, 305–330. (Summary) **98k:68057** 68Q10

Charru, François A simple mechanical system mimicking phase transitions in a one-dimensional medium. (English and French summaries) *European J. Phys.* **18** (1997), *no.* 6, 417–424. 82B26 (70K99)

— (*with* Barthelet, P.) Benjamin-Feir and Eckhaus instabilities with Galilean invariance: the case of interfacial waves in viscous shear flows. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 1, 1–18. (Summary) **98m:76077** 76E99 (76V05)

Charter, Kevin (*with* Rogers, Thomas) Homoclinic chaos in a model of natural selection. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 294–320. (Summary) **98i:92022** 92D15 (58F13, 58F40)

Chartier, P. (*with* Butcher, J. C.) A generalization of singly-implicit Runge-Kutta methods. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 343–350. (Masaharu Nakashima) **98m:65111** 65L06 (65L07)

— (*with* Butcher, J. C.; Jackiewicz, Z.) Nordsieck representation of DIMSIMs. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 209–230 (1998). (Summary) **98m:65130** 65L70

Chartrand, Gary (*with* Kubicki, Grzegorz; Mynhardt, Christina M.; Saba, Farrokh) On graphs with a unique least common multiple. (English summary) *Ars Combin.* **46** (1997), 177–190. (Summary) **98d:05119** 05C75 (05C70)

— (*with* Hevia, Héctor; Oellermann, Ortrud R.) The chromatic number of a factorization of a graph. (English summary) *Bull. Inst. Combin. Appl.* **20** (1997), 33–56. (Robert C. Brigham) **98i:05067** 05C15 (05C70)

— (*with* Tian, Song Lin) Distance in digraphs. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 15–23. (Kevin Lawrence McAvaney) **98h:05069** 05C12 (05C20)

— (*with* Boals, Alfred J.; Nouh, Jamal; VanderJagt, Donald W.; Yates, Julie) Path vectors and optimal trees. (English summary) Proceedings of the Twenty-eighth Southeastern

International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 145–159. (Summary) **98k:05044** 05C05 (05C20)
— (*with* Gavlas, Heather; Schultz, Kelly; Winters, Steven J.) On strong digraphs with a prescribed ultracenter. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 83–94. (A. Vijayakumar) **98e:05053** 05C12 (05C20)
— (*with* Hevia, Héctor; Jarrett, Elzbieta B.; Schultz, Michelle) Subgraph distances in graphs defined by edge transfers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 63–79. (Ioan Tomescu) **98e:05033** 05C12 (05C45, 05C75)
— (*with* Gavlas, Heather; Vandell, Robert C.; Harary, Frank) The forcing domination number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 161–174. (Summary) **98f:05083** 05C35
— (*with* Gavlas, Heather; Schultz, Michelle; Wall, Curtiss E.) Anticonnected digraphs. (English summary) *Util. Math.* **51** (1997), 41–54. (Summary) **98k:05078** 05C20 (05C40)
— (*with* Kubicki, Grzegorz; Schultz, Michelle) Graph similarity and distance in graphs. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 129–145. (Ortrud R. Oellermann) **98m:05059** 05C12
Charupat, Narat (*with* Prisman, Eliezer Z.) Financial innovations and arbitrage pricing in economies with frictions: revisited. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 435–447. (Summary) **98d:90045** 90A60
srinivasa Charya, D. *see* **Srinivasa Charya, D.**
Charyulu, V. Narasimha Magnetohydro flow through a straight porous tube of an arbitrary cross-section. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 267–274. 76W05
Chasco Ugarte, Ma. Jesús (*with* Chobanyan, Sergei) On rearrangements of series in locally convex spaces. *Michigan Math. J.* **44** (1997), *no.* 3, 607–617. (Plamen Dzhakov) **98k:46006** 46A35
— Pontryagin duality for metrizable groups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 22–28. (Vladimir Pestov) **98k:22003** 22A05
Chase, Craig M. (*with* Garg, Vijay Kumar) Efficient detection of restricted classes of global predicates. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 303–317, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68Q25, 68Q60)
Chase, K. C. (*with* Mekjian, A. Z.) Disordered systems, power laws and random processes. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 340–346. (Summary) **98f:82077** 82B44
Chase, Phillip J. Moves which connect Latin squares. *Bull. Inst. Combin. Appl.* **21** (1997), 83–90. (Charles C. Lindner) **98h:05040** 05B15
Chashechkin, Yu. D. (*with* Kistovich, Yu. V.) Geometry and energy of internal wave beams. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 684–686. (From the text) **98g:76013** 76C10 (76V05, 86A17)
— (*with* Kistovich, Yu. V.) The problem of generating monochromatic internal waves: exact solution and a model of force sources. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 54–57; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 377–380. (Vladan D. Djordjević) **98i:76020** 76C10 (76V05)
Chashkin, A. V. On the complexity and depth of circuits realizing partial Boolean functions. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 53–58; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 113–118. (Summary) **98d:94051** 94C10 (68Q25)
— Self-correcting schemes for functions of polynomial weight. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 64–66; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 52–53. (From the text) **98j:94042** 94C10 (94C12)
Chasnov, J. R. On the decay of inhomogeneous turbulence. (English summary) *J. Fluid Mech.* **342** (1997), 335–354. (Summary) **98d:76087** 76F99
— The viscous-convective subrange in nonstationary turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1191–1205. 76F99
Chasovskikh, A. A. (*with* Andreev, A. E.) Automaton complexity of two-place Boolean bases. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 123–133; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 599–610. (Nicolae Ţăndăreanu) **98h:03054** 03D05 (03D15, 68Q68)
Chassaing, Patrick Some problems on single point modeling of turbulent, low-speed, variable density fluid motions. With comments by A. Favre and a reply by the author. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 65–84, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76F99 (76M25)
Chassé, Jean-Luc (*with* Morand, S.; Auger, Pierre M.) Parasitism and host patch selection: a model using aggregation methods. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 73–80. (*see* **98m:92001**) 92D40 (92D50)
Chatalic, Philippe (*with* Froidevaux, Christine; Schwind, Camilla) Graded hypothesis theories. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 247–280. (Frans Voorbraak) **98d:68185** 68T27 (03B45, 03B70)
Chaté, Hugues (*with* Losson, Jérôme) Non-trivial collective behavior in coupled map lattices: a transfer operator perspective. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 51–72. (Volker Matthias Gundlach) **98d:58145** 58F19 (58F12, 58F13, 82C05)
— (*with* Marcq, Philippe; Manneville, Paul) Universality in Ising-like phase transitions of lattices of coupled chaotic maps. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 3, *part A*, 2606–2627. (Summary) **98b:82055** 82C26 (58F40, 82C10, 82C20)
— *see also* **Lattice dynamics, 98b:00025**
Chateauneuf, Alain (*with* Jaffray, Jean-Yves) Local Möbius transforms of monotone capacities. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 115–124, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98c:68195** 68T30
— (*with* Cohen, Michèle; Meilijson, Isaac) Comonotonicity, rank-dependent utilities and a search problem. *Distributions with given marginals and moment problems (Prague, 1996)*, 73–79, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 90B40 (60E15)
Chatelain, Thierry A new approach to two overdetermined eigenvalue problems of Pompeiu type. (English summary) *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 235–242 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Robert Dalmasso) **98k:35138** 35N10 (35J25, 35P99)
du Châtelet, Marquise *see* **Newton, Isaac, 98c:01016**
Chatelon, François-Joseph (*with* Orenga, Pierre) On a non-homogeneous shallow-water problem. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 27–55. (Nikolay G. Kuznetsov) **98m:76055** 76D33 (35Q35)
Chattah, Ana K. (*with* Cáceres, Manuel O.) On the Schrödinger-Langevin picture and the master equation. (English summary) *Phys. A* **234** (1996), *no.* 1-2, 322–340. (Vitor R. Vieira) **98m:82074** 82C10 (82C31)
Chatterjee, Abhijit (*with* Roy, Rabindra K.) Concurrent error detection in nonlinear digital circuits using time-freeze linearization. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1208–1218. 94C12
Chatterjee, Anindya (*with* Coleman, Michael J.; Ruina, Andy) Motions of a rimless spoked wheel: a simple three-dimensional system with impacts. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 139–159. (Summary) **98g:70009** 70E15 (70F20, 70F25, 70K20)
Chatterjee, Kalyan (*with* Lee, Ching Chyi) Bargaining and search with incomplete information about outside options. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 203–237. 90A60
Chatterjee, S. *see* **Chatterjee, Sujit**
Chatterjee, Sudhir Kumar A note on Kali era. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 1, 69–86. 01A32
— Balinese traditional calendar. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 4, 325–346. 01A32
Chatterjee, Sujit (*with* Banerjee, Asit Kumar; Beesham, Aroonkumar; Sen, A. A.) Global monopole in scalar tensor theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 645–652. (Summary) **98k:83070** 83D05
Chatterji, Srishti D. Remarques sur l'intégrale de Riemann généralisée. [Remarks on the generalized Riemann integral] *Séminaire de Probabilités, XXX*, 1–11, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (R. G. Bartle) **98k:26015** 26A39 (28B05)
— ★ Cours d'analyse. 1. (French. French summary) [Analysis course. 1] Analyse vectorielle. [Vector analysis] *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1997. xxiv+592 *pp. ISBN* 2-88074-314-1 (Anna Salvadori) **98g:26001** 26-01 (00A05)
Chattopadhyay, A. (*with* Choudhury, S.; Chattopadhyay, A.) Diffraction of magnetoelastic shear waves in a self-reinforced medium by a rigid strip. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 81–94. 73D25 (73R05)
Chattopadhyay, A. (*with* Chattopadhyay, A.; Choudhury, S.) Diffraction of magnetoelastic shear waves in a self-reinforced medium by a rigid strip. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 81–94. 73D25 (73R05)
Chattopadhyay, Chandan (*with* Bandyopadhyay, Chhanda) Some generalized continuous functions and resolvable and irresolvable spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1289–1293. 54C10 (54D15)
Chattopadhyay, J. (*with* Tapaswi, P. K.) Effect of cross-diffusion on pattern formation—a nonlinear analysis. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 1, 1–12. (Yoram Schiffmann) **98m:92013** 92C15 (35K57, 35Q80)
Chattopadhyay, K. C. (*with* Acharya, Sudip Kumar; Datta, Saral) A survey on *P*-spaces. *Math. Student* **64** (1995), *no.* 1-4, 146–154 (1996). 54E18
— (*with* Acharyya, S. K.; Ghosh, D. P.) On a class of subalgebras of $C(X)$ and the intersection of their free maximal ideals. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 2, 611–615. (Donald Plank) **98a:54012** 54C40 (46E25, 46J10)
Chattot, Jean-Jacques *see* **Conference: Numerical Methods in Fluid Dynamics**
Chaturvedi, Ajit (*with* Chaturvedi, Anoop; Hasegawa, Hikaru; Shukla, Govind) Confidence sets for the coefficients vector of a linear regression model with nonspherical disturbances. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 406–429. (Ram Shanmugam) **98h:62112** 62J05 (62P20)
— (*with* Rani, Uma) Estimation procedures for a family of density functions representing various life-testing models. (English summary) *Metrika* **46** (1997), *no.* 3, 213–219. (Summary) **98m:62087** 62G05 (62N05)
Chaturvedi, Anoop (*with* Hasegawa, Hikaru; Asthana, Sheel) Bayesian analysis of the linear regression model with non-normal disturbances. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 277–293. (Summary) **98m:62187** 62J05 (62F15)
— (*with* Hasegawa, Hikaru; Asthana, Sheel) Bayesian analysis of the linear regression model with an Edgeworth series prior distribution. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1145–1164. (Summary) **98a:62090** 62J05 (62F15)
— (*with* Tran Van Hoa) Performance of the 2SHI estimator under the generalised Pitman nearness criterion. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1227–1238. (Summary) **98a:62093** 62J05 (62F10)
— (*with* Hasegawa, Hikaru; Chaturvedi, Ajit; Shukla, Govind) Confidence sets for the coefficients vector of a linear regression model with nonspherical disturbances. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 406–429. (Ram Shanmugam) **98h:62112** 62J05 (62P20)
Chaturvedi, S. (*with* Shanta, P.; Srinivasan, Venkatraman; Mancini, F.) Evolution equation for the thermal vacuum from time dependent Bogoliubov transformations. (English summary) *Field theory and collective phenomena (Perugia, 1992)*, 270–279, *World Sci. Publishing, River Edge, NJ*, 1995. (Robert Alicki) **98b:82052** 82C10 (81T99)
— (*with* Panigrahi, P. K.; Srinivasan, Venkatraman; MacKenzie, R.) Equivalence of the grand canonical partition functions of particles with different statistics. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 15, 1095–1099. (Daniel Ueltschi) **98d:82006** 82B10
— (*with* Srinivasan, Venkatraman) Grand canonical partition functions for multilevel para-Fermi systems of any order. (English summary) *Phys. Lett. A* **224** (1997), *no.* 4-5, 249–252. (Summary) **98a:82006** 82B10
Chatyrko, V. A. On the transfinite dimension dim and essential mappings. *Topology Proc.* **20** (1995), 67–73. (Yasunao Hattori) **98b:54046** 54F45 (54D35)
— The dimension problem for the product of infinite-dimensional spaces. Topology, 2. *J. Math. Sci.* **78** (1996), *no.* 6, 633–661. (From the introduction) **98e:54029** 54F45
— On the dimension of products of infinite-dimensional compacta. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 932–942, v; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 807–816. (From the text) **98e:54030** 54F45 (54B10)
le khanh Chau *see* **Le Khanh Chau**
Chau, Hoi Fung (*with* Lo, H.-K.) Primality test via quantum factorization. (English summary) *Internat. J. Modern Phys. C* **8** (1997), *no.* 2, 131–138. (François Morain) **98j:11120** 11Y11 (11A51)

Chau, Ling-Lie (*with* Yamanaka, Itaru) Quantum field theories in terms of group-valued fields. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 13–22, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81193** 81T13 (81R10)

— Yang-Mills, Yang-Baxter, and Yangian algebra: quantum-group symmetry, quantum bi-module field, and quanta bi-modulons. *Chinese J. Phys.* **32** (1994), *no.* 5, *part* 2, 535–548. (From the summary) **98c:81228** 81T99 (17B37, 81T13)

— (*with* Yamanaka, Itaru) The KZ equation and the quantum-group difference equation in quantum self-dual Yang-Mills theory. (English summary) *J. Math. Phys.* **37** (1996), *no.* 8, 3704–3712. (Summary) **98a:81075** 81R50 (39A10, 81T13)

— (*with* Shaw, Jiin-Chang; Tu, Ming-Hsien) Solving the constrained KP hierarchy by gauge transformations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4128–4137. (Kilkothur M. Tamizhmani) **98h:58075** 58F07 (35Q53)

Chaudhry, Ghulam R. (*with* Seberry, Jennifer) On the $(10, 5, \lambda)$-family of Bhaskar Rao designs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 83–87. 05B05

Chaudhry, M. A. *see* **Chaudhry, Muhammad Anwar**

Chaudhry, M. Aslam (*with* Zubair, S. M.) On a connection between the generalized incomplete gamma functions and their extensions. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 581–589. (A. N. Srivastava) **98i:33004** 33B20 (33B15)

— (*with* Qadir, Asghar; Rafique, M.; Zubair, S. M.) Extension of Euler's beta function. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 19–32. (Andrea Laforgia) **98j:33001** 33B15

— (*with* Ahmad, Munir) A probabilistic proof of the series representation of the Macdonald function with applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 463–466. 33–02 (60E05, 62E15)

Chaudhry, M. L. (*with* Yang, Tao[1]) On steady-state queue size distributions of the discrete-time $GI/G/1$ queue. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 4, 1177–1200. (Hirotaka Sakasegawa) **98b:60167** 60K25

— (*with* Gupta, U. C.) Queue-length and waiting-time distributions of discrete-time $GI^X/Geom/1$ queueing systems with early and late arrivals. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 307–324. (Summary) **98c:60117** 60K25

Chaudhry, Muhammad Anwar (*with* Crabb, M. J.; McGregor, C. M.) The primitivity of semigroup algebras of free products. *Semigroup Forum* **54** (1997), *no.* 2, 221–229. (Uno Kaljulaid) **98a:20073** 20M25

— (*with* Samman, M. S.; Thaheem, A. B.) A note on commutativity of automorphisms. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 201–204. 16W20 (46L40)

— (*with* Thaheem, A. B.) On a problem of commutativity of automorphisms. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 411–412. 16W20

Chaudhry, Sohail S. (*with* Güder, Faruk; Zydiak, James L.) An extended algorithm for capacitated multiple item ordering with quantity discounts. (English summary) *Opsearch* **33** (1996), *no.* 1, 20–29. 90B35 (90B22)

Chaudhuri, Arijit (*with* Adhikary, Arun Kumar; Seal, Arup Kumar) Small domain estimation by empirical Bayes and Kalman filtering procedures—a case study. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1613–1621. 62D05

— On a pragmatic modification of survey sampling in three stages. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1805–1810. 62D05

— (*with* Roy, Debesh) Optimal variance estimation for generalized regression predictor. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 1, 139–151. (Rahul Mukerjee) **98h:62011** 62D05

ray-Chaudhuri, D. K. *see* **Ray-Chaudhuri, D. K.**

Chaudhuri, Gopal (*with* Deshpande, Jayant V.; Dharmadhikari, A. D.) A lower bound on the L-class of life distributions and its applications. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 269–274. (Summary) **98b:60034** 60E15

pal Chaudhuri, P. *see* **Pal Chaudhuri, P.**

Chaudhuri, Prabal Ray Generalized assignment models: with an application to technology transfer. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 335–360. (Summary) **98c:90017** 90A11 (90B70)

Chaudhuri, Pranay (*with* Karaata, M. H.) A self-stabilizing algorithm for strong fairness. (English summary) *Computing* **60** (1998), *no.* 3, 217–228. (Summary) **98m:68010** 68M10 (68Q22)

Chaudhuri, Probal (*with* Doksum, Kjell A.; Samarov, Alexander) Nonparametric estimation of global functionals of conditional quantiles. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 63–78, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98h:62045** 62G05

— On a geometric notion of quantiles for multivariate data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 434, 862–872. (Summary) **98d:62095** 62H12 (62G05)

— (*with* Doksum, Kjell A.; Samarov, Alexander) On average derivative quantile regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 715–744. (Stergios B. Fotopoulos) **98d:62054** 62G05 (62G20, 62H10)

Chaudhuri, Ranjan N. (*with* Gangopadhyay, Debashis; Paul, Samir K.) Van der Waerden's coloring theorem and classical spin systems. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 21-22, 923–928. (Summary) **98g:82009** 82B20 (05D10)

Chaudhuri, Sarbeswar (*with* Das, Kali Charan) Axially symmetric metrics from Laplace's seed by inverse scattering method. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5792–5806. (Nora Bretón Báez) **98j:83021** 83C20

— *see also* **Manko, Vladimir S., 98j:83019**

Chaudhuri, Shiva P. (*with* Zaroliagis, Christos D.) Optimal parallel shortest paths in small treewidth digraphs. (English summary) *Algorithms—ESA '95* (*Corfu*), 31–45, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Summary) **98e:68198** 68R10 (05C38, 05C85, 68Q22)

— (*with* Zaroliagis, Christos D.) Shortest path queries in digraphs of small treewidth. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 244–255, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98c:68161** 68R10 (05C85)

— (*with* Arikati, Srinivasa R.; Zaroliagis, Christos D.) All-pairs min-cut in sparse networks. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 363–376, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98d:68162** 68R10 (05C85, 90C35)

— (*with* Radhakrishnan, Jaikumar) The complexity of parallel prefix problems on small domains. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 1–22. (Evangelos Kranakis) **98j:68048** 68Q25 (68Q05, 68Q10, 68Q22)

— (*with* Dubhashi, Devdatt) Probabilistic recurrence relations revisited. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 45–56. (Summary) **98d:68098** 68Q25 (60E15)

— (*with* Garg, Naveen; Ravi, R.) The p-neighbor k-center problem. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 131–134. (Summary) **98m:68201** 68R10

Chaudhuri, Shyamoli (*with* Lowe, David A.) Monstrous string-string duality. (English summary) *Nuclear Phys. B* **469** (1996), *no.* 1-2, 21–36. (Miguel A. Vázquez-Mozo) **98c:81160** 81T30 (11F22, 20D08, 81R05, 81R10)

Chaudhuri, Soma (*with* Attiya, Hagit; Friedman, Roy; Welch, Jennifer L.) Shared memory consistency conditions for nonsequential execution: definitions and programming strategies. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 65–89 (*electronic*). (Summary) **98m:68001** 68M07 (68Q10, 68Q60)

Chaudhuri, Surajit (*with* Vardi, Moshe Y.) On the equivalence of recursive and nonrecursive Datalog programs. (English summary) 11th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Diego, CA, 1992). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 1, 61–78. (Minoru Ito) **98h:68051** 68P15 (68Q15, 68T15)

— (*with* Kolaitis, Phokion G.) Can Datalog be approximated? (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 355–369. (Summary) **98i:68064** 68P15

Chaudhury, Ranjan *see* **Chaudhuri, Ranjan N.**

Chauhan, M. S. (*with* Singh, Bijendra) On common fixed points of four mappings. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 451–456. 54H25

— (*with* Singh, Bijendra; Sharma, R. K.) Relative asymptotic regularity and common fixed points. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 323–326. 54H25

— (*with* Singh, Bijendra; Sharma, R. K.) Common fixed points of multivalued mappings. (English summary) *Ganita* **48** (1997), *no.* 2, 117–120. 54H25 (54C60)

Chauhan, S. S. (*with* Dube, K. K.) Strongly closure semi-continuous mappings. *J. Indian Acad. Math.* **19** (1997), *no.* 2, 139–147. 54C08

Chaumat, Jacques (*with* Chollet, Anne-Marie) Théorèmes de préparation dans des classes ultradifférentiables. [Preparation theorems in ultradifferentiable classes] *Math. Z.* **226** (1997), *no.* 4, 631–679. (Wiesław Pleśniak) **98m:32006** 32B05 (26E10)

— (*with* Chollet, Anne-Marie) Caractérisation des anneaux noethériens de séries formelles à croissance controlée. Application à la synthèse spectrale. (English summary) [Characterization of Noetherian rings of formal power series with controlled growth. Application to spectral synthesis] *Publ. Mat.* **41** (1997), *no.* 2, 545–561. (Joaquim Bruna) **98k:32010** 32B05 (16P40, 26E10, 46J20)

Chaumont, L. Conditionings and path decompositions for Lévy processes. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 39–54. (N. H. Bingham) **98b:60131** 60J30

— (*with* Bertoin, Jean; Yor, Marc) Two chain-transformations and their applications to quantiles. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 882–897. (Angelos Dassios) **98m:60116** 60J30 (60J20)

Chaurasia, V. B. L. (*with* Sharma, Rajendra Pal) Application of Fox's H-function, the multivariable H-function and a general class of polynomials in angular displacement in a shaft. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 2, 227–234. 33C90 (33C60)

— (*with* Gupta, Manisha) A theorem concerning a product of two general classes of polynomials and the multivariable H-function. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 271–276. (Summary) **98c:33016** 33C60

Chauvaud, Pascal (*with* Rogier, N.) MD2 is not secure without the checksum byte. (English summary) Selected areas in cryptography (Ottawa, ON, 1995). *Des. Codes Cryptogr.* **12** (1997), *no.* 3, 245–251. (Summary) **98d:94023** 94A60

Chauvet, Gilbert A. (*with* Chrétien, Jean-Marie) An algorithmic method for determining the kinetic system of receptor-channel complexes. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 227–257. 92C40

Chauvet, Pablo (*with* Núñez-Yépez, H. N.; Cervantes-Cota, J. L.) Cosmological solutions that are stable under anisotropic perturbations in Brans-Dicke theory. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 311–315, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:83079** 83D05

Chavarriga, Javier (*with* Llibre, Jaume; Sotomayor, Jorge) Algebraic solutions for polynomial systems with emphasis in the quadratic case. (English summary) *Exposition. Math.* **15** (1997), *no.* 2, 161–173. (Dmitri Novikov) **98h:34053** 34C05 (34A34, 58F21)

— (*with* García, I. A.; Giné, Jaume) Integrability of centers perturbed by quasi-homogeneous polynomials. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 268–278. (Anna Cima) **98d:34048** 34C05

— (*with* Giacomini, Hector; Giné, Jaume) The null divergence factor. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 41–56. (Douglas S. Shafer) **98d:34049** 34C05 (34A05)

— (*with* Giné, Jaume) Integrability of a linear center perturbed by a fifth degree homogeneous polynomial. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 335–356. (Henryk Żołądek) **98k:34043** 34C05 (58F21)

— (*with* Giné, Jaume) Polynomial first integrals of systems in the plane with center type linear part. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 521–535. (Henryk Żołądek) **98i:34046** 34C05 (58F21)

— *see also* **Proceedings: Catalan Days on Applied Mathematics, 98m:00023**

Chave, Thierry (*with* Valent, Galliano) Compact extremal versus compact Einstein metrics. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 8, 2097–2108. (Henrik Pedersen) **98d:58033** 58E11 (53C25, 53C55)

— (*with* Valent, Galliano) Quasi-Einstein metrics and their renormalizability properties. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 344–347. (Santiago R. Simanca) **98a:53063** 53C25 (53C80, 83C99)

— (*with* Valent, Galliano) On a class of compact and non-compact quasi-Einstein metrics and their renormalizability properties. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 3, 758–778. (Krzysztof Galicki) **98g:53083** 53C25 (53C55, 53C80, 81T15, 83C99)

Chavent, Guy *see* **Inverse problems in wave propagation, 98g:00026** *and* **Inverse problems of wave propagation and diffraction, 98h:00027**

Chaves, Gabriela Revêtements ramifiés de la droite projective complexe. [Ramified coverings of the complex projective line] *Math. Z.* **226** (1997), *no.* 1, 67–84. (A. Sinan Sertöz) **98j:14038** 14H30 (14E22)

Chaves, M. *see* **Chaves, Máximo**

Chaves, Manuela (*with* Vazquez, Juan L.; Walias Cuadrado, Magdalena) Optimal existence and uniqueness in a nonlinear diffusion-absorption equation with critical exponents. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 217–242. (Daniel Ševčovič) **98i:35076** 35K05 (35B05)

Chaves, Máximo Boson metastable ground states with spontaneous symmetry breaking. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 175–178. 81T99

Chavey, Darrah P. (*with* Campbell, Paul J.) Tchuka Ruma solitaire. *UMAP J.* **16** (1995), *no.* 4, 343–365. (Daniel Elliott Loeb) **98a:90164** 90D42 (05A99)

castillo-Chavez, Carlos *see* **Castillo-Chavez, Carlos**

Chávez, Francisco (*with* Moreau, Michel; Vicente, Luis) Some results for a cluster-monomer model of aggregation with fragmentation. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6615–6631. 82C70

Chávez, M. J. (*with* Ayala, R.; Quintero, A.) On the planarity of Peano generalized continua: an extension of a thereom of S. Claytor. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 175–181. (Summary) **98h:54044** 54F15 (54C10)

Chávez-Ross, A. (*with* Franks, S.; Mason, H. D.; Hardy, K.; Stark, Jaroslav) Modelling the control of ovulation and polycystic ovary syndrome. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 95–118. 92C30 (92C50)

Chawla, M. M. (*with* Al-Zanaidi, M. A.; Evans, David J.) A class of generalized trapezoidal formulas for the numerical integration of $y' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 131–142. (Summary) **98d:65094** 65L06

— (*with* Al-Zanaidi, M. A.; Boabbas, W. M.) Extended two-step P-stable methods for periodic initial-value problems. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 4, 505–520. (H. Brunner) **98c:65118** 65L06 (65L20)

— (*with* Al-Zanaidi, M. A.) New L-stable modified trapezoidal formulas for the numerical integration of $y' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 279–288. (Summary) **98c:65119** 65L06

— (*with* Al-Zanaidi, M. A.) A two-stage fourth-order "almost" P-stable method for oscillatory problems. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 115–118. 65L05 (65L20)

Chayes, L. Percolation and ferromagnetism on $\mathbf{Z}^2$: the q-state Potts cases. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 2, 209–216. (Massimo Campanino) **98f:60204** 60K35 (82B43)

— (*with* Kotecký, R.; Shlosman, S. B.) Staggered phases in diluted systems with continuous spins. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 631–640. (Wei-Shih Yang) **98m:82025** 82B26 (82B05)

Chayet, Maurice (*with* Lohoue, Noël) Sur la cohomologie L^p des variétés. (English and French summaries) [On the L^p cohomology of manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 211–213. (J. S. Joel) **98b:58008** 58A14 (22E45, 53C20)

Chazal, Gérard Logiques non monotones. [Nonmonotone logics] *Introduction aux logiques non classiques*, 235–255, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B60

Chazelle, Bernard A spectral approach to lower bounds. (English summary) *35th Annual Symposium on Foundations of Computer Science* (*Santa Fe, NM*, 1994), 674–682, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68U05

— (*with* Matoušek, Jiří) On linear-time deterministic algorithms for optimization problems in fixed dimension. (English summary) *J. Algorithms* **21** (1996), *no.* 3, 579–597. (Charles E. Blair) **98b:90082** 90C05 (68R05, 90C27, 90C60)

— (*with* Palios, L.) Decomposing the boundary of a nonconvex polyhedron. (English summary) *Algorithmica* **17** (1997), *no.* 3, 245–265. (Robert Connelly) **98a:52020** 52B55 (52B10, 65Y25, 68U05)

— (*with* Dobkin, David P.; Shouraboura, Nadia; Tal, Ayellet) Strategies for polyhedral surface decomposition: an experimental study. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 327–342. (Rade Živaljević) **98c:52019** 52B55 (68U05)

Chbili, Nafaa Le polynôme de Homfly des nœuds librement périodiques. (English and French summaries) [The Homfly polynomial of freely periodic knots] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 411–414. (Summary) **98d:57011** 57M25

Che, Xiang Kai Hamilton connectivity of 3-connected claw-free graphs. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 5, 569–572. 05C45 (05C40)

Che, Yeon-Koo (*with* Gale, Ian) Standard auctions with financially constrained bidders. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 1–21. (Summary) **98j:90023** 90A60 (90A09)

Cheah, C. C. (*with* Wang, Danwei) Discrete-time model reference learning control: theory and experiment. (English summary) *Dynam. Control* **8** (1998), *no.* 2, 145–162. (Summary) **98m:93079** 93C83 (93C85)

Cheban, D. N. On the structure of compact asymptotically stable invariant sets of C-analytic almost periodic systems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 12, 2025–2028, 2109; *translation in Differential Equations* **31** (1995), *no.* 12, 1995–1998 (1996). (Peter Moson) **98d:34072** 34C27 (34C30, 34D35)

— (*with* Fakih, D. S.) Global attractors of infinite-dimensional dynamical systems. III. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 3–13, 113, 115. (Piotr Biler) **98h:34087** 34C35 (34D45, 54H20, 58F12)

— Global attractors of infinite-dimensional nonautonomous dynamical systems. I. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 42–55, 106, 109. (Björn Schmalfuss) **98k:58151** 58F12

Cheban, Vasiliĭ Grigor'evich *see* **Birthday: Cheban, Vasiliĭ Grigor'evich**

Chebbi, S. (*with* Ben-El-Mechaiekh, H.; Florenzano, M.) A Leray-Schauder type theorem for approximable maps: a simple proof. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2345–2349. (L. Górniewicz) **98k:54080** 54H25 (47H10, 54C60)

Chebchoub, Assia (*with* Manoubi, Radhia) Sur le théorème de la limite centrale presque-sûre pour les processus ponctuels. (English and French summaries) [On the almost-sure central limit theorem for point processes] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 83–86. (Summary) **98f:60055** 60F15 (60G55)

Chebotar', M. A. On certain subrings and ideals of prime rings. (English summary) *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 177–180, *de Gruyter, Berlin*, 1996. (Miguel Ferrero) **98c:16024** 16N60 (16W25)

— Functional identities in prime rings. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 207–208; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 210–211. 16R40 (16N60)

Chebotarëv, A. M. (*with* Fagnola, F.) On quantum extensions of the Azéma martingale semigroup. *Séminaire de Probabilités, XXIX*, 1–16, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Stanisław Goldstein) **98j:46075** 46L55 (81S25)

— (*with* Quezada-Batalla, R.) Stochastic approach to time-dependent quantum tunneling. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 275–286. (S. K. Srinivasan) **98k:81126** 81S20 (81S40)

Chebotarev, A. N. Extension of a logic language for the specification of automata and the synthesis problem. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 11–27, 184; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 756–765 (1997). (Andrew M. Mironov) **98m:68182** 68Q68

Chebotarev, A. Yu. Stationary variational inequalities in a model of an inhomogeneous incompressible fluid. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1184–1193, v; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 1028–1037. (Ivan Straškraba) **98k:35146** 35Q30 (47H19, 47N20, 76D05)

Chebotarev, Alexander M. *see* **Chebotarëv, A. M.**

Chebotarev, L. V. Error bounds for the Bohr-Sommerfeld formula. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7229–7257. (Christian Grosche) **98a:81024** 81Q05 (65N15)

— Parabolic connection formulae in quantum mechanics. (English summary) *Ann. Physics* **255** (1997), *no.* 2, 305–332. (Summary) **98a:81025** 81Q05

Chebotarev, N. G. *see* **Algebra and analysis, 98b:00020**

Chebotarev, Pavel Yu. (*with* Shamis, Elena) Constructing an objective function for aggregating incomplete preferences. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 100–124, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (Fouad T. Aleskerov) **98i:90008** 90A06 (90A07)

Chebrakov, Y. V. (*with* Shmagin, V. V.) Finding the best linear-multiple model in the case of microstatistics. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 41–46, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 62–07

— (*with* Shmagin, V. V.) Some non-traditional approaches to solving a few data analysis problems. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 69–73, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 62J02 (65U05)

— (*with* Yasinskiy, S. A.; Shmagin, V. V.) The system-graphical analysis of some numerical Smarandache sequences. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 42–54. 11Y55

— (*with* Shmagin, V. V.) The analytical formulae yielding some Smarandache numbers and applications in magic squares theory. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 62–71. 11Y55 (05B15)

— Analytical formulae and algorithms for constructing magic squares from an arbitrary set of 16 numbers. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 184–201. 05B15

Cheb-Terrab, E. S. (*with* Duarte, L. G. S.; da Mota, L. A. C. P.) Computer algebra solving of first order ODEs using symmetry methods. (English summary) *Comput. Phys. Comm.* **101** (1997), *no.* 3, 254–268. (Summary) **98a:34002** 34-04 (34A25)

— (*with* Duarte, L. G. S.; da Mota, L. A. C. P.) Computer algebra solving of second order ODEs using symmetry methods. (English summary) *Comput. Phys. Comm.* **108** (1998), *no.* 1, 90–114. 65L06 (65-04)

Chebyshev, Pafnutiĭ L'vovich *see* **Pafnutiĭ L'vovich Chebyshev (on the 175th anniversary of his birth), 98f:00032**; **Lectures: Chebyshev, Pafnutiĭ L'vovich, 98i:00023**; **Tikhomirov, V. M., 98j:01042**; **Kruzhkov, S. N.** *and* **Nikiforovskiĭ, V. A.**

Chechel', I. I. (*with* Meller, N. A.; Pal'tsev, B. V.) Methods with splitting of boundary conditions for a Stokes-type system, and their numerical realizations. (Russian) *Computational mathematics and information science* (*Russian*) (*Moscow*, 1995), 44–59, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (*see* **98h:00022**) 35Q30 (65L99, 76D05, 76M99)

— (*with* Pal'tsev, B. V.) On real properties of bilinear finite-element realizations of methods with splitting of boundary conditions for a Stokes-type system. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 247–261. 65N06 (76M10)

Chechkin, G. A. Vibration of fluids in a vessel with a net on the surface. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 95–111, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Taras A. Mel'nyk) **98h:76026** 76D05 (35Q35, 47A56, 47F05, 47N20)

— (*with* Oleĭnik, Ol'ga Arsen'evna) On asymptotics of solutions and eigenvalues of the boundary value problem with rapidly alternating boundary conditions for the system of elasticity. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 1, 5–15. (Jiří Rákosník) **98b:35049** 35J55 (35B25, 35B40, 35Q72)

Chechkina, K. A. (*with* Razgulin, A. V.) Bifurcation modes in a nonlinear optical system with distributed field rotation. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 262–269. (Pierre Hillion) **98j:78033** 78A60 (34C23, 35Q99, 68U20)

— (*with* Potapov, M. M.) On a model of amplitude-phase filtering in a nonlinear optic system with feedback. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 31–36, 52–53. 78A60

Chechurin, L. S. (*with* Pervozvanskiĭ, Anatoliĭ Arkad'evich) Feedback design based on the robustness criterion by means of Riccati equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 152–161; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 2, 1824–1832 (1998). 93D09 (93C05)

Chee, Leticia S. Computing the value of a Boolean expression with interval inputs is NP-hard. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 155–172. (Summary) **98m:68115** 68Q25

Chee, Seongtaek (*with* Lee, Sang Jin; Lee, Daiki; Sung, Soo Hak) On the correlation immune functions and their nonlinearity. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 232–243, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94017** 94A60

Chee, Yeow Meng (*with* Colbourn, Charles J.) Constructions for difference triangle sets. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1346–1349. (G. H. J. Van Rees) **98j:05029** 05B10

Cheeger, Jeff (*with* Colding, Tobias H.; Tian, Gang) Constraints on singularities under Ricci curvature bounds. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 645–649. (William P. Minicozzi, II) **98g:53078** 53C23 (53C21)

— (*with* Colding, Tobias H.) On the structure of spaces with Ricci curvature bounded below. I. *J. Differential Geom.* **46** (1997), *no.* 3, 406–480. (William P. Minicozzi, II) **98k:53044** 53C21 (53C20)

Cheeseman, Peter (*with* Frank, Jeremy; Stutz, John) When gravity fails: local search topology. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 249–281 (*electronic*). (Summary) **98m:90115** 90C27

Chee-Seng, Lim *see* **Lim, Chee Seng**

Chefles, Anthony (*with* Barnett, Stephen M.) Diagonalisation of the Bell-CHSH operator. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 4–8. (S. Gudder) **98g:81009** 81P05 (81P15)

— (*with* Barnett, Stephen M.) Entanglement and unambiguous discrimination between non-orthogonal states. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 177–179. 81V80

— (*with* Barnett, Stephen M.) Collective observables and enhanced violation of Bell's inequality. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, 1721–1731. (Emilio Santos) **98j:81009** 81P05

— Unambiguous discrimination between linearly independent quantum states. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 339–347. 81P15

Chegis, R. Yu. *see* **Čiegis, Raimondas**

Chegis, Ralm. *see* **Čiegis, Raimondas**

Chegis, Rem. *see* **Čiegis, Remigijus**

Chegolin, A. P. (*with* Nogin, Vladimir A.) Inversion of some integral operators with degenerate and oscillating symbols. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 10, 36–39; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 10, 33–36 (1997). (B. S. Rubin) **98e:47073** 47G10

Chekanov, Yu. V. Hofer's symplectic energy and Lagrangian intersections. *Contact and symplectic geometry (Cambridge, 1994)*, 296–306, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Karl Friedrich Siburg) **98b:58058** 58F05 (58E05)

— New generalizations of Poincaré's geometric theorem. *The Arnold-Gelfand mathematical seminars*, 113–121, *Birkhäuser Boston, Boston, MA*, 1997. (Karl Friedrich Siburg) **98b:58138** 58F20 (58E05, 58F05)

Chekanu, G. (*with* Gheorghiciuc, I.) On the nilpotency of finitely determined nil algebras. *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 119. 16N40

Chekhov, L. O. Scattering on univalent graphs from L-function viewpoint. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 489–506; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 723–737. (Evgenii I. Zelenov) **98j:11065** 11M41 (11S40, 11Z05)

— (*with* Kristjansen, C. F.) Hermitian matrix model with plaquette interaction. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 3, 683–696. (Yolanda Lozano) **98a:81197** 81T40

— Matrix model tools and geometry of moduli spaces. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 1, 33–90. (Henrik Aratyn) **98h:81109** 81T40 (14H15, 17B68, 58D30, 81T27)

— (*with* Zarembo, K.) Effective action and measure in matrix model of IIB superstrings. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2331–2340. (Summary) **98i:81198** 81T30

— (*with* Arutyunov, Gleb E.; Frolov, Sergei Anatol'evich) Quantum dynamical R-matrices for the elliptic Ruijsenaars-Schneider model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 182–217; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 536–562. (Andrey V. Tsiganov) **98j:81137** 81R50 (58F07, 82B23)

flores de Chela, Delia *see* **Flores de Chela, Delia**

Chelkak, S. (*with* Konovalov, G.; Oganesyan, L. A.) Regular solutions of the Navier-Stokes problem and the Taylor example. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 52–57, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q30 (65M99, 76D05)

Chellaboina, Vijaya-Sekhar (*with* Haddad, Wassim M.; Kapila, Vikram) Guaranteed domains of attraction for multivariable Lur'e systems via open Lyapunov surfaces. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 935–949. (Xiao Liang He) **98i:93071** 93D10 (93D05)

— (*with* Haddad, Wassim M.) Robust nonlinear-nonquadratic feedback control via parameter-dependent Lyapunov functions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3725–3736. (*see* **98h:00034**) 93B36 (93D09)

— (*with* Haddad, Wassim M.) Nonlinear fixed-order dynamic compensation for passive systems. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 349–365. (*see* **98k:93004**) 93B52 (70K99, 70Q05, 93C85, 93D15)

Chełmiński, Krzysztof Stress L^∞-estimates and the uniqueness problem for the quasistatic equations to the model of Bodner-Partom. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1127–1134. (Mircea Sofonea) **98g:35187** 35Q72 (73E50, 73E60)

— Stress L^∞-estimates and the uniqueness problem for the equations to the model of Bodner-Partom in the two-dimensional case. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 43–58. (Mircea Sofonea) **98j:73041** 73E50 (35Q72, 73E60)

Chel'tsov, I. A. Singularity of three-dimensional manifolds possessing an ample effective divisor—a smooth surface of Kodaira dimension zero. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 618–626, 640; *translation in Math. Notes* **59** (1996), *no.* 3-4, 445–450. (Tomasz Szemberg) **98d:14052** 14J30 (14J10, 14J28)

— On the rationality of non-Gorenstein $\mathbb{Q}$-Fano 3-folds with an integer Fano index. *Birational algebraic geometry (Baltimore, MD, 1996)*, 43–50, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Jarosław A. Wiśniewski) **98i:14040** 14J45 (14J28)

Chemin, Jean-Yves A remark on the inviscid limit for two-dimensional incompressible fluids. (English and French summaries) *Comm. Partial Differential Equations* **21** (1996), *no.* 11-12, 1771–1779. (José Luiz Boldrini) **98c:35127** 35Q30 (76C99, 76D05)

— Sur l'unicité dans le système de Navier-Stokes tridimensionnel. [Uniqueness in the three-dimensional Navier-Stokes system] *Séminaire sur les Équations aux Dérivées Partielles, 1996–1997, Exp. No. XXIV*, 17 *pp., École Polytech., Palaiseau*, 1997. (Alain Miranville) **98m:35154** 35Q30 (76D05)

— (*with* Xu, Chao Jiang) Inclusions de Sobolev en calcul de Weyl-Hörmander et champs de vecteurs sous-elliptiques. (English and French summaries) [Sobolev embeddings in Weyl-Hörmander calculus and subelliptic vector fields] *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 6, 719–751. (William Margulies) **98i:35026** 35H05 (35A27, 35J70, 35S05, 46E35)

— (*with* Xu, Chao Jiang) Remarque sur la régularité de solutions faibles d'équations elliptiques semi-linéaires. (English and French summaries) [Regularity of weak solutions of some semilinear elliptic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 257–260. (Giuseppe Di Fazio) **98d:35051** 35J60 (35D10)

Chemla, Karine Reflections on the world-wide history of the rule of false double position, or: How a loop was closed. *Centaurus* **39** (1997), *no.* 2, 97–120. (Victor J. Katz) **98b:01008** 01A25 (01A30, 01A35)

Chemla, Sophie Extremal projectors in the semi-classical case. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1335–1343. (Gordon E. Brown) **98m:17013** 17B20

Chemtob, M. Systematics of string loop threshold corrections in orbifold models. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2323–2351. (Summary) **98g:81132** 81T15 (81T30)

Chen, Anping (*with* Liao, Liu Sheng; Zhou, Yu Bo) Necessary and sufficient conditions for oscillation of first-order neutral mixed differential equations with delays. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 137–142. (Summary) **98m:34136** 34K15

Chen, Anyue (*with* Renshaw, Eric) Birth-death processes with mass annihilation and state-dependent immigration. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 239–253. (Xiang Qun Yang) **98f:60133** 60J10 (60J27, 60J80)

— (*with* Renshaw, Eric) The $M/M/1$ queue with mass exodus and mass arrivals when empty. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 192–207. (P. R. Parthasarathy) **98b:60158** 60K25

Chen, Arbee L. P. (*with* Chang, Chih-Shyang) Efficient refinement of uncertain data by fuzzy integrity constraints. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 191–211. (Summary) **98h:68050** 68P15 (04A72)

Chen, B. S. *see* **Chen, Bor-Sen**

Chen, Bai Li (*with* Zhang, Jiang She; Wang, Wei) A cell exclusion algorithm for finding all global minimizers of functions of several variables. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 4, 443–455. 90C30 (65K05)

Chen, Bang-yen Complex extensors, Lagrangian submanifolds and Legendre curves. (English summary) *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 56–68, *World Sci. Publishing, River Edge, NJ*, 1996. (Ildefonso Castro) **98a:53077** 53C40 (53C42)

— Differential geometry of submanifolds with arbitrary codimensions. *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 69–73, *World Sci. Publishing, River Edge, NJ*, 1996. (Setsuo Nagai) **98h:53088** 53C40

— A report on submanifolds of finite type. (English summary) *Soochow J. Math.* **22** (1996), *no.* 2, 117–337. (Ivko Dimitric) **98b:53043** 53C40 (53-02, 53C30, 53C42, 58G25)

— Some geometric inequalities and their applications. *Proceedings of the First International Workshop on Differential Geometry (Taegu, 1996)*, 31–67, *Kyungpook Natl. Univ., Taegu*, 1997. (Ildefonso Castro) **98h:53089** 53C40 (53C42)

— Interaction of Legendre curves and Lagrangian submanifolds. (English summary) *Israel J. Math.* **99** (1997), 69–108. (Ildefonso Castro) **98i:53086** 53C42 (53C40)

— Complex extensors and Lagrangian submanifolds in complex Euclidean spaces. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 2, 277–297. (Ildefonso Castro) **98g:53096** 53C40 (53C42)

Chen, Beifang (*with* Yan, Min) Linear conditions on the number of faces of manifolds with boundary. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 144–168. (P. McMullen) **98d:52022** 52B70

— Pansystems optimization, generalized principles of optimality, and fundamental equations of dynamic programming. (English summary) *Kybernetes* **26** (1997), *no.* 2-3, 248–249, 316–333. (Neville G. F. Sancho) **98c:90178** 90C39 (90C10)

Chen, Ben M. A simple algorithm for the stable/unstable decomposition of a linear discrete-time system. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 255–260. 93D05 (93B40)

— (*with* Saberi, Ali; Shamash, Yacov) Necessary and sufficient conditions under which a discrete time H_2-optimal control problem has an unique solution. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 745–753. (Anton A. Stoorvogel) **98c:93034** 93B36 (49N10, 93C55)

— Exact computation of infimum for a class of continuous-time H_∞ optimal control problem with a nonzero direct feedthrough term from the disturbance input to the controlled output. (English summary) *Systems Control Lett.* **32** (1997), *no.* 2, 99–109. (Summary) **98j:93028** 93B36 (93B40)

— (*with* Weller, Steven R.) Mappings of the finite and infinite zero structures and invertibility structures of general linear multivariable systems under the bilinear transformation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 111–124. 93B60 (93C35)

— (*with* Lin, Zongli; Saberi, Ali; Ly, Uy-Loi) Simultaneous H_2/H_∞ optimal control for discrete-time systems: the state feedback case. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 217–225. 93B36 (93B52)

Chen, Biao (*with* Han, Chunming; Willett, Peter; Abraham, Douglas A.) A detection optimal min-max test for transient signals. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 866–869. 94A13

Chen, Bin Gravity with electromagnetism on $M^4 \times Z_2$. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 497–500. (Summary) **98f:83094** 83E15 (58B30)

Chen, Bin (*with* Xie, Bing-Kun) Conductance of a quantum point containing a small number of impurities. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 388–391, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98e:81001**) 81V70

Chen, Bin[1] Large deviations and Strassen's limit points of Brownian local time processes. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 385–395. (Endre Csáki) **98j:60039** 60F10 (60J55, 60J65)

Chen, Bin[4] (*with* Xiao, Shi Fu) Modeling and stability investigation of a class of rigid-flexible coupling systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 4, 439–447. 73K12 (73H10, 73K05)

— (*with* Zhu, Hai Ping) Global properties of linear constraints in state space and motion planning. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 745–754. 70F25 (58A17, 70Q05)

Chen, Bin Ning (*with* Zhang, Xian Da) Cepstrum-based identification of noncausal autoregressive systems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 9, 90–94. 94A12

Chen, Bing (*with* Zhang, Si Ying) Robust control of a class of interconnected large-scale systems with similar structure. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 203–209. 93B52 (93C10, 93C15)

Chen, Bing Zhen (*with* Hu, Shan Ying; He, Xiao Rong; Shen, Jing Zhu) The simulated annealing method for global optimization in nonlinear programming problems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 6, 5–9. 90C30 (65C05, 65K05)

Chen, Bintong (*with* Harker, Patrick T.) Smooth approximations to nonlinear complementarity problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 403–420. (Michael M. Kostreva) **98e:90192** 90C33

Chen, Bo (*with* Vestjens, Adrianus Petrus Antonius) Scheduling on identical machines: how good is LPT in an on-line setting? (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4, 165–169. (Summary) **98h:90038** 90B35

— (*with* Du, Dong Lei; Han, Ji Ye) An improved heuristic for one-machine scheduling with delays constraints. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 680–686. (Summary) **98k:90044** 90B35 (68M20)

— (*with* Chandrasekaran, R.; Galambos, Gábor; Narayanan, P. R.; van Vliet, André; Woeginger, Gerhard J.) A note on: "An on-line scheduling heuristic with better worst case ratio than Graham's list scheduling" [SIAM J. Comput. **22** (1993), no. 2, 349–355; MR 94b:90031] by Galambos and Woeginger. *SIAM J. Comput.* **26** (1997), *no.* 3, 870–872. (Introduction) **98b:90064** 90B35

— (*with* Vestjens, Adrianus Petrus Antonius; Woeginger, Gerhard J.) On-line scheduling of two-machine open shops where jobs arrive over time. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 355–365. (Summary) **98k:90042** 90B35

Chen, Bo-Zhan (*with* Fan, Hong Yi[1]) Correlated Holstein-Primakoff transformation for correlated spin coherent state. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 245–248. 81R30

— *see also* **Fernández, Francisco M.** **98f:81337**

Chen, Bohui (*with* Li, An Min; Simon, Udo) A two-step Monge-Ampère procedure for solving a fourth order PDE for affine hypersurfaces with constant curvature. (English summary) *J. Reine Angew. Math.* **487** (1997), 179–200. (Fei-Tsen Liang) **98g:53017** 53A15 (35J60)

Chen, Bor-Liang (*with* Ko, Ming-Tat; Lih, Ko-Wei) Equitable and m-bounded coloring of split graphs. (English summary) *Combinatorics and computer science (Brest, 1995)*, 1–5, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:05056** 05C15

— (*with* Cheng, Chun-Kan; Fu, Hung-Lin; Huang, Kuo-Ching) A study of the total chromatic number of equibipartite graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 49–60. (Summary) **98i:05068** 05C15

Chen, Bor-Sen (*with* P'êng, Hua Chieh) Adaptive control of linear unstructured time-varying systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 527–555. 93C40

— (*with* Lee, Ti-Chung; Lee, Tzann Shin) Singular H_∞ control in nonlinear systems: positive semidefinite storage functions and separation principle. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 881–897. (Anton A. Stoorvogel) **98j:93033** 93B36 (46L99, 93C10)

Chen, C. C. *see* **Chen, Chuan Chong**

Chen, C. H. *see* **Chen, Chi Hau**

Chen, C. S. *see* **Chen, Ching Shyang**

Chen, C. Y. *see* **Chen, Ching-Yu**

Chen, Cai Sheng[1] (*with* Huang, Jun[1]) The asymptotic behavior of global solutions to a class of systems of semilinear reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 73–77. 35K57 (35B40)

Chen, Chaio-Shiung (*with* Chen, Wen Liang[1]) Analysis and design of a stable fuzzy control system. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 21–35. 93C42

Chen, Chang Ming[2] A class of maximum entropy evaluation function methods for solving multiobjective optimization problems. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 5, 663–665. 90C29

— A class of evaluation function methods for solving multiobjective programming problems. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 1, 16–18. 90C29

Chen, Chang-Pao (*with* Wu, Ching-Tang) Double Walsh series with coefficients of bounded variation of higher order. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 395–417. (W. Splettstösser) **98d:42005** 42C10

Chen, Chang Yuan (*with* Shen, Hong Lan; Sun, Guo Yao) Exact solutions of scattering states in the weakest bound electron potential model. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 6, 1055–1061. (Summary) **98j:81352** 81U05

— (*with* Sun, Guo Yao) Bound states of the Dirac equation with a one-dimensional modified Pöschl-Teller potential. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 1, 34–39. (Summary) **98i:81037** 81Q05

Chen, Chao (*with* Bu, Chang Jiang) Some results on strongly harmonious graphs. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 6–7. 05C78

Chen, Cha'o-Kuang (*with* Tien, Tzu-Li) A new forecasting method of discrete dynamic system. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 1, 61–84. (Summary) **98f:90010** 90A16 (90C70)

— (*with* Wu, Tzong-Mou) Closed form synthesis of planar and spatial linkages function generation with symbolic representation. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 155–162. 70B15 (70–04)

Chen, Chao-Nien (*with* Tzeng, Shyuh-yaur) Existence and multiplicity results for homoclinic orbits of Hamiltonian systems. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 7, *approx.* 19 *pp.* (*electronic*). (Michele Matzeu) **98e:34092** 34C37 (58E05, 58F05, 70H05)

— Infinite time blow-up of solutions to a nonlinear parabolic problem. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 409–427. (Wenxian Shen) **98i:35102** 35K60 (35B40)

Chen, Chen-Hsin (*with* Chang, I-Shou; Hsiung, Chao A.) Estimation in change-point hazard rate models with random censorship. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 78–92, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62F10 (60G05, 62G20)

Chen, Cheng (*with* Cheng, Geng) Anomalous dimension in the solution of the Barenblatt's equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1589–1600. (D. ter Haar) **98m:35083** 35K55 (35Q99, 82B28)

Chen, Chenyun *see* **Cheng, Cheng Yun**

Chen, Chi-Chang (*with* Chen, Jianer) Optimal parallel routing in star networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1293–1303. 68M10

Chen, Chi Hau (*with* Yu, Liwen) A learning algorithm for modified recurrent neural networks. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 409–418. 65U05 (65C20)

Chen, Chieh-Li (*with* Jang, Ming-Jyi) Analysis of the response of a strongly nonlinear damped system using a differential transformation technique. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 137–151. 34C15 (70–08, 70K40)

— (*with* Yang, Shyi-Kae) Robust stability and performance analysis for the system with linear dependent perturbations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 583–600. (Long Wang) **98g:93032** 93D09

— (*with* Yang, Shyi-Kae) Observer-based robust controller design for a linear system with time-varying perturbations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 642–661. (Summary) **98d:93073** 93D09 (93B36)

Chen, Chien-Ming (*with* Chang, Chia-Ming; King, Chung-Ta) Using integer linear programming for instruction scheduling and register allocation in multi-issue processors. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 1–14. 90B35 (90C90)

Chen, Ching Shyang (*with* Golberg, M. A.) ★ Discrete projection methods for integral equations. (English summary) *Computational Mechanics Publications, Southampton*, 1997. xiv+425 *pp. ISBN* 1-85312-440-0 (A. Böttcher) **98c:45002** 45-02 (31-01, 42-01, 45Lxx, 47G10, 47N20, 65-02, 65R20)

— (*with* Golberg, M. A.; Bowman, Harold; Power, H.) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 141–148. (Summary) **98m:65209** 65N38 (73V10)

Chen, Ching-Yu (*with* Atkinson, Colin) The influence of layer thickness on the stress intensity factor of a crack lying in an (visco)elastic layer embedded in a different (visco)elastic medium. (Plane strain, mode I analysis). (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1445–1471. (Summary) **98d:73052** 73M25 (73F99)

Chen, Chiun-Chuan (*with* Lin, Chang-Shou) Estimates of the conformal scalar curvature equation via the method of moving planes. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 10, 971–1017. (David L. Finn) **98k:35051** 35J60 (53C21)

— (*with* Lee, Ming Di) On the method of moving planes and symmetry of solutions of semilinear elliptic equations. *Nonlinear Anal.* **28** (1997), *no.* 10, 1697–1707. (Jianfu Yang) **98b:35061** 35J65 (35B05)

Chen, Chuan Chong *see* **Chromatic polynomials and related topics. 98d:05001**

Chen, Chuan Dan Coupled stability of two-dimensional hyperbolic difference approximations with simultaneous spatial and temporal mesh refinement. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 4, 507–512. 65M06 (65M12)

— The stability of universal connected stable schemes in intervals of variable size. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 1, 11–15. 65M12

Chen, Chuan-Hong (*with* Miao, Yan-Gang) Another proof of the equivalence between the duality symmetric and Maxwell's action. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 253–256. 81T30 (81V10)

— (*with* Miao, Yan-Gang) Chiral bosonized versions hidden in chiral Schwinger models. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 493–496. 81T10

Chen, Chuanmiao Element analysis method and superconvergence. (English summary) *Finite element methods (Jyväskylä, 1997)*, 71–84, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98j:65075** 65N30

Chen, Chuanping (*with* Wang, Jian Fang; Zhang, Zhong Fu) Arboricity and complement of a graph. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 28–35. (Summary) **98m:05047** 05C05

Chen, Chun-Hung (*with* Dai, Li Yi) Rates of convergence of ordinal comparison for dependent discrete event dynamic systems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 29–54. (Ratnesh Kumar) **98d:93065** 93C83 (90C40)

Chen, Chunhung (*with* Huzii, Mituaki) Statistical properties of a predictor for a seasonal time series when its residual deviates from a stationary process. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 132–146, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:62131** 62M10

Chen, Chunsheng (*with* Xu, Senlin; Zhang, Huaming; Chen, Guanghua) Spectrum of the Laplacian of compact manifolds. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 388–392. (Friedbert Prüfer) **98i:58242** 58G25

Chen, Chur-jen Nonlinear integro-differential equations of Barbashin type: topological and monotonicity methods. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 3, 287–305. (Józef Banaś) **98c:45010** 45J05 (47H10, 47H15, 47N20)

— (*with* Väth, Martin) On the $\mathcal{L}$-characteristic of the superposition operator in Lebesgue spaces with mixed norm. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 377–386. (Anatolij Semenovich Kalitvin) **98h:47087** 47H30 (46E30)

Chen, Da Duan (*with* Liu, Xiao Ming[2]; Shi, Wei Hui) On the stability of forced dissipative nonlinear system. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 6, 541–548; *trans-*

lated from Appl. Math. Mech. **17** (1996), *no.* 6, 515–522 (*Chinese. English and Chinese summaries*). (Shouhong Wang) **98k:86011** 86A10 (35Q99)

— (*with* Shi, Wei Hui; Tang, Yi Ming) On the exact solution to certain non-linear partial differential equations. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 3, 259–265; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 239–245 (*Chinese*). (Hideo Yamagata) **98d:35182** 35Q30 (35B30, 35C05, 76C99, 76D05)

Chen, Da-Ming (*with* Shen, You-gen; Song, Guo-xuan) Hawking radiation of Dirac particle in $(1 + 1)$-dimensional nonstatic black hole. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 8, 633–636. (Summary) **98e:81119** 81T20 (83C57)

— (*with* Shen, You-gen; Zhang, Tong-Jie) Fermionic entropy in a $(1 + 1)$-dimensional charged black hole. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6698–6701. (Summary) **98g:83070** 83C57 (81T20)

Chen, Da Peng (*with* Liu, Xian Bin; Chen, Qiu) On the two bifurcations of a white-noise excited Hopf bifurcation system. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 9, 835–845; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 779–788 (*Chinese. English and Chinese summaries*). 34C23 (34F05, 60H10)

Chen, Danny Z. (*with* Chen, Wei[3]; Wada, Koichi; Kawaguchi, Kimio) Parallel algorithms for partitioning sorted sets and related problems. (English summary) *Algorithms—ESA '96* (*Barcelona*), 234–245, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (68P10)

— (*with* Arikati, Srinivasa R.; Chew, L. Paul; Das, Gautam; Smid, Michiel; Zaroliagis, Christos D.) Planar spanners and approximate shortest path queries among obstacles in the plane. (English summary) *Algorithms—ESA '96* (*Barcelona*), 514–528, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68U05

— (*with* Atallah, Mikhail J.) Applications of a numbering scheme for polygonal obstacles in the plane. (English summary) *Algorithms and computation* (*Osaka*, 1996), 1–24, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:68266** 68U05

— (*with* Daescu, Ovidiu) Maintaining visibility of a polygon with a moving point of view. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 269–275. (Summary) **98m:68268** 68U05

Chen, Daoyi (*with* Jirka, Gerhard H.) Absolute and convective instabilities of plane turbulent wakes in a shallow water layer. (English summary) *J. Fluid Mech.* **338** (1997), 157–172. (Summary) **98c:76036** 76E15 (76D25, 76F99)

Chen, Dayue Average properties of random walks on Galton-Watson trees. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 3, 359–369. (Bernard Ycart) **98m:60110** 60J15 (60J80)

— (*with* Feng, Jian Feng; Qian, Minping) The metastable behavior of the three-dimensional stochastic Ising model. I. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 832–842. (Summary) **98j:82033** 82B44 (82B20)

Chen, De-Gang (*with* Li, Su-Yun) Fuzzy factor rings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 125–127. 16W99

Chen, Deng-Jyi (*with* Lin, Min-Sheng) The computational complexity of the reliability problem on distributed systems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 143–147. (Summary) **98h:68115** 68Q25 (68M15)

Chen, Di[1] (*with* Fei, He Liang; Han, Bo Chang) Shrinkage estimation for the shape parameter of the Weibull distribution. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 27–36. 62N05

Chen, Di-Rong On the existence and constructions of orthonormal wavelets on $L_2(\mathbf{R}^s)$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2883–2889. (Summary) **98h:42030** 42C15

Chen, Dong[1] (*with* Argyros, Ioannis K.; Qian, Qingshan) An inverse-free Jarratt type approximation in a Banach space. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 1, 19–30. 41A65 (47H17)

— (*with* Argyros, Ioannis K.; Qian, Qingshan) A simplified proof concerning the convergence and error bound of a rational cubic method in a Banach space and applications to nonlinear integral equations. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 47–55. (Xiaojun Chen) **98e:65051** 65J15 (45L05, 65R20)

Chen, Dong Li An infinitesimal prolongation theorem for nets and its application. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 41–43. (Summary) **98b:54060** 54J05 (03H05)

— Radon-Nikodym derivative on Loeb space. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 193–196. (Summary) **98m:28045** 28E05 (03H05)

Chen, Dong Ling (*with* Miao, Lian Ying; Pang, Shi You) Some results on critical graphs. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 50–52. 05C15

— (*with* Miao, Lian Ying; Pang, Shi You) A construction of a class of Δ-critical multigraphs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 3, 338–340. 05C15

— (*with* Qu, Jing Zhe) Improper edge colorings of graphs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 432–435. (Summary) **98k:05068** 05C15

Chen, Dongjian (*with* Lin, Bor-Luh) Ball topology on Banach spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 821–833. (G. J. O. Jameson) **98c:46018** 46B20

Chen, Duan (*with* Liu, Shu Tang[1]) A new method for suppressing cross terms based on the discrete Gabor transform. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 9, 77–80. 94A11 (94A12)

Chen, Er Cai (*with* Xiong, Jin Cheng) Dimension and measure theoretic entropy of a subshift in symbolic space. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1193–1196. 54H20 (28A78, 28A80, 28D20, 54C70, 54F45)

— Chaos for the Sierpinski carpet. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 979–984. (Antonio Falcó) **98g:58112** 58F13 (58F03)

— (*with* Xiong, Jin Cheng) Measure entropy and dimension of subshifts in symbolic spaces. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 9, 910–912. 28D20

— (*with* Xiong, Jin Cheng) Chaos caused by a strong-mixing measure-preserving transformation. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 253–260. (Louis Block) **98g:54099** 54H20 (58F13)

Chen, Falai (*with* Wang, Guo Jin[1]; Sederberg, Thomas W.) On the convergence of polynomial approximation of rational functions. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 267–288. (Summary) **98d:41020** 41A20 (41A10)

Chen, Fan-Ling (*with* Smith, Richard L.) Regression in long-memory time series. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 378–391, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M10

Chen, Fang Pei A re-examination of the energy-momentum tensor density for gravitational fields in general relativity. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 1, 32–36, 42. (Roh Suan Tung) **98e:83045** 83C40

— Further study of the energy-momentum tensor density and the spin density of a gravitational field with torsion. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 2, 157–161. 83C40

Chen, Fang Qi Coupled fixed points for a class of nonlinear operators. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 1, 24–30. (Summary) **98e:47091** 47H10 (34A12, 34G20)

Chen, Fang Yue An accurate solution of the Feigenbaum renormalization group equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **11** (1996), *no.* 4, 387–392. (Wei Nian Zhang) **98g:39017** 39B22 (58F03)

Chen, Fangruo (*with* Zheng, Yu-Sheng) Sensitivity analysis of an (s, S) inventory model. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 19–23. (Peter Köchel) **98h:90033** 90B05 (90C31)

Chen, Feng (*with* Ying, He-Ping; Ji, Da-Ren) An application of loop-cluster algorithm for the 2D quantum Heisenberg antiferromagnet. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 398–401, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98e:81001**) 82B80 (82B20)

Chen, Feng (*with* Gao, Zheng; Villasenor, John) Lattice vector quantization of generalized Gaussian sources. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 92–103. 94A34

Chen, Feng-Xin (*with* Qu, Chao Chun) Finite dimensionality of attractors of magnetic flow equation. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 553–557, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:58164** 58F39 (34G20, 35B40, 35Q35, 47H20, 58F12, 76W05)

— (*with* Guo, Bo Ling) Finite-dimensional behavior of global attractors for weakly damped and forced KdV equations coupling with nonlinear Schrödinger equations. *Nonlinear Anal.* **29** (1997), *no.* 5, 569–584. (Woodford W. Zachary) **98h:35216b** 35Q55 (34G20, 35B40, 35Q53, 47H20, 58F39)

Chen, Fuyuan Relations between double determinants of quaternion matrices and determinants of complex matrices. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 241–248. (Shao Kuan Li) **98m:15014** 15A15 (15A33)

— (*with* Chen, Zhaomu; Huang, Yi Sheng[2]) Semisimple BCI-algebraic structure. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 113–117. (Summary) **98b:06029** 06F35 (03G25)

Chen, G. (*with* Hong, Lang) A genetic algorithm based multi-dimensional data association algorithm for multi-sensor–multi-target tracking. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 57–69. (Summary) **98f:90033** 90B40

Chen, G. Y. *see* **Chen, Guang Ya**

Chen, Gang (*with* Zhang, Jun Feng; Liu, Gui Zhai) Optimization of planar triangular meshes for the finite element method. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 3, 275–279. 65N30 (65M60)

Chen, Gang[2] Berry-Esseen-type bounds for the kernel estimator of conditional distribution and conditional quantiles. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 311–330. (Philippe Barbe) **98h:62074** 62G07 (62G05)

Chen, Gemai EDF tests of goodness of fit for transform-both-sides models. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 3, 363–372. (Andrzej S. Kozek) **98b:62024** 62E20 (62G10, 62J12)

— (*with* Lockhart, Richard A.) Box-Cox transformed linear models: a parameter-based asymptotic approach. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 517–529. 62J05

— (*with* Chen, Jiahua) Geometric quality inspection. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 135–149. 62K99 (62N10)

Chen, Gen-Huey (*with* Duh, Dyi-Rong) On the Rabin number problem. (English summary) *Networks* **30** (1997), *no.* 3, 219–230. (Summary) **98f:68022** 68M10 (05C35)

— (*with* Huang, Hui-Ling) Topological properties and algorithms for two-level hypernet networks. (English summary) *Networks* **31** (1998), *no.* 2, 105–118. (Summary) **98k:68023** 68M10

Chen, George H.-G. (*with* Rockafellar, R. Tyrrell) Convergence rates in forward-backward splitting. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 421–444. (Bernard Lemaire) **98c:90090** 90C25 (49M27, 90C33)

Chen, Gong-Liang Relations de dépendance linéaire entre des logarithmes de nombres algébriques. (English and French summaries) [Linear dependence relations between logarithms of algebraic numbers] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 587–597. (Eugene M. Matveev) **98k:11107** 11J86 (11H06, 11J25)

Chen, Gong-ning (*with* Hu, Yong Jian) Some properties of real positive definite matrices. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 40–46. (Gang Song Leng) **98e:15025** 15A48

— The general rational interpolation problem and its connection with the Nevanlinna-Pick interpolation and power moment problem. (English summary) *Linear Algebra Appl.* **273** (1998), 83–117. (Adolf A. Nudelman) **98m:47015** 47A57 (30E05, 44A60)

Chen, Goong (*with* Fulling, Stephen A.; Zhou, Jianxin) Asymptotic equipartition of energy by nodal points of an eigenfunction. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5350–5360. (Peter N. Zhevandrov) **98j:81088** 81Q20 (34E20)

— (*with* Coleman, Matthew P.) Improving low order eigenfrequency estimates derived from the wave propagation method for an Euler-Bernoulli beam. (English summary) *J. Sound Vibration* **204** (1997), *no.* 4, 696–704. (Yi-Yuan Yu) **98k:73029** 73D30 (73K05, 73K12)

— (*with* Coleman, Matthew P.; Liu, Kang Sheng) Boundary stabilization of Donnell's shallow circular cylindrical shell. (English summary) *J. Sound Vibration* **209** (1998), *no.* 2, 265–298. (Kenneth B. Hannsgen) **98j:73064** 73K50 (47D06, 65N30, 73K15, 93C20)

Chen, Guang Rong (*with* Wu, Garidi) On a problem of T. J. Rivlin. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 253–256. (Wu Li) **98e:41047** 41A65 (46E30)

Chen, Guang Shu A new dispersion function for random variables. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 19–22.

60E15

Chen, Guang Wen (*with* Zhao, Guo Quan) The diagonalizing condition of the secular equation of stationary state perturbations in the subspace $\mathscr{E}_i$. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 67–70. (Summary) **98c:81058** 81Q15

Chen, Guang Ya (*with* Lee, Gue Myung; Lee, Byung Soo; Kim, Do Sang) On vector variational inequalities for multifunctions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 633–639. (George Isac) **98g:47060** 47H19 (49J40)

— (*with* Goh, C. J.; Yang, Xiao Qi) On gap functions and duality of variational inequality problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 658–673. (Paolo Cubiotti) **98f:49012** 49J40 (90C33)

— (*with* Li, Zhong-Fei) Lagrangian multipliers, saddle points, and duality in vector optimization of set-valued maps. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 297–316. (Johannes Jahn) **98m:90128** 90C29 (49K27, 49N15)

Chen, Guang Zhi (*with* Qin, Tuan-fa; Ni, Wan-sun; Du, Gong-huan) Targeting in the system described by nonlinear differential equations. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 12, 885–888. (Summary) **98b:58122** 58F13 (34C99)

Chen, Guanghong (*with* Kuang, Le Man; Ge, Mo-Lin) An alternative approach to Jaynes-Cummings model with dissipation at finite temperature. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 139–148. (Summary) **98m:81225** 81V80

Chen, Guanghua (*with* Xu, Senlin; Chen, Chunsheng; Zhang, Huaming) Spectrum of the Laplacian of compact manifolds. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 388–392. (Friedbert Prüfer) **98i:58242** 58G25

Chen, Guangtong (*with* Liu, Huawen) Monotonic intersection decomposition of fuzzy sets. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 489–493. (Summary) **98c:04008** 04A72

Chen, Guanrong (*with* Koç, Çetin Kaya) A fast algorithm for matrix-valued Nevanlinna-Pick interpolation. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 129–136, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:65019** 65D15 (41A20)

— (*with* Moiola, Jorge L.) ★ Hopf bifurcation analysis. (English summary) A frequency domain approach. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 21. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xvi+326 *pp. ISBN* 981-02-2628-4 (Jürgen Scheurle) **98f:34054** 34C23 (34K15, 58F14, 93C10)

— (*with* Hu, Gang[1]) Some controllability conditions for nonlinear feedback control of chaotic systems. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 208–212. (Boris G. Zaslavskiĭ) **98e:93006** 93B05 (34H05, 93C10)

— (*with* Moiola, Jorge L.) On the birth of multiple limit cycles in nonlinear systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2587–2603. (Josef Hainzl) **98e:34074** 34C23 (34C05, 34C15, 34H05, 58F21)

— (*with* Chui, Charles K.) ★ Discrete H^∞ optimization. (English summary) With applications in signal processing and control systems. Second edition. Springer Series in Information Sciences, 26. *Springer-Verlag, Berlin*, 1997. xiv+261 *pp. ISBN* 3-540-61959-3 (From the preface) **98c:93002** 93–02 (47N70, 93B36, 94A12)

— (*with* Chen, Mingjun; Chen, Zhongying) ★ Approximate solutions of operator equations. Series in Approximations and Decompositions, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+343 *pp. ISBN* 981-02-3064-8 (P. W. Bates) **98h:47001** 47–02 (47A50, 47H15, 47H17, 47N20, 65J15)

— (*with* Ying, Hao) Necessary conditions for some typical fuzzy systems as universal approximators. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1333–1338. 93C42 (04A72, 93B30)

— On some controllability conditions for chaotic dynamics control. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1461–1470. 93B05 (58F13)

— (*with* Dong, Xiaoning; Chen, Liang[1]) Adaptive control of the uncertain Duffing oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1651–1658. 70K50 (93C40)

— (*with* Han, Zheng Zhi) Dynamic right coprime factorization for nonlinear systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3113–3120. (*see* **98i:00031**) 93B25 (93B17)

— (*with* Xie, Qingxian; Shieh, Leang-San) Fuzzy Kalman filtering. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 197–209. 93E11 (93C42)

— (*with* Lai, Dejian) Statistical analysis of Lyapunov exponents from time series: a Jacobian approach. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 1–9. 62M10 (58F13)

Chen, Guantao (*with* Schelp, R. H.) Ramsey problems with bounded degree spread [MR 95b:05146]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 145–151, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C55

— (*with* Liu, Yi-Ping) Hamiltonian graphs with large neighborhood unions. (English summary) *Ars Combin.* **46** (1997), 227–238. (Summary) **98d:05091** 05C45

— (*with* Erdős, Paul[1]; Gyárfás, András; Schelp, R. H.) A class of edge critical 4-chromatic graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 139–146. (Summary) **98c:05057** 05C15

— (*with* Achuthan, Nirmala) Mixed Ramsey numbers: total chromatic number versus stars. (English summary) *Australas. J. Combin.* **17** (1998), 157–168. (Summary) **98m:05125** 05C55

— (*with* Jacobson, Michael S.; Kézdy, André E.; Lehel, Jenő) Tough enough chordal graphs are Hamiltonian. (English summary) *Networks* **31** (1998), *no.* 1, 29–38. (Dieter Kratsch) **98m:05118** 05C45 (05C38)

Chen, Gui-Jing (*with* Wang, Yao Hong) Asymptotical optimality of adaptive nearest neighbour discrimination. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 149–162, *IMS Lecture Notes Monogr. Ser., 24, Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H30 (62G20)

— (*with* Fu, James C.) Efficiency and superefficiency in one-parameter two-sided truncated distribution families. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1771–1774. 62F12

— (*with* Fu, Quan) Superasymptotic efficiency and asymptotic efficiency of point estimates for a one-parameter family of two-sided truncated distributions. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 14, 1501–1504. 62F12

— (*with* Li, Ningning) A kind of nonparametric tests about the crossing point between two continuous distribution functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 1–8. 62G10

Chen, Gui Jun (*with* Wang, De Jun) A topological structure in linear topological spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 2, 4–6. (Summary) **98a:46009** 46A16 (46A03)

Chen, Gui-Qiang Euler-Poisson-Darboux equations and hyperbolic conservation laws. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 11–25, *AMS/IP Stud. Adv. Math., 3, Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65 (35Q05)

— (*with* LeFloch, Philippe G.) Entropies and weak solutions of the compressible isentropic Euler equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1105–1110. (Summary) **98b:35133** 35Q30 (35D05, 76N10)

— (*with* Liu, Jian-Guo) Convergence of difference schemes with high resolution for conservation laws. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1027–1053. (Darrell L. Hicks) **98c:65149** 65M12 (35L65)

— (*with* Jerome, Joseph W.; Zhang, Bo[4]) Particle hydrodynamic moment models in biology and microelectronics: singular relaxation limits. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 233–244. (*see* **98i:00027**) 35Q80 (35Q35, 76X05)

— Remarks on spherically symmetric solutions of the compressible Euler equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 243–259. (Rodolfo Salvi) **98g:35157** 35Q30 (76N10)

Chen, Guiyun A new characterization of Suzuki-Ree group. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 807–812. (A. S. Kondrat'ev) **98j:20013** 20D08 (20D60)

Chen, Guo Hui (*with* Gao, Li; Wang, Hui[1]) Primitive roots modulo n and their divisibility. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 29–33. (Ze-Li Dou) **98f:11003** 11A07 (11L05)

Chen, Guo Liang[1] (*with* Wei, Mu-sheng) Weighted generalized inverses, weighted least squares and equality-constrained least squares problems. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 196–209; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 3, 76–89. 65F20

— (*with* Xue, Yifeng) Perturbation analysis for the operator equation $Tx = b$ in Banach spaces. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 107–125. (Charles W. Groetsch) **98k:47019** 47A50 (47A05)

Chen, Guo Long A note on the number of models. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 460–462. 03C15 (03C50)

— On the relation between the types of a first-order theory and its countable models. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 300–302. 03C15

— Remarks on saturated models. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 23, 2497–2500. 03C50

Chen, Guo Ping The accelerated Schwartz alternating method for a class of nonlinear variational equalities. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 31–33. 65K10 (49J40, 65N30)

— (*with* Xie, Qing Ming) Some properties of normal quaternion matrices. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 59–62. 15A33

— (*with* Zheng, Zhou Shun; Li, Qi Sheng[1]) A property of Boolean algebras over infinite permutation groups. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 68–70. 06E05 (20B99)

Chen, Guo Wei[1] (*with* Guo, Lin) Limit cycles of cubic van der Pol equation with one finite critical point. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 125–139. (Henryk Żołądek) **98f:34036** 34C05

Chen, Guoliang *see* **Chen, Guo Liang[1]**

Chen, Guoqing (*with* Leung, A. Y. T.; Chen, Wan Ji) Smoothing Newton method for solving two- and three-dimensional frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 6, 1001–1027. (Summary) **98m:73075** 73T05 (49J40, 73V25)

Chen, Guowang (*with* Xing, Jia Sheng; Yang, Zhi Jian[2]) Cauchy problem for generalized IMBq equation with several variables. *Nonlinear Anal.* **26** (1996), *no.* 7, 1255–1270. (John Albert) **98a:35114** 35Q53 (35B30, 35G25)

— (*with* Yang, Zhi Jian[2]) Periodic boundary value problem and Cauchy problem for generalized IMBq equation with several variables. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 495–499, *AMS/IP Stud. Adv. Math., 3, Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35Q53

— (*with* Yang, Zhi Jian[2]) Nonexistence of global solutions to a class of generalized improved Boussinesq equations. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 607–611, *AMS/IP Stud. Adv. Math., 3, Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35Q53

Chen, Guowei *see* **Chen, Guo Wei[1]**

Chen, H.-H. *see* **Chen, Heng-Hui**

Chen, H.-P. (*with* Bai, M.-R.) Development of a feedforward active noise control system by using the H_2 and H_∞ model matching principle. (English summary) *J. Sound Vibration* **201** (1997), *no.* 2, 189–204. (Summary) **98a:93020** 93B36 (93E10)

Chen, Hai Bo[2] (*with* Huang, Li Hong) Qualitative analysis of a class of dynamic predator-prey systems. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 88–92. 92D40 (34C05, 34C11)

Chen, Haibo (*with* Lu, Pin[2]; Mahrenholtz, O.) An improvement on variational boundary element formulation for elasticity with body forces. *Mech. Res. Comm.* **24** (1997), *no.* 5, 569–574. 73V10 (73V25)

Chen, Haiming (*with* Chen, Qiang) The Razumikhin type theorems of stability and boundedness for functional-differential equations with infinite delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 19–22. (L. Hatvani) **98i:34112** 34K20

Chen, Han-Fu (*with* Li, Yong[4]) Robust adaptive stabilization of time-varying discrete time systems. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 375–387. (John Tsinias) **98c:93098** 93D21 (93C10, 93C55)

— (*with* Cao, Xi-Ren) Controllability is not necessary for adaptive pole placement control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1222–1229. (T. Kaczorek) **98i:93041** 93B55 (93B40)

— (*with* Tang, Qian-Yu; Han, Zeng Jin) Convergence rates of perturbation-analysis–Robbins-Monro–single-run algorithms for single server

queues. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1442–1447. (J. Teghem, Jr.) **98m:90063** 90B22 (60K25, 62L20)

Chen, Han-Lin Wavelets from trigonometric spline approach. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 99–110. (Summary) **98e:42029** 42C15 (41A15)

— Spline wavelets on the unit circle. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 322–336. (Sushil Sharma) **98g:65024** 65E05 (41A15, 42C15)

Chen, Han Qing (*with* Hou, Rui) An upper bound on the number of elements of some finite rings. (Chinese. English and Chinese summaries) *J. Tianjin Norm. Univ. Nat. Sci. Ed.* **17** (1997), *no.* 1, 14–19. 16P10

Chen, Hao *see* **Chen, Hao[3]**

Chen, Hao[1] (*with* Yau, Stephen S.-T.) Contribution to Munuera's problem on the main conjecture of geometric hyperelliptic MDS codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1349–1354. (Summary) **98d:94042** 94B27

— A remark on liftable derivation of moduli algebras of isolated hypersurface singularities. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3133–3135. (Peter Giblin) **98b:17020** 17B40 (32S25)

Chen, Hao[3] (*with* Chen, Yuan[2]) Effects of the Aharonov-Bohm flux on a soliton in a one-dimensional ferromagnetic ring. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 8, 1249–1254. (Wen-li Yang) **98e:82043** 82D40 (78A30, 81Q99)

Chen, Hegang (*with* Suen, Chung-Yi; Wu, C. F. Jeff) Some identities on q^{n-m} designs with application to minimum aberration designs. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1176–1188. (Kishore Sinha) **98g:62144** 62K15 (62K05)

Chen, Heng-Hui (*with* Ge, Zheng Ming) Double degeneracy and chaos in a rate gyro with feedback control. (English summary) *J. Sound Vibration* **209** (1998), *no.* 5, 753–769. (Summary) **98m:70033** 70Q05 (58F40, 70E05, 70K50, 93B52)

Chen, Heng Z. (*with* Randall, Alan) Semi-nonparametric estimation of binary response models with an application to natural resource valuation. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 323–340. (Chris A. J. Klaassen) **98d:62055** 62G05 (62P20)

Chen, Hon-Chan (*with* Wang, Yue-Li) A linear time algorithm for finding depth-first spanning trees on trapezoid graphs. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 13–18. (Summary) **98e:68199** 68R10 (68Q25)

Chen, Hong *see* **Chen, Hong[6]**

Chen, Hong[3] (*with* Yao, David D.) Stable priority disciplines for multiclass networks. (English summary) *Stochastic networks (New York, 1995)*, 27–39, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60118** 60K25

— (*with* Zhang, Hanqin) Diffusion approximations for re-entrant lines with a first-buffer–first-served priority discipline. (English summary) *Queueing Systems Theory Appl.* **23** (1996), *no.* 1-4, 177–195. (Summary) **98c:60119** 60K25

— (*with* Chao, Xiuli; Li, Wei) Optimal control for a tandem network of queues with blocking. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 425–437. (Summary) **98k:90037** 90B22 (60K25, 93E20)

— (*with* Zhang, Hanqin) Stability of multiclass queueing networks under FIFO service discipline. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 691–725. (Summary) **98f:60183** 60K25 (90B22)

— (*with* Kella, Offer; Weiss, Gideon) Fluid approximations for a processor-sharing queue. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 99–125. (Summary) **98h:60130** 60K25

Chen, Hong[6] (*with* Yuan, Qing Shan; Zhang, Yu-Mei) Fermi and non-Fermi liquid behavior of the multichannel resonant-level model. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 11, 1865–1874. (Summary) **98c:81259** 81V70

— (*with* Chen, Yu Guang; Yuan, Qing Shan; Zhang, Yu-Mei; Wu, Xiang) Elementary excitations of a one-dimensional quantum sine-Gordon model. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 6, 1174–1182. (Summary) **98j:81201** 81T10 (82B10)

Chen, Hong Bin A univalence criterion and quasiconformal extensions. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 4, 100–102. (Fuyao Ren) **98i:30023** 30C55

Chen, Hong Ji Novikov-Poisson algebra and their tensor product. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 9–14. 17A30

— (*with* Liu, Bin) Super hyperbolic type Kac-Moody Lie algebra. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 329–332. (Saeid Azam) **98i:17028** 17B67

Chen, Hong Liang (*with* Zhang, You Min; Jiao, Ling Yun; Dai, Guan Zhong) A new fixed-interval smoothing algorithm based on singular value decomposition. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 579–583. 93E14

Chen, Hong Robert (*with* Chen, Tianping) Denseness of radial-basis functions in $L^2(\mathbf{R}^n)$ and its applications in neural networks. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 137–143, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A30

Chen, Hongwei Global existence and blow-up for a nonlinear reaction-diffusion system. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 481–492. (Summary) **98c:35086** 35K57 (35B40)

— On a singular nonlinear elliptic equation. *Nonlinear Anal.* **29** (1997), *no.* 3, 337–345. (Ya Zhe Chen) **98d:35071** 35J65 (35B05, 35J70)

— The Poisson formula revisited. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 353–355 (*electronic*). 35C15 (35L05)

Chen, Hsiao-Chi (*with* Friedman, James W.; Thisse, Jacques-François) Boundedly rational Nash equilibrium: a probabilistic choice approach. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 32–54. (Yeneng Sun) **98b:90175** 90D06

Chen, Hsing-Lung (*with* Tzeng, Nian-Feng) Subcube determination in faulty hypercubes. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 871–879. (Summary) **98e:68015** 68M15

Chen, Hua (*with* Gong, Xiaofeng; Li, Fuli) Controlling and synchronization of spatio-temporal patterns of a globally coupled chaotic map. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 217–224. 93C10 (58F13)

Chen, Hua[1] A new proof of an asymptotic estimate for the remainder term in the counting function for the Dirichlet wave numbers. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 89–97. (Xue-Ping Wang) **98g:35154** 35P20 (35J25)

— (*with* Rodino, Luigi) General theory of PDE and Gevrey classes. *General theory of partial differential equations and microlocal analysis (Trieste, 1995)*, 6–81, *Pitman Res. Notes Math. Ser.*, 349, *Longman, Harlow*, 1996. (Todor V. Gramchev) **98e:35004** 35A20 (35A27, 35B65, 46E10, 46F05)

— Asymptotic behaviour of the phase in non-smooth obstacle scattering. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319–320. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 81–89. (Summary) **98f:35030** 35J05 (35B45, 35P20)

Chen, Hua[4] A note on solvable and supersolvable finite groups. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 2, 24–26. (Summary) **98b:20049** 20F16 (20D10)

Chen, Hua Fu A perturbed gradient projection method for general constrained optimization problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 4, 445–448. 90C30 (65K05)

— (*with* He, Guang Zong) A gradient projection method for linear programming. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 549–551. 90C05 (49M07)

— (*with* He, Guang Zong) A general gradient projection method with an arbitrary initial point. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 552–556. 90C30 (49M07)

Chen, Huai Tang (*with* Ma, Ke Jie) Some classes of graphs having an ascending subgraph decomposition. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 66–71. (Summary) **98b:05082** 05C75

Chen, Huaihui (*with* Lappan, Peter) Spherical derivative, higher derivatives and normal families. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 6, 517–524. (L. R. Sons) **98e:30037** 30D45

— (*with* Gauthier, Paul M.) On strongly normal functions. (English summary) *Canad. Math. Bull.* **39** (1996), *no.* 4, 408–419. (P. Lappan) **98a:30040** 30D45

— (*with* Gauthier, Paul M.) Normal functions: L^p estimates. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 55–73. (Shamil Makhmutov) **98c:30042** 30D45 (30F35)

— (*with* Aulaskari, Rauno) On Bloch and automorphic functions. *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 15–31. (Maria T. Nowak) **98m:30051** 30D45

Chen, Huan Yin (*with* Feng, Liang Gui) Group rings over semihereditary rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 357–361. (Zhong Kui Liu) **98c:16005** 16E20 (16S34)

— Projective modules over extension rings. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 15–19. (Nan Qing Ding) **98d:13006** 13C10 (13D15)

— Extensions of modules over projectively trivial group rings. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1996**, *no.* 3, 7–10. 13D15

— Group rings over lower-dimensional rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 308–312. 16S34

— Grothendieck rings and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 641–646. 16E20

— Group rings over localized rings. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 1, 14–17, 29. 16S34

— Elements in one-sided unit regular rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2517–2529. (Yasuyuki Hirano) **98d:16010** 16E50 (16U99)

— Comparability of modules over regular rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3531–3543. (Mamoru Kutami) **98h:16015** 16E50

— Modules with free powers over group rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 403–406. 16S34

— The Grothendieck groups of a class of quotient rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 594–596. 13D15

— (*with* Hao, Zhi Feng) Stable structures over semigroup rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 138–143. 16S36 (16D40)

— A remark on one-sided unit regular rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 212–215. 16E50

— The structure of elements in Abel regular rings. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 753–755. 16E50

— Rings over which invertible modules are free. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 73–77. (Ming-chang Kang) **98f:13007** 13C10 (16D90)

Chen, Hubert J. (*with* Bau, J. J.; Chen, Shun-Yi) Lower percentage points of Hartley's extremal quotient statistic and their applications. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 443–465. 62Q05

— (*with* Wu, Shu-Fei) Multiple comparison procedures with the average for exponential location parameters when sample sizes are unequal. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 4, 41–54. 90B25 (90B85)

Chen, Huey-Kuo (*with* Hsu, Wen-Ko; Chiang, Wei-Ling) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 2, 155–168. (Summary) **98a:04004** 04A72 (65G10)

Chen, Hui *see* **Chen, Hui[4]**

Chen, Hui[1] (*with* Zeng, Xiangjin; Jing, Fengjie) The characterization and construction of abundant semigroups with a normal medial idempotent. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 4, 392–400. (Summary) **98e:20070** 20M99

Chen, Hui[4] (*with* Frieze, Alan) Coloring bipartite hypergraphs. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 345–358, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Peter Mihók) **98c:05058** 05C15 (05C65, 90C35)

Chen, Hui Chan (*with* Ren, Xiao Hong; Zhang, Zhuo Kui) Conditions of two-parameter σ fields and their main relation. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 2, 45–47. 60G44

— (*with* Zhang, Zhuo Kui) A discussion of an important lemma of Merzbach. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 117–119. 60G42

— (*with* Liu, Xin Ping; Zhang, Zhuo Kui) The $\mathcal{F}(F4')$ condition and a strengthened form of the stopping theorem. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 74–76, 73. 60G40

Chen, Huowang (*with* Wang, Kewen; Wu, Quanyuan) Consistency-based abduction with extended disjunctive logic programs. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 574–582. (Summary) **98m:68038** 68N17 (03B70)
— (*with* Wang, Kewen; Wu, Quanyuan) Argumentation in disjunctive logic programming. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 106–112. (Summary) **98m:68039** 68N17
Chen, Imin (*with* Yui, Noriko) Singular values of Thompson series. (English summary) *Groups, difference sets, and the Monster* (*Columbus, OH*, 1993), 255–326, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (Rainer Schulze-Pillot) **98a:11051** 11F22 (11F03, 11R37, 20C34)
Chen, J.-S. *see* **Chen, Jiun-Shiyan**
Chen, J. Y. *see* **Chen, Jiyu**
Chen, Jacqueline H. (*with* Kennedy, Christopher A.) Mean flow effects on the linear stability of compressible planar jets. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 615–626. (Summary) **98k:76036** 76D25 (76E99)
Chen, Jeesen Revisit the Lovász local lemma. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 747–758. (Zbigniew Palka) **98j:60009** 60C05
Chen, Ji Qian Some fixed point theorems for demicompact 1-set-contractive mappings and systems of generalized set-contractive mappings. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 2, 53–58. (Yuan Guo Zhu) **98a:47060** 47H10 (47H04, 47H15)
Chen, Ji Xiang Homotopically regular singlets. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 15, 1595–1598. 55P15
— On homotopy regular monomorphisms. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 27–30. 55P99
Chen, Jia-Wen (*with* Lai, Hang-Chin) On the generalized Euler-Lagrange equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 681–697. (Andrzej Nowakowski) **98h:49021** 49K05 (49K27)
— (*with* Lai, Hang-Chin) Moreau-Rockafellar type theorems for nonconvex and non-locally Lipschitz integral functional on $L^p(T, X)$. (English summary) *Optimization* **39** (1997), *no.* 2, 103–122. (Summary) **98c:49041** 49J52 (49K10)
Chen, Jiahua On the conditional and mixture model approaches for matched pairs. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 319–329. (Stavros Kourouklis) **98d:62040** 62F12 (62F03)
— (*with* Sitter, Randy R.; Feder, Moshe) Fractional resolution and minimum aberration in blocked 2^{n-k} designs. (English summary) *Technometrics* **39** (1997), *no.* 4, 382–390. 62K15
— (*with* Chen, Gemai) Geometric quality inspection. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 135–149. 62K99 (62N10)
Chen, Jian Bao (*with* Deng, Qi Rong) Admissibility of general linear estimators for incomplete restricted elliptic models under matrix loss. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 33–40. (Summary) **98d:62009** 62C15 (62J05)
— (*with* Deng, Qi Rong) Some relative efficiencies of LSE in growth curve model. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 1, 60–65. (Summary) **98b:62097** 62H12
Chen, Jian Hua *see* **Chen, Jian Hua[2]**
Chen, Jian Hua[1] The length of the curvature tensor for Riemannian manifolds with parallel Ricci curvature. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 3, 345–348. (Shun Hui Zhu) **98e:53054** 53C20
— (*with* Li, Lei; Ren, Guanshen) A note on order consistent topology. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 245–251. (Aleksander Błaszczyk) **98d:54059** 54F05 (54A10)
— Efficient rational approximation of a class of algebraic numbers. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 18, 1643–1646. (Zhen Fu Cao) **98c:11067** 11J68
Chen, Jian Hua[2] (*with* Wei, Jun Chao) Conditions for a graded ring A, A_e and the smash product $A\#G^*$ to be subdirectly irreducible rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 3, 431–435. 16W50 (16S35)
— (*with* Cai, Chuan Ren) Graded rings of fractions of graded rings. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 17, 1541–1544. 16W50
Chen, Jian Qin (*with* Xi, Yu Geng; Zhang, Zhong Jun) Learning of fuzzy rules and its application to modeling of nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 533–537. 93C42 (03B52)
Chen, Jian Sheng The spectral radii of trees. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **24** (1996), *no.* 12, 107–109. (Qiao Li) **98a:05102** 05C50 (05C05)
— The best possible bound on forest spectra. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 99–101. (Summary) **98g:05092** 05C50 (05C05)
Chen, Jianer (*with* Gross, J. L.) Algebraic specification of interconnection network relationships by permutation voltage graph mappings. (English summary) *Math. Systems Theory* **29** (1996), *no.* 5, 451–470. (Koduvayur R. Parthasarathy) **98a:05055** 05C10 (68M10, 68R10)
— (*with* Cai, Liming; Downey, Rodney G.; Fellows, Michael R.) Advice classes of parameterized tractability. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 119–138. (William Gasarch) **98b:68055** 68Q15 (03D15)
— (*with* Cai, Liming; Downey, Rodney G.; Fellows, Michael R.) On the parameterized complexity of short computation and factorization. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 321–337. (Mukkai S. Krishnamoorthy) **98m:68085** 68Q15 (03D15, 68Q25)
— (*with* Chen, Chi-Chang) Optimal parallel routing in star networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1293–1303. 68M10
— (*with* Kanchi, Saroja P.; Kanevsky, Arkady) A note on approximating graph genus. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 6, 317–322. (Summary) **98a:68092** 68Q25 (05C10, 05C85, 68R10)
— (*with* Cai, Liming) On the amount of nondeterminism and the power of verifying. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 733–750. (Gerhard Lischke) **98h:68058** 68Q05 (68Q10, 68Q15)
— Algorithmic graph embeddings. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 247–266. (Xiaoya Zha) **98d:05042** 05C10 (05C85, 68R10)
Chen, Jiang (*with* Steiner, George) Approximation methods for discrete lot streaming in flow shops. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 139–145. (Summary) **98j:90031** 90B35
Chen, Jianhua (*with* Kundu, Sukhamay) A new method of circumscribing beliefs: the propositional case. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 383–390. (From the introduction) **98k:03046** 03B45 (68T27)
Chen, Jianlong (*with* Jiang, Fangming) t-flatness of injective modules. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 3, 263–269. (B. M. Pandeya) **98a:16004** 16D50 (16S90)
— A note on generalized inverses of a product. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 431–440. (Anna Lee) **98e:15003** 15A09 (15A23)
Chen, Jie *see* **Chen, Jie[7]**
Chen, Jie[3] (*with* Gupta, Arjun K.) Testing and locating variance changepoints with application to stock prices. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 739–747. (Summary) **98f:62040** 62F03
Chen, Jie[4] (*with* Farrell, Jay A.; Nett, Carl N.; Zhou, Kemin) $\mathscr{H}_\infty$ identification of multivariable systems by tangential interpolation methods. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 12, 1822–1828. (P. Bertrand) **98a:93016** 93B30 (93B40, 93E12)
— Sensitivity integrals and transformation techniques: a new perspective. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1037–1042. 93B35 (93C05)
— Multivariable gain-phase and sensitivity integral relations and design tradeoffs. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 373–385. (Summary) **98m:93049** 93B52 (93B51, 93C35)
— (*with* Toker, Onur) On computational complexity of invalidating structured uncertainty models. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 199–207. 93A30 (65Y20)
Chen, Jie[5] (*with* Glaz, Joseph) Approximations and inequalities for the distribution of a scan statistic for 0-1 Bernoulli trials. (English summary) *Advances in the theory and practice of statistics*, 285–298, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98m:60011** 60C05 (60E15)
Chen, Jie[7] (*with* Yau, Stephen S.-T.) Finite-dimensional filters with nonlinear drift. VI. Linear structure of Ω. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 4, 370–385. (Wolfgang J. Runggaldier) **98g:93046** 93E11 (17B99, 60G35)
— (*with* Yau, Stephen S.-T.; Leung, Chi-Wah) Finite-dimensional filters with nonlinear drift. IV. Classification of finite-dimensional estimation algebras of maximal rank with state-space dimension 3. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 1, 179–198. (Wolfgang J. Runggaldier) **98a:93076** 93E11 (17B99, 60G35)
— (*with* Yau, Stephen S.-T.) Finite-dimensional filters with nonlinear drift. VII. Mitter conjecture and structure of η. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1116–1131. (Wolfgang J. Runggaldier) **98g:93047** 93E11 (17B99, 60G35)
— (*with* Yau, Stephen S.-T.; Leung, Chi-Wah) Finite-dimensional filters with nonlinear drift. VIII. Classification of finite-dimensional estimation algebras of maximal rank with state-space dimension 4. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1132–1141. (Wolfgang J. Runggaldier) **98g:93048** 93E11 (17B99, 60G35)
Chen, Jin Hai (*with* Yang, Wan Li) Global existence and asymptotic behavior of solutions to a reaction-diffusion system for phosphorus in silicon. (Chinese. English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 382–387. (Hong Ming Yin) **98c:35159** 35Q80 (35K57)
Chen, Jin-Quan (*with* Ping, Jia-Lun) Partial dynamical symmetry in molecules. (English summary) *Ann. Physics* **255** (1997), *no.* 1, 75–96. (R. Mirman) **98a:81273** 81V55 (81R05)
— (*with* Ping, Jia-Lun) Algebraic expressions for irreducible bases of icosahedral group. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 387–410. (Vojtěch Kopský) **98a:20050** 20G45 (20H15)
Chen, Jin Shui (*with* Sun, You Xian) A fault detection algorithm for systems with parameter perturbations based on quadratic programming. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 77–80. 93B30 (90C90)
Chen, Jin Wen A note on large deviations of reversible reaction-diffusion processes. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 629–634. (Summary) **98d:60056** 60F10 (60K35)
— A note on the large deviations for reversible reaction-diffusion processes. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 397–404. (Summary) **98f:60052** 60F10 (60K35)
Chen, Jincan A universal model of an irreversible combined Carnot cycle system and its general performance characteristics. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3383–3394. 80A10
Chen, Jing[2] (*with* Shi, Xiaoding; Gu, Yong Geng) Symmetry and monotonicity for systems of semilinear elliptic equations in a half space. *Chinese Sci. Bull.* **41** (1996), *no.* 21, 1776–1780. (Jianfu Yang) **98c:35064** 35J65 (35B05)
— Conservation laws for relativistic fluid dynamics. *Arch. Rational Mech. Anal.* **139** (1997), *no.* 4, 377–398. (Denis Serre) **98h:35148** 35L65 (35Q35, 76N10, 76Y05)
Chen, Jing Run *see* **Pan, Cheng Dong**. **98f:01081** *and* **Zhu, Li Wen**. **98f:01082**
Chen, Jing Xian[2] (*with* Lynn, Nicholas J.; Singpurwalla, Nozer D.) Markov mesh models for filtering and forecasting with leading indicators. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 39–54, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62M20
Chen, Jingyi Stable harmonic maps into the complex projective spaces. *J. Differential Geom.* **43** (1996), *no.* 1, 42–65. (Seiichi Udagawa) **98c:58032** 58E20
— (*with* Li, Song-Ying) Holomorphic extensions of maps from the boundary of Kähler manifolds. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 4, 585–597. (Shanyu Ji) **98k:32025** 32F40 (32C17, 32F10)
Chen, Jinru (*with* Li, Li-Kang) Preconditioning isoparametric finite element methods taking into account numerical integration. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 271–288. (Summary) **98e:65097** 65N30
Chen, Jinzhi Automorphism groups of Cayley digraphs. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 3, 20–23. 20B25 (05C25)
Chen, Jiu-Hua (*with* Li, Li-Kang) Computation and approximate strength of the boundary layer for the p-model plate problem. *Advances in numerical mathematics;*

Proceedings of the Second Japan-China Seminar on Numerical Mathematics (*Tokyo*, 1994), 115–128, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 73V05 (65N30, 73K10)

— (*with* Li, Li-Kang) The effect of boundary shape on boundary layer of p-model plate problems with hard simply support. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 651. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 421–434. (Rolf Rannacher) **98e:73080** 73K10 (35Q72)

— A finite element method for 1-d singular perturbation problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 52–61. (Summary) **98m:65127** 65L60

— The p-version of the finite element method for a singularly perturbed boundary value problem. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 119–135. (Bernhard A. Schmitt) **98h:65034** 65L60 (34A45, 34E15, 65L70)

Chen, Jiun-Kai (*with* Yu, Cheng-Ching) Optimal input design using generalized binary sequence. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2081–2084. 93B51 (93C57)

Chen, Jiun-Shiyan (*with* Pan, Chunhui; Wu, Cheng-Tang) Large deformation analysis of rubber based on a reproducing kernel particle method. (English summary) *Comput. Mech.* **19** (1997), *no.* 3, 211–227. (Summary) **98b:73019** 73G05 (73V20)

Chen, Jiunn-Tsair (*with* Liang, Jen-Wei; Paulraj, Arogyaswami J.) A space-time-filtered Viterbi receiver for CCI/ISI reduction in TDMA systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 85–102. 94A40

Chen, Jixiu (*with* Wei, Hanbai) Some geometric properties on a model of universal Teichmüller spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 527. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 309–314. (Tadashi Kuroda) **98m:30060** 30F25

Chen, Jiyu (*with* Huang, Yonggang; Ortiz, Michael) Fracture analysis of cellular materials: a strain gradient model. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 5, 789–828. 73M25

Chen, Ju Fang (*with* Yang, Xia) Some problems concerning limits of solutions to a class of nonlinear difference equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **23** (1995), *no.* 4, 6–8. (Wan Biao Ma) **98a:39014** 39A10

— (*with* Xiao, Yanni; Tang, Sanyi) Boundedness of delay difference systems. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 59–64. (Summary) **98m:39036** 39A10

Chen, Jun Yu An important property of the family of μ^* measurable sets. (Chinese. English and Chinese summaries) *J. Tianjin Norm. Univ. Nat. Sci. Ed.* **17** (1997), *no.* 1, 11–13. 28A05

Chen, K. C. *see* **Chen, Kuo-Ching**

Chen, K. M. *see* **Chen, Kun-Mu**

Chen, K. S. (*with* Pearn, W. L.; Lin, Guo Hua) Distributional and inferential properties of the process accuracy and process precision indices. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 985–1000. 62N10

— Estimation of the process incapability index. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1263–1274. 62N10

— Incapability index with asymmetric tolerances. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 253–262. 62N10

Chen, Kai-Shung (*with* Chiu, Ge-Ming) Use of routing capability for fault-tolerant routing in hypercube multicomputers. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 953–958. 68M15

Chen, Kai Zhou (*with* Wan, Zhong Ping; Ji, Chang Ming) A smooth approximation method for solving single-state stochastic programming problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 565–569. 90C15

Chen, Kan (*with* Bhagavatula, Ravi; Jayaprakash, C.) Earthquakes in quasistatic models of fractures in elastic media: formalism and numerical techniques. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2297–2315. 86A15 (86–04)

Chen, Kani (*with* Lo, Shaw-Hwa) On the rate of uniform convergence of the product-limit estimator: strong and weak laws. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1050–1087. (S. Rao Jammalamadaka) **98f:62034** 62E20 (62G30)

— (*with* Lo, Shaw-Hwa) On a mapping approach to investigating the bootstrap accuracy. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 2, 197–217. (Gutti J. Babu) **98c:60019** 60F05 (62G09)

— (*with* Hu, Inchi) On consistency of Bayes estimates in a certainty equivalence adaptive system. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 943–947. 93E35 (93E10)

Chen, Ke An (*with* Peng, Shi Guo) Periodic solutions for n-dimensional Liénard equations with delays. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 10–14. (Summary) **98b:34093** 34K15 (34C15, 34C25, 47H15, 47N20)

Chen, Kefei Non-existence of perfect $\mathscr{R}$-error-correcting rank distance codes. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 63–79. (N. J. A. Sloane) **98c:94019** 94B05

Chen, Keh-Wei (*with* Li, Gang[3]; Sun, Yanqing; Chow, Shein-Chung) Interval estimation for ratios in bioequivalence trials. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 989–1002. 62P10

Chen, Kejun (*with* Zhu, Lie[1]) On the existence of skew Room frames of type t^u. (English summary) *Ars Combin.* **43** (1996), 65–79. (Douglas R. Stinson) **98b:05018** 05B15

Chen, Kuan-Lung (*with* Yung, Chee-Fai; Yeh, Fang-Bo; Lin, Jyun-Tswun) A necessary and sufficient condition for the solvability of perturbed Nevanlinna-Pick interpolation problems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 5, 579–584. (Summary) **98f:30037** 30E05

Chen, Kuan Min Stationary oscillation of higher-dimensional nonlinear periodic systems. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **26** (1996), *no.* 6, 477–480. (Guo Zhu Gao) **98a:34041** 34C25 (34C15)

Chen, Kun-Mu (*with* Dai, Yingcheng; Rothwell, E. J.; Nyquist, D. P.) Time-domain imaging of radar targets using algorithms for reconstruction from projections. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 8, 1227–1235. (Summary) **98h:78012** 78A45

Chen, Kuo-Ching (*with* Yeh, Chau-Shioung) A thermodynamic model for magnetorheological fluids. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 5, 273–291. (Summary) **98j:76007** 76A99 (76W05)

Chen, L. *see* **Chen, Liqun**

Chen, L. Y. *see* **Chen, Liao Yuan**

Chen, Lan Sun (*with* Yu, Jun[1]) Asymptotic behavior of nonautonomous diffusive Lotka-Volterra systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 1–7. (Joseph So) **98i:34063** 34C25 (34D99, 92D25)

— (*with* Zhang, Xing An; Liang, Zhao Jun) Dynamical predator-prey systems with dispersion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 19–24. (Summary) **98j:92017** 92D25 (34C25)

— (*with* Wang, Wen Di) A predator-prey system with stage-structure for predator. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 83–91. (Hassan El-Owaidy) **98d:92019** 92D25 (34C25, 34D20, 34K15)

Chen, Lan Xiang (*with* Li, Sheng Wen) Bayes estimation of the parameter for a semiparametric regression model. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 72–76. 62G05 (62F15, 62J02)

Chen, Lei (*with* Qi, Yong Cheng) The rate of convergence to asymptotic uniformity of distributions of partial sums modulo 1. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 316–321. 60F05

Chen, Li (*with* Rao, Singiresu Sambasiva) Numerical solution of fuzzy linear equations in engineering analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 829–846. 65F99

Chen, Li-li (*with* Lou, Sen-yue; Wu, Qi-Xian) New symmetry constraints of the modified Kadomtsev-Petviashvili equation. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 1, 1–4. (Victor V. Zharinov) **98e:35145** 35Q53 (35Q55, 58F35)

Chen, Li Min[2] A note on a conjecture of Cheeger and Simons. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 1, 67–68. 53C65

Chen, Li Qun (*with* Liu, Yan Zhu) Chaos in quasiperiodically perturbed planar non-Hamiltonian integrable systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 28–31. (Yi-Sui Sun) **98k:34080** 34C37 (58F13, 58F15)

— (*with* Wang, Tie Guang) Controlling chaos in nonlinear oscillations. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 3, 333–337. 34C15 (58F13, 70K50)

— (*with* Liu, Yan Zhu) Control of the Lorenz chaos by the exact linearization. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 1, 67–73; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 63–69 (*Chinese. English and Chinese summaries*). (Summary) **98m:58090** 58F13 (93C15)

Chen, Liang *see* **Chen, Liang[8]**

Chen, Liang[7] (*with* Dong, Xiaoning; Chen, Guanrong) Adaptive control of the uncertain Duffing oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1651–1658. 70K50 (93C40)

Chen, Liang[8] Parallel simulation by multi-instruction, longest-path algorithms. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 37–54. 60K25 (90B22)

Chen, Liang Jun (*with* Wang, Ding Cheng) A convergence theorem for the strong law of large numbers for mixed sequences in a Banach space. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 2, 204–207. 60B12

Chen, Liao Yuan (*with* Nash, Patrick L.) Efficient finite difference solutions to the time-dependent Schrödinger equation. (English summary) *J. Comput. Phys.* **130** (1997), *no.* 2, 266–268. (Summary) **98a:81029** 81Q05 (39A12, 65M06)

Chen, Lin[2] A selected tour of the theory of identification matrices. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 222–231, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:05121** 05C50 (68R10)

— Optimal bucket sorting and overlap representations. (English summary) *Parallel Algorithms Appl.* **10** (1997), *no.* 3-4, 249–269. (Summary) **98a:68040** 68P10 (68Q22)

Chen, Lin-An (*with* Portnoy, Stephen) Two-stage regression quantiles and two-stage trimmed least squares estimators for structural equation models. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 5, 1005–1032. (Lin-Cheng Zhao) **98c:62123** 62J05 (62E20, 62G30)

— (*with* Chan, Wenyaw; Lee, Tzong-Shi) Tensor product polynomial splines. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2093–2111. (Summary) **98j:62029** 62G05 (41A15)

— Multivariate regression splines. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 1, 71–82. 62G05 (62J02)

— An efficient class of weighted trimmed means for linear regression models. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 669–686. (Xuming He) **98i:62058** 62J05 (62F11, 62F35)

Chen, Ling Jun (*with* Luo, Yan Lin) The rational stationary subdivision method for generating curves. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 61–66. 65D17

— (*with* Luo, Yan Lin; Hu, Shi Min) Generalized subdivision of tensor product Bézier volumes. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 1, 53–58. 65D17

Chen, Liqun (*with* Gollmann, D.; Mitchell, Chris J.) Key escrow in mutually mistrusting domains. (English summary) *Security protocols* (*Cambridge*, 1996), 139–153, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94015** 94A60

Chen, Lixuan (*with* Yan, Zijun) Optimal performance of an endoreversible cycle operating between a heat source and sink of finite capacities. *J. Phys. A* **30** (1997), *no.* 23, 8119–8127. (Summary) **98m:80004** 80A10

Chen, Luonan (*with* Aihara, Kazuyuki) Chaos and asymptotical stability in discrete-time neural networks. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 286–325. (Frederick R. Marotto) **98f:58135** 58F13 (58F10, 58F40, 92B20)

Chen, Lusheng (*with* Belloni, Mario; Haller, Kurt) Gauss's law, gauge invariance, and long-range forces in QCD. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 316–322. (Summary) **98f:81353** 81V05

Chen, Lydia H. S. The art of Chinese knotwork: a short history. *History and science of knots*, 89–106, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (01A25, 57-03, 57M25)

Chen, M. *see* **Chen, Masao R. Y.**

Chen, M.-S. *see* **Chen, Ming-Shin**

Chen, Masao R. Y. On the moment methods and irreversible thermodynamics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3589–3602. (Lamberto Rondoni) **98i:82045** 82C31 (82C35)
— On the second law of thermodynamics for a dissipative system. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5153–5166. (Renuka Datta) **98k:82108** 82C05 (80A10)
— Local formulation of the first law and the second law of thermodynamics for a nonequilibrium system. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 285–292. (Summary) **98h:82035** 82C03 (80A10)
Chen, Mei-En (*with* Huang, Yo-Ping; Shi, Kai Quan) Multicriteria and multilevel decision making in fuzzy talent selection. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 839–853. 90A05 (04A72, 90C70)
Chen, Meiching (*with* Davis, Richard Alan; Dunsmuir, William T. M.) Inference for seasonal moving average models with a unit root. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 160–176, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62160** 62M10
Chen, Meixia (*with* Zhu, Ping Tian) (a, b, k) $(k < 0)$-additive partition of positive integers. *Chinese Sci. Bull.* **41** (1996), *no.* 24, 2029–2037. (Y. H. Harris Kwong) **98c:11012** 11B37 (11P81)
Chen, Mian (*with* Liang, Jing Wei; Chen, Xi[3]; Chen, Zhi Da) On uniqueness, existence and objectivity of *S*-*R* decomposition theorem. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 9, 817–823; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 763–768 (*Chinese. English and Chinese summaries*). (C. F. M. Creasy) **98m:73016** 73B99
Chen, Min[4] (*with* Qi, Quan Yue; Wu, Guo Fu; An, Wan Fu; Shu, Chang Sheng) A statistical model of tracking radar measurement errors. II. Strong consistency of parameter estimates. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 161–174. 62M10
— (*with* An, Hong Zhi; Cui, Xiao Di) The convergence rate of paramater estimates in regression models with ARCH errors. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 294–304. (Summary) **98h:62133** 62M10
— (*with* An, Hong Zhi) A Kolmogorov-Smirnov type test for conditional heteroskedasticity in time series. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 321–331. (Summary) **98b:62156** 62M10 (62G10)
Chen, Min-Hung (*with* Yang, Jaw-Yen; Tsai, I-Nan; Chang, Jer-Wei) A kinetic beam scheme for relativistic gas dynamics. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 19–40. (Summary) **98e:76092** 76M25 (76N15, 76Y05)
Chen, Min-Shin (*with* Fu, Ren Jay) An observer-based state feedback control of parametrically excited systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 119–125. (Summary) **98c:93027** 93B30 (93B52, 93C40)
Chen, Ming[2] (*with* Qiu, Qing Jiu) The formal theory for the reflection of sound waves. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 4, 549–555. (Si Ning Zheng) **98g:35165** 35Q35 (35L60, 76N10, 76Q05)
Chen, Ming Hua[2] (*with* Ren, Zhe) Random weighting approximation of *L*-statistics. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 1, 60–64. 62G20 (62E20)
Chen, Ming-Hui (*with* Shao, Qi-Man) On Monte Carlo methods for estimating ratios of normalizing constants. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1563–1594. (Mir Masoom Ali) **98h:62021** 62E25 (62F15)
— (*with* Schmeiser, Bruce W.) Toward black-box sampling: a random-direction interior-point Markov chain approach. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 1–22. 62F15 (65C05, 65C20)
Chen, Ming-Po (*with* Yan, Ju Rang) Sufficient conditions for oscillation of *n*th order neutral differential equations. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 41–48, *World Sci. Publishing, River Edge, NJ*, 1996. (Yiannis Sficas) **98b:34088** 34K15 (34K40)
— (*with* Yu, Jian She) Stability in differential equations with continuous and piecewise constant arguments. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 387–391. (Summary) **98c:34121** 34K20
— (*with* Aouf, M. K.) On certain fractional operators for certain classes of multivalent functions with negative coefficients. (English summary) *J. Fract. Calc.* **10** (1996), 109–115. (Shigeyoshi Owa) **98f:30011** 30C45 (26A24)
— (*with* Aouf, M. K.) Some applications of fractional calculus operators to a class of univalent functions with negative and missing coefficients. (English summary) *J. Fract. Calc.* **10** (1996), 117–124. (Summary) **98f:30008** 30C45 (26A33)
— (*with* Park, Sehie) Comments on Tasković's extension of the Brouwer theorem. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 491–493. (Summary) **98f:54037** 54H25
— (*with* Park, Sehie) A unified approach to generalized quasi-variational inequalities. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 2, 103–118. (Xie Ping Ding) **98c:49022** 49J40 (47H10, 47H19, 54H25)
— (*with* Park, Sehie) On the Browder type best approximation theorems. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 91–97. (From the introduction) **98h:47073** 47H10 (54H25)
— (*with* Irmak, Hüseyin; Srivastava, Hari M.) Some families of multivalently analytic functions with negative coefficients. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 674–690. (Albert E. Livingston) **98g:30019** 30C45
— (*with* Irmak, Hüseyin; Srivastava, Hari M.; Yu, Ching Shu) Some subclasses of meromorphically multivalent functions with positive or negative coefficients. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 53–72. (Zhong Zhu Zou) **98m:30013** 30C45
— (*with* Liu, Bin[2]) Nonoscillatory property of second order nonlinear differential equations of advanced type. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 355–360. (János Karsai) **98m:34137** 34K15 (34C10)
— (*with* Tan, Kok-Keong) A coincidence theorem in *G*-convex spaces. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 105–111. 54H25 (54C60)
Chen, Ming Shi (*with* Caldwell, James) A note on solution of potential problems using integral equations. (English summary) *J. Math. Sci.* (*Calcutta*) **8** (1997), *no.* 2, 51–58. 65R20 (45L05)
Chen, Ming-Shin (*with* Chien, Ch'êng Shêng) Multiple bifurcation in the von Kármán equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1737–1766. (Claude Do) **98m:73052** 73H05 (35Q72, 65N06, 73K10, 73V15)
Chen, Mingjun (*with* Chen, Zhongying; Chen, Guanrong) ★ Approximate solutions of operator equations. Series in Approximations and Decompositions, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+343 *pp. ISBN* 981-02-3064-8 (P. W. Bates) **98h:47001** 47–02 (47A50, 47H15, 47H17, 47N20, 65J15)
Chen, Mingshi *see* **Chen, Ming Shi**
Chen, Mu Fa (*with* Ding, Wanding; Zhu, Dongjin) Ergodicity of reversible reaction diffusion processes with general reaction rates. (English summary) A Chinese summary appears in Acta Math. Sinica **38** (1995), no. 2, 288. *Acta Math. Sinica* (*N.S.*) **10** (1994), *no.* 1, 99–112. (T. M. Liggett) **98b:60169** 60K35 (35K57)
— (*with* Wang, Feng Yu) Application of coupling method to the first eigenvalue on manifold. *Progr. Natur. Sci.* (*English Ed.*) **5** (1995), *no.* 2, 227–229. (Johan Tysk) **98h:58192** 58G25 (53C20)
— Estimation of spectral gap for Markov chains. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 159. *Acta Math. Sinica* (*N.S.*) **12** (1996), *no.* 4, 337–360. (Matthias Löwe) **98m:60112** 60J25 (60J80)
— A comment on the book: *Continuous-time Markov chains* [Springer, New York, 1991; MR 92k:60170] by W. J. Anderson. (English summary) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 1, 55–59. (Summary) **98h:60110** 60J27
— (*with* Yan, Shi Jian[1]; Zhou, Xian Yin) The range of random walk on trees and related trapping problem. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 1, 1–16. (Sam Northshield) **98e:60111** 60J15 (60F05, 82C41)
— (*with* Wang, Feng Yu) Estimates of logarithmic Sobolev constant: an improvement of Bakry-Emery criterion. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 287–300. (Alberto G. Setti) **98h:58193** 58G25 (46E35)
— Coupling, spectral gaps and related topics. I. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 14, 1472–1477. 60J99 (60J27, 60J60)
— Coupling, spectral gaps and related topics. II. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 15, 1585–1591. 58G25
— Reaction-diffusion equations. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 23, 2465–2474. 35K57
— (*with* Wang, Feng Yu) General formula for lower bound of the first eigenvalue on Riemannian manifolds. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 384–394. (Julian Edward) **98d:58189** 58G25 (35P15, 58G20)
Chen, Nan Xian Inverse problems in statistical physics and Möbius inversion. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 56–63, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82–02 (05A15)
— (*with* Cong, Wen Xiang; Gu, Ben Yuan) A recursive method for phase retrieval in Fourier transform systems. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 24, 2614–2618. 65T99
— (*with* Chen, Zhaodou) Computing coefficients of wavelet series by Möbius inversion formula. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **7** (1997), *no.* 2, 163–171. (Summary) **98b:42044** 42C15
Chen, Ning (*with* Zhu, Wei Yong) A construction of higher-order generalized Julia fractal images and a rotating escape time algorithm. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 1, 94–97. (Summary) **98a:58132** 58F23
— (*with* Zhu, Wei Yong) Generalized Mandelbrot sets and Julia sets constructed by interchanging the real and imaginary parts of a complex polynomial. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 3, 298–301. 58F23
— (*with* Zhu, Wei Yong) A homology fractal interpolating algorithm for the fractal dimension of a Julia fractal image with an attracting orbit of period *n*. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 5, 477–481. (Summary) **98m:65014** 65D05 (58F23)
Chen, Pang C. On bootstrapping local search with trail-markers. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 252–258, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20
Chen, Peng Nian (*with* Han, Zheng Zhi; Zhang, Zhong Jun) Dynamic output feedback stabilization of uncertain systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 62–66, 74. 93D21
— (*with* He, Jian Xun[1]; Qin, Hua Shu) A proof of the Jacobian conjecture on global asymptotic stability. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 14, 1265–1268. (Shao Zhu Chen) **98c:34081** 34D20 (58F10)
— (*with* Han, Zheng Zhi; Zhang, Zhong Jun) Dynamic output feedback stabilization of affine nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 338–344. 93D15
— (*with* Mei, Sheng Wei; Qin, Hua Shu; Hong, Yi Guang) Design of a robust dynamic compensator for partially linearizable systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 233–237. 93B35 (93B52)
— (*with* Mei, Sheng Wei; Qin, Hua Shu; Hong, Yi Guang) A practical stabilization principle for nonlinear uncertain systems using an integrator. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 642–647. 93D09 (93C41)
— (*with* Cao, Zhen Chao) On global solutions to the third boundary value problem for semilinear parabolic equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 5, 666–668. 35K60 (35B60)
Chen, Ping *see* **Chen, Ping[2]**
Chen, Ping[1] Deterministic cycles in evolving economy: time-frequency analysis of buisness cycles. (English summary) *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 363–372, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A16
— (*with* Zhao, Zheng) Zeroth law of thermodynamics and transitivity of simultaneity. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 10, 2153–2159. 80A05 (83A05)
Chen, Ping[2] Tests and estimators for a model with multiple change points and their properties. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 4, 357–361. 62G05 (62G10)
Chen, Pinyuen (*with* Zhang, Jun-Lue) An integrated formulation for selecting the best normal population: the common and unknown variance case. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2701–2723. 62F07
Chen, Po-Shu (*with* Farhat, Charbel; Risler, Franck; Roux, Francois-Xavier) A unified framework for accelerating the convergence of iterative substructuring methods with Lagrange multipliers. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 2, 257–288. (Summary) **98m:65041** 65F10 (65N30)

Chen, Pu-Chun (*with* Jia, Chun-Sheng; Wang, Xiao-Guo; Yao, Xiao-Ke; Xiao, Wei) A unified recurrence operator method for obtaining normalized explicit wavefunctions for shape-invariant potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4763–4772. 81Q05

Chen, Q. *see* **Chen, Qianyu**

Chen, Qi Keith (*with* Antonsen, Thomas M., Jr.; Ott, Edward; Oerter, R. N.) The statistics of scars on wave functions. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 409–421, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

— (*with* Ramé, E.; Garoff, S.) The velocity field near moving contact lines. (English summary) *J. Fluid Mech.* **337** (1997), 49–66. 76–05 (76B45, 76D45)

Chen, Qiang (*with* Chen, Haiming) The Razumikhin type theorems of stability and boundedness for functional-differential equations with infinite delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 19–22. (L. Hatvani) **98i:34112** 34K20

Chen, Qianyu (*with* Uddin, Nizam; Patil, Surgounda Anna) Equireplicate balanced block designs with nested rows and columns with at most two unequal block sizes. (English summary) *Util. Math.* **52** (1997), 49–64. 05B05

Chen, Qihao (*with* Yanagihara, Niro; Kawase, Shin) On relations between several methods in fuzzy reasoning. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 763–773 (1996). (Summary) **98g:03073** 03B52

Chen, Qing *see* **Chen, Qing²**

Chen, Qing¹ (*with* Zhu, Zuo Tong) Extensions of semigroups of partially ordered abelian groups. (English summary) *Chinese J. Math.* **24** (1996), *no.* 3, 223–228. (T. Tamura) **98a:06027** 06F20

— (*with* Zhu, Zuo Tong) Representations of l-free products of lattice-ordered groups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 117–121. (Yishu Pu) **98j:06010** 06F15

Chen, Qing² On the first eigenvalue of minimal submanifolds. *Kodai Math. J.* **20** (1997), *no.* 2, 85–91. (Vicente Miquel) **98i:58233** 58G20 (53C42)

— On the total curvature and area growth of minimal surfaces in $\mathbf{R}^n$. (English summary) *Manuscripta Math.* **92** (1997), *no.* 2, 135–142. (Summary) **98c:49073** 49Q05

Chen, Qing Hua² Jacobson radicals, socles, and chain conditions in graded Γ-rings. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 2, 16–21. (Wen-Fong Ke) **98c:16065** 16Y99

Chen, Qing Ping Admissible estimation of the mean parameter matrix. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 360–366. 62J05 (62C15)

Chen, Qing Yi (*with* Li, Yongsheng) Long time behavior of weakly dissipative Schrödinger-Boussinesq equations: global attractors and their dimension. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 241–254. (Woodford W. Zachary) **98h:35216a** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Zhao, Bin²) Radial solutions of degenerate nonlinear elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 283–288. (Ya Zhe Chen) **98b:35074** 35J70 (35B05, 35J60)

— (*with* Wang, Liwen) On the dead core behavior for a semilinear heat equation. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 1, 22–25. (Sergei A. Vakulenko) **98a:35075** 35K60 (35B35, 35B40, 35K57)

— (*with* Li, Yongsheng) Long-time behaviour of ferromagnetic spin chain equation: global attractor and its dimension. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1271–1281. (Muthusamy Lakshmanan) **98k:82119** 82C20 (35B40, 35Q99, 58F39)

Chen, Qiu (*with* Liu, Xian Bin) A Hopf bifurcation system excited by parametric real noise. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 2, 158–166. 58F14

— (*with* Zhao, Lei) An equivalent nonlinearization method for analysing response of nonlinear systems to random excitations. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 6, 551–561; *translated from Appl. Math. Mech.* **18** (1997), *no.* 6, 513–521 (*Chinese. English and Chinese summaries*). 70L05

— (*with* Liu, Xian Bin; Chen, Da Peng) On the two bifurcations of a white-noise excited Hopf bifurcation system. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 835–845; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 779–788 (*Chinese. English and Chinese summaries*). 34C23 (34F05, 60H10)

Chen, Qun² (*with* Buchweitz, Ragnar-Olaf) Hilbert-Kunz functions of cubic curves and surfaces. (English summary) *J. Algebra* **197** (1997), *no.* 1, 246–267. (Elsa Zatini) **98i:13025** 13D40 (13A35, 13C15)

Chen, R. *see* **Chen, Rong**

Chen, R. S. Evaluation of natural vibration frequency and buckling loading of bending bar by searching zeros of a target function. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 9, 695–704. 73K12 (73H05)

Chen, Ren Zhao (*with* Li, Jian Quan) Uniqueness of regular solutions for a class of time-varying population systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 1, 1–4. (Summary) **98f:92007** 92D25

Chen, Robert W. (*with* Berry, Donald A.; Zame, Alan; Heath, David C.; Shepp, Larry A.) Bandit problems with infinitely many arms. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2103–2116. (Peter Watts Jones) **98h:62121** 62L05 (62C10)

— (*with* Rosenberg, Burton; Shepp, Larry A.) A secretary problem with two decision makers. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1068–1074. (S. M. Samuels) **98k:60068** 60G40 (60K99, 90D05)

Chen, Roger Gap estimates of Schrödinger operator. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 225–240. (Alberto G. Setti) **98f:58193** 58G25 (35J10, 58G11)

— On global Schrödinger kernel estimate and eigenvalue problem. *Math. Z.* **227** (1998), *no.* 1, 69–81. (Edward L. Bueler) **98m:58133** 58G11 (35J25, 58G25)

Chen, Rong (*with* Härdle, Wolfgang; Linton, Oliver B.; Severance-Lossin, E.) Nonparametric estimation of additive separable regression models. (English summary) *Statistical theory and computational aspects of smoothing (Semmering, 1994)*, 247–265, *Contrib. Statist., Physica, Heidelberg*, 1996. (Summary) **98f:62083** 62G05

— A nonparametric multi-step prediction estimator in Markovian structures. (English summary) *Statist. Sinica* **6** (1996), *no.* 3, 603–615. (Summary) **98f:62084** 62G05

Chen, Rong-Jaye (*with* Chang, Hung-Yi) Embedding cycles in IEH graphs. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 23–27. 68M10 (68R10)

Chen, Rong Qiu (*with* Gong, Dai Hua; Zhu, Jing Ping) A network algorithm for settlement of debt between enterprises. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 10, 45–47. 05C90

— (*with* Zhou, Gang Zhi) The static problem of minimizing the sum of the squared deviations of job completion times from the SLK due dates. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 2, 118–122. 90B35

Chen, Rong-Rong An extended class of time-continuous branching processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 14–23. (Anthony G. Pakes) **98d:60145** 60J27 (60J80)

Chen, Rong Sheng² (*with* Li, Ying Jie; Pan, Yan Zhong) A method for constructing a class of multiplier magic squares of even order with nongeometric progressions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 2, 17–21. 05B15

Chen, Rong Si (*with* Zhang, Fu Ji) Regular coronoid systems. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 147–158. (E. Keith Lloyd) **98g:92007** 92E10 (05C75, 05C90)

— (*with* Zhang, Fu Ji) Hamilton paths in Z-transformation graphs of perfect matchings of hexagonal systems. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 191–196. (Summary) **98a:05099** 05C45 (05C70, 92E10)

Chen, Ru Dong Solutions and applications of a class of random set-valued Ky Fan variational inequalities. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 96–100. (Tong Shan Lu) **98k:47128** 47H19 (47H40, 47S50, 49J40)

Chen, S. *see* **Chen, Susan Yu-Ping**

Chen, S. G. *see* **Chen, Shi Gang**

Chen, S. H. *see* **Chen, Shu Hui**

Chen, Sean X. (*with* Liu, Jun S.) Statistical applications of the Poisson-binomial and conditional Bernoulli distributions. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 875–892. 62F99

Chen, Shan-Huo Operations of fuzzy numbers with step form membership function using function principle. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 149–155. 04A72

Chen, Shao Chun (*with* Shi, Dong Yang; Liu, Zhi Xing) A class of symmetric 12-parameter rectangular plate elements. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 21–26. 65N30

— (*with* Shi, Dong Yang) A nonconforming rectangular finite element approximation for unilateral problems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 1–5. 65N30

Chen, Shao Hua (*with* Bandler, John W.; Biernacki, Radek M.; Hemmers, Ronald H.; Madsen, Kaj) Space mapping optimization for engineering design. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 1–15, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (*see* **98b:90003**) 90C90 (49N55)

Chen, Shao Zhong *see* **Chen, Shao Zhong²**

Chen, Shao Zhong¹ A stochastic method for solving quasilinear partial differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 333–344. (Summary) **98i:35085** 35K55 (60H15)

— Stochastic analysis method for Hopf's equation $u_t + uu_x = 0$. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 419–430. (Krystyna Twardowska) **98k:35164** 35Q53 (35R60, 60H15)

Chen, Shao Zhong² (*with* Fan, Jin Cheng) Estimation of higher-order moments of the parameters in the bilinear model BL(p, 1; p, 1). (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 31–36. 62M10

Chen, Shaohua (*with* Lu, Guozhen) Asymptotic behavior of radial solutions for a class of semilinear elliptic equations. *J. Differential Equations* **133** (1997), *no.* 2, 340–354. (C. A. Swanson) **98a:35027** 35J60 (34C10, 34C11, 35B05)

— (*with* Derrick, William R.; Cima, Joseph A.) Oscillatory radial solutions of semilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 425–445. (Jann-Long Chern) **98g:35067** 35J60 (34A12, 34C10, 35B05)

Chen, Shea (*with* Johnson, David Bascomb; Raad, Peter E.; Fadda, Dani) The surface marker and micro cell method. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 749–778. (Summary) **98h:76102** 76M25 (76B10)

Chen, Sheng Rui (*with* Li, Peng Lin²) Existence and uniqueness of solutions to some nonlinear stochastic differential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 62–66. 60H10

Chen, Shi Gang (*with* An, Hong Zhi) Geometrical ergodicity of nonlinear autoregressive models. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 481–486. 62M10

— (*with* Liu, Zong-hua) Finding and control of unstable periodic orbit in autonomous differential system. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 2, 85–88. (Summary) **98b:34058** 34C25 (58F22)

— (*with* Liu, Zong-hua) Control of unstable periodic orbit by means of projective operator method. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 7, 499–502. (Summary) **98k:93055** 93C15 (34C25, 34D45, 58F13)

— (*with* Liu, Zong-hua) Controlling the standard map. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 55–62. (Summary) **98g:58116** 58F13

— (*with* An, Hong Zhi) A note on the ergodicity of non-linear autoregressive model. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 365–372. (Summary) **98f:60129** 60J10 (62M10)

Chen, Shi Hua³ (*with* Feng, Jian Wen) Bifurcation of a perturbed Hamiltonian system with two centers. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 307–311. (Zhengrong Liu) **98e:34049** 34C05 (34C23, 58F14)

— (*with* Feng, Jian Wen) A simple derivation of Bautin's focus value formulas. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 431–436. (Jinghuang Tian) **98j:34044** 34C05

— Limit cycles of a class of systems with polynomial perturbations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 447–450. (Summary) **98e:34050** 34C05

Chen, Shi Ping A quasilinear elliptic characteristic problem with critical growth on an unbounded domain. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 119–124. (Summary) **98h:35071** 35J65

Chen, Shi Quan Fuzziness and mathematical problems associated with it. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 26–33. 03E72 (03A05,

03B52)

Chen, Shih-J. (*with* Biswas, Saroj K.; Satyanarayana, A.) Optimal temperature tracking for accelerated cooling processes in hot rolling of steel. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 327–340. 93C20 (93C95)

Chen, Shing B. (*with* Gopinath, Arvind; Koch, Donald L.) Lubrication flows between spherical particles colliding in a compressible non-continuum gas. (English summary) *J. Fluid Mech.* **344** (1997), 245–269. 76D08 (76N10, 76T05)

Chen, Shian-Horng (*with* Chou, Jyh Horng; Liao, Wen-Hwei) On the stability of discrete Takagi-Sugeno fuzzy dynamic model. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 6, 709–713. 93C42 (93D05)

Chen, Shirong (*with* Li, Jalong) Fractal properties of hyperbolic curves. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 1–9. (Summary) **98i:28011** 28A80 (26A27)

Chen, Shiyi (*with* Doolen, Gary D.) Lattice Boltzmann method for fluid flows. (English summary) *Annual review of fluid mechanics, Vol.* 30, 329–364, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:76118** 76M25 (65M55, 76P05, 76T05)

Chen, Shou Yu Multiobjective decision theory and fuzzy optimum selection by neural networks. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 693–698. 90C29 (04A72, 92B20)

— (*with* Li, Deng Feng[1]) FNN optimum seeking decision making method. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 699–705. 90C05 (04A72, 90C70)

— (*with* Li, Deng Feng[1]) A fuzzy cross iterated algorithm for multiobjective optimization problems and its convergence. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 107–109. 90C70 (04A72)

Chen, Shouxin (*with* Wang, Ming Xin[2]) Convective porous medium equations with nonlinear forcing at the boundary. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 49–70. (Antonio Fasano) **98m:35115** 35K65 (76S05)

Chen, Shu Guang (*with* Gu, Guang Ze; Yi, Yi Xun) A minimization problem on Ω with a critical Sobolev exponent. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 1, 18–23. (Summary) **98c:49038** 49J45 (35B99, 35J60)

Chen, Shu Hui (*with* Xu, Zhao) The perturbation-incremental method for studying limit cycles and homoclinic bifurcation. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 6–10. 34C05 (34C23, 34C37)

— (*with* Cheung, Y. K.) An elliptic Lindstedt-Poincaré method for certain strongly non-linear oscillators. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 3, 199–213. (James A. Murdock) **98d:34066** 34C15 (34C25, 34E10, 70K99)

Chen, Shu Zhong (*with* Cao, Li[2]) Right independent orders: a new invariant under regular state feedback. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 224–227. 93C05 (93B25)

— Essential orders, infinite zeros and absolutely controllable-observable systems. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 24–33. 93C05 (93B60)

Chen, Shui-Li (*with* Cheng, Ji-Shu) New applications of L-nets in L-fuzzy multifunctions. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 269–273. 54A40 (54C60)

— (*with* Zhou, Wu Neng) Some important applications of nets of L-fuzzy sets. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 91–97. 54A40

— (*with* Meng, Han; Meng, Guang Wu) A new definition for L-fuzzy semi-open sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 263–276. 54A40

Chen, Shui Lin (*with* Mei, Zheng Yang) Discrete stability of interval dynamical systems. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 2, 123–124. 93D09 (93C55)

Chen, Shun-Yi (*with* Bau, J. J.; Chen, Hubert J.) Lower percentage points of Hartley's extremal quotient statistic and their applications. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 443–465. 62Q05

Chen, Shunqing (*with* Tu, TianLiang; Yang, Qiao) Simultaneous approximation to function and its derivative by Hermite interpolation polynomials in a smooth domain. (English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 297–302. (Guo Hua Min) **98a:41028** 41A28 (30E05, 41A10)

Chen, Shuping (*with* Xu, Wen Sheng) Optimal consumption/portfolio choice with borrowing rate higher than deposit rate. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 449–462. 90A09

Chen, Shutao (*with* Duan, Yanzheng) Block basis of sequence Orlicz spaces. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 269–271. (Summary) **98c:46036** 46B45 (46B15, 46E30)

— (*with* Lin, Bor-Luh) Dual action of asymptotically isometric copies of l_p ($1 \le p < \infty$) and c_0. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 449–458. (Y. Benyamini) **98m:46022** 46B25

— (*with* Ren, Zhong Dao) Jung constants of Orlicz function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 743–771. (Grzegorz Lewicki) **98m:46040** 46E30 (41A65, 46B20)

Chen, Shuxing Propagation of singularities and second microlocalization. *General theory of partial differential equations and microlocal analysis (Trieste*, 1995), 183–208, *Pitman Res. Notes Math. Ser.*, 349, *Longman, Harlow*, 1996. (Jean-Marc Delort) **98b:35007** 35A20 (35A27, 58G17)

— On interaction of shock and sound wave. II. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 651–652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 445–456. (Summary) **98b:35116** 35L67 (65M99, 76L05, 76M25, 76Q05)

— Solution to nonlinear wave equation with delta initial data and its singularity structure. (English summary) *J. Partial Differential Equations* **9** (1996), *no.* 4, 301–312. (Linda M. Holt) **98a:35089** 35L70 (35D05, 35D10, 35L15, 35L67)

— Solution to M-D Riemann problems for quasilinear hyperbolic system of proportional conservation laws. *Nonlinear evolutionary partial differential equations (Beijing*, 1993), 157–173, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Hermano Frid) **98f:35095** 35L65 (76L05)

— Linear approximation for supersonic flow past a delta wing. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 4, 319–333. (Philippe G. LeFloch) **98k:76083** 76J20 (35Q35, 76L05)

— Construction of solutions to M-D Riemann problems for a 2×2 quasilinear hyperbolic system. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 345–358. (Vyacheslav V. Chistyakov) **98m:35126** 35L65 (35D05)

— (*with* Wang, Hui[1]) Interaction of elementary waves for equations of potential flow. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 5, 459–468. (Philippe G. LeFloch) **98h:76119** 76N15 (35L05, 35Q35, 76L05)

Chen, Shyi-Ming (*with* Hsiao, Wen-Hoar; Jong, Woei-Tzy) Bidirectional approximate reasoning based on interval-valued fuzzy sets. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 339–353. 68T35 (04A72)

— (*with* Hsiao, Wen-Hoar; Lee, Chia-Hoang) A new interpolative reasoning method in sparse rule-based systems. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 17–22. (Summary) **98j:68156** 68T35 (03B52)

Chen, Si Yang Stability of second-order delay equations having disturbances with positive integer exponents. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 3, 1–4. (Summary) **98a:34083** 34K20

— Stability for linear differential-difference equations of neutral type. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 5–8. 34K20 (34K40)

Chen, Simone (*with* Cowan, Richard) The random division of faces in a planar graph. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 2, 377–383. (Summary) **98f:62035** 62E20

Chen, So-Chin Global analytic hypoellipticity of $\Box_b$ on circular domains. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 61–70. (A. Alexandrou Himonas) **98d:32024** 32F40 (35H05)

Chen, Song Xi Empirical likelihood confidence intervals for nonparametric density estimation. (English summary) *Biometrika* **83** (1996), *no.* 2, 329–341. (Patricia B. Cerrito) **98c:62094** 62G15 (62G05)

Chen, Songlin Singular perturbation on stability for a class of nonlinear control systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 222–227. (Vasile Drăgan) **98i:93058** 93D05 (34D15, 93C70, 93D30)

Chen, Songnian Semiparametric estimation of the type-3 Tobit model. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 1–34. (Summary) **98c:62200** 62P20

Chen, Su Huan (*with* Liang, Ping; Han, Wan Zhi) A new method of sensitivity analysis of static responses for finite element systems. (English summary) *Finite Elem. Anal. Des.* **29** (1998), *no.* 3-4, 187–203. 73V05

Chen, Su Qing (*with* Ni, Guang Jiong) On the essence of special relativity. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 3, 325–334. (Summary) **98b:81029** 81P99 (83A05)

— (*with* Ni, Guang Jiong) A relativistic stationary Schrödinger equation for a many-particle system, and a reply to comments by Xiao Bai Ai. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 3, 247–252. 81Q05 (81Q10)

— *see also* **Ai, Xiao Bai**

Chen, Sui Yang (*with* Chu, Lei Lei) A topological structure on spaces of models and the existence of fixed points of monotone inference operators. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 28–33. (Fuxing Shen) **98h:03043** 03C52 (03C57, 03D70)

Chen, Susan Yu-Ping (*with* Merriman, Barry; Osher, Stanley; Smereka, Peter) A simple level set method for solving Stefan problems. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 8–29. (Summary) **98c:80002** 80A22 (80–08)

Chen, Sy-Mien (*with* Pearn, W. L.) The asymptotic distribution of the estimated process capability index $\widehat{C}_{pk}$. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2489–2497. (Summary) **98k:62173** 62N10 (62E20)

Chen, T. *see* **Chen, Thomas**

Chen, Te Wei (*with* Luo, Xu Jin) Growth properties of solutions to certain higher-order linear differential equations. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 1, 114–121. (Hong Xun Yi) **98f:34008** 34A20 (30D35)

— (*with* Yang, Rong Hua; Wu, Ji Jun) Properties of zeros of solutions and complex oscillation of a class of linear differential equations. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 4, 75–80. (Hong Xun Yi) **98f:34011** 34A20 (30D35, 34C10)

— (*with* Gao, Shi-An; Chen, Zong-Xuan) A note concerning the complex oscillation and the growth of solutions for higher order homogeneous linear differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 109–117. (Summary) **98f:34005** 34A20 (30D35)

Chen, Thomas (*with* Fröhlich, Jürg; Seifert, M.) Renormalization group methods: Landau-Fermi liquid and BCS superconductor. *Géométries fluctuantes en mécanique statistique et en théorie des champs (Les Houches*, 1994), 913–970, *North-Holland, Amsterdam*, 1996. (Detlef Lehmann) **98i:82023** 82B28 (82D55)

Chen, Tian-lun (*with* Zhou, Chang-song) Extracting information masked by chaos and contaminated with noise: some considerations on the security of communication approaches using chaos. (English summary) *Phys. Lett. A* **234** (1997), *no.* 6, 429–435. 58F40 (58F13)

Chen, Tianping (*with* Chen, Hong Robert) Denseness of radial-basis functions in $L^2(\mathbf{R}^n)$ and its applications in neural networks. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 137–143, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A30

— (*with* Lin, Qin) New algorithm for principal component and minor component extraction. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 227–230. (Summary) **98c:65071** 65F30 (68T05)

Chen, Tien Chi Convergence in iterative polynomial root-finding. (English summary) *Numerical analysis and its applications (Rousse*, 1996), 98–105, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65H05

Chen, Ting *see* **Chen, Ting[2]**

Chen, Ting[1] (*with* Zhu, Shi Jing; Dai, Jian She) Incentive equilibria for dynamic bargaining games. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 249–253. 90D25 (49J15)

— (*with* Zhu, Shi Jing) Comment on: "On convex vector optimization problems with possibilistic weights" [Fuzzy Sets and Systems **51** (1992), no. 3, 289–294; MR 93k:90103] by M. L. Hussein. *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 393–394. (Summary) **98e:90219** 90C70 (04A72, 90C29)

— (*with* Tang, Jun[2]) A dynamical model for bilateral negotiations on two issues. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 32–34. 90A05 (90D12)

— (*with* Shi, Bao Chang; Hu, Xin Sheng) A maximum entropy method for multiobjective minimax problems and its convergence. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 95–98. 90C29 (90C30, 90D10)

— (*with* Luo, Yun Feng; Zhu, Shi Jing; Yue, Chao Yuan) A note on a uniqueness theorem for the construction of a rational lexicographic order. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 8, 5–7. 90A05 (90C29)

— (*with* Tang, Jun[2]) Refinements of the concept of Nash equilibrium. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 2, 97–99. 90D10 (90A14)

Chen, Ting[2] (*with* Skiena, Steven S.) Sorting with fixed-length reversals. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 269–295. (Michael A. Steel) **98b:92013** 92D20 (05A99)

— (*with* Skiena, Steven S.) Trie-based data structures for sequence assembly. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 206–223, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (*see* **98i:68004**) 68P05

Chen, Tongwen (*with* Qiu, Li) Linear periodically time-varying discrete-time systems: aliasing and LTI approximations. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 225–235. (Summary) **98c:93072** 93C57 (94A12)

— (*with* Shu, Huang) Robust digital design of power system stabilizers. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 227–248. 93D21

Chen, Tuhao (*with* Seneta, Eugene) Frechét optimality of upper bivariate Bonferroni-type bounds. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 147–152. (Summary) **98a:60020** 60E15

Chen, Tung-Shyan Special identities with (α, β)-derivations. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 109–119 (1997). (Matej Brešar) **98f:16019** 16R50 (16W20, 16W25)

Chen, Tung Yang (*with* Chiang, S. C.) Electroelastic fields and effective moduli of a medium containing cavities or rigid inclusions of arbitrary shape under anti-plane mechanical and in-plane electric fields. (English summary) *Acta Mech.* **121** (1997), *no.* 1-4, 79–96. (Summary) **98e:73091** 73K20 (73B27, 73R05)

— Exact moduli and bounds of two-phase composites with coupled multifield linear responses. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 3, 385–398. (Leonid V. Gibiansky) **98c:73006** 73B27 (73B30, 73K20, 73R05)

— (*with* Lai, Donsen) An exact correspondence between plane piezoelectricity and generalized plane strain in elasticity. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2689–2713. (Summary) **98h:73069** 73R05 (73B40, 73K20)

Chen, Tze-Jang (*with* Cooke, Charlie H.) A new averaging scheme for the Riemann problem in pure water. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 3, 25–36. (Gholam-Ali Zakeri) **98c:76056** 76L05 (65M99, 76M20, 76N15)

Chen, W. *see* **Chen, Weiyu**

Chen, W. F. *see* **Chen, Wen-Feng**

Chen, Wai-Kai *see* **Visions of nonlinear science in the 21st century, 98f:58007**

Chen, Wan Ji Variational principles and refined non-conforming element methods for geometrically non-linear analysis. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 665–673. 73V05 (65K10, 65N30, 73V25)

— (*with* Li, Yong Dong) A refined nonconforming element method using rectangular coordinates. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 4, 371–375. 65M60 (65N30)

— (*with* Gao, Yan[1]) Axisymmetric nonconforming element method and its convergence analysis. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 422–431. (Zhangxin Chen) **98b:65128** 65N30 (65N12)

— (*with* Leung, A. Y. T.; Chen, Guoqing) Smoothing Newton method for solving two- and three-dimensional frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 6, 1001–1027. (Summary) **98m:73075** 73T05 (49J40, 73V25)

Chen, Wanyi (*with* Tu, Feng Sheng) Quadratic stabilization of distributed parameter systems with norm-bounded time-varying uncertainty. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 253–264. (Vasile Drăgan) **98k:93031** 93B36 (93C20, 93D05)

Chen, Wei *see* **Chen, Wei[5]**

Chen, Wei[3] (*with* Chen, Danny Z.; Wada, Koichi; Kawaguchi, Kimio) Parallel algorithms for partitioning sorted sets and related problems. (English summary) *Algorithms—ESA '96 (Barcelona)*, 234–245, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (68P10)

— (*with* Deng, Xiao Wen; Wada, Koichi; Kawaguchi, Kimio) Constructing a strongly convex superhull of points. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 42–51, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05

Chen, Wei[4] (*with* Goldfarb, Donald) On strongly polynomial dual simplex algorithms for the maximum flow problem. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 159–168. (Giovanni Andreatta) **98m:90172** 90C35

Chen, Wei[5] (*with* Chiang, Ding-An; Wang, Yi-Fan) Knowledge extraction by a fuzzy linguistic summary approach. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 69–82. 68T30 (04A72)

Chen, Wei Dong (*with* Xu, Ru Chu; Song, En Min) A new algorithm for finding the initial basic feasible solution of a linear programming problem. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 105–107. 90C05

Chen, Wei-Ning Optimal four-stage production schedules, an extension of Johnson's rule. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 4, 23–27. 90B22

Chen, Wei Qiu (*with* Ding, Hao Jiang; Wang, Guo Qing) General solution of plane problem of piezoelectric media expressed by "harmonic functions". *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 8, 757–764; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 703–710 (*Chinese. English and Chinese summaries*). (Summary) **98j:73075** 73R05 (73C02)

— (*with* Ding, Hao Jiang; Wang, G. Q.) Green's functions for a two-phase infinite piezoelectric plane. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2241–2257. (Summary) **98e:73109** 73R05 (73B27, 73K20)

Chen, Wei Tian (*with* Shi, Song Jiao; Zhang, Zhong Jun) Robust control of time-varying nonlinear systems with bounded disturbances. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 43–48. 93B36 (93C41)

— (*with* Shi, Song Jiao; Zhang, Zhong Jun) On the tracking problem of known nonminimum phase plants. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 873–877. 93B52 (93D05)

Chen, Wei-Zhong Integrabilities for a kind of equations. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 285–291, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:35134** 35Q55

— (*with* Wei, Rong-jue; Wang, Ben-ren) Chaotic behavior of solitary wave in liquid. (English summary) *Chinese Phys. Lett.* **12** (1995), *no.* 11, 677–680. 76B25 (58F13)

Chen, Weidong (*with* Liu, Julie Yu-Chih) A procedural semantics for stratified database updates. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 187–220. (Summary) **98j:68017** 68P15 (68N17, 68Q55)

Chen, Weihuan (*with* Rahman, Mohammad S.) Some theorems on a class of harmonic manifolds. (English summary) *Ganit* **14** (1994), *no.* 1-2, 5–12. (Lovejoy S. K. Das) **98c:53046** 53C20

— (*with* Rahman, Mohammad S.) Some remarks on the symmetry of self-conjugate minimal surfaces in $\mathbf{R}^3$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 157. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 185–190. (Fei-Tsen Liang) **98c:53008** 53A10

— (*with* Li, Hai Zhong) The Gauss map of space-like surfaces in $\mathbf{R}^{2+p}_p$. *Kyushu J. Math.* **51** (1997), *no.* 1, 217–224. (Luis M. Hervella) **98h:53102** 53C50 (53C40)

— (*with* Li, Hai Zhong) Bonnet surfaces and isothermic surfaces. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 40–52. (Guido Haak) **98a:53090** 53C42 (53A10)

Chen, Weimin A lower bound of the first eigenvalue of certain self-adjoint elliptic operators on manifolds containing long necks. *Turkish J. Math.* **21** (1997), *no.* 1, 93–98. (Liviu I. Nicolaescu) **98d:58190** 58G25

Chen, Weixin A note on quasi-P radical of associative rings. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 371–374. 16N80

Chen, Weiyu (*with* Sharma, Ambikeshwar) Lacunary interpolation on some non-uniformly distributed nodes on the unit circle. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 69–82. (Mircea Ivan) **98d:41006** 41A10 (41A05)

— (*with* Ditzian, Z.) Best approximation and K-functionals. *Acta Math. Hungar.* **75** (1997), *no.* 3, 165–208. (D. S. Lubinsky) **98h:41013** 41A17 (41A63, 42A10, 46E99, 46M35)

— (*with* Sharma, Ambikeshwar) Some Bernstein-Durrmeyer-type operators. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 239–249. (Alexandru Leonte) **98j:41024** 41A36

Chen, Wen[2] (*with* Long, Ruilin; Yuan, Shenglan) Wavelets generated by vector multiresolution analysis. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 3, 317–350. (Ding-Xuan Zhou) **98m:42052** 42C15

— (*with* Long, Ruilin) Wavelet basis packets and wavelet frame packets. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 239–256. (Hans W. Volkmer) **98c:42033** 42C15

Chen, Wen[3] (*with* Zhang, Hua Guang; Yin, Chao Wan) An output tracking control for nonlinear systems with uncertainties and disturbances using time delay control. (English summary) *Cybernetica* **40** (1997), *no.* 3, 229–237. 93C30 (93C42)

Chen, Wen De (*with* Kløve, Torleiv) The weight hierarchies of q-ary codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2265–2272. (Summary) **98c:94020** 94B05

— A solution method for optimal scheduling problems on a class of discrete event dynamical systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 591–597. 90B35 (90C35)

— (*with* Kløve, Torleiv) Bounds on the weight hierarchies of extremal non-chain codes of dimension 4. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 379–386. (Summary) **98e:94027** 94B05

— (*with* Kløve, Torleiv) Disjoint sets of distinct sum sets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 69–77. (Georges Grekos) **98h:11017** 11B13 (11B75, 94C99)

— (*with* Kløve, Torleiv) Bounds on the weight hierarchies of linear codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2047–2054. 94B05

Chen, Wen-Feng (*with* Zhu, Zhong Yuan; Liu, Yu Fen) Gauge field theories with nonlinear connections. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 267–273, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81209** 81T13

— (*with* Chaichian, M.; Lee, Hoong Chien) Differential regularization of Chern-Simons-Maxwell spinor and scalar electrodynamics. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 325–330. (Summary) **98k:81167** 81T15 (81V10)

— (*with* Lee, Hoong Chien; Zhu, Zhong Yuan) Quantum holonomy in three-dimensional general covariant field theory and the link invariant. (English summary) *Phys. Rev. D (3)* **56** (1997), *no.* 2, 1170–1174. (Sergei K. Lando) **98f:57009** 57M25 (81Q30)

Chen, Wen Hu Some fixed point theorems for 1-set contractive mappings. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **14** (1996), *no.* 5, 128–131. (Hong Kun Xu) **98d:47132** 47H10

— Some fixed point theorems for descending operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 2, 16–19. (Da Jun Guo) **98g:47049** 47H10

— (*with* Wen, Jin) Some fixed-point theorems for increasing or decreasing operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 105–109. (Summary) **98m:47099** 47H10

Chen, Wen-huei Test sequence generation from the protocol data portion based on the selecting Chinese postman algorithm. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 261–268. 68Q60

Chen, Wen Li The generating function method for combinatorial enumeration. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 3, 75–78. 05A15

Chen, Wen Liang[1] (*with* Chen, Chaio-Shiung) Analysis and design of a stable fuzzy control system. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 21–35. 93C42

Chen, Wen Zhong (*with* Zhou, Mi) Limiting operators for some operator sequences of probabilistic type. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 547–554. (P. L. Butzer) **98h:41025** 41A35
— (*with* Wang, Jian Yong) Approximation properties of some operators of probabilistic type. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 6, 819–824. 41A35
Chen, Wengu (*with* Lu, Shanzhen) Weighted inequalities for multilinear oscillatory singular integrals. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 163–175. (Summary) **98k:42015** 42B20 (42B25)
Chen, Wenxiong (*with* Li, Congming) A priori estimates for prescribing scalar curvature equations. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 3, 547–564. (David L. Finn) **98d:53049** 53C21 (35J60, 58G30)
— (*with* Li, Congming) Indefinite elliptic problems in a domain. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 333–340. (Summary) **98a:35035** 35J65 (35B45)
Chen, Wu-shen (*with* Wei, Mu-sheng) The nested total least squares problem: formulation, solutions and perturbation analysis. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 1, 103–117. 65F20 (65F35)
Chen, Wuhua (*with* Zheng, Bunan; Luo, Guilie) Convergence and stability of solutions of certain infinite delay differential equations. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 3, 362–370. (K. Smítalová) **98a:34089** 34K25 (34K20)
— Uniform stability for a differential equation. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 392–399. (Summary) **98c:34122** 34K20 (45J05)
Chen, X. *see* **Chen, Xiong**
Chen, X. R. *see* **Chen, Xi Ru**
Chen, Xi *see* **Chen, Xi[3]**
Chen, Xi[2] The shooting method for solving eigenvalue problems. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 2, 435–450. (Roman Andrushkiw) **98d:65102** 65L15
Chen, Xi[3] (*with* Chen, Mian; Liang, Jing Wei; Chen, Zhi Da) On uniqueness, existence and objectivity of *S*-*R* decomposition theorem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 817–823; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 763–768 (*Chinese. English and Chinese summaries*). (C. F. M. Creasy) **98m:73016** 73B99
Chen, Xi Ru (*with* Zhao, Lin Cheng; Rao, Calyampudi Radhakrishna) A note on the consistency of *M*-estimates in linear models. (English summary) *Stochastic processes*, 359–367, *Springer, New York*, 1993. (B. L. S. Prakasa Rao) **98f:62208** 62J05 (62F12)
— (*with* Wu, Yue Hua; Zhao, Lin Cheng) A necessary condition for the consistency of L_1 estimates in linear models. (English summary) *Sankhyā Ser. A* **57** (1995), *no.* 3, 384–392. (Summary) **98m:62188** 62J05 (62F35, 62G05)
— (*with* Shi, Peide) The rates of convergence of *M*-estimators for partly linear models in dependent cases. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 516. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 3, 301–316. (Summary) **98m:62115** 62G05 (62M10)
— (*with* Jin, Ming Zhong[1]) Necessary and sufficient conditions for strong consistency of LS estimates. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 97–106. (Wilfried Grossmann) **98e:62100** 62J05 (62F12)
— On a problem of strong consistency of least absolute deviation estimates. (English summary) *Statist. Sinica* **6** (1996), *no.* 2, 481–489. (Lin-Cheng Zhao) **98c:62124** 62J05 (62F12)
— (*with* An, Hong Zhi) Abnormal behavior of the least squares estimate of multiple regression. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 234–242. (Summary) **98a:62091** 62J05
Chen, Xia The law of the iterated logarithm for *m*-dependent Banach space valued random variables. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 695–732. (Nickolai A. Denis'evskiĭ) **98k:60008** 60B12
— Moderate deviations for *m*-dependent random variables with Banach space values. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 123–134. (Andrei I. Volodin) **98m:60007** 60B12 (60F10)
Chen, Xian Feng (*with* Zhang, Wei Jiang) Stabilization of a class of nonlinear singularly perturbed control systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 712–715. 93D15 (93C70)
Chen, Xian Feng (*with* Cai, Da Yong) Homotopy determinant algorithm with multi-initial zeros for solving eigenvalue problems. (English summary) Conference on Scientific Computation '94 (Shatin, 1994). *Southeast Asian Bull. Math.* **20** (1996), *no.* 3, 1–6. (Summary) **98a:65047** 65F15 (65H17)
Chen, Xiang Dong[2] (*with* Chen, Zu Chi) A degenerate reaction-diffusion problem. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 501–504, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35K57 (35K65)
Chen, Xiang En (*with* Ouyang, K. Z.) Chromatic classes of certain 2-connected $(n, n+2)$-graphs homeomorphic to K_4. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 17–29. (C. Y. Chao) **98i:05069** 05C15
— (*with* Ouyang, K. Z.) Chromatic classes of certain 2-connected $(n, n+2)$-graphs. II. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 31–38. (From the text) **98i:05070** 05C15
— The structure of graphs G satisfying $|a_1(G)| = 24$. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 22–24. 05C15
Chen, Xiangdong *see* **Chen, Xiang Dong[2]**
Chen, Xiangyang (*with* Lu, Shi Jie) On finite rank operators in CSL algebras. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 185–190. (Editors) **98i:47040** 47D25
Chen, Xiao Hong[2] (*with* Peng, Hong) Convergence order of monotone iterative methods of splitting type for a system of nonlinear equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 21–27. (Summary) **98d:65069** 65H10
Chen, Xiao Jia The proposal of Vilenkin in the Bianchi type III minisuperspace model. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 6, 723–730. 83C45
Chen, Xiao Jun *see* **Chen, Xiao Jun[2]**
Chen, Xiao Jun[1] A verification method for solutions of nonsmooth equations. (English and German summaries) *Computing* **58** (1997), *no.* 3, 281–294. (Zun Quan Xia) **98h:90092** 90C33 (49J52, 65H10)
— (*with* Qi, Liqun) A preconditioning proximal Newton method for nondifferentiable convex optimization. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 411–429. (Joachim Hirche) **98a:90102** 90C30 (49J52)
— (*with* Nashed, M. Zuhair; Qi, Liqun) Convergence of Newton's method for singular smooth and nonsmooth equations using adaptive outer inverses. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 445–462. (Carl T. Kelley) **98d:65070** 65H10 (47H17, 49J52, 65J15)
— (*with* Qi, Liqun; Sun, De Feng) Global and superlinear convergence of the smoothing Newton method and its application to general box constrained variational inequalities. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 519–540. (R. Tichatschke) **98g:90034** 90C33 (65H10)
Chen, Xiao Jun[2] (*with* Corradini, Flavio; Gorrieri, Roberto) A study on the specification and verification of performance properties (extended abstract). (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 306–320, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q60
— Model checking ACTL constrained processes. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 377–388, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68111** 68Q60 (03B70)
Chen, Xiao Lin (*with* Fu, Li Ping; Feng, Mang; Zhang, Qing Ying) The quantum solution of a time-dependent harmonic oscillator by the space-time transformation method and its application. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 3, 1–5. 81Q05
Chen, Xiao Long (*with* Zhu, Ping Tian) π-normalizers of π-solvable groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 1, 6–9. 20D10
Chen, Xiao Qing (*with* Fu, Wan Tao) Approximation families of cones and strictly efficient points. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 933–938. (Summary) **98m:90126** 90C29 (90C28)
Chen, Xiao Xing Characteristic exponents for second order periodic linear differential equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 107–118. (M. A. Alwash) **98e:34076** 34C25 (34C10)
Chen, Xiaohong Denise (*with* Shen, Xiaotong) Sieve extremum estimates for weakly dependent data. (English summary) *Econometrica* **66** (1998), *no.* 2, 289–314. (Summary) **98k:62154** 62M10 (62P20)
Chen, Xiaojun *see* **Chen, Xiao Jun[1]**
Chen, Xiaoman (*with* Xu, Shengzhi; Yan, Shaozong) Toeplitz C^*-algebra over the L-shaped domain in $\mathbf{C}^n$. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 516. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 3, 325–334. (Raúl E. Curto) **98c:46155** 46L99 (32A07, 46L35, 47B35)
— (*with* Jiang, Chun Lan) The closure of unitary orbit for strongly irreducible operators in a class of nest algebras. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 285–293. (Kenneth R. Davidson) **98h:47024** 47A58 (47D25)
Chen, Xiaoxin *see* **Chen, Xiao Xing**
Chen, Xie Bin New bounds for the greatest number of proper λ-colorings of a (v, e)-graph. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 121–125. (Summary) **98d:05052** 05C15
— Graphs that are optimally edge-fault tolerant with respect to rooted stars. (Chinese. English and Chinese summaries) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **11** (1997), *no.* 2, 5–7, 81. (Summary) **98d:05074** 05C35
— Some families of chromatically unique bipartite graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 245–252. (Summary) **98i:05071** 05C15
Chen, Xigeng (*with* Peng, Jinxiang) Smooth involutions on the $2k$-dimensional quaternionic projective space $\mathbf{HP}(2k)$. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 5–14. (Summary) **98g:57057** 57S17 (57R20, 57S25)
Chen, Xinfu Global asymptotic limit of solutions of the Cahn-Hilliard equation. (English summary) *J. Differential Geom.* **44** (1996), *no.* 2, 262–311. (Peter L. Christiansen) **98a:35059** 35K55 (35B25, 35Q55)
— Existence, uniqueness, and asymptotic stability of traveling waves in nonlocal evolution equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 1, 125–160. (Mehmet Can) **98f:35069** 35K55 (35B40, 35Q80)
— (*with* Namah, Gawtum) Wave propagation under curvature effects in a heterogeneous medium. *Appl. Anal.* **64** (1997), *no.* 3-4, 219–233. (Summary) **98e:73015** 73B30 (35B99)
— (*with* Hilhorst, Danielle; Logak, Elisabeth) Asymptotic behavior of solutions of an Allen-Cahn equation with a nonlocal term. *Nonlinear Anal.* **28** (1997), *no.* 7, 1283–1298. (Peter L. Christiansen) **98a:35060** 35K55 (35B40, 35Q99, 45K05)
— (*with* Ermentrout, George Bard; Chen, Zhi-Xiong) Transition fronts and localized structures in bistable reaction-diffusion equations. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 147–167. (Summary) **98f:35076** 35K57
— (*with* Chadam, John; Gianni, Roberto; Ricci, Riccardo) A reaction infiltration problem: classical solutions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 275–291. (Siegfried Carl) **98g:35103** 35K57 (35M10, 76S05)
Chen, Xiong (*with* Feng, Shui) Critical phenomenon of a two component nonlinear stochastic system. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 2, 147–155. (Pablo A. Ferrari) **98d:60188** 60K35 (60J27)
— (*with* Wang, Hong[6]) On the interval recurrence property of (N, d)-Ornstein-Uhlenbeck processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 79–84. (Summary) **98a:60102** 60J25 (60J60, 60J65)
Chen, Xiu Singular perturbation of Robin problems for second order nonlinear equations with turning points. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 1–7. (Summary) **98i:34084** 34E15 (34B15, 34E20)
Chen, Xiu Dong (*with* Wu, Huan Qin; Li, Li[1]) Limit cycles of a dynamical system with gaps. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 297–303. (Summary) **98d:34057** 34C05
Chen, Xiu Hong ε-optimal solutions for nondifferentiable semi-infinite convex programming. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 8–14. 90C34 (90C25)

Chen, Xu-Yan Polynomial asymptotics near zero points of solutions of general elliptic equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1227–1250. (Jan Bochenek) **98i:35042** 35J45 (35B40)

— (*with* Hale, Jack K.; Tan, Bin) Invariant foliations for C^1 semigroups in Banach spaces. *J. Differential Equations* **139** (1997), *no.* 2, 283–318. (P. W. Bates) **98m:47109** 47H20 (34C35, 58F18)

— Asymptotic behavior near zeros of solutions of elliptic and parabolic equations. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 13–24. (I. N. Tavkhelidze) **98j:35021** 35B40 (35B60, 35J30, 35K25)

— (*with* Jimbo, Shuichi; Morita, Yoshihisa) Stabilization of vortices in the Ginzburg-Landau equation with a variable diffusion coefficient. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 903–912 (*electronic*). (Summary) **98m:35189** 35Q55 (35J65)

Chen, Xue Bo An inclusion principle for discrete stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 94–98. 93E03 (93E15)

Chen, Xue Ru Sample survey methods for sensitive questions and mean square errors of estimates. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 2, 12–16. 62D05

Chen, Xuyun (*with* Zhou, Ding; Zhang, Qianling; Min, Hao) A vector quantization algorithm suitable for VLSI implementation. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 2, 223–228. (Summary) **98d:68203** 68U10 (68P99, 68Q35)

Chen, Xuzhou (*with* Hartwig, Robert E.) On the convergence of power scaled Cesàro sums. (English summary) *Linear Algebra Appl.* **267** (1997), 335–358. (Uriel G. Rothblum) **98k:15003** 15A04 (65F10, 65F15)

Chen, Y. *see* **Chen, Yue**

Chen, Y.-C. *see* **Chen, Yen-Cheng**

Chen, Y. H. *see* **Chen, Ye-Hwa**

Chen, Y.-J. *see* **Chen, Yi-Ju**

Chen, Y. Q. *see* **Chen, Yu Qun**

Chen, Y.-T. *see* **Chen, Yun-tai**

Chen, Y. Z. *see* **Chen, Yi Zhou**

Chen, Ya Ling (*with* Li, Li) A method of design of a low-order controller. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 6, 843–846. 93B51 (93C05)

Chen, Yan Ping Superconvergence of a fully discrete procedure for two-phase displacement problems. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 1, 1–8. (Summary) **98e:76061** 76M10 (76S05, 76T05)

Chen, Yang *see* **Chen, Yang[2]**

Chen, Yang[1] (*with* Manning, S. M.) Some eigenvalue distribution functions of the Laguerre ensemble. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7561–7579. (Estelle L. Basor) **98c:82002** 82B05 (82B41)

— (*with* Ismail, Mourad E. H.) Thermodynamic relations of the Hermitian matrix ensembles. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6633–6654. (Summary) **98k:82074** 82B41 (33C90)

Chen, Yang[2] (*with* Florian, Michael) Congested O-D trip demand adjustment problem: bilevel programming formulation and optimality conditions. (English summary) *Multilevel optimization: algorithms and applications*, 1–22, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90A08 (90B06)

Chen, Yangjun Magic sets revisited. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 346–365. (Summary) **98c:68046** 68P15 (68N17)

— Counting and topological order. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 6, 497–509. (Summary) **98h:68052** 68P15 (68N17)

Chen, Yao Jun (*with* Wei, Xian Sun; Zhang, Yun Qing) A construction of self-complementary graphs with endpoints. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 14–16. (Summary) **98j:05111** 05C75

Chen, Ye Hua (*with* Huang, Yuan Mei) Existence of solutions to a class of nonlinear second-order differential equations of dynamical systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 213–216. (Shao Zhu Chen) **98c:34029** 34B15

— (*with* Sun, Chun Yan) Periodic solutions and a spectral method for a class of Schrödinger equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 369–373. (Summary) **98b:35174** 35Q55 (35B10)

Chen, Ye-Hwa (*with* Han, M. C.) Decentralized control design: uncertain systems with strong interconnections. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1363–1385. 93A14

— (*with* Wang, Wen June) Fuzzy entropy management via scaling, elevation and saturation. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 173–178. (Summary) **98m:94018** 94A17 (04A72)

Chen, Yen-Cheng (*with* Cortelezzi, L.; Chang, Hsiao-Lung) Nonlinear feedback control of the wake past a plate: from a low-order model to a higher-order model. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2009–2022. (Summary) **98d:76048** 76D25 (76M99, 93C20)

Chen, Yen-Mei J. The Selmer groups and the ambiguous ideal class groups of cubic fields. (English summary) *Bull. Austral. Math. Soc.* **54** (1996), *no.* 2, 267–274. (Philippe Satgé) **98a:11072** 11G05 (11R16, 11R29)

— The Selmer groups of elliptic curves and the ideal class groups of quadratic fields. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2157–2167. (Kenneth Kramer) **98d:11058** 11G05 (11R29, 11R34)

Chen, Yi[2] Transitivity theorems in Lie geometry. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 87–94. (Martin Funk) **98a:51005** 51B25 (20B22, 20B25)

Chen, Yi-Chao (*with* Haughton, David Mark) Existence of exact solutions for the eversion of elastic cylinders. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 79–88. (Summary) **98m:73030** 73C50 (73G05)

Chen, Yi Han (*with* Shao, Chang Gui; Chen, Zhong Qiu) Quantization and renormalization of 4-derivative gravity. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 364–374. 83C45 (83D05)

Chen, Yi-Ju (*with* Steen, P. H.) Dynamics of inviscid capillary breakup: collapse and pinchoff of a film bridge. (English summary) *J. Fluid Mech.* **341** (1997), 245–267. (Summary) **98b:76015** 76B45 (76E99)

Chen, Yi Nan (*with* Ye, Er Hua; Hua, Jiu Kun) AMLE of exponential distribution parameters based on zero-failure data. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 183–190. 62N05

Chen, Yi-Xin Infinite degenerate states of two-dimensional black hole. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 292–297, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:83063** 83C57 (81T20)

— (*with* Li, Kang[1]; Ma, Zhong-Shui) q-deformed oscillator systems and lattice Dirac fermions. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 321–328, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81135** 81R50

— Infinite degenerate states and Hawking flux quantization of two-dimensional black hole. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 475–480. (Summary) **98f:83064** 83C57 (81T20, 81V17)

Chen, Yi Zhou Hypersingular integral equation approach for plane elasticity crack problem with circular boundary. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 451–461. 73V35 (65R20, 73M25)

Chen, Yidong (*with* Dougherty, Edward R.) Logical granulometric filtering in the signal-union-clutter model. (English summary) *Random sets (Minneapolis, MN, 1996)*, 73–95, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (68U10)

Chen, Yifan (*with* Beier, Klaus-Peter; Papageorgiou, Dimitris) Direct highlight line modification on NURBS surfaces. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 583–601. 65D17 (65D15)

Chen, Yiheng (*with* Ma, Hao) Explicit formulation of the J_2-integral in anisotropic materials and its application in microcrack shielding problems. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 588–596. 73M25

Chen, Yijiang Stability criterion of solitons in three wave mixing of $\chi^{(2)}$ nonlinear media. (English summary) *Phys. Lett. A* **234** (1997), *no.* 6, 443–452. (Summary) **98j:81392** 81V80

Chen, Yijung (*with* Liu, Wing Kam; Hao, Wei; Jun, Sukky; Gosz, J.) Multiresolution reproducing kernel particle methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 4, 295–309. (Summary) **98f:65132** 65T99 (65D15)

— (*with* Liu, Wing Kam; Jun, Sukky; Sihling, Dirk Thomas; Hao, Wei) Multiresolution reproducing kernel particle method for computational fluid dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 12, 1391–1415. (Summary) **98d:76131** 76M25

Chen, Ying[1] (*with* Zhou, Ji Xiang; Mao, Shi Song) Variance estimation in parameter design. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 201–209. 62K99 (62N10)

Chen, Ying-jian Some new transition classes in the fractional quantum Hall effect and their critical filling factors. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 3, 215–218. (Summary) **98f:82138** 82D50

Chen, Yiping (*with* Singpurwalla, Nozer D.) Unification of software reliability models by self-exciting point processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 337–352. (Summary) **98a:68016** 68M15 (60G55, 60K10, 68N99)

Chen, Yixiang Stone duality and representation of stable domain [domains]. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 1, 27–41. (Summary) **98d:68134** 68Q55 (06A12)

— On compactness of induced $I(L)$-fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 373–378. (Summary) **98b:54006** 54A40 (04A72)

Chen, Yong[3] (*with* Zheng, Yu) The Hamiltonian canonical representation of the KdV equation and its application. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 34–38. (Wen Xiu Ma) **98g:58087** 58F07 (35Q53)

Chen, Yong Chang (*with* Shyu, Kuo-Kai) Robust tracking and model following for uncertain time-delay systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 589–600. 93B52 (93C30)

Chen, Yong-Gao On bases of finite groups. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 553–556. 20D60

— On addition of two sets of integers. *Acta Arith.* **80** (1997), *no.* 1, 83–87. (Yuri Bilu) **98b:11021** 11B75 (05A20)

— An answer to a problem on view-obstruction. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 2, 139–142. (Thomas W. Cusick) **98k:11098** 11J25 (52A37)

Chen, Yong Jun (*with* Zhang, Yao Ting) Liouville distributions and Bayes estimates. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 5, 567–573. (Summary) **98b:62046** 62F15 (62H17)

— (*with* Zhang, Yao Ting) Bayesian log-linear estimation. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 47–54. 62H17 (62F15)

Chen, Yong Lin (*with* Yuan, Yong Xin) An oblique projection method for solving restricted systems of linear equations. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 1–4, 12. 65F10 (15A06)

— Iterative methods for solving restricted linear equations. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 171–184. (Summary) **98d:65036** 65F10 (15A06)

— Recursive algorithms for finding the optimal solutions of constrained systems of equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 229–236. 90C20

Chen, Yong Shao (*with* Feng, Wei Zhen) Oscillations of second order nonlinear ODE with impulses. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 150–169. (O. S. Chernikova) **98f:34043** 34C10 (34A37)

Chen, Yonghong (*with* Li, Qiao) They are just butterflies. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 512–513, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 05C25 (68R10)

Chen, Yongping (*with* Fisher, Brian; Yakubovich, Semën B.) Some non-commutative neutrix convolution products of functions. (English summary) *Math. Balkanica (N.S.)* **9** (1995), *no.* 4, 287–297. (Arpad Takači) **98c:46075** 46F10

— (*with* Fisher, Brian) Generalizations of non-commutative neutrix convolution products of functions. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 413–419. (Arpad Takači) **98i:46037** 46F10

— Superconvergent recovery of gradients of piecewise linear finite element approximations on non-uniform mesh partitions. (English summary) *Numer. Methods Partial*

Differential Equations **14** (1998), *no.* 2, 169–192. (Lutz Tobiska) **98m:65179** 65N15 (65N30)

Chen, Yongze (*with* Liu, Philip L.-F.) A generalized modified Kadomtsev-Petviashvili equation for interfacial wave propagation near the critical depth level. (English summary) *Wave Motion* **27** (1998), *no.* 4, 321–339. (Summary) **98m:86005** 86A05 (35Q53, 76C10)

Chen, Youyi (*with* Sun, Don X.; Wu, C. F. Jeff) Optimal blocking schemes for 2^n and 2^{n-p} designs. (English summary) *Technometrics* **39** (1997), *no.* 3, 298–307. 62K10

Chen, Yu *see* **Chen, Yu[7]**

Chen, Yu[1] On minimal representations of simple algebraic groups over algebras. *Comm. Algebra* **26** (1998), *no.* 2, 671–679. (Timo Neuvonen) **98m:20050** 20G05 (20G15)

Chen, Yu[5] (*with* Rokhlin, Vladimir V.) On the Riccati equations for the scattering matrices in two dimensions. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 1–13. (Plamen D. Stefanov) **98e:35041** 35J05 (35P25, 35R30)

— Inverse scattering via Heisenberg's uncertainty principle. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 253–282. (Summary) **98a:35139** 35R30 (35J05, 65J20, 81U40)

— Inverse scattering via skin effect. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 647–667. (Summary) **98a:65135** 65M55 (35J05, 35R30)

Chen, Yu[6] (*with* Li, Peng; Xiong, Hong Chuan; Zhao, Song Qing; Fan, Yun Xia) The correlation functions of the Ising model on a finite lattice. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 283–286. (Summary) **98f:82028** 82B20

Chen, Yu[7] (*with* Gross, Peter M.; Ramakrishna, Viswanath; Rabitz, Herschel; Mease, Kenneth D.; Singh, Harjinder) Control of classical regime molecular objectives—applications of tracking and variations on the theme. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1617–1633. 93C95 (93C83)

Chen, Yu Bo (*with* Zhuang, Wan; Cheng, Sui Sun) Monotone methods for a discrete boundary problem. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 12, 41–49. (Alberto Cabada) **98b:34028** 34A45 (35A35, 65L12, 65N06)

Chen, Yu Fen Smooth PL estimation of distribution functions under random truncation of data. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 1, 18–23. 62G05

Chen, Yu Guang (*with* Yuan, Qing Shan; Chen, Hong[6]; Zhang, Yu-Mei; Wu, Xiang) Elementary excitations of a one-dimensional quantum sine-Gordon model. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 6, 1174–1182. (Summary) **98j:81201** 81T10 (82B10)

Chen, Yu Ming[1] (*with* Xiao, Heng; Li, Jian Bo) The linear bi-spatial tensor equation $\varphi_{ij}A^iXB^j = C$. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 10, 979–986; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 919–926 (*Chinese. English and Chinese summaries*). (U. D. Bekbaev) **98h:15029** 15A24

Chen, Yu Qing (*with* Ray-Chaudhuri, D. K.; Xiang, Qing) Constructions of partial difference sets and relative difference sets using Galois rings. II. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 179–196. (Surinder K. Sehgal) **98c:05027** 05B10

— (*with* Cho, Yeol Je) On 1-set-contraction perturbations of accretive operators in cones of Banach spaces. (English summary) *J. Math. Anal. Appl.* **201** (1996), *no.* 3, 966–980. (P. S. Milojević) **98d:47117** 47H06 (47H11, 47H15)

— On the existence of abelian Hadamard difference sets and a new family of difference sets. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 234–256. (Vladimir D. Tonchev) **98h:05036** 05B10

— (*with* Zhang, Shi Sheng; Lee, Byung Soo) On the semi-inner product in locally convex spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 219–224. (Richard Fleming) **98c:46043** 46C50 (46A99, 47A05)

— (*with* Ha, Ki Sik; Cho, Yeol Je) The fixed point index for accretive mappings with k-set contraction perturbations in cones. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 237–245. (Yi Hong Du) **98f:47062** 47H09 (47H10, 47H17)

— Periodic solutions for evolution equations in Hilbert spaces. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 1, 43–53. (Ioan I. Vrabie) **98f:34090** 34G20 (34C25, 47N20)

— A construction of difference sets. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 247–250. (Summary) **98j:05030** 05B10

Chen, Yu Qun (*with* Shum, Kar Ping) Quasi-direct sums of rings and their radicals. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 3043–3055. (Stefan Veldsman) **98h:16027** 16N80

Chen, Yu Shu (*with* Bi, Qin Sheng) An analytic expression for the transition boundaries of the solutions of Duffing systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 5, 573–581. 34C15

— (*with* Wu, Zhi Qiang) The normal form for Hopf bifurcations in cases of noninternal resonance. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 6, 669–675. 58F36 (34C20, 34C23, 58F14)

— (*with* Wu, Zhi Qiang; Bi, Qin Sheng) Normal form of the nonsemi-simple bifurcation problem. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 4, 349–354; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 325–330 (*Chinese. English and Chinese summaries*). (Josef Hainzl) **98f:34052** 34C20 (34C23)

— (*with* Zhang, Wei[5]) Adjoint operator method and normal forms of higher order for nonlinear dynamical system. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 5, 449–461; *translated from Appl. Math. Mech.* **18** (1997), *no.* 5, 421–432 (*Chinese. English and Chinese summaries*). (Summary) **98g:58157** 58F36 (34C20, 34C23)

— (*with* Jin, Dong Ping) Bifurcations and singularities in systems with hysteretic nonlinearity. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 299–304. (Summary) **98c:34063** 34C23 (34C05, 70K99, 73K99)

— (*with* Bi, Qin Sheng; Wu, Zhi Qiang) Bifurcation in a nonlinear Duffing system with multi-frequency external periodic forces. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 2, 121–128; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 113–120 (*Chinese. English and Chinese summaries*). 34C15 (34C23, 70K40)

Chen, Yuan[2] (*with* Chen, Hao[3]) Effects of the Aharonov-Bohm flux on a soliton in a one-dimensional ferromagnetic ring. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 8, 1249–1254. (Wen-li Yang) **98e:82043** 82D40 (78A30, 81Q99)

Chen, Yuanqian (*with* Conrad, Paul F.; Darnel, Michael R.) Finite-valued subgroups of lattice-ordered groups. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 501–512. (Stephen H. McCleary) **98a:06026** 06F15 (20F60)

Chen, Yubo *see* **Chen, Yu Bo**

Chen, Yue (*with* McKenna, P. J.) Traveling waves in a nonlinearly suspended beam: theoretical results and numerical observations. *J. Differential Equations* **136** (1997), *no.* 2, 325–355. (Hideo Soga) **98g:73014** 73D35 (35Q72, 47H17, 65P05, 73K12)

— (*with* McKenna, P. J.) Travelling waves in a nonlinearly suspended beam: some computational results and four open questions. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2175–2184. (Summary) **98g:73023** 73K12 (35Q72, 73D35, 73K05)

Chen, Yui-Bin (*with* Ierardi, Doug) Time-optimal trajectories of a rod in the plane subject to velocity constraints. (English summary) *Algorithmica* **18** (1997), *no.* 2, 165–197. (Inge Troch) **98m:70006** 70B15 (49N99, 70Q05)

Chen, Yumei (*with* Feng, Min Fu; Zhu, Rui; Tian, Haiyan) On analysis of the combined finite element approximation of branches of nonsingular solutions of the three-field N-S equations. (English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 752–757. (Summary) **98j:76087** 76M10 (65M60, 76D05)

Chen, Yun-Gang (*with* Giga, Yoshikazu; Sato, Koh) On instant extinction for very fast diffusion equations. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 243–250. (Mikhail Lavrentiev, Jr.) **98a:35071** 35K60 (35B40)

Chen, Yun Mei (*with* Shen, Chun Li) Monotonicity formula and small action regularity for Yang-Mills flows in higher dimensions. (English summary) *Calc. Var. Partial Differential Equations* **2** (1994), *no.* 4, 389–403. (Introduction) **98c:58030** 58E15 (53C07, 58G11)

— (*with* Wang, Changyou) Partial regularity for weak heat flows into Riemannian homogeneous spaces. (English summary) *Comm. Partial Differential Equations* **21** (1996), *no.* 5-6, 735–761. (Summary) **98b:58043** 58E20 (35K99, 58G11)

— (*with* Guo, Bo Ling) Two-dimensional Landau-Lifshitz equation. (English summary) *J. Partial Differential Equations* **9** (1996), *no.* 4, 313–322. (Summary) **98i:35172** 35Q55 (58E50)

— (*with* Bao, Gang[1]) A nonlinear grating problem in diffractive optics. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 322–337. (I. Kay) **98b:78030** 78A45 (35J05, 35Q60)

Chen, Yun-tai (*with* Kim, So Gu; Wu, Z.-L.; Panza, G. F.) A mathematical theorem useful for the direct estimation of seismic source spectra. (English summary) *Bull. Seismol. Soc. Amer.* **87** (1997), *no.* 5, 1281–1287. (Summary) **98f:86005** 86A15

Chen, Yung C. (*with* Fu, Chin-Mei) Construction and enumeration of pandiagonal magic squares of order n from Step method. (English summary) *Ars Combin.* **48** (1998), 233–244. 05B15

Chen, Yung-Chang *see* **Chen, Yong Chang**

Chen, Yunkai A nonexistence theorem of small periodic traveling wave solutions to the generalized Boussinesq equation. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 4, 697–704. (Summary) **98h:35203** 35Q53 (35B10, 76B15)

— Cylindrical Korteweg-de Vries equation and travelling wave solutions. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 1, 37–42. (Summary) **98c:35138** 35Q53 (35C10, 76B25)

— Nearly conconcentric Korteweg-de Vries equation and periodic traveling wave solution. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 183–188. (Summary) **98i:35163** 35Q53 (76B15)

Chen, Yuping (*with* Ding, Lixin; Kang, Lishan; Pan, Zhengjun) Using evolutionary computation to solve problems in nonparametric regression. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 27–31. 62G05 (62–04)

Chen, Yuung-Jih (*with* Horng, S.-J.) Medial axis transform on mesh-connected computers with hyperbus broadcasting. (English summary) *Computing* **59** (1997), *no.* 2, 95–114. 68U10 (68Q22)

Chen, Z. *see* **Chen, Zhongming**

Chen, Z. L. *see* **Chen, Zi Li**

Chen, Z. M. *see* **Chen, Zhong Mu**

Chen, Z.-Q. *see* **Chen, Zhen-Qing**

Chen, Z.-Z. *see* **Chen, Zhi-Zhong**

Chen, Ze Qian (*with* Liu, Hong Mei) The edge coloring classification of the generalized $K(4, n)$ graphs and the generalized Griozsch graphs G_n. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 4, 531–533. (Xiao Feng Guo) **98d:05058** 05C15

— Measures and martingales on infinite state spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 2, 229–234. (Summary) **98k:28015** 28B05 (60G48, 60G57)

Chen, Zen-Yi (*with* Muirhead, Robb J.) A comparison of robust linear discriminant procedures using projection pursuit methods. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 163–176, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H30 (62F35)

Chen, Zeng Jing Existence of solutions to backward stochastic differential equations with stopping times. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 22, 2379–2382. 60H10

— (*with* Liu, Jun Yi; Zhao, Zhi Jun) Computational formulas for the amount of medication in a body and their applications. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 1, 31–34. 92C45

— Existence and uniqueness for BSDE with stopping time. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 96–99. 60H10

Chen, Zeng Zheng (*with* Li, Qi Tong) A new symmetric dual in multiobjective mathematical programming. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 5, 13–17. 90C29 (49N15)

— (*with* Lu, Xuan Zhu) A sufficient condition for optimality of multiobjective (f, p)-convex programming. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 6, 6–10. 90C29 (90C25)

Chen, Zesen (*with* Hayes, David R.) Norm and trace of the j-invariants of Drinfeld modules associated to hyperelliptic curves. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 1–11. (Liang-Chung Hsia) **98d:11064** 11G09 (11G15)

Chen, Zhan Ben Trigonometry in inner product spaces and characteristics of inner product spaces. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*,

45–52. (Gang Song Leng) **98f:51034** 51N20 (46C15)

Chen, Zhan Feng (*with* Wu, Jian Zhong[2]) Finding major efficient solutions by using indifferent efficient point sets. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 4, 6–9. 90C29

Chen, Zhangxin Equivalence between and multigrid algorithms for nonconforming and mixed methods for second-order elliptic problems. (English summary) *East-West J. Numer. Math.* **4** (1996), *no.* 1, 1–33. (Stephen W. Brady) **98c:65184** 65N30 (65F10)

— Analysis of expanded mixed methods for fourth-order elliptic problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 483–503. (Shuzi Zhou) **98m:65187** 65N30 (65N12)

— (*with* Ewing, Richard E.) Stability and convergence of a finite element method for reactive transport in ground water. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 881–904. (Summary) **98a:76049** 76M10 (65M60, 76S05, 76T05, 86–08, 86A05)

— (*with* Ewing, Richard E.) Fully discrete finite element analysis of multiphase flow in groundwater hydrology. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2228–2253. (Summary) **98f:76049** 76M10 (65M60, 76S05, 86A05)

— (*with* Oswald, Peter) Multigrid and multilevel methods for nonconforming Q_1 elements. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 667–693. (Dietrich Braess) **98g:65118** 65N55 (65N12)

Chen, Zhaodou (*with* Chen, Nan Xian) Computing coefficients of wavelet series by Möbius inversion formula. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 2, 163–171. (Summary) **98b:42044** 42C15

— (*with* Shen, Yanan; Liu, Shaojun) Möbius inversion on a multiplicative semigroup and inverse lattice problems in physics. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 269–279. (Summary) **98i:05004** 05A15 (82D25)

Chen, Zhaomu (*with* Chen, Fuyuan; Huang, Yi Sheng[2]) Semisimple BCI-algebraic structure. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 113–117. (Summary) **98b:06029** 06F35 (03G25)

— (*with* Huang, Yi Sheng[2]) Normal BCK-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 541–546. (Summary) **98a:06031** 06F35 (03G25, 08A05)

— (*with* Huang, Yi Sheng[2]) The n-fold implicative BCK-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 63–67. (Yishu Pu) **98k:06021** 06F35

Chen, Zhen Long (*with* Xu, Xi Wen) The Hausdorff dimension and packing dimension of the set of multiple points of a d-dimensional stationary Gaussian process. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 227–230. (Summary) **98f:60076** 60G15 (60G17)

Chen, Zhen-Qing (*with* Zhao, Zhong Xin) Harnack principle for weakly coupled elliptic systems. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 261–282. (Maria J. Esteban) **98g:35059** 35J45 (35B05)

— (*with* Song, Renming) Intrinsic ultracontractivity and conditional gauge for symmetric stable processes. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 204–239. (Zhong Xin Zhao) **98j:60103** 60J30 (60J35, 60J45)

Chen, Zheng[2] (*with* Xu, Xing Zhong; Zhong, Man Ru) Change of model in the estimation of error variance with a quadratic form. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 3, 425–430. 62J05

Chen, Zheng Zheng *see* **Chen, Zeng Zheng**

Chen, Zhenmin Parameter estimation of the Gompertz population. (English summary) *Biometrical J.* **39** (1997), *no.* 1, 117–124. (Summary) **98g:62041** 62F10

— Statistical inference about the shape parameter of the Weibull distribution. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 85–90. 62F25 (62F03, 62N05)

Chen, Zhi[1] (*with* Deng, Naiyang) A unified convergence theorem for nonlinear ABS-type algorithm. (English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 339–343. (Summary) **98m:65093** 65H10

Chen, Zhi Bing (*with* Gu, Chuan Qing) Matrix-valued rational interpolants and their error formula. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 73–77. (Ying Guang Shi) **98f:41014** 41A20 (65D15)

Chen, Zhi Da (*with* Chen, Mian; Liang, Jing Wei; Chen, Xi[3]) On uniqueness, existence and objectivity of S-R decomposition theorem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 817–823; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 763–768 (*Chinese. English and Chinese summaries*). (C. F. M. Creasy) **98m:73016** 73B99

Chen, Zhi Gang *see* **Chen, Zhigang[1]**

Chen, Zhi-Hong (*with* Lai, Hong-Jian) Reduction techniques for super-Eulerian graphs and related topics—a survey. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 53–69, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:05126** 05C45

— (*with* Kuang, Ying-Qiang; Lai, Hong-Jian) Generalized matroid packings and coverings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 155–160. (Summary) **98j:05045** 05B35

— Super-Eulerian graphs, independent sets, and degree-sum conditions. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 73–87. (Cun-Quan Zhang) **98k:05104** 05C45

Chen, Zhi Hua Local characteristic of holomorphic automorphism on classical domains. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 463–466. (Ian Graham) **98c:32023** 32H02 (32H15)

— (*with* Li, Yao Wen) The isospectral problem for cosymplectic manifolds. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 317–324. (Shun Hui Zhu) **98m:53040** 53C15 (58G25)

Chen, Zhi-Long (*with* Powell, Warren B.) An optimal control formulation of large-scale multiclass machine scheduling problems. (English summary) *Network optimization (Gainesville, FL, 1996)*, 423–440, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90B35)

— Erratum to: "Parallel machine scheduling with time dependent processing times" [Discrete Appl. Math. **70** (1996), no. 1, 81–93; MR 97d:68020]. *Discrete Appl. Math.* **75** (1997), *no.* 1, 103. (From the text) **98d:68031** 68M20 (68Q10, 68Q25)

— (*with* Lu, Qing; Tang, Guochun) Single machine scheduling with discretely controllable processing times. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 69–76. (Lajos Rónyai) **98m:90070** 90B35

— (*with* Powell, Warren B.) A generalized threshold algorithm for the shortest path problem with time windows. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 303–318, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 68R10 (05C85)

— (*with* Cheng, T. C. Edwin; Li, Chung-Lun; Lin, Bertrand M.-T.) Scheduling to minimize the total compression and late costs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 67–82. (Summary) **98m:90071** 90B35 (90C39)

— Solution algorithms for the parallel replacement problem under economy of scale. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 3, 279–295. (Summary) **98m:90065** 90B25

Chen, Zhi-Min (*with* Miyakawa, Tetsuro) Decay properties of weak solutions to a perturbed Navier-Stokes system in $\mathbf{R}^n$. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 741–770. (Alain Miranville) **98k:35147** 35Q30 (35D10, 76D05)

Chen, Zhi Ming[1] (*with* Hoffmann, Karl-Heinz[1]) Optimal control of dynamical Ginzburg-Landau vortices in superconductivity. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 3-4, 241–258. (Summary) **98c:49046** 49K20 (35Q55, 82D55)

— (*with* Hoffmann, Karl-Heinz[1]; Jiang, Lishang) On the Lawrence-Doniach model for layered superconductors. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 369–387. (Ioan Bâldea) **98k:82202** 82D55 (35Q55)

— Modelling and numerical solutions of a gauge periodic time dependent Ginzburg-Landau model for type-II superconductors. (English summary) *J. Comput. Math.* **15** (1997), *no.* 4, 365–384. (Qi Tang) **98j:82072** 82D55 (65C20, 65M12)

— (*with* Hoffmann, Karl-Heinz[1]) Global classical solutions to a non-isothermal dynamical Ginzburg-Landau model in superconductivity. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 901–920. (Darko Kapor) **98m:82076** 82D55 (35Q55)

— Mixed finite element methods for a dynamical Ginzburg-Landau model in superconductivity. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 323–353. (J. W. Jerome) **98d:65139** 65N30 (82D55)

Chen, Zhi Ping (*with* Hurkens, C. A. J.; de Jong, J. L.) A branch-and-price algorithm for solving the cutting strips problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 215–224. 90C27

— (*with* Xu, Cheng Xian) Generalized duality theory for general multistage programming problems with recourse. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 275–286. (Jia Liu Mei) **98e:90102** 90C15

Chen, Zhi-Xiong (*with* Guo, Ben-yu) Analytic solutions of Belousov-Zhabotinskii reaction. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 199–211, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Vitaly A. Volpert) **98f:80007** 80A32 (35A25, 35Q99)

— (*with* Ermentrout, George Bard; McLeod, J. Bryce) Traveling fronts for a class of non-local convolution differential equations. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 235–253. (Summary) **98e:45010** 45K05 (35Q80, 92B05)

— (*with* Ermentrout, George Bard; Chen, Xinfu) Transition fronts and localized structures in bistable reaction-diffusion equations. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 147–167. (Summary) **98f:35076** 35K57

Chen, Zhi Yun The Diophantine system of equations $5x^2 - 3y^2 = 2$, $16y^2 - 5z^2 = 11$. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **30** (1996), *no.* 4, 381–384. (Zhen Fu Cao) **98b:11024** 11D09

— Upper bounds for positive integer solutions of the indeterminate equations $x^2 - 7y^2 = 2$, $z^2 - 32y^2 = -23$. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 3, 253–256. (Zhen Fu Cao) **98m:11016** 11D09

Chen, Zhi-Zhong NC algorithms for finding a maximal set of paths with application to compressing strings. (English summary) *Automata, languages and programming (Szeged, 1995)*, 99–110, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q25

— Practical approximation schemes for maximum induced-subgraph problems on $K_{3,3}$-free or K_5-free graphs. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 268–279, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68212** 68R10 (05C85, 68Q25)

— (*with* Uehara, Ryuhei; He, Xin[1]) Fast RNC and NC algorithms for finding a maximal set of paths with an application. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 209–218, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05143** 05C85 (05C38, 68Q22, 68Q25, 68R10)

— Sequential and parallel approximation of maximum induced-subgraph problems on sparse graphs. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 80–86. (Summary) **98b:68072** 68Q25 (05C85, 68R10)

— (*with* Uehara, Ryuhei; He, Xin[1]) Fast RNC and NC algorithms for maximal path sets and applications to superstrings with flipping. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 113–119. (*see* **98a:68008**) 68R10 (68Q22)

— (*with* He, Xin[1]) Parallel algorithms for maximal acyclic sets. (English summary) *Algorithmica* **19** (1997), *no.* 3, 354–367. (Summary) **98e:68088** 68Q22 (05C85, 68Q25, 68R10)

— Efficient approximation schemes for maximization problems on $K_{3,3}$-free or K_5-free graphs. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 166–187. (Summary) **98i:68123** 68Q25 (05C85, 68R10)

Chen, Zhibo On polynomial functions from $Z_{n_1} \times Z_{n_2} \times \cdots \times Z_{n_r}$ to Z_m. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 67–76. (Summary) **98g:05006** 05A10

— Integral sum graphs from identification. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 77–90. (Martin Bača) **98m:05171** 05C78

Chen, Zhigang[1] (*with* Liu, Wen[1]) The logarithmic likelihood ratio and an analytic approach to strong limit theorems for sequences of discrete random variables. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 359–368. (Summary) **98b:60060** 60F15

Chen, Zhiming *see* **Chen, Zhi Ming[1]**

Chen, ZhiQiang *see* **Chen, Zhiqiang[2]**

Chen, Zhiqiang[1] (*with* Phadia, Eswar) A note on the best invariant estimator of a distribution function under the Kolmogorov-Smirnov loss. (English summary) *Ann.*

Inst. Statist. Math. **49** (1997), *no.* 2, 231–235. (Margaret P. Gessaman) **98m:62088** 62G05 (62C15)
— (*with* Rubin, Herman; Vitale, Richard A.) Independence and determination of probabilities. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3721–3723. (Detlef Plachky) **98b:60007** 60A99 (28A99)
Chen, Zhiqiang² Séries complémentaires des groupes de Lorentz et *KK*-théorie. [Complementary series of Lorentz groups and *KK*-theory] *J. Funct. Anal.* **137** (1996), *no.* 1, 76–96. (From the introduction) **98g:19008** 19K35 (22E43, 22E46, 46L80)
Chen, Zhixiang An optimal algorithm for proper learning of unions of two rectangles with queries. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 334–343, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98c:68181** 68T05
— Disjunctions of negated counting functions are efficiently learnable with equivalence queries. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 344–349, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68142** 68Q99 (68T05)
— (*with* Cunha, Carlos; Homer, Steven) Finding a hidden code by asking questions. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 50–55, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98c:68159** 68R05 (68M15)
— (*with* Homer, Steven) Learning counting functions with queries. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 155–168. (Summary) **98b:68143** 68Q99 (68T05)
Chen, Zhong² (*with* Fei, Pu Sheng) Parallel multiplicative iterative methods for convex programming. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 205–210. 90C25 (65Y05)
— (*with* Fei, Pu Sheng) Convergence analysis of the Broyden algorithm for LC^1 optimization problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 41–46. (Wen Yu Sun) **98e:90149** 90C30 (65K05)
Chen, Zhong Hu Unitary representation induced from maximal parabolic subgroups for split F_4. (English summary) *Pacific J. Math.* **176** (1996), *no.* 1, 33–70. (William M. McGovern) **98b:22026** 22E45 (22E46)
— A note on the Harish-Chandra homomorphisms of Chevalley groups over p-adic fields. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 83–92; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 43–53. (Yu Chen) **98i:22022** 22E50 (20G25, 22E46)
— Basic cases for split G_2. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 12, 1257–1260. 22E46 (22E60)
Chen, Zhong Hui Bounded oscillations of solutions to a class of delay difference equations. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 2, 259–262. 39A10
Chen, Zhong Mu Abstract group theory. *Group theory in China*, 4–30, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the text) **98b:20001** 20–02
Chen, Zhong Qiu (*with* Shao, Chang Gui) A quantization method for coupled scalar fields with an Einstein gravitational background field. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 453–462. (Summary) **98g:83046** 83C47 (81T20)
— (*with* Shao, Chang Gui; Chen, Yi Han) Quantization and renormalization of 4-derivative gravity. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 364–374. 83C45 (83D05)
— (*with* Ma, Weichuan; Shao, Chang Gui; Tien, Xu) ISO(3, 1/*N*) supergravity Lagrangian with Noether coupling. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1401–1408. (Gheorghe Zet) **98h:83095** 83E50 (81V17)
Chen, Zhongming (*with* Deng, Yuanhua; Oliveira, Suely) An efficient parallel implementation of a new chasing algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F15
Chen, Zhongying (*with* Chen, Mingjun; Chen, Guanrong) ★ Approximate solutions of operator equations. Series in Approximations and Decompositions, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+343 *pp. ISBN* 981-02-3064-8 (P. W. Bates) **98h:47001** 47–02 (47A50, 47H15, 47H17, 47N20, 65J15)
Chen, Zhuo Rong The maximal subgroup of the semigroup of generalized circulant fuzzy matrices. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 4, 85–89. (Summary) **98a:15059** 15A99 (04A72)
— The equivalence classes of the Green relations of generalized cyclic fuzzy matrix semigroups. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 67–71. (Summary) **98h:15059** 15A99 (04A72)
— The structure of multiplicative semigroups of quotient rings of principal ideal domains. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 39–43. 20M17 (13F10)
Chen, Zi Li (*with* Wickstead, A. W.) Incompleteness of the linear span of the positive compact operators. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3381–3389. (Gerard Buskes) **98k:47072** 47B65 (46B28, 46B42, 47B07)
Chen, Zizhen (*with* Huan, Zhongdan) On the continuity of the mth root of a continuous nonnegative definite matrix-valued function. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 60–66. (K. Chandrasekhara Rao) **98b:15031** 15A99 (35J99)
Chen, Zong-Xuan (*with* Gao, Shi-An; Chen, Te Wei) A note concerning the complex oscillation and the growth of solutions for higher order homogeneous linear differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 109–117. (Summary) **98f:34005** 34A20 (30D35)
— Two results on the complex oscillation theory of differential equations with polynomial coefficients. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 55–59. (Hong Xun Yi) **98c:34006** 34A20 (30D20, 30D35, 34C10)
— Zeros of meromorphic solutions of differential equations with transcendental meromorphic coefficients. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 148–155. (Hong Xun Yi) **98f:34003** 34A20 (30D35)
Chen, Zu Chi (*with* Chen, Xiang Dong²) A degenerate reaction-diffusion problem. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 501–504, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35K57 (35K65)
— (*with* Qin, Hong Rong) Eigenvalue problems for higher-order Schrödinger equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 653–658. 35J10 (35J40)
— (*with* Xuan, Benjin) On the positive radial solution of p-Laplacian equation with singular coefficients. *Nonlinear Anal.* **32** (1998), *no.* 5, 621–631. (P. Lindqvist) **98m:35072** 35J65 (35B05)
Chenais, D. (*with* Mascarenhas, M. L.; Trabucho, L.) Optimization of quasi-periodical perforated structures. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 113–122, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dan Poliševski) **98j:73062** 73K40 (49J20, 49Q15, 73B27, 73K05)
— (*with* Mascarenhas, M. L.; Trabucho, L.) Optimization of nonperiodic homogenized microstructures. (French summary) *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 165–172 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98i:73041** 73K40 (49Q10, 73B27, 73S10)
Chenal, Fabien (*with* Millet, Annie) Uniform large deviations for parabolic SPDEs and applications. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 161–186. (Richard B. Sowers) **98m:60038** 60F10 (35K60, 35R60, 60H15, 60H20, 60J25)
Chenciner, Alain (*with* Simó, Carles) ★ Mécanique céleste. (French) [Celestial mechanics] Cent ans après la publication des *Méthodes nouvelles* de Henri Poincaré. [One hundred years after the publication of Henri Poincaré's *New methods*] SMF Journée Annuelle [SMF Annual Conference], 1996. *Société Mathématique de France, Paris*, 1996. ii+55 *pp.* (Editors) **98a:70002** 70–06
— Le rôle des collisions dans le problème des n corps. [The role of collisions in the n-body problem] *Mécanique céleste*, 32 *pp., SMF Journ. Annu.*, 1996, *Soc. Math. France, Paris*, 1996. (Florin N. Diacu) **98d:70016** 70F15 (01A55, 01A60, 70–03, 70F10)
— (*with* Albouy, Alain) Le problème des n corps et les distances mutuelles. [The n-body problem and mutual distances] *Invent. Math.* **131** (1998), *no.* 1, 151–184. (Richard Moeckel) **98m:70017** 70F10 (70F15)
Cheney, E. W. Approximation using positive definite functions. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 145–168, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Peter Alfeld) **98e:41036** 41A36 (41A05, 41A63)
— (*with* Sun, Xingping) Fundamental sets of continuous functions on spheres. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 245–250. (A. G. Law) **98a:41049** 41A65 (46E15)
— (*with* Lei, Junjiang; Jia, Rong Qing) Approximation from shift-invariant spaces by integral operators. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 481–498. (P. L. Butzer) **98h:41026** 41A35 (41A63, 65D10)
Cheney, Margaret *see* **Chadan, Khosrow et al., 98a:34017**
Cheng, A. D. Y. (*with* D'Eath, P. D.; Moniz, Paulo Rodrigues Lima Vargas) Quantization of a Friedmann-Robertson-Walker model in $N = 1$ supergravity with gauged supermatter. (English summary) *Recent developments in gravitation and mathematical physics (Guanajuato, 1994)*, 373–378, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:83105** 83E50
— (*with* D'Eath, P. D.) Relation between the Chern-Simons functional and the no-boundary proposal. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 277–280. (Subenoy Chakraborty) **98c:83028** 83C45 (81T20)
Cheng, Ai-jie Time-discretization procedure for finite element approximation of compressible miscible displacement in porous media. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 1, 86–102. 65M60 (76M10, 76S05)
— A new algorithm for solving displacement problems and its analysis. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **31** (1996), *no.* 4, 361–368. (Zhangxin Chen) **98c:76101** 76S05 (65M06, 76M10, 76M20)
— (*with* Liang, Dong) Hybrid finite element method for two-phase miscible displacement in porous media. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 160–168. (Zhangxin Chen) **98f:76050** 76M10 (65M60, 76S05)
— A modified difference scheme for a finite element–characteristic line method in two-phase miscible displacement problems and its theoretical analysis. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 1, 9–15. (Summary) **98e:76074** 76M20 (76M10, 76S05)
Cheng, Allan (*with* Nielsen, Mogens) Observing behaviour categorically. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 263–278, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98b:68048** 68Q10
— (*with* Kozen, Dexter) A complete Gentzen-style axiomatization for set constraints. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 134–145, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68165** 68Q60 (03B70, 68N15, 68N17)
— Petri nets, traces, and local model checking. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 229–251. (Rüdiger Valk) **98m:68192** 68Q90 (68Q55, 68Q60)
Cheng, Ben Su Interval-valued fuzzy random variables. I. Interval-valued fuzzy numbers. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 45–49. (Summary) **98g:04004** 04A72 (28E10, 60A99)
Cheng, Bo (*with* Shao, Jia Yu) Graph-theoretic criteria for diagonal similarity of matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 105–112. (Summary) **98a:15027** 15A21 (05C50)
Cheng, C. H. (*with* Feiring, B. R.) Linearizing binary products in binary programming problems. (English summary) *J. Math. Sci. (Calcutta)* **4** (1993), *no.* 2, 69–72. 90C09 (90C08)
— (*with* Feiring, B. R.; Shek, Kamlun) Mathematical programming approaches to the linear complementary problem. (English summary) *J. Math. Sci. (Calcutta)* **6** (1995), *no.* 2, 61–66. 90C33 (90C30)
Cheng, Can Dong (*with* Zheng, Jin Cheng; Cai, Shu Hui; Wang, Ren Zhi; Zheng, Yong Mei) Approximate formulas for the probability integral. (Chinese. English summary) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 1, 147–149. 65D30
Cheng, Caozong A minimax inequality and variational inequalities. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 1, 92–99. (Schie Park) **98e:49021** 49J40 (47H19, 49J35)
Cheng, Chang Jun (*with* Zhang, Neng Hui) A formulation of the bending problem for viscoelastic thin plates and its solution. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 25–30. 73K10 (73F99)

Cheng, Cheng (*with* Parzen, Emanuel) Unified estimators of smooth quantile and quantile density functions. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 291–307. (Lajos Horváth) **98f:62085** 62G05 (62G20, 62G30)

Cheng, Cheng-Fa Decentralized H^∞ control for interconnected systems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 1, 77–85. (Summary) **98c:93010** 93A14 (93B36)

— (*with* Wang, Wen June) Decentralized robust stabilization for uncertain interconnected systems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 2, 199–211. 93D21 (93A14, 93C42)

— Output feedback stabilization for uncertain systems: constrained Riccati approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 81–84. (Paulo Sérgio Pereira da Silva) **98m:93106** 93D21 (93C05, 93D15)

Cheng, Cheng Yun A class of inventory optimization models for materials with changeable prices. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 30–32. 90B05

Cheng, Chi-Lun (*with* Van Ness, John W.) Structural and functional models revisited. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 37–50, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

— (*with* Van Ness, John W.) Robust calibration. (English summary) *Technometrics* **39** (1997), *no.* 4, 401–411. (Summary) **98f:62192** 62J05 (62F35)

— (*with* Schneeweiss, Hans) Polynomial regression with errors in the variables. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 189–199. 62J02

Cheng, Ching-Hsue A new approach for ranking fuzzy numbers by distance method. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 307–317. 04A72

Cheng, Ching-Shui John Gurland 1917–1997. *Statist. Sinica* **8** (1998), *no.* 2, *i–ii*. 01A70

Cheng, Chon Hu *see* **Chen, Zhong Hu**

Cheng, Chong Gao A comparison theorem for zeros of solutions to second-order linear homogeneous equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 4, 437–440. (Ji Tao Sun) **98f:34044** 34C10

Cheng, Chong Qing (*with* Wang, Shao Li) Low-dimensional Birkhoff tori of Hamiltonian systems with many degrees of freedom. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 15, 1598–1602. 58F05 (34C30, 70H05)

Cheng, Chun-Kan (*with* Chen, Bor-Liang; Fu, Hung-Lin; Huang, Kuo-Ching) A study of the total chromatic number of equibipartite graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 49–60. (Summary) **98i:05068** 05C15

Cheng, Eddie (*with* Cunningham, William H.) Wheel inequalities for stable set polytopes. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 389–421. (Jaroslav Ivančo) **98g:05075** 05C35 (52B12, 90C35)

Cheng, Feng (*with* Sethi, Suresh P.) Optimality of (s, S) policies in inventory models with Markovian demand. (English summary) *Oper. Res.* **45** (1997), *no.* 6, 931–939. 90B05 (60J20)

Cheng, Fuhua (*with* Wang, Xuefu) Surface design based on Hermite spline interpolation with tension control and optimal twist vectors. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 37–54. (Summary) **98i:65013** 65D17

Cheng, Fuxia Regularity results for a strongly degenerate parabolic equation. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 275–283. (Summary) **98g:35118** 35K65 (35B65, 35K55)

Cheng, Geng (*with* Chen, Cheng) Anomalous dimension in the solution of the Barenblatt's equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1589–1600. (D. ter Haar) **98m:35083** 35K55 (35Q99, 82B28)

Cheng, Geng Dong (*with* Liu, Shu Tian) A homogenization method for the stress analysis of composite materials. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 3, 306–313. (Summary) **98e:73009** 73B27 (73K20, 73S10)

Cheng, H. *see* **Cheng, Hongwei[2]**

Cheng, Hon-Wing (*with* Yau, Stephen S.-T.) More explicit formulas for the matrix exponential. (English summary) *Linear Algebra Appl.* **262** (1997), 131–163. (Wasin So) **98e:15001** 15–04 (34–04, 34A30)

Cheng, Hongwei *see* **Cheng, Hongwei[2]**

Cheng, Hongwei[1] (*with* Greengard, Leslie) A method of images for the evaluation of electrostatic fields in systems of closely spaced conducting cylinders. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 122–141 (*electronic*). (Summary) **98m:78018** 78A30 (65R20, 78–08)

Cheng, Hongwei[2] (*with* Greengard, Leslie) On the numerical evaluation of electrostatic fields in dense random dispersions of cylinders. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 629–639. (Summary) **98i:78008** 78A25 (78–08)

— (*with* Papanicolaou, George C.) Flow past periodic arrays of spheres at low Reynolds number. (English summary) *J. Fluid Mech.* **335** (1997), 189–212. (Jacob Rubinstein) **98c:76108** 76T05 (76D99, 76S05)

— (*with* Torquato, S.) Effective conductivity of dispersions of spheres with a superconducting interface. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1331–1744. (Summary) **98e:73007** 73B27 (73K20, 80A20)

Cheng, Hsuanjen On the optimality of multilevel Schwarz methods with partial refinement. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 2, 91–114. (Jacques Rappaz) **98d:65156** 65N55

Chéng, Húa (*with* Wong, Chi Song) Vector majorization via nonnegative definite doubly stochastic matrices of maximum rank. (English summary) *Linear Algebra Appl.* **261** (1997), 187–194. (Summary) **98c:15068** 15A51

Cheng, Jay (*with* Chao, Chi-chao) On generalized Hamming weights of binary primitive BCH codes with minimum distance one less than a power of two. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 294–299. (Summary) **98j:94025** 94B05

Cheng, Jean (*with* Shann, Wei-Chang) About wavelets on the interval. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 49–64, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:42045** 42C15

Cheng, Ji-Shu (*with* Chen, Shui-Li) New applications of L-nets in L-fuzzy multifunctions. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 269–273. 54A40 (54C60)

Cheng, Ji Xin (*with* Zhu, Qing Shi; Shi, Qiang[2]; Shuang, Feng) Making local mode vibration long-lived by the interaction between a strong multicolored laser field and molecules. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 6, 1079–1087. 81V80

Cheng, Jia Bin (*with* Zhang, Yan Hua) A novel approach to robust state estimation for systems with parametric uncertainty. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **31** (1997), *no.* 4, 69–71. 93E12

Cheng, Jian Surface billiards and nonvanishing Lyapunov exponents. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 1, 21–34. (Edoh Amiran) **98h:58140** 58F17

Cheng, Jian Gang (*with* Qin, Cheng Lin) A random improvement algorithm for the approximate solution of the $P//C_{\max}$ problem with two groups of jobs. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **2** (1996), *no.* 5, 479–486. (Summary) **98c:90053** 90B35

— (*with* Qin, Cheng Lin) Simulated balancing methods for multiprocessor scheduling problems with parallel constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 185–192. 90B35 (65K99)

Cheng, Jin Fa (*with* Chu, Yu Ming) Quasidisks and modulus monotone domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 4, 556–560. (Shan Shuang Yang) **98a:30026** 30C65

— (*with* Chu, Yu Ming; Gu, Guang Ze) Teichmüller extremal mappings of an angular region. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 5, 10–14, 19. (Summary) **98i:30056** 30F30

Cheng, Jin-Liang (*with* Kise, Hiroshi; Karuno, Yoshiyuki) Optimal scheduling for an automated m-machine flowshop. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 356–372. (Edward J. Anderson) **98i:90045** 90B35

Cheng, Jing Yuan (*with* He, Qi Chao; Wang, Zhi Wei[3]) Fuzzy clustering based on the concept of a fuzzy approach relation and its availability. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 602–607. 90C70 (04A72)

Cheng, Joanna Chung-In *see* **Draper, Norman R.**

Cheng, K. F. (*with* Hsueh, H. M.; Chien, T. H.) Goodness of fit tests with misclassified data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1379–1393. 62F03

Cheng, Kuo-Shung (*with* Lin, Chang-Shou) On the asymptotic behavior of solutions of the conformal Gaussian curvature equations in $\mathbf{R}^2$. *Math. Ann.* **308** (1997), *no.* 1, 119–139. (Wen Xiong Chen) **98d:35052** 35J60 (35B40, 53A05)

Cheng, Li Wei (*with* Wang, Yong Jiu) The gravitational field within a rotating mass. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 30–34. (Summary) **98a:83022** 83C15

— (*with* Luo, Xin Lian; Wang, Yong Jiu) Gravitational field effects in the exterior of a rotating charged sphere. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 5, 846–851. 83C15

Cheng, Li Zhi (*with* Zeng, Yong Hong) Estimation of the number of operations of optimal algorithms for matrix multiplication and integer convolution. (Chinese. English summary) *Math. Numer. Sinica* **15** (1993), *no.* 3, 342–345. 68Q25 (65F30)

— A generalization of a fast algorithm for inverting r-circulant matrices. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 291–297. (Summary) **98e:65034** 65F30

— (*with* Tong, Li) A bisection method for finding eigenvalues of symmetric real tridiagonal matrices. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 15–18. 65F15

— (*with* Jiang, Zeng Rong) Fast convolution algorithms for DFTs of size $N = 2^t$. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 163–172. 65T20 (65Y20)

— (*with* Liu, Pu Yin; Zhang, Han Jiang; Wu, Meng Da; Wang, Hao) A survey of research on the theory of fuzzy neural networks. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 77–87. 68T05 (92B20)

Cheng, Liangjun (*with* Liu, Xiaobing) The general solution of equation of motion for a particle in arbitrary flow field. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 93–96. 76T05 (76F99)

Cheng, Lin Zhi Distribution-valued functions and multiplication of distributions. II. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 254–266. (Qing Yi Chen) **98j:46035** 46F10

Cheng, Lingzhi (*with* Hu, Yuan Tai; Huang, Yu Ying; Li, Siping; Zhong, Weifang) Periodic elliptic holes in anisotropic elasticity. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 2, 171–178. 73C02 (73B40, 73V35)

Cheng, Lixin (*with* Xue, Xiao Ping; Li, Goucheng; Yao, Xiaobo) Set valued measures and integral representation. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 2, 269–284. (Summary) **98f:28014** 28B20 (46G10)

— (*with* Wu, Cong Xin; Wang, Xiaomin; Lee, E. S.) On the Asplund property of locally convex spaces. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 432–443. (Jing Hui Qiu) **98a:46004** 46A03 (46G05)

— (*with* Wang, Xiaomin) A note on weakly compact sets in Banach space. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 466–468. (M. I. Kadets) **98g:46021** 46B20 (46A50)

— (*with* Ha, Minghu; Wang, Xizhao) Notes on Riesz's theorem on fuzzy measure space. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 361–363. 28E10 (04A72)

— (*with* Shi, Shuzhong; Lee, E. S.) Generic Fréchet differentiability of convex functions on non-Asplund spaces. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 367–377. (Summary) **98e:46050** 46G05 (46B22, 49J50)

Cheng, Min-de *see* **Liao, Shan Tao, 98g:58041**

Cheng, Ming-Yen A bandwidth selector for local linear density estimators. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1001–1013. (Jian-Lun Xu) **98f:62086** 62G05

— (*with* Fan, Jianqing; Marron, J. S.) On automatic boundary corrections. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1691–1708. (Winfried Stute) **98k:62049** 62G05 (62C20)

— Boundary aware estimators of integrated density derivative products. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 191–203. (Michael Falk) **98a:62043** 62G05

Cheng, Ping[1] (*with* Song, Li Xin) Mean square convergence of the projection pursuit regression approximation. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 113–115. (Summary) **98i:62057** 62H40 (62G05, 62J02)

— A remark on non-uniform estimates about sum of independent random variables. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 427–430. (Summary) **98d:60043** 60F05

— (*with* Qi, Yong Cheng) Limit distributions on numbers of runs. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 483–488. (Summary) **98d:60051** 60F05

— The limit distribution of some PP CM statistics with enough high dimensions and large sample size. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 186–196. (Summary) **98g:62103** 62H10

— (*with* Liu, Yixing) The limit distribution of PP Cramér-von Mises normality test statistics for high dimension and large sample size. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 213–228. (Summary) **98g:62032** 62E20 (62G10, 62H40)

— (*with* Zou, Guo Hua; Feng, Shi Yong) Admissible estimation of linear functions of characteristic values of a finite population. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 598–605. (Summary) **98f:62023** 62D05

Cheng, Qi (*with* Zhu, Hong[1]) MNP: a class of NP optimization problems. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 306–313. (Summary) **98f:68096** 68Q15 (68Q25, 90C27)

Cheng, Qiansheng (*with* Li, Hong Wei) Almost sure convergence analysis of mixed time averages and kth-order cyclic statistics. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1265–1268. (Summary) **98a:60032** 60F15

Cheng, Qing-Ming Minimal hypersurfaces in sphere. *Proceedings of the First International Workshop on Differential Geometry* (*Taegu*, 1996), 79–97, *Kyungpook Natl. Univ., Taegu*, 1997. (Takehiro Itoh) **98g:53108** 53C42

— (*with* Shiohama, Katsuhiro) Non-existence of stable currents. II. *Kyushu J. Math.* **51** (1997), *no.* 1, 149–164. (Xue Shan Zhang) **98b:53069** 53C65 (49Q15, 49Q20)

Cheng, Qingping (*with* Doust, Ian) The dual theory of well-bounded operators. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 35–50. (Jörg Eschmeier) **98c:47043** 47B40 (46B20)

Cheng, Qiyuan (*with* Dong, Yu Xing) On factorization theorems of pluriharmonic maps into the unitary group. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 323–330. (John C. Wood) **98k:58065** 58E20 (31C10)

Cheng, R. *see* **Cheng, Raymond**

Cheng, R. C. H. (*with* Liu, Wen Bin) A continuous representation of the family of stable law distributions. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 137–145. (V. K. Rohatgi) **98a:62018** 62E10 (62F25)

Cheng, Raymond (*with* Pourahmadi, M.) Prediction with incomplete past and interpolation of missing values. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 341–346. (Summary) **98d:62174** 62M20 (60G25)

— (*with* Miamee, Abolghassem; Pourahmadi, M.) Some extremal problems in $L^p(w)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2333–2340. (Takahiko Nakazi) **98j:42003** 42A10 (60G25)

Cheng, S. C. *see* **Cheng, Su Chun**

Cheng, S.-W. *see* **Cheng, Siu Wing**

Cheng, S. Y. *see* **Cheng, Shiu Yuen**

nienhuys-Cheng, Shan-Hwei *see* **Nienhuys-Cheng, Shan-Hwei**

Cheng, Shaozhong *see* **Chen, Shao Zhong[1]**

Cheng, Shi Jie (*with* Wang, Chun Lin; Hu, Shi Geng; Huang, Zheng Hai) Positive solutions to a class of second-order boundary value problems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 30–32. 34B15

Cheng, Shihong (*with* Qi, Yong Cheng) Convergence rate of distributions of trimmed sums. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 516. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 3, 349–364. (Erich Haeusler) **98c:60027** 60F05 (60G50, 62G30)

— Approximation to the expectation of a function of order statistics and its applications. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 1, 71–86. (Jaap Geluk) **98e:60031** 60F05 (62F12)

Cheng, Shiu Yuen On the Chern conjecture for minimal hypersurface with constant scalar curvatures in the spheres. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 59–78, *Internat. Press, Cambridge, MA*, 1997. (Sebastião Carneiro de Almeida) **98m:53076** 53C42

— *see also* **Chern, Shiing-shen**, **98b:01039**

Cheng, Shu Han (*with* Su, Ben Tang; Dong, Hou Kui) Neighborhood unions and $[a, b]$-covered graphs. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 32–36. 05C70

Cheng, Shun-Jen (*with* Kac, Victor G.) Conformal modules. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 181–193. (Christoph Schweigert) **98j:17026** 17B68 (17B66, 81R10)

Cheng, Siu Wing (*with* Xu, Yin-Feng) Constrained independence system and triangulations of planar point sets. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 41–50, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68178** 68U05

— (*with* Katoh, Naoki; Sugai, Manabu) A study of the LMT-skeleton. (English summary) *Algorithms and computation* (*Osaka*, 1996), 256–265, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Aichholzer, Oswin; Aurenhammer, F.; Katoh, Naoki; Rote, Günter; Taschwer, M.; Xu, Yin-Feng) Triangulations intersect nicely. (English summary) Eleventh Annual Symposium on Computational Geometry (Vancouver, BC, 1995). *Discrete Comput. Geom.* **16** (1996), *no.* 4, 339–359. (Summary) **98f:68260** 68U05 (52B55)

— The Steiner tree problem for terminals on the boundary of a rectilinear polygon. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 39–57, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:68269** 68U05 (05C05, 68Q35, 68R10)

— (*with* Kaminski, Michael; Zaks, Shmuel) Minimum dominating sets of intervals on lines. (English summary) *Algorithmica* **20** (1998), *no.* 3, 294–308. (Summary) **98k:68135** 68R10 (05C85, 68P10, 68Q25)

Cheng, Su Chun (*with* Wei, Lee Jen; Ying, Zhiliang) Predicting survival probabilities with semiparametric transformation models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 227–235. (Uttara V. Naik-Nimbalkar) **98f:62087** 62G05 (60F05, 62G15)

Cheng, Su Jun (*with* Jiang, Ya Ling; Yan, Rong Yi) Three kinds of characteristic surfaces of a uniformly rectilinearly accelerating nonstationary black hole. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 197–200. 83C57

— (*with* Jiang, Ya Ling; Yan, Rong Yi) Characteristic surfaces of a Kerr black hole in uniformly accelerating rectilinear motion. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 1, 168–176. 83C57 (83C15)

Cheng, Sui Sun (*with* Zhang, Bing Gen; Xie, Sheng Li) Qualitative theory of partial difference equations. IV. Forced oscillations of hyperbolic type nonlinear partial difference equations. (English summary) *Tamkang J. Math.* **26** (1995), *no.* 4, 337–360. (P. W. Eloe) **98b:39002** 39A10

— (*with* Zhuang, Wan; Chen, Yu Bo) Monotone methods for a discrete boundary problem. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 12, 41–49. (Alberto Cabada) **98b:34028** 34A45 (35A35, 65L12, 65N06)

— (*with* Zhou, Xiao Liang) Monotone solutions of a higher order nonlinear difference equation. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 275–295. (Author's review (S.S.C.)) **98h:39004** 39A10

— (*with* Liu, Bin[2]) Positive solutions of second order nonlinear difference equations. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 482–493. (Ulrich Krause) **98a:39005** 39A10 (39A12)

— (*with* Xie, Sheng Li; Zhang, Bing Gen) Qualitative theory of partial difference equations. V. Sturmian theorems for a class of partial difference equations. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 1, 89–97. (P. W. Eloe) **98d:39002** 39A10

— (*with* Lü, Tsung Tsê) Inequalities for integral bilinear forms acting on absolutely balanced functions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 119–131. (Summary) **98k:26034** 26D15

— (*with* Liu, Shu Tang[2]; Zhang, Bing Gen) Positive flows of an infinite network. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 83–90. (Summary) **98a:90042** 90B10

— (*with* Si, Jian-Guo; Li, Wen Rong) Analytic solutions of an iterative functional-differential equation. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 47–51. (Summary) **98a:34070** 34K05

— (*with* Zhang, Guang) On a functional-differential equation related to the Emden-Fowler equation. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 215–221 (1998). (Summary) **98i:34110** 34K15 (34C10, 34K40)

— (*with* Zhang, Guang) Positive solutions of a nonlinear neutral difference equation. *Nonlinear Anal.* **28** (1997), *no.* 4, 729–738. (Allan C. Peterson) **98b:39016** 39A10

— (*with* Si, Jian-Guo) Analytic solutions of a functional-differential equation with state dependent argument. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 471–480. (Summary) **98i:34094** 34K05 (30D05)

— (*with* Liu, Shu Tang[2]) Nonexistence of positive solutions of a nonlinear partial difference equation. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 51–58. (From the text) **98m:39018** 39A10

— (*with* Lin, Guo Hua) Green's function and stability of a linear partial difference scheme. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 27–41. (Summary) **98m:65137** 65M06 (65M12)

Cheng, T. C. Edwin (*with* Kovalëv, M. Ya.; Lin, Bertrand M.-T.) Single machine scheduling to minimize batch delivery and job earliness penalties. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 547–559. (Yahya Fathi) **98e:90072** 90B35 (90C39)

— (*with* Ding, Qing[2]) The complexity of scheduling starting time dependent tasks with release times. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 75–79. (Summary) **98k:90043** 90B35 (68M20)

— (*with* Chen, Zhi-Long; Li, Chung-Lun; Lin, Bertrand M.-T.) Scheduling to minimize the total compression and late costs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 67–82. (Summary) **98m:90071** 90B35 (90C39)

Cheng, Terry (*with* Krinik, Alan; Marcus, Daniel A.; Kalman, Dan) Transient solution of the $M/M/1$ queueing system via randomization. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 137–145, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (P. R. Parthasarathy) **98e:60152** 60K25

Cheng, Xiao Chun (*with* Jiang, Yun Fei; Liu, Xu Hua) The rationality and decidability of fuzzy implications. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1910–1915, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 03B52 (68T27)

— (*with* Sun, Ji Gui; Liu, Xu Hua) Reduction rules for the process of deduction in the modal logic D. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 39–43. (Summary) **98g:03050** 03B45

— (*with* Sun, Ji Gui; Liu, Xu Hua) The global properties of valid formulas in modal logic K. (English summary) *J. Comput. Sci. Tech.* **11** (1996), *no.* 6, 615–621. (Zoran Ognjanović) **98a:03027** 03B45 (03B35, 68T15)

— A tableau method for BAOFL. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 39–42. 03B52

Cheng, Xiao Liang (*with* Han, Weimin; Huang, Hong Ci) Finite element methods for Timoshenko beam, circular arch and Reissner-Mindlin plate problems. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 215–234. (Pekka Neittaanmäki) **98a:73053** 73V05 (65N30, 73K05, 73K10)

— (*with* Han, Weimin; Huang, Hong Ci) Optimal analysis of some mixed elements for the Stokes problem. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 19–35. (Summary) **98j:65076** 65N30 (76D07, 76M10)

— (*with* Jiang, Jin Sheng) Locally mass-preserving higher-order Taylor-Hood elements. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 193–197. 76M10 (65M12, 76D05)

Cheng, Ximing (*with* Wu, Yougui; Du, Jinguan; Liu, Huowang) The zero-crossing rate of pth-order autoregressive processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 355–374. (P. A. Morettin) **98i:62070** 62M10

Cheng, Y. *see* **Cheng, Yi[2]**

Cheng, Yang Jin (*with* Wang, Yong Quan) Elimination properties of literals in fuzzy logic functions. I. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 20–23. (Summary) **98j:03036** 03B52

Cheng, Yi[2] (*with* Berry, Donald A.) Optimal designs for clinical trials in stages. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 124–138, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62C10 (62L05)

— Multistage bandit problems. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 2, 153–170. (Chandra M. Gulati) **98c:62154** 62L05 (62C10)

Cheng, Ying Jie (*with* Yang, Jun; Guan, Xin Ping; Liu, Shu Tang[2]) Oscillation of solutions to boundary value problems for a class of neutral parabolic equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 13–18. (Summary) **98d:35230** 35R10 (35B05, 35K10)

Cheng, Youliang The evolution equation for second-order internal solitary waves in stratified fluids of great depth. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 130–134. 76C10 (76V05)

Cheng, Yu Min (*with* Shen, Zu Yan) The asymptotic behavior of the solutions of a class of second-order nonlinear differential equations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **24** (1996), *no.* 5, 568–573. (Ju Rang Yan) **98e:34064** 34C11

Cheng, Yuk W. (*with* Street, Deborah J.) Constructions for optimal non-strongly-balanced change-over designs. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1073–1082. (Summary) **98d:62129** 62K05

Cheng, Yungchen On Diophantine equations $x^2 - dy^2 = AB$. *Missouri J. Math. Sci.* **7** (1995), *no.* 2, 68–75. (Masahiko Fujiwara) **98d:11034** 11D09

Cheng, Zhang *see* **Zhang, Cheng²**

Cheng, Zhen-Qiang (*with* He, Ling Hui) Micropolar elastic fields due to a circular cylindrical inclusion. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 659–668. (Summary) **98e:73113** 73S10 (73B25)

Cheng, Zheng Xing (*with* Yang, Shou Zhi; Yang, Xiao Zhong) Construction of orthonormal wavelet packets. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 219–224. (Summary) **98g:42060** 42C15

Cheng, Zong-yi (*with* Shen, You-gen) Quantization of the Bianchi type universe. (English summary) *Chinese Astronom. Astrophys.* **21** (1997), *no.* 4, 389–395. 83C45

— (*with* Shen, You-gen) Dyon solution in axis symmetric spacetime. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 2, 158–160. (Summary) **98d:83019** 83C22

Chengjian, Zhang *see* **Zhang, Cheng Jian**

Chengri, Cui (*with* Li, Rong Lu; Cho, Min-Hyung) Improvements of Thorp-Rolewicz theorems on operator series. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 75–82. (Anatolij M. Plichko) **98m:47001** 47A05 (46B15)

Chengxian, Xu *see* **Xu, Cheng Xian**

Chéniot, D. Vanishing cycles in a pencil of hyperplane sections of a nonsingular quasiprojective variety. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3642–3650. (Fyodor L. Zak) **98h:14025** 14F25 (32S30, 32S50)

Chen Mok, Mario (*with* Muller, Keith E.) The distribution of Cook's D statistic. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 525–546. (Summary) **98k:62129** 62J20 (62E15)

Chenouni, Driss (*with* Lakhliai, Zakia; Benoit, Claude; Poussigue, Gérard; Sakout, Abdallah) Computation of electromagnetic waves diffraction by spectral moments method. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 2, 165–175. (Summary) **98j:78003** 78–08 (78A45)

Chentsov, A. G. Asymptotic attainability with perturbation of integral constraints in an abstract control problem. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995,** *no.* 2, 60–71; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 2, 57–68. (Ivan Ginchev) **98a:93005** 93B03 (49Q20)

— Asymptotic attainability with perturbation of integral constraints in an abstract control problem. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995,** *no.* 3, 62–73; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 3, 60–71. (Ivan Ginchev) **98a:93006** 93B03 (49Q20)

— Asymptotically attainable elements: generalized constructions and realization in the class of approximate solutions. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 443–456. (Tomáš Roubíček) **98b:49014** 49J45 (93B03)

— ★ Finitely additive measures and relaxations of extremal problems. Translated from the Russian by A. V. Lutsuk. Monographs in Contemporary Mathematics. *Consultants Bureau, New York*, 1996. xii+244 *pp. ISBN* 0-306-11038-5 (Francesco Ferro) **98a:49003** 49–02 (49J45, 49Q20, 93–02)

— Finitely additive vector measures and regularization questions in the problem of constructing sets of asymptotic attainability. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 266–295, 377, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Oleg P. Filatov) **98j:93006** 93B03 (28B05, 93C25)

— On the regularization of the problem of constructing asymptotic attainability sets. (Russian) *Radio age (Russian)*, 219–239, 290–291, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (*see* **98b:00019**) 93B03 (65J15)

— ★ Asymptotic attainability. (English summary) Translated from the Russian manuscript. Mathematics and its Applications, 383. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+322 *pp. ISBN* 0-7923-4302-6 (A. Khapalov) **98a:93001** 93–02 (49–02, 49J45, 93B03)

— Relaxations of stochastic constraints in the class of finitely additive probabilities. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 741–744. 60A10 (28A12)

— On the extension of stochastic constraints in the class of finitely-additive probabilities. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 6, 57–69; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 6, 54–65. (From the text) **98h:62006** 62A99 (28A12, 60A05)

— (*with* Kuznetsov, V. I.) On a construction of an extension of the abstract problem of purely impulse control. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 524–532. (Summary) **98b:93010** 93B03 (49J45)

Cheon, Gi-Sang (*with* Song, Seok-Zun) On the extreme points on the majorization polytope $\Omega_3(\mathbf{y} \prec \mathbf{x})$. (English summary) *Linear Algebra Appl.* **269** (1998), 47–52. (Ryszard Grząślewicz) **98k:15031** 15A51 (52A20)

Cheon, Se Woo *see* **Human-like systems using AI techniques, 98c:68013**

Cheon, Taksu (*with* Shigehara, T.) Resonance tunneling in double-well billiards with a point-like scatterer. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 151–158. (Summary) **98f:81074** 81Q50

— (*with* Shigehara, T.) Flux string in quantum billiards with two particles. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 11–16. (Summary) **98d:81023** 81Q99

Chepelev, I. (*with* Makeenko, Yu. M.; Zarembo, K.) Properties of D-branes in matrix model of IIB superstring. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 43–51. (Summary) **98a:81159** 81T30

— (*with* Tseytlin, Arkady A.) Long-distance interactions of D-brane bound states and longitudinal five-brane in M(atrix) theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3672–3685. (Summary) **98g:81155** 81T30

— (*with* Tseytlin, Arkady A.) Interactions of type IIB D-branes from the D-instanton matrix model. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 629–646. (Summary) **98k:81201** 81T30

Chepiko, Nikola˘ i Mikhailovich (*with* Kobushkin, A.; Syamtomov, A.) Quantum solitons with cylindrical symmetry. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 248–259; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 961–970 (1996). (Bernd J. Schroers) **98k:81154** 81T10 (81V35)

— (*with* Ogawa, Naohisa; Fujii, Kanji; Miyazaki, Hitoshi; Okazaki, Takashi) Equivalence between Schwinger and Dirac schemes of quantization. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 2, 437–447. (Günter Braunss) **98c:81118** 81S99 (81S10)

— (*with* Fujii, Kanji; Ogawa, Naohisa; Uchiyama, Satoshi) Geometrically induced gauge structure on manifolds embedded in a higher-dimensional space. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5235–5277. (S. Timothy Swift) **98k:53101** 53C80 (81Q99)

Chepoĭ, V. D. A T_X-approach to some results on cuts and metrics. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 453–470. (Andreas Huck) **98j:90088** 90C35

— (*with* Deza, Michel-Marie; Grishukhin, V. P.) Clin d'oeil on L_1-embeddable planar graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 3–19. (Hiroshi Maehara) **98j:05057** 05C10

— (*with* Fichet, Bernard) Recognition of Robinsonian dissimilarities. (English and French summaries) *J. Classification* **14** (1997), *no.* 2, 311–325. 62H30

— (*with* Brandstädt, Andreas; Dragan, Feodor F.) Clique r-domination and clique r-packing problems on dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 109–127. (Gerard J. Chang) **98b:05073** 05C70 (05C85, 68Q25, 68R10)

— (*with* Fichet, Bernard) A note on circular decomposable metrics. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 237–240. (Summary) **98m:52001** 52A01 (52A30)

Chepurko, A. N. Asymptotic behavior of the solution of a singularly perturbed nonstationary neutron transport equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 289–297. (From the text) **98k:45010** 45K05 (35Q99, 82D75)

Chepyzhov, Vladimir V. (*with* Goritskiĭ, A. Yu.) Global integral manifolds with exponential tracking for nonautonomous equations. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 9–28 (1998). (Anibal Rodriguez-Bernal) **98k:34099** 34G20 (34C30, 34D45, 35K57, 58F39)

khe kan Cher *see* **Khe Kan Cher**

Cherednichenko, K. D. (*with* Babich, V. M.) On Fock's type asymptotics of Legendre functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 1–18. (Summary) **98f:33011** 33C20

Cherednichenko, V. G. ★ Inverse logarithmic potential problem. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1996. iv+247 *pp. ISBN* 90-6764-202-9 (Gottfried Anger) **98g:35211** 35R30 (30–02, 31A25)

Cherednik, Ivan Macdonald's evaluation conjectures and difference Fourier transform. *Invent. Math.* **122** (1995), *no.* 1, 119–145. (Eric M. Opdam) **98i:33027a** 33E30 (05E05, 05E35)

Cherednik, J. Erratum: "Macdonald's evaluation conjectures and difference Fourier transform". *Invent. Math.* **125** (1996), *no.* 2, 391. (Eric M. Opdam) **98i:33027b** 33E30 (05E05, 05E35)

Cherednikov, I. (*with* Sveshnikov, K. A.; Silaev, P. K.) UV-regularization of field discontinuities. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 7, 465–477. (Summary) **98j:81216** 81T15

Cheremisin, F. G. Conservative evaluation of Boltzmann collision integral in discrete ordinates approximation. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 215–221. (*see* **98i:76002**) 82C40 (76M25, 76P05)

Cheremshantsev, S. E. Markovian Anderson model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 907–912. (Summary) **98d:82028** 82B44 (60H25, 60K35, 82B20)

— Markovian Anderson model: bounds for the rate of propagation. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 441–469. (Summary) **98h:82029** 82B44

Cherepanov, A. A. (*with* Birikh, R. V.; Briskman, V. A.; Velarde, M. G.) The influence of the thermocapillary effect on the parametric excitation of waves. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 616–619; *translation in Phys. Dokl.* **42** (1997), *no.* 2, 93–96. (Vladan D. Djordjević) **98h:76032** 76D33 (76D45, 76E99)

Cherepanov, G. P. ★ Methods of fracture mechanics: solid matter physics. (English summary) Solid Mechanics and its Applications, 51. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+313 *pp. ISBN* 0-7923-4408-1 (Ivan A. Parinov) **98e:73103** 73M25 (73S10, 73V35)

Cherepennikov, V. B. Analytic solutions of some functional-differential equations linear systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2641–2651. (From the introduction) **98j:34129** 34K05

Cherepova, M. F. On estimates for second-order spatial derivatives for a parabolic potential of a simple layer. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 545–549, 575; *translation in Differential Equations* **32** (1996), *no.* 4, 548–553. (I. Łojczyk-Królikiewicz) **98c:35072** 35K35 (35B45)

Cherevko, Ĭ. M. An estimate for the fundamental matrix of singularly perturbed functional-differential equations and some of its applications. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 281–283, 288; *translation in Differential Equations* **33** (1997), *no.* 2, 281–284. (Summary) **98j:34139** 34K15 (34E15)

— Splitting of linear singularly perturbed differential-difference systems. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 6, 42–45. 34K15 (34E15, 34K20)

Cherfils, Laurence Approximation des branches de solutions d'un problème de bifurcation semi-linéaire. (English and French summaries) [Approximation of solution branches for a semilinear bifurcation problem] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 933–938. (Summary) **98c:35043** 35J60 (35B32, 47H15, 65N30)

Chergui, Jamal-Dine The integrated squared error estimation of parameters. *Extracta Math.* **11** (1996), *no.* 3, 435–442. (Tadashi Nakamura) **98i:62019** 62F12

Cherhabili, A. (*with* Ehrenstein, U.) Finite-amplitude equilibrium states in plane Couette flow. (English summary) *J. Fluid Mech.* **342** (1997), 159–177. (Summary) **98d:76069** 76E30 (76F99)

Cherif, Bahri (*with* Belaïd, Karim; Echi, Othman) On spectral binary relation [relations]. *Commutative ring theory (Fès, 1995)*, 79–88, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Michael E. Detlefsen) **98a:06001** 06A06 (13A15, 54F05, 54H10)

Cherix, Pierre-Alain (*with* Valette, Alain) On spectra of simple random walks on one-relator groups. (English summary) With an appendix by Paul Jolissaint. *Pacific J. Math.* **175** (1996), *no.* 2, 417–438. (Thomas Delzant) **98b:43001** 43A05 (20F05, 60B15, 60J15)

Cheriyan, Joseph (*with* Yu, Bo^2) Approximation algorithms for feasible cut and multicut problems. (English summary) *Algorithms—ESA '95 (Corfu)*, 394–408, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C85, 68Q25, 90C35)

— (*with* Yu, Bo^2) The node multiterminal cut polyhedron. (English summary) *Networks* **30** (1997), *no.* 2, 133–148. (Stanislav Jendrol') **98g:05085** 05C40 (05C05)

— Randomized $\tilde{O}(M(|V|))$ algorithms for problems in matching theory. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1635–1655. (Ralf Klasing) **98m:68202** 68R10 (05C70, 05C85, 90C27)

— (*with* Yu, Bo^2; Haxell, P. E.) Hypercubes and multicommodity flows. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 190–200. (Summary) **98a:68151** 68R10 (05C85, 05C90, 90C35)

Cherkaev, A. V. (*with* Gibiansky, L. V.) Design of composite plates of extremal rigidity. (English summary) *Topics in the mathematical modelling of composite materials*, 95–137, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73K40 (73K10, 73K20)

— (*with* Lurie, Konstantin A.) Effective characteristics of composite materials and the optimal design of structural elements [partial translation of MR 88e:73019]. *Topics in the mathematical modelling of composite materials*, 175–258, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73K20 (73B27, 73K40)

— (*with* Gibiansky, L. V.) Microstructures of composites of extremal rigidity and exact bounds on the associated energy density. (English summary) *Topics in the mathematical modelling of composite materials*, 273–317, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73B27 (73K20, 73S10)

— *see also* **Topics in the mathematical modelling of composite materials, 98i:73001**

Cherkashin, A. M. (*with* Anokhin, A. M.; Glotov, V. A.; Pavel'ev, V. V.) On methods for the determination of criteria importance coefficients. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 3–35. 90C29 (90A05)

Cherkashin, V. P. On exact deformations of Poisson modules. (Russian) *Mat. Zametki* **59** (1996), *no.* 4, 633–637; *translation in Math. Notes* **59** (1996), *no.* 3-4, 456–460. (Aleksandr Panov) **98e:17030** 17B55

Cherkasov, I. D. Transformation of quasilinear one-dimensional diffusion. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 550–558, 575; *translation in Differential Equations* **32** (1996), *no.* 4, 554–563. (Mikhail P. Vishnevskii) **98b:35078** 35K55 (35C05)

Cherkasov, O. Yu. (*with* Yakushev, A. G.) Optimal evasion from an object using the pursuit method. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 50–55, 104. 90D26 (70Q05)

— (*with* Yakushev, A. G.) Optimal evasion from a pursuer guided by the proportional navigation method. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 38–42, 80. 70Q05 (49J15)

Cherkasskiĭ, B. V. (*with* Goldberg, Andrew V.) On implementing the push-relabel method for the maximum flow problem. (English summary) *Algorithmica* **19** (1997), *no.* 4, 390–410. 68Q25 (68R05)

Cherki, S. (*with* Bouali, S.) Approximation by generalized commutators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 273–278. (Hong W. Kim) **98j:47077** 47B47 (47A58, 47B10)

— (*with* Ben Larbi, Miloud; Bouali, S.) Une remarque sur l'orthogonalité de l'image au noyau d'une dérivation généralisée. (English summary) [A remark on the orthogonality of the image to the kernel of a generalized derivation] *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 167–171. (Volker Runde) **98c:47044** 47B47 (47B10, 47B20)

Cherkis, Sergey (*with* Schwarz, John H.) Wrapping the M theory five-brane on $K3$. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 225–232. (C. Gauthier) **98g:81156** 81T30 (83E30)

Cherlin, Gregory L. (*with* Altınel, Tuna; Borovik, A. V.) Groups of mixed type. *J. Algebra* **192** (1997), *no.* 2, 524–571. (O. V. Belegradek) **98d:03047** 03C60 (03C45, 20A15, 20D05)

— The classification of countable homogeneous directed graphs and countable homogeneous n-tournaments. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 621, xiv+161 *pp.* (Andreas Blass) **98k:03080** 03C15 (03C10, 03C50, 03C65, 05C20)

Chern, Hua-Huai (*with* Shen, Chao-Liang) On the n-dimensional Ambarzumyan's theorem. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 15–18. (Vjacheslav A. Yurko) **98c:34016** 34A55 (34B05, 34L05, 47E05)

Chern, Jann-Long Existence and asymptotic behavior of singular solutions of quasilinear elliptic equations in $\mathbf{R}^n$. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 2, 195–207. (Summary) **98c:35044** 35J60 (35B40)

Chern, Jyh-Long (*with* Ko, Jing-Yuan; Lih, Jiann-Shing; Su, Han-Tzong; Hsu, Rue-Ron) Recognizing hidden frequencies in a chaotic time series. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 134–140. 58F13 (58F40)

Chern, Maw-Sheng (*with* Ouyang, Liang-Yuh; Teng, Jinn-Tsair) Price-production decisions under various optimizing criteria in an oligopolistic market. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 2, 9–18. 90A11 (90C29)

— (*with* Teng, Jinn-Tsair; Yang, Hui-Ling) An optimal recursive method for various inventory replenishment models with increasing demand and shortages. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 791–806. (Peter Köchel) **98m:90058** 90B05

Chern, Shiing-shen ★ A mathematician and his mathematical work. Selected papers of S. S. Chern. Edited and with a foreword by S. Y. Cheng, P. Li and G. Tian. World Scientific Series in 20th Century Mathematics, 4. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xvi+707 *pp. ISBN* 981-02-2385-4 (Harold Donnelly) **98b:01039** 01A75 (01A70, 53-03)

— Riemannian geometry as a special case of Finsler geometry. *Finsler geometry (Seattle, WA, 1995)*, 51–58, *Contemp. Math.*, 196, *Amer. Math. Soc., Providence, RI*, 1996. (James J. Faran, V) **98e:53026** 53B40

— *see also* **Tight and taut submanifolds, 98f:53001** *and* **Sharpe, R. W., 98m:53033**

Chern, Shikai Dirac induction for unimodular Lie groups. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 2, 349–399. (Jonathan M. Rosenberg) **98d:22007** 22E45 (19K56, 22E27, 22E46, 58G12)

— (*with* Hu, Xiaodong) Equivariant Chern character for the invariant Dirac operator. *Michigan Math. J.* **44** (1997), *no.* 3, 451–473. (Vicumpriya S. Perera) **98j:58111** 58G12 (19D55, 19K56)

Chernavskiĭ, A. V. (*with* Yablokova, S. I.) On the reduction of piecewise-linear mappings to general position in continuous dependence on the parameter. (Russian) *Mathematics at Yaroslavl' University (Russian)*, 189–195, *Yaroslav. Gos. Univ., Yaroslavl'*, 1996. (Jože Vrabec) **98a:57035** 57Q65 (57N15, 57S05)

Chernesky, Michael P. On preconditioned Krylov subspace methods for discrete convection-diffusion problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 321–330. (Summary) **98a:65180** 65N99 (65F10)

Chernetskaya, L. N. (*with* Martynyuk, A. A.) On boundedness of the solution to impulsive system. (English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 7, 89–94; *reprinted in Internat. Appl. Mech.* **33** (1997), *no.* 7, 589–593 (1998). (Snezhana Khristova) **98m:34022** 34A37 (34C11, 34D40)

Chernev, A. M. On modules with a finite Goldie dimension and relative Krull dimension. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 5, 98–101; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 5, 32–33 (1997). (Edmund R. Puczyłowski) **98j:16014** 16P60 (16P70)

Cherniga, R. M. A constructive method for obtaining new exact solutions of nonlinear evolution equations. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 301–312. (Ian M. Anderson) **98h:35007** 35A30 (35C05, 35Q53, 58G35)

— Application of a constructive method for obtaining non-Lie solutions of nonlinear evolution equations. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 6, 814–827; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 910–924 (1998). (Olena V. Roman) **98k:35007** 35A25 (35C05, 35Qxx)

— (*with* Serov, N. I.) Lie symmetries and exact solutions of nonlinear heat equations with a convection term. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 9, 1262–1270. (Summary) **98i:35010** 35A30 (35K05, 35K55)

Chernigovskiĭ, S. V. (*with* Novac, S.) A conservative grid functions recalculation procedure in 1D gasdynamics. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 47–56, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 76M20 (35Q35, 76N15)

Cherniha, Roman M. *see* **Cherniga, R. M.**

Chernikov, Aleksandr Antonovich (*with* Schmidt, George; Rogalsky, A. V.) Magnetic field generation in convective cells. *Stochastic processes in astrophysics (Gainesville, FL, 1993)*, 161–169, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 76W05

Chernikov, N. A. ★ Движение планеты в пространстве Лобачевского. (Russian. English and Russian summaries) [The motion of a planet in Lobachevskiĭ space] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R2-97-68. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* (Publisher's description) **98b:70011** 70F05 (70F15)

Chernikov, N. S. Generalized solvable groups factorized by subgroups of finite special rank. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4 (Russian)*, 83–117, 374, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (O. Yu. Dashkova) **98k:20049** 20F19

— (*with* Malan'ina, G. A.) A complementability condition in groups. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 10, 1417–1425; *translation in Ukrainian Math. J.* **48** (1996), *no.* 10, 1609–1617 (1997). (L. A. Kurdachenko) **98c:20074** 20F50 (20E34)

— Groups with the π-minimality condition. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 169–170. 20F99

Chernikov, Vasiliĭ Vasil'evich *see* **Aleksandrov, I. A. et al.**

Chernikova, N. N. (*with* Paramonov, D. V.; Shavokhina, N. S.) ★ Приведение уравнения Дирака-Фока-Иваненко в мире Лобачевского к специальному виду. (Russian. English and Russian summaries) [Reduction of the Dirac-Fock-Ivanenko equation in the Lobachevskiĭ universe to a special form] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R2-97-134. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1997. 9 *pp.* 53A40

Chernikova, O. S. (*with* Perestyuk, N. A.) Stability of solutions of impulse systems. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 1, 98–111; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 109–123. (Florin Iacob) **98d:34018** 34A37 (34–02, 34Dxx)

Chernodub, M. N. On Nambu monopole dynamics in a SU(2) lattice Higgs model. *JETP Lett.* **66** (1997), *no.* 9, 605–608; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **66** (1997), *no.* 9, 577–580 (*Russian*). (Summary) **98m:81118** 81T25

— (*with* Gubarev, F. V.; Polikarpov, M. I.) Aharonov-Bohm effect in lattice abelian Higgs theory. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 379–384. 81T25 (81T13)

Chernoff, Herman *see* **Bather, John, 98i:01030**

Chernorutskiĭ, Vladimir V. (*with* Krasnosel'skiĭ, Mark Aleksandrovich) Differential inequalities for hysteresis systems. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 459–468. (J. W. Macki) **98a:34065** 34K05 (34A40)

— (*with* Rachinskiĭ, Dmitriĭ) On uniqueness of an initial-value problem for ODE with hysteresis. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 391–399. (J. W. Macki) **98j:34004** 34A12 (34K05, 47H30)

Chernousko, F. L. Bounded control in elastic systems. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 261–266, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 73K50 (93C20)

— Decomposition and suboptimal control in dynamical systems. (English summary) *System modelling and optimization (Prague, 1995)*, 13–23, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93–02 (49N35, 93A14)

— An estimate for the reachable sets of linear systems with an indefinite matrix. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 32–34. (Constantin Vârsan) **98c:93012** 93B03 (34H05)

— Design of control under mixed constraints. (English summary) *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 67–74, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 93B51 (93C85)

— (*with* Shmatkov, A. M.) Time-optimality synthesis in a third-order system. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 174–177. 49N35 (49K15)

— On equilibrium and dynamics of a rigid body in the presence of dry friction. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4509–4516. (*see* **98l:00032**) 70E99

Chernousov, G. N. On the metrizability of some sets on compact Riemannian manifolds. (Russian) *Group and metric properties of mappings* (*Russian*), 189–193, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (Valery Marenich) **98d:31004** 31C15 (28A75, 30C65, 31B15)

Chernousov, V. I. (*with* Benyash-Krivets, V. V.) On varieties of representations of the fundamental group of the Klein bottle. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 9–13, 121. (Summary) **98i:20037** 20F34 (20C15)

— (*with* Benyash-Krivets, V. V.) On varieties of two-dimensional representations of fundamental groups of surfaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 5–9, 122. (Azniv Kasparian) **98m:20042** 20F29 (20F34)

— (*with* Ryzhkov, A. A.) A criterion for the maximality of arithmetic subgroups. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 24–28, 124. (Summary) **98j:20065** 20G30

— (*with* Rapinchuk, Andrei S.; Benyash-Krivets, V. V.) Representation varieties of the fundamental groups of compact orientable surfaces. (English summary) *Israel J. Math.* **93** (1996), 29–71. (William Harvey) **98a:57002** 57M05 (14H30, 20G05, 57N05)

— (*with* Benyash-Krivets, V. V.) On varieties of representations of the fundamental groups of compact nonorientable surfaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 439–442. (Vasily A. Chernecky) **98k:57003** 57M05 (20C15, 20F38)

— (*with* Platonov, V. P.) On the rationality problem for group varieties. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 306–309. (From the text) **98j:14061** 14L10

— (*with* Benyash-Krivets, V. V.) Varieties of representations of fundamental groups of compact nonoriented surfaces. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 47–92; *translation in Sb. Math.* **188** (1997), *no.* 7, 997–1039. (Vasily A. Chernecky) **98j:57002** 57M05 (20C15)

Chernov, D. È. Generalized dynamic programming. Two new applications. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 65–74; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 571–578. 90C39 (49M20)

Chernov, N. I. (*with* Markarian, R.) Ergodic properties of Anosov maps with rectangular holes. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 271–314. (Bernard Schmitt) **98k:58140** 58F11 (28D05)

— On Sinai-Bowen-Ruelle measures on horocycles or 3-D Anosov flows. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 359–369. (Edoh Amiran) **98j:58085** 58F17 (58F11)

— (*with* Lebowitz, Joel L.) Stationary nonequilibrium states in boundary-driven Hamiltonian systems: shear flow. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 953–990. (Rossana Marra) **98j:82036** 82C05 (82C70)

— Entropy, Lyapunov exponents, and mean free path for billiards. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 1–29. (András Krámli) **98g:58131** 58F15 (58F11, 82C40)

Chernov, Vladimir M. On the hierarchy of group algebras that is associated with the parametrization of fast algorithms for discrete orthogonal transforms. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 317–319. 94A11 (94A12)

Chernov, Yu. K. (*with* Aseev, V. V.; Sychev, A. V.) Some problems in the theory of quasiconformal mappings and their generalizations. (Russian) *Analysis and discrete mathematics* (*Russian*), 3–9, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (J. G. Krzyż) **98g:30043** 30C65

— Uniform pseudo-quasiconformality and quasisymmetry. (Russian) *Group and metric properties of mappings* (*Russian*), 180–188, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (P. Caraman) **98i:30031** 30C65

— Boundary properties of homeomorphisms with an unbounded characteristic of quasiconformity. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 458–459. (P. Caraman) **98e:30025** 30C65

Chernova, N. I. (*with* Foss, S. G.) Comparison theorems and ergodic properties of polling systems. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 46–71; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 342–364 (1997). (Summary) **98c:60121** 60K25

Chernukha, Yu. A. (*with* Kosarchin, V. I.) Revised analysis of the thermal stresses in a shallow spherical shell with a foreign inclusion. (English summary) *J. Math. Sci.* **81** (1996), *no.* 6, 3093–3098. 73K15 (73B30)

Chernyakov, P. S. (*with* Kuklin, V. M.; Panchenko, I. P.) The appearance of freely convective vortex structures in layers of the atomosphere. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 99–104. 76C05 (76U05, 76V05, 86A10)

Chernyavskaya, N. (*with* Shuster, L.) Necessary and sufficient conditions for the solvability of a problem of Hartman and Wintner. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3213–3228. (Hiroshi Onose) **98f:34045** 34C10 (34E10)

Chernyavskiĭ, V. M. (*with* Suetnova, E. I.) On the stability of a nonuniform creeping flow with a deformable boundary. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 762–766; *translation in Phys. Dokl.* **42** (1997), *no.* 6, 329–333. 76E05 (76D99)

Chernyĭ, G. G. Plane steady self-similar vortex flows of an ideal fluid (Keplerian motions). (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 335–338; *translation in Phys. Dokl.* **42** (1997), *no.* 1, 52–55. (Yuri N. Skiba) **98d:76030** 76C05

— Two-dimensional steady-state self-similar vortex flows of an ideal fluid. *Fluid Dynam.* **32** (1997), *no.* 4, 500–512 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 4, 39–53 (*Russian. Russian summary*). (Alexander Lifschitz) **98m:76032** 76C05

Chernyĭ, S. G. (*with* Gryazin, Yu. A.; Sharov, S. V.; Shashkin, P. A.) On a method for the numerical solution of three-dimensional problems of the dynamics of an uncompressible fluid. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 478–483; *translation in Phys. Dokl.* **42** (1997), *no.* 4, 201–207. 76M25

Chernykh, G. G. (*with* Demenkov, A. G.) Numerical models of jet flows of a viscous incompressible fluid. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 111–125. (Summary) **98d:76125** 76M25 (76D25, 76F05)

Chernykh, I. D. (*with* Sevast'yanov, S. V.) A sufficient condition for the effective solvability of the open shop problem. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 1, 57–74, 93. (Jacek Błażewicz) **98k:90047** 90B35

Chernykh, N. I. (*with* Arestov, V. V.; Berdyshev, V. I.; Subbotin, Yu. N.) S. B. Stechkin and approximation theory. (Russian) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 3–16, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (F. Smithies) **98m:41001** 41–03 (01A60, 01A70, 42–03)

Chernykh, N. I. *see* **Radio age, 98b:00019**

Chernyshenko, S. I. (*with* Bunyakin, A. V.; Stepanov, G. Yu.) High-Reynolds-number Batchelor-model asymptotics of a flow past an aerofoil with a vortex trapped in a cavity. (English summary) *J. Fluid Mech.* **358** (1998), 283–297. (Summary) **98k:76039** 76D99 (76G25)

Chernyshev, K. R. (*with* Pashchenko, F. F.) Construction of recurrent algorithms of the extended method of instrumental variables. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 76–89; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1761–1771 (1998). 62M99 (93E12)

Chernyshev, S. A. (*with* Kop'ev, V. F.) Vortex ring eigen-oscillations as a source of sound. (English summary) *J. Fluid Mech.* **341** (1997), 19–57. (Summary) **98d:76034** 76C05 (76Q05)

Chernyshev, V. E. Perturbation of heteroclinic cycles that contain saddle-foci. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 712–713, 720; *translation in Differential Equations* **33** (1997), *no.* 5, 717–719 (1998). (From the text) **98k:58155** 58F13 (34C05, 34C37, 58F21, 58F30)

Cherrier, Pascal (*with* Ben Abdesselem, Adnène) Équations de type Monge-Ampère sur certaines variétés de Fano. (English and French summaries) [Monge-Ampère equations on certain Fano manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 319–322. (Sławomir Kołodziej) **98h:32023** 32F07 (32L07)

Cherruault, Yves (*with* Mora Martínez, Gaspar) Characterization and generation of α-dense curves. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 83–91. (Summary) **98c:90140** 90C30 (65D15, 65K05)

— (*with* Seng, Virginie) The resolution of non-linear integral equations of the first kind using the decompositional method of Adomian. (English summary) *Kybernetes* **26** (1997), *no.* 2-3, 110, 198–206. (Summary) **98c:45014** 45L05

— (*with* Bendiab, O.) Alienor and Twone: a comparative study. (English summary) *Kybernetes* **26** (1997), *no.* 4-5, 371, 453–458. 90C30 (65K05)

— On a reducing space-filling transformation: application to global optimization. (English summary) *Kybernetes* **26** (1997), *no.* 4-5, 497, 589–595. 90C30 (65K05)

Cherry, Kathleen G. (*with* Brigham, Robert C.) Line greatest common subgraphs. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 151–160. (*see* **98h:05007**) 05C75

Cherry, William A. (*with* Ye, Zhuan) Non-Archimedean Nevanlinna theory in several variables and the non-Archimedean Nevanlinna inverse problem. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 5043–5071. (Min Ru) **98e:11072** 11J99 (11S80, 32H30, 32P05)

Chertkov, M. (*with* Kolokolov, I. V.; Vergassola, M.) Inverse cascade and intermittency of passive scalar in one-dimensional smooth flow. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5483–5499. (Summary) **98m:76093** 76F99 (76M35)

Cherubini, Alessandra (*with* Breveglieri, Luca; Crespi Reghizzi, Stefano) Deterministic parsing for augmented context-free grammars. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 326–336, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q52

— (*with* San Pietro, Pierluigi) The word problem for k-depth languages. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 29–39, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:00029**) 68Q50 (68Q45)

— (*with* Bonzini, Celestina) A family of permutable completely regular semigroups. (English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 63–80 (1997). (D. C. Jackson) **98m:20076** 20M17

Chervak, O. Yu. On optimalities with respect to many equivalent criteria. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 181–182, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 607–608 (1998). 90C29

Chervoneva, Inna (*with* Kadets, Vladimir M.; Yampolsky, Michael) On the upper majorant property. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 29–43. (Gilles Godefroy) **98h:46007** 46B15 (43A77)

Cher.yakov, A. M. (*with* Barbashov, B. M.) A new exact solution to the classical equations of motion of the relativistic string with massive ends. *Differential equations and its applications* (*Budapest*, 1991), 19–33, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 81T30 (83E30)

Chesher, Andrew (*with* Smith, Richard J.) Likelihood ratio specification tests. (English summary) *Econometrica* **65** (1997), *no.* 3, 627–646. (Summary) **98a:62129** 62P20

Cheshkova, M. A. On a torse-forming vector field. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 66–68; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 1, 63–65. (Zbigniew Olszak) **98i:53026** 53B25

— The Bianchi transformation of n-surfaces in E^{2n-1}. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 71–74; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 9, 68–71 (1998). (Witold Mozgawa) **98m:53008** 53A07

Chesney, Marc (*with* Yor, Marc; Geman, Helyette; Jeanblanc-Picqué, Monique) Some combinations of Asian, Parisian and barrier options. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 61–87, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Jeanblanc-Picqué, Monique; Yor, Marc) Brownian excursions and Parisian barrier options. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 165–184. (Angelos Dassios) **98b:90013** 90A09 (60G46, 60J60)

— (*with* Hazari, Bharat) Irrational entry, rational exit. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 1–13. 90A40

Chesokov, A. A. Exact solutions of vortex shallow water equations. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 5, 44–55; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 5, 692–702 (1998). (Nikolay G. Kuznetsov) **98m:76033** 76C05 (35Q35)

Chestnov, V. N. Robust stability of multidimensional dynamical systems with coefficients linearly dependent on a single interval parameter. (Russian. Russian summary) *Avtomat.*

i Telemekh. **1997**, *no.* 4, 175–180; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 662–667. (Summary) **98b:93048** 93D09
— A frequency criterion for the stability of linear singularly perturbed systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 112–117; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 805–809. 93D05 (93C70)

Chetiya, Buddha Prasad (*with* Dutta, Sanjay Kumar; Patra, Kuntala) **ZS**-metacyclic groups of automorphisms of compact Riemann surfaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 63–74. (G. M. Lyan) **98f:20032** 20H10 (30F10)

Chetverushkin, B. N. (*with* Lukshin, An. V.) On the theory of kinetically consistent difference schemes. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 109–125. (Reinhard Redlinger) **98k:76099** 76M20 (65M06, 76N15)
— (*with* Samarskiĭ, A. A.; Gol′din, V. Ya.; Tishkin, V. F.; Levanov, E. I.; Rozhdestvenskiĭ, B. L.) Nikolaĭ Nikolaevich Kalitkin (on the occasion of his sixtieth birthday). (Russian) *Mat. Model.* **7** (1995), *no.* 11, 126–127. 01A70
— (*with* Tishkina, L. V.; Churbanova, N. V.) A procedure for accelerating the process of solving a linear system of equations of the α-β method. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 2, 37–42. 65F30 (65F10)
— (*with* Dorodnitsyn, L. V.) On an implicit scheme for modeling a subsonic gas flow. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 108–118. (Nikolay P. Moshkin) **98g:76057** 76M20 (76G25, 76P05)
— (*with* Abalakin, I. V.; Zhokhova, A. V.) Kinetically consistent difference schemes on irregular grids. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 44–53. 76M20 (76P05)
— (*with* Graur, I. A.) On the justification of kinetically consistent schemes with correction. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 11, 111–118. 76M20
— (*with* Milyukova, O. Yu.) A parallel variant of the alternating-triangular method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 228–238. 65N06 (65N22)

Chetwynd, Amanda G. (*with* Diggle, Peter J.) ★ Discrete mathematics. (English summary) Modular Mathematics Series. *Arnold, London*, 1995. x+209 *pp. ISBN* 0-340-61047-6 (From the preface) **98f:00002** 00A05 (05–01)
— (*with* Rhodes, Susan J.) Avoiding partial Latin squares and intricacy. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 17–32. (Jeffrey H. Dinitz) **98j:05033** 05B15
— (*with* Diggle, Peter J.) On estimating the reduced second moment measure of a stationary spatial point process. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 11–15. 62M30

Cheung, Bernard K. S. (*with* Langevin, A.; Delmaire, H.) Coupling genetic algorithm with a grid search method to solve mixed integer nonlinear programming problems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 13–23. 90C11
— (*with* Ng, Albert C. L.) An efficient search method for nonsmooth nonlinear optimization problems with mostly simple constraints. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 335–346. 90C30 (65K05)

Cheung, Chun-pong (*with* Chan, Raymond H.; Sun, Hai-wei) Fast algorithms for problems on thermal tomography. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 90–97, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M30 (80A23, 92C55)

Cheung, D. W. (*with* Liu, Zhiyong) Efficient parallel algorithm for dense matrix *LU* decomposition with pivoting on hypercubes. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 39–50. (Summary) **98b:65036** 65F10 (65Y05)

Cheung, Leung-Fu (*with* Leung, Pui-Fai) A Schwarz lemma for complete Riemannian manifolds. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 513–515. (Valery Marenich) **98e:53055** 53C20

Cheung, S. K. (*with* Albrecht, Andreas; Hui, K. C.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. I. Analytical results for the unbounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 890–904. 90C27 (90C15)
— (*with* Albrecht, Andreas; Hui, K. C.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. II. A simulated annealing approach for the bounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 905–929. 90C27 (90C15)
— (*with* Albrecht, Andreas; Leung, K. S.; Wong, Chak Kuen) Computing elastic moduli of two-dimensional random networks of rigid and nonrigid bonds by simulated annealing. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 187–215. (David J. Bergman) **98m:73066** 73K20 (65C05, 73B35, 73V30, 82B80)

Cheung, Y. K. (*with* Chen, Shu Hui) An elliptic Lindstedt-Poincaré method for certain strongly non-linear oscillators. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 3, 199–213. (James A. Murdock) **98d:34066** 34C15 (34C25, 34E10, 70K99)

Cheung, Yin-Wong (*with* Lai, Kon S.) Bandwidth selection, prewhitening, and the power of the Phillips-Perron test. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 679–691. 62P20
— (*with* Lai, Kon S.) Power of the augmented Dickey-Fuller test with information-based lag selection. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 57–65. 62M10

Chevalier, Y. (*with* Soula, M.; Vinh, T.) Transient responses of polymers and elastomers deduced from harmonic responses. (English summary) *J. Sound Vibration* **205** (1997), *no.* 2, 185–203. (Summary) **98f:73022** 73F15

Chevallier, Nicolas Geométrie des suites de Kronecker. (English summary) [Geometry of Kronecker sequences] *Manuscripta Math.* **94** (1997), *no.* 2, 231–241. (Gerhard Larcher) **98i:11048** 11J13 (11J71, 11K38)

Chevance, D. Numerical methods for backward stochastic differential equations. *Numerical methods in finance*, 232–244, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Denis Talay) **98i:60051** 60H10 (65L99, 65U05)

Cheverda, V. A. (*with* Khaĭdukov, V. G.; Kostin, V. I.) The *r*-solution and its applications in linearized waveform inversion for a layered background. (English summary) *Inverse problems in wave propagation (Minneapolis, MN*, 1995), 277–294, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98j:35185** 35R30 (35L05, 65M12, 76Q05)
— (*with* Kostin, V. I.; Khaĭdukov, V. G.) *r*-solutions of equations of the first kind with a compact operator in Hilbert spaces: existence and stability. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 308–312. (Anton Suhadolc) **98j:47021** 47A50 (65J10, 65J20)

Cheverry, C. Justification de l'optique géométrique non linéaire pour un système de lois de conservation. [Justification of nonlinear geometric optics for a system of conservation laws] *Duke Math. J.* **87** (1997), *no.* 2, 213–263. (Claude Carasso) **98c:35106** 35L65

Chew, C. H. (*with* Cui, Fangsen; Xu, Jianxue; Cai, Yuanli) Bifurcation and chaos in the Duffing oscillator with a PID controller. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 3, 251–262. (Summary) **98a:34032** 34C15 (34C23, 34D99, 34H05, 70K50, 93C10)

Chew, John (*with* Barbeau, Edward J.; Tanny, Stephen) A matrix dynamics approach to Golomb's recursion. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 16, 11 *pp.* (*electronic*). (S. W. Golomb) **98k:11016** 11B83 (39A11, 40C05)

Chew, Kian Hoe On Vizing's theorem, adjacency lemma and fan argument generalized to multigraphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 283–286. (Summary) **98a:05064** 05C15
— An extension of Vizing's theorem. (English summary) *J. Graph Theory* **24** (1997), *no.* 4, 347–355. (Michael O. Albertson) **98e:05035** 05C15

Chew, L. Paul (*with* Dor, Dorit; Efrat, Alon; Kedem, Klara) Geometric pattern matching in *d*-dimensional space. (English summary) *Algorithms—ESA '95 (Corfu)*, 264–279, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05
— (*with* Arikati, Srinivasa R.; Chen, Danny Z.; Das, Gautam; Smid, Michiel; Zaroliagis, Christos D.) Planar spanners and approximate shortest path queries among obstacles in the plane. (English summary) *Algorithms—ESA '96 (Barcelona)*, 514–528, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68U05
— (*with* Fortune, Steven) Sorting helps for Voronoi diagrams. (English summary) *Algorithmica* **18** (1997), *no.* 2, 217–228. (Hans-Dietrich Hecker) **98c:68202** 68U05 (52B55, 68Q25)

Chew, Tuan Seng (*with* Lee, Peng Yee) A Riemann-type definition of the Wiener integral. (English summary) *Trends in probability and related analysis (Taipei*, 1996), 91–96, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98k:60004**) 28C20
— (*with* de Lara-Tuprio, E.) Periodic solutions of some functional-differential equations of Duffing type. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 91–109 (1998). (Anna Capietto) **98k:34106** 34K10 (34C25, 34K15, 47H15)

Chew, Weng Cho (*with* Lin, Jiun-Hwa) Solution of the three-dimensional electromagnetic inverse problem by the local shape function and the conjugate gradient fast Fourier transform methods. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 11, 3037–3045. 78A45
— (*with* Song, J. M.; Lu, C. C.; Wagner, Robert L.; Lin, Jiun-Hwa; Gan, H.; Nasir, Muhammad Abdul) Fast algorithms for solving electromagnetic scattering problems. (English summary) *Wave propagation in complex media (Minneapolis, MN*, 1994), 1–22, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 78–08 (78A45)

Chew, Y. T. (*with* Shu, Chang) Fourier expansion-based differential quadrature and its application to Helmholtz eigenvalue problems. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 643–653. 65T10 (65D32)
— (*with* Shu, Chang) On the equivalence of generalized differential quadrature and highest order finite difference scheme. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 249–260. 65D32
— (*with* Guo, T.; Luo, S. C.; Su, M. D.) A new numerical simulation method of high Reynolds number flow around a cylinder. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 357–366. 76M25

Chhabra, Ashvin B. (*with* Feigenbaum, Mitchell J.; Kadanoff, Leo P.; Kolan, Amy J.; Procaccia, Itamar) Sandpiles, avalanches, and the statistical mechanics of nonequilibrium stationary states. (English summary) *Phys. Rev. E* (3) **47** (1993), *no.* 5, 3099–3121. (Manfred Requardt) **98e:82039** 82C27 (93E30)

Chhabra, R. K. (*with* Gill, Gurpreet K.) Non-linear Rayleigh-Taylor stability in magnetic fluids with heat and mass transfer. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 292–305. (John Adam) **98a:76044** 76E25

Chhajed, Dilip Edge coloring a k-tree into two smaller trees. (English summary) *Networks* **29** (1997), *no.* 4, 191–194. (Summary) **98a:05065** 05C15 (05C05)

Chhajlani, R. K. (*with* Sharma, P. K.) Kelvin-Helmholtz instability of magnetized plasma with polytropic pressure laws. (English summary) *Phys. Plasmas* **5** (1998), *no.* 3, 625–634. (Summary) **98m:76074** 76E25

Chhajlany, S. C. (*with* Gordeyev, A. N.) One-dimensional hydrogen atom: a singular potential in quantum mechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6893–6909. (Arlen Anderson) **98k:81042** 81Q05

tran kim Chi *see* **Tran Kim Chi**

Chi, Quo-Shin (*with* Merkulov, Sergei; Schwachhöfer, Lorenz J.) On the existence of infinite series of exotic holonomies. (English summary) *Invent. Math.* **126** (1996), *no.* 2, 391–411. (Francisco M. Cabrera) **98b:53023** 53C05 (53C10)
— (*with* Merkulov, Sergei; Schwachhöfer, Lorenz J.) Exotic holonomies $E_7^{[a]}$. (English summary) *Internat. J. Math.* **8** (1997), *no.* 5, 583–594. (Francisco M. Cabrera) **98g:53046** 53C10 (17B25, 53C05)

Chi, Xiang (*with* Su, Chun) A weak law of large numbers for negatively associated identically distributed sequences. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 199–203. 60F05

Chi, Xue Bin Parallel solutions of linear systems on a hierarchical memory multiprocessor. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 210–217; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 3, 90–96. 65F10 (65Y05)
— Parallel matrix computations on distributed memory systems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 271–275. 65–04 (65F99)

Chi, Yan Hui (*with* Qi, Huan; Tang, Jian Guo) A gradient method involving second derivatives. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 12, 96–98. 65K05

Chi, Yu Dong (*with* Feng, Yong) Design of variable structure output feedback control systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 32–35, 46. 93B51 (93B10)

Chia, G. L. A construction for pandiagonal magic squares using CDS-matrices. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 59–64. 05B15
— Some problems on chromatic polynomials. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 39–44. (Summary) **98e:05036** 05C15

— A bibliography on chromatic polynomials. Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 175–191. (*see* **98d:05001**) 05–00 (00A15, 05C15)
— *see also* **Chromatic polynomials and related topics, 98d:05001**
Chiadò Piat, Valeria (*with* Braides, Andrèa) Integral representation results for functionals defined on SBV(Ω; $\mathbf{R}^m$). (English summary) *J. Math. Pures Appl.* (9) **75** (1996), *no.* 6, 595–626. (Anna Salvadori) **98c:49079** 49Q20 (46E99, 73M25, 73V25)
— (*with* Coscia, Alessandra) Hölder continuity of minimizers of functionals with variable growth exponent. *Manuscripta Math.* **93** (1997), *no.* 3, 283–299. (Elvira Mascolo) **98e:49091** 49N60 (49J10)
Chiang, Chi (*with* Gutierrez, Genaro J.) Optimal control policies for a periodic review inventory system with emergency orders. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 187–204. 90B05
Chiang, Ching-Yuan Measurement structures and invariant statistics. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 1, 43–54. (Summary) **98d:62002** 62A05
— (*with* Sun, Shan) Limiting behaviour of the perturbed empirical distribution functions evaluated at U-statistics for strongly mixing sequences of random variables. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 1, 3–20. (Ken-ichi Yoshihara) **98a:62022** 62E20 (60F15)
— Invariant parameters of measurement scales. (English summary) *British J. Math. Statist. Psych.* **51** (1998), *no.* 1, 89–99. 62P15
Chiang, Ding-An (*with* Chow, Louis R.; Hsien, Nan-Chen) Fuzzy information in extended fuzzy relational databases. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 1–20. (Summary) **98f:68062** 68P15 (04A72)
— (*with* Wang, Yi-Fan; Chen, Wei[5]) Knowledge extraction by a fuzzy linguistic summary approach. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 69–82. 68T30 (04A72)
Chiang, Hsiao-Dong (*with* Fekih-Ahmed, Lazhar) Quasi-stability regions of nonlinear dynamical systems: theory. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **43** (1996), *no.* 8, 627–635. (V. B. Smirnova) **98f:34076** 34D05 (58F10)
— (*with* Fekih-Ahmed, Lazhar) Quasi-stability regions of nonlinear dynamical systems: optimal estimations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **43** (1996), *no.* 8, 636–643. (V. B. Smirnova) **98f:34077** 34D05 (34D10, 58F10)
Chiang, Junyih (*with* Jones, Douglas H.; Jin, Zhi Ying) Optimal designs for simultaneous item estimation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4051–4058. (*see* **98i:00032**) 62K05
Chiang, Nam-Po (*with* Fu, Hung-Lin) On upper bounds for the pseudo-achromatic index. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 79–86. (Summary) **98f:05058** 05C15
Chiang, Richard Y. (*with* Bayard, David S.) Identification, uncertainty characterization and robust control synthesis applied to large flexible structures control. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 97–112. (*see* **98k:93006**) 93C85 (93B30)
Chiang, S. C. (*with* Chen, Tung Yang) Electroelastic fields and effective moduli of a medium containing cavities or rigid inclusions of arbitrary shape under anti-plane mechanical and in-plane electric fields. (English summary) *Acta Mech.* **121** (1997), *no.* 1-4, 79–96. (Summary) **98e:73091** 73K20 (73B27, 73R05)
Chiang, Ti-Ming (*with* Distler, Jacques; Greene, Brian R.) Some features of (0, 2) moduli space. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 590–616. (Michael A. I. Flohr) **98m:32036** 32G81 (14J32, 32G13, 32J81, 81T30)
Chiang, Tse-Pei *see* **Jiang, Ze Pei**
Chiang, Wei-Ling (*with* Chen, Huey-Kuo; Hsu, Wen-Ko) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 2, 155–168. (Summary) **98a:04004** 04A72 (65G10)
Chiang, Yi-Jen (*with* Tamassia, Roberto) Optimal shortest path and minimum-link path queries between two convex polygons inside a simple polygonal obstacle. (English summary) Workshop on Computational Geometry (Raleigh, NC, 1993). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 1-2, 85–121. (Summary) **98c:68203** 68U05 (52B55)
— Experiments on the practical I/O efficiency of geometric algorithms: distribution sweep versus plane sweep. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 211–236. 68U05 (68N25)
Chiang, Yik-Man (*with* Laine, Ilpo; Wang, Shupei) An oscillation result of a third order linear differential equation with entire periodic coefficients. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 25–34. (Summary) **98h:34005** 34A20 (30D35)
— (*with* Wang, Shupei) Oscillation results of certain higher order linear differential equations with periodic coefficients in the complex plane. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 560–576. (Enid M. Steinbart) **98m:34009** 34A20
Chiang, Yungyen The quasi-Fuchsian space of four-punctured spheres. *Lipa's legacy* (*New York*, 1995), 121–149, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Subhashis Nag) **98i:32029** 32G15 (30F60)
— Geometric intersection numbers on a four-punctured sphere. (English summary) *Conform. Geom. Dyn.* **1** (1997), 87–103 (*electronic*). (Ken-ichi Ohshika) **98i:57024** 57M50 (30F40)
Chiantini, Luca (*with* Ciliberto, Ciro; Di Gennaro, Vincenzo) On the genus of projective curves verifying certain flag conditions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 3, 701–732. (Summary) **98g:14028** 14H45
— (*with* Sernesi, E.) Nodal curves on surfaces of general type. *Math. Ann.* **307** (1997), *no.* 1, 41–56. (Mei Chu Chang) **98b:14026** 14H10 (14J29)
Chiao, Kuo-Ping Convergence and oscillation of fuzzy matrices under SUP-T composition. (English summary) *Tamsui Oxf. J. Math. Sci.* **13** (1997), 17–29. 15A99 (03E72)
Chiao, Raymond Y. (*with* Boyce, Jack; Garrison, John C.) Superluminal (but causal) effects in quantum physics. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 400–416, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P05
Chiappinelli, Raffaele An estimate on the eigenvalues in bifurcation for gradient mappings. *Glasgow Math. J.* **39** (1997), *no.* 2, 211–216. (Jean Mawhin) **98h:58039** 58E07 (47H12, 47H15)
Chiappori, Pierre-André (*with* Ekeland, Ivar) Problèmes d'agrégation en théorie du consommateur et calcul différentiel extérieur. (English and French summaries) [Aggregation problems in consumer theory and exterior differential calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 5, 565–570. (Dave Furth) **98a:90035** 90A40 (58A15, 58A17)
— (*with* Dávila, Julio) Cycles and sunspots: the Poincaré-Hopf approach. (English summary) *J. Math. Econom.* **26** (1996), *no.* 3, 269–284. (Dave Furth) **98b:90024** 90A14 (58F40)
Chiarella, Carl (*with* Khomin, Alexander) An analysis of the complex dynamic behaviour of nonlinear oligopoly models with time delays. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2049–2065. (Summary) **98b:90041** 90A53
Chiarolla, Maria B. Singular stochastic control of a singular diffusion process. (English summary) *Stochastics Stochastics Rep.* **62** (1997), *no.* 1-2, 31–63. (Summary) **98i:93088** 93E20 (49L20, 49L25)
Chiaselotti, Giampiero An intersection problem in a finite set. (English summary) *Matematiche* (*Catania*) **50** (1995), *no.* 2, 205–213 (1996). (Richard P. Anstee) **98a:05147** 05D05
Chiba, Takeshi Generality of inflation and constraints on scalar-tensor theories of gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2951–2961. 83D05
Chibisov, B. (*with* Shifman, M. A.) BPS-saturated walls in supersymmetric theories. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7990–8013. (Summary) **98j:81324** 81T60
Chibisov, D. M. *see* **Boldin, M. V. et al., 98f:62189**
Chibloun, Rachid (*with* Micali, Artibano) Dimension de Krull des algèbres graduées. [Krull dimension of graded algebras] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 73–78, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (Introduction) **98i:13017** 13C15 (13A02)
pusillo Chicco, L. *see* **Pusillo Chicco, L.**
Chicco, Maurizio A maximum principle for mixed boundary value problems for elliptic equations in non-divergence form. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 531–538. (Marco Bramanti) **98m:35037** 35J25 (35B50)
Chichikina, M. V. (*with* Khrustalev, O. A.) Bogolyubov group variables in relativistic field theory. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 242–251; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 583–591. (Summary) **98j:81351** 81T99
Chichilnisky, Graciela A topological invariant for competitive markets. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 445–469. (Erwin Klein) **98m:90032** 90A14 (90A80)
— (*with* Heal, Geoffrey M.) The geometry of implementation: a necessary and sufficient condition for straightforward games. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 259–294. (Maurice Salles) **98k:90003** 90A08
— (*with* Heal, Geoffrey M.) Social choice with infinite populations: construction of a rule and impossibility results. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 303–318. (Anjan Mukherji) **98m:90010** 90A08
— (*with* Candeal, Juan Carlos; Induráin Eraso, Esteban) Topological aggregation of preferences: the case of a continuum of agents. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 333–343. (Edward W. Packel) **98e:90014** 90A08
Chichinadze, Raphiel (*with* Gegelia, T. G.) Boundary value problems of mechanics of continuum media for a sphere. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **7** (1996), 1–222. (Vladimir Mityushev) **98a:73019** 73C02 (31B30, 35C05, 35Q72, 73B30, 76D05)
Chickering, David Maxwell Learning Bayesian networks is NP-complete. (English summary) *Learning from data* (*Fort Lauderdale, FL*, 1995), 121–130, *Lecture Notes in Statist.*, 112, *Springer, New York*, 1996. (*see* **98d:68195**) 68T05 (68Q25, 68T30)
Chicone, Carmen (*with* Mashhoon, Bahram; Retzloff, D. G.) Evolutionary dynamics while trapped in resonance: a Keplerian binary system perturbed by gravitational radiation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1831–1850. (Summary) **98c:85001** 85A05 (34C29, 70F05, 70F15)
— (*with* Latushkin, Yu. D.) The geodesic flow generates a fast dynamo: an elementary proof. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3391–3396. (Gerhard Knieper) **98c:58124** 58F17 (76W05)
— Invariant tori for periodically perturbed oscillators. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 57–83. (Luigi Chierchia) **98j:58099** 58F30 (34C15, 34C30, 58F27)
Chicourrat, Monique Extensions de proximités et de prétopologies dans l'ensemble des ultrafiltres. [Extensions of proximities and pretopologies in the set of ultrafilters] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 1, 9 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 54E05
— Extensions de proximités et de prétopologies dans l'ensemble des ultrafiltres. [Extension of proximities and pretopologies in the set of ultrafilters] *Acta Math. Hungar.* **77** (1997), *no.* 3, 263–274. (S. A. Naimpally) **98k:54046** 54E05 (54A20)
Chidella, Jagan (*with* Blair, Howard A.; Dushin, Fred; Ferry, Audrey; Humenn, Polar) A continuum of discrete systems. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 153–186. (Summary) **98k:68034** 68N17 (68Q80)
Chidume, C. E. (*with* Osilike, M. O.) Approximation of a solution for a K-positive definite operator equation. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 1–7. (Ricardo Torrejón) **98c:47010** 47A50 (65J10)
— (*with* Moore, Chika) The solution by iteration of nonlinear equations in uniformly smooth Banach spaces. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 132–146. (Heinrich Steinlein) **98m:47107** 47H17 (47H06, 47H15)
— Global iteration schemes for strongly pseudocontractive maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2641–2649. (Kok Keong Tan) **98k:47108** 47H10
Chien, C.-S. *see* **Chien, Ch'ëng Shëng**
Chien, Cheng-Chih (*with* Zhang, Youping; Ioannou, Petros A.) Traffic density control for automated highway systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1273–1285. 93C95 (90B20)
Chien, Ch'ëng Shëng (*with* Chen, Ming-Shin) Multiple bifurcation in the von Kármán equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1737–1766. (Claude Do) **98m:73052** 73H05 (35Q72, 65N06, 73K10, 73V15)

Chien, David Da-Kwun (*with* Atkinson, Kendall) A discrete Galerkin method for a hypersingular boundary integral equation. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 463–478. (Summary) **98d:65151** 65N38 (45E05, 45L05, 65R20)

Chien, I-Lung (*with* Hsiao, Feng-Hsiag; Hwang, Jiing-Dong) Stabilization of nonlinear large-scale systems by dithers. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 203–226. 93D99

Chien, Mao-Ting The envelope of the generalized numerical range. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 363–376. (Summary) **98m:15046** 15A60

jakob-Chien, Ruediger *see* **Jakob-Chien, Ruediger**

Chien, T. H. (*with* Cheng, K. F.; Hsueh, H. M.) Goodness of fit tests with misclassified data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1379–1393. 62F03

Chien, Wei-Ting Kary (*with* Kuo, Way) A nonparametric Bayes approach to decide system burn-in time. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 655–671. 90B25

Chieppa, Federico (*with* Ciufolini, Ignazio; Lucchesi, David; Vespe, Francesco) Test of Lense-Thirring orbital shift due to spin. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2701–2726. 83B05 (83C10)

Chierchia, Luigi (*with* Celletti, Alessandra) On the stability of realistic three-body problems. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 413–449. (A. D. Bruno) **98j:70009** 70F07 (58F30, 70H05, 70K20)

Chigbu, P. E. (*with* Bailey, R. A.) Enumeration of semi-Latin squares. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 73–84. (V. A. Zinov'ev) **98g:05026** 05B15

Chigira, Naoki (*with* Shi, Wu Jie) More on the set of element orders in finite groups. *Northeast. Math. J.* **12** (1996), *no.* 3, 257–260. 20D60

— Generating alternating groups. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 435–438. 20D06

Chigirinskaya, Y. (*with* Schertzer, Daniel) Cascade of scaling gyroscopes: Lie structure, universal multifractals and self-organized criticality in turbulence. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 57–81, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Athanasios Yannacopoulos) **98j:76064** 76F20 (70E15, 76D05)

— (*with* Schertzer, Daniel; Lovejoy, Shaun; Schmitt, François G.; Marsan, D.) Multifractal cascade dynamics and turbulent intermittency. (English summary) *Fractals* **5** (1997), *no.* 3, 427–471. (Summary) **98j:76079** 76F99 (76M35)

Chigogidze, A. Ch. (*with* Martin, John R.) Fixed point sets of autohomeomorphisms of uncountable products. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 63–71. (A. H. Stone) **98j:54010** 54B10 (54C20, 54H25)

— (*with* Hofmann, Karl H.; Martin, John R.) Compact groups and fixed point sets. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4537–4554. (L. E. Ward, Jr.) **98g:54074** 54F15 (22C05, 54H25)

Chihara, Hiroyuki The initial value problem for semilinear Schrödinger equations. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 19–24, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q55

Chikara, Sasaki *see* **Sasaki, Chikara**

Chikina, L. G. A method for solving the convection-diffusion equation with dominant convection. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 2, 25–30. 65M06 (76M25, 76Rxx)

Chikkala, Raghu (*with* Baisnab, A. P.) Fixed point theorems in quasi-proximity space. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 235–241. 54H25 (54E05)

Chikkula, Yugender (*with* Lee, Jay H.; Yu, Zhenghong; Kantor, Jeffrey C.) Improving computational efficiency of model predictive control algorithm using wavelet transformation. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 859–883. 93B40 (65D15, 65T99)

Chikouche, D. (*with* Khellaf, A.; Daniel, J. P.) Calculation of electric and magnetic energy stored in a rectangular patch. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 617–626. (Summary) **98f:78030** 78A50

Chikrii, A. *see* **Chikrii, Arkadii A.**

Chikrii, Al. A. On the problem of group pursuit. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 3, 28–32. (A. M. Tarasyev) **98m:90213** 90D26

— (*with* Kirichenko, N. F.; Baranovskaya, L. V.) On a class of linear differential-difference pursuit games. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 24–26. 90D25 (34K35)

Chikrii, Arkadii A. ★ Conflict-controlled processes. (English summary) Translated from the 1992 Russian original by G. Ts. Chikrii and revised by the author. Mathematics and its Applications, 405. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xx+403 *pp. ISBN* 0-7923-4522-3 (N. N. Petrov) **98g:90050** 90D25 (49K15, 90D26, 93B05)

— The problem of avoidance for controlled dynamic objects. *Game theory and applications, III*, 7–20, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D25 (90D26)

Chikrii, G. Ts. *see* **Chikrii, Arkadii A., 98g:90050**

Chikuse, Yasuko Invariant measures on Stiefel manifolds with applications to multivariate analysis. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 177–193, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H11 (15A23, 58C35, 62H10, 62H20)

— Density estimation on the spaces of symmetric and rectangular matrices. (English summary) *Linear Algebra Appl.* **264** (1997), 265–290. (Patricia B. Cerrito) **98m:62089** 62G05 (15A52, 62H12)

Chikvinidze, L. The weighted BMO condition and a constructive description of classes of analytic functions satisfying this condition. (English summary) *Georgian Math. J.* **3** (1996), *no.* 3, 217–232. (David Bekolle) **98b:30036a** 30E10 (30C62, 30D50, 41A30)

— Corrigendum: "The weighted BMO condition and a constructive description of classes of analytic functions satisfying this condition". *Georgian Math. J.* **3** (1996), *no.* 5, 500. (David Bekolle) **98b:30036b** 30E10 (30C62, 30D50, 41A10)

Chilakamarri, Kiran B. (*with* Hamburger, Peter; Pippert, Raymond E.) Venn diagrams and planar graphs. (English summary) *Geom. Dedicata* **62** (1996), *no.* 1, 73–91. (Aleksandar Jurišić) **98h:05064** 05C10

Chilali, Mahmoud (*with* Scherer, Carsten W.; Gahinet, Pascal) Multiobjective output-feedback control via LMI optimization. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 896–911. (Summary) **98e:93041** 93B36 (90C29)

Childress, S. (*with* Gilbert, Andrew D.; Soward, A. M.) A fast dynamo of *ana*-type. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 3-4, 279–314. (Summary) **98f:76082** 76W05 (85A30)

Childs, Aaron (*with* Balakrishnan, Narayanaswamy) Maximum likelihood estimation of Laplace parameters based on general type-II censored examples. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 343–349. 62F10

Chilin, Vladimir I. (*with* Dodds, P. G.; Sukochev, F. A.) The Kadec-Klee property in symmetric spaces of measurable operators. (English summary) *Israel J. Math.* **97** (1997), 203–219. (Camillo Trapani) **98c:46129** 46L10 (46B28, 46E30, 47D40)

— (*with* Benderskiĭ, O. Ya.; Litvinov, S. N.) A description of commutative symmetric operator algebras in a Pontryagin space Π_1. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 201–222. (Victor S. Shul'man) **98j:47096** 47D25 (47B50)

Chill, Ralph Tauberian theorems for vector-valued Fourier and Laplace transforms. (English summary) *Studia Math.* **128** (1998), *no.* 1, 55–69. (C. J. K. Batty) **98k:44001** 44A10 (47D06)

Chilla, Benigna Virtual movement through planar geometry: fundamental concepts in visual art. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 169–178. 00A69 (51M20)

Chillag, David Semi-simple commutative algebras with positive bases. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 71–77, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20C99

Chillemi, S. (*with* Di Garbo, A.; Fronzoni, L.) Ring wave solutions of a $(n+1)$-dimensional Sine-Gordon model. (English summary) *Chaos* **7** (1997), *no.* 4, 765–768. (Summary) **98k:35127** 35L70 (35B99, 35Q53)

Chilton, Lawrence (*with* Suri, Manil) On the selection of a locking-free *hp* element for elasticity problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 11, 2045–2062. (Summary) **98c:73074** 73V05

Chim, Leung Boundary S-matrix for the integrable q-Potts model. (English summary) *J. Phys. A* **28** (1995), *no.* 24, 7039–7050. (Summary) **98b:82010** 82B20 (81U99)

Chimento, Luis P. (*with* Jakubi, Alejandro S.) Influence of a perfect fluid on scalar field cosmologies. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 316–320, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:83012** 83C15 (83C55)

— (*with* Jakubi, Alejandro S.) Mathematical features of several cosmological models. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 336–340, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83023** 83C15

— Two-scalar field cosmologies. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 366–370, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83024** 83C15 (83F05)

— (*with* Aguirregabiria, J. M.) Exact Bianchi type I models for an exponential-potential scalar field. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 12, 3197–3209. (Leonardo Fernández-Jambrina) **98a:83019** 83C15

— (*with* Jakubi, Alejandro S.) Dissipative cosmological solutions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1811–1820. (Nora Bretón Báez) **98e:83024** 83C20 (83C15)

— (*with* Jakubi, Alejandro S.; Méndez, Vicenç; Maartens, Roy) Cosmological solutions with nonlinear bulk viscosity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3363–3375. (Summary) **98k:83049** 83C55 (83C15, 83F05)

— Form invariance of differential equations in general relativity. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2565–2576. (Alicia M. Sintes) **98b:83024** 83C20 (34A34)

— (*with* Cossarini, Adriana E.; Zuccalá, Norberto A.) Isotropic and anisotropic N-dimensional cosmologies with exponential potentials. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 57–74. (Summary) **98j:83085** 83E15 (81T20)

— (*with* Pavón, Diego) Inhomogeneous universe models with varying cosmological term. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 643–651. 83F05 (83D05)

yue Chi Ming, Roger *see* **Yue Chi Ming, Roger**

Chimonas, George (*with* Hauser, Heather M.) The transfer of angular momentum from vortices to gravity swirl waves. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 13, 1701–1711. (Summary) **98e:76017** 76C10 (76C15, 86A10)

Chin, C. H. Transcendental and integrable models in physics. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 23–36, *World Sci. Publishing, River Edge, NJ*, 1994. (Haruo Hosoya) **98i:00012** 00A79 (00A30, 05C15, 05C90, 81P99)

Chin, Erh-Tsung (*with* Tu, Shih-Tong; Chyan, Ding-Kuo) Solutions of Gegenbauer and Tchebycheff equations via operator N^{α} method. (English summary) *J. Fract. Calc.* **12** (1997), 61–69. (Summary) **98k:26012** 26A33 (33C20)

— (*with* Tu, Shih-Tong; Luo, Wen-Chieh) Solutions of a class of n-th order ordinary and partial differential equations via fractional calculus. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 499–515. (K. S. Miller) **98k:26013** 26A33 (34A25, 35C99)

Chin, Francis (*with* Wang, Cao An; Xu, Yin-Feng) A new subgraph of minimum weight triangulations. (English summary) *Algorithms and computation* (*Osaka*, 1996), 266–274, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Wang, Cao An; Xu, Yin-Feng) A new subgraph of minimum weight triangulations. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 115–127. (H. T. Lau) **98i:05061** 05C10 (90C35)

— (*with* Poon, Chung Keung; Zhu, Binhai) A polynomial time solution for labeling a rectilinear map. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 201–207. (Summary) **98m:68278** 68U05

Chin, R. C. Y. (*with* Shao, Sai Lai) An asymptotic-numerical method for a time-dependent singularly perturbed system with turning points. (English summary) *Numer. Methods Partial Differential Equations* **12** (1996), *no.* 4, 441–460. (Summary) **98f:65099** 65M60 (35B25)

Chin, Shiu-Kai (*with* Zhou, Dan) Verifying privacy enhanced mail functions with higher order logic. (English summary) *Network threats* (*New Brunswick, NJ*, 1996), 11–20, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 38, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98h:94002**) 94A60 (68P25)

Chin, William (*with* Larson, Richard G.; Musson, Ian M.; Towber, Jacob) The first two terms of the coradical filtration of multiparameter quantum $U(\mathfrak{gl}_N)$. *Comm. Algebra* **24** (1996), *no.* 12, 3845–3883. (From the introduction) **98f:17010** 17B37 (81R50)

Chin, Yeh-Hao (*with* Siu, Hin-Sing; Yang, Wei-Pang) Reaching strong consensus in the presence of mixed failure types. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4,

157–180. 68M15

Chinak, Mark The fixed point statements on Bergman type complex manifolds. (English summary) *Israel J. Math.* **97** (1997), 293–304. (Ian Graham) **98b:32020** 32H10 (32H04)

Chinburg, Ted (*with* Burns, David J.) Adams operations and integral Hermitian-Galois representations. *Amer. J. Math.* **118** (1996), *no.* 5, 925–962. (T. Nguyen Quang Do (Zbl 865.11076)) **98g:11126** 11R33 (19A31, 20C05)

— (*with* Erez, Boas; Pappas, Georgios; Taylor, Martin J.) On the ε-constants of a variety over a finite field. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 503–522. (Nigel Byott) **98e:14023** 14G10 (11G20)

— (*with* Erez, Boas; Pappas, Georgios; Taylor, Martin J.) ε-constants and the Galois structure of de Rham cohomology. *Ann. of Math.* (2) **146** (1997), *no.* 2, 411–473. (Nigel Byott) **98j:14025** 14F40 (11G09, 11R33)

— (*with* Erez, Boas; Pappas, Georgios; Taylor, Martin J.) Riemann-Roch type theorems for arithmetic schemes with a finite group action. *J. Reine Angew. Math.* **489** (1997), 151–187. (Nigel Byott) **98e:14006** 14C40 (11R33, 14C35, 14G40, 14L30, 19L10)

Chinchaladze, S. (*with* Gogodze, I.) Generalized controls in a problem of the synthesis of optical media. (Russian. English and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 3–13 (1994). (Introduction) **98b:78024** 78A40 (49J20, 49N55)

Ching, Wai Ki (*with* Zhou, Xun Yu) Optimal (s, S) production policies with delivery time guarantees. (English summary) *Mathematics of stochastic manufacturing systems (Williamsburg, VA, 1996)*, 71–81, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:90046** 90B05 (90B30)

— Iterative methods for manufacturing systems of two stations in tandem. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 7–12. 90B30 (90B22)

pham duc Chinh *see* **Pham Duc Chinh**

Chinneck, John W. Feasibility and viability. (English summary) *Advances in sensitivity analysis and parametric programming*, 14.1–14.41, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **98k:90116** 90C31 (90C10, 90C30)

— Finding a useful subset of constraints for analysis in an infeasible linear program. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 164–174. 90C05

Chinveeraphan, Supoj (*with* Takamatsu, Ryo; Sato, Makoto) Ridge-valley lines of images in scale-space. (English summary) *Forma* **10** (1995), *no.* 2, 119–131. 94A12

Chiocchia, G. (*with* Tordella, D.; Prössdorf, Siegfried) The lifting line equation for a curved wing in oscillatory motion. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 295–315. (Summary) **98c:76008** 76B05 (76M25)

Chiola, Giovanni (*with* Haddad, Serge; Moreaux, Patrice) Efficient handling of phase-type distributions in generalized stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 175–194, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

— (*with* Dutheillet, C.; Franceschinis, G.; Haddad, Serge) A symbolic reachability graph for coloured Petri nets. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 39–65. (Wolfgang Reisig) **98c:68152** 68Q90

Chionh, Eng-Wee Concise parallel Dixon determinant. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 561–570. (Summary) **98f:65021** 65D17 (15A15, 41A63)

Chiorean, Ioana On the complexity of the multigrid method for solving a system of partial differential equations. *Research Seminar on Numerical and Statistical Calculus*, 27–32, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (*see* **98b:65007**) 65Y20 (80–04)

— Time depending problem of free convection in porous medium. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 57–62, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 76S05 (76M20)

Chiou, Paul (*with* Han, Chien-Pai) Conditional interval estimation of the exponential scale parameter following rejection of a preliminary test. (English summary) *J. Statist. Res.* **28** (1994), *no.* 1-2, 65–72. (Summary) **98b:62051** 62F25

Chipman, John S. "Proofs" and proofs of the Eckart-Young theorem. *Stochastic processes and functional analysis (Riverside, CA, 1994)*, 71–83, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (M. L. Mehta) **98k:15037** 15A60 (62J05)

Chipot, M. (*with* Bemelmans, J.) Minimal energy for a free ball on an elastic membrane. *Energy methods in continuum mechanics (Oviedo, 1994)*, 22–30, *Kluwer Acad. Publ., Dordrecht*, 1996. (Catherine Bandle) **98c:49021** 49J40 (70K99, 73V25)

— (*with* Lyaghfouri, A.) On the uniqueness of the solution of the dam problem with leaky boundary conditions. *Progress in partial differential equations: the Metz surveys*, 4, 175–186, *Pitman Res. Notes Math. Ser.*, 345, *Longman, Harlow*, 1996. (Rouben Rostamian) **98a:76083** 76S05 (35Q35)

— (*with* André, N.) A remark on uniqueness for quasilinear elliptic equations. *Singularities and differential equations (Warsaw, 1993)*, 9–18, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Gaston E. Hernandez) **98k:35046** 35J60

— (*with* André, N.) Uniqueness and nonuniqueness for the approximation of quasilinear elliptic equations. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1981–1994. (Srinivasan Kesavan) **98k:65064** 65N30 (35A35, 35J60)

— (*with* Shafrir, I.; Wolansky, Gershon) On the solutions of Liouville systems. *J. Differential Equations* **140** (1997), *no.* 1, 59–105. (Yoshihito Tomita) **98j:35053** 35J60 (35J65)

— (*with* Lyaghfouri, A.) The dam problem for non-linear Darcy's laws and non-linear leaky boundary conditions. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 12, 1045–1068. (Adrian Carabineanu) **98f:35160** 35R35 (35Q35, 76S05)

— (*with* March, R.; Rosati, Mario Valerio; Vergara Caffarelli, G.) Analysis of a nonconvex problem related to signal selective smoothing. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 313–328. (António Ornelas) **98c:49035** 49J45

— (*with* Lovat, B.) Some remarks on nonlocal elliptic and parabolic problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4619–4627. (*see* **98i:00032**) 35K60 (35J65)

Chippada, S. (*with* Dawson, Clint N.; Martínez, Mónica Lucía; Wheeler, Mary F.) A projection method for constructing a mass conservative velocity field. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 1–10. 76M25

Chirikov, Boris Pseudochaos in statistical physics. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 149–171, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98k:82104** 82C03 (58F13, 58F40, 81Q50)

Chiriţă, Stan (*with* Aron, M.) Decay and continuous dependence estimates for harmonic vibrations of micropolar elastic cylinders. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 4, 665–675. (Cornelius O. Horgan) **98j:73006** 73B25 (73C10, 73D30)

— (*with* Quintanilla, Ramón) Spatial estimates in the dynamic theory of linear elastic materials with memory. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 4, 723–736. (Kenneth Kuttler) **98i:73024** 73F15 (73C10)

— On Saint-Venant's principle in dynamic linear viscoelasticity. *Quart. Appl. Math.* **55** (1997), *no.* 1, 139–149. (Cornelius O. Horgan) **98d:73037** 73F15 (73C10)

Chirka, E. M. (*with* Shcherbina, N. V.) Pseudoconvexity of rigid domains and foliations of hulls of graphs. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **22** (1995), *no.* 4, 707–735. (K. R. Pinney (Zbl 868.32020)) **98f:32016** 32F15 (32D10, 32L30)

— On the removable singularities for meromorphic mappings. (English summary) *Publ. Mat.* **40** (1996), *no.* 1, 229–232. (Summary) **98d:32016** 32D20

Chirlian, Paul M. (*with* Bush, James A.; Basu, Sankar) Nonlinear digital filters mimicking cellular neural networks. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 69–83. (Summary) **98j:94039** 94C05 (92B20)

Chirskii, V. G. On global relations for hypergeometric series. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2113–2117. (F. Beukers) **98a:11098** 11J91

Chisci, L. (*with* Garulli, A.; Zappa, Giovanni) Fast parallel LQ regulator design for adaptive control. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 395–413. (*see* **98e:93001**) 93B40 (65Y05, 93C40)

— (*with* Garulli, A.; Vicino, A.; Zappa, Giovanni) Block recursive parallelotopic bounding in set membership identification. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 15–22. 93B30 (93C41)

Chisholm, J. S. R. (*with* Farwell, R. S.) Properties of Clifford algebras for fundamental particles. *Clifford (geometric) algebras (Banff, AB, 1995)*, 365–388, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (15A66)

Chishti, T. A. (*with* Ahmad, Z. U.) Some spaces of lacunary sequences defined by the modulus. (English summary) *J. Anal.* **4** (1996), 153–159. (Enno Kolk) **98f:46006** 46A45 (40H05)

— (*with* Ahmad, Z. U.; Gaur, A. K.) On some new sequence spaces of invariant means. *Acta Math. Hungar.* **75** (1997), *no.* 3, 209–214. (Enno Kolk) **98c:46035** 46B45 (40F05, 40G99)

Chiskis, A. (*with* Parnes, R.; Slepyan, L.) Nonlinear behavior of wavy composites under tension. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 8, 1357–1392. (Michael G. Hilgers) **98e:73078** 73K10 (73C50, 73K20)

— (*with* Parnes, R.) Nonlinear effects in the extension of an elastic space containing a wavy layer inclusion. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1213–1251. 73C50

Chistov, A. L. Polynomial-time computation of the dimension of algebraic varieties in zero-characteristic. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 1, 1–25. (Doru Ştefănescu) **98a:14074** 14Q15 (68Q40)

— Polynomial-time computation of the dimensions of components of algebraic varieties in zero-characteristic. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 145–175. (Michael M. Dediu) **98m:14058** 14Q15

Chistyakov, Aleksandr Vladimirovich (*with* Simonov, P. M.) On the exponential stability of linear differential-difference systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 6, 37–49; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 6, 34–45. (Tibor Krisztin) **98k:34124** 34K20

Chistyakov, G. P. Asymptotically proper constants in Lyapunov's theorem. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 349–355, 363–364. (Halina Hebda-Grabowska) **98g:60038** 60F05

— (*with* Lyubarskii, Yu.) Random perturbations of exponential Riesz bases in $L^2(-\pi, \pi)$. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 1, 201–255. (Kristian Seip) **98c:42028** 42C15 (30D10, 60H99, 94A24)

Chistyakov, V. P. (*with* Tikhomirova, M. I.) On the asymptotics of moments of the number of nonappearing s-chains. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 12–29; *translation in Discrete Math. Appl.* **7** (1997), *no.* 1, 13–32. (M. S. Shtil′man) **98j:60011** 60C05 (05A16)

Chistyakov, V. V. On mappings of bounded variation. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 261–289. (Sisto Baldo) **98c:26006** 26A45 (49J52, 54C60)

Chistyakova, S. A. (*with* Dolov, M. V.) Algebraic differential equations with an integrating factor of Darboux type. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 618–622, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 621–625 (1998). (Summary) **98k:34045** 34C05 (34A34)

Chitaia, N. P. (*with* Gogilidze, S. A.; Surovtsev, Yu. S.) Dynamical systems with first- and second-class constraints. I. Separation of constraints into first and second classes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1135–1141. (John I. LaChapelle) **98e:70011** 70H33 (58F05, 70F99, 70G35)

— (*with* Gogilidze, S. A.; Surovtsev, Yu. S.) Dynamical systems with first- and second-class constraints. II. Local-symmetry transformations. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1142–1155. (John I. LaChapelle) **98e:70012** 70H33 (58F05, 70F99, 70G35)

Chitaia, N. P. (*with* Gogilidze, S. A.; Surovtsev, Yu. S.) The Ostrogradsky method for local symmetries of systems with first and second class constraints. IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 143–146. (Sergiu I. Vacaru) **98d:58055** 58F05

Chitour, Yacine (*with* Liu, Wensheng; Sontag, Eduardo D.) On finite-gain stabilizability of linear systems subject to input saturation. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 4, 1190–1219. (Summary) **98c:93091** 93D15

Chitov, V. V. (*with* Shil′nov, Yu. I.; Kotwicki, A. T.) Chiral symmetry breaking in quantum R^2-gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2599–2612. 83C45 (81V17)

— (*with* Elizalde, E.; Shil′nov, Yu. I.) Dynamical symmetry breaking in the Nambu-Jona-Lasinio model with external gravitational and constant electric fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 735–748. (Summary) **98m:81111** 81T20 (81R40, 83C47)

Chiţu, Adrian PC grammar systems versus some non-context-free constructions from natural and artificial languages. (English summary) *New trends in formal languages*,

278–287, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q50 (68Q45)

Chiu, Chichia (*with* Walkington, Noel J.) An ADI method for hysteretic reaction-diffusion systems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1185–1206. (Reinhard Redlinger) **98c:65150** 65M12 (65N06, 92–08, 92B05)

Chiu, Ge-Ming (*with* Chen, Kai-Shung) Use of routing capability for fault-tolerant routing in hypercube multicomputers. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 953–958. 68M15

— A fault-tolerant broadcasting algorithm for hypercubes. *Inform. Process. Lett.* **66** (1998), *no.* 2, 93–99. 68M10 (68M15)

Chiu, H.-Y. Modern cosmology. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 4, 305–313. 83F05

Chiu, Kim Suan (*with* Chan, Gin Hor) A simple heuristic for multi-product dynamic lot sizing problems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 10, 969–979. 90B80 (90C27)

Chiu, S. N. (*with* Quine, M. P.) Central limit theory for the number of seeds in a growth model in $\mathbf{R}^d$ with inhomogeneous Poisson arrivals. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 802–814. (F. Papangelou) **98j:60067** 60G55 (60D05, 60F05, 60F17, 60G60)

— A central limit theorem for linear Kolmogorov's birth-growth models. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 1, 97–106. (M. P. Quine) **98d:60089** 60G55 (60D05, 60F05)

Chiu, Sen *see* **Qiu, Sen**

Chiu, Shung-Fu (*with* Liu, Ming-Chit) On exceptional sets for numbers representable by binary sums. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 959–986. (A. Perelli) **98c:11107** 11P32

Chiu, Yukuang From an example of Lévy's. *Séminaire de Probabilités, XXIX*, 162–165, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (From the text) **98g:60145** 60J65

Chiueh, Tzihong Integrability and topology of three-dimensional vector fields. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 1, 4–12. (Summary) **98c:76118** 76W05 (34C99, 53A04, 76M30, 81Q20)

Chizhonkov, E. V. On the optimization of algorithms for solving the Stokes problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1995**, *no.* 6, 93–96, 120; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 46–48 (1996). 76M25 (65N99, 76D07)

— On the convergence of the artificial compressibility method. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1996**, *no.* 2, 13–20, 103. (From the text) **98k:76103** 76M25 (76D05)

Chizhov, A. V. (*with* Schrade, G.; Zubairy, M. S.) Quantum statistics of vacuum in a cavity with a moving mirror. (English summary) *Phys. Lett. A* **230** (1997), *no.* 5-6, 269–275. (Summary) **98a:81260** 81V10

Chizhov, G. A. (*with* Kornienko, A. G.; Frenkin, A. R.) Classification of solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 5, 10–13. (Summary) **98i:35180** 35Q55 (35C99)

Chkadua, O. The Dirichlet, Neumann and mixed boundary value problems of the theory of elasticity in n-dimensional domains with boundaries containing closed cuspidal edges. (English summary) *Math. Nachr.* **189** (1998), 61–105. (Introduction) **98m:35201** 35Q72 (35J55, 47G30, 73C02)

Chkliar, Vitali Eigenfunctions of the hyperbolic composition operator. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 364–367. (Summary) **98i:47029** 47B38 (30D55, 47A10, 47A15)

— Numerical radii of simple powers. (English summary) *Linear Algebra Appl.* **265** (1997), 119–121. (John Duncan) **98i:47005** 47A12

Chladni, Ernst *see* **Ullmann, Dieter, 98j:01019**

Chlebíková, Janka Approximating the maximally balanced connected partition problem in graphs. (English summary) *Inform. Process. Lett.* **60** (1996), *no.* 5, 225–230. (Summary) **98a:68093** 68Q25 (05C85, 68R10)

Chleboun, Jan (*with* Křížek, Michal) Is any composite Fermat number divisible by the factor $5h2^n + 1$? (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 17–21. (Aleksander Grytczuk) **98j:11003** 11A51

— (*with* Hlaváček, Ivan) Shape design sensitivity formulae approximated by means of a recovered gradient method. (English summary) *Finite element methods (Jyväskylä, 1997)*, 135–145, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98j:65015** 65D30 (49Q10, 65K10)

Chlebus, Bogdan S. (*with* Gąsieniec, Leszek; Pelc, Andrzej) Fast deterministic simulation of computations on faulty parallel machines. (English summary) *Algorithms—ESA '95 (Corfu)*, 89–101, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q10 (68M15, 68Q05)

— (*with* Gambin, Anna; Indyk, Piotr) Shared-memory simulations on a faulty-memory DMM. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 586–597, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (68M15)

— (*with* Czumaj, Artur; Gąsieniec, Leszek; Kowaluk, Mirosław; Plandowski, Wojciech) Parallel alternating-direction access machine. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 267–278, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q05 (68Q10)

— (*with* Diks, Krzysztof; Pelc, Andrzej) Reliable broadcasting in hypercubes with random link and node failures. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 337–350. (M. Dal Cin) **98i:68021** 68M10 (90B12)

— Mesh sorting and selection optimal on the average. (English summary) Special issue on parallel and distributed computing (Bratislava, 1996). *Comput. Artificial Intelligence* **16** (1997), *no.* 2, 141–152. (Summary) **98f:68114** 68Q22 (68P10)

— *see also* **Fundamentals of computation theory, 98i:68007**

Chmaj, Tadeusz (*with* Bizoń, Piotr) Harmonic maps between spheres. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1957, 403–415. (Anne-Joëlle Vanderwinden) **98d:58039** 58E20

Chmeiss, Assef (*with* Jégou, Philippe) A generalization of chordal graphs and the maximal clique problem. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 2, 61–66. (Summary) **98a:05122** 05C75 (05C85, 68Q25, 68R10)

Chmieliński, Jacek Remarks on real-valued quasi-isometries. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 27–34. (Summary) **98m:39083** 39B72 (39B22)

Chmutov, S. (*with* Goryunov, V.) Kauffman bracket of plane curves. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 83–103. (Serge L. Tabachnikov) **98c:57003** 57M25 (53C15)

Cho, C.-K. *see* **Cho, Chung-Ki**

Cho, Cheng-Hong (*with* Wang, Jer-Tsang) Triangular grid protocol: an efficient scheme for replica control with uniform access quorums. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 259–288. 68P15 (68Q10)

Cho, Chong-Man Remarks on M-ideals of compact operators. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 445–453. (Andreas Defant) **98c:46031** 46B28 (46B20, 47D15)

— (*with* Kim, Beom Sool) On M-ideal properties of certain spaces of compact operators. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 673–680. (Andreas Defant) **98c:46032** 46B28 (46B20, 47D15)

Cho, Chung-Ki (*with* Choe, Hi Jun) L^∞ bound of weak solutions of Navier-Stokes systems. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 73–81, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (B. Szafirski) **98e:35125** 35Q30 (35B45, 35D10, 76D05)

— (*with* Kwon, Yonghoon; Kang, Sungkwon) Estimation of soil water distribution: identifiability and observation design. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 105–120. (C. R. Hadlock) **98k:86030** 86A99 (76S05)

— (*with* Choe, Hi Jun) The asymptotic behaviour of solutions of a porous medium equation with bounded measurable coefficients. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 241–256. (Alberto Valli) **98b:35132** 35K65 (35B40, 35Q35, 76S05)

Cho, DaeHyeon A game with N players. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 185–193. (Amy L. Rocha) **98a:60051** 60G40 (60G42, 90D60)

Cho, Geon (*with* Shaw, Dong X.; Kim, Seong-Lyun) An efficient algorithm for a capacitated subtree of a tree problem in local access telecommunication networks. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 737–748. (Summary) **98d:90049** 90B12 (94C05)

— (*with* Shaw, Dong X.) A depth-first dynamic programming algorithm for the tree knapsack problem. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 431–438. 90C27 (90C39)

Cho, Gi-Chol (*with* Hagiwara, Kaoru) String unification scale and the hyper-charge Kac-Moody level in the non-supersymmetric standard model. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 199–205. 81V22 (17B81)

Cho, Hing Tong (*with* Diek, Adel; Kantowski, R.) Dirac's field operator Ψ. (English summary) *Clifford algebras and spinor structures*, 257–263, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jayme Vaz, Jr.) **98i:81090** 81R25

Cho, Hong Rae Holomorphic approximation and holomorphic convexity on pseudoconvex complex manifolds. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 3, 313–323. (Summary) **98k:32019** 32E05 (32F20)

— (*with* Adachi, Kenzō) L^p $(1 \le p \le \infty)$ estimates for $\overline{\partial}$ on a certain pseudoconvex domain in $\mathbf{C}^n$. (English summary) *Nagoya Math. J.* **148** (1997), 127–136. (Der-Chen E. Chang) **98j:32013** 32F20 (42B20)

Cho, Hyun-Joon (*with* Cho, Kwang-Bo; Wang, Bo-Hyeun) Fuzzy-PID hybrid control: automatic rule generation using genetic algorithms. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 305–316. 93C42 (04A72)

Cho, In-Koo (*with* Sargent, Thomas J.) Neural networks for encoding and adapting in dynamic economies. *Handbook of computational economics, Vol. I*, 441–470, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A16 (92B20)

Cho, Ionggun *see* **Cho, Yonggun**

Cho, J. T. (*with* Sekigawa, Kouei; Vanhecke, Lieven) Volume-preserving geodesic symmetries on four-dimensional Hermitian Einstein spaces. (English summary) *Nagoya Math. J.* **146** (1997), 13–29. (Jürgen Berndt) **98e:53074** 53C25 (53C55)

Cho, James Y.-K. (*with* Polvani, Lorenzo M.) The robustness of self-organized zonal jets in unforced, turbulent vorticity fields. (English summary) *Vortex flows and related numerical methods, II (Montreal, PQ, 1995)*, 447–462, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Summary) **98a:86004** 86A05 (76F99, 76U05)

Cho, Jin-Hwan (*with* Suh, Dong Youp) Algebraic realization problems for low-dimensional G manifolds. (English summary) *Topology Appl.* **78** (1997), *no.* 3, 269–283. (Karl Heinz Dovermann) **98i:57065** 57S15 (14P05, 57S17)

Cho, Jin-Rae (*with* Oden, John Tinsley) Locking and boundary layer in hierarchical models for thin elastic structures. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 33–48. (Summary) **98j:73088** 73V05 (73K10, 73K15)

Cho, Jin Yeon (*with* Kim, Seung Jo; Kim, Wie Dae) From the trapezoidal rule to higher-order accurate and unconditionally stable time-integration method for structural dynamics. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 73–88. (*see* **98f:73002**) 73V20 (73K12)

Cho, Joong-Jae (*with* Han, Jeong-Hye; Jo, See-Heyon) Bootstrapping unified process capability index. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 543–554. 62G09 (62N10)

Cho, Jung Rae Abstract differentiation on certain groupoids. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 925–932. (M. K. Sen) **98b:20113** 20N02

— (*with* Ito, Noboru; Kim, Pan Soo; Sim, Hyo-Seob) Hadamard 2-groups with arbitrarily large derived length. (English summary) *Australas. J. Combin.* **16** (1997), 83–86. 20D15

Cho, Kwang-Bo (*with* Cho, Hyun-Joon; Wang, Bo-Hyeun) Fuzzy-PID hybrid control: automatic rule generation using genetic algorithms. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 305–316. 93C42 (04A72)

Cho, Kwun Ik (*with* Kim, Soung Hie) An improved interactive hybrid method for the linear multi-objective knapsack problem. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 991–1003. (Summary) **98h:90057** 90C27 (90C10)

Cho, Min-Hyung (*with* Li, Rong Lu; Chengri, Cui) Improvements of Thorp-Rolewicz theorems on operator series. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 75–82. (Anatolij M. Plichko) **98m:47001** 47A05 (46B15)

Chō, Muneo (*with* Itoh, Masuo; Ōshiro, Satoru) Weyl's theorem holds for p-hyponormal operators. *Glasgow Math. J.* **39** (1997), *no.* 2, 217–220. (Ameer Athavale) **98c:47038** 47B20 (47A10)

— An extension of Putnam's inequality. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 124–127. (*see* **98h:47004**) 47B20 (47A30)

— (*with* Itoh, Masuo) Fuzzy bounded operators. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 353–362. (Summary) **98k:47143** 47S40 (04A72)

Cho, Nak Eun (*with* Kim, Myung Jae; Kim, Tae Hwa) Some applications of differential subordinations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 297–303. (Milutin Č. Obradović) **98h:30015** 30C45

— (*with* Aouf, M. K.; Irmak, Hüseyin) Some applications of differential subordinations for meromorphic functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 39–44. (K. S. Padmanabhan) **98j:30008** 30C45

— (*with* Kim, Ji A.) Angular estimations of certain analytic functions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 427–436. (S. L. Shukla) **98e:30010** 30C45

— (*with* Owa, Shigeyoshi; Kwon, Oh Sang) Some inequalities involving meromorphically multivalent functions. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 375–380. (L. A. Aksent′ev) **98i:30026** 30C55

— (*with* Irmak, Hüseyin; Lee, Sang Hun) Some multivalently starlike functions with negative coefficients and their subclasses defined by using a differential operator. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 43–51. (Summary) **98c:30013** 30C45

— (*with* Kwon, Oh Sang; Kim, Ji A.) Hadamard products of certain meromorphic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 13–24. (W. C. Royster) **98m:30017** 30C45

Cho, Nhansook On a martingale problem and a relaxed control problem with respect to SDE. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 777–791. (Sylvie Méléard) **98c:60049** 60G48 (46F10, 60H20)

— Weak limit theorems for stochastic differential equations driven by martingale measures. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 1-2, 1–20. (Leszek Słomiński) **98h:60082** 60H10 (60G57)

— On asymptotic behavior of a random evolution. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 233–245. (Anatoly V. Swishchuk) **98m:60080** 60H05 (60F17, 60G44, 60J25)

Cho, Peter (*with* Kraus, Per) Symplectic SUSY gauge theories with antisymmetric matter. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7640–7649. (Summary) **98a:81218** 81T60 (81T13)

— More on chiral-nonchiral dual pairs. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5260–5271. (Summary) **98g:81202** 81T60 (81T13, 81T17, 81T50)

Cho, Sanghyun Estimates on the Bergman kernels on some domains in $\mathbf{C}^n$. *Geometric complex analysis* (*Hayama*, 1995), 109–115, *World Sci. Publishing, River Edge, NJ*, 1996. (Gregor Herbort) **98e:32041** 32H10 (32F20)

— (*with* Ahn, Heungju; Kim, Seongyeon) Stability of Hölder estimates for $\overline{\partial}$ on pseudoconvex domains of finite type in $\mathbf{C}^2$. (English summary) *Nagoya Math. J.* **148** (1997), 23–38. (Der-Chen E. Chang) **98j:32014** 32F20 (42B20)

— On the Mergelyan approximation property on pseudoconvex domains in $\mathbf{C}^n$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2285–2289. (Der-Chen E. Chang) **98j:32015** 32F20 (32H40)

Cho, Seung-Sang (*with* Choi, Seung-Bok; Jeon, Young-Sik) Vibration and tracking control of piezoceramic-based smart structures via quantitative feedback theory. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 596–605, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K12, 73K50, 93D15)

Cho, Sinsup (*with* Kim, Byungsoo; Park, Young Jin) Generalized Durbin-Watson statistics in the nonstationary seasonal time series model. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 365–382. 62M10

— (*with* Kim, Soohwa; Park, Young Jin) Test for parameter changes in the AR(1) process. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 417–427. 62M10

Cho, Soojin Algebraic structure of null designs. (English summary) Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 180–185. (Summary) **98k:05143** 05E10 (05B30)

Cho, Sung Je Essentially normal elements of von Neumann algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 653–659. (Sze-Kai Tsui) **98b:46077** 46L10 (46L80, 47A53, 47C99)

Cho, Sung Jin Mazur intersection properties in Lebesgue-Bochner function spaces. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 12, 1229–1235. (Barry Turett) **98g:46045** 46E40 (46B20)

— (*with* Kim, Jae-Gyeom; Kim, Seok-Tae) On T-generalized subsystems of T-generalized state machines. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 131–151. (Janusz J. Szuster) **98b:68132** 68Q70

— (*with* Kim, Jae-Gyeom; Kim, Seok-Tae) On TL-subsystems of TL-finite state machines. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 117–133. (Janusz J. Szuster) **98c:68142** 68Q70

— (*with* Kim, Youn-Hee; Kim, Jae-Gyeom) Products of T-generalized state machines and T-generalized transformation semigroups. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 87–97. (Summary) **98i:68201** 68Q68 (04A72)

— (*with* Park, Jin Han; Park, Yong Beom) Fuzzy completely pre-irresolute and weakly completely pre-irresolute mappings. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 115–121. 54A40

Cho, Sunggoo (*with* Park, Kwang Sung) Linear connections on graphs. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5889–5904. (Francois Vanderseypen) **98j:58011** 58B30

Cho, Wan-Hyun (*with* Park, Jeong-Soo) The nonparametric deconvolution problem with Gaussian error distribution. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 265–276. (Ulrich Stadtmüller) **98i:62025** 62G05 (62G20)

Cho, Y. J. *see* **Cho, Yeol Je**

Cho, Y. M. *see* **Cho, Yong Min**

Cho, Y.-S. *see* **Cho, Yong-Sik**

Cho, Yeol Je (*with* Zhang, Shi Sheng; Lee, Byung Soo; Jung, Jong Soo; Kang, Shin Min) Coincidence point theorems and minimization theorems. (English summary) *International Mathematics Conference* '94 (*Kaohsiung*, 1994), 27–39, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:54058** 54H25 (49J27, 54A40, 54C60, 54E70, 90C48)

— (*with* Jung, Jong Soo; Lee, Byung Soo) Some minimization theorems in generating spaces of quasi-metric family and applications. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 565–585. (Summary) **98a:54005** 54A40 (04A72, 54C60, 54E70)

— (*with* Zhang, Shi Sheng; Jung, Jong Soo; Wang, Fan[1]) Nonlinear operator equations with probabilistic contractors in probabilistic normed spaces. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 117–129. (A. Nowak) **98c:47085** 47S50 (47H10, 47H15)

— (*with* Sharma, Birendra Kumar; Thakur, Balwant Singh) Weak convergence theorems for non-Lipschitzian asymptotically nonexpansive mappings in uniformly convex Banach spaces. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 131–137. (Jarosław Górnicki) **98c:47064** 47H09 (47H10)

— (*with* Kim, Seong Sik) Strict convexity in linear n-normed spaces. *Demonstratio Math.* **29** (1996), *no.* 4, 739–744. (Paweł Domański) **98a:46011** 46A19 (46B99)

— (*with* Zhang, Shi Sheng; Huang, Nan Jing) Coupled fixed point theorems with applications. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 575–585. (Charles Ejike Chidume) **98k:47115** 47H10 (45G10)

— (*with* Choi, Yong-Kab; Kang, Shin Min) On inferior limits for the increments of Gaussian processes. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 813–822. (Qi Man Shao) **98h:60036** 60F15 (60G15)

— (*with* Chen, Yu Qing) On 1-set-contraction perturbations of accretive operators in cones of Banach spaces. (English summary) *J. Math. Anal. Appl.* **201** (1996), *no.* 3, 966–980. (P. S. Milojević) **98d:47117** 47H06 (47H11, 47H15)

— (*with* Pathak, H. K.; Zhang, Shi Sheng; Kang, Shin Min) Compatible mappings of type (P) and fixed point theorems in metric spaces and probabilistic metric spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 87–109. 54H25 (54E70)

— (*with* Zhang, Shi Sheng; Kim, Jong Kyu) Ekeland's variational principle and Caristi's coincidence theorem for set-valued mappings in probabilistic metric spaces. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 2, 83–92. (Summary) **98k:54082** 54H25 (47H10, 47S50, 49J40, 54C60, 54E70)

— (*with* Kim, Seong Sik; Narang, T. D.) Some remarks on orthogonality and best approximation. *Demonstratio Math.* **30** (1997), *no.* 2, 293–300. (S. Cobzaş) **98j:46016** 46B99 (41A65)

— Fixed points in fuzzy metric spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 949–962. (Summary) **98h:54011** 54A40 (04A72, 54H25)

— (*with* Chen, Yu Qing; Ha, Ki Sik) The fixed point index for accretive mappings with k-set contraction perturbations in cones. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 237–245. (Yi Hong Du) **98f:47062** 47H09 (47H10, 47H17)

— (*with* Ha, Ki Sik; Zhang, Shi Sheng) Common fixed point theorems for compatible mappings of type (A) in non-Archimedean Menger PM-spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 169–179. 54H25 (47H10, 54E70)

— (*with* Jung, Jong Soo; Lee, Byung Soo; Lee, Gue Myung; Pathak, H. K.) Some nonconvex minimization theorems in complete metric spaces and applications. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 35–45. (Xian Zhi George Yuan) **98g:49007** 49J40 (47H04, 47H10, 47H15, 47N10, 54E50, 90C48)

— (*with* Lin, Chia-Shiang) Additive f-bimorphisms and cosine type equations. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 63–68. (Summary) **98m:39080** 39B52

— (*with* Pathak, H. K.; Kang, Shin Min; Jung, Jong Soo) Common fixed points of compatible maps of type (β) on fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 99–111. 54H25 (04A72, 54A40)

— (*with* Kim, Seong Sik; White, Albert George, Jr.) 2-pre-Hilbertian 2-norms and Gateaux derivatives. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 109–114. (Summary) **98j:46017** 46B99 (46A19)

— (*with* Pathak, H. K.; Kang, Shin Min) Topological contractions for set-valued mappings. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 2, 7–14. 54C60 (54H25)

Cho, Yong-Hwan On multiplication modules. I. *Bull. Honam Math. Soc.* **13** (1996), 75–80. (Fazal Mehdi) **98f:13009** 13C12

Cho, Yong Min Dynamical symmetries of string field theory. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 37–49, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81246** 81T30 (22E65)

— Quantum violation of the equivalence principle in Brans-Dicke theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2963–2970. 83D05

— (*with* Park, D. H.) Closed time-like curves and weak energy condition. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 18–24. (Seth A. Major) **98c:83074** 83C75

Cho, Yong Seung Involutions on 4-manifolds with finite fundamental groups. *Transformation group theory* (*Taejŏn*, 1996), 17–27, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (*see* **98b:57002**) 57R55 (57N13, 57R57)

— Smooth structures on symplectic 4-manifolds with finite fundamental groups. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 619–629. (From the introduction) **98h:57054** 57R55 (57N13, 57R15, 57R57)

— Generalized Thom conjecture for almost complex 4-manifolds. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 403–409. (Summary) **98e:57029** 57N13 (57R57)

— Seiberg-Witten invariants on non-symplectic 4-manifolds. *Osaka J. Math.* **34** (1997), *no.* 1, 169–173. (Margaret F. Symington) **98e:57035** 57R15 (57N13, 57R57)

Cho, Yong-Sik (*with* Liu, Philip L.-F.; Yeh, Harry; Lin, Pengzhi; Chang, K.-T.) Generation and evolution of edge-wave packets. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1635–1657. 76B15 (76–05)

Cho, Yonggun (*with* Lee, Younghee; Oh, Myoungho; Shin, Vladimir Ignatevich) Iterative conditionally optimal filters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 95–104; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 961–968. (Wolfgang J. Runggaldier) **98g:93052** 93E11

Cho, Yookun (*with* Park, Kunsoo; Min, Sang Lyul) The working set algorithm has competitive ratio less than two. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 183–188. (Summary) **98e:68035** 68N25

Cho, Young Hyun (*with* Chung, Jae Myung) Application of Gröbner bases to some rational curves. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 595–601. 13P10 (13C40)

— (*with* Jung, Bae Eun) Some conditions for the uniform position property. *Comm. Algebra* **25** (1997), *no.* 6, 1741–1745. (Martin Kreuzer) **98c:13026** 13D40 (14C99, 14N05)

Cho, Young-Suk (*with* Kang, Suk-Bok) Estimation of the parameters in a Pareto distribution by jackknife and bootstrap method. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 289–300. 62G09
— (*with* Kang, Suk-Bok) Estimation of Gini index of the Pareto distribution. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 383–392. 62F10 (62P20)
— (*with* Kang, Suk-Bok) Distribution and moments for estimators of Gini index in an exponential distribution. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 213–222. 62F10
Choate, David Subaddition. (English summary) *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 170–177. 94A99 (94C99)
Choban, Mitrofan (*with* Nedev, Stoyan) Continuous extensions and collectionwise normal embeddability via selections. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 2, 5–8. (From the introduction) **98a:54013** 54C60 (54C65)
— (*with* Nedev, Stoyan) Paracompact extentions and orderability of spaces. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 43–51, 120, 123. (Summary) **98k:54056** 54F05 (54D20)
— (*with* Afanas, D. N.) On functional equivalence of extremally disconnected spaces. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 93–100, 106, 110. (Summary) **98k:54062** 54G05
Chobanyan, Sergei Some remarks on the Men′shov-Rademacher functional. (Russian) *Mat. Zametki* **59** (1996), *no.* 5, 787–790; *translation in Math. Notes* **59** (1996), *no.* 5-6, 571–574. (P. Simon) **98e:42030** 42C15
— (*with* Chasco Ugarte, Ma. Jesús) On rearrangements of series in locally convex spaces. *Michigan Math. J.* **44** (1997), *no.* 3, 607–617. (Plamen Dzhakov) **98k:46006** 46A35
Choczewski, Bogdan (*with* Stopa, Maria) On the form of some solutions of a linear iterative functional inequality of nth order. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 29–36. (B. Choczewski) **98k:39018** 39B72
Choda, Marie Endomorphisms of shift type (entropy for endomorphisms of Cuntz algebras). *Operator algebras and quantum field theory (Rome, 1996)*, 469–475, *Internat. Press, Cambridge, MA*, 1997. (*see* **98h:00032**) 46L55 (46L50)
— Free shift on the reduced free product of C^*-algebras. (Japanese) Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 69–75. (*see* **98f:46002**) 46L05
Chodos, Alan (*with* Kaiser, András) Zeta function regularization in de Sitter space: the Minkowski limit. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4771–4782. (Alfred Actor) **98j:81217** 81T16 (11M41, 58G26, 81T20)
Choe, Boo Rim (*with* Lee, Young Joo) Norm and essential norm estimates of Toeplitz operators on the Bergman space. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 937–958. (Richard Rochberg) **98e:47042** 47B35 (32A37)
— Representing and interpolating sequences for harmonic Bergman functions on the upper half-spaces. The structure of spaces of analytic and harmonic functions and the theory of operators on them (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 946 (1996), 35–42. (Daniel H. Luecking) **98b:31004** 31B10
— (*with* Lee, Young Joo) The essential spectra of Toeplitz operators with symbols in $H^\infty + C$. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 57–60. (Shūichi Ohno) **98k:47043** 47B35
Choe, Geon H. Mean ergodic theorem and multiplicative cocycles. *Bull. Korean Math. Soc.* **33** (1996), *no.* 1, 57–64. (Douglas P. Dokken) **98e:22001** 22D10 (28C10, 47A35)
Choe, Hi Jun (*with* Cho, Chung-Ki) L^∞ bound of weak solutions of Navier-Stokes systems. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 73–81, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (B. Szafirski) **98e:35125** 35Q30 (35B45, 35D10, 76D05)
— (*with* Cho, Chung-Ki) The asymptotic behaviour of solutions of a porous medium equation with bounded measurable coefficients. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 241–256. (Alberto Valli) **98h:35132** 35K65 (35B40, 35Q35, 76S05)
— *see also* **Proceedings: Partial Differential Equations Conference, 98h:35001**
Choe, Jaigyoung Every stationary polyhedral set in $\mathbf{R}^n$ is area minimizing under diffeomorphisms. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 439–446. (J. E. Brothers) **98e:49094** 49Q05 (58E12)
Choe, Tae Ho (*with* Chae, Yunki) Order-separating biframes for ordered topological spaces. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 135–143. (D. J. Lutzer) **98c:54008** 54B30 (54D30, 54E55, 54F05)
Choe, W. H. (*with* Anghel, V. N. P.) Numerical methods for magnetized plasma equations with boundary singularity. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 149–164. 65M06 (76X05, 82D10)
— (*with* Qiang, Ji) A combination of characteristics and Monte Carlo methods for etch profile simulation. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 179–195. 65C20
Choe, Yeong-Wu (*with* Okumura, Masafumi) Scalar curvature of a certain CR-submanifold of complex projective space. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 340–346. (Makoto Kimura) **98b:53044** 53C40 (53C15)
Choffrut, Christian Combinatorics in trace monoids. I. *The book of traces*, 71–82, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68R15 (20M05, 68Q10, 68Q45)
— (*with* Guerra, Leucio) Generalized rational relations and their logical definability. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 138–149, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 03D05 (03B15, 20M05, 68Q45)
— (*with* Karhumäki, Juhani) Combinatorics of words. *Handbook of formal languages, Vol. 1*, 329–438, *Springer, Berlin*, 1997. (Patrice Séébold) **98k:68141** 68R15 (03D05)
— (*with* Harju, Tero; Karhumäki, Juhani) A note on decidability questions on presentations of word semigroups. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 83–92. (G. J. Lallement) **98h:20097** 20M05 (20M35, 68Q70)
Choi, Bong Dae (*with* Kim, Jong Wan) Discrete-time $\mathrm{Geo}_1, \mathrm{Geo}_2/G/1$ retrial queueing systems with two types of calls. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 79–88. 60K25 (90B22)
— (*with* Hwang, Gang Uk) The MAP, $M/G_1, G_2/1$ queue with preemptive priority. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 407–421. (Summary) **98h:90035** 90B22 (60K25)
— (*with* Lee, Yutae; Choi, Doo Il) $\mathrm{Geo}^{X_1}, \mathrm{Geo}^{X_2}/D/c$ HOL priority queueing system with random order selection within each priority class. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 125–139. 60K25 (90B22)
Choi, ByoungSeon (*with* Kim, Chul Eung) The asymptotic distribution of the extended Yule-Walker estimates of a mixed ARMA process. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 47–55. (Summary) **98g:62168** 62M10
Choi, Changsun An inequality of subharmonic functions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 543–551. (Vladimir Logvinenko) **98m:31001** 31A05
— A weak-type inequality of subharmonic functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1149–1153. (Matts Essén) **98f:31006** 31B05
Choi, Dae Il (*with* Matzner, Richard A.; Huq, Mijan; Botero, Alonso; Kask, Üllar; Lara, Juan; Liebling, Steven; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05
Choi, Daniel On geometrical rigidity of surfaces. Application to the theory of thin linear elastic shells. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 507–555. (Petr E. Tovstik) **98i:73038** 73K15 (35Q72, 53A05, 73H05, 73K12)
Choi, Doo Il (*with* Han, Dong Hwan) $G/M/1$ queues with delayed vacations. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 1–11. 60K25
— (*with* Choi, Bong Dae; Lee, Yutae) $\mathrm{Geo}^{X_1}, \mathrm{Geo}^{X_2}/D/c$ HOL priority queueing system with random order selection within each priority class. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 125–139. 60K25 (90B22)
Choi, Eunmi Covering groups in the theory of group representation. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 547–555. (David B. Surowski) **98a:20015** 20C25 (16S35)
— On transfer theorems for finite groups. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 917–924. (Wolfgang Lempken) **98d:20025** 20D25
— (*with* Park, Seung Ahn) On projective representations of a finite group and its subgroups. II. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 735–745. (Wolfgang Knapp) **98c:20021** 20C25
— Cohomology of groups and transfer theorem. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 383–393. (Phạm Anh Minh) **98h:20093** 20J06 (20D20)
Choi, H. T. (*with* Edwards, Dean Barton) Use of fuzzy logic to calculate the statistical properties of strange attractors in chaotic systems. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 2, 205–217. (Summary) **98b:58110** 58F13 (03B52)
Choi, Han Ho (*with* Chung, Myung Jin) Robust observer-based H_∞ controller design for linear uncertain time-delay systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1749–1752. 93B36 (93B07)
— A new method for variable structure control system design: a linear matrix inequality approach. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2089–2092. 93B12 (93C05)
— (*with* Chung, Myung Jin) Comments on: "Quadratic stabilization of continuous time systems with state-delay and norm-bounded time-varying uncertainties" [IEEE Trans. Automat. Control **39** (1994), no. 10, 2135–2139] by M. S. Mahmoud and N. F. Al-Muthairi. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1740–1742. 93D21
Choi, Ho-Mroyng (*with* Ji, Chueng-Ryong; Lee, Hyun Kyu) Non-abelian Berry's phase in a slowly rotating electric field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1281–1288. (Péter Pál Lévay) **98a:81270** 81V45 (53C80, 81Q15)
Choi, Hongsik (*with* Lee, Sang-Kyu; Oh, A. Duksu; Choi, Hyeong-Ah) Optimal transmission schedules in TWDM optical passive star networks. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 81–91. (Summary) **98a:68012** 68M10 (05C90)
Choi, Hyeong-Ah (*with* Lee, Sang-Kyu; Oh, A. Duksu; Choi, Hongsik) Optimal transmission schedules in TWDM optical passive star networks. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 81–91. (Summary) **98a:68012** 68M10 (05C90)
— (*with* Lee, Sang-Kyu) Link-disjoint embedding of complete binary trees in meshes. (English summary) *Networks* **30** (1997), *no.* 4, 283–292. (Summary) **98i:05058** 05C10 (68M10, 68R10)
Choi, Hyeong In The infinity behavior of the solutions to the harmonic map heat equation. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 59–68, *de Gruyter, Berlin*, 1997. (Caio J. C. Negreiros) **98m:58026** 58E20 (53C20, 58G11)
Choi, Hyo Il (*with* Shin, Yang Jae) L^2-harmonic p-forms on a complete, non-compact Riemannian manifold without boundary. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 357–363. (Józef Dodziuk) **98b:58009** 58A14
Choi, Hyun Jip (*with* Hong, Chong Sun) On L_1 regression coefficients. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 531–537. 62J07
Choi, In (*with* Ahn, Byung Chul) Testing for cointegration in a system of equations. (English summary) Trending multiple time series (New Haven, CT, 1993). *Econometric Theory* **11** (1995), *no.* 5, 952–983. (Summary) **98f:62304** 62P20 (62M10)
Choi, In-Kyeong (*with* Kim, Gie-Whan) The failure rate and likelihood ratio orderings of standby redundant systems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 41–50. 60K10 (62N05)
— Estimation of system reliability for redundant stress-strength model. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 235–242. 90B25 (62N05)
Choi, In Sim (*with* Chae, Younki; Kim, Ju-Young) The semigroup of compact subsets of a topological group. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 25–30. (Anne L. Hudson) **98g:22002** 22A15
Choi, J. *see* **Choi, Jinhoon**
Choi, J. H. *see* **Choi, Jae Ho**
Choi, J. W. *see* **Choi, Jeongwhan**
Choi, Jae Ho (*with* Kim, Yong Chan; Srivastava, Hari M.) Convex and starlike generalized hypergeometric functions associated with the Hardy space. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 4, 345–355. (Matti Vuorinen) **98i:33008** 33C20 (30C45)
— Distortion properties of some univalent and convex functions involving a generalized fractional derivative operator. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 2, 161–177. (R. K. Raina) **98m:30014** 30C45 (26A33)
— (*with* Kim, Yong Chan) Some properties of a certain one-parameter additive families of operators defined on multivalent functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 105–111. (Herb Silverman) **98h:30017** 30C45
Choi, Jaeyoung (*with* Blackford, L. S.; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.;

Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

Choi, Jeong-Yeol (*with* Baek, Jong-Il; Youn, Eun-Ho) A weakly dependence concepts of bivariate stochastic processes. *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 831–839. (Moshe Shaked) **98e:60075** 60G99

Choi, Jeongwhan (*with* Hong, Bum Il; Ha, Sung Nam) An error of the method of vanishing viscosity of the first-order Hamilton-Jacobi equations. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 43–49. (Meng Zhao Qin) **98a:35015** 35F20 (35D05, 65M15)

— Symmetric currents of a two-layer fluid with free surface over an elliptic obstruction. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 119–133. (Nikolay G. Kuznetsov) **98c:76010** 76B15 (35Q35, 76B25)

— (*with* Shen, M. C.) On a critical case of internal solitary waves in a two-layer fluid. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2804–2806. (Summary) **98g:76014** 76C10 (76V05)

Choi, Jin-Young (*with* Brémond-Grégoire, Patrice; Lee, Insup) A complete axiomatization of finite-state ACSR processes. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 124–159. (Summary) **98h:68065** 68Q10 (68Q55, 68Q60)

Choi, Jinhoon (*with* Sourlas, Dennis D.; Manousiouthakis, V.) Optimal feedback control of SISO saturation systems over a class of nonlinear stabilizing controllers. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 5, 449–474. (Summary) **98d:93079** 93D15 (93B36)

Choi, Jong Bae (*with* Jeon, Jong Duek; Khe Kan Cher; Park, Ji Hyun; Jeon, Yong Hee) Protter's conjugate boundary value problems for the two-dimensional wave equation. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 857–863. (A. Borzymowski) **98c:35103** 35L05 (35L20)

Choi, Joonsoo (*with* Sellen, Jürgen; Yap, Chee-Keng) Approximate Euclidean shortest paths in 3-space. (English summary) Tenth Annual ACM Symposium on Computational Geometry (Stony Brook, NY, 1994). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 4, 271–295. (Evangelos Kranakis) **98f:68261** 68U05 (90C35)

Choi, Junesang (*with* Nam, Young Man) The first Eulerian integral. *Kyushu J. Math.* **49** (1995), *no.* 2, 421–427. (Matti Jutila) **98g:33001** 33B15 (11M35)

— A duplication formula for the double gamma function Γ_2. *Bull. Korean Math. Soc.* **33** (1996), *no.* 2, 289–294. (Richard B. Paris) **98b:11090** 11M35 (33B99)

— (*with* Seo, Tae Young) Evaluation of some infinite series. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 791–796. (Andreas Guthmann) **98k:33027** 33C90 (11M06, 11Y60)

— A proof of the most important identity involved in the beta function. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 71–76. 33B15 (33C05)

— (*with* Srivastava, Hari M.) Gamma function representation for some definite integrals. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 205–209. (Summary) **98g:33002** 33B15 (33C05)

— (*with* Nash, Charles) Integral representations of the Kinkelin's constant A. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 223–230. (Bruce C. Berndt) **98j:33002** 33B15 (11M06, 11Y60)

Choi, Jung-Ah Graphics of catenoids in hyperbolic 3-space and stability of spherical catenoids. (English summary) *Math. J. Toyama Univ.* **19** (1996), 55–65. (Kotaro Yamada) **98a:53010** 53A10

Choi, K. *see* **Choi, Kyungmee**

Choi, Keunbae (*with* Chae, Younki) Maximal subgroups in C_*^k semigroups. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 53–59. (Bernard L. Madison) **98f:22002** 22A15

— (*with* Chae, Younki) Reachable sets in Lie groups. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 3, 763–772. (Jimmie D. Lawson) **98m:93010** 93B03 (22A15)

Choi, Ki-Hong (*with* Moon, Choon-Geol) Generalized extreme value model and additively separable generator function. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 129–140. (Ram Shanmugam) **98f:62305** 62P20

Choi, Ki Seong Capacity of a set of Hölder α-continuous functions in Wiener space. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 169–174. (Summary) **98e:28017** 28C20

Choi, Kiwoon (*with* Chun, Eung Jin; Kim, Hyungdo) Supersymmetry hierarchy problems and anomalous horizontal U(1) symmetry. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 89–98. (Summary) **98b:81284** 81V22 (81T60)

— Axions and the strong CP problem in M theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6588–6600. (Summary) **98j:81263** 81T30 (81V22)

Choi, Kwok-Kwong Stephen A numerical bound for Baker's constant—some explicit estimates for small prime solutions of linear equations. (English summary) *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 1, 1–19. (Kai Man Tsang) **98k:11137** 11P32

Choi, Kyeongpyo (*with* Choi, Q-Heung; Jung, Tacksun) The existence of solutions of a nonlinear suspension bridge equation. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 503–512. (Eugene Schlereth) **98h:35220** 35Q72 (35B10)

Choi, Kyu Hyuck (*with* Kim, Jin Bai) S_n-compatible fuzzy matrices. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 663–670. 15A99 (04A72)

Choi, Kyungmee (*with* Marden, J.) An approach to multivariate rank tests in multivariate analysis of variance. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1581–1590. (Summary) **98m:62138** 62G10

— Breakdown points of direction tests. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 211–222. (Summary) **98f:62129** 62G10 (62F35)

Choi, Man-Duen (*with* Hou, Jinchuan; Rosenthal, Peter) Completion of operator partial matrices to square-zero contractions. (English summary) *Linear Algebra Appl.* **256** (1997), 1–30. (Hugo Jan Woerdeman) **98a:47007** 47A20 (47A30, 47A62)

Choi, Nan-Young (*with* Chung, Won-Sang; Kang, Hye-Jung) Theory of q-deformed forms. I. q-deformed alternating tensor and q-deformed wedge product. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1069–1091. (Axel Schüler) **98a:58011** 58B30 (17B37, 81R50)

Choi, Q-Heung (*with* Jung, Tacksun) Critical points theory and its application to a nonlinear wave equation. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 73–82, *VSP, Utrecht*, 1995. (R. G. Airapetyan) **98h:35157** 35L70 (58E05)

— (*with* Jung, Tacksun) Sharp results for the multiplicity of periodic solutions of a nonlinear suspension bridge equation. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 115–122. (John Albert) **98f:35145** 35Q72 (35B10, 73D35, 73K05)

— (*with* Choi, Kyeongpyo; Jung, Tacksun) The existence of solutions of a nonlinear suspension bridge equation. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 503–512. (Eugene Schlereth) **98h:35220** 35Q72 (35B10)

— (*with* Jung, Tacksun) The existence of solutions of a nonlinear wave equation. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 153–167. (Herbert Koch) **98f:35105** 35L70

— (*with* Jung, Tacksun) Multiplicity results on a fourth order nonlinear elliptic equation. *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 83–108, *Lecture Notes Ser., 38, Seoul Nat. Univ., Seoul*, 1997. (Vicenţiu Rădulescu) **98c:35052** 35J65 (35B32)

— (*with* Jung, Tacksun) A nonlinear suspension bridge equation. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 39–48, *VSP, Utrecht*, 1997. (Summary) **98d:35211** 35Q72 (47H15, 47N20, 73D35)

— (*with* Nam, Hyewon) A nonlinear beam equation with nonlinearity crossing an eigenvalue. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 609–622. (Juan M. Viaño Rey) **98h:35221** 35Q72 (35B10, 73D35, 73K05)

Choi, S. H. *see* **Choi, Seul Hee**

Choi, Sangki Unique factorization in two-dimensional complete intersections. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 533–541. (David E. Rush) **98j:13018** 13F15 (13A05)

Choi, Seul Hee (*with* Kim, Yangkon; So, K. H.; Seo, Gyeong-Sig; Park, Dae Yeon) On subregular points for some cases of Lie algebra. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 21–27. (Jörg Feldvoss) **98d:17029** 17B50 (17B45)

— (*with* Park, H. G.; Yoon, Dall Sun) Lattice path counting in a bounded plane. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 181–193. (Arnold Knopfmacher) **98f:05008** 05A15 (03D40)

Choi, Seung-Bok (*with* Cho, Seung-Sang; Jeon, Young-Sik) Vibration and tracking control of piezoceramic-based smart structures via quantitative feedback theory. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA)*, 596–605, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K12, 73K50, 93D15)

Choi, Seung Hoe (*with* Kim, Hae Kyung; Jang, Sook Hee) The consistency estimation in nonlinear regression models with noncompact parameter space. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 377–383. (Jean Diebolt) **98b:62115** 62J02 (62F12, 62F35)

— (*with* Kim, Hae Kyung) The strong consistency of the L_1-norm estimators in censored nonlinear regression models. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 573–581. (Summary) **98k:62109** 62J02 (62G05)

Choi, Suhyoung Convex decompositions of real projective surfaces. III. For closed or nonorientable surfaces. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 1139–1171. (William Goldman) **98a:57016** 57M50

— (*with* Lee, Hyunkoo) Geometric structures on manifolds and holonomy-invariant metrics. (English summary) *Forum Math.* **9** (1997), *no.* 2, 247–256. (William Goldman) **98a:53052** 53C20 (57M50)

Choi, Sul-Young Large maximal $\{0, 1, 2, \cdots, t\}$-cliques of the q-analog of the Johnson graph. (English summary) *European J. Combin.* **17** (1996), *no.* 8, 699–707. (Ákos Seress) **98f:05143** 05D05

Choi, Sung Kyu (*with* Goo, Yoon Hoe; Koo, Nam Jip) Asymptotic equivalence between two linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 44–52. (Josef Diblík) **98g:34084** 34D05 (34C99)

— (*with* Koo, Nam Jip; Ryu, Hyun Sook) h-stability of differential systems via t_∞-similarity. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 371–383. (A. A. Freiria) **98h:34095** 34D10 (34D20)

— (*with* Goo, Yoon Hoe; Koo, Nam Jip) Lipschitz and exponential asymptotic stability for nonlinear functional-differential systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 397–410. (T. A. Burton) **98m:34151** 34K20

Choi, Taeseung (*with* Ryu, Chang-Mo; Kim, Chul Koo; Nahm, Kyun) Persistent currents of multi-anyons on a quasi-one-dimensional ring. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 17–21. (Summary) **98a:81278** 81V70 (81Q99)

Choi, U Jin (*with* Ko, Kwan Pyo) The mean-square error bounds for the Gaussian quadrature of analytic functions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 293–307. (N. S. Kambo) **98e:65014** 65D32 (41A55)

— (*with* Oh, Myoungho) The damped modified iterated Kalman filter for nonlinear discrete time systems. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 387–398. (Fred Espen Benth) **98d:93096** 93E11

— (*with* Oh, Myoungho; Shin, Vladimir Ignatevich; Lee, Yong Wan) Suboptimal discrete filters for stochastic systems with different types of observations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 17–27. (Summary) **98k:93114** 93E11 (93B07, 93C55)

Choi, Un Haing Asymptotic values of meromorphic functions without Koebe arcs. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 111–113. (Summary) **98h:30052** 30D40

Choi, Won Relations between the Ito processes. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 207–213. (Toshio Yamada) **98k:60110** 60H99

— (*with* Kang, Sin Duk) On the option valuation for a combined diffusion/point process model. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 319–325. (Summary) **98e:90025** 90A09 (60J70)

— On the representations of generating trading strategy for contingent claims in multidimensional diffusion model. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 133–139. (Summary) **98i:90012** 90A09 (60J70)

Choi, Wooyoung On the fission of algebraic solitons. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1753–1762. (Summary) **98e:76018** 76C10 (35Q35, 35Q53, 76V05)

Choi, Y. S. *see* **Choi, Yung Sze**

Choi, Ying (*with* Lam, Tak Wah) Two-dimensional dynamic dictionary matching. (English summary) *Algorithms and computation (Osaka, 1996)*, 85–94, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q25 (68P05)

Choi, Yong Bin (*with* Chung, Choon Kyung) On a stability theorem for hyperexact operators. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 959–965.

(Manuel González) **98b:47016** 47A53

Choi, Yong-Kab (*with* Kang, Shin Min; Cho, Yeol Je) On inferior limits for the increments of Gaussian processes. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 813–822. (Qi Man Shao) **98h:60036** 60F15 (60G15)

— (*with* Hwang, Kyo-Shin; Park, Soon-Kyu) Superior and inferior limits on the increments of Gaussian processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 57–74. (Zheng Yan Lin) **98k:60057** 60G15 (60F15, 60G10, 60G17)

— (*with* Hwang, Kyo-Shin; Jung, Jong Soo) On superior limits for the increments of Gaussian processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 289–296. (Summary) **98h:60039** 60F15 (60G15)

— (*with* Lee, Seaung-Hyune) A note on the upper and lower bounds of small ball probabilities for Gaussian processes with stationary increments. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 209–225. 60G15 (60F15, 60G17)

Choi, Young Hun The nonparametric test for detecting main effects for three-way ANOVA models. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 419–432. (Christine Hildegard Müller) **98f:62130** 62G10 (62G35, 62J10)

Choi, Youngsoo On the generalized Korteweg-de Vries equation with dissipation. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 557–573. (Vladislav G. Dubrovsky) **98c:35139** 35Q53 (35B30)

— On the (generalized) Korteweg-de Vries equation with dissipation. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 109–121, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (Daniel B. Dix) **98f:35126** 35Q53

Choi, Yun Sung Numerical radius of a holomorphic mapping. *Geometric complex analysis (Hayama, 1995)*, 117–122, *World Sci. Publishing, River Edge, NJ*, 1996. (Andreas Kriegl) **98j:46044** 46G20 (46B28, 47A12)

— Norm attaining bilinear forms on $L^1[0, 1]$. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 295–300. (Alexander Mekler) **98e:46015** 46B28 (46E30)

Choi, Yung Sze (*with* Hernández, Gastón E.) Existence and multiplicity of solutions for systems of semilinear elliptic equations. (English summary) *Proyecciones* **15** (1996), *no.* 1, 1–17. (Alan V. Lair) **98c:35059** 35J65 (35B30)

— (*with* McKenna, P. J.) A singular quasilinear anisotropic elliptic boundary value problem. II. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2925–2937. (Ya Zhe Chen) **98k:35039** 35J25 (35J65)

Choie, YoungJu (*with* Kohnen, Winfried) Rankin's method and Jacobi forms. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 307–314. (Jae-Hyun Yang) **98i:11031** 11F55 (11F60)

— Construction of mixed automorphic forms. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 3, 390–395. (Min Ho Lee) **98g:11048** 11F12 (11F11)

— Correspondence among Eisenstein series $E_{2,1}(\tau, z)$, $H_{3/2}(\tau)$ and $E_2(\tau)$. (English summary) *Manuscripta Math.* **93** (1997), *no.* 2, 177–187. (Yasushi Tokuno) **98d:11044** 11F11 (11F37)

— Jacobi forms and the heat operator. *Math. Z.* **225** (1997), *no.* 1, 95–101. (Pavel Guerzhoy) **98c:11042** 11F55 (11F60)

Chojnacki, Wojciech (*with* Brooks, Michael J.; Gibbins, Daniel) Can the sun's direction be estimated from an image prior to the computation of object shape? (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 2, 139–147. (Summary) **98a:68186** 68U10 (35R30)

— On the equivalence of a theorem of Kisyński and the Hille-Yosida generation theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 491–497. (Jaroslav Zemánek) **98d:46050** 46J05 (43A20, 47D03)

Chojnowska-Michalik, Anna (*with* Goldys, Beniamin) On regularity properties of nonsymmetric Ornstein-Uhlenbeck semigroup in L^p spaces. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 183–209. (Nataliya Y. Goncharuk) **98f:60121** 60H15

Chokalau, R. P. On sh-characteristic submodules. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 1, 128–131, 133, 136. 16S90

Chokens, Ch. Dzh. *see* **Tjalkens, Tjalling J.**

Choksi, Rustum (*with* Fonseca, Irene) Bulk and interfacial energy densities for structured deformations of continua. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 1, 37–103. (Pablo Pedregal) **98j:73026** 73C50 (49J10, 73B99, 73V25)

Cholak, P. (*with* Ash, Christopher J.; Knight, Julia F.) Permitting, forcing, and copying of a given recursive relation. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 219–236. (C. G. Jockusch, Jr.) **98j:03062** 03D45 (03C57, 03D30)

Cholewa, Jan W. (*with* Dłotko, Tomasz) Global solutions via partial information and the Cahn-Hilliard equation. (English summary) *Singularities and differential equations (Warsaw, 1993)*, 39–50, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Sergei A. Vakulenko) **98d:35213** 35Q80 (35B40, 35K55, 47H20, 58F39)

— (*with* Dłotko, Tomasz) Cauchy problem with subcritical nonlinearity. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 531–548. (Ioannis G. Stratis) **98d:35093** 35K55 (35B40, 47H20)

— (*with* Dłotko, Tomasz) Global attractors for parabolic P.D.E.'s in Hölder spaces. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 263–283. (Ioan I. Vrabie) **98j:35084** 35K55 (34G20, 35B40, 47H20, 58F39)

Cholewiński, Paweł Stratified default theories. (English summary) *Computer science logic (Kazimierz, 1994)*, 456–470, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68233** 68T27 (03B60, 03B70)

— Reasoning with stratified default theories. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 273–286, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98d:68186** 68T27 (03B70)

Chollet, Anne-Marie (*with* Chaumat, Jacques) Théorèmes de préparation dans des classes ultradifférentiables. [Preparation theorems in ultradifferentiable classes] *Math. Z.* **226** (1997), *no.* 4, 631–679. (Wiesław Pleśniak) **98m:32006** 32B05 (26E10)

— (*with* Chaumat, Jacques) Caractérisation des anneaux noethériens de séries formelles à croissance controlée. Application à la synthèse spectrale. (English summary) [Characterization of Noetherian rings of formal power series with controlled growth. Application to spectral synthesis] *Publ. Mat.* **41** (1997), *no.* 2, 545–561. (Joaquim Bruna) **98k:32010** 32B05 (16P40, 26E10, 46J20)

Chollet, Jean-Pierre *see* **Direct and large-eddy simulation**

Chollet, John Some inequalities for principal submatrices. *Amer. Math. Monthly* **104** (1997), *no.* 7, 609–617. (R. A. Horn) **98g:15027** 15A45 (15A57, 15A63)

Chomaz, Jean-Marc (*with* Huerre, Patrick; Amram, K.) Instabilities and bifurcations in variable density flows. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 3–8, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76E99 (76D25)

— (*with* Couairon, Arnaud) Absolute and convective instabilities, front velocities and global modes in nonlinear systems. (English summary) *Phys. D* **108** (1997), *no.* 3, 236–276. (Summary) **98h:76048** 76E30 (76E15)

— (*with* Delbende, Ivan; Huerre, Patrick) Absolute/convective instabilities in the Batchelor vortex: a numerical study of the linear impulse response. (English summary) *J. Fluid Mech.* **355** (1998), 229–254. (Summary) **98k:76057** 76E99 (76C05, 76D25, 76E15, 76M25)

Chong, Edwin K. P. (*with* Park, Yongseok) On d-inversion in interruptive timed discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1550–1554. (Summary) **98e:93066** 93C83 (93B30)

Chong, K. S. (*with* Lam, Kin) Cost comparison of a spectrum of self-organizing rules. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 583–592. (Summary) **98c:60077** 60J10 (68P10)

Chong, Ka Wong (*with* Lam, Tak Wah) Towards more precise parallel biconnectivity approximation. (English summary) *Algorithms and computation (Osaka, 1996)*, 223–232, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q22 (05C85, 68R10)

Chong, Kong-Ming A characterization of Schur convexity. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 2, 77–79. (Summary) **98c:26008** 26B25

Chong, M. S. (*with* Soria, Julio; Perry, A. E.; Chacin, J.; Cantwell, B. J.; Na, Y.) Turbulence structures of wall-bounded shear flows found using DNS data. (English summary) *J. Fluid Mech.* **357** (1998), 225–247. (Summary) **98m:76094** 76F99

Chong, Tai-leung Terence Estimating the unit root process in the presence of measurement errors. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 105–120. 62M10

Choo, Kyu-Ho (*with* Lee, Jung-Oh) On $L^2(T^2)$-convergence of double Fourier series. (English summary) *Bull. Honam Math. Soc.* **13** (1996), 89–94. (Summary) **98c:42011** 42B05

Chooi, W. L. (*with* Lim, Ming Huat) Linear preservers on triangular matrices. (English summary) *Linear Algebra Appl.* **269** (1998), 241–255. (Summary) **98m:15007** 15A04

Chopra, D. V. (*with* Dios, R.) Some combinatorial investigations on balanced arrays of strength three and five. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 173–179. (Summary) **98i:05013** 05B05

Chopra, Sunil (*with* Gilboa, Itzhak; Sastry, S. Trilochan) Algorithms and extended formulations for one and two facility network design. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 44–57, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90154** 90C35 (90B10)

Choquard, Philippe (*with* Steiner, Frank) The story of Van Vleck's and Morette-Van Hove's determinants. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 636–654. (Marianne Freundlich) **98g:81003** 81–03 (01A60)

— (*with* Rey, Stéphane) The Calogero-Sutherland-Moser (CSM) model as a quantum billiard. (English and French summaries) *European J. Phys.* **18** (1997), *no.* 2, 94–98. (Summary) **98c:81257** 81V70

— Coulomb system equivalent to the energy spectrum of the Calogero-Sutherland-Moser (CSM) model. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 61–68. (Kazuhiro Hikami) **98m:81220** 81V70 (82B21)

Choquet, Gustave Les processus mentaux de la création. [The mental processes of creation] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 26, 29 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II), Clermont-Ferrand*, 1996. (*see* **98a:00009**) 01A99 (00A35, 01A70)

Choquet-Bruhat, Yvonne Global existence theorems for Einstein equations in high dimensions. (English summary) *Gravity, particles and space-time*, 19–28, *World Sci. Publishing, River Edge, NJ*, 1996. (Norbert Noutchegueme) **98f:83007** 83C05 (35Q75, 58G16)

— (*with* Greco, Antonio M.) Interaction of gravitational and fluid waves. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 111–123. (Norbert Noutchegueme) **98g:83023** 83C35 (83C55)

— (*with* York, James W., Jr.) Well posed reduced systems for the Einstein equations. (English summary) *Mathematics of gravitation, Part I (Warsaw, 1996)*, 119–131, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Norbert Noutchegueme) **98f:58189** 58G16 (35Q75, 83C05)

Chor, Benny (*with* Sudan, Madhu) A geometric approach to betweenness. (English summary) *Algorithms—ESA '95 (Corfu)*, 227–237, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q25 (92C40)

Chorin, Alexandre Joel (*with* Barenblatt, G. I.) Scaling laws and vanishing-viscosity limits for wall-bounded shear flows and for local structure in developed turbulence. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 4, 381–398. (P. L. Sulem) **98a:76041** 76F10 (35Q72, 76D10, 76F05, 76M35)

— A numerical method for solving incompressible viscous flow problems [J. Comput. Phys. **2** (1967), no. 1, 12–36]. (English summary) With an introduction by Gerry Puckett. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 115–125. (*see* **98h:70003**) 76M20 (65M60)

— (*with* Hald, Ole H.) Analysis of Kosterlitz-Thouless transition models. (English summary) *Phys. D* **99** (1997), *no.* 4, 442–470. (Summary) **98a:82079** 82C26 (76F99, 82C28)

Chossat, Pascal (*with* Lauterbach, Reiner) Le théorème de Hartman-Grobman et la réduction à l'espace des orbites. (English and French summaries) [The Hartman-Grobman theorem and orbit space reduction] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 595–600. (Arnd Scheel) **98i:58204** 58F36 (34C20)

— (*with* Beltrame, Philippe; Laure, Patrice) Convection en double diffusion dans une coque sphérique. (English and French summaries) [Double diffusion in a spherical shell] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1049–1052. (Summary) **98j:76038** 76E15 (34C23, 58F14, 76Rxx)

— (*with* Krupa, Martin; Melbourne, Ian; Scheel, Arnd) Transverse bifurcations of homoclinic cycles. (English summary) *Phys. D* **100** (1997), *no.* 1-2, 85–100. (Philip J. Aston) **98c:58117** 58F14 (34C23, 34C37)

Chotai, Arun (*with* Young, Peter C.; McKenna, Paul; Tych, Wlodek) Proportional-integral-plus (PIP) design for delta (δ) operator systems. I. SISO systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 123–147. 93B51 (93C05)

— (*with* Young, Peter C.; McKenna, Paul; Tych, Wlodek) Proportional-integral-plus (PIP) design for delta (δ) operator systems. II. MIMO systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 149–168. 93B51 (93C05)

Chou, Aaron (*with* Kallosh, Renata; Rahmfeld, J.; Rey, Soo-Jong; Shmakova, Marina; Wong, Wing Kai) Critical points and phase transitions in 5d compactifications of M-theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 147–180. (Summary) **98m:81136** 81T30 (14J32, 32J81, 83E30)

Chou, C. T. *see* **Chou, Chun Tung**

Chou, Chan-Shin (*with* Hwang, Ann-Yin) Control of longitudinal vibration and wave in a beam. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 584–595, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K05, 73K12, 73K50, 93D15)

Chou, Chih-Hsun Model reference adaptive fuzzy control: a linguistic space approach. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 1–20. 93C42

Chou, Chin Fêng A note on the admissibility of p-value for the one-sided hypothesis test in the negative binomial model. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 59–63. (Christian P. Robert) **98c:62011** 62C15 (62C05, 62C07, 62C10, 62F03, 62F15)

Chou, Chun Tung (*with* Verhaegen, Michel) Subspace algorithms for the identification of multivariable dynamic errors-in-variables models. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1857–1869. 93B30 (93B52)

— (*with* Maciejowski, Jan M.) System identification using balanced parameterizations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 956–974. (Summary) **98d:93039** 93B36 (93B30)

Chou, Jine-Phone *see* **Chou, Chin Fêng**

Chou, Jyh Horng (*with* Chen, Shinn-Horng; Liao, Wen-Hwei) On the stability of discrete Takagi-Sugeno fuzzy dynamic model. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 6, 709–713. 93C42 (93D05)

Chou, K. S. *see* **Tso, Kaising**

Chou, Kaiseng *see* **Tso, Kaising**

Chou, Rouh-Jane Correspondence analysis and seriation. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 195–210, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H20

Chou, So-Hsiang (*with* Kwak, Do Young) Analysis and convergence of a MAC-like scheme for the generalized Stokes problem. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 147–162. (Lech Slawik) **98a:65154** 65N12 (65N35, 76D07, 76M25)

Chou, T. T. (*with* Yang, Chen Ning) Exact solution of the vibration problem for the carbon-60 molecule. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 97–104. 92E10

Chou, Wun-Seng (*with* Ku, Jong-Min; Shiue, Peter Jau-Shyong) On crossings of hyperplanes on the n-dimensional torus. (English summary) *J. Algebra* **192** (1997), *no.* 1, 43–54. (Béla Uhrin) **98h:52022** 52B30

Choudhary, B. (*with* Mishra, Sashi Kant) A note on fixed points for discontinuous quasimonotone maps in sequence spaces. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 263–268 (1997). (Summary) **98d:47133** 47H10

Choudhary, Sudipto (*with* Banerji, P. K.) Fractional integral formulae involving general class of polynomials. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **66** (1996), *no.* 3, 271–277. 26A33 (33C05)

Choudhry, Ajai On arithmetic progressions of equal lengths and equal products of terms. *Acta Arith.* **82** (1997), *no.* 1, 95–97. (T. N. Shorey) **98j:11004** 11B25

— The Diophantine equation $X_1^5 + X_2^5 + 2X_3^5 = Y_1^5 + Y_2^5 + 2Y_3^5$. (English summary) *Ganita* **48** (1997), *no.* 2, 115–116. 11D41

Choudhury, Ajanta (*with* Das, N. R.; Das, Pankaja) Absolute value like fuzzy real number and fuzzy real-valued sequence space. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 2, 421–433. (M. S. Rangachari) **98c:46165** 46S40 (04A72, 40J05)

Choudhury, Binayak S. Certain fixed point theorems in generalisations of metric spaces. (English summary) *J. Tech. Bengal Engrg. College* **34** (1997), 31–38. 54H25

Choudhury, G. *see* **Choudhury, Gautam**

Choudhury, Gagan L. (*with* Leung, Kin K.; Whitt, Ward) Calculating normalization constants of closed queuing networks by numerically inverting their generating functions. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 5, 935–970. (Wojciech Szpankowski) **98a:90047** 90B22 (60K25, 68Q25)

— (*with* Whitt, Ward) Probabilistic scaling for the numerical inversion of nonprobability transforms. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 175–184. (Summary) **98f:65125** 65R10 (60E10, 65U05)

Choudhury, Gautam (*with* Borthakur, A.) On a Poisson queue with random idle period. (English summary) *Contrib. Appl. Math. Stat.* **1** (1995), 33–42. 60K25

— On a two server Poisson input queue under a control operating policy with a general startup time. (English summary) *IAPQR Trans.* **22** (1997), *no.* 2, 115–126. 60K25

— A Poisson queue under N-policy with a general setup time. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1595–1608. 60K25

— Some results of $M/G/1$ queue under N-policy with setup time. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 2, 276–280. 60K25

Choudhury, Labananda (*with* Nath, Dilip C.) A stochastic framework of the bivariate life table technique. (English summary) *Contrib. Appl. Math. Stat.* **1** (1995), 43–56. 62P10 (92B99)

Choudhury, Mukteswar (*with* Mishra, Akshaya Kumar) Meromorphic multivalent starlike functions with positive coefficients. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 4, 315–332. (Shigeyoshi Owa) **98d:30020** 30C45

Choudhury, P. P. *see* **Pal Choudhury, Pabitra**

pal Choudhury, Pabitra *see* **Pal Choudhury, Pabitra**

Choudhury, R. (*with* Nayak, P. C.) Oscillation and nonoscillation theorems for third order functional-differential equation. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 89–96. (Yiannis Sficas) **98f:34105** 34K15

Choudhury, S. (*with* Chattopadhyay, A.; Chattopadhyay, A.) Diffraction of magnetoelastic shear waves in a self-reinforced medium by a rigid strip. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 81–94. 73D25 (73R05)

Choudhury, S. Roy (*with* Hamatto, Darwish M.) Nonstandard finite difference schemes for nonlinear partial differential equations. (English summary) *J. Egyptian Math. Soc.* **3** (1995), 49–63. (M. S. Rangachari) **98c:65143** 65M06

— The initial-value problem for the Kelvin-Helmholtz instabilities of high-velocity and magnetized shear layers. (English summary) *Quart. Appl. Math.* **54** (1996), *no.* 4, 637–662. (N. D. Sengupta) **98e:76037** 76E25 (35Q35, 76W05)

— Stability conditions for the persistence, disruption and decay of two-dimensional dissipative three-mode patterns in moderately extended nonlinear systems and comparisons with simulations. (English summary) *Nonlinear instability analysis*, 43–91, *Adv. Fluid Mech.*, 12, *Comput. Mech., Southampton*, 1997. (Summary) **98h:34098** 34D99 (34K20, 35K57, 58F13, 76E30, 76F99, 92D25)

— (*with* Margarella, L.; Scanlon, J.) Amplitude equations for nonlinear evolution and possible persistence of stripe and hexagonal patterns in two nonlinear systems. (English summary) *Nonlinear instability analysis*, 93–121, *Adv. Fluid Mech.*, 12, *Comput. Mech., Southampton*, 1997. (Yoram Schiffmann) **98k:35192** 35Q80 (35B25, 35K57, 92C15)

— Nonlinear evolution of the Kelvin-Helmholtz instability of supersonic tangential velocity discontinuities. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 561–586. (Summary) **98h:76047** 76E30 (76K05, 76X05)

— (*with* Varner, T. N.) Non-standard difference schemes for singular perturbation problems revisited. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 101–123. 65L12

— *see also* **Nonlinear instability analysis, 98f:00019**

Choudhury, Sudipto (*with* Banerji, P. K.) Laguerre polynomial and heat conduction in the region $(0, \infty)$. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 219–223. 33C90 (33C45, 80A20)

Choudum, S. A. (*with* Ponnusamy, B.) Ordered and canonical Ramsey numbers of stars. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 147–158. (Jerrold W. Grossman) **98d:05101** 05C55 (05C20)

Chouikha, Raouf Comparison of monotonicity conditions for periodic functions. *Innovation in mathematics* (*Rovaniemi*, 1997), 83–89, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 34C25 (34–04)

— Fonctions elliptiques et équations différentielles ordinaires. (English summary) [Elliptic functions and ordinary differential equations] *Canad. Math. Bull.* **40** (1997), *no.* 3, 276–284. (H. M. Srivastava) **98k:33041** 33E05 (33E20, 34A05)

Chouinard, Jean-Yves *see* **Information theory and applications, 98g:94002**

Choukairi-Dini, Ahmed On almost sure convergence of vector valued pramarts and multivalued pramarts. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 245–254. (Christian Hess) **98k:60073** 60G48 (60F15)

Choulakian, Vartan Some notes on generalized RV vector correlation measures. (English and Italian summaries) *Metron* **54** (1996), *no.* 3-4, 125–140 (1997). 62H20

Choulli, Tahir (*with* Stricker, Christophe) Deux applications de la décomposition de Galtchouk-Kunita-Watanabe. (French summary) [Two applications of the Gal'chuk-Kunita-Watanabe decomposition] *Séminaire de Probabilités, XXX*, 12–23, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Summary) **98j:60064** 60G44 (90A09)

Chovanec, Ferdinand (*with* Köpka, František) Boolean D-posets. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 183–197. (Summary) **98c:03127** 03G12 (81P10)

Chow, Bennett (*with* Chu, Sun-Chin) A geometric approach to the linear trace Harnack inequality for the Ricci flow. *Math. Res. Lett.* **3** (1996), *no.* 4, 549–568. (Ben Andrews) **98c:53050** 53C21 (35K55, 58G11)

— Geometric aspects of Aleksandrov reflection and gradient estimates for parabolic equations. *Comm. Anal. Geom.* **5** (1997), *no.* 2, 389–409. (John Urbas) **98k:53045** 53C21

— (*with* Hamilton, Richard S.) Constrained and linear Harnack inequalities for parabolic equations. *Invent. Math.* **129** (1997), *no.* 2, 213–238. (John Urbas) **98i:53051** 53C21 (35B45, 35K55, 58G11, 58G30)

Chow, Chi-Keung (*with* Au, C. K.; Chu, Chong-Sun) Comment. "A new efficient method for calculating perturbation energies using functions which are not quadratically integrable": regularization and justification [J. Phys. A **29** (1996), no. 5, L129–L132] by L. Skála and J. Čížek. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4133–4136. 81Q15 (81Q05)

— (*with* Au, C. K.; Chu, Chong-Sun) Perturbative scattering phase shifts in one dimension: closed form results. (English summary) *Phys. Lett. A* **226** (1997), *no.* 6, 327–331. (M. Znojil) **98b:81041** 81Q15 (34E10, 81U05)

Chow, Edmond Ten-Fu (*with* Saad, Youcef) Parallel approximate inverse preconditioners. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 10 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30

— (*with* Saad, Youcef) *ILUS*: an incomplete *LU* preconditioner in sparse skyline format. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 739–748. 65F50 (65F30)

— (*with* Saad, Youcef) Experimental study of ILU preconditioners for indefinite matrices. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 387–414. (Summary) **98h:65013** 65F10 (65F50)

Chow, Gregory C. (*with* Kwan, Yum K.) Chow's method of optimal control: a numerical solution. *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 739–752. (Vincenţiu Dumitru) **98k:93123** 93E20 (49M05)

Chow, James (*with* Berger, Toby) Failure of successive refinement for symmetric Gaussian mixtures. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 350–352. (Summary) **98k:94002** 94A15

Chow, Kwok W. (*with* Ko, N. W. M.; Tang, S. K.) Solitons in (2 + 0) dimensions and their applications in vortex dynamics. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 2, 101–114. (Mei Chang Shen) **98f:76017** 76C05 (35Q35, 35Q51)

— Resonances of solitons and "dromions". (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 5, 1282–1287. (Summary) **98b:35154** 35Q53 (76B25)

Chow, Louis R. (*with* Chiang, Ding-An; Hsien, Nan-Chen) Fuzzy information in extended fuzzy relational databases. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1,

1–20. (Summary) **98f:68062** 68P15 (04A72)

Chow, Pao-Liu Stationary solutions of some parabolic Itô equations. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA, 1994*), 42–51, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (*see* **97d:60004**) 60H15

— (*with* Khasminskii, Rafail Z.) Statistical approach to dynamical inverse problems. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 521–531. (Summary) **98j:65041** 65J15 (62G05)

— (*with* Menaldi, Jose-Luis) Infinite-dimensional Hamilton-Jacobi-Bellman equations in Gauss-Sobolev spaces. *Nonlinear Anal.* **29** (1997), *no.* 4, 415–426. (Andrzej Swiech) **98e:35171** 35R15 (34G20, 35R60, 49L20, 93E20)

— (*with* Khasminskii, Rafail Z.) Stationary solutions of nonlinear stochastic evolution equations. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 671–699. (Bohdan Maslowski) **98i:60058** 60H15

— (*with* Khasminskii, Rafail Z.; Liptser, R. Sh.) Tracking of signal and its derivatives in Gaussian white noise. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 259–273. (Uttara V. Naik-Nimbalkar) **98m:60065** 60G35 (62G05, 62M20, 93E10)

Chow, Shein-Chung (*with* Chen, Keh-Wei; Li, Gang[3]; Sun, Yanqing) Interval estimation for ratios in bioequivalence trials. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 989–1002. 62P10

Chow, Shui-nee (*with* Mallet-Paret, John; Van Vleck, Erik S.) Dynamics of lattice differential equations. (English summary) Proceedings of the Workshop on Discretely-Coupled Dynamical Systems, Part I (Santiago de Compostela, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 9, 1605–1621. (Yuzo Hosono) **98a:58115** 58F13 (34C35, 35K57, 58F40)

— (*with* Leiva, Hugo) Unbounded perturbation of the exponential dichotomy for evolution equations. (English summary) *J. Differential Equations* **129** (1996), *no.* 2, 509–531. (From the introduction) **98d:34090** 34G10 (34D05, 34D10, 34K10, 35K45, 47D06, 47N20)

— (*with* Afraimovich, V. S.; Hale, Jack K.) Synchronization in lattices of coupled oscillators. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 442–451. (Peter Ashwin) **98g:34063** 34C11 (34C15, 34D45, 70K20)

— (*with* Liu, Weishi) Synchronization, stability and normal hyperbolicity. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 139–158. (Peter E. Kloeden) **98i:34074** 34D08 (34D10, 34D45, 58F10, 93D20)

Chow, Tai L. ★ Classical mechanics. *John Wiley & Sons, Inc., New York*, 1995. xii+547 *pp. ISBN* 0-471-04365-6 (Andrei Iacob) **98f:70001** 70–01

Chow, Tommy W. S. (*with* Li, Jin-Yan) Higher-order Petri net models based on artificial neural networks. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 289–300. (Summary) **98c:68153** 68Q90 (68N17, 68T05)

Chow, Wei-Liang *see* **Birational algebraic geometry, 98b:00037; Igusa, Jun-ichi, 98m:01030a** *and* **Bibliography: Chow, Wei-Liang, 98m:01030b**

Chow, Yuan Shih (*with* Teicher, Henry) ★ Probability theory. (English summary) Independence, interchangeability, martingales. Third edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1997. xxii+488 *pp. ISBN* 0-387-98228-0 (From the preface) **98e:60003** 60–02 (60Exx, 60Fxx, 60G42, 60G44)

— (*with* Tsai, Yao Wei) On the upper limits of subsequences on the numbers of runs. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 11–17. (Anant P. Godbole) **98f:60056** 60F15

— On Spitzer's formula for the moment of ladder variables. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 149–156. (D. V. Gusak) **98h:60103** 60J15

— (*with* Kou, S. G.) A central limit theorem for the number of success runs: an example of regenerative processes. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 157–166. (A. N. Philippou) **98g:60044** 60F05

Chowdhury, A. Roy *see* **Roy Chowdhury, Asesh**

Chowdhury, Ambar (*with* Loveys, James; Tanović, Predrag) A definable continuous rank for nonmultidimensional superstable theories. *J. Symbolic Logic* **61** (1996), *no.* 3, 967–984. (John T. Baldwin) **98a:03047** 03C45

roy Chowdhury, Asesh *see* **Roy Chowdhury, Asesh**

Chowdhury, Debashish (*with* Biswal, Bibhudananda) Interfacial dynamics in disordered magnets: relaxation, critical dynamics and domain growth. (English summary) *Annual reviews of computational physics, I*, 55–105, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82087** 82C44 (82C24, 82C80)

Chowdhury, K. *see* **Chowdhury, Kanchan Kumar**

Chowdhury, K. Ch. (*with* Saikia, Helen K.) On near-ring subgroups of projective and $\tilde{d}$ near-ring groups. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 1, 63–70. (Gordon Mason) **98c:16062** 16Y30

— (*with* Saikia, Helen K.) On near-rings with ACC on annihilators. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 177–185. 16Y30

Chowdhury, Kanchan Kumar (*with* Roy Chowdhury, Asesh) An analytic approach to torus bifurcation in a quasiperiodically forced Duffing oscillator. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 358–363. (*see* **98h:00044**) 34C15 (34C23)

Chowdhury, Mohammad S. R. (*with* Tan, Kok-Keong) Generalized variational inequalities for quasi-monotone operators and applications. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 25–54. (Carlo Bardaro) **98d:47153** 47H19 (47H10, 49J40, 54C60)

roy-Chowdhury, Rahul *see* **Roy-Chowdhury, Rahul**

Choy, D. M. (*with* Fagin, Ronald; Stockmeyer, L.) Efficiently extendible mappings for balanced data distribution. (English summary) *Algorithmica* **16** (1996), *no.* 2, 215–232. (Summary) **98c:68047** 68P15

Choy, Mario (*with* Pitter, Williams) Five-dimensional Kaluza-Klein theory reformulated. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **20** (1997), *no.* 2, 113–120. 83E15 (53C80)

Chrapek, M. (*with* Dudkiewicz, Jadwiga; Dziubdziela, W.) On the limit distributions of kth order statistics for semi-Pareto processes. (English summary) *Appl. Math.* (*Warsaw*) **24** (1996), *no.* 2, 189–193. (Barry C. Arnold) **98f:60096** 60G70 (60F05, 62G30)

Chrétien, Jean-Marie (*with* Chauvet, Gilbert A.) An algorithmic method for determining the kinetic system of receptor-channel complexes. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 227–257. 92C40

Chriss, Neil (*with* Ginzburg, V. A.) ★ Representation theory and complex geometry. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1997. x+495 *pp. ISBN* 0-8176-3792-3 (William M. McGovern) **98i:22021** 22E47 (14F99, 19L47, 20G05, 22–02, 58F05)

— A geometric construction of the Iwahori-Hecke algebra for unramified groups. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 11–57. (Jian Yi Shi) **98e:22011** 22E50 (11S37, 19K33)

Christ, Michael A progress report on analytic hypoellipticity. *Geometric complex analysis* (*Hayama, 1995*), 123–146, *World Sci. Publishing, River Edge, NJ*, 1996. (Jorge Hounie) **98e:35036** 35H05

— (*with* Müller, Detlef Horst) On L^p spectral multipliers for a solvable Lie group. *Geom. Funct. Anal.* **6** (1996), *no.* 5, 860–876. (Michael Cowling) **98b:22017** 22E30 (22E25, 43A30, 43A80)

— Intermediate optimal Gevrey exponents occur. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 359–379. (Vladimir Tulovsky) **98c:35028** 35H05

Christakos, George (*with* Hristopulos, Dionissios T.) Stochastic indicator analysis of contaminated sites. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 988–1008. (Summary) **98h:60065** 60G60 (62C99, 62N99, 62P99, 86A05, 86A32)

Christara, Christina C. Quadratic spline collocation methods for elliptic partial differential equations. (English summary) *BIT* **34** (1994), *no.* 1, 33–61. (Bruce A. Finlayson) **98b:65133** 65N35 (65N15)

Christensen, Andrew P. (*with* Shabana, Ahmed A.) Three-dimensional absolute nodal co-ordinate formulation: plate problem. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 15, 2775–2790. (Summary) **98e:73138** 73V05 (73C50, 73K10)

Christensen, Antje The Peruvian quipu. *History and science of knots*, 71–88, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (01A12, 57–03, 57M25)

Christensen, Bent Jesper (*with* Kiefer, Nicholas M.) Inference in non-linear panel models with partially missing observations. The case of the equilibrium search model. (English summary) *J. Econometrics* **79** (1997), *no.* 2, 201–219. 62P20

Christensen, David What is relative confirmation? *Noûs* **31** (1997), *no.* 3, 370–384. 03B30

Christensen, Erik[1] (*with* Sinclair, Allan M.) A cohomological characterization of approximately finite-dimensional von Neumann algebras. *Operator algebras and quantum field theory* (*Rome, 1996*), 323–328, *Internat. Press, Cambridge, MA*, 199?. (Wend Werner) **98m:46078** 46L10 (46M20)

— (*with* Pop, Florin; Sinclair, Allan M.; Smith, Roger R.) On the cohomology groups of certain finite von Neumann algebras. *Math. Ann.* **307** (1997), *no.* 1, 71–92. (B. E. Johnson) **98c:46130** 46L10 (46L05, 46L85, 46M20)

— Two generalizations of the Gleason-Kahane-Żelazko theorem. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 27–32. (Krzysztof Jarosz) **98c:46089** 46H05

Christensen, Jesper Heke (*with* Brandt, Jørgen[2]; Dimov, Ivan T.; Georgiev, Krassimir; Uria, I.; Zlatev, Z.) Treatment of large air pollution models. (English summary) *Numerical analysis and its applications* (*Rousse, 1996*), 66–77, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 86A10 (86–02)

Christensen, L. T. (*with* Çela, A.; Hamam, Yskander; Nielsen, J. R.) Nonlinear approach to the control of multimachine power systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4301–4308. (*see* **98i:00032**) 93C95 (93B12)

Christensen, Ole Atomic decomposition via projective group representations. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1289–1312. (G. C. Bohnké) **98h:43004** 43A65 (22D10, 43A15)

— (*with* Cazassa, Peter G.) Perturbation of operators and applications to frame theory. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 543–557. (B. S. Rubin) **98j:47028** 47A55 (42C99, 46B15, 46C05)

— (*with* Heil, Christopher) Perturbations of Banach frames and atomic decompositions. (English summary) *Math. Nachr.* **185** (1997), 33–47. (B. S. Rubin) **98m:42061** 42C99 (46B15, 46E30)

— Perturbation of frames and applications to Gabor frames. (English summary) *Gabor analysis and algorithms*, 193–209, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42017** 42C15

Christensen, Ronald (*with* Bedrick, Edward J.) Testing the independence assumption in linear models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1006–1016. (Summary) **98f:62193** 62J05

lundbye-Christensen, Søren *see* **Lundbye-Christensen, Søren**

Christensen, Søren[2] (*with* Petrucci, Laure) Modular state space analysis of coloured Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 201–217, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90

Christensen, W. J., Jr. (*with* Fang, John; Nakashima, M. M.) A generalized consistency condition for massless fields. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 2, 213–216. (Jürgen Tolksdorf) **98a:83056** 83C45 (81V17)

Christensen-Dalsgaard, J. (*with* Canuto, V. M.) Turbulence in astrophysics: stars. (English summary) *Annual review of fluid mechanics, Vol.* 30, 167–198, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 85A15 (76F99, 76U05)

Christenyuk, V. A. (*with* Danilenko, V. A.; Vladimirov, V. A.) On the modelling of the selforganization effects in relaxing medium. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 39–42. 82C35 (76E99, 76L05)

Christian, Joy Exactly soluble sector of quantum gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4844–4877. (Charles G. Torre) **98j:83039** 83C45

Christianidis, Jean Maxime Planude sur le sens du terme diophantien plasmatikón. [Maxime Planude on the meaning of the Diophantine term plasmatikón] *Historia Sci.* (2) **6** (1996), *no.* 1, 37–41. 01A20 (11–03)

Christiansen, Cindy L. (*with* Morris, Carl N.) Hierarchical Poisson regression modeling. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 618–632. 62F15

Christiansen, Edmund Limit analysis of collapse states. *Handbook of numerical analysis, Vol. IV*, 193–312, *Handb. Numer. Anal., IV, North-Holland, Amsterdam*, 1996. (*see* **98b:65001**) 73E20 (65M60, 65N30)

Christiansen, Freddy (*with* Politi, Antonio) Symbolic encoding in symplectic maps. (English summary) *Nonlinearity* **9** (1996), *no.* 6, 1623–1640. (Summary) **98g:58043** 58F03 (39A99, 58F99)

— (*with* Rugh, H. H.) Computing Lyapunov spectra with continuous Gram-Schmidt orthonormalization. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1063–1072. (Summary) **98e:58136** 58F19 (34D08)

Christiansen, Freddy Bugge (*with* Feldman, Marcus W.) Algorithms, genetics, and populations: the schemata theorem revisited. (English summary) *Complexity* **3** (1998), *no.* 3, 57–64. 92D10 (68T05)

Christiansen, J. P. Numerical simulation of hydrodynamics by the method of point vortices [J. Comput. Phys. **13** (1973), no. 3, 363–379]. (English summary) With an introduction by Norman J. Zabusky. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 187–197. (*see* **98h:70003**) 76M25 (65M60, 76C05)

Christiansen, Peter L. (*with* Rasmussen, K. Ø.; Johansson, Magnus; Gaĭdideĭ, Yu. B.; Bang, O.) On some NLS systems and their applications. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 215–233, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35175** 35Q55 (81V55, 82C10)

— (*with* Johansson, Magnus; Rasmussen, K. Ø.; Gaĭdideĭ, Yu. B.; Yakimenko, Irina I.) White noise and nonlinear damping in the two-dimensional model of energy transfer in molecular systems. (English summary) *Progress in industrial mathematics at ECMI* 96 (*Lyngby*, 1996), 208–216, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 81V55

— (*with* Maniadis, P.; Tsironis, G. P.) Exact solution of a generalized nonlinear Schrödinger equation dimer. (English summary) *Phys. Scripta* **57** (1998), *no.* 2, 192–194. 35Q55 (35C05)

Christiansen, T. (*with* Zworski, Maciej) Harmonic functions of polynomial growth on certain complete manifolds. (English summary) *Geom. Funct. Anal.* **6** (1996), *no.* 4, 619–627. (William P. Minicozzi, II) **98c:58161** 58G10 (53C21, 58G25)

Christianson, D. B. (*with* Davies, Alan J.; Dixon, L. C. W.; Roy, Ranadhir; Van der Zee, P.) Giving reverse differentiation a helping hand. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 53–67. (Summary) **98k:65009** 65D25 (65N06)

Christidis, Theodore Philosophical and mathematical premises to the development of mechanics of Lagrange. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2107–2112. (*see* **98i:00030**) 01A50 (00A30, 01A55)

Christmann, Andreas High breakdown point estimators in logistic regression. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 79–89, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (*see* **98h:62004**) 62F35 (62F10)

Christodoulakis, T. (*with* Korfiatis, E.; Paschos, A.) Erratum: "New method for constructing valid Hamiltonians for class-B spacetimes and the quantization of the general type-V cosmology" [Phys. Rev. D(3) **54** (1996), no. 4, 2691–2698; MR 97k:83008]. *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5279–5280. 83C05 (83C45)

— (*with* Kofinas, G.; Korfiatis, E.; Paschos, A.) Isolation of the true degree of freedom and normalizable wave functions for the general type V cosmology. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 30–36. 81V17

Christodoulou, Demetrios Recent mathematical results in gravitational collapse. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 119–125, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83C57 (83C05)

Christoffersen, Peter F. (*with* Diebold, Francis X.) Optimal prediction under asymmetric loss. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 808–817. (Summary) **98m:62296** 62P20

Christoffersson, Jan Resampling the autocovariance estimator in stationary Gaussian processes. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1745–1766. (Summary) **98b:62157** 62M10 (62G09)

— A resampling method for regression models with serially correlated errors. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 1, 43–53. (Summary) **98g:62126** 62J05 (62G09)

Christofi, C. On the number of 6×7 double Youden rectangles. (English summary) *Ars Combin.* **47** (1997), 223–241. (Summary) **98h:05041** 05B15

Christofides, Louis N. (*with* Stengos, Thanasis; Swidinsky, Robert) On the calculation of marginal effects in the bivariate probit model. (English summary) *Econom. Lett.* **54** (1997), *no.* 3, 203–208. 62P20

Christofides, Panagiotis D. (*with* Daoutidis, Prodromos) Compensation of measurable disturbances for two-time-scale nonlinear systems. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 11, 1553–1573. (Iordan I. Slavov) **98a:93046** 93C70 (93D15)

— (*with* Daoutidis, Prodromos) Finite-dimensional control of parabolic PDE systems using approximate inertial manifolds. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 398–420. (Werner Horn) **98m:93058** 93C20 (34G20, 35K57)

Christofides, Tasos C. Rate of convergence in the strong law of large numbers for a class of U-statistics and von Mises statistics. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 225–231. (Summary) **98a:60031** 60F15 (60G42)

Christol, G. Trees and non-Archimedean topologies. (English and French summaries) *Trees* (*Versailles*, 1995), 123–131, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Summary) **98b:82011** 82B20 (82D30)

Christon, Mark A. A domain-decomposition message-passing approach to transient viscous incompressible flow using explicit time integration. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 329–352. 76M25

Christoph, Gerd (*with* Falk, Michael) A note on domains of attraction of p-max stable laws. (English summary) *Statist. Probab. Lett.* **28** (1996), *no.* 3, 279–284. (N. R. Mohan) **98a:60023** 60F05 (60G70, 62E20)

Christopher, C. J. (*with* Pearson, Jane Margaret; Lloyd, N. G.) Algorithmic derivation of centre conditions. (English summary) *SIAM Rev.* **38** (1996), *no.* 4, 619–636. (Henryk Żołądek) **98c:34050** 34C05 (34-04, 58F21)

Christopher, George (*with* Farach-Colton, Martin; Trick, Michael) The structure of circular decomposable metrics. (English summary) *Algorithms—ESA* '96 (*Barcelona*), 486–500, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Frank Werner) **98i:90072** 90C27 (68Q25)

Christopher, Peter R. (*with* Kennedy, John W.) Binomial graphs and their spectra. *Fibonacci Quart.* **35** (1997), *no.* 1, 48–53. (E. J. Farrell) **98d:05120** 05C75 (05C10, 05C50)

Christophersen, N. (*with* Kugiumtzis, D.; Lingjærde, O. C.) Regularized local linear prediction of chaotic time series. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 344–360. 58F40 (58F13)

Christophoridou, Ch. (*with* Tsagas, Grigorios T.; Synefaki, As.) Special rectilinear congruences. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 317–326, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Hans Sachs) **98f:53005** 53A05

Christou, Ioannis T. (*with* Meyer, Robert R.) Optimal and asymptotically optimal equi-partition of rectangular domains via stripe decomposition. (English summary) *Applied mathematics and parallel computing*, 77–95, *Physica, Heidelberg*, 1996. (*see* **98c:65006**) 90B12 (68M20)

— (*with* Yackel, Jonathan; Meyer, Robert R.) Minimum perimeter domain assignment. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 283–303. (Summary) **98j:90054** 90C27 (68M10, 90C35)

Christov, Christo I. (*with* Pontes, J.; Walgraef, D.; Velarde, M. G.) Implicit time splitting for fourth-order parabolic equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 209–224. (Summary) **98g:65076** 65M06 (76E15, 76M20)

— (*with* Marinov, Tchavdar T.) Method of variational imbedding for the inverse problem of boundary-layer thickness identification. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 1005–1022. (Summary) **98j:76117** 76M30 (49S05, 76D10, 76M20)

— (*with* Marinov, Tchavdar T.) Identification of heat-conduction coefficient via method of variational imbedding. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 109–116. 65M30 (35R30)

Christov, N. D. *see* **Khristov, Nikolaĭ D.**

Christov, Ognyan A note on the instability of spatially quasi-periodic states of the Ginzburg-Landau equation. (English summary) *Phys. Lett. A* **228** (1997), *no.* 1-2, 53–58. (Summary) **98b:35176** 35Q55 (82D55)

Chrobak, Marek (*with* Achlioptas, Dimitris; Noga, John) Competitive analysis of randomized paging algorithms. (English summary) *Algorithms—ESA* '96 (*Barcelona*), 419–430, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68094** 68Q25 (68N25)

— (*with* Larmore, Lawrence L.; Lund, Carsten; Reingold, Nick) A better lower bound on the competitive ratio of the randomized 2-server problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 79–83. (Summary) **98e:68098** 68Q25

— (*with* Kant, Goos) Convex grid drawings of 3-connected planar graphs. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 211–223. (Summary) **98a:68179** 68U05 (05C10, 05C85, 68R10)

— (*with* Larmore, Lawrence L.; Reingold, Nick; Westbrook, Jeffery) Page migration algorithms using work functions. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 124–157. (Summary) **98a:68094** 68Q25 (68M10, 68N25)

Chronowski, Antoni The interpretation and equivalence of the variety of n-groups. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 120–131. 20N15

Chruściel, Piotr T. (*with* Berger, Beverly K.; Isenberg, James; Moncrief, Vincent) Global foliations of vacuum spacetimes with T^2 isometry. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 117–148. (Alan D. Rendall) **98j:83005** 83C05 (58G16)

— (*with* Isenberg, James) On the stability of the differentiability of Cauchy horizons. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 2, 249–277. (Norbert Noutchegueme) **98j:83006** 83C05 (58G16)

— (*with* Beig, Robert) The isometry groups of asymptotically flat, asymptotically empty space-times with timelike ADM four-momentum. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 585–597. (Charles G. Torre) **98m:83013** 83C20 (83C30)

— On rigidity of analytic black holes. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 1–7. (Alan D. Rendall) **98j:83054** 83C57 (53C50)

— *see also* **Mathematics of gravitation, 98b:83003**

Chruściński, Dariusz (*with* Kijowski, Jerzy) A gauge-invariant theory of motion of charged test particles. (English summary) *Gravity, particles and space-time*, 29–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Adam Bechler) **98e:78003** 78A35 (83C10)

— (*with* Kijowski, Jerzy) Equations of motion of charged test particles from field equations. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2727–2733. (Summary) **98e:78004** 78A35

Chrysaphinou, Ourania (*with* Papastavridis, Stavros G.) A Poisson limit theorem on the number of appearances of a pattern in a Markov chain. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 92–98, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (A. N. Philippou) **98f:60010** 60C05 (60F05)

Chryssomalakos, Chryssomalis Remarks on quantum integration. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 1–25. (Tomasz Brzeziński) **98h:58010** 58B30 (16W30, 17B37, 81R50)

Chryssoverghi, I. (*with* Bacopoulos, A.; Kokkinis, B.; Coletsos, J.) Mixed Frank-Wolfe penalty method with applications to nonconvex optimal control problems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 311–334. (Summary) **98f:49036** 49M30 (90C48)

Chu, C.-H. *see* **Chu, Cho-Ho**

Chu, C. S. *see* **Chu, Chong-Sun**

Chu, Cho-Ho On the weak topology in operator algebras. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 304–309, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (*see* **98d:54001**) 46L05 (46B28, 46J10, 54G12)

— (*with* Hilberdink, Titus) The convolution equation of Choquet and Deny on nilpotent groups. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 1, 1–13. (Vadim A. Kaĭmanovich) **98c:43002** 43A05 (22E25)

— (*with* Mellon, Pauline) The Dunford-Pettis property in JB^*-triples. *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 515–526. (Yaakov Friedman) **98c:46146** 46L70

— (*with* Mellon, Pauline) JB^*-triples have Pełczyński's Property V. *Manuscripta Math.* **93** (1997), *no.* 3, 337–347. (Yaakov Friedman) **98f:46058** 46L70 (46B20)

— (*with* Bunce, L. J.) Real contractive projections on commutative C^*-algebras. *Math. Z.* **226** (1997), *no.* 1, 85–101. (Khristo N. Boyadzhiev) **98b:46080** 46L70 (46J99, 47D25)

Chu, Chong-Sun (*with* Ho, Pei-Ming; Zumino, Bruno) Non-abelian anomalies and effective actions for a homogeneous space G/H. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 1-2, 484–504. (Friedemann Brandt) **98b:81241** 81T50 (58Z05)

— (*with* Ho, Pei-Ming) Poisson algebra of differential forms. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 31, 5573–5587. (Raúl Ibáñez) **98m:58001** 58A10 (58F05, 70H05)

— (*with* Au, C. K.; Chow, Chi-Keung) Comment: "A new efficient method for calculating perturbation energies using functions which are not quadratically integrable": regularization and justification [J. Phys. A **29** (1996), no. 5, L129–L132] by L. Skála and J. Čížek. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4133–4136. 81Q15 (81Q05)

— (*with* Au, C. K.; Chow, Chi-Keung) Perturbative scattering phase shifts in one dimension: closed form results. (English summary) *Phys. Lett. A* **226** (1997), *no.* 6, 327–331. (M. Znojil) **98b:81041** 81Q15 (34E10, 81U05)

— (*with* Bonora, L.) On the string interpretation of M(atrix) theory. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 142–150. (Richard A. Corrado) **98i:81192** 81T30

Chu, Chung-Kuang (*with* Jonckheere, Edmond A.) Bounded flatness in Q-triangulated regular N-simplexes. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 177–198. (Peter Kunkel) **98i:65042** 65H10 (57Q15)

Chu, D. L. (*with* Hung, Y. S.) Relationships between discrete-time and continuous-time algebraic Riccati inequalities. (English summary) *Linear Algebra Appl.* **270** (1998), 287–313. (M. M. Konstantinov) **98m:93035** 93B36 (15A45, 65F30)

Chu, Dong Sheng (*with* Song, Shen Min; Peng, Xiao Hong) Design of a robust output feedback controller. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 92–96. 93D21 (93B36)

— (*with* Li, Ruisheng) Stability of Kalman filter for time-varying systems with correlated noise. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 475–487. (Marco Ferrante) **98i:93083** 93E11 (93E15)

— (*with* Zhao, Ping Xi; Liu, Xi Hua; Yang, Guang Xue) Parameter identification and dynamic prediction for nonlinear stochastic systems. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 2, 253–258. 93E12 (93C55)

Chu, Hanyou (*with* Santana, Ademir E.; Khanna, F. C.; Chang, Yia-Chung) Thermal Lie groups, classical mechanics, and thermofield dynamics. (English summary) *Ann. Physics* **249** (1996), *no.* 2, 481–498. (J. A. Brooke) **98c:81079** 81R05 (81T99)

Chu, Jian (*with* Su, Hong Ye; Wang, Yang) State observer design for single-input, single-output nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 702–707. 93B07 (93C10)

— (*with* Wang, Jing Cheng; Su, Hong Ye; Jin, Jian Xiang; Yu, Li[1]) Robust H_∞ control of uncertain linear time-varying systems with delays. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 257–262. 93B36 (93C30)

— (*with* Yu, Li[1]) Robust stabilization of uncertain systems with delayed input. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 277–280. 93D09

— (*with* Wang, Jingcheng; Su, Hong Ye) Robust H^∞ controller design for linear uncertain systems with delayed state and control. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 517–524. 93B36 (93C30)

Chu, Jiang-Hsing (*with* Chang, Kaijung; Tan, Yan Huat; Varol, Yaakov L.) A study on interleaving versus segmentation. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 319–324. 68Q25

Chu, Jong-Suk (*with* Lee, Byung Soo) Some generalizations of Heilpern's result. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 135–148. 54H25 (54A40)

Chu, Kenneth C.-K. (*with* Farell, Cesar E.; Fee, Greg J.; McLenaghan, R. G.) General relativity calculations in Maple. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 195–199, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Sergey I. Tertychniy) **98e:83001** 83–04 (83–08)

Chu, Lei Lei (*with* Chen, Sui Yang) A topological structure on spaces of models and the existence of fixed points of monotone inference operators. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 28–33. (Fuxing Shen) **98h:03043** 03C52 (03C57, 03D70)

Chu, Liang-Ju On Mosco's convergence of optimization problems. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 207–224. (T. Zolezzi) **98b:49021** 49K40 (49J27)

— (*with* Lin, Tsai-Shiu) Existence and asymptotical convergence of solutions of variational inequalities. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 1–18. (Julian Revalski) **98a:49014** 49J40 (47H19, 47N10)

Chu, M. S. (*with* Miller, Robert L.[2]; Greene, John M.; Lin-Liu, Y. R.; Waltz, R. E.) Noncircular, finite aspect ratio, local equilibrium model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 973–978. 76X05

Chu, Moody T. (*with* Funderlic, Robert E.; Golub, Gene H.) On a variational formulation of the generalized singular value decomposition. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1082–1092. (Roy Mathias) **98h:15016** 15A18 (65F15)

— On the optimal consistent approximation to pairwise comparison matrices. (English summary) *Linear Algebra Appl.* **272** (1998), 155–168. (Jin Yun Yuan) **98m:65067** 65F30

Chu, S. Kathy (*with* Kshirsagar, Anant M.) Correlation coefficient between two variables when the data set consists of observations on twins. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 43–48. 62H20 (62P10)

Chu, S. S. *see* **Chu, Shiaw Shinn**

Chu, Sang-Hoon (*with* Ha, In-Joong) Control of hybrid step motors via a simplified linearization technique. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1143–1167. 93B18 (93C30)

Chu, Shiaw Shinn (*with* Lee, Ki Dong) Euler transonic solutions over finite wings using the Clebsch decomposition method. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 4, 299–309. 76M25 (76H05)

Chu, Shih-I Nonperturbative approaches to atomic and molecular multiphoton (half-collision) processes in intense laser fields. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics (Minneapolis, MN, 1995)*, 343–387, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Summary) **98i:81291** 81V80

— (*with* Raković, M. J.) Phase-space structure of a new integrable system related to hydrogen atoms in external fields. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 733–753. (Summary) **98f:81373** 81V45 (58F40)

Chu, Sun-Chin (*with* Chow, Bennett) A geometric approach to the linear trace Harnack inequality for the Ricci flow. *Math. Res. Lett.* **3** (1996), *no.* 4, 549–568. (Ben Andrews) **98c:53050** 53C21 (35K55, 58G11)

Chu, W. M. Construction of irreducible polynomials using cubic transformation. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 15–19. (S. D. Cohen) **98i:11103a** 11T06 (13M10)

— *see also* **Scheerhora, A., 98i:11103b**

Chu, Wen Chang Symmetry on q-Pfaff-Saalschutz-Sheppard-series. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 31–39. (Peter Paule) **98k:33033** 33D20 (01A30)

— The extended Cesàro theorem and hypergeometric asymptotics. (English summary) *Analysis* **16** (1996), *no.* 4, 379–384. (R. N. Kalia) **98k:33002** 33B20 (05A19, 33D20)

— Many identities from one. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 1, 113–118 (1997). (R. K. Raina) **98f:05015** 05A19 (05A10)

— Hypergeometric series and the Riemann zeta function. *Acta Arith.* **82** (1997), *no.* 2, 103–118. (Bruce C. Berndt) **98m:11089** 11M06 (11Y60, 33C45)

— Inverse series relations, formal power series and Blodgett-Gessel's type binomial identities. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 265–279. (Volker Strehl) **98k:05010** 05A19 (33D45)

— Distributivity and decomposability on the lattices satisfying the chain conditions. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 95–97. (Summary) **98f:06005** 06B05 (06D05)

— Determinant, permanent, and MacMahon's master theorem. (English summary) *Linear Algebra Appl.* **255** (1997), 171–183. (Natalia Bebiano) **98b:15003** 15A15

Chu, Wen Song The cardinality of the intersection of simple directed triple systems with $\lambda = 2$. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 92–96. (Summary) **98j:05026** 05B07

Chu, Xiao Lin Solutions of abstract functional-differential equations with infinite delay. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 575–580. (Summary) **98i:34119** 34K30

Chu, Yu Ming (*with* Cheng, Jin Fa) Quasidisks and modulus monotone domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 4, 556–560. (Shan Shuang Yang) **98a:30026** 30C65

— (*with* Cheng, Jin Fa; Gu, Guang Ze) Teichmüller extremal mappings of an angular region. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 5, 10–14, 19. (Summary) **98i:30056** 30F30

— (*with* Cui, Qin Lin) A conformally invariant metric and its application. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 4, 7–11. 30C65

— (*with* Zhou, Hai Yin) Two sufficient and necessary conditions for quasidisks. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 51–55. (Summary) **98g:30039** 30C62

— (*with* Zhou, Hai Yin) Boundary extensions of homeomorphisms with integrable dilatation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 39–43. 30C75

Chua, Leon O. (*with* Nekorkin, V. I.; Kazantsev, V. B.) Chaotic attractors and waves in a one-dimensional array of modified Chua's circuits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 7, 1295–1317. (Yong-In Kim) **98d:58119** 58F13

— (*with* Wu, Chai Wah) A more rigorous proof of complete stability of cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 370–371. (Summary) **98a:94048** 94C05 (34K20, 92B20, 93D05)

— (*with* Suykens, Johan A. K.; Curran, Paul F.; Vandewalle, Joos) Robust nonlinear H_∞ synchronization of chaotic Lur'e systems. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 891–904. (*see* **98g:93002**) 93B36 (58F40, 93D15)

— (*with* Kolumbán, Géza; Kennedy, Michael Peter) The role of synchronization in digital communications using chaos. I. Fundamentals of digital communications. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 927–936. (*see* **98g:93002**) 93D15 (94A05, 94A12)

— (*with* Yang, Tao[2]) Impulsive stabilization for control and synchronization of chaotic systems: theory and application to secure communication. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 976–988. (*see* **98g:93002**) 94A60 (58F40, 93C57, 93D15)

— (*with* Takahashi, Norikazu) A new sufficient condition for nonsymmetric CNN's to have a stable equilibrium point. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1092–1095. (Summary) **98i:94050** 94C05 (94A12)

— (*with* Itoh, Makoto; Wu, Chai Wah) Communication systems via chaotic signals from a reconstruction viewpoint. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 275–286. (Summary) **98e:94003** 94A12 (34C15, 34D45, 58F13, 58F40)

— (*with* Kapitaniak, Tomasz) Strange nonchaotic trajectories on torus. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 423–429. (Yong Nian Huang) **98e:58114** 58F12 (58F13)

— (*with* Yang, Tao[2]) Impulsive control and synchronization of nonlinear dynamical systems and application to secure communication. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 645–664. 93C57 (34A37, 34H05, 93B51, 94A05)

— (*with* Curran, Paul F.) Absolute stability theory and the synchronization problem. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1375–1382. 34D99 (93D05)

— (*with* Suykens, Johan A. K.) n-double scroll hypercubes in 1-D CNNs. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1873–1885. 58F40 (58F13, 92B20)

— (*with* Zhong, Guo-Qun; Wu, Chai Wah) Torus-doubling bifurcations in four mutually coupled Chua's circuits. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 2, 186–193. (Summary) **98j:94041** 94C05 (58F14, 58F40)

— *see also* **Visions of nonlinear science in the 21st century, 98f:58007**

Chua, Seng-Kee Weighted Sobolev inequalities of mixed norm. (English summary) *Real Anal. Exchange* **21** (1995/96), *no.* 2, 555–571. (S. K. Vodop'yanov) **98a:26018** 26D10 (46E35)

Chua, Seng-Kiat (*with* Ling, San) On the rational cuspidal subgroup and the rational torsion points of $J_0(pq)$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 8, 2255–2263. (Chandrashekhar Khare) **98f:11065** 11G18 (11F33)

Chuah, Meng-Kiat The generalized Borel-Weil theorem and cohomology of $G/(P, P)$. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 117–131. (William M. McGovern) **98d:22013** 22E47 (57R22)

Chuan, Shi *see* **Shi, Chuan**

Chuan, Wai-fong Subwords of the golden sequence and the Fibonacci words. (English summary) *Applications of Fibonacci numbers, Vol. 6 (Pullman, WA, 1994)*, 73–84, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98c:11013** 11B39

Chuang, Chin-Shan Ergodic properties of conditional forecast functions of stable systems. (English summary) *Econom. Theory* **8** (1996), *no.* 3, 521–530. (Vladimir Boure) **98b:90037** 90A19 (60F99, 90A20)

Chuang, Chitai *see* **Zhuang, Qi Tai**

Chuang, Gene C.-H. (*with* Kuo, C.-C. Jay) Cartoon animation and morphing with wavelet curve descriptor. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 423–447. 94A12 (94A11)

Chuang, Isaac L. (*with* Nielsen, M. A.) Programmable quantum gate arrays. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 2, 321–324. (Summary) **98f:81051** 81P99

— (*with* Gershenfeld, Neil A.) Bulk spin-resonance quantum computation. (English summary) *Science* **275** (1997), *no.* 5298, 350–356. (V. Ya. Kreinovich) **98h:81013** 81P99 (68Q75)

Chuang, Rwei-ju (*with* Mendell, Nancy R.) The approximate null distribution of the likelihood ratio test for a mixture of two bivariate normal distributions with equal covariance. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 631–648. (Summary) **98g:62104** 62H10

Chuang, Tyng-Ruey (*with* Goldberg, Benjamin) A syntactic method for finding least fixed points of higher-order functions over finite domains. (English summary) *J. Funct. Programming* **7** (1997), *no.* 4, 357–394. (Summary) **98h:68026** 68N15 (68Q55)

Chuang, Yuan-Chuan (*with* Chang, I-Shou; Hsiung, Chao A.) Applications of a frailty model to sequential survival analysis. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 127–138. (Richard A. Johnson) **98k:62146** 62L15 (62E20)

Chuanqing, Gu *see* **Gu, Chuan Qing**

Chuaqui, M. (*with* Osgood, Brad) General univalence criteria in the disk: extensions and extremal function. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 101–132. (A. Z. Grinshpan) **98m:30009** 30C35 (30C62)

Chubarev, Alexander I. Robust set operations on polyhedral solids: a fixed precision approach. (English summary) *Internat. J. Comput. Geom. Appl.* **6** (1996), *no.* 2, 187–204. (Summary) **98b:52016** 52B55 (68U05)

Chubarikov, V. N. (*with* Arkhipov, G. I.; Sadovnichiĭ, V. A.[1]) On the uniform convergence of functions in the sense of Heine. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 3, 298–299. (Władysław Wilczyński) **98c:26007** 26B05 (54A20)

— (*with* Arkhipov, G. I.; Sadovnichiĭ, V. A.[1]) On uniform pointwise convergence in a base of sets. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 70–72; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 49–51. (From the text) **98f:54006** 54A20

Chubenko, V. A. (*with* Konstantinov, A. Yu.) Multiparameter differential equations with periodic coefficients. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 27–31. (Brian D. Sleeman) **98j:34038** 34B24 (34L05, 47E05)

Chubuk, I. (*with* Luchinski, P.; Motspan, D.; et al.) Vladimir Aleksandrovich Andrunakievich. (Russian) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 1–2. 01A70

Chuburin, Yu. P. On small perturbations of the Schrödinger operator with a periodic potential. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 443–453; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 351–359. (Mihai Pascu) **98i:81050** 81Q15 (35J10)

Chuda, Takashi (*with* Sano, Osamu) Instability of the water-ferrofluid interface and the formation of labyrinthian structure in a Hele-Shaw cell. (English summary) *Forma* **9** (1994), *no.* 1, 37–50. 76E25 (76D99)

Chudinovich, I. Yu. (*with* Dol′berg, M. D.) Passage to the limit with respect to a small parameter in Green matrices of singularly perturbed differential operators. (Russian) *Functional analysis and applied mathematics (Russian)*, 13–23, 212, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 35B25 (35A08, 47N20)

— The solvability of the first main mixed problem of the theory of elasticity in a complete scale of Sobolev spaces. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 129–138. (Jiří Nedoma) **98k:35188** 35Q72 (73C35)

— The solvability of the second main mixed problem of the theory of elasticity in a complete scale of Sobolev spaces. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 356–362. (Jiří Nedoma) **98k:35189** 35Q72 (73C35)

— (*with* Lytova, A.) Boundary equations in mixed problems for the Maxwell system. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 53–57, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35Q60 (65N38, 78A25)

— Solvability of boundary equations in mixed problems for the Maxwell system. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 25–27. (Michael V. Shapiro) **98k:35186** 35Q60 (78A45)

— The solvability of boundary equations in mixed problems for non-stationary Maxwell system. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 425–448. (W. E. Williams) **98f:78007** 78A25 (35Q60)

Chudnovsky, A. (*with* Preston, Serge) Geometrical modeling of material aging. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 22–36. (Gérard A. Maugin) **98a:73002** 73B05 (49S05, 73F05, 73G25, 73V25)

Chudnovsky, D. V. (*with* Chudnovsky, G. V.) Approximation methods in transcendental function computations and some physical applications. (English summary) *Number theory (New York, 1991–1995)*, 43–69, *Springer, New York*, 1996. (Summary) **98c:65036** 65E05 (11Y16)

— (*with* Chudnovsky, G. V.) Diophantine approximation problem arising from VLSI design. *Number theory (New York, 1991–1995)*, 71–90, *Springer, New York*, 1996. (Igor E. Shparlinski) **98d:11166** 11Y99 (11J71, 68Q35)

Chudnovsky, G. V. (*with* Chudnovsky, D. V.) Approximation methods in transcendental function computations and some physical applications. (English summary) *Number theory (New York, 1991–1995)*, 43–69, *Springer, New York*, 1996. (Summary) **98c:65036** 65E05 (11Y16)

— (*with* Chudnovsky, D. V.) Diophantine approximation problem arising from VLSI design. *Number theory (New York, 1991–1995)*, 71–90, *Springer, New York*, 1996. (Igor E. Shparlinski) **98d:11166** 11Y99 (11J71, 68Q35)

Chudov, I. I. (*with* Paskonov, V. M.; Rusakov, S. V.) A difference spline scheme for Navier-Stokes equations in natural variables. (English summary) Numerical methods in mathematical physics. *Comput. Math. Model.* **8** (1997), *no.* 2, 112–117. (Summary) **98d:65112** 65M06 (76D05, 76M20)

Chueshev, V. V. (*with* Chuesheva, N. A.) ★ Справочное пособие по теории функций комплексного переменного. Часть I. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part I] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 170 *pp.* (Publisher's description) **98a:30002a** 30-01

— (*with* Chuesheva, N. A.) ★ Справочное пособие по теории функций комплексного переменного. Часть II. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part II] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 164 *pp.* (Publisher's description) **98a:30002b** 30-01

— (*with* Chuesheva, N. A.) ★ Справочное пособие по теории функций комплексного переменного. Часть III. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part III] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 141 *pp.* (Publisher's description) **98a:30002c** 30-01

Chuesheva, N. A. (*with* Chueshev, V. V.) ★ Справочное пособие по теории функций комплексного переменного. Часть I. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part I] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 170 *pp.* (Publisher's description) **98a:30002a** 30-01

— (*with* Chueshev, V. V.) ★ Справочное пособие по теории функций комплексного переменного. Часть II. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part II] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 164 *pp.* (Publisher's description) **98a:30002b** 30-01

— (*with* Chueshev, V. V.) ★ Справочное пособие по теории функций комплексного переменного. Часть III. (Russian. Russian summary) [A reference manual in the theory of functions of a complex variable. Part III] *Kemerovskiĭ Gosudarstvennyĭ Universitet, Kemerovo*, 1993. 141 *pp.* (Publisher's description) **98a:30002c** 30-01

Chueshov, I. D. A quasistatic variant of a system of von Kármán equations. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 149–167. (Piotr Biler) **98h:73040** 73D35 (35J60, 35Q72, 73K12, 73K15)

— (*with* Boutet de Monvel, Louis; Rezunenko, A. V.) Long-time behaviour of strong solutions of retarded nonlinear P.D.E.s. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1453–1474. (Ludwik Byszewski) **98h:35229** 35R10 (35B40, 47H20, 58F39, 73K70)

— On the finiteness of the number of determining elements for von Kármán evolution equations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 10, 855–865. (John Albert) **98m:35202** 35Q72 (35B40, 47H20, 73D35, 73K12)

Chugainova, A. P. (*with* Kulikovskiĭ, A. G.) On conditions for the decay of a nonlinear wave in a viscoelastic medium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 315–323. (Summary) **98j:73044** 73F15 (73D15, 73D35)

Chugunov, V. A. (*with* Ibragimov, N. Kh.; Aksenov, A. V.; Baikov, V. A.; Gazizov, R. K.; Meshkov, A. G.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 2. Applications in engineering and physical sciences. Edited by Ibragimov. *CRC Press, Boca Raton, FL*, 1995. xx+546 *pp. ISBN* 0-8493-2864-0 (Juha Pohjanpelto) **98b:58175** 58G35 (00A05, 00A20, 00A79, 22E70, 34A34, 35A30, 58–02)

— (*with* Ėskin, L. D.; Tonkonog, S. L.) Methods of group analysis in dynamics of non-Newtonian fluid. *Algebra and analysis (Kazan, 1994)*, 31–40, *de Gruyter, Berlin*, 1996. (H. Ramkissoon) **98k:76004** 76A05 (76M99)

Chui, Charles K. (*with* Li, Chun[3]) Multivariate interpolating wavelets. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 9–16, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Gerlind Plonka) **98e:41044** 41A65 (41A05, 42C15)

— (*with* Stöckler, Joachim; Ward, Joseph D.) Analytic wavelets generated by radial functions. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 1, 95–123. (Summary) **98f:42028** 42C15 (41A30, 65D07)

— (*with* Lian, Jian-ao) A study of orthonormal multi-wavelets. (English summary) Selected keynote papers presented at 14th IMACS World Congress (Atlanta, GA, 1994). *Appl. Numer. Math.* **20** (1996), *no.* 3, 273–298. (Summary) **98g:42051** 42C15 (65D15)

— (*with* Wang, Jian Zhong[2]) High-order orthonormal scaiing functions and wavelets give poor time-frequency localization. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 415–426. (Summary) **98g:42050** 42C15

— (*with* Chen, Guanrong) ★ Discrete H^∞ optimization. (English summary) With applications in signal processing and control systems. Second edition. Springer Series in Information Sciences, 26. *Springer-Verlag, Berlin*, 1997. xiv+261 *pp. ISBN* 3-540-61959-3 (From the preface) **98c:93002** 93-02 (47N70, 93B36, 94A12)

— (*with* Bittner, Kai; Prestin, Jürgen) Multivariate cosine wavelets. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 29–43, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Summary) **98g:42049** 42C15

— (*with* Wang, Jian Zhong[2]) A study of asymptotically optimal time-frequency localization by scaling functions and wavelets. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 193–216. (Gilbert Walter) **98b:42047** 42C15

— (*with* Shi, Xianliang) Characterization of biorthogonal cosine wavelets. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 559–575. (Peter R. Massopust) **98m:42047** 42C15

— (*with* Shi, Xianliang) Inequalities on matrix-dilated Littlewood-Paley energy functions and oversampled affine operators. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 1, 213–232. (Margit Rösler) **98b:42046** 42C15

— (*with* Hong, Dong) Swapping edges of arbitrary triangulations to achieve the optimal order of approximation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1472–1482. (Rong Qing Jia) **98h:41036** 41A63 (41A15, 65D07)

— *see also* **Approximation theory, 98d:41001** *and* **98d:41002**

Chui, W. K. (*with* Song, Yu[2]; Glimm, James; Lindquist, W. Brent; Tangerman, F. M.) Applications of front tracking to the simulation of resin transfer molding. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 47–60. (Summary) **98c:76114** 76T05 (73K20, 76A99, 76M25)

— (*with* Glimm, James; Tangerman, F. M.; Jardine, A. P.; Madsen, J. S.; Donnellan, T. M.; Leek, R.) Process modeling in resin transfer molding as a method to enhance product quality. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 714–727. (Summary) **98j:76141** 76T05 (73K20, 76S05)

Chulko, E. V. Weakly nonlinear boundary value problems with degenerate impulse action. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 29–34 (1997). (Summary) **98j:34028** 34B15 (34A37)

Chulko, M. M. (*with* Mikhaĭlyuk, I. A.; Zakhartseva, V. D.) Computational methods of adaptive type on hydraulic networks. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 12, 79–96. (Summary) **98k:76096** 76M20 (65M55)

— (*with* Samarskiĭ, A. A.; Mazhukin, V. I.; Matus, P. P.) Invariant difference schemes for equations of mathematical physics in nonstationary coordinate systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1691–1700, 1727; *translation in Differential Equations* **32** (1996), *no.* 12, 1685–1694 (1997). (Summary) **98j:65060** 65M06

Chulko, S. M. (*with* Boĭchuk, A. A.) Generalized Green operator for a linear quasiperiodic problem. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 450–457, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 451–458. (Summary) **98c:34075** 34C27 (34B27)

Chukwu, E. N. Control of nonlinear delay differential economic systems in $W_2^{(1)}$. *Advances in nonlinear dynamics*, 157–170, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (N. N. Petrov) **98m:34159** 34K35 (90A16, 93B05)

— Control of nonlinear delay-differential equations in $W_2^{(1)}$ with economic applications. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 1, 17–59. (Joseph D. Cole) **98j:90017** 90A16 (34K35, 93B05, 93C10)

— (*with* Simpson, H. C.) The solution operator in $W_p^{(1)}$ for systems of neutral type. *Nonlinear Anal.* **29** (1997), *no.* 10, 1173–1195. (Vera Winitzky de Spinadel) **98f:34120** 34K40 (34K05, 34K35, 47N20, 90A16)

Chulichkov, A. I. (*with* Marchenko, S. V.; Chulichkova, N. M.) The reliability of the interpretation of a measurement described by a linear model with a priori information of a statistical nature. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 116–127. 62J99

Chulichkova, N. M. (*with* Marchenko, S. V.; Chulichkov, A. I.) The reliability of the interpretation of a measurement described by a linear model with a priori information of a statistical nature. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 116–127. 62J99

Chuluundorj, B. On the Specht property of certain V-spaces. *J. Mong. Math. Soc.* **1** (1997), *no.* 1, 21–27. (Viktor V. Vdovin) **98a:16030** 16R10 (16S15)

Chumakov, S. M. (*with* Klimov, A. B.) Quantizing operator and transition from semiclassical to quantum optics. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 136–143, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81V80 (81S30)

— (*with* Atakishiev, N. M.; Rivera, A. L.; Wolf, Kurt Bernardo) Polynomial Hamiltonians and evolution in quantum and optical phase spaces. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 166–171, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81062** 81S30 (81V80)

— (*with* Klimov, A. B.) Gaussians on the circle and quantum phase. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 7–14. (K. Wódkiewicz) **98h:81140** 81V80

— (*with* Rivera, A. L.; Atakishiev, N. M.; Wolf, Kurt Bernardo) Evolution under polynomial Hamiltonians in quantum and optical phase spaces. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 876–889. (K. Wódkiewicz) **98e:81094** 81S30 (81V80)

Chumillas, Valerio (*with* Borobia, Alberto) *-graphs of vertices of the generalized transitive tournament polytope. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 49–57. (Summary) **98k:05076** 05C20

Chun, Eung Jin (*with* Choi, Kiwoon; Kim, Hyungdo) Supersymmetry hierarchy problems and anomalous horizontal U(1) symmetry. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 89–98. (Summary) **98b:81284** 81V22 (81T60)

Chun, Jang-Ho (*with* Lee, Jong-Sook) On complete Lie superalgebras. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 323–334. (Darin R. Stephenson) **98a:17007** 17B05

Chung, Choon Kyung (*with* Choi, Yong Bin) On a stability theorem for hyperexact operators. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 959–965. (Manuel González) **98b:47016** 47A53

Chung, Chung Choo (*with* Hauser, John E.) Nonlinear H_∞ control around periodic orbits. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 127–137. (Summary) **98c:93035** 93B36 (93C10)

Chung, D. I. (*with* Lee, Ho Woo; Lee, S. S.; Chae, K. C.) Server unavailability reduces mean waiting time in some batch service queuing systems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 559–567. (Summary) **98a:90050** 90B22

Chung, Dong Myung (*with* Kang, Si Ho; Kang, Soon Ja) A class of conditional analytic Feynman integrals. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 175–190. (Summary) **98e:28018** 28C20

— (*with* Chung, Tae Su; Ji, Un Cig) A simple proof of analytic characterization theorem for operator symbols. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 421–436. (A. V. Uglanov) **98g:46055** 46F25 (46G12)

— (*with* Chung, Tae Su) First order differential operators in white noise analysis. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2369–2376. (Jan Ubøe) **98j:46040** 46G05 (35R15, 46F25, 60G20)

Chung, Fan R. K. Laplacians of graphs and hypergraphs. (English summary) A joint AMS-MAA lecture presented in Orono, ME, August 1991. AMS-MAA Joint Lecture Series. *American Mathematical Society, Providence, RI*, 1992. 1 *videocassette (NTSC; 1/2 inch; VHS)* (60 *min.*); *sd., col. ISBN* 0-8218-8064-0 (Editors) **98c:05107** 05C50 (58G99)

— (*with* Grigor'yan, Alexander; Yau, Shing-Tung) Eigenvalues and diameters for manifolds and graphs. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 79–105, *Internat. Press, Cambridge, MA*, 1997. (Robert Brooks) **98h:58206** 58G99

— (*with* Yau, Shing-Tung) A combinatorial trace formula. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 107–116, *Internat. Press, Cambridge, MA*, 1997. (Robert Brooks) **98i:58222** 58G11

— (*with* Hutchinson, Joan P.) A tribute to Herbert S. Wilf in celebration of his 65th birthday. The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Foreword, approx.* 5 *pp.* (*electronic*). (*see* **98b:00038**) 01A70

— (*with* Graham, Ronald L.) Random walks on generating sets for finite groups. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 7, *approx.* 14 *pp.* (*electronic*). (Martin V. Hildebrand) **98c:60087** 60J15 (20P05, 60B15)

— Open problems of Paul Erdős in graph theory. *J. Graph Theory* **25** (1997), *no.* 1, 3–36. (Ralph Faudree) **98e:05027** 05Cxx

— *see also* **Festschrift: Wilf, Herbert S., 98b:00038**

Chung, Fu-lai (*with* Lee, Tong) A new look at solving a system of fuzzy relational equations. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 343–353. (Summary) **98a:04005** 04A72

Chung, H.-J. *see* **Chung, Heung-Jin**

Chung, Habong (*with* No, Jong-Seon; Lee, Hwan-Keun; Song, Hong-Yeop; Yang, Kyeongcheol) Trace representation of Legendre sequences of Mersenne prime period. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2254–2255. (Bernard J. M. Smeets) **98g:94029** 94A60 (11B50)

— (*with* No, Jong-Seon; Yang, Kyeongcheol; Song, Hong-Yeop) New construction for families of binary sequences with optimal correlation properties. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1596–1602. (Summary) **98f:11134** 11T71

Chung, Heung-Jin (*with* Belytschko, Ted) An error estimate in the EFG method. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 91–100. (Summary) **98m:73077** 73V05

Chung, I. J. (*with* Keum, Jong Hae) On fundamental groups of fibered complex manifolds. *Michigan Math. J.* **44** (1997), *no.* 2, 293–298. (G. K. Sankaran) **98e:32032** 32G05 (32C18)

Chung, Ilyong An analysis of parallel routing algorithm on hypercube network by employing covering problem and assignment problem. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 475–483. (From the summary) **98j:68042** 68Q22 (05C85, 68M10)

— (*with* Kim, Seongyeol) Application of the special Latin square to a parallel routing algorithm on a recursive circulant network. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 141–147. 68M10 (05B15)

Chung, J. K. *see* **Zhong, Ju Kang**

Chung, Jae Myung (*with* Cho, Young Hyun) Application of Gröbner bases to some rational curves. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 595–601. 13P10 (13C40)

Chung, Jaeyoung (*with* Chung, Soon-Yeong; Kim, Dohan) Translation invariant and positive definite bilinear Fourier hyperfunctions. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 545–551. (From the introduction) **98g:46054** 46F15

Chung, Jukang *see* **Zhong, Ju Kang**

Chung, Kuo-Liang A fast algorithm for stereo matching. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 57–61. 68U10

— Efficient parallel manipulations of IBB coded images on meshes with multiple broadcasting. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 3, 275–282. (Summary) **98f:68274** 68U10 (68Q22)

— An improved algorithm for solving the banded cyclic string-to-string correction problem. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 275–279. 68T10

Chung, Myung Jin (*with* Choi, Han Ho) Robust observer-based H_∞ controller design for linear uncertain time-delay systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1749–1752. 93B36 (93B07)

— (*with* Choi, Han Ho) Comments on: "Quadratic stabilization of continuous time systems with state-delay and norm-bounded time-varying uncertainties" [IEEE Trans. Automat. Control **39** (1994), no. 10, 2135–2139] by M. S. Mahmoud and N. F. Al-Muthairi. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1740–1742. 93D21

Chung, S. K. (*with* Pani, A. K.; Park, M. G.) Convergence of finite difference method for the generalized solutions of Sobolev equations. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 515–531. (Meng Zhao Qin) **98f:65085** 65M06 (65M12)

Chung, Sang-Cho (*with* Lee, Dong Soo) Asymptotic sequences and generalized fractions. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 69–75. (L. J. Ratliff, Jr.) **98c:13014** 13B22 (13C13)

Chung, Si-Kit A lattice semi-norm on $L^\infty(0,1)$ related to weak $L^p(0,1)$. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 5, *suppl.*, 118–126. (W. A. J. Luxemburg) **98c:46056** 46E30

— A note on the dual of weak L^p. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 254–256. (Henryk Hudzik) **98k:46045** 46E30 (46B42)

Chung, Soon-Yeong (*with* Chung, Jaeyoung; Kim, Dohan) Translation invariant and positive definite bilinear Fourier hyperfunctions. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 545–551. (From the introduction) **98g:46054** 46F15

— A regularity theorem for the initial traces of the solutions of the heat equation. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 1039–1046. (L. Skrzypczak (Zbl 881.46026)) **98k:35082** 35K05 (35B65, 46E35)

— Uniqueness in the Cauchy problem for the heat equation. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 49–56, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35K15 (35D05, 35K05, 46F10)

— (*with* Kim, Dohan; Lee, Sungjin) Characterization for Beurling-Björck space and Schwartz space. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3229–3234. (Benito Juan González Rodríguez) **98c:46074** 46F05 (42B10)

Chung, Tae Su (*with* Chung, Dong Myung; Ji, Un Cig) A simple proof of analytic characterization theorem for operator symbols. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 421–436. (A. V. Uglanov) **98g:46055** 46F25 (46G12)

— (*with* Chung, Dong Myung) First order differential operators in white noise analysis. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2369–2376. (Jan Ubøe) **98j:46040** 46G05 (35R15, 46F25, 60G20)

Chung, Tze-Dan (*with* Lee, Jen-Chi) Superfield form of discrete gauge states in $\hat{c} = 1$ 2d supergravity. (English summary) *Z. Phys. C* **75** (1997), *no.* 3, 555–558. (Summary) **98f:81247** 81T30 (81T60)

Chung, Won-Sang (*with* Kang, Hye-Jung; Choi, Nan-Young) Theory of q-deformed forms. I. q-deformed alternating tensor and q-deformed wedge product. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1069–1091. (Axel Schüler) **98a:58011** 58B30 (17B37, 81R50)

— Theory of q-deformed forms. II. q-deformed differential forms and q-deformed Hamilton equation. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1093–1106. (Axel Schüler) **98a:58012** 58B30 (17B37, 81R50)

— Theory of q-deformed forms. III. q-deformed Hodge star, inner product, adjoint operator of exterior derivative, and self-dual Yang-Mills equation. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1107–1116. (Axel Schüler) **98a:58013** 58B30 (17B37, 81R50)

— (*with* Klimyk, A. U.) On position and momentum operators in the q-oscillator algebra. (English summary) *J. Math. Phys.* **37** (1996), *no.* 2, 917–932. (Summary) **98a:81085** 81S05 (33D90, 81R50)

— $\mathrm{gl}_q(n)$-covariant multimode oscillators and q-symmetric states. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 38, 2993–2999. (Choo Hiap Oh) **98a:81076** 81R50

— Non-commutative quantum dynamics in N dimensions. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 359–366. (Andrzej Sitarz) **98h:81048** 81R50 (17B37, 58B30)

— q-oscillators with q a root of unity. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 367–371. (Andrzej Sitarz) **98h:81049** 81R50 (17B37)

— Two-dimensional noncommutative quantum dynamics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1959–1964. (Summary) **98i:81101** 81R50

— The $\mathrm{gl}_{\sqrt{q}}(n)$-covariant oscillators and q-deformed quantum mechanics in n dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2148–2153. (Marcelo R. Ubriaco) **98f:81123** 81R50 (81Q05, 81S05)

— (*with* Suzuki, Takashi[2]) On representations of $U_q\mathrm{osp}(1|2)$ when q is a root of unity. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3230–3237. (Shlomo Gelaki) **98i:17014** 17B37 (17B10, 81R50)

— Coherent states of $\mathrm{su}_q(2)$-covariant oscillators. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1427–1434. (Apostolos Vourdas) **98j:81126** 81R30 (81R50)

— Z_p-graded point particle theory. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 1, 91–95. (Summary) **98f:81086** 81Q99 (81R50)

— (*with* Lee, Jungjai) The cyclic representations of q-boson algebra in terms of Z^N algebra. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 5, 825–829. 81R50

Chung, Yong Moo (*with* Lee, Kyung Bok) Genericity for C^1 maps on surfaces. *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 18–20, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F10 (58F15)

Chung, Young-Bok The Szegö kernel function of a multiply connected domain. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 355–361. (Fritz Haslinger) **98d:30013** 30C40 (46E20)

Chung, Younshik (*with* Dey, Dipak K.) Bayes factor for change-point problem with conjugate prior. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 577–588. (Summary) **98a:62033** 62F15

— (*with* Kim, Chansoo) Simultaneous estimation of the multivariate normal mean under balanced loss function. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1599–1611. (Summary) **98k:62006** 62C15 (62H12)

— (*with* Lee, Sangjeen) The generalized ratio-of-uniform method. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 409–415. (Summary) **98d:65010** 65C10

Chun-Li, Shen *see* **Shen, Chun Li**

nguyen hong Chuong *see* **Nguyen Hong Chuong**

Chuong, Nguyen Hong *see* **Nguyen Hong Chuong**

Chupakhin, A. P. On barochronic gas motions. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 624–626; *translation in Phys. Dokl.* **42** (1997), *no.* 2, 101–104. (From the text) **98a:76067** 76N10 (76N15)

Chuprunov, A. N. The convergence of the random lines defined by observations of a stochastic process. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan′, 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 381–392. (Barbara H. Szyszkowicz) **98f:60064** 60F17 (60G50)

Churbanov, A. G. (*with* Vabishchevich, Petr N.; Pavlov, A. N.) Numerical methods for solving nonstationary Navier-Stokes equations in natural variables on partially staggered grids. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 4, 85–114. (Reinhard Redlinger) **98m:76114** 76M20 (65M06, 76D05)

Churbanova, N. V. (*with* Tishkina, L. V.; Chetverushkin, B. N.) A procedure for accelerating the process of solving a linear system of equations of the α-β method. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 2, 37–42. 65F30 (65F10)

Church, Alonzo ★ Introduction to mathematical logic. (English summary) Reprint of the second (1956) edition. Princeton Landmarks in Mathematics. Princeton Paperbacks. *Princeton University Press, Princeton, NJ*, 1996. x+378 *pp. ISBN* 0-691-02906-7 (Ignacio Angelelli) **98g:03001** 03–01 (01A75, 03A05, 03B10, 03B15)

— Intensional semantics. *The philosophy of language*, 53–60, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— *see also* **Sieg, Wilfried**, **98i:03055** *and* **Pareja Heredia, Diego et al.**, **98j:01037b**

Church, P. T. (*with* Timourian, J. G.) Global structure for nonlinear operators in differential and integral equations. I. Folds. *Topological nonlinear analysis, II (Frascati, 1995)*, 109–160, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (Ali Lari-Lavassani) **98e:58039** 58E05 (35–02, 45Gxx, 47H15, 47N20, 58C27)

— (*with* Timourian, J. G.) Global structure for nonlinear operators in differential and integral equations. II. Cusps. *Topological nonlinear analysis, II (Frascati, 1995)*, 161–245, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (Ali Lari-Lavassani) **98e:58040** 58E05 (35–02, 45Gxx, 47H15, 47N20, 58C27)

Churchill, Richard C. (*with* Kummer, Martin P.) The annular twist mapping of the restricted three-body problem. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 249–268. (Carles Simó) **98m:70024** 70H05 (58F22, 58F27, 70F07)

Churilov, A. N. (*with* Gelig, A. Kh.) Stability and oscillations in pulse-modulated systems: a review of mathematical approaches. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 287–320 (1997). (A. Halanay) **98f:34049** 34C15 (34D99, 34K10, 45M10, 93D10, 94A12)

Churilov, S. M. (*with* Shukhman, I. G.) Effect of slight stratification on the nonlinear spatial evolution of a weakly unstable wave in a free shear layer. (English summary) *J. Fluid Mech.* **343** (1997), 197–233. (Yuri N. Skiba) **98k:76037** 76D33 (73E20, 76E30, 76V05)

Churin, Yu. V. Necessary and sufficient conditions for the existence of singular periodic solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 714–715, 720; *translation in Differential Equations* **33** (1997), *no.* 5, 720–722 (1998). (Summary) **98k:34069** 34C25 (58F09)

Chur-Jen, Chen *see* **Chen, Chur-jen**

Churkin, E. B. (*with* Orlov, M. V.) Numerical solution of the synthesis problem for the time-optimality problem with a control that is linear with respect to input. The program package SINTEZ-2.0. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 2, 35–39, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 2, 50–55. 49M05 (49K15)

Churkin, V. A. Wide ends of finitely-generated groups. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 1–4. (Summary) **98g:20059** 20F32

Chuyanov, V. A. (*with* Fimin, N. N.) Applied aspects of Wigner formalism. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 85–109. (Woodford W. Zachary) **98k:81136** 81S30

— (*with* Fimin, N. N.) Branching of solutions of kinetic equations, and shock waves. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 10, 120–124. 82C40 (35L67, 35Q99, 45K05, 47H15, 76L05, 76P05)

Chvála, František Differential properties of the Boltzmann collision term. (English summary) *Acta Tech. CSAV* **41** (1996), *no.* 5, 459–475. (Kiyoshi Asano) **98e:76099** 76P05 (82C40)

Chvalina, Jan (*with* Chvalinová, Ludmila) State hypergroups of automata. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 105–119. (Heinrich Seidel) **98e:68185** 68Q70 (20N20)

— Relational product of join spaces determined by quasi-orderings. (English summary) *Algebraic hyperstructures and applications (Prague, 1996)*, 15–23, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20 (05C99)

— The Iséki-type characterization of certain regular ordered semigroups. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 261–276. (Juturu Hanumanthachari) **98g:06023** 06F05

Chvalinová, Ludmila (*with* Chvalina, Jan) State hypergroups of automata. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 105–119. (Heinrich Seidel) **98e:68185** 68Q70 (20N20)

Chvátal, V. Resolution search. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 1, 81–99. (N. I. Yanev) **98c:90077** 90C09 (90C10)

— (*with* Cao, Dasong; Hoffman, Alan J.; Vince, Andrew) Variations on a theorem of Ryser. (English summary) *Linear Algebra Appl.* **260** (1997), 215–222. (Summary) **98c:15053** 15A36 (05B05)

Chwa, Kyung-Yong (*with* Lee, Jae-Ha; Shin, Chan-Su) Directed Hamiltonian packing in d-dimensional meshes and its application (extended abstract). (English summary) *Algorithms and computation (Osaka, 1996)*, 295–304, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68R10 (68M10)

— (*with* Yoo, Kwan-Hee; Kim, Dae Seoung; Shin, Sung Yong) Linear-time algorithms for finding the shadow volumes from a convex area light source. (English summary) *Algorithmica* **20** (1998), *no.* 3, 227–241. (Summary) **98k:68172** 68U05

— (*with* Shin, Chan-Su; Kim, Sung Kwon; Kim, Sung-Ho) Algorithms for drawing binary trees in the plane. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 133–139. 68U05 (68R10)

Chwang, A. T. (*with* Chan, A. T.) Interaction between porous media and wave motion. (English summary) *Annual review of fluid mechanics, Vol. 30, 53–84, Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:76016** 76B15 (76S05, 86A05)

Chyakanavichyus, V. *see* **Čekanavičius, Vydas**

Chyan, Ding-Kuo (*with* Tu, Shih-Tong) Solutions of some nth order ordinary and partial differential equations by means of fractional calculus. (English summary) *J. Fract. Calc.* **10** (1996), 51–65. (Anatoly Kilbas) **98h:34007** 34A20 (26A33, 34A25, 35C05)

— (*with* Tu, Shih-Tong; Srivastava, Hari M.) Certain operators of fractional calculus and their applications associated with logarithmic and digamma functions. (English summary) *J. Fract. Calc.* **10** (1996), 67–73. (Summary) **98i:26013** 26A33 (30B40, 33C05)

— (*with* Tu, Shih-Tong; Wu, Tsu-Chen) Method for finding $D_z^{-n}\log^k z$ via fractional calculus and Psi functions. (English summary) *J. Fract. Calc.* **11** (1997), 67–73. (S. L. Kalla) **98g:26010** 26A33 (33B15)

— (*with* Tu, Shih-Tong; Luo, Wen-Chieh) Some solutions to the nonhomogeneous Jacobi equations via fractional calculus operator N^β method. (English summary) *J. Fract. Calc.* **12** (1997), 51–60. (K. S. Miller) **98j:26004** 26A33 (33C05)

— (*with* Tu, Shih-Tong; Chin, Erh-Tsung) Solutions of Gegenbauer and Tchebycheff equations via operator N^μ method. (English summary) *J. Fract. Calc.* **12** (1997), 61–69. (Summary) **98k:26012** 26A33 (33C20)

Chyba, M. (*with* Agrachev, A. A.; Bonnard, B.; Kupka, Ivan A. K.) Sub-Riemannian sphere in Martinet flat case. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 377–448 (*electronic*). (Fernand Pelletier) **98i:53059** 53C22 (53C20)

Ciabattoni, Agata (*with* Asperti, Andrea) Effective applicative structures. (English summary) *Category theory and computer science (Cambridge, 1995)*, 81–95, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:03097** 03D75 (03B40, 68Q05)

— (*with* Asperti, Andrea) On completability of partial combinatory algebras. (English summary) *Theoretical computer science (Ravello, 1995)*, 162–175, *World Sci. Publishing, River Edge, NJ*, 1996. (Martin W. Bunder) **98d:03067** 03G25 (03B40, 68Q05)

— (*with* Luchi, Duccio) Two connections between linear logic and Łukasiewicz logics. (English summary) *Computational logic and proof theory (Vienna, 1997)*, 128–139, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:03032** 03B50 (03F50, 03G25)

Ciach, Leszek Jan Dual of non-commutative $L^{p\infty}$-spaces with $0 < p \le 1$. *Demonstratio Math.* **30** (1997), *no.* 2, 353–358. (Steve Wright) **98j:46070** 46L50 (47D40)

— On the placing of balls in cells. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 585–587. 05A05

Ciafaloni, Marcello N-body solutions of $(2+1)$-gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 127–133, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C99
— (*with* Valtancoli, P.) $(2+1)$-gravity solutions with spinning particles. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 955–976. (Michael O. Katanaev) **98d:83066** 83C99
— N-body solutions of $(2+1)$-gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 323–325. (Michael O. Katanaev) **98i:83061** 83C99
Cialdea Mayer, Marta (*with* Cerrito, Serenella) Hintikka multiplicities in matrix decision methods for some propositional modal logics. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 138–152, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B45 (03B25)
— (*with* Cerrito, Serenella) A polynomial translation of S4 into T and contraction-free tableaux for S4. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 287–300 (*electronic*). (Zoran Ognjanović) **98a:03021** 03B45 (03B35)
Ciampa, Maurizio Affine response functions for the stress in incompressible elastic points. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 135–142 (1997). (Cesare Davini) **98e:73002** 73B05
Ciampi, Antonio (*with* Lechevallier, Yves) Statistical models as building blocks of neural networks. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 991–1009. (Michel Benaïm) **98f:62179** 62H30 (68T05, 92B20)
Ciampoli, Marcello (*with* Augusti, Giuliano) Multi-objective optimal allocation of resources to increase the seismic reliability of highways. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 131–164. 90B20 (90C29, 90C90)
dezani-Ciancaglini, Mariangiola *see* **Dezani-Ciancaglini, Mariangiola**
Ciancarini, P. (*with* Mazza, M.; Pazzaglia, L.) A logic for a coordination model with multiple spaces. (English summary) *Sci. Comput. Programming* **31** (1998), *no.* 2-3, 231–261. 68Q60
Cianchi, Andrea Continuity properties of functions from Orlicz-Sobolev spaces and embedding theorems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 575–608. (Abdelmoujib Benkirane) **98i:46026** 46E35
— Boundedness of solutions to variational problems under general growth conditions. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1629–1646. (Andrzej Swiech) **98k:49052** 49N60 (35B05, 35J85)
Cianci, Roberto (*with* Albeverio, Sergio; Khrennikov, Andrei) On the spectrum of the p-adic position operator. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 881–889. (Evgenii I. Zelenov) **98g:81027** 81Q10 (11Z05, 47N50, 47S10)
— (*with* Albeverio, Sergio; Khrennikov, Andrei) On the Fourier transform and the spectral properties of the p-adic momentum and Schrödinger operators. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5767–5784. (Evgenii I. Zelenov) **98j:81054** 81Q05 (11Z05)
Cianciaruso, F. (*with* De Pascale, Espedito) Discovering the algebraic structure on the metric injective envelope of a real Banach space. (English summary) *Topology Appl.* **78** (1997), *no.* 3, 285–292. (Paweł Domański) **98i:46007** 46B04 (46A16, 46M10, 54E35)
Ciancio, Vincenzo (*with* Verhás, J.) A thermodynamic theory for sound propagation in an aerosol. (English summary) *Rend. Sem. Mat. Messina Ser. II* **16** (1993), *no.* 2, 43–54. (Summary) **98d:76148** 76Q05
— On the propagation of discontinuity waves in media with dielectric relaxation phenomena. (English summary) *Afrika Mat.* (3) **4** (1994), 89–100. (Summary) **98b:78021** 78A40
— (*with* Dolfin, Marina; Ván, Peter) Thermodynamical theory of dia- and paramagnetic materials. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 125–135. (Summary) **98j:82071** 82D40
Ciarlet, Patrick, Jr. (*with* Lamour, F.) On the validity of a front-oriented approach to partitioning large sparse graphs with a connectivity constraint. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 193–214. (J. Richard Lundgren) **98d:90128** 90C35 (05C40, 68R10)
— (*with* Lamour, F.) Does contraction preserve triangular meshes? (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 201–223 (1997). (Bradley W. Jackson) **98e:05028** 05C10
— (*with* Assous, Franck) Une caractérisation de l'orthogonal de $\Delta(H^2(\Omega)\cap H_0^1(\Omega))$ dans $L^2(\Omega)$. (English and French summaries) [A characterization of the orthogonal of $\Delta(H^2(\Omega)\cap H_0^1(\Omega))$ in $L^2(\Omega)$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 605–610. (Zinovi Sheftel) **98i:35030** 35J05 (46E35)
— (*with* Sonnendrücker, Eric) A decomposition of the electromagnetic field—application to the Darwin model. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1085–1120. (Tom Roberts) **98j:78010** 78A25 (35J45, 35Q60, 78–08)
— (*with* Zou, Jun) Finite element convergence for the Darwin model to Maxwell's equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 2, 213–249. (Pierre Hillion) **98b:78001** 78–08 (35Q60, 65M60)
— (*with* Chan, Tony F.; Szeto, W. K.) On the optimality of the median cut spectral bisection graph partitioning method. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 943–948. (G. P. Bhattacharjee) **98d:65044** 65F15 (05C50, 65Y20, 68R10)
Ciarlet, Philippe G. (*with* Busse, Stéphane; Miara, Bernadette) Justification d'un modèle linéaire bi-dimensionnel de coques "faiblement courbées" en coordonnées curvilignes. (English and French summaries) [Justification of a two-dimensional linear model of shallow shells in curvilinear coordinates] *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 409–434. (Juan M. Viaño Rey) **98e:73086** 73K15 (35Q72, 73C02)
— *see also* **Handbook: Numerical analysis, 98b:65001** *and* **98i:65001**
Ciarletta, Michele Existence and continuous dependence results in the dynamical theory of piezoelectricity. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 1, 59–66. (Gérard A. Maugin) **98a:73050** 73R05 (34G10, 35Q60)
— Thermoelasticity of nonsimple materials with thermal relaxation. (English summary) *J. Thermal Stresses* **19** (1996), *no.* 8, 731–748. (Nigel H. Scott) **98a:73009** 73B30 (73C15, 73D15)
Ciatti, Paolo Solvable extensions of pseudo-H-type Lie groups. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 681–696. (A. H. Dooley) **98k:22039** 22E30 (53C50)
— Spherical distributions on harmonic extensions of pseudo-H-type groups. (English summary) *J. Lie Theory* **7** (1997), *no.* 1, 1–28. (Michael Cowling) **98f:22011** 22E30 (43A80, 43A90, 58G30)
Cibils, Claude (*with* Rosso, Marc) Algèbres des chemins quantiques. (French summary) [Quantum path algebras] *Adv. Math.* **125** (1997), *no.* 2, 171–199. (Walter R. Ferrer Santos) **98c:16048** 16W30 (17B37)
— Half-quantum groups at roots of unity, path algebras, and representation type. *Internat. Math. Res. Notices* **1997**, *no.* 12, 541–553. (Edward S. Letzter) **98j:17009** 17B37 (16G60)
Cibils, M. (*with* Jauslin, H. R.; Govin, M.) Convergence of iterative methods in perturbation theory. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 151–159, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Dario Bambusi) **98f:58173** 58F30 (34C50, 34D10, 34L40)
— (*with* Govin, M.; Jauslin, H. R.) Convergence of KAM iterations for counterterm problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 419–427. 58F27
de Cicco, Virginia *see* **De Cicco, Virginia**
de felice Ciccoli, M. *see* **De Felice Ciccoli, M.**
Ciccoli, Nicola Quantization of co-isotropic subgroups. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 123–138. (Yvette Kosmann-Schwarzbach) **98k:58252** 58H15 (16W30, 58B30, 81R50)
Çiçek, Mustafa Remarks on some weak forms of continuity and Baire spaces. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 91–98. 54C08 (54E52)
— A note on two weak forms of open mappings and Baire spaces. *Demonstratio Math.* **30** (1997), *no.* 3, 585–590. (From the introduction) **98k:54016** 54C08
— On the inverse image of Baire spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 423–432. (Summary) **98c:54027** 54E52 (54C99)
Cicekli, Ilyas Abstract MetaProlog engine. (English summary) *J. Logic Programming* **34** (1998), *no.* 3, 169–199. (Summary) **98h:68036** 68N17
Cicerone, Serafino (*with* Frigioni, Daniele; Nanni, Umberto; Pugliese, Francesco) Counting edges in a dag. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 85–100, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68055** 68P05 (05C85, 68R10)
— (*with* Parisi-Presicce, Francesco) On the complexity of specification morphisms. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 239–248. (Summary) **98f:68183** 68Q65
Cichocki, B. (*with* Felderhof, B. U.) Long-time translational and rotational Brownian motion in two dimensions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 989–1003. (Summary) **98g:82044** 82C41
Cichoń, Dariusz Notes on unbounded Toeplitz operators in Segal-Bargmann spaces. (English summary) *Ann. Polon. Math.* **64** (1996), *no.* 3, 227–235. (Som Datt Sharma) **98d:47060** 47B35 (46E20)
— (*with* Stochel, Jan) On Toeplitz operators in Segal-Bargmann spaces. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 35–43. (Summary) **98d:47061** 47B35
Cichon, E. A. (*with* Weiermann, Andreas) Term rewriting theory for the primitive recursive functions. (English summary) *Ann. Pure Appl. Logic* **83** (1997), *no.* 3, 199–223. (Friedrich Otto) **98b:03057** 03D25
Cichoń, Jacek (*with* Kraszewski, Jan) On some new ideals on the Cantor and Baire spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1549–1555. (Valeriu Anisiu) **98j:54052** 54E52 (04A20, 28A05)
Cicogna, G. Convergent normal forms of symmetric dynamical systems. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6021–6028. (Dario Bambusi) **98k:58199** 58F36 (34C20, 34D10)
— (*with* Gaeta, Giuseppe) Lie-point symmetries and nonlinear dynamical systems. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 101–113. (P. G. L. Leach) **98g:34016** 34A25 (34A26, 34C20)
Cicognani, Massimo (*with* Zanghirati, Luisa) Quasi-linear weakly hyperbolic equations with Gevrey-Levi conditions. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1995), 5–31 (1997). (Nickolai A. Lar'kin) **98c:35120** 35L75 (35B65)
— The propagation of the analytic regularity in nonlinear hyperbolic equations with constant multiplicity. Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 167–174 (1997). (Peter R. Popivanov) **98h:35172** 35L75 (35B30)
— (*with* Zanghirati, Luisa) Analytic regularity for solutions of nonlinear weakly hyperbolic equations. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 643–679. (Olena V. Roman) **98k:35136** 35L75 (35A20, 35B65, 35S30)
— A remark about hyperbolic equations with log-Lipschitz coefficients. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 284–288. (A. V. Perzhan) **98h:35146** 35L45
Cicuta, Giovanni M. (*with* Molinari, Luca; Montaldi, Emilio; Stramaglia, Sebastiano) A matrix model for random surfaces with dynamical holes. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 3769–3785. (Summary) **98f:82075** 82B44 (82B41)
Ciebiera, Krzysztof (*with* Malinowski, Adam) A note on broadcasting with linearly bounded transmission faults in constant degree networks. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 150–156, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68M10 (68M15)
Ciecierska, Grażyna Analytic formulae for determinant systems for a certain class of Fredholm operators in Banach spaces. *Demonstratio Math.* **30** (1997), *no.* 2, 387–402. (Harro Heuser) **98j:47023** 47A53
Čiegis, Raimondas Numerical methods for a forward-backward heat equation. *Calculus of variations, applications and computations* (*Pont-à-Mousson*, 1994), 55–66, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (Bernard Bialecki) **98a:65122** 65M12 (65M06)
— (*with* Čiegis, Remigijus; Mellunas, M.) On a general scheme for studying difference schemes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 281–302; *translation in Lithuanian Math. J.* **36** (1996), *no.* 3, 224–240 (1997). (G. W. Hedstrom) **98c:65151** 65M12 (65M06)
— On the accuracy of a posteriori error estimates for finite element schemes. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 74–78, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65L60

— On the rate of convergence of combined iterative methods of variational type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 4, 115–125. (Summary) **98k:65016** 65F10

Čiegis, Remigijus (*with* Čiegis, Raimondas; Meilunas, M.) On a general scheme for studying difference schemes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 281–302; *translation in Lithuanian Math. J.* **36** (1996), *no.* 3, 224–240 (1997). (G. W. Hedstrom) **98c:65151** 65M12 (65M06)

Cielecka, I. (*with* Woźniak, Cz.; Woźniak, Małgorzata) Internal variables in macrodynamics of two-dimensional periodic cellular media. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 1, 3–19. 73B99

Cieliebak, Kai Pseudo-holomorphic curves and Bernoulli shifts. (English summary) *Contact and symplectic geometry* (*Cambridge*, 1994), 118–130, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Vittorio Coti Zelati) **98c:58055** 58F05 (34C37, 58D10, 58F13, 70H05)

Cieplak, M. (*with* Maritan, A.; Banavar, J. R.; Colaiori, F.; Flammini, A.; Giacometti, A.; Rinaldo, A.; Rodriguez-Iturbe, I.) Statistical mechanics of river networks. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 262–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 86A05 (82–02, 82B99)

Ciepliński, Krzysztof On bounded solutions of a generalized Schilling's problem. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 19–26. (Summary) **98m:39059** 39B12

— General solution of a linear functional equation of even order. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 93–100. (Summary) **98m:39060** 39B12

Cierco, Christine (*with* Mangin, Brigitte) Construction of confidence intervals for quantitative trait loci location in F_2 populations. (English and French summaries) *Biometrics* **52** (1996), *no.* 4, 1268–1282. (Byron J. T. Morgan) **98d:62190** 62P10 (92D10)

Ciesielska, Danuta (*with* Ciesielski, Krzysztof[1]) On polyhedra with centrally symmetric faces. (English summary) *J. Natur. Geom.* **10** (1996), *no.* 2, 149–156. (Egon Schulte) **98a:52017** 52B12

Ciesielski, Krzysztof *see* **Ciesielski, Krzysztof[2]**

Ciesielski, Krzysztof[1] The Jordan curve-type theorems for the funnel in 2-dimensional semiflows. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 69–78, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54096** 54H20 (34C35, 54F65, 55M99, 57N05)

— (*with* Ciesielska, Danuta) On polyhedra with centrally symmetric faces. (English summary) *J. Natur. Geom.* **10** (1996), *no.* 2, 149–156. (Egon Schulte) **98a:52017** 52B12

Ciesielski, Krzysztof[2] (*with* Dikranjan, Dikran N.) Uniformly approachable maps. *Topology Proc.* **20** (1995), 75–89. (Michael Tkačenko) **98e:54018** 54C35 (54C10)

— (*with* Balcerzak, Marek; Natkaniec, Tomasz) Sierpiński-Zygmund functions that are Darboux, almost continuous, or have a perfect road. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 29–35. (Ryszard J. Pawlak) **98k:26005** 26A15 (03E50, 03E65)

— (*with* Maliszewski, Aleksander) Cardinal invariants concerning bounded families of extendable and almost continuous functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 471–479. (Zbigniew Grande) **98d:26001** 26A21 (54C08)

— (*with* Wojciechowski, Jerzy) Sums of connectivity functions on $\mathbf{R}^n$. (English summary) *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 406–426. (K. D. Magill, Jr.) **98k:26023** 26B40 (54C30)

Ciesielski, Z. (*with* Kamont, Anna) On the fractional Levy's random field on the sphere. (English summary) *East J. Approx.* **1** (1995), *no.* 1, 111–123. (N. M. Zinchenko) **98a:60063** 60G60 (60G15, 60G17)

Cieślak, Waldemar Regular polygons circumscribing a convex body. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 263–268. (A. Florian) **98k:52004** 52A10

Cieslik, Dietmar Using Hadwiger numbers in network design. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 59–77, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (H. T. Lau) **98m:05042** 05C05 (52A21, 68R10, 90C35)

Cieśliński, Jan The Darboux-Bianchi transformation for isothermic surfaces. Classical results versus the soliton approach. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 1–28. (Udo Hertrich-Jeromin) **98c:53003** 53A05 (35Q58, 58F37)

— A generalized formula for integrable classes of surfaces in Lie algebras. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4255–4272. (Dmitri Korotkin) **98k:58106** 58F07 (35Q58, 53A05)

Cifarelli, Donato Michele (*with* Regazzini, Eugenio) De Finetti's contribution to probability and statistics. (English summary) *Statist. Sci.* **11** (1996), *no.* 4, 253–282. (Henry E. Kyburg, Jr.) **98b:01033** 01A70 (60–03, 62–03)

hernández Cifre, M. A. *see* **Hernández Cifre, M. A.**

Cifuentes, J. C. *see* **Cifuentes Vásquez, José Carlos**

Cifuentes, Patricio (*with* García-Cuerva, Jose; Hernández, Eugenio; Soria, Fernando; Torrea Hernández, José Luis) Introduction [dedication to Miguel de Guzmán, on the occasion of his 60th birthday]. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, i–v. (Editors) **98k:01020** 01A70

Cifuentes Vásquez, José Carlos (*with* Sette, A. M.; Mundici, Daniele) Cauchy completeness in elementary logic. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1153–1157. (S. R. Kogalovskiĭ) **98f:03037** 03C52 (54E15, 54H99)

Cigić, V. (*with* Golemac, A.) On the group A_5 as an automorphism group on triplanes of order 16. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 173–177. (Summary) **98k:20006** 20B25 (05B05, 05B25)

Cigler, J. Operatormethoden für q-Identitäten. IV. Eine Klasse von q-Gould-Polynomen. [Operator methods for q-identities. IV. A class of q-Gould polynomials] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 169–174 (1997). (Axel Riese) **98m:05012** 05A19 (05A30)

— Operatormethoden für q-Identitäten. V. q-Catalan-Bäume. [Operator methods for q-identities. V. q-Catalan trees] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 175–182 (1997). (Axel Riese) **98m:05013** 05A19 (05A15, 05A30)

Cignoli, Roberto The mathematical works of António Monteiro. (Spanish) *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics* (*Portuguese*) (*São Paulo*, 1997), 139–148, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A70

— (*with* Mundici, Daniele) An elementary proof of Chang's completeness theorem for the infinite-valued calculus of Łukasiewicz. (English summary) *Studia Logica* **58** (1997), *no.* 1, 79–97. (I. Strazdiņš) **98a:03033** 03B50 (03G20, 06F20, 90C25, 94B60)

Cigola, M. (*with* Beccacece, F.) Increasing maps. (English summary) *Optimization* **35** (1995), *no.* 4, 293–299. (Summary) **98j:26008** 26B35

— (*with* Li Calzi, M.) Ordinally quasiconcave functions. (English summary) *Optimization* **40** (1997), *no.* 1, 25–39. (Jean-Pierre Crouzeix) **98c:90183** 90C48 (90C29)

Ciliberto, Ciro (*with* Lopez, Angelo Felice; Miranda, Rick) Some remarks on the obstructedness of cones over curves of low genus. *Higher-dimensional complex varieties* (*Trento*, 1994), 167–182, *de Gruyter, Berlin*, 1996. (Fyodor L. Zak) **98i:14006** 14C05 (14B07, 14J10)

— (*with* Chiantini, Luca; Di Gennaro, Vincenzo) On the genus of projective curves verifying certain flag conditions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 3, 701–732. (Summary) **98g:14028** 14H45

— The bicanonical map for surfaces of general type. *Algebraic geometry—Santa Cruz* 1995, 57–84, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Caryn Werner) **98m:14040** 14J29

— (*with* Mendes Lopes, Margarida) On surfaces of general type with $K^2 = 2\chi - 2$ and nontrivial torsion. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 313–329. (Caryn Werner) **98h:14044** 14J29

— Giuseppe Tallini: A few personal memories and Tallini's papers on differential geometry. *Results Math.* **32** (1997), *no.* 3-4, 241–247. 01A70 (53–03)

— (*with* Catanese, Fabrizio; Mendes Lopes, Margarida) On the classification of irregular surfaces of general type with nonbirational bicanonical map. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 275–308. (C. A. M. Peters) **98h:14043** 14J29 (14J25)

— *see also* **Demailly, Jean-Pierre et al., 98h:32001**

Cilleruelo, Javier (*with* Jiménez-Urroz, Jorge) Lattice points on hyperbolas. (English summary) *J. Number Theory* **63** (1997), *no.* 2, 267–274. (Hartmut Menzer) **98d:11119** 11P21 (11R04)

Cima, Anna (*with* van den Essen, Arno; Gasull, Armengol; Hubbers, Engelbert; Mañosas, Francesc) A polynomial counterexample to the Markus-Yamabe conjecture. (English summary) *Adv. Math.* **131** (1997), *no.* 2, 453–457. (Gary H. Meisters) **98k:34084** 34D05 (58F10)

— (*with* Gasull, Armengol; Mañosas, Francesc) Limit cycles for vector fields with homogeneous components. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 3, 281–287. (Noel G. Lloyd) **98c:34042** 34C05 (58F21)

— (*with* Gasull, Armengol; Mañosas, Francesc) A polynomial class of Markus-Yamabe counterexamples. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 85–100. (Gary H. Meisters) **98h:34088** 34C35 (34D99, 58F12, 93D20)

— (*with* Gasull, Armengol; Mañosa, Víctor; Mañosas, Francesc) Algebraic properties of the Liapunov and period constants. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 471–501. (Carmen Chicone) **98k:34044** 34C05 (34C99)

Cima, Joseph A. Some open questions concerning Gelfer functions and Cauchy transforms. *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **1** (1995), 9–11. (T. H. MacGregor) **98g:30065** 30E20 (30C45)

— (*with* Derrick, William R.; Chen, Shaohua) Oscillatory radial solutions of semilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 425–445. (Jann-Long Chern) **98g:35067** 35J60 (34A12, 34C10, 35B05)

— (*with* Matheson, Alec L.) Essential norms of composition operators and Aleksandrov measures. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 59–64. (Paul Bourdon) **98e:47047** 47B38 (30D55, 47A30, 47B07)

— (*with* Matheson, Alec L.) Cauchy transforms and composition operators. *Illinois J. Math.* **42** (1998), *no.* 1, 58–69. (John E. McCarthy) **98k:42028** 42B30 (30D55, 47B38)

Cimatti, A. (*with* Giunchiglia, Fausto; Weyhrauch, Richard W.) A many-sorted natural deduction. (English summary) *Comput. Intelligence* **14** (1998), *no.* 1, 134–149. (Summary) **98k:03027** 03B35 (68T15)

Cimatti, Giovanni An example of bifurcation and non-uniqueness in electrohydrodynamics. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 165–175. (Iuliana Oprea) **98i:76098** 76W05 (76E25)

— Global attractors in electrohydrodynamics. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 9, 885–904. (Alain Miranville) **98k:76146** 76W05 (34G20, 35B40, 35Q35, 47H20)

Cimikowski, Robert An analysis of heuristics for graph planarization. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 49–73. 65C10 (05C85)

Činčura, Juraj Tensor products in categories of topological spaces. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 111–122. (Summary) **98b:18012** 18D15 (58B30)

Cingolani, Silvia (*with* Ambrosetti, Antonio; Badiale, Marino) Semiclassical states of nonlinear Schrödinger equations with bounded potentials. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 155–160. (Xian Guo Geng) **98e:35150** 35Q55 (81Q05)

— (*with* Ambrosetti, Antonio; Badiale, Marino) Semiclassical states of nonlinear Schrödinger equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 285–300. (Nakao Hayashi) **98k:35172** 35Q55 (81Q05, 81Q20)

Cinnella, P. (*with* Yevi, G.; Zhuang, Xinglai) On parallelizing a groundwater pollution simulator. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 313–325. (*see* **98g:00021**) 76M25 (76S05)

Cinquini, C. (*with* Lombardi, Marco) Anti-optimization technique to include uncertainties in structural optimization problems. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1033–1050. (*see* **98b:49004**) 73K40 (49Q15)

Cinquini, Silvio On hyperbolic systems of several independent variables. (Italian) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 523–526. 35L40

Cintioli, Patrizio (*with* Silvestri, Riccardo) Revisiting a result of Ko. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 4, 189–194. (Summary) **98a:68065** 68Q15

— (*with* Silvestri, Riccardo) Helping by unambiguous computation and probabilistic computation. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 2, 165–180. (Gerhard Lischke) **98d:68073** 68Q15 (03D15)

Ciobanu, B. (*with* Agop, Marcel) Some physical implications of a special Lagrange metric in the relativistic optics. *Tensor (N.S.)* **57** (1996), *no.* 3, 217–225. (Tadashi Aikou) **98k:53020** 53B40 (53B50)

Ciobanu, Gabriel On the three- and four-valued logics in programming languages. *Mathematical linguistics and related topics*, 53–63, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68N15 (03B50)

— Synchronization and nondeterminism. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 15–22. (Summary) **98h:68068** 68Q10 (06F05)

Ciocâlău, R. *see* **Chokalau, R. P.**

Cioclu, Costel (*with* Bârbosu, Dan) A problem of construction. *Octogon Math. Mag.* **5** (1997), *no.* 1, 64. 51M15

Cioczek-Georges, R. (*with* Mandelbrot, Benoît B.) Alternative micropulses and fractional Brownian motion. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 143–152. (Albert Benassi) **98d:60076** 60G18 (60F05, 60G15)

Cioffi, Francesca An observation about the computation of the Hilbert function applied to the conductor of points. (Italian. English and Italian summaries) *Ricerche Mat.* **44** (1995), *no.* 2, 449–457 (1996). (Aldo Conca) **98i:13056** 13P99 (14Q99)

Cioffi, John M. (*with* Wesel, Richard D.) Achievable rates for Tomlinson-Harashima precoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 824–831. 94A05

Cioni, G. (*with* Colagrossi, A.; Miola, A.) Deduction and abduction using a sequent calculus. *Advances in the design of symbolic computation systems*, 198–216, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (Ralph W. Wilkerson) **98m:03019** 03B35 (68Q40)

Cioranescu, Doina (*with* Donato, Patrizia) On a Robin problem in perforated domains. (English summary) *Homogenization and applications to material sciences (Nice*, 1995), 123–135, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dietrich Göhde) **98m:35009** 35B25 (35B27, 35J25)

— (*with* Murat, François) A strange term coming from nowhere [MR 84e:35039a; MR 84e:35039b]. *Topics in the mathematical modelling of composite materials*, 45–93, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 35B27 (73B27)

— (*with* Amrouche, Chérif) On a class of fluids of grade 3. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 1, 73–88. (Antonín Novotný) **98d:76005** 76A05 (35Q35)

— *see also* **Homogenization and applications to material sciences, 98d:35002**

Ciorba, Viorica A query answering algorithm for Łukaszewicz' general open default theory. (English summary) *Logics in artificial intelligence (Évora*, 1996), 208–223, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T27 (03B70)

Ciotti, Ornella (*with* Parisi-Presicce, Francesco) Closure properties of context-free hyperedge replacement systems. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia*, 1996), 101–113, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68R10 (68Q42)

Cipolla, Michele *see* **Carbone, Luciano et al., 98c:01022**

perelli Cippo, Claudio *see* **Perelli Cippo, Claudio**

Cipriani, Fabio Dirichlet forms and Markovian semigroups on standard forms of von Neumann algebras. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 259–300. (C. J. K. Batty) **98i:46067** 46L50 (31C25, 47D07)

Cipriani, Piero (*with* Di Bari, Maria) Dynamical behaviour of Bianchi IX models in a Finsler geometrical approach to chaos. (English summary) *General relativity and gravitational physics (Rome*, 1996), 407–411, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C20 (53B40, 58F13)

— (*with* Di Bari, Maria; Boccaletti, Dino; Pucacco, Giuseppe) Dynamical behavior of Lagrangian systems on Finsler manifolds. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6448–6458. (Miguel C. Muñoz-Lecanda) **98f:58080** 58F05 (53C60, 70H35)

Cipu, Aurelia (*with* Cipu, Mihai) Inequalities for the sum of the distances of a point to the vertices of a triangle. *Proceedings of the 4th International Congress of Geometry (Thessaloniki*, 1996), 101–113, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (E. J. F. Primrose) **98j:51033** 51M16

Cipu, Mihai (*with* Cipu, Aurelia) Inequalities for the sum of the distances of a point to the vertices of a triangle. *Proceedings of the 4th International Congress of Geometry (Thessaloniki*, 1996), 101–113, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (E. J. F. Primrose) **98j:51033** 51M16

— Diophantine equations with at most one positive solution. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 349–356. (T. N. Shorey) **98j:11017** 11D25 (11J86)

Cirac, J. I. (*with* Gisin, Nicolas) Coherent eavesdropping strategies for the four state quantum cryptography protocol. (English summary) *Phys. Lett. A* **229** (1997), *no.* 1, 1–7. (Summary) **98c:81026** 81P99 (94A60)

Cirak, Fehmi (*with* Ramm, Ekkehard) A posteriori error estimation and adaptivity for linear elasticity using the reciprocal theorem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 351–362. 73V05

Cirera, Ramon ★ Carnap and the Vienna Circle. Empiricism and logical syntax. Translated from the Catalan by Dick Edelstein. Studien zur Österreichischen Philosophie [Studies on Austrian Philosophy], XXIII. *Editions Rodopi B.V., Amsterdam*, 1994. xvi+398 *pp. ISBN* 90-5183-724-0 (Charles F. Kielkopf) **98d:01030** 01A60 (00A30, 03–03, 03A05)

— The logical analysis of scientific language according to Carnap. (Spanish) *Carnap's program (Spanish)*, 193–213, *Textos Bronce*, 3, *Bronce, Barcelona*, 1996. (*see* **98k:03013**) 03A05

— *see also* **Grattan-Guinness, Ivor, 98f:01044** *and* **Carnap's program, 98k:03013**

Ćirić, D. On types of sets in topological class spaces. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 119–125. (Summary) **98b:54001** 54A05

Ćirić, Ljubomir On multi-valued nonexpansive type mappings, coincidences and fixed points. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 21 (1996), 9–17. (From the summary) **98a:54035** 54H25

— A counterexample to a theorem of Xu. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 723–725. (Summary) **98g:47050** 47H10

Ćirić, Miroslav (*with* Bogdanović, Stojan) Positive quasi-orders with the common multiple property on a semigroup. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 1–6, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 20M99

— (*with* Bogdanović, Stojan; Petković, Tatjana) The lattice of positive quasi-orders on an automaton. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 143–156. (H.-J. Hoehnke) **98h:68171** 68Q70 (06A15)

— (*with* Bogdanović, Stojan) The lattice of positive quasi-orders on a semigroup. (English summary) *Israel J. Math.* **98** (1997), 157–166. (Boris M. Schein) **98h:20118** 20M99 (06A23, 06F05)

— (*with* Bogdanović, Stojan; Novikov, B. V.) Bands of left Archimedean semigroups. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 85–101. (Mohan S. Putcha) **98m:20073** 20M10 (20M07)

Ćirić, Ninoslav On convergence of Lagrange's multipliers from Kuhn-Tucker's theorem applied on minimization problem of Tichonov's function. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 129–132, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 90C30 (65K05)

Cirillo, Emilio N. M. (*with* Olivieri, Enzo) Renormalization group at criticality and complete analyticity of constrained models: a numerical study. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1117–1151. (Christian Maes) **98f:82062** 82B28 (60K35, 82B20, 82B80)

— (*with* Lebowitz, Joel L.) Metastability in the two-dimensional Ising model with free boundary conditions. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 211–226. (Summary) **98k:82031** 82B20 (82B80)

Cirino Groccia, Maria Cristina Groups with complemented ascendant subgroups. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 247–254. (S. E. Stonehewer) **98j:20030** 20E15

Cirre, F. J. Morphisms of Klein surfaces. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 79–91. (Bruno Zimmermann) **98j:30056** 30F50

Cismaşiu, Cristina S. On a linear positive operator and its approximation's properties. (English summary) *Filomat No.* 10 (1996), 159–162. (D. D. Stancu) **98g:41031** 41A36 (41A25)

Cissoko, Mahdy Wavefronts in a relativistic cosmic two-component fluid. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 521–534. 83C55 (83E05)

Citti, G. C^∞ regularity of solutions of a quasilinear equation related to the Levi operator. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 483–529. (John Urbas) **98b:35072** 35J70 (35B65, 35J60)

Ciubotariu, Cornelia (*with* Gîrţu, Valentin; Ursu, Dodu) A Finsler space-time with the same geodesic structure as the Riemannian space-time. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 81–89. 83D05 (53B40, 53B50)

— (*with* Argyris, John) On El Naschie's complex time and gravitation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 5, *Special Issue*, 743–751. (Summary) **98h:83003** 83A05 (83C99)

— (*with* Argyris, John; Andreadis, Ioannis) Infinitesimal Lorentz transformations and the states of polarized photons. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 277–285. 83A05

Ciuca, I. (*with* Ware, J. A.) Layered neural networks as universal approximators. (English summary) *Computational intelligence (Dortmund*, 1997), 411–415, *Lecture Notes in Comput. Sci.*, 1226, *Springer, Berlin*, 1997. (*see* **98g:68003**) 68T05 (92B20)

Ciucu, Mihai Enumeration of perfect matchings in graphs with reflective symmetry. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 1, 67–97. (Ian Anderson) **98a:05112** 05C70

Ciufolini, Ignazio (*with* Chieppa, Federico; Lucchesi, David; Vespe, Francesco) Test of Lense-Thirring orbital shift due to spin. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2701–2726. 83B05 (83C10)

Ciumaşu, Silvia Gabriela (*with* Vieru, D.) Uniqueness and variational theorems of linear generalized theory with microstructure thermoelasticity. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 121–127. 73B30 (35Q72, 73C15, 73V25)

— Plane waves in a new theory of thermoelasticity with microstructure. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 113–120. 73B30 (73D15, 73S10)

— (*with* Vieru, D.) Polarization gradient in a grade consistent micropolar theory of piezoelectricity. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 1-2, 89–94. 73R05 (73B25)

— On finite deformation of elastic dipolar continuum. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 103–108. 73B25 (73C50, 73G05)

Ciupa, Alexandra On a generalized Favard-Szasz type operator. *Research Seminar on Numerical and Statistical Calculus*, 33–38, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (*see* **98b:65007**) 41A35

— (*with* Gavrea, Ioan) On a modified Favard-Szász operator. (English summary) *Research Seminar on Numerical and Statistical Calculus*, 39–44, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (*see* **98b:65007**) 41A35

— On the remainder in an approximation formula by Favard-Szasz type operator for functions of two variables. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 63–66. (George A. Anastassiou) **98d:41032** 41A35 (41A60)

— (*with* Gavrea, Ioan) On a Favard-Szasz type operator. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 1, 39–46. (Radu Păltănea) **98b:41023** 41A35

— A class of integral Favard-Szasz type operators. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 1, 39–47. (Y. Sitaraman) **98b:41024** 41A35

— On the approximation by Favard-Szasz type operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 57–61. 41A35

— Positive linear operators obtained by means of Appell polynomials. *Approximation and optimization, Vol. II (Cluj-Napoca*, 1996), 63–68, *Transilvania, Cluj-Napoca*, 1997. (Sorin Gheorghe Gal) **98j:41025** 41A36

Ciurea, Eleonor Two remarks concerning the dynamic flow with nonstationary time function. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 55–63. 90B10 (90C35)

— Counterexamples in maximal dynamic flows. (English summary) *Libertas Math.* **17** (1997), 77–87. (Edward Minieka) **98j:90089** 90C35

levi-Civita, Tullio *see* **Levi-Civita, Tullio**

Cizeau, Pierre (*with* Liu, Yanhui; Meyer, Martin[1]; Peng, Chung-Kang; Stanley, H. Eugene) Correlations in economic time series. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 437–440. 90A20

Čížek, J. *see* **Čížek, Jiří Karel**

Čížek, Jiří (*with* Jelínek, Jiří) A Tauberian theorem for distributions. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 479–488. (Hans-Jürgen Glaeske) **98a:46050** 46F10 (42A38, 46E05)

Čížek, Jiří Karel *see* **Au, C. K. et al.**

Čížek, M. (*with* Horáček, J.) Corrigendum: "On shooting methods for calculation of potential resonances" [J. Phys. A **29** (1996), no. 19, 6325–6342; MR 97i:81011]. *J. Phys. A* **30** (1997), *no.* 11, 4137. 81–08 (65F40, 81U05)

da C. Ladeira, Luiz A. *see* **Ladeira, Luiz A. C.**

Claessen, Holger (*with* Lütkepohl, Helmut) Analysis of cointegrated VARMA processes. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 223–239. 62P20 (62M10)

Claesson, Ingvar (*with* Nordebo, Sven; Nordholm, Sven) Quadratic programming for the design of two-dimensional weighted Chebyshev FIR filters with incomplete specifications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4345–4355. (*see* **98i:00032**) 93E11 (94A12)

Claeyssen, J. C. R. (*with* de Campos Velho, H. F.) A nonmodal approach for time-integration of a barotropic limited area model. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 1–13. (Summary) **98a:86011** 86A10 (86–08)

Claeyssen, Julio R. (*with* Schuchman, Vladimir) On the minimal extension of C_0-semigroups for second-order damped equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 213–222. (Ti Jun Xiao) **98k:47076** 47D06 (34G10)

Clain, Stéphane (*with* Touzani, Rachid) A two-dimensional stationary induction heating problem. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 9, 759–766. (Graeme C. Wake) **98g:80003** 80A20 (35J99)

— Elliptic operators of divergence type with Hölder coefficients in fractional Sobolev spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 207–236. (Giuseppe Di Fazio) **98j:35040** 35J15

st. Clair, Ute *see* **St. Clair, Ute**

Clairaut, Alexis-Claude *see* **Newton, Isaac**, **98c:01016** *and* **Taton, René**, **98i:01015**

Claire, Robert Classes de fonctions indéfiniment différentiables. [Classes of infinitely differentiable functions] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 25, 26 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (Alex Méril) **98e:46027** 46E10 (46F05)

Clancy, Colleen (*with* Frame, Michael) Fractal geometry of restricted sets of circle inversions. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 689–699. (Christoph Bandt) **98c:28006** 28A80 (68Q45)

Clancy, Dominic (*with* Lidsey, James E.; Tavakol, Reza) Scale factor dualities in anisotropic cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 257–272. (Summary) **98j:83080** 83D05 (83F05)

Clark, Bradd (*with* Clay, Ellen; Schneider, Victor P.) Using a set to construct a group topology. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 113–116. (Michael Tkačenko) **98m:22001** 22A05 (54H11)

— (*with* Cates, Sharon) Algebraic obstructions to sequential convergence in Hausdorff abelian groups. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 93–96. (Summary) **98k:22004** 22A05

Clark, Curtis On achieving channels in a bipolar game. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 23–27, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:05158** 05C99 (90D05)

Clark, David John (*with* Kennaway, J. Richard) Some properties of non-orthogonal term graph rewriting. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)

— (*with* Kennaway, J. Richard) Event structures and non-orthogonal term graph rewriting. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 545–578. (Andrea Maggiolo-Schettini) **98a:68109** 68Q42 (68N15, 68R10)

Clark, Dean (*with* Lewis, James T.) A Collatz-type difference equation. Proceedings of the Twenty-sixth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1995). *Congr. Numer.* **111** (1995), 129–135. (Ivan Korec) **98b:11008** 11B37 (39A99)

— (*with* Lewis, James T.) Transversals of cyclic Latin squares. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 113–120. (From the introduction) **98i:05029** 05B15

Clark, Derek J. (*with* Riis, Christian) Contest success functions: an extension. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 201–204. 90A05 (90D05)

Clark, Douglas N. Projectivity and lifting of Hilbert module maps. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 43–48. (Catalin Badea) **98a:47008** 47A20 (46H25, 46M20, 47B99)

— (*with* Carlson, Jon F.) Projectivity and extensions of Hilbert modules over $\mathbf{A}(\mathbf{D}^N)$. *Michigan Math. J.* **44** (1997), *no.* 2, 365–373. (Jörg Eschmeier) **98i:46047** 46H25 (32A35, 46J15, 46M10)

Clark, G. W. (*with* Packer, L. A.) Two-scale homogenization of implicit degenerate evolution equations. *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 420–438. (Alexander A. Pankov) **98i:35014** 35B27 (35K10, 73B27)

Clark, Haroldo R. Global existence, uniqueness and exponential stability for a nonlinear thermoelastic system. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 39–56. (Summary) **98m:73006** 73B30 (35L70, 35Q72)

Clark, Iain J. (*with* Bracken, Anthony J.) Bound states in tubular quantum waveguides with torsion. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4527–4535. (Arlen Anderson) **98a:81026** 81Q05

Clark, Karen E. A continued fraction representation for the effective conductivity of a two-dimensional polycrystal. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4528–4541. (Summary) **98f:82131** 82D25

Clark, Lane H. (*with* Porter, T. D.) On the maximum number of chords in a cycle of a graph. (English summary) *Ars Combin.* **46** (1997), 129–132. (Summary) **98d:05075** 05C35 (05C38)

— (*with* McCanna, J. E.; Székely, László A.) A survey of counting bicoloured trees. *Bull. Inst. Combin. Appl.* **21** (1997), 33–45. (J. W. Moon) **98h:05094** 05C30 (05C05)

— (*with* George, John C.; Porter, T. D.) On the number of 1-factors in the n-cube. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 67–69. (Summary) **98i:05127** 05C70

— (*with* Haile, Dawit) Remarks on the size of critical edge-chromatic graphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 287–293. (Summary) **98a:05066** 05C15 (05C35)

— (*with* Amin, Ashok; McSorley, John P.; Wang, Hui[3]; Zhang, Guo-Hui) A generalized coloring of graphs. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 49–63. (Richard C. Brewster) **98d:05051** 05C15

— Asymptotic normality of the generalized Eulerian numbers. (English summary) *Ars Combin.* **48** (1998), 213–218. (Summary) **98m:05003** 05A10

— (*with* Bange, David W.; Barkauskas, Anthony E.; Host, Linda H.) Efficient domination of the orientations of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 1–14. (Douglas F. Rall) **98i:05085** 05C20 (05C70)

Clark, Larry C. (*with* Luo, Xiaolong; Turnbull, Bruce W.) Likelihood ratio tests for a changepoint with survival data. (English summary) *Biometrika* **84** (1997), *no.* 3, 555–565. 62F03 (62N05)

Clark, Marcondes R. Existence and uniqueness of solutions for a class of abstract nonlinear wave equation. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 57–65, *VSP, Utrecht*, 1997. (Summary) **98e:34107** 34G20 (34A45, 35L70, 47N20)

Clark, T. E. (*with* Love, S. T.) Wilson effective Kähler potential for supersymmetric nonlinear σ models. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2461–2463. (Summary) **98g:81139** 81T17

Clark, W. Edwin (*with* Shekhtman, Boris) On the domination number of certain analogues of Kneser graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 175–181. (Summary) **98m:05096** 05C35

— (*with* Dunning, Larry A.) Tight upper bounds for the domination numbers of graphs with given order and minimum degree. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 26, 25 *pp.* (*electronic*). (Bert L. Hartnell) **98m:05095** 05C35

Clarke, Andrew (*with* Weinstein, Steven J.; Moon, Alice G.; Simister, Elizabeth A.) Time-dependent equations governing the shape of a two-dimensional liquid curtain. I. Theory. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3625–3636. (Summary) **98k:76015** 76B99

— (*with* Weinstein, Steven J.; Moon, Alice G.; Simister, Elizabeth A.) Time-dependent equations governing the shape of a two-dimensional liquid curtain. II. Experiment. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3637–3644. (Summary) **98k:76016** 76B99 (76–05)

Clarke, C. J. S. (*with* Wilson, Jonathan P.) "Elementary flatness" on a symmetry axis. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 7, 2007–2027. (Summary) **98f:83021** 83C20 (83C75)

Clarke, David W. (*with* Yoon, Tae-Woong) Observer design in receding-horizon predictive control. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 171–191. 93B51 (93C05)

Clarke, Edmund M. (*with* Baier, Christel; Hartonas-Garmhausen, Vasiliki; Kwiatkowska, Marta; Ryan, Mark) Symbolic model checking for probabilistic processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 430–440, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

— (*with* Browne, Anca; Jha, Somesh; Long, David E.; Marrero, W.) An improved algorithm for the evaluation of fixpoint expressions. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 237–255. (Summary) **98b:68110** 68Q60

Clarke, Francis *see* **Clarke, Francis W.**

Clarke, Francis H. Solving equations by the decrease principle. *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 29–39, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Peter R. Wolenski) **98f:49017** 49J52 (26B10)

— (*with* Ledyaev, Yu. S.; Stern, Ronald Jay) Fixed point theory via nonsmooth analysis. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 93–106, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Vladimir Veliov) **98f:47063** 47H10 (34A60, 47N10, 49J52)

— (*with* Radulescu, M. L.) The multidirectional mean value theorem in Banach spaces. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 88–102. (Javier Gómez Gil) **98c:46084** 46G05 (26E15, 46N10, 49J52)

— (*with* Ledyaev, Yu. S.; Sontag, Eduardo D.; Subbotin, Andreĭ Izmaĭlovich) Asymptotic controllability implies feedback stabilization. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1394–1407. (Matthias Kawski) **98g:93003** 93B05 (93D15)

— (*with* Ledyaev, Yu. S.; Radulescu, M. L.) Approximate invariance and differential inclusions in Hilbert spaces. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 4, 493–518. (Vladimir Veliov) **98k:49011** 49J24 (34A60, 34G20, 34H05, 49K24)

— (*with* Ledyaev, Yu. S.; Subbotin, Andreĭ Izmaĭlovich) The synthesis of universal feedback pursuit strategies in differential games. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 552–561. (Pierpaolo Soravia) **98e:90244** 90D26 (49L25, 93B52)

— (*with* Ledyaev, Yu. S.; Vinter, Richard B.) Regularity properties of solutions to linear quadratic optimal control problems with state constraints. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 265–272. (William W. Hager) **98d:49047** 49N60 (49K15, 49N10)

— (*with* Ledyaev, Yu. S.; Vinter, Richard B.) Addendum to: "Regularity properties of solutions to linear quadratic optimal control problems with state constraints" [Systems Control Lett. **30** (1997), no. 5, 265–272; MR 98d:49047]. *Systems Control Lett.* **33** (1998), *no.* 2, 139. 49N60 (49K15, 49N10)

Clarke, Francis W. The discrete Fourier transform of a recurrent sequence. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 485–489. (Summary) **98g:65133** 65T20 (12E20)

Clarke, G. P. Y. (*with* Gumpertz, Marcia L.) Two-stage nonlinear mixed model analysis using expected value transformations. (English summary) *South African Statist. J.* **30** (1996), *no.* 2, 91–117. (Summary) **98g:62123** 62J02

Clarke, Nicholas Richard (*with* Batten, Paul; Lambert, Claire; Causon, D. M.) On the choice of wavespeeds for the HLLC Riemann solver. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1553–1570. (Dietmar Kröner) **98m:65136** 65M06 (76M20, 76N15)

Clarke, P. G. H. (*with* Jeanprêtre, N.; Gabriel, J.-P.) Competitive exclusion between axons dependent on a single trophic substance: a mathematical analysis. (English summary) *Math. Biosci.* **135** (1996), *no.* 1, 23–54. (Steven Matthysse) **98b:92002** 92C20 (92C15, 92C45)

Clarke, Robert John[1] (*with* Steingrímsson, Einar; Zeng, Jiang) The k-extensions of some new Mahonian statistics. (English summary) *European J. Combin.* **18** (1997), *no.* 2, 143–154. (Daniel Ashlock) **98g:05018** 05A19 (05A17)

— Han's conjecture on permutations. *European J. Combin.* **18** (1997), *no.* 5, 511–524. (Jiang Zeng) **98d:05005** 05A05 (05A15)

Clarke, S. P. (*with* Cornwell, J. F.) Conjugacy classes of involutive automorphisms of the $C_l^{(1)}$ affine Kac-Moody algebras. (English summary) [Incomplete version]. *J. Group Theory Phys.* **3** (1995), *no.* 1, 21–34. (Editors) **98i:17029** 17B67 (81R10)

Clarke, Simon R. (*with* Johnson, E. R.) Topographically forced long waves on a sheared coastal current. I. The weakly nonlinear response. (English summary) *J. Fluid Mech.* **343** (1997), 131–151. (Summary) **98d:86003** 86A05 (76U05)

— (*with* Johnson, E. R.) Topographically forced long waves on a sheared coastal current. II. Finite-amplitude waves. (English summary) *J. Fluid Mech.* **343** (1997), 153–168. (Summary) **98d:86004** 86A05 (76U05)

Clarke, T. A. (*with* Hochberg, R. A.; Hurlbert, Glenn H.) Pebbling in diameter two graphs and products of paths. (English summary) *J. Graph Theory* **25** (1997), *no.* 2, 119–128. (Aparna Higgins) **98j:05124** 05C99 (05C40, 90D42)

Clarkson, Eric (*with* Barrett, Harrison) Bounds on null functions of linear digital imaging systems. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1355–1360. (Summary) **98m:68286** 68U10

Clarkson, I. Vaughan L. (*with* Perkins, Jane E.; Mareels, Iven M. Y.) Errata in: "Number/theoretic solutions to intercept time problems" [IEEE Trans. Inform. Theory **42** (1996), no. 3, 959–971; MR 97k:94007]. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2064–2065. 94A12 (11T71, 94A13)

Clarkson, Peter A. (*with* Milne, Alice E.; Bassom, Andrew P.) Application of the isomonodromy deformation method to the fourth Painlevé equation. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 421–439. (Andrei A. Kapaev) **98d:34016** 34A34 (34A05, 34A20, 34A55)

— (*with* Hu, Xing-Biao; Bullough, Robin) New integrable differential-difference systems. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L669–L676. (Summary) **98h:58177** 58F37 (35Q58, 35R10, 58F07)

— (*with* Mansfield, Elizabeth L.) Applications of the differential algebra package `diffgrob2` to classical symmetries of differential equations. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 5-6, 517–533. (Summary) **98c:35001** 35–04 (12H05, 34–04, 35N99)

— (*with* Mansfield, Elizabeth L.; Priestley, Thomas J.) Symmetries of a class of nonlinear third-order partial differential equations. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 195–212. (Summary) **98e:35012** 35A30 (35Q51)

— (*with* Mansfield, Elizabeth L.) Symmetries and exact solutions for a $(2+1)$-dimensional shallow water wave equation. (English summary) Computation of nonlinear phenomena. *Math. Comput. Simulation* **43** (1997), *no.* 1, 39–55. (Maria Clara Nucci) **98d:35196** 35Q53 (58G35, 68Q40, 76B15)

— (*with* Ludlow, David K.; Priestley, Thomas J.) The classical, direct, and nonclassical methods for symmetry reductions of nonlinear partial differential equations. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 173–195. (Summary) **98j:35009** 35A30 (22E70, 35Q53, 58G35)

— (*with* Milne, Alice E.; Bassom, Andrew P.) Bäcklund transformations and solution hierarchies for the third Painlevé equation. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 139–194. (Alexander Vladimirovich Kitaev) **98b:34023** 34A34 (34A05, 34A25, 39A10, 58F37)

Clarkson, Philip C. (*with* Ellerton, Nerida F.) Language factors in mathematics teaching and learning. (English summary) *International handbook of mathematics education, Part 1*, 2, 987–1033, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:00004**) 00A35 (01A80)

Claron, Emmanuel (*with* Lopez, Gérard) Configurations inévitables dans un tournoi indécomposable. (English and French summaries) [Unavoidable configurations in an indecomposable tournament] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1201–1204. (Erol Barbut) **98c:05073** 05C20

Clase, M. V. Prime and semiprime semigroup algebras of cancellative semigroups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1991–2007. (Donald S. Passman) **98h:16041** 16S36 (16N60, 20M25)

Claudi, S. (*with* Guarguaglini, F. R.) Asymptotic behaviour for the heat equation with weak convection and absorption. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 49–63. (Lumin Jiang) **98m:35084** 35K55 (35B40)

Claus, P. (*with* de Wit, Bernard; Faux, M.; Termonia, P.) Chern-Simons couplings and inequivalent vector-tensor multiplets. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 201–220. (Angel Maria Uranga) **98d:81079** 81T30 (81T60)

Clausen, Jens (*with* Träff, Jesper Larsson) Do inherently sequential branch-and-bound algorithms exist? (English summary) *Parallel Process. Lett.* **4** (1994), *no.* 1-2, 3–13. (András Faragó) **98c:90105** 90C27 (68Q22, 68Q25)

— (*with* Perregaard, Michael) Solving large quadratic assignment problems in parallel. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 111–127. 90C27 (65Y05)

— (*with* Karisch, Stefan E.; Perregaard, Michael; Rendl, Franz) On the applicability of lower bounds for solving rectilinear quadratic assignment problems in parallel. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 127–147. 90C27 (65Y05, 68Q25)

Clausen, Michael (*with* Bürgisser, Peter) Algebraische Komplexitätstheorie. I. Eine Einführung. (German summary) [Algebraic complexity theory. I. An introduction] *Sém. Lothar. Combin.* **36** (1996), *Art.* S36a, *approx.* 18*pp.* (*electronic*). (Claus-Peter Schnorr) **98d:68109** 68Q40 (68Q25)

— Algebraische Komplexitätstheorie. III. Zur Berechnungskomplexität von Permanenten. (German summary) [Algebraic complexity theory. III. On the complexity of the computation of permanents] *Sém. Lothar. Combin.* **36** (1996), *Art.* S36c, *approx.* 16 *pp.* (*electronic*). (Claus-Peter Schnorr) **98h:68124** 68Q40 (15A15, 68Q25)

— A direct proof of Minkwitz's extension theorem. *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 305–306. 20C15

Clausius, Rudolf *see* **Kikuchi, Yoshiyuki et al.**

Clavel, Manuel (*with* Meseguer, José) Reflection and strategies in rewriting logic. (English summary) *First International Workshop on Rewriting Logic and its Applications* (*Pacific Grove, CA*, 1996), 23 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (Summary) **98i:68138** 68Q42 (03B70, 68T15)

Clavelin, Maurice *see* **Le Ru, Véronique, 98f:01028**

Clavelli, Massimo (*with* Angrisani, Massimo) Synthetic approaches to problems of fixed points in metric space. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 1–12. (From the introduction) **98b:54055** 54H25 (54E40)

Clavero Gracia, Carmelo (*with* Jorge, J. C.; Lisbona, F.; Shishkin, Grigorii I.) Splitting time methods and one-dimensional special meshes for reaction-diffusion parabolic problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 106–113, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M55

— (*with* Miller, John J. H.; O'Riordan, Eugene; Shishkin, Grigorii I.) An accurate numerical solution of a two-dimensional heat transfer problem with a parabolic boundary layer. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 27–39. (Summary) **98m:65180** 65N15 (80–08)

Claverol, Mercè (*with* Abellanas, Manuel; Hurtado, Ferrán) Structures of minimum weight. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 97–105, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

Clawson, Calvin C. ★ Mathematical mysteries. The beauty and magic of numbers. *Plenum Press, New York*, 1996. x+313 *pp. ISBN* 0-306-45404-1 (Andrew Granville) **98e:11001** 11–01 (00A08, 01A99, 11A51, 11M06, 11N05)

Clay, Ellen (*with* Clark, Bradd; Schneider, Victor P.) Using a set to construct a group topology. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 113–116. (Michael Tkačenko) **98m:22001** 22A05 (54H11)

Clay, Kimberly Elizabeth (*with* Lindner, John F.; Prusha, Bryan S.) Optimal disorders for taming spatiotemporal chaos. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 164–172. 58F13

Clayman, Andrew T. (*with* Mullen, Gary L.) Improved (t, m, s)-net parameters from the Gilbert-Varshamov bound. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 491–496. 94B05

Clayton, David (*with* Spiegelhalter, David; Dunn, Graham; Pickles, Andrew) Analysis of longitudinal binary data from multiphase sampling. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 71–102. 62D05 (62H17, 62J12)

Clayton, M. A. The tetrad frame constraint algebra. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1851–1864. (Simonetta Frittelli) **98d:83003** 83C05

— Nonsymmetric gravitational theories in Hamiltonian form. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2437–2457. (Alexander N. Petrov) **98c:83080** 83D05

Cleary, A. (*with* Blackford, L. S.; Choi, Jaeyoung; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

Cleary, John J. ★ Aristotle and mathematics. Aporetic method in cosmology and metaphysics. With a preface by Hans-Georg Gadamer. Philosophia Antiqua, 67. *E. J. Brill, Leiden*, 1995. xxxvi+558 *pp. ISBN* 90-04-10159-4 (Eberhard Knobloch) **98e:01005** 01A20 (00A30)

Cleaveland, Rance (*with* Natarajan, Vaidhyanathan) Divergence and fair testing. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 648–659, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q10 (68Q60)

— (*with* Natarajan, Vaidhyanathan) An algebraic theory of process efficiency. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 63–72, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q25, 68Q55, 68Q60)

— (*with* Bhat, Girish) Efficient model checking via the equational μ-calculus. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 304–312, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60 (03B45, 03B70, 68Q68)

— (*with* Lüttgen, Gerald; Natarajan, Vaidhyanathan) A process algebra with distributed priorities. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 34–49, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98c:68002**) 68Q10 (68Q55, 68Q60)

— (*with* Lüttgen, Gerald; Mendler, Michael) An algebraic theory of multiple clocks. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 166–180, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q60 (68Q10)

Clegg, Janet (*with* Arthurs, A. M.) Bounds for the solution of certain nonlinear boundary value problems of Sturm-Liouville type. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 107–152. (Summary) **98e:34032** 34B15 (47H15, 47H30, 92C45)

Clelland, Jeanne Nielsen Geometry of conservation laws for a class of parabolic partial differential equations. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 1, 1–77. (Kazushige Ueno) **98d:58005** 58A15 (35K99, 35L65)

Clément, A. H. An ordinary differential equation for the Green function of time-domain free-surface hydrodynamics. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 201–217. (Summary) **98m:76017** 76B15 (76M15)

Clement, Emmanuelle (*with* Gouriéroux, Christian; Monfort, Alain) Linear factor models and the term structure of interest rates. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 40, 37–65. 90A20 (62P20)

Clément, Philippe (*with* Hagmeijer, R.; Sweers, Guido) On a Dirichlet problem related to the invertibility of mappings arising in 2D grid generation. *Calculus of variations, applications and computations* (*Pont-à-Mousson*, 1994), 67–83, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (From the introduction) **98f:65118** 65N50 (35J25)

— (*with* Da Prato, Giuseppe) Some results on stochastic convolutions arising in Volterra equations perturbed by noise. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 147–153. (Summary) **98e:60106** 60H20 (45D05)

— (*with* Da Prato, Giuseppe) White noise perturbation of the heat equation in materials with memory. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 441–460. (Michael A. Kouritzin) **98m:60096** 60H15 (35K05, 45K05, 73B30)

— (*with* Baillon, J.-B.; Greven, Andreas; den Hollander, Frank) On the attracting orbit of a nonlinear transformation arising from renormalization of hierarchically interacting diffusions. II. The non-compact case. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 236–298. (Jean Vaillancourt) **98g:60177** 60K35 (47H99, 47N30)

— *see also* **Dedicated to the memory of Pierre Grisvard**

Clemente, Jesús (*with* Montañes Bernal, Antonio; Reyes García, Marcelo) Testing for a unit root in variables with a double change in the mean. (English summary) *Econom. Lett.* **59** (1998), *no.* 2, 175–182. 62M10 (62P20)

laliena Clemente, Jesús A. *see* **Laliena Clemente, Jesús A.**

Clementi, Andrea E. F. (*with* Andreev, A. E.; Rolim, José D. P.) Hitting sets derandomize BPP. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 357–368, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68092** 68Q15 (68Q10)

— (*with* Andreev, A. E.; Rolim, José D. P.) Optimal bounds on the approximation of Boolean functions with consequences on the concept of hardness (extended abstract). (English summary) *STACS* 96 (*Grenoble*, 1996), 319–330, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q25 (94C10)

— (*with* Andreev, A. E.; Rolim, José D. P.) Worst-case hardness suffices for derandomization: a new method for hardness-randomness trade-offs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 177–187, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

— (*with* Andreev, A. E.; Rolim, José D. P.) Efficient constructions of hitting sets for systems of linear functions. (English summary) *STACS* 97 (*Lübeck*), 387–398, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q25 (68Q15)

Clementini, Eliseo (*with* Di Felice, Paolino; Hernández, Daniel) Qualitative representation of positional information. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 317–356. (Olga M. Kosheleva) **98m:68255** 68T30

Clementino, Maria Manuel (*with* Tholen, Walter) Separation versus connectedness. (English summary) *Topology Appl.* **75** (1997), *no.* 2, 143–181. (Summary) **98g:18002** 18B30 (18E40, 54B30, 54D05)

Clements, B. E. (*with* Johnson, J. N.; Addessio, F. L.) Wave propagation in laminates: a study of the nonhomogenized dynamic method of cells. (English summary) *Wave Motion* **27** (1998), *no.* 3, 193–209. 73D15 (73K20, 73V20)

Clements, David L. An historical contradiction. *Missouri J. Math. Sci.* **8** (1996), *no.* 2, 82–88. (A. G. Molland) **98j:01021** 01A55

Clements, G. F. The cubical poset is additive. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 17–28. (Sergeĭ L. Bezrukov) **98d:05143** 05D05 (06A07)

— Additive Macaulay posets. (English summary) *Order* **14** (1997), *no.* 1, 39–46. (Konrad Engel) **98h:05174** 05D05 (05A20, 06A07)

— On representing faces of a cube by subfaces. (English summary) *Order* **14** (1997), *no.* 1, 47–57. (Sergeĭ L. Bezrukov) **98g:05004** 05A05

— Yet another generalization of the Kruskal-Katona theorem. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 61–70. (Summary) **98k:06004** 06A07 (05D05)

Clements, McKenzie Alexander *see* **Handbook: Mathematics education, 98a:00004**

Clements, Nancy *see* **Heckman, James J., (98g:90006)**

Clemmens, Ann (*with* Govindarajulu, Z.) Locally most powerful rank tests for random effects in two-way experiments. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 427–437, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62G10 (62K10)

— (*with* Govindarajulu, Z.) Locally most powerful rank tests for random effects in two-way experiments. II. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 369–382. 62G10 (62K10)

Clemons, C. B. Existence of the vortex solutions of some semilinear elliptic equations. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 53–65. (Anna Mercaldo) **98d:35053** 35J60 (34C99, 35B99)

Clerbout, Mireille (*with* Latteux, Michel; Roos, Yves) Semi-commutations. *The book of traces*, 487–552, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98l:68001**) 68Q45 (20M05, 68Q10, 68R15)

Clerc, Jean-Louis Equivariant holomorphic maps into the Siegel disc and the metaplectic representation. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 160–174. (Harald Upmeier) **98h:22015** 22E46 (32M15)

Clerc, Marcel (*with* Barra, Felipe; Tirapegui, Enrique) Detailed balance in non-equilibrium systems. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 1, 61–70. (Yu. P. Virchenko) **98j:82047** 82C31 (60J25)

Clercx, H. J. H. A spectral solver for the Navier-Stokes equations in the velocity-vorticity formulation for flows with two nonperiodic directions. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 186–211. (Summary) **98j:76104** 76M25 (76D05)

Clermont, J. R. (*with* Bereaux, Y.) Simulation numérique d'écoulements de fluides viscoélastiques dans des filières axisymétriques. (French summary) [Numerical simulation of viscoelastic fluid flows in axisymmetric stream-tubes] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 153–164 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 76M25 (76A10)

— (*with* Bereaux, Y.; Yassine, A.) Algorithme de région de confiance pour la simulation numérique d'écoulements de fluides viscoélastiques. (French summary) [A confidence-region algorithm for the numerical simulation of viscoelastic fluid flows] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 225–233 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 76M25 (76A10)

Cleve, Richard Quantum stabilizer codes and classical linear codes. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 6, 4054–4059. (Summary) **98d:81003** 81P99 (94B05)

— (*with* Cerf, Nicolas J.) Information-theoretic interpretation of quantum error-correcting codes. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 3, 1721–1732. (Dennis Dieks) **98j:81049** 81P99 (94B99)

Cleveland, William S. Coplots, nonparametric regression, and conditionally parametric fits. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 21–36, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62–09 (62G05)

Cleven, Johannes The Cayley-Dickson doubling process revisited. (English summary) *Comm. Algebra* **24** (1996), *no.* 13, 4159–4179. (Summary) **98i:17002** 17A75 (17C99)

Clever, R. M. (*with* Busse, F. H.) Tertiary and quaternary solutions for plane Couette flow. (English summary) *J. Fluid Mech.* **344** (1997), 137–153. (Summary) **98h:76053** 76E99 (76D05)

Clewlow, Les (*with* Hodges, Stewart D.) Optimal delta-hedging under transactions costs. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1353–1376. (*see* **98c:90003**) 90A12 (90C90)

Cliff, E. M. (*with* Heinkenschloss, Matthias; Shenoy, A. R.) An optimal control problem for flows with discontinuities. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 273–309. (Summary) **98f:49031** 49M25 (76M30, 76N10, 93C20)

Cliffe, K. A. (*with* Duff, Iain S.; Scott, Jennifer A.) Performance issues for frontal schemes on a cache-based high-performance computer. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 127–143. 65–04 (65F99)

— (*with* Tavener, S. J.; Wilke, H.) Convective effects on a propagating reaction front. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 730–741. (Summary) **98m:76068** 76E15 (76R10, 80A32)

Clifford, Alfred H. *see* **Hofmann, Karl H., 98b:01025**

Clifford, M. J. (*with* Bishop, S. R.) The use of manifold tangencies to predict orbits, bifurcations and estimate escape in driven systems. (English summary) Non-linear dynamics and chaos in mechanical systems (L'Aquila, 1994). *Chaos Solitons Fractals* **7** (1996), *no.* 10, 1537–1553. (Helena E. Nusse) **98c:58115** 58F14 (34C15, 34C23, 70K40)

Clifton, Rob Making sense of the Kochen-Dieks "no-collapse" interpretation of quantum mechanics independent of the measurement problem. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 570–578, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P15

— (*with* Bub, Jeffrey) A uniqueness theorem for "no collapse" interpretations of quantum mechanics. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 2, 181–219. (Summary) **98k:81018** 81P10

Climent, B. (*with* Fernández-Cara, Enrique) Existence and uniqueness results for a coupled problem related to the stationary Navier-Stokes system. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 4, 307–319. (Alain Miranville) **98d:35175** 35Q30 (76D05, 76F99)

Clint, M. (*with* Murphy, Kieran; Szularz, M.; Weston, Jim) The parallel computation of partial eigensolutions using a modified Lanczos method. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 299–323. (Summary) **98e:65030** 65F15 (65Y05)

Clippinger, Richard F. *see* **Obituary: Clippinger, Richard F.**

Cload, Bruce A. Generating the commutant of a composition operator. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 11–15, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (William Thomas Ross) **98i:47030** 47B38 (47B35, 47C05)

Clopeau, Thierry (*with* Mikelić, Andro) Nonstationary flows with viscous heating effects. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 55–63 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Vladimir V. Shelukhin) **98k:35158** 35Q35 (73E50, 76A05)

Close, Charles M. (*with* DeRusso, Paul M.; Roy, Rob J.; Desrochers, Alan A.) ★ State variables for engineers. (English summary) Second edition. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+575 *pp. ISBN* 0-471-57795-2 (Petko Petkov) **98m:93001** 93–01

Clote, P. A note on the relation between polynomial time functionals and Constable's class *K*. (English summary) *Computer science logic* (*Paderborn*, 1995), 145–160, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03088** 03D20 (68Q05, 68Q15)

— Nondeterministic stack register machines. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 37–76. (Shih Ping Tung) **98e:68074** 68Q15 (03D05, 03D15, 68Q05)

Cloude, S. R. *see* **Direct and inverse electromagnetic scattering, 98b:00024**

Clouet, J. F. (*with* Bailly, Florence; Fouque, Jean-Pierre) Parabolic and Gaussian white noise approximation for wave propagation in random media. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 5, 1445–1470. (Kazimierz Sobczyk) **98e:60105** 60H15 (35Q99, 35R60, 73B35, 73D25)

— (*with* Domelevo, K.) Solution of a kinetic stochastic equation modeling a spray in a turbulent gas flow. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 239–263. (Introduction) **98m:76095** 76F99 (60H10, 76M35, 76T05, 82C40)

Cloutier, James R. (*with* D'Souza, Christopher N.; Mracek, Curtis P.) Nonlinear regulation and nonlinear H_∞ control via the state-dependent Riccati equation technique. I. Theory. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 117–130, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B36

— (*with* D'Souza, Christopher N.; Mracek, Curtis P.) Nonlinear regulation and nonlinear H_∞ control via the state-dependent Riccati equation technique. II. Examples. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 131–141, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B36

— (*with* Mracek, Curtis P.) Control designs for the nonlinear benchmark problem via the state-dependent Riccati equation method. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 401–433. (*see* **98k:93004**) 93B51 (93C85)

du Cloux, Fokko The state of the art in the computation of Kazhdan-Lusztig polynomials. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra*

Engrg. Comm. Comput. **7** (1996), *no.* 3, 211–219. (Andrew P. Mathas) **98m:20047** 20F55 (20–04)

Clozel, Laurent Sur une question d'Armand Borel. (English and French summaries) [On a question of Armand Borel] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 973–976. (Rebecca Herb) **98d:20050** 20G05 (22E40)

Clyde, Merlise (*with* Parmigiani, Giovanni) Orthogonalizations and prior distributions for orthogonalized model mixing. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 206–227, *Springer, New York*, 1996. (Summary) **98d:62045** 62F15 (62J05)

— (*with* Chaloner, Kathryn) The equivalence of constrained and weighted designs in multiple objective design problems. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1236–1244. (A. I. Khuri) **98b:62135** 62K05

Cnops, Jan Vahlen matrices for non-definite metrics. (English summary) *Clifford algebras with numeric and symbolic computations*, 155–164, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (30G35)

— Hurwitz pairs and Clifford valued inner products. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 195–208, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Bernd A. Schmeikal) **98e:15030** 15A66 (15A63, 30G35)

— Reproducing kernels of spaces of vector valued monogenics. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 219–232. (Summary) **98b:46032** 46E22 (30C40, 30G35)

Coad, D. Stephen Sequential allocation involving several treatments. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 95–109, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62F07 (62L05, 62L10, 62L12)

— (*with* Woodroofe, Michael) Approximate confidence intervals after a sequential clinical trial comparing two exponential survival curves with censoring. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 79–96. (Issa Fakhre-Zakeri) **98m:62215** 62L10 (62L12)

— (*with* Woodroofe, Michael) Corrected confidence sets for sequentially designed experiments. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 53–74. (Adhir K. Basu) **98g:62146** 62L05 (62L12)

Coates, Keith J. Normalizers of nest algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 159–165. (Elias Katsoulis) **98d:47094** 47D25 (47C05)

— Errata to: "Normalizers of nest algebras" [Proc. Amer. Math. Soc. **126** (1998), no. 1, 159–165; MR 98d:47094]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2511–2512. (Editors) **98k:47088** 47D25 (47C05)

Cobb, Robin J. (*with* Hillman, Jonathan A.) S^2-bundles over aspherical surfaces and 4-dimensional geometries. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3415–3422. (Alexander I. Suciu) **98d:57021** 57M50 (55R25, 57N13)

Cobb, Shannon S. (*with* Ames, Karen A.) Continuous dependence on modeling for related Cauchy problems of a class of evolution equations. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 15–31. (Alan V. Lair) **98j:34117** 34G20 (35B30, 35K99)

Cobbs, Archie L. Fast approximate matching using suffix trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 41–54, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98g:68055** 68Q20 (92D20)

muñoz-Cobo González, José Luis *see* **Muñoz-Cobo González, José Luis**

Cobos, F. J. (*with* Dana Jiménez, Juan C.; Grima, C. I.; Márquez, Alberto) Width of a convex set in the sphere. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 265–275, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 52B55 (68U05)

— (*with* Dana Jiménez, Juan C.; Grima, C. I.; Márquez, Alberto) Diameter of a set in a cylinder. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 277–286, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

Cobos Bueno, José A mathematician out of his time: Ventura Reyes Prosper. *Extracta Math.* **11** (1996), *no.* 2, 306–314. (D. J. Struik) **98c:01039** 01A70

Coburn, Lewis A. *see* **Perspectives on quantization, 98g:00029**

Cobzaş, S. (*with* Mustăţa, Costică) Selections associated to the metric projection. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 45–52. (Wu Li) **98m:41048** 41A65 (46B20)

— (*with* Muntean, I.) Triple condensation of singularities for some interpolation processes. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 227–232, *Transilvania, Cluj-Napoca*, 1997. (Summary) **98i:41025** 41A30 (41A10)

— Antiproximinal sets in the Banach space $c(X)$. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 247–253. (D. E. Wulbert) **98d:46010** 46B20 (41A65)

Coca, D. (*with* Billings, S. A.) Continuous-time system identification for linear and nonlinear systems using wavelet decompositions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 87–96. (Summary) **98a:93072** 93E10 (93B30)

Cocchi, Jean-Pierre (*with* Saurel, Richard) A Riemann problem based method for the resolution of compressible multimaterial flows. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 265–298. (Summary) **98j:76093** 76M20 (76L05)

Cochand, Maurice (*with* Gaillard, Arlette; Gröflin, Heinz) Optimum partitioning into intersections of ring families. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 81–91. (Mechthild Stoer) **98e:90125** 90C27 (52B20)

Cochard, Alain (*with* Rice, James R.) A spectral method for numerical elastodynamic fracture analysis without spatial replication of the rupture event. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 8, 1395–1418. (Paul Andrew Martin) **98g:73043** 73V20 (73D99, 73M25)

Cochran, Lyle Using Mathematica to study orthogonal L-polynomials. (English summary) *Comm. Anal. Theory Contin. Fractions* **6** (1997), 4–20. 65–04 (65D20)

Cochran, T. D. (*with* Orr, Kent E.) Stability of lower central series of compact 3-manifold groups. (English summary) *Topology* **37** (1998), *no.* 3, 497–526. (Jonathan A. Hillman) **98j:57026** 57N10 (20F32, 57M05)

Cochrane, Todd Bounds on complete exponential sums. (English summary) *Analytic number theory, Vol. 1* (*Allerton Park, IL*, 1995), 211–224, *Progr. Math.*, 138, *Birkhäuser Boston, Boston, MA*, 1996. (Summary) **98c:11081** 11L07

— (*with* Zheng, Zhiyong) High order moments of character sums. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 951–956. (Matti Jutila) **98i:11063** 11L40

Cocito, P. (*with* Farina, Angiolo; Boretto, G.) Flow in deformable porous media: modelling and simulations of compression moulding processes. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 1–15. 73K70 (73K20, 76M25, 76S05)

Cock, John C. (*with* Östergård, Patric R. J.) Ternary covering codes derived from BCH codes. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 283–289. 94B05

Cockayne, E. J. (*with* Favaron, Odile; Mynhardt, Christina M.) Universal maximal packing functions of graphs. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 57–68. (Gary MacGillivray) **98a:05113** 05C70

— (*with* Mynhardt, Christina M.) Triangle-free graphs with unequal upper domination and irredundance numbers. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 100–103. (Summary) **98h:05097** 05C35

— (*with* Mynhardt, Christina M.) Irredundance and maximum degree in graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 153–157. (Summary) **98c:05087** 05C35

— (*with* Mynhardt, Christina M.) Domination and irredundance in cubic graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 205–214. (Summary) **98c:05088** 05C35

— (*with* Hattingh, Johannes H.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.; McRae, Alice A.) Using maximality and minimality conditions to construct inequality chains. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 43–61. (Bert L. Hartnell) **98j:05082** 05C35

— (*with* Grobler, P. J. P.; Hedetniemi, Stephen T.; McRae, Alice A.) What makes an irredundant set maximal? (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 213–223. (Summary) **98e:05063** 05C35

— (*with* Mynhardt, Christina M.) Minimality and convexity of dominating and related functions in graphs: a unifying theory. (English summary) *Util. Math.* **51** (1997), 145–163. (Douglas F. Rall) **98m:05097** 05C35

Cockburn, Bernardo (*with* Gripenberg, G.; Londen, S.-O.) On convergence to entropy solutions of a single conservation law. (English summary) *J. Differential Equations* **128** (1996), *no.* 1, 206–251. (Summary) **98c:35107** 35L65 (45K05)

— (*with* Jones, Don A.; Titi, Edriss S.) Estimating the number of asymptotic degrees of freedom for nonlinear dissipative systems. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1073–1087. (Anibal Rodriguez-Bernal) **98a:35130** 35Q99 (34G20, 35B99, 47H20, 65M60, 76D05)

Cockburn, Juan C. (*with* Morton, Blaise G.) Linear fractional representations of uncertain systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1263–1271. (Summary) **98c:93028** 93B30 (93C80)

Cocke, William J. The stress-energy tensor and the deflection of light in 6-dimensional general relativity. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 211–218. (Summary) **98h:83080** 83E15

— The stress-energy tensor and the deflection of light in 6-dimensional general relativity [MR 98h:83080]. (English summary) *Modern mathematical models of time and their applications to physics and cosmology* (*Tucson, AZ*, 1996), 211–218, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 83E15 (83D05)

— (*with* Frieden, B. Roy) Information and gravitation. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1397–1412. (Summary) **98m:83019** 83C25 (83C99)

— *see also* **Conference: Modern Mathematical Models of Time and their Applications to Physics and Cosmology, 98c:83004** *and* **Modern mathematical models of time and their applications to physics and cosmology, 98m:83002**

Cocker, Edward *see* **Wallis, Ruth, 98f:01024**

Cockett, J. R. B. (*with* Spooner, D. A.) Categories for synchrony and asynchrony. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 25 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68148** 68Q55 (18B99, 68N15)

— (*with* Blute, R. F.; Seely, R. A. G.) ! and ?—storage as tensorial strength. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 4, 313–351. (Aldo Ursini) **98a:03094** 03F50 (03B60, 18C99, 18D05)

— (*with* Blute, R. F.; Seely, R. A. G.) Categories for computation in context and unified logic. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 49–98. (R. Gylys) **98f:68170** 68Q55 (03B60, 03F05, 03F07, 18D05, 18D25, 68Q65)

— (*with* Seely, R. A. G.) Proof theory for full intuitionistic linear logic, bilinear logic, and MIX categories. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 5, 85–131 (*electronic*). (Zoran Petrić) **98j:03077** 03F07 (03B70, 03F05, 03F50, 03G30, 18D10, 18D15, 19D23)

Cocks, A. C. F. (*with* Pan, Jing Zhe; Kucherenko, S.) Finite element formulation of coupled grain-boundary and surface diffusion with grain-boundary migration. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2161–2184. (Summary) **98i:73059** 73V05 (73S10)

Coclici, C. (*with* Sofronov, Ivan L.; Wendland, Wolfgang L.) A domain decomposition method and far-field boundary conditions for 2D transonic flow around an airfoil. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 58–63, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 76M25 (65N55, 76H05)

Coclite, Mario Michele On a semilinear elliptic eigenvalue problem. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 289–295. (Summary) **98k:35072** 35J65 (35P30)

Cocolicchio, D. (*with* Viggiano, M.) WKB approximation without divergences. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3051–3064. 81Q20

Cocozza-Thivent, Christiane (*with* Roussignol, Michel) Semi-Markov processes for reliability studies. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 207–223 (*electronic*). (Attila Csenki) **98d:60169** 60K15 (60K20)

— (*with* Roussignol, Michel) Comparaison des lois stationnaire et quasi-stationnaire d'un processus de Markov et application à la fiabilité. (English and French summaries) [Comparison of the stationary and quasistationary laws of a Markov process and application to reliability] *Séminaire de Probabilités, XXX*, 24–39, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Summary) **98f:60139** 60J25 (60K10)

— (*with* Kalashnikov, Vladimir) The failure rate in reliability: approximations and bounds. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 497–530. (Richard F. Serfozo) **98e:60146** 60K20 (90B25)

Codenotti, Bruno (*with* Gemmell, Peter; Simon, Janos) Average circuit depth and average communication complexity. (English summary) *Algorithms—ESA '95 (Corfu)*, 102–112, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q15

— (*with* Arioli, M.; Fassino, C.) The Padé method for computing the matrix exponential. (English summary) *Linear Algebra Appl.* **240** (1996), 111–130. (Summary) **98f:65016** 65D15 (65F05, 65L99)

— (*with* Ergün, Funda; Gemmell, Peter; Kumar, S. Ravi) Checking properties of polynomials (extended abstract). (English summary) *Automata, languages and programming (Bologna, 1997)*, 203–213, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60 (68Q40)

— (*with* Crespi, Valentino; Resta, Giovanni) On the permanent of certain (0, 1) Toeplitz matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 65–100. (Norbert Seifter) **98m:15015** 15A15 (15A57)

— (*with* Bar-On, Ilan; Leoncini, Mauro) A fast parallel Cholesky decomposition algorithm for tridiagonal symmetric matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 403–418. (L. W. Ehrlich) **98a:65032** 65F05 (15A23)

— (*with* Datta, Biswa Nath; Datta, Karabi; Leoncini, Mauro) Parallel algorithms for certain matrix computations. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 287–308. (Summary) **98c:65072** 65F30 (15A24, 65Y05, 68Q22, 93B40)

velázquez Codina, José R. *see* **Velázquez Codina, José R.**

Codina, Ramon (*with* Blasco, Jordi) A finite element formulation for the Stokes problem allowing equal velocity-pressure interpolation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 3-4, 373–391. (Adélia Sequeira) **98j:76086** 76M10 (65M60, 76D07)

— (*with* Vasquez, M.; Zienkiewicz, Olgierd C.) A general algorithm for compressible and incompressible flows. III. The semi-implicit form. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 13–32. (Summary) **98m:76102** 76M10

Codirla, C. (*with* Osborn, Hugh) Conformal invariance and electrodynamics: applications and general formalism. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 91–116. (Summary) **98j:78016** 78A35 (58Z05)

Codognet, Christian (*with* Codognet, Philippe) Guarded constructive disjunction: angel or demon? (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 345–361, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68223** 68T20 (68Q10)

Codognet, Philippe (*with* Codognet, Christian) Guarded constructive disjunction: angel or demon? (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 345–361, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68223** 68T20 (68Q10)

— (*with* Diaz, Daniel; Rossi, Francesca) Constraint retraction in FD. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 168–179, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68N17 (68T20)

— *see also* **Concurrent constraint programming, 98k:68005**

Coecke, Bob Superposition states through correlations of the second kind. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2339–2351. (S. Gudder) **98b:81020** 81P15 (81P10)

— (*with* Aerts, Diederik; Aerts, Sven; D'Hooghe, Bart; Durt, Thomas; Valckenborgh, Frank) A model with varying fluctuations in the measurement context. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 7–9, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— Classical representations for quantum-like systems through an axiomatics for context dependence. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 442–461. (S. Gudder) **98e:81012** 81P10 (81P15)

— A classification of classical representations for quantum-like systems. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 462–477. (S. Gudder) **98f:81021** 81P10 (81P15)

— (*with* Aerts, Diederik; D'Hooghe, Bart; Valckenborgh, Frank) A mechanistic macroscopic physical entity with a three-dimensional Hilbert space description. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 793–802. (M. J. Mączyński) **98i:81011** 81P10

— New examples of hidden measurement systems and outline of a general scheme. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 63–74. (S. Gudder) **98j:81024** 81P10 (81P15)

— (*with* Aerts, Diederik; Durt, Thomas; Valckenborgh, Frank) Quantum, classical and intermediate. I. A model on the Poincaré sphere. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 225–240. (S. Gudder) **98i:81016** 81P15

— (*with* Aerts, Diederik; Durt, Thomas; Valckenborgh, Frank) Quantum, classical and intermediate. II. The vanishing vector space structure. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 241–266. (S. Gudder) **98j:81022** 81P10 (81P15)

Coelho, Antônio M. N. Effective identification in the limit of first order structures and creative sets. (English summary) Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 201–204. (Summary) **98k:03083** 03C57

Coelho, Flávio Ulhoa An introduction to tilted algebras. *Proceedings of the Third "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahia Blanca, 1995)*, 145–175, *Univ. Nac. del Sur, Bahia Blanca*, 1996. (*see* **97b:00023**) 16G10

— (*with* Angeleri Hügel, Lidia) Postprojective components for algebras with certain heredity conditions. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 1–7. (Lian Gang Peng) **98d:16025** 16G70 (16G20)

— (*with* de la Peña, J. A.; Tomé, B.) Algebras whose Tits form weakly controls the module category. *J. Algebra* **191** (1997), *no.* 1, 89–108. (V. V. Sergeĭchuk) **98d:16015** 16G10

— (*with* Marcos, Eduardo do Nascimento; Merklen, Héctor A.; Platzeck, María I.) Modules of infinite projective dimension over algebras whose idempotent ideals are projective. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 345–359. (W. D. Burgess) **98i:16017** 16G70 (16E10, 16G20)

Coelho, M. Purificação (*with* Düffner, M. Antónia) Linear preservers of immanants on symmetric matrices. (English summary) *Linear Algebra Appl.* **255** (1997), 315–334. (Jacques Dubois) **98a:15009** 15A15

— (*with* Düffner, M. Antónia) Nonvanishing conjugacy classes for an irreducible character of S_n. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 441–447. (Summary) **98i:20013** 20C30

Coelho, Sônia P. (*with* Polcino Milies, César) Automorphisms of group algebras of dihedral groups. (Italian summary) *Boll. Un. Mat. Ital. A (7)* **9** (1995), *no.* 3, 541–548. (Yan Ming Wang) **98c:20007** 20C05 (16S34)

— (*with* Polcino Milies, César) Some remarks on central idempotents in group rings. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 187–192. (Summary) **98i:16023** 16S34 (20C07)

Cofer, Darren D. (*with* Garg, Vijay Kumar) Idempotent structures in the supervisory control of discrete event systems. *Idempotency (Bristol, 1994)*, 262–281, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93C83 (93B51)

Coffey, John T. (*with* Kiely, Aaron B.) The capacity of coded systems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 113–127. 94A40 (94A24)

Coffey, Mark W. A basic inverse problem in the magnetic force microscopy of linear magnetic materials. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1223–1237. (Summary) **98i:78019** 78A55 (78A30)

— The superconducting half-space with a vortex: closed form results. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1161–1165. (Summary) **98c:82076** 82D55

Coffin, Marie (*with* Sukhatme, Shashikala) A parametric approach to measurement errors in receiver operating characteristic studies. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 71–75, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62190** 62P10 (62N05)

Coffman, Edward G., Jr. (*with* Baker, Brenda S.) Mutual exclusion scheduling. (English summary) *Theoret. Comput. Sci.* **162** (1996), *no.* 2, 225–243. (Summary) **98b:68002** 68M20 (68Q25, 90B35)

— (*with* Bruno, J. L.) Optimal fault-tolerant computing on multiprocessor systems. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 881–904. (M. Dal Cin) **98j:68002** 68M20 (60K10, 68M15)

— (*with* Flatto, Leopold; Gilbert, E. N.; Greenberg, A. G.) An approximate model of processor communication rings under heavy load. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 61–67. (Summary) **98h:68015** 68M10

Cofman, Judita Catalan numbers for the classroom? (German summary) *Elem. Math.* **52** (1997), *no.* 3, 108–117. (F. T. Howard) **98g:11021** 11B83 (05A10, 11-01)

Cogan, S. (*with* Lallement, Gérard; Ramanitranja, A.) Optimal sensor deployment: application to model updating. (English summary) *J. Vib. Control* **4** (1998), *no.* 1, 29–46. 73K50 (73K40, 73V05, 93A30)

Cognard, J.-Y. (*with* Blanze, C.; Champaney, L.; Ladevèze, P.) A modular approach to structure assembly computations: application to contact problems. *Engrg. Comput.* **13** (1996), *no.* 1, 15–32. (Summary) **98b:73043** 73V20 (73T05, 73V05)

Cognola, Guido (*with* Bytsenko, Andrei A.; Zerbini, Sergio) Zeta-function regularization in topologically nontrivial spaces. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 381–386, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:81104** 81T16 (58G26, 81T20)

— (*with* Bytsenko, Andrei A.; Zerbini, Sergio) Quantum fields in hyperbolic spacetimes with finite spatial volume. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 615–627. (Igor N. Nikitin) **98e:81118** 81T20 (11F72, 11Z05, 58G40)

— (*with* Bytsenko, Andrei A.; Zerbini, Sergio) Determinant of the Laplacian on a non-compact three-dimensional hyperbolic manifold with finite volume. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3543–3552. (Jens Bolte) **98c:58174** 58G26 (11M36)

— (*with* Shapiro, I. L.) Interaction of anomaly-induced gravity with quantized matter and temperature effects. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 787–798. (Summary) **98m:83035** 83C47 (81T20)

— (*with* Lecca, Paola) Electromagnetic fields in Schwarzschild and Reissner-Nordström geometry: quantum corrections to the black hole entropy. (English summary) *Phys. Rev. D (3)* **57** (1998), *no.* 2, 1108–1111. 83C57 (83C50)

Cohen, Agnès (*with* Shaked, Uri) Robust discrete-time H_∞-optimal tracking with preview. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 29–37. 93B36 (49N55)

Cohen, Albert Nonlinear wavelet approximation and image compression. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 17–38, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:42052** 42C15 (94A12)

— (*with* Daubechies, Ingrid; Plonka, Gerlind) Regularity of refinable function vectors. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 295–324. (Peter R. Massopust) **98e:42031** 42C15

— (*with* Sapiro, Guillermo; Bruckstein, Alfred M.) A subdivision scheme for continuous-scale B-splines and affine-invariant progressive smoothing. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 1, 23–40. (Yu Yu Feng) **98d:65021** 65D17 (41A15, 65D07, 68U05)

— (*with* Daubechies, Ingrid) Corrigenda: "A new technique to estimate the regularity of refinable functions" [Rev. Mat. Iberoamericana **12** (1996), no. 2, 527–591; MR 97g:42025]. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 471. 42C15 (47B38)

— (*with* D'Ales, Jean-Pierre) Nonlinear approximation of random functions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 518–540. (Summary) **98g:42037** 42C05 (41A30, 60G12)

— (*with* Dyn, Nira) Nonstationary subdivision schemes, multiresolution analysis, and wavelet packets. (English summary) *Signal and image representation in combined spaces*, 189–200, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (*see* **98m:94002**) 42C15 (94A11)

novick-Cohen, Amy *see* **Novick-Cohen, Amy**

Cohen, Arjeh M. Yet another lecture on the icosahedron. *From universal morphisms to megabytes: a Baayen space odyssey*, 247–267, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Robert B. Howlett) **98k:20002** 20-02 (20C40, 20F05, 20F55)

— (*with* Tiep, Pham Huu) Splitting fields for Jordan subgroups. (English summary) *Finite reductive groups (Luminy, 1994)*, 165–183, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Martin W. Liebeck) **98a:20044** 20G20 (22E10)

— (*with* Wales, David B.) GL(4)-orbits in a 16-dimensional module for characteristic 3 [MR 97k:20068]. *Organic mathematics (Burnaby, BC, 1995)*, 155–174, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 20G05 (17B30)

— (*with* Ivanyos, Gábor; Wales, David B.) Finding the radical of an algebra of linear transformations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 177–193. (R. F. Rossa) **98h:16026** 16N40

— (*with* Cooperstein, Bruce N.) Lie incidence systems from projective varieties. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2095–2102. (Michel Brion) **98h:14060** 14M15 (51J10)

Cohen, Arthur (*with* Sackrowitz, Harold) Tests for the umbrella alternative under normality. (English summary) Proceedings from the Institute of Mathematical Statistics Central Regional Meeting: A Meeting in Honor of Robert V. Hogg (Iowa City, IA, 1995). *Comm. Statist. Theory Methods* **25** (1996), *no.* 11, 2807–2817. (Friedrich Liese) **98a:62023** 62F03 (62F30, 62J15)

Cohen, D. *see* **Cohen, David A.**

Cohen, Daniel C. (*with* Suciu, Alexander I.) The braid monodromy of plane algebraic curves and hyperplane arrangements. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 285–315. (Lee Rudolph) **98f:52012** 52B30 (14H30, 20F36, 57M05)

— Morse inequalities for arrangements. *Adv. Math.* **134** (1998), *no.* 1, 43–45. (P. Orlik) **98m:52017** 52B30

Cohen, Daniel E. String rewriting and homology of monoids. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 3, 207–240. (Susan Hermiller) **98j:20084** 20M05 (20F05, 20J05, 68Q42)

Cohen, David A. (*with* Jeavons, Peter; Gyssens, Marc) A unifying framework for tractable constraints. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 276–291, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68107** 68Q25 (90C27)

— (*with* Jeavons, Peter; Cooper, Martin C.) When constraints are easy to satisfy. (English summary) *Applications of combinatorial mathematics (Oxford, 1994)*, 135–153, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Summary) **98f:68241** 68T20

Cohen, David M. (*with* Heyman, Daniel P.; Rabinovich, Asya; Brown, Danit) A parallel implementation of the GTH algorithm. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 218–223. 65U05 (60J10)

Cohen, Doron Quantum dissipation versus classical dissipation for generalized Brownian motion. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 15, 2878–2881. (Summary) **98f:82066** 82B41 (82C10)

Cohen, E. G. D. (*with* Casetti, Lapo; Cerruti-Sola, Monica; Pettini, Marco) The Fermi-Pasta-Ulam problem revisited: stochasticity thresholds in nonlinear Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6566–6574. (Summary) **98f:82081** 82C05 (58F27, 82–04)

Cohen, Edith Size-estimation framework with applications to transitive closure and reachability. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 441–453. (Summary) **98m:68203** 68R10 (05C85, 68Q25)

russek-Cohen, Estelle *see* **Russek-Cohen, Estelle**

Cohen, G. *see* **Cohen, Guy**

Cohen, Gary (*with* Monk, Peter) Gauss point mass lumping schemes for Maxwell's equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 63–88. (Summary) **98m:78004** 78–08 (65M60)

Cohen, Gérard Denis (*with* Litsyn, Simon N.; Zémor, Gilles) On greedy algorithms in coding theory. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2053–2057. (*see* **98c:94001**) 94B99

— (*with* Litsyn, Simon N.; Lobstein, A. C.; Mattson, H. F., Jr.) Covering radius 1985–1994. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 3, 173–239. (Summary) **98d:94047** 94B75 (11T71)

— (*with* Honkala, Iiro S.; Litsyn, Simon N.; Solé, Patrick) Long packing and covering codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1617–1619. 94B60

Cohen, Graeme L. On a conjecture of Mąkowski and Schinzel. *Colloq. Math.* **74** (1997), *no.* 1, 1–8. (Jean-Marie De Koninck) **98e:11006** 11A25

— (*with* te Riele, Herman J. J.) Errata to: "Iterating the sum-of-divisors function" [Experiment. Math. **5** (1996), no. 2, 91–100; MR 97m:11007]. *Experiment. Math.* **6** (1997), *no.* 2, 177. 11A25 (11Y55)

— (*with* te Riele, Herman J. J.) On φ-amicable pairs. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 399–411. (Marc Deléglise) **98d:11009** 11A25 (11Y70)

— (*with* Hagis, Peter, Jr.) Every odd perfect number has a prime factor which exceeds 10^6. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1323–1330. (Aleksander Grytczuk) **98k:11002** 11A25 (11Y70)

Cohen, Guy (*with* Renaud, Arnaud) An extension of the auxiliary problem principle to nonsymmetric auxiliary operators. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 281–306 (*electronic*). (Bernard Lemaire) **98i:49011** 49J40 (47H05, 47N10, 49M99)

— (*with* Renaud, Arnaud) Conditioning and regularization of nonsymmetric operators. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 127–148. (P. D. Panagiotopoulos) **98e:65052** 65J15 (49M27)

Cohen, H. *see* **Cohen, Henri**

Cohen, Harley (*with* Wang, Chao Chen) Principal waves in monotropic laminated bodies. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 1, 27–47. (Dimitrios Sotiropoulos) **98j:73034** 73D15 (73B27, 73B40)

Cohen, Henri (*with* Diaz y Diaz, F.; Olivier, Michel) Computing ray class groups, conductors and discriminants. (English summary) *Algorithmic number theory (Talence, 1996)*, 49–57, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Franz Lemmermeyer) **98c:11123** 11R37 (11R29, 11Y40)

— (*with* Belabas, Karim) Binary cubic forms and cubic number fields. (English summary) *Organic mathematics (Burnaby, BC, 1995)*, 175–204, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Duncan A. Buell) **98j:11084** 11R16 (11R29, 11Y40)

— (*with* Diaz y Diaz, F.; Olivier, Michel) Subexponential algorithms for class group and unit computations. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 433–441. (Joe P. Buhler) **98m:11138** 11Y40 (11R27, 11R29)

— (*with* Belabas, Karim) Binary cubic forms and cubic number fields. (English summary) *Computational perspectives on number theory (Chicago, IL, 1995)*, 191–219, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Hidenori Katsurada) **98m:11027** 11E76 (11R16)

— (*with* Diaz y Diaz, F.; Olivier, Michel) Computing ray class groups, conductors and discriminants. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 773–795. (Duncan A. Buell) **98g:11128** 11R37 (11R20, 11R29, 11Y40)

Cohen, J. W. On periodic Pollaczek waiting time processes. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I (1995)*, 361–378, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Volker Schmidt) **98f:60184** 60K25 (90B22)

— (*with* Down, D. G.) On the role of Rouché's theorem in queueing analysis. (English summary) *Queueing Systems Theory Appl.* **23** (1996), *no.* 1-4, 281–291. (Ivo Adan) **98d:60175** 60K25 (60J15)

Cohen, Jacob (*with* Breuer, Kenneth S.; Haritonidis, Joseph H.) The late stages of transition induced by a low-amplitude wavepacket in a laminar boundary layer. (English summary) *J. Fluid Mech.* **340** (1997), 395–411. 76E05 (76–05, 76D10, 76F99)

— (*with* Amitay, Michael) Instability of a two-dimensional plane wall jet subjected to blowing or suction. (English summary) *J. Fluid Mech.* **344** (1997), 67–94. (Summary) **98d:76047** 76D25 (76–05, 76E99)

Cohen, Jeffrey Marshal (*with* Gautreau, Ronald) Birth and death of a black hole. *Amer. J. Phys.* **65** (1997), *no.* 5, 444–446. (Introduction) **98b:83054** 83C57

Cohen, Jo-Ann (*with* Koh, Kwangil) Topological and algebraic properties of the subgroup generated by the involutions in a compact ring. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 310–315, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (*see* **98d:54001**) 16W80 (22C05, 54H13)

— (*with* Koh, Kwangil) Compact rings having a finite simple group of units. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 13–26. (William H. Gustafson) **98e:16040** 16W80 (16U60)

Cohen, Joel E. (*with* Kalpazidou, Sofia) Orthogonal cycle transforms of stochastic matrices. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 3, 363–374. (Min Ping Qian) **98c:60079** 60J10 (05C38, 15A51, 42C15, 94C99)

Cohen, Joel M. (*with* Colonna, Flavia) Eigenfunctions of the Laplacian on a homogeneous tree. *Harmonic functions on trees and buildings (New York, 1995)*, 121–123, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 05C50 (05C05, 42A70)

Cohen, Leon Time-frequency spatial-spatial frequency representations. *Nonlinear signal and image analysis (Gainesville, FL, 1995)*, 97–115, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 94A12

Cohen, M. (*with* Afek, Yehuda; Haalman, E.) The bit complexity of the predecessor problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 109–112. (Summary) **98e:68095** 68Q25 (68M10)

Cohen, Michèle (*with* Chateauneuf, Alain; Meilijson, Isaac) Comonotonicity, rank-dependent utilities and a search problem. *Distributions with given marginals and moment problems (Prague, 1996)*, 73–79, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 90B40 (60E15)

Cohen, Nir (*with* Levkovich, A.; Zeheb, Ezra) A root-distribution criterion for an interval polynomial in a sector. (English summary) *IMA J. Math. Control Inform.* **13** (1996), *no.* 4, 321–333. (Kang-Zhi Liu) **98a:93057** 93D09 (34D10, 34H05)

— (*with* Zibulski, Meir; Segalescu, V. A.; Zeevi, Yehoshua Y.) Frame analysis of irregular periodic sampling of signals and their derivatives. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 453–471. (Gilbert Walter) **98g:42061** 42C15 (41A10, 94A11)

— (*with* Lewkowicz, Izchak) Convex invertible cones and the Lyapunov equation. (English summary) *Linear Algebra Appl.* **250** (1997), 105–131. (Richard D. Hill) **98b:15022** 15A48 (15A57)

— (*with* Lewkowicz, Izchak) Convex invertible cones of state space systems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 265–286. (Boris G. Zaslavskiĭ) **98j:93020** 93B20 (93B05, 93B25)

— (*with* Kotzer, Tuvia; Shamir, Joseph) A projection-based algorithm for consistent and inconsistent constraints. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 527–546. (A. M. Galperin) **98c:65100** 65K10 (47H17, 47N10, 49M20, 65D15)

— (*with* Lewkowicz, Izchak; Rodman, Leiba) Exponential stability of triangular differential inclusion systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 159–164. (Marian Mureşan) **98e:34025** 34A60 (34D20)

Cohen, O. Quantum cryptography using nonlocal measurements. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 5, 710–726. (V. Ya. Kreinovich) **98m:94032** 94A60 (68P25, 81P99)

Cohen, Paula Beazley (*with* Manin, Yuriĭ Ivanovich; Zagier, Don) Automorphic pseudodifferential operators. *Algebraic aspects of integrable systems*, 17–47, *Progr. Nonlinear Differential Equations Appl.*, 26, *Birkhäuser Boston, Boston, MA*, 1997. (Rainer Schulze-Pillot) **98e:11054** 11F25 (11F12)

— (*with* Bombieri, E.) Effective Diophantine approximation on G_M. II. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 205–225. (Michel Waldschmidt) **98m:11076** 11J82 (11J61)

Cohen, Serge Some Markov properties of stochastic differential equations with jumps. *Séminaire de Probabilités, XXIX*, 181–193, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Jean Picard) **98g:60127** 60J25 (60H10)

— (*with* Applebaum, David) Stochastic parallel transport along Lévy flows of diffeomorphisms. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 496–505. (Ming Liao) **98e:58177** 58G32 (60H10)

Cohen, Stephen D. (*with* Matthews, Rex W.) Monodromy groups of classical families over finite fields. (English summary) *Finite fields and applications (Glasgow, 1995)*, 59–68, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (Summary) **98f:11131** 11T06

— The length of primitive BCH codes with minimal covering radius. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 1, 5–16. (Summary) **98a:94032** 94B05

— (*with* Glass, A. M. W.) Free groups from fields. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 309–319. (James K. Deveney) **98c:12003** 12F05 (20E05)

Cohen, Yosef *see* **Glass, Kathryn et al., 98a:58118**

Cohen de Lara, M. Characterization of a subclass of finite-dimensional estimation algebras with maximal rank. Application to filtering. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 237–246. (Monique Pontier) **98m:93111** 93E11

Cohn, A. G. Calculi for qualitative spatial reasoning. (English summary) *Artificial intelligence and symbolic mathematical computation* (*Steyr*, 1996), 124–143, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (*see* **98d:68010**) 68T30 (03B60, 03B70)

Cohn, Donald L. ★ Measure theory. (English summary) Reprint of the 1980 original. *Birkhäuser Boston, Inc., Boston, MA*, 1993. x+373 *pp. ISBN* 0-8176-3003-1 (Editors) **98b:28001** 28–01

Cohn, Harry Stochastic monotonicity and branching processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 51–56, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60119** 60J80

Cohn, Henry Symmetry and specializability in continued fractions. *Acta Arith.* **75** (1996), *no.* 4, 297–320. (Jeffrey O. Shallit) **98a:11012** 11A55 (11J70)

Cohn, J. H. E. The Diophantine equation $x^4 - Dy^2 = 1$. II. *Acta Arith.* **78** (1997), *no.* 4, 401–403. (Aleksander Grytczuk) **98e:11033** 11D25

— The Diophantine equation $x^4 + 1 = Dy^2$. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1347–1351. (Aleksander Grytczuk) **98e:11032** 11D25

— A conjecture of Erdős on 3-powerful numbers. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 439–440. (Abderrahmane Nitaj) **98c:11104** 11P05 (11D99)

Cohn, Klara J. Cyclomatic numbers of planar graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 245–250. (Summary) **98f:05084** 05C35

Cohn, P. M. Polynomial and power series rings. Free algebras, firs and semifirs. *Handbook of algebra, Vol.* 1, 731–760, *North-Holland, Amsterdam*, 1996. (G. M. Bergman) **98b:16008** 16E60 (16–02, 16D40, 16S10, 16S36)

— On skew field coproducts with a finite extension. (English summary) *Israel J. Math.* **96** (1996),, *part A*, 223–230. (Joachim Gräter) **98a:16032** 16S10 (16E60, 16K40)

— Cyclic Artinian modules without a composition series. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 231–235. (W. D. Burgess) **98b:16019** 16P20 (16S10)

— Correction to: "The universal skew field of fractions of a tensor product of free rings" [Colloq. Math. **72** (1997), no. 1, 1–8; MR 97m:16016]. *Colloq. Math.* **76** (1998), *no.* 2, 319. 16E60 (16S10)

Cohn, Steve (*with* Logan, J. David; Shores, Thomas S.) Stability of traveling waves for a solute transport problem in porous media. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 3, 243–263. (Vitaly A. Volpert) **98b:76067** 76S05 (35K55, 35Q35, 76E99)

— (*with* Logan, J. David; Zlotnik, V. A.) Transport in fractured porous media with time-periodic boundary conditions. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 9, 1–9. (Hong Fei Zhang) **98e:76101** 76S05 (35K65, 35Q35)

Cohn, William S. Bergman projections and operators on Hardy spaces. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 1–19. (Paul Bourdon) **98a:47033** 47B38 (30D55, 46E15, 47B35)

— Generalized area operators on Hardy spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 112–121. (Keiji Izuchi) **98k:47051** 47B38 (30D55, 46E15)

Cohoon, James P. (*with* Ganley, Joseph L.) Improved computation of optimal rectilinear Steiner minimal trees. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 457–472. (Dieter Kratsch) **98j:68131** 68R10

Coifman, Ronald (*with* Meyer, Yves) ★ Wavelets. (English summary) Calderón-Zygmund and multilinear operators. Translated from the 1990 and 1991 French originals by David Salinger. Cambridge Studies in Advanced Mathematics, 48. *Cambridge University Press, Cambridge*, 1997. xx+315 *pp. ISBN* 0-521-42001-6 (Editors) **98e:42001** 42–02 (31B10, 42B20, 42C15)

— *see also* **Signal and image representation in combined spaces, 98m:94002**

Coignet, Michel *see* **Meskens, Ad**

Coimbra Charão, Ruy On the principle of limiting amplitude for perturbed elastic waves in 3D. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 781–797. (George Dassios) **98f:35086** 35L15 (35Q72, 47N20, 73D25)

Cointe, Raymond (*with* Fontaine, Emmanuel) A slender body approach to nonlinear bow waves. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 565–574. (Summary) **98a:76010** 76B20 (76B10, 76M25)

Cojocaru, Ion (*with* Cojocaru, Sorin) On a function in the numbers theory. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 164–169. 11B83

Cojocaru, Sorin (*with* Cojocaru, Ion) On a function in the numbers theory. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 164–169. 11B83

Cojuhari, E. *see* **Kozhukhar', E. P.**

Cojuhari, P. *see* **Kozhukhar', P. A.**

Çoker, Doğan (*with* Turanlı, N.) On several types of degree of fuzzy connectedness in fuzzy topological spaces in Sostak's sense. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 15–26. 54A40 (04A72, 54D05)

— (*with* Özçağ, Selma) On connectedness in intuitionistic fuzzy special topological spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 33–40. 54A40 (04A72)

di Cola, G. *see* **Di Cola, G.**

Colagrossi, A. (*with* Limongelli, C.; Miola, A.) p-adic arithmetic: a tool for error-free computations. *Advances in the design of symbolic computation systems*, 53–67, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (*see* **98e:68125**) 68Q40

— (*with* Cioni, G.; Miola, A.) Deduction and abduction using a sequent calculus. *Advances in the design of symbolic computation systems*, 198–216, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (Ralph W. Wilkerson) **98m:03019** 03B35 (68Q40)

Colaiori, F. (*with* Maritan, A.; Banavar, J. R.; Cieplak, M.; Flammini, A.; Giacometti, A.; Rinaldo, A.; Rodriguez-Iturbe, I.) Statistical mechanics of river networks. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 262–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 86A05 (82–02, 82B99)

Colaneri, Patrizio (*with* Bolzern, P.; De Nicolao, G.) Finite escapes and convergence properties of guaranteed-cost robust filters. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 1, 31–47. (Ryszard Gessing) **98c:93109** 93E11 (93B36)

— (*with* Kučera, Vladimír) The model matching problem for periodic discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1472–1476. 93B52 (93C05)

Colares, Antônio Gervasio (*with* Barbosa, João Lucas Marques) Stability of hypersurfaces with constant r-mean curvature. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 277–297. (M. Elisa G. G. de Oliveira) **98h:53091** 53C42 (53C40)

Colazingari, Elena A note on constant mean curvature surfaces in non-Euclidean spaces. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 885–894. (Rabah Souam) **98k:53008** 53A10

Colbois, Bruno Metrische Geometrie. (English and German summaries) [Metric geometry] *Elem. Math.* **51** (1996), *no.* 4, 133–144. 51M99

— (*with* Besson, Gérard; Courtois, Gilles) Sur la multiplicité de la première valeur propre de l'opérateur de Schrödinger avec champ magnétique sur la sphère S^2. (French summary) [Multiplicity of the first eigenvalue of the Schrödinger operator with magnetic field on the sphere S^2] *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 331–345. (Robert Brooks) **98d:58188** 58G25

Colbourn, Charles J. (*with* Ball, Michael O.; Provan, J. Scott) Network reliability. *Network models*, 673–762, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 68M15 (90B25, 94C12)

— Some direct constructions for incomplete transversal designs. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 93–104. (S. K. Tharthare) **98c:05019** 05B05

— (*with* Abel, R. Julian R.; Yin, Jian Xing; Zhang, Hantao) Existence of incomplete transversal designs with block size five and any index λ. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 3, 275–307. (Katherine Heinrich) **98b:05017** 05B15

— (*with* Chee, Yeow Meng) Constructions for difference triangle sets. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1346–1349. (G. H. J. Van Rees) **98j:05029** 05B10

— (*with* Yin, Jian Xing; Ling, Alan C. H.; Abel, R. Julian R.) The existence of uniform 5-GDDs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 275–299. (Frank E. Bennett) **98i:05018** 05B05

— (*with* Stinson, Douglas R.; Zhu, Lie[1]) More frames with block size four. (English summary) *J. Combin. Math. Combin. Comput.* **23** (1997), 3–19. (Chris Rodger) **98a:05017** 05B05 (05B15)

— (*with* Haddad, Lucien; Linek, Václav) Balanced Steiner triple systems. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 292–302. (Lucien Bénéteau) **98m:05018** 05B07 (05B05)

— (*with* Dinitz, Jeffrey H.) Complete arcs in Steiner triple systems. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 320–333. (K. T. Phelps) **98j:05027a** 05B07

— (*with* Ling, Alan C. H.) A class of partial triple systems with applications in survey sampling. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 1009–1018. (Summary) **98m:62020** 62D05

— (*with* Gallant, Robert) Tight 4-factor orthogonal main effect plans. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 101–110. (Summary) **98i:05031** 05B15

— (*with* Dinitz, Jeffrey H.) Erratum: "Complete arcs in Steiner triple systems". *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 262. (K. T. Phelps) **98j:05027b** 05B07

Colby, John E. (*with* Bermudez, Manuel E.) Lookahead LR parsing with regular right part grammars. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 1–15. (Summary) **98e:68154** 68Q52

Colding, Tobias H. Aspects of Ricci curvature. (English summary) *Comparison geometry* (*Berkeley, CA*, 1993–94), 83–98, *Math. Sci. Res. Inst. Publ.*, 30, *Cambridge Univ. Press, Cambridge*, 1997. (William P. Minicozzi, II) **98i:53052** 53C21 (53C23, 58G03)

— (*with* Minicozzi, William P., II) Large scale behavior of kernels of Schrödinger operators. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1355–1398. (Shun Hui Zhu) **98k:53046** 53C21 (35B40, 35J10, 58G25)

— Ricci curvature and volume convergence. *Ann. of Math.* (2) **145** (1997), *no.* 3, 477–501. (Zhongmin Shen) **98d:53050** 53C21 (53C23)

— (*with* Minicozzi, William P., II) Harmonic functions on manifolds. *Ann. of Math.* (2) **146** (1997), *no.* 3, 725–747. (Tanya J. Christiansen) **98m:53052** 53C21 (31B05, 58G30)

— (*with* Cheeger, Jeff; Tian, Gang) Constraints on singularities under Ricci curvature bounds. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 645–649. (William P. Minicozzi, II) **98g:53078** 53C23 (53C21)

— (*with* Minicozzi, William P., II) Harmonic functions with polynomial growth. *J. Differential Geom.* **46** (1997), *no.* 1, 1–77. (Man Chun Leung) **98h:53060** 53C21 (58G30)

— (*with* Cheeger, Jeff) On the structure of spaces with Ricci curvature bounded below. I. *J. Differential Geom.* **46** (1997), *no.* 3, 406–480. (William P. Minicozzi, II) **98k:53044** 53C21 (53C20)

— (*with* Minicozzi, William P., II) Liouville theorems for harmonic sections and applications. *Comm. Pure Appl. Math.* **51** (1998), *no.* 2, 113–138. (Man Chun Leung) **98m:53053** 53C21 (53C20, 58E15)

Cole, B. J. (*with* Ransford, Thomas) Subharmonicity without upper semicontinuity. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 420–442. (Stephen J. Gardiner) **98h:31005** 31B05

Cole, G. H. A. (*with* Dunning-Davies, J.) Questions concerning relativity theory and some of its applications. (English summary) *Hadronic J.* **19** (1996), *no.* 6, 543–560. (Gábor Etesi) **98a:83008** 83A05 (83C99)

Cole, J. M. *see* **Lyapin, E. S., 98j:20099**

Cole, Joshua (*with* Mortensen, Chris) Fixed point theorems for inconsistent and incomplete formation of large categories. (English summary) *Logique et Anal.* (*N.S.*) **35** (1992), *no.* 139-140, 223–238. (N. C. A. da Costa) **98k:03065** 03B53 (03G30)

— *see also* **Mortensen, Chris, 98k:03002**

Cole, Richard J. (*with* Hariharan, Ramesh) Tighter upper bounds on the exact complexity of string matching. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 803–856. (Maxime Crochemore) **98m:68116** 68Q25 (68R15, 68U15)

— (*with* Maggs, Bruce M.; Sitaraman, Ramesh K.) Reconfiguring arrays with faults. I. Worst-case faults. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1581–1611. (M. Dal Cin) **98m:68002** 68M07

Cole, T. Non-crossing of plane minimal spanning and minimal $T1$ networks. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 51–65. (R. S. Booth) **98h:05065** 05C10 (05C35)

mas Colell, Andreu *see* **Mas Colell, Andreu**

Colella, David (*with* Heil, Christopher) Sobolev regularity for refinement equations via ergodic theory. (English summary) *Approximation theory VIII, Vol.* 2 (*College Station,*

TX, 1995), 151–158, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42033** 42C15

Colella, Phillip (*with* Almgren, Ann S.; Bell, John B.; Marthaler, Tyler) A Cartesian grid projection method for the incompressible Euler equations in complex geometries. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1289–1309. (Dennis C. Jespersen) **98d:76112** 76M20 (65M06, 76C05)

Coleman, B. D. (*with* Falk, Richard S.; Moakher, M.) Diffusion in axially symmetric surfaces. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 99–111, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Alain Brillard) **98m:73007** 73B30 (35Q53, 80A22)

Coleman, Christopher J. The effect of an imperfectly conducting plane upon an incident electromagnetic field. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 10, 1445–1450. (Summary) **98j:78022** 78A45

Coleman, Courtney S. (*with* Borrelli, Robert L.) ★ Differential equations. (English summary) A modeling perspective. *John Wiley & Sons, Inc., New York*, 1998. xiv+706 *pp. ISBN* 0-471-04230-7 (Publisher's description) **98g:34001** 34–01

Coleman, Eoin (*with* Shelah, Saharon) Categoricity of theories in $L_{\kappa\omega_1}$ when κ is a measurable cardinal. I. (English summary) *Fund. Math.* **151** (1996), *no.* 3, 209–240. (Wiktor Dańko) **98h:03052** 03C75 (03C35)

— Toronto spaces, minimality, and a theorem of Sierpiński. *Irish Math. Soc. Bull. No.* 38 (1997), 53–65. (From the text) **98e:54005** 54A35 (03E35)

Coleman, J. L. (*with* Henderson, W.; Pearce, Charles E. M.; Taylor, Peter G.) A correspondence between product-form batch-movement queueing networks and single-movement networks. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 160–175. (Richard F. Serfozo) **98f:60185** 60K25 (68M20, 90B22)

Coleman, Matthew P. (*with* Chen, Goong) Improving low order eigenfrequency estimates derived from the wave propagation method for an Euler-Bernoulli beam. (English summary) *J. Sound Vibration* **204** (1997), *no.* 4, 696–704. (Yi-Yuan Yu) **98k:73029** 73D30 (73K05, 73K12)

— Analysis of vibration by the wave propagation method and Bolotin's method for a rectangular thin plate with at least one side roller-supported. (English summary) *Wave Motion* **25** (1997), *no.* 2, 169–180. (Summary) **98c:73054** 73K12 (73D30, 73K10)

— (*with* Chen, Goong; Liu, Kang Sheng) Boundary stabilization of Donnell's shallow circular cylindrical shell. (English summary) *J. Sound Vibration* **209** (1998), *no.* 2, 265–298. (Kenneth B. Hannsgen) **98j:73064** 73K50 (47D06, 65N30, 73K15, 93C20)

Coleman, Michael J. (*with* Chatterjee, Anindya; Ruina, Andy) Motions of a rimless spoked wheel: a simple three-dimensional system with impacts. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 139–159. (Summary) **98g:70009** 70E15 (70F20, 70F25, 70K20)

Coleman, Robert F. *p*-adic Banach spaces and families of modular forms. *Invent. Math.* **127** (1997), *no.* 3, 417–479. (Alexey A. Panchishkin) **98b:11047** 11F33 (11F67, 11F85, 11G07, 14E30)

— On the coefficients of the characteristic series of the U-operator. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11129–11132. (Alexey A. Panchishkin) **98m:11032** 11F33 (11F25, 11F85)

— (*with* Stevens, Glenn; Teitelbaum, Jeremy) Numerical experiments on families of *p*-adic modular forms. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 143–158, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Andrea Mori) **98k:11052** 11F33 (11Y35)

Coleman, Thomas F. (*with* Czyzyk, Joseph; Sun, Chunguang; Wagner, Michael; Wright, Stephen Joseph) pPCx: parallel software for linear programming. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 90C05 (65Y05)

— *see also* **Large-scale optimization with applications, 98b:90003**; **98d:90008** *and* **98f:90003**

Coleman, Todd (*with* Li, Chi-Kwong; Lundquist, Michael; Travison, Thomas) Isometries for the induced c-norm on square matrices and some related results. (English summary) *Linear Algebra Appl.* **271** (1998), 235–256. (Fuad Kittaneh) **98m:15047** 15A60

Coles, E. *see* **Goles Ch., Eric**

Coles, Melvyn G. (*with* Wright, Randall) A dynamic equilibrium model of search, bargaining, and money. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 32–54. (Summary) **98k:90027** 90A60 (90A14, 90D40)

Coles, Peter (*with* Ellis, George F. R.) ★ Is the Universe open or closed? (English summary) Cambridge Lecture Notes in Physics, 7. *Cambridge University Press, Cambridge*, 1997. xvi+236 *pp. ISBN* 0-521-56689-4 (Markku Lehto) **98h:83096** 83F05 (83–02)

Coles, Stuart G. (*with* Smith, Richard L.; Tawn, Jonathan A.) Markov chain models for threshold exceedances. (English summary) *Biometrika* **84** (1997), *no.* 2, 249–268. (Summary) **98f:62271** 62M10

Colesanti, Andrea (*with* Pucci, Carlo) Qualitative and quantitative results for sets of singular points of convex bodies. (English summary) *Forum Math.* **9** (1997), *no.* 1, 103–125. (Carla Peri) **98c:52004** 52A15 (52A39)

— A Steiner type formula for convex functions. (English summary) *Mathematika* **44** (1997), *no.* 1, 195–214. (Daniel Hug) **98h:52018** 52A41 (26B25)

— Blaschke decomposable convex bodies. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 109–110. (*see* **98h:00026**) 52A38 (52A40)

Coletsos, J. (*with* Chryssoverghi, I.; Bacopoulos, A.; Kokkinis, B.) Mixed Frank-Wolfe penalty method with applications to nonconvex optimal control problems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 311–334. (Summary) **98f:49036** 49M30 (90C48)

Coletti, Paolo A global existence theorem for large eddy simulation turbulence model. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 579–591. (Introduction) **98e:76052** 76F99 (35Q30, 76D05)

Coley, Alan A. (*with* Mc Manus, Des J.) Shear-free, irrotational, geodesic, cosmologies with zero energy flux. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 271–275, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83016** 83C15

— Self-similarity and cosmology. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 19–42, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Victor G. LeBlanc) **98e:83025** 83C20 (83F05)

— (*with* Benoit, Patricia M.) A new class of spherically symmetric perfect fluid solutions with kinematic self-similarity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 157–160, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Robert J. van den Hoogen) **98i:83018** 83C20

— Vacuum solutions of Gauss-Bonnet theory and induced cosmological models. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 201–204, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83083** 83E15

— Kinematic self-similarity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 87–118. (Charles G. Torre) **98a:83033** 83C20 (83C15)

— (*with* Ibáñez, J.; van den Hoogen, Robert) Homogeneous scalar field cosmologies with an exponential potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5256–5271. (Alicia M. Sintes) **98g:83012** 83C20

— (*with* Billyard, Andrew) On the correspondence between exact solutions in Kaluza-Klein theory and in scalar-tensor theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 28, 2121–2132. (Alberto Saa Vazquez) **98e:83096** 83D05 (83E15)

— (*with* Billyard, Andrew) Comment on five-dimensional geodesy. *Modern Phys. Lett. A* **12** (1997), *no.* 29, 2223–2226. (Mark D. Roberts) **98e:83107** 83E15 (83C10)

Colin, Antoine Formal computation of Galois groups with relative resolvents. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 169–182, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (H. F. Kreimer) **98e:12001** 12–04 (12F10)

— Solving a system of algebraic equations with symmetries. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 195–215. (Timothy Stokes) **98g:68070** 68Q40 (13A50, 13P99)

Colin, Bernard Sur la reconstitution optimale des données. (English and French summaries) [Optimal reconstitution of data] *Cahiers Centre Études Rech. Opér.* **37** (1995), 65–95. 62B10 (62H20, 62H25)

garcia-Colin, L. S. *see* **Garcia-Colin, L. S.**

Colin, Thierry (*with* Weinstein, Michael I.) On the ground states of vector nonlinear Schrödinger equations. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **65** (1996), *no.* 1, 57–79. (R. G. Airapetyan) **98b:35177** 35Q55 (81Q05, 82D10)

— Remarks on a homogeneous model of ocean circulation. (English summary) *Asymptotic Anal.* **12** (1996), *no.* 2, 153–168. (An Sheng Cheng) **98b:86003** 86A05 (35Q35)

— (*with* Ghidaglia, J.-M.) Un problème aux limites pour l'équation de Korteweg-de Vries sur un intervalle borné. (French summary) [A boundary value problem for the Korteweg-de Vries equation on a bounded interval] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. III*, 10 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 35Q53

— The Cauchy problem and the continuous limit for the multilayer model in geophysical fluid dynamics. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 516–529. (Shu Ming Sun) **98e:76103** 76V05 (35Q35, 76C99, 76M10, 76U05, 86A05, 86A10)

Colin, Vincent Chirurgies d'indice un et isotopies de sphères dans les variétés de contact tendues. (English and French summaries) [Surgeries of index one and isotopies of spheres in tight contact manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 659–663. (Summary) **98e:57036** 57R15 (57R67, 58F05)

Colin, Violaine Spécialisation du foncteur de Whitney. (English and French summaries) [Specialization of the Whitney functor] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 4, 383–388. (J. S. Joel) **98d:32040** 32S60 (58G07)

Colin de Verdiere, A. (*with* Schopp, R.) Taylor columns between concentric spheres. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 43–73. (Summary) **98h:76023** 76C20 (76U05, 76V05, 86A10)

Colin de Verdière, Yves Le spectre du laplacien: survol partiel depuis le Berger-Gauduchon-Mazet et problèmes. (English and French summaries) [The spectrum of the Laplacian: partial survey since the Berger-Gauduchon-Mazet [M. Berger, P. Gauduchon and E. Mazet, *Le spectre d'une variété riemannienne*, Lecture Notes in Math., 194, Springer, Berlin, 1971; MR **43** #8025] and problems] *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 233–252, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Vicente Miquel) **98e:58169** 58G25 (53C20, 53C21, 53C80)

— (*with* Mathéus, Frédéric) Empilements de cercles et approximations conformes. (English and French summaries) [Circle packings and conformal approximations] *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 253–272, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Athanase Papadopoulos) **98d:52026** 52C15 (30C20)

— (*with* Gitler, Isidoro; Vertigan, Dirk) Réseaux électriques planaires. II. [Planar electrical networks. II] *Comment. Math. Helv.* **71** (1996), *no.* 1, 144–167. (Martin Škoviera) **98a:05054** 05C10 (05C90, 94C99)

Colinet, P. (*with* Dauby, P. C.; Lebon, G.) Nonlinear Marangoni instability in 3-D rigid boxes. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 185–192. (*see* **98b:00028**) 76E30 (76E15)

— (*with* Rednikov, A. Ye.; Velarde, M. G.; Legros, J. C.) Two-layer Bénard-Marangoni instability and the limit of transverse and longitudinal waves. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2872–2884. (Summary) **98k:76048** 76E15 (76D33, 76D45)

Coll, B. *see* **Coll, Bartomeu**

Coll, Bartolomé (*with* San José, Fernando) On the Lie algebras generated by two two-forms in Minkowski space-time. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5792–5804. (A. J. Coleman) **98a:17055** 17B99 (58A10)

Coll, Bartomeu (*with* Caselles, Vicent) Snakes in movement. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2445–2456. (H. P. Dikshit) **98b:68193** 68U10 (65C20)

— (*with* Gasull, Armengol; Prohens, R.) Differential equations defined by the sum of two quasi-homogeneous vector fields. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 212–231. (Natalia Borisovna Medvedeva) **98j:34041** 34C05 (34C25, 58F21)

Coll, Carmen (*with* Cantó, Rafael; Sánchez, Elena) A stability problem for discrete-time linear periodic systems. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 69–73.

93D05 (93C55)

— (*with* Bru, Rafael; Hernández, Vicente; Sánchez, Elena) Geometrical conditions for the reachability and realizability of positive periodic discrete systems. (English summary) *Linear Algebra Appl.* **256** (1997), 109–124. (Summary) **98k:93018** 93B07 (93B03, 93C55)

Collaço, M. Paula S. Oliveira (*with* Carvalho e Silva, Jaime) A complete comparison of 25 contraction conditions. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 471–476. (Summary) **98j:47124** 47H09 (47H10, 54H25)

Collado, M. Dolores Estimating dynamic models from time series of independent cross-sections. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 37–62. 62P20

Collamore, Jeffrey F. Hitting probabilities and large deviations. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 2065–2078. (Esa Nummelin) **98i:60025** 60F10 (60K10)

von Collani, Elart A mathematical framework for statistical process control. *Frontiers in statistical quality control*, 5 (*Osaka*), 69–82, *Physica, Heidelberg*, 1997. (*see* **98e:62009**) 62N10

fraguela Collar, Andrés *see* **Fraguela Collar, Andrés**

Collard, Christophe (*with* Miara, Bernadette) Analyse asymptotique formelle des coques non linéairement élastiques: calcul explicite des contraintes limites. (English and French summaries) [Formal asymptotic analysis of nonlinearly elastic shells: explicit form of the limit stresses] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 223–226. (Summary) **98e:73087** 73K15

Collard, Jean-François (*with* Griebl, Martin) Array dataflow analysis for explicitly parallel programs. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 2, 117–131. 68Q10 (68N15, 68N20)

Collart, Stéphane (*with* Mall, Daniel) A combinatorial result on Gröbner fans with an application to universal Gröbner bases. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 365–375. (Alessandro Logar) **98j:13025** 13P10

— (*with* Kalkbrener, Michael; Mall, Daniel) Converting bases with the Gröbner walk. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 465–469. (*see* **98f:68006**) 13P10 (68Q40)

Coller, B. D. (*with* Holmes, Philip J.) Suppression of bursting. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 1, 1–11. (Summary) **98a:93060** 93D15 (34C37, 34H05, 58F40)

Collet, Pierre (*with* Xin, Jack X.) Global existence and large time asymptotic bounds of L^∞ solutions of thermal diffusive combustion systems on $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 625–642 (1997). (Reinhard Redlinger) **98f:35070** 35K55 (35B40, 35Q99, 80A25)

— (*with* Martínez, Servet A.; Schmitt, Bernard) The Pianigiani-Yorke measure for topological Markov chains. (English summary) *Israel J. Math.* **97** (1997), 61–70. (Oliver Knill) **98c:58092** 58F11

— (*with* Dunlop, François; Foster, Damien P.; Gobron, Thierry) Product measures and dynamics for solid-on-solid interfaces. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 509–536. (Barbara Gentz) **98k:82122** 82C22 (60K35, 82C20, 82C24)

— (*with* Dunlop, François; Fritz, J.; Gobron, Thierry) Langevin dynamics of a semi-infinite interface. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 261–274. (Filippo Cesi) **98m:82050** 82C24 (60K35, 82C31)

Collette, Jean-Paul ★ Historia de las matemáticas. II. (Spanish. Spanish summary) [History of mathematics. II] Translated from the 1979 French original by Alfonso Casal Piga. Third edition. Ciencia y Técnica. [Science and Technology] *Siglo XXI de España Editores, S.A., Madrid*, 1993. xii+607 *pp. ISBN* 84-323-0526-X (Editors) **98k:01001** 01–01

Collette, Pierre (*with* Knapp, Edgar) A foundation for modular reasoning about safety and progress properties of state-based concurrent programs. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 253–279. (Rüdiger Valk) **98m:68170** 68Q60 (68Q10)

Colley, Paul (*with* Lubiw, Anna; Spinrad, Jeremy) Visibility graphs of towers. (English summary) *Comput. Geom.* **7** (1997), *no.* 3, 161–172. (Summary) **98a:68180** 68U05 (05C85, 68R10)

Colli, Pierluigi (*with* Savaré, Giuseppe) Time discretization of Stefan problems with singular heat flux. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 16–28, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Diego A. Murio) **98e:65073** 65M30 (35R35, 65N12)

— (*with* Gilardi, Gianni; Grasselli, Maurizio) Global smooth solution to the standard phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 453–486. (Nobuyuki Kenmochi) **98d:45007** 45K05 (35K55, 73B30, 80A20)

— (*with* Gilardi, Gianni; Grasselli, Maurizio) Well-posedness of the weak formulation for the phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 487–508. (Nobuyuki Kenmochi) **98d:45008** 45K05 (35K55, 73B30, 80A20)

— (*with* Sprekels, Jürgen) Stefan problems and the Penrose-Fife phase field model. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 911–934. (Galina I. Bizhanova) **98k:35211** 35R35 (35B25, 35K05, 80A22)

— (*with* Gilardi, Gianni; Grasselli, Maurizio) Weak solution to hyperbolic Stefan problems with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 1, 123–132. (Renuka Ravindran) **98g:35220** 35R35 (35L99, 80A22)

— (*with* Laurençot, Philippe) Weak solutions to the Penrose-Fife phase field model for a class of admissible heat flux laws. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 311–334. (Vitaly A. Volpert) **98k:80005** 80A20 (35Q99)

Colli Franzone, Piero (*with* Guerri, Luciano; Pennacchio, Micol; Taccardi, Bruno) Spread of excitation in 3-D models of the anisotropic cardiac tissue. II. Effects of fiber architecture and ventricular geometry. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 131–171. 92C30 (92C50)

Collin, Pascal Topologie et courbure des surfaces minimales proprement plongées de $\mathbf{R}^3$. [Topology and curvature of properly embedded minimal surfaces in $\mathbf{R}^3$] *Ann. of Math.* (2) **145** (1997), *no.* 1, 1–31. (Karsten Grosse-Brauckmann) **98d:53010** 53A10

Collings, John B. The effects of the functional response on the bifurcation behavior of a mite predator-prey interaction model. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 149–168. (Summary) **98m:92021** 92D25 (34C23)

Collino, A. Griffiths' infinitesimal invariant and higher K-theory on hyperelliptic Jacobians. *J. Algebraic Geom.* **6** (1997), *no.* 3, 393–415. (Jan Nagel) **98m:14010** 14C35 (14C30, 14K30, 19E15)

Collino, Francis Perfectly matched absorbing layers for the paraxial equations. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 1, 164–180. (Introduction) **98b:86002** 86–08 (86A15)

Collino, P. (*with* Delbue, G.; Joly, Patrick; Piacentini, A.) A new interface condition in the non-overlapping domain decomposition method for the Maxwell equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 195–207. (Pierre Hillion) **98f:78001** 78–08 (78A25)

Collins, Benjamin V. C. The girth of a thin distance-regular graph. (English summary) Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 108–117. (Andrew Woldar) **98g:05157** 05E30

— Strongly regular square-free graphs with $\mu = 2$. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 267–279. (J. J. Seidel) **98c:05170** 05E30

Collins, C. B. Conditions for a centre in a simple class of cubic systems. (English summary) *Differential Integral Equations* **10** (1997), *no.* 2, 333–356. (Anna Cima) **98c:34043** 34C05

Collins, D. J. Obituary: John Leslie Britton. *Bull. London Math. Soc.* **29** (1997), *no.* 5, 617–621. (Editors) **98f:01059** 01A70

Collins, David[2] *see* **Cartier, Pierre**, **98k:58040**

Collins, E. J. Finite-horizon variance penalised Markov decision processes. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 1, 35–39. (O. L. V. Costa) **98g:90038** 90C40

Collins, Emmanuel G., Jr. (*with* Davis, Larry D.; Richter, Stephen) Design of reduced-order, H_2 optimal controllers using a homotopy algorithm. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 97–126. 93B36 (93B40)

— (*with* Haddad, Wassim M.; Watson, Layne T.; Sadhukhan, Debashis) Probability-one homotopy algorithms for robust controller synthesis with fixed-structure multipliers. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 2, 165–185. (H. A. Nour Eldin) **98a:93024** 93B40 (93D09)

— (*with* Hodel, A. Scottedward) Efficient solution of linearly coupled Lyapunov equations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 291–304. (M. M. Konstantinov) **98d:65028** 65F05 (15A06, 93B40)

Collins, G. J. (*with* Budd, C. J.) An invariant moving mesh scheme for the nonlinear diffusion equation. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 23–39. (*see* **98i:65004**) 65M50 (65M55)

Collins, George E. (*with* Encarnación, Mark J.) Improved techniques for factoring univariate polynomials. (English summary) *J. Symbolic Comput.* **21** (1996), *no.* 3, 313–327. (Summary) **98b:68088** 68Q40 (13P05)

Collins, Hael (*with* Georgi, Howard) A little large N group theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 152–160. (Martin Lavelle) **98c:81235** 81V05 (81R05)

Collins, I. F. (*with* Zheng, Quan Shui) The relationship between damage variables and their evolution laws and microstructural and physical properties. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1469–1498. 73M25 (73S10)

Collins, Lance R. (*with* Ulitsky, Mark) Application of the eddy damped quasi-normal Markovian spectral transport theory to premixed turbulent flame propagation. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3410–3430. 76F99 (80A25)

Collins, Michael D. Topics in ocean acoustic inverse problems. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 85–104, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 76Q05 (73D50, 86A05)

Collins, Oliver M. (*with* MacMullan, Samuel J.) The capacity of orthogonal and bi-orthogonal codes on the Gaussian channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1217–1232. 94A40 (94A14)

Collins, P. J. (*with* Gartside, P. M.) Mal′tsev spaces, retral spaces and rectifiable diagonals. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 95–103. (Summary) **98b:54050** 54H13 (54C15, 54D15, 54E35)

Collins, R. Eugene Differentiable probabilities: a new viewpoint on spin, gauge invariance, gauge fields, and relativistic quantum mechanics. (English summary) *Found. Phys.* **26** (1996), *no.* 11, 1469–1527. 81P99

Collins, Robin An epistemological critique of Bohmian mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 265–276, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Collins, Sterrett J. (*with* Brekke, Lee; Imbo, Tom D.) Non-abelian vortices on surfaces and their statistics. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 465–485. (S. Timothy Swift) **98k:81316** 81V25 (20F36, 81T13, 81T40)

Colliot-Thélène, Jean-Louis (*with* Hoobler, Raymond T.; Kahn, Bruno) The Bloch-Ogus-Gabber theorem. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 31–94, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Gennady Lyubeznik) **98j:14021** 14F20 (14F40, 19F27)

— (*with* Skorobogatov, A. N.; Swinnerton-Dyer, H. P. F.) Double fibres and double covers: paucity of rational points. *Acta Arith.* **79** (1997), *no.* 2, 113–135. (Dan Abramovich) **98a:11081** 11G35 (14G05)

— The Hasse principle in a pencil of algebraic varieties. (English summary) *Number theory* (*Tiruchirapalli*, 1996), 19–39, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (David Harari) **98g:11075** 11G35 (14G25)

— *see also* **Parimala, R.**, **98f:11067**

Colman, Andrew M. (*with* Bacharach, Michael) Payoff dominance and the Stackelberg heuristic. (English summary) *Theory and Decision* **43** (1997), *no.* 1, 1–19. (Summary) **98a:90135** 90D05 (90D12)

Colman Vale, Hellen Local fibrewise category. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 549–552. (Paul G. Goerss) **98c:55005** 55M30

Colombet, L. (*with* Desbat, Laurent) Speedup and efficiency of large-size applications on heterogeneous networks. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 31–44. (Summary) **98k:68019** 68M10 (68M20)

Colombini, Ferruccio (*with* Del Santo, Daniele) Development of singularities for nonlinear hyperbolic systems with periodic data. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 15–28 (1997). (Linda M. Holt) **98k:35115** 35L60 (35A20)

— (*with* Del Santo, Daniele; Zuily, Claude) The Fefferman-Phong inequality in the locally temperate Weyl calculus. *Osaka J. Math.* **33** (1996), *no.* 4, 847–861. (Yu. V. Egorov) **98b:35231** 35S05 (35A05, 47G30)

Colombo, Elisabetta Mapping class groups and the monodromy of generalized period maps. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 541–566. (Stephen P. Humphries) **98j:57024** 57N05 (20F38, 32G15, 32G20)

Colombo, Fabrizio Quasilinear parabolic equations in C^k spaces. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 271–296. (Atsushi Yagi) **98d:34095** 34G20 (35K55, 47N20)

— (*with* Lorenzi, Alfredo) Identification of time and space dependent relaxation kernels for materials with memory related to cylindrical domains. I, II. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 32–62, 63–90. (Alfred S. Carasso) **98i:45015** 45K05 (35R30, 47D06, 47N20, 73F15)

Colombo, Rinaldo M. Representing a set valued map through a compact sequence of selections. (English summary) *Bull. Polish Acad. Sci. Math.* **41** (1993), *no.* 4, 275–278 (1994). (Longin Rybiński) **98b:28019** 28B20 (54C60, 54C65)

— (*with* Amadori, Debora) Continuous dependence for 2×2 conservation laws with boundary. *J. Differential Equations* **138** (1997), *no.* 2, 229–266. (Christophe Cheverry) **98g:35140** 35L65 (35B30)

Colomo, F. (*with* Izergin, A. G.; Tognetti, V.) Correlation functions in the *XXO* Heisenberg chain and their relations with spectral shapes. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 361–370. (Summary) **98f:82017** 82B20 (82B23)

— *see also* **Constraint theory and quantization methods, 98d:00015**

Colonius, F. (*with* Johnson, Russell Allen) Local and global null controllability of time varying linear control systems. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 329–341 (*electronic*). (G. Anichini) **98m:93013** 93B05 (93C25, 93E03)

— *see also* **Six lectures on dynamical systems, 98a:58003**

Colonna, Flavia (*with* Cohen, Joel M.) Eigenfunctions of the Laplacian on a homogeneous tree. *Harmonic functions on trees and buildings* (*New York*, 1995), 121–123, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 05C50 (05C05, 42A70)

Colonna, Jean-François (*with* Bardos, Claude; Golse, François) Diffusion approximation and hyperbolic automorphisms of the torus. (English summary) *Phys. D* **104** (1997), *no.* 1, 32–60. (Nikolai Chernov) **98h:82053** 82C40 (58F15)

Colosimo, Enrico A. A note on the stratified proportional hazards model. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 201–209. 62G10

Colpi, Riccardo (*with* Tonolo, Alberto; Trlifaj, Jan) Partial cotilting modules and the lattices induced by them. (English summary) *Comm. Algebra* **25** (1997), *no.* 10, 3225–3237. (Dieter Happel) **98i:16003** 16D10 (16D90)

— (*with* D'Este, Gabriella; Tonolo, Alberto) Quasi-tilting modules and counter equivalences. (English summary) *J. Algebra* **191** (1997), *no.* 2, 461–494. (Lidia Angeleri Hügel) **98g:16003** 16D90 (16E30, 16G20)

Colţoiu, Mihnea q-convexity. A survey. *Complex analysis and geometry* (*Trento*, 1995), 83–93, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Armen Edigarian) **98j:32011** 32F10

— On Barth's conjecture concerning $H^{n-1}(\mathbf{P}^n \setminus A, \mathscr{F})$. *Nagoya Math. J.* **145** (1997), 99–123. (Kensho Takegoshi) **98d:32009** 32C35 (32C37, 32F10, 32L20)

Colton, David L. (*with* Chadan, Khosrow; Päivärinta, Lassi; Rundell, William) ★ An introduction to inverse scattering and inverse spectral problems. (English summary) With a foreword by Margaret Cheney. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. x+198 *pp. ISBN* 0-89871-387-0 (Carol Shubin) **98a:34017** 34A55 (34L25, 34L40, 35P25, 35R30, 81U40)

— A brief introduction to inverse scattering theory. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 3–8, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35R30 (35J05)

— Qualitative methods in inverse scattering theory. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 36–42, *Springer, Vienna*, 1997. (*see* **98k:00016**) 35R30 (35J05)

— A linear method for solving inverse scattering problems in the resonance region. *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 86–92, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 35J05 (35R30)

— The inverse scattering problem for an orthotropic medium. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 31–39, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Summary) **98k:78032** 78A45 (35Q60)

— (*with* Kress, Rainer; Monk, Peter) Inverse scattering from an orthotropic medium. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 269–298. (B. Belinskiy) **98f:78020** 78A45 (35J05, 35Q99, 35R30, 65N30)

— (*with* Monk, Peter; Kress, Rainer) A new algorithm in electromagnetic inverse scattering theory with an application to medical imaging. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 385–401. (J. R. Kuttler) **98g:78012** 78A45 (35J05, 35R30, 78–08)

farach-Colton, Martin *see* **Farach-Colton, Martin**

Colucci, P. J. (*with* Jaberi, F. A.; Givi, P.; Pope, Stephen B.) Filtered density function for large eddy simulation of turbulent reacting flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 499–515. 76F99 (76M35)

Colussi, Livio (*with* Marchiori, Elena; Marchiori, Massimo) On termination of constraint logic programs. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 431–448, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68028** 68N17 (68Q60, 68T20)

pasquali-Coluzzi, Dario *see* **Pasquali-Coluzzi, Dario**

Colzani, Leonardo (*with* Brandolini, Luca) Fourier transform, oscillatory multipliers and evolution equations in rearrangement invariant function spaces. *Colloq. Math.* **71** (1996), *no.* 2, 273–286. (Guozhen Lu) **98f:35022** 35G10 (35B30, 42B15, 46E30, 46N20)

— Approximation of Lebesgue integrals by Riemann sums and lattice points in domains with fractal boundary. (English summary) *Monatsh. Math.* **123** (1997), *no.* 4, 299–308. (Hartmut Menzer) **98e:11116** 11P21 (26A42)

rifà i Coma, Josep *see* **Rifà i Coma, Josep**

Coman, Dan Domains of finite type and Hölder continuity of the Perron-Bremermann function. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3569–3574. (Eric Bedford) **98b:32010** 32F05

Coman, Gheorghe Inverse interpolation methods for nonlinear equations. *Research Seminar on Numerical and Statistical Calculus*, 45–52, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 1997. (S. Hitotumatu) **98g:65046** 65H05 (65D05)

— (*with* Iancu, C.) Lacunary interpolation by cubic spline. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 4, 77–84. (A. S. Cavaretta) **98a:41015** 41A15

— (*with* Iancu, C.) Spline interpolation of Birkhoff type. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 233–240, *Transilvania, Cluj-Napoca*, 1997. (Jian Ke Lu) **98k:41014** 41A15 (65D07)

— *see also* **Approximation and optimization, 98g:41001** *and* **98g:41002**

Comănescu, D. (*with* Dragomir, Sever Silvestru; Pearce, Charles E. M.) On some mappings associated with geometric and arithmetic means. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 299–309. (Zsolt Páles) **98c:26010** 26D10

COMAP ★ Principles and practice of mathematics. Textbooks in Mathematical Sciences. *Springer-Verlag, New York*, 1997. xiv+686 *pp. ISBN* 0-387-94612-8 (Editors) **98g:00002** 00A05 (00–01)

Combari, C. (*with* Thibault, Lionel) On the graph convergence of subdifferentials of convex functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2231–2240. (Adam B. Levy) **98j:49020** 49J52 (46G05, 46N10)

Combe, Laure (*with* Hérard, Jean-Marc) Un schéma volumes-finis pour la simulation d'un modèle bi-fluide d'écoulements diphasiques compressibles gaz-solide. (English and French summaries) [A finite-volume scheme for the simulation of a two-fluid model of gas-solid compressible two-phase flows] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 197–231. (Rolf Jeltsch) **98j:76105** 76M25 (65M60, 76L05, 76N15, 76T05)

Combe, Ph. (*with* Nencka, H.) Information geometry and learning in formal neural networks. (English summary) *Geometry and nature* (*Madeira*, 1995), 105–116, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Sankar Kumar Pal) **98k:92006** 92B20 (68T05, 94B20)

— (*with* Nencka, H.) Frustration and overblocking on graphs. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 307–309. (*see* **98k:00025**) 05C99 (82D30)

Combes, J. M. (*with* Barbaroux, J.-M.; Hislop, P. D.) Localization near band edges for random Schrödinger operators. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 16–43. (Marco Lenci) **98h:82028** 82B44 (47B80, 47F05, 47N50, 81Q10)

— (*with* Barbaroux, J.-M.; Montcho, R.) Remarks on the relation between quantum dynamics and fractal spectra. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 698–722. (Jean-Michel Ghez) **98g:81028** 81Q10 (47N50)

— (*with* Barbaroux, J.-M.; Hislop, P. D.) Landau Hamiltonians with unbounded random potentials. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 355–369. (Nariyuki Minami) **98i:82030** 82B44 (47F05, 47N50, 81Q10)

Combes, Pierre-Philippe Industrial agglomeration under Cournot competition. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 45, 161–182. 90A70 (90A12)

— (*with* Caillaud, Bernard; Jullien, Bruno) Common market with regulated firms. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 65–99. (*see* **98g:90010**) 90A53 (90A60)

Combescure, M. (*with* Robert, Didier) Semiclassical spreading of quantum wave packets and applications near unstable fixed points of the classical flow. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 377–404. (Alain Joye) **98g:81040** 81Q20 (81R30)

Combettes, P. L. Hilbertian convex feasibility problem: convergence of projection methods. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 3, 311–330. (H. H. Bauschke) **98e:90114** 90C25 (65J05)

Combris, Pierre (*with* Bertail, Patrice) Bootstrap généralisé d'un sondage. (English and French summaries) [Weighted bootstrap in survey sampling] *Ann. Économ. Statist.* **1997**, *no.* 46, 49–83. (Summary) **98i:62039** 62G09 (62D05)

Combs, Randy Products of power weights and A_p weights. (English summary) *Proyecciones* **15** (1996), *no.* 2, 141–151. (Michael B. Korey) **98b:42021** 42B15 (42B20)

— Norm inequalities with power weights for Hörmander type multipliers. *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1313–1334. (Wo-Sang Young) **98g:42023** 42B15

Comech, Andrew Oscillatory integral operators in scattering theory. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 841–867. (Vladimir Tulovsky) **98d:35245** 35S30 (47G30, 58G15, 78A45)

Comellas, Jordi Polchinski equation, reparameterization invariance and the derivative expansion. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 662–686. (Summary) **98k:81174** 81T17

Comer, G. L. (*with* Shinkai, Hisa-aki) Generation of scalar-tensor gravity effects in equilibrium state boson stars. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 669–688. 83D05 (83–08)

Comer, Stephen D. On connections between information systems, rough sets and algebraic logic. *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 117–124, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Siegfried Gottwald) **98b:03087** 03G15 (03E72, 03G25, 06D15, 68T30)

— Hyperstructures associated with character algebras and color schemes. (English summary) *New frontiers in hyperstructures* (*Molise*, 1995), 49–66, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Thomas N. Vougiouklis) **98e:20073** 20N20

— Application-oriented hyperstructures. (English summary) *New frontiers in hyperstructures* (*Molise*, 1995), 213–218, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

Comes, Mercè The accession and recession theory in al-Andalus and the north of Africa. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II* (*Zaragoza*, 1993), 349–364, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (Benno van Dalen) **98j:01010** 01A30

Comets, Francis Detecting phase transition for Gibbs measures. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 545–563. (Timo Seppäläinen) **98b:60052** 60F10 (60G60, 62M30, 82B10, 82B26)

— The martingale method for mean-field disordered systems at high temperature. (English summary) *Mathematical aspects of spin glasses and neural networks*, 91–113, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Dimitri Petritis) **98m:82066** 82C44 (82C32)

Çömez, Doğan (*with* Lin, Michael; Olsen, James) Weighted ergodic theorems for mean ergodic L_1-contractions. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 101–117. (Idris Assani) **98d:47028** 47A35 (28D99, 47B38)

Comfort, W. W. On the existence of group topologies. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 42–50, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98h:54050** 54H11 (22A05, 54A05)

— (*with* Masaveu, Oscar; Zhou, Hao Xuan) Resolvability in topology and in topological groups. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 17–27, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54088** 54H11 (54A35)

— (*with* Remus, Dieter) Intervals of totally bounded group topologies. (English summary) *Papers on general topology and applications* (*Gorham, ME*, 1995), 121–129, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (I. I. Guran) **98k:22005** 22A05 (54A10, 54H11)

— (*with* Trigos-Arrieta, F. Javier; Wu, Ta Sun) Correction to the paper: "The Bohr compactification, modulo a metrizable subgroup" [Fund. Math. **143** (1993), no. 2, 119–236; MR 94i:22013]. *Fund. Math.* **152** (1997), *no.* 1, 97–98. (Editors) **98b:22005** 22B05 (22C05, 22D05, 54H11)

Čomić, Irena Induced generalized connections in cotangent subbundles. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **17** (1994), 65–78 (1997). (Sorin Dragomir) **98m:53093** 53C60 (53B40)

— The curvature theory of strongly distinguished connection in the recurrent K-Lagrangian space. (English summary) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 1-2, 15–26. (L. Tamássy) **98a:53033** 53B40

— (*with* Balan, Vladimir) The $F(2)$-type structures in the decomposable Riemannian spaces. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 1-2, 55–60. (L. Tamássy) **98a:53029** 53B20

— Different connections in the vector subbundles. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 117–132. (József Szilasi) **98d:53020** 53B05

— Strongly distinguished connections in a recurrent K-Hamilton space. (English summary) *Zb. Rad. Prirod.-Mat. Fak. Ser. Mat.* **25** (1995), *no.* 1, 155–177. (László Kozma) **98b:53021** 53B40 (53C60)

— Some remarks on metric structure in the generalized Finsler space. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 167–175. (Makoto Matsumoto) **98g:53030** 53B40

— Transformations of connections in the generalized Hamilton spaces. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 105–118 (1997). (Makoto Matsumoto) **98m:53031** 53B40

— The curvature theory of generalized connection in Osc^2M. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 1, 21–29. (Mihai Anastasiei) **98a:53027** 53B15 (58A20)

— Generalized connection on $T(T^2M)$. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **60(74)** (1996), 88–100. (László Kozma) **98g:53029** 53B40

— Generalized second order gauge connections. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 114–128, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (L. Tamássy) **98g:53031** 53B40

Comincioli, V. (*with* Naldi, G.; Toscani, Giuseppe) The diffusive limit of two velocity models: the porous medium equation. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 49–63. (Nicola Bellomo) **98k:82149** 82C40 (76P05, 76S05)

Cominetti, R. (*with* Penot, Jean-Paul) Tangent sets of order one and two to the positive cones of some functional spaces. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 3, 291–312. (Roxin Zhang) **98d:49019** 49J52 (90C48)

— Coupling the proximal point algorithm with approximation methods. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 581–600. (Bernard Lemaire) **98m:90101** 90C25 (49M30)

— (*with* Auslender, A.; Haddou, M.) Asymptotic analysis for penalty and barrier methods in convex and linear programming. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 43–62. (S.-C. Fang) **98e:90112** 90C25 (90C05)

— (*with* Michelot, C.) Sufficient conditions for coincidence in l_1-minisum multifacility location problems. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 4, 179–185. (Summary) **98a:90055** 90B80 (90C27)

Commault, C. (*with* Dion, J. M.; Hovelaque, V.) A geometric approach for structured systems: application to disturbance decoupling. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 403–409. (Summary) **98e:93026** 93B27 (93C05)

Commenges, D. (*with* Jacqmin-Gadda, H.) Generalized score test of homogeneity based on correlated random effects models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 157–171. (Summary) **98k:62125** 62J10 (62G10)

Common, Alan Bi-axial Gegenbauer functions of the first and second kind. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 181–187, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Hukum Chand Agrawal) **98g:33011** 33C45

Commuri, Sesh (*with* Lewis, Frank L.) A new methodology for the design of adaptive controllers using "state-strict passivity": application to neural network controllers. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 2–16. (*see* **98g:93001**) 93C40 (93D21)

Como, Mario (*with* Grimaldi, Antonio) Existence of potential wells in stability analysis of nonlinear elastic beams and shells. (English summary) *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 14–24, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Summary) **98e:73071** 73H10 (73C50, 73K05, 73K15, 73V25)

— (*with* Grimaldi, Antonio) On stability and equilibrium path evolution of continuous elastic structures. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 147–156. (Zhong-Hua Yang) **98i:73027** 73H99 (73B99, 73C99)

Comon, Hubert (*with* Treinen, Ralf) The first-order theory of lexicographic path orderings is undecidable. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 67–87. (Friedrich Otto) **98h:68129** 68Q42 (03D35)

— *see also* **Rewriting techniques and applications, 98i:68015**

Compagner, A. (*with* Berdnikov, A. S.; Turtia, S. B.; Larionov, A.) Rounding errors in random number generators. (English summary) *Comput. Phys. Comm.* **106** (1997), *no.* 3, 207–218. 65C10 (65G05)

Compagnoni, Adriana B. Decidability of higher-order subtyping with intersection types. (English summary) *Computer science logic* (*Kazimierz*, 1994), 46–60, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68N15 (03B25, 03B70, 03F50, 68Q55)

— (*with* Aspinall, David) Subtyping dependent types (summary). (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 86–97, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40, 03B70, 68Q55)

— (*with* Pierce, Benjamin C.) Higher-order intersection types and multiple inheritance. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 5, 469–501. (Mariangiola Dezani-Ciancaglini) **98b:68109** 68Q55 (03B15, 03B40, 03B70)

Company, R. (*with* Jódar, Lucas) Hermite matrix polynomials and second order matrix differential equations. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 20–30. (Summary) **98j:33008** 33C50 (34A30, 42C05)

Comparini, Elena (*with* Mannucci, Paola) Penetration of a wetting front in a porous medium interacting with the flow. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 425–438. (Sam D. Howison) **98k:76130** 76S05 (86A05)

— Regularization procedures of singular free boundary problems in rotational Bingham flows. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 543–554. (Summary) **98f:76005** 76A05 (35Q35, 76U05)

garcía-Compeán, Hugo *see* **García-Compeán, Hugo**

Complak, Wojciech (*with* Nawrocki, Jerzy R.; Czajka, Adam) Scheduling cyclic tasks with binary periods. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 173–178. (Summary) **98m:68021** 68M20

Compta, A. (*with* Ferrer Llop, Josep) On $\langle A, B\rangle'$-invariant subspaces having extendible Brunovsky bases. (English summary) *Linear Algebra Appl.* **255** (1997), 185–201. (Rafael Bru) **98a:15024** 15A21 (15A04)

— (*with* Metzler, Ralf) The generalized Cattaneo equation for the description of anomalous transport processes. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7277–7289. (Summary) **98i:82060** 82C70

Compton, D. J. (*with* Radmore, P. M.; Giblin, R. A.) A stochastic model of the dynamics of an ensemble of spheres. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1717–1731. (Summary) **98f:76044** 76G25 (76M35, 82C40)

Compton, Kevin J. (*with* Grädel, Erich) Logical definability of counting functions. (English summary) Ninth Annual Structure in Complexity Theory Conference (Amsterdam, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 2, *part* 2, 283–297. (Christine Charretton) **98a:68066** 68Q15 (03C13, 03D15)

— (*with* Burris, Stanley; Odlyzko, Andrew; Richmond, L. Bruce) Fine spectra and limit laws. II. First-order 0-1 laws. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 641–652. (Denis Richard and Djerzy Tomasik) **98k:03076b** 03C13 (05A16, 11N99, 11U05)

Comte, Fabienne (*with* Hardouin, Cécile) Régression sur le log périodogramme régularisé pour des processus gaussiens à densité spectrale bornée. (English and French summaries) [Log-regularized periodogram regression for Gaussian processes under the assumption of bounded spectral density] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1203–1206. (Summary) **98h:62145** 62M15

Comte, P. Vortices in compressible LES and non-trivial geometries. *New tools in turbulence modelling* (*Les Houches*, 1996), 163–182, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (*see* **98i:76001**) 76F99 (76C05, 76M25, 76N99)

— (*with* Lesieur, Marcel; Lamballais, E.; Métais, Olivier; Silvestrini, G.) Large-eddy simulations of shear flows. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 195–215. (Summary) **98h:76057** 76F10 (76M25)

Comte-Bellot, G. (*with* Bailly, C.; Blanc-Benon, P.) Modelling tools for flow noise and sound propagation through turbulence. *New tools in turbulence modelling* (*Les Houches*, 1996), 141–162, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (*see* **98i:76001**) 76F99 (76Q05)

Comtet, Alain (*with* Texier, Christophe) On the distribution of the Wigner time delay in one-dimensional disordered systems. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8017–8025. (Summary) **98m:82067** 82C44

Conca, Aldo Gröbner bases of powers of ideals of maximal minors. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 223–231. (Daniel Mall) **98j:13026** 13P10 (13C40)

Conca, Carlos (*with* Allaire, Grégoire) Bloch-wave homogenization for a spectral problem in fluid-solid structures. (English summary) *Arch. Rational Mech. Anal.* **135** (1996), *no.* 3, 197–257. (Gérard Michaille) **98a:35009** 35B27 (35J25, 73B27, 73K70)

— (*with* Davila, Juan) Optimal bounds for mixtures of infinitely many materials. (English summary) *Numerical methods in mechanics* (*Concepción*, 1995), 59–69, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Summary) **98j:73063** 73K40 (49Q99, 73B27, 73K10)

— (*with* Osses, Axel; Planchard, J.) Added mass and damping in fluid-structure interaction. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 3-4, 387–405. (Peter A. Vel'misov) **98j:73067** 73K70 (76B40)

— (*with* Vanninathan, Muthusamy) Homogenization of periodic structures via Bloch decomposition. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1639–1659. (Fu Ru Jiang) **98j:35017** 35B27 (73B27)

— *see also* **Numerical methods in mechanics, 98g:65009**

Concalves, J. V. *see* **Gonçalves, José Valdo Abreu**

González-Concepción, Concepción *see* **González-Concepción, Concepción**

di Concilio, A. *see* **Di Concilio, A.**

de Concini, Corrado *see* **De Concini, Corrado**

Concordel, Marie C. Periodic homogenization of Hamilton-Jacobi equations: additive eigenvalues and variational formula. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1095–1117. (Gabriella Tarantello) **98d:35018** 35B27 (35F20, 49J45)

Concordet, D. (*with* Bakry, Dominique; Ledoux, M.) Optimal heat kernel bounds under logarithmic Sobolev inequalities. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 391–407 (*electronic*). (Thierry Coulhon) **98k:58212** 58G11 (35K99, 47D07)

Concus, Paul (*with* Finn, Robert S.) Discontinuous behavior of liquids between parallel and tilted plates. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 39–43. (Summary) **98j:76029** 76D45

mármol Conde, Amparo María *see* **Mármol Conde, Amparo María**

Conde, Eduardo (*with* Carrizosa, Emilio; Pascual Acosta, Antonio; Romero-Morales, Dolores) Closest solutions in ideal-point methods. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 274–281, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Summary) **98i:90080** 90C29 (90A05)

— (*with* Carrizosa, Emilio; Romero-Morales, Dolores) Location of a semiobnoxious facility. A biobjective approach. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 338–346, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Summary) **98i:90081** 90C29 (90B80)

— (*with* Carrizosa, Emilio; Muñoz-Márquez, Manuel; Puerto Albandoz, Justo) Simpson points in planar problems with locational constraints. The round-norm case. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 276–290. (Rainer Burkard) **98m:90008** 90A08 (90B50, 90B80, 90C25)

— (*with* Carrizosa, Emilio; Muñoz-Márquez, Manuel; Puerto Albandoz, Justo) Simpson points in planar problems with locational constraints. The polyhedral-gauge case. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 291–300. (Rainer Burkard) **98m:90009** 90A08 (90B50, 90B80, 90C25)

Conde, Josep (*with* Pla, Luis M.; Pomar, Jesús) Stochastic dynamic programming the sow replacement problem. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 175–184, *Univ. Lleida, Lleida*, 199?. (*see* **98m:00023**) 90C15 (90C39)

— (*with* Salicrú, M.) Uniform association in contingency tables associated to Csiszár divergence. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 149–154. 62H17 (62B10)

escobedo Conde, Raul *see* **Escobedo Conde, Raul**

Conder, Marston (*with* Morton, Margaret; Praeger, Cheryl E.) Partition graphs for finite symmetric groups. (English summary) *J. Graph Theory* **25** (1997), *no.* 2, 107–117. (Qaiser Mushtaq) **98g:05069** 05C25 (20B30)

Condon, Anne (*with* Feigenbaum, Joan; Lund, Carsten; Shor, Peter W.) Random debaters and the hardness of approximating stochastic functions. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 369–400. (Marius Zimand) **98a:68067** 68Q15

— (*with* Narayanan, Lata) Upper and lower bounds for selection on the mesh. (English summary) *Algorithmica* **20** (1998), *no.* 1, 1–30. (Summary) **98k:68020** 68M10 (68Q25)

— (*with* Agarwal, Sameet) On approximation algorithms for hierarchical MAX-SAT. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 141–165. (Summary) **98i:68119** 68Q25 (05C85)

Conduché, Daniel (*with* Baues, Hans-Joachim) On the 2-type of an iterated loop space. (English summary) *Forum Math.* **9** (1997), *no.* 6, 721–738. (P. S. Green) **98k:55007** 55P35 (18G55, 55P10, 55S45, 57M20)

Conforti, D. (*with* Musmanno, R.) Parallel algorithm for unconstrained optimization based on decomposition techniques. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 531–544. 90C30 (65Y05)

Conforti, Michele (*with* Cornuéjols, Gérard; Kapoor, Ajai; Vušković, Kristina) Universally signable graphs. (English summary) *Combinatorica* **17** (1997), *no.* 1, 67–77. (Dalibor Fronček) **98g:05134** 05C78

— (*with* Brunetta, Lorenzo; Rinaldi, Giovanni) A branch-and-cut algorithm for the equicut problem. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 243–263. (Summary) **98j:90086** 90C35 (05C85, 90C27)

nguyen huu Cong *see* **Nguyen Huu Cong**

Cong, Fu Zhong An existence theorem for almost periodic solutions of integrodifferential systems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 3, 1–5. (Zhanhai Gao) **98b:34089** 34K15 (45J05)

— (*with* Li, Yong^{6}; Huang, Ming You) Invariant tori for nearly twist mappings with intersection property. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 280–298. (Luigi Chierchia) **98j:58100** 58F30 (34C30, 34C50, 58F27)

— (*with* Li, Yong^{6}) Invariant hyperbolic tori for Hamiltonian systems with degeneracy. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 371–382. (Luigi Chierchia) **98f:58079** 58F05 (58F30, 70H05)

— (*with* Li, Yong^{6}; Lin, Zheng Hua) Boundary value problems for impulsive differential equations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1253–1264. (Eduardo Liz) **98g:34038** 34B15 (34A37, 34C25)

— (*with* Mao, Dongming) Periodic solutions for nonlinear differential equations. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 149–152. (Bogdan Przeradzki) **98g:34072** 34C25 (34K10, 47H11, 47N20)

Cong, Liqun (*with* Landers, P. H.) Robust control of MIMO nonlinear systems with mismatched uncertainty. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 961–981. 93B35 (93C10)

Cong, Nguyen Dinh *see* **Nguyễn Đình Công**

Cong, Nguyen huu *see* **Nguyen Huu Cong**

Cong, Shuang (*with* De Carli, Alessandro) Design of the sliding mode controller for position control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 716–721. 93B12 (93B51)

Cong, Wen Xiang (*with* Chen, Nan Xian; Gu, Ben Yuan) A recursive method for phase retrieval in Fourier transform systems. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 24, 2614–2618. 65T99

Cong, Yu Hao (*with* Zhu, Zheng You) A class of iterative methods for locating singular points with codimension at most 2. (Chinese. English summary) *Math. Numer. Sin.* **18** (1996), *no.* 4, 355–366. (Zeke Wang) **98c:65087** 65H20

Conlh, Stéphanie Note on Kocay's 3-hypergraphs and Stockmeyer's tournaments. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 312–316. (William L. Kocay) **98m:05134** 05C60 (05C20, 05C65)

Conley, John (*with* Chakravorti, Bhaskar; Taub, Bart) On uniquely implementing cooperation in the prisoners' dilemma. (English summary) *Econom. Theory* **8** (1996), *no.* 2, 347–366. (Peter Borm) **98b:90172** 90D05 (90D20)

— (*with* Chakravorti, Bhaskar; Taub, Bart) Corrigendum: "On uniquely implementing cooperation in the prisoners' dilemma" [Econom. Theory **8** (1996), no. 2, 347–366; MR 98b:90172]. *Econom. Theory* **9** (1997), *no.* 2, 377–378. (Peter Borm) **98f:90075** 90D05

Conlisk, A. T. (*with* Xiao, Zhenhua; Burggraf, O. R.) The interacting boundary-layer flow due to a vortex approaching a cylinder. (English summary) *J. Fluid Mech.* **346** (1997), 319–343. (Summary) **98f:76028** 76D15 (76D10, 76E99)

Conlon, John R. Coordination and weak announcement proofness: two comments on "Refining cheap-talk equilibria" [J. Econom. Theory **55** (1991), no. 2, 247–273; MR 93c:90112] by S. A. Matthews, M. Okuno-Fujiwara and A. Postlewaite. (English summary) *J. Econom. Theory* **72** (1997), *no.* 1, 220–224. (Summary) **98a:90064** 90C10 (90D40)

Conlon, M. F. (*with* Mielczarski, Władysław; Zajaczkowski, A.; Roizman, O.) Stabilizing a multimachine system via non-linear voltage controller with the use of a local control strategy. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 341–354. 93D15 (93C95)

Conlon, Sumali (*with* Alidaee, Bahram) A note on the bicriterion scheduling problem involving total flowtime and range of lateness. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 2, 1–7. 90C35

Conn, Andrew R. (*with* Gould, Nicholas Ian Mark; Toint, Philippe L.) On the number of inner iterations per outer iteration of a globally convergent algorithm for optimization with general nonlinear inequality constraints and simple bounds. (English summary) Computational issues in high performance software for nonlinear optimization (Capri, 1995). *Comput. Optim. Appl.* **7** (1997), *no.* 1, 41–69. (Summary) **98c:90131** 90C30 (65K05)

— (*with* Scheinberg, K.; Toint, Philippe L.) Recent progress in unconstrained nonlinear optimization without derivatives. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 397–414. (K. Schittkowski) **98h:90074** 90C30

— (*with* Mongeau, Marcel) Discontinuous piecewise linear optimization. (English summary) *Math. Programming* **80** (1998), *no.* 3, *Ser. A*, 315–380. (Paul H. Calamai) **98m:90088** 90C08

— *see also* **Large-scale optimization with applications**, **98b:90003**; **98d:90008** *and* **98f:90003**

Connell, Roy On the general Wallman remainder. (English summary) *J. Math. Sci.* (*Calcutta*) **8** (1997), *no.* 1, 15–22. (Summary) **98c:28014** 28C15 (28A60)

Connell, S. A. (*with* Szczechla, W. W.; Filar, Jerzy A.; Vrieze, O. J.) On the Puiseux series expansion of the limit discount equation of stochastic games. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 860–875. (Costis Melolidakis) **98m:90202** 90D15 (93E05)

Connelly, Robert (*with* Sabitov, I. Kh.; Walz, Anke) The bellows conjecture. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 1–10. (Tiong Seng Tay) **98c:52026** 52C25

— (*with* Bezdek, Károly) Minimal translation covers for sets of diameter 1. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 23–27. (Summary) **98k:52042** 52C15 (52A40)

Conner, Gregory R. A class of finitely generated groups with irrational translation numbers. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 4, 265–274. (Stephen G. Brick) **98h:20055** 20F32 (57M07)

Conner, P. E. (*with* Perlis, R.; Szymiczek, Kazimierz) Wild sets and 2-ranks of class groups. *Acta Arith.* **79** (1997), *no.* 1, 83–91. (Detlev W. Hoffmann) **98c:11120** 11R29 (11R70, 19F15)

Connes, Alain (*with* Helffer, Bernard) ★ Mathématiques quantiques. (French) [Quantum mathematics] SMF Journée Annuelle [SMF Annual Conference], 1992. *Société Mathématique de France, Paris*, 1992. 52 *pp.* (Editors) **98f:81003** 81–06

— Noncommutative geometry. (Finnish) *In the forest of symbols* (*Finnish*), 244–263, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 46Lxx (19Kxx, 22D25, 58Bxx, 58G12, 81Txx, 81Vxx)

— Géométrie non commutative et physique quantique. [Noncommutative geometry and quantum physics] *Mathématiques quantiques*, 20 *pp.*, *SMF Journ. Annu.*, 1992, *Soc. Math. France, Paris*, 1992. (Bruno Iochum) **98m:58005** 58B30 (46L60, 46L87, 81V22, 81V70)

— Non-commutative geometry and physics. *Gravitation et quantifications* (*Les Houches*, 1992), 805–950, *North-Holland, Amsterdam*, 1995. (Raimar Wulkenhaar) **98g:58007** 58B30 (46L87, 81T13, 81V22)

— (*with* Brodzki, Jacek; Ellwood, D.) Polarized modules and Fredholm modules. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 15–24. (Eric Leichtnam) **98i:58021** 58B30 (46H25, 46L05, 47B50)

— Gravity coupled with matter and the foundation of non-commutative geometry. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 155–176. (Albert Jeu-Liang Sheu) **98f:58024** 58B30 (46L87, 81V17, 83C45)

— (*with* Chamseddine, Ali H.) Universal formula for noncommutative geometry actions: unification of gravity and the standard model. (English summary) *Phys. Rev. Lett.* **77** (1996), *no.* 24, 4868–4871. (Kamran Kaviani) **98h:58009** 58B30 (81T13, 81V17)

— Trace formula in noncommutative geometry and the zeros of the Riemann zeta function. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. IV*, 28 *pp.*, *École Polytech., Palaiseau*, 1997. (Éric Leichtnam) **98i:11065** 11M26 (46L87, 58B30)

— Brisure de symétrie spontanée et géométrie du point de vue spectral. (French summary) [Spontaneous symmetry breaking and geometry from the spectral point of view] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 816, 5, 313–349. (Éric Leichtnam) **98h:58011a** 58B30 (19K56, 46L87, 58G10, 58G12, 81R40)

— Brisure de symétrie spontanée et géométrie du point de vue spectral. (English summary) [Spontaneous symmetry breaking and geometry from the spectral point of view] *J. Geom. Phys.* **23** (1997), *no.* 3-4, 206–234. (Éric Leichtnam) **98h:58011b** 58B30 (19K56, 46L87, 58G10, 58G12, 81R40)

— (*with* Schwarz, Albert S.) Matrix Vieta theorem revisited. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 349–353. (E. Formanek) **98c:15044** 15A24

— (*with* Damour, Thibault; Fayet, Pierre) Aspherical gravitational monopoles. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 391–431. (Bernd J. Schroers) **98e:83091** 83C99 (81T99)

Connolly, Frank (*with* Lê Hông Vân; Ono, Kaoru) Almost complex structures which are compatible with Kähler or symplectic structures. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 4, 325–334. (Paolo Lisca) **98i:53038** 53C15 (53C55, 57R15, 57R57)

— (*with* Vajiac, Bogdan) Completions of stratified ends. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997,** *Special issue no.* 2, 17–20. (Masayuki Yamasaki) **98d:57037** 57N80 (19J25)

Connolly, T. John (*with* Wall, David J. N.) On some inverse problems for a nonlinear transport equation. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 283–295. (George Dassios) **98e:35172** 35R30 (35L05, 35Q99, 76R99)

Connor, J. N. L. (*with* Wimp, Jet; McCabe, P.) Computation of Jacobi functions of the second kind for use in nearside-farside scattering theory. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 447–464. (Summary) **98m:33030** 33C45 (39A10, 65D20)

Connor, Paul (*with* Tait, R. J.) On the expansion of a deformed cylindrical elastic membrane. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 231–243. (Summary) **98k:73044** 73K10 (73C50)

Connors, R. D. (*with* Keating, Jonathan P.) Two-point spectral correlations for the square billiard. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1817–1830. (Christian Grosche) **98e:81036** 81Q50

Conolly, B. W. (*with* Parthasarathy, P. R.; Dharmaraja, S.) A chemical queue. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 83–91. (Summary) **98h:60125** 60J85 (80A30)

Conrad, Paul F. (*with* Chen, Yuanqian; Darnel, Michael R.) Finite-valued subgroups of lattice-ordered groups. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 501–512. (Stephen H. McCleary) **98a:06026** 06F15 (20F60)

— (*with* Darnel, Michael R.) Torsion classes of lattice-ordered groups with invariant radicals. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 167–182, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. Jakubík) **98d:06019** 06F15

— (*with* Darnel, Michael R.; Nelson, David G.) Valuations of lattice-ordered groups. (English summary) *J. Algebra* **192** (1997), *no.* 1, 380–411. (N. Ya. Medvedev) **98g:06025** 06F15 (20F60)

Conradi, Heinz-Dieter Remarks on Kantowski-Sachs quantum cosmology. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 295–298. (*see* **98f:83002**) 83C45

— Tunneling of macroscopic universes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 189–200. 83C45

Conrey, J. B. (*with* Duke, W.; Farmer, D. W.) The distribution of the eigenvalues of Hecke operators. *Acta Arith.* **78** (1997), *no.* 4, 405–409. (Tomasz Stefanicki) **98k:11047** 11F25 (11F11)

Conroy, John M. (*with* Kratzer, Steven G.; Lucas, Robert F.; Naiman, Aaron E.) Data-parallel sparse *LU* factorization. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 584–604 (*electronic*). 65F50 (65Y10)

Consiglieri, Luisa A steady-state non-Newtonian unidirectional flow with energy dissipation. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 177–184, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Rakesh Kumar Bhatnagar) **98j:76005** 76A05 (35Q30, 76M30)

— Stationary weak solutions for a class of non-Newtonian fluids with energy transfer. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 961–972. (Hamid Bellout) **98h:76006** 76A05 (35Q35)

Consiglio, Andrea (*with* Zenios, Stavros A.) A model for designing callable bonds and its solution using tabu search. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1445–1470. (*see* **98c:90003**) 90A09 (90C90)

Console, Sergio (*with* Thorbergsson, Gudlaugur) Geometric characterizations of orthogonal representations. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 74–84, *World Sci. Publishing, River Edge, NJ*, 1996. (Philippos J. Xenos) **98b:53038** 53C30 (53C35)

— (*with* Olmos, Carlos) Submanifolds of higher rank. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 309–321. (Mehmet Erdoğan) **98k:53070** 53C40 (53C42)

Consoli, Luca (*with* Bastianelli, Fiorenzo) A locally supersymmetric action for the scalar particle. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1291–1299. (Summary) **98b:81244** 81T60

Constable, Robert L. The structure of Nuprl's type theory. *Logic of computation* (*Marktoberdorf*, 1995), 123–155, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (*see* **98i:68008**) 68T15 (03B15, 03B70)

Constales, D. (*with* Brackx, F.) ★ Computer algebra with LISP and REDUCE. (English summary) An introduction to computer-aided pure mathematics. Mathematics and its Applications, 72. *Kluwer Academic Publishers, Dordrecht*, 1991. xii+264 *pp. ISBN* 0-7923-1441-7 68Q40

Constanda, Christian Robin-type conditions in plane strain. *Integral methods in science and engineering, Vol.* 1 (*Oulu*, 1996), 58–62, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 73C02 (35Q72)

— (*with* Thomson, G. R.) On stationary oscillations in bending of plates. *Integral methods in science and engineering, Vol.* 1 (*Oulu*, 1996), 190–194, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 73K10 (35Q72, 73D30)

— Boundary value problems associated with Newton's law of cooling. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 55–59. (Vitaly A. Volpert) **98i:80004** 80A20 (35J25)

— Elastic boundary conditions in the theory of plates. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 2, 189–197. (Igor Yu. Chudinovich) **98e:73079** 73K10 (35Q72, 73C02)

— On the Dirichlet problem for the two-dimensional biharmonic equation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 10, 885–890. (Wolfgang Sprössig) **98g:35057** 35J40 (31A30, 73K10)

— Fredholm equations of the first kind in the theory of bending of elastic plates. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 1, 85–96. (Peregrina Quintela Estévez) **98a:73038** 73K10 (45B05)

— A comparison of integral methods in plate theory. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 64–68, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73K10 (73V10)

— Radiation conditions and uniqueness for stationary oscillations in elastic plates. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 827–834. (B. Belinskiy) **98e:73057** 73D30 (35Q72, 73K10)

— *see also* **Integral methods in science and engineering, 98i:00021**; **98i:00022** *and* **Analysis, numerics and applications of differential and integral equations, 98i:00036**

Constantin, Adrian An oscillation theorem for Schrödinger equations. (English summary) *Note Mat.* **14** (1994), *no.* 2, 229–236 (1997). (C. A. Swanson) **98h:35060** 35J60 (34C10, 35B05)

— On the global existence of solutions of differential inclusions. (Italian summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 1, 1–29. (G. Anichini) **98c:34018** 34A60 (34A12, 49J24)

— Sur l'existence des ondes solitaires dans des problèmes du type Klein-Gordon. (French summary) [Existence of solitary waves in Klein-Gordon problems] *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 163–166. (Summary) **98h:35158** 35L70 (34A12, 35Q53)

— A note on the uniqueness of solutions of ordinary differential equations. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 273–276. (Summary) **98b:34008** 34A12

— On the approximation of solutions for nonlinear random equations. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 53–61. (A. Nowak) **98i:47064** 47H40 (45G10, 47H17, 47N20, 60H25)

— Study of a stochastic integral equation using integral contractors. *Demonstratio Math.* **30** (1997), *no.* 1, 71–83. (A. Nowak) **98g:47064** 47H40 (45G10, 47N20, 60H20)

— The Hamiltonian structure of the Camassa-Holm equation. (English summary) *Exposition. Math.* **15** (1997), *no.* 1, 53–85. (Mark Groves) **98c:76011** 76B15 (35Q53, 58F07)

— Soliton interactions for the Camassa-Holm equation. (English summary) *Exposition. Math.* **15** (1997), *no.* 3, 251–264. (Elena Medina Reus) **98g:35177** 35Q53

— On the spectral problem for the periodic Camassa-Holm equation. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 215–230. (Anthony D. Osborne) **98c:35140** 35Q53 (34B99, 34L99, 76B15, 76U05)

— Positive solutions of quasilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 334–339. (Introduction) **98g:35066** 35J60 (35B05)

— Ein Differentialsystem in der Modelierung der Sonnenkollektoren. (English summary) [A differential system in the modeling of collectors of solar energy] *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 9–15. 34A12

— (*with* Escher, Joachim) Well-posedness, global existence, and blowup phenomena for a periodic quasi-linear hyperbolic equation. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 475–504. (Bruno Scheurer) **98k:35165** 35Q53 (35B60, 35D05, 35L67)

Constantin, Peter Some mathematical problems of fluid mechanics. (English summary) *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 1086–1095, *Birkhäuser, Basel*, 1995. (Alain Miranville) **98a:35109** 35Q35 (76D05, 76Fxx)

— Singular limits in fluid mechanics. *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 109–136, *Birkhäuser Boston, Boston, MA*, 1997. (Alain Miranville) **98h:76067** 76F99 (35Q30, 76C99, 76D05)

— Exponents of bulk heat transfer in convective turbulence. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 17–27, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Alain Miranville) **98k:76072** 76F99 (35Q35, 76D10, 76R99)

— (*with* Wu, Jiahong) Statistical solutions of the Navier-Stokes equations on the phase space of vorticity and the inviscid limits. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3031–3045. (Introduction) **98c:76022** 76D05 (35Q30, 35R60, 76F99, 76M35)

— The elusive singularity. *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 24, 12761. 76D05 (76C99)

Constantine, A. G. (*with* Chan, Grace; Hall, Peter Gavin) Stochastic fractal models for multi-processed surfaces. (English summary) *Research developments in probability and statistics*, 329–341, *VSP, Utrecht*, 1996. (Summary) **98d:62178** 62M40

— (*with* Robinson, Neville I.) The Weibull renewal function for moderate to large arguments. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 1, 9–27. (Summary) **98a:62123** 62N05

Constantine, G. M. (*with* Farrell, E. J.) On the reconstruction of the subgraph polynomial and the reconstruction conjecture. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 1, 1–9. (Summary) **98c:05118** 05C60

Constantineau, Ivan (*with* Labelle, Gilbert) Une généralisation automorphe des nombres de Stirling. (English and French summaries) [An automorphic generalization of the Stirling numbers] Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 53–64. (Laurent Habsieger) **98e:11023** 11B73 (05A15, 05A30)

Constantinescu, Ioana (*with* Heise, Werner) On the concept of code-isomorphy. (English summary) *J. Geom.* **57** (1996), *no.* 1-2, 63–69. (Jonathan I. Hall) **98e:94028** 94B05

Constantinescu, Radu D. The generalized Koszul differential in the BRST quantization. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2786–2794. (Summary) **98i:58053** 58D29 (81T70)

Constantinescu, Tiberiu (*with* Bakonyi, Mihály) Operator-valued nonstationary Szegő limit theorems. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 807–819. (Summary) **98f:47015** 47A57 (42B25, 47B35, 47N30)

— (*with* Gheondea, Aurelian) Hermitian kernels with bounded structure. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 141–164. (J. Rovnyak) **98b:47012** 47A20 (47A57, 47A68, 47B50)

Constantino, Miguel Lower bounds in lot-sizing models: a polyhedral study. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 101–118. (Jean B. Lasserre) **98m:90092** 90C10 (90B30)

rodriguez-Consuegra, Francisco *see* **Rodriguez-Consuegra, Francisco**

Conte, E. On the generalization of the physical laws by biquaternions: an application to the generalization of Minkowski space-time. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 437–441. 83A05

Conte, Giuseppe (*with* Moog, C. H.; Perdon, Anna M.) Canonical decomposition of non-linear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1561–1565. 93B10 (93C10)

— (*with* Perdon, Anna M.) Errata corrige: "The matching problem for behavioral systems" [Kybernetika (Prague) **31** (1995), no. 6, 613–621; MR 97c:93030]. New directions in

control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 132. (Editors) **98j:93021** 93B25 (93A30)

— (*with* Serrani, Andrea) Robust control of a remotely operated underwater vehicle. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 193–198. 93C90 (93B36)

Conte, Robert (*with* Musette, Micheline) Beyond the two-singular manifold method. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 67–74, *World Sci. Publishing, River Edge, NJ*, 1996. (Yun Bo Zeng) **98e:58152** 58F37 (35Q55)

— (*with* Musette, Micheline) Non-Fuchsian Painlevé test. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 225–232, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:34005** 34A20 (34A05, 34A34)

— (*with* Labrunie, Simon) Discrete version of the Chazy class III equation. (English summary) *J. Phys. A* **29** (1996), *no.* 19, L499–L503. (Summary) **98m:39047** 39A12 (34C05)

— (*with* Musette, Micheline) A new method to test discrete Painlevé equations. (English summary) *Phys. Lett. A* **223** (1996), *no.* 6, 439–448. (Binggen Zhang) **98g:39012** 39A12 (34A34)

Contejean, Evelyne (*with* Ajili, Farid) Complete solving of linear Diophantine equations and inequations without adding variables. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 1–17, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98h:68122** 68Q40 (11Y50, 68T20)

— (*with* Boudet, Alexandre; Marché, Claude) AC-complete unification and its application to theorem proving. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 18–32, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q42 (68T15)

— (*with* Marché, Claude; Rabehasaina, Landy) Rewrite systems for natural, integral, and rational arithmetic. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 98–112, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Summary) **98j:68073** 68Q42 (68Q40)

— (*with* Ajili, Farid) Avoiding slack variables in the solving of linear Diophantine equations and inequations. (English summary) Principles and practice of constraint programming. *Theoret. Comput. Sci.* **173** (1997), *no.* 1, 183–208. (Michael Clausen) **98c:68033** 68N17 (11Y50, 68T15, 90C08)

Conti, Calogero (*with* Dehombreux, Pierre; Verlinden, Olivier) An implicit multistage integration method including projection for the numerical simulation of constrained multibody systems. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 4, 405–424. 70–08 (34A09, 70E99)

Conti, Giuseppe (*with* Obukhovskiĭ, Valeri; Zecca, Pietro) On the topological structure of the solution set for a semilinear functional-differential inclusion in a Banach space. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 159–169, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Giovanni Colombo) **98b:34103** 34K30 (34A60, 34K35, 47N20, 49J24)

— (*with* Anichini, G.) About the existence of solutions of a boundary value problem for a Carathéodory differential system. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 621–630. (John W. Lee) **98h:34036** 34B15 (47H11, 47H15, 47N20)

Conti, Monica C. Walking around mountains. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 1, 53–70 (1995). (Bernard Lemaire) **98a:49023** 49J45 (46G05, 46N10, 58E05)

Conti, Pasqualina (*with* Traverso, Carlo) A case of automatic theorem proving in Euclidean geometry: the Maclane 8_3 theorem. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 183–193, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98a:51022** 51M99 (13P10, 68T15)

Conti, Pier Luigi A note on the estimation of a proportion in sampling finite populations. (English and Italian summaries) *Metron* **53** (1995), *no.* 3-4, 35–41 (1996). (C. H. Kapadia) **98c:62013** 62D05

Conti, Roberto[2] (*with* Pinzari, Claudia) Remarks on the index of endomorphisms of Cuntz algebras. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 369–405. (Jeong Hee Hong) **98e:46065** 46L05 (46L55)

— (*with* Aita, Marco; Bergmann, Wolfgang R.) Amenable groups and generalized Cuntz algebras. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 48–64. (Siegfried Echterhoff) **98k:46110** 46L55 (22D05, 46L05)

Contopoulos, G. Chaos around two fixed black holes. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 143–155, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83C57 (58F13)

— Order and chaos in three-dimensional systems. *Three-dimensional systems* (*Gainesville, FL*, 1993), 112–130, *Ann. New York Acad. Sci.*, 751, *New York Acad. Sci., New York*, 1995. (*see* **98b:70018**) 70K50 (58F13, 70F15, 70H05, 85A05)

— (*with* Grousouzakou, E.) Regular and irregular periodic orbits. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 33–56. (Summary) **98h:70012** 70F15 (34C23, 34C25, 58F22, 70K50)

— (*with* Siopis, Christos; Kandrup, Henry E.; Dvorak, Rudolf) Universal properties of escape in dynamical systems. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 57–68. (Summary) **98h:70026** 70K99 (58F40, 70–08, 70F15, 70H05)

— (*with* Skokos, Ch.; Polymilis, C.) Structures in the phase space of a four-dimensional symplectic map. (English summary) *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 3, 223–251. (Summary) **98a:70018** 70H05 (58F05, 70–08)

— (*with* Voglis, N.; Efthymiopoulos, C.; Froeschlé, Claude; Gonczi, Robert; Lega, Elena; Dvorak, Rudolf; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

Contreras, Gerardo (*with* Núñez, L. A.; Percoco, U.) Collineation in a Friedmann-like collapsing configurations. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 366–370, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

Contreras, Gonzalo *see* **Contreras-Barandiarán, Gonzalo**

quintero-Contreras, Roy Omar *see* **Quintero-Contreras, Roy Omar**

Contreras, Xiomara (*with* García-Palomares, Ubaldo M.) Least square solution of a linear system of equations in Hilbert space. An application to PDEs. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 103–110, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Summary) **98a:65053** 65F25 (65J10, 65N12)

— (*with* Curiel, Mariela; Di Serio, Angela) Parallel processing to solve elliptic EDP. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30 (65Y05)

Contreras-Barandiarán, Gonzalo (*with* Ruggiero, Rafael Oswaldo) Non-hyperbolic surfaces having all ideal triangles with finite area. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 1, 43–71. (Athanase Papadopoulos) **98c:53056** 53C23 (58F17)

— (*with* Delgado, Jorge; Iturriaga, Renato) Lagrangian flows: the dynamics of globally minimizing orbits. II. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 155–196. (Author's review (RI)) **98i:58093** 58F05 (49Q20, 58E05)

Contro, Walter S. *see* **Leibniz, Gottfried Wilhelm, 98d:01043**

Contucci, Pierluigi (*with* Knauf, Andreas) The low activity phase of some Dirichlet series. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5458–5475. (Alain Valette) **98a:11118** 11M41 (11Z05, 82B99, 82D60)

— (*with* Knauf, Andreas) The phase transition of the number-theoretical spin chain. (English summary) *Forum Math.* **9** (1997), *no.* 4, 547–567. (Oliver Knill) **98j:82011** 82B20 (11M06, 11Z05, 82B26)

Conway, John B. (*with* Hadwin, Don) Stable invariant subspaces for operators on Hilbert space. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 49–61. (Victor S. Shul'man) **98e:47010** 47A15 (47B15, 47B37)

Conway, John H. (*with* Guy, Richard K.) ★ The book of numbers. (English summary) *Copernicus, New York*, 1996. x+310 *pp. ISBN* 0-387-97993-X (F. J. Papp) **98g:00004** 00A08

— Understanding groups like $\Gamma_0(N)$. *Groups, difference sets, and the Monster* (*Columbus, OH*, 1993), 327–343, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (J. McKay) **98b:11041** 11F06

— (*with* Hardin, Ronald H.; Sloane, Neil J. A.) Packing lines, planes, etc.: packings in Grassmannian spaces. (English summary) *Experiment. Math.* **5** (1996), *no.* 2, 139–159. (Igor Rivin) **98a:52029** 52C17 (65Y25)

— ★ The sensual (quadratic) form. With the assistance of Francis Y. C. Fung. Carus Mathematical Monographs, 26. *Mathematical Association of America, Washington, DC*, 1997. xiv+152 *pp. ISBN* 0-88385-030-3 (Carl Riehm) **98k:11035** 11E12 (11–01)

— M_{13}. (English summary) *Surveys in combinatorics*, 1997 (*London*), 1–11, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (Cheryl E. Praeger) **98i:20003** 20B25 (05B05, 20D08)

— (*with* Sloane, Neil J. A.) Low-dimensional lattices. VII. Coordination sequences. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2369–2389. (Renaud Coulangeon) **98j:11051** 11H06 (11H31)

— *see also* **Editors' note on: "Packing lines, planes, etc.: packings in Grassmannian spaces".** **98f:52025**

Conze, J.-P. (*with* Cerveau, D.; Raugi, Albert) Ensembles invariants pour un opérateur de transfert dans $\mathbf{R}^d$. (English and French summaries) [Invariant sets for a transfer operator in $\mathbf{R}^d$] *Bol. Soc. Brasil. Mat. (N.S.)* **27** (1996), *no.* 2, 161–186. (Steen Pedersen) **98m:28044** 28D99 (42C15, 60J10)

Coodey, M. (*with* Simons, Stephen) The convex function determined by a multifunction. (English summary) *Bull. Austral. Math. Soc.* **54** (1996), *no.* 1, 87–97. (Ada Bottaro Aruffo) **98i:47050** 47H04 (54C60)

— The picture of a specific maximal monotone set. (English summary) *Set-Valued Anal.* **4** (1996), *no.* 3, 283–286. (Simon Fitzpatrick) **98f:47061** 47H05

Cooil, Bruce (*with* Froeb, Luke) A difference estimator for testing equality of variances for paired time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 285–290. 62M10

Cook, G. B. *see* **Cook, Gregory B.**

Cook, Geoffrey M. (*with* Tessler, Alexander; Riggs, H. Ronald; Freese, Colin E.) An improved variational method for finite element stress recovery and a posteriori error estimation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 15–30. 73V05

Cook, Gregory B. (*with* Scheel, Mark A.) Well-behaved harmonic time slices of a charged, rotating, boosted black hole. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4775–4781. (Summary) **98e:83070** 83C57

— (*with* Scheel, Mark A.; Baumgarte, Thomas W.; Shapiro, Stuart L.; Teukolsky, Saul A.) Numerical evolution of black holes with a hyperbolic formulation of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6320–6335. (Summary) **98k:83057** 83C57 (83–08)

— (*with* Rezzolla, L.; Abrahams, A. M.; Baumgarte, Thomas W.; Scheel, Mark A.; Shapiro, Stuart L.; Teukolsky, Saul A.) Waveform propagation in black hole spacetimes: evaluating the quality of numerical solutions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1084–1091. 83C57

Cook, J. *see* **Cook, Julian**

Cook, J. L. (*with* Hirt, C. W.; Amsden, A. A.) An arbitrary Lagrangian-Eulerian computing method for all flow speeds [J. Comput. Phys. **14** (1974), no. 3, 227–253]. (English summary) With an introduction by L. G. Margolin. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 198–216. (*see* **98h:76003**) 76M20 (65M06)

Cook, Julian (*with* Tracqui, P.; Murray, J. D.) Mechanochemical models and biological morphogenesis—a brief review. (English summary) Proceedings of the Workshop on Principles of Pattern Formation and Morphogenesis in Biological Systems (Kasugai, 1992/93). *Forma* **8** (1993), *no.* 2, 159–178. (*see* **98h:92005**) 92C15 (73P20)

— Waves of alignment in populations of interacting, oriented individuals. (English summary) *Forma* **10** (1995), *no.* 3, 171–203. (John G. Milton) **98m:92034** 92D50 (35Q80, 92B05, 92D25)

— (*with* Murray, J. D.; Tyson, R.; Lubkin, S. R.) Spatial pattern formation in biology. I. Dermal wound healing. II. Bacterial patterns. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 303–332. (*see* **98i:92001**) 92C15 (92–02)

Cook, Kerry H. (*with* Ringler, Todd D.) Factors controlling nonlinearity in mechanically forced stationary waves over orography. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 22, 2612–2629. (Summary) **98h:86003** 86A10

Cook, Michele (*with* Braun, Robert) A smooth surface in $\mathbf{P}^4$ not of general type has degree at most 66. (English summary) *Compositio Math.* **107** (1997), *no.* 1, 1–9. (James E. Alexander) **98c:14029** 14J25

Cook, P. A. (*with* Lai, Weng Chuen) A discrete-time universal regulator. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 17–32. 93B52 (93C55)

— (*with* Ng, G. W.) On-line adaptive control of non-linear plants using neural networks with application to liquid level control. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 1, 13–28. 93C40 (93C95)

Cook, R. Dennis Graphics for regressions with a binary response. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 983–992. (Summary) **98k:62114** 62J05

— (*with* Weisberg, Sanford) Graphics for assessing the adequacy of regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 490–499. (Summary) **98c:62140** 62J20

Cook, Stephen A. (*with* Mitchell, David Geoffrey) Finding hard instances of the satisfiability problem: a survey. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 1–17, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:68081** 68Q25 (03B05, 03D15, 68Q15)

— (*with* Impagliazzo, Russell; Yamakami, Tomoyuki) A tight relationship between generic oracles and type-2 complexity theory. (English summary) *Inform. and Comput.* **137** (1997), *no.* 2, 159–170. (Rodney G. Downey) **98m:68086** 68Q15 (03D15)

Cooke, Charlie H. Several resolvable BIB or PBIB doubles round robin tournament designs. (English summary) *Ars Combin.* **47** (1997), 75–86. 05B05

— The Hadamard matroid and an anomaly in its single element extensions. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 7, 115–120. (Gary Gordon) **98c:05038** 05B35

— (*with* Chen, Tze-Jang) A new averaging scheme for the Riemann problem in pure water. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 3, 25–36. (Gholam-Ali Zakeri) **98c:76056** 76L05 (65M99, 76M20, 76N15)

— The adjoint alternative for matrix operators. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 79–81. (Summary) **98k:15004** 15A04

Cooke, G. E. (*with* Ranicki, Andrew; Casson, A. J.; Sullivan, D. P.; Armstrong, M. A.; Rourke, Colin) ★ The Hauptvermutung book. A collection of papers of the topology of manifolds. *K*-Monographs in Mathematics, 1. *Kluwer Academic Publishers, Dordrecht*, 1996. vi+190 *pp. ISBN* 0-7923-4174-0 (Oliver Attie) **98c:57024** 57Q25 (57–06)

— (*with* Armstrong, M. A.; Rourke, Colin) The Princeton notes on the Hauptvermutung. *The Hauptvermutung book*, 105–106, *K-Monogr. Math.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (Oliver Attie) **98c:57028** 57Q25

— The Hauptvermutung according to Casson and Sullivan. *The Hauptvermutung book*, 165–187, *K-Monogr. Math.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (Oliver Attie) **98c:57031** 57Q25

Cooke, Kenneth L. (*with* Rossovskiĭ, L. E.; Skubachevskiĭ, A. L.) A boundary value problem for a functional-differential equation with a linearly transformed argument. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1348–1352, 1438; *translation in Differential Equations* **31** (1995), *no.* 8, 1294–1299 (1996). (Alexander I. Domoshnitsky) **98b:34085** 34K10 (34K15)

Cooke, N. (*with* Farahmand, Kambiz) Single retrial queues with service option on arrival. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 1, 5–12. 60K25

Cooke, P. (*with* Wang, Julian Zijun; Li, Gui Shan) Determination of domains of attraction based on a sequence of maxima. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 173–181. (Arnold Janssen) **98h:62085** 62G10 (62G30)

Cooke, Roger L. *see* **Commutative harmonic analysis, 98b:42001** *and* **Laptev, B. L. et al., 98m:01017**

Cooker, M. J. (*with* Weidman, P. D.; Bale, D. S.) Reflection of a high-amplitude solitary wave at a vertical wall. (English summary) *J. Fluid Mech.* **342** (1997), 141–158. (Summary) **98d:76026** 76B25 (76B15, 76M15)

Coolen, A. C. C. (*with* Viana, L.) Feed-forward chains of recurrent attractor neural networks near saturation. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7855–7866. (Dimitri Petritis) **98e:82040** 82C32

Coolen, F. P. A. (*with* van der Laan, Paul) On indifference zone selection with a preference threshold. (English summary) *Biometrical J.* **38** (1996), *no.* 5, 553–575. (B. R. Handa) **98m:62046** 62F07 (62F15)

— (*with* Verheijen, J. H. M.; van der Laan, Paul) Combining two classical approaches for statistical selection. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1291–1312. (Summary) **98d:62030** 62F07

— On the stopping boundary for sequential selection of the normal population with the largest mean. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 356–365. (Summary) **98k:62140** 62L10 (62F07)

Coolen, Jeroen (*with* Heskes, Tom) Learning in two-layered networks with correlated examples. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4983–4992. 82C32 (92B20)

Cools, Ronald (*with* Verschelde, J.; Gatermann, K.) Mixed-volume computation by dynamic lifting applied to polynomial system solving. (English summary) *Discrete Comput. Geom.* **16** (1996), *no.* 1, 69–112. (Summary) **98g:68171** 68U05 (52B55, 68Q40)

— (*with* Reztsov, Andrew) Different quality indexes for lattice rules. (English summary) *J. Complexity* **13** (1997), *no.* 2, 235–258. (Murli M. Gupta) **98e:65011** 65D32

de Cooman, Gert *see* **De Cooman, Gert**

Coomes, Brian A. (*with* Koçak, Hüseyin; Palmer, Kenneth J.) Shadowing in discrete dynamical systems. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 163–211, *World Sci. Publishing, River Edge, NJ*, 1996. (Heinrich Steinlein) **98d:58133** 58F15 (58F03)

— (*with* Koçak, Hüseyin; Palmer, Kenneth J.) Computation of long periodic orbits in chaotic dynamical systems. (English summary) *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 5, 183–190. (Jerzy Ombach) **98m:58110** 58F22 (58F13, 65H20)

Coonce, H. B. Permutable functions. (English summary) *Aequationes Math.* **52** (1996), *no.* 3, 201–214. (Summary) **98f:33020** 33C50

Cooper, A. J. (*with* Carpenter, Peter W.) The stability of rotating-disc boundary-layer flow over a compliant wall. I. Type I and II instabilities. (English summary) *J. Fluid Mech.* **350** (1997), 231–259. (Summary) **98k:76055** 76E99 (73K70, 76D10, 76U05)

— (*with* Carpenter, Peter W.) The stability of rotating-disc boundary-layer flow over a compliant wall. II. Absolute instability. (English summary) *J. Fluid Mech.* **350** (1997), 261–270. (Summary) **98k:76056** 76E99 (73K70, 76D10, 76U05)

Cooper, Colin (*with* Kovalenko, Igor N.) An upper bound for the number of complete reflections. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 69–75. (Summary) **98c:60009** 60C05 (20N02, 60F05)

— (*with* Frieze, Alan; Molloy, Michael Sean O'Brien) Hamilton cycles in random regular digraphs [MR 96c:05116]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 153–163, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C45 (05C20, 05C80)

— (*with* Frieze, Alan; Mehlhorn, Kurt; Priebe, Volker) Average-case complexity of shortest-paths problems in the vertex-potential model. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 15–26, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68082** 68Q25 (68R10)

Cooper, Curtis (*with* Kennedy, Robert E.) On the set of positive integers which are relatively prime to their digital sum and its complement. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 173–180. (Jeffrey O. Shallit) **98m:11008** 11A63 (11B05)

Cooper, Daryl (*with* Long, Darren D.) The *A*-polynomial has ones in the corners. *Bull. London Math. Soc.* **29** (1997), *no.* 2, 231–238. (Sergej V. Matveev) **98f:57026** 57N10 (57M50)

— (*with* Long, Darren D.) Foliations of some 3-manifolds which fiber over the circle. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 925–931. (Athanase Papadopoulos) **98e:57021** 57M50 (57M60, 57N10, 57R30, 57S30)

Cooper, G. J. Some linear stability results for iterative schemes for implicit Runge-Kutta methods. (English summary) *BIT* **36** (1996), *no.* 1, 77–85. (Syvert P. Nørsett) **98d:65095** 65L06 (65L20)

Cooper, Joan (*with* Donovan, Diane; Gower, Rebecca A. H.) Critical sets in direct products of back circulant Latin squares. (English summary) *Utilitas Math.* **50** (1996), 127–162. (G. H. J. Van Rees) **98a:05030** 05B15

Cooper, Leith (*with* Kogan, Ian I.; Szabo, Richard J.) Dynamical description of spectral flow in $N = 2$ superconformal field theories. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 492–510. (Isabel P. Ennes) **98i:81229** 81T40

— (*with* Kogan, Ian I.; Lee, Kai-Ming) String winding modes from charge non-conservation in compact Chern-Simons theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 67–74. (Kurt Haller) **98b:81184** 81T30 (81T13, 81T40)

Cooper, M. *see* **Cooper, Martin C.**

Cooper, Martin *see* **Brousseau, Guy**

Cooper, Martin C. (*with* Jeavons, Peter; Cohen, David A.) When constraints are easy to satisfy. (English summary) *Applications of combinatorial mathematics* (*Oxford*, 1994), 135–153, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Summary) **98f:68241** 68T20

Cooper, S. Barry Discontinuous phenomena and Turing definability. (English summary) *Algebra and analysis* (*Kazan*, 1994), 41–55, *de Gruyter, Berlin*, 1996. (Peter Cholak) **98i:03056** 03D25 (03D30, 03D35)

— (*with* Sorbi, Andrea; Yi, Xiaoding) Cupping and noncupping in the enumeration degrees of Σ_2^0 sets. (English summary) *Ann. Pure Appl. Logic* **82** (1996), *no.* 3, 317–342. (C. G. Jockusch, Jr.) **98c:03091** 03D30

— (*with* Sorbi, Andrea) Noncappable enumeration degrees below $\mathbf{0}_e'$. *J. Symbolic Logic* **61** (1996), *no.* 4, 1347–1363. (J. C. Owings, Jr.) **98j:03058** 03D30

— Beyond Gödel's theorem: the failure to capture information content. (English summary) *Complexity, logic, and recursion theory*, 93–122, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Roman Murawski) **98c:03092** 03D30 (03A05)

Cooper, S. Clement (*with* Gustafson, Philip E.) Extremal properties of strong quadrature weights and maximal mass results for truncated strong moment problems. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 197–208. (Summary) **98c:41044** 41A55 (44A60)

Cooper, S. G. (*with* Mackintosh, R. S.) Energy-dependent potentials obtained by IP inversion. *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 112–123, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U40

Cooper, Shaun A new proof of the Macdonald identities for A_{n-1}. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 345–360. (Volker Strehl) **98g:05019** 05A19 (05A30, 11B65)

Cooper, W. W. (*with* Banker, R. D.) Validation and generalization of DEA and its uses. (English summary) With comments. *Top* **2** (1994), *no.* 2, 249–314. 90C08 (90A11)

— (*with* Wei, Quanling; Yu, Gang[2]) Using displaced cone representation in DEA models for nondominated solutions in multiobjective programming. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 41–49. (Marlies Borchardt) **98i:90082** 90C29

Cooperman, Gene (*with* Finkelstein, Larry; Linton, Steve) Constructive recognition of a black box group isomorphic to GL(n, 2). (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 85–100, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (D. F. Holt) **98d:20054** 20G40 (20–04)

— (*with* Finkelstein, Larry; Tselman, Michael; York, Bryant) Constructing permutation representations for matrix groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 471–488. (J. D. Dixon) **98h:20090** 20H30 (20D08, 68Q40)

Cooperstein, Bruce N. On the generation of some dual polar spaces of symplectic type over GF(2). (English summary) *European J. Combin.* **18** (1997), *no.* 7, 741–749. (Stanley E. Payne) **98k:51008** 51A50 (05B25)

— On the generation of dual polar spaces of unitary type over finite fields. (English summary) *European J. Combin.* **18** (1997), *no.* 8, 849–856. (Jim Totten) **98m:05032** 05B25 (51E26)

— (*with* Shult, Ernest E.) Geometric hyperplanes of Lie incidence geometries. (English summary) *Geom. Dedicata* **64** (1997), *no.* 1, 17–40. (Norbert Knarr) **98c:51013** 51E24 (51A45)

— (*with* Shult, Ernest E.) Combinatorial construction of some near polygons. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 120–140. (Norbert Knarr) **98c:51008** 51E12 (51E20)

— (*with* Shult, Ernest E.) Frames and bases of Lie incidence geometries. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 17–46. (Harald Gottschalk) **98j:51017** 51E24

— External flats to varieties in $\mathbf{PG}(M_{n,n}(\mathrm{GF}(q)))$. (English summary) *Linear Algebra Appl.* **267** (1997), 175–186. (Summary) **98i:15004** 15A03 (15A33)

— (*with* Cohen, Arjeh M.) Lie incidence systems from projective varieties. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2095–2102. (Michel Brion) **98h:14060** 14M15 (51J10)

Cooperstock, Fred I. New energy localization hypothesis. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 349–353, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:83026** 83C35

— (*with* Bayın, Selçuk Ş.; Faraoni, Valerio) A singularity-free cosmological model. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 361–365, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

— (*with* Faraoni, Valerio; Overduin, James M.) COBE constraints on Kaluza-Klein cosmologies. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 237–243, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:83001**) 83B05 (83E15)

— (*with* Perry, G. Philip) Exact solution for two charged spherically symmetric sources in equilibrium. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 319–323, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:83016** 83C15

— (*with* Jhingan, S.; Joshi, Pankaj S.; Singh, Tejinder Pal) Cosmic censorship and the role of pressure in gravitational collapse. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2195–2201. (Patrick Dolan) **98i:83058** 83C75

Coornaert, Michel (*with* Papadopoulos, Athanase) A Fatou-type theorem for functions associated with conformal densities on the boundary of a metric tree. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3765–3768. (Frédéric Paulin) **98e:31011** 31C99 (20E08, 31A20, 54F50)

— (*with* Papadopoulos, Athanase) Positive eigenfunctions of the Laplacian and conformal densities on homogeneous trees. *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 609–624. (Vadim A. Kaĭmanovich) **98j:58089** 58F19 (28A78)

— (*with* Papadopoulos, Athanase) Upper and lower bounds for the mass of the geodesic flow on graphs. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 479–493. (Edoh Amiran) **98d:58140** 58F17 (05C25, 60J15)

Copas, J. B. (*with* Stride, C. B.) Fitting a normal distribution when the model is wrong. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 601–614. (Summary) **98m:62090** 62G05 (62F10)

— (*with* Li, Hua Gui) Inference for non-random samples. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 55–95. (Summary) **98a:62007** 62A99 (62F10)

Copeland, B. Jack Prior's life and legacy. *Logic and reality (Christchurch, 1989)*, 1–40, *Oxford Univ. Press, New York*, 1996. (John W. Dawson, Jr.) **98g:01058** 01A70 (03-03, 03B45)

— Tree formulations of tense logic. *Logic and reality (Christchurch, 1989)*, 53–67, *Oxford Univ. Press, New York*, 1996. (Regimantas Pliuškevičius) **98m:03035** 03B45

— Vague identity and fuzzy logic. *J. Philos.* **94** (1997), *no.* 10, 514–534. 03B52 (03A05)

— Turing's *O*-machines, Searle, Penrose and the brain. *Analysis (Oxford)* **58** (1998), *no.* 2, 128–138. 03A05 (03D10)

— *see also* **Logic and reality**, **98b:03006**

Copeland, E. J. (*with* Lidsey, James E.; Wands, David) *S*-duality-invariant perturbations in string cosmology. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 407–420. (Summary) **98j:83093** 83E30 (81T30, 83F05)

— (*with* Lidsey, James E.; Wands, David) Cosmology of the type IIB superstring. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, R625–R629. 83E30 (81T30)

Copeland, Jack *see* **Copeland, B. Jack**

Copernicus, Nicolaus *see* **Goddu, André**, **98j:01013**

Copestake, Kate On nondeterminism, enumeration reducibility and polynomial bounds. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 287–310. (Marat M. Arslanov) **98k:03087** 03D10 (03D15, 03D30, 68Q05, 68Q10, 68Q15)

Coplakova, Eva *see* **Papers on general topology and applications**, **98f:54005**

Coppens, Marc An infinitesimal study of secant space divisors. (English summary) *J. Pure Appl. Algebra* **113** (1996), *no.* 2, 121–144. (Kristian Ranestad) **98d:14006** 14C20 (14M15, 14N05)

— (*with* Kato, Takao) The Weierstrass gap sequence at an inflection point on a nodal plane curve, aligned inflection points on plane curves. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 1–33. (R. F. Lax) **98d:14046** 14H55

— (*with* Ballico, Edoardo) Very ample line bundles on blown-up projective varieties. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 437–447. (Letterio Gatto) **98k:14019** 14E25 (14C20, 14N05)

— The existence of k-gonal curves possessing exactly two linear systems g^1_k. *Math. Ann.* **307** (1997), *no.* 2, 291–297. (Giorgio Bolondi) **98c:14024** 14H45 (14C20)

Coppens, Marnix (*with* Verschelde, Henri; Schelstraete, Sigurd; Vanderkelen, Mark) On a certain lower bound to the effective potential of $\lambda\varphi^4$. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L173–L176. (Summary) **98f:81173** 81T10

Coppersmith, Don (*with* Bellare, Mihir; Håstad, Johan; Kiwi, Marcos; Sudan, Madhu) Linearity testing in characteristic two. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1781–1795. (Summary) **98m:68111** 68Q25 (68Q15, 90C27)

— (*with* Shamir, Adi) Lattice attacks on NTRU. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 52–61, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **98j:94016** 94A60

— Rectangular matrix multiplication revisited. (English summary) *J. Complexity* **13** (1997), *no.* 1, 42–49. (Erich Novak) **98b:65028** 65F05 (68Q25)

Coppey, L. Leçons commentées sur les monades. [Expanded lectures on monads] *Diagrammes* **34** (1995), 11–89. (Marta C. Bunge) **98j:18008** 18C15

Coppo, Mario (*with* Damiani, Ferruccio; Giannini, Paola) On strictness and totality. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 138–164, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (Summary) **98k:68030** 68N15 (03B70)

— *see also* **Types for proofs and programs**, **98d:03006**

Coppola, G. (*with* Laporta, M. B. S.) A new "weighted" form of the Riemann-von Mangoldt explicit formula. (English summary) *Note Mat.* **14** (1994), *no.* 2, 263–275 (1997). (Daniel A. Goldston) **98k:11118** 11M26 (11N05)

— (*with* Laporta, M. B. S.) On the representation of even integers as sum of two almost equal primes. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 245–252. (A. Perelli) **98h:11122** 11P32 (11P55)

Coppola, Vincent T. (*with* Wan, C. J.; Tsiotras, Panagiotis; Bernstein, Dennis S.) Global asymptotic stabilization of a spinning top with torque actuators using stereographic projection. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 215–233. (Summary) **98c:70026** 70Q05 (70E15, 70K20, 93D15)

— The method of averaging for Euler's equations of rigid body motion. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 4, 295–308. (Summary) **98g:70010** 70E15 (70M20)

— (*with* Bupp, Robert T.; Bernstein, Dennis S.) A benchmark problem for nonlinear control design. A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 307–310. (*see* **98k:93004**) 93A30 (70K99, 70Q05, 93C85)

— (*with* Bupp, Robert T.; Bernstein, Dennis S.) Experimental implementation of integrator backstepping and passive nonlinear controllers on the RTAC testbed. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 435–457. (*see* **98k:93004**) 93B52 (70K99, 70Q05, 93C85)

Copps, K. (*with* Babuška, Ivo; Strouboulis, Theofanis) *hp* optimization of finite element approximations: analysis of the optimal mesh sequences in one dimension. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 89–108. (Manfred Dobrowolski) **98m:65184** 65N30 (65M60)

Coquand, Thierry (*with* Berardi, Stefano; Bezem, Marc) A realization of the negative interpretation of the axiom of choice. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 47–62, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:03053** 03F60

— (*with* Smith, Jan M.) An application of constructive completeness. *Types for proofs and programs (Torino, 1995)*, 76–84, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (From the introduction) **98m:03082** 03C90 (03B15, 03B20, 03B35, 03C07)

— Minimal invariant spaces in formal topology. *J. Symbolic Logic* **62** (1997), *no.* 3, 689–698. (Peter Johnstone) **98i:03083** 03F65 (05D10, 06E15, 54A05, 54H20)

— (*with* Dybjer, Peter) Intuitionistic model constructions and normalization proofs. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 1, 75–94. (Summary) **98b:03022** 03B40 (03B70, 68Q55)

Coquel, Frédéric (*with* El Amine, Khalid; Godlewski, Edwige; Perthame, Benoît; Rascle, Paul) Une méthode numérique décentrée pour la résolution d'écoulements diphasiques. (English and French summaries) [A numerical method using upwind schemes for the solution of two-phase flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 717–723. (Summary) **98c:76078** 76M25 (65M06, 76N99, 76T05)

— (*with* El Amine, Khalid; Godlewski, Edwige; Perthame, Benoît; Rascle, Paul) A numerical method using upwind schemes for the resolution of two-phase flows. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 272–288. (Summary) **98h:76092** 76M20 (76N10, 76T05)

Coquereaux, R. (*with* Cammarata, G.) Comments about Higgs fields, noncommutative geometry, and the standard model. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 27–50, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Gennaro Miele) **98k:81312** 81V22 (58B30)

Coquet, François (*with* Mémin, Jean) Errata: "Rate of convergence in law of the solutions of stochastic differential equations to a diffusion" [in *Séminaire de Probabilités XXVIII*, 279–292, Lecture Notes in Math., 1583, Springer, Berlin, 1994; MR 96c:60074]. (French) *Séminaire de Probabilités, XXXI*, 327–328, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (*see* **98e:60005**) 60H10 (60F05)

Corach, G. (*with* Andruchow, E.; Stojanoff, D.) Geometric operator inequalities. (English summary) *Linear Algebra Appl.* **258** (1997), 295–310. (Frank Hansen) **98c:47020** 47A63 (46L05, 58B20)

— (*with* Andruchow, E.; Stojanoff, D.) On Heinz inequality. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 143–145. (Frank Hansen) **98g:47006** 47A30 (47A63, 47B15)

Corazza, Paul A new large cardinal and Laver sequences for extendibles. (English summary) *Fund. Math.* **152** (1997), *no.* 2, 183–188. (Carlos A. Di Prisco) **98f:03045** 03E55 (03E35)

Corbo Esposito, Antonio (*with* De Arcangelis, Riccardo) A characterization of sets of functions and distributions on $\mathbf{R}^n$ described by constraints on the gradient. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 167–194. (Michele Carriero) **98j:49001** 49J10 (46F99)

— (*with* Balzano, Michele; Paderni, G.) Nonlinear Dirichlet problems in randomly perforated domains. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 163–186. (Jan I. Seidler) **98m:35058** 35J65 (35B25, 35R60, 49J45, 49J55)

Corbu, Sergiu (*with* Postolache, Mihai) Fractals generated by Möbius transformations and some applications. (English summary) *New frontiers in algebras, groups and geometrics (Monteroduni, 1995)*, 407–416, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98d:00020**) 28A80

Corchon, Luis C. (*with* Baliga, Sandeep; Sjöström, Tomas) The theory of implementation when the planner is a player. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 15–33. (Summary) **98f:90083** 90D35 (90A05)

Cordaro, Paulo D. (*with* Bergamasco, Adalberto P.; Petronilho, Gerson) Global solvability for certain classes of underdetermined systems of vector fields. *Math. Z.* **223** (1996), *no.* 2, 261–274. (A. Alexandrou Himonas) **98c:58180** 58G99 (35H05)

Cordeiro, Gauss M. (*with* Aubin, Elisete da Conceição Q.) Bias in linear regression models with unknown covariance matrix. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 813–828. 62J05

— (*with* Rodrigues, Josemar; Bolfarine, Heleno) Nonlinear quasi-Bayesian theory and inverse linear regression. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2347–2361. (Summary) **98m:62204** 62J12 (62F15)

— (*with* Vasconcellos, Klaus L. P.) Approximate bias for multivariate nonlinear heteroscedastic regressions. (English summary) *Rebrape* **11** (1997), *no.* 2, 141–159. 62J02 (62F10)

— (*with* Vasconcellos, Klaus L. P.) Bias correction for a class of multivariate nonlinear regression models. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 155–164.

(Summary) **98k:62110** 62J02 (62H12)

— (*with* Cribari-Neto, Francisco) On bias reduction in exponential and non-exponential family regression models. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 485–500. 62J12 (62F10)

— (*with* Ferrari, Silvia L. de Paula) Generalized Bartlett correction. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 509–527. 62F10 (62E20)

Cordeiro, R. R. (*with* Vieira Martins, R.; Canova, A. L. F.) Algebraic computation of eigenvectors, signatures, and stability of infinitesimally symplectic matrices. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 3, 215–224. (Summary) **98j:70017** 70H05 (70–08)

Cordella, Tito (*with* Jaskold Gabszewicz, Jean) "Nice" trivial equilibria in strategic market games. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 162–169. (Summary) **98m:90045** 90A60 (90D35)

Cordero, E. (*with* De Biase, L.; Pennati, V.) A new finite volume method for the solution of convection-diffusion equations: analysis of stability and convergence. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 923–940. (Summary) **98j:65056** 65M06 (65M60, 76M25, 76Rxx)

Cordero, Luis A. (*with* Fernández, Marisa; Ugarte, Luis; Gray, Alfred) A general description of the terms in the Frölicher spectral sequence. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 75–84. (Sorin Dragomir) **98m:53092** 53C56 (32C10, 55T99)

— (*with* Parker, P. E.) Left-invariant Lorentzian metrics on 3-dimensional Lie groups. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 1, 129–155. (O. Kowalski) **98g:53091** 53C30 (53C50)

Cordero, Minerva (*with* Figueroa, Raúl F.) Transitive autotopism groups and the generalized twisted field planes. *Mostly finite geometries* (*Iowa City, IA*, 1996), 191–196, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (M. J. Kallaher) **98j:51008** 51E15

— Matrix spread sets of p-primitive semifield planes. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 293–297. (Norman L. Johnson) **98b:51010** 51E15 (05B25)

Cordero, P. (*with* Risso, D.) Microscopic computer simulation of fluids. *Fourth Granada Lectures in Computational Physics* (1996), 83–134, *Lecture Notes in Phys.*, 493, *Springer, Berlin*, 1997. (*see* **98h:00028**) 82D15 (76M25, 76P05)

Cordero, Rubén (*with* Salazar, Humberto) Stationary axisymmetric solutions of the Einstein equations with rigidly rotating perfect fluid and nonlinear charged sources. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1259–1268. (Summary) **98d:83016** 83C20 (83C15)

Cordero-Braña, Olga I. (*with* Cutler, Adele) Minimum Hellinger distance estimation for finite mixture models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1716–1723. (Carlo E. Sempi) **98b:62057** 62G05 (62G20)

Cordes, H. O. (*with* Melo, Severino T.) Smooth operators for the action of SO(3) on $L^2(S^2)$. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 3, 251–260. (Éric Leichtnam) **98e:58163** 58G15 (35S05, 47B38, 47F05)

Cordier, Jean-Marc (*with* Porter, Timothy) Categorical aspects of equivariant homotopy. (English summary) The European Colloquium of Category Theory (Tours, 1994). *Appl. Categ. Structures* **4** (1996), *no.* 2-3, 195–212. (Pilar C. Carrasco) **98a:18008** 18G55 (18D20, 55P91)

Cordier, Marie-Odile (*with* Lang, Jérôme) Linking transition-based update and base revision. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 133–141, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B60, 03B70)

Cordier, S. (*with* Degond, Pierre; Markowich, Peter A.; Schmeiser, Christian) Travelling wave analysis of an isothermal Euler-Poisson model. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 599–643. (J. W. Jerome) **98i:76111** 76X05 (34B15, 35Q35, 82D10)

— (*with* Buet, C.; Degond, Pierre; Lemou, M.) Fast algorithms for numerical, conservative, and entropy approximations of the Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 310–322. (Summary) **98a:82097** 82D10 (82–08, 82C35)

Córdoba, Antonio (*with* Chamizo, Fernando) One-dimensional crystals and quadratic residues. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 101–104. (Hartmut Menzer) **98f:11085** 11L03 (11A15, 11Z05, 82D25)

Cordoba, Diego On the geometry of solutions of the quasi-geostrophic and Euler equations. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 24, 12769–12770. (Summary) **98g:35166** 35Q35 (76C99, 86A05, 86A10)

fernández de Córdoba, P. *see* **Fernández de Córdoba, P.**

Cordovil, Raul (*with* Guedes de Oliveira, António; Las Vergnas, Michel) A generalized Desargues configuration and the pure braid group. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 105–113. (Hiroaki Terao) **98b:52015** 52B30 (20F36)

Corduneanu, Adrian The asymptotic behaviour of the solution of some difference equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 45–52. (From the text) **98m:39007** 39A10

— The differential system $Ay' + By = 0$. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 51–57. 34A09 (34A30)

— (*with* Moroşanu, Gheorghe) Periodic solutions for a class of functional equations. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 1, 38–43. (Da Jun Guo) **98a:34074** 34K15 (45G10)

— Some remarks on the Laplace equation $xy''(ax + b)y' + (\lambda x + \mu)y = 0$. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 1-2, 33–40. 34A05 (34A25)

— (*with* Moroşanu, Gheorghe) On the system $\dot{x} = A(t)x$ with $A(t)$ symmetric or antisymmetric. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 35–39. 34A30

— The system $\dot{x} = Ax$ with a real antisymmetric matrix of the four order. *Octogon Math. Mag.* **5** (1997), *no.* 2, 45–48. 34A30

Corduneanu, C. Neutral functional-differential equations with abstract Volterra operators. *Advances in nonlinear dynamics*, 229–235, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Ivan Straškraba) **98i:34120** 34K30 (34K40, 47N20)

Cordy, Clifford B. (*with* Thomas, David R.) Deconvolution of a distribution function. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1459–1465. 62G05

Corgini, M. (*with* Sankovich, D. P.) The infrared bounds method in the study of boson systems. (English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 3, 421–430; *reprinted in Theoret. and Math. Phys.* **108** (1996), *no.* 3, 1187–1194 (1997). (Bruno Nachtergaele) **98e:82005** 82B10

Cori, Robert (*with* Charron-Bost, Bernadette; Petit, Antoine) Introduction à l'algorithmique des objets partagés. (English and French summaries) [Introduction to the algorithmics of shared objects] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 2, 97–148. (Summary) **98h:68067** 68Q10

Corichi, Alejandro (*with* Ryan, Michael P., Jr.) Quantization of non-standard Hamiltonian systems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3553–3572. (Ivailo M. Mladenov) **98g:58065** 58F06 (81S10)

— (*with* Zapata, José A.) On diffeomorphism invariance for lattice theories. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 475–490. (Francois Vanderseypen) **98e:81125** 81T25

— (*with* Ashtekar, Abhay) Gauss linking number and the electromagnetic uncertainty principle. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2073–2079. (Mircea Zăgănescu) **98j:81366** 81V10 (53A04, 81T15)

— (*with* Ashtekar, Abhay; Baez, John Carlos; Krasnov, Kirill V.) Quantum geometry and black hole entropy. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 5, 904–907. (Summary) **98k:83051** 83C57 (83C45)

Corinaldesi, Lorena (*with* Spitaleri, Rosa Maria) Multigrid computation for the two-dimensional shallow water equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 709–717. (*see* **98i:00028**) 76M20 (65M55, 76B15)

Corke, T. C. (*with* Knasiak, K. F.) Stationary travelling cross-flow mode interactions on a rotating disk. (English summary) *J. Fluid Mech.* **355** (1998), 285–315. 76D99 (76–05, 76E10)

Corless, Martin (*with* Astuti, P.; Williamson, Darrell) On the convergence of sampled data nonlinear systems. (English summary) *Differential equations* (*Bandung*, 1996), 201–210, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98m:93072** 93C57 (93C41)

— (*with* Bajaj, A. K.; Georgiou, I. T.) Dynamics of singularly perturbed nonlinear systems with two degrees-of-freedom. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 9–16, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K99 (34C15, 34E15)

— (*with* Leitmann, George) Destabilization via active stiffness. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 263–268. (Paulo Sérgio Pereira da Silva) **98e:93082** 93D15 (34C15, 34H05, 70K20)

— (*with* Amato, Francesco[2]; Mattei, Massimiliano; Setola, R.) A multivariable stability margin in the presence of time-varying, bounded rate gains. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 2, 127–143. (Zong Ji Chen) **98m:93085** 93D05 (93C35, 93C73, 93D09)

— (*with* Tu, Jay) State and input estimation for a class of uncertain systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 757–764. 93E10

— (*with* Iwasaki, Tetsuya; Skelton, Robert E.) A recursive construction algorithm for covariance control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 268–272. (Summary) **98k:93039** 93B40 (65F30)

— (*with* Georgiou, I. T.; Bajaj, A. K.) Slow and fast invariant manifolds, and normal modes in a two degree-of-freedom structural dynamical system with multiple equilibrium states. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 275–300. (Summary) **98d:73046** 73K12 (70K99)

— (*with* Tsiotras, Panagiotis; Rotea, Mario A.) An $\mathcal{L}_2$ disturbance attenuation solution to the nonlinear benchmark problem. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 311–330. (*see* **98k:93004**) 93B36 (70K99, 70Q05, 93C85)

Corless, Robert M. (*with* Gonnet, Gaston H.; Hare, D. E. G.; Jeffrey, D. J.; Knuth, Donald E.) On the Lambert W function. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 329–359. (Summary) **98j:33015** 33E20

— Continued fractions and chaos [MR 94g:58135]. *Organic mathematics* (*Burnaby, BC*, 1995), 205–238, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 58F13 (11A55, 58F03)

— (*with* Jeffrey, D. J.; Monagan, M. B.; Pratibha) Two perturbation calculations in fluid mechanics using large-expression management. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 4, 427–443. 76–04 (76D08)

— *see also* **Organic mathematics**, **98f:00027**

Corley, S. R. (*with* Greenberg, O. W.) Bound states in Galilean-invariant quantum field theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 571–581. (C. A. Hurst) **98b:81270** 81T99 (81U99)

Corli, Andrea (*with* Sablé-Tougeron, Monique) Perturbations of bounded variation of a strong shock wave. *J. Differential Equations* **138** (1997), *no.* 2, 195–228. (Ivan Straškraba) **98e:35115** 35L67 (35B20)

— (*with* Sablé-Tougeron, Monique) Stability of contact discontinuities under perturbations of bounded variation. *Rend. Sem. Mat. Univ. Padova* **97** (1997), 35–60. (Hermano Frid) **98h:35149** 35L65

Corliss, George F. (*with* Lodwick, Weldon A.) Correct computation of solutions of differential algebraic control equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 37–40. (*see* **98b:65005**) 65L06 (34A09)

— (*with* Griewank, Andreas; Henneberger, P.; Kirlinger, G.; Potra, Florian A.; Stetter, H. J.) High-order stiff ODE solvers via automatic differentiation and rational prediction. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 114–125, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L05

Cormen, Thomas H. (*with* Nicol, David M.) Performing out-of-core FFTs on parallel disk systems. (English summary) *Parallel Comput.* **24** (1998), *no.* 1, 5–20. (Summary) **98m:65232** 65T20

Cornacchia, Pietro Anderson's module for cyclotomic fields of prime conductor. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 252–276. (Cornelius Greither) **98h:11143** 11R33 (11R18, 11R34)

Cornea, Emil (*with* Jawerth, Björn; Zheng, Weimin) Wavelets and interactive surface modeling. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 39–46, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (65D17)

Corneil, Derek G. (*with* Olariu, Stephan; Stewart, Lorna K.) Computing a dominating pair in an asteroidal triple-free graph in linear time. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 358–368, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C85)

— (*with* Olariu, Stephan; Stewart, Lorna K.) Asteroidal triple-free graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 399–430. (Dieter Kratsch) **98i:05135** 05C75 (68R10)

— (*with* Achlioptas, Dimitris; Brown, J. I.; Molloy, Michael Sean O'Brien) The existence of uniquely $-G$ colourable graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 1–11. (Adrian Riskin) **98j:05065** 05C15

Cornejo, O. (*with* Jourani, A.; Zălinescu, C.) Conditioning and upper-Lipschitz inverse subdifferentials in nonsmooth optimization problems. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 127–148. (Bernard Lemaire) **98j:49021** 49J52 (90C48)

Cornelissen, Gunther Drinfeld modular forms of weight one. *J. Number Theory* **67** (1997), *no.* 2, 215–228. (David Goss) **98i:11039** 11G09 (11F11)

Cornelius, P. L. (*with* Seyedsadr, M. S.) Estimation of general linear-bilinear models for two-way tables. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 4, 287–322. (Summary) **98k:62100** 62H17

Cornell, John A. (*with* Khuri, André I.) ★ Response surfaces. (English summary) Designs and analyses. Second edition. Statistics: Textbooks and Monographs, 152. *Marcel Dekker, Inc., New York*, 1996. xvi+510 *pp. ISBN* 0-8247-9741-8 (Editors) **98c:62153** 62K99 (62–01)

— (*with* Ramsey, Philip J.) Modeling the component linear and nonlinear blending properties in a two-stage mixture experiment. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4041–4050. (*see* **98i:00032**) 62K99

Cornes, Cristina (*with* Terrasse, Delphine) Automating inversion of inductive predicates in Coq. (English summary) *Types for proofs and programs (Torino, 1995)*, 85–104, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (From the summary) **98e:03014** 03B35 (03B15, 68T15)

Cornet, Bernard (*with* Czarnecki, Marc-Olivier) Approximation normale de sous-ensembles épi-lipschitziens de $\mathbf{R}^n$. (English and French summaries) [Normal approximation of epi-Lipschitzian subsets of $\mathbf{R}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 583–588. (Abderrahim Jourani) **98k:49024** 49J52

Cornick, Jonathan (*with* Kropholler, Peter H.) On complete resolutions. (English summary) *Topology Appl.* **78** (1997), *no.* 3, 235–250. (Veena Sharma) **98k:20087** 20J05 (16E99)

Cornille, H. (*with* d'Almeida, A.) Criteria for inverted temperatures in evaporation-condensation processes. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5476–5495. (Carlo Cercignani) **98b:82067** 82C40 (76P05)

— Nested-hexagons and squares DBMs with arbitrary number of velocities satisfying a continuous theory relation. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo (2) Suppl. No.* 45, *part I* (1996), 157–165. (Nicola Bellomo) **98d:82039** 82C40 (76P05)

— Nested-squares discrete Boltzmann models with arbitrary number of velocities satisfying a continuous theory relation. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 359–371. (Nicola Bellomo) **98j:82054** 82C40 (76P05)

Cornuéjols, Gérard (*with* Conforti, Michele; Kapoor, Ajai; Vušković, Kristina) Universally signable graphs. (English summary) *Combinatorica* **17** (1997), *no.* 1, 67–77. (Dalibor Fronček) **98g:05134** 05C78

Cornwall, John M. $d = 3$ gauge dynamics: Yang-Mills and Yang-Mills-Chern-Simons theory. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1023–1031. (Summary) **98h:81078** 81T13

Cornwell, J. F. (*with* Clarke, S. P.) Conjugacy classes of involutive automorphisms of the $C_l^{(1)}$ affine Kac-Moody algebras. (English summary) [Incomplete version]. *J. Group Theory Phys.* **3** (1995), *no.* 1, 21–34. (Editors) **98i:17029** 17B67 (81R10)

— ★ Group theory in physics. An introduction. *Academic Press, Inc., San Diego, CA*, 1997. x+349 *pp. ISBN* 0-12-189800-8 (Jules Beckers) **98k:20001** 20–01 (20C35, 22E70, 81R05)

— (*with* Jacobs, Andrew D.) Twisting 2-cocycles for the construction of new non-standard quantum groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5383–5401. (Pavel Šťovíček) **98h:17016** 17B37 (81R50)

Coroian, Dan I. (*with* Anitescu, Mihai; Nashed, M. Zuhair; Potra, Florian A.) Outer inverses and multi-body system simulation. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 7-8, 661–678. (Michael Hanke) **98b:65073** 65L05 (34A09, 70–08, 70E99, 70F20)

Coroian, Iulian (*with* Petracovici, Lia) On the common origin of some iterative methods. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 39–44. (From the introduction) **98e:65019** 65F10

Coron, Jean-Michel (*with* Praly, Laurent; Teel, Andrew R.) Feedback stabilization of nonlinear systems: sufficient conditions and Lyapunov and input-output techniques. *Trends in control (Rome, 1995)*, 293–348, *Springer, Berlin*, 1995. (Ewa Pawłuszewicz) **98e:93083** 93D15 (93–02, 93C10)

— (*with* Fursikov, Andrei V.) Global exact controllability of the 2D Navier-Stokes equations on a manifold without boundary. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 4, 429–448. (Sergei A. Avdonin) **98k:93057** 93C20 (35Q30, 76D05, 93B05)

Corona, Carlos M. Exact integration of the Cauchy-Green tensor. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 37–40. (Marek Elżanowski) **98e:73045** 73C99 (53A45)

Coronado, L. M. Pozo (*with* Muñoz Masqué, J.) Higher-order gauge invariant Lagrangians on T^*M. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7757–7767. (Juan Carlos Marrero Gonzalez) **98c:58044** 58E30 (58A20, 58F05, 70G50)

Corrada, Carlos J. (*with* Moreno, Oscar; Golomb, Solomon W.) Extended sonar sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1999–2005. 94A12

Corradi, Fabio (*with* Mealli, Fabrizia) Nonparametric specification of error terms in dynamic models. (English summary) *Bayesian robustness (Rimini, 1995)*, 293–304, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62M10 (62G05)

Corradi, Gianfranco A trust region algorithm for unconstrained optimization. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 109–119. (Summary) **98m:90142** 90C30 (65K05)

Corrádi, Keresztély (*with* Horváth, Erzsébet) About monomiality of π-characters of certain π-solvable groups. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 9–15 (1997). (I. M. Isaacs) **98g:20018** 20C15

— (*with* Szabó, Sándor) An axiomatic approach for the Hajós theorem. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 241–248. (Summary) **98c:20058** 20K01 (20D60, 52C22)

Corradi, Valentina Comovements between diffusion processes: characterization, estimation, and testing. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 646–666. (Summary) **98m:62297** 62P20

Corradini, Andrea (*with* Heckel, Reiko) A compositional approach to structuring and refinement of typed graph grammars. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q50 (68R10)

— Concurrent computing: from Petri nets to graph grammars. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q10 (68Q42, 68Q90, 68R10)

— Concurrent graph and term graph rewriting. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 438–464, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68143** 68Q42 (68Q10, 68R10)

— (*with* Montanari, Ugo; Rossi, Francesca) Graph processes. (English summary) Graph transformations (Noordwijkerhout, 1993). *Fund. Inform.* **26** (1996), *no.* 3-4, 241–265. (Dirk Janssens) **98a:68123** 68Q50 (68Q10)

— (*with* Heckel, Reiko; Ehrig, Hartmut; Löwe, Michael) Horizontal and vertical structuring of typed graph transformation systems. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 613–648. (K. G. Subramanian) **98f:68166** 68Q50 (68R10)

— *see also* **Workshop: Graph Rewriting and Computation**, **98h:68012**

Corradini, Flavio (*with* Gorrieri, Roberto; Roccetti, Marco) Performance preorder: ordering processes with respect to speed. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 444–453, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q60 (68Q10, 68Q55)

— (*with* Chen, Xiao Jun[2]; Gorrieri, Roberto) A study on the specification and verification of performance properties (extended abstract). (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 306–320, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q60

— (*with* Pistore, Marco) Specification and verification of timed lazy systems. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 279–290, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q60 (68Q10, 68Q55)

— (*with* Ferrari, Gian-Luigi; Pistore, Marco) Eager, busy-waiting and lazy actions in timed computation. (English summary) *EXPRESS'97 (Santa Margherita Ligure, 1997)*, 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68Q10)

— Absolute versus relative time in process algebras. (English summary) *EXPRESS'97 (Santa Margherita Ligure, 1997)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q55, 68Q60)

— (*with* De Nicola, Rocco) Locality based semantics for process algebras. (English summary) *Acta Inform.* **34** (1997), *no.* 4, 291–324. (Summary) **98f:68171** 68Q55 (68Q10, 68Q60)

— (*with* Gorrieri, Roberto; Roccetti, Marco) Performance preorder and competitive equivalence. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 805–835. (Summary) **98i:68080** 68Q10 (68Q55, 68Q60)

— On the coarsest congruence within global-clock-bounded equivalence. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 225–237. (Summary) **98m:68067** 68Q10 (68Q55, 68Q60)

Corradini, O. (*with* Bastianelli, Fiorenzo) 't Hooft anomaly matching conditions for generalized symmetries in 2D. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 349–354. (Summary) **98i:81240** 81T50

poggi-Corradini, Pietro *see* **Poggi-Corradini, Pietro**

Corrado, Richard (*with* Berenstein, David) M(atrix)-theory in various dimensions. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 37–43. (Summary) **98i:81191** 81T30 (83E30)

gómez-Corral, A. *see* **Gómez-Corral, A.**

Corral Blanco, Norberto (*with* Gil, María Angeles; López-García, Hortensia) The fuzzy hyperbolic inequality index of fuzzy random variables in finite populations. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 329–339. (*see* **98g:00019**) 60E99 (04A72, 28E10)

— (*with* López-García, Hortensia; Gil, María Angeles; López, María Teresa) Estimating the fuzzy inequality associated with a fuzzy random variable in random samplings from finite populations. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 149–161. 62D05 (04A72)

Corrales-Rodrigáñez, Capi (*with* Schoof, René) The support problem and its elliptic analogue. (English summary) *J. Number Theory* **64** (1997), *no.* 2, 276–290. (Franck Leprévost) **98c:11049** 11G05 (11A41)

Corrêa, Gilberto O. (*with* da Silveira, Marcos A.) On the design of servomechanisms via H_2-optimization. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 475–491. 93B36 (93B50)

Correa, Iván (*with* Labra, Alicia) Bernstein algebras satisfying a polynomial identity. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 277–285. (Sebastian Walcher) **98i:17044** 17D92 (17A30)

Correa, Rafael (*with* Jofré, Alejandro; Thibault, Lionel) Subdifferential characterization of convexity. (English summary) *Recent advances in nonsmooth optimization*, 18–23, *World Sci. Publishing, River Edge, NJ*, 1995. (A. B. Németh) **98g:49012** 49J52 (46G05)

Correia, João D. (*with* Mirza, Behrouz; Wheater, John F.) Branched polymers, complex spins and the freezing transition. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 15–23. (Summary) **98g:81190** 81T40 (82B20)

Corrias, Lucilla Fast Legendre-Fenchel transform and applications to Hamilton-Jacobi equations and conservation laws. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 4, 1534–1558. (Józef Joachim Telega) **98a:49044** 49L20 (26B25, 35F20, 35L65)

Corrigan, E. Some recent developments in affine Toda field theory. *Interface between physics and mathematics* (*Hangzhou*, 1993), 50–64, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98e:81001**) 81T10 (81–02)

— (*with* Sheng, Zheng-Mao) Classical integrability of the O(N) nonlinear sigma model on a half-line. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2825–2834. (Marco Moriconi) **98m:81092** 81T10 (58F07)

Corry, Leo Paradigms and paradigmatic change in the history of mathematics. *Paradigms and mathematics*, 169–191, *Ciencia, Siglo XXI España Ed., Madrid*, 1996. (Eduard Glas) **98g:01005** 01A05 (00A30)

— David Hilbert and the axiomatization of physics (1894–1905). *Arch. Hist. Exact Sci.* **51** (1997), *no.* 2, 83–198. (Dennis Dieks) **98i:01016** 01A55 (00A30, 00A79, 01A60)

— Hermann Minkowski and the postulate of relativity. *Arch. Hist. Exact Sci.* **51** (1997), *no.* 4, 273–314. (H. Treder) **98j:01029** 01A60 (83–03)

— (*with* Renn, Jürgen; Stachel, John) Belated decision in the Hilbert-Einstein priority dispute. (English summary) *Science* **278** (1997), *no.* 5341, 1270–1273. (Summary) **98h:01016** 01A60 (83–03)

Cors, Josep M. (*with* Llibre, Jaume) Qualitative study of the parabolic collision restricted three-body problem. (English summary) *Hamiltonian dynamics and celestial mechanics* (*Seattle, WA*, 1995), 1–19, *Contemp. Math.*, 198, *Amer. Math. Soc., Providence, RI*, 1996. (Donald G. Saari) **98a:70006** 70F07 (70F35)

Corsetti, Giancarlo A portfolio approach to endogenous growth: equilibrium and optimal policy. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 10, 1627–1644. 90A14 (90A19)

Corsetti, M. (*with* Ballestreros, A.; Ragnisco, Orlando) N-dimensional classical integrable systems from Hopf algebras. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1153–1163. (Andrey V. Tsiganov) **98a:58081** 58F07 (16W30, 81R50, 82B23)

Corsini, Marc-Michel (*with* Rauzy, Antoine Bertrand) Toupie: the μ-calculus over finite domains as a constraint language. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 2, 143–171. 68T20 (03B70, 68Q60)

Corsini, Piergiulio On W-hypergroups. (English summary) *New frontiers in hyperstructures* (*Molise*, 1995), 85–91, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

— (*with* Leoreanu, Violeta) Le théorème de Lagrange dans les hypergroupes. (English summary) [The Lagrange theorem for hypergroups] *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 1–22. 20N20

— Mutually associative hypergroupoids. *Algebraic hyperstructures and applications* (*Prague*, 1996), 25–33, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20

— (*with* Tofan, Ioan) On fuzzy hypergroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 29–37. 20N20 (04A72, 20N25)

— *see also* **Algebraic hyperstructures and applications, 98c:20002**

Corso, Alberto (*with* Polini, Claudia) Reduction number of links of irreducible varieties. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 29–43. (Mark R. Johnson) **98h:13030** 13H10 (13C40, 13D40)

— (*with* Vasconcelos, Wolmer V.; Villarreal, Rafael H.) Generic Gaussian ideals. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 117–127. (L. J. Ratliff, Jr.) **98m:13014** 13B25 (13D40, 13H10)

del Corso, Gianna M. *see* **Del Corso, Gianna M.**

del Corso, I. *see* **Del Corso, I.**

Corson, J. M. (*with* Trace, B.) Geometry and algebra of nonspherical 2-complexes. *J. London Math. Soc.* (2) **54** (1996), *no.* 1, 180–198. (Stephen J. Pride) **98b:57007** 57M20 (20F05, 20F06)

— Amalgamated sums of groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 3, 561–570. (Martin Edjvet) **98b:20042** 20F05 (20E06, 20F06)

— (*with* Trace, B.) The 6-property for simplicial complexes and a combinatorial Cartan-Hadamard theorem for manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 917–924. (Cynthia Hog-Angeloni) **98e:57004** 57M20 (57N10)

Cortadella, Jordi (*with* Roig, Oriol; Pastor, Enric) Verification of asynchronous circuits by BDD-based model checking of Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 374–391, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q60, 94C99)

— (*with* Kishinevskiĭ, M. A.; Kondrat'ev, A. Yu.; Lavagno, Luciano; Taubin, A. R.; Yakovlev, Alexandre V.) Coupling asynchrony and interrupts: place chart nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 328–347, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

Cortadellas, Teresa (*with* Zarzuela Armengou, Santiago) On the depth of the fiber cone of filtrations. *J. Algebra* **198** (1997), *no.* 2, 428–445. (Mark R. Johnson) **98k:13005** 13A30 (13D40)

Cortázar, Carmen (*with* del Pino, Manuel; Elgueta, Manuel) On the short-time behavior of the free boundary of a porous medium equation. *Duke Math. J.* **87** (1997), *no.* 1, 133–149. (Elena Comparini) **98d:35240** 35R35 (35K60, 76S05)

— (*with* Elgueta, Manuel; Felmer, Patricio L.) Some uniqueness results for $\Delta u + f(u) = 0$ in $\mathbf{R}^N$, $N \geq 3$. *Reaction diffusion systems* (*Trieste*, 1995), 67–77, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Alexandra Kurepa) **98m:35053** 35J60 (34B15)

Cortelezzi, L. (*with* Chen, Yen-Cheng; Chang, Hsiao-Lung) Nonlinear feedback control of the wake past a plate: from a low-order model to a higher-order model. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2009–2022. (Summary) **98d:76048** 76D25 (76M99, 93C20)

Cortella, Anne (*with* Gras, Georges) Interprétation et calcul du groupe de défaut d'un principe de Hasse. (French summary) [Interpretation and computation of the defect group of a Hasse principle] *Math. Nachr.* **188** (1997), 109–140. (Jean-François Jaulent) **98m:11026** 11E39 (11R37)

lazo Cortés, Manuel *see* **Lazo Cortés, Manuel**

Cortés, Teresa (*with* Anquela, José A.) Primitive Jordan pairs and triple systems. (English summary) *J. Algebra* **184** (1996), *no.* 2, 632–678. (Hiroshi Asano) **98b:17033** 17C10 (17C17)

— (*with* Anquela, José A.; McCrimmon, Kevin; Montaner, Fernando) Strong primeness of Hermitian Jordan systems. (English summary) *J. Algebra* **198** (1997), *no.* 1, 311–326. (Armin Thedy) **98j:17030** 17C10

Cortés, V. *see* **Cortés Suárez, Vicente**

Cortés, Vicente *see* **Cortés Suárez, Vicente**

Cortesani, Guido Asymptotic behaviour of a sequence of Neumann problems. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1691–1729. (I. N. Tavkhelidze) **98j:35044** 35J25 (35B40)

Cortés Cuautli, L. C. (*with* Torres del Castillo, G. F.) Solution of the Dirac equation in the field of a magnetic monopole. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2996–3006. (Jorge E. Stephany Ruiz) **98d:81013** 81Q05

— Solution of the Schrödinger equation in the field of a magnetic monopole. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 4, 527–532. (Arlen Anderson) **98k:81038** 81Q05 (33C90, 81V10)

Cortés Suárez, Vicente Homogeneous special geometry. (English summary) *Transform. Groups* **1** (1996), *no.* 4, 337–373. (Andrew Swann) **98a:53064** 53C25 (32C17, 53C30, 53C55)

— (*with* Alekseevskiĭ, D. V.) Homogeneous quaternionic Kähler manifolds of unimodular group. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 217–229. (Andrew Swann) **98i:53062** 53C25 (53C30)

— On hyper-Kähler manifolds associated to Lagrangian Kähler submanifolds of $T^*\mathbf{C}^n$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3193–3205. (Knut Smoczyk) **98k:53059** 53C25 (32C17, 53C55)

Cortez, Ricardo Convergence of high-order deterministic particle methods for the convection-diffusion equation. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1235–1260. (Martin Stynes) **98f:76061** 76M25 (35Q35, 65M12, 76Rxx)

— (*with* Varela, D. A.) The dynamics of an elastic membrane using the impulse method. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 224–247. (Summary) **98j:73068** 73K70 (76B99)

Cortez-Morales, Walter J. A characterization of bipartite graphs. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 97–102. (Summary) **98g:05120** 05C75

Corti, Alessio Del Pezzo surfaces over Dedekind schemes. *Ann. of Math.* (2) **144** (1996), *no.* 3, 641–683. (Ted Chinburg) **98e:14037** 14J26 (14G27, 14J10)

garcia-Corti, J. L. *see* **Garcia-Corti, J. L.**

Cortina, Elsa (*with* Gomes, Sônia M.; Moroz, Irene M.) Characterization of biorthogonal spline wavelets by means of derivatives and primitives. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 125–132, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (41A15)

Corvaja, Pietro An explicit version of the theorem of Roth-Ridout. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 253–260. (Carsten Elsner) **98g:11084** 11J17 (11J68)

— (*with* Zannier, Umberto) Arithmetic on infinite extensions of function fields. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 1021–1038. (Martha Rzedowski-Calderón) **98j:11109** 11R58 (14H05)

— Autour du théorème de Roth. (English summary) [On Roth's theorem] *Monatsh. Math.* **124** (1997), *no.* 2, 147–175. (Michel Laurent) **98i:11049** 11J68

Corvellec, Jean-Noël (*with* Degiovanni, Marco) Nontrivial solutions of quasilinear equations via nonsmooth Morse theory. *J. Differential Equations* **136** (1997), *no.* 2, 268–293. (Jie Yang) **98c:35053** 35J65 (58E05)

— A general approach to the min-max principle. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 405–433. (Andrzej Szulkin) **98h:58035** 58E05 (49J35)

— *see also* **Proceedings: Catalan Days on Applied Mathematics, 98i:00024**

Corwin, Lawrence (*with* Moore, Calvin C.) L^p matrix coefficients for nilpotent Lie groups. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 2, 523–544. (Michael Cowling) **98b:22013** 22E27 (22E35, 43A35)

Corwin, S. P. (*with* Sarafyan, D.; Thompson, Skip) DKLAG6: a code based on continuously imbedded sixth-order Runge-Kutta methods for the solution of state-dependent functional-differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 319–330. (Summary) **98c:65120** 65L06 (34K05)

Coscia, Alessandra (*with* Ambrosio, Luigi; Dal Maso, Gianni) Fine properties of functions with bounded deformation. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 201–238. (Erik J. Balder) **98m:49058** 49Q20 (26B30, 73G20)

— (*with* Chiadò Piat, Valeria) Hölder continuity of minimizers of functionals with variable growth exponent. *Manuscripta Math.* **93** (1997), *no.* 3, 283–299. (Elvira Mascolo) **98e:49091** 49N60 (49J10)

Coscoy, Yann (*with* Kahn, Gilles; Théry, Laurent) Extracting text from proofs. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 109–123, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (03B35, 68T15)

Cosgrove, Christopher M. Painlevé classification problems featuring essential singularities. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 4, 355–433. (Andrei A. Kapaev) **98b:34011** 34A20 (33E30, 34A05, 34A34)

Coşkun, Cafer On the spectrum of weighted mean matrices on bv. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 671–677. (K. Chandrasekhara Rao) **98h:47038** 47B37 (40C05, 47A10)

— The spectra and fine spectra for p-Cesàro operators. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 207–212. (G. M. Leibowitz) **98i:47028** 47B37 (47A10)

Coşkun, Erdal Diffuse and discrete semigroups of probability measures on abelian Hilbert-Lie groups. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 2, 189–202. (Wilfried Hazod) **98c:60008** 60B15 (22B05, 43A05, 47D03)

— Differentiable functions and the generators on a Hilbert-Lie group. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 245–256. (Wilfried Hazod) **98k:60012** 60B15 (22E30, 22E65, 43A05, 43A80)

Coşkun, Erhan (*with* Kwong, Man Kam) Simulating vortex motion in superconducting films with the time-dependent Ginzburg-Landau equations. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 579–593. (Qi Tang) **98g:82053** 82D55 (35Q55, 82C80)
— On some bounds for the solutions of the semi-discretized time-dependent Ginzburg-Landau equations. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 25–44. (J. R. Ockendon) **98m:39055** 39A99 (65M15, 82–04, 82D55)
Cosma, Ovidiu (*with* Berinde, Vasile) An elementary geometric construction performed by a computer. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 99–107. (E. J. F. Primrose) **98e:51029** 51M15 (51–04)
di Cosmo, Roberto *see* **Di Cosmo, Roberto**
Cosnard, Michel (*with* Goles Ch., Eric) A characterization of the existence of energies for neural networks. (English summary) *Automata, languages and programming (Szeged, 1995)*, 570–580, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68173** 68T05
— (*with* Bournez, Olivier) On the computational power of dynamical systems and hybrid systems. (English summary) Universal machines and computations (Paris, 1995). *Theoret. Comput. Sci.* **168** (1996), *no.* 2, 417–459. (Summary) **98j:68022** 68Q05 (58F08, 68Q68)
Cosner, Chris Comparison principles for systems that embed in cooperative systems, with applications to diffusive Lotka-Volterra models. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 283–303. (N. F. Britton) **98k:35098** 35K57 (34C11, 35B05, 35Q80, 92D25)
Cossarini, Adriana E. (*with* Chimento, Luis P.; Zuccalá, Norberto A.) Isotropic and anisotropic N-dimensional cosmologies with exponential potentials. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 57–74. (Summary) **98j:83085** 83E15 (81T20)
Cossey, John Automorphisms fixing every subnormal subgroup of a finite group. *Glasgow Math. J.* **39** (1997), *no.* 1, 111–114. (Silvana Franciosi) **98a:20024** 20D45 (20D35)
Cossidente, Antonio (*with* Bonisoli, Arrigo; Saeli, Donato) Partitioning projective geometries into Segre varieties. (English summary) *J. Geom.* **57** (1996), *no.* 1-2, 58–62. (J. W. P. Hirschfeld) **98b:51015** 51E23
— (*with* Hirschfeld, J. W. P.; Storme, Leo) Applications of line geometry. III. The quadric Veronesean and the chords of a twisted cubic. (English summary) *Australas. J. Combin.* **16** (1997), 99–111. (Gary L. Ebert) **98g:51005** 51E20
— On Kestenband-Ebert partitions. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 367–375. (Vikram Jha) **98h:20084** 20G40 (51E23)
— Addendum to: "A new proof of the existence of $(q^2 - q + 1)$-arcs in PG$(2, q^2)$" [J. Geom. **53** (1995), no. 1-2, 37–40; MR 96e:51009]. *J. Geom.* **59** (1997), *no.* 1-2, 32–33. 51E21
— (*with* Ballico, Edoardo) Subvarieties of Segre varieties and trisecant lines. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 251–260. (Susan J. Colley) **98g:14069** 14N05 (14J25, 51E21)
Cossio, Jorge Multiple solutions for a semilinear elliptic problem. (Spanish. English and Spanish summaries) *Proceedings of the Third Summer School on Differential Geometry, Partial Differential Equations and Numerical Analysis (Spanish) (Bogotá, 1995)*, 53–59, *Colec. Mem., 7, Acad. Colombiana Cienc. Exact. Fis. Natur., Bogotá*, 1996. (Juan J. Nieto) **98a:35036** 35J65 (35B32)
— (*with* Arango, Horacio) Construction of radially symmetric solutions of a semilinear elliptic problem. (Spanish. English and Spanish summaries) *Rev. Colombiana Mat.* **30** (1996), *no.* 2, 77–92. (P. Lindqvist) **98e:35058** 35J60 (34A05, 35A35, 35C05)
— (*with* Castro, Alfonso; Neuberger, John M.) On multiple solutions of a nonlinear Dirichlet problem. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3657–3662. (Summary) **98h:35070** 35J65 (34B15)
— (*with* Castro, Alfonso; Neuberger, John M.) A minmax principle, index of the critical point, and existence of sign-changing solutions to elliptic boundary value problems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 02, 18 *pp.* (*electronic*). (Vicenţiu Rădulescu) **98j:35060** 35J65 (35B32, 58E05)
veloso da Costa, António *see* **Veloso da Costa, António**
Costa, Antonio F. (*with* Porto Fereira da Silva, A. M.) On the automorphism group of the canonical double covering of bordered Klein surfaces with large automorphism group. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3773–3779. (David Singerman) **98b:30045** 30F50 (20H10)
— Embeddable anticonformal automorphisms of Riemann surfaces. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 203–215. (C. Maclachlan) **98m:30059** 30F10
— (*with* Bujalance, E.) On symmetries of p-hyperelliptic Riemann surfaces. *Math. Ann.* **308** (1997), *no.* 1, 31–45. (Grzegorz Gromadzki) **98f:30042** 30F50 (14H55, 20H10)
Costa, David G. (*with* Magalhães, Celius A.) On a class of strongly indefinite functionals. *Variational and local methods in the study of Hamiltonian systems (Trieste, 1994)*, 146–155, *World Sci. Publishing, River Edge, NJ*, 1995. (Boris Buffoni) **98a:58029** 58E05 (34C25)
Costa, Douglas L. Factorization of bonds and other cash flows. (English summary) *Factorization in integral domains (Iowa City, IA, 1996)*, 285–290, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (*see* **98c:13002**) 90A09
— (*with* Keller, Gordon E.) Abstract radices. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2099–2104. (Chong Guang Cao) **98e:20053** 20G35
da Costa, Francisco A. (*with* Nobre, Fernando D.; Yokoi, Carlos S. O.) Spin-glass model with uniform biquadratic interactions. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2317–2328. 82D30
da Costa, G. A. T. F. Feynman identity: a special case. I. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 1014–1034. (Jacobus Verbaarschot) **98b:82012** 82B20 (05C90)
Costa, Gerardo (*with* Reggio, Gianna) Specification of abstract dynamic-data types: a temporal logic approach. (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 513–554. (Andrew M. Mironov) **98g:68107** 68Q65 (03B45, 03B70)
arló Costa, Horacio L. *see* **Arló Costa, Horacio L.**
nunes da Costa, J. M. *see* **Nunes da Costa, J. M.**
da Costa, Jose (*with* Carot, Jaume) Symmetries of matter distributions. *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 179–183, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Garry Ludwig) **98g:83011** 83C20
Costa, Miguel S. (*with* Perry, Malcolm J.) Kaluza-Klein electrically charged black branes in M-theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 603–614. (Sergey Nikolaevich Roshchupkin) **98f:83100** 83E30 (81T30)
— Composite M-branes. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 202–216. (Javier Borlaf González) **98f:81248** 81T30 (81T50, 81T60)
— Black composite M-branes. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 195–205. (Sergey Nikolaevich Roshchupkin) **98g:83102** 83E30 (81T30, 83C57)
— (*with* Cvetič, Mirjam) Nonthreshold D-brane bound states and black holes with nonzero entropy. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4834–4843. (Summary) **98e:83113** 83E30 (83C57)
da Costa, Newton C. A. (*with* Béziau, Jean-Yves) Théorie de la valuation. (French summary) [Theory of valuation] *Logique et Anal. (N.S.)* **37** (1994), *no.* 146, 95–117. (Décio Krause) **98h:03014** 03B22 (03B20, 03B25, 03B53)
— (*with* Bueno, Otávio; Béziau, Jean-Yves) What is semantics? A brief note on a huge question. *Sorites No.* 3 (1995), 43–47 (*electronic*). (Max Urchs) **98a:03006** 03A05
— ★ Logiques classiques et non classiques. (French. French summary) [Classical and nonclassical logics] Essai sur les fondements de la logique. [Essay on the foundations of logic] Translated from the Portuguese and with appendices by Jean-Yves Béziau. Culture Scientifique. [Scientific Education] *Masson, Paris*, 1997. 276 *pp. ISBN* 2-225-85247-2 (Ignacio Angelelli) **98h:03011** 03Bxx (03–02, 03A05)
— (*with* Bueno, Otávio; French, Steven) Suppes predicates for space-time. (English summary) *Synthese* **112** (1997), *no.* 2, 271–279. (Summary) **98g:03029** 03B30
Costa, Oswaldo L. V. (*with* Fragoso, M. D.; de Souza, Carlos E.) A new approach to linearly perturbed Riccati equations arising in stochastic control. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 99–126. (Gerhard Freiling) **98k:93120** 93E20 (34H05, 93D15, 93E05)
— (*with* Marques, Ricardo P.) Mixed H_2/H_∞-control of discrete-time Markovian jump linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 95–100. (Summary) **98k:93117** 93E20 (93B36, 93E15)
Costa, Roberto C. F. (*with* Suazo, A.) The multiplication algebra of a train algebra of rank 3. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 287–298. (Sebastian Walcher) **98i:17045** 17D92 (17A36)
— (*with* Guzzo, Henrique, Jr.) A class of exceptional Bernstein algebras associated to graphs. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2129–2139. (Mary Lynn Reed) **98d:17038** 17D92 (05C99)
— (*with* Baeza-Vega, R.) Bernstein algebras of level at most 5. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 4, 193–209. (Consuelo Martínez) **98e:17042** 17D92
— (*with* Catalán S., Abdón; Mallol, Cristián) E-ideals in baric algebras: basic properties. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 491–503. (Santos González) **98k:17038** 17D92
rodrigues Costa, Sueli I. *see* **Rodrigues Costa, Sueli I.**
Costa, Sueli Rodrigues *see* **Rodrigues Costa, Sueli I.**
Costabel, Martin (*with* Ben Belgacem, Faker; Bernardi, Christine; Dauge, Monique) Un résultat de densité pour les équations de Maxwell. (English and French summaries) [A denseness result for Maxwell's equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 731–736. (Rodolfo Torres) **98f:46027** 46E35 (35Q60, 78A25)
— (*with* Dauge, Monique) Singularités des équations de Maxwell dans un polyèdre. (English and French summaries) [Maxwell singularities on polyhedral or polygonal domains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1005–1010. (Rodolfo Torres) **98f:35122** 35Q35 (35B99, 46E35, 78A25)
— (*with* Dauge, Monique) Singularities of Maxwell's equations on polyhedral domains. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 69–76, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q60 (78A25)
Costabile, Francesco (*with* Gualtieri, Maria Italia; Serra, Stefano) Asymptotic expansions for some classical operators and their use in approximation theory. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 67–74, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 41A35 (41A55)
Costa de Beauregard, O. Inertie électromagnétique et physicalité des potentiels: une proposition testable. (English and French summaries) [Electromagnetic inertia and physicality of the potential: a testable proposition] *Ann. Fond. Louis de Broglie* **21** (1996), *no.* 4, 431–441. (H. S. Green) **98b:81280** 81V10 (78A30, 78A35)
— Induced electromagnetic inertia and physicality of the 4-vector potential. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 4, 646–650. (Summary) **98k:81307** 81V10 (81P99)
— Lorentz and CPT invariances and the EPR correlations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 602–604. (Summary) **98k:81031a** 81P99
— *see also* **Suarez, Antoine**, **98k:81031b**
Costantini, C. *see* **Costantini, Cristina**
Costantini, Camillo (*with* Barbati, A.) On the density of the hyperspace of a metric space. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 349–360. (Summary) **98b:54015** 54B20 (54A25, 54E35)
Costantini, Cristina (*with* Spizzichino, Fabio) Explicit solution of an optimal stopping problem: the burn-in of conditionally exponential components. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 267–282. (E. Arjas) **98e:60064** 60G40 (60K10, 62N05)
Costantini, Domenico (*with* Galavotti, Maria Carla) Toward a logical basis for predictive statistical inference. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 177–186, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Otávio Bueno) **98m:03051** 03B48
Costantini, Mauro The lattice automorphisms of simple algebraic groups over $\overline{\mathbf{F}}_2$. (English summary) *Manuscripta Math.* **91** (1996), *no.* 1, 1–16. (Carlos A. M. André) **98b:20068** 20G15 (20E15, 20F28)
Costantini, Paolo (*with* Manni, Carla) Monotonicity-preserving interpolation of nongridded data. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 5, 467–495. (Summary) **98e:65005** 65D05
— (*with* Manni, Carla) Comonotone parametric C^1 interpolation of nongridded data. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 147–169. (Gheorghe Coman) **98c:65011** 65D05 (65D07, 65D10)

Costanzo, Francesco (*with* Walton, Jay R.) A study of dynamic crack growth in elastic materials using a cohesive zone model. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1085–1114. (Summary) **98h:73067** 73M25 (73V20)

Costash, A. I. (*with* Ursul, M. I.) The group of units of a locally compact ring. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 20–28, 120, 122. (Summary) **98k:54072** 54H13

— The connected component of the group of units of a locally compact ring. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 1, 113–116, 133, 135. (Radoslav Dimitrić) **98m:16052** 16W80 (22D05)

Coste, Antoine (*with* Bauer, Michel; Itzykson, Claude; Ruelle, P.) Comments on the links between su(3) modular invariants, simple factors in the Jacobian of Fermat curves, and rational triangular billiards. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 2, 134–189. (Martin Schlichenmaier) **98g:81189** 81T40 (11F11, 11F22, 11G10, 11Z05, 14H40, 17B67)

saloff-Coste, Laurent *see* **Saloff-Coste, Laurent**

Costello, Daniel J., Jr. (*with* Perez, Lance C.; Seghers, Jan) A distance spectrum interpretation of turbo codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1698–1709. (*see* **98c:94001**) 94B10

— (*with* Wang, Fu-Quan) Sequential decoding of trellis codes as high spectral efficiencies. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2013–2019. 94B12

de Coster, Colette *see* **De Coster, Colette**

Costigan, Tim (*with* Block, Henry W.; Sampson, Allan R.) A review of orthant probability bounds. (English summary) *Advances in the theory and practice of statistics*, 535–550, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:60025** 60E15 (62H05)

Costin, Rodica D. Integrability properties of nonlinearly perturbed Euler equations. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 905–924. (Juan José Morales Ruiz) **98i:34016** 34A34 (34A20, 34A25, 34C20)

Costinescu, Cristian-Nicolae Quelques résultats en K-théorie réelle. [Some results in real K-theory] Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 177–188. (From the introduction) **98b:55017** 55R50 (19L64)

— Some generalizations of a theorem of Dold. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 19–23. (*see* **98k:53002**) 55N20

Costovici, Gh. Some groups on some Cartesian products. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 5–7. 20F99

— More about semidirect products of groups. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 1–3. 20E22

cervantes-Cota, J. L. *see* **Cervantes-Cota, J. L.**

Cotăescu, Ion I. $SU(n) \times U(1)_1$ gauge models with spontaneous symmetry breaking. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 8, 1483–1509. (Summary) **98a:81069** 81R40 (81T13)

— Geometric models of the relativistic harmonic oscillator. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 20, 3545–3550. (Summary) **98d:81010** 81Q05

— (*with* Vulcanov, Dumitru N.) New routines for algebraic programming of the Dirac equation. (English summary) *Internat. J. Modern Phys. C* **8** (1997), *no.* 2, 273–286. (Summary) **98c:81002** 81–04 (81R20)

— (*with* Vulcanov, Dumitru N.) Dirac field, gravity, inertial effects, and computer algebra. (English summary) *Internat. J. Modern Phys. C* **8** (1997), *no.* 2, 345–359. (Summary) **98c:81003** 81–04

Cotfas, Nicolae (*with* Verger-Gaugry, Jean-Louis) A mathematical construction of n-dimensional quasicrystals starting from G-clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4283–4291. (Béla Uhrin) **98m:52033** 52C22 (20H15, 51F15, 82D25)

— Elements of discrete differential calculus with applications to crystal physics. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 291–302. (Francois Vanderseypen) **98m:58006** 58B30 (39A12, 82D25)

Coti Zelati, V. (*with* Li, Shujie; Wu, Shaoping) Periodic solutions for a class of singular nonautonomous second order system in a potential well. *Variational methods in nonlinear analysis (Erice, 1992)*, 67–76, *Gordon and Breach, Basel*, 1995. (Miguel Ramos) **98g:34073** 34C25 (58E05, 58F22)

Cotlar, Mischa (*with* Sadosky, Cora) Two distinguished subspaces of product BMO and Nehari-AAK theory for Hankel operators on the torus. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 273–304. (Richard Rochberg) **98e:47043** 47B35 (46E15, 47A57)

— (*with* Sadosky, Cora) A polydisk version of Beurling's characterization for invariant subspaces of finite multi-codimension. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 51–56, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Sergey Georgievich Merzlyakov) **98k:30047** 30D50 (46E20, 46J15, 47A15, 47B35)

Cotos-Yáñez, T. (*with* Prada-Sánchez, J. M.) A simulation study of iterated and non-iterated bootstrap methods for bias reduction and confidence interval estimation. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 927–946. 62G09

Cotronei, Mariantonia (*with* Puccio, Luigia; Princi, Pietro; Cavallari, Vittorio) Recognition of biological shapes by means of wavelet analysis. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 351–358, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 65T20

Cotsaftis, Michel Global control of flexural and torsional deformations of one-link mechanical system. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 75–86. (*see* **98g:93001**) 93C85 (70Q05, 73K50, 93C95)

— (*with* Robert, Jack; Rouff, Marc; Vibet, C.) Applications and prospect of the nonlinear decoupling method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 163–178. (Summary) **98m:93084** 93C99 (34H05, 70Q05, 93C85)

Cotsakis, Spiros *see* **Coule, D. H., 98d:83031**

Cotta, Renato Machado (*with* Barbuto, Fausto A. A.) Integral transformation of elliptic problems within irregular domains: fully developed channel flow. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 778–793. 76M25

Cotta-Ramusino, Paolo (*with* Martellini, Maurizio) Topological field theories and higher-dimensional knots. (English summary) *Advances in dynamical systems and quantum physics (Capri, 1993)*, 90–105, *World Sci. Publishing, River Edge, NJ*, 1995. (Alexander Balinsky) **98g:58021** 58D29 (57Q45, 81T70)

Cotti Ferrero, Celestina (*with* Ferrero, Giovanni) Near-rings with particular Clay semigroups. (Italian) *Matematiche (Catania)* **51** (1996), *suppl.*, 81–89 (1997). (Raffaele Scapellato) **98m:16056** 16Y30

Cotton, Peter (*with* Dooley, Anthony H.) Contraction of an adapted functional calculus. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 147–164. (John W. Rice) **98f:22012** 22E30 (22E60)

Couairon, Arnaud (*with* Chomaz, Jean-Marc) Absolute and convective instabilities, front velocities and global modes in nonlinear systems. (English summary) *Phys. D* **108** (1997), *no.* 3, 236–276. (Summary) **98h:76048** 76E30 (76E15)

Couchouron, Jean-François (*with* Ligarius, Philippe) Asymptotic observers for a class of evolution equations. A nonlinear approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 355–360. (Kevin A. Grasse) **98a:93009** 93B07 (93C25)

Couder, Y. (*with* Douady, S.) Phyllotaxis: the avoidance of rationals and a relation with quasi-crystals. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 121–127, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 92C15

— (*with* Andreotti, B.; Douady, S.) About the interaction between vorticity and stretching in coherent structures. (English summary) *Turbulence modeling and vortex dynamics (Istanbul, 1996)*, 92–108, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76068** 76F99 (76–05, 76C05)

Coudert, Sophie (*with* Bernot, Gilles; Le Gall, Pascale) Towards heterogeneous formal specifications. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 458–472, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q65 (68Q60)

Coudray, Fabienne (*with* Chaperon, Marc) Invariant manifolds, conjugacies and blow-up. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 783–791. (C. Eugene Wayne) **98h:58173** 58F36 (34C20, 34C30, 58F15)

Couëllan, Nicolas P. (*with* Trafalis, Theodore B.; Tutunji, Tarek A.) Interior point methods for supervised training of artificial neural networks with bounded weights. (English summary) *Network optimization (Gainesville, FL, 1996)*, 441–470, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90B10)

Cougnard, Jean Anneaux d'entiers et groupes de quaternions. [Rings of integers and quaternionic groups] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 14, 8 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 10, *Univ. Blaise Pascal (Clermont II), Clermont-Ferrand*, 1997. (M. E. Keating) **98m:11120** 11R33 (12F10, 19A31)

de Cougny, H. L. (*with* Shephard, Mark S.; Flaherty, Joseph E.; Bottasso, C. L.; Özturan, Can; Simone, M. L.) Parallel automatic adaptive analysis. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1327–1347. (*see* **98f:76004**) 65Y05 (65M55, 73V20, 76M25)

Cougo-Pinto, M. V. (*with* Farina de Souza, Carlos; Tort, A.) Schwinger's formula for the Casimir effect at finite temperature. (English summary) *Lett. Math. Phys.* **37** (1996), *no.* 2, 159–165. (Summary) **98j:81218** 81T16 (33C10, 58G26, 81V10)

— (*with* Farina de Souza, Carlos; Tort, A.) Schwinger's method for the fermionic Casimir effect at finite temperature. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 3, 337–340. (Ivan G. Avramidi) **98a:81129** 81T16 (58G26, 81V10)

— (*with* Farina de Souza, Carlos) Creation of matter and radiation from deformation of Poincaré invariance. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 67–70. (Anatol Nowicki) **98a:81266** 81V25 (81R50)

Coulangeon, Renaud Minimal vectors in the second exterior power of a lattice. *J. Algebra* **194** (1997), *no.* 2, 467–476. (Gabriele Nebe) **98d:11078** 11H50 (11H55)

Coulaud, O. Multiple time scales and perturbation methods for high frequency electromagnetic-hydrodynamic coupling in the treatment of liquid metals. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3637–3643. (*see* **98h:00034**) 76W05

Coule, D. H. No wormholes with real minimally coupled scalar fields. Comment: "Minimally coupled scalar field wormholes" [Phys. Rev. D(3) **49** (1994), no. 12, 6489–6492; MR 95a:83051] by S. Cotsakis, P. Leach and G. Flessas. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6606–6608. (Summary) **98d:83031** 83C45 (83E05, 83F05)

Coulhon, Thierry (*with* Grigor'yan, Alexander) On-diagonal lower bounds for heat kernels and Markov chains. *Duke Math. J.* **89** (1997), *no.* 1, 133–199. (Gilles Carron) **98e:58159** 58G11 (35K05, 47D07, 60J15)

Coulibaly, Ibrahim (*with* Lécot, Christian) Particle simulations of the Kac model of the Boltzmann equation. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 169–193. (Summary) **98i:82066** 82C80 (11K45, 65C05, 82C40)

Coull, Brent A. (*with* Agresti, Alan) Approximate is better than "exact" for interval estimation of binomial proportions. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 119–126. 62F25

Coullard, Collette R. (*with* Hellerstein, Lisa) Independence and port oracles for matroids, with an application to computational learning theory. (English summary) *Combinatorica* **16** (1996), *no.* 2, 189–208. (Jiří Tůma) **98a:05043** 05B35 (68T05)

Coulliette, C. (*with* Pozrikidis, C.) Motion of an array of drops through a cylindrical tube. (English summary) *J. Fluid Mech.* **358** (1998), 1–28. (Summary) **98m:76051** 76D07 (76Z05)

Coulson, D. An 18-colouring of 3-space omitting distance one. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 241–247. (Summary) **98a:05067** 05C15

Couper, David (*with* Pepe, Margaret Sullivan) Modeling partly conditional means with longitudinal data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 991–998. (Summary) **98f:62218** 62J12

Coupet, Bernard (*with* Sukhov, A. B.) On CR mappings between pseudoconvex hypersurfaces of finite type in $\mathbf{C}^2$. *Duke Math. J.* **88** (1997), *no.* 2, 281–304. (Elisabetta Barletta) **98d:32031** 32H40 (32F15)

Coupey, Pascal (*with* Fouqueré, Christophe) Extending conceptual definitions with default knowledge. (English summary) *Comput. Intelligence* **13** (1997), *no.* 2, 258–299. (Olga M. Kosheleva) **98h:68211** 68T27 (03B60, 03B70, 68T30)

Coupland, S. (*with* Mollin, R. A.; Goddard, B.) Polynomials of quadratic type producing strings of primes. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 214–220. (Franz Lemmermeyer) **98a:11138** 11R09

Coupry, Laurent A simple linear algorithm for the edge-disjoint (s,t)-paths problem in undirected planar graphs. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 83–86. (Summary) **98m:68204** 68R10 (05C38, 05C85, 68Q25)

Courant, Judicaël A module calculus for pure type systems. (English summary) *Typed lambda calculi and applications (Nancy, 1997)*, 112–128, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (*see* **98f:68017**) 68T15 (03B40)

Courbage, Maurice (*with* Hamdan, D.) Decay of correlations and mixing properties in a dynamical system with zero K-S entropy. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 87–103. (Nathaniel F. G. Martin) **98k:28022** 28D05 (28D20, 47A35, 60G10)

— Entropy production and irreversibility in dynamical systems. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2209–2219. (*see* **98h:00036**) 82C10

— On the abundance of traveling waves in 1D infinite cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 133–144. (Dimitri Petritis) **98k:82116** 82C20 (58F08, 68Q80)

— *see also* **Lattice dynamics, 98b:00025**

Courcelle, Bruno Monadic second-order logic and linear orderings of finite structures. (English summary) *Computer science logic (Kazimierz, 1994)*, 163–176, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:03008** 03B15 (03C13, 68Q45, 68R10)

— The monadic second-order logic of graphs. IX. Machines and their behaviours. (English summary) Topology and completion in semantics (Chartres, 1993). *Theoret. Comput. Sci.* **151** (1995), *no.* 1, 125–162. (Wolfgang Thomas) **98d:68137** 68Q60 (03B15, 03B25, 03B70, 03C85, 03D05, 05C85, 68Q68)

— The monadic second-order logic of graphs. X. Linear orderings. (English summary) *Theoret. Comput. Sci.* **160** (1996), *no.* 1-2, 87–143. (Wolfgang Thomas) **98g:03093** 03C65 (03C85, 03D05, 68R10)

— On the expression of graph properties in some fragments of monadic second-order logic. (English summary) *Descriptive complexity and finite models (Princeton, NJ, 1996)*, 33–62, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 31, *Amer. Math. Soc., Providence, RI*, 1997. (S. R. Kogalovskiĭ) **98f:03039** 03C85 (03B15, 05C99, 68Q25, 68R10)

— (*with* Sénizergues, Géraud) The obstructions of a minor-closed set of graphs defined by a context-free grammar. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 29–51. (Summary) **98j:68129** 68R10 (05C85, 68Q50)

Courcoubetis, Costas (*with* Weber, Richard R.) Buffer overflow asymptotics for a buffer handling many traffic sources. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 886–903. (Tim Zajic) **98h:60131** 60K25 (60F10, 68M20, 90B22)

Cournier, Alain (*with* Ille, Pierre) Minimal indecomposable graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 61–80. (Kathryn Fraughnaugh) **98m:05098** 05C35

Courtenay, William J. The debate over Ockham's physical theories at Paris. (French summary) *La nouvelle physique du XIV^e siècle (Nice, 1993)*, 45–63, *Bibl. Nuncius Studi Testi, XXIV, Olschki, Florence*, 1997. (*see* **98f:01003**) 01A35

Courtès, François Sur le transfert des intégrales orbitales pour les groupes linéaires (cas p-adique). (English and French summaries) [On the transfer of orbital integrals for linear groups (p-adic case)] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1085–1088. (David Manderscheid) **98i:22023** 22E50 (11S37)

Courtois, Gilles (*with* Besson, Gérard; Colbois, Bruno) Sur la multiplicité de la première valeur propre de l'opérateur de Schrödinger avec champ magnétique sur la sphère S^2. (French summary) [Multiplicity of the first eigenvalue of the Schrödinger operator with magnetic field on the sphere S^2] *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 331–345. (Robert Brooks) **98d:58188** 58G25

Cousin, Alfredo Tadeu On a nonlinear model for vibrations of beams in unbounded domains. (English summary) *Bol. Soc. Parana. Mat.* (2) **15** (1995), *no.* 1-2, 55–66 (1996). (From the introduction) **98k:34100** 34G20 (35Q72, 73D35)

— (*with* Lar'kin, N. A.) On the nonlinear initial boundary value problem for the equation of viscoelasticity. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 229–242. (Michael Renardy) **98j:35174** 35Q72 (73F15)

Cousot, Patrick Constructive design of a hierarchy of semantics of a transition system by abstract interpretation (extended abstract). (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 68Q55

Coutand, Daniel Existence d'un minimiseur pour le modèle "proprement invariant" de plaque "en flexion" non linéairement élastique. (English and French summaries) [Existence of a minimizer for the nonlinearly elastic, "properly invariant", "flexural" plate model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 245–248. (Summary) **98a:73039** 73K10 (73C50, 73V25)

— Théorèmes d'existence pour un modèle membranaire "proprement invariant" de plaque non linéairement élastique. (English and French summaries) [Existence theorems for a nonlinearly elastic, "properly invariant" membrane plate model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1181–1184. (Summary) **98c:73049** 73K10 (73C50, 73G05)

Coutin, Laure Filtrage d'un système càd-làg: application du calcul des variations stochastiques à l'existence d'une densité. (English summary) [Filtration of a càd-làg system: application of the calculus of stochastic variations to the existence of a density] *Stochastics Stochastics Rep.* **58** (1996), *no.* 3-4, 209–243. (Mireille Chaleyat-Maurel) **98a:60048** 60G35 (60H07)

Coutinho, Alvaro L. G. A. (*with* Martins, Marcos A. D.; Alves, José L. D.) Parallel iterative solution of finite element systems of equations employing edge-based data structures. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30 (65N30)

Coutinho, F. A. B. (*with* Lopez, Luis Fernandez) Motion of articulated bodies: an application of gauge invariance in classical Lagrangian mechanics. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 6, 528–536. (Richard Montgomery) **98i:70015** 70H35 (70E99, 70F99, 70G99)

— (*with* Toyama, F. M.; Nogami, Yukihisa) Behaviour of wavepackets of the "Dirac oscillator": Dirac representation versus Foldy-Wouthuysen representation. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2585–2595. (Summary) **98f:81063** 81Q05 (35Q40)

— (*with* Nogami, Yukihisa; Perez, J. Fernando) Generalized point interactions in one-dimensional quantum mechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3937–3945. (Igor Yurievich Popov) **98h:81018** 81Q05 (34L40, 47A20, 47N50, 81U20)

Coutinho, Ricardo (*with* Fernandez, Bastien) Extended symbolic dynamics in bistable CML: existence and stability of fronts. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 60–80. (Volker Matthias Gundlach) **98f:58072** 58F03 (82C05)

— (*with* Vilela Mendes, Rui) On the computation of quantum characteristic exponents. (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 239–245. (Summary) **98m:81041** 81Q50

Coutinho, S. C. The many avatars of a simple algebra. *Amer. Math. Monthly* **104** (1997), *no.* 7, 593–604. (Roland Speicher) **98h:81054** 81S05 (01A60, 16S99)

— (*with* Levcovitz, D.) Involutive varieties with smooth support. (English summary) *J. Algebra* **192** (1997), *no.* 1, 183–199. (Orlando Neto) **98f:32010** 32C38 (14F10)

— Extensions of modules over Weyl algebras. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 8, 3343–3352. (A. G. Heinicke) **98a:16033** 16S32 (16E30)

Coutlis, A. (*with* Limebeer, D. J. N.) Chebycheff approximation in system identification and model reduction. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1677–1682. 93B36 (93B30)

Couture, Michel Josaphat (*with* Bougourzi, A. Hamid; Kacir, M.) From quantum affine groups to the exact dynamical correlation function of the Heisenberg model. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 103–107. (Summary) **98f:82043** 82B23 (81R10, 81R50)

Couture, Raymond (*with* L'Ecuyer, Pierre) An implementation of the lattice and spectral tests for multiple recursive linear random number generators. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 206–217. 65B10

— (*with* L'Ecuyer, Pierre) Distribution properties of multiply-with-carry random number generators. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 591–607. (Robert F. Tichy) **98i:65007** 65C10 (11K45)

Couveignes, Jean-Marc Computing l-isogenies using the p-torsion. (English summary) *Algorithmic number theory (Talence, 1996)*, 59–65, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (François Morain) **98j:11046** 11G20 (11T71, 11Y16, 94A60)

— Quelques revêtements définis sur $\mathbf{Q}$. (French summary) [Some coverings defined over $\mathbf{Q}$] *Manuscripta Math.* **92** (1997), *no.* 4, 409–445. (H. Mizuno) **98c:14021** 14H30 (14E20)

Couvreur, J. M. (*with* Barkaoui, Kamel; Dutheillet, C.) On liveness in extended non-self-controlling nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 25–44, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68151** 68Q90

Cova, R. J. (*with* Zakrzewski, Wojciech J.) Soliton scattering in the O(3) model on a torus. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1305–1317. (Bernd J. Schroers) **98i:81144** 81T10

Covachev, V. Chr. Initial value problem for a singularly perturbed nonlinear impulsive system in the critical case. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 31–44, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 34A12 (34A37, 34E15)

— (*with* Jódar, Lucas; Villanueva Micó, R. J.) Periodic solutions of neutral impulsive systems with a small delay. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 125–135, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 34K15 (34A37, 34C25)

— (*with* Jódar, Lucas; Villanueva Micó, R. J.; Martín Alustiza, J. A.) Analytic-numerical solutions of variable coefficient second order delay differential equations. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 137–146, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 34K05 (34K15, 65L06)

— (*with* Bainov, Drumi D.) Periodic solutions of impulsive systems with delay viewed as small parameter. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 9–25. (Eduardo Liz) **98j:34015** 34A37 (34K15)

— *see also* **Proceedings: Colloquium on Differential Equations, 98a:00007; 98c:00012** *and* **98c:00013**

Covarrubias, G. M. Do Stephani's spacetimes radiate? (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 371–375, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C30 (83C15)

Covas, Eurico (*with* Ashwin, Peter; Tavakol, Reza) Non-normal parameter blowout bifurcation: an example in a truncated mean-field dynamo model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6451–6458. (Summary) **98h:76134** 76W05 (58F40, 85A30)

Coveney, Peter V. *see* **Proceedings: Conference on Discrete Models for Fluid Mechanics**

Cover, Alan S. (*with* Bose, Anil K.; Reneke, James A.) Sufficient conditions for point dissipative quadratic nonlinear dynamical systems. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 13–22, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 93B52 (34H05, 93C05)

— (*with* Reneke, James A.; Fryer, Michael O.; Lenhart, Suzanne; Protopopescu, Vladimir) RKH space methods for low level monitoring and control of nonlinear systems. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 1, 77–96. (Summary) **98g:93042a** 93E03 (93C10, 93C95)

— (*with* Reneke, James A.; Lenhart, Suzanne; Protopopescu, Vladimir) RKH space methods for low level monitoring and control of nonlinear systems. II. A vector-case example: the Lorenz system. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 823–845. (Summary) **98g:93042b** 93E03 (93C10, 93C95)

Cover, J. A. Non-basic time and reductive strategies: Leibniz's theory of time. *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 2, 289–318. (Pierre Kerszberg) **98g:01028** 01A45 (00A30, 00A79)

Cover, Thomas M. (*with* Castelli, Vittorio) The relative value of labeled and unlabeled samples in pattern recognition with an unknown mixing parameter. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2102–2117. (Summary) **98b:62109** 62H30 (62F15, 68T10)

Covert, Paul (*with* Rezakhanlou, Fraydoun) Hydrodynamic limit for particle systems with nonconstant speed parameter. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 383–426. (Timo Seppäläinen) **98h:60144** 60K35 (82C22)

Čović, V. M. (*with* Lukačević, M. M.) On the existence of Mayer's potential. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 606–612. (Summary) **98d:70019** 70H05

Coville, Neil J. (*with* White, David P.; Leach, P. G. L.) Solid angles. V. Chiral molecules and the case of face selectivity. (English summary) *J. Math. Chem.* **18** (1995), *no.* 2-4, 99–114. (Summary) **98e:92004** 92E10 (51N20)

Covino, Emanuele (*with* Caporaso, Salvatore; Zito, Michele; Galesi, Nicola) Syntactic characterization in Lisp of the polynomial complexity classes and hierarchy. (English summary) *Algorithms and complexity* (*Rome*, 1997), 61–73, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q15 (03D15)

Cowan, David F. A result on the dot-depth hierarchy for inverse monoids. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 41–57, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98i:68150** 68Q45 (68Q70)

— (*with* Wismath, S. L.) Unary iterative hyperidentities for semigroups and inverse semigroups. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 221–231. (Klaus Denecke) **98d:20063** 20M07 (20M20)

Cowan, Richard (*with* Chen, Simone) The random division of faces in a planar graph. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 2, 377–383. (Summary) **98f:62035** 62E20

— Shapes of rectangular prisms after repeated random division. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 26–37. (Hui Ling Le) **98b:60021** 60D05 (60J05)

Coward, Adrian V. (*with* Renardy, Yuriko Y.) Small-amplitude oscillatory forcing on two-layer plane channel flow. (English summary) *J. Fluid Mech.* **334** (1997), 87–109. (Summary) **98c:76034** 76E05

Coward, Eivind Equivalence of two Fourier methods for biological sequences. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 64–70. 92D20

Cowdall, P. M. (*with* Lu, Hong[1]; Pope, C. N.; Stelle, K. S.; Townsend, Paul K.) Domain walls in massive supergravities. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 49–76. (J. A. H. Samtleben) **98d:83091** 83E50 (83E30)

— (*with* Bergshoeff, E. A.; Townsend, Paul K.) Massive IIA supergravity from the topologically massive D-2-brane. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 13–21. (C. Gauthier) **98i:83073** 83E30 (81T30)

Cowen, Carl C. *see* **Studies on composition operators, 98h:47005**

Cowen, Lenore J. (*with* Feigenbaum, Joan; Kannan, Sampath) A formal framework for evaluating heuristic programs. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 634–645, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98i:68057** 68N99 (68Q99)

— (*with* Priebe, Carey E.) Randomized nonlinear projections uncover high-dimensional structure. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 3, 319–331. (Summary) **98f:65136** 65Y25 (68T10)

Cowie, James (*with* Dodson, Bruce; Elkenbracht-Huizing, R.-Marije; Lenstra, Arjen K.; Montgomery, Peter L.; Zayer, Jörg) A World Wide number field sieve factoring record: on to 512 bits. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 382–394, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (11Y05)

Cowin, Stephen C. (*with* Yang, Guoyu) Averaging anisotropic elastic constant data. (English summary) *J. Elasticity* **46** (1997), *no.* 2, 151–180. (Summary) **98d:73014** 73B40 (73B27, 73C02)

Cowley, Kevin Michael One-sided bounds and the vanishing of Ext. *J. Algebra* **190** (1997), *no.* 2, 361–371. (Alberto Tonolo) **98e:16009** 16E10

Cowley, M. D. Natural convection in rectangular enclosures of arbitrary orientation with magnetic field vertical. (English summary) *Magnetohydrodynamics* **32** (1996), *no.* 4, 390–398 (1997). 76W05 (76R10)

Cowling, Ann (*with* Hall, Peter Gavin; Phillips, Michael J.) Bootstrap confidence regions for the intensity of a Poisson point process. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1516–1524. (Somnath Datta) **98b:62150** 62M09 (62G09)

Cowling, Michael Herz's "principe de majoration" and the Kunze-Stein phenomenon. *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 73–88, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Alberto G. Setti) **98k:22040** 22E30 (22–02, 22E45, 43A80, 46E30)

Cowling, Peter The total graph of a hypergraph. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 215–236. (Peter Mihók) **98c:05120** 05C65 (05C15)

Cox, Bruce C. (*with* Cannon, John J.; Holt, Derek F.) Computing Sylow subgroups in permutation groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 303–316. (Eamonn A. O'Brien) **98m:20010** 20B40 (20D20, 68Q40)

Cox, David *see* **Cox, David Roxbee**

Cox, David A. (*with* Cattani, Eduardo; Dickenstein, Alicia) Residues in toric varieties. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 35–76. (I. Dolgachev) **98f:14039** 14M25 (14F10, 32A27)

— Introduction to Gröbner bases. (English summary) *Applications of computational algebraic geometry* (*San Diego, CA*, 1997), 1–24, *Proc. Sympos. Appl. Math.*, 53, *Amer. Math. Soc., Providence, RI*, 1998. (Gábor Hetyei) **98m:13033** 13P10 (14Q99, 68Q40)

— *see also* **Applications of computational algebraic geometry, 98h:13001**

Cox, David Roxbee (*with* Wermuth, Nanny) ★ Multivariate dependencies. (English summary) Models, analysis and interpretation. Monographs on Statistics and Applied Probability, 67. *Chapman & Hall, London*, 1996. xii+255 *pp. ISBN* 0-412-75410-X (M. Studený) **98m:62003** 62–02 (05C90, 62J05, 62J10)

— The nature of statistical inference: Johann Bernoulli Lecture 1997. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 233–242. 01A05 (62–03)

— *see also* **Time series models, 98d:62170** *and* **Schaafsma, W.**

Cox, Dennis D. (*with* Kim, Tae Yoon) A study on bandwidth selection in density estimation under dependence. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2, 190–203. (Patricia B. Cerrito) **98m:62101** 62G05 (62M10)

Cox, J. T. (*with* Bramson, Maury; Greven, Andreas) Invariant measures of critical spatial branching processes in high dimensions. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 56–70. (Luis G. Gorostiza) **98a:60148** 60K35 (60J80)

Cox, Martin (*with* Kostomarov, D. P.; Zaĭtsev, F. S.; Nefedov, V. V.; Shishkin, A. G.; Robinson, Derek C.; O'Brien, M. R.) The influence of non-ohmic currents on the equilibrium of plasma in a tokamak. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 7, 3–25. 76X05 (82D10)

Cox, P. H. (*with* Casadio, Roberto; Harms, Benjamin; Leblanc, Y.) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4948–4961. (Summary) **98e:83069** 83C57

Cox, Raymond G. Inertial and viscous effects on dynamic contact angles. (English summary) *J. Fluid Mech.* **357** (1998), 249–278. (Summary) **98m:76056** 76D45

Cox, S. J. *see* **Cox, Steven J.**

Cox, Stephen M. Long-wavelength thermal convection in a weak shear flow. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 2, 159–184. (Summary) **98d:76152** 76R05 (76E15, 76E30, 76V05)

— (*with* Matthews, Paul C.) A pseudospectral code for convection with an analytical/numerical implementation of horizontal boundary conditions. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 2, 151–166. (Summary) **98d:76126** 76M25 (76E15, 76R05)

— (*with* Matthews, Paul C.) Linear stability of rotating convection in an imposed shear flow. (English summary) *J. Fluid Mech.* **350** (1997), 271–293. (Summary) **98k:76046** 76E15 (76E20)

— (*with* Leibovich, Sidney) Large-scale three-dimensional Langmuir circulation. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2851–2863. (Summary) **98j:76040** 76E20 (86A05)

Cox, Steven J. (*with* Gockenbach, Mark S.) Recovering planar Lamé moduli from a single-traction experiment. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 297–306. (Summary) **98e:73026** 73C02 (73P20, 73V15)

— (*with* Moro, Julio) A Lyapunov function for systems whose linear part is almost classically damped. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 4, 965–968. (Anthony N. Michel) **98k:34088** 34D20 (70K20)

— *see also* **Optimization methods in partial differential equations, 98d:00021**

Coxeter, Harold Scott MacDonald Close-packing and froth. Reprint of Illinois J. Math. **2** (1958), 746–758 [MR **21** #848]. *Forma* **11** (1996), *no.* 3, 271–285. 52C17

— (*with* Greitzer, S. L.) ★ Redécouvrons la géométrie. (French) [Geometry revisited] Translated from the English by R. Marchand. Reprint of the 1971 French translation. *Éditions Jacques Gabay, Paris*, 1997. x+211 *pp. ISBN* 2-87647-134-5 (O. Giering) **98c:51002** 51–01

— The trigonometry of hyperbolic tessellations. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 158–168. (Cyril W. L. Garner) **98c:51014** 51F15 (51N30)

— (*with* Fisher, J. Chris; Wilker, J. B.) Coordinates for the regular complex polygons. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 527–548. (Egon Schulte) **98b:52012** 52B05 (51M20)

— Reciprocating the regular polytopes. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 549–557. (Jürgen Eckhoff) **98d:52017** 52B15 (51M20)

— Numerical distances among the spheres in a loxodromic sequence. *Math. Intelligencer* **19** (1997), *no.* 4, 41–47. (J. M. Wills) **98m:51017** 51M15 (51A30)

— *see also* **Musès, C., 98b:01035**

Coykendall, Jim A characterization of polynomial rings with the half-factorial property. *Factorization in integral domains* (*Iowa City, IA*, 1996), 291–294, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Muhammad Zafrullah) **98h:13026** 13F20 (13A15, 13F05)

Coyle, Lester N. A continuous time version of random walks in a random potential. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 209–235. (Anton Bovier) **98d:60135** 60J15 (60F05)

Crabb, M. C. (*with* Xu, Kai) Quadratic spaces. *Math. Z.* **226** (1997), *no.* 2, 169–180. (R. E. Stong) **98f:55006** 55P42

— (*with* Hubbuck, J. R.; McCall, J. A. W.) Stable summands of $U(n)$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 963–973. (J. Aguadé) **98i:55009** 55P42 (57T10)

Crabb, M. J. (*with* Chaudhry, Muhammad Anwar; McGregor, C. M.) The primitivity of semigroup algebras of free products. *Semigroup Forum* **54** (1997), *no.* 2, 221–229. (Uno Kaljulaid) **98a:20073** 20M25

— (*with* Munn, W. D.) The centre of the algebra of a free inverse monoid. *Semigroup Forum* **55** (1997), *no.* 2, 215–220. (Pedro V. Silva) **98g:20097** 20M25 (16S36, 20M18)

Crăciun, Bogdan The uniqueness of the solution of the mixed problem of the nonlocal thermoelasticity. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 75–80. (Summary) **98j:73014** 73B30 (73C15, 73C35)

— On nonlocal thermoelasticity. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 29–35. 73B30

Crăciun, Gheorghe (*with* Zamfirescu, Tudor) The dimension print of most convex surfaces. (English summary) *Monatsh. Math.* **123** (1997), *no.* 3, 203–207. (Peter M. Gruber) **98f:52001** 52A20 (54E52, 54F45)

Crăciun, Ion Al. On the singular integral equations of the boundary value problems $(I.I.II)^-$ and $(II.II.I)^-$ in the linear micropolar thermoelasticity of stationary vibrations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 113–120. 73B30 (45E05, 73B25)

— Electric enthalpy formulation of variational principles in linear theory or micropolar piezoelectricity. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 57–63. (Hilmi Demiray) **98k:73058** 73R05 (73B25, 73V25)

— Some problems of the dynamical theory of linear nonmagnetizable piezoelectric micropolar thermoelasticity. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 12, 1493–1503. (Summary) **98b:73031** 73R05 (73B25, 73B30)

Crăciunaş, Aurora (*with* Ibănescu, I.; Crăciunaş, P.) Lagrange equations for a rigid body and a geometrical interpretation concerning the principle of kinetic moment related to a fixed point. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 87–99. 70E15 (70H35)

Crăciunaş, P. (*with* Crăciunaş, Aurora; Ibănescu, I.) Lagrange equations for a rigid body and a geometrical interpretation concerning the principle of kinetic moment related to a

fixed point. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 87–99. 70E15 (70H35)

Craft, David L. On the genus of joins and compositions of graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 25–50. (Arthur T. White) **98k:05051** 05C10

Cragg, John G. (*with* Donald, Stephen G.) On the asymptotic properties of LDU-based tests of the rank of a matrix. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1301–1309. (Summary) **98k:62098** 62H15

Craig, I. J. D. (*with* Fabling, R. B.) Dynamic magnetic reconnection in three space dimensions: fan current solutions. (English summary) *Phys. Plasmas* **5** (1998), *no.* 3, 635–644. (Summary) **98m:76156** 76W05

Craig, Walter On the microlocal regularity of the Schrödinger kernel. (English summary) *Partial differential equations and their applications* (*Toronto, ON*, 1995), 71–90, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Edward L. Bueler) **98j:58121** 58G17 (35A27, 35J10)

Craig, William Lane[2] Hartle-Hawking cosmology and atheism. *Analysis* (*Oxford*) **57** (1997), *no.* 4, 291–295. 83F05

Craigen, R. (*with* Kharaghani, H.) Hadamard matrices from weighing matrices via signed groups. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 49–58. (K. C. Prasad) **98m:05029** 05B20

Craigmile, Peter F. (*with* Titterington, D. M.) Parameter estimation for finite mixtures of uniform distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1981–1995. 62F10

Craik, A. D. D. (*with* Decent, S. P.) On limit cycles arising from the parametric excitation of standing waves. (English summary) *Wave Motion* **25** (1997), *no.* 3, 275–294. (Mikhail Zaks) **98g:76006** 76B15 (34C23, 34C37, 76D33)

Crainic, Marius (*with* Varga, Csaba) A note on the denseness of complete invariant metrics. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 265–271. (Mihai Anastasiei) **98k:53095** 53C60 (54E50)

Cram, G.-Martin (*with* Neiße, Olaf) On integral representations over cyclotomic fields. *J. Number Theory* **61** (1996), *no.* 1, 44–51. (Jorge F. Morales) **98a:11148** 11R33 (11R18, 20C10)

Crama, Yves (*with* van de Klundert, Joris) Robotic flowshop scheduling is strongly NP-complete. (English summary) *Ten years LNMB*, 277–286, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90B35 (90C60)

— (*with* Ekin, Oya; Hammer, Peter L.) Variable and term removal from Boolean formulae. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 217–230. (Bai Ying Shen) **98h:68120** 68Q35 (03B05, 03D15)

Cramer, Claes R. (*with* Kay, Bernard S.) Stress-energy must be singular on the Misner space horizon even for automorphic fields. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 12, L143–L149. (Michael Keyl) **98b:81154** 81T20 (83C47)

— Using the uncharged Kerr black hole as a gravitational mirror. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 445–454. (Summary) **98k:83052** 83C57

Cramer, Erhard (*with* Kamps, Udo) Sequential order statistics and k-out-of-n systems with sequentially adjusted failure rates. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 535–549. (Richard A. Johnson) **98m:62051** 62F10 (62F11, 62N05)

— (*with* Kamps, Udo) A note on the UMVUE of $\Pr(X < Y)$ in the exponential case. Comment: "Estimation of $\Pr(X < Y)$ in the exponential case with common location parameter" [Comm. Statist. Theory Methods **21** (1992), no. 1, 269–282; MR 93c:62036] by D. S. Bai and Y. W. Hong. *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 1051–1055. (Editors) **98c:62035** 62F10

— (*with* Kamps, Udo) The UMVUE of $P(X < Y)$ based on type-II censored samples from Weinman multivariate exponential distributions. (English summary) *Metrika* **46** (1997), *no.* 2, 93–121. (I. D. Dhariyal) **98m:62052** 62F10 (62N05)

Cramer, Michael (*with* Rüschendorf, Ludger) Analysis of recursive algorithms by the contraction method. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 18–33, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (E. Rodney Canfield) **98g:05009** 05A15 (05A16, 68Q25)

— (*with* Rüschendorf, Ludger) Convergence of a branching type recursion. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 6, 725–741. (F. M. Dekking) **98k:60030** 60F05

Cramer, Ronald (*with* Damgård, Ivan B.) Secure signature schemes based on interactive protocols. (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 297–310, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98c:94014** 94A60

— (*with* Damgård, Ivan B.) New generation of secure and practical RSA-based signatures. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 173–185, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

— (*with* Gennaro, Rosario; Schoenmakers, Berry) A secure and optimally efficient multi-authority election scheme. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 103–118, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

priess-Crampe, S. *see* **Priess-Crampe, S.**

Crandall, Michael G. (*with* Bardi, Martino; Evans, Lawrence C.; Soner, Halil Mete; Souganidis, Panagiotis E.) ★ Viscosity solutions and applications. Lectures given at the 2nd C.I.M.E. Session held in Montecatini Terme, June 12–20, 1995. Edited by I. Capuzzo Dolcetta and P. L. Lions. Lecture Notes in Mathematics, 1660. Fondazione C.I.M.E., [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1997. x+259 *pp. ISBN* 3-540-62910-6 (Editors) **98b:35005** 35–06 (49L25)

— Viscosity solutions: a primer. *Viscosity solutions and applications* (*Montecatini Terme*, 1995), 1–43, *Lecture Notes in Math.*, 1660, *Springer, Berlin*, 1997. (From the introduction) **98g:35034** 35D05 (35–01, 35F20, 35G20, 49L25)

Crandall, Richard E. Fast evaluation of multiple zeta sums. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1163–1172. (Dirk Kreimer) **98j:11066** 11M41 (11Y60)

Crane, Louis (*with* Barrett, John W.) An algebraic interpretation of the Wheeler-DeWitt equation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2113–2121. (Seth A. Major) **98h:83024** 83C45 (81V17, 83C27)

Crannell, A. (*with* Martelli, Mario Umberto) Periodic orbits from nonperiodic orbits on an interval. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 45–47. 58F20

Crans, Sjoerd E. (*with* Steiner, Richard) Presentations of omega-categories by directed complexes. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 47–77. (Pilar C. Carrasco) **98j:18009** 18D05

Cranston, M. (*with* Kendall, W. S.; Kifer, Yuri) Gromov's hyperbolicity and Picard's little theorem for harmonic maps. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 139–164, *World Sci. Publishing, River Edge, NJ*, 1996. (Elton Pei Hsu) **98h:58197** 58G32 (58E20, 60J65)

— (*with* Mountford, T. S.) The strong law of large numbers for a Brownian polymer. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1300–1323. (Maria E. Vares) **98c:60034** 60F15 (60H05)

Crapo, Henry Structural topology, or The fine art of rediscovery. *Math. Intelligencer* **19** (1997), *no.* 4, 27–35. 00A69

Crasovan, L.-C. (*with* Mihalache, D.; Panoiu, N.-C.) On a coupled system of equations describing pulse propagation in quadratic media. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5855–5867. (Summary) **98j:78032** 78A60 (35Q60)

— (*with* Mihalache, D.; Truta, N.) Painlevé analysis and bright solitary waves of the higher-order nonlinear Schrödinger equation containing third-order dispersion and self-steepening term. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part B*, 1064–1070. (Summary) **98c:78026** 78A55 (35Q55)

Crasta, Graziano (*with* Piccoli, Benedetto) Viscosity solutions and uniqueness for systems of inhomogeneous balance laws. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 477–502. (Hermano Frid) **98g:35141** 35L65 (35D05)

Craster, R. V. Conformal mappings involving curvilinear quadrangles. (English summary) *IMA J. Appl. Math.* **57** (1996), *no.* 2, 181–191. (G. Lakshma Reddy) **98f:30007** 30C20

— The light fluid loading limit for fluid/solid interactions. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 5, 485–505. (Andrew Badanin) **98j:73069** 73K70 (76Q05)

Crater, Horace W. (*with* Van Alstine, Peter) Two-body Dirac equations of constraint dynamics and field-theoretic bound states in QCD and QED. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 111–131, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81354** 81V05 (81V10)

— (*with* Van Alstine, Peter) A tale of three equations: Breit, Eddington-Gaunt, and two-body Dirac. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 67–79. (Summary) **98d:81028** 81R20

Crato, Nuno (*with* de Lima, Pedro J. F.) On the power of underdifferencing and overdifferencing tests against nearly nonstationary alternatives. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1431–1446. 62M10

— (*with* Breidt, F. Jay; de Lima, Pedro J. F.) The detection and estimation of long memory in stochastic volatility. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 325–348. 62P20 (62M10)

Crauel, Hans (*with* Debussche, Arnaud; Flandoli, Franco) Random attractors. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 307–341. (Björn Schmalfuss) **98c:60066** 60H15 (35B40, 35Qxx, 35R60, 47H20, 58F11, 58F12, 76D05)

Craveiro de Carvalho, F. J. *see* **de Carvalho, Francisco J. Craveiro**

Craven, B. D. (*with* Glover, B. M.) An approach to vector subdifferentials. (English summary) *Optimization* **38** (1996), *no.* 3, 237–251. (Massimo Pappalardo) **98k:49025** 49J52 (90C34)

— Avoiding a constraint qualification. (English summary) *Optimization* **41** (1997), *no.* 4, 291–302. (Summary) **98h:90075** 90C30

— (*with* Đỗ Văn Lưu) Optimization with set-functions described by functions. (English summary) *Optimization* **42** (1997), *no.* 1, 39–50. (Summary) **98h:90067** 90C29

Craven, Thomas (*with* Csordas, George) Complex zero decreasing sequences. (English summary) *Methods Appl. Anal.* **2** (1995), *no.* 4, 420–441. (D. A. Brannan) **98a:26015** 26C10 (30C15)

— (*with* Csordas, George) Problems and theorems in the theory of multiplier sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 515–524. (P. L. Walker) **98k:26024** 26C10 (30D15)

— (*with* Bakan, A. G.; Csordas, George; Golub, A. P.) Weakly increasing zero-diminishing sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 547–570. (P. L. Walker) **98k:26025** 26C10 (30D15)

— (*with* Csordas, George) On a converse of Laguerre's theorem. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Mar.*, 7–17 (*electronic*). (P. L. Walker) **98d:26006** 26C10 (30D10, 30D15)

Cravero, I. (*with* Canuto, Claudio) A wavelet-based adaptive finite element method for advection-diffusion equations. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 265–289. (Tsorng-Whay Pan) **98d:65123** 65M60 (76M10)

Crawford, James P. Spinors: Lorentz group. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 297–306, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 22E43 (81R05, 81R25)

— Spinors: Clifford algebra. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 307–316, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (15A66)

— General relativity: an overview. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 317–327, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83–02

— Spinors in general relativity. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 329–340, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60

— Hypergravity. I. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 341–351, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83D05 (83C60)

— Hypergravity. II. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 353–364, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83D05 (83C60)

Crawford, John W. (*with* Liu, Junli) Stability of an autocatalytic system under noise perturbations and its dependence on the basin of attraction. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1195–1203. (Summary) **98b:80021** 80A32 (58F40)

Crawford, T. Arleigh The space of harmonic maps from the 2-sphere to the complex projective plane. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 285–295. (Martin A. Guest) **98f:58062** 58E20 (58D27)

Crawford, Vincent A survey of experiments on communication via cheap talk. (English summary) *J. Econom. Theory* **78** (1998), *no.* 2, 286–298. (Summary) **98m:90220** 90D99

Creath, Richard Quine and the limit assumption in Peirce's theory of truth. (English summary) *Philos. Stud.* **90** (1998), *no.* 2, 109–112. (Summary) **98k:03008** 03A05

Creech, R. L. (*with* Spickerman, W. R.) The $(2, T)$ generalized Fibonacci sequences. *Fibonacci Quart.* **35** (1997), *no.* 4, 358–360. 11B39

Crehan, P. When are vector fields Hamiltonian? *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 21–24, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F05 (70H05)

Creighton, Julien D. E. (*with* Mann, Robert B.) Quasilocal thermodynamics of two-dimensional black holes. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7476–7482. (Michael O. Katanaev) **98a:83077** 83C57 (81T20, 81T40)

— (*with* Mann, Robert B.) Quasilocal formalism for dilaton gravity with Yang-Mills fields. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 205–210, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Alexander N. Petrov) **98f:83035** 83C40 (81T13, 83C05)

Creignou, Nadia (*with* More, Malika) Complexity of satisfiability problems with symmetric polynomial clauses. (English summary) *J. Logic Comput.* **7** (1997), *no.* 3, 353–366. (Summary) **98b:68073** 68Q25 (03B05, 03D15, 68Q15)

Cremanns, Robert (*with* Otto, Friedrich) For groups the property of having finite derivation type is equivalent to the homological finiteness condition FP_3. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 2, 155–177. (Susan Hermiller) **98b:20081** 20J05 (03D40, 20M05, 68Q42)

— Prefix-rewriting on context-free groups. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 315–344. (Summary) **98e:68126** 68Q42 (20F05, 68Q25)

Cremer, James F. (*with* Anitescu, Mihai; Potra, Florian A.) On the existence of solutions to complementarity formulations of contact problems with friction. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 12–21, *SIAM, Philadelphia, PA*, 1997. (Summary) **98b:70010** 70E99 (73T05, 90C33)

Cremmer, Eugène (*with* Gervais, Jean-Loup; Schnittger, Jens) Operator coproduct-realization of quantum group transformations in two-dimensional gravity. I. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 1, 147–177. (Jamal Zerouaoui) **98j:81146** 81R50 (17B37, 17B81, 81R10, 81T40)

— (*with* Gervais, Jean-Loup; Schnittger, Jens) Hidden $U_q(\mathrm{sl}(2)) \otimes U_q(\mathrm{sl}(2))$ quantum group symmetry in two-dimensional gravity. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 609–643. (Isabel P. Ennes) **98j:81308** 81T40 (17B37, 81R50)

Cremona, John E. Computing periods of cusp forms and modular elliptic curves. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 97–107. (V. Kumar Murty) **98h:11058** 11F67 (11F11, 11G05, 11Y35)

Cremona, Luigi *see* **Menghini, Marta**, **98b:01021**

Crépeau, Claude (*with* Brassard, Gilles; Sántha, Miklós) Oblivious transfers and intersecting codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1769–1780. (Summary) **98g:94024** 94A60 (94B27)

— Efficient cryptographic protocols based on noisy channels. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 306–317, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

— (*with* Brassard, Gilles) Oblivious transfers and privacy amplification. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 334–347, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Crepon, Bruno (*with* Kramarz, Francis; Trognon, Alain) Parameters of interest, nuisance parameters and orthogonality conditions. An application to autoregressive error component models. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 135–156. (Summary) **98m:62298** 62P20 (62M10)

Crès, Hervé (*with* Balasko, Yves) The probability of Condorcet cycles and super majority rules. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 237–270. (Solomon Marcus) **98i:90010** 90A08

Crescenzi, Pierluigi (*with* Bongiovanni, Giancarlo; De Agostino, Sergio) MAX SAT and MIN SET COVER approximation algorithms are P-complete. (English summary) *Parallel Process. Lett.* **5** (1995), *no.* 2, 293–298. (Summary) **98a:68090** 68Q25 (68Q15)

— (*with* Trevisan, Luca) On the distributed decision-making complexity of the minimum vertex cover problem. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 5, 431–441. (Summary) **98b:68151** 68R10 (05C85, 68Q10, 68Q25)

— (*with* Kann, Viggo) Approximation on the web: a compendium of NP optimization problems. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 111–118, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68083** 68Q25 (68Q15)

— (*with* Penna, P.; Piperno, Adolfo) Linear area upward drawings of AVL trees. (English summary) *Comput. Geom.* **9** (1998), *no.* 1-2, 25–42. (Summary) **98h:68221** 68U05 (68P05)

di Crescenzo, Antonio *see* **Di Crescenzo, Antonio**

Crespi, Valentino (*with* Codenotti, Bruno; Resta, Giovanni) On the permanent of certain (0, 1) Toeplitz matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 65–100. (Norbert Seifter) **98m:15015** 15A15 (15A57)

Crespi Reghizzi, Stefano (*with* Breveglieri, Luca; Cherubini, Alessandra) Deterministic parsing for augmented context-free grammars. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 326–336, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q52

aguilar Crespo, J. A. *see* **Aguilar Crespo, J. A.**

soto-Crespo, J. M. *see* **Soto-Crespo, J. M.**

Crespo, Teresa Galois representations, embedding problems and modular forms. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 63–83. (Ian Kiming) **98j:11101** 11R32 (11F80, 12F12)

Cressie, Noel Weighted jackknife variance estimation for functions of rates and proportions. (English summary) *Research developments in probability and statistics*, 343–352, *VSP, Utrecht*, 1996. (Summary) **98c:62059** 62G05 (62D05)

— PIC: power divergence information criterion. (English summary) *Statistical theory and applications*, 3–14, *Springer, New York*, 1996. (Summary) **98f:62009** 62B10

— (*with* Huang, Hsin-Cheng) Spatio-temporal prediction of snow water equivalent using the Kalman filter. (English summary) *Comput. Statist. Data Anal.* **22** (1996), *no.* 2, 159–175. (P. S. Knopov) **98d:62175** 62M20

Cressman, R. Local stability of smooth selection dynamics for normal form games. (English summary) *Math. Social Sci.* **34** (1997), *no.* 1, 1–19. (Silvana Stefani) **98k:90167** 90D26 (90D10, 90D40)

Cresti, Antonella (*with* Blundo, Carlo) Space requirements for broadcast encryption. (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 287–298, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

Creswick, Richard J. (*with* Kim, Seung-Yeon) Critical exponents of the four-state Potts model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8785–8786. 82B27 (82B20)

Cretegny, Thierry (*with* Aubry, Serge) Patterns of energy flux in periodic solutions of Klein-Gordon lattices. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 162–165. (*see* **98k:00013**) 82B20 (35Q53)

le Creurer, I. J. *see* **Le Creurer, I. J.**

Crew, N. I. (*with* Brennan, Michael J.) Hedging long maturity commodity commitments with short-dated futures contracts. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 165–189, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Criado, F. (*with* Gachechiladze, T.) Fuzzy random events and their corresponding conditional probability measures. (English summary) *Rev. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **89** (1995), *no.* 1-2, 79–98. (Summary) **98e:28025** 28E10 (04A72)

— (*with* Gachechiladze, T.) Entropy of fuzzy events. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 1, 99–106. (Summary) **98b:94006** 94A17 (04A72, 94D05)

— (*with* Davitashvili, T. D.) On asynchronous iterative methods for the solution of non-linear equations and systems of equations for multiprocessors. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 253–263. 65H05 (65H10)

Cribari-Neto, Francisco (*with* Ferrari, Silvia L. de Paula; Uribe-Opazo, Miguel A.) Second order asymptotics for score tests in exponential family nonlinear models. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 2, 179–194. 62E20 (62G10, 62G20)

— (*with* Cordeiro, Gauss M.) On bias reduction in exponential and non-exponential family regression models. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 485–500. 62J12 (62F10)

— (*with* Ferrari, Silvia L. de Paula) On bootstrap and analytical bias corrections. (English summary) *Econom. Lett.* **58** (1998), *no.* 1, 7–15. 62G09

Cribb, D. W. Stable graphs for inclusive connectivity. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 33–50. (Summary) **98k:05102** 05C40

Cridlig, Régis Semantic analysis of concurrent ML by abstract model-checking. (English summary) *First International Workshop on Verification of Infinite State Systems (Pisa, 1996)*, 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (*see* **98g:68008**) 68N15 (68Q10, 68Q55)

Crighton, D. G. (*with* Green, M. R.) Instability properties of interacting jets. (English summary) *J. Fluid Mech.* **350** (1997), 331–349. (Summary) **98j:76052** 76E99 (76B10, 76J20)

Criminale, W. O. (*with* Jackson, T. L.; Lasseigne, D. G.; Joslin, R. D.) Perturbation dynamics in viscous channel flows. (English summary) *J. Fluid Mech.* **339** (1997), 55–75. (Summary) **98a:76018** 76D05 (76E05)

Crippa, D. (*with* Simon, Klaus; Trunz, P.) Markov processes involving q-Stirling numbers. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 165–178. (F. T. Howard) **98d:05017** 05A30

Cripps, Martin W. (*with* Thomas, Jonathan P.) Reputation and perfection in repeated common interest games. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 2, 141–158. (Sylvain Sorin) **98a:90160** 90D20

— Bargaining and the timing of investment. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 527–546. 90A09 (90D12)

Cripps, Robert (*with* Tookey, Richard) Improved surface bounds based on derivatives. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 8, 787–791. 65D17 (41A63)

Crisan, Dan (*with* Lyons, T. J.) Nonlinear filtering and measure-valued processes. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 217–244. (M. P. Moklyachuk) **98j:93080** 93E11 (60G35, 60G44, 60G57, 65U05)

Crisanti, A. (*with* Aurell, Erik; Boffetta, G.; Paladin, G.; Vulpiani, A.) Predictability in the large: an extension of the concept of Lyapunov exponent. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 1–26. (Summary) **98a:82069** 82C05

Crisci, C. The traction problem in plane incompressible linear elastostatics in exterior domains. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 59–73. (Rouben Rostamian) **98b:73006** 73C02 (73C15)

Crisci, M. R. (*with* Russo, E.; Vecchio, A.) Block methods for second kind Volterra equations. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 507–524 (1996). (H. Brunner) **98i:65120** 65R20 (45L05, 65Y05)

Crisciani, Fulvio (*with* Cavallini, Fabio) Nonlinear asymptotic stability of quasi-geostrophic wind-driven ocean circulation. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 167–175. (Summary) **98b:86009** 86A10 (76E20)

Criscuolo, Giuliana (*with* Capobianco, Maria Rosaria; Junghanns, Peter) A fast algorithm for Prandtl's integro-differential equation. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 103–128. (Mohammad Iqbal) **98a:65186** 65R20 (45L05)

— A new algorithm for Cauchy principal value and Hadamard finite-part integrals. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 255–275. (John H. McCabe) **98b:65025** 65D30 (41A55)

Cristante, Valentino (*with* Candilera, Maurizio) Geometric aspects of the complex Heisenberg group. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 3, 595–623. (Gerald B. Folland) **98b:22025** 22E45 (14K25, 22E25, 22E30)

Cristea, Mihai A generalization of the theorem on univalence on boundary. *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 5-6, 435–448. (Georgi Dimkov) **98k:46071** 46G20 (30C35)

Cristea, P. (*with* Iordache, Mihai; Spinei, F.; Dumitriu, Lucia; Popescu, Nicolae) A diakoptic method for tree and s-forest generation without duplication. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **40** (1995), *no.* 4, 461–471. (W.-K. Chen) **98h:94031** 94C15 (05C05, 05C85)

Cristea, Valentin Totally geodesic graded Riemannian submanifolds of the (4, 4)-dimensional graded Riemannian manifold. (English summary) Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 1–4. (Fausto Ongay-Larios) **98f:58016** 58A50

Cristeas, M. (*with* Borneas, M.) A Lagrangian formalism for extended supersymmetry equations. (English summary) *Hadronic J.* **19** (1996), *no.* 5, 465–472. (Summary) **98k:58075** 58E30

Cristescu, Romulus On regular operators between ordered spaces. (Italian. English summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **17** (1994), 15–24 (1997). (Summary) **98j:47080** 47B60 (46A40)

Critani, F. (*with* Dall'Aglio, M.; Di Biase, Giuseppe) Ranking and unranking permutations with applications. *Innovation in mathematics* (*Rovaniemi*, 1997), 99–106, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 05A05

Criton, Michel ★ Les jeux mathématiques. (French) [Mathematical games] Que Sais-Je? [What Do I Know?], 3220. *Presses Universitaires de France, Paris*, 1997. 127 *pp. ISBN* 2-13-048109-4 (E. J. Barbeau) **98e:00001** 00A08 (01A05)

Crnjac, Miljenko (*with* Guljaš, Boris; Miller, Harry I.) A positive answer to a question about the Cantor set. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 213–224. (Marek Balcerzak) **98c:28001** 28A05

— (*with* Jukić, Dragan; Scitovski, Rudolf) Surfaces generated by the noninterpolating moving total least squares method. (English summary) *SOR '97 Proceedings* (*Preddvor*), 189–194, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 65D17 (41A63)

Croc, Elisabeth (*with* Dermenjian, Yves) Generalized modes in an acoustic strip. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 129–145, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98j:35032** 35J05 (35C99, 35R30, 73D25, 76Q05)

Crocco, Gabriella (*with* Fariñas del Cerro, Luis; Herzig, Andreas) Introduction. *Conditionals: from philosophy to computer science*, 1–12, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B65 (03B70)

— *see also* **Conditionals: from philosophy to computer science, 98d:03003**

Crochemore, Maxime (*with* Vérin, Renaud) Direct construction of compact directed acyclic word graphs. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 116–129, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68039** 68Q20 (68P05)

— (*with* Lecroq, Thierry) Tight bounds on the complexity of the Apostolico-Giancarlo algorithm. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 195–203. (Summary) **98e:68099** 68Q25

— (*with* Galil, Zvi; Gąsieniec, Leszek; Park, Kunsoo; Rytter, Wojciech) Constant-time randomized parallel string matching. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 950–960. (Summary) **98c:68079** 68Q22 (68Q25, 68R15)

Crocker, David (*with* Kumjian, Alexander; Raeburn, Iain; Williams, Dana P.) An equivariant Brauer group and actions of groups on C*-algebras. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 151–184. (Jean N. Renault) **98j:46076** 46L55 (22D25, 46L05, 46L35)

Croft, A. J. (*with* Sajjadi, S. G.; Wakefield, John) On the growth of a fully non-linear Stokes wave by turbulent shear flow. I. Eddy-viscosity model. (English summary) *Math. Engrg. Indust.* **6** (1997), *no.* 3, 185–207. (Summary) **98h:76058** 76F10 (76B15, 86A05)

Crole, Roy L. (*with* Gordon, Andrew D.) A sound metalogical semantics for input/output effects. (English summary) *Computer science logic* (*Kazimierz*, 1994), 339–353, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68158** 68Q55 (68N15)

— On fixpoint objects and gluing constructions. (English summary) The European Colloquium of Category Theory (Tours, 1994). *Appl. Categ. Structures* **4** (1996), *no.* 2-3, 251–281. (Summary) **98c:18006** 18C10

Crombez, G. Solving convex feasibility problems by a parallel projection method with geometrically-defined parameters. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 277–290. (Summary) **98b:65067** 65K05

Cromme, Ludwig J. Fixed point theorems for discontinuous functions and applications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1527–1534. (*see* **98i:00029**) 54H25

Crompton, Stephen (*with* Grindrod, Peter) A geometric approach to fingering instabilities for reaction fronts in fully coupled geochemical systems. (English summary) *IMA J. Appl. Math.* **57** (1996), *no.* 1, 29–40. (Summary) **98b:86017** 86A60 (92E20)

Cromwell, Peter R. ★ Polyhedra. "One of the most charming chapters of geometry". *Cambridge University Press, Cambridge*, 1997. xiv+451 *pp. ISBN* 0-521-55432-2 (P. McMullen) **98j:52017** 52B10 (00A08, 00A69, 01A05)

— (*with* Beltrami, Elisabetta) Minimal arc-presentations of some nonalternating knots. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 137–145. (Michael Heusener) **98h:57012** 57M25 (57M15)

Cronin, Jane Control in cardiac components. *Advances in nonlinear dynamics*, 147–155, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (*see* **98e:34002**) 92C30 (34C15, 92–02)

Croushaw, Mark B. (*with* Kazarian, Levon S.) Some bounds for Markov chains. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 579–582. (Summary) **98k:90171** 90D40 (60J10)

Cross, Charles B. The modal logic of discrepancy. (English summary) *J. Philos. Logic* **26** (1997), *no.* 2, 143–168. (Lilija A. Chagrova) **98d:03025** 03B45

Cross, M. *see* **Cross, Mark**

Cross, M. C. (*with* Grigoriev, R. O.) Dynamics of coupled maps with a conservation law. (English summary) *Chaos* **7** (1997), *no.* 2, 311–330. 58F13

Cross, Mark (*with* Walshaw, C.; Everett, M. G.) Dynamic load-balancing for parallel adaptive unstructured meshes. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55

Cross, R. W. The essential state diagram for linear relations in normed spaces. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 95–107. (P. Aiena) **98e:47001** 47A05

Crossley, John N. (*with* Jeavons, John S.) A logic-based modelling of Prolog resolution sequences. *Logique et Anal.* (*N.S.*) **35** (1992), *no.* 137-138, 189–205. (Sauro Tulipani) **98k:03028** 03B35 (03B25, 68N17, 68Q55, 68T15)

— (*with* Jeavons, John S.) A logic-based modelling of Prolog resolution sequences including the negation as failure rule. *Logique et Anal.* (*N.S.*) **37** (1994), *no.* 147-148, 379–406. (Neculai Curteanu) **98b:03048** 03B70 (03B35, 68T15)

— (*with* Mandel, Luis; Wirsing, Martin) First-order constrained lambda calculus. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 339–356, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Martin W. Bunder) **98b:03023** 03B40 (68Q55)

Crossley, M. D. H^*V is of bounded type over $\mathscr{A}(p)$. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 183–190, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:55018** 55S10

Crosta, Giovanni F. Identification for control: transversal flows and collinearity in the inverse conductivity problem. (English summary) *Inverse problems in geophysical applications* (*Yosemite, CA*, 1995), 257–286, *SIAM, Philadelphia, PA*, 1997. (A. J. Meir) **98g:76070** 76S05 (35R30, 80A20)

— Obstacle reconstruction in acoustics: error analysis of an inversion algorithm set in the subspace of outgoing spherical wave functions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3481–3492. (*see* **98h:00034**) 76Q05 (76M25)

Crouch, J. D. Instability and transient growth for two trailing-vortex pairs. (English summary) *J. Fluid Mech.* **350** (1997), 311–330. (Summary) **98j:76049** 76E99 (76C05)

Crouch, Peter E. (*with* Lamnabhi-Lagarrigue, Françoise; Pinchon, Didier) Some realizations of algorithms for nonlinear input-output systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 941–960. 93B40 (93C10)

— (*with* Bloch, Anthony M.; Brockett, Roger W.) Double bracket equations and geodesic flows on symmetric spaces. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 357–373. (L. E. Faybusovich) **98g:58136** 58F17

Crouse, Robert H. (*with* Jin, Chun) An identity for exponential distributions with the common location parameter and its applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 409–422. (Summary) **98m:62033** 62E15 (62F10)

Croux, Christophe (*with* Rousseeuw, Peter J.; Van Bael, Annemie) Positive-breakdown regression by minimizing nested scale estimators. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 2, 197–235. (Summary) **98k:62042** 62F35

— Maximum deviation curves for location estimators. (English summary) *Statistics* **28** (1996), *no.* 4, 285–305. (M. Riedel) **98e:62054** 62F35 (62G05)

— (*with* Haesbroeck, Gentiane) An easy way to increase the finite-sample efficiency of the resampled minimum volume ellipsoid estimator. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 2, 125–141. (Summary) **98c:62107** 62H12

Crouzeix, Jean-Pierre (*with* Kebbour, Rabah) On the convexity of some simple functions of ordered samples. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **36** (1996), *no.* 1, 11–25 (1997). (Juan-Enrique Martínez-Legaz) **98b:90107** 90C26 (26B25, 49J52)

— (*with* Ferland, J. A.) Criteria for differentiable generalized monotone maps. (English summary) *Math. Programming* **75** (1996), *no.* 3, *Ser. A*, 399–406. (Siegfried Schaible) **98a:49026** 49J52 (47H99, 47N10, 90C26)

— (*with* Ferland, J. A.; Zălinescu, C.) α-convex sets and strong quasiconvexity. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 998–1022. (Giorgio Giorgi) **98k:90078** 90C26 (52A41)

— Pseudomonotone variational inequality problems: existence of solutions. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser. A*, 305–314. (Sándor Komlósi) **98i:90101** 90C33 (49J40)

Crouzeix, Michel (*with* Akrivis, Georgios; Makridakis, Charalambos) Implicit-explicit multistep finite element methods for nonlinear parabolic problems. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 457–477. (Bruno Scheurer) **98g:65088** 65M60 (34G20, 35K55, 65M12)

Crowder, Martin A multivariate model for repeated failure time measurements. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 53–67. (Summary) **98m:62278** 62N05

Crowdy, Darren G. A note on the linear stability of Burgers vortex. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 2, 107–126. (Summary) **98j:76050** 76E99 (76C05)

Crowley, John J. (*with* LeBlanc, Michael; Gentleman, R.; Salmon, S.) Exploratory methods in survival analysis. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 55–77, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G05 (62P10)

Crowther, N. A. S. (*with* Matthews, Glenda B.) A maximum likelihood estimation procedure when modelling categorical data in terms of cross-product ratios. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 161–184. 62H17

Cruceanu, Vasile Une classe de structures géométriques sur le fibré cotangent. [A class of geometric structures on the cotangent bundle] International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 196–201. (Jaime Muñoz Masqué) **98d:53039** 53C15 (53C05)

— A new definition for certain lifts on a vector bundle. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *suppl.*, 59–72. (Josef Janyška) **98f:58014** 58A30 (53C05)

Cruchaga, Marcela A. (*with* Oñate, Eugenio) A finite element formulation for incompressible flow problems using a generalized streamline operator. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 49–67. (Summary) **98a:76050** 76M10 (76D05)

Crumeyrolle, Albert *see* **Clifford algebras and spinor structures, 98e:00026**

Cruse, T. A. BIE fracture mechanics analysis: 25 years of developments. *Comput. Mech.* **18** (1996), *no.* 1, 1–11. (From the introduction) **98e:73142** 73V10 (73M25)

— (*with* Richardson, J. D.; Huang, Qingping) On the validity of conforming BEM algorithms for hypersingular boundary integral equations. (English summary) *Comput. Mech.* **20** (1997), *no.* 3, 213–220. (Summary) **98h:73078** 73V10 (45E05, 45L05)

Crutchfield, James P. (*with* Hanson, James E.) Computational mechanics of cellular automata: an example. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 169–189. (Dimitri Petritis) **98k:82117** 82C20 (68Q80)

— (*with* van Nimwegen, Erik; Mitchell, Melanie) Finite populations induce metastability in evolutionary search. (English summary) *Phys. Lett. A* **229** (1997), *no.* 3, 144–150. (Ross Cressman) **98d:92007** 92D15 (92D25)

— (*with* Feldman, David P.) Measures of statistical complexity: why? (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 244–252. (Summary) **98m:82005** 82B03

de souza Cruz, F. F. *see* **de Souza Cruz, F. F.**

Cruz, F. R. B. (*with* Smith, J. MacGregor; Mateus, G. R.) Solving to optimality the uncapacitated fixed-charge network flow problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 1, 67–81. 90B10

Cruz, Javier (*with* Navarro-Salas, J.) Canonical equivalence of a generic 2-D dilaton gravity model and a free field theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2345–2351. (Gheorghe Zet) **98i:81230** 81T40

— (*with* Navarro-Salas, J.; Navarro, Miguel; Talavera, C. F.) Symmetries and solvable models for evaporating 2D black holes. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 184–187. (Summary) **98g:83059** 83C57 (81T20)

— (*with* Navarro-Salas, J.; Navarro, Miguel; Talavera, C. F.) Conformal and non-conformal symmetries in 2D dilaton gravity. (English summary) *Phys. Lett. B* **402** (1997), *no.* 3-4, 270–275. (Summary) **98d:81100** 81T40

de la Cruz, Omar *see* **De La Cruz, Omar**

da Cruz, Wellington Functional integral over velocities for a spinning particle with and without anomalous magnetic moment in a constant electromagnetic field. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5225–5238. 81V10 (81S40)

Cruzeiro, Ana Bela (*with* Fang, Shizan) An L^2 estimate for Riemannian anticipative stochastic integrals. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 2, 400–414. (David Nualart) **98d:60106** 60H07 (58G32)

Cruz-Pacheco, Gustavo (*with* Luce, Benjamin P.) On the relationship of periodic wavetrains and solitary waves of complex Ginzburg-Landau type equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 391–402. 78A10 (35Q55)

Cruz Soto, J. L. (*with* Calzada Canalejo, M. C.; Marín Beltrán, M.; Fernández-Cara, Enrique) A convergence result for a parallel algorithm for solving the Navier-Stokes equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 71–88. (Summary) **98m:76119** 76M25 (65M12, 76D05)

Crvenković, Siniša Word problems for varieties of algebras (a survey). Algebra, logic & discrete mathematics (Niš, 1995). *Filomat No.* 9, *part* 3 (1995), 427–448. (A. A. Mullin) **98g:08007** 08A50 (03C05, 03D35, 03D40, 08–02, 08A55)

— (*with* Dolinka, Igor) Undecidable varieties with solvable word problems. I. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 1–8. (Ewa Graczyńska) **98e:08001** 08A50 (03B25, 03D35, 08B05)

— (*with* Delić, D.) Different levels of word problems for some varieties. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 93–102. (Ewa Graczyńska) **98g:08008** 08A50 (03D35, 03D40)

— (*with* Dolinka, Igor) Undecidable varieties with solvable word problems. II. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 21–30. (Ewa Graczyńska) **98j:08005** 08A50 (03B25, 03D40, 08B05)

Cryan, Mary (*with* Ramsay, Allan) Constructing a normal form for property theory. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 237–251, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 03B60

— (*with* Goldberg, Leslie Ann; Phillips, Cynthia A.) Approximation algorithms for the fixed-topology phylogenetic number problem. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 130–149, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:92010** 92D15 (68Q25)

Csaba, B. (*with* Dányi, Gábor) Server problems and regular languages. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 23–39. (Summary) **98f:68153** 68Q45 (68N25)

Csákány, Béla (*with* Kearnes, Keith A.) Algebras whose subalgebras and reducts are trivial. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 379–381. (Ewa Graczyńska) **98m:08003** 08A30 (08A40)

Csáki, Csaba (*with* Skiba, Witold; Schmaltz, Martin) Exact results and duality for Sp(2*N*) SUSY gauge theories with an antisymmetric tensor. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 128–140. (C. Gauthier) **98a:81219** 81T60 (81T13, 81V22)

— (*with* Skiba, Witold) Duality in Sp and SO gauge groups from M theory. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 31–38. (Summary) **98g:81157** 81T30 (81T60, 83E30)

— (*with* Schmaltz, Martin; Skiba, Witold) Confinement in $N = 1$ SUSY gauge theories and model building tools. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7840–7858. (Massimo Di Pierro) **98d:81113** 81T60 (81T13)

— (*with* Schmaltz, Martin; Skiba, Witold; Terning, John) Self-dual $N = 1$ SUSY gauge theories. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1228–1238. (Summary) **98h:81116** 81T60 (81T13)

— (*with* Erlich, Joshua; Freedman, Daniel Z.; Skiba, Witold) $N = 1$ supersymmetric product group theories in the Coulomb phase. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5209–5217. (Summary) **98g:81203** 81T60 (81T13)

Csáki, Endre (*with* Földes, Antónia; Révész, Pál) Random walk with alternating excursions. (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 3-4, 267–280. (Aart J. Stam) **98d:60136** 60J15 (60F05, 60F15)

— Some results for two-dimensional random walk. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 115–124, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Jagdish Saran) **98g:60125** 60J15

— (*with* Földes, Antónia) On the logarithmic average of iterated processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 347–358. (Davar Khoshnevisan) **98i:60079** 60J65 (60F15)

— (*with* Csörgő, Miklós; Földes, Antónia; Révész, Pál) On the occupation time of an iterated process having no local time. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 199–217. (Davar Khoshnevisan) **98k:60139** 60J65 (60F05, 60F15, 60J55)

Császár, Á. Generalized open sets. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 65–87. (Ji Ling Cao) **98e:54001** 54A05

— Riesz and Lodato reflections. IV. *Acta Math. Hungar.* **77** (1997), *no.* 3, 275–286. (Jiří Rosický) **98m:54018** 54B30 (18B30, 54A05)

Csendes, Tibor (*with* Ratz, Dietmar) Subdivision direction selection in interval methods for global optimization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 922–938. (H. Ratschek) **98d:90109** 90C30 (65G10)

— *see also* **Developments in global optimization, 98e:90005**

Csertán, Gyorgy (*with* Bernardeschi, Cinzia; Bondavalli, Andrea; Majzik, Istvan; Simoncini, Luca) Temporal analysis of data flow control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 169–182. 93C83 (93A30)

Csirik, János (*with* Alon, Noga; Sevast'yanov, S. V.; Vestjens, Adrianus Petrus Antonius; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) *Algorithms—ESA '96* (*Barcelona*), 406–418, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98i:68120** 68Q25 (90C27)

— (*with* Woeginger, Gerhard J.) Shelf algorithms for on-line strip packing. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 171–175. (Summary) **98h:68107** 68Q25

Csirmaz, László The size of a share must be large. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 13–22, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (Summary) **98i:94018** 94A60 (94A15)

— The size of a share must be large. (English summary) *J. Cryptology* **10** (1997), *no.* 4, 223–231. (Summary) **98k:94008** 94A60

Csiszár, Imre (*with* Körner, János) ★ Information theory. (English summary) Coding theorems for discrete memoryless systems. Third edition. *Akadémiai Kiadó* (*Publishing House of the Hungarian Academy of Sciences*), *Budapest*; *distributed by International Specialized Book Services, Inc., Portland, OR*, 199?. xii+452 *pp. ISBN* 963-05-7440-3 (Editors) **98k:94003** 94A15 (94–02, 94A24, 94A29)

Csizmadia, György (*with* Ismailescu, D.) Maximum number of different distance counts. (English summary) *Intuitive geometry* (*Budapest*, 1995), 301–309, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (W. Moser) **98i:52023** 52C10

— (*with* Tóth, Géza) Note on an art gallery problem. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 47–55. (Summary) **98m:68270** 68U05 (52B55)

Csordas, George (*with* Craven, Thomas) Complex zero decreasing sequences. (English summary) *Methods Appl. Anal.* **2** (1995), *no.* 4, 420–441. (D. A. Brannan) **98a:26015** 26C10 (30C15)

— (*with* Bleecker, David D.) ★ Basic partial differential equations. *International Press, Cambridge, MA*, 1996. xviii+735 *pp. ISBN* 1-57146-036-5 (Editors) **98m:35001** 35–01

— (*with* Craven, Thomas) Problems and theorems in the theory of multiplier sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 515–524. (P. L. Walker) **98k:26024** 26C10 (30D15)

— (*with* Bakan, A. G.; Craven, Thomas; Golub, A. P.) Weakly increasing zero-diminishing sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 547–570. (P. L. Walker) **98k:26025** 26C10 (30D15)

— (*with* Craven, Thomas) On a converse of Laguerre's theorem. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Mar.*, 7–17 (*electronic*). (P. L. Walker) **98d:26006** 26C10 (30D10, 30D15)

Csörgő, I. A representation theorem for the operator space $L(L_0^\infty(X); Z)$. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 83–91. (Pilar Cembranos) **98d:46038** 46E40 (46B28, 46G10)

Csörgő, Miklós (*with* Szyszkowicz, Barbara) Weighted multivariate empirical processes and contiguous change-point analysis. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 93–98, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 60F17 (60F25, 62G10, 62G30)

— (*with* Yu, Hao) Weak approximations for quantile processes of stationary sequences. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 4, 403–430. (Stergios B. Fotopoulos) **98b:60038** 60F05 (60F15, 60F17, 62G15)

— (*with* Zitikis, Ričardas) On confidence bands for the Lorenz and Goldie curves. (English summary) *Advances in the theory and practice of statistics*, 261–281, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:62144** 62G15 (62P20)

— (*with* Zitikis, Ričardas) On the rate of strong consistency of Lorenz curves. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 113–121. (Charles M. Goldie) **98e:60045** 60F15

— (*with* Yu, Hao) Estimation of total time on test transforms for stationary observations. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 229–253. (Mir Masoom Ali) **98h:62046** 62G05

— (*with* Csáki, Endre; Földes, Antónia; Révész, Pál) On the occupation time of an iterated process having no local time. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 199–217. (Davar Khoshnevisan) **98k:60139** 60J65 (60F05, 60F15, 60J55)

— (*with* Horváth, Lajos; Shao, Qi-Man) Almost sure summability of partial sums. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 43–74. (N. H. Bingham) **98e:60046** 60F15 (60G50)

Csörgő, P. (*with* Asaad, M.) On T^*-groups. *Acta Math. Hungar.* **74** (1997), *no.* 3, 235–243. (Zhi Rang Zhang) **98i:20021** 20D35 (20F16)

Csörgő, Sándor (*with* Mielniczuk, Jan) Extreme values of derivatives of smoothed fractional Brownian motions. (English summary) *Probab. Math. Statist.* **16** (1996), *no.* 2, 211–219. (Ralph P. Russo) **98e:60133** 60J65 (60F05, 60G70, 62G05)

— (*with* Faraway, Julian J.) On the estimation of a normal variance. (English summary) *Statist. Decisions* **14** (1996), *no.* 1, 23–34. (Kurt Hoffmann) **98m:62053** 62F10 (62C15)

Csörnyei, Marianna On the chord set of continuous functions. *Real Anal. Exchange* **22** (1996/97), *no.* 2, 853–855. (T. Šalát) **98g:26003** 26A15

Csörnyei, Zoltán An axiomatic approach to assemblers. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 3, 29–44. 68M07 (68N15, 68N20)

Csuhaj-Varjú, Erzsébet (*with* Bordihn, Henning) On competence and completeness in CD grammar systems. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 347–360. (Juhani Karhumäki) **98d:68128** 68Q50

— (*with* Kari, Lila; Păun, Gheorghe) Test tube distributed systems based on splicing. (English summary) Grammar systems. *Comput. Artificial Intelligence* **15** (1996), *no.* 2-3, 211–232. (Rani Siromoney) **98b:68105** 68Q50

— (*with* Kelemen, Jozef; Păun, Gheorghe) Grammar systems with wave-like communication. (English summary) *Comput. Artificial Intelligence* **15** (1996), *no.* 5, 419–436. (Juhani Karhumäki) **98f:68162** 68Q50

— (*with* Salomaa, Arto) Networks of parallel language processors. (English summary) *New trends in formal languages*, 299–318, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98k:68100** 68Q45 (68Q10, 68Q50)

— Networks of language processors. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 120–134. 68Q45

Cuadrado, J. (*with* Cardenal, Jesús; Bayo, E.) Modeling and solution methods for efficient real-time simulation of multibody dynamics. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 3, 259–280. 70–08 (70E99)

walias Cuadrado, Magdalena *see* **Walias Cuadrado, Magdalena**

Cuadras, C. M. A distribution with given marginals and given regression curve. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 76–83, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98k:62009** 62E10 (62J02)

— (*with* Fortiana, J.) Weighted continuous metric scaling. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 27–40, *VSP, Utrecht*, 1996. (Rudolf Mathar) **98j:62050** 62H99 (60G99, 62H25)

— (*with* Fortiana, J.) Continuous scaling on a bivariate copula. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 137–142, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 62H25 (62H17, 62H30)

— (*with* Fortiana, J.) A family of matrices, the discretized Brownian bridge, and distance-based regression. (English summary) *Linear Algebra Appl.* **264** (1997), 173–188. (Summary) **98e:62107** 62J12

— (*with* Atkinson, R. A.; Fortiana, J.) Probability densities from distances and discrimination. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 405–411. (Summary) **98a:62069** 62H05 (62H30)

Cuartero, Fernando (*with* Valero, Valentín; de Frutos, David) Timed processes of timed Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 490–509, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68156** 68Q90 (68Q10)

cortés Cuautli, L. C. *see* **Cortés Cuautli, L. C.**

Cubiles-De-La-Vega, M. D. (*with* Muñoz-García, J.; Pino-Mejías, R.; Muñoz-Pichardo, J. M.) Identification of outlier bootstrap samples. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 3, 333–342. (Summary) **98c:62085** 62G09

Cubillo, Susana (*with* de Soto, Adolfo R.; Trillas, Enric) Classes of fuzzy sets with the same material conditional. (English summary) 1995 Spanish Conference on Fuzzy Logic and Fuzzy Technology (Murcia). *Internat. J. Approx. Reason.* **16** (1997), *no.* 3-4, 225–233. (Summary) **98a:03084** 03E72

Cubiotti, Paolo (*with* Di Bella, Beatrice) A sup-inf condition for the existence of zeros of certain nonlinear operators. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 63–67 (1997). (Tomás Dominguez Benavides) **98c:47071** 47H15 (47H19)

— (*with* Nguyễn Đông Yên) A result related to Ricceri's conjecture on generalized quasi-variational inequalities. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 507–514. (Xian Zhi George Yuan) **98j:49012** 49J40 (47H19)

— (*with* Cammaroto, Filippo[2]) Implicit integral equations with discontinuous right-hand side. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 241–246. (S. N. Askhabov) **98e:45005** 45G10 (47H15, 47N20)

— (*with* Lin, K. L.; Yao, Jen Chih) Generalized quasi-variational inequalities for fuzzy mappings. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 7, 121–134. (Muhammad Aslam Noor) **98c:49023** 49J40 (47H19, 47S40, 90C33)

— Existence of Nash equilibria for generalized games without upper semicontinuity. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 267–273. (V. V. Obukhovskiĭ) **98d:90137** 90D10 (49K35)

— (*with* Yao, Jen Chih) On a general theorem of complementarity with applications to GCP. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 399–412. (R. N. Kaul) **98m:90154** 90C33 (49J40)

— (*with* Di Bella, Beatrice) Some existence theorems for the inclusion $0 \in A(x)$. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 148–154. (Gérard Lebourg) **98j:47118** 47H04 (47H15, 54C60)

— Generalized quasi-variational inequalities in infinite-dimensional normed spaces. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 457–475. (Xie Ping Ding) **98a:49015** 49J40 (47H19)

— Generalized quasi-variational inequalities without continuities. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 477–495. (Xie Ping Ding) **98a:49016** 49J40 (90C33)

— (*with* Yao, Jen Chih) Discontinuous implicit quasi-variational inequalities with applications to fuzzy mappings. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 213–228. (J. Parida) **98m:49015** 49J40 (04A72)

Çubukçu, Erol (*with* Gyftopoulos, Elias P.) Entropy: thermodynamic definition and quantum expression. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3851–3858. (Giovanni Morchio) **98d:82001** 82B03 (80A05, 82C03)

Cuccagna, Scipio Sobolev estimates for fractional and singular Radon transforms. (English summary) *J. Funct. Anal.* **139** (1996), *no.* 1, 94–118. (B. S. Rubin) **98f:42010** 42B20

— Sobolev estimates for operators given by averages over cones. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 935–946. (Dashan Fan) **98h:42014** 42B20 (46E35, 47G30)

Cucchieri, Attilio (*with* Mendes, Tereza; Pelissetto, Andrea; Sokal, Alan D.) Continuum limits and exact finite-size-scaling functions for one-dimensional O(N)-invariant spin models. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 581–673. (Emilio N. M. Cirillo) **98e:82013** 82B20 (33C80, 81R05)

Cuche, Y. (*with* Livi, R.; Politi, Antonio) Phase transitions in 2D linearly stable coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 369–380. (Summary) **98j:82046** 82C26 (58F40, 82C24)

Cucker, Felipe (*with* Blum, Lenore; Shub, Michael; Smale, Steve) Algebraic settings for the problem "P ≠ NP?". (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 125–144, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Klaus Meer) **98a:68064** 68Q15 (12E99)

— (*with* Meer, Klaus) Logics which capture complexity classes over the reals. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 157–167, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 03D15 (68Q15)

— (*with* Koiran, Pascal; Matamala, Martín) Complexity and dimension. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 209–212. (Klaus Meer) **98c:68069** 68Q15 (03D15, 68Q05)

— Machines over the reals and non-uniformity. (English summary) Workshop on Computability, Complexity and Logic (Zinnowitz, 1996). *Math. Logic Quart.* **43** (1997), *no.* 2, 143–157. (Klaus Meer) **98c:68070** 68Q15 (03D15, 68Q05, 68Q25)

Cucu-Dumitrescu, Cătălin (*with* Stoica, Cristina) A third order averaging theorem for KBM fields. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 53–57. (Jan I. Seidler) **98k:34078** 34C29

Cuculescu, Ion (*with* Bertin, Emile M. J.; Theodorescu, Radu) ★ Unimodality of probability measures. (English summary) Mathematics and its Applications, 382. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+251 *pp. ISBN* 0-7923-4318-2 (F. W. Steutel) **98k:60019** 60E05 (60E10, 60E15)

Ščurić-Čudovan, Vlasta *see* **Ščurić-Čudovan, Vlasta**

del-muro-Cuellar, B. *see* **Del-Muro-Cuellar, B.**

Cuéllar Montoya, Leticia A rapidly mixing stochastic system of finite interacting particles on the circle. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 1, 69–99. (Mu Fa Chen) **98f:60205** 60K35

notte Cuello, E. A. *see* **Notte Cuello, E. A.**

Cuenca, J. (*with* Morera, J. L.; Rubio Navarro, Gregorio) Numerical integration methods for coupled Volterra integral equations of the second kind. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 1, 49–74. (Yury Petrovich Yatsenko) **98d:65169** 65R20

Cuenya, Héctor (*with* Zó, Felipe) Convergence of best norm approximations in Orlicz spaces. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 259–264. (F. Deutsch) **98g:41040** 41A65 (46E30)

garcía-Cuerva, Jose *see* **García-Cuerva, Jose**

alcalde Cuesta, F. *see* **Alcalde Cuesta, F.**

Cuesta, Mabel *see* **Cuesta Leon, Mabel**

Cuesta-Albertos, J. A. (*with* Gordaliza, A.; Matrán, C.) Trimmed k-means: an attempt to robustify quantizers. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 553–576. (Issa Fakhre-Zakeri) **98a:62083** 62H30 (62F15, 62F35)

— (*with* Matrán, C.; Tuero-Díaz, A.) On the monotonicity of optimal transportation plans. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 86–94. (Ludger Rüschendorf) **98j:26006** 26B05 (26B25)

— (*with* Matrán, C.; Tuero-Díaz, A.) Optimal transportation plans and convergence in distribution. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 72–83. (Ludger Rüschendorf) **98b:60024** 60E05 (60B10)

Cuesta Leon, Mabel (*with* Takáč, Peter) A strong comparison principle for the Dirichlet p-Laplacian. *Reaction diffusion systems* (*Trieste*, 1995), 79–87, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (P. Lindqvist) **98i:35058** 35J65 (35B05)

caldas Cueva, Miguel *see* **Caldas Cueva, Miguel**

Cuevas, Antonio (*with* de la Horra Navarro, Julián) Asymptotic behaviour of the predictive density in the exchangeable case. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 1–12. (Mark Steel) **98d:62046** 62F15 (62F12)

— (*with* Romo, Juan) Differentiable functionals and smoothed bootstrap. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 355–370. (Arup Bose) **98i:62041** 62G09 (62G20)

Cuevas, E. (*with* Ruiz Gómez, José María; Ortuño, M.; Gasparian, V.) Traversal time as a function of the size of the wavepacket. (English summary) *J. Physique I* **7** (1997), *no.* 5, 653–661. (Summary) **98c:78016** 78A40

Cuffe, A. M. (*with* Lai, Choi Hong; Pericleous, K. A.) A defect equation approach for the coupling of subdomains in domain decomposition methods. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 81–94. 65N55

Cugnon, J. (*with* Bawin, M.; Sazdjian, H.) Strong Coulomb coupling in constraint dynamics. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 140–149, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81359** 81V10

Cui, Bao Tong (*with* Bainov, Drumi D.) Oscillatory properties for damped hyperbolic equations with deviating arguments. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 23–30, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 35R10 (35B05, 35L10)

Cui, Deng Lan (*with* Li, Yang Cheng) A class of finitely generated modules in equivariant singularity theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 11–14. (Author's review (Y.C.L.)) **98e:58026** 58C27

Cui, Fangsen (*with* Chew, C. H.; Xu, Jianxue; Cai, Yuanli) Bifurcation and chaos in the Duffing oscillator with a PID controller. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 3, 251–262. (Summary) **98a:34032** 34C15 (34C23, 34D99, 34H05, 70K50, 93C10)

Cui, Guangyun (*with* Yang, Zuodong; Yang, Huisheng) Nonnegative solutions for a class of non-positone problems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 304–312. (Tetsutaro Shibata) **98j:34036** 34B15 (34C23)

Cui, Guizhen On the smoothness of conjugacy for circle covering maps. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica* (*N.S.*) **12** (1996), *no.* 2, 122–125. (Fuyao Ren) **98h:58135** 58F15

Cui, Heng Jian A robust PP-type measure and estimate for multivariate location. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 582–588. (Summary) **98b:62113** 62H40 (62F35, 62H12)

— A parameter estimate for a growth curve model and its properties. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **16** (1996), *no.* 4, 404–408. (Summary) **98f:62164** 62H12

— The laws of the iterated logarithm for two kinds of PP statistics. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 235–243. (Guo Ying Li) **98f:62183** 62H40 (62E20, 62G20)

— Asymptotic normality of M-estimates in the EV model. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 225–236. (Summary) **98h:62113** 62J05 (62F12, 62F35)

Cui, Hong Bin (*with* Zheng, Chong You) Stratification structures on a kind of completely distributive lattices and their applications in theory of topological molecular lattices. *Chinese Sci. Bull.* **42** (1997), *no.* 12, 988–991. 06B30 (06D10, 06F30)

— (*with* Zheng, Chong You) Hierarchical structures on a class of completely distributive lattices and their application to topological molecular lattices. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 8, 811–813. 06D10 (06F30)

Cui, Hong Quan An algorithm for finding the coefficients of bivariate Thiele-type matrix interpolating continued fractions. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 4, 381–385. 65F30 (65D15)

Cui, Jingan Global stability in Gilpin-Ayala competitive model with time delays. (English summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 3, 1–5. (K. Gopalsamy) **98j:34149** 34K20 (45J05, 45M10, 92D25)

Cui, Ming Gen (*with* Wen, Song Long) Exact solutions of systems of linear ordinary differential equations with variable coefficients in the space $W_2^1[a,b]$. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 361–368. (Hong Xiang Li) **98b:34019** 34A30 (34A45)

— (*with* Li, Yunhui) Wavelet analysis of a differential operator spline in the $H^1(\mathbf{R})$ space. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 10, 16–26. (Gerlind Plonka) **98b:41007** 41A15 (42C15)

— (*with* Wen, Song Long) The best approximating interpolation operator on the space W. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 177–184. (Summary) **98e:41040** 41A50

— (*with* Xie, Shu Sen) The optimal approximation functional in the space $W_2^1[a,b]$ and some applications. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 105–111. (Summary) **98i:41035** 41A35 (65D30)

Cui, Ming Rong A finite element scheme for nonlinear convection-diffusion problems in a variable domain. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **31** (1996), *no.* 4, 369–374. (Zhangxin Chen) **98c:76063** 76M10 (65M60, 76Rxx)

— A modified upwind difference scheme for nonlinear parabolic equations in a variable domain. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 411–418. (Wei Zhong Dai) **98m:65138** 65M06

Cui, Qiang A generalization of a proposition on an equivalent condition for infinitesimals. (Chinese) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 3, 99–100. 40A05

Cui, Qin Lin (*with* Chu, Yu Ming) A conformally invariant metric and its application. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 4, 7–11. 30C65

Cui, Shang Bin Blow-up of solutions to semilinear quasihyperbolic equations. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 4–11. (Summary) **98g:35144** 35L70 (35B05)

— Global solutions to initial value problems for systems of higher-order nonlinear parabolic equations with inhomogeneous linear terms. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 745–752. (Song Mu Zheng) **98b:35079** 35K55 (35B60)

— Some comparison and uniqueness theorems for nonlinear elliptic boundary value problems and nonlinear parabolic initial-boundary value problems. *Nonlinear Anal.* **29** (1997), *no.* 9, 1079–1090. (Zuchi Chen) **98g:35012** 35B05 (35J65, 35K60)

Cui, Xia A fully discrete finite element scheme for one-dimensional hyperbolic equation problems with moving boundaries and its numerical analysis. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **31** (1996), *no.* 4, 375–383. (Biyue Liu) **98a:65138** 65M60 (65M12)

— Finite element schemes for moving boundary problems of hyperbolic integro-differential equations and their analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 37–49. (Summary) **98m:65223** 65R20 (65M60)

— A finite element approximation scheme for a two-dimensional hyperbolic equation problem with a moving boundary and its numerical analysis. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 1, 13–27. 65M60 (65M12)

Cui, Xiao Di (*with* Chen, Min[4]; An, Hong Zhi) The convergence rate of paramater estimates in regression models with ARCH errors. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 294–304. (Summary) **98h:62133** 62M10

Cui, Y. Lawrence (*with* Panahandeh, Mohammad; Kasper, Eric P.) Simulation of coupled systems in smart structures. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 292–304, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93A30 (73K50, 73V05, 93C20)

Cui, Yun An (*with* Wang, Dong) Strongly extreme points in Banach sequence spaces. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 1, 13–16. (Summary) **98e:46022** 46B45

— (*with* Wang, Ting Fu) Uniformly monotone coefficients in Orlicz sequence spaces and their applications. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 362–366. 46B45 (46E30)

— (*with* Hudzik, Henryk; Pluciennik, Ryszard) Banach-Saks property in some Banach sequence spaces. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 2, 193–202. (Anatolij M. Plichko) **98c:46037a** 46B45 (46B20)

— (*with* Hudzik, Henryk; Pluciennik, Ryszard) Errata to the paper: "Banach-Saks property in some Banach sequence spaces". *Ann. Polon. Math.* **65** (1997), *no.* 3, 303. (Anatolij M. Plichko) **98c:46037b** 46B45 (46B20)

— (*with* Wang, Ting Fu) Weakly convergent sequence coefficients of Orlicz sequence spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 298–302. 46B45 (46E30)

— (*with* Hudzik, Henryk; Zhu, Hongwei) Maluta's coefficient in Musielak-Orlicz sequence spaces equipped with the Orlicz norm. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 115–121. (Anna H. Kamińska) **98c:46038** 46B45 (46E30)

— Weakly convergent sequence coefficient in Köthe sequence spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 195–201. (Christian Samuel) **98c:46039** 46B45 (46E30)

Cui, Zhenlu A saturation result for Bernstein-Durrmeyer polynomials in weighted norm. (English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 541–545. (Y. Sitaraman) **98a:41035** 41A40 (41A35)

Cui, Zhenwen Wave recursive interpolation. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 4, 67–80. (From the summary) **98f:65022** 65D17 (41A10)

Cuixia, Hao *see* **Hao, Cuixia**

Cukierman, Fernando Determinant of complexes and higher Hessians. *Math. Ann.* **307** (1997), *no.* 2, 225–251. (Ragni Piene) **98d:14067** 14N99 (14H55)

Culatti, A. (*with* del Águila, F.; Muñoz Tapia, R.; Pérez-Victoria, M.) Constraining differential renormalization in abelian gauge theories. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 263–271. 81T13 (81T15)

Culberson, Joseph C. (*with* Schaeffer, Jonathan) Searching with pattern databases. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 402–416, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T20

Culick, Fred E. C. (*with* Lee, Ho-Hoon) A robust decoupled adaptive control of robots. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 309–331. 93C40 (70B15, 70Q05, 93C85)

Culik, Karel, II (*with* Kari, Jarkko) Finite state transformations of images. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 51–62, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q68 (68U10)

— Global cellular automata. (English summary) *Complex Systems* **9** (1995), *no.* 4, 251–266. (From the introduction) **98h:68173** 68Q80

— (*with* Kari, Jarkko) An aperiodic set of Wang cubes. (English summary) *STACS* 96 (*Grenoble*, 1996), 137–146, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68152** 68Q80 (05B45, 52B55)

— (*with* Kari, Jarkko) Digital images and formal languages. (English summary) *Handbook of formal languages, Vol.* 3, 599–616, *Springer, Berlin*, 1997. (Summary) **98e:68179** 68Q68 (68U10)

— (*with* Kari, Jarkko) Computational fractal geometry with WFA. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 151–166. (Henning Fernau) **98k:68176** 68U10 (28A80, 68Q68)

— (*with* Dube, Simant) Implementing Daubechies wavelet transform with weighted finite automata. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 347–366. (Summary) **98k:68117** 68Q68 (68U10)

— (*with* Valenta, Vladimir) Generalized finite automata and transducers. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 1, 3–17. (Summary) **98e:68180** 68Q68

Culioli, Jean-Christophe Problèmes de minimax partiel. (English and French summaries) [Partial minimax problems] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 585–591. (Francesco Ferro) **98c:49015** 49J35 (49M45)

Cullen, Christopher ★ Astronomy and mathematics in ancient China: the *Zhou bi suan jing*. (English summary) Needham Research Institute Studies, 1. *Cambridge University Press, Cambridge*, 1996. xiv+241 *pp. ISBN* 0-521-55089-0 (Editors) **98c:01002** 01A25

Culler, Marc (*with* Anderson, James W.; Canary, Richard D.; Shalen, Peter B.) Free Kleinian groups and volumes of hyperbolic 3-manifolds. *J. Differential Geom.* **43** (1996), *no.* 4, 738–782. (Frédéric Paulin) **98c:57012** 57M50 (20H10, 30F40, 57N10, 57S30)

— (*with* Hersonsky, Sa'ar; Shalen, Peter B.) The first Betti number of the smallest closed hyperbolic 3-manifold. *Topology* **37** (1998), *no.* 4, 805–849. (Ken-ichi Ohshika) **98m:57017** 57M50 (57N10)

Culp-Ressler, Wendell A Hecke correspondence theorem for modular integrals with rational period functions. *Illinois J. Math.* **40** (1996), *no.* 4, 586–605. (YoungJu Choie) **98b:11055** 11F66 (11F67)

Cuminato, José Alberto (*with* Carvalho, Alexandre N.) Reaction-diffusion problems in cell tissues. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 93–131. (Yoram Schiffmann) **98e:35092** 35K57 (35Q80, 92C40)

Cummings, Larry J. (*with* Smyth, W. F.) Weak repetitions in strings. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 33–48. (Summary) **98h:05023** 05A99

Cummings, Peter T. (*with* Brosilow, Benjamin J.; Ford, Roseanne M.; Sarman, Sten) Numerical solution of transport equations for bacterial chemotaxis: effect of discretization of directional motion. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1639–1663. (Summary) **98b:92024** 92D50 (82C70, 82C80, 92D25)

Cummins, C. J. (*with* Gannon, Terry) Modular equations and the genus zero property of moonshine functions. *Invent. Math.* **129** (1997), *no.* 3, 413–443. (Noriko Yui) **98k:11046** 11F22 (20D08)

le Cunff, Cédric *see* **Le Cunff, Cédric**

Cunha, Carlos (*with* Chen, Zhixiang; Homer, Steven) Finding a hidden code by asking questions. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 50–55, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98c:68159** 68R05 (68M15)

Cunha, Cristina (*with* Gomes, Sônia M.) A shock indicator for adaptive schemes for conservation laws. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 2, 205–214. 65M55 (65M06)

da Cunha, J. A. *see* **Baroni, Rosa L. S., (98g:01010)**

Cunha, M. D. (*with* Evans, W. A. B.; Konotop, V. V.; Vázquez, Luis) Numerical study of various sine-Gordon "breathers". (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 293–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65M99 (35Q53)

Cuninghame-Green, Raymond A. Maxpolynomials and discrete-event dynamic systems. (English summary) *Idempotency* (*Bristol*, 1994), 282–284, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93C83

Cunning, G. M. (*with* Davis, A. M. J.; Weidman, P. D.) Radial stagnation flow on a rotating circular cylinder with uniform transpiration. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 113–128. (Summary) **98k:76027** 76D05 (76D10, 76U05)

Cunning, I. F. (*with* Sander, G. C.; Braddock, R. D.; Norbury, John; Weeks, S. W.) Source solutions for the nonlinear diffusion-convection equation. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 28–45. (Summary) **98g:35097** 35K55 (35Q35, 76Rxx)

Cunningham, R. J. (*with* Pitt, Jeremy) Distributed modal theorem proving with KE. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 160–176, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 03B35 (03B45)

Cunningham, Sally Jo Crochet work—history and computer applications. *History and science of knots*, 317–331, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (57M25)

Cunningham, William H. (*with* Geelen, James F.) The optimal path-matching problem. (English summary) *Combinatorica* **17** (1997), *no.* 3, 315–337. (Martin Kochol) **98m:05143** 05C70 (05B35, 68Q25, 90C27)

— (*with* Cheng, Eddie) Wheel inequalities for stable set polytopes. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 389–421. (Jaroslav Ivančo) **98g:05075** 05C35 (52B12, 90C35)

forte Cunto, Ana *see* **Forte Cunto, Ana**

Cuntz, Joachim J. R. Bivariante K-Theorie für lokalkonvexe Algebren und der Chern-Connes-Charakter. (English summary) [Bivariant K-theory for locally convex algebras and the Chern-Connes character] *Doc. Math.* **2** (1997), 139–182 (*electronic*). (Jonathan M. Rosenberg) **98h:19006** 19K35 (18G60, 19D55, 19L10, 46H05, 46L80, 46M20)
— (*with* Quillen, Daniel) Excision in bivariant periodic cyclic cohomology. *Invent. Math.* **127** (1997), *no.* 1, 67–98. (Jacek Brodzki) **98g:19003** 19D55 (46L80, 46L85)
— *see also* **Cyclic cohomology and noncommutative geometry, 98e:00017**
Cuoco, Mario (*with* Romano, Alfonso; Noce, Canio) Application of the global SO(4) symmetry in the diagonalization of translationally invariant correlated electron models. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 21, 2511–2532. 82B99 (82D20)
Cuomo, Serafina Shooting by the book: notes on Niccolò Tartaglia's *Nova scientia*. (English summary) *Hist. Sci.* **35** (1997), *no.* 108, *part* 2, 155–188. (William R. Shea) **98g:01025** 01A40
nguyen tu Cuong *see* **Nguyen Tu Cuong**
Cupała, Wiesław On transcendental random number generator. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 157–176. 65C10
Čupona, G. (*with* Markovski, S.; Popeska, Žaneta) Primitive n-identities. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 107–116, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Ágnes Szendrei) **98m:08013** 08B05
— (*with* Celakoski, N.) Free objects in some varieties of groupoids. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 5–16. (A. A. Iskander) **98d:08010** 08B20 (08C15, 20L99)
Curbera, Guillermo P. A note on function spaces generated by Rademacher series. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 119–126. (I. Ya. Novikov) **98e:46036** 46E30 (42C10)
Curiel, Esteban (*with* Alvarez, Joaquín; Verduzco, Fernando) Complex dynamics in classical control systems. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 277–285. (*see* **98e:93002**) 34H05 (58F13, 93C10)
Curiel, Imma (*with* Hamers, Herbert; Tijs, Stef; Potters, Jos A. M.) Restricted component additive games. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 213–220. (Summary) **98c:90045** 90B35 (90D12, 90D46)
Curiel, Mariela (*with* Contreras, Xiomara; Di Serio, Angela) Parallel processing to solve elliptic EDP. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30 (65Y05)
Curien, Pierre-Louis (*with* Bellucci, Roberto; Abadi, Martín) A model for formal parametric polymorphism: a PER interpretation for system $\mathscr{R}$. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 32–46, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (68N15, 68Q55)
— (*with* Hardin, Thérèse; Lévy, Jean-Jacques) Confluence properties of weak and strong calculi of explicit substitutions. (English summary) *J. ACM* **43** (1996), *no.* 2, 362–397. (Hirofumi Yokouchi) **98b:68094** 68Q42 (03B40, 68N15, 68Q55)
Curien, Régis (*with* Qian, Zhenyu; Shi, Hui) Efficient second-order matching. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 317–331, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q40 (03B70, 68T15)
Curio, Gottfried (*with* Cardoso, Gabriel Lopes; Lüst, Dieter; Mohaupt, Thomas) On the duality between the heterotic string and F-theory in 8 dimensions. (English summary) *Phys. Lett. B* **389** (1996), *no.* 3, 479–484. (Bruce Hunt) **98a:81158** 81T30 (14J28, 83E30)
— Chiral multiplets in $N = 1$ dual string pairs. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 185–187. 81T30
Curmin, Philippe First order marked types. (English summary) *Types for proofs and programs* (*Torino*, 1995), 105–119, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03038** 03F65 (03B15, 03B35, 03B70)
Curnock, Thomas J. (*with* Ashworth, John) The termination of synchronous parallel algorithms for iterative systems. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68Q22
Curran, Paul F. (*with* Suykens, Johan A. K.; Vandewalle, Joos; Chua, Leon O.) Robust nonlinear H_∞ synchronization of chaotic Lur'e systems. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 891–904. (*see* **98g:93002**) 93B36 (58F40, 93D15)
— (*with* Chua, Leon O.) Absolute stability theory and the synchronization problem. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1375–1382. 34D99 (93D05)
— On destabilization via active stiffness. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 293–294. 93D15
Curran, Stephen Hamiltonian cycles in digraphs that embed in the oriented surface of genus two. (English summary) Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 65–80. (Dave Witte) **98g:05086** 05C45 (05C10, 05C20)
Currie, James D. (*with* Shelton, Robert O.) Cantor sets and Dejean's conjecture. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 35–43, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68213** 68R15 (68Q45)
— Non-repetitive words: ages and essences. (English summary) *Combinatorica* **16** (1996), *no.* 1, 19–40. (Yuji Kobayashi) **98c:68177** 68R15 (68Q45)
— (*with* Shelton, Robert O.) Cantor sets and Dejean's conjecture. (English summary) Second International Conference on Developments in Language Theory (Magdeburg, 1995). *J. Autom. Lang. Comb.* **1** (1996), *no.* 2, 113–127. (Patrice Séébold) **98e:68214** 68R15 (68Q45)
de Cursi, J. E. Souza *see* **Souza de Cursi, José Eduardo**
souza de Cursi, José Eduardo *see* **Souza de Cursi, José Eduardo**
Curt, Paula (*with* Varga, Csaba) Jack's, Miller's and Mocanu's lemma for holomorphic mappings defined on domains with differentiable boundary of class C^2. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 2, 41–52. (Shusen Ding) **98a:30009** 30C45
— First and second differential subordinations in several complex variables. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 4, 33–43. (T. J. Suffridge) **98a:32029** 32H02 (30C80, 32A30)
— A simple criterion for convexity. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 41–46. 30C45
Curtain, Ruth F. (*with* Weiss, George; Weiss, Martin) Coprime factorization for regular linear systems. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 11, 1519–1531. (Summary) **98e:93020** 93B25 (93C05)
— (*with* Weiss, George) Dynamic stabilization of regular linear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 4–21. (Hartmut Logemann) **98d:93084** 93D21 (93C25, 93D05)
— (*with* Logemann, Hartmut; Townley, Stuart; Zwart, Hans) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 4, 439–476. (Rabah Rabah) **98h:93015** 93C25 (47D06, 47N70, 93D15)
Curti, F. (*with* Arduini, Carlo) Constrained optimal estimation and control. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2255–2263. 93E10 (49N10)
Curtin, Brian The Terwilliger algebra of certain spin models. Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 93–100. (From the summary) **98m:05198** 05E30 (82B23)
Curtis, Charles W. (*with* Shoji, Toshiaki) A norm map for endomorphism algebras of Gelfand-Graev representations. (English summary) *Finite reductive groups* (*Luminy*, 1994), 185–194, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Naohisa Shimomura) **98a:20040** 20G05 (20C99, 20G40)
Curtis, Sharon (*with* Lowe, Gavin) A graphical calculus. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 214–231, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60 (03B99, 05C99)
Curtright, Thomas (*with* Fairlie, David B.; Zachos, Cosmas) Integrable symplectic trilinear interaction terms for matrix membranes. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 37–44. (Summary) **98g:81158** 81T30 (58F07, 58Z05)
Curzio, Mario Some congruences of subnormal subgroups. (Italian summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 53–62 (1997). (R. Schmidt) **98g:20042** 20E15
Cushing, James T. The causal quantum theory program. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 1–19, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05
— *see also* **Bohmian mechanics and quantum theory: an appraisal, 98i:81003** *and* **Hiley, Basil J.**
Cushman, Richard H. (*with* Bates, Larry M.) ★ Global aspects of classical integrable systems. (English summary) *Birkhäuser Verlag, Basel*, 1997. xvi+435 *pp. ISBN* 3-7643-5485-2 (Lubomir Gavrilov) **98a:58083** 58F07 (58–01, 70E15, 70F05, 70H05)
— (*with* Duistermaat, J. J.) A characterization of the Ligon-Schaaf regularization map. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 773–787. (Todd Ray Young) **98e:70002** 70F05 (58F05, 70H15)
— *see also* **Souriau, J.-M., 98i:58103**
Cushman-de Vries, C. H. *see* **Souriau, J.-M., 98i:58103**
Cusick, Thomas W. (*with* Dobbertin, Hans) Some new three-valued crosscorrelation functions for binary m-sequences. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1238–1240. (Summary) **98c:94013** 94A55
— (*with* Stănică, Pantelimon) Bounds on the number of functions satisfying the strict avalanche criterion. *Inform. Process. Lett.* **60** (1996), *no.* 4, 215–219. (Charles E. Blair) **98h:94018** 94A60 (68P25)
— A comparison of RSA and the Naccache-Stern public-key cryptosystem. (English summary) *Security protocols* (*Cambridge*, 1996), 111–116, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94016** 94A60
— (*with* Stănică, Pantelimon) Counting the n-chromos of I. J. Schoenberg. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 298–314. (Joe Roberts) **98g:05010** 05A15
— *see also* **Youssef, A. M., 98h:94019**
Cussens, James Deduction, induction and probabilistic support. (English summary) *Synthese* **108** (1996), *no.* 1, 1–10. (Mohamed Amer) **98g:03061** 03B48
Cutillas, S. Francisco (*with* Ayerbe Toledano, José María; Domínguez Benavides, Tomás) A modulus for property (β) of Rolewicz. (English summary) *Colloq. Math.* **73** (1997), *no.* 2, 183–191. (Y. Benyamini) **98c:46017** 46B20 (47H09)
Cutillas Ripoll, Pascual (*with* Verde Ramírez, José María) Weierstrass factorizations in compact Riemann surfaces. (English summary) *Israel J. Math.* **101** (1997), 205–227. (Gabino González Díez) **98m:30045** 30D30 (14H55, 30F10)
Cutkosky, Steven Dale (*with* Srinivasan, Hema) Equivalence and finite determinancy of mappings. *J. Algebra* **188** (1997), *no.* 1, 16–57. (Şerban Bârcănescu) **98d:13026** 13F25 (58C27)
Cutland, Nigel J. (*with* Kopp, P. E.; Willinger, W.; Wyman, M. C.) Convergence of Snell envelopes and critical prices in the American put. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 126–140, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
— (*with* Capiński, Marek) Attractors for three-dimensional Navier-Stokes equations. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2413–2426. (Alain Miranville) **98i:35140** 35Q30 (03H05, 35B40, 47H20, 58F39, 76D05)
— *see also* **Nonstandard analysis, 98i:03006**
Cutler, Adele (*with* Cordero-Braña, Olga I.) Minimum Hellinger distance estimation for finite mixture models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1716–1723. (Carlo E. Sempi) **98b:62057** 62G05 (62G20)
Cutler, Colleen D. (*with* Balakrishnan, Narayanaswamy) Maximum likelihood estimation of Laplace parameters based on type-II censored samples. (English summary) *Statistical theory and applications*, 145–151, *Springer, New York*, 1996. (Summary) **98g:62040** 62F10 (62G30)
— A general approach to predictive and fractal scaling dimensions in discrete-index time series. (English summary) *Nonlinear dynamics and time series* (*Montreal, PQ*, 1995), 29–48, *Fields Inst. Commun.*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (William D. Ray) **98c:62168** 62M10 (28A80, 58F13, 58F40)
Cutolo, G. (*with* Khukhro, E. I.; Lennox, John C.; Rinauro, S.; Smith, Howard; Wiegold, James) Locally finite groups all of whose subgroups are boundedly finite over their cores. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 563–570. (John S. Wilson) **98j:20020** 20D15 (20D60, 20F50)

— (*with* Khukhro, E. I.; Lennox, John C.; Wiegold, James; Rinauro, S.; Smith, Howard) Finite core-p p-groups. (English summary) *J. Algebra* **188** (1997), *no.* 2, 701–719. (Patrizia Longobardi) **98g:20065** 20F50 (20D15)

Cutrì, A. (*with* Birindelli, Isabeau; Capuzzo Dolcetta, I.) Liouville theorems for semilinear equations on the Heisenberg group. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 295–308. (Maria J. Esteban) **98d:35049** 35J60 (22E25, 22E30, 35B05)

van Cutsem, Bernard *see* **Van Cutsem, Bernard**

Cuypers, Hans A characterization of the symplectic and unitary 3-transposition groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3379–3403. (Jonathan I. Hall) **98h:20045** 20F05 (20D05, 20G40)

Cuyt, Annie (*with* Lubinsky, D. S.) On the convergence of multivariate Padé approximants. (English summary) Numerical analysis (Louvain-la-Neuve, 1995). *Bull. Belg. Math. Soc. Simon Stevin* **1996**, *suppl.*, 51–61. (H.-J. Runckel) **98j:41011** 41A21 (30E10)

— (*with* Verdonk, Brigitte) A note on rational interpolation. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 63–73. (Alexey L. Lukashov) **98i:41013** 41A20 (30B70, 65D05)

Cvejić, Stana D. (*with* Dimitrovski, Dragan; Mijatović, Mijat) Differential equation II-order geometry. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 65–72, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 34A26 (34A05, 34A30, 51N20)

— (*with* Samodurov, A. A.) A geometrical approach for solving nonlinear equations. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 91–93, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 47H15 (34A34)

— On the equivalent angle and Euler formulas in second-order trigonometry. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 105–110, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 34A05

Cvetič, Mirjam (*with* Hull, Christopher M.) Black holes and U-duality. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 296–316. (Paulo Moniz) **98c:83058** 83C57 (83E30)

— (*with* Youm, Donam) Rotating intersecting M-branes. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 253–282. (Paulo Moniz) **98f:83101** 83E30 (81T30, 83E50)

— (*with* Larsen, Finn) Greybody factors for rotating black holes in four dimensions. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 107–120. (Summary) **98j:83055** 83C57 (81T30, 83E30)

— Properties of black holes in toroidally compactified string theory. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 1–10. (Summary) **98e:83114** 83E30 (81T30, 83C57)

— (*with* Soleng, Harald H.) Supergravity domain walls. (English summary) *Phys. Rep.* **282** (1997), *no.* 4, 159–223. (Paulo Moniz) **98e:83124** 83E50 (83F05)

— (*with* Behrndt, Klaus) BPS-saturated bound states of tilted p-branes in type II string theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1188–1193. (Summary) **98f:81237** 81T30 (83E30)

— (*with* Costa, Miguel S.) Nonthreshold D-brane bound states and black holes with nonzero entropy. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4834–4843. (Summary) **98e:83113** 83E30 (83C57)

— (*with* Larsen, Finn) General rotating black holes in string theory: greybody factors and event horizons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4994–5007. (Summary) **98e:83071** 83C57 (83E30)

Cvetković, Dragoš M. Graph theory discrete mathematics and computers. (Serbo-Croatian. Serbo-Croatian summary) *Acad. Serbe Sci. Arts Glas* **381** (1996), *no.* 58, 61–83. 05C90 (68R10)

— (*with* Rowlinson, P.; Simić, Slobodan K.) ★ Eigenspaces of graphs. (English summary) Encyclopedia of Mathematics and its Applications, 66. *Cambridge University Press, Cambridge*, 1997. xiv+258 *pp. ISBN* 0-521-57352-1 (M. Doob) **98f:05111** 05C50

— Spanning trees in the theory of graph spectra. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 1–10, *Univ. Priština, Priština*, 1997. (Hong Zhang) **98j:05050** 05C05 (05C50)

— A graph theoretical procedure for clustering binary vectors. (English summary) *Ars Combin.* **46** (1997), 267–276. (Summary) **98d:05096** 05C50

— (*with* Lepović, Mirko) Cospectral graphs with the same angles and with a minimal number of vertices. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 88–102. (Peter Rowlinson) **98k:05106** 05C50

— *see also* **Biography: Cvetković, Dragoš M.**

Cvetković, Ljiljana (*with* Surla, Katarina) Spectral analysis in connection with iterative solution of convection-diffusion equation. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 129–134. (Summary) **98b:65121** 65N06 (65F15)

— Two-sweep iterative methods. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 25–30. (*see* **98i:00027**) 65F30

Cvijović, Djurdje (*with* Klinowski, Jacek) Continued-fraction expansions for the Riemann zeta function and polylogarithms. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 9, 2543–2550. (Bruce C. Berndt) **98a:11111** 11M06 (11A55, 11M41, 11Y65, 33E20)

Cvitanić, Jakša (*with* Ma, Jin) Hedging options for a large investor and forward-backward SDE's. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 2, 370–398. (Marek Rutkowski) **98c:90011** 90A09 (60H10, 60H30)

— Nonlinear financial markets: hedging and portfolio optimization. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 227–254, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (60H10)

Cvitanović, Predrag (*with* Balmforth, N. J.; Ierley, G. R.; Spiegel, E. A.; Vattay, G.) Advection of vector fields by chaotic flows. *Stochastic processes in astrophysics* (*Gainesville, FL*, 1993), 148–160, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 76F20 (76W05)

— (*with* Dettmann, C. P.) Cycle expansions for intermittent diffusion. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6687–6692. 58F03

Cybyk, B. Z. (*with* Oran, E. S.; Oh, C. K.) Direct simulation Monte Carlo: recent advances and applications. (English summary) *Annual review of fluid mechanics, Vol.* 30, 403–441, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76M25 (65C05, 76M35)

Cyganowski, S. (*with* Carminati, J.) Shear-free perfect fluids in general relativity. III. Petrov type III spacetimes. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 7, 1805–1817. (Wathek Talebaoui) **98c:83051** 83C55

— (*with* Carminati, J.) Shear-free perfect fluids in general relativity. IV. Petrov type III spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1167–1181. (Wathek Talebaoui) **98j:83020** 83C20 (83C55)

Cylke, Andrew A. *see* **Tsyl'ke, A. A.**

kocel-Cynk, Beata *see* **Kocel-Cynk, Beata**

Cynk, Sławomir On Bertini-type theorem for weakly-normal complex analytic sets. *Univ. Iagel. Acta Math. No.* 33 (1996), 119–124. (From the introduction) **98g:32012** 32C15

— (*with* Rusek, Kamil) Holomorphic bijections of algebraic sets. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 63–66. (Zbigniew Szafraniec) **98f:32021** 32H02 (14E05)

— (*with* Szemberg, Tomasz) On Urata fibre bundles. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 297–301. (Peter Heinzner) **98h:32051** 32L05 (32M99)

— On separately holomorphic functions. *Exposition. Math.* **15** (1997), *no.* 2, 175–181. (M. Klimek) **98g:32013** 32C15 (32A10)

— (*with* Szemberg, Tomasz) Kummer configurations in $\mathbf{P}^5$. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 259–270. (Constantin D. Manoil) **98k:14054** 14J25 (14H40, 14M10, 14N05)

Cypher, Robert (*with* Bruck, Jehoshua; Ho, Ching-Tien) Fault-tolerant meshes with small degree. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1764–1784. (A. T. Amin) **98k:68025** 68M15 (68R10)

dupin de saint-Cyr, F. *see* **Dupin de Saint-Cyr, F.**

normand-Cyrot, Dorothée *see* **Normand-Cyrot, Dorothée**

Cytron, Ron K. (*with* Hanks, Liz; Gillett, Will) An efficient algorithm for developing topologically valid matchings. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 144–161, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92009** 92D20 (05C90, 68Q20)

Cyvin, B. N. (*with* Brunvoll, J.; Cyvin, Sven J.) Enumeration of tree-like octagonal systems. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 193–196. (Summary) **98e:05057** 05C30 (05C90, 92E10)

— (*with* Guo, Xiaofeng; Zhao, Biao; Cyvin, Sven J.; Brunvoll, J.) Enumeration of concealed non-Kekuléan helicenes with $h = 14$. (English summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 1, 1–12. (Fu Ji Zhang) **98h:92052** 92E10 (05C90)

Cyvin, Sven J. (*with* Bodroža, Olga; Gutman, Ivan M.) Fibonacci numbers and algebraic structure count of some non-benzenoid conjugated polymers. *Fibonacci Quart.* **35** (1997), *no.* 1, 75–83. (Rong Qin Sheng) **98b:05072** 05C70 (05A15, 05C90, 11B39, 92E10)

— (*with* Brunvoll, J.; Cyvin, B. N.) Enumeration of tree-like octagonal systems. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 193–196. (Summary) **98e:05057** 05C30 (05C90, 92E10)

— (*with* Guo, Xiaofeng; Zhao, Biao; Brunvoll, J.; Cyvin, B. N.) Enumeration of concealed non-Kekuléan helicenes with $h = 14$. (English summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 1, 1–12. (Fu Ji Zhang) **98h:92052** 92E10 (05C90)

Czachor, Marek Lie-Nambu and Lie-Poisson structures in linear and nonlinear quantum mechanics. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2319–2325. (Wojciech Lisiecki) **98f:81150** 81S10 (58F05)

— Nambu-type generalization of the Dirac equation. (English summary) *Phys. Lett. A* **225** (1997), *no.* 1-3, 1–12. (Jorge Goncalves Cardoso) **98c:81084** 81R10 (81S99)

— Structure of nonlinear gauge transformations. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 4, *R2263–R2266*. (Summary) **98m:81015** 81P99 (81T99)

Czaja, Ludwik *see* **Fundamentals of computation theory, 98i:68007**

Czajka, Adam (*with* Nawrocki, Jerzy R.; Complak, Wojciech) Scheduling cyclic tasks with binary periods. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 173–178. (Summary) **98m:68021** 68M20

Czarnecki, Marc-Olivier (*with* Cornet, Bernard) Approximation normale de sous-ensembles épi-lipschitziens de $\mathbf{R}^n$. (English and French summaries) [Normal approximation of epi-Lipschitzian subsets of $\mathbf{R}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 583–588. (Abderrahim Jourani) **98k:49024** 49J52

Czech, Zbigniew J. (*with* Havas, George; Majewski, Bohdan S.) Perfect hashing. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 1–143. (Friedhelm Meyer auf der Heide) **98h:68048** 68P10 (68P05, 68Q25)

Czédli, Gábor (*with* Chajda, Ivan; Rosenberg, Ivo G.) Kernels of tolerance relations. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 2, 189–193. (H. Peter Gumm) **98g:08003** 08A30 (08B05)

— (*with* Chajda, Ivan) Four notes on quasiorder lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 371–378. (Brian A. Davey) **98m:06011** 06B15 (08A30, 08A55)

Człapiński, Tomasz (*with* Kamont, Zdzisław) On the local Cauchy problem for quasi-linear hyperbolic functional-differential systems. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 329–342. (Summary) **98b:35210** 35R10 (35B30, 35D05, 35L45)

— On the Chaplyghin method for partial differential-functional equations of the first order. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 137–149. (Summary) **98d:35224** 35R10 (35A35, 35F05, 35L99)

— On the mixed problem for quasilinear partial differential-functional equations of the first order. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 463–478. (Summary) **98d:35225** 35R10 (35F30)

Czogała, Alfred On integral Witt equivalence of algebraic number fields. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 7–21. (K. Szymiczek) **98b:11039** 11E81 (11E12)

— (*with* Sładek, Andrzej) Higher degree Hilbert-symbol equivalence of number fields. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 77–88. (K. Szymiczek) **98j:11089** 11R21 (11R20)

Czogała, Ernest (*with* Fodor, János C.; Łęski, Jacek) The Fodor fuzzy implication in approximate reasoning. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 17–28. 03B52

Czubiak, Thomas P. (*with* Gundersen, Gary G.) Meromorphic functions that share pairs of values. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 35–46. (Summary) **98d:30044** 30D35

Czuchry, Ewa (*with* Kopczyński, Wojciech) Multipole moments in Kaluza-Klein theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 509–518. (Alberto Saa

Vazquez) **98m:83069** 83E15

Czumaj, Artur (*with* Kanarek, Przemysława; Kutyłowski, Mirosław; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) *Algorithms—ESA '96 (Barcelona)*, 246–260, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68R05 (68Q22, 68Q25)

— (*with* Chlebus, Bogdan S.; Gąsieniec, Leszek; Kowaluk, Mirosław; Plandowski, Wojciech) Parallel alternating-direction access machine. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 267–278, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q05 (68Q10)

— Very fast approximation of the matrix chain product problem. (English summary) *J. Algorithms* **21** (1996), *no.* 1, 71–79. (Summary) **98c:68080** 68Q22

— (*with* Meyer auf der Heide, Friedhelm; Stemann, Volker) Simulating shared memory in real time: on the computation power of reconfigurable architectures. (English summary) *Inform. and Comput.* **137** (1997), *no.* 2, 103–120. (Behrooz Parhami) **98h:68069** 68Q10 (68M07, 68M20, 68Q05)

Czyzowicz, Jurek (*with* Everett, Hazel; Robert, Jean-Marc) Separating translates in the plane: combinatorial bounds and an algorithm. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 551–562. (Stelian S. Dumitrascu) **98k:52017** 52A37 (52B55, 65U05)

— (*with* Kranakis, Evangelos; Urrutia, Jorge) A simple proof of the representation of bipartite planar graphs as the contact graphs of orthogonal straight line segments. *Inform. Process. Lett.* **66** (1998), *no.* 3, 125–126. 05C75 (68R10)

Czyzyk, Joseph (*with* Coleman, Thomas F.; Sun, Chunguang; Wagner, Michael; Wright, Stephen Joseph) pPCx: parallel software for linear programming. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 90C05 (65Y05)

— (*with* Fourer, Robert; Mehrotra, Sanjay) Using a massively parallel processor to solve large sparse linear programs by an interior-point method. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 553–565 (*electronic*). 65K05 (65Y05)

–D–

van Daalen, D. T. A description of Automath and some aspects of its language theory. (English summary) *Selected papers on Automath*, 101–126, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35

— *The language theory of Automath*: Chapter 1, Sections 1–5 (Introduction) [MR 81h:68092]. *Selected papers on Automath*, 163–200, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— *The language theory of Automath*: Chapter VIII, 1 and 2 (AUT-II) [MR 81h:68092]. *Selected papers on Automath*, 303–312, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— *The language theory of Automath*: parts of Chapters II, IV, V–VIII [MR 81h:68092]. *Selected papers on Automath*, 493–653, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03B35 (03B40)

— *see also* **Selected papers on Automath**, **98g:03038**

olde Daalhuis, Adri B. *see* **Olde Daalhuis, Adri B.**

al-Dabass, D. *see* **Al-Dabass, D.**

Dabbene, F. (*with* Tempo, Roberto; Bai, Er-Wei) Probabilistic robustness analysis: explicit bounds for the minimum number of samples. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 237–242. (Summary) **98c:93033** 93B35 (93C41, 93E10)

Daberkow, M. (*with* Pohst, Michael E.) On computing Hilbert class fields of prime degree. (English summary) *Algorithmic number theory* (*Talence*, 1996), 67–74, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Franz Lemmermeyer) **98c:11142** 11Y40 (11R37)

— Computing with subfields. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 371–384. (Michel Olivier) **98k:11185** 11Y40 (11R11, 11R16, 68Q40)

Dabholkar, Atish (*with* Park, Jaemo) A note on orientifolds and *F*-theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 302–306. (Summary) **98a:81160** 81T30 (83E30)

— Microstates of non-supersymmetric black holes. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 53–58. (Summary) **98b:83086** 83E30 (81T30, 83C57)

Daboussy, D. (*with* Dias, Frédéric; Vanden-Broeck, Jean-Marc) On explicit solutions of the free-surface Euler equations in the presence of gravity. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2828–2834. (Summary) **98g:76018** 76C99 (76M25)

— (*with* Dias, Frédéric; Vanden-Broeck, Jean-Marc) Gravity flows with a free surface of finite extent. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 1, 19–31. (Summary) **98m:76012** 76B10

Dabrowska, Dorota M. Weak convergence of a product integral dependence measure. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 551–580. (Georg Neuhaus) **98f:62145** 62G20 (62G10)

Dąbrowski, Andrzej Bogdan On the symmetric power of an elliptic curve. *Algebraic K-theory* (*Poznań*, 1995), 59–82, *Contemp. Math.*, 199, *Amer. Math. Soc., Providence, RI*, 1996. (Introduction) **98e:11066** 11F80 (11G05, 11G40, 11R23)

— A note on p-adic q-ζ-functions. (English summary) *J. Number Theory* **64** (1997), *no.* 1, 100–103. (Daniel Barsky) **98c:11128** 11S80 (11B68)

— (*with* Delbourgo, Daniel) S-adic L-functions attached to the symmetric square of a newform. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 559–611. (Alexey A. Panchishkin) **98b:11048** 11F33 (11F67, 11F85)

Dąbrowski, Ludwik (*with* Parashar, Preeti) A free particle in noncommutative space-time. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1211–1215. (Andrzej Sitarz) **98e:81071** 81R50 (17B37, 46L60, 58B30)

— (*with* Parashar, Preeti) h-deformation of GL(1|1). (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 3, 331–336. (Summary) **98i:81102** 81R50 (17B37)

— (*with* Nesti, F.; Siniscalco, P.) On the Drinfeld twist for $U_h$sl(2). (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 293–297, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 17B37 (81R50)

— (*with* Šťovíček, Pavel) Aharonov-Bohm effect with δ-type interaction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 47–62. (François Nicoleau) **98k:81050** 81Q10 (81Q99)

Dąbrowski, Mariusz P. (*with* Kiefer, Claus) Boundary conditions in quantum string cosmology. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 185–192. (Orfeu Bertolami) **98c:83029** 83C45 (83E30)

— (*with* Barrow, John D.) Kantowski-Sachs string cosmologies. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 630–638. (Summary) **98a:83113** 83E30 (81T30)

— (*with* Larsen, Arne L.) Null strings in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6409–6414. (Summary) **98b:83010** 83C10 (83C15, 83E30)

Dacar, France The cyclicity of a hypergraph. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 53–67. (Summary) **98i:05122** 05C65

nguyen Dac Liem *see* **Nguyen Dac Liem**

Dacorogna, Bernard On rank one convex functions which are homogeneous of degree one. (English summary) *Calculus of variations, applications and computations* (*Pont-à-Mousson*, 1994), 84–99, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (John M. Ball) **98c:49036** 49J45 (49J10, 73C50, 73V25)

— (*with* Haeberly, Jean-Pierre A.) On convexity properties of homogeneous functions of degree one. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 5, 947–956. (Harold Parks) **98a:49005** 49J10 (26B25, 49J45, 49K10)

— (*with* Marcellini, Paolo) Dirichlet problem for nonlinear first order partial differential equations. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 43–57, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Katsuyuki Ishii) **98h:35037** 35F30 (49K20)

— (*with* Marcellini, Paolo) General existence theorems for Hamilton-Jacobi equations in the scalar and vectorial cases. *Acta Math.* **178** (1997), *no.* 1, 1–37. (Shigeaki Koike) **98d:35029** 35F30 (35A05, 35D05, 49L25)

Da Costa, Francisco A. *see* **da Costa, Francisco A.**

Da Costa, G. A. T. F. *see* **da Costa, G. A. T. F.**

Da Costa, Jose *see* **da Costa, Jose**

Da Costa, Newton C. A. *see* **da Costa, Newton C. A.**

Da Cruz, Wellington *see* **da Cruz, Wellington**

ngo Dac Tan *see* **Ngo Dac Tan**

Da Cunha, J. A. *see* **da Cunha, J. A.**

Dacunha-Castelle, Didier (*with* Gassiat, Elisabeth) Testing in locally conic models, and application to mixture models. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 285–317 (*electronic*). (Tobias Rydén) **98h:62024** 62F05 (62F12)

— Points singuliers des modèles statistiques. [Singular points of statistical models] *Festschrift for Lucien Le Cam*, 135–141, *Springer, New York*, 1997. (Truc Nguyen) **98m:62054** 62F10 (62F12)

— (*with* Gassiat, Elisabeth) The estimation of the order of a mixture model. (English summary) *Bernoulli* **3** (1997), *no.* 3, 279–299. (Tobias Rydén) **98j:62019** 62F12

Dadarlat, M. (*with* Gong, Guihua) A classification result for approximately homogeneous C^*-algebras of real rank zero. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 4, 646–711. (Terry A. Loring) **98j:46062** 46L05 (19K14, 46L35, 46L80)

Dade, Everett C. Counting characters in blocks with cyclic defect groups. I. *J. Algebra* **186** (1996), *no.* 3, 934–969. (J. L. Alperin) **98b:20013** 20C20

Dadhich, Naresh (*with* Mukherjee, Sailaja Nanda; Paul, B. C.) General solution for a relativistic star. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3475–3480. (Summary) **98h:83013** 83C15 (83C55, 85A15)

— (*with* Narayan, K.) On the third law of black hole dynamics. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 335–338. (Summary) **98d:83051** 83C57

ait Dads, E. *see* **Ait Dads, E.**

Daduna, Hans The cycle time distribution in a cycle of Bernoulli servers in discrete time. (English summary) *Math. Methods Oper. Res.* **44** (1996), *no.* 3, 295–332. (Peter Gerrard Taylor) **98g:60163** 60K25 (68M20, 90B22)

— (*with* Brückner, Helmut) Renate Carlsson (1941–1997). (German) *Mitt. Math. Ges. Hamburg* **16** (1997), 5–6. 01A70

van Daele, A. *see* **Van Daele, A.**

van Daele, M. *see* **Van Daele, M.**

randjbar-Daemi, S. *see* **Randjbar-Daemi, S.**

Daescu, Ovidiu (*with* Chen, Danny Z.) Maintaining visibility of a polygon with a moving point of view. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 269–275. (Summary) **98m:68268** 68U05

Dafermos, C. M. (*with* Bolliat, G.; Lax, Peter D.; Liu, Tai-Ping) ★ Recent mathematical methods in nonlinear wave propagation. Lectures given at the 1st C.I.M.E. Session held in Montecatini Terme, May 23–31, 1994. Edited by T. Ruggeri. Lecture Notes in Mathematics, 1640. Fondazione C.I.M.E.. [C.I.M.E. Foundation] *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1996. vi+142 *pp. ISBN* 3-540-61907-0 (Editors) **98g:35002** 35–06

— Entropy for hyperbolic systems of conservation laws in several space dimensions. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 27–41, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Christophe Cheverry) **98h:35150** 35L65

Dagan, Nir (*with* Serrano, Roberto; Volij, Oscar) A noncooperative view of consistent bankruptcy rules. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 55–72. (Steven R. Williams) **98c:90191** 90D10 (90A14)

— (*with* Serrano, Roberto) Invariance and randomness in the Nash program for coalitional games. (English summary) *Econom. Lett.* **58** (1998), *no.* 1, 43–49. (Summary) **98m:90197** 90D12

Dagless, Erik L. (*with* Biliński, Krzysztof) High level synthesis of synchronous parallel controllers. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 93–112, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 93C83 (68Q90)

Dagnino, C. (*with* Demichelis, Vittoria; Santi, Elisabetta) Local spline approximation methods for singular product integration. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 3, 37–51. (Hans-Jörg Wenz) **98a:65025** 65D30 (65D07)

— (*with* Rabinowitz, Philip) Product integration of singular integrands using quasi-interpolatory splines. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 59–67. (Summary) **98b:41008** 41A15 (40A10, 40A20)

D'Agnolo, Andrea (*with* Schapira, Pierre) Leray's quantization of projective duality. *Duke Math. J.* **84** (1996), *no.* 2, 453–496. (Orlando Neto) **98c:32012** 32C38 (32C37)

— On the microlocal cut-off of sheaves. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 161–167. (P. Schapira) **98i:58216** 58G07

— (*with* Zampieri, Giuseppe) On microfunctions at the boundary along CR manifolds. (English summary) *Compositio Math.* **105** (1997), *no.* 2, 141–146. (Orlando Neto) **98a:58149** 58G07 (32C16, 32F40)

D'Agostino, Giovanna (*with* Montanari, Angelo; Policriti, Alberto) Set-theoretic decidability results for modal theorem proving. (English summary) *Theoretical computer science* (*Ravello*, 1995), 326–342, *World Sci. Publishing, River Edge, NJ*, 1996. (Petr Jirků) **98d:03020** 03B35 (03B25, 03B45, 68T15)

— (*with* van Benthem, Johan; Montanari, Angelo; Policriti, Alberto) Modal deduction in second-order logic and set theory. I. (English summary) *J. Logic Comput.* **7** (1997), *no.* 2, 251–265. (Kazumi Inoue) **98c:03041** 03B45

D'Agostino, Luca *see* **d'Agostino, Luca**

D'Agostino, Marcello (*with* Gabbay, Dov M.) Fibred tableaux for multi-implication logics. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 16–35, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03013** 03B35

D'Agostino, Salvo (*with* Orlando, L.) The correspondence principle and the origin of Einstein's theory of gravity. (Italian. English summary) *Riv. Stor. Sci.* (2) **2** (1994), *no.* 1, 51–74. (N. D. Sengupta) **98g:01050** 01A60 (83–03)

— The problem of the empirical bases of Einstein's general theory of relativity: some recent historico-critical research. (Italian) *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 191–207 (1997). (N. D. Sengupta) **98h:01017** 01A60 (83–03)

— Absolute systems of units and dimensions of physical quantities: a link between Weber's electrodynamics and Maxwell's electromagnetic theory of light. (English summary) Aspects of mid to late nineteenth century electromagnetism. *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **33** (1996), *no.* 1-3, 5–51. (Summary) **98i:01017** 01A55 (00A73, 78–03)

Dagum, Paul (*with* Luby, Michael) An optimal approximation algorithm for Bayesian inference. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 1–27. (Summary) **98b:68182** 68T30 (62A99)

Dahan Dalmedico, Amy L'essor des mathématiques appliquées aux États-Unis: l'impact de la seconde guerre mondiale. (English and French summaries) [The rise of applied mathematics in the United States: the impact of the Second World War] *Rev. Histoire Math.* **2** (1996), *no.* 2, 149–213. (Summary) **98a:01014** 01A60 (01A72)

Dahiya, R. S. (*with* Zafer, A.) Oscillation properties of solutions of arbitrary order neutral differential equations. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 205–217, *VSP, Utrecht*, 1993. (Summary) **98c:34119** 34K15 (34K40)

— (*with* Zafer, A.) Asymptotic behavior and oscillation in higher order nonlinear differential equations with retarded arguments. *Acta Math. Hungar.* **76** (1997), *no.* 3, 257–266. (Pavol Marušiak) **98e:34126** 34K15

Dahiya, Ram C. (*with* Hossain, Syed Afzal) A modification of Goel-Okumoto model. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 77–84, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62181** 62N05

Dahl, Geir Majorization, polyhedra, and statistical testing problems. (English summary) *Linear Algebra Appl.* **272** (1998), 205–225. (Shuangzhe Liu) **98k:15025** 15A48 (05C20, 52B11, 62F03)

Dahl, Jens Peder Physical origin of the Runge-Lenz vector. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6831–6840. (Summary) **98k:78012** 78A25 (70F05, 70H40, 83A05)

Dahl, Ole-Johan (*with* Owe, Olaf; Bastiansen, Tore J.) Subtyping and constructive specification. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 1, 19–49. (Summary) **98m:68179** 68Q65 (68Q60)

Dahlberg, B. E. J. (*with* Kenig, Carlos E.; Pipher, Jill C.; Verchota, G. C.) Area integral estimates for higher order elliptic equations and systems. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1425–1461. (G. Albinus) **98m:35045** 35J30 (35B50, 35J50, 42B25)

Dahlburg, R. B. (*with* Boncinelli, P.; Einaudi, G.) The evolution of plane current-vortex sheets. (English summary) *Phys. Plasmas* **4** (1997), *no.* 5, *part* 1, 1213–1226. (Summary) **98d:76064** 76E25 (76C05, 76E30, 76W05)

— (*with* Boncinelli, P.; Einaudi, G.) The evolution of a plane jet in a neutral sheet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 79–93. (Summary) **98h:76135** 76W05 (76E25)

— On the nonlinear mechanics of magnetohydrodynamic stability. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 133–139. (Summary) **98h:76043** 76E25 (76W05)

Dahleh, M. A. *see* **Dahleh, Munther A.**

Dahleh, Mohammed (*with* Salapaka, Murti V.; Voulgaris, Petros) Mixed objective control synthesis: optimal $l_1/\mathscr{H}_2$ control. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1672–1689. (Cheng Wu Yang) **98i:93028** 93B36

Dahleh, Munther A. (*with* Elia, Nicola) Controller design with multiple objectives. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 596–613. (Summary) **98d:93050** 93B51 (90C29)

— (*with* Young, Peter Michael) Infinite-dimensional convex optimization in optimal and robust control theory. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1370–1381. (Arno Linnemann) **98k:93041** 93B40 (90C25, 93B36, 93B50, 93C55)

— (*with* Elia, Nicola) l_1-minimization with magnitude constraints in the frequency domain. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 27–51. (Summary) **98c:93036** 93B36 (93C80)

Dahlhaus, Elias Sequential and parallel algorithms on compactly represented chordal and strongly chordal graphs. (English summary) *STACS 97 (Lübeck)*, 487–498, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68123** 68R10 (05C85)

Dahlhaus, R. Asymptotic statistical inference for nonstationary processes with evolutionary spectra. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II (1995)*, 145–159, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62159** 62M10

— (*with* Janas, D.) A frequency domain bootstrap for ratio statistics in time series analysis. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1934–1963. (Zuzana Prášková) **98b:62158** 62M10 (62E20, 62G09)

— On the Kullback-Leibler information divergence of locally stationary processes. (English summary) *Stochastic Process. Appl.* **62** (1996), *no.* 1, 139–168. (Summary) **98b:60070** 60G10 (60G25, 62M10)

— Fitting time series models to nonstationary processes. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 1–37. (Jiří Anděl) **98b:62168** 62M15 (62F10, 62M10)

Dahlke, Stephan (*with* Maass, Peter) Continuous wavelet transforms with applications to analyzing functions on spheres. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 4, 379–396. (Manfred Tasche) **98b:42057** 42C99 (44A15)

— (*with* Dahmen, Wolfgang; Hochmuth, Reinhard; Schneider, Reinhold) Stable multiscale bases and local error estimation for elliptic problems. (English summary) Multilevel methods (Oberwolfach, 1995). *Appl. Numer. Math.* **23** (1997), *no.* 1, 21–47. (Hans-Peter Helfrich) **98a:65075** 65J10 (65N30, 65R20)

— (*with* Latour, V.; Neeb, M.) Generalized cardinal B-splines: stability, linear independence, and appropriate scaling matrices. (English summary) *Constr. Approx.* **13** (1997), *no.* 1, 29–56. (L. L. Schumaker) **98b:41009** 41A15

— Invariant manifolds for products of random diffeomorphisms. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 157–210. (Oliver Knill) **98m:58078** 58F11 (28D05, 60J05)

— (*with* Maass, Peter) Interpolating refinable functions and wavelets for general scaling matrices. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 521–539. (Summary) **98f:42029** 42C15 (41A15)

— Besov regularity for second order elliptic boundary value problems with variable coefficients. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 59–77. (Galina P. Lopushanska) **98m:35038** 35J25 (35B65, 35D10)

Dahlqvist, Per The role of singularities in chaotic spectroscopy. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1011–1029. (Summary) **98j:81093** 81Q50 (11Z05)

— On the effect of pruning on the singularity structure of zeta functions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4273–4282. (Viviane Baladi) **98h:58150** 58F20

— Computing the topological pressure for intermittent maps. (English summary) *J. Phys. A* **30** (1997), *no.* 11, L351–L358. (Summary) **98b:58139** 58F20

— The Lyapunov exponent in the Sinai billiard in the small scatterer limit. (English summary) *Nonlinearity* **10** (1997), *no.* 1, 159–173. (Nikolai Chernov) **98a:58102** 58F11 (82C05)

Dahm, Rolf Relativistic SU(4) and quaternions. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 337–356. (*see* **98h:81004**) 81V05 (81R05)

— Spin-flavour symmetry and contractions towards classical space-time symmetry. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 147–152. (Summary) **98c:81236** 81V05 (81R05)

Dahmardah, H. O. More results about application of Fourier integrals in the solution of Laplace's equation. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 85–89, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 35J05 (35A22)

Dahmen, Silvio Renato (*with* Albertini, Giuseppe; Wehefritz, Birgit) The free energy singularity of the asymmetric six-vertex model and the excitations of the asymmetric XXZ chain. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 541–570. (Summary) **98e:82011** 82B20

Dahmen, Wolfgang Multiscale analysis, approximation, and interpolation spaces. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 47–88, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Sushil Sharma) **98f:41032** 41A65 (42C15)

— (*with* Kunoth, Angela; Schneider, Reinhold) Operator equations, multiscale concepts and complexity. (English summary) *The mathematics of numerical analysis (Park City, UT, 1995)*, 225–261, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Klaus Ritter) **98a:65200** 65Y20 (65F35)

— (*with* Kleemann, B.; Prössdorf, Siegfried; Schneider, Reinhold) Multiscale methods for pseudodifferential equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 7–10. (*see* **98b:65005**) 65N06 (65M06)

— Wavelet and multiscale methods for operator equations. *Acta numerica*, 1997, 55–228, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (Andreas Rieder) **98m:65102** 65J10 (47A50)

— (*with* Dahlke, Stephan; Hochmuth, Reinhard; Schneider, Reinhold) Stable multiscale bases and local error estimation for elliptic problems. (English summary) Multilevel methods (Oberwolfach, 1995). *Appl. Numer. Math.* **23** (1997), *no.* 1, 21–47. (Hans-Peter Helfrich) **98a:65075** 65J10 (65N30, 65R20)

— *see also* **Multiscale wavelet methods for partial differential equations, 98d:65006**

Dahn, Bernd Ingo (*with* Wolf, Andreas[1]) Natural language presentation and combination of automatically generated proofs. (English summary) *Frontiers of combining systems (Munich, 1996)*, 175–192, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68167** 68T15 (03B35)

Dai, Bin Xiang (*with* Lu, Da Qing) Oscillation in odd-order neutral difference equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 2, 8–13. 39A10

Dai, Chaoshou Dimension results in product probability spaces. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 1, 19–28. (Summary) **98e:28008** 28A78

Dai, D. C. Comments on: "Detection of grazing orbits and incident bifurcations of a forced continuous, piecewise-linear oscillator" [J. Sound Vibration **187** (1995), no. 3, 485–493; MR 96h:70026] by H. Y. Hu. With a reply by Hu. *J. Sound Vibration* **208** (1997), *no.* 5, 861–863. 70K40 (34C15, 34C25)

Dai, Guan Zhong (*with* Zhang, Qing Ling; de la Sen, Manuel) Determination and elimination of finite fixed modes. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 407–410. 93B60

— (*with* Zhang, You Min; Jiao, Ling Yun; Chen, Hong Liang) A new fixed-interval smoothing algorithm based on singular value decomposition. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 579–583. 93E14

— (*with* Zhang, Xiao Hui; Fang, Hao) Encoding mechanisms for genetic algorithms. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 134–139. 90C27 (68T05)

Dai, Guo Ren (*with* Liu, Xuan Liang) Qualitative analysis of a predator-prey system with constant-rate harvesting of prey and type III functional response. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 213–222. (Summary) **98m:92023** 92D25 (34C05)

Dai, Guo Xing Sufficient conditions for solvability of the problem of constructing a three-dimensional simplex with given vertex angles and an arbitrary base. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 4, 87–89. 51M09

Dai, Hua (*with* Lancaster, Peter) Newton's method for a generalized inverse eigenvalue problem. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 1, 1–21. (Summary) **98j:65027** 65F15 (15A18, 70–08, 73K12, 73V20)

— (*with* Lancaster, Peter) Numerical methods for finding multiple eigenvalues of matrices depending on parameters. (English summary) *Numer. Math.* **76** (1997), *no.* 2, 189–208. (George D. Poole) **98a:65048** 65F15 (15A18)

Dai, Hui-Hui Model equations for nonlinear dispersive waves in a compressible Mooney-Rivlin rod. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 193–207. (Summary) **98m:73037** 73D15 (73C50, 73D35, 73K05)

— (*with* Huang, De-Bin; Zhao, Xiao-Hua) Invariant tori and chaotic streamlines in the ABC flow. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 136–140. (Peter E. Kloeden) **98m:76088** 76F20 (58F13, 58F40, 76C99)

Dai, J. G. (*with* Vande Vate, John H.) Global stability of two-station queueing networks. (English summary) *Stochastic networks (New York, 1995)*, 1–26, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98g:60164** 60K25

Dai, Jack J. Some results concerning the rates of convergence of random walks on finite group. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 15–17. 60J15 (60B15)

Dai, Jian She (*with* Zhu, Shi Jing; Chen, Ting[1]) Incentive equilibria for dynamic bargaining games. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 249–253. 90D25 (49J15)

— (*with* Fu, Yi Hui; Liu, Xiao Ye) An LP model for management and decision making based on the theory of constraints. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 26–29. 90C08 (90C90)

— (*with* Fu, Yi Hui; Zhang, Hui Ming) Necessary and sufficient conditions for solvability of certain linear matrix inequalities and parametrization methods for their solution. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 48–51. 15A45

— (*with* Huang, Yong; Wang, Shu Ning) Validation of a frequency domain model for eigenvalue perturbations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 10, 104–106. 93B60 (93C05)

— (*with* Fu, Yi Hui; Wang, Shu Ning) Solving the inverse problem $Ax = b$ in classes of generalized positive definite matrices. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 57–59. 15A24

Dai, L. *see* **Dai, Liming**

Dai, Li Xin (*with* Hou, Jin) Singular closed trajectories and limit cycles of a class of cubic systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 381–384. (Ding Jun Luo) **98c:34046** 34C05 (34C37, 58F21)

Dai, Li Yi Sensitivity analysis of stationary performance measures for Markov chains. (English summary) Recent advances in discrete event systems. *Math. Comput. Modelling* **23** (1996), *no.* 11-12, 143–160. (S. Kalpakam) **98e:90207** 90C40 (68M20, 68U20, 93C83)

— (*with* Chen, Chun-Hung) Rates of convergence of ordinal comparison for dependent discrete event dynamic systems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 29–54. (Ratnesh Kumar) **98d:93065** 93C83 (90C40)

— Rate of convergence for derivative estimation of discrete-time Markov chains via finite-difference approximation with common random numbers. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 731–751. (Summary) **98a:60092** 60J10 (60G17, 62C20)

— Performance bounds for nonhomogeneous queues. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 700–705. 90B22 (60K25, 90B12)

Dai, Liming (*with* Singh, M. C.) An analytical and numerical method for solving linear and nonlinear vibration problems. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 21, 2709–2731. (Summary) **98c:70001** 70–08

Dai, Longxiang Weighted norm inequalities for some singular integral operators. (English summary) A Chinese summary appears in Acta Math. Sinica **38** (1995), no. 2, 287. *Acta Math. Sinica (N.S.)* **10** (1994), *no.* 1, 42–48. (Oscar Blasco) **98b:42025** 42B20 (47B38)

Dai, Min (*with* Shih, Tsi Min; Liem, Chin Bo; Liang, Guo-ping) A domain decomposition method with non-matching grids for solving 3-dimensional problems, software development and applications to reservoir simulation. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 87–94. 65M55 (65N55)

Dai, Mumin (*with* Lin, Shou; Liu, Chuan) Images on locally separable metric spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 1–8. (Summary) **98d:54053** 54E35 (54C10)

Dai, Pei Liang (*with* Shen, Shu Min) A domain decomposition method based on nonconforming finite elements. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 78–91; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 2, 78–91. (Tsorng-Whay Pan) **98g:65119** 65N55 (65N30)

Dai, Qiong Hai (*with* Zhang, Tai; Li, Yan Da) Nonlinear robust identification based on dynamic neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 5, 353–359. 93B30 (93C83)

Dai, Qionghai (*with* Hu, San Qing; Jing, Yuan Wei; Zhang, Si Ying) Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 699–703. (Summary) **98a:93068** 93D21 (93C41)

— (*with* Hu, San Qing; Jing, Yuan Wei; Zhang, Si Ying) Correction to: "Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties" [IEEE Trans. Automat. Control **42** (1997), no. 5, 699–703; MR 98a:93068]. *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1339. 93D21 (93C41)

Dai, Qiuyi (*with* Gu, Yong Geng) A short note on quenching phenomena for semilinear parabolic equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 240–250. (I. Łojczyk-Królikiewicz) **98g:35112** 35K60 (35B40)

— (*with* Gu, Yong Geng) Quenching phenomena for systems of semilinear parabolic equations. I. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 361–371. (Qing Fang) **98m:35102** 35K60 (35B05, 35B35)

Dai, Ru Wei (*with* Liu, Cheng Jun) Discrete linear transformations of binary images based on neighborhood features. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 271–274. 68T10

Dai, Shi Xun (*with* Wu, Bao Wei) Some inequalities for Hadamard products of matrices. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 6, 477–480. 15A45

Dai, W. *see* **Dai, Wen**

Dai, Wei Ji (*with* Jia, Zhen Sheng) A sufficient condition for the codiameter. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 143–144. 05C38

Dai, Wei Zhong (*with* Nassar, R.) A generalized Douglas ADI method for solving three-dimensional parabolic differential equations on multilayers. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 7, 659–674. 65M70

— (*with* Nassar, R.) A generalized two-cycle componentwise splitting method for solving three-dimensional parabolic differential equations with variable coefficients on multilayers. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 863–879. (From the introduction) **98j:80001** 80–08 (80A20)

— A generalized Peaceman-Rachford ADI scheme for solving two-dimensional parabolic differential equations. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 353–360. 65M99

— A new ADI scheme for solving three-dimensional parabolic differential equations. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 361–369. 65M99

— (*with* Nassar, R.) A second-order ADI scheme for three-dimensional parabolic differential equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 159–168. (Summary) **98i:65072** 65M12

Dai, Wen (*with* Heyde, C. C.) Itô's formula with respect to fractional Brownian motion and its application. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 439–448. (Ali Süleyman Üstünel) **98f:60104** 60H05 (60H10, 60J65)

Dai, Wen Rong Some global results in Finsler geometry. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 172–176. (Zhongmin Shen) **98d:53100** 53C60

Dai, Wen Zhan A failure diagnosis method for large systems based on function space iteration. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 4, 253–258. 90C39 (93C83, 94C12)

Dai, Wenlong (*with* Woodward, Paul R.) A second-order unsplit Godunov scheme for two- and three-dimensional Euler equations. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 261–281. (Summary) **98d:76113** 76M20

— (*with* Woodward, Paul R.) A high-order Godunov-type scheme for shock interactions in ideal magnetohydrodynamics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 957–981. (Summary) **98d:76114** 76M20 (65M06, 76L05, 76W05)

— (*with* Woodward, Paul R.) An iterative Riemann solver for relativistic hydrodynamics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 982–995. (Summary) **98d:76115** 76M20 (65M06, 76L05, 76N10, 76Y05)

— (*with* Woodward, Paul R.) Second order Godunov schemes for 2D and 3D MHD equations and divergence-free condition. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 283–297, *ICASE/LaRC Interdiscip. Ser. Sci. Eng., 6, Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (76W05)

— (*with* Woodward, Paul R.) A simple finite difference scheme for multidimensional magnetohydrodynamical equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 331–369. 76M20 (76W05)

Dai, Xianzhe (*with* Zhang, Wei Ping[1]) Splitting of the family index. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 303–317. (Liviu I. Nicolaescu) **98d:58170** 58G10 (58G20)

Dai, Xingde Norm-principal bimodules of nest algebras. II. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 294–313. (Allan P. Donsig) **98a:47045** 47D25 (46H25)

— (*with* Larson, David R.; Speegle, Darrin M.) Wavelet sets in $\mathbf{R}^n$. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 451–456. (Eugenio Hernández) **98m:42048** 42C15

— (*with* Larson, David R.) Wandering vectors for unitary systems and orthogonal wavelets. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 640, *viii*+68 *pp.* (Eugenio Hernández) **98m:47067** 47D25 (42C15, 46B28, 47A99)

Dai, Xiong Ping (*with* Zhang, Jun[8]) An equivalent condition for Anosov maps. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **35** (1996), *no.* 4, 28–30. (Si Ming Zhu) **98h:58099** 58F08

— Liftings of generalized Gottlieb sets. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 2, 38–41. (Summary) **98d:55024** 55R10

Dai, Xue Feng Supervisory control of real-time discrete event systems based on a neural network algorithm. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 708–711. 93C83 (93A30)

Dai, Yang (*with* Iwano, Kazuo; Katoh, Naoki) A new probabilistic analysis of Karger's randomized algorithm for minimum cut problems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 255–261. (Summary) **98h:68108** 68Q25 (05C85, 68R10, 90C27)

Dai, Yingcheng (*with* Rothwell, E. J.; Chen, Kun-Mu; Nyquist, D. P.) Time-domain imaging of radar targets using algorithms for reconstruction from projections. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 8, 1227–1235. (Summary) **98h:78012** 78A45

Dai, Yong Jie (*with* Feng, Jia Xin; Wang, Chun Li; Zhang, Cheng Xue; Yang, Yuan Sheng) The construction of regular self-complementary graphs and Kotzig's conjecture. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 3, 335–339. (Summary) **98g:05123** 05C75

Dai, Yong Long Some problems in Markov chains. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 4, 422–428. 60J27

— (*with* Wang, Han Xing) A Poisson limit law of Markov chains in Markovian environments. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 265–270. (Summary) **98g:60124** 60J10 (60F05)

Dai, Yu Hong (*with* Yuan, Ya Xiang) Convergence of the Fletcher-Reeves method under a generalized Wolfe search. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 142–148. 90C30 (65K05)

Dai, Yu-Jie (*with* Shoji, Michihiko; Urakawa, Hajime) Harmonic maps into Lie groups and homogeneous spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 143–160. (John C. Wood) **98e:58054** 58E20

Dai, Yu Wen (*with* Zhang, Shu Nian) The stability regions of quadratic delay difference systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 12, 119–122. 39A11

Dai, Zheng De (*with* Cao, Jin De) Periodic solutions to a class of neutral second-order equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 102–106. (Summary) **98c:34108** 34K15 (34K40)

— (*with* Guo, Bo Ling) Inertial fractal sets for dissipative Zakharov system. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 279–288. (Remo Badii) **98f:58130** 58F12 (34G20, 35Q55, 47H20, 58F39)

Dai, Zhi Zhong (*with* Zeng, Guang Xing) Real Hilbert rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 175–184. (Ka Hin Leung) **98i:13042** 13F20 (12D99, 13A15)

Dai, Zong Duo (*with* Qi, Wen Feng) The trace representation of sequences and the structural analysis of the space of nonlinear filtered sequences over $\mathbf{Z}/(p^d)$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 128–136. (Jin Zhong Xu) **98f:11019** 11B50 (11S85, 12F10, 94A60)

— (*with* Ye, Dingfeng; Zhai, Qibin; Ou, Haiwen) Classification and enumeration of matched free response matrices of linear finite automata. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 320. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 133–144. (Summary) **98i:68204** 68Q70

Daif, Mohamad Nagy Commutativity results for semiprime rings with derivations. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 471–474. 16U80 (16N60)

Daigle, Daniel A necessary and sufficient condition for triangulability of derivations of $k[X, Y, Z]$. (English summary) *J. Pure Appl. Algebra* **113** (1996), *no.* 3, 297–305.

(Amartya K. Dutta) **98c:13012** 13B10 (14L30)

Daigo, Motomasa (*with* Obata, Tsuneshi; Shiraishi, Shunsuke) A computational experiment on the methods for estimating priority weights for incomplete comparison matrices. (Japanese. English summary) *Rep. Fac. Engrg. Oita Univ. No.* 37 (1998), 31–36. 65F10

Dailyudenko, V. F. (*with* Krot, A. M.) A locally topological method for determining the minimal embedding dimension of a chaotic attractor. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 70–75, 125. 58F13

— (*with* Krot, A. M.) Determination of the minimal embedding dimension of a chaotic attractor on the basis of a locally topological analysis of phase trajectories. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 315–324. (Alexander Loskutov) **98e:58116** 58F13 (58F12, 65L99)

Dainson, Boris E. (*with* Lewin, Daniel R.) An algebraic criterion for robust stability of linear control systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 237–241. (Summary) **98i:93065** 93D09

Dai Pra, Paolo (*with* Rudari, Cristina) Risk-sensitive control and dynamic games: the discrete-time case. (English summary) *System modelling and optimization* (*Prague*, 1995), 163–170, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93E20 (93C55)

— (*with* Meneghini, Lorenzo; Runggaldier, Wolfgang J.) Connections between stochastic control and dynamic games. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 4, 303–326. (Jacek B. Krawczyk) **98b:93069** 93E20 (90D25)

— (*with* Asselah, Amine) Occurrence of rare events in ergodic interacting spin systems. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 727–751. (Francis Comets) **98k:60174** 60K35 (60F10, 82C22)

— (*with* Runggaldier, Wolfgang J.; Rudari, Cristina) On dynamic programming for sequential decision problems under a general form of uncertainty. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 1, 81–107. (Heinz-Uwe Küenle) **98b:90163** 90C39 (90D15)

— (*with* Asselah, Amine) Sharp estimates for the occurrence time of rare events for symmetric simple exclusion. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 259–273. (Rinaldo Schinazi) **98k:60175** 60K35

Dajani, Karma (*with* Hawkins, Jane) A construction of a non-measure-preserving endomorphism using quotient relations and automorphic factors. *J. Math. Anal. Appl.* **204** (1996), *no.* 3, 854–867. (Cesar E. Silva) **98g:28030** 28D99

— (*with* Kraaikamp, Cor) On approximation by Lüroth series. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 331–346. (Wieb Bosma) **98g:11092** 11K55 (11J83)

— (*with* Dooley, Anthony H.) The mean ratio set for $ax + b$ valued cocycles. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 671–688. (S. I. Bezuglyĭ) **98g:28019** 28D05 (22D40)

Dajczer, Marcos (*with* Gromoll, Detlef) Real Kaehler submanifolds in low codimension. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 389–395. (Luis M. Hervella) **98m:53077** 53C42 (53C55)

— (*with* Tojeiro, Ruy) A rigidity theorem for conformal immersions. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 491–504. (Qing Ming Cheng) **98j:53072** 53C42 (53C40)

Dajović, Slobodan V. On the problem of discrete optimization with phase constraints. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 221–228. (*see* **98a:00010**) 49K30 (49J52, 90C30)

Dalabehara, M. (*with* Sahoo, L. N.) A class of estimators in stratified sampling with two auxiliary variables. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 144–149. 62D05

Dalal, Mukesh (*with* Roy-Chowdhury, Rahul) Model-theoretic semantics and tractable algorithm for CNF-BCP. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 227–232, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T15 (03B70)

Dalang, Robert C. (*with* Walsh, John B.) Local structure of level sets of the Brownian sheet. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 57–64, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Summary) **98f:60093** 60G60 (60J65)

Dalbec, John An algebraic proof of Barlet's join theorem. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 512–526. (M. Kh. Gizatullin) **98a:14001** 14C05 (14N05)

Dal Bo, S. (*with* Rinaldi, S.; De Nittis, E.) On the role of body size in a tri-trophic metapopulation model. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 158–176. 92D25 (92–04)

Daldoul, M. Finite convergence of the partial inverse algorithm. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 693–699. (Summary) **98k:90104** 90C30 (65K05, 90C25)

Dale, Paul D. (*with* Olsen, Luke; Maini, Philip K.; Sherratt, Jonathan A.) Travelling waves in wound healing. (English summary) *Forma* **10** (1995), *no.* 3, 205–222. 92C50

Dalela, A. K. On uniform Abel summability of a Fourier series. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 296–298. 42A24

D'Alembert, Jean Lerond *see* **d'Alembert, Jean Lerond**

van Dalen, Benno Al-Khwārizmī's astronomical tables revisited: analysis of the equation of time. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II* (*Zaragoza*, 1993), 195–252, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (R. C. Gupta) **98h:01006** 01A30 (01A35)

— (*with* Kennedy, E. S.; Saiyid, Mustafa K.) The Chinese-Uighur calendar in Tūsī's *Zīj-i Īlkhānī*. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **11** (1997), 111–152, 9 (*Arabic paging*). 01A30 (01A25)

van Dalen, Dirk Intuitionism—counting its blessings (preliminary version). (English summary) *Linear logic* 96 (*Tokyo*), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B20 (03F30, 03F55)

— *see also* **Computer science logic, 98k:03005**

Dales, H. Garth (*with* Woodin, W. Hugh) ★ Super-real fields. Totally ordered fields with additional structure. London Mathematical Society Monographs. New Series, 14. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xvi+357 *pp. ISBN* 0-19-853991-6 (G. G. Pestov) **98b:12005** 12J15 (03–02, 03C60, 03C62, 46J10, 46S99)

— (*with* Runde, Volker) Discontinuous homomorphisms from non-commutative Banach algebras. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 475–479. (T. W. Palmer) **98d:46047** 46H40 (46L05)

— (*with* Loy, R. J.) Uniqueness of the norm topology for Banach algebras with finite-dimensional radical. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 633–661. (B. E. Johnson) **98a:46056** 46H40

D'Ales, Jean-Pierre (*with* Cohen, Albert) Nonlinear approximation of random functions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 518–540. (Summary) **98g:42037** 42C05 (41A30, 60G12)

D'Alessandro, Domenico (*with* Albertini, Francesca) Remarks on the observability of nonlinear discrete time systems. *System modelling and optimization* (*Prague*, 1995), 155–162, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93B07 (93C55)

— (*with* Ferrante, Augusto) Optimal steering for an extended class of nonholonomic systems using Lagrange functionals. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1635–1646. (Summary) **98j:49029** 49K15 (70F25, 70Q05, 93B10)

— Geometric aspects of the Riccati difference equation in the nonsymmetric case. (English summary) *Linear Algebra Appl.* **255** (1997), 1–18. (Summary) **98m:39008** 39A10 (15A24, 93C55)

D'Alessandro, Flavio *see* **d'Alessandro, Flavio**

D'Alessandro, Paolo *see* **d'Alessandro, Paolo**

D'Alessio, S. J. D. Steady, unsteady and linear stability of flow past an elliptic cylinder. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 341–379. (Summary) **98e:76025** 76D05 (76E99, 76M20)

Daletskiĭ, A. Yu. (*with* Albeverio, Sergio) Asymptotic quantization for solution manifolds of some infinite-dimensional Hamiltonian systems. (English summary) *J. Geom. Phys.* **19** (1996), *no.* 1, 31–46. (From the introduction) **98e:58161** 58G15 (47G30, 47N20, 58F06)

— (*with* Albeverio, Sergio; Kondrat′ev, Yu. G.) Infinite systems of stochastic differential equations and some lattice models on compact Riemannian manifolds. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 326–337; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 360–372 (1998). (Keisuke Hara) **98g:58187** 58G32 (60H10, 81S20, 82C31)

Daletskiĭ, Yurii L'vovich Introduction to non-Gaussian stochastic analysis. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 28–42, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98d:60101** 60H05 (28C20, 46G12, 46N30, 60B11, 60G15)

— (*with* Karp, I. V.) The solution manifold for a nonlinear differential equation. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 7–12 (1997). (A. Morimoto) **98h:34108** 34G20 (35A30, 58F39)

— Differential-geometric structures in operads. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 12, 1661–1669; *translation in Ukrainian Math. J.* **48** (1996), *no.* 12, 1880–1888 (1997). (J. Stasheff) **98h:18008** 18D10 (18C99, 58B99)

— (*with* Takhtajan, Leon A.) Leibniz and Lie algebra structures for Nambu algebra. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 127–141. (Teimuraz Pirashvili) **98e:17003** 17A30 (17B56, 58F05)

— (*with* Arnol′d, Vladimir Igorevich; Berezanskiĭ, Yuriĭ Makarovich; Kutateladze, M. M.; Lavrent′ev, Mikhail Mikhaĭlovich; Reshetnyak, Yu. G.; Semënov, E. M.; Sklyadnev, S. A.) Selim Grigor′evich Kreĭn (on the occasion of his eightieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1349–1350. 01A70

— *see also* **Berezanskiĭ, Yuriĭ Makarovich et al.**

Daley, Daryl J. (*with* Gani, Joseph Mark) Some control methods for epidemics. (English summary) *Advances in the theory and practice of statistics*, 125–142, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98c:62006**) 92C60

— Some results for the mean waiting-time and workload in $GI/GI/k$ queues. (English summary) *Frontiers in queueing*, 35–59, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Summary) **98a:60133** 60K25

— (*with* Servi, L. D.) Estimating waiting times from transactional data. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 224–229. (Summary) **98e:60149** 60K25 (90B22)

— (*with* Vesilo, Rein) Long range dependence of point processes, with queueing examples. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 265–282. (Gunter Last) **98j:60068** 60G55 (60G10, 60K25)

Dalík, Josef A finite difference method for a two-dimensional convection-diffusion problem with dominating convection. (English and Czech summaries) *Sb. Věd. Odb. Pracĭ* **1995**, *no.* 1, 5–44. (Reinhard Redlinger) **98d:65130** 65N06 (65N15, 76M20, 76Rxx)

— An equivalence of two numerical methods for a two-dimensional convection-diffusion problem with dominating convection. (English and Czech summaries) *Sb. Věd. Odb. Pracĭ* **1995**, *no.* 1, 45–59. (Reinhard Redlinger) **98d:65131** 65N06 (65N30, 76M20, 76M25, 76Rxx)

— Quadratic interpolation polynomials in vertices of strongly regular triangulations. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 85–94, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98m:65015** 65D05 (41A05, 65N99)

nowzari-Dalini, A. *see* **Nowzari-Dalini, A.**

Da Lio, Francesca (*with* Bardi, Martino) On the Bellman equation for some unbounded control problems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 491–510. (Fabio Camilli) **98m:49048** 49L25 (35B37, 49N10)

Dalitz, Ch. (*with* de Groot, E. H.) Exact solution of a boundary value problem in semiconductor kinetic theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4629–4643. (Yan Guo) **98i:82054** 82C40 (82D10)

— Half-space problem of the Boltzmann equation for charged particles. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 129–144. (Carlo Cercignani) **98h:82057** 82C40 (76P05)

— Initial-boundary value problems of the Boltzmann equation at zero temperature. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 7, 813–825. 82C40 (45K05)

Dalla, Leoni (*with* Tamvakis, N. K.) An isoperimetric inequality in the class of simplicial polytopes. (English summary) *Math. Japon.* **44** (1996), *no.* 3, 569–572. (Carla Peri) **98a:52025** 52B60 (52A40)

Dall'Aglio, Andrea (*with* Boccardo, Lucio; Orsina, Luigi) A corrector result for the G-convergence of Dirichlet problems in L^1. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 57–66, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Vicenţiu Rădulescu) **98g:35016** 35B27 (35J65)

— Approximated solutions of equations with L^1 data. Application to the H-convergence of quasi-linear parabolic equations. *Ann. Mat. Pura Appl.* (4) **170** (1996), 207–240. (D. Bahuguna) **98b:35095** 35K60 (35A35, 35J65)

— (*with* Orsina, Luigi) On the limit of some nonlinear elliptic equations involving increasing powers. *Asymptot. Anal.* **14** (1997), *no.* 1, 49–71. (Henghui Zou) **98a:35028** 35J60

— (*with* Boccardo, Lucio; Gallouët, Thierry; Orsina, Luigi) Nonlinear parabolic equations with measure data. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 237–258. (Summary) **98c:35093** 35K60 (35R05)

— (*with* Grossi, Massimo) A perturbation theorem for the equation $-\Delta u + \lambda u = u^p$ in unbounded domains. *Nonlinear Anal.* **28** (1997), *no.* 11, 1867–1877. (Yoshihito Tomita) **98a:35029** 35J60 (35B20)

Dall'Aglio, Giorgio Joint distribution of two uniform random variables when the sum and the difference are independent. *Distributions with given marginals and moment problems* (*Prague*, 1996), 117–120, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E05 (62H05)

Dall'Aglio, M. (*with* Critani, F.; Di Biase, Giuseppe) Ranking and unranking permutations with applications. *Innovation in mathematics* (*Rovaniemi*, 1997), 99–106, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 05A05

Dal Lago, Walter (*with* Sánchez, Cristián U.; García, Alicia; Hulett, Eduardo G.) On some properties which characterize symmetric and general R-spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 291–302. (Anna M. Fino) **98j:53061** 53C35 (53C30)

Dallakyan, V. L. A generalization of Darlington's theorem for real positive J-symmetric matrix functions. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 2, 27–38 (1996). (Aurelian Gheondea) **98f:15016** 15A48 (15A23, 47B50)

Dallal, Ahmad S. *see* **Ṣadr al-Sharī'a, 98i:01006**

Dalla Mora, Manuela (*with* Germani, Alfredo; Manes, Costanzo) A state observer for nonlinear dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4485–4496. (*see* **98i:00032**) 93B07 (93C10)

Dalla Valle, A. (*with* Azzalini, Adelchi) The multivariate skew-normal distribution. (English summary) *Biometrika* **83** (1996), *no.* 4, 715–726. (Yasunori Fujikoshi) **98m:62160** 62H05

Dalla Volta, Francesca (*with* Gavioli, Norberto) On the admissibility of some linear and projective groups in odd characteristic. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 245–254. (Oliver H. King) **98i:20050** 20G40

Dalley, S. (*with* Antonuccio, Francesco; Brodsky, Stanley J.) Light-cone wavefunctions at small x. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 104–110. 81T13

Dallwig, S. (*with* Neumaier, Arnold; Schichl, H.) GLOPT—a program for constrained global optimization. (English summary) *Developments in global optimization* (*Szeged*, 1995), 19–36, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C26 (65K05)

Dal Maso, Gianni (*with* Buttazzo, Giuseppe; Garroni, Adriana; Malusa, Annalisa) On the relaxed formulation of some shape optimization problems. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 1–24. (Francesco Ferro) **98e:49095** 49Q10 (49J45)

— (*with* Murat, François) Asymptotic behaviour and correctors for Dirichlet problems in perforated domains with homogeneous monotone operators. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 239–290. (Alexander A. Pankov) **98k:35012** 35B27 (35J60)

— (*with* Ambrosio, Luigi; Coscia, Alessandra) Fine properties of functions with bounded deformation. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 201–238. (Erik J. Balder) **98m:49058** 49Q20 (26B30, 73G20)

— (*with* Braides, Andréa) Non-local approximation of the Mumford-Shah functional. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 293–322. (Sisto Baldo) **98c:49080** 49Q20 (49J45, 49M30)

— (*with* Garroni, Adriana; Skrypnik, Igor'V.) A capacitary method for the asymptotic analysis of Dirichlet problems for monotone operators. (English summary) *J. Anal. Math.* **71** (1997), 263–313. (Bernhard Kawohl) **98f:35045** 35J60 (31C45, 35B27)

Dalmasso, Robert Positive solutions of singular boundary value problems. *Nonlinear Anal.* **27** (1996), *no.* 6, 645–652. (John W. Lee) **98i:34036** 34B15 (47N20)

— Solutions of second order homogeneous Dirichlet systems. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 611–630. (John W. Lee) **98k:34028** 34B15 (47N20)

Dalmazi, D. (*with* Buffon, L. O.; Zadra, A.) Classical and quantum $N = 1$ super W_∞-algebras. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 29, 2339–2349. (Josep Herrero) **98a:81060** 81R10 (17B65, 17B68, 17B81)

— (*with* Buffon, L. O.; Zadra, A.) Higher spin constraints and the super $(W_{\infty/2} \oplus W_{(1+\infty)/2})$ algebra in the super eigenvalue model. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 321–330. (Igor Polyubin) **98h:81040** 81R10

— (*with* de Souza Dutra, A.) A simple action for a free fractional spin particle. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 315–322. (Summary) **98j:81190** 81S30

dahan Dalmedico, Amy *see* **Dahan Dalmedico, Amy**

D'Almeida, A. *see* **d'Almeida, A.**

D'Almeida, Filomena D. *see* **d'Almeida, Filomena D.**

Dalrymple, Mary (*with* Lamping, John; Pereira, Fernando; Saraswat, Vijay) Quantifiers, anaphora, and intensionality. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 3, 219–273. (B. H. Mayoh) **98g:68136** 68S05 (03B60, 03B65)

grobbelaar-van Dalsen, Marié *see* **Grobbelaar-van Dalsen, Marié**

christensen-Dalsgaard, J. *see* **Christensen-Dalsgaard, J.**

Dalsmo, Morten (*with* Egeland, Olav) State feedback $\mathscr{H}_\infty$-suboptimal control of a rigid spacecraft. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1186–1189. 93C95 (93B36)

Da Luz, M. G. E. *see* **da Luz, M. G. E.**

Dalvit, Diego A. R. (*with* Mazzitelli, Francisco D.) Geodesics, gravitons, and the gauge-fixing problem. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7779–7787. (Summary) **98i:83029** 83C45

ten Dam, A. A. (*with* Dwarshuis, K. F.; Willems, Jan C.) The contact problem for linear continuous-time dynamical systems: a geometric approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 458–472. (Zheng Zhi Han) **98e:93027** 93B27 (34H05, 70F99)

van Dam, Edwin R. (*with* Haemers, Willem H.) A characterization of distance-regular graphs with diameter three. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 299–303. (Dmitri Fon-Der-Flaass) **98d:05152** 05E30 (05C12)

— (*with* Haemers, Willem H.) Graphs with constant μ and $\overline{\mu}$. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 293–307. (Robert Beezer) **98j:05112** 05C75 (05C50, 05E30)

van Dam, H. (*with* Ng, Y. Jack) Limitation to quantum measurements of space-time distances. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 579–584, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P15

van Dam, Peter *see* **Sierksma, Gerard, 98d:90003**

Damanik, David Schrödinger operators with potentials generated by primitive substitutions: an invitation. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 45–56. (Nariyuki Minami) **98i:82032** 82B44 (47B39, 47N50, 81Q10)

Damaren, C. J. (*with* Marquez, H. J.) Analysis and synthesis of strictly positive real transfer functions. (English summary) *J. Franklin Inst. B* **333** (1996), *no.* 2, 245–256. (Summary) **98c:93056** 93C05 (93C80)

Damas, Luis (*with* Broda, Sabine) A new translation algorithm from lambda calculus into combinatory logic. (English summary) *Progress in artificial intelligence* (*Funchal*, 1995), 359–370, *Lecture Notes in Comput. Sci.*, 990, *Springer, Berlin*, 1995. (Summary) **98g:03040** 03B40 (68S05, 68T30)

— (*with* Broda, Sabine) On combinatory complete sets of proper combinators. (English summary) *J. Funct. Programming* **7** (1997), *no.* 6, 593–612. (Summary) **98k:03034** 03B40

— (*with* Broda, Sabine) Compact bracket abstraction in combinatory logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 729–740. (Henri Volken) **98m:03027** 03B40

Damaschke, Peter An optimal parallel algorithm for digital curve segmentation using Hough polygons and monotone function search. (English summary) *Algorithms—ESA '95* (*Corfu*), 570–581, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68T10 (68U10)

— The algorithmic complexity of chemical threshold testing. (English summary) *Algorithms and complexity* (*Rome*, 1997), 205–216, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98j:68049** 68Q25

— An optimal parallel algorithm for digital curve segmentation. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 225–236. (Evangelos Kranakis) **98d:68086** 68Q22

Damásio, Carlos Viegas (*with* Pereira, Luis Moniz) Abduction over 3-valued extended logic programs. *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 29–42, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (03B50, 03B70, 68Q55)

— (*with* Pereira, Luis Moniz) Default negated conclusions: why not? (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 103–117, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17 (68Q55)

Damaskinskiĭ, E. V. (*with* Kulish, Petr P.) Irreducible representations of deformed oscillator algebra and q-special functions. (English summary) IWCQIS '96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 153–158. (Summary) **98c:81095** 81R50 (17B37, 33D80)

Damberg, Olof (*with* Migdalas, Athanasios) Distributed disaggregate simplicial decomposition—a parallel algorithm for traffic assignment. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 172–193, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C27)

D'Ambra, Pasqua Numerical simulation of polyhedral crystal growth based on a mathematical model arising from non-local thermomechanics. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 2, 97–114. (Summary) **98d:80008** 80A22 (80–08)

Dambrine, M. (*with* Goubet-Bartholoméüs, A.; Richard, Jean-Pierre) Stability of perturbed systems with time-varying delays. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 155–163. (L. A. V. Carvalho) **98h:34132** 34K20 (93D05)

D'Ambrogio, E. Kinetic approach to stochastic systems at the example of a dissipative nonlinear oscillator. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 177–184. (Constantin Syros) **98h:82048** 82C31 (70L05)

D'Ambrosia, Barbara K. (*with* Anderson, Frank W.) Square-free algebras and their automorphism groups. (English summary) *Comm. Algebra* **24** (1996), *no.* 10, 3163–3191. (Sverre O. Smalø) **98a:16027** 16P10 (16S35, 16W20)

D'Ambrosio, Ubiratan The future of history: some methodological preoccupations. (Portuguese) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 47–54, *Edit. UNESP, São Paulo*, 199?. (*see* **98d:00018**) 01A67 (00A35)

— Ethnomathematics and its place in the history and pedagogy of mathematics [For the Learning of Math. **5** (1985), no. 1, 41–48]. *Ethnomathematics*, 13–24, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A07

— *see also* **Ethnomathematics, 98b:01005**

Damek, Ewa Fundamental solutions of differential operators on homogeneous manifolds of negative curvature and related Riesz transforms. *Colloq. Math.* **73** (1997), *no.* 2, 229–249. (A. H. Dooley) **98f:22013** 22E30 (31B25, 35A08, 43A80, 53C30)

— (*with* Hulanicki, Andrzej; Zienkiewicz, Jacek) Estimates for the Poisson kernels and their derivatives on rank one NA groups. (English summary) *Studia Math.* **126** (1997), *no.* 2, 115–148. (Detlef Horst Müller) **98h:22007** 22E25 (31B25, 43A85)

Damelin, S. B. Marchaud inequalities for a class of Erdős weights. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 169–175, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:41012** 41A17 (41A10)

D'Amelio, Carlo An algebraic-logical algorithm. *Metalogicon* **1** (1988), *no.* 1, 3–17. 03A05 (03B60)

Damgaard, Poul H. (*with* Alfaro, Jorge) Symmetries and the antibracket. (English summary) *Nuclear Phys. B* **455** (1995), *no.* 1-2, 409–439. (Summary) **98a:81236** 81T70

— (*with* Bering, Klaus; Alfaro, Jorge) Algebra of higher antibrackets. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 459–503. (Liviu Tătar) **98a:81239** 81T70 (17B81)

— (*with* Batalin, I. A.; Bering, Klaus) Gauge independence of the Lagrangian path integral in a higher-order formalism. (English summary) *Phys. Lett. B* **389** (1996), *no.* 4, 673–676. (Summary) **98j:81344** 81T70 (81S40, 81T13)

— (*with* Haagensen, Peter E.) Constraints on beta functions from duality. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4681–4686. 82B28 (82B20)

— (*with* Alfaro, Jorge; Bering, Klaus) BRST formulation of partition function constraints. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 15, 1119–1126. (Ion V. Vancea) **98c:81220** 81T70

— (*with* Akemann, Gernot; Magnea, U.; Nishigaki, Shinsuke M.) Universality of random matrices in the microscopic limit and the Dirac operator spectrum. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 721–738. (Jacobus Verbaarschot) **98d:82027** 82B44 (15A52, 33C45, 33C90)

Damgård, Ivan B. (*with* Cramer, Ronald) Secure signature schemes based on interactive protocols. (English summary) *Advances in cryptology—CRYPTO '95 (Santa Barbara, CA, 1995)*, 297–310, *Lecture Notes in Comput. Sci., 963, Springer, Berlin*, 1995. (Summary) **98c:94014** 94A60

— (*with* Cramer, Ronald) New generation of secure and practical RSA-based signatures. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 173–185, *Lecture Notes in Comput. Sci., 1109, Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

— (*with* Pedersen, Torben P.; Pfitzmann, Birgit) On the existence of statistically hiding bit commitment schemes and fail-stop signatures. (English summary) *J. Cryptology* **10** (1997), *no.* 3, 163–194. (Luis Hernández Encinas) **98e:94016** 94A60 (68P25)

— (*with* Pedersen, Torben P.; Pfitzmann, Birgit) Statistical secrecy and multibit commitments. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1143–1151. (Summary) **98m:94033** 94A60

Dami, Laurent Labelled reductions, runtime errors, and operational subsumption. *Automata, languages and programming (Bologna, 1997)*, 782–793, *Lecture Notes in Comput. Sci., 1256, Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q55 (68N15)

— A lambda-calculus for dynamic binding. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 201–231. (Summary) **98m:68024** 68N15

Damian, Ioan On the action principle in generalized mechanics. (Romanian summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 119–125. 70H30

Damiani, Ferruccio (*with* Coppo, Mario; Giannini, Paola) On strictness and totality. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 138–164, *Lecture Notes in Comput. Sci., 1281, Springer, Berlin*, 1997. (Summary) **98k:68030** 68N15 (03B70)

— (*with* Giannini, Paola) An inference algorithm for strictness. (English summary) *Typed lambda calculi and applications (Nancy, 1997)*, 129–146, *Lecture Notes in Comput. Sci., 1210, Springer, Berlin*, 1997. (Summary) **98g:68016** 68N15 (68N20)

Damiani, Ilaria The highest coefficient of $\det H_q$ and the center of the specialization at odd roots of unity for untwisted affine quantum algebras. *J. Algebra* **186** (1996), *no.* 3, 736–780. (Simón Codriansky) **98b:17012** 17B37 (16W30)

Damianou, Pantelis A. Lax pairs, symmetries and recursion operators for Toda lattices. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 443–453. (Carlo Morosi) **98m:58051** 58F07 (35Q58, 70H05)

D'Amico, M. (*with* Premuda, F.) FP_N-B_N solution and single integral formulation of the BFP equation for neutral and charged particles in ICF reactors. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 6, 679–704. 82D75

Damisch, Hubert Desargues et la "métaphysique" de la perspective. [Desargues and the "metaphysics" of perspective] *Desargues en son temps*, 11–22, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45

Damjanić, Frano B. (*with* Brank, Boštjan; Briseghella, Lamberto; Tonello, Nicola) On non-linear dynamics of shells: implementation of energy-momentum conserving algorithm for a finite rotation shell model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 409–442. 73K15 (73V05)

Damjanović, Botko Functional relations between analytic functions in multiply connected regions. (English summary) *Filomat No.* 10 (1996), 143–147. (Summary) **98c:30050** 30E25

— Boundary value problem with shift for two simple connected regions. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 69–74. (Summary) **98g:30067** 30E25 (45E05)

— Boundary value problem with shift for two simply connected regions. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 89–92. 30E25 (45E05)

Damlakhi, Moustafa K. Regularity of the solutions of some hypoelliptic operators. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 133–137. (Summary) **98i:35027** 35H05 (35B65, 35E20)

Damlamian, Alain *see* **Homogenization and applications to material sciences, 98d:35002**

Damle, Rajendra (*with* Rao, Vittal) Real-time adaptive control of nonlinear smart structural systems using neural networks. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 34–44, *Proc. SPIE, 3039, SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C40 (93C83)

Damm, Carsten (*with* Holzer, Markus) Automata that take advice. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 149–158, *Lecture Notes in Comput. Sci., 969, Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q68 (68Q15, 68Q45)

— (*with* Jukna, Stasys; Sgall, Jiří) Some bounds on multiparty communication complexity of pointer jumping. (English summary) *STACS 96 (Grenoble, 1996)*, 643–654, *Lecture Notes in Comput. Sci., 1046, Springer, Berlin*, 1996. (Summary) **98f:68122** 68Q25 (68Q10, 68Q15)

— (*with* Holzer, Markus) Inductive counting for width-restricted branching programs. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 91–99. (Christoph Meinel) **98c:68071** 68Q15 (68Q05)

— (*with* Holzer, Markus; Rossmanith, Peter) Expressing uniformity via oracles. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 4, 355–366. (Gerhard Lischke) **98i:68100** 68Q15 (03D15)

van Damme, Eric (*with* Hurkens, Sjaak) Games with imperfectly observable commitment. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 282–308. (Summary) **98k:90147** 90D10 (90D35)

van Damme, Ruud (*with* Alboul, Lyuba) Polyhedral metrics in surface reconstruction. (English summary) *The mathematics of surfaces, VI (Uxbridge, 1994)*, 171–200, *Inst. Math. Appl. Conf. Ser. New Ser., 58, Oxford Univ. Press, New York*, 1996. (Wolfgang Kühnel) **98a:65016** 65D17 (52B55, 68U05)

Damnjanović, M. (*with* Milošević, I.; Stojković, D.) Casimir operators and group projectors. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7983–7991. (Eric Y. Leung) **98c:81076** 81R05 (22E70)

Damnjanovic, Zlatan Elementary realizability. (English summary) *J. Philos. Logic* **26** (1997), *no.* 3, 311–339. (Rudolf J. Taschner) **98j:03088** 03F60 (03D20)

Damon, James N. Singular Milnor fibers and higher multiplicities. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3651–3656. (Richard Randell) **98f:32040** 32S55 (14B05, 14C20, 52B30)

— Singular Milnor fibers and higher multiplicities for nonisolated complete intersections. *Singularities and complex geometry (Beijing, 1994)*, 28–53, *AMS/IP Stud. Adv. Math., 5, Amer. Math. Soc., Providence, RI*, 1997. (Aleksandr G. Aleksandrov) **98k:32052** 32S55 (32S25, 32S30)

D'Amore, Dario (*with* Brambilla, Angelo) A control-based approach to the solution of nonlinear algebraic equations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 366–369. (Summary) **98a:65072** 65H10

D'Amore, Fabrizio *see* **d'Amore, Fabrizio**

D'Amorim Santa-Cruz, Sérgio Twistor geometry for hyper-Kähler metrics on complex adjoint orbits. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 4, 361–377. (Massimiliano Pontecorvo) **98k:53060** 53C25 (32L25, 53C56)

Da Mota, L. A. C. P. *see* **da Mota, L. A. C. P.**

Damour, Thibault Gravitation and experiment. *Gravitation et quantifications (Les Houches, 1992)*, 1–61, *North-Holland, Amsterdam*, 1995. (Introduction) **98e:83008** 83B05 (81V17)

— (*with* Connes, Alain; Fayet, Pierre) Aspherical gravitational monopoles. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 391–431. (Bernd J. Schroers) **98e:83091** 83C99 (81T99)

— (*with* Vilenkin, Alexander) Cosmic strings and the string dilaton. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 12, 2288–2291. (Summary) **98a:83130** 83F05 (81V17, 83E30)

— (*with* Mukhanov, V. F.) Inflation without slow roll. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3440–3443. (Summary) **98m:83076** 83F05

Damyanov, Bl. P. A note on the sheaves of distributions. (English summary) *Indian J. Math.* **38** (1996), *no.* 1, 91–95 (1997). (Summary) **98h:46037** 46F05 (46M20)

Dan, Nicusor La hauteur des quadriques. (English and French summaries) [The height of quadrics] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1323–1326. (Willem Veys) **98e:11079** 11G35 (11M41)

Dan, Wakako On the low-frequency asymptotic expansion for some second-order elliptic systems in a two-dimensional exterior domain. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 13, 1073–1090. (Sergey Nikolaevich Alekseenko) **98c:35020** 35C20 (35B40, 35J55, 35P99)

— Low-frequency asymptotic expansion for second order system in a two-dimensional exterior domain. *Nonlinear waves (Sapporo, 1995)*, 25–30, *GAKUTO Internat. Ser. Math. Sci. Appl., 10, Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35C20 (35G05)

Dana, Itzhack (*with* Eisenberg, Eli; Shnerb, N.) Solvable model for dynamical localization near quantum anti-resonance. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 453–459, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q99

— (*with* Eisenberg, Eli) Limited sensitivity to analyticity: a manifestation of quantum chaos. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 153–170. (Summary) **98f:81075** 81Q50

Dana, J. C. *see* **Dana Jiménez, Juan C.**

Dana, Rose-Anne (*with* Le Van, Cuong; Magnien, François) General equilibrium in asset markets with or without short-selling. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 567–588. (Summary) **98b:90015** 90A09 (90A60)

Dana Jiménez, Juan C. (*with* Grima, C. I.; Márquez, Alberto) Convex hull in nonflat surfaces. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 251–263, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 52B55 (68U05)

— (*with* Cobos, F. J.; Grima, C. I.; Márquez, Alberto) Width of a convex set in the sphere. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 265–275, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 52B55 (68U05)

— (*with* Cobos, F. J.; Grima, C. I.; Márquez, Alberto) Diameter of a set in a cylinder. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 277–286, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

Danao, R. A. On the parametric linear complementarity problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 445–454. (K. G. Murty) **98k:90122** 90C33 (90C31)

— A note on E'-matrices. (English summary) *Linear Algebra Appl.* **259** (1997), 299–305. (Summary) **98c:15069** 15A57

Dancer, Andrew S. (*with* Swann, Andrew) Hyper-Kähler metrics associated to compact Lie groups. *Math. Proc. Cambridge Philos. Soc.* **120** (1996), *no.* 1, 61–69. (Introduction) **98a:53065** 53C25 (57S15, 58F05)

— (*with* Swann, Andrew) The geometry of singular quaternionic Kähler quotients. (English summary) *Internat. J. Math.* **8** (1997), *no.* 5, 595–610. (Henrik Pedersen) **98m:53062** 53C25 (57S25)

— (*with* Swann, Andrew) Hyper-Kähler metrics of cohomogeneity one. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 3, 218–230. (María Laura Barberis) **98a:53066** 53C25 (22E60, 57S25)

— (*with* Szöke, Róbert) Symmetric spaces, adapted complex structures and hyper-Kähler structures. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 189, 27–38. (María Laura Barberis) **98e:53083** 53C35 (53C25, 53C55)

Dancer, E. N. (*with* Daners, Daniel) Domain perturbation for elliptic equations subject to Robin boundary conditions. (English summary) *J. Differential Equations* **138** (1997), *no.* 1, 86–132. (Serge Nicaise) **98e:35017** 35B20 (35B25, 35J60)

— (*with* Du, Yihong) A note on multiple solutions of some semilinear elliptic problems. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 626–640. (Xin Kang Guo) **98g:35075** 35J65 (35B32, 58E05)

— (*with* Wei, Juncheng) On the profile of solutions with two sharp layers to a singularly perturbed semilinear Dirichlet problem. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 691–701. (Xi Ping Zhu) **98i:35012** 35B25 (35J65)

— Some remarks on a boundedness assumption for monotone dynamical systems. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 801–807. (Hal Leslie Smith) **98e:47085** 47H07 (47H20)

Danchenko, V. I. Some integral estimates for derivatives of rational functions on sets with bounded density. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 33–52; *translation in Sb. Math.* **187** (1996), *no.* 10, 1443–1463. (Guillermo López Lagomasino) **98c:30046** 30E10 (41A20)

Danchev, D. M. (*with* Brankov, I. G.; Amin, M. E.) New surface critical exponents in the spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1387–1402. (Summary) **98f:82018** 82B20 (82B26, 82B27)

— (*with* Brankov, I. G.; Amin, M. E.) Surface critical exponents for a three-dimensional modified spherical model. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5645–5656. 82B27 (82B24)

Danchev, Peter V. Normed unit groups and direct factor problem for commutative modular group algebras. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 161–173. (Victor Bovdi) **98m:16038** 16U60 (20C07)

— Torsion completeness of Sylow p-groups in modular group rings. *Acta Math. Hungar.* **75** (1997), *no.* 4, 317–322. (William Ullery) **98b:16029** 16U60 (20C07)

Danchev, Stefan S. (*with* Brimkov, Valentin E.; Leoncini, Mauro) On the algebraic complexity of certain integer linear programming problems. (English summary) *Theoretical computer science* (*Ravello*, 1995), 497–511, *World Sci. Publishing, River Edge, NJ*, 1996. (Nikolay N. Ivanov) **98e:90218** 90C60 (68Q25, 90C10)

— (*with* Brimkov, Valentin E.) Real data—integer solution problems within the Blum-Shub-Smale computational model. (English summary) *J. Complexity* **13** (1997), *no.* 2, 279–300. (D. Bini) **98m:68114** 68Q25

— (*with* Atanassov, Krassimir Todorov) A modification of A. Mullin's inequality. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 58–60. 11A25

Danchin, Raphaël Évolution temporelle d'une poche de tourbillon singulière. (English summary) [Temporal evolution of a singular vortex patch] *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 685–721. (Hamid Bellout) **98g:35158** 35Q30 (35K55, 76C05)

— Poches de tourbillon visqueuses. (English and French summaries) [Viscous vortex patches] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 7, 609–647. (Jean-Marc Delort) **98g:76020** 76D05 (35K55, 35Q30, 35S50)

Dančík, Vlado Common subsequences and supersequences and their expected length. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 55–63, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98e:68100** 68Q25

— (*with* Agarwala, Richa; Batzoglou, Serafim; Decatur, Scott E.; Farach-Colton, Martin; Hannenhalli, Sridhar; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms* (*New Orleans, LA*, 1997), 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

D'Ancona, Piero (*with* Spagnolo, Sergio) The Cauchy problem for weakly parabolic systems. *Math. Ann.* **309** (1997), *no.* 2, 307–330. (Mikhail P. Vishnevskii) **98g:35119** 35K65 (35K45, 35K55)

— (*with* Reissig, Michael) New trends in the theory of nonlinear weakly hyperbolic equations of second order. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2507–2515. (*see* **98i:00030**) 34Lxx

Dandawate, Amod V. (*with* Sadler, Brian M.) Nonparametric estimation of the cyclic cross spectrum. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 351–358. 62M15

Dando, Andrew (*with* Blackaby, Nicholas D.; Hall, Philip[2]) The nonlinear evolution of inviscid Görtler vortices in three-dimensional boundary layers. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 975–1016. (James P. Denier) **98d:76068** 76E30 (76D10)

Dando, Owen (*with* Gregory, Ruth) Global monopoles in dilaton gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 985–995. (Summary) **98m:81211** 81V17 (83C99)

D'Andrea, Anna Bruna *see* **d'Andrea, Anna Bruna**

D'Andrea, Raffaello $\mathscr{H}_\infty$ optimal interconnections. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 313–322. (Summary) **98k:93032** 93B36 (93A30)

Dane, Arif On rack and rack species. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **18** (1995), *no.* 1, 55–65. (Roger Fenn) **98b:57025** 57M99

Dáné, Károly (*with* Ignát, Csaba) On the open questions of P. Erdős and M. Bencze (OQ.14. and 27.). *Octogon Math. Mag.* **6** (1998), *no.* 1, 73–77. 51M04

Daněček, Josef On $\mathscr{L}^{2,n}_{\mathrm{loc}}$-regularity for the gradient of a weak solution to nonlinear elliptic systems. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 523–536. (Ricardo Sa Earp) **98d:35054** 35J60 (35D10)

Daners, Daniel Periodic-parabolic eigenvalue problems with indefinite weight functions. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 5, 388–397. (Ioannis G. Stratis) **98a:35006** 35B20 (35K57, 35P99, 47N20)

— (*with* Dancer, E. N.) Domain perturbation for elliptic equations subject to Robin boundary conditions. (English summary) *J. Differential Equations* **138** (1997), *no.* 1, 86–132. (Serge Nicaise) **98e:35017** 35B20 (35B25, 35J60)

Danescu, Alexandru The number of elastic moduli for anisotropic polynomial constitutive equations. (English summary) *Mech. Res. Comm.* **24** (1997), *no.* 3, 289–301. (V. K. Arya) **98h:73006** 73B05 (73B10, 73B40)

— (*with* Tarantino, Angelo Marcello) Anisotropic polynomial constitutive equations for electroelastic crystals. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 857–873. (Summary) **98j:73004** 73B05 (73C99, 73R05)

Daneshgar, Amir Residuated semigroups and morphological aspects of translation invariant systems. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 69–81. (Summary) **98d:94003** 94A12 (04A72, 20M99, 94D05)

Dăneţ, Nicolae The modulus of some summing operators. (English summary) *An. Univ. Bucureşti Mat.* **45** (1996), 11–16. (G. J. O. Jameson) **98m:47055** 47B65 (46B40)

Danet, Rodica Mihaela (*with* Beg, Ismat; Popovici, Ioan Mircea) Decomposition of the space of regular operators. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 281–284. (W. A. J. Luxemburg) **98k:47071** 47B60 (46B28)

Dang, Chuangyin A simple triangulation of $\mathbf{R}^n$ with fewer simplices for solving nonsmooth convex programming. (English summary) *Recent advances in nonsmooth optimization*, 24–35, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:90046** 90C25 (90C08)

— (*with* Talman, A. J. J.) A better triangulation for Wright's 2^n-ray algorithm. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 417–429. (Summary) **98d:65063** 65H05 (65D05)

Dang, Giu Do (*with* Kusnezov, Dimitri; Bulgac, Aurel) Turbulent-like diffusion in complex quantum systems. (English summary) *Phys. Lett. A* **234** (1997), *no.* 2, 103–107. (Summary) **98g:82030** 82C10

Dang, Hai (*with* Manásevich, R. F.; Schmitt, Klaus) Positive radial solutions of some nonlinear partial differential equations. (English summary) *Math. Nachr.* **186** (1997), 101–113. (Miguel Ramos) **98h:35073** 35J65 (34B15, 47H11, 47H15, 47N20)

Dang, Kai Qian (*with* Yang, Dong Mei) A lower bound for the longest cycles in 4-connected claw-free graphs. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 2, 201–204. (Summary) **98c:05101** 05C38 (05C35)

Dang, Xinyi (*with* Shang, Li Jun; Zhang, Di[1]) On periodic solution of the higher order nonautonomous systems. (Chinese. English and Chinese summaries) *J. Biomath.* **11** (1996), *no.* 2, 17–25. (Xue Min Li) **98a:34042** 34C25

— (*with* Li, Lin[1]) A note on boundedness of polynomial differential systems in the plane. (English and Chinese summaries) *J. Northwest Univ.* **26** (1996), *no.* 5, 389–394. (Noel G. Lloyd) **98c:34047** 34C05 (34C11)

Dang, Yao Guo (*with* Liu, Si Feng) Drifting in LPGP (linear programming with gray parameters) and the degree of satisfaction of a positioning solution. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 28–31. 90C05 (04A72)

Đặng Đình Áng (*with* Schmitt, Klaus; Le, Vy Khoi) A multidimensional analogue of the Denjoy-Perron-Henstock-Kurzweil integral. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 355–371. (Š. Schwabik) **98e:26013** 26B15 (26A39, 28A75)

— (*with* Pham Ngoc Dinh, A.; Dinh Ngoc Thanh) Regularization of a two-dimensional two-phase inverse Stefan problem. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 607–619. (Barbara E. E. Stoth) **98d:35241** 35R35 (65R30)

— (*with* Pham Ngoc Dinh, A.; Dinh Ngoc Thanh) A bidimensional inverse Stefan problem: identification of boundary value. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 227–240. (Galina I. Bizhanova) **98g:35221** 35R35 (35K05, 45E10, 65M30, 80A22)

— (*with* Gorenflo, Rudolf; Le, Vy Khoi) Regularization of a nonlinear integral equation of gravimetry. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 101–116. (Summary) **98c:45015** 45L05 (45G10, 47H15, 65R30)

— (*with* Ikehata, Masaru; Dang Duc Trong; Yamamoto, Masahiro) Unique continuation for a stationary isotropic Lamé system with variable coefficients. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 371–385. (Summary) **98j:35049** 35J45 (35B60, 73C02)

— *see also* **Nguyen Huu Anh et al., 98h:01031**

Dang Dinh Hai (*with* Schmitt, Klaus; Shivaji, Ratnasingham) Positive solutions of quasilinear boundary value problems. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 672–686. (Rafael Ortega) **98m:34034** 34B15

Dang Duc Trong (*with* Đặng Đình Áng; Ikehata, Masaru; Yamamoto, Masahiro) Unique continuation for a stationary isotropic Lamé system with variable coefficients. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 371–385. (Summary) **98j:35049** 35J45 (35B60, 73C02)

Dangelmayr, G. (*with* Hettel, J.; Knobloch, Edgar) Parity-breaking bifurcation in inhomogeneous systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1093–1114. (Philip J. Aston) **98h:58125** 58F14 (34C23, 34G20, 35B32)

D'Angelo, John P. (*with* Catlin, David W.) Positivity conditions for bihomogeneous polynomials. *Math. Res. Lett.* **4** (1997), *no.* 4, 555–567. (Der-Chen E. Chang) **98e:32023** 32F20 (32H10)

Dang Hung Thang On Ito stochastic integral with respect to vector stable random measures. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 2, 171–181. (Sheng Wu He) **98e:60082** 60H05

Dang-Tran, Khoa (*with* Lê, Thiên Hiệp; Troff, Bruno; Sagaut, Pierre; Ta Phuoc Loc) PEGASE: a Navier-Stokes solver for direct numerical simulation of incompressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 9, 833–861. (Summary) **98g:76055a** 76M10 (76M20)

— (*with* Lê, Thiên Hiệp; Troff, Bruno; Sagaut, Pierre; Ta Phuoc Loc) Erratum: "PEGASE: a Navier-Stokes solver for direct numerical simulation of incompressible flows". *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 3, *loose errata.* (Editors) **98g:76055b** 76M10 (76M20)

Dang Van Hung (*with* Zhou, Chao Chen; Xiaoshan, Li) A duration calculus with infinite intervals. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 16–41, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (Summary) **98e:68173** 68Q60 (68Q10)

— (*with* Ji, Wang) On the design of hybrid control systems using automata models. (English summary) *Foundations of software technology and theoretical computer science*

(*Hyderabad*, 1996), 156–167, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68Q60 (68Q68)

Dăng Vũ Giang (*with* Móricz, Ferenc) Hardy spaces on the plane and double Fourier transforms. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 487–505. (Elijah Liflyand) **98b:42037** 42B30 (46E30)

— (*with* Bagota, Mónika; Móricz, Ferenc) On the order of magnitude of Fourier transforms. *Acta Math. Hungar.* **75** (1997), *no.* 3, 227–243. (Elijah Liflyand) **98m:42005** 42A38 (42A24)

— (*with* Móricz, Ferenc) The Cesàro operator is bounded on the multi-parameter Hardy space $\mathscr{H}^1(T \times T)$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 155–174. (Aristomenis Siskakis) **98m:47040** 47B38 (42B30, 47D03)

tran-ngoc Danh *see* **Tran-ngoc Danh**

Danho, Emile Nonlinear distributions theory for jump conditions in a two-layer two-phase flow. (English summary) *Afrika Mat.* (3) **1** (1993), 95–114. (Samia Lyaghfouri-Challal) **98b:76073** 76T05

Dani, S. G. Flows on homogeneous spaces: a review. *Ergodic theory of $\mathbf{Z}^d$ actions* (*Warwick*, 1993–1994), 63–112, *London Math. Soc. Lecture Note Ser.*, 228, *Cambridge Univ. Press, Cambridge*, 1996. (Dave Witte) **98b:22023** 22E40

— (*with* Navada, K. Gowri) Harmonious orbits of linear transformations. (English summary) *Monatsh. Math.* **121** (1996), *no.* 3, 181–188. (Summary) **98f:43010** 43A46 (11R06)

— (*with* Shah, Riddhi) Collapsible probability measures and concentration functions on Lie groups. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 105–113. (Daniel Neuenschwander) **98e:60015** 60B15 (22E30, 43A05)

Daniel, J. P. (*with* Khellaf, A.; Chikouche, D.) Calculation of electric and magnetic energy stored in a rectangular patch. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 617–626. (Summary) **98f:78030** 78A50

Daniel, Muthiah (*with* Amuda, R.) Nonlinear dynamics of weak ferromagnetic spin chains. (English summary) *J. Phys. A* **28** (1995), *no.* 19, 5529–5537. (Rodolfo Cuerno) **98c:82045** 82C20 (35Q55, 82D40)

Daniel, Stephan On gaps between numbers that are sums of three cubes. *Mathematika* **44** (1997), *no.* 1, 1–13. (S. W. Graham) **98c:11105** 11P05 (11P55)

Daniel, W. J. T. The subcycled Newmark algorithm. (English summary) *Comput. Mech.* **20** (1997), *no.* 3, 272–281. 65M60 (65M06)

Daniele, Patrizia Duality theory for variational inequalities. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 257–267. (Giandomenico Mastroeni) **98a:49017** 49J40 (49N15, 90B10, 90C35)

Danielli, Donatella (*with* Capogna, Luca; Garofalo, Nicola) Subelliptic mollifiers and a basic pointwise estimate of Poincaré type. *Math. Z.* **226** (1997), *no.* 1, 147–154. (From the introduction) **98i:35025** 35H05

D'Aniello, C. (*with* Casolaro, F.; Giovine, M. P.) Asymptotic inequalities for $\lg \Gamma(x)$. *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 303–312. (Andrea Laforgia) **98c:33002** 33B15 (33C90, 78A60)

Daniels, R. D. An alternative approach to quantized fields in Rindler space. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 52–58. (Guido Cognola) **98i:81166** 81T20

Danielsson, Ulf H. (*with* Ferretti, Gabriele; Sundborg, Bo) D-particle dynamics and bound states. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 31, 5463–5477. (Daniel N. Kabat) **98a:81161** 81T30

— (*with* Ferretti, Gabriele) The heterotic life of the D-particle. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 25, 4581–4595. (Summary) **98j:81264** 81T30

— (*with* Ferretti, Gabriele; Kalkkinen, Jussi; Stjernberg, Pär) Supersymmetric gauge theories in five and six dimensions. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 265–270. (Summary) **98f:81319** 81T60

— (*with* Ferretti, Gabriele; Klebanov, Igor R.) Creation of fundamental strings by crossing Dirichlet branes. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1984–1987. 81T30

Danielyan, È. A. (*with* Tatalyan, K. R.) Monotone systems of functions of several variables. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **28** (1993), *no.* 5, 91–97 (1996). (S. K. Vodop′yanov) **98a:26014** 26B35

Danielyan, É. Kh. Theory of the isotropic scattering of radiation in a plane layer: feasibility of obtaining a complete analytical solution of the problem. (English summary) *Astrophysics* **37** (1994), *no.* 1, 79–88 (1995). (Summary) **98c:85002** 85A25 (33E30)

Daniilidis, A. (*with* Hadjisavvas, N.; Schaible, S.) Connectedness of the efficient set for three-objective quasiconcave maximization problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 517–524. (Phan Quốc Khánh) **98d:90098** 90C29 (90C31)

Danilenko, A. Yu. A variant of the multigrid method for the solution of gas-dynamic problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 621–629. (Summary) **98a:76059** 76M20 (65M55, 76N15)

Danilenko, V. A. (*with* Christenyuk, V. A.; Vladimirov, V. A.) On the modelling of the selforganization effects in relaxing medium. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 39–42. 82C35 (76E99, 76L05)

Danilin, A. R. (*with* Il′in, A. M.) Asymptotic behavior of the solution of the time-optimality problem for a linear system under perturbation of initial data. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 155–157. (G. A. Kurina) **98c:49056** 49K40 (49K15, 49N05)

Danilov, D. L. Principal components in time series forecast. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 1, 112–121. (Summary) **98d:62156** 62M10 (62H25)

— (*with* Ermakov, S. M.) Asymptotic complexity of the collision estimator for the solution of linear systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 515–523. (Summary) **98a:15005** 15A06

Danilov, L. I. Resolvent estimates and the spectrum of the Dirac operator with a periodic potential. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 3–22; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 349–365. (P. A. Mishnayevskiy) **98f:35112** 35P05 (35Q40, 47F05, 47N50, 81Q10)

Danilov, V. G. (*with* Maslov, V. P.; Volosov, K. A.) ★ Mathematical modelling of heat and mass transfer processes. (English summary) Translated from the 1987 Russian original by M. A. Shishkova and revised by the authors. With an appendix by S. A. Vakulenko. Mathematics and its Applications, 348. *Kluwer Academic Publishers Group, Dordrecht*, 1995. x+316 *pp. ISBN* 0-7923-3789-1 (B. A. Malomed (Zbl 839.35001)) **98a:35013** 35C20 (35K57, 35L70, 35Q99, 76D99, 80A20)

— (*with* Omel′yanov, G. A.; Radkevich, E. V.) Soliton type asymptotic solutions of the conserved phase field system. (English summary) *Portugal. Math.* **53** (1996), *no.* 4, 471–501. (Stanislaus Maier-Paape) **98g:35198** 35Q99 (35K60, 80A22)

— (*with* Omel′yanov, G. A.; Radkevich, E. V.) The problem of phase transition in a phase field system. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 6, 731–734. (Galina I. Bizhanova) **98d:35243** 35R35 (35K20, 80A22)

— (*with* Omel′yanov, G. A.) Propagation of singularities and related problems of solidification. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 143–150. (*see* **98k:00020**) 35R35 (35K99)

— (*with* Omel′yanov, G. A.; Radkevich, E. V.) "Stabilization" of the solution of a phase field system. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 247–267; *translation in Trans. Moscow Math. Soc.* **1997**, 219–237. (Jan Koroński) **98m:35230** 35R35 (35B25, 35K20, 80A22)

Danilov, V. I. *see* **Danilov, Vladimir Ivanovich**

Danilov, V. L. ★ Методы установления в прикладных обратных задачах потенциала гравитационной разведки и теории фигуры земли. (Russian. Russian summary) [Stabilization methods in applied inverse potential problems of gravitational prospecting and the theory of the Earth's shape] "*Nauka*", *Moscow*, 1996. 250 *pp. ISBN* 5-02-003648-X (Z. Nádeník) **98b:86013** 86A20 (86A30)

Danilov, V. Ya. (*with* Martynyuk, D. I.; Pan′kov, V. G.) The second N. N. Bogolyubov theorem for systems of difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 4, 464–475; *translation in Ukrainian Math. J.* **48** (1996), *no.* 4, 516–529 (1997). (Dumitru Acu) **98c:39002** 39A10 (39A12)

— (*with* Martynyuk, D. I.; Stanzhitskiĭ, A. N.) On periodic solutions of systems of differential equations with a random right-hand side. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 223–227; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 247–252. (Summary) **98g:34077** 34C25 (34C29, 34F05)

Danilov, Vladimir I. (*with* Koshevoĭ, G. A.; Sot-skov, Aleksandr I.) Equilibrium analysis of an economy with innovations. (English summary) *J. Math. Econom.* **27** (1997), *no.* 2, 195–228. (Summary) **98i:90020** 90A14 (90A53)

Danilov, Vladimir Ivanovich (*with* Zuev, L. B.) Plastic deformation viewed as evolution of an active medium. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 29, 3795–3805. (Summary) **98a:73044** 73E05 (73E70)

Danilov, Yu. M. (*with* Nikonova, N. V.) An implicit difference scheme for solving nonlinear equations of hydrodynamics. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 20–22; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 5, 17–19. (From the text) **98f:76052** 76M20 (65M06, 76N15)

Daniluk, Andrzej (*with* Stochel, Jan) Seminormal composition operators induced by affine transformations. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 377–404. (Barbara D. MacCluer) **98k:47052** 47B38 (47B20)

Dankelmann, Peter (*with* Swart, Henda C.; Oellermann, Ortrud R.) On the average Steiner distance of graphs with prescribed properties. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 91–103. (Ioan Tomescu) **98k:05058** 05C12 (05C35)

— Average distance and domination number. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 21–35. (Anthony E. Barkauskas) **98k:05087** 05C35

— (*with* Volkmann, Lutz) Degree sequence conditions for maximally edge-connected graphs and digraphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 27–34. (Arthur T. White) **98f:05103** 05C40

— (*with* Swart, Henda C.; Oellermann, Ortrud R.) On three conjectures of GRAFFITI. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 131–137. (Summary) **98i:05128** 05C70

Dankiewicz, Kazimierz On continuous solutions of a functional equation. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 2, 151–156. (Jianguo Si) **98j:39016** 39B52

Dankowicz, Harry Dynamical friction modeling. (English summary) *Contact mechanics, III* (*Madrid*, 1997), 227–236, *Comput. Mech., Southampton*, 1997. (*see* **98h:73001**) 70F99

— (*with* Elezgaray, Juan; Berkooz, Gal; Holmes, Philip J.; Myers, Mark) Local models and large scale statistics of the Kuramoto-Sivashinsky equation. (English summary) *Multiscale wavelet methods for partial differential equations*, 441–471, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98d:65124** 65M60

— Escape of particles orbiting asteroids in the presence of radiation pressure through separatrix splitting. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 63–85. (Josefina Casasayas) **98h:70013** 70F15 (70K99)

— (*with* Thylwe, Karl-Erik) Nonlinear phase-integral approximations of stationary waves in nonhomogeneous systems. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 697–710. (Peter N. Zhevandrov) **98b:34027** 34A45 (34B15, 34E20, 35Q99)

Danlyev, Kh. M. (*with* Kirichenko, Vladimir; Yaremenko, Yu. V.) On weakly prime Noetherian semiperfect rings with two-generated right ideals. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 12, 7–9 (1997). (H. H. Brungs) **98f:16016** 16N60 (16G20)

D'Anna, J. Wigner class random matrix ensemble correlations. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 306–309, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 82B41

D'Anna, Marco The canonical module of a one-dimensional reduced local ring. *Comm. Algebra* **25** (1997), *no.* 9, 2939–2965. (David E. Dobbs) **98h:13031** 13H10 (13J10, 14B05)

— Type sequences of numerical semigroups. *Semigroup Forum* **56** (1998), *no.* 1, 1–31. (Ralf Fröberg) **98k:20100** 20M14 (16S36)

Danner, Norman (*with* Moss, Lawrence S.) On the foundations of corecursion. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 231–257 (*electronic*). (Summary) **98k:03100** 03D70 (03E70)

Dannoura, Eisuke (*with* Sakurai, Kouichi) The performances of on-line algorithms for money-trading with brokerage. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 1, 1–10. 68Q25

Dannwerth, A. (*with* Plachky, Detlef) On the existence of UMVU estimators for Bernoulli experiments in the non-identically distributed case with applications to the randomized response method and the unrelated question model. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 426–432, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Rahul Mukerjee) **98i:62015** 62F10

Danos, Michael Ward-Takahashi identities and Noether's theorem in quantum field theory. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 995–1009. (Lewis H. Ryder) **98j:81350** 81T99

— Dissipation, entropy, chaos in quantum physics. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 1, 107–119. 82C10 (81Q50)

Danos, Vincent (*with* Herbelin, Hugo; Regnier, Laurent) Game semantics & abstract machines. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 394–405, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98h:68149** 68Q55 (68Q05)

— (*with* Joinet, Jean-Baptiste; Schellinx, Harold) Computational isomorphisms in classical logic (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03F07

— (*with* Regnier, Laurent) Reversible, irreversible and optimal λ-machines (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B40

— (*with* Pedicini, Marco; Regnier, Laurent) Directed virtual reductions. (English summary) *Computer science logic (Utrecht, 1996)*, 76–88, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (*see* **98k:03005**) 03B70

Danov, Krassimir D. (*with* Alleborn, Norbert; Raszillier, Hans; Durst, Franz) The stability of evaporating thin liquid films in the presence of surfactant. I. Lubrication approximation and linear analysis. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 131–143. 76E99 (76D08)

Dan'shin, A. Yu. Infinitesimal projective transformations in a tangent bundle of a general path space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 8–12; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 9, 6–10 (1998). (N. V. Gvozdovich) **98k:53019** 53B10

Dantsin, E. Ya. (*with* Voronkov, Andrei) Complexity of query answering in logic databases with complex values. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 56–66, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:68045** 68P15 (03B70, 03D15, 68Q25)

Dantzig, George B. (*with* Thapa, Mukund N.) ★ Linear programming. 1. (English summary) Introduction. With 1 CD-ROM for Windows. Springer Series in Operations Research. *Springer-Verlag, New York*, 1997. xxxviii+435 *pp. ISBN* 0-387-94833-3 (K. G. Murty) **98m:90081** 90C05 (90–02)

Danvy, Olivier (*with* Hatcliff, John) Thunks and the λ-calculus. (English summary) *J. Funct. Programming* **7** (1997), *no.* 3, 303–319. (Summary) **98i:68040** 68N15 (03B40)

— (*with* Hatcliff, John) A computational formalization for partial evaluation. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 507–541. (Summary) **98h:68027** 68N15

Dányi, Gábor On domain and range tree languages of superlinear deterministic top-down tree transformations. (English summary) *Acta Cybernet.* **12** (1996), *no.* 3, 261–277. (Kai Salomaa) **98d:68145** 68Q68 (68Q42, 68Q70)

— (*with* Csaba, B.) Server problems and regular languages. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 23–39. (Summary) **98f:68153** 68Q45 (68N25)

— (*with* Fülöp, Zoltán) Compositions with superlinear deterministic top-down tree transformations. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 57–85. (Summary) **98k:68118** 68Q68 (68N20)

Danylenko, V. A. *see* **Danilenko, V. A.**

Danzer, Ludwig (*with* Dolbilin, Nikolai P.) Delone graphs; some species and local rules. (English summary) *The mathematics of long-range aperiodic order (Waterloo, ON, 1995)*, 85–114, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (O. V. Shvartsman) **98g:52031** 52C22

Danziger, Peter Uniform restricted resolvable designs with $r = 3$. (English summary) *Ars Combin.* **46** (1997), 161–176. (Summary) **98d:05024** 05B05

nguyen van Dao *see* **Nguyen Van Dao**

Dão Quang Tuyên A minimal condition for stochastic approximation. (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 1-2, 119–126. (Pawel J. Szabłowski) **98e:62118** 62L20 (60F15)

el-Daou, M. K. *see* **El-Daou, M. K.**

Daoud, Daoud S. (*with* Subasi, D.) The preconditioning of explicit group-2 linear system with 5 and 9 block diagonal. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 311–324. (Summary) **98m:65073** 65F35 (65F50)

Daoud, M. (*with* Hassouni, Y.; Tahri, E. H.) Deformation of the exterior algebra $\Omega(M_n)$ and the Yang-Baxter equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1413–1421. (Dmitriĭ I. Gurevich) **98i:16026** 16S80 (81R50)

— (*with* Douari, J.; Hassouni, Y.) Quonic realization of the deformed Heisenberg-Weyl algebra. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3071–3077. 81R50

— (*with* Hassouni, Y.) A new realization of the fractional supersymmetry. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1033–1037. (Summary) **98g:81071** 81R50 (81Q60)

Daoutidis, Prodromos (*with* Christofides, Panagiotis D.) Compensation of measurable disturbances for two-time-scale nonlinear systems. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 11, 1553–1573. (Đorđan I. Slavov) **98a:93046** 93C70 (93D15)

— (*with* Christofides, Panagiotis D.) Finite-dimensional control of parabolic PDE systems using approximate inertial manifolds. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 398–420. (Werner Horn) **98m:93058** 93C20 (34G20, 35K57)

Đapić, N. (*with* Pilipović, Stevan) Colombeau's generalized functions on a manifold. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 77–91. (Introduction) **98k:46065** 46F05 (46F10)

D'Apice, Ciro (*with* De Maio, Umberto) A homogenization result for unbounded variational functionals. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 65–93. (Antonio Corbo Esposito) **98e:49029** 49J45 (73B27, 73V25)

Da Prato, Giuseppe (*with* Clément, Philippe) Some results on stochastic convolutions arising in Volterra equations perturbed by noise. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 147–153. (Summary) **98e:60106** 60H20 (45D05)

— Some results on elliptic and parabolic equations in Hilbert spaces. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 181–199. (A. V. Uglanov) **98g:35206** 35R15 (34G20, 35J99, 35K99, 47D06, 47N20)

— (*with* Debussche, Arnaud) Construction of stochastic inertial manifolds using backward integration. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 305–324. (Ya. I. Belopol'skiĭ) **98d:60121** 60H15 (34F05, 34G20, 35R60, 47H20, 47N20)

— Characterization of the domain of an elliptic operator of infinitely many variables in $L^2(\mu)$ spaces. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 101–105. (Igor Bock) **98m:35219** 35R15 (35R60, 47F05)

— (*with* Goldys, Beniamin; Zabczyk, Jerzy) Ornstein-Uhlenbeck semigroups in open sets of Hilbert spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 433–438. (Summary) **98c:60057** 60H10 (47D07, 47N30, 60J35)

— (*with* Clément, Philippe) White noise perturbation of the heat equation in materials with memory. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 441–460. (Michael A. Kouritzin) **98m:60096** 60H15 (35K05, 45K05, 73B30)

— Regularity results for Kolmogorov equations in $L^2(H,\mu)$ spaces and applications. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 448–457; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 494–505 (1998). (Vladimir I. Bogachev) **98m:60082** 60H07 (47D07, 60J60)

Da Providência, Constança *see* **da Providência, Constança**

Da Providência, João *see* **da Providência, João**

D'Apuzzo, Marco (*with* Maddalena, Lucia) A parallel algorithm for parametric cubic B-spline curves interpolation. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 201–219. (*see* **98g:65008**) 65D07 (65Y05)

— (*with* Lapegna, Marco; Murli, Almerico) Scalability and load balancing in adaptive algorithms for multidimensional integration. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1199–1210. 65D30 (65N30)

Daquila, R. Strongly annular solutions of Mahler's functional equation. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 1, 99–104. (Summary) **98c:30034** 30D05 (30D50)

Dar, Emanuel (*with* Amir, Amihood) An improved deterministic algorithm for generalized random sampling. (English summary) *Algorithms and complexity (Rome, 1997)*, 159–170, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98j:68045** 68Q25

Dar, K. H. (*with* Qadir, M. P.; Ahmad, B.) Medial BCI-algebras of order seven and eight. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 13–17. 06F35 (03G25)

— (*with* Qadir, M. P.; Ahmad, B.) Medial BCI-algebras of order six. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 19–26. 06F35 (03G25)

Dar, Sean On the isotropic constant of non-symmetric convex bodies. (English summary) *Israel J. Math.* **97** (1997), 151–156. (Keith Ball) **98a:52012** 52A40

Darafsheh, Mohammad Reza (*with* Ashrafi, A. R.) The character table of the certain automorphism group. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 91–93, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20C15

— Geometric characters of the general linear group. (English summary) *New frontiers in hyperstructures (Molise, 1995)*, 189–199, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Meinolf Geck) **98c:20025** 20C30 (20G40)

— On a permutation character of the group $GL_n(q)$. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 69–75. (Summary) **98m:20051** 20G05 (20C15, 20G40)

Daraiseh, Abdel-Ghani A. (*with* Baum, Carl W.) Exact performance analysis of linear block codes in frequency-hop spread spectrum communication systems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1993–1999. (Summary) **98g:94043** 94B35 (94A40)

Daras, Tryfon Large and moderate deviations for the empirical measures of an exchangeable sequence. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 91–100. (Summary) **98h:60032** 60F10 (60B12, 60G09)

Darblade, Gilles (*with* Baraille, Rémy; Le Roux, Alain-Yves; Carton, Xavier; Pinchon, Didier) Conditions limites non réfléchissantes pour un modèle de Saint-Venant bidimensionnel barotrope linéarisé. (English and French summaries) [Nonreflecting boundary conditions for a two-dimensional linearized barotropic shallow-water model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 485–490. (Summary) **98a:76086** 76U05 (76B15, 76M20, 86A05)

Darby-Dowman, Ken (*with* Little, James; Mitra, Gautam; Zaffalon, Marco) Constraint logic programming and integer programming approaches and their collaboration in solving an assignment scheduling problem. (English summary) *Constraints* **1** (1997), *no.* 3, 245–264. 68N17 (68T20, 90C10)

Darbyshire, Alan G. (*with* Juel, Anne; Mullin, Tom) The effect on noise of pitchfork and Hopf bifurcations. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2627–2647. (Summary) **98g:58125** 58F14 (34C23, 34F05)

Darden, Lindley *see* **PSA, 98k:00019**

Dardié, Jean-Michel (*with* Médina, Alberto) Algèbres de Lie kählériennes et double extension. (English summary) [Kähler Lie algebras and double extension] *J. Algebra* **185** (1996), *no.* 3, 774–795. (J. Dorfmeister) **98h:17034** 17B99

Darewych, J. W. (*with* Shapoval, D. V.; Simenog, I. V.; Sitenko, A. G.) Nonperturbative formulation of relativistic two-particle states in the scalar Yukawa model. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3908–3924. (Lewis H. Ryder) **98f:81174** 81T10

Dargelko, M. M. (*with* Gorin, V. V.; Zafiridi, A. G.) Minimax estimation of the parameters of motion from a sample of independent measurements of the coordinates of a system with bounded velocity and acceleration. (Russian. Russian summary) *Kibernet. i Vychisl. Tekhn. No.* 99 (1993), 65–72. (Summary) **98a:93077** 93E11 (93E35)

D'Argenio, Pedro R. (*with* Verhoef, Chris) A general conservative extension theorem in process algebras with inequalities. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 351–380. (Summary) **98b:68044** 68Q10 (68Q60)

Dari, Enzo A. (*with* Buscaglia, Gustavo C.; Zavattieri, Pablo D.) Mesh optimization: some results in 3D elasticity. (English summary) *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 1–16 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98j:73087** 73V05 (65N55, 73B30)

Darian, Bahman (*with* Künzle, H. P.) Einstein-Yang-Mills cosmology with Taub-type symmetry. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 211–216, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Paulo Moniz) **98d:83009** 83C15 (53C80, 81T13, 81T20, 81V17)

— (*with* Künzle, H. P.) Cosmological Einstein-Yang-Mills equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4696–4713. (Jürgen Tolksdorf) **98h:53042** 53C07 (53C80, 81T13, 83C20)

D'Ariano, G. Mauro Quantum estimation theory and optical detection. *Quantum optics and the spectroscopy of solids* (*Ankara*, 1995), 139–174, *Fund. Theories Phys.*, 83, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:81400**) 81V80 (81P99)

— Measuring quantum states. *Quantum optics and the spectroscopy of solids* (*Ankara*, 1995), 175–202, *Fund. Theories Phys.*, 83, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:81400**) 81P15

— (*with* Macchiavello, C.; Maccone, L.) Noise, errors and information in quantum amplification. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 29, 3385–3408. 81P99

— (*with* Sacchi, M. F.) Trace forms for the generalized Wigner functions. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 881–888. (Summary) **98i:81128** 81S30 (81P05, 82C31, 82C80)

— (*with* Sacchi, M. F.) Optical von Neumann measurement. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 325–330. (Summary) **98c:81019** 81P15 (81V80)

— (*with* Paris, Matteo G. A.) Added noise in homodyne measurement of field observables. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 49–57. (Summary) **98i:81292** 81V80 (81R30)

Dariescu, Aura (*with* Zet, Gheorghe; Dariescu, Ciprian) Exact solutions of Einstein's equations on $\mathbf{R} \times S^3$ with dynamical metrics. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 117–122. 83C15

Dariescu, Ciprian (*with* Dariescu, Marina-Aura) U(1) gauge invariant in $S^3 \times \mathbf{R}$ geometry. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 162–168. (A. K. Guts) **98c:53081** 53C80 (81T20)

— (*with* Gottlieb, Ioan) Up to the second order spin contributions of the electrostatic field: Reissner-Nordstrom solution representing U_4-spacetime. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 35–45. (Yu. N. Obukhov) **98k:83072** 83D05 (53C80)

— (*with* Gottlieb, Ioan) Tetradic formulation of the variational principle in U_4-theory and the complete set of the field equations. I. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 46–58. (Victor Tapia) **98h:83070a** 83D05 (53C80)

— (*with* Gottlieb, Ioan) Tetradic formulation of the variational principle in U_4-theory and the complete set of the field equations. II. (English summary) In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 59–65. (Victor Tapia) **98h:83070b** 83D05 (53C80)

— (*with* Zet, Gheorghe; Dariescu, Aura) Exact solutions of Einstein's equations on $\mathbf{R} \times S^3$ with dynamical metrics. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 117–122. 83C15

— Planary symmetric static worlds with massless scalar sources. (English summary) *Found. Phys.* **26** (1996), *no.* 8, 1069–1080. (Summary) **98g:83081** 83C99

— (*with* Dariescu, Marina-Aura; Gottlieb, Ioan) Gauge theory on $S^2 \times \mathbf{R} \times \mathbf{R}$ manifold. I. The case of a "uniform" field. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 3-4, 227–232. (Summary) **98a:81115** 81T13

— (*with* Dariescu, Marina-Aura; Gottlieb, Ioan) SO(3, 1)-gauge formulation of the invariance properties and conservation laws in U_4-field theory. *Tensor (N.S.)* **57** (1996), *no.* 2, 204–211. (Alberto Saa Vazquez) **98e:83099** 83D05 (83C40)

Dariescu, Marina-Aura (*with* Dariescu, Ciprian) U(1) gauge invariant in $S^3 \times \mathbf{R}$ geometry. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 162–168. (A. K. Guts) **98c:53081** 53C80 (81T20)

— (*with* Dariescu, Ciprian; Gottlieb, Ioan) Gauge theory on $S^2 \times \mathbf{R} \times \mathbf{R}$ manifold. I. The case of a "uniform" field. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 3-4, 227–232. (Summary) **98a:81115** 81T13

— (*with* Dariescu, Ciprian; Gottlieb, Ioan) SO(3, 1)-gauge formulation of the invariance properties and conservation laws in U_4-field theory. *Tensor (N.S.)* **57** (1996), *no.* 2, 204–211. (Alberto Saa Vazquez) **98e:83099** 83D05 (83C40)

Darinskii, A. N. Quasi-bulk Rayleigh waves in semi-infinite media of arbitrary anisotropy. (English summary) *Wave Motion* **27** (1998), *no.* 1, 79–93. 73D15 (73D20)

Darji, Udayan B. Countable decomposition of derivatives and Baire 1 functions. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 2, 119–124. (Pavel Kostyrko) **98b:26003** 26A24 (26A15, 26A21, 54C30)

— (*with* Evans, Michael Jon; Freiling, Chris; O'Malley, Richard J.) Fine properties of Baire one functions. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 177–188. (Oleksandr V. Sobchuk) **98k:26007** 26A21 (54C08, 54C30)

Darken, C. (*with* Donahue, M. J.; Gurvits, Leonid; Sontag, Eduardo D.) Rates of convex approximation in non-Hilbert spaces. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 187–220. (D. Leviatan) **98c:41051** 41A65 (41A45, 46N40)

Darkhovskiĭ, Boris Nonparametric methods in change-point problems: a general approach and some concrete algorithms. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 99–107, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G05 (62M10)

— Locally optimal stabilization under incomplete information. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 144–154; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 636–644. (Summary) **98c:93092** 93D21

— Locally optimal vibrational stabilization of nonlinear dynamical systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 122–131; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1165–1172. (Summary) **98m:93100** 93D15 (93C41)

Darko, Patrick (*with* Lutterodt, Clement) A preliminary approach to a meromorphic approximation in a strictly pseudoconvex domain. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 397–402, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A10 (30E10)

— Corrigendum: "The L^2 $\overline{\partial}$-problem on manifolds with piecewise strictly pseudoconvex boundaries" [Math. Proc. Cambridge Philos. Soc. **116** (1994), no. 1, 147–149; MR 95b:32027]. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 191–192. (From the text) **98k:32024** 32F30 (32F20)

Darling, R. W. R. (*with* Pardoux, Etienne) Backwards SDE with random terminal time and applications to semilinear elliptic PDE. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1135–1159. (Xue Rong Mao) **98k:60095** 60H10 (35J60, 35R60)

— Converting matrix Riccati equations to second-order linear ODE. (English summary) *SIAM Rev.* **39** (1997), *no.* 3, 508–510. (Summary) **98e:34016** 34A34 (34A25)

Darlington, Sidney *see* **Kuh, Ernest S.**

Darmanyan, S. A. (*with* Burlakov, V. M.) Instability of running waves in anharmonic lattices. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 276–283, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 82B20

Darmon, Henri Faltings plus epsilon, Wiles plus epsilon, and the generalized Fermat equation. *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 1, 3–14. (Andrew Bremner) **98h:11034a** 11D41 (11G18, 14G25)

— Corrigendum to: "Faltings plus epsilon, Wiles plus epsilon, and the generalized Fermat equation". *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 2, 64. (Andrew Bremner) **98h:11034b** 11D41 (11G18, 14G25)

— (*with* Merel, Loïc) Winding quotients and some variants of Fermat's last theorem. *J. Reine Angew. Math.* **490** (1997), 81–100. (Kenneth Kramer) **98h:11076** 11G18 (11D41, 11F80, 11G05)

Darnel, Michael R. (*with* Chen, Yuanqian; Conrad, Paul F.) Finite-valued subgroups of lattice-ordered groups. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 501–512. (Stephen H. McCleary) **98a:06026** 06F15 (20F60)

— (*with* Conrad, Paul F.) Torsion classes of lattice-ordered groups with invariant radicals. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 167–182, *Kluwer Acad. Publ., Dordrecht*, 1997. (J. Jakubík) **98d:06019** 06F15

— (*with* Conrad, Paul F.; Nelson, David G.) Valuations of lattice-ordered groups. (English summary) *J. Algebra* **192** (1997), *no.* 1, 380–411. (N. Ya. Medvedev) **98g:06025** 06F15 (20F60)

Daróczy, Zoltán Über die Rudin-Shapiro Folge. [On the Rudin-Shapiro sequence] *Contributions to the theory of functional equations, II* (*Zamárdi*, 1995), 11–12, *Grazer Math. Ber.*, 327, *Karl-Franzens-Univ. Graz, Graz*, 1996. (*see* **98d:39001**) 40A05

— Inequalities for some infinite series. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 27–30. (Lucio Renato Berrone) **98d:26011** 26D15 (94A17)

— *see also* **Dedicated to Professors Zoltán Daróczy and Imre Kátai**

Darondeau, Philippe (*with* Badouel, Eric) Dualities between nets and automata induced by schizophrenic objects. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 24–43, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:68150** 68Q90

— (*with* Badouel, Eric) Stratified Petri nets. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 117–128, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q90 (68Q70)

Darouach, M. (*with* Keller, J. Y.) Optimal two-stage Kalman filter in the presence of random bias. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1745–1748. (Summary) **98j:93082** 93E11

— (*with* Boutayeb, M.; Rafaralahy, H.) Convergence analysis of the extended Kalman filter used as an observer for nonlinear deterministic discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 581–586. (Summary) **98b:93062** 93E11 (93C55)

— (*with* Xu, Shi Jie; Rachid, A.) Robustness analysis of interval matrices based on Kharitonov's theorem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 273–278. (Summary) **98k:93090** 93D09

Darrah, Marjorie (*with* Liu, Yi-Ping; Zhang, Cun Quan) Cycles of all lengths in arc-3-cyclic semicomplete digraphs. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 23–33. (K. B. Reid) **98j:05070** 05C20 (05C38)

Darsow, William F. (*with* Olsen, Elwood T.; Nguyen, Bao Gia) Copulas and Markov operators. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 244–259, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Roger B. Nelsen) **98m:47056** 47B65 (47B38, 60J05, 60J25)

Darte, Alain (*with* Vivien, Frédéric) On the optimality of Allen and Kennedy's algorithm for parallelism extraction in nested loops. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 1-3, 83–112. 68N20 (68Q10)

— (*with* Boulet, Pierre; Silber, Georges-André; Vivien, Frédéric) Loop parallelization algorithms: from parallelism extraction to code generation. (English summary) *Parallel Comput.* **24** (1998), *no.* 3-4, 421–444. 68N20

Darvasi, Gyula GlaD revisited again. *Octogon Math. Mag.* **6** (1998), *no.* 1, 71–73. 51M15

Darve, Eric Fast-multipole method: a mathematical study. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1037–1042. (Summary) **98m:65208** 65N38 (65R20)

Darwiche, Adnan Model-based diagnosis using causal networks. (English summary) *IJCAI-95, Vol. 1, 2* (*Montreal, PQ*, 1995), 211–217, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T35

— (*with* Provan, Gregory) The effect of observations on the complexity of model-based diagnosis. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 94–99, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T30 (68T35)

— (*with* Pearl, Judea) On the logic of iterated belief revision. (English summary) *Artificial Intelligence* **89** (1997), *no.* 1-2, 1–29. (Karl Schlechta) **98h:68177** 68T27 (03B45, 03B60, 03B70)

— (*with* Provan, Gregory) Query DAGs: a practical paradigm for implementing belief-network inference. (English summary) *J. Artificial Intelligence Res.* **6** (1997), 147–176 (*electronic*). 68T30

Darwish, A. A. On the direct problem and scattering data for a singular system of differential equations with discontinuous coefficients. (English summary) *Tamkang J.*

Math. **27** (1996), *no.* 4, 289–299. (Tuncay Aktosun) **98f:34123** 34L25 (34A55, 81U05)

Darwish, H. E. (*with* Aouf, M. K.) On p-valent functions with negative and missing coefficients. II. (English summary) *Comm. Fac. Sci. Univ. Ankara Ser. A$_1$ Math. Statist.* **44** (1995), *no.* 1-2, 1–14 (1996). (S. L. Shukla) **98a:30008** 30C45

— (*with* Aouf, M. K.) A property of certain analytic functions involving Ruscheweyh derivatives. II. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 1, 9–12. 30C45

— (*with* Aouf, M. K.) Fixed coefficients for new classes of univalent functions with negative coefficients. (English summary) *Demonstratio Math.* **30** (1997), *no.* 1, 43–52. (Herb Silverman) **98g:30015** 30C45

— (*with* Aouf, M. K.; Srivastava, Hari M.) Some applications of fractional calculus operators associated with a certain class of starlike functions with negative coefficients. (English summary) *J. Fract. Calc.* **12** (1997), 95–102. (Summary) **98h:30012** 30C45 (26A33)

— (*with* Owa, Shigeyoshi; Aouf, M. K.) Meromorphic multivalent functions with positive and fixed second coefficients. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 231–236. (Summary) **98h:30023** 30C45 (30C50)

— (*with* Aouf, M. K.; Srivastava, Hari M.) A general class of meromorphically univalent functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 69–84. (E. P. Merkes) **98h:30013** 30C45

— (*with* Aouf, M. K.) Certain meromorphically starlike functions with positive and fixed second coefficients. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 311–316. (F. W. Hartmann) **98j:30006** 30C45 (30C50)

Das, A. *see* **Das, Ashok**

Das, A. K. *see* **Das, Asok Kumar**

Das, Ajanta (*with* Sil, A.; Banerjee, Asit Kumar) Generalized singularity-free cosmological model in five dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8099–8102. (Summary) **98i:83070** 83E15

— (*with* Banerjee, Asit Kumar) Domain walls in higher dimensions. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 81–88. 83E15 (83F05)

Das, Ajit Kumar (*with* Tripathi, T. P.) Use of auxiliary information in estimating the coefficient of variation. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 51–58. 62F10

— (*with* Tripathi, T. P.; Khare, B. B.) Use of auxiliary information in sample surveys—a review. (English summary) *Aligarh J. Statist.* **14** (1994), 79–134. 62D05

Das, Ashish D. (*with* Gupta, Sudhir) Optimal block designs for triallel cross experiments. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1767–1777. (Summary) **98b:62136** 62K05

Das, Ashish Kumar (*with* Khare, S. S.) On Milnor's theorem and G-bordism. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 229–240. (David C. Johnson) **98h:57060** 57R85

Das, Ashok (*with* Wotzasek, C.) Two-dimensional supersymmetric harmonic oscillator carrying a representation of the GL(2|1) graded Lie algebra. (English summary) *J. Math. Phys.* **37** (1996), *no.* 1, 61–71. (Summary) **98a:81055** 81R05 (81Q60)

— (*with* Roy, Shibaji) On M-theory and the symmetries of type II string effective actions. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 119–141. (Gerardo Marcelo Aldazabal) **98b:81185** 81T30 (83E30)

— (*with* Aratyn, H.; Rasinariu, Constantin) Zero curvature formalism for supersymmetric integrable hierarchies in superspace. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2623–2630. (Annalisa M. Calini) **98k:58101** 58F07 (35Q58)

— (*with* Brunelli, J. C.) A Lax description for polytropic gas dynamics. (English summary) *Phys. Lett. A* **235** (1997), *no.* 6, 597–602. (Summary) **98f:76066** 76N15 (35Q35, 58F07, 58F40)

— Lightfront Hamiltonian structures for the nonlinear sigma model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 14, 1133–1142. 81T10

— (*with* Amorim, Ricardo) Supersymmetry and the chiral Schwinger model. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2599–2602. 81T10 (81T60)

Das, Ashok K. (*with* Sanyal, Barun K.; Sen, Malay K.) Directable zeros in a binary matrix. (English summary) *J. Ramanujan Math. Soc.* **11** (1996), *no.* 2, 191–205. (Jeffrey Stuart) **98a:05104** 05C50 (05C20, 15A33)

Das, Asok Kumar (*with* Mazumdar, A. C.) On the space of entire functions of several variables over a non-Archimedean field with coefficients in a non-Archimedean Banach algebra. *Ganit* **15** (1995), 31–38. (L. Narici) **98c:46164** 46S10 (46E10)

Das, B. *see* **Das, Biren**

Das, Bhawani Rani Effects of the Earth's oblateness and atmospheric resistance of the motion of cable connected satellites in orbit. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 306–316. (Yurii Ulybyshew) **98h:70029** 70M20 (70D05, 70F15)

Das, Biren (*with* Dubey, Balram) Models for migrating populations in a forested grassland. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 97–104. (Summary) **98h:92046** 92D40

Das, D. *see* **Das, Debopam**

Das, Debasish (*with* De, Mallika; Ghosh, Mabhin; Sinha, Bhabani P.) An efficient sorting algorithm on the multi-mesh network. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1132–1137. 68Q22

Das, Debopam (*with* Dey, Jyotirmoy) A note on the linear instability of the Blasius flow. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 253–258. 76E05 (76D10)

Das, G. *see* **Das, Gokulananda**

Das, G. C. (*with* Sarma, Jnanjyoti; Uberoi, C.) Explosion of a soliton in a multicomponent plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 6, 2095–2100. (Summary) **98c:76128** 76X05

— (*with* Dwivedi, C. B.; Talukdar, Madhuri; Sarma, Jnanjyoti) A new mathematical approach for shock-wave solution in a dusty plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 12, 4236–4239. (Summary) **98j:76150** 76X05 (76L05)

— (*with* Sarma, Jnanjyoti; Talukdar, Madhuri) Dynamical aspects of various solitary waves and double layers in dusty plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 63–69. 76X05

Das, Gautam (*with* Arikati, Srinivasa R.; Chen, Danny Z.; Chew, L. Paul; Smid, Michiel; Zaroliagis, Christos D.) Planar spanners and approximate shortest path queries among obstacles in the plane. (English summary) *Algorithms—ESA '96 (Barcelona)*, 514–528, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68U05

— (*with* Kapoor, Sanjiv; Smid, Michiel) On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad*, 1996), 64–75, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98k:68084** 68Q25 (90C27)

— (*with* Fleischer, Rudolf; Gąsieniec, Leszek; Gunopulos, Dimitris; Kärkkäinen, Juha) Episode matching. (English summary) *Combinatorial pattern matching (Aarhus*, 1997), 12–27, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68040** 68Q20

— (*with* Goodrich, Michael T.) On the complexity of optimization problems for 3-dimensional convex polyhedra and decision trees. (English summary) *Comput. Geom.* **8** (1997), *no.* 3, 123–137. (Ali Ridha Mahjoub) **98k:90135** 90C60 (68Q25)

— (*with* Narasimhan, Giri) A fast algorithm for constructing sparse Euclidean spanners. (English summary) Tenth Annual ACM Symposium on Computational Geometry (Stony Brook, NY, 1994). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 4, 297–315. (Summary) **98f:68262** 68U05 (05C85)

Das, Gokulananda (*with* Misra, Sangita; Ray, Braja Kishore) Degree of approximation by Euler means of rth derived Fourier series in the Hölder metric. *J. Nat. Acad. Math. India* **10** (1992/96), 82–111 (1997). 42A10 (41A25, 42A24)

— (*with* Manjari Swain, Manoja) A convergence theorem of non-expansive mappings in Hilbert spaces. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **65** (1995), *no.* 4, 445–453. (Charles Ejike Chidume) **98d:47121** 47H09

— (*with* Ghosh, Tulika) Saturation theorems by matrix transformation. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 9–28. (Y. Sitaraman) **98i:41039** 41A40 (42A24)

— (*with* Ojha, Akshay Kumar; Ray, Braja Kishore) Degree of approximation of functions in the Hölder metric by Borel's means. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 169–182. (Ambikeswar Sharma) **98f:41016** 41A25 (40G10, 42B08)

Das, J. K. (*with* Basu, A. K.) Sequential shrinkage estimation of the autoregressive parameters in AR(p) model. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 267–282. (Pham Dinh Tuan) **98m:62217** 62L12 (62J07, 62M99)

— (*with* Basu, A. K.) Sequential estimation of the autoregressive parameters in AR(p) model. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 1–24. (Ryszard Magiera) **98d:62142** 62L12 (62M10)

Das, K. C. *see* **Das, Kali Charan**

Das, K. K. (*with* Nandi, S. B.; Nath, Dilip C.) Characterizations of some discrete distributions. (English summary) *Contrib. Appl. Math. Stat.* **1** (1995), 20–24. 62E10

Das, K. P. (*with* Bhattacharyya, Subebi) Fourth-order nonlinear evolution equations for surface gravity waves in the presence of a thin thermocline. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 214–229. (Summary) **98i:76011** 76B15 (76C10, 76E20, 86A05)

Das, Kali Charan (*with* Chaudhuri, Sarbeswar) Axially symmetric metrics from Laplace's seed by inverse scattering method. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5792–5806. (Nora Bretón Báez) **98j:83021** 83C20

— *see also* **Manko, Vladimir S., 98j:83019**

Das, Kalyan (*with* Sutradhar, Brajendra C.) Generalized linear models for beta correlated binary longitudinal data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 3, 617–635. (Andrzej S. Kozek) **98m:62205** 62J12 (62P10)

Das, Mrinal Kanti A note on the centre of $A(K)$. (English summary) *Math. Notae* **38** (1995/96), 101–103 (1997). 46J10 (46E25)

Das, N. C. (*with* Lahiri, Abhijit; Giri, R. R.) Eigenvalue approach to generalized thermoelasticity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1573–1594. (Summary) **98m:73008** 73B30

Das, N. R. (*with* Das, Pankaja; Choudhury, Ajanta) Absolute value like fuzzy real number and fuzzy real-valued sequence space. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 2, 421–433. (M. S. Rangachari) **98c:46165** 46S40 (04A72, 40J05)

Das, P. *see* **Das, Pitambar**

Das, P. C. (*with* Rao, V. China Venkata; Sundararajan, T.) An adaptive hp-version of the finite element method applied to flame propagation problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3181–3203. (Summary) **98d:80002** 80–08 (80A25)

Das, P. K. (*with* Ahmad, Abdul) Effect of oblateness of the more massive primary on the positions of the collinear libration points in the restricted three-body problem. (English summary) *Proc. Math. Soc.* **12** (1996), 121–125 (1997). 70F07

Das, Pankaja (*with* Das, N. R.; Choudhury, Ajanta) Absolute value like fuzzy real number and fuzzy real-valued sequence space. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 2, 421–433. (M. S. Rangachari) **98c:46165** 46S40 (04A72, 40J05)

Das, Phullendu (*with* Bhakat, S. K.) A note on fuzzy Archimedean ordering. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 91–94. (Summary) **98f:06014** 06F15 (04A72, 20N25)

Das, Pitambar (*with* Nayak, S. K.) Oscillatory and asymptotic behaviour of solutions of higher order neutral differential equations. (English summary) *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 259–273. (Yiannis Sficas) **98e:34127** 34K15 (34K40)

— (*with* Mishra, B. B.) Oscillatory phenomena in neutral delay differential equations. *Acta Math. Hungar.* **75** (1997), *no.* 4, 323–335. (Klaus Morgenthal) **98c:34109** 34K15 (34K40)

Das, Pratulananda (*with* Lahiri, B. K.) Measures in bitopological spaces. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 10, 985–994. (Summary) **98f:28017** 28C15 (54E55)

Das, Pratyayananda Fuzzy regular and inverse subsemigroups. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 99–105. 20M17 (04A72)

— On some properties of fuzzy semiautomaton over a finite group. (English summary) *Inform. Sci.* **101** (1997), *no.* 1-2, 71–84. (Janusz J. Szuster) **98f:68192** 68Q70 (04A72, 20N25)

— On fuzzy finite state machines. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 17–25. (Janusz J. Szuster) **98f:68187** 68Q68 (03E72, 20M99)

Das, Rabindra Nath^2 (*with* Pradhan, G.) A numerical quadrature of function[s] of more than one real variable. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 113–118. (Summary) **98e:65012** 65D32

— (*with* Pradhan, G.) A mixed quadrature rule for numerical integration of analytic functions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 37–42. 65D32

— (*with* Pradhan, G.) A modification of Simpson's $\frac{1}{3}$ rule. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 908–910. 65D30

— (*with* Pradhan, G.) Numerical quadrature of analytic functions. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 569–574. 65D32

Das, Rajib K. (*with* Sen Gupta, Srabani; Mukhopadhyaya, Krishnendu; Sinha, Bhabani P.) A family of network topologies with multiple loops and logarithmic diameter. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 2047–2064. (Summary) **98a:68014** 68M10

Das, Ruchi Expansive self-homeomorphisms on G-spaces. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 123–130. (Summary) **98j:54020** 54C10 (54E40, 54H20)

Das, S. *see* **Das, Subir**

Dās, Sachidānand Multiplication and divisibility of numbers—the sūtra way. (English summary) *Indian J. Hist. Sci.* **31** (1996), *no.* 4, 339–358. (S. A. Paramhans) **98h:01007** 01A32

Das, Sajal K. (*with* Pinotti, M. Cristina) Conflict-free access to templates of trees and hypercubes in parallel memory systems. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 1–10, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68M10

Das, Saurya (*with* Parthasarathy, Ragavachariar) Planckian scattering from Kerr black holes: eikonal and beyond. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1545–1556. 83C57 (81V17)

— (*with* Dasgupta, Arundhati; Sarkar, Tapobrata) High energy effects on D-brane and black hole emission rates. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7693–7700. (Summary) **98e:83115** 83E30 (81T30, 83C57)

Das, Shawpawn Kumar (*with* Janaki, Mylavarapu Sita; Dasgupta, Brahmananda) Divergences in the solutions of the plasma screening equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5707–5710. (Piotr P. Goldstein) **98j:82064** 82D10

Das, Subir (*with* Patra, Baidyanath; Debnath, Lokenath) Stress intensity factors for an interfacial crack between an orthotropic half-plane bonded to a dissimilar orthotropic layer with a punch. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 27–40. 73M25 (65R20)

Das, Sumit R. (*with* Mathur, Samir D.) Interactions involving D-branes. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 153–172. (João P. Nunes) **98b:81186** 81T30 (83E30)

— Emission from parallel p-brane black holes. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 259–264. (Summary) **98i:83075** 83E30 (81T30, 83C57)

— Effectiveness of D-branes in the description of near-extremal black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3582–3590. (Summary) **98e:83116** 83E30 (81T30, 83C57)

Dasbach, Oliver T. (*with* Hougardy, Stefan) Does the Jones polynomial detect unknottedness? (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 51–56. (Summary) **98c:57004** 57M25

Dăscălescu, S. (*with* Raianu, Ş.; Van Oystaeyen, Freddy) Some remarks on a theorem of H.-J. Schneider. *Comm. Algebra* **24** (1996), *no.* 14, 4477–4493. (V. A. Artamonov) **98a:16040** 16W30

— (*with* Caenepeel, S.; Militaru, G.; Panaite, Florin) Coalgebra deformations of bialgebras by Harrison cocycles, copairings of Hopf algebras and double crosscoproducts. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 647–671. (Mitsuhiro Takeuchi) **98k:16052** 16W30

— (*with* Kelarev, A. V.; Torrecillas Jover, Blas) FBN Hopf module algebras. *Comm. Algebra* **25** (1997), *no.* 11, 3521–3529. (Walter R. Ferrer Santos) **98i:16036** 16W30

Das Chagas Mota, Francisco *see* **Mota, Francisco Das Chagas**

Dasgupta, A. *see* **Das Gupta, Asok**

Dasgupta, Abhijit Boolean operations, Borel sets, and Hausdorff's question. *J. Symbolic Logic* **61** (1996), *no.* 4, 1287–1304. (S. M. Srivastava) **98g:54086** 54H05

Dasgupta, Amil (*with* Feldman, Arnold D.) An intersection property of Sylow 2-subgroups in non-solvable groups. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 261–268. (Henry S. Leonard, Jr.) **98h:20031** 20D20

DasGupta, Anirban (*with* Basu, Sanjib[2]) The mean, median, and mode of unimodal distributions: a characterization. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 336–352; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 210–223 (1997). (H. L. MacGillivray) **98j:60023** 60E15 (60E05)

— (*with* Strawderman, William E.) All estimates with a given risk, Riccati differential equations and a new proof of a theorem of Brown. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1208–1221. (V. I. Serdobol'skiĭ) **98f:62015** 62C15 (62F10, 62H12)

— (*with* Vidakovic, Brani) Sample size problems in ANOVA: Bayesian point of view. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 335–347. 62F15 (62F05, 62J10)

— (*with* Mukhopadhyay, Saurabh) Uniform approximation of Bayes solutions and posteriors: frequentistly valid Bayes inference. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 51–73. (Christian P. Robert) **98k:62036** 62F15 (62F10)

Dasgupta, Arundhati (*with* Das, Saurya; Sarkar, Tapobrata) High energy effects on D-brane and black hole emission rates. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7693–7700. (Summary) **98e:83115** 83E30 (81T30, 83C57)

— (*with* Majumdar, Parthasarathi) Fermions in black hole space-time: Hawking radiation and back reaction. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4962–4967. (Summary) **98e:83072** 83C57 (81T20, 83C47)

Das Gupta, Asok (*with* Sircar, Jayasri) Congruences and ideals in [an] Ω-semigroup. (English summary) *J. Pure Math.* **12** (1995), 54–61. (Katherine Johnston) **98g:08005** 08A30 (20M99)

Dasgupta, Bhaskar (*with* Gupta, Prosenjit; Janardan, Ravi; Smid, Michiel) The rectangle enclosure and point-dominance problems revisited. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 437–455. (Summary) **98f:68266** 68U05 (94C30)

Dasgupta, Brahmananda (*with* Das, Shawpawn Kumar; Janaki, Mylavarapu Sita) Divergences in the solutions of the plasma screening equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5707–5710. (Piotr P. Goldstein) **98j:82064** 82D10

Dasgupta, Indranil (*with* Rohm, Ryan) Binary string dynamics. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2504–2507. (Mark D. Roberts) **98a:83115** 83E30 (81T30, 83C10, 83F05)

Dasgupta, Keshav (*with* Mukhi, Sunil) A note on low-dimensional string compactifications. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 285–290. (Fermin Aldabe) **98e:81134** 81T30 (83E30)

— (*with* Mukhi, Sunil) BPS nature of 3-string junctions. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 261–264. 81T30

Dasgupta, Nairanjana (*with* Spurrier, John D.) A class of multivariate chi-square distributions with applications to comparison with a control. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1559–1573. 62E15 (62H10, 62J15)

Dasgupta, Natasa (*with* Mukherjee, S. P.) Approximate prediction interval for component life based on system failure data. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 117–125. 62N05

Dasgupta, Pallab (*with* Chakrabarti, P. P.; DeSarkar, S. C.) A near optimal algorithm for the extended cow-path problem in the presence of relative errors. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 22–36, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68101** 68Q25 (68U05)

— (*with* Chakrabarti, P. P.; DeSarkar, S. C.) A new competitive algorithm for agent searching in unknown streets. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 147–155, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68U05

— Agreement under faulty interfaces. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 125–129. (Summary) **98m:68068** 68Q10

Das Gupta, Somesh (*with* Bhandari, S. K.) Unlinking theorem for symmetric convex functions. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 137–141, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H10

— *see also* **Rao, Calyampudi Radhakrishna**, **98c:01050**

Dasgupta, Soura (*with* Anderson, Brian D. O.) Multiplier theory and operator square roots: application to robust and time-varying stability. (English summary) *Stability theory* (*Ascona*, 1995), 113–124, *Internat. Ser. Numer. Math.*, 121, *Birkhäuser, Basel*, 1996. (B. T. Polyak) **98a:93055** 93D09 (93B27)

Dasgupta, Utpal A note on p-relations. (English summary) *J. Pure Math.* **12** (1995), 50–53. (Summary) **98a:04001** 04A05

Dashdorzh, Tsereendorzh On the identities of right alternative algebras (r.a.a.). *J. Mong. Math. Soc.* **1** (1997), *no.* 1, 28–38. (Harry F. Smith) **98a:17057** 17D15

Dashen, Roger F. (*with* Goldberg, J.; Berger, Thomas Karl) Uniform high frequency approximation to scattering from infinite strip. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2308–2331. (I. Kay) **98e:78005** 78A45 (81V99)

— (*with* Abawi, Ahmad T.) Scattering amplitude for a plane angular sector. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 2172–2180. (Summary) **98f:78017** 78A45 (35J05)

Dasila, Lata (*with* Pandey, S. B.) On birecurrent general differentiable manifold. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 1, 29–37. (Ion Mihai) **98g:53055** 53C15

Da Silva, A. J. *see* **da Silva, A. J.**

Da Silva, Antonio R. *see* **da Silva, Antonio R.**

Da Silva, Arlindo Moraes *see* **da Silva, Arlindo Moraes**

Da Silva, Edson P. *see* **da Silva, Edson P.**

Da Silva, Eurípides Alves A new monohedral hexamorphic prototile. (Portuguese. English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 175–182. (Ilda P. F. da Silva) **98i:52028** 52C20 (05B45)

— A new monohedral hexamorphic prototile. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 364–366. (Summary) **98k:52050** 52C20

Da Silva, Ilda P. F. *see* **da Silva, Ilda P. F.**

Da Silva, Jairo José *see* **da Silva, Jairo José**

Da Silva, João C. P. *see* **da Silva, João C. P.**

Da Silva, L. *see* **da Silva, L.**

Da Silva, M. F. A. *see* **da Silva, M. F. A.**

Da Silva, Wagner Teixeira *see* **da Silva, Wagner Teixeira**

Da Silveira, Marcos A. *see* **da Silveira, Marcos A.**

Daskalopoulos, Panagiota (*with* del Pino, Manuel) On nonlinear parabolic equations of very fast diffusion. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 4, 363–380. (Igor Bock) **98d:35094** 35K55

— (*with* Hamilton, Richard S.) The free boundary for the n-dimensional porous medium equation. *Internat. Math. Res. Notices* **1997**, *no.* 17, 817–831. (Elena Comparini) **98m:35227** 35R35 (35K55, 76S05)

— The Cauchy problem for variable coefficient porous medium equations. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 485–516. (Jacob Rubinstein) **98h:35097** 35K55 (35Q99, 76S05)

— (*with* del Pino, Manuel) Recent progress on super-diffusive nonlinear parabolic problems. *Reaction diffusion systems* (*Trieste*, 1995), 107–119, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Atsushi Yagi) **98j:35085** 35K55

Daskalov, Rumen N. (*with* Boukliev, Iliya; Kapralov, Stoyan) Optimal quaternary linear codes of dimension five. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1228–1235. (Summary) **98b:94017** 94B05

— (*with* Gulliver, T. Aaron) New good quasi-cyclic ternary and quaternary linear codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1647–1650. 94B05

Daskaloyannis, C. (*with* Bonatsos, Dennis; Kolokotronis, P.; Ludu, Andrei; Quesne, Christianne) Nonlinear deformed su(2) algebras involving two deforming functions. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1189–1196. (Summary) **98f:81120** 81R50

— (*with* Bonatsos, Dennis; Kolokotronis, P.; Lenis, D.) Quantum algebras in nuclear structure. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 1-2, 109–192. (Summary) **98b:81092** 81R50 (81V35)

— (*with* Bonatsos, Dennis; Kolokotronis, P.; Lenis, D.) Deformed u(2) algebra as the symmetry algebra of the planar anisotropic quantum harmonic oscillator with rational ratio of frequencies. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3335–3346. (Aleksei P. Isaev) **98e:81069** 81R50 (81S05)

Dasmahapatra, Srinandan On the combinatorics of row and corner transfer matrices of the $A^{(1)}_{n-1}$ restricted face models. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 20, 3551–3586. (Anne Schilling) **98e:82023** 82B23 (05A19, 05E10, 17B81)

Dasnières de Veigy, A. A linear model of intermediate statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2725–2734. (Summary) **98e:81204** 81V70 (81S05, 82B10)
— On the solution of the Calogero model for distinguishable particles in the domain of intermediate statistics. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 3, 580–600. (Kazuhiro Hikami) **98b:81263** 81T70 (81T40)
Dass, Tulsi (*with* Joglekar, Yogesh) Augmented temporal logic formalism for histories-based generalized quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 704–729. (S. Gudder) **98j:81026** 81P10
Dassios, Angelos Sample quantiles of additive renewal reward processes. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1018–1032. (Paul Embrechts) **98b:60153** 60K15 (90A09)
Dassios, George (*with* Andreou, Elias) Dissipation of energy for magnetoelastic waves in a conductive medium. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 1, 23–39. (Gérard A. Maugin) **98d:73053** 73R05 (73D15)
— (*with* Charalambopoulos, A.; Fotiadis, D. I.; Massalas, C. V.) Dynamic characteristics of the human skull-brain system. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 81–101. 92C10
— (*with* Charalambopoulos, A.; Hadjinicolaou, M.) An analytic solution for low-frequency scattering by two soft spheres. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 370–386 (*electronic*). (Summary) **98m:35020** 35C99 (35J05, 35P25, 76Q05)
Dassow, Jürgen (*with* Jürgensen, Helmut) The transition monoids of soliton trees. (English summary) *Mathematical linguistics and related topics*, 76–87, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:68113** 68Q70 (20M35, 68Q45)
— (*with* Mitrana, Victor) Fairness in grammar systems. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 331–345. (Juhani Karhumäki) **98d:68129** 68Q50
— (*with* Păun, Gheorghe; Salomaa, Arto) Grammars with controlled derivations. *Handbook of formal languages, Vol.* 2, 101–154, *Springer, Berlin*, 1997. (Rani Siromoney) **98i:68169** 68Q50 (03D05, 68Q45)
— (*with* Mitrana, Victor) Cooperation in context-free grammars. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 353–361. (Summary) **98a:68124** 68Q50
— *see also* **Developments in language theory**, **98d:68015**
Dastidar, Krishnendu Ghosh Comparing Cournot and Bertrand in a homogeneous product market. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 205–212. (Summary) **98b:90045** 90A60
Dastoor, Naorayex K. Testing for conditional heteroskedasticity with misspecified alternative hypotheses. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 63–80. (Summary) **98m:62299** 62P20
Daszkiewicz, Andrzej (*with* Przebinda, Tomasz) On the moment map of a multiplicity free action. *Colloq. Math.* **71** (1996), *no.* 1, 107–110. (Chal Benson) **98b:22027** 22E45 (14L30)
— (*with* Przebinda, Tomasz) The oscillator correspondence of orbital integrals, for pairs of type one in the stable range. *Duke Math. J.* **82** (1996), *no.* 1, 1–20. (Gordan Savin) **98a:22004** 22E30
— (*with* Kraśkiewicz, Witold; Przebinda, Tomasz) Nilpotent orbits and complex dual pairs. *J. Algebra* **190** (1997), *no.* 2, 518–539. (Gordan Savin) **98b:20063** 20G05 (17B10)
Daszkiewicz, Marcin (*with* Hasiewicz, Zbigniew; Jaskólski, Zbigniew) Non-critical light-cone string. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 437–459. (Summary) **98k:81202** 81T30 (81R10)
Date, Etsuro (*with* Horiuchi, Emi) On contiguity relations of Jackson's basic hypergeometric series ${}_8\Upsilon_7(a; b; c; x, y, 1/2)$ and its generalizations. *Osaka J. Math.* **34** (1997), *no.* 1, 215–221. (Stamatis Koumandos) **98h:33007** 33D20 (33D70, 33D80)
Date, G. On a static solution of the Einstein equation with incoming and outgoing radiation. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 953–971. (Richard Hansen) **98g:83009** 83C15
Da-te, Tsutomu (*with* Miyakoshi, Masaaki; Imai, Hideyuki; Watanabe, Takenori) General solutions to a generalized transitive coupling problem in fuzzy structural modeling. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 2, 223–245. 04A72
— (*with* Imai, Hideyuki; Miyakoshi, Masaaki) Some properties of minimal solutions for a fuzzy relation equation. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 335–340. (Summary) **98f:04005** 04A72
Dathe, Uwe Gottlob Frege und Rudolf Eucken—Gesprächspartner in der Herausbildungsphase der modernen Logik. (English summary) [Gottlob Frege and Rudolf Eucken—dialogue partners in the formative phase of modern logic] *Hist. Philos. Logic* **16** (1995), *no.* 2, 245–255. (Summary) **98e:01015** 01A55 (01A60, 03–03)
Datko, Richard Two examples of ill-posedness with respect to time delays revisited. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 511–515. (Andrzej W. Olbrot) **98c:93088** 93D15 (93C20)
Datry, C. (*with* Muraz, Gilbert) Analyse harmonique dans les modules de Banach. II. Presque-périodicité et ergodicité. (English and French summaries) [Harmonic analysis in Banach modules. II. Almost periodicity and ergodicity] *Bull. Sci. Math.* **120** (1996), *no.* 6, 493–536. (Robert S. Doran) **98m:43009** 43A45 (46H25, 46M20)
Datt, B. (*with* Govil, N. K.) Some inequalities for polynomials satisfying $p(z) \equiv z^n p(1/z)$. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 40–44. (Dimitar Kolev Dimitrov) **98h:30002** 30A10 (30C10)
Datta, Aniruddha (*with* Ochoa, James) Adaptive internal model control: H_2 optimization for stable plants. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 75–82. 93B36 (93C40)
— (*with* Ho, Ming-Tzu; Bhattacharyya, Shankar Prashad) An elementary derivation of the Routh-Hurwitz criterion. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 405–409. 93D05
Datta, Barun Kumar (*with* Haldar, K.) Laplace transform evaluations by Ramanujan's integral formula. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 123–128. 65R10
Datta, Basudeb Minimal triangulation, complementarity and projective planes. (English summary) *Geometry from the Pacific Rim (Singapore*, 1994), 77–84, *de Gruyter, Berlin*, 1997. (Dušan Repovš) **98j:57035** 57Q15 (57M20, 57N05)
Datta, Biswa Nath (*with* Elhay, Sylvan; Ram, Yitshak M.) Orthogonality and partial pole assignment for the symmetric definite quadratic pencil. (English summary) *Linear Algebra Appl.* **257** (1997), 29–48. (L. Rodman) **98c:15040** 15A22 (93B55)
— (*with* Codenotti, Bruno; Datta, Karabi; Leoncini, Mauro) Parallel algorithms for certain matrix computations. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 287–308. (Summary) **98c:65072** 65F30 (15A24, 65Y05, 68Q22, 93B40)
— (*with* Arnold, Mark) Single-input eigenvalue assignment algorithms: a close look. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 444–467 (*electronic*). (Summary) **98m:93050** 93B55 (15A18, 65F15)
Datta, Dhurjati Prasad Notes on the Born-Oppenheimer approach in a closed dynamical system. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2825–2832. (Viqar Husain) **98i:83030** 83C45 (81V17)
— Duality and scaling in quantum mechanics. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 274–280. 81P05
— Erratum: "Duality and scaling in quantum mechanics" [Phys. Lett. A **233** (1997), no. 4-6, 274–280]. *Phys. Lett. A* **237** (1998), *no.* 6, 388. 81P05
Datta, Kanti B. (*with* Mohan, B. M.) ★ Orthogonal functions in systems and control. (English summary) Advanced Series in Electrical and Computer Engineering, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+275 *pp. ISBN* 981-02-1889-3 (M. Z. Nashed) **98c:93003** 93–02 (33C90, 93A30, 93B30)
— (*with* Gangopadhyay, Subrata) Decoupling of multivariable systems via orthogonal structure theorem. (English summary) *Control Theory Adv. Tech.* **10** (1995), *no.* 4, *part* 3, 1335–1358. (Abdelmoula El Bouhtouri) **98a:93025** 93B40 (93B55, 93C35)
— (*with* Patel, Vijay V.) A dual look at unit interpolation in H_∞. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 813–829. 93B36
— (*with* Ghosh, Ratna; Sen, Siddhartha[2]) Block bialternate sum with applications to computation of stability bounds. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 445–461. (Zoran Gajic) **98j:93064** 93D09 (93C70)
— (*with* Mohan, B. M.) Orthogonal functions approach to the analysis of discrete-time systems is unnecessary. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 441–449. 93A30
— (*with* Mohan, B. M.) On the optimal control of linear discrete-time systems via discrete orthogonal functions. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 731–738. 93C55 (49N35)
Datta, Karabi (*with* Hong, YooPyo; Lee, Ran Baik) Applications of linear transformations to matrix equations. (English summary) *Linear Algebra Appl.* **267** (1997), 221–240. (William H. Gustafson) **98j:15020** 15A24
— (*with* Codenotti, Bruno; Datta, Biswa Nath; Leoncini, Mauro) Parallel algorithms for certain matrix computations. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 287–308. (Summary) **98c:65072** 65F30 (15A24, 65Y05, 68Q22, 93B40)
Datta, Mahuya A homotopy classification of symplectic immersions. *Symplectic singularities and geometry of gauge fields (Warsaw*, 1995), 19–29, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Hansjörg Geiges) **98h:58025** 58D10 (53C23, 58B05, 58F05)
— Homotopy classification of strict contact immersions. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 211–219. (Hansjörg Geiges) **98g:58018** 58D10 (53C23, 58F05)
Datta, Manjira Externalities and price dynamics. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 587–603. 90A12 (90A16)
Datta, Nanigopal (*with* Bhattacharyya, Sati Nath; Pal, Ajit; Nath, G. Baikunth) Unsteady rotating flow of a compressible fluid over a finite disk. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 243–253. 76U05 (76N10)
Datta, Nilanjana (*with* Fröhlich, Jürg; Rey-Bellet, Luc; Fernández, Roberto) Low-temperature phase diagrams of quantum lattice systems. II. Convergent perturbation expansions and stability in systems with infinite degeneracy. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 752–820. (Bruno Nachtergaele) **98e:82006** 82B10 (82B20, 82B26)
Datta, S. *see* **Datta, Sujay**
Datta, Saral (*with* Acharya, Sudip Kumar; Chattopadhyay, K. C.) A survey on P-spaces. *Math. Student* **64** (1995), *no.* 1-4, 146–154 (1996). 54E18
Datta, Somnath (*with* Sriram, T. N.) A modified bootstrap for autoregression without stationarity. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 1, 19–30. (Summary) **98d:62078** 62G09 (62M10)
— A note on L_1 density estimation for linear processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 375–383. (G. Roussas) **98m:62237** 62M10 (62G05, 62G20)
— (*with* Satten, Glen A.; Williamson, John M.[2]) Inference based on imputed failure times for the proportional hazards model with interval-censored data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 318–327. 62N05 (62L20)
Datta, Sujay (*with* Mukhopadhyay, Nitis) On sequential fixed-width confidence intervals for the mean and second-order expansions of the associated coverage probabilities. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 497–507. (M. Hušková) **98b:62145** 62L12
— (*with* Mukhopadhyay, Nitis) On sequential fixed-size confidence regions for the mean vector. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 233–251. (Issa Fakhre-Zakeri) **98b:62096** 62H12 (62L10)
Datta, T. K. (*with* Pal, Ashis Kumar) Order level inventory model for items with time-dependent deterioration rate. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 55–60. 90B05
D'Attellis, Carlos E. (*with* García, Rafael A.) Trajectory tracking in nonlinear systems via nonlinear reduced-order observers. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 685–715. 93B52 (93C10)
— (*with* García, Rafael A.; Mancilla Aguilar, J. L.) Nonlinear observers. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3891–3896. (*see* **98h:00034**) 93B07 (93C10)
— *see also* **Wavelet theory and harmonic analysis in applied sciences**, **98b:00035**
Dattoli, Giuseppe (*with* Torre, Amalia) Symmetric q-Bessel functions. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 1, 153–167 (1997). (Harold Exton) **98i:33019** 33D10
— (*with* Ottaviani, P. L.; Torre, Amalia) Symmetric discretization schemes of classical variables, quantum and quantum field operators. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 11, 1389–1393. (J. S. Joel) **98c:81031** 81Q05 (39A12, 65M06)

— (*with* Giannessi, L.; Ottaviani, P. L.; Quattromini, M.; Torre, Amalia) Symmetric split disentanglement, symplectic integrators and evolution problems. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 4, 531–541. (Summary) **98h:65035** 65L99 (58F05, 70–08, 70H05)

— (*with* Giannessi, L.; Quattromini, M.; Torre, Amalia) Symmetric decomposition of exponential operators and evolution problems. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 129–142. 81V80 (70–08)

— (*with* Quattromini, M.; Torre, Amalia; Vázquez, Luis) Finite-difference schemes and time-ordering corrections. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 213–218. (Summary) **98m:65125** 65L12

Daubechies, Ingrid (*with* Lagarias, Jeffrey C.) On the thermodynamic formalism for multifractal functions. (English summary) *The state of matter* (*Copenhagen*, 1992), 213–264, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 58F11 (28A80, 35Q99)

— Using Fredholm determinants to estimate the smoothness of refinable functions. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 89–112, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42032** 42C15

— Better dual functions for Gabor time-frequency lattices. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 113–116, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (94A12)

— (*with* Cohen, Albert; Plonka, Gerlind) Regularity of refinable function vectors. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 295–324. (Peter R. Massopust) **98e:42031** 42C15

— (*with* Cohen, Albert) Corrigenda: "A new technique to estimate the regularity of refinable functions" [Rev. Mat. Iberoamericana **12** (1996), no. 2, 527–591; MR 97g:42025]. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 471. 42C15 (47B38)

Dauben, Joseph Warren Paradigms and proofs: how revolutions transform mathematics. *Paradigms and mathematics*, 117–148, *Ciencia, Siglo XXI España Ed., Madrid*, 1996. (Detlef Laugwitz) **98g:01006** 01A05 (00A30, 01A25, 03–03, 03H05)

— *see also* **Luxemburg, W. A. J.**

Dauby, P. C. (*with* Lebon, G.; Colinet, P.) Nonlinear Marangoni instability in 3-D rigid boxes. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 185–192. (*see* **98b:00028**) 76E30 (76E15)

Daudelin, Charles *see* **Structural topology in art, 98h:00018**

Daudin, J.-J. (*with* Bar-Hen, Avner) A test of a special case of typicality in linear discriminant analysis. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 39–48. (Summary) **98a:62082** 62H30

Dauer, Jerald P. (*with* Liu, Yi-Hsin) Multi-criteria and goal programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 11.1–11.31, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **98g:90003**) 90C29 (90C08)

— (*with* Belinskiĭ, B. P.) On a regular Sturm-Liouville problem on a finite interval with the eigenvalue parameter appearing linearly in the boundary conditions. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 183–196, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (L. V. Kritskov) **98e:34047** 34B24 (34L10, 47E05)

— (*with* Balasubramaniam, P.) Null controllability of semilinear integrodifferential systems in Banach space. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 117–123. 93B05 (34K35, 93C25)

— (*with* Balachandran, Krishnan) Existence of solutions of perturbed fuzzy integral equations in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1461–1468. (Summary) **98m:45008** 45G10 (47H15, 47N20, 47S40)

— (*with* Balachandran, Krishnan) Sample controllability of general nonlinear stochastic systems. *Libertas Math.* **17** (1997), 143–153. 93E03 (93B05)

— (*with* Shubov, Marianna A.; Martin, Clyde F.; Belinskiĭ, B. P.) Exact controllability of the damped wave equation. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1773–1789. (Irina F. Sivergina) **98i:93009** 93B05 (35L05, 47N70, 93C20)

— (*with* Balachandran, Krishnan) Existence of solutions of a nonlinear mixed neutral equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 23–28. (Summary) **98k:34105** 34K05 (34K40)

— (*with* Balachandran, Krishnan) Controllability of Sobolev-type integrodifferential systems in Banach spaces. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 335–348. (Hong Xing Zhou) **98k:93011** 93B05 (47N70, 93C25)

Dauge, Monique (*with* Gruais, Isabelle) Asymptotics of arbitrary order for a thin elastic clamped plate. I. Optimal error estimates. (English summary) *Asymptotic Anal.* **13** (1996), *no.* 2, 167–197. (Tomasz Lewiński) **98b:73022** 73K10 (35C20, 73C99, 73V99)

— (*with* Ben Belgacem, Faker; Bernardi, Christine; Costabel, Martin) Un résultat de densité pour les équations de Maxwell. (English and French summaries) [A denseness result for Maxwell's equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 731–736. (Rodolfo Torres) **98f:46027** 46E35 (35Q60, 78A25)

— (*with* Costabel, Martin) Singularités des équations de Maxwell dans un polyèdre. (English and French summaries) [Maxwell singularities on polyhedral or polygonal domains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1005–1010. (Rodolfo Torres) **98f:35122** 35Q35 (35B99, 46E35, 78A25)

— (*with* Costabel, Martin) Singularities of Maxwell's equations on polyhedral domains. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 69–76, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q60 (78A25)

Daughton, Alan (*with* Louko, Jorma; Sorkin, Rafael D.) Initial conditions and unitarity in unimodular quantum cosmology. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 181–185, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83049** 83C45

Daumer, Martin Scattering theory from a Bohmian perspective. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 87–97, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81U05 (81P05)

— (*with* Dürr, Detlef; Goldstein, Sheldon; Zanghì, Nino) Naive realism about operators. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 379–397. (Dennis Dieks) **98e:81006** 81P05 (03B30)

— (*with* Dürr, Detlef; Goldstein, Sheldon; Zanghì, Nino) On the quantum probability flux through surfaces. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 967–977. (Paul Busch) **98i:81026** 81P20 (81S20)

solis-Daun, Julio *see* **Solis-Daun, Julio**

Dauns, John Primal modules. *Comm. Algebra* **25** (1997), *no.* 8, 2409–2435. (Pascual Jara) **98i:16004** 16D10 (16P70)

— Module types. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 503–557. (S. S. Page) **98g:16002** 16D70 (16D50, 16E50)

Daurelle, Jean-Vincent (*with* Topin, Frédéric; Donneaud, Marie-Christine) Modélisation des transferts couplés de chaleur et de masse avec changement de phase en milieux poreux. Application au séchage en vapeur d'eau surchauffée. (English and French summaries) [Modelling coupled heat-mass transfer with phase change in porous media. Application to drying with superheated steam] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 1, 71–98. (Summary) **98a:80005** 80A20 (76S05)

D'Auria, Fabrizio *see* **d'Auria, Fabrizio**

D'Auria, Nunzia A. Poisson operator for a degenerate parabolic problem. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **63** (1996), 17–25 (1997). (Lumin Jiang) **98d:35116** 35K65 (35A27, 35B30, 35S10)

D'Auria, Riccardo (*with* Billò, Marco; Ceresole, Anna; Ferrara, Sergio; Fré, Pietro; Regge, Tullio; Soriani, Paolo; Van Proeyen, Antoine) A search for non-perturbative dualities of local $N = 2$ Yang-Mills theories from Calabi-Yau 3-folds. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 831–864. (Summary) **98a:32026** 32G81 (14J32, 32J17, 32J81, 53C25, 81T30)

— (*with* Ceresole, Anna; Ferrara, Sergio) The symplectic structure of $N = 2$ supergravity and its central extension. (English summary) *S*-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 67–74. (Krzysztof Galicki) **98a:81217** 81T60 (32J81, 81T30, 83E30, 83E50)

— (*with* Ceresole, Anna; Ferrara, Sergio; Lerche, Wolfgang; Louis, Jan; Regge, Tullio) Picard-Fuchs equations, special geometry and target space duality. (English summary) *Mirror symmetry, II*, 281–353, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Krzysztof Galicki) **98b:32015** 32G20 (32G81, 53C25, 81T30, 81T40, 83E30)

— (*with* Billò, Marco; Fré, Pietro; Ferrara, Sergio; Soriani, Paolo; Van Proeyen, Antoine) *R* symmetry and the topological twist of $N = 2$ effective supergravities of heterotic strings. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 2, 379–418. (J. A. H. Samtleben) **98e:83112** 83E30 (81T30, 83E50)

— (*with* Andrianopoli, Laura; Ferrara, Sergio) Central extension of extended supergravities in diverse dimensions. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 21, 3759–3773. (Krzysztof Galicki) **98g:83112** 83E50 (81T60, 83E30)

— (*with* Andrianopoli, Laura; Bertolini, Matteo; Ceresole, Anna; Ferrara, Sergio; Fré, Pietro; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

— (*with* Andrianopoli, Laura; Ferrara, Sergio; Fré, Pietro; Minasian, Ruben; Trigiante, Mario) Solvable Lie algebras in type IIA, type IIB and M-theories. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 249–277. (Angel Maria Uranga) **98k:81187** 81T30 (17B30, 81R05, 83E30)

— (*with* Andrianopoli, Laura; Ferrara, Sergio) *U*-invariants, black-hole entropy and fixed scalars. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 12–19. (Summary) **98d:83086** 83E30 (81T30, 83C57, 83E50)

— (*with* Andrianopoli, Laura; Ferrara, Sergio) Five-dimensional *U*-duality, black-hole entropy and topological invariants. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 39–45. (Ion V. Vancea) **98m:83074** 83E50 (83C57, 83E30)

Dautov, R. Z. A scheme of accuracy $O(h^2 \ln^{\alpha}(1/h))$ for determining the free boundary in a problem with an obstacle inside the domain. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 7, 1202–1210, 1270; *translation in Differential Equations* **31** (1995), *no.* 7, 1146–1156 (1996). (Ján Lovíšek) **98e:65090** 65N15 (49J40, 58E35, 65K10)

— (*with* Paĭmushin, V. N.) On the method of integrating matrices for the solution of boundary value problems for fourth-order ordinary equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 10, 13–25; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 10, 11–23 (1997). (Alexander I. Domoshnitsky) **98i:34030** 34B05 (34A45, 34K10)

— (*with* Drobotenko, M. I.; Lyashko, A. D.) Investigation of the well-posedness of the generalized solution of the filtration consolidation problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 515–521, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 518–525. (Summary) **98k:76131** 76S05 (34G20, 35Q72, 73N20, 73V25)

— High accuracy post-processing technique for free boundaries in finite element approximations to the obstacle problems. (English summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 239–246. (Summary) **98m:65188** 65N30

Dauxois, Jacques (*with* Nkiet, Guy Martial) Testing for the lack of a linear relationship. (English summary) *Statistics* **30** (1997), *no.* 1, 1–23. (Summary) **98d:62103** 62H20

Dauzère-Pérès, Stéphane (*with* Paulli, Jan) An integrated approach for modeling and solving the general multiprocessor job-shop scheduling problem using tabu search. (English summary) *Ann. Oper. Res.* **70** (1997), 281–306. (Summary) **98b:90065** 90B35

Davalos, Rafael (*with* Rubinsky, Boris) The use of evolutionary-genetic analogy in numerical analysis. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 151–160. 82C80 (68T05)

Davar, Sonia Note on application of linear algebra to approximation problem in quantum chemistry. *Applied abstract algebra* (*Delhi*, 1995), 101–105, *Univ. Delhi, Delhi*, 1996. (*see* **98b:00017**) 15A90

kumar Dave, Ashiwini *see* **Kumar Dave, Ashiwini**

Dave, O. P. (*with* Saxena, Ram Kishore; Ram, Chena) Integrals associated with Gauss's hypergeometric series, multivariable *H*-function and a general class of polynomials. (English summary) *Jñānābha* **24** (1994), 35–48. (P. Anandani) **98b:33033** 33C90

Da Veiga Pessôa, Rosa Maria *see* **da Veiga Pessôa, Rosa Maria**

Davenport, Anne A. The Catholics, the Cathars, and the concept of infinity in the thirteenth century. (English summary) *Isis* **88** (1997), *no.* 2, 263–295. (Summary) **98f:01015** 01A35

Davenport, Clyde M. A commutative hypercomplex algebra with associated function theory. (English summary) *Clifford algebras with numeric and symbolic computations*, 213–227, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 30G35

Davenport, James Harold Galois groups and the factorization of polynomials. (Russian. Russian summary) Translated from the English by N. M. Adrianov. *Programmirovanie* **1997**, *no.* 1, 43–58; *translation in Program. Comput. Software* **23** (1997), *no.* 1, 31–44. (Chr. U. Jensen) **98m:12002** 12F10 (68Q40)

Daverman, R. J. (*with* Dranishnikov, A. N.) Cell-like maps and aspherical compacta. *Illinois J. Math.* **40** (1996), *no.* 1, 77–90. (John J. Walsh) **98h:54045** 54F15 (54B20, 54F45, 55M10, 57P99)

Davey, B. A. (*with* Rosenberg, Ivo G.) Natural dualities and clones. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 385–402, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Keith A. Kearnes) **98m:08019** 08C05 (08C15)

Davey, Keith (*with* Bounds, S.) A preconditioning strategy for the solution of linear boundary element systems using the GMRES method. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 443–456. (Summary) **98c:65045** 65F10 (65N38)

Davi, Fabrizio Thin piezoelectric rods with quasi-static domain switching. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 482–487, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73R05 (73K05, 78A55)

— Dynamics of linear piezoelectric rods. (English summary) *J. Elasticity* **46** (1997), *no.* 3, 181–198. (Summary) **98e:73107** 73R05 (73K05)

Davi, G. (*with* Milazzo, A.) A new symmetric and positive definite boundary element formulation for lateral vibrations of plates. (English summary) *J. Sound Vibration* **206** (1997), *no.* 4, 507–521. 73V10 (73K10)

Daviau, C. Remarques sur une équation de Dirac non linéaire. (English and French summaries) [Remarks on a nonlinear Dirac equation] *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 349–360. (Summary) **98a:81027** 81Q05 (81V15)

— Sur la résolution de l'équation de Dirac pour l'atome d'hydrogène. (English and French summaries) [Solving the Dirac equation for the hydrogen atom] *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 1, 91–110. (Summary) **98i:81038** 81Q05

— De nouvelles équations d'ondes relativistes pour les fermions. (English and French summaries) [Some new relativistic wave equations for fermions] *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 3, 241–261. (Jorge Goncalves Cardoso) **98b:81077** 81R20

— Sur l'équation de Dirac dans l'algèbre de Pauli. (English and French summaries) [The Dirac equation written with the Pauli algebra] *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 1, 87–103. (Jorge Goncalves Cardoso) **98f:81103** 81R20

David, François Louis Introduction to conformal invariance in statistical mechanics and to random surface models. *Field theory, topology and condensed matter physics (Storms River Mouth, 1994)*, 1–54, *Lecture Notes in Phys.*, 456, *Springer, Berlin*, 1995. (From the introduction) **98c:82028** 82B41 (81T40, 82B27)

— Simplicial quantum gravity and random lattices. *Gravitation et quantifications (Les Houches, 1992)*, 679–749, *North-Holland, Amsterdam*, 1995. (Francois Vanderseypen) **98f:83041** 83C45 (81V17, 83C27)

— (*with* Wiese, Kay Jörg) New renormalization group results for scaling of self-avoiding tethered membranes. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 529–632. (Tobias Hurth) **98a:81134** 81T17 (82B28)

— A scenario for the $c > 1$ barrier in non-critical bosonic strings. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 633–649. (Summary) **98a:81132** 81T17 (81T30, 81T40)

David, Guy René (*with* Semmes, Stephen) Surfaces quasiminimales de codimension 1: un morceau de démonstration. [Codimension-1 quasiminimal surfaces: a piece of the proof] *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1996)*, *Exp. No. IX*, 18 *pp.*, *École Polytech., Palaiseau*, 1996. (H. R. Gluck) **98a:49062** 49Q05 (53A10, 58E15)

— (*with* Semmes, Stephen) Uniform rectifiability and singular sets. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **13** (1996), *no.* 4, 383–443. (Michele Carriero) **98a:49067** 49Q20 (49J10)

— (*with* Semmes, Stephen) On the singular sets of minimizers of the Mumford-Shah functional. *J. Math. Pures Appl.* (9) **75** (1996), *no.* 4, 299–342. (Michele Carriero) **98a:49068** 49Q20 (58E30)

David, H. T. Herbert Aron David. (English summary) *Statistical theory and applications*, 313–326, *Springer, New York*, 1996. (*see* **98b:62003**) 01A70

David, Herbert A. Some applications of concomitants of order statistics. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 91–98, v. 62G30

— Augmented order statistics and the biasing effect of outliers. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 199–204. (Summary) **98k:62091** 62G30

— First (?) occurrence of common terms in probability and statistics—a second list, with corrections. (English summary) *Amer. Statist.* **52** (1998), *no.* 1, 36–40. 62–03 (01A99, 60–03)

— Statistics in U.S. universities in 1933 and the establishment of the Statistical Laboratory at Iowa State. (English summary) *Statist. Sci.* **13** (1998), *no.* 1, 66–74. 62–03 (01A73)

— *see also* **Statistical theory and applications**, **98b:62003** *and* **Advances in biometry**, **98h:62152**

David, Israel (*with* Greenshtein, Eitan; Mehrez, Abraham) A dynamic-programming approach to continuous-review obsolescent inventory problems. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 757–774. (Summary) **98m:90053** 90B05 (90B35)

David, Justin R. (*with* Dhar, Avinash; Mandal, Gautam; Wadia, Spenta R.) Observability of quantum state of black hole. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 39–48. (Summary) **98c:83045** 83C47 (81T20, 83C57, 83E30)

— (*with* Dhar, Avinash; Mandal, Gautam) Probing type I′ string theory using D0 and D4-branes. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 135–143. (Summary) **98j:81265** 81T30

David, Liana (*with* Papuc, Dan I.) About positive operators on vector bundles. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 55–64 (1997). (V. Oproiu) **98h:58003** 58A05 (47B65)

David, Marian Analyticity, Carnap, Quine, and truth. *Metaphysics*, 1996, 281–296, *Philos. Perspect.*, 10, *Blackwell, Cambridge, MA*, 1996. (William Demopoulos) **98b:03009** 03A05

David, Marie-Claude Paragroupe d'Adrian Ocneanu et algèbre de Kac. [Adrian Ocneanu's paragroup and the Kac algebra] *Pacific J. Math.* **172** (1996), *no.* 2, 331–363. (Claire Anantharaman-Delaroche) **98f:46051** 46L37 (46L10)

David, René (*with* Nour, Karim) A syntactical proof of the operational equivalence of two λ-terms. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 371–375. (Summary) **98c:03036** 03B40

ben-David, Shai *see* **Ben-David, Shai**

David, Sinnou Minorations de formes linéaires de logarithmes elliptiques. (English and French summaries) [Lower bounds for linear forms in elliptic algorithms] *Mém. Soc. Math. France (N.S.) No.* 62 (1995), iv+143 *pp.* (Michel Waldschmidt) **98f:11078** 11J86 (11G05)

— Points de petite hauteur sur les courbes elliptiques. (English and French summaries) [Points of small height on elliptic curves] *J. Number Theory* **64** (1997), *no.* 1, 104–129. (Takeshi Ooe) **98k:11067** 11G05 (14G05)

— (*with* Philippon, Patrice) Minorations des hauteurs normalisées des sous-variétés de variétés abéliennes. (English and French summaries) [Lower bounds for the normalized heights of subvarieties of abelian varieties] *Number theory (Tiruchirapalli, 1996)*, 333–364, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (David Harari) **98j:11044** 11G10 (14G40)

— *see also* **Seminar: Number Theory**, **98d:11006**

Davideanu, Cătălina Maximum principle for control problems governed by multivalued bilinear differential equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Sect. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 71–77. 49K15

— Optimal feedback control for a problem governed by a multivalued bilinear differential equation. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Sect. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 31–38. (Grigory M. Sklyar) **98m:49054** 49N35 (49K20, 93B52)

Davidian, Marie (*with* Wang, Naisyin) A note on covariate measurement error in nonlinear mixed effects models. (English summary) *Biometrika* **83** (1996), *no.* 4, 801–812. (Christine Hildegard Müller) **98f:62188** 62J02 (62J10)

— (*with* Zeng, Qi) Calibration inference based on multiple runs of an immunoassay. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1304–1317. 62P10

— (*with* Zeng, Qi) Bootstrap-adjusted calibration confidence intervals for immunoassay. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 278–290. (Hung Trung Nguyen) **98f:62123** 62G09 (62F25)

Davidov, J. (*with* Apostolov, Vestislav; Grantcharov, G.; Mushkarov, Oleg K.) Geometry of Hermitian surfaces. *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 94–104, *World Sci. Publishing, River Edge, NJ*, 1997. (Massimiliano Pontecorvo) **98j:53079** 53C55 (32L07)

Davidson, Bryan D. Large-scale continuation and numerical bifurcation for partial differential equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 2008–2027. (Zheng You Zhu) **98m:65094** 65H10 (35B32, 65N22)

Davidson, Donald Pursuit of the concept of truth. *On Quine (San Marino, 1990)*, 7–21, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03A05

— Truth and meaning. *The philosophy of language*, 92–103, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— On saying that. *The philosophy of language*, 337–346, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— The folly of trying to define truth. *J. Philos.* **93** (1996), *no.* 6, 263–278. (Anthony M. Ungar) **98m:03003** 03A05

Davidson, James (*with* de Jong, Robert M.) Strong laws of large numbers for dependent heterogeneous processes: a synthesis of recent and new results. (English summary) *Econometric Rev.* **16** (1997), *no.* 3, 251–279. (Summary) **98b:60059** 60F15

— A Wald test of restrictions on the cointegrating space based on Johansen's estimator. (English summary) *Econom. Lett.* **59** (1998), *no.* 2, 183–187. 62P20 (62M10)

Davidson, Kenneth R. Normalizers of finite multiplicity nests. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 2, 337–344. (David R. Larson) **98f:47052** 47D25

— Polynomially bounded operators, a survey. *Operator algebras and applications (Samos, 1996)*, 145–162, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (From the text) **98e:47033** 47A99 (47–02, 47–03, 47B99)

— (*with* Paulsen, Vern I.) Polynomially bounded operators. (English summary) *J. Reine Angew. Math.* **487** (1997), 153–170. (Christian Le Merdy) **98d:47003** 47Axx (47B35, 47B37, 47Bxx, 47C15)

— Nest algebras are hyperfinite. *Illinois J. Math.* **42** (1998), *no.* 1, 107–122. (Allan P. Donsig) **98m:47068** 47D25 (46L05)

Davidson, M. R. (*with* Malashenko, Yu. E.; Novikova, N. M.; Smirnov, M. M.; Strogaya, G. V.) ★ Математические постановки задачи восстановления и обеспечения живучести для многопродуктовых сетей. (Russian. Russian summary) [Mathematical formulations of the problem of restoring and ensuring the viability of multicommodity networks] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1993. 68 *pp.* (Publisher's description) **98b:90051** 90B10 (90C35)

— ★ Условия устойчивости множества крайних точек полиэдра и их применение в сетевой оптимизации. (Russian. Russian summary) [Conditions for the stability of a set of extreme points of a polyhedron and their application in network optimization] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. 68 *pp.* (D. Klatte) **98j:90090** 90C35 (90C31)

— Lipschitz continuity of Pareto-optimal extreme points. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1996**, *no.* 4, 41–45, 63; *translation in Moscow Univ. Comput. Math. Cybernet.* **1996**, *no.* 4, 32–35 (1997). (Joachim Käschel) **98a:90087** 90C29 (90C31)

Davidson, P. A. The role of angular momentum in the magnetic damping of turbulence. (English summary) *J. Fluid Mech.* **336** (1997), 123–150. (Summary) **98c:76047** 76F05 (76W05)

— On the application of the Kelvin-Arnol'd energy principle to the stability of forced two-dimensional inviscid flows. (English summary) *J. Fluid Mech.* **356** (1998), 221–257. (Alexander Lifschitz) **98m:76065** 76Exx

Davidson, Russell (*with* Duclos, Jean-Yves) Statistical inference for the measurement of the incidence of taxes and transfers. *Econometrica* **65** (1997), *no.* 6, 1453–1465. 90A70 (62P20)

Davidson, W. Barotropic perfect fluid in steady cylindrically symmetric rotation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 119–127. (Nora Bretón Báez) **98e:83012** 83C15 (83C20)

Davies, Alan J. Finite elements on a spreadsheet. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 2, 249–267. 65N30

— (*with* Christianson, D. B.; Dixon, L. C. W.; Roy, Ranadhir; Van der Zee, P.) Giving reverse differentiation a helping hand. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 53–67. (Summary) **98k:65009** 65D25 (65N06)

Davies, B. L. (*with* Dirl, R.) Space group structures: integrated software for IBM-compatible PCs. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 457–464, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 20H15 (81R05, 82D25)

— (*with* Dirl, R.) Space group representations: integrated software for IBM-compatible PCs. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 465–468, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 20H15 (81R05, 82D25)

— (*with* Dirl, R.; Payer, K.) Symmetrized plane waves. I. Symmorphic space groups. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 52–72. (Vojtěch Kopský) **98b:82081** 82D25 (20G45, 20H15)

— (*with* Dirl, R.; Payer, K.) Symmetrized plane waves. II. Symmetrized $\mathbf{P}m\bar{3}m$-plane waves. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 73–82. (Vojtěch Kopský) **98b:82082** 82D25 (20G45, 20H15)

— (*with* Dirl, R.; Payer, K.) Symmetrized plane waves. III. Nonsymmorphic space groups. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 83–97. (Vojtěch Kopský) **98b:82083** 82D25 (20G45, 20H15)

— (*with* Dirl, R.; Payer, K.) Symmetrized plane waves. IV. Symmetrized $\mathbf{P}m\bar{3}n$-plane waves. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 98–110. (Vojtěch Kopský) **98b:82084** 82D25 (20G45, 20H15)

— (*with* Dirl, R.; Zeiner, P.; Janovec, V.) Coset decompositions of space groups: applications to domain structure analysis. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 456–466. (Vojtěch Kopský) **98g:20079** 20H15 (82–01, 82D25)

— (*with* Dirl, R.; Goldsmith, Brendan) Canonical subgroup matrices for free abelian groups of finite rank: application to intersection and union subgroups. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3573–3583. (Vojtěch Kopský) **98g:20078** 20H15 (82D25)

Davies, Brian (*with* McGuire, Justin; Batchelor, Murray T.) Linear and optimal non-linear control of one-dimensional maps. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 361–364. (Summary) **98d:58052** 58F03 (58F13)

lashmore-Davies, C. N. *see* **Lashmore-Davies, C. N.**

Davies, Christopher (*with* Carpenter, Peter W.) Instabilities in a plane channel flow between compliant walls. (English summary) *J. Fluid Mech.* **352** (1997), 205–243. (Summary) **98i:76031** 76E05 (73K70)

Davies, E. B. L^p spectral theory of higher-order elliptic differential operators. *Bull. London Math. Soc.* **29** (1997), *no.* 5, 513–546. (Peter Stollmann) **98d:35164** 35P05 (35J40, 47D06, 47F05)

— Limits on L^p regularity of self-adjoint elliptic operators. *J. Differential Equations* **135** (1997), *no.* 1, 83–102. (Kamoliddin Kh. Boimatov) **98i:47044** 47F05 (35J40, 47B25, 47D06)

Davies, H. G. (*with* Rangavajhula, K.) Dynamic period-doubling bifurcations of a unimodal map. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2043–2061. (Alexander Loskutov) **98i:58171** 58F14 (58F03)

Davies, I. M. (*with* Truman, A.) Discrete random walks and excursions. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 165–175, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:60135** 60J15

dunning-Davies, J. *see* **Dunning-Davies, J.**

Davies, M. E. (*with* Campbell, K. M.) The existence of inertial functions in skew product systems. (English summary) *Nonlinearity* **9** (1996), *no.* 3, 801–817. (Summary) **98c:58091** 58F11 (28D05, 34C30, 34D08)

Davies, Paul C. W. Einstein's greatest mistake? (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 219–227. (Seth A. Major) **98h:83097** 83F05

— (*with* Dray, Tevian; Manogue, Corinne A.) Detecting the rotating quantum vacuum. (English summary) *Phys. Rev. D* (3) **53** (1996), *no.* 8, 4382–4387. (Enric Verdaguer) **98a:81138** 81T20 (83C47)

— Einstein's greatest mistake? (English summary) *Modern mathematical models of time and their applications to physics and cosmology* (*Tucson, AZ*, 1996), 219–227, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 83F05

Davies, Raymond (*with* Zarrop, M. B.) On the reduced variance overparametrized pole-assignment self-tuning regulator. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 8, 681–697. (Summary) **98k:93048** 93B55

Davies, Rowan A temporal-logic approach to binding-time analysis. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 184–195, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40, 03B45, 03B70, 68N20)

— (*with* Royle, Gordon F.) Graph domination, tabu search and the football pool problem. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 217–228. (Anthony E. Barkauskas) **98e:05064** 05C35

Davies, Roy O. (*with* Rousseau, George) A divided-difference characterization of polynomials over a general field. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 73–78. (Summary) **98m:39077** 39B52

Davies, Steve (*with* Hall, Peter Gavin) On Ling's scaling law. (English summary) *Advances in the theory and practice of statistics*, 57–66, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62G05 (28A80, 60G17, 60G60)

Dávila, F. (*with* Gómez, Alfredo; Aragón, J. L.; Caballero, O.) The applications of Clifford algebras to crystallography using Mathematica. (English summary) *Clifford algebras with numeric and symbolic computations*, 251–266, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (52C22, 82–04, 82D25)

Dávila, J. *see* **Dávila, Julio**

gonzález-Dávila, J. C. *see* **González-Dávila, J. C.**

Davila, Juan (*with* Conca, Carlos) Optimal bounds for mixtures of infinitely many materials. (English summary) *Numerical methods in mechanics* (*Concepción*, 1995), 59–69, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (Summary) **98j:73063** 73K40 (49Q99, 73B27, 73K10)

Dávila, Julio (*with* Chiappori, Pierre-André) Cycles and sunspots: the Poincaré-Hopf approach. (English summary) *J. Math. Econom.* **26** (1996), *no.* 3, 269–284. (Dave Furth) **98b:90024** 90A14 (58F40)

— Sunspot fluctuations in dynamics with predetermined variables. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 483–495. (Xian Zhi George Yuan) **98m:90033** 90A14 (90A60)

gonzález-Dávila, M. C. *see* **González-Dávila, M. C.**

Dávila Romero, Luciana (*with* Paz, Juan Pablo) Decoherence and initial correlations in quantum Brownian motion. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 6, 4070–4083. (Summary) **98f:82086** 82C10 (82C35, 82C41)

Da Vinci, Leonardo *see* **da Vinci, Leonardo**

Davini, Cesare Note on a parameter lumping in the vibrations of elastic beams. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 83–99 (1997). (Summary) **98i:73021** 73D30 (34L15, 49R05, 73K05, 73V25)

Davio, M. (*with* Rudeanu, S.) Boolean design with autodual negative gates. I. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **39** (1994), *no.* 2, 243–251. (Summary) **98e:94045a** 94C10

— (*with* Rudeanu, S.) Boolean design with autodual negative gates. II. *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **39** (1994), *no.* 4, 475–489. (Summary) **98e:94045b** 94C10

Davis, A. M. J. (*with* Cunning, G. M.; Weidman, P. D.) Radial stagnation flow on a rotating circular cylinder with uniform transpiration. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 113–128. (Summary) **98k:76027** 76D05 (76D10, 76U05)

Davis, Alan R. (*with* Aronov, Boris; Dey, Tamal Krishna; Pal, Sudebkumar P.; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 284–295, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68U05

Davis, Anne-Christine (*with* Davis, Stephen C.; Trodden, Mark) $N = 1$ supersymmetric cosmic strings. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 257–264. (Summary) **98f:83102** 83E30 (81T30, 83F05)

— *see also* **Formation and interactions of topological defects, 98e:83004**

Davis, Dan On a tiling scheme from M. C. Escher. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 23, *approx.* 11 *pp.* (*electronic*). (Igor Rivin) **98c:52022** 52C20

Davis, Dominic A. R. (*with* Smith, Frank T.) On subsonic, supersonic and hypersonic inflectional-wave/vortex interaction. (English summary) *J. Engrg. Math.* **30** (1996), *no.* 6, 611–645. (Summary) **98a:76074** 76N20 (76E30, 76J20, 76K05)

Davis, Geoffrey V. (*with* Mallat, S.; Avellaneda, Marco) Adaptive greedy approximations. (English summary) *Constr. Approx.* **13** (1997), *no.* 1, 57–98. (Dinh Dung) **98a:65014** 65D15 (41A10, 41A46, 41A63, 65Y20)

Davis, George J. (*with* Bevis, Jean H.; Blount, Kevin K.; Domke, Gayla S.; Miller, Valerie A.) The rank of a graph after vertex addition. (English summary) *Linear Algebra Appl.* **265** (1997), 55–69. (Slobodan Simić) **98i:05116** 05C50

Davis, Graham (*with* Underwood, Robert G.) Control of buffer stocks modeled by functional-differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1087–1097. (*see* **98i:00028**) 93E20 (93C30)

Davis, James Andrew (*with* Arasu, K. T.; Jedwab, Jonathan; Ma, Siu Lun; McFarland, Robert L.) Exponent bounds for a family of abelian difference sets. (English summary) *Groups, difference sets, and the Monster* (*Columbus, OH*, 1993), 129–143, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (A. P. Street) **98b:05014** 05B10

— (*with* Sehgal, Surinder K.) Using the simplex code to construct relative difference sets in 2-groups. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 267–277. (Summary) **98c:05028** 05B10

— (*with* Jedwab, Jonathan) A unifying construction for difference sets. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 13–78. (Dieter Jungnickel) **98g:05021** 05B10 (20D60)

— (*with* Jedwab, Jonathan) Nested Hadamard difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 13–20. (Kathryn J. Horadam) **98h:05037** 05B10 (62K05)

Davis, Larry D. (*with* Collins, Emmanuel G., Jr.; Richter, Stephen) Design of reduced-order, H_2 optimal controllers using a homotopy algorithm. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 97–126. 93B36 (93B40)

Davis, M. *see* **Davis, Michael Walter**

Davis, M. W. *see* **Davis, Michael Walter**

Davis, Mark H. A. Option pricing in incomplete markets. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 216–226, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Zheng, Wei Xin) A new order estimation technique for time series modeling. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 400–403. (Summary) **98c:93105** 93E10 (93E03)

— (*with* Howl, J. M.) A Markovian analysis of the finite-buffer $M/D/1$ queue. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1947–1962. (Summary) **98e:60150** 60K25 (90B22)

Davis, Michael Walter (*with* Ancel, Fredric D.; Guilbault, Craig R.) CAT(0) reflection manifolds. *Geometric topology* (*Athens, GA*, 1993), 441–445, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (R. J. Daverman) **98i:57068** 57S30 (57Q99)

— (*with* Charney, R.; Moussong, G.) Nonpositively curved, piecewise Euclidean structures on hyperbolic manifolds. *Michigan Math. J.* **44** (1997), *no.* 1, 201–208. (Athanase Papadopoulos) **98b:53034** 53C23

Davis, Paul W. (*with* Maxwell, James W.; Remick, Kinda M.) 1997 AMS-IMS-MAA annual survey. *Notices Amer. Math. Soc.* **45** (1998), *no.* 1, 33–63. 01A80

Davis, Philip J. (*with* Hersh, Reuben; Marchisotto, Elena Anne) Ideal mathematician. (Russian) Translated from the English by I. S. Safuanov. *Priroda* **1997**, *no.* 3, 126–128. (Editors) **98j:01045** 01A75 (01A80)

Davis, Randall (*with* Stahovich, Thomas F.; Shrobe, Howard) Qualitative rigid body mechanics. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 138–144, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 70E99 (70–08)

Davis, Richard Alan (*with* Yao, Yi-Ching; Huang, Dawei) On almost sure behavior of change-point estimators. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 359–372, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G05 (60F15)

— (*with* Chen, Meiching; Dunsmuir, William T. M.) Inference for seasonal moving average models with a unit root. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 160–176, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62160** 62M10

— Gauss-Newton and M-estimation for ARMA processes with infinite variance. (English summary) *Stochastic Process. Appl.* **63** (1996), *no.* 1, 75–95. (Vipul A. Kalamkar) **98f:62248** 62M10

— (*with* Dunsmuir, William T. M.) Least absolute deviation estimation for regression with ARMA errors. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 481–497. (Vipul A. Kalamkar) **98i:62071** 62M10 (62M09)

— (*with* Wu, Wei[4]) M-estimation for linear regression with infinite variance. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 1–20. (Wojciech Zieliński) **98i:62059** 62J05 (62F12, 62F35)

Davis, S. H. (*with* Tilley, B. S.) On symmetric long-wave patterns in two-layer flows. (English summary) *Phys. D* **108** (1997), *no.* 3, 291–314. (Summary) **98g:76036** 76E30 (58F40, 76D33, 76V05)

Davis, Stephen C. (*with* Davis, Anne-Christine; Trodden, Mark) $N = 1$ supersymmetric cosmic strings. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 257–264. (Summary) **98f:83102** 83E30 (81T30, 83F05)

Davis, Stephen F. Shock capturing with Padé methods. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 85–98. (*see* **98g:00021**) 65M06

D'Avis, Winfried Theoretische Lücken der Cognitive Science. (English summary) [Theoretical gaps in cognitive science] *J. Gen. Philos. Sci.* **29** (1998), *no.* 1, 37–57. 00A30 (68T01)

Davison, A. C. (*with* Hinkley, D. V.) ★ Bootstrap methods and their application. (English summary) With 1 IBM-PC floppy disk (3.5 inch; HD). Cambridge Series on Statistical and Probabilistic Mathematics. *Cambridge University Press, Cambridge*, 1997. x+582 *pp. ISBN* 0-521-57391-2 (Publisher's description) **98g:62080** 62G09 (62E20)

Davison, Daniel B. (*with* Wu, Tiee-Jian; Burke, John P.) A measure of DNA sequence dissimilarity based on Mahalanobis distance between frequencies of words. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1431–1439. (Summary) **98m:92019** 92D20

Davison, E. J. (*with* Hu, Yang Zeng) A PMGOP method of parameter identification for a class of continuous nonlinear systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 349–378. 93B30

— (*with* Qiu, Li) Correction to: "A unified approach for the stability robustness of polynomials in a convex set" [Automatica J. IFAC **28** (1992), no. 5, 945–959; MR 93f:93107]. *Automatica J. IFAC* **33** (1997), *no.* 10, 1929. (From the text) **98k:93088** 93D09 (93B40)

Davitashvili, T. D. (*with* Criado, F.) On asynchronous iterative methods for the solution of non-linear equations and systems of equations for multiprocessors. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 253–263. 65H05 (65H10)

Davoli, Renzo (*with* Babaoğlu, Özalp; Giachini, Luigi; Sabattini, Paolo) The inherent cost of strong-partial view-synchronous communication. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 72–86, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15)

Davvaz, B. On H_v-rings and fuzzy H_v-ideals. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 33–42. 16Y99

— On H_v-subgroups and antifuzzy H_v-subgroups. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 181–190. 20N25 (04A72, 20N20)

Davydov, Aleksei Aleksandrovich (*with* Rosales-Gonsales, È.) Complete classification of generic linear second-order partial differential equations in the plane. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 151–154. (J. Chrastina) **98b:35011** 35A30 (35M10, 58F36, 58F39)

— Periodic λ-rings and periods of finite groups. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 75–82; *translation in Sb. Math.* **188** (1997), *no.* 8, 1183–1190. (Summary) **98j:20010** 20C99 (20D99)

Davydov, È. G. (*with* Baginskaya, S. N.) Fredholm equations of the first kind. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 226–230. (Summary) **98h:45001** 45B05 (45L05)

— (*with* Mikhaĭlova, I. A.) The problem of linear-inhomogeneous synthesis of multicommodity networks. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 2, 39–42, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997,** *no.* 2, 56–60. 90C35 (90B10)

— (*with* Dyadechko, E. Yu.) On the application of controlled Markov processes in ecology. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 3, 35–38, 51. 92D40 (90C40)

Davydov, O. V. Characterization of the best uniform approximation of periodic functions by convex classes defined by strictly CVD kernels. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 177–184, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:41038** 41A50

— (*with* Sommer, Manfred; Strauss, Hans) On almost interpolation by multivariate splines. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 45–58, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Guido Walz) **98k:41015** 41A15 (41A05, 41A63)

— (*with* Sommer, Manfred; Strauss, Hans) Locally linearly independent systems and almost interpolation. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 59–72, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Guido Walz) **98k:41016** 41A15 (41A05, 41A63)

— (*with* Nürnberger, Günther; Walz, Guido; Zeilfelder, F.) Interpolation by bivariate splines on crosscut partitions. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 189–203, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Hans-Jörg Wenz) **98i:41048** 41A63 (41A15)

— (*with* Pinkus, Allan) Best approximation and cyclic variation diminishing kernels. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 380–423. (A. Kroó) **98k:41042** 41A50 (41A15)

— On almost interpolation. (English summary) *J. Approx. Theory* **91** (1997), *no.* 3, 398–418. (Günther Nürnberger) **98m:41002** 41A05 (41A30)

Davydov, R. N. The inverse scattering problem on the axis for the Sturm-Liouville equation with a quadratically decreasing potential. (Russian) *Functional analysis and applied mathematics* (*Russian*), 3–13, 212, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 34L25 (34A55)

Davydov, V. F. (*with* Khusainov, D. Ya.) Solution estimates of quadratic systems with delay. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 345–356 (1997). (Tibor Krisztin) **98f:34111** 34K20

Davydov, Yu. A. (*with* Lifshits, M. A.; Smorodina, N. V.) ★ Локальные свойства распределений стохастических функционалов. (Russian. Russian summary) [Local properties of distributions of stochastic functionals] Теория Вероятностей и Математическая Статистика [Probability Theory and Mathematical Statistics], 46. *Fizmatlit "Nauka", Moscow*, 1995. 256 *pp. ISBN* 5-02-015210-2 (Werner Linde) **98k:60053a** 60G07 (60G15, 60G17, 60G55)

— On the rate of strong convergence for convolutions. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part II (Kazan′, 1995). *J. Math. Sci.* **83** (1997), *no.* 3, 393–396. (From the introduction) **98d:60007** 60B10

— (*with* Lifshits, M. A.; Smorodina, N. V.) ★ Local properties of distributions of stochastic functionals. (English summary) Translated from the 1995 Russian original by V. E. Nazaĭkinskiĭ and M. A. Shishkova. Translations of Mathematical Monographs, 173. *American Mathematical Society, Providence, RI*, 1998. xiv+184 *pp. ISBN* 0-8218-0584-3 (Werner Linde) **98k:60053b** 60G07 (60G15, 60G17, 60G55)

Davyskib, A. (*with* Vinch, D.; Samsonov, V. A.) Hyposcopic stabilization of the rotation of a spacecraft with two antennas. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 5, 69–71. 70M20 (70E15, 70K20)

Dawar, Anuj (*with* Hella, Lauri; Kolaitis, Phokion G.) Implicit definability and infinitary logic in finite model theory (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 624–635, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 03C13 (03C75, 68Q15)

— (*with* Lindell, Steven; Weinstein, Scott) Infinitary logic and inductive definability over finite structures. (English summary) *Inform. and Comput.* **119** (1995), *no.* 2, 160–175. (György Turán) **98g:03081** 03C13 (03C75, 03C80, 68Q15)

— (*with* Lindell, Steven; Weinstein, Scott) First order logic, fixed point logic and linear order. (English summary) *Computer science logic* (*Paderborn*, 1995), 161–177, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03078** 03C13 (03C80, 68Q15)

— (*with* Gottlob, Georg; Hella, Lauri) Capturing relativized complexity classes without order. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 109–122. (Christine Charretton) **98m:68087** 68Q15 (03C13, 03C80, 03D15)

Dawes, Robin W. (*with* Bermond, Jean-Claude; Ergincan, Fahir Ö.) De Bruijn and Kautz bus networks. (English summary) *Networks* **30** (1997), *no.* 3, 205–218. (Summary) **98e:05102** 05C90 (68M10)

Dawid, A. P. Selection paradoxes of Bayesian inference. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 211–220, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H99 (62F07, 62F15)

— (*with* Fang, B. Q.) Comparison of full Bayes and Bayes-least square criteria for normal discrimination. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 4, 401–410. (Summary) **98h:62105** 62H30

— *see also* **Wolpert, Robert L., 98f:62115**

Dawid, Herbert (*with* Mehlmann, Alexander) Two population contests and the language of genetics. *Mathematical linguistics and related topics*, 88–94, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 92D15

— ★ Adaptive learning by genetic algorithms. Analytical results and applications to economical models. Lecture Notes in Economics and Mathematical Systems, 441. *Springer-Verlag, Berlin*, 1996. x+166 *pp. ISBN* 3-540-61513-X (James Bergin) **98h:92028** 92D15 (68T05, 90A60, 90D40)

— (*with* Wirl, F.; Novak, Andreas J.; Feichtinger, G.) Indeterminacy of open-loop Nash equilibria: the ruling class versus the tabloid press. (English summary) *Uncertainty: models and measures* (*Lambrecht*, 1996), 124–136, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (*see* **98e:00024**) 90A16 (00A69, 90D15)

— (*with* Kopel, Michael) On the economically optimal exploitation of a renewable resource: the case of a convex environment and a convex return function. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 272–297. (Summary) **98e:90050** 90A30

Dawson, C. Bryan A better draft: fair division of the talent pool. *College Math. J.* **28** (1997), *no.* 2, 82–88. (Daniel Elliott Loeb) **98a:90012** 90A05 (00A69, 05A05)

Dawson, Clint N. (*with* Arbogast, Todd; Keenan, Philip T.; Wheeler, Mary F.; Yotov, Ivan) The application of mixed methods to subsurface simulation. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 1–12, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98i:76049** 76M10 (76M20, 76S05, 76T05)

— (*with* Chippada, S.; Martínez, Mónica Lucía; Wheeler, Mary F.) A projection method for constructing a mass conservative velocity field. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 1–10. 76M25

Dawson, D. M. (*with* Vedagarbha, P.; Rhodes, Walter, Jr.) An adaptive controller for a general class of switched reluctance motor models. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1647–1655. 93C40 (93C95)

Dawson, Donald A. (*with* Fleischmann, Klaus) A continuous super-Brownian motion in a super-Brownian medium. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 213–276. (Steven N. Evans) **98a:60062** 60G57 (60J60, 60K35)

Dawson, Edward Pyle (*with* Golić, Jovan Dj.; Salmasizadeh, M.; Simpson, L.) Fast correlation attacks on nonlinear filter generators. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 37–42. 94A60

Dawson, John W., Jr. ★ Logical dilemmas. (English summary) The life and work of Kurt Gödel. *A K Peters, Ltd., Wellesley, MA*, 1997. xiv+361 *pp.* *ISBN* 1-56881-025-3 (E. Mendelson) **98a:01017** 01A70 (03-03, 03A05)

Dawson, Michael S. (*with* Manry, Michael T.; Hsieh, Cheng-Hsiung; Fung, Adrian K.; Apollo, Steven J.) Cramer Rao maximum a posteriori bounds on neural network training error for non-Gaussian signals and parameters. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 3, 381–391. (Summary) **98c:94036** 94C99 (94A15)

ponce Dawson, Silvina *see* **Ponce Dawson, Silvina**

Dax, Achiya A proximal point algorithm for minimax problems. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 600–622. (*see* **98f:65005**) 90C30 (49J35, 65K05)

— (*with* Sreedharan, V. P.) Theorems of the alternative and duality. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 561–590. (Paul H. Calamai) **98i:49039** 49N15 (90C20)

— An elementary proof of Farkas' lemma. (English summary) *SIAM Rev.* **39** (1997), *no.* 3, 503–507. (Summary) **98d:90064** 90C05

Day, D. P. (*with* Oellermann, Ortrud R.; Swart, Henda C.) A characterization of 3-Steiner distance hereditary graphs. (English summary) *Networks* **30** (1997), *no.* 4, 243–253. (Michael E. Raines) **98m:05160** 05C75 (05C12)

Day, David An efficient implementation of the nonsymmetric Lanczos algorithm. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 566–589. (L. W. Ehrlich) **98c:65058** 65F15

Day, Jane M. Robert C. Thompson, 1931–1995. *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 13–18. (Editors) **98k:01040c** 01A70

Day, M. J. (*with* Reynolds, W. C.; Mansour, N. N.) The structure of the compressible reacting mixing layer: insights from linear stability analysis. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 993–1007. (Summary) **98k:76115** 76N15 (76E99, 80A32)

Day, Richard H. (*with* Zhang, Min) Classical economic growth theory: a global bifurcation analysis. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 1969–1988. (*see* **98a:90007**) 90A16 (58F40)

Day, Roger (*with* Bryant, John Lowrie; Lefkopoulou, Myrto) Adaptation of bivariate frailty models for prediction, with application to biological markers as prognostic indicators. (English summary) *Biometrika* **84** (1997), *no.* 1, 45–56. (Marcus W. Feldman) **98k:62182** 62P10

Day, W. A. A note on the propagation of temperature disturbances. *Quart. Appl. Math.* **55** (1997), *no.* 3, 565–572. 35K05 (80A20)

Day, William H. E. Complexity theory: an introduction for practitioners of classification. *Clustering and classification*, 199–233, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:62115**) 62H30 (68Q15, 68Q25)

Daya, Zahir A. (*with* Deyirmenjian, V. B.; Morris, Stephen W.) Weakly nonlinear analysis of electroconvection in a suspended fluid film. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1706–1713. (Summary) **98e:76038** 76E25 (76A15, 76E15, 76E30)

Daydé, Michel J. (*with* L'Excellent, Jean-Yves; Gould, Nicholas Ian Mark) Element-by-element preconditioners for large partially separable optimization problems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1767–1787. (K. Schittkowski) **98j:90070** 90C30

Dayi, Ömer F. (*with* Duru, I. H.) q-Schrödinger equations for $V = u^2 + 1/u^2$ and Morse potentials in terms of the q-canonical transformation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2373–2384. (Summary) **98c:81096** 81R50 (81Q05)

— Consistent iteractions in terms of the generalized fields method. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4387–4397. 81T13 (81T70)

— q-deformed star products and Moyal brackets. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 489–496. (Akira Yoshioka) **98k:81124** 81S10 (58F06, 81R50)

Daykin, David E. (*with* Tran-ngoc Danh) The structure of V-order for integer vectors. (English summary) Festschrift for C. St. J. A. Nash-Williams. *Congr. Numer.* **113** (1996), 43–53. (Summary) **98c:15007** 15A03

— (*with* Tran-ngoc Danh) Ordering integer vectors for coordinate deletions. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 417–426. (Ian Anderson) **98f:05019** 05A99 (06A07)

abu-Dayyeh, Walid *see* **Abu-Dayyeh, Walid**

D'Azevedo, E. (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

Dazord, Jean Une propriété extrémale de la diagonale d'une matrice. (French summary) [An extremal property of the diagonal of a matrix] Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 67–77. (B. N. Moyls) **98a:15053** 15A60

De, B. K. (*with* De, U. C.) Some properties of a semi-symmetric metric connection on a Riemannian manifold. (English and Turkish summaries) *Istanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 111–117 (1997). 53B05

— (*with* De, U. C.) On a type of semi-symmetric connection on a Riemannian manifold. (English summary) *Ganita* **47** (1996), *no.* 2, 11–14. (V. C. Gupta) **98a:53028** 53B15

— (*with* De, U. C.) On conformally flat generalized pseudo-Ricci symmetric manifolds. *Soochow J. Math.* **23** (1997), *no.* 4, 381–389. (Bang-yen Chen) **98k:53061** 53C25 (53C42)

De, Carli Alessandro *see* **De Carli, Alessandro**

De, Mallika (*with* Das, Debasish; Ghosh, Mabhin; Sinha, Bhabani P.) An efficient sorting algorithm on the multi-mesh network. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1132–1137. 68Q22

— (*with* Sinha, Bhabani P.) Fast parallel multiplication using redundant quarternary number system. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 1, 13–23. 68Q35

De, Rajat K. (*with* Pal, Sankar Kumar; Basak, Jayanta) Fuzzy feature evaluation index and connectionist realization. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 173–188. 68T10 (04A72)

De, S. S. Internal symmetry of hadrons: Finsler geometrical origin. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 1, 89–110. (Summary) **98c:81237** 81V05 (53B40, 53B50)

De, Subimal (*with* Ray, Goshaidas) On-line parameter estimation and two-level control of large-scale discrete time systems. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 427–443. 93E10 (93C55)

De, Supriya Kumar (*with* Biswas, Ranjit; Roy, Akhil Ranjan) Optimal selection of the most suitable method cut of n alternatives: an intuitionistic fuzzy approach. (English summary) *Notes IFS* **3** (1997), *no.* 3, 97–104. 90B50 (04A72)

— (*with* Biswas, Ranjit; Roy, Akhil Ranjan) On intuitionistic fuzzy sets. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 14–20. (*see* **98e:03031**) 03E72

De, Susmita (*with* Pal, Sankar Kumar; Ghosh, Ashish) Genotypic and phenotypic assortative mating in genetic algorithm. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 209–226. 68T05 (90C27)

De, U. C. (*with* Konar, Arabinda; Guha, N.) On generalised projective 2-recurrent Riemannian manifold. (English summary) *J. Nat. Acad. Math. India* **9** (1991), *no.* 1, 1–4. 53C15

— (*with* Biswas, Haider Ali) On generalised 3-recurrent spaces. (English summary) *Ganit* **14** (1994), *no.* 1-2, 85–88. (Lovejoy S. K. Das) **98b:53019** 53B20

— (*with* Ghosh, J. C.) On a type of contact manifold. *Note Mat.* **14** (1994), *no.* 2, 155–160 (1997). (Domingo Chinea) **98d:53040** 53C15

— On unbilical hypersurface of a generalized recurrent Riemannian space. (English and Turkish summaries) *Istanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 29–33 (1997). 53B25

— (*with* De, B. K.) Some properties of a semi-symmetric metric connection on a Riemannian manifold. (English and Turkish summaries) *Istanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 111–117 (1997). 53B05

— (*with* Ghosh, J. C.) On generalized pseudo-Ricci symmetric Sasakian manifolds. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 131–136 (1997). 53C25

— (*with* Kamilya, D.) On generalized pseudoconcircular symmetric manifolds. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 203–206. (Andrew Bucki) **98f:53039** 53C25

— (*with* De, B. K.) On a type of semi-symmetric connection on a Riemannian manifold. (English summary) *Ganita* **47** (1996), *no.* 2, 11–14. (V. C. Gupta) **98a:53028** 53B15

— (*with* Ghosh, J. C.; Barua, B.) On pseudo-symmetric and pseudo-Ricci symmetric contact manifolds. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 305–310. 53C15

— (*with* Ali Shaikh, Absos) K-contact and Sasakian manifolds with conservative quasi-conformal curvature tensor. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 349–354. 53C15 (53C25)

— (*with* Biswas, S. C.) On a type of semi-symmetric non-metric connection on a Riemannian manifold. (English summary) *Ganita* **48** (1997), *no.* 2, 91–94. 53B15

— (*with* Biswas, S. C.) On a type of semi-symmetric metric connection on a Riemannian manifold. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 90–96. (Andrew Bucki) **98h:53040** 53C05

— (*with* De, B. K.) On conformally flat generalized pseudo-Ricci symmetric manifolds. *Soochow J. Math.* **23** (1997), *no.* 4, 381–389. (Bang-yen Chen) **98k:53061** 53C25 (53C42)

Deaconescu, Marian (*with* Mazurov, Viktor Danilovich) Finite groups with large automizers for their nonabelian subgroups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 441–444. (Summary) **98h:20035** 20D99

— (*with* Du, Hang K.) Counting similar automorphisms of finite cyclic groups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 345–348. (Summary) **98f:20004** 20D45

Deaconu, Mădălina (*with* Wantz, Sophie) Comportement des temps d'atteinte d'une diffusion fortement rentrante. (French summary) [Behavior of the first hitting times for a strongly inward diffusion] *Séminaire de Probabilités, XXXI*, 168–175, *Lecture Notes in Math., 1655, Springer, Berlin*, 1997. (Summary) **98m:60124** 60J60 (60H10)

De Acosta, Alejandro D. *see* **de Acosta, Alejandro D.**

De Agostino, Sergio (*with* Bongiovanni, Giancarlo; Crescenzi, Pierluigi) MAX SAT and MIN SET COVER approximation algorithms are P-complete. (English summary) *Parallel Process. Lett.* **5** (1995), *no.* 2, 293–298. (Summary) **98a:68090** 68Q25 (68Q15)

— (*with* Silvestri, Riccardo) A worst-case analysis of the LZ2 compression algorithm. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 258–268. (Summary) **98m:68054** 68P99 (68Q25)

De Aguiar, Marcus A. M. *see* **de Aguiar, Marcus A. M.**

Deakin, A. S. (*with* Ord, G. N.) Classical spin in a potential field. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 2013–2021. (Summary) **98i:81032** 81P99 (82B03)

— (*with* Ord, G. N.) Random walks and Schrödinger's equation in $(2 + 1)$ dimensions. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 819–830. (Summary) **98c:82031** 82B41 (35Q40, 35R60)

Deakin, Michael A. B. Computer algebra and Euclidean theorems. *Math. Student* **65** (1996), *no.* 1-4, 232–240. 52B55 (68Q40)

— Yet more on Urquhart's theorem. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 1, 3. (H. W. Guggenheimer) **98e:51023** 51M04 (01A60)

— Taking mathematics to ultima thule: Horatio Scott Carslaw—his life and mathematics. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 1, 4–16. (Willard Parker) **98d:01037** 01A70 (01A60)

— (*with* Murray-Hogeboom, Karen) Some special function identities arising from electrophysiology. *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 751–753. 33B15 (92C30)

— The Hermite equation and the generalised Laplace transform. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 227–229. (R. G. Buschman) **98c:44001** 44A10 (33C45, 35J05)

DeAlba, Luz M. (*with* Cain, Bryan; Hogben, Leslie; Johnson, Charles Royal) Multiplicative perturbations of stable and convergent operators. (English summary) *Linear Algebra Appl.* **268** (1998), 151–169. (Sing Cheong Ong) **98j:15009** 15A18 (47A99)

De Alfaro, Luca *see* **de Alfaro, Luca**

De Alfaro, Vittorio *see* **de Alfaro, Vittorio**

De Almeida, Luis Manuel Lopes Neves *see* **de Almeida, Luis Manuel Lopes Neves**

De Almeida, R. M. C. *see* **de Almeida, R. M. C.**

De Alwis, S. P. *see* **de Alwis, S. P.**

De Alwis, Tilak *see* **de Alwis, Tilak**

De Amo, E. *see* **de Amo, E.**

De A. Moreira, Carlos **Gustavo T.** *see* **de A. Moreira, Carlos Gustavo T.**
Dean, A. M. *see* **Dean, Angela M.**
Dean, Alice M. (*with* Hutchinson, Joan P.) Rectangle-visibility representations of bipartite graphs. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 9–25. (Thomas Andreae) **98c:05153** 05C99 (05C10, 05C35)
Dean, Angela M. (*with* Kao, Lie-Jane; Notz, W. I.) Efficient block designs for estimating conditional main effects contrasts. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 249–258, xiii. 62K10
— (*with* Prescott, P.; Draper, Norman R.; Lewis, Susan Margaret) Further properties of mixture designs for five components in orthogonal blocks. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 2, 147–156. (Summary) **98a:62100** 62K05 (62K10)
Dean, C. B. (*with* Balshaw, R.) Efficiency lost by analyzing counts rather than event times in Poisson and overdispersed Poisson regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1387–1398. (Summary) **98m:62226** 62M07
Dean, David S. Langevin equation for the density of a system of interacting Langevin processes. (English summary) *J. Phys. A* **29** (1996), *no.* 24, L613–L617. (Summary) **98c:82053** 82C31
— (*with* Drummond, I. T.; Horgan, R. R.) Renormalization of drift and diffusitivity in random gradient flows. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7867–7879. (Summary) **98c:82051** 82C28 (82C70)
— (*with* Lancaster, David) Site-disordered spin systems in the Gaussian variational approximation. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 37–62. (Summary) **98h:82030** 82B44
— (*with* Drummond, I. T.; Horgan, R. R.) Continuum Derrida approach to drift and diffusivity in random media. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 385–396. (Summary) **98f:82115** 82C44
Dean, Edward J. (*with* Glowinski, Roland) A wave equation approach to the numerical solution of the Navier-Stokes equations for incompressible viscous flow. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 783–791. (Summary) **98j:76021** 76D05 (65N40, 76M25)
Dean, Nathaniel (*with* Berry, Jonathan) Exploring hypergraphs with Link. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 5–13. (Summary) **98j:05105** 05C65
— *see also* **African Americans in mathematics**, **98e:00012**
Dean, Thomas (*with* Givan, Robert) Model minimization in Markov decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 106–111, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C40 (68T20)
De Andrade, V. C. *see* **de Andrade, V. C.**
Deang, Jennifer (*with* Du, Qiang; Gunzburger, Max D.; Peterson, Janet) Vortices in superconductors: modelling and computer simulations. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1957–1968. (Summary) **98k:82203** 82D55
De Angeli, A. (*with* Argenti, F.; Del Re, E.; Genesio, R.; Pagni, P.; Tesi, Alberto) Secure communications based on discrete time chaotic systems. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 41–50. (*see* **98g:93001**) 93C10 (93D21)
De Angelis, Elena (*with* Mancini, A.) A model for the evolution of sedimentation beds in the dynamic of a pipelined non-Newtonian fluid. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 65–78. (Summary) **98c:76109** 76T05 (76A05)
De Angelis, Pasquale L. (*with* Pardalos, Panos M.; Toraldo, Gerardo) Quadratic programming with box constraints. (English summary) *Developments in global optimization* (*Szeged*, 1995), 73–93, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C20 (65G10)
Deans, Matthew C. (*with* Blum, Rick S.) Distributed random signal detection with multibit sensor decisions. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 516–524. 94A13
De Aragão, C. M. L. *see* **de Aragão, C. M. L.**
De Araujo, Carlos F. *see* **de Araujo, Carlos F., Jr.**
De Arcangelis, Lucilla *see* **de Arcangelis, Lucilla**
De Arcangelis, Riccardo (*with* Corbo Esposito, Antonio) A characterization of sets of functions and distributions on $\mathbf{R}^n$ described by constraints on the gradient. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 167–194. (Michele Carriero) **98j:49001** 49J10 (46F99)
— (*with* Carbone, Luciano) On the relaxation of some classes of unbounded integral functionals. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 221–252 (1997). (Francesco Ferro) **98k:49021** 49J45 (73V25)
— (*with* Carbone, Luciano) On integral representation, relaxation and homogenization for unbounded functionals. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 129–135. (Dan Polišević) **98k:49022** 49J45 (35B27, 73B27, 73C50)
Dearden, Bruce (*with* Metzger, Jerry) Roots of polynomials modulo prime powers. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 601–606. (Maurice Mignotte) **98d:11027** 11C08 (12E05)
D'Eath, P. D. ★ Supersymmetric quantum cosmology. (English summary) Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1996. xvi+252 *pp. ISBN* 0-521-55287-7 (Orfeu Bertolami) **98b:83034** 83C45 (81V17, 83–02, 83E50, 83F05)
— (*with* Cheng, A. D. Y.; Moniz, Paulo Rodrigues Lima Vargas) Quantization of a Friedmann-Robertson-Walker model in $N = 1$ supergravity with gauged supermatter. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 373–378, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:83105** 83E50
— Supergravity and canonical quantization. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 609–628. (Summary) **98i:83085** 83E50 (83C45)
— (*with* Cheng, A. D. Y.) Relation between the Chern-Simons functional and the no-boundary proposal. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 277–280. (Subenoy Chakraborty) **98c:83028** 83C45 (81T20)
De Azcárraga, José A. *see* **de Azcárraga, José A.**
De Baets, Bernard (*with* Mareš, Milan; Mesiar, Radko) Fuzzy zeroes and indistinguishability of real numbers. (English summary) *Computational intelligence* (*Dortmund*, 1997), 299–303, *Lecture Notes in Comput. Sci.*, 1226, *Springer, Berlin*, 1997. (*see* **98g:68003**) 04A72
— (*with* Mareš, Milan; Mesiar, Radko) $\mathcal{T}$-partitions of the real line generated by idempotent shapes. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 177–184. (Summary) **98g:04005** 04A72
— (*with* Marková-Stupňanová, Andrea) Analytical expressions for the addition of fuzzy intervals. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 203–213. (Summary) **98g:04006** 04A72
— (*with* Mesiar, Radko) Pseudo-metrics and $\mathcal{T}$-equivalences. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 471–481. (Summary) **98b:54007** 54A40 (04A72)
— (*with* Tsiporkova-Hristoskova, Elena) $\mathcal{T}$-compactness in separated fuzzy topological spaces. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 99–112. (Summary) **98j:54009** 54A40
— Coimplicators, the forgotten connectives. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 229–240. (Summary) **98j:03037** 03B52
— (*with* Tsiporkova-Hristoskova, Elena) A general framework for upper and lower possibilities and necessities. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 1–33. 28E10 (03E72)
De Bakker, Bas V. *see* **de Bakker, Bas V.**
Debarre, Olivier Théorèmes de connexité pour les produits d'espaces projectifs et les grassmanniennes. (English summary) [Connectedness theorems for products of projective spaces and Grassmannians] *Amer. J. Math.* **118** (1996), *no.* 6, 1347–1367. (Fyodor L. Zak) **98f:14015** 14F45 (14M15, 14N05)
De Barros, J. Acacio *see* **de Barros, J. Acacio**
De Barros, Luiz G. X. *see* **de Barros, Luiz G. X.**
De Bartolomeis, Paolo *see* **de Bartolomeis, Paolo**
Debbabi, Mourad A model-based concurrent specification language over CML: semantic foundations. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 3, 329–356. (Summary) **98g:68039** 68Q10 (68Q55, 68Q60)
Debbasch, Fabrice (*with* Mallick, K.; Rivet, J. P.) Relativistic Ornstein-Uhlenbeck process. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 945–966. (M. Lawrence Glasser) **98i:82046** 82C31 (82B31, 82C41)
— (*with* Brachet, M. E.) Non-linear acoustics in Galilean and relativistic barotropic fluids. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 135–146. (Summary) **98j:76153** 76Y05 (76N10, 76Q05)
De Berg, Mark *see* **de Berg, Mark**
Debergh, N. (*with* Beckers, Jules) On supersymmetry and generalized deformations. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 207–210, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R50
— (*with* Beckers, Jules) On Green-Cusson ansätze and deformed supersymmetric quantum mechanics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5297–5309. (Avinash Khare) **98b:81054** 81Q60 (81R50)
— Addendum to: "On nonlinear angular momentum theories, their representations and associated Hopf structures" [J. Phys. A **29** (1996), no. 12, 3075–3088; MR 97d:81079]. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5239–5242. (Summary) **98j:81147** 81R50 (17B37)
Débes, Pierre (*with* Douai, Jean-Claude) Algebraic covers: field of moduli versus field of definition. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 303–338. (Katherine F. Stevenson) **98k:11081** 11G25 (11G20, 12F12, 14E20, 14G20, 14H30)
— (*with* Zannier, Umberto) Hilbert's irreducibility theorem and G-functions. *Math. Ann.* **309** (1997), *no.* 3, 491–503. (P. Bundschuh) **98k:11102** 11J72 (11J91, 12E25, 33E20, 33E30)
Debiard, Amédée Opérateurs différentiels d'Euler-Poisson-Darboux généralisés et fonctions hypergéométriques de plusieurs variables. [Generalized Euler-Poisson-Darboux differential operators and multivariate hypergeometric functions] *Complex analysis, harmonic analysis and applications* (*Bordeaux*, 1995), 56–73, *Pitman Res. Notes Math. Ser.*, 347, *Longman, Harlow*, 1996. (Jiang Zeng) **98b:33015** 33C20 (35Q05)
De Biase, L. (*with* Cordero, E.; Pennati, V.) A new finite volume method for the solution of convection-diffusion equations: analysis of stability and convergence. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 923–940. (Summary) **98j:65056** 65M06 (65M60, 76M25, 76Rxx)
Debiève, Camille Measures with finite semi-variation. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 2, 293–298. (Z. Lipecki) **98g:28010** 28B05 (46G10)
— (*with* Duchoň, Miloslav; Riečan, Beloslav) Moment problem in some ordered vector spaces. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 247–251. (Summary) **98k:28032** 28E10 (44A60)
Debiez, Christophe (*with* Dervieux, Alain; Mer, Katherine; Nkonga, Boniface) Computation of unsteady flows with mixed finite volume/finite element upwind methods. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 193–206. (*see* **98j:76003**) 76M10 (76M25)
Dębińska-Nagórska, Anna (*with* Just, Andrzej; Stempień, Zdzisław) A non-linear parabolic control problem with non-homogeneous boundary condition—convergence of Galerkin approximation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1365–1377. (Fredi Tröltzsch) **98h:49004** 49J20 (49M15)
— (*with* Just, Andrzej; Stempień, Zdzisław) Analysis and semidiscrete Galerkin approximation of a class of nonlinear parabolic optimal control problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 95–103. (Summary) **98m:49049** 49M15 (49J20, 65M60)
Debit, N. (*with* Agouzal, Abdellatif) Space-time domain decomposition methods for scalar conservation law. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 777–783. 65M55
DeBlassie, R. Dante (*with* Hobson, David; Housworth, Elizabeth Ann; Toby, Ellen H.) Escape rates for transient reflected Brownian motion in wedges and cones. (English

summary) *Stochastics Stochastics Rep.* **57** (1996), *no.* 3-4, 199–211. (Youngmee Kwon) **98c:60103** 60J65

Debnath, Lokenath ★ Nonlinear partial differential equations for scientists and engineers. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1997. xviii+593 *pp. ISBN* 0-8176-3902-0 (Mehmet Can) **98f:35001** 35-01 (00A06, 35Qxx)

— (*with* Ghosh, Mrinal Kanti) Convergence of Ishikawa iterates of generalized nonexpansive mappings. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 517–520. (B. E. Rhoades) **98d:47136** 47H10

— (*with* Zeng, Wei Yao; Shi, Jin Lin; Lin, Zhen Sheng) Almost periodic solutions for Abel equations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 727–735. (Igor N. Blinov) **98j:34082** 34C27

— (*with* Ghosh, Mrinal Kanti) Convergence of Ishikawa iterates of quasi-nonexpansive mappings. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 96–103. (Charles Ejike Chidume) **98c:47065** 47H09 (47H10, 47H17)

— (*with* Nath, Sisir; Sengupta, P. R.) Magneto-thermoelastic surface waves in micropolar elastic media. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 47–55. (Summary) **98i:73016** 73D20 (73B30, 73R05)

— (*with* Das, Subir; Patra, Baidyanath) Stress intensity factors for an interfacial crack between an orthotropic half-plane bonded to a dissimilar orthotropic layer with a punch. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 27–40. 73M25 (65R20)

— (*with* Yang, Bi Cheng) On new strengthened Hardy-Hilbert's inequality. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 403–408. (Summary) **98m:26018** 26D15

— (*with* Yang, Bi Cheng; Zeng, Zhuohua) On new generalizations of Hardy's integral inequality. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 321–327. (Tatjana Ostrogorski) **98k:26037** 26D15

— (*with* Radwan, Ahmed E.) Electrodynamic stability of a selfgravitating cylindrical fluid under a variable transverse electric field. *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 137–141. (From the text) **98m:76073** 76E25 (76W05)

— *see also* **Nonlinear instability analysis**, **98f:00019**

De Boeck, Paul (*with* Van Mechelen, Iven; Rosenberg, Seymour) On hierarchies and hierarchical classes models. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 291–298, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 62H30 (92B10)

— (*with* Butter, René; Verhelst, Norman) An item response model with internal restrictions on item difficulty. (English summary) *Psychometrika* **63** (1998), *no.* 1, 47–63. 62P15

De Boer, Frank S. *see* **de Boer, Frank S.**

De Boer, Henk *see* **de Boer, Henk**

De Boer, Jan *see* **de Boer, Jan**

De Boer, P. M. C. *see* **de Boer, P. M. C.**

De Boer, Reint *see* **de Boer, Reint**

De Boor, Carl *see* **de Boor, Carl**

De Bouard, Anne *see* **de Bouard, Anne**

Debray, Saumya (*with* Kågedal, Andreas) A practical approach to structure reuse of arrays in single assignment languages. (English summary) *Logic programming (Leuven, 1997)*, 18–32, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N15 (68N17)

— (*with* López-García, Pedro; Hermenegildo, Manuel) Non-failure analysis for logic programs. (English summary) *Logic programming (Leuven, 1997)*, 48–62, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98h:68037** 68N17 (68Q60)

Debreu, L. (*with* Blayo, E.) On the Schwarz alternating method for oceanic models on parallel computers. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 93–111. (Summary) **98m:86001** 86-08 (86A05)

De Broglie, Louis *see* **de Broglie, Louis**

De Bruijn, N. G. *see* **de Bruijn, N. G.**

De Bruin, Arie *see* **de Bruin, Arie**

De Bruin, Marcel G. *see* **de Bruin, Marcel G.**

De Bruin, Paul T. (*with* De Gooijer, Jan G.) On forecasting SETAR processes. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 7–14. 62M20 (62M10)

De Bruyne, F. (*with* Anderson, Brian D. O.; Gevers, M.) On plant and LQG controller continuity questions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 631–635. 93E20 (93B52)

De Buhan, Patrick *see* **de Buhan, Patrick**

Debussche, Arnaud (*with* Temam, Roger) Some new generalizations of inertial manifolds. (English summary) *Discrete Contin. Dynam. Systems* **2** (1996), *no.* 4, 543–558. (Xiao Qiang Zhao) **98e:58155** 58F39 (58F12)

— (*with* Da Prato, Giuseppe) Construction of stochastic inertial manifolds using backward integration. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 305–324. (Ya. Ī. Bīlopol′s′ka) **98d:60121** 60H15 (34F05, 34G20, 35R60, 47H20, 47N20)

— (*with* Crauel, Hans; Flandoli, Franco) Random attractors. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 307–341. (Björn Schmalfuss) **98c:60066** 60H15 (35B40, 35Qxx, 35R60, 47H20, 58F11, 58F12, 76D05)

— (*with* Calgaro, C.; Laminie, J.) On a multilevel approach for the two-dimensional Navier-Stokes equations with finite elements. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 241–258. (Summary) **98m:76117** 76M25 (76D05, 76F99, 76M10)

De Bustos, E. *see* **de Bustos, E.**

De Caen, D. *see* **de Caen, D.**

De Callafon, R. A. *see* **de Callafon, R. A.**

De Campos Ibáñez, Luis Miguel *see* **de Campos Ibáñez, Luis Miguel**

De Campos Velho, H. F. *see* **de Campos Velho, H. F.**

Décamps, Jean-Paul (*with* Rochet, Jean-Charles) A variational approach for pricing options and corporate bonds. (English summary) *Econom. Theory* **9** (1997), *no.* 3, 557–569. (Summary) **98a:90016** 90A09

De Carli, Alessandro (*with* Cong, Shuang) Design of the sliding mode controller for position control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 716–721. 93B12 (93B51)

De Carli, Laura Unique continuation for a class of higher order elliptic operators. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 1–10. (V. S. Rabinovich) **98d:35046** 35J30 (35B60)

De Caro, Liberato (*with* Garuccio, Augusto) Bell's inequality, trichotomic observables, and supplementary assumptions. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 1, 174–181. (Oliver Rudolph) **98b:81021** 81P15 (81P05)

Decarreau, Andrée (*with* Liang, Jin; Rakotoson, Jean-Michel) Trace imbeddings for T-sets and application to Neumann-Dirichlet problems with measures included in the boundary data. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 443–470. (Jianfu Yang) **98c:35054** 35J65 (35R05, 46E35)

De Carufel, J. *see* **de Carufel, J.**

De Carvalho, Francisco J. Craveiro *see* **de Carvalho, Francisco J. Craveiro**

De Carvalho, Maria *see* **de Carvalho, Maria**

De Castro, Rodrigo *see* **de Castro Korgi, Rodrigo**

De Castro Korgi, Rodrigo *see* **de Castro Korgi, Rodrigo**

De Castro Martins, Ana Teresa *see* **de Castro Martins, Ana Teresa**

De Cataldo, Mark Andrea A. *see* **de Cataldo, Mark Andrea A.**

Decatur, Scott E. (*with* Agarwala, Richa; Batzoglou, Serafim; Dančík, Vlado; Farach-Colton, Martin; Hannenhalli, Sridhar; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

De Cecco, Giuseppe (*with* Palmieri, Giuliana) p-energy of a curve on a set and on a Finslerian LIP-manifold. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 815–842. (Francesco Ferro) **98e:58047** 58E10 (49Q20, 53C60)

Decent, S. P. Solitary waves and chaotic twisting in a PDE model of Faraday resonance. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 2, 115–137. (Summary) **98d:76013** 76B15 (35Q35, 58F39, 76B25)

— (*with* Craik, A. D. D.) On limit cycles arising from the parametric excitation of standing waves. (English summary) *Wave Motion* **25** (1997), *no.* 3, 275–294. (Mikhail Zaks) **98g:76006** 76B15 (34C23, 34C37, 76D33)

Dechamps-Gondim, Myriam (*with* Sellès, O.) Compacts associés aux sommes de suites lacunaires. (English and French summaries) [Compact subsets associated with sums of lacunary sequences] *Harmonic analysis from the Pichorides viewpoint (Anogia, 1995)*, 27–40, *Publ. Math. Orsay*, 96-01, *Univ. Paris XI, Orsay*, 1996. (Françoise Lust-Piquard) **98c:43009** 43A46 (42A55)

Dechert, W. Davis (*with* Brock, William A.; Scheinkman, José A.; LeBaron, B.) A test for independence based on the correlation dimension. (English summary) *Econometric Rev.* **15** (1996), *no.* 3, 197–235. (Vipul A. Kalamkar) **98a:62112** 62M10 (62G10, 62P20)

— (*with* Gençay, Ramazan) The identification of spurious Lyapunov exponents in Jacobian algorithms. (English summary) *Stud. Nonlinear Dyn. Econom.* **1** (1996), *no.* 3, 145–154 (*electronic*). (Dave Furth) **98b:39018** 39B12

Dechevski, Lyubomir T. (*with* Penev, Spiridon) On non-negative wavelet-based density estimators. (English summary) *J. Nonparametr. Statist.* **7** (1997), *no.* 4, 365–394. (Summary) **98b:62075** 62G05

Dechter, Rina (*with* van Beek, Peter) Local and global relational consistency. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 240–257, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 68T20

— (*with* Schwalb, Eddie) Processing disjunctions in temporal constraint networks. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 29–61. (Summary) **98b:68175** 68T20

— (*with* van Beek, Peter) Constraint tightness and looseness versus local and global consistency. (English summary) *J. ACM* **44** (1997), *no.* 4, 549–566. (Summary) **98h:68215** 68T30 (68Q25, 68T20)

De Cicco, Virginia (*with* Vivaldi, Maria Agostina) Harnack inequalities for Fuchsian type weighted elliptic equations. (English summary) *Comm. Partial Differential Equations* **21** (1996), *no.* 9-10, 1321–1347. (Gaston E. Hernandez) **98a:35047** 35J70 (35B45, 35J15)

Deck, Th. (*with* Potthoff, Jürgen; Vâge, G.) A review of white noise analysis from a probabilistic standpoint. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 1, 91–112. (Isamu Dôku) **98m:60062** 60G20 (60G48, 60H07)

— (*with* Benth, Fred Espen; Potthoff, Jürgen) A white noise approach to a class of non-linear stochastic heat equations. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 382–415. (Isamu Dôku) **98g:60112** 60H15 (35K57, 35R60, 46G12)

Deckelman, S. M. Failure of Privalov's theorem on flat $C^{2-\epsilon}$ curves in the unit ball of $\mathbb{C}^2$. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 4, 281–298. (Joaquim Bruna) **98f:32007** 32A30 (30A99, 32A10)

Deckelnick, Klaus Weak solutions of the curve shortening flow. *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 489–510. (John Urbas) **98j:35110** 35K65 (35D05, 49Q99, 58E10)

— (*with* Elliott, Charles M.; Richardson, Giles William) Long time asymptotics for forced curvature flow with applications to the motion of a superconducting vortex. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 655–678. (Peter L. Christiansen) **98b:35080** 35K55 (35Q99, 53A04, 82D55)

Deco, Gustavo (*with* Obradovic, Dragan) ★ An information-theoretic approach to neural computing. (English summary) With a foreword by Bernd Schürmann. Perspectives in Neural Computing. *Springer-Verlag, New York*, 1996. xiv+261 *pp. ISBN* 0-387-94666-7 (Răzvan Andonie) **98b:82058** 82C32 (68T05, 92B20)

— (*with* Schittenkopf, Christian; Brauer, Wilfried) Finite automata-models for the investigation of dynamical systems. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 137–141. (Summary) **98b:58101** 58F08 (68Q45, 68Q68)

— (*with* Schittenkopf, Christian; Schürmann, Bernd) Information flow in chaotic symbolic dynamics for finite and infinitesimal resolution. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 97–105. (Summary) **98d:58050** 58F03 (58F13, 94A17)

— (*with* Schittenkopf, Christian) Identification of deterministic chaos by an information-theoretic measure of the sensitive dependence on the initial conditions. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 173–181. (Summary) **98i:58145** 58F11 (58F13, 94A17)

Decomps-Guilloux, Annette (*with* Méléard, Sylvie; Piquet, Claude) ★ Analyse et probabilités. (French. French summary) [Analysis and probability theory] Avec rappels de cours. [With course summaries] Problèmes de Mathématiques. Écrit du CAPES 1991–1996. [Mathematics Problems. CAPES Exams 1991–1996] *Masson, Paris*, 1997. vi+303 *pp. ISBN* 2-225-85517-X 00A07 (60–01)

De Concini, Corrado (*with* Procesi, Claudio) Quantum groups and Poisson geometry. *Interface between physics and mathematics* (*Hangzhou*, 1993), 189–200, *World Sci. Publishing, River Edge, NJ*, 1994. (Walter R. Ferrer Santos) **98h:17012** 17B37 (58F05, 81R50)

— (*with* Malliavin, Marie-Paule; Malliavin, Paul) Intégration invariante associée à un §-anneau de représentations unitaires. (English and French summaries) [Invariant integration associated to a §-ring of unitary representations] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 12, 1265–1270. (Nobuaki Obata) **98i:22018** 22E45 (20C32, 43A65)

— (*with* Salvetti, Mario; Stumbo, Fabio) The top-cohomology of Artin groups with coefficients in rank-1 local systems over **Z**. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 5–20. (Stephen P. Humphries) **98h:20063** 20F36 (20F55, 20J05, 55M30, 55N25, 55P20)

Deconinck, Bernard A constructive test for integrability of semi-discrete systems. (English summary) *Phys. Lett. A* **223** (1996), *no.* 1-2, 45–54. (Leonid V. Bogdanov) **98c:58067** 58F07 (35Q58, 39A12)

Deconinck, Herman (*with* Paillère, H.) Compact cell vertex convection schemes on unstructured meshes. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 1–49, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76078** 76M20 (65M99, 76M10)

— (*with* Paillère, H.) Multidimensional upwind residual distribution schemes for the 2D Euler equations. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 51–112, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76079** 76M20 (65M99)

— (*with* van der Weide, E.) Matrix distribution schemes for the system of Euler equations. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 113–139, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76082** 76M20 (65M06)

— (*with* Bonfiglioli, A.) Multidimensional upwind schemes for the 3D Euler equations on unstructured tetrahedral meshes. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 141–185, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76073** 76M20 (65M99, 76G25, 76K05)

— *see also* **Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration, 98d:76004**

De Cooman, Gert Possibility theory. I. The measure- and integral-theoretic groundwork. (English summary) *Internat. J. Gen. Systems* **25** (1997), *no.* 4, 291–323. (Summary) **98b:28035a** 28E10 (03B48)

— Possibility theory. II. Conditional possibility. (English summary) *Internat. J. Gen. Systems* **25** (1997), *no.* 4, 325–351. (Summary) **98b:28035b** 28E10 (03B48)

— Possibility theory. III. Possibilistic independence. (English summary) *Internat. J. Gen. Systems* **25** (1997), *no.* 4, 353–371. (Summary) **98b:28035c** 28E10 (03B48)

Decorte, Stefaan (*with* De Schreye, Danny) Demand-driven and constraint-based automatic left-termination analysis for logic programs. (English summary) *Logic programming* (*Leuven*, 1997), 78–92, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68Q60)

De Coster, Colette (*with* Habets, Patrick) Upper and lower solutions in the theory of ODE boundary value problems: classical and recent results. *Non-linear analysis and boundary value problems for ordinary differential equations* (*Udine*), 1–78, *CISM Courses and Lectures*, 371, *Springer, Vienna*, 1996. (Marlène Frigon) **98e:34034** 34B15 (34–02, 34–03, 47H15, 47N20)

— (*with* Habets, Patrick) Existence and multiplicity results for a Dirichlet problem with two parameters. *Advances in nonlinear dynamics*, 237–244, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (*see* **98e:34002**) 34B15

— (*with* Caldiroli, Paolo) Multiple homoclinics for a class of singular Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 556–573. (Maria Letizia Bertotti) **98e:58074** 58F05 (34C37, 58E05, 70H05)

De Cougny, H. L. *see* **de Cougny, H. L.**

Dedekind, Richard ★ Theory of algebraic integers. (English summary) Translated from the 1877 French original and with an introduction by John Stillwell. Cambridge Mathematical Library. *Cambridge University Press, Cambridge*, 1996. viii+158 *pp. ISBN* 0-521-56518-9 (Joe P. Buhler) **98h:11001** 11–01 (11–03, 11R04, 11R29)

Dedić, Ljuban Generalizations of Wiener measure and Brownian motion. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 35–59. (Summary) **98e:60134** 60J65 (28C20)

— The Plemelj-Smithies formula and moments of Gaussian measures. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 61–68. (Yasuji Takahashi) **98d:47048** 47B10 (47A80, 60B11, 60G15)

De Diego, Teresa *see* **de Diego, Teresa**

Dedieu, Hervé (*with* Ogorzałek, Maciej J.) Identifiability and identification of chaotic systems based on adaptive synchronization. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 948–962. (*see* **98g:93002**) 93D15 (58F40, 93B35)

Dedieu, Jean-Pierre Approximate solutions of numerical problems, condition number analysis and condition number theorem. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 263–283, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Otmar Scherzer) **98a:65062** 65G05 (65F15, 65J20)

— Condition operators, condition numbers, and condition number theorem for the generalized eigenvalue problem. (English summary) *Linear Algebra Appl.* **263** (1997), 1–24. (Wen Yu Sun) **98e:15008** 15A12 (15A18)

Dedlovskaya, M. E. Homotopies of $(-1,1)$-algebras with two generators. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 551–557, 639; *translation in Math. Notes* **59** (1996), *no.* 3-4, 395–399. (Summary) **98a:17058** 17D20

De Does, Jesse *see* **de Does, Jesse**

De Dominicis, G. (*with* Capani, A.; Niesi, G.; Robbiano, Lorenzo) Computing minimal finite free resolutions. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 105–117. (Ralf Fröberg) **98e:13026** 13P10 (13D02)

De Donno, M. (*with* Litvin, F. L.; Egelja, A. M.) Computerized determination of singularities and envelopes to families of contact lines on gear tooth surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 23–34. 70–08 (70B99)

Deeba, E. Y. (*with* Khuri, S. A.) The solution of a two-compartment model. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 1–6. 92D25

Deebes, Eman Ibrahim (*with* El-Sayed, Wagdy Gomaa) Monotone solutions of a functional integral equation. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 41–50. (Yubo Chen) **98a:45013** 45N05 (45G10)

Deely, John (*with* Johnson, Wesley O.) Normal means revisited. (English summary) *Advances in statistical decision theory and applications*, 19–30, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62F07

De Fabritiis, C. *see* **de Fabritiis, C.**

DeFacio, Brian (*with* Johnson, Gerald W.; Lapidus, Michel L.) Feynman's operational calculus and evolution equations. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 155–211. (Brian Jefferies) **98f:58050** 58D30 (47N50)

De Falco, I. (*with* Del Balio, R.; Tarantino, E.) An analysis of parallel heuristics for task allocation in multicomputers. (English summary) *Computing* **59** (1997), *no.* 3, 259–275. 90C90 (90B80, 90C27)

Defant, Andreas (*with* Carl, Bernd) Asymptotic estimates for approximation quantities of tensor product identities. (English summary) *J. Approx. Theory* **88** (1997), *no.* 2, 228–256. (Dirk Werner) **98a:46030** 46B28 (46M05, 47B06)

— (*with* Junge, Marius) Best constants and asymptotics of Marcinkiewicz-Zygmund inequalities. (English summary) *Studia Math.* **125** (1997), *no.* 3, 271–287. (P. Saphar) **98j:47048** 47B10 (42B25, 46E30, 47B38)

De Faria, Edson *see* **de Faria, Edson**

De Faria, M. (*with* Streit, Ludwig) Some recent advances in white noise analysis. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 52–59, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Shigeo Takenaka) **98b:60078** 60G17 (46F25, 46G12, 60H99)

— (*with* Hida, Takeyuki; Streit, Ludwig; Watanabe, Hisao) Intersection local times as generalized white noise functionals. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 3, 351–362. (Davar Khoshnevisan) **98c:60104** 60J65 (60G20, 60J55)

De Felice, Clelia Completing codes by Hajós factorizations of groups. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 59–66, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:00029**) 68Q45 (20K01, 94B99)

— (*with* Bruyère, Véronique) Any lifting of a trace coding is a word coding. (English summary) *Inform. and Comput.* **130** (1996), *no.* 2, 183–193. (Yves Metivier) **98c:68111** 68Q45

— An application of Hajós factorizations to variable-length codes. (English summary) *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 223–252. (Do Long Van) **98a:94013** 94A45 (68Q45, 68R15)

— (*with* Anselmo, Marcella; Restivo, Antonio) On some factorization problems. (English summary) Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 25–43. (Danièle Beauquier) **98c:68109** 68Q45 (94A45)

De Felice, Fernando *see* **de Felice, Fernando**

De Felice, Gianmarco *see* **de Felice, Gianmarco**

De Felice Ciccoli, M. (*with* Brachetti, P.; Di Pillo, G.; Lucidi, S.) A new version of the Price's algorithm for global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 165–184. (A. H. Žilinskas) **98a:90094** 90C30 (65K05)

De Fermat, Pierre *see* **de Fermat, Pierre**

Defever, Filip Biharmonic submanifolds and generalizations. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 95–100, *World Sci. Publishing, River Edge, NJ*, 1996. (Thomas Hasanis) **98e:53087** 53C40 (53C42)

— (*with* Mihai, Ion; Verstraelen, Leopold) B.-Y. Chen's inequality for C-totally real submanifolds of Sasakian space forms. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 365–374. (Andrew Bucki) **98e:53088** 53C40 (53C25)

— (*with* Deszcz, Ryszard; Verstraelen, Leopold) On pseudosymmetric para-Kähler manifolds. *Colloq. Math.* **74** (1997), *no.* 2, 253–260. (Andrew Bucki) **98h:53076** 53C25 (53C15, 53C50)

— (*with* Deszcz, Ryszard; Şentürk, Zerrin; Verstraelen, Leopold; Yaprak, Şahnur) On a problem of P. J. Ryan. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 371–376. (Andrew Bucki) **98m:53047** 53C20

— Hypersurfaces of $\overline{\mathbf{E}}^4$ satisfying $\Delta\vec{H} = \lambda\vec{H}$. *Michigan Math. J.* **44** (1997), *no.* 2, 355–363. (Pascual Lucas Saorin) **98f:53007** 53A07 (53C40)

Defez, Emilio (*with* Jódar, Lucas; Ponsoda, E.) Orthogonal matrix polynomials with respect to linear matrix moment functionals: theory and applications. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 1, 96–115. (Summary) **98f:42022** 42C05 (41A10)

— (*with* Jódar, Lucas) Some new matrix formulas related to Hermite matrix polynomials theory. *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 93–101, *Univ. Carlos III Madrid, Leganés*, 1997. (*see* **98b:33001**) 33C45

— (*with* Jódar, Lucas) Analytic-numerical solutions with a priori error bounds for time-dependent mixed partial differential problems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 49–59. (Summary) **98j:35011** 35A35 (65M06)

De Figueiredo, Celina M. H. *see* **de Figueiredo, Celina M. H.**

De Figueiredo, Djairo G. *see* **de Figueiredo, Djairo G.**

De Filippo, Sergio Supersymmetric theories as hierarchies of ordinary Hamiltonian theories. (English summary) *Field theory and collective phenomena* (*Perugia*, 1992), 366–376, *World Sci. Publishing, River Edge, NJ*, 1995. (Bani Mitra Södermark) **98b:81245** 81T60 (81R10)

De Finetti, Bruno *see* **de Finetti, Bruno**

De Fluiter, Babette *see* **de Fluiter, Babette**

Défourneaux, Gilles (*with* Bourely, Christophe; Peltier, Nicolas) Building proofs or counterexamples by analogy in a resolution framework. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 34–49, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T15 (68T30)

— (*with* Peltier, Nicolas) Partial matching for analogy discovery in proofs and counter-examples. (English summary) *Automated deduction—CADE-14* (*Townsville,*

1997), 431–445, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68T15 (03B35)

— (*with* Bourely, Christophe; Peltier, Nicolas) Semantic generalizations for proving and disproving conjectures by analogy. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 27–45. (Summary) **98m:68249** 68T27 (68T15)

De France, J. F. *see* **de France, J. F.**

Defranceschi, Anneliese (*with* Braides, Andréa; Vitali, Enrico) Homogenization of free discontinuity problems. *Arch. Rational Mech. Anal.* **135** (1996), *no.* 4, 297–356. (Georg K. Dolzmann) **98j:73009** 73B27 (35B27, 49J45, 73M25, 73V25)

— (*with* Braides, Andréa; Vitali, Enrico) A relaxation approach to Hencky's plasticity. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 1, 45–68. (Summary) **98h:73046** 73E99 (49J45, 73V25)

Defranceschi, Mireille (*with* Le Bris, C.) Computing a molecule: a mathematical viewpoint. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 1–30. 81V55 (81–02, 92E99)

— (*with* Fischer, Patrick) Numerical solution of the Schrödinger equation in a wavelet basis for hydrogen-like atoms. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 1–12 (*electronic*). 65N25 (42C15, 65F10, 81Q05)

De Francesco, Nicoletta (*with* Barbuti, R.; Santone, Antonella) Algebraic computational models of OR-parallel execution of Prolog. (English summary) *Acta Inform.* **34** (1997), *no.* 6, 449–489. (Summary) **98g:68019** 68N17 (68Q55, 68Q60)

— (*with* Santone, Antonella; Vaglini, Gigliola) State space reduction by non-standard semantics for deadlock analysis. (English summary) *Sci. Comput. Programming* **30** (1998), *no.* 3, 309–338. (Summary) **98k:68058** 68Q10 (68Q55, 68Q60)

De Fraysseix, Hubert *see* **de Fraysseix, Hubert**

De Freitas, J. A. Teixeira *see* **de Freitas, J. A. Teixeira**

De Freitas, Luciane R. *see* **de Freitas, Luciane R.**

De Frutos, David *see* **de Frutos, David**

De Frutos, J. *see* **de Frutos, J.**

De Fuentes, Íñigo (*with* Fernández, Arturo J.; Bravo, José I.) Lifetime estimation from doubly censored data and Dirichlet process prior knowledge on the observable random vector. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1541–1558. (J. V. Deshpande) **98i:62028** 62G05 (62N05)

De Gandt, François Cavalieri's indivisibles and Euclid's canons. *Revolution and continuity*, 157–182, *Stud. Philos. Hist. Philos.*, 24, *Cathol. Univ. Am. Press, Washington, DC*, 1991. (William R. Shea) **98b:01013** 01A45

Degani Cattelani, Franca (*with* Barbieri, Francesco) ★ Catalogo della corrispondenza di Paolo Ruffini. (Italian) [Catalogue of the correspondence of Paolo Ruffini] Collana di Studi [Studies Collection], 16. *Accademia Nazionale di Scienze, Lettere e Arti, Modena; Edizioni ETS, Pisa*, 1997. 607 *pp. ISBN* 88-467-0000-7 (Editors) **98g:01001** 01–00 (00A15, 01A50, 01A55)

Degano, Pierpaolo (*with* Priami, Corrado) Causality for mobile processes. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 660–671, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q10 (68Q55, 68Q60)

— (*with* Bodei, Chiara; Priami, Corrado) Mobile processes with a distributed environment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 490–501, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (68Q60)

— *see also* **Automata, languages and programming. 98k:68002**

Degaonkar, A. M. (*with* Prabhu-Ajgaonkar, S. G.) An alternate approach to unrelated question technique. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 39–43. 62D05

Degasperis, A. (*with* Calogero, Francesco; De Lillo, S.) The multicomponent Eckhaus equation. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5805–5814. (Summary) **98h:35213** 35Q55 (58F39)

Degen, Wendelin L. F. The types of triangular Bézier surfaces. (English summary) *The mathematics of surfaces, VI* (*Uxbridge*, 1994), 153–170, *Inst. Math. Appl. Conf. Ser. New Ser.*, 58, *Oxford Univ. Press, New York*, 1996. (Hellmuth Stachel) **98h:51033** 51N35 (51M35, 68U05)

— (*with* Milbrandt, Volker) The geometric meaning of Nielson's affine invariant norm. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 19–25. (Summary) **98k:65007** 65D17 (41A10)

— The cut locus of an ellipsoid. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 197–198. (Uwe Schnell) **98j:52004** 52A15 (53A05)

Degenhardt, H. J. A. Strong limit theorems for the difference of the perturbed empirical distribution function and the classical empirical distribution function. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 331–351. (Ken-ichi Yoshihara) **98a:62062** 62G20 (60F15, 62E20)

De Gennes, P. G. *see* **de Gennes, P. G.**

Degeratu, Laurenţia The distribution of a two-dimensional sequence connected with the nearest integer continued fraction. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **56/57** (1994/95), *no.* 1-4, 23–27. 11K50

De Gersem, Peter (*with* De Win, Erik; Bosselaers, Antoon; Vandenberghe, Servaas; Vandewalle, Joos) A fast software implementation for arithmetic operations in GF(2^n). (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 65–76, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (68P25, 68Q40)

Degerstedt, Lars (*with* Bol, Roland) Tabulated resolution for the well-founded semantics. (English summary) *J. Logic Programming* **34** (1998), *no.* 2, 67–109. (Summary) **98h:68034** 68N17 (68Q55)

Degeza, I. S. *see* **Dehesa, Jesús S.**

De Giacomo, Giuseppe (*with* Lenzerini, Maurizio) What's in an aggregate: foundations for description logics with tuples and sets. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 801–807, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (68T30)

— (*with* Lenzerini, Maurizio) A uniform framework for concept definitions in description logics. (English summary) *J. Artificial Intelligence Res.* **6** (1997), 87–110. (Summary) **98c:68196** 68T30 (03B70, 68T27)

De Gier, Jan *see* **de Gier, Jan**

De Giorgi, Ennio ★ Riflessioni su matematica e sapienza. (Italian. Italian summary) [Reflections on mathematics and knowledge] Edited and with an introduction by A. Marino and C. Sbordone. Quaderni dell' Accademia Pontaniana [Notebooks of the Accademia Pontaniana], 18. *Accademia Pontaniana, Naples*, 1997. 157 *pp.* (Umberto Bottazzini) **98c:00002** 00A30

— *see also* **Lions, Jacques-Louis; Emmer, Michele; Lions, Jacques-Louis; Villaggio, Piero** *and* **Sbordone, Carlo**

De Giosa, Marcello (*with* Lu, Yun Gang) The free creation and annihilation operators as the central limit of the quantum Bernoulli process. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 227–236. (Summary) **98k:81134** 81S25 (60B99, 81S05)

De Giovanni, Antonio (*with* Grisaru, M. T.; Roček, Martin; von Unge, Rikard; Zanon, Daniela) $N = 2$ super Yang-Mills low-energy effective action at two loops. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 251–256. 81T60

De Giovanni, Francesco *see* **de Giovanni, Francesco**

Degiovanni, Marco (*with* Lancelotti, Sergio) Perturbations of critical values in nonsmooth critical point theory. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 325–348. (Jesús Hernández) **98e:35079** 35J85 (35J65, 49J52, 58E05)

— (*with* Corvellec, Jean-Noël) Nontrivial solutions of quasilinear equations via nonsmooth Morse theory. *J. Differential Equations* **136** (1997), *no.* 2, 268–293. (Jie Yang) **98c:35053** 35J65 (58E05)

— Nonsmooth critical point theory and applications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 89–99. (Tsvetomir Tsachev) **98k:58042** 58E05 (49J52)

Degli Esposti, M. (*with* Borsari, I.; Graffi, S.; Unguendoli, F.) Deterministic spin models with a glassy phase transition. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L155–L159. (Azer Kerimov) **98k:82029** 82B20 (82B26)

DeGoede, J. (*with* Diks, C.; Takens, F.) Spatio-temporal chaos: a solvable model. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 269–285. (Summary) **98b:58109** 58F13

Degond, Pierre (*with* Ben Abdallah, Naoufel) The Child-Langmuir law in the kinetic theory of charged particles: semiconductors models. *Mathematical problems in semiconductor physics* (*Rome*, 1993), 76–102, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (Introduction) **98j:82074** 82D99 (78A55)

— (*with* Cordier, S.; Markowich, Peter A.; Schmeiser, Christian) Travelling wave analysis of an isothermal Euler-Poisson model. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 599–643. (J. W. Jerome) **98i:76111** 76X05 (34B15, 35Q35, 82D10)

— (*with* Poupaud, Frédéric; Schmeiser, Christian; Yamnahakki, A.) Asymptotic analysis of kinetic equations for modeling a Schottky diode. (English summary) *Asymptotic Anal.* **13** (1996), *no.* 1, 79–94. (Summary) **98f:78032** 78A55 (82D99)

— (*with* Ben Abdallah, Naoufel) On a hierarchy of macroscopic models for semiconductors. (English summary) *J. Math. Phys.* **37** (1996), *no.* 7, 3306–3333. (Summary) **98b:82091** 82D99 (82C70)

— (*with* Lucquin-Desreux, Brigitte) Transport coefficients of plasmas and disparate mass binary gases. (English summary) *Transport Theory Statist. Phys.* **25** (1996), *no.* 6, 595–633. (Summary) **98j:82065** 82D10 (76P05, 76W05, 82C31, 82C40)

— (*with* Génieys, Stéphane; Jüngel, Ansgar) An existence and uniqueness result for the stationary energy-transport model in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 867–872. (Summary) **98f:82149** 82D99 (35Q99, 76X05)

— (*with* Génieys, Stéphane; Jüngel, Ansgar) An existence result for a strongly coupled parabolic system arising in nonequilibrium thermodynamics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 227–232. (Summary) **98e:35083** 35K55 (35D05, 35Q99, 80A20)

— (*with* Génieys, Stéphane; Jüngel, Ansgar) Symmetrization and entropy inequality for general diffusion equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 963–968. (Summary) **98k:35091** 35K55 (35B45, 82C70)

— (*with* Buet, C.; Cordier, S.; Lemou, M.) Fast algorithms for numerical, conservative, and entropy approximations of the Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 310–322. (Summary) **98a:82097** 82D10 (82–08, 82C35)

— (*with* Assous, Franck; Segré, J.) A new scheme to treat the numerical Tcherenkov instability for electromagnetic particle simulations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 171–192. (Summary) **98g:78001** 78–08 (76X05)

— (*with* Génieys, Stéphane; Jüngel, Ansgar) A system of parabolic equations in nonequilibrium thermodynamics including thermal and electrical effects. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 991–1015. (Vitaly A. Volpert) **98k:35092** 35K55 (35Q60, 78A25, 80A99)

— (*with* Ben Abdallah, Naoufel; Markowich, Peter A.) On a one-dimensional Schrödinger-Poisson scattering model. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 135–155. (Summary) **98b:82092** 82D99 (34B24, 34L40, 82C70)

De Gooijer, Jan G. (*with* De Bruin, Paul T.) On forecasting SETAR processes. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 7–14. 62M20 (62M10)

De Gosson, Maurice *see* **de Gosson, Maurice**

De Graaf, Maurits *see* **de Graaf, Maurits**

De Graaf, Willem A. *see* **de Graaf, Willem A.**

DeGrand, Thomas Nonperturbative quantum field theory on the lattice. (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 885–945, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98i:81179** 81T25 (81V05)

De Grande-De Kimpe, Nicole (*with* Aguayo, José; Navarro, Samuel) Strict locally convex topologies on $BC(X, \mathbb{K})$. *p-adic functional analysis* (*Nijmegen*, 1996), 1–9, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (E. Beckenstein) **98i:46076** 46S10 (46A03, 46E10)

— (*with* Kąkol, Jerzy; Pérez-García, Cristina; Schikhof, W. H.) p-adic locally convex inductive limits. *p-adic functional analysis* (*Nijmegen*, 1996), 159–222, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Dinamérico P. Pombo, Jr.) **98i:46077** 46S10 (46A13)

— (*with* Kąkol, Jerzy; Pérez-García, Cristina) On compactoids in (LB)-spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 313–321. (Dinamérico P. Pombo, Jr.) **98m:46097** 46S10 (46A13)

De Greiff, Alexis (*with* Tejeiro, Juan Manuel) New inflation and constraints on the SU(5) effective potential. (Spanish. English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **20** (1996), *no.* 76, 93–109. 83F05

Degrez, G. (*with* Issman, E.) Solving steady compressible flow problems with subspace iteration methods. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 135–138. (*see* **98b:65005**) 76M25 (76N10)

De Groot, E. H. *see* **de Groot, E. H.**

De Groot, Marko *see* **de Groot, Marko**

De Groote, Philippe *see* **de Groote, Philippe**

Dĕgtev, A. N. On relations between complete sets. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995**, *no.* 3, 8–14; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 3, 6–12. (From the text) **98b:03058** 03D25 (03D30)

— Implicative selector sets. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 2, 145–153, 244; *translation in Algebra and Logic* **35** (1996), *no.* 2, 80–85. (Marat M. Arslanov) **98g:03111** 03D55 (03D20, 03D25)

Degtiariova-Kostova, E. V. (*with* Kostov, Vladimir Petrov) Computations of suboptimal paths in a planar motion with bounded derivative of the curvature. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 124–128, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 49N55 (49M37, 65K10)

Degtyar', S. V. An operator analog of the Wiener theorem on the local inversion of the Fourier transform. (English summary) *Methods Funct. Anal. Topology* **2** (1996), *no.* 1, 17–22. (Satoru Igari) **98b:42008** 42A38 (47B99)

Degtyarëv, Aleksandr Igorevich (*with* Kharlamov, Viatcheslav) Halves of a real Enriques surface. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 628–663. (Summary) **98g:14037** 14J28 (14P05, 57S25)

— (*with* Kharlamov, Viatcheslav) On the moduli space of real Enriques surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 317–322. (I. Dolgachev) **98f:14028** 14J28 (14K10)

— (*with* Kharlamov, Viatcheslav) Around real Enriques surfaces. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 93–109. (P. Abellanas) **98j:14049** 14J28 (14P25)

— (*with* Finashin, S. M.) Pin-structures on surfaces and quadratic forms. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 187–193. (Summary) **98g:57039** 57R15

Degtyarëv, Anatolii (*with* Voronkov, Andrei) Equality elimination for the inverse method and extension procedures. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ*, 1995), 342–347, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 03B35 (68T15)

— (*with* Matiyasevich, Yu. V.; Voronkov, Andrei) Simultaneous rigid E-unification and related algorithmic problems. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ*, 1996), 494–502, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 03B35

— (*with* Voronkov, Andrei) Decidability problems for the prenex fragment of intuitionistic logic. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ*, 1996), 503–512, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 03B25 (03B20, 03D15)

— (*with* Voronkov, Andrei) Simultaneous rigid E-unification is undecidable. (English summary) *Computer science logic (Paderborn*, 1995), 178–190, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (From the text) **98c:03031** 03B35 (68T15)

— (*with* Voronkov, Andrei) Handling equality in logic programming via basic folding. (English summary) *Extensions of logic programming (Leipzig*, 1996), 119–136, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17

— (*with* Voronkov, Andrei) What you always wanted to know about rigid E-unification. (English summary) *Logics in artificial intelligence (Évora*, 1996), 50–69, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 03B35 (68T15)

Deguchi, Shinichi (*with* Nakajima, Tadahito) A Yang-Mills theory in loop space and Chapline-Manton coupling. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 2, 111–119. (Jorge A. Pullin) **98a:81116** 81T13 (81T60)

— (*with* Nakajima, Tadahito; Totsuka, Hideomi) A U(1) gauge theory for antisymmetric tensor fields. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 2, 357–362. (Summary) **98c:81161** 81T30

Deguchi, Tetsuo (*with* Tsurusaki, Kyoichi) A statistical study of random knotting using the Vassiliev invariants. (English summary) *Random knotting and linking (Vancouver, BC*, 1993), 89–121, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:57008** 57M25

— (*with* Tsurusaki, Kyoichi; Wadati, Miki) A topological study of random walks. *Field theory and collective phenomena (Perugia*, 1992), 185–203, *World Sci. Publishing, River Edge, NJ*, 1995. (Yuanan Diao) **98b:82038** 82B41 (57M25)

— Generalized generalized spin models associated with exactly solvable models. (English summary) *Progress in algebraic combinatorics (Fukuoka*, 1993), 81–100, *Adv. Stud. Pure Math.*, 24, *Math. Soc. Japan, Tokyo*, 1996. (Louis H. Kauffman) **98g:82015** 82B23 (57M25)

— (*with* Tsurusaki, Kyoichi) Random knots and links and applications to polymer physics. (English summary) *Lectures at KNOTS '96 (Tokyo)*, 95–122, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (Stuart G. Whittington) **98i:82073** 82D60 (57M25)

— (*with* Yue, Rui-Hong) Analytic Bethe ansatz for 1D Hubbard model and twisted coupled XY model. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 849–865. (Summary) **98f:82037** 82B20 (82B23)

— (*with* Yue, Rui-Hong) Magnetic susceptibility and low-temperature specific heat of the integrable one-dimensional Hubbard model under open-boundary conditions. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8129–8138. 82B20

De Guerra, Marjna Suárez *see* **de Guerra, Marjna Suárez**

De Guzmán, Inma P. *see* **de Guzmán, Inma P.**

De Guzmán, Miguel *see* **de Guzmán, Miguel**

De Haan, Laurens *see* **de Haan, Laurens**

De Haas, Erik *see* **de Haas, Erik**

shafei Deh Abad, A. *see* **Shafei Deh Abad, A.**

Dehaene, Jeroen (*with* Yi, Cheng; De Moor, Bart L. R.) Calculation of the structured singular value with gradient-based optimization algorithms on a Lie group of structured unitary matrices. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1596–1600. (Summary) **98e:93035** 93B36 (93B40)

Dehandschutter, Wouter (*with* Van Overschee, Peter; De Moor, Bart L. R.; Swevers, Jan) A subspace algorithm for the identification of discrete time frequency domain power spectra. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2147–2157. (Summary) **98i:93036** 93B40 (93B30)

Deharia, R. D. (*with* Namdeo, R. K.) A fixed point theorem for asymptotically regular mapping. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 4, 554–556. 54H25

— (*with* Namdeo, R. K.) Some fixed point theorems in quasi-metric spaces. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 4, 557–558. 54H25

Dehay, Dominique (*with* Leśkow, Jacek) Functional limit theory for the spectral covariance estimator. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1077–1092. (Vladimir Zaiats) **98d:62173** 62M15 (60F17, 62M10)

De Hemptinne, X. *see* **de Hemptinne, X.**

Deheri, G. M. Topological influence of the presence of fully-λ-bases in locally convex spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 155. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 1, 105–112. (Manjul Gupta) **98b:46013** 46A45 (46A11)

Dehesa, Jesús S. (*with* Aptekarev, A. I.; Buyarov, V. S.; Van Asse, V.) Asymptotics of entropy integrals for orthogonal polynomials. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 4, 439–441. (Leonid B. Golinskiĭ) **98c:33005** 33C45 (42C05)

— (*with* Nikiforov, A. F.) The orthogonality properties of q-polynomials. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 343–354. (Mizan Rahman) **98i:33025** 33D45 (33C45, 39A10)

Deheuvels, Paul (*with* Einmahl, John H. J.) On the strong limiting behavior of local functionals of empirical processes based upon censored data. (English summary) *Ann. Probab.* **24** (1996), *no.* 1, 504–525. (Summary) **98f:62088** 62G05 (62E20)

— On random fractals. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 111–132. (*see* **98h:00026**) 60F05 (28A80, 60F15, 60F17, 60G15)

Dehghan, Mehdi Numerical solution of a boundary value problem with a non-local boundary condition. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman*, 1995), 95–103, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 65M06

Dehghan, Y. N. (*with* Shahbazov, A. I.) Compactness and nuclearity of weighted composition operators on uniform spaces of continuous functions on local connected compact spaces. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman*, 1995), 105–107, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 47B38 (47B07, 47B10)

— (*with* Shahbazov, A. I.) Compactness and nuclearity of weighted composition operators on uniform spaces of continuous functions on locally connected compact spaces. II. (English summary) *Proceedings of the 27th Annual Iranian Mathematics Conference (Shiraz*, 1996), 43–49, *Shiraz Univ., Shiraz*, 1996. (Bhagan Singh Komal) **98d:47064** 47B38 (47B07, 47B10)

Dehghani, M. H. Symmetry group of the Liouville equation in a maximally symmetric spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1207–1213. (Alicia M. Sintes) **98d:83027** 83C40 (53C80, 83C05)

Dehghanpour, Pouria (*with* Schonmann, Roberto H.) A nucleation-and-growth model. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 1, 123–135. (Francis Comets) **98k:60178** 60K35 (82C05)

Dehling, Herold G. (*with* Burton, Robert M.; Venema, Rienk S.) Perceptron algorithms for the classification of non-separable populations. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 205–222. (Vivek S. Borkar) **98h:68192** 68T05 (92J40, 93E35)

Dehne, Frank (*with* Guimarães, Katia S.) Exact and approximate computational geometry solutions of an unrestricted point set stereo matching problem. (English summary) *Theoretical computer science (Ravello*, 1995), 192–200, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:68187** 68U10 (68U05)

— (*with* Caceres, Edson N.; Ferreira, Afonso Galvao; Flocchini, Paola; Rieping, I.; Roncato, A.; Santoro, Nicola; Song, S. W.) Efficient parallel graph algorithms for coarse grained multicomputers and BSP. (English summary) *Automata, languages and programming (Bologna*, 1997), 390–400, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q22 (05C85, 68R10)

— (*with* Guimarães, Katia S.) Exact and approximate computational geometry solutions of an unrestricted point set stereo matching problem. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 107–114. (Summary) **98h:68222** 68U05

— (*with* Deng, Xiao Tie; Dymond, P.; Fabri, A.; Khokhar, A. A.) A randomized parallel three-dimensional convex hull algorithm for coarse-grained multicomputers. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 547–558. (Summary) **98f:68263** 68U05 (68Q22)

— *see also* **Algorithms and data structures, 98c:68006**

Dehnen, H. (*with* Macías, Alfredo; Camacho, Abel) Fermions in the 8-dimensional Kaluza-Klein theory. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON*, 1993), 342–348, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83109** 83E15 (81V17)

— (*with* Macías, Alfredo) Fermionic sector of the 5-dimensional Kaluza-Klein theory with dilaton field. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON*, 1993), 443–448, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83E15

Dehombreux, Pierre (*with* Verlinden, Olivier; Conti, Calogero) An implicit multistage integration method including projection for the numerical simulation of constrained multibody systems. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 4, 405–424. 70–08 (34A09, 70E99)

Dehon, Michel (*with* Buckenhout, Francis; Cara, Philippe) Inductively minimal flag-transitive geometries. (English summary) *Mostly finite geometries (Iowa City, IA*, 1996), 185–190, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Dmitrii V. Pasechnik) **98h:51020** 51E24 (05C25)

De Hoop, Maarten V. *see* **de Hoop, Maarten V.**

Dehornoy, Patrick Another use of set theory. (English summary) *Bull. Symbolic Logic* **2** (1996), *no.* 4, 379–391. (Miroslav Repický) **98g:03125** 03E75 (00A30, 03A05, 54H20)
— A fast method for comparing braids. (English summary) *Adv. Math.* **125** (1997), *no.* 2, 200–235. (Darren D. Long) **98b:20060** 20F36 (20F10, 57M25)
— On the syntactic algorithm for the word problem of left distributivity. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 191–222. (Heinrich Seidel) **98i:08003** 08A50
— Multiple left distributive systems. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 615–625. (Summary) **98i:20064** 20N02 (08A02, 08B20)
— Groups with a complemented presentation. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 115–137. (J. Wiegold) **98a:20064** 20M05 (03D40, 20F36)
Dehtiar, S. V. *see* **Degtyar', S. V.**
Dehy, Raika Résultats combinatoires sur les modules de Demazure. (English and French summaries) [Combinatorial results on Demazure modules] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 977–980. (Summary) **98c:17006** 17B10 (17B67)
Deift, Percy A. (*with* Kriecherbauer, Thomas; Venakides, Stephanos) Forced lattice vibrations. *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 377–389, *World Sci. Publishing, River Edge, NJ*, 1996. (David J. Kaup) **98h:70024** 70K40 (34C99, 35Q55, 58F30)
— (*with* It·s, A. R.; Zhou, Xin) A Riemann-Hilbert approach to asymptotic problems arising in the theory of random matrix models, and also in the theory of integrable statistical mechanics. *Ann. of Math.* (2) **146** (1997), *no.* 1, 149–235. (John N. Palmer) **98k:47097** 47G10 (15A52, 30E25, 34A55, 34E20, 41A60, 82B23, 82B44)
— (*with* Venakides, Stephanos; Zhou, Xin) New results in small dispersion KdV by an extension of the steepest descent method for Riemann-Hilbert problems. *Internat. Math. Res. Notices* **1997**, *no.* 6, 286–299. (Linghai Zhang) **98b:35155** 35Q53
— (*with* Zhou, Xin) Near integrable systems on the line. A case study-perturbation theory of the defocusing nonlinear Schrödinger equation. *Math. Res. Lett.* **4** (1997), *no.* 5, 761–772. (Peter E. Zhidkov) **98j:35167** 35Q55
— (*with* McLaughlin, K. T.-R.) A continuum limit of the Toda lattice. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 624, x+216 *pp.* (Alexander V. Shapovalov) **98h:58076** 58F07 (35Q53)
— (*with* Venakides, Stephanos; Zhou, Xin) An extension of the steepest descent method for Riemann-Hilbert problems: the small dispersion limit of the Korteweg-de Vries (KdV) equation. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 2, 450–454 (*electronic*). (Summary) **98m:65181** 65N15
Deineka, V. S. (*with* Skopets'kiĭ, V. V.) Schemes of the finite element method for problems with discontinuous solutions and flows. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 85–88. 65N06
Deineko, Vladimir G. (*with* Rudolf, Rüdiger; Woeginger, Gerhard J.) Sometimes travelling is easy: the master tour problem. (English summary) *Algorithms—ESA '95* (*Corfu*), 128–141, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Summary) **98b:68074** 68Q25 (90C35)
— (*with* Burkard, Rainer E.; Woeginger, Gerhard J.) The travelling salesman and the PQ-tree. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 490–504, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (I. Bárány) **98d:90092** 90C27 (90C35)
— (*with* van der Veen, Jack A. A.; Rudolf, Rüdiger; Woeginger, Gerhard J.) Three easy special cases of the Euclidean travelling salesman problem. (English and French summaries) *RAIRO Rech. Opér.* **31** (1997), *no.* 4, 343–362. (Frank Werner) **98m:90114** 90C27 (90C35)
Deissenberg, Christophe (*with* Nyssen, Jules) A simple model of Schumpeterian growth with complex dynamics. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 247–266. (Summary) **98g:90013** 90A15
Deissler, Robert J. (*with* Brand, Helmut R.) Pattern formation near an oscillatory instability for systems without "up-down" symmetry. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 179–184. 58F40 (58F13)
Deistler, M. (*with* Bauer, Dietmar) Balanced parametrizations: a structure theory for identification. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 27–41, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:93053** 93E12 (62M10)
— Time series econometrics. (English summary) Special issue on control and system theory. *CWI Quarterly* **9** (1996), *no.* 3, 165–179. (Summary) **98b:62195** 62P20 (62M10, 90A20)
Deitmar, Anton Torus actions on compact quotients. (English summary) *J. Lie Theory* **6** (1996), *no.* 2, 179–190. (Introduction) **98m:22015** 22E41 (22E40, 57S20)
— A determinant formula for the generalized Selberg zeta function. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 435–453. (Shin-ya Koyama) **98i:11069** 11M36 (11F72)
— A Lefschetz formula for flows. *Math. Res. Lett.* **4** (1997), *no.* 4, 513–520. (Alexander Fel'shtyn) **98m:58108** 58F20 (58G26)
— Geometric zeta-functions on p-adic groups. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 1–17. (W. A. Zúñiga Galindo) **98m:11130** 11S40 (11F72, 11F75, 11M36, 22E40)
— Regularized and L^2-determinants. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 1, 150–174. (Steven Rosenberg) **98m:58143** 58G26
Deivis, F. Dzh. *see* **Davis, Philip J.**
De Izarra, Charles *see* **de Izarra, Charles**
De Jager, Bram *see* **de Jager, Bram**
De Jager, E. M. *see* **de Jager, E. M.**
De Jager, N. G. *see* **de Jager, N. G.**
Dejax, P. (*with* Haouari, Mohamed) Plus court chemin avec dépendance horaire: résolution et application aux problèmes de tournées. (English and French summaries) [Time-dependent shortest path: solution and application to routing problems] *RAIRO Rech. Opér.* **31** (1997), *no.* 2, 117–131. (Summary) **98c:90175** 90C35 (90B10)
De Jong, Aise Johan *see* **de Jong, Aise Johan**
DeJong, Gerald (*with* Bennett, Scott) Extending classical planning to real-world execution with machine learning. (English summary) *IJCAI-95, Vol. 1, 2* (*Montreal, PQ*, 1995), 1153–1159, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20 (68T05)
De Jong, J. L. *see* **de Jong, J. L.**
De Jong, Piet *see* **de Jong, Piet**
De Jong, Robert M. *see* **de Jong, Robert M.**
De Jong, Sijmen *see* **de Jong, Sijmen**
De Jongh, Dick *see* **de Jongh, Dick**
De Jonghe, Frank (*with* Peeters, Kasper; Sfetsos, Konstadinos) Killing-Yano supersymmetry in string theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 35–46. (Summary) **98i:81199** 81T30 (81T20, 83E30)
Dejonghe, Muriel (*with* Arickx, Frans; Broeckhove, Jan; van den Broeck, Julien) BSFM: a computer program for Bayesian stochastic frontier models. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 403–421. 62P20
Dejter, Italo J. (*with* Barrientos, Christian; Hevia, Héctor) Equitable labelings of forests. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 1–26, *World Sci. Publishing, River Edge, NJ*, 1995. (Martin Bača) **98g:05133** 05C78 (05C05)
— Symmetry of factors of the 7-cube Hamming shell. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 301–309. (John Karlof) **98h:05048** 05B30 (05C70, 94C15)
— (*with* Franek, F.; Mendelsohn, E.; Rosa, Alexander) Triangles in 2-factorizations. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 83–94. (Chris Rodger) **98c:05086** 05C70
— (*with* Hevia, Héctor; Serra, Oriol) Hidden Cayley graph structures. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 69–83. (Arthur T. White) **98m:05082** 05C25 (05C10, 20B25)
Deka, R. (*with* Polański, Andrzej; Chakraborty, Ranajit; Kimmel, Marek) Dynamic balance of segregation distortion and selection maintains normal allele sizes at the myotonic dystrophy locus. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 93–112. 92D20 (92C50)
De Kerf, E. A. *see* **de Kerf, E. A.**
Dekhtyar, Alex (*with* Subrahmanian, V. S.) Hybrid probabilistic programs. (English summary) *Logic programming* (*Leuven*, 1997), 391–405, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98i:68047** 68N17 (03B70)
Dekhtyar, Mikhail I. (*with* Arkhangel'skiĭ, D. A.; Taĭtslin, Mikhaĭl A.) Linear logic for nets with bounded resources. (English summary) Papers in honor of the Symposium on Logical Foundations of Computer Science, "Logic at St. Petersburg" (St. Petersburg, 1994). *Ann. Pure Appl. Logic* **78** (1996), *no.* 1-3, 3–28. (Aldo Ursini) **98j:68024** 68Q10 (03B70, 03F50, 68Q90)
— (*with* Dikovskiĭ, A. Ya.) Total homeostaticity and integrity constraints restorability recognition. (English summary) *Logic programming* (*Leuven*, 1997), 241–255, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68063** 68P15 (68N17)
— (*with* Dikovskiĭ, A. Ya.) Recognition of deductive data base stability. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 67–77, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:68046** 68P15 (68N17)
Dekimpe, Karel (*with* Lee, Kyung Bai; Raymond, Frank A.) Bieberbach theorems for solvable Lie groups. *Transformation group theory* (*Taejŏn*, 1996), 28–31, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 1997. (*see* **98b:57002**) 22E25 (22E40, 57S30)
— (*with* Malfait, Wim) Almost-Bieberbach groups with prime order holonomy. (English summary) *Fund. Math.* **151** (1996), *no.* 2, 167–176. (Juan Pablo Rossetti) **98a:20051** 20H15 (20F18, 22E40)
— (*with* Igodt, Paul) Chaque groupe polycyclique-par-fini admet une structure polynomiale de degré borné. (English and French summaries) [Polycyclic-by-finite groups admit a polynomial structure of bounded degree] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 303–306. (Paul Igodt) **98a:20056** 20J05 (57S30)
— (*with* Hartl, Manfred) Affine structures on 4-step nilpotent Lie algebras. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 1, 19–37. (Duncan J. Melville) **98g:17010** 17B30 (17B35)
— (*with* Igodt, Paul; Ongenae, Veerle) The five-dimensional complete left-symmetric algebra structures compatible with an abelian Lie algebra structure. (English summary) *Linear Algebra Appl.* **263** (1997), 349–375. (Daniel Segal) **98g:17001** 17A30 (17B99)
— Determining the translational part of the fundamental group of an infra-solvmanifold of type (R). (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 515–524. (Michel Nguiffo B. Boyom) **98k:57060** 57T20 (20H15)
— Polynomial structures and the uniqueness of affinely flat infra-nilmanifolds. *Math. Z.* **224** (1997), *no.* 3, 457–481. (Dietrich Burde) **98d:57067** 57S30 (20H15)
— (*with* Igodt, Paul) Polynomial structures on polycyclic groups. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 9, 3597–3610. (Summary) **98f:20021** 20F38 (57S30)
de grande-De Kimpe, Nicole *see* **De Grande-De Kimpe, Nicole**
Dekker, H. (*with* de Leeuw, G.; van den Brink, A. Maassen) Boundary-layer turbulence modeling and vorticity dynamics. I. A kangaroo-process mixing model of boundary-layer turbulence. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 223–237, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (James P. Denier) **98m:76080** 76Fxx (76M35)
— Boundary-layer turbulence modeling and vorticity dynamics. II. Towards a theory of turbulent shear flow? (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 238–241, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (James P. Denier) **98m:76081** 76Fxx (76M35)
Dekker, J. C. E. (*with* Barback, Joseph) Extending finite subsets of an immune set. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 91–121. (Charles Applebaum) **98h:03060** 03D50
Dekker, K. (*with* Botta, E. F. F.; Notay, Yvan; van der Ploeg, A.; Vuik, C.; Wubs, F. W.; de Zeeuw, P. M.) How fast the Laplace equation was solved in 1995. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 4, 439–455. (Summary) **98c:65003** 65-04 (65Y10)
Dekker, Rommert (*with* Wildeman, Ralph E.; van der Duyn Schouten, Frank A.) A review of multi-component maintenance models with economic dependence. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 411–435. (Summary) **98c:90044** 90B25 (90A11)
— (*with* Frenk, Hans; Kleijn, Marcel) A unified treatment of single component replacement models. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 437–454. (Summary) **98b:90057** 90B25 (60K10)
— (*with* Smith, Marcel A. J.) On the $(S-1, S)$ stock model for renewal demand processes: Poisson's poison. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 375–386. (S. Kalpakam) **98m:90056** 90B05 (60K10)

Dekker, T. J. (*with* Hoffmann, Walter; Potma, K.) Stability of the Gauss-Huard algorithm with partial pivoting. (English and German summaries) *Computing* **58** (1997), *no.* 3, 225–244. (N. Gass) **98d:65029** 65F05 (65G05, 65Y20)

Dekking, F. M. Random and automatic walks. *Beyond quasicrystals* (*Les Houches*, 1994), 415–432, *Springer, Berlin*, 1995. (M. Mendès France) **98d:11026** 11B85 (60J15)

— Quadtrees, Mandelbrot percolation and the modelling of random sets. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 777–784. (Dietrich Stoyan) **98b:60022** 60D05 (60K35)

— (*with* Wen, Zhi Ying) Boundedness of oriented walks generated by substitutions. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 377–386. (M. Mendès France) **98g:11026** 11B85 (60J05)

— What is the long range order in the Kolakoski sequence? (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 115–125, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jean-Paul Allouche) **98g:11022** 11B83 (11K31)

De Kleine, E. *see* **de Kleine, E.**

De Klerk, E. *see* **de Klerk, E.**

De Koninck, Jean-Marie (*with* Ivić, Aleksandar) Arithmetic characterization of regularly varying functions. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 41–64. (Adolf Hildebrand) **98k:11130** 11N56 (11N37)

— (*with* Kátai, Imre; Bui Minh Phong) A new characteristic of the identity function. *J. Number Theory* **63** (1997), *no.* 2, 325–338. (D. Wolke (Zbl 871.11063)) **98m:11097** 11N36 (11A25)

De Koning, Willem L. *see* **de Koning, Willem L.**

De Kort, Jeroen *see* **de Kort, Jeroen**

De Korte, R. J. (*with* Bakker, Rembrandt; Schouten, J. C.; Van den Bleek, C. M.; Takens, F.) Neural networks for prediction and control of chaotic fluidized bed hydrodynamics: a first step. (English summary) *Fractals* **5** (1997), *no.* 3, 523–530. 76F20 (76S05)

De Korvin, A. *see* **de Korvin, A.**

Dekov, Deko V. Finite complete rewriting systems for groups. *Comm. Algebra* **25** (1997), *no.* 12, 4023–4028. (Introduction) **98k:20045** 20F10 (68Q42)

Dekrét, Anton On non-vertical linear $(1,1)$-tensor fields and connections on tangent bundles. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 4 (1996), 17–23. (Josef Janyška) **98g:53037** 53C05

Dekster, B. V. The sausage conjecture holds for convex hulls of moderately bent sausages. *Acta Math. Hungar.* **73** (1996), *no.* 4, 277–285. (Martin Henk) **98b:52024** 52C17

— Thickness of a simplex whose edge lengths fall within a prescribed range. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 49–59. (G. D. Chakerian) **98j:52010** 52A40 (52A20, 52A55, 52B11)

De La Bourdonnaye, Armel *see* **de La Bourdonnaye, Armel**

guerre-Delabriere, Sylvie *see* **Guerre-Delabriere, Sylvie**

De La Bruslerie, Hubert *see* **de La Bruslerie, Hubert**

De la Cal, Jesús *see* **de la Cal, Jesús**

De Lacerda Oliveira, Milton *see* **de Lacerda Oliveira, Milton**

De La Cruz, Omar (*with* Di Prisco, Carlos Augusto) Weak choice principles. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 867–876. (Paul E. Howard) **98e:03030** 03E25 (03E35, 04A25)

Del Águila, F. *see* **del Águila, F.**

De la Harpe, Pierre *see* **de la Harpe, Pierre**

De la Higuera, Colin *see* **de la Higuera, Colin**

De La Horra, Julian *see* **de la Horra Navarro, Julián**

De la Horra Navarro, Julián *see* **de la Horra Navarro, Julián**

De la Hyre, Laurent *see* **de la Hyre, Laurent**

De Laix, Andrew A. *see* **de Laix, Andrew A.**

De la Llave, Rafael *see* **de la Llave, Rafael**

Delande, D. (*with* Zakrzewski, J.; Dupret, K.) Wigner or non-Wigner: that is the question. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 559–564, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98f:82011** 82B10 (81Q50, 81V45, 82B41)

Delange, Hubert Un théorème taubérien donnant des résultats équivalents au théorème des nombres premiers. [A Tauberian theorem giving results equivalent to the prime number theorem] *Gaz. Math. No.* 71 (1997), 39–58. (Gunter Dufner) **98j:11068** 11M45 (11N05)

De Lange, O. L. *see* **de Lange, O. L.**

Del Angel R., Pedro L. *see* **del Angel R., Pedro L.**

Delanoë, Philippe Équilinéarité et courbure scalaire conforme. (English and French summaries) [Equilinearity and conformal scalar curvature] *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 273–289, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Robert McOwen) **98e:53061** 53C21 (35J60, 53A30)

— Sur l'analogue presque-complexe de l'équation de Calabi-Yau. [On the almost-complex analogue of the Calabi-Yau equation] *Osaka J. Math.* **33** (1996), *no.* 4, 829–846. (John M. Lee) **98c:32018** 32F07 (32C17, 35J60, 53C15)

De la Peña, J. A. *see* **de la Peña, J. A.**

De la Peña, Luis *see* **de la Peña, Luis**

De la Peña, Victor H. *see* **de la Peña, Victor H.**

De la Puente, M. J. *see* **de la Puente, M. J.**

De Lara-Tuprio, E. *see* **de Lara-Tuprio, E.**

anantharaman-Delaroche, Claire *see* **Anantharaman-Delaroche, Claire**

Delarue, B. J. (*with* Pope, Stephen B.) Application of PDF methods to compressible turbulent flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2704–2715. (Summary) **98g:76045** 76F99 (76M35, 76N99)

— (*with* Pope, Stephen B.) Calculations of subsonic and supersonic turbulent reacting mixing layers using probability density function methods. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 487–498. 76M25 (76F99)

De la Rue, T. *see* **de la Rue, T.**

De la Sen, Manuel *see* **de la Sen, Manuel**

De la Torre, Alberto *see* **de la Torre, Alberto**

De la Torre, Marina *see* **de la Torre, Marina**

De la Torre, Pilar *see* **de la Torre, Pilar**

DeLatte, David Diophantine conditions for the linearization of commuting holomorphic functions. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 317–332. (Walter Bergweiler) **98c:30035** 30D05 (58F23)

DeLaubenfels, Ralph *see* **deLaubenfels, Ralph**

Delaunay, Sandra Grands degrés de transcendance pour la fonction exponentielle; modification des hypothèses techniques dans la méthode de Diaz. (English and French summaries) [Large transcendence degrees for the exponential function; modification of the technical hypotheses in the method of Diaz] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 1, 57–68. (Michel Waldschmidt) **98a:11094a** 11J85

— Grands degrés de transcendance pour la fonction exponentielle; modification des hypothèses techniques dans la méthode de Brownawell. (English and French summaries) [Large transcendence degrees for the exponential function; modification of the technical hypotheses in the method of Brownawell] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 1, 69–104. (Michel Waldschmidt) **98a:11094b** 11J85

cubiles-De-La-Vega, M. D. *see* **Cubiles-De-La-Vega, M. D.**

DeLaVina, Ermelinda (*with* Campbell, Connie Maude; Harary, Frank) The maximum induced circumference of a graph. *Panamer. Math. J.* **7** (1997), *no.* 2, 37–39. (David Burns) **98b:05061** 05C38 (05C35)

Delay, Benjamin Coupures propres dans $^*\mathbf{R}$. [Proper cuts in $^*\mathbf{R}$] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 19–25. (Summary) **98j:03093** 03H05

De Lazzer, A. *see* **de Lazzer, A.**

Delbaen, Freddy (*with* Schachermayer, Walter) An inequality for the predictable projection of an adapted process. (English summary) *Séminaire de Probabilités, XXIX*, 17–24, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Dominique Lépingle) **98g:60087** 60G44

— (*with* Schachermayer, Walter) Attainable claims with pth moments. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 6, 743–763. (Lorenzo Peccati) **98c:90012** 90A09 (46N10, 60G44)

— (*with* Bühlmann, Hans; Embrechts, Paul; Shiryaev, Albert N.) No-arbitrage, change of measure and conditional Esscher transforms. Mathematics of finance, Part I. *CWI Quarterly* **9** (1996), *no.* 4, 291–317. (Jakša Cvitanić) **98h:90015** 90A09

— (*with* Schachermayer, Walter) The Banach space of workable contingent claims in arbitrage theory. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 1, 113–144. (Marek Rutkowski) **98f:60105** 60H05 (46N10, 60G44, 90A09)

Del Balio, R. (*with* De Falco, I.; Tarantino, E.) An analysis of parallel heuristics for task allocation in multicomputers. (English summary) *Computing* **59** (1997), *no.* 3, 259–275. 90C90 (90B80, 90C27)

Delbende, Ivan (*with* Chomaz, Jean-Marc; Huerre, Patrick) Absolute/convective instabilities in the Batchelor vortex: a numerical study of the linear impulse response. (English summary) *J. Fluid Mech.* **355** (1998), 229–254. (Summary) **98k:76057** 76E99 (76C05, 76D25, 76E15, 76M25)

Delbosco, Domenico (*with* Rodino, Luigi) Existence and uniqueness for a nonlinear fractional differential equation. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 609–625. (Š. Schwabik) **98b:34020** 34A34 (26A33)

Delbourgo, Daniel (*with* Dąbrowski, Andrzej Bogdan) S-adic L-functions attached to the symmetric square of a newform. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 559–611. (Alexey A. Panchishkin) **98b:11048** 11F33 (11F67, 11F85)

Delbourgo, Roger (*with* Zhang, R. B.) Minimal uncertainty states for quantum groups. (English summary) *J. Phys. A* **30** (1997), *no.* 10, L313–L316. (Pavel Šťovíček) **98k:81109** 81R50 (17B37)

Delbue, G. (*with* Collino, P.; Joly, Patrick; Piacentini, A.) A new interface condition in the non-overlapping domain decomposition method for the Maxwell equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 195–207. (Pierre Hillion) **98f:78001** 78–08 (78A25)

Del Campo, S. *see* **del Campo, S.**

Del Castillo, Giuseppe (*with* Đurđanović, Igor; Glässer, Uwe) An evolving algebra abstract machine. (English summary) *Computer science logic* (*Paderborn*, 1995), 191–214, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98b:68034** 68Q05 (68Q60)

Del-Castillo-Negrete, D. *see* **del-Castillo-Negrete, D.**

Delcayre, F. (*with* Fallon, B.; Lesieur, Marcel; Grand, D.) Large-eddy simulations of stable-stratification effects upon a backstep flow. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 625–644. 76M25 (76F99, 76V05)

Del Centina, A. (*with* Gimigliano, A.) Corrigenda to: "Scrollar invariants and resolutions of certain d-gonal curves" [Ann. Univ. Ferrara Sez. VII (N.S.) **39** (1993), 187–201 (1995); MR 96g:14024]. *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1995), 147 (1997). (From the text) **98d:14042** 14H45

Del Corso, Gianna M. Estimating an eigenvector by the power method with a random start. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 913–937. (Hongyuan Zha) **98i:65026** 65F15

Del Corso, I. On Kronecker's use of indeterminate coefficients. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 261–275. (W. Narkiewicz) **98c:11112** 11R04 (01A55, 13F05)

Delcroix, Antoine Sur une classe d'algèbre de fonctions généralisées. Application aux systèmes différentiels. [On a class of algebras of generalized functions. Application to differential systems] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 27–35. (Vyacheslav V. Chistyakov) **98b:46053** 46F10 (03H05, 35D05, 46F05)

Delduc, François (*with* Sokatchev, E.) Sigma models with (2, 2) world sheet supersymmetry. (English summary) *Perspectives on solvable models*, 277–291, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:81198** 81T40 (81T60)

— (*with* Gierès, François; Gourmelen, Stéphane) $d = 2$, $N = 2$ superconformal symmetries and models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1623–1649. (Hamid Kachkachi) **98g:81204** 81T60 (81T40)

— (*with* Gallot, L.) $N = 2$ KP and KdV hierarchies in extended superspace. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 395–410. (Alexander V. Shapovalov) **98k:58107** 58F07 (35Q53)

— (*with* Ivanov, Evgeniĭ Alekseevich[2]; Sokatchev, E.) The massive spinning particle revisited. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 13, 937–947. (Summary) **98c:81229** 81T99

— (*with* Gallot, L.; Ivanov, Evgeniĭ Alekseevich[2]) New super KdV system with the $N = 4$ SCA as the Hamiltonian structure. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 122–132. (Summary) **98f:58099** 58F07 (35Q53)

Delecroix, M. (*with* Rosa, A. C.) Nonparametric estimation of a regression function and its derivatives under an ergodic hypothesis. (English summary) *J. Nonparametr. Statist.* **6** (1996), *no.* 4, 367–382. (Summary) **98k:62050** 62G05

— (*with* Guegan, Dominique; Léorat, G.) Determinating Lyapunov exponents in deterministic dynamical systems. (English summary) *Comput. Statist.* **12** (1997), *no.* 1, 93–107. (Michèle Basseville) **98d:62157** 62M10 (58F11)

De Ledesma, Luis *see* **de Ledesma, Luis**

De Leeuw, G. *see* **de Leeuw, G.**

De Leeuw, Jan *see* **de Leeuw, Jan**

Deléglise, Marc Encadrement de la fonction sommatoire des inverses des termes d'une progression arithmétique. (English and French summaries) [Two-sided estimation of the summatory function of the inverses of the terms of an arithmetic progression] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 471–492. (Ognian Trifonov) **98c:11094** 11N37

— (*with* Rivat, Joël) Computing the summation of the Möbius function. (English summary) *Experiment. Math.* **5** (1996), *no.* 4, 291–295. (Summary) **98f:11135** 11Y35

De Leo, Stefano (*with* Rotelli, Pietro) The quaternionic Dirac Lagrangian. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 5, 357–366. (Summary) **98a:81050** 81Q99 (81R20)

— (*with* Abdel-Khalek, Khaled) Octonionic quantum mechanics and complex geometry. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 4, 823–831. (Waldyr Alves Rodrigues, Jr.) **98b:81059** 81Q99 (81R05)

— (*with* Abdel-Khalek, Khaled) Octonionic Dirac equation. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 4, 833–845. (Waldyr Alves Rodrigues, Jr.) **98b:81060** 81Q99 (81R05)

— (*with* Abdel-Khalek, Khaled) Octonionic representations of GL(8, **R**) and GL(4, **C**). (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 582–598. (Waldyr Alves Rodrigues, Jr.) **98c:17004** 17A35 (20G20, 81R05)

De León, Manuel *see* **de León, Manuel**

Delfino, Donatella (*with* Swanson, Irena) Integral closure of ideals in excellent local rings. *J. Algebra* **187** (1997), *no.* 2, 422–445. (D.-M. Popescu) **98a:13014** 13B22 (13B40, 13J10, 14B12)

— A vanishing theorem for local cohomology modules. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 2, 107–111. (Lê Tuân Hoa) **98f:13015** 13D45 (14B15, 14F17)

— (*with* Marley, Thomas) Cofinite modules and local cohomology. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 45–52. (Claudia Polini) **98g:13015** 13D45

Delfour, Michel C. (*with* Zolésio, Jean-Paul) On the design and control of systems governed by differential equations on submanifolds. (English summary) Distributed parameter systems: modelling and control (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 3, 497–514. (Muthusamy Vanninathan) **98c:49076** 49Q10 (93B05, 93C20)

— Méthodes intrinsèques pour le contrôle et l'optimisation des coques minces. (French summary) [Intrinsic methods for the control and optimization of thin shells] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 65–86 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98g:73025** 73K15 (49Q10, 73K40, 73K50)

— (*with* Mghazli, Zoubida; Zolésio, Jean-Paul) Computation of shape gradients for mixed finite element formulation. (English summary) *Partial differential equation methods in control and shape analysis* (*Pisa*), 77–93, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Maitine Bergounioux) **98f:49042** 49Q15 (65N30)

— (*with* Zolésio, Jean-Paul) On a geometrical bang-bang principle for some compliance problems. (English summary) *Partial differential equation methods in control and shape analysis* (*Pisa*), 95–109, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Summary) **98c:49014** 49J30 (49K40, 49Q10, 73K40, 73V25)

— (*with* Yang, Geng; Fortin, Michel) Error analysis of mixed finite elements for cylindrical shells. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 261–277. (Juhani Pitkäranta) **98i:73062** 73V05 (65N30, 73K15)

— (*with* Dubeau, François) Fixed mesh approximation of ordinary differential equations with impulses. (English and French summaries) *Numer. Math.* **78** (1998), *no.* 3, 377–401. (Summary) **98j:65052** 65L50 (34A37, 34A45)

Del Fra, Alberto (*with* Migliori, Grazia) On a class of designs obtained by composition of ovaloids. (English summary) *J. Geom.* **57** (1996), *no.* 1-2, 70–80. (Barbu C. Kestenband) **98b:51005** 51E05 (05B25)

— (*with* Pica, G.) Flag-transitive C_2-L_n geometries. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 99–105. (Antonio Pasini) **98i:51006** 51E24

— On two new classes of semibiplanes. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 107–116. (Antonio Pasini) **98i:51008** 51E25 (05B25, 51B15)

Delgado, A. (*with* Bruce, S.; Roa, L.) Comments on minimal interactions in quantum mechanics. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 4005–4018. (Avinash Khare) **98b:81055** 81Q60 (81Q99)

Delgado, Alberto J. Phase portrait approximation using dynamic neural networks. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 1–11. 93C80 (93B40)

muñoz-Delgado, F. J. *see* **Muñoz-Delgado, F. J.**

Delgado, Joaquin *see* **Delgado Fernández, Joaquin**

Delgado, Jorge (*with* Contreras-Barandiarán, Gonzalo; Iturriaga, Renato) Lagrangian flows: the dynamics of globally minimizing orbits. II. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **28** (1997), *no.* 2, 155–196. (Author's review (R1)) **98i:58093** 58F05 (49Q20, 58E05)

Delgado, M. *see* **Delgado, Miguel**

Delgado, Manuel[1] The Lagrange-Charpit method. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 298–304. (Werner M. Seiler) **98b:35001** 35-01 (35C05, 35F20)

Delgado, Miguel (*with* Vila, M. A.; Voxman, William) On a canonical representation of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 125–135. (Summary) **98i:04002** 04A72

— (*with* Vila, M. A.; Voxman, William) A fuzziness measure for fuzzy numbers: applications. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 205–216. (Summary) **98k:04003** 04A72

martín-Delgado, Miguel A. *see* **Martín-Delgado, Miguel A.**

Delgado, Rosario (*with* Jolis, Maria) A Hu-Meyer formula for generalized multiple anticipating integrals. (English summary) *Stochastics Stochastics Rep.* **58** (1996), *no.* 1-2, 115–138. (Marta Sanz Solé) **98b:60104** 60H05 (60H10)

Delgado C., Francisco (*with* Mielnik, Bogdan) Magnetic control of squeezing effects. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 309–320. (Summary) **98m:81045** 81Q99

Delgado Fernández, Joaquin (*with* Seibert, Peter; Arredondo Ruiz, J. H.; Aguirre, Luis) Reduction theorems for uniform stability of systems in general spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 69–88. (Anthony N. Michel) **98d:34083** 34D20 (34Dxx, 34G20, 54H15)

Delgado Friedrichs, Olaf (*with* Huson, Daniel H.) Orbifold triangulations and crystallographic groups. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 29–55. (Summary) **98k:52051** 52C22 (20H15, 57M12, 57Q15, 68Q40)

Delgado Pineda, M. (*with* Ruiz Espejo, Mariano) On variance estimation for poststratification: a review. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 209–220 (1998). 62D05

Delgrande, James P. (*with* Schaub, Torsten H.) Compiling specificity into approaches to nonmonotonic reasoning. (English summary) *Artificial Intelligence* **90** (1997), *no.* 1-2, 301–348. (G. Mirkowska) **98d:03039** 03B60 (03B70, 68T27)

Delhommé, Christian Propriétés de projection des relations binaires. (English and French summaries) [Projection properties of binary relations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 7–10. (Summary) **98e:05092** 05C75

Delić, D. (*with* Crvenković, Siniša) Different levels of word problems for some varieties. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 93–102. (Ewa Graczyńska) **98g:08008** 08A50 (03D35, 03D40)

Delicado, P. (*with* del Río, Manuel) Weighted nonparametric regression. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2983–2998. (Summary) **98m:62091** 62G05

De Lichtenberg, Kristian *see* **de Lichtenberg, Kristian**

Deliduman, Cemsinan (*with* Bars, Itzhak) Superstrings with new supersymmetry in (9, 2) and (10, 2) dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6579–6587. (Piret Kuusk) **98k:81193** 81T30 (83E30)

Deligne, P. Extensions centrales de groupes algébriques simplement connexes et cohomologie galoisienne. [Central extensions of simply connected algebraic groups and Galois cohomology] *Inst. Hautes Études Sci. Publ. Math. No.* 84 (1996), 35–89 (1997). (Andy R. Magid) **98d:14056** 14L15 (14F20, 19C09)

— Local behavior of Hodge structures at infinity. (English summary) *Mirror symmetry, II*, 683–699, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Bernd Siebert) **98a:14015** 14D07 (14N10, 32J25)

— Action du groupe des tresses sur une catégorie. (English summary) [Action of the braid group on a category] *Invent. Math.* **128** (1997), *no.* 1, 159–175. (Thomas Delzant) **98b:20061** 20F36 (18D10)

De'Liguoro, Ugo *see* **de'Liguoro, Ugo**

De Lillo, S. (*with* Biondini, G.) Stochastic effects on NLS solitons. *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 262–265, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q55 (35R60)

— (*with* Calogero, Francesco; Degasperis, A.) The multicomponent Eckhaus equation. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5805–5814. (Summary) **98h:35213** 35Q55 (58F39)

— (*with* Ablowitz, Mark J.; Biondini, G.) On the well-posedness of the Eckhaus equation. (English summary) *Phys. Lett. A* **230** (1997), *no.* 5-6, 319–323. (Summary) **98d:35202** 35Q55

— Moving boundary problems for the Burgers equation. (English summary) *Inverse Problems* **14** (1998), *no.* 1, L1–L4. 35R35 (35Q53)

DeLillo, Thomas K. (*with* Elcrat, Alan R.; Pfaltzgraff, John A.) Numerical conformal mapping methods based on Faber series. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 205–236. (N. Papamichael) **98j:30003** 30C30 (65E05)

— (*with* Chan, Raymond H.; Horn, Mark A.) The numerical solution of the biharmonic equation by conformal mapping. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1571–1582. (Summary) **98i:30005** 30C30 (65E05)

De Lima, A. F. *see* **de Lima, A. F.**

De Lima, Pedro J. F. *see* **de Lima, Pedro J. F.**

Delin, Henrik A proof of the equivalence between Nash and Sobolev inequalities. (English summary) *Bull. Sci. Math.* **120** (1996), *no.* 4, 405–411. (D. Y. Kasture) **98b:35022** 35B45 (26D10)

Delinić, K. (*with* Aganović, I.; Tutek, Z.) Homogenization of a spectral problem for a pile foundation structure. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 12, 979–988. (Taras A. Mel'nyk) **98e:73005** 73B27 (35B27, 73K20)

Delion, D. S. (*with* Baran, V.; Raduta, A. A.) Order and chaos described by a quadrupole boson Hamiltonian. (English summary) *Romanian J. Phys.* **40** (1995), *no.* 4-5, 433–451. (Summary) **98a:81267** 81V35 (58F13, 58F40, 81Q50)

Delisi, Charles (*with* Zhang, Chao; Kimura, S. Roy; Weng, Zhiping; Vajda, Sandor; Brower, Richard C.) The waters of life. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 213–240. (*see* **98i:92001**) 92C40 (92-02, 92C45)

Delistathis, George Embedding compact spaces into compact spaces with few regular open Baire subsets. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 225–231. (M. Hušek) **98k:54022** 54C25 (54D30, 54F15, 54G15, 54H05)

Deliu, Anca (*with* Barnsley, Michael F.; Xie, Ruifeng) Stationary stochastic processes and fractal data compression. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 551–567. (Peter R. Massopust) **98d:58165** 58F40 (28A80, 58F13)

— (*with* Geronimo, Jeffrey S.; Shonkwiler, R.) On the inverse fractal problem for two-dimensional attractors. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 1017–1062. (Remo Badii) **98c:58099** 58F12 (28A80, 58F13)

Delius, Gustav W. (*with* Bracken, Anthony J.; Gould, Mark D.; Zhang, Yao-Zhong) Infinite families of gauge-equivalent R-matrices and gradations of quantized affine algebras. (English summary) *Perspectives on solvable models*, 231–243, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 17B37 (17B67, 81R50)

— (*with* Hüffmann, Andreas; Gould, Mark D.; Zhang, Yao-Zhong) Quantum Lie algebras associated to $U_q(\mathrm{gl}_n)$ and $U_q(\mathrm{sl}_n)$. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5611–5617. (Mariano A. del Olmo) **98b:81095** 81R50 (17B37)

— Introduction to quantum Lie algebras. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 91–97, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (*see* **98f:00028**) 17B37 (81R50)

Delizia, Costantino Finitely generated soluble groups with a condition on infinite subsets. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 2, 201–208 (1995). (John S. Wilson) **98b:20038a** 20E07 (20F16)

— On certain residually finite groups. *Comm. Algebra* **24** (1996), *no.* 11, 3531–3535. (John S. Wilson) **98b:20038b** 20E07 (20E26)

Del Junco, Andrés *see* **del Junco, Andrés**

Dell' Achchio, F. On the continuous extension of locally homeomorphic simplicial mappings of $\mathbf{R}^2$ into itself by σ-processes. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 6, 821–831, 959; *translation in Math. Notes* **59** (1996), *no.* 5-6, 594–600. (Summary) **98i:57039** 57N35 (57N05)

Dellacherie, Claude Théorie générale du potentiel. I. (French summary) [General potential theory. I] Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 109–124. (N. Boboc) **98f:31019** 31D05 (31C45, 60J45)

— Une version non linéaire du théorème de représentation de Riesz. (English and French summaries) [A nonlinear version of the Riesz representation theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1011–1014. (Francesco Altomare) **98d:46021** 46E05 (28A12, 46A22)

Delladio, Silvano Special generalized Gauss graphs and their application to minimization of functionals involving curvatures. (English summary) *J. Reine Angew. Math.* **486** (1997), 17–43. (Harold Parks) **98f:49043** 49Q20 (58E15)

— Minimizing functionals depending on surfaces and their curvatures: a class of variational problems in the setting of generalized Gauss graphs. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 301–323. (C. S. Sharma) **98b:49029** 49Q05 (49Q15, 58E12)

Della Francesca, Piero *see* **della Francesca, Piero**

Dell'Aglio, Luca Divergences in the history of mathematics: Borel, von Neumann and the genesis of game theory. (English summary) *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 1–45 (1997). (U. Krengel) **98h:01018** 01A60 (90–03)

— On the genesis of the concept of covariant differentiation. (English and French summaries) *Rev. Histoire Math.* **2** (1996), *no.* 2, 215–264. (Summary) **98i:01018** 01A55 (01A60, 53–03, 58–03)

Dellago, Ch. (*with* Posch, H. A.) Lyapunov instability of the boundary-driven Chernov-Lebowitz model for stationary shear flow. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 825–842. (Summary) **98g:76061** 76M35 (76D99, 82C40)

— (*with* Posch, H. A.) Field and density dependence of the Lyapunov spectrum for the driven random Lorentz gas. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 241–249. (*see* **98i:58004**) 82C41 (58F40)

Dell'Amico, Mauro (*with* Martello, Silvano) The k-cardinality assignment problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 103–121. (Anton Volgenant) **98i:90073** 90C27 (05B35)

Dell'Antonio, Gianfausto Variational calculus and stability of periodic solutions of a class of Hamiltonian systems. *The state of matter* (*Copenhagen*, 1992), 400–450, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 58E05 (34C25, 58F05, 70H05)

— Remarks on the construction of measures for Euclidean gauge fields. *Field theory and collective phenomena* (*Perugia*, 1992), 377–399, *World Sci. Publishing, River Edge, NJ*, 1995. (Ambar Sengupta) **98d:81050** 81T13 (81–02, 81T08)

— (*with* D'Onofrio, B.; Ekeland, Ivar) Nonergodic properties of systems of oscillators coupled through convex even potentials. *Variational methods in nonlinear analysis* (*Erice*, 1992), 77–82, *Gordon and Breach, Basel*, 1995. (Gabriella Tarantello) **98i:58194** 58F22 (34C25, 58E05, 58F05)

— (*with* Figari, Rodolfo; Teta, Alessandro) A limit evolution problem for time-dependent point interactions. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 1, 249–275. (Paolo Acquistapace) **98m:81027** 81Q10 (26A33, 35Q99, 47N55)

— Classical solutions for a perturbed N-body system. *Topological nonlinear analysis, II* (*Frascati*, 1995), 1–86, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (Patricio L. Felmer) **98i:70005** 70F10 (34C25, 58F22)

— (*with* Figari, Rodolfo; Teta, Alessandro) Statistics in space dimension two. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 235–256. (Pavel Šťovíček) **98c:81052** 81Q10 (81S05)

Dellaportas, P. (*with* Brooks, S. P.; Roberts, Gareth O.) An approach to diagnosing total variation convergence of MCMC algorithms. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 3, 251–265. (Summary) **98d:62001** 62–04 (62F15)

Della Selva, Angelo (*with* Magnin, Javier; Masperi, Luis) Bargmann-Michel-Telegdi equation and one-particle relativistic approach. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 71–78. (*see* **98h:81004**) 81R20 (81V10)

Della Vecchia, B. (*with* Mastroianni, Giuseppe; Szabados, J.) Balázs-Shepard operators on infinite intervals. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 93–102. (L. G. Labsker) **98e:41031** 41A35 (41A25)

— (*with* Mastroianni, Giuseppe; Vértesi, Péter) Mean convergence of extended Hermite interpolation of higher order. (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 3-4, 303–321. (Valeri Kaliaguine) **98b:41001** 41A05 (33C45, 41A25)

Delling, Hildegard *see* **Poggendorff, J. C., 98g:00006**

Delli Priscoli, Francesco (*with* Byrnes, Christopher I.; Isidori, Alberto) ★ Output regulation of uncertain nonlinear systems. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+120 *pp. ISBN* 0-8176-3997-7 (Kevin A. Grasse) **98c:93001** 93–02 (93B52, 93C41, 93D15)

— (*with* Byrnes, Christopher I.; Isidori, Alberto; Kang, Wei) Structurally stable output regulation of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 369–385. (John Tsinias) **98c:93087** 93D15 (93B52)

Dell'Isola, Francesco *see* **dell'Isola, Francesco**

Dellnitz, Michael (*with* Hohmann, Andreas; Junge, Oliver; Rumpf, Martin) Exploring invariant sets and invariant measures. (English summary) *Chaos* **7** (1997), *no.* 2, 221–228. (Summary) **98g:58099** 58F11 (65L06)

— (*with* Hohmann, Andreas) A subdivision algorithm for the computation of unstable manifolds and global attractors. (English summary) *Numer. Math.* **75** (1997), *no.* 3, 293–317. (Timothy Sauer) **98b:65075** 65L05 (58F12, 65L70)

Dell'Olmo, Paolo (*with* Bianco, L.; Giordani, S.) The traveling salesman problem with precedence constraints and binary costs. (English summary) *System modelling and optimization* (*Prague*, 1995), 543–550, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C27

— (*with* Bianco, L.; Błażewicz, Jacek; Drozdowski, Maciej) Preemptive multiprocessor task scheduling with release times and time windows. (English summary) *Ann. Oper. Res.* **70** (1997), 43–55. (Jan Węglarz) **98f:68206** 68R05 (68M20, 68Q10, 68Q25, 90B35)

— (*with* Bianco, L.; Giordani, S.) An optimal algorithm to find the jump number of partially ordered sets. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 197–210. (Summary) **98b:90162** 90C39 (65K10)

— (*with* Kellerer, Hans²; Speranza, Maria Grazia; Tuza, Zsolt) A 13/12 approximation algorithm for bin packing with extendable bins. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 229–233. 68Q25

Dello Russo, Anahí (*with* Rodriguez, Rodolfo) Finite element displacement methods for fluid-solid vibration problems. *Numerical methods in mechanics* (*Concepción*, 1995), 71–82, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (From the text) **98i:76051** 76M10 (73K70, 73V05)

Dellunde, P. (*with* Jansana, Ramon) Characterization theorems for infinitary universal Horn logic. (English summary) *Truth: logic, representation and the world* (*Spanish*) (*Santiago de Compostela*, 1996), 193–199, *Cursos Congr. Univ. Santiago de Compostela*, 88, *Univ. Santiago de Compostela, Santiago de Compostela*, 1996. (Bienvenido F. Nebres) **98k:03086** 03C75 (03B50)

— (*with* Casanovas, E.; Jansana, Ramon) On elementary equivalence for equality-free logic. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 506–522. (Michał Krynicki) **98c:03075** 03C07 (03B10, 03C20)

Del Lungo, Alberto (*with* Barcucci, Elena; Nivat, Maurice; Pinzani, Renzo) Reconstructing convex polyominoes from horizontal and vertical projections. II. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 295–306, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 68R05 (05B50, 68U05)

— (*with* Nivat, Maurice; Pinzani, Renzo) The number of convex polyominoes reconstructible from their orthogonal projections. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 65–78. (Haruo Hosoya) **98c:05045** 05B50 (05A16, 68R05)

— (*with* Barcucci, Elena; Fezzi, S.; Pinzani, Renzo) Nondecreasing Dyck paths and q-Fibonacci numbers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 211–217. (Summary) **98d:05009** 05A15 (11B39)

— (*with* Barcucci, Elena; Bertoli, F.; Pinzani, Renzo) The average height of directed column-convex polyominoes having square, hexagonal and triangular cells. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 27–36. (Summary) **98j:05047** 05B50 (05A15, 82B41)

— (*with* Barcucci, Elena; Pergola, Elisa; Pinzani, Renzo) A methodology for plane tree enumeration. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 45–64. (T. R. S. Walsh) **98m:05090** 05C30 (05C05)

— (*with* Nivat, Maurice; Pinzani, Renzo; Sorri, L.) The medians of discrete sets. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 293–299. (Summary) **98m:68271** 68U05

Delmaire, H. (*with* Cheung, Bernard K. S.; Langevin, A.) Coupling genetic algorithm with a grid search method to solve mixed integer nonlinear programming problems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 13–23. 90C11

Delmas-Rigoutsos, Yannis A double deduction system for quantum logic based on natural deduction. (English summary) *J. Philos. Logic* **26** (1997), *no.* 1, 57–67. (Jānis Cīrulis (Zbl 868.03029)) **98c:03066** 03B60 (03G12, 06C15)

Del Moral, Pierre Nonlinear filtering: interacting particle resolution. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 653–658. (Summary) **98k:60179** 60K35 (60G35, 93E11)

— (*with* Salut, Gérard) Random particle methods in (max, +) optimization problems. *Idempotency* (*Bristol*, 1994), 383–391, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 90C27 (82C80)

Delmotte, Thierry Estimations pour les chaînes de Markov réversibles. (English and French summaries) [Lower and upper bounds for reversible Markov chains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1053–1058. (Summary) **98a:60103** 60J27 (60J10)

— Inégalité de Harnack elliptique sur les graphes. [Elliptic Harnack inequality on graphs] *Colloq. Math.* **72** (1997), *no.* 1, 19–37. (Alain J. Phares) **98m:39044** 39A12 (58G99)

Del-Muro-Cuellar, B. (*with* Malabre, M.; Martínez García, J. C.) On the fixed poles for disturbance rejection. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1209–1211. (Summary) **98a:93032** 93B60

De Loera, Jesús A. *see* **de Loera, Jesús A.**

Del Olmo, Mariano A. (*with* Ballesteros, Angel; Herranz, Francisco J.; Pereña, C. M.; Santander, Mariano) Non-standard quantum $(1+1)$ Poincaré group: a T-matrix approach. (English summary) *J. Phys. A* **28** (1995), *no.* 24, 7113–7125. (Władysław Marcinek) **98g:81067** 81R50 (16W30, 17B37)

— (*with* Fernández C., David J.; Negro, Javier) On a link between shift and ladder operators. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 235–238, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R05

— (*with* Bonechi, F.; Giachetti, Riccardo; Sorace, E.; Tarlini, M.) Quantum homogeneous spaces and special functions with a dimensional deformation parameter. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7973–7982. (Jan Sobczyk) **98j:81140** 81R50 (33D80)

— (*with* Ballesteros, Angel) Contractions of Poisson-Lie groups, Lie bialgebras and quantum deformations. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 261–271, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (From the text) **98m:17020** 17B37 (81R50)

— Quantum space-time groups and beyond. *Symmetries in science, IX* (*Bregenz*, 1996), 297–312, *Plenum, New York*, 1997. (Anatol Nowicki) **98j:81163** 81R50 (17B37)

— (*with* Arratia, Oscar) Elementary systems of $(1+1)$ kinematical groups: contraction and quantization. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 2, 103–128. (Jacques Renaud) **98g:81047** 81R05 (22E70)

— (*with* Arratia, Oscar) Contraction of representations of $1+1$ kinematical groups and quantization. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 125–130. (Hanna E. Makaruk) **98c:22020** 22E70 (81R05)

— (*with* Calzada, Juan A.; Rodríguez, Miguel Angel^2) Classical superintegrable $SO(p,q)$ Hamiltonian systems. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 14–30. (Janusz Grabowski) **98e:58092** 58F07 (22E70, 58F05, 70H05, 70H33)

— (*with* de Azcárraga, José A.; Pérez Bueno, J. C.; Santander, Mariano) Graded contractions and bicrossproduct structure of deformed inhomogeneous algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3069–3086. (Peter Prešnajder) **98j:81139** 81R50 (16W30)

Delon, Françoise (*with* Farré, Rafel) Some model theory for almost real closed fields. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1121–1152. (Danielle Gondard-Cozette) **98k:03084** 03C60 (06F20, 12D15, 12L12)

— Q muni de l'arithmétique faible de Penzin est décidable. (English summary) [Q equipped with the weak Penzin arithmetic is decidable] *Proc. Amer. Math. Soc.* **125** (1997), *no.* 9, 2711–2717. (M. Yasuhara) **98d:03017** 03B25 (03C62, 12L05)

DeLong, M. A. (*with* Ortega, James M.) SOR as a preconditioner. II. *Appl. Numer. Math.* **26** (1998), *no.* 4, 465–481. 65F35 (65F10)

De Lorenci, Vitorio A. (*with* Martin, Jérôme; Pinto-Neto, Nelson; Soares, Ivano Damião) Topology change in canonical quantum cosmology. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3329–3340. (Summary) **98e:83050** 83C45 (81V17)

Delorme, C. (*with* Bampis, E.; König, J.-C.) Optimal schedules for d-D grid graphs with communication delays (extended abstact). (English summary) *STACS 96* (*Grenoble*, 1996), 655–666, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q22 (68M20)

— (*with* Tillich, Jean-Pierre) Eigenvalues, eigenspaces and distances to subsets. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 171–194. (Peter Rowlinson) **98d:05097** 05C50

— (*with* Ordaz, Oscar; Quiroz, D.) Tools for studying paths and cycles in digraphs. (English summary) *Networks* **31** (1998), *no.* 2, 125–148. 05C38

Delorme, Marianne (*with* Mazoyer, Jacques) Languages recognition on cellular automata. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 85–100, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:00029**) 68Q80 (68Q45)

Delorme, Patrick Infinitesimal character and distribution character of representations of reductive Lie groups. *Representation theory and automorphic forms* (*Edinburgh*, 1996), 73–81, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:22001**) 22E45

Delort, Jean-Marc Sur le temps d'existence pour l'équation de Klein-Gordon semi-linéaire en dimension 1. (English and French summaries) [Existence time for the one-dimensional semilinear Klein-Gordon equation] *Bull. Soc. Math. France* **125** (1997), *no.* 2, 269–311. (Valery Covachev) **98i:35124** 35L70 (35Q53)

Deloup, Florian The monodromy group of a configuration of lines. (English summary) *Algebra i Analiz* **8** (1996), *no.* 6, 1–25; *reprinted in St. Petersburg Math. J.* **8** (1997), *no.* 6, 913–929. (Grigory B. Mikhalkin) **98f:55013** 55P99 (14P25, 55R99, 57M05, 57M99)

Delpeyroux, E. (*with* Lacan, J.) A note on normal bases. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 334–340, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Jaime-Luis Garcia-Roig) **98c:12001** 12E20 (11T30)

Del Piero, Gianpietro (*with* Deseri, Luca) On the concepts of state and free energy in linear viscoelasticity. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 1, 1–35. (Maurizio Grasselli) **98i:73023** 73F05 (73B30, 73F15)

aguilera Del Pino, Ana Ma. *see* **Aguilera Del Pino, Ana Ma.**

Del Pino, Manuel *see* **del Pino, Manuel**

Delpos, Manuela *see* **Evolutionary epistemology as reflected in the sciences, 98g:00023**

Del Re, E. (*with* Argenti, F.; De Angeli, A.; Genesio, R.; Pagni, P.; Tesi, Alberto) Secure communications based on discrete time chaotic systems. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 41–50. (*see* **98g:93001**) 93C10 (93D21)

munduate Del Rio, Arantza *see* **Munduate Del Rio, Arantza**

Del Rio, Manuel *see* **del Rio, Manuel**

Del Rio, Rafael (*with* Simon, Barry) Point spectrum and mixed spectral types for rank one perturbations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3593–3599. (Summary) **98b:47019** 47A55 (47A10)

Del Rio Mateos, Angel *see* **del Rio Mateos, Angel**

Del Santo, Daniele (*with* Colombini, Ferruccio) Development of singularities for nonlinear hyperbolic systems with periodic data. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 15–28 (1997). (Linda M. Holt) **98k:35115** 35L60 (35A20)

— (*with* Colombini, Ferruccio; Zuily, Claude) The Fefferman-Phong inequality in the locally temperate Weyl calculus. *Osaka J. Math.* **33** (1996), *no.* 4, 847–861. (Yu. V. Egorov) **98b:35231** 35S05 (35A05, 47G30)

— A Carleman estimate for degenerate elliptic operators with an application to an ill-posed problem. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 327–339. (Ya. A. Roĭtberg) **98g:35082** 35J70 (35B45, 35L15)

Delsanto, P. P. (*with* Iordache, Doina; Iordache, C.; Ruffino, E.) Analysis of stability and convergence in FD simulations of the 1-D ultrasonic wave propagation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 19–29. (Summary) **98a:65113** 65M06 (65M12)

— (*with* Iordache, Doina; Scalerandi, M.) Pulse distortions in the FD simulation of elastic wave propagation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 31–43. (Summary) **98a:65116** 65M06 (65M12)

Delshams, Amadeo (*with* Ramírez-Ros, R.) On Birkoff's [Birkhoff's] conjecture about convex billiards. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 85–94, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Roberto Markarian) **98m:58117** 58F30

— (*with* Gelfreich, V. G.; Jorba, Àngel; Seara, Tere M.) Exponentially small splitting of separatrices under fast quasiperiodic forcing. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 35–71. (Dmitry V. Treshchëv) **98j:34087** 34C99 (58F30, 70H05, 70K40)

— (*with* Gelfreich, V. G.; Jorba, Àngel; Seara, Tere M.) Lower and upper bounds for the splitting of separatrices of the pendulum under a fast quasiperiodic forcing. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 1–10 (*electronic*). (Luigi Chierchia) **98a:58135** 58F27 (34C37)

— (*with* Seara, Tere M.) Splitting of separatrices in Hamiltonian systems with one and a half degrees of freedom. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 4, 40 *pp.* (*electronic*). (Ernest Fontich) **98k:58197** 58F30 (34C37, 58F36, 70H05)

— (*with* Mir, Arnau) Psi-series of quadratic vector fields on the plane. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 101–125. (Lubomir Gavrilov) **98h:34008** 34A25 (34A20, 34C35, 34E05)

DelSole, Timothy Absolute instability induced by dissipation. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 21, 2586–2595. (Summary) **98i:76035** 76E20 (86A10)

Del Sol Mesa, Antonio (*with* Moshinsky, Marcos) The Dirac oscillator of arbitrary spin. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 4217–4236. (W. Cox) **98c:81044** 81Q05 (81R20)

— (*with* Martínez y Romero, Rodolfo P.) Ordering problems in fermionic relativistic quantum mechanics. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 243–248. (Jiu Qing Liang) **98d:81040** 81S99 (81Q99)

Deltete, Robert J. (*with* Guy, Reed A.) Hartle-Hawking cosmology and unconditional probabilities. *Analysis* (*Oxford*) **57** (1997), *no.* 4, 304–315. 83F05

De Luca, Aldo *see* **de Luca, Aldo**

DeLucia, James (*with* Poor, H. Vincent) The moment generating function of the stopping time for a linearly stopped Poisson process. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 275–292. (Summary) **98a:60052** 60G40 (60G55)

De Lucia, Paolo *see* **de Lucia, Paolo**

Del Val, Alvaro *see* **del Val, Alvaro**

Del Valle, Alberto *see* **del Valle, Alberto**

Del Valle, G. (*with* Jiménez, J. L.; Campos, I.) A canonical treatment of nonautonomous systems of type $\ddot{v} = f(t) + c$. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 5, 449–471. (Summary) **98e:70010** 70H20

Delvaux, L. (*with* Nauwelaerts, E.) Applications of Frobenius algebras to representation theory of Schur algebras. (English summary) *J. Algebra* **199** (1998), *no.* 2, 591–617. (Stuart Martin) **98k:20011** 20C20

Del Vecchio, T. (*with* Porzio, Maria Michaela) Existence results for a class of non-coercive Dirichlet problems. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 421–438 (1996). (Summary) **98e:35067** 35J65

— (*with* Posteraro, M. R.) An existence result for nonlinear and noncoercive problems. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 191–206. (Elvira Mascolo) **98k:35067** 35J65

Delves, R. T. (*with* Joyce, G. S.; Zucker, I. J.) Exact results in the theory of intermediate statistics. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1177–1194. (Summary) **98d:82002** 82B05 (11M06, 11Z05)

Delville, J. (*with* Bonnet, Jean-Paul) General concepts on structure identification. (English summary) *Eddy structure identification* (*Udine*, 1994), 1–59, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (Summary) **98d:76083** 76F99 (76M25)

Delvos, Franz-Jürgen Cardinal interpolation in harmonic Hilbert spaces. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 67–80, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **98i:41050** 41A65 (46N40)

— Exponential-type approximation in multivariate harmonic Hilbert spaces. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 73–82, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Summary) **98h:41039** 41A65 (41A63, 42B99, 65D15)

— Interpolation in harmonic Hilbert spaces. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 435–458. (Saulius Norvidas) **98g:41005** 41A10 (42A99)

Delyon, Bernard (*with* Juditsky, Anatoli) On minimax wavelet estimators. (English summary) *Appl. Comput. Harmon. Anal.* **3** (1996), *no.* 3, 215–228. (Summary) **98k:62051** 62G05

— (*with* Juditsky, Anatoli) On the computation of wavelet coefficients. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 47–79. (Gerlind Plonka) **98a:42019** 42C15 (41A35, 49M27, 65D30)

— *see also* **Safavi, A. A., 98e:93030**

De Magalhães, Aglaé C. N. *see* **de Magalhães, Aglaé C. N.**

De Magalhães, Paulo Marcelo Dias *see* **de Magalhães, Paulo Marcelo Dias**

Demailly, Jean-Pierre L^2-methods and effective results in algebraic geometry. (English summary) *Proceedings of the International Congress of Mathematicians, Vol. 1, 2* (*Zürich*, 1994), 817–827, *Birkhäuser, Basel*, 1995. (Summary) **98e:32055** 32L20 (32L10)

— (*with* Peternell, Thomas; Tian, Gang; Tyurin, A. N.) ★ Transcendental methods in algebraic geometry. Lectures given at the 3rd C.I.M.E. Session held in Cetraro, July 4–12, 1994. Edited by F. Catanese and C. Ciliberto. Lecture Notes in Mathematics, 1646. Fondazione C.I.M.E., [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1996. viii+247 *pp. ISBN* 3-540-62038-9 (Editors) **98h:32001** 32-06 (32J25)

— (*with* Hirzebruch, Friedrich; Lannes, Jean) ★ Journée en l'Honneur de Henri Cartan. (French) [Conference in Honor of Henri Cartan] SMF Journée Annuelle [SMF Annual Conference], 1997. *Société Mathématique de France, Paris*, 1997. iv+27 *pp.* (Editors) **98h:00041** 00B30

— (*with* El Goul, Jawher) Connexions méromorphes projectives partielles et variétés algébriques hyperboliques. (English and French summaries) [Partial projective meromorphic connections and hyperbolic projective varieties] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1385–1390. (Evgenii Nochka) **98j:32026** 32H20 (32H30)

— Variétés hyperboliques et équations différentielles algébriques. [Hyperbolic manifolds and algebraic differential equations] *Gaz. Math. No.* 73 (1997), 3–23. (Gerd Dethloff) **98j:32027** 32H20 (14J99, 32H30)

De Maio, Umberto (*with* D'Apice, Ciro) A homogenization result for unbounded variational functionals. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 65–93. (Antonio Corbo Esposito) **98e:49029** 49J45 (73B27, 73V25)

Demange, Marc (*with* Paschos, Vangelis Th.) Improved approximations for maximum independent set via approximation chains. (English summary) *Appl. Math. Lett.* **10**

(1997), *no.* 3, 105–110. 05C85

— (*with* Paschos, Vangelis Th.) The approximability behaviour of some combinatorial problems with respect to the approximability of a class of maximum independent set problems. (English summary) *Comput. Optim. Appl.* **7** (1997), *no.* 3, 307–324. (Xue Liang Li) **98c:90106** 90C27 (90C35)

De Marchi, Stefano (*with* Vianello, Marco) Peano's kernel theorem for vector-valued functions: a weak version in normed spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 65–74. (Marco P. Baronti) **98c:41050** 41A65 (47B38)

— On computing derivatives for C^1 interpolating schemes: an optimization. (English summary) *Computing* **60** (1998), *no.* 1, 29–53. (Summary) **98m:65016** 65D05

Demaret, Jacques (*with* Gotay, Mark J.) Some remarks on singularities in quantum cosmology. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 227–230. (Introduction) **98k:83062** 83C75 (83C45)

— (*with* Scheen, Christian) Analytic structure and chaos in Bianchi type-IX relativistic dynamics. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 207–214. (Summary) **98a:83034** 83C20 (58F13, 83F05)

De Maria, José L. *see* **de Maria, José L.**

De Maria, Michelangelo (*with* Cattani, Carlo) Geniality and rigor: the Einstein–Levi-Civita correspondence (1915–1917). (Italian. English summary) *Riv. Stor. Sci.* (2) **4** (1996), *no.* 1, 1–22 (1997). (Summary) **98m:01021** 01A60 (53–03, 83–03)

De Martini, F. (*with* Boschi, D.; Di Giuseppe, G.) Test of the violation of local realism in quantum mechanics without Bell inequalities. (English summary) *Phys. Lett. A* **228** (1997), *no.* 4-5, 208–214. (Summary) **98e:81014** 81P15 (81V80)

— (*with* Boschi, D.; Branca, S.; Hardy, Lucien) Ladder proof of nonlocality without inequalities: theoretical and experimental results. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 15, 2755–2758. 81P05

De Martino, Salvatore (*with* De Siena, Silvio; Graziano, Elvira; Vitiello, Giuseppe) Vacuum structure and jump Markovian processes. (English summary) *Field theory and collective phenomena* (*Perugia*, 1992), 358–365, *World Sci. Publishing, River Edge, NJ*, 1995. (Cheng Xun Wu) **98d:81044** 81T10 (82C31)

— (*with* De Siena, Silvio; Illuminati, Fabrizio) Theory of controlled quantum dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4117–4132. (Gian Carlo Ghirardi) **98f:81038** 81P20 (81R30)

DeMasi, Ralph A. (*with* Qaqish, Bahjat F.; Sen, Pranab Kumar[1]) A family of bivariate failure time distributions with proportional crude and conditional hazards. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 365–384. (Summary) **98m:62279** 62N05 (62E15)

Demay, Y. (*with* Fortin, A.; Béliveau, A.) Numerical solution of transport equations with applications to non-Newtonian fluids. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 311–322, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 65M06 (76A05, 76M25)

— (*with* Nouri, Anne; Poupaud, Frédéric) An existence theorem for the multi-fluid Stokes problem. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 421–435. (Alain Miranville) **98h:35190** 35Q30 (76D05, 76D07)

Demazure, Michel ★ Cours d'algèbre. (French. French summary) [Course of algebra] Primalité. Divisibilité. Codes. [Primality. Divisibility. Codes] Nouvelle Bibliothèque Mathématique [New Mathematics Library], 1. *Cassini, Paris*, 1997. xviii+302 *pp. ISBN* 2-84225-000-1 (Samuel S. Wagstaff, Jr.) **98j:11119** 11Yxx (11–01, 11T71, 94B15)

Dembińska, Anna (*with* Wesołowski, Jacek) On characterizing the exponential distribution by linearity of regression for non-adjacent order statistics. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 945–952. 62E10 (62G30)

Dembo, Amir (*with* Zeitouni, Ofer) Transportation approach to some concentration inequalities in product spaces. (English summary) *Electron. Comm. Probab.* **1** (1996), *no.* 9, 83–90 (*electronic*). (Iosif Pinelis) **98d:60035** 60E15 (28A35)

— Information inequalities and concentration of measure. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 927–939. (Iosif Pinelis) **98e:60027** 60E15 (28A35)

— (*with* Bryc, Włodzimierz) Large deviations for quadratic functionals of Gaussian processes. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 307–332. (Vadim R. Fatalov) **98g:60056** 60F10 (60G15)

— (*with* Zajic, Tim) Uniform large and moderate deviations for functional empirical processes. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 195–211. (Rimas Norvaiša) **98e:60013** 60B12 (60F10)

Dembo, Micah (*with* He, Xiaoyi; Zou, Qisu; Luo, Li-Shi) Analytic solutions of simple flows and analysis of nonslip boundary conditions for the lattice Boltzmann BGK model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 115–136. (Summary) **98d:82041** 82C40

Demeestère, Pierre (*with* Bodart, Olivier) Contrôle frontière de l'explosion en temps fini de la solution d'une équation de combustion. (English and French summaries) [Boundary control of the finite-time blowup of the solution of an equation of combustion] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 841–845. (Vitaly A. Volpert) **98i:35097** 35K60 (80A25)

Demeio, Lucio Linear stability of the spatially homogeneous equilibria of the Vlasov-Poisson system with collisions. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 455–464. (Summary) **98k:82180** 82D10 (35Q99, 76X05)

Demëkhin, E. A. (*with* Chang, Hsueh-Chia; Kalaidin, Evgeny) Generation and suppression of radiation by solitary pulses. (English summary) *Differential equations* (*Bandung*, 1996), 17–50, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 35Q53 (65M99)

De Mello, Célia Picinin *see* **de Mello, Célia Picinin**

De Mello, E. V. L. *see* **de Mello, E. V. L.**

De Mello Koch, Robert *see* **de Mello Koch, Robert**

De Melo, W. *see* **de Melo, W.**

Demenkov, A. G. (*with* Chernykh, G. G.) Numerical models of jet flows of a viscous incompressible fluid. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 111–125. (Summary) **98d:76125** 76M25 (76D25, 76F05)

Dement'ev, V. T. (*with* Gladyshev, A. I.; Erzin, A. I.) Models and problems of the optimal synthesis of homogeneous hierarchical systems. (Russian. Russian summary) *Models and methods of optimization* (*Russian*), 63–76, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98a:93003** 93A13 (49N55)

Demers, Jean-Guy Docoherence of the Unruh detector. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 221–226, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:81155** 81T20 (81P15)

— (*with* Lafrance, René; Myers, Robert C.) Black hole entropy and renormalization. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 227–232, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:83065** 83C57

Demetriou, Michael A. (*with* Fitzpatrick, Ben G.) An adaptive change detection scheme for a nonlinear beam model. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 103–120. (*see* **98g:93001**) 93E10 (73K05, 73K50, 93B05, 93C20)

— (*with* Baumeister, J.; Scondo, W.; Rosen, I. G.) On-line parameter estimation for infinite-dimensional dynamical systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 678–713. (Bożenna Pasik-Duncan) **98c:93104** 93E10 (93B30)

Demetropoulou-Psomopoulou, Demetra Second order almost tangent structure. (English summary) *Proceedings of the* 4*th International Congress of Geometry* (*Thessaloniki*, 1996), 129–136, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Luis A. Cordero) **98j:53034** 53C10 (53C15)

— G-structures of second order defined by linear operators satisfying algebraic relations. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 437–453. (Fernando Etayo Gordejuela) **98k:53030** 53C10

Demetrovics, János (*with* Vu Duc Thi) Some observations on the minimal Armstrong relations for normalized relation schemes. (English summary) *Comput. Artificial Intelligence* **14** (1995), *no.* 5, 455–467. (Bernhard Thalheim) **98f:68064** 68P15

— (*with* Rónyai, Lajos; Rosenberg, Ivo G.; Stojmenović, Ivan) Clones and maximal sets in set logic containing all Boolean functions. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 3-4, 345–357. (Lei Qian) **98a:03034** 03B50

De Mey, P. (*with* Hoang, Son Hong; Talagrand, O.; Baraille, Rémy) A new reduced-order adaptive filter for state estimation in high-dimensional systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1475–1498. 93E11 (93E35)

— (*with* Hoang, Son Hong; Baraille, Rémy; Talagrand, O.; Nguyen Thuc Loan) Approximation approach for nonlinear filtering problem with time dependent noises. II. Stable nonlinear filters. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 5, 557–576. (Michael Kohlmann) **98m:93113** 93E11 (93E25)

De Meyer, H. (*with* Van Daele, M.; Vanden Berghe, Guido) Explicit fifth order Runge-Kutta methods with five stages for quadratic ODEs. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 528–535, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L06

— (*with* Van Hecke, T.; Van Daele, M.; Vanden Berghe, Guido) P-stable mono-implicit Runge-Kutta-Nyström modifications of the Numerov method. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 536–545, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L06

— (*with* Van Hecke, T.; Vanden Berghe, Guido; Van Daele, M.) A variable-step variable-order algorithm for systems of stiff ODEs. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 149–157. 65L08 (65L05)

Demiański, Marek Not so simple universe. (English summary) *Geometry and nature* (*Madeira*, 1995), 193–206, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Markku Lehto) **98a:83131** 83F05 (85A40)

— Cosmological background of gravitational waves. *Mathematics of gravitation, Part II* (*Warsaw*, 1996), 23–30, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (Victor G. LeBlanc) **98i:83025** 83C35 (83F05)

De Michele, L. (*with* Soardi, Paolo M.) On multiresolution analysis of multiplicity d. (English summary) *Monatsh. Math.* **124** (1997), *no.* 3, 255–272. (Gerlind Plonka) **98k:42039** 42C15 (42A38)

De Michelis, Giorgio *see* **Application and theory of Petri nets, 98a:68141**

Demichelis, Vittoria (*with* Dagnino, C.; Santi, Elisabetta) Local spline approximation methods for singular product integration. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 3, 37–51. (Hans-Jörg Wenz) **98a:65025** 65D30 (65D07)

— Convergence of derivatives of optimal nodal splines. (English summary) *J. Approx. Theory* **88** (1997), *no.* 3, 370–383. (Jian Ke Lu) **98b:41010** 41A15 (65D07, 65D30)

Demichev, A. P. (*with* Chaichian, M.) Path integral with variables on the quantum plane. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 172–184, *World Sci. Publishing, River Edge, NJ*, 1994. (Marcelo R. Ubriaco) **98k:81140** 81S40 (58B30, 81R50)

— (*with* Chaichian, M.) q-deformed path integral with commuting and non-commuting variables. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 401–406, *World Sci. Publishing, River Edge, NJ*, 1995. (Satoru Saito) **98g:81070** 81R50 (81S40)

— (*with* Chaichian, M.) Polynomial algebras and higher spins. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 14–20. (Peter Prešnajder) **98a:81074** 81R50 (81S05)

— (*with* Chaichian, M.; Kulish, Petr P.) Quasi-classical limit in q-deformed systems, non-commutativity and the q-path integral. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 251–260. (Roland Speicher) **98f:81122** 81R50 (81S05, 81S40)

Demidenko, E. Z. (*with* Spiegelman, Donna) A paradox: more measurement error can lead to more efficient estimates. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1649–1675. (Kajal Lahiri) **98h:62030** 62F12

Demidenko, G. V. (*with* Nekhaev, I. Yu.) On the regularity of solutions of boundary value problems for quasi-elliptic equations. (Russian. Russian summary) *Theoretical and computational problems in mathematical physics* (*Russian*), 144–166, 175, *Trudy Inst. Mat.*, 24, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (V. S. Rabinovich) **98c:35038** 35J40 (35B65)

— ★ Введение в теорию соболевских пространств. (Russian. Russian summary) [Introduction to the theory of Sobolev spaces] *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. 112 *pp. ISBN* 5-230-13600-6 (Georgi E. Karadzhov) **98b:46001** 46–01 (35S05, 46E35, 47G30)

Demidenko, V. M. (*with* Burkard, Rainer E.; Rudolf, Rüdiger) Generalized Supnick and Kalmanson conditions and their application to the symmetric and nonsymmetric

traveling salesman problems. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 69–74, 132. (Johannes Terno) **98c:90104** 90C27 (90C35)

— (*with* Rudolf, Rüdiger) A note on Kalmanson matrices. (English summary) *Optimization* **40** (1997), *no.* 3, 285–294. (Summary) **98f:05139** 05C90 (15A57, 90C27)

Demidov, S. S. Before and after the Luzin case. (Russian) *Priroda* **1997**, *no.* 9, 98–110. 01A80 (01A70)

Demidov, Valeriĭ Valer'evich (*with* Geĭler, V. A.) The spectrum of the three-dimensional Landau operator perturbed by a periodic point source. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 283–294; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 561–569. (Szymon Rabsztyn) **98k:81051** 81Q10 (47N50)

De Miguel, Juan Ramón (*with* Candeal, Juan Carlos; Induráin Eraso, Esteban) Topological additively representable semigroups. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 375–389. (Jimmie D. Lawson) **98k:22011** 22A15 (06F05)

DeMillo, Richard A. (*with* Boneh, Dan; Lipton, Richard J.) On the importance of checking cryptographic protocols for faults (extended abstract). (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 37–51, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Demin, A. I. Coexistence of periodic, almost periodic and recurrent points of transformations of n-od. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 84–87. (Emilia Petrisor) **98e:58105** 58F08 (54H20)

Demin, S. E. Isoperimetric distortion problem for univalent Montel functions. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 1, 108–116, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 1, 94–101. (Georgi Dimkov) **98b:30010** 30C35

Dēmin, V. S. (*with* Gaponov, S. A.) Conditions for the onset of self-induced oscillations in a pipe in the case of gas overflow at the pipe's entrance. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **35** (1994), *no.* 6, 31–39; *translation in J. Appl. Mech. Tech. Phys.* **35** (1994), *no.* 6, 837–843 (1995). (From the text) **98c:73055** 73K12 (73K70, 76E99)

Demin, Vladimir Grigor'evich *see* **Proshkin, V. A.** *and* **Obituary: Demin, Vladimir Grigor'evich**

Demir, Ramazan (*with* Vizvári, Béla) A column generation algorithm to schedule identical parallel machines. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 2-3, 287–299. (Summary) **98a:90054** 90B35 (68M20)

Demiray, Hilmi Nonlinear wave modulation in a prestressed thin elastic tube filled with an inviscid fluid. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 165–181. (Summary) **98i:73046** 73K70 (73D99, 76B99, 76Z05)

— (*with* Akgün, Güler) Wave propagation in a viscous fluid contained in a prestressed viscoelastic thin tube. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1065–1079. (Summary) **98g:76026** 76D33 (73K70, 76Z05)

— Solitary waves in initially stressed thin elastic tubes. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 6, 1165–1176. (Summary) **98d:73030** 73D35 (73D05, 76Z05)

— On the equivalence of the Flügge-Koiter buckling equations to those recently derived in current literature. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 4, 439–448. (Summary) **98b:73025** 73K15 (73H05)

— (*with* Antar, Nalan) Harmonic waves in a prestressed thin elastic tube filled with a viscous fluid. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 305–320. (Summary) **98k:73027** 73D15 (73K70, 76Z05)

— Solitary waves in a prestressed thick elastic tube containing an inviscid fluid. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 741–750. (Summary) **98j:76154** 76Z05 (73K70, 76B15)

— Nonlinear waves in a thick-walled viscoelastic tube filled with an inviscid fluid. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 345–357. (Summary) **98m:73070** 73K70

— Non-linear waves in a fluid-filled thick elastic tube. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 363–375. (Summary) **98f:73028** 73K70 (76B15, 76Z05)

Demirci, Mustafa Almost compactness and near compactness in three different topological structures of smooth topological spaces. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 1, 79–86. (Summary) **98b:54008** 54A40 (04A72)

— Three topological structures of smooth topological spaces. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 161–168. (Summary) **98d:54015** 54A40 (04A72)

— On several types of compactness in smooth topological spaces. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 83–88. (Summary) **98d:54016** 54A40 (04A72, 54D30)

— Neighborhood structures of smooth topological spaces. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 123–128. 54A40 (04A72)

Demirhan, D. (*with* Tirnakli, U.; Büyükkılıç, F.) Comparison of standard statistical thermodynamics with generalized statistical thermodynamics results for Ising chain. (English summary) *Acta Phys. Polon. A* **91** (1997), *no.* 6, 1035–1042. 82B30

De Mirleau, Olivier *see* **de Mirleau, Olivier**

Demkowicz, Leszek F. Laudatio: for Prof. J. Tinsley Oden on the occasion of his 60th birthday. Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 5–8. (*see* **98f:73002**) 01A70

— (*with* Reddy, J. N.) An interview of J. Tinsley Oden on some of his personal recollections of research. Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 9–20. (*see* **98f:73002**) 01A70

— (*with* Gerdes, K.) Convergence of the infinite element methods for the Helmholtz equation in separable domains. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 11–42. (Summary) **98j:65077** 65N30 (65N12)

— *see also* **Symposium: Advances in Computational Mechanics**, **98f:73002**; **98h:65001**; **98i:73002** *and* **98m:00024**

Demlová, M. (*with* Koubek, V.) Subdirectly dominated semigroup varieties. (English summary) *Algebra Universalis* **38** (1997), *no.* 1, 15–35. (Shelly L. Wismath) **98k:20094** 20M07 (08B26)

Demmel, James W. ★ Applied numerical linear algebra. (English summary) *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. xii+419 *pp. ISBN* 0-89871-389-7 (William W. Hager) **98m:65001** 65–01 (65Fxx)

— (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

— (*with* Bai, Zhaojun; Gu, Ming) An inverse free parallel spectral divide and conquer algorithm for nonsymmetric eigenproblems. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 279–308. (Guo Rong Wang) **98d:65043** 65F15

— (*with* Bai, Zhaojun; Dongarra, Jack; Petitet, A.; Robinson, H.; Stanley, K.) The spectral decomposition of nonsymmetric matrices on distributed memory parallel computers. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1446–1461. (Summary) **98d:65027** 65F05 (65F30, 65Y05)

De Moivre, Abraham *see* **de Moivre, Abraham**

De Montbrial, Thierry *see* **de Montbrial, Thierry**

De Montigny, M. *see* **de Montigny, M.**

De Moor, Bart L. R. (*with* Van Overschee, Peter) Numerical algorithms for subspace state space system identification. (English summary) *Trends in control* (*Rome*, 1995), 385–422, *Springer, Berlin*, 1995. (Petko Petkov) **98e:93046** 93B40 (93–02, 93B30)

— (*with* Suykens, Johan A. K.; Vandewalle, Joos) Nonlinear system identification using neural state space models, applicable to robust control design. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 129–152. 93B30 (93B51)

— (*with* Van Overschee, Peter) ★ Subspace identification for linear systems. (English summary) Theory—implementation—applications. With 1 IBM-PC floppy disk (3.5 inch; HD). *Kluwer Academic Publishers, Boston, MA*, 1996. xiv+ 254 *pp. ISBN* 0-7923-9717-7 (Rudolf Kulhavý) **98b:93005** 93–02 (93–04, 93B30, 93C05, 93E12)

— (*with* Lemmerling, Philippe; Van Huffel, Sabine) Structured total least squares problems: formulations, algorithms and applications. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 215–223, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— Linear system identification, structured total least squares and the Riemannian SVD. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 225–238, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Van Overschee, Peter; Dehandschutter, Wouter; Swevers, Jan) A subspace algorithm for the identification of discrete time frequency domain power spectra. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2147–2157. (Summary) **98i:93036** 93B40 (93B30)

— (*with* Li, Baibing) A simple approximation relation between the symmetric generalized logistic and the Student's t distributions. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1029–1039. (Summary) **98g:62031** 62E17 (62E15)

— (*with* Dehaene, Jeroen; Yi, Cheng) Calculation of the structured singular value with gradient-based optimization algorithms on a Lie group of structured unitary matrices. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1596–1600. (Summary) **98e:93035** 93B36 (93B40)

— (*with* De Schutter, Bart) The singular-value decomposition in the extended max algebra. (English summary) *Linear Algebra Appl.* **250** (1997), 143–176. (Summary) **98e:93021** 93B25 (15A18)

— (*with* De Schutter, Bart) A note on the characteristic equation in the max-plus algebra. (English summary) *Linear Algebra Appl.* **261** (1997), 237–250. (Summary) **98c:93067** 93C30

— (*with* De Schutter, Bart) The QR decomposition and the singular value decomposition in the symmetrized max-plus algebra. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 378–406 (*electronic*). (Ilse C. F. Ipsen) **98m:15021** 15A23 (15A18, 16Y99)

De Moor, Oege *see* **de Moor, Oege**

De Mora-Charles, Maria Sol *see* **de Mora-Charles, Maria Sol**

De Moraes, Suzana Falcão B. *see* **de Moraes, Suzana Falcão B.**

De Morais Filho, D. C. *see* **de Morais Filho, D. C.**

De Morgan, Augustus *see* **Wallis, Ruth**, **98f:01024**

Demoulini, Sophia Young measure solutions for nonlinear evolutionary systems of mixed type. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 1, 143–162. (Maria Elena Schonbek) **98h:35098** 35K55 (35D05, 35L60, 35M10)

Dempe, Stephan On generalized differentiability of optimal solutions and its application to an algorithm for solving bilevel optimization problems. (English summary) *Recent advances in nonsmooth optimization*, 36–56, *World Sci. Publishing, River Edge, NJ*, 1995. (Stefan Scholtes) **98e:90180** 90C31 (90D65)

— First-order necessary optimality conditions for general bilevel programming problems. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 735–739. (Summary) **98k:90105** 90C30 (90D65)

— (*with* Pallaschke, Diethard) Quasidifferentiability of optimal solutions in parametric nonlinear optimization. (English summary) *Optimization* **40** (1997), *no.* 1, 1–24. (Bernd Luderer) **98b:90134** 90C31 (49J52)

Dempster, A. P. (*with* Hwang, Jing Shiang) Bayesian implementation of a complex hierarchical model. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 221–236, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62D05

Dempster, M. A. H. (*with* Hutton, J. P.) Numerical valuation of cross-currency swaps and swaptions. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 473–503, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— *see also* **Mathematics of derivative securities**, **98k:90014**

Dempwolff, U. Ovoids and translation planes admitting A_5 at characteristic $p > 5$. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 731–738. (T. G. Ostrom) **98k:51019** 51E21 (51A40)

— (*with* Charnes, C.) The translation planes of order 49 and their automorphism groups. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1207–1224. (Gary L. Ebert) **98j:51007** 51E15 (51A40)

Demri, Stéphane (*with* Boy de la Tour, Thierry) On the complexity of extending ground resolution with symmetry rules. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 289–295, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T15 (03B35)

— A class of information logics with a decidable validity problem. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 291–302, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98g:68160** 68T30 (03B70)

— A simple tableau system for the logic of elsewhere. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 177–192, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03022** 03B45 (03B35)

— (*with* Orłowska, Ewa) Logical analysis of demonic nondeterministic programs. (English summary) *Theoret. Comput. Sci.* **166** (1996), *no.* 1-2, 173–202. (G. Mirkowska) **98a:68129** 68Q60 (03B25, 03B45, 03B70)

— (*with* Orłowska, Ewa) A class of modal logics with a finite model property with respect to the set of ◊-formulae. (English summary) *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 1, 39–49. (J. M. Plotkin) **98c:03043** 03B45

— Extensions of modal logic S5 preserving NP-completeness. (English summary) *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 2, 73–84. (Marcus Kracht) **98d:03026** 03B45 (68Q25, 68T27)

— A completeness proof for a logic with an alternative necessity operator. (English summary) *Studia Logica* **58** (1997), *no.* 1, 99–112. (Summary) **98b:03027** 03B45 (03D15)

Dems, K. Shape and material parameters sensitivity analysis in quasi-harmonic problems. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 969–999. (Summary) **98d:49053** 49Q15 (35J25, 73K40)

Demuth, Michael (*with* McGillivray, Ivor) Perturbed obstacles and scattering phases. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 63–68, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Summary) **98e:47114** 47N50 (35P25, 47F05, 81U05)

— (*with* Ouhabaz, El-Maati) Scattering for Schrödinger operators with magnetic fields. (English summary) *Math. Nachr.* **185** (1997), 49–58. (Summary) **98e:35124** 35P25 (35J10, 47A40, 47F05, 47N50, 81U05, 81V10)

— *see also* **Spectral theory, microlocal analysis, singular manifolds, 98k:00010**

Dem'yanenko, O. O. (*with* Buldygin, V. V.) Asymptotic properties of an empirical correlogram of Gaussian vector fields. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 45–49. 62M40 (62E20, 62M15)

Dem'yanenko, V. A. On the torsion of elliptic curves. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4 (Russian)*, 48–52, 374, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Jörg Jahnel) **98m:11048** 11G05 (14G25, 14H52)

Demyanov, V. F. (*with* Aban'kin, A. E.) Conically equivalent pairs of convex sets. (English summary) *Recent advances in optimization (Trier, 1996)*, 19–33, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Diethard Pallaschke) **98k:49026** 49J52 (52A20, 90C48)

— (*with* Pallaschke, Diethard) Point derivations for Lipschitz functions and Clarke's generalized derivative. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 4, 465–474. (Peter Recht) **98m:49036** 49J52 (26A16, 52A41, 58C20)

— (*with* Jeyakumar, V.) Hunting for a smaller convex subdifferential. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 305–326. (Jay S. Treiman) **98c:49042** 49J52 (90C48)

Dena, Turehan (*with* Chai, Gui Ping; He, Xiu Li) Two theorems on uniform asymptotic stability criteria for neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 2, 30–34. (Guo Zhu Gao) **98e:34136** 34K20 (34K40)

Denardo, Eric V. (*with* Feinberg, Eugene A.; Kella, Offer) Stochastic monotonicity for stationary recurrence times of first passage heights. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 326–339. (Stergios B. Fotopoulos) **98e:60143** 60K05 (60J40, 60K20, 60K25)

De Nardo, Lara (*with* Fursaev, D. V.; Miele, Gennaro) Heat kernel coefficients and spectra of the vector Laplacians on spherical domains with conical singularities. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1059–1078. (Ivan G. Avramidi) **98i:58223** 58G11 (58G25, 58G26, 81T20)

— (*with* Fursaev, D. V.; Miele, Gennaro) Finite-temperature effective potential for gauge models in de Sitter space. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3269–3286. (Summary) **98i:81167** 81T20 (81T16, 83C47)

Dence, Joseph B. (*with* Dence, Thomas P.) A necessary and sufficient condition for twin primes. *Missouri J. Math. Sci.* **7** (1995), *no.* 3, 129–131. (Aleksander Grytczuk) **98g:11005** 11A41

— (*with* Dence, Thomas P.) Residues. II. Congruences modulo powers of 2. *Missouri J. Math. Sci.* **8** (1996), *no.* 1, 26–35. (Laurentiu Panaitopol) **98i:11003** 11A15 (11A07)

— (*with* Dence, Thomas P.) Residues. III. Congruences to general composite moduli. *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 72–78. (Laurentiu Panaitopol) **98i:11004** 11A15 (11A07)

— A development of Euler numbers. *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 148–155. (F. T. Howard) **98h:11023** 11B68

Dence, Thomas P. (*with* Dence, Joseph B.) A necessary and sufficient condition for twin primes. *Missouri J. Math. Sci.* **7** (1995), *no.* 3, 129–131. (Aleksander Grytczuk) **98g:11005** 11A41

— (*with* Dence, Joseph B.) Residues. II. Congruences modulo powers of 2. *Missouri J. Math. Sci.* **8** (1996), *no.* 1, 26–35. (Laurentiu Panaitopol) **98i:11003** 11A15 (11A07)

— (*with* Dence, Joseph B.) Residues. III. Congruences to general composite moduli. *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 72–78. (Laurentiu Panaitopol) **98i:11004** 11A15 (11A07)

Denda, M. (*with* Kosaka, Iku) Dislocation and point-force-based approach to the special Green's function BEM for elliptic hole and crack problems in two dimensions. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 15, 2857–2889. (Summary) **98e:73143** 73V10 (73B50, 73C35, 73M25, 73V35)

Dendris, Nick D. (*with* Kirousis, Lefteris M.; Stamatiou, Yannis C.; Thilikos, Dimitris M.) Partiality and approximation schemes for local consistency in networks of constraints. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 210–224, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68T20 (68Q25)

Dendy, J. E., Jr. Semicoarsening multigrid for systems. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 97–105 (*electronic*). (*see* **98m:65010**) 65N55

— Revenge of the semicoarsening frequency decomposition multigrid method. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 2, 430–440. (Timothy Nigel Phillips) **98f:65120** 65N55 (65N06, 65Y05)

Denecke, K. (*with* Głazek, K.) *M*-solid varieties and *Q*-free clones. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 515–524. (Joel Berman) **98h:08005** 08B20 (08A40)

Denecker, Marc A terminological interpretation of (abductive) logic programming. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 15–28, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (03B60, 03B70, 68T27)

— (*with* Van Belleghem, Kristof; De Schreye, Danny) A strong correspondence between description logics and open logic programming. (English summary) *Logic programming (Leuven, 1997)*, 346–360, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68T27)

— (*with* Van Belleghem, Kristof; De Schreye, Danny) On the relation between situation calculus and event calculus. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 3–37. (Summary) **98a:68169** 68T27 (03B45, 03B70)

— (*with* De Schreye, Danny) SLDNFA: an abductive procedure for abductive logic programs. (English summary) *J. Logic Programming* **34** (1998), *no.* 2, 111–167. (Summary) **98f:68041** 68N17

De Negri, Emanuela (*with* Hibi, Takayuki) Gorenstein algebras of Veronese type. (English summary) *J. Algebra* **193** (1997), *no.* 2, 629–639. (P. Schenzel) **98f:13022** 13H10 (14M25)

— Pfaffian ideals of ladders. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 141–153. (Aldo Conca) **98m:13030** 13H10 (13C40, 13P10, 14M12)

Dénes, J. On a characterization of finite non-soluble groups. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 3-4, 221–222. (From the text) **98a:20025** 20D99

Deng, Bang Ming Representations of a pair of posets. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 719. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 4, 408–416. (Mark Kleiner) **98j:16007** 16G20 (06A06, 16G60)

— (*with* Xi, Changchang) Ringel duals of quasi-hereditary algebras. *Comm. Algebra* **24** (1996), *no.* 9, 2825–2838. (V. Dlab) **98a:16014** 16G10 (16D90)

— (*with* Peng, Lian Gang) Some new advances in the representation theory of algebras. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 301–316. 16G10 (17B67)

Deng, C. C. (*with* Ong, H. L.; Ang, B. W.; Goh, T. N.) A vehicle routing and scheduling problem with time windows and stochastic demand constraints. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 1–17. (Summary) **98e:90081** 90B35

Deng, Chun Jiang Esthetic features of mathematical formalism. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 97–102. 00A30 (00A35)

Deng, Dong Gao (*with* Li, Wen Ming[1]) The atomic decomposition of BMO on homogeneous spaces. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 1–5. 42B99 (46E99)

— (*with* Yang, Qi Xiang; Yan, Li Xin) On the Hörmander condition. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 10, 1034–1038. 42B20

Deng, Fei Qi (*with* Liu, Yong Qing; Feng, Zhao Shu) Robust stabilization of linear delay systems by retarded feedback. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 754–762. (Kunihiko Ichikawa) **98d:93081** 93D21 (34K35, 93C30)

— (*with* Liu, Yong Qing; Zhao, Yu Peng) Global solutions to a class of nonlinear functional-differential equations in Banach spaces. (Chinese) *Math. Appl.* **9** (1996), *suppl.*, 13–15. (Shu Chun Gao) **98b:34104** 34K30

— (*with* Feng, Zhao Shu; Liu, Yong Qing) Variable structure control of stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 267–270. 93E03 (93C42)

— (*with* Liu, Yong Qing; Feng, Zhao Shu) Characteristic matrices and similarity of time-varying linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 10–15. (Sergei Mazanik) **98g:34020** 34A30 (34C20)

— (*with* Feng, Zhao Shu; Liu, Yong Qing) Decentralized stabilization of stochastic large-scale systems by variable structure control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 254–259. 93D21 (93B12)

— (*with* Feng, Zhao Shu; Liu, Yong Qing) Suboptimal decentralized stabilization of large-scale delay stochastic systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 495–501. (Summary) **98i:93084** 93E15 (93A14, 93D15)

— (*with* Feng, Zhao Shu; Liu, Yong Qing) Practical stability of uncertain linear control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 623–628. 93D09 (93C41)

— (*with* Feng, Zhao Shu; Liu, Yong Qing) A design method for robust controllers of linear delay systems based on Riccati-Itô equations. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 887–890. 93D21 (93B36)

— (*with* Liu, Yong Qing; Feng, Zhao Shu) Asymptotic representation of solutions of linear functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 50–54. (Summary) **98a:34088** 34K25 (34K20)

— (*with* Feng, Zhao Shu; Liu, Yong Qing) Stability and feedback stabilization of general linear retarded systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 299–303. 93D15

Deng, Guan Tie (*with* Tang, Jian Guo; Lu, Lei; Zhao, Er Dun) The packing dimension of a class of functions and its relation to derivatives of fractional order. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 9, 107–109. 28A78

— Existence theorem for asymptotic Dirichlet series. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 120–122. 30B50

Deng, Guang (*with* Pinoli, Jean-Charles) Differentiation-based edge detection using the logarithmic image processing model. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 161–180. 68U10

Deng, H. *see* **Deng, Hui**

Deng, Haiyong (*with* Kroon, Leo G.; Sen, Arunabha; Roy, Asim) The optimal cost chromatic partition problem for trees and interval graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 279–292, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05062** 05C15 (05C85, 68Q25, 68R10)

Deng, Hua (*with* Krstić, Miroslav) Stochastic nonlinear stabilization. I. A backstepping design. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 143–150. (Engin Yaz) **98m:93114** 93E15 (93B51, 93C10, 93D15)

— (*with* Krstić, Miroslav) Stochastic nonlinear stabilization. II. Inverse optimality. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 151–159. (Engin Yaz) **98m:93115** 93E15 (93B51, 93C10, 93D15)

Deng, Hui (*with* Vu-Quoc, L.) On the algebra of two-point tensors and their applications. *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 540–541. 53A45 (70G05, 73B99)

Deng, Hui Wen (*with* Shi, Wu Jie) A simplicity criterion for finite groups. (English summary) *J. Algebra* **191** (1997), *no.* 1, 371–381. (Yoav Segev) **98a:20020** 20D05

— Subgroups of E_π^n-groups. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 7, 683–685. 20D99

Deng, Ji Lin Some problems concerning systems of linear differential equations with constant coefficients. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 47–50. 34A30 (34A05)

Deng, Ji Xian (*with* Song, Xin Yuan) Asymptotic properties of kernel density estimators for multidimensional TAR sequences. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 3, 17–20. 62G05 (62M10)

Deng, Jian Song (*with* Ding, You Dong) HCT spline interpolating surfaces over a triangulation. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 377–381. 65D07 (65D17)

Deng, Jian Xin (*with* Sun, Jia Chang; Cao, Jian Wen; Wang, Ding Sheng; Zhang, Wen Qing; Li, Jun[5]) Parallel algorithm for generalized matrix eigen-problem and its application in calculation of crystal electronic structure. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1086–1089, 82–08 (82D25)

— (*with* Sun, Jia Chang; Cao, Jian Wen) A parallel block elimination algorithm for solving eigenvalue problems for higher-order Hermitian matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 125–134. 65F15

— (*with* Sun, Jia Xu; Cao, Jian Wen; Zhang, Wen Qing; Li, Jun[5]; Wang, Ding Sheng) Parallel computation of generalized eigenvalues and its application to energy bands of crystals. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 8, 819–822. 65F15 (65Y05)

Deng, Jun Qiang (*with* Lin, Yi Xun) Conditions for a unique optimal solution of the $1\|\sum U_j$ scheduling problem and the generation of all the optimal solutions. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 18–22. 90B35

Deng, K. (*with* Bai, Sherman X.; Tsai, Y.-K.; Elhafsi, Mohsen) Production scheduling in a price competition. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 5–19. (Summary) **98a:90052** 90B35 (90A12)

Deng, Keng Blow-up rates for parabolic systems. (English summary) *Z. Angew. Math. Phys.* **47** (1996), *no.* 1, 132–143. (M. Fila (Zbl 854.35054)) **98f:35080** 35K60 (35B40)

— (*with* Ackleh, Azmy S.) Monotone method for first order nonlocal hyperbolic initial-boundary value problems. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 283–293. 35L60 (35Q80, 65M12)

— (*with* Anderson, Jeffrey R.) Global existence for degenerate parabolic equations with a non-local forcing. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1069–1087. (Norbert Hungerbühler) **98f:35083** 35K65 (35B40, 35K60)

Deng, L. (*with* Kako, Takashi) Finite element approximation of eigenvalue problem for a coupled vibration between acoustic field and plate. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 265–278. (Summary) **98f:73036** 73V05 (73D30, 73K70, 76Q05)

Deng, Lei (*with* Ding, Xie Ping) Generalized strongly nonlinear quasivariational inequalities and quasicomplementarity problems. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 1, 6–15. (George Isac) **98e:47105** 47H19 (47N10, 49J40)

Deng, Lih-Yuan (*with* Lin, Dennis K. J.; Wang, Jiannong; Yuan, Yilian) Statistical justification of combination generators. *Statist. Sinica* **7** (1997), *no.* 4, 993–1003. (Summary) **98m:65013** 65C10

Deng, Ling (*with* Li, Qing Yang) A parallel algorithm for a preconditioned 2-step nonlinear conjugate gradient (NCG) method and its numerical test. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 151–160; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 74–83. 65H10 (65Y05)

Deng, Mou Jie (*with* Wang, Jing He) The Diophantine equation $(a^2 - b^2)^3 + (2ab)^3 = (a^2 + b^2)^2$. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 4, 23–25. (Mao Hua Le) **98b:11034** 11D61

Deng, Naiyang (*with* Chen, Zhi[1]) A unified convergence theorem for nonlinear ABS-type algorithm. (English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 339–343. (Summary) **98m:65093** 65H10

— (*with* Li, Zhengfeng) On the convergence of conjugate gradient methods invariant to nonlinear scaling. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 2, 128–133. (G. Di Pillo) **98a:90095** 90C30 (65K05)

Deng, Pei Min A discussion on semiperfect rings. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 56–59. 16E10

Deng, Q. *see* **Deng, Qing**

Deng, Qi Fei (*with* Feng, Zhao Shu; Liu, Yong Qing) Mean-square stability and feedback stabilization of linear delay stochastic systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 4, 441–447. (Daoyi Xu) **98b:93067** 93E15 (93D15)

Deng, Qi Rong (*with* Chen, Jian Bao) Admissibility of general linear estimators for incomplete restricted elliptic models under matrix loss. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 33–40. (Summary) **98d:62009** 62C15 (62J05)

— (*with* Chen, Jian Bao) Some relative efficiencies of LSE in growth curve model. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 1, 60–65. (Summary) **98b:62097** 62H12

Deng, Qing (*with* Yenigül, M. Ş.; Argaç, Nurcan) On prime and semiprime rings with automorphisms and (σ, τ)-derivations. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 11–16. (Andrzej Nowicki) **98f:16025** 16W25 (16N60)

Deng, Qingping An analysis for a nonoverlapping domain decomposition iterative procedure. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1517–1525. (Summary) **98d:65157** 65N55

Deng, S. *see* **Deng, Sien**

Deng, Shu Chao (*with* Xu, Dao Yi) Stability of functional-differential equations in Banach spaces. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **19** (1996), *no.* 6, 13–21. (Shu Nian Zhang) **98d:34108** 34K20 (34K30, 45J05, 45M10)

Deng, Shuhui (*with* Jin, Xing) Existence and uniqueness of optimal consumption and portfolio rules in a continuous-time finance model with habit formation and without short sales. (English summary) *J. Math. Econom.* **28** (1997), *no.* 2, 187–205. (Summary) **98a:90018** 90A09

Deng, Sien Computable error bounds for convex inequality systems in reflexive Banach spaces. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 274–279. (Abderrahim Jourani) **98a:90109** 90C31 (49J52, 90C48)

— On efficient solutions in vector optimization. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 201–209. (Summary) **98k:90098** 90C29

Deng, Wei-bing A limited memory quasi-Newton method for large scale problem. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 1, 71–79. 90C06 (90C30)

Deng, Xiao Tie (*with* Papadimitriou, Christos H.) Competitive distributed decision-making. (English summary) *Algorithmica* **16** (1996), *no.* 2, 133–150. (A. T. Amin) **98h:68101** 68Q22 (68Q25, 90A05)

— (*with* Pardalos, Panos M.) Complexity issues in hierarchical optimization. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 219–224, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 90C60 (65Y20)

— (*with* Mahajan, Sanjeev) The cost of derandomization: computability or competitiveness. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 786–802. (Summary) **98c:68157** 68Q99 (90D20)

— (*with* Ibaraki, Toshihide; Nagamochi, Hiroshi) Optimization games on graphs. (English summary) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 37–49. (*see* **98g:90004**) 90D43

— (*with* Dehne, Frank; Dymond, P.; Fabri, A.; Khokhar, A. A.) A randomized parallel three-dimensional convex hull algorithm for coarse-grained multicomputers. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 547–558. (Summary) **98f:68263** 68U05 (68Q22)

Deng, Xiao Wen (*with* Chen, Wei[3]; Wada, Koichi; Kawaguchi, Kimio) Constructing a strongly convex superhull of points. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 42–51, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05

Deng, Y. *see* **Deng, Yuanhua**

Deng, Yin Bin (*with* Guo, Zhen Hua) The structure of radial solutions of the equation $-\Delta u + u = Q(|x|)|u|^{p-1}u$. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 3, 263–268. (Summary) **98k:35055** 35J60 (34A34, 35B05)

Deng, Ying Chun Path decomposition for irreversible stationary Q-processes. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 3, 315–321. 60J27

Deng, Yonglu (*with* Yin, Xiao Ling[1]) Some new partial orderings describing aging property. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 381–388. (Summary) **98j:60128** 60K10 (60E15, 62N05)

Deng, Yuanhua (*with* Chen, Zhongming; Oliveira, Suely) An efficient parallel implementation of a new chasing algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F15

Deng, Yue-Fan (*with* Peierls, R. F.) An asynchronous decomposition approach to parallel global optimization. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 55–59. 90C30

— (*with* Asvestas, J. S.; Bielefeld, B.; Glimm, James; Simanca, Santiago R.; Tangerman, F. M.) Electromagnetic scattering from large cavities: iterative methods. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 37–47. 65R20 (45B05, 78A45)

Deng, Zhi (*with* Wu, Jie[2]) Pole-zero placement controllers and self-tuning regulators that are based on δ operators and have no steady-state errors. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 365–369. 93C55

Deng, Zi Chen (*with* Zhong, Wan Xie) The solution for the generalized Riccati algebraic equations of linear equality constraint system. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 4, 309–313; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 285–289 (*Chinese. English and Chinese summaries*). 49N10 (93C05)

Deng, Zi Li (*with* Li, Jian Guo) New algorithms for steady-state Kalman filter gain. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 605–612. 93E11

Deng, Zong Qi The history and present state of chaology (chaos theory). (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 4, 492–500. 58F13 (01A60, 58–03)

Denham, Graham (*with* Liu, Andy C. F.) Competitions, matrices, geometry and circuits. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 3, 109–113. 00A07

Den Hollander, Frank *see* **den Hollander, Frank**

De Nicola, Rocco (*with* Boreale, Michele; Pugliese, Rosario) Basic observables for processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 482–492, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q10

— (*with* Corradini, Flavio) Locality based semantics for process algebras. (English summary) *Acta Inform.* **34** (1997), *no.* 4, 291–324. (Summary) **98f:68171** 68Q55 (68Q10, 68Q60)

De Nicolao, G. (*with* Bolzern, P.; Colaneri, Patrizio) Finite escapes and convergence properties of guaranteed-cost robust filters. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 1, 31–47. (Ryszard Gessing) **98c:93109** 93E11 (93B36)

— (*with* Magni, L.; Scattolini, R.) Stabilizing predictive control of nonlinear ARX models. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1691–1697. 93D15 (93C55)

— (*with* Ferrari Trecate, G.) On the zeros of discrete-time linear periodic systems. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 703–718. (Summary) **98k:93049** 93B60 (93C55)

— (*with* Magni, L.; Scattolini, R.) Stabilizing receding-horizon control of nonlinear time-varying systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1030–1036. 93D15

Denier, James P. (*with* Mureithi, Eunice W.; Stott, Jillian A. K.) The effect of buoyancy on upper-branch Tollmien-Schlichting waves. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 19–50. (Murad Brutyan) **98d:76057** 76E05 (76D10)

Deninger, Christopher Extensions of motives associated to symmetric powers of elliptic curves and to Hecke characters of imaginary quadratic fields. *Arithmetic geometry (Cortona, 1994)*, 99–137, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Jan Nekovář) **98i:11043** 11G40 (19F27)

— Motivic L-functions and regularized determinants. II. *Arithmetic geometry (Cortona, 1994)*, 138–156, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Jan Nekovář) **98h:11086** 11G40 (11G09, 11G35, 14G10)

— On extensions of mixed motives. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 97–113. (Jan Nekovář) **98f:11069** 11G40 (11G09, 14G10, 19F27, 28D20)

— *see also* **Series of the Mathematical Institute of the University of Münster. Series 3**, **98g:32005** *and* **98k:00009**

Denis, François (*with* D'Halluin, Cyrille; Gilleron, Rémi) PAC learning with simple examples. (English summary) *STACS 96 (Grenoble, 1996)*, 231–242, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68134** 68Q30 (68T05)

Denis, Laurent Problèmes diophantiens sur les t-modules. (French summary) [Diophantine problems on t-modules] Les Dix-huitièmes Journées Arithmétiques (Bordeaux, 1993). *J. Théor. Nombres Bordeaux* **7** (1995), *no.* 1, 97–110. (Summary) **98f:11061** 11G09 (11R58)

— Indépendance algébrique en caractéristique deux. (English summary) [Algebraic independence in characteristic two] *J. Number Theory* **66** (1997), *no.* 1, 183–200. (Alain Thiery) **98h:11094** 11J85 (11G09)

— Quasi-sure analysis related to a sub-Markovian semi-group. (English summary) *Potential Anal.* **6** (1997), *no.* 3, 289–311. (Zhi Ming Ma) **98h:31010** 31C15 (47D07, 60J45)

— Fonctions exponentielles en diverses caractéristiques. (English summary) [Exponential functions in various characteristics] *Aequationes Math.* **55** (1998), *no.* 1-2, 79–90. (Alain Thiery) **98m:11056** 11G09

st. Denis, Paul *see* **St. Denis, Paul**

st-Denis, R. *see* **St-Denis, R.**

Denis, Remy Y. (*with* Pathan, M. A.) On certain q-polynomials and q-fractional derivative. *J. Nat. Acad. Math. India* **8** (1990), *no.* 2, 79–84. (Introduction) **98m:33048** 33D70

Denise, Alain Génération aléatoire et uniforme de mots. (English and French summaries) [Uniform random generation of words] Proceedings of the 5th Conference on Formal Power Series and Algebraic Combinatorics (Florence, 1993). *Discrete Math.* **153** (1996), *no.* 1-3, 69–84. (Summary) **98e:05008** 05A99 (68R15)

— Génération aléatoire uniforme de mots de langages rationnels. (English and French summaries) [Uniform random generation of words of rational languages] Selected papers from the "GASCOM '94" (Talence, 1994) and the "Polyominoes and Tilings" (Toulouse, 1994) Workshops. *Theoret. Comput. Sci.* **159** (1996), *no.* 1, 43–63. (From the summary) **98c:68113** 68Q45 (68R05)

Denisenko, P. N. (*with* Letichevskiĭ, Aleksandr Adol'fovich; Bilenko, V. I.; Volkov, V. A.) Realization of numerical-analytic methods for the approximation of functions by given ordinary differential equations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 108–112, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 85–88. 65D15

Denisenko, V. V. ★ Энергетические методы для эллиптических уравнений с несимметричными коэффициентами. (Russian. Russian summary) [Energy methods for elliptic equations with nonsymmetric coefficients] *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1995. 204 *pp. ISBN* 5-7623-1074-4 (Jiří Nedoma) **98d:35048** 35J55 (65N06, 65N30)

Denison, D. G. T. (*with* Mallick, Bani K.; Smith, A. F. M.) Automatic Bayesian curve fitting. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 333–350. 62F15 (62J02)

Denisov, A. M. (*with* Emel'yanov, S. V.; Il'in, Vladimir Aleksandrovich[1]; Osipov, Yu. S.; Samarskiĭ, A. A.; Sveshnikov, A. G.) Andreĭ Nikolaevich Tikhonov (on the occasion of the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **32** (1996), *no.* 10, 1299–1302; *translation in Differential Equations* **32** (1996), *no.* 10, 1297–1299 (1997). 01A70

— (*with* Lorenzi, Alfredo) Existence results and regularization techniques for severely ill-posed integrofunctional equations. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 713–731. (V. S. Sizikov) **98j:45009** 45L05 (45J05, 65R20)

— (*with* Solov'eva, S. I.) Inverse coefficient problem for a nonlinear differential equation and an iterative solution method. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 205–216. (Summary) **98e:65059** 65L10 (34A55)

Denisov, I. V. A boundary value problem for a quasilinear singularly perturbed parabolic equation in a rectangle. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 10, 56–72; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 10, 1367–1380 (1997). (V. N. Razzhevaikin) **98c:35021** 35C20 (35B25, 35K60)

Denisov, S. A. An estimate, uniform on the whole line $\mathbf{R}$, for the rate of convergence of a spectral expansion corresponding to the Schrödinger operator with a potential from the Kato class. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 754–761, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 757–764 (1998). (From the text) **98k:34134** 34L10 (34L40, 47E05)

— Equiconvergence of a spectral expansion, corresponding to a Schrödinger operator with a potential in the class $L_1(\mathbf{R})$, with the Fourier integral. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 731–732. (From the text) **98g:34132** 34L10 (34L40, 42A38)

Denisov, V. I. Isotropic geodesics in the vicinity of a singularity of a statistical spherically symmetric solution. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 312–320; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 639–646. (Valery V. Obukhov) **98j:83011** 83C10

— Motion of a massive particle in the vicinity of a singular sphere. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 337–352; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 1068–1079 (1998). (Jan Novotný) **98m:83063** 83D05 (83C10)

Denisov, V. N. On stabilization of solutions of the Cauchy problem for parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 123–127. (*see* **98i:00027**) 35K10 (35B40)

Denisov, Vadim Ivanovich On a property in the large of the space-time of a plane homogenous gravitational wave. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 42–50. (Jan Novotný) **98m:83023** 83C35 (83C10)

— The metric and measure of the space of types of general second-order curves. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 65–69. (V. Oproiu) **98h:53026** 53A55

Denisov, Yu. M. On a class of generalized trigonometric and hyperbolic functions. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 103 (1997), 113–121, 153. 33B10

Denisova, I. P. (*with* Grigor'ev, V. I.) Some new relations of tensor algebra. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 2, 3–8. (Summary) **98j:15034** 15A72 (53A45)

— Determination of a particular solution of the relativistic theory of gravitation by the indefinite coordinate method. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 501–512; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1199–1207 (1998). 83D05

— Investigation of a model of the cylindrical source of a gravitational field. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 162–167; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1342–1346 (1998). 83D05

— (*with* Grigor'ev, V. I.) Some new relations for the electromagnetic field tensor in pseudo-Riemannian space-time. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 5, 15–17. 83C50

Denisova, I. Yu. Asymptotic behavior of the solution of a system of stochastic differential equations. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 425–429; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 348–352 (1997). (Summary) **98c:60058** 60H10

Denisova, N. V. On the structure of symmetry fields of geodesic flows on a two-dimensional torus. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 107–122; *translation in Sb. Math.* **188** (1997), *no.* 7, 1055–1069. (Alexander Burov) **98k:58176** 58F17 (70H05, 70H33)

Denisova, T. E. (*with* Bretón Báez, Nora; Manko, Vladimir S.) A Kerr black hole in the external gravitational field. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 7–11. (Charles G. Torre) **98d:83047** 83C57 (83C15)

Denisyuk, I. T. Solution of a conjugation problem for a composite domain with corner points on lines of separation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 6, 17–24; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 6, 14–21. (Boris E. Kats) **98b:30037** 30E25

De Nittis, E. (*with* Rinaldi, S.; Dal Bo, S.) On the role of body size in a tri-trophic metapopulation model. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 158–176. 92D25 (92–04)

De Nivelle, Hans *see* **de Nivelle, Hans**

Deniziak, Stanisław (*with* Sapiecha, Krzysztof) A new method of fast fault grading. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 271–298. (Summary) **98g:94052** 94C12

Denk, Georg (*with* Schäffler, Stefan) Adams methods for the efficient solution of stochastic differential equations with additive noise. (English summary) *Computing* **59** (1997), *no.* 2, 153–161. 60H10 (65U05)

— (*with* Penski, Chr.) Integration schemes for highly oscillatory DAEs with applications to circuit simulation. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 79–91. (*see* **98d:65005**) 65L06 (34A09, 94C05)

Denker, Manfred (*with* Brunner, Edgar) Preface [dedication to Madan L. Puri, on the occasion of his 65th birthday]. *Research developments in probability and statistics*, xi–xii. *VSP, Utrecht*, 1996. (*see* **98b:60004**) 01A70

— (*with* Burton, Robert M.; Smorodinsky, Meir) Finite state bilaterally deterministic strongly mixing processes. (English summary) *Israel J. Math.* **95** (1996), 115–133. (B. M. Gurevich) **98b:60069** 60G10 (28D05)

— *see also* **Research developments in probability and statistics**, **98b:60004**

Denkowski, Z. (*with* Migórski, Stanisław; Mortola, S.) Differential inclusions and minimizing movements. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 35–64. (Giovanni Colombo) **98b:34031** 34A60 (34A45, 34G20, 49J24)

Denley, Tristan On a result of Lemke and Kleitman. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 39–43. (Vsevolod F. Lev) **98a:11028** 11B75 (11A07)

— The odd girth of the generalised Kneser graph. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 607–611. (Summary) **98g:05080** 05C38 (05C35)

Denman, Harry H. Approximate invariants and Lagrangians for autonomous, weakly non-linear systems. II. Linear friction. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 301–314. (Summary) **98i:70019** 70K99 (70F99, 70H05, 70H35)

Denneberg, Dieter Representation of the Choquet integral with the σ-additive Möbius transform. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 139–156. (Summary) **98h:28013** 28E10 (04A72)

Dennhardt, Helge (*with* Lechtenfeld, Olaf) Scalar deformations of Schwarzschild holes and their stability. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 5, 741–764. 83C57

Den Nijs, Marcel *see* **den Nijs, Marcel**

Dennis, J. E., Jr. (*with* Vicente, Luis N.) Trust-region interior-point algorithms for minimization problems with simple bounds. (English summary) *Applied mathematics and parallel computing*, 97–107, *Physica, Heidelberg*, 1996. (Summary) **98f:90057** 90C30 (65K05)

— (*with* El-Alem, Mahmoud; Maciel, Maria C.) A global convergence theory for general trust-region-based algorithms for equality constrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 177–207. (Wen Yu Sun) **98b:90126** 90C30 (65K05)

— (*with* Vicente, Luís N.) On the convergence theory of trust-region-based algorithms for equality-constrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 927–950. (John J. Dinkel) **98m:90143** 90C30

Denny, Clark A model of the probability of survival from birth. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 69–78. (*see* **98i:92052**) 92D25

Denny, Mark Equal descent times. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 1, 17–19. 70D05

Denny, Thomas F. (*with* Müller, Volker[2]) On the reduction of composed relations from the number field sieve. (English summary) *Algorithmic number theory* (*Talence*, 1996), 75–90, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Summary) **98k:11184** 11Y16

— (*with* Schirokauer, Oliver; Weber, Damian) Discrete logarithms: the effectiveness of the index calculus method. (English summary) *Algorithmic number theory* (*Talence*, 1996), 337–361, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Joe P. Buhler) **98i:11109** 11Y16 (11T71, 11Y40, 68Q25)

Dent, Michael J. (*with* Mercer, Robert E.) A new model of hard binary constraint satisfaction problems. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 14–25, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T20 (68Q25)

Denti, P. (*with* Fucile, E.; Borghese, F.; Saija, R.; Sindoni, O. I.) Optical properties of a sphere in the vicinity of a plane surface. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1505–1514. (Summary) **98f:78005** 78A10 (78A45)

ferrara Dentice, Eva *see* **Ferrara Dentice, Eva**

Denuit, Michel (*with* Lefèvre, Claude) Some new classes of stochastic order relations among arithmetic random variables, with applications in actuarial sciences. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 3, 197–213. (Summary) **98i:62083** 62P05 (60E15)

Denzler, Jochen Bounds for the heat diffusion through windows of given area. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 405–422. (Vitaly A. Volpert) **98m:35145** 35P15 (35J05, 35K05, 58G11)

Deo, Narsingh (*with* Kumar, Nishit) Computation of constrained spanning trees: a unified approach. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 194–220, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

— (*with* Mao, L. J.; Kumar, Nishit; Lang, S. D.) A comparison of two parallel approximate algorithms for the degree-constrained minimum spanning tree problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 15–32. (*see* **98h:05002**) 68R10 (05C85, 68Q22)

— (*with* Rajan, Kumar; Kumar, Nishit) Parallel tetrangle-inequality bound-smoothing on a cluster of workstations. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 211–220. (*see* **98h:05003**) 68Q22

— (*with* Abdalla, Ayman; Kumar, Nishit; Terry, Travis) Parallel computation of a diameter-constrained MST and related problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 131–155. (Summary) **98k:68133** 68R10 (68Q22)

— (*with* Kumar, Nishit) Constrained spanning tree problems: approximate methods and parallel computation. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 191–217, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C35 (05C05, 68R10)

Deo, R. S. Asymptotic theory for certain regression models with long memory errors. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 385–393. (Peter M. Robinson) **98m:62238** 62M10

— Nonparametric regression with long-memory errors. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 89–94. (Li-Xing Zhu) **98d:62056** 62G05 (62E20)

Deo, S. G. (*with* Sivasundaram, Seenith) Controllability of nonlinear integro-differential systems. *Advances in nonlinear dynamics*, 171–178, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Stanisław Walczak) **98j:93008** 93B05 (34K35, 45J05)

— (*with* McGloin Knoll, C.) Further extension of the method of quasilinearization to integro-differential equations. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 191–201. (Alberto Cabada) **98i:45012** 45J05 (34K05)

— (*with* McGloin Knoll, C.) Extension of the method of quasilinearization to integro-differential equations. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 43–51. (From the introduction) **98c:45011** 45J05 (34K05, 45L05)

Deo, Satya (*with* Mazumdar, Lipika) Homogenization of ideals in multivariate spline rings. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 149–162. (Takashi Harase) **98j:13019** 13F20 (41A15)

— (*with* Kumar Maitra, Jitendra) Automorphism groups of truncated polynomial algebras. (English summary) *Nat. Acad. Sci. Lett.* **20** (1997), *no.* 5-6, 75–80. (Gene Freudenburg) **98k:13002** 13A02

— (*with* Varadarajan, Kalathoor) Discrete groups and discontinuous actions. *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 559–583. (Adrian C. Albu) **98i:57069** 57S30

— (*with* Mazumdar, Lipika) An algorithm for constructing a basis for C^r-spline modules over polynomial rings. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1107–1120. (L. L. Schumaker) **98j:65008** 65D07 (41A15)

montes-De-Oca, Raúl *see* **Montes-De-Oca, Raúl**

Deodhar, Vinay J-chains and multichains, duality of Hecke modules, and formulas for parabolic Kazhdan-Lusztig polynomials. *J. Algebra* **190** (1997), *no.* 1, 214–225. (Robert Bédard) **98d:20044** 20F55 (06A07, 20C15)

Deogun, Jitender S. (*with* Kratsch, Dieter; Steiner, George) 1-tough cocomparability graphs are Hamiltonian. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 99–106. (Bernd S. W. Schröder) **98d:05092** 05C45

De Oliveira, C. R. E. *see* **de Oliveira, C. R. E.**

De Oliveira, E. Capelas *see* **de Oliveira, E. Capelas**

De Oliveira, Edson *see* **de Oliveira, Edson**

De Oliveira, H. P. *see* **de Oliveira, H. P.**

De Oliveira, Luiz Augusto Fernandes *see* **de Oliveira, Luiz Augusto Fernandes**

De Oliveira, M. J. *see* **de Oliveira, M. J.**

De Oliveira, P. M. C. *see* **de Oliveira, P. M. C.**

De Oliveira, Paula *see* **de Oliveira, Paula**

De Oliveira, Victor (*with* Kedem, Benjamin; Short, David A.) Bayesian prediction of transformed Gaussian random fields. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1422–1433. 62M20 (62M40)

De Oliveira, Viviane M. *see* **de Oliveira, Viviane M.**

De Oliveira Castro, Nelson Nery *see* **de Oliveira Castro, Nelson Nery**

De Oliveira Santos, J. P. *see* **de Oliveira Santos, J. P.**

De Pablo, J. J. *see* **de Pablo, J. J.**

De Pagter, Ben *see* **de Pagter, Ben**

De Palma, P. (*with* Catalano, L. A.; Napolitano, M.; Pascazio, G.) A very efficient local-adaptive multigrid method based on a simple-wave decomposition of the Euler equations. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 187–219, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— (*with* Catalano, L. A.; Napolitano, M.; Pascazio, G.) Genuinely multidimensional upwind methods for accurate and efficient solutions of compressible flows. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 221–250, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

De Paor, A. M. *see* **de Paor, A. M.**

De Pascale, Espedito (*with* Appell, Jürgen; Kalitvin, A. S.; Zabreĭko, Petr Petrovich) On the application of the Newton-Kantorovich method to nonlinear partial integral equations. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 2, 397–418. (Nguyễn Hồng Thái) **98a:65184** 65R20 (45G10, 45L05, 46E30, 47H30)

— (*with* Appell, Jürgen; Lysenko, Julia V.; Zabreĭko, Petr Petrovich) New results on Newton-Kantorovich approximations with applications to nonlinear integral equations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 1–17. (Carl T. Kelley) **98c:65090** 65J15 (45G10, 45L05, 47H17)

— (*with* Cianciaruso, F.) Discovering the algebraic structure on the metric injective envelope of a real Banach space. (English summary) *Topology Appl.* **78** (1997), *no.* 3, 285–292. (Paweł Domański) **98i:46007** 46B04 (46A16, 46M10, 54E35)

De Pater, C. *see* **de Pater, C.**

Depauw, Jérôme Théorème ergodique ponctuel pour cocycle de degré deux. (English and French summaries) [Pointwise ergodic theorem for cocycles of degree two] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 87–90. (Summary) **98g:28027** 28D15

Depeyre, Sophie (*with* Issautier, Didier) A new constrained formulation of the Maxwell system. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 327–357. (B. M. Herbst) **98j:65067** 65M60 (35Q60)

— (*with* Piperno, Serge) Criteria for the design of limiters yielding efficient high resolution TVD schemes. (English summary) *Comput. & Fluids* **27** (1998), *no.* 2, 183–197. (Summary) **98m:76111** 76M20

De Pietri, Roberto (*with* Pauri, Massimo; Lusanna, Luca) Gauge theories of the extended Galilei group and Newtonian gravities. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 426–435, *World Sci. Publishing, River Edge, NJ*, 1994. (Hans P. Künzle) **98i:70010** 70G50 (58E30, 83D05)

— On the relation between the connection and the loop representation of quantum gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 53–69. (Jorge A. Pullin) **98a:83053** 83C45

— Spin networks and recoupling in loop quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 251–254. (Summary) **98g:83036** 83C45

De Pinho, M. do R. *see* **de Pinho, M. do R.**

De Poi, Pietro On higher secant varieties of rational normal scrolls. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 3–21 (1997). (Fyodor L. Zak) **98k:14075** 14N05

De Polavieja, Gonzalo García *see* **de Polavieja, Gonzalo García**

De Prada Vicente, María Angeles (*with* Cammaroto, Filippo[1]; Gutiérrez García, J.; Nordo, G.) Introduction to H-closed spaces. Principal contributions to weak forms of compactness. Open problems. (Spanish. English summary) *Math. Notae* **38** (1995/96), 47–77 (1997). 54D25 (54C10, 54D10)

— (*with* Kubiak, Tomasz) Hereditary normality plus extremal disconnectedness and insertion of a continuous function. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 403–405. (Summary) **98g:54081** 54G05 (54C45, 54D15)

De Praetere, Thomas The demonstration by refutation of the principle of non-contradiction in Aristotle's *Metaphysics*, Book IV. (English summary) Conference on Philosophical Logic (Ghent, 1994). *Logique et Anal. (N.S.)* **36** (1993), *no.* 143-144, 343–358. (Summary) **98g:03002** 03-03 (01A20)

De Prisco, Roberto (*with* De Santis, Alfredo) Catastrophic faults in reconfigurable systolic linear arrays. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 2, 105–123. (M. Dal Cin) **98f:68025** 68M15 (68Q35)

— (*with* De Santis, Alfredo) A new bound for the data expansion of Huffman codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2028–2032. (Summary) **98g:94012** 94A29 (94A24)

De Prunelé, E. *see* **de Prunelé, E.**

De Queiroz, S. L. A. *see* **de Queiroz, S. L. A.**

Der, Ralf (*with* Funke, Michael; Herrmann, Michael) Controlling low-dimensional chaos: determination and stabilization of unstable periodic orbits by Kohonen neural nets. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 489–499. (Summary) **98h:93013** 93C10 (58F13, 58F40, 93B52)

De Raedt, Luc Inductive logic programming and scientific discovery. (English summary) *Med. Konink. Acad. Wetensch. België* **57** (1995), *no.* 2, 99–128. (Summary) **98f:68040** 68N17 (03A05, 68T05)

— Logical settings for concept-learning. (English summary) *Artificial Intelligence* **95** (1997), *no.* 1, 187–201. (Summary) **98f:68204** 68Q99 (03B70, 68T05)

Derbeneva, O. V. Groups with a relatively large commutativity measure. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 23–33; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 22–32. (È. M. Pal′chik) **98j:20027** 20D99

Derbez, Eric (*with* Slade, Gordon) Lattice trees and super-Brownian motion. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 19–38. (Peter Eichelsbacher) **98i:82025** 82B41 (60G57, 60J65, 60K35, 82C41)

Derbov, Vladimir L. (*with* Toronov, Vladislav Yu.) Boundedness of attractors in the complex Lorenz model. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 3, *part B*, 3689–3692. (Summary) **98k:58194** 58F25 (34D45, 58F12)

Derby, Jeffrey J. (*with* Yeckel, Andrew) Parallel computation of incompressible flows in materials processing: numerical experiments in diagonal preconditioning. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1379–1400. (*see* **98f:76004**) 76M10 (65F30, 65Y05, 76D05, 76M25)

Derby, R. (*with* Killgrove, R.; Roberts, Charles E., Jr.; Sternfeld, R.; Tamez, R.; Kiel, D.) Latin squares and other configurations. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 161–174. (Introduction) **98f:05030** 05B15 (05B07, 05B25)

De Regt, Henk W. *see* **de Regt, Henk W.**

Dereli, Tekin (*with* Bilge, Ayşe Hümeyra; Koçak, Şahin) The geometry of self-dual two-forms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4804–4814. (Peter R. Law) **98h:53117** 53C80 (15A75, 53C07, 81T13)

— (*with* Verçin, A.) W_∞-covariance of the Weyl-Wigner-Groenewold-Moyal quantization. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5515–5530. (Wojciech Lisiecki) **98m:81060** 81R10 (81S10)

— (*with* Bilge, Ayşe Hümeyra; Koçak, Şahin) Seiberg-Witten equations on $\mathbf{R}^8$. *Turkish J. Math.* **21** (1997), *no.* 1, 87–92. (Vicente Muñoz) **98d:57054** 57R57 (57R15, 58D27)

De Resmini, Marialuisa J. *see* **de Resmini, Marialuisa J.**

De Rezende, Pedro Antônio Dourado *see* **de Rezende, Pedro Antônio Dourado**

Dereziński, J. (*with* Gérard, C.) Long-range scattering in the position representation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3925–3942. (Hiroshi Isozaki) **98k:81288** 81U05 (35J10, 35P25, 47A40, 47F05, 47N50)

Derfel, G. (*with* Iserles, Arieh) The pantograph equation in the complex plane. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 117–132. (Frederick R. Marotto) **98f:34094** 34K05 (30D05, 34A20, 34K20)

fon-Der-Flaass, D. G. *see* **Fon-Der-Flaass, D. G.**

van Der Genugten, B. B. *see* **Van Der Genugten, B. B.**

Deriche, Rachid (*with* Nielsen, Mads; Florack, Luc) Regularization, scale-space, and edge detection filters. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 4, 291–307. (Jayant M. Shah) **98j:68169** 68U10 (94A12)

Deriev, I. (*with* Leonenko, Nikolai N.) Limit Gaussian behavior of the solutions of the multidimensional Burgers' equation with weak-dependent initial conditions. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 1–18. (Daniel W. Chambers) **98d:60072** 60G15 (35Q53, 35R60, 60G60, 60H15, 76D99, 76M35)

Deriglazov, A. A. (*with* Galazhinskiĭ, A. V.) A modified formulation for the Green-Schwarz superstring with irreducible constraints of the first kind. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 6, 3–6; *translation in Russian Phys. J.* **40** (1997), *no.* 6, 503–506. 81T30

— (*with* Galazhinskiĭ, A. V.) A linear realization for the new space-time superalgebras in 10 and 11 dimensions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1517–1529. (Bani Mitra Södermark) **98j:81116** 81R10 (17B81)

— (*with* Galazhinskiĭ, A. V.) A covariant action for the 11-dimensional superstring. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 38, 2993–3002. 81T30 (83E30)

De Rijke, Maarten *see* **de Rijke, Maarten**

Derishev, E. A. (*with* Kocharovskiĭ, V. V.; Kocharovskiĭ, Vl. V.; Litvak, S. A.; Shereshevskiĭ, I. A.; Tasaki, Shuichi) Nonstationary dressed states and effects of decay in nonadiabatic crossing of decaying levels. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 727–750. (*see* **98i:00017**) 81V80

De Ritis, R. *see* **de Ritis, R.**

Derka, R. (*with* Bužek, V.; Ekert, A. K.) Universal algorithm for optimal estimation of quantum states from finite ensembles via realizable generalized measurement. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 8, 1571–1575. (Summary) **98k:81024** 81P15

Derkach, V. A. On indefinite moment problems and resolvent matrices of Hermitian operators in Kreĭn spaces. (English summary) *Math. Nachr.* **184** (1997), 135–166. (Aad Dijksma) **98a:47013** 47A57 (44A60, 47A10, 47B50)

Derkachev, S. È. (*with* Vasil′ev, A. N.; Kivel′, N. A.) On the technique of calculating γ-matrix structures for diagrams of the total four-fermion interaction with an infinite number of vertices in the dimensional regularization $d = 2 + \varepsilon$. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 179–191; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 487–495. (Summary) **98g:81136** 81T15

— (*with* Manashov, A. N.) Generic scaling relation in the scalar φ^4 model. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8011–8023. (Tobias Hurth) **98f:81217** 81T17 (81T10)

— (*with* Kehrein, Stefan K.; Manashov, A. N.) High-gradient operators in the N-vector model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 660–682. (Summary) **98e:81101** 81T10 (81T15)

Der Kiureghian, A. (*with* Kirjner-Neto, C.; Polak, Elijah) An outer approximations approach to reliability-based optimal design of structures. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 1–16. 90C90 (90C30)

Derks, Jean (*with* Kuipers, Jeroen) On the core of routing games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 193–205. (Daniel Elliott Loeb) **98h:90112** 90D12 (90D46)

— (*with* Peters, Hans) Consistent restricted Shapley values. (English summary) *Math. Social Sci.* **33** (1997), *no.* 1, 75–91. (Summary) **98b:90179** 90D12 (90A05)

Derksen, Harm (*with* Kraft, Hanspeter) Constructive invariant theory. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants (Reims, 1995)*, 221–244, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Dmitri I. Panyushev) **98m:13010** 13A50 (13P99, 14D25, 14L30)

Derkunova, E. A. (*with* Butuzov, V. F.) Asymptotic behavior of the solution of the heat equation with a nonlinear heat source in a thin rod. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 6, 68–85; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 6, 743–757. (Sergei A. Vakulenko) **98h:35113** 35K57 (35B25, 35C20)

Dermenjian, Yves (*with* Croc, Elisabeth) Generalized modes in an acoustic strip. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 129–145, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98j:35032** 35J05 (35C99, 35R30, 73D25, 76Q05)

Dermoune, A. Chaoticity on a stochastic interval $[0, T]$. (English summary) *Séminaire de Probabilités, XXIX*, 117–124, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Summary) **98f:60084** 60G44

— Wick product and stochastic partial differential equations with Poisson measure. (English and French summaries) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 11–25. (Jan Ubøe) **98k:60100** 60H15 (35R60, 46F25, 60G20)

— The inviscid Burgers equation with initial value of Poissonian type. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 873–883. (Summary) **98g:35178** 35Q53 (60H15, 76D99)

— Around the stochastic Burgers equation. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 295–311. (Summary) **98c:35173** 35R60 (35Q53, 60H15, 76F99, 76M35)

Dernek, Neşe On the solution of the E.P.D. equation using finite integral transformations. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 317–324. 35Q05 (35L80)

De Roeck, Yann-Hervé *see* **de Roeck, Yann-Hervé**

De Roever, Willem-Paul *see* **de Roever, Willem-Paul**

De Ronde, J. F. (*with* Schoneveld, A.; Sloot, P. M. A.) On the complexity of task allocation. (English summary) *Complexity* **3** (1997), *no.* 2, 52–60. 90B80 (68M20)

De Roo, Mees *see* **de Roo, Mees**

De Rooij, Peter *see* **de Rooij, Peter**

De Roos, André *see* **de Roos, André**

Derr, V. Ya. (*with* Dizendorf, K. I.) On differential equations in C-generalized functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 39–49; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 11, 37–47 (1997). (B. B. Pakholok) **98d:34013** 34A30 (46F10)

Derrick, E. (*with* Avram, A. C.; Jančić, D.) On semi-periods. (English summary) *Nuclear Phys. B* **471** (1996), *no.* 1-2, 293–308. (Anatoly Libgober) **98e:32037** 32G20 (14D05, 14J32, 32J17)

Derrick, William R. (*with* Chen, Shaohua; Cima, Joseph A.) Oscillatory radial solutions of semilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 425–445. (Jann-Long Chern) **98g:35067** 35J60 (34A12, 34C10, 35B05)

Derrida, Bernard Coarsening phenomena in one dimension. *Complex systems and binary networks (Guanajuato, 1995)*, 164–182, *Lecture Notes in Phys.*, 461, *Springer, Berlin*, 1995. (*see* **98f:00022**) 82B03

— Systems out of equilibrium: some exactly soluble models. (English summary) *STATPHYS 19 (Xiamen, 1995)*, 243–253, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82C22 (82–02)

— (*with* Hakim, Vincent; Pasquier, Vincent) Exact exponent for the number of persistent spins in the zero-temperature dynamics of the one-dimensional Potts model. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 5-6, 763–797. (Miroslav Kolesík) **98b:82013** 82B20

— (*with* Evans, Martin R.) The asymmetric exclusion model: exact results through a matrix approach. *Nonequilibrium statistical mechanics in one dimension*, 277–304, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98h:82034**) 82B41

— Zero temperature Glauber dynamics of the 1d Potts model. (English summary) *The mathematical beauty of physics (Saclay, 1996)*, 126–140, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98i:82041** 82C20 (82C23)

— (*with* Mallick, K.) Exact diffusion constant for the one-dimensional partially asymmetric exclusion model. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1031–1046. (Ellen Saada) **98i:82043** 82C22 (60K35, 82C70)

— From random walks to spin glasses. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 186–198. (Barbara Gentz) **98m:82072** 82D30 (82B41, 82B44)

— (*with* Brunet, Eric) Shift in the velocity of a front due to a cutoff. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2597–2604. (Summary) **98j:82048** 82C31 (35K55, 35Q99)

— (*with* Lebowitz, Joel L.) Exact large deviation function in the asymmetric exclusion process. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 209–213. (Summary) **98k:60180** 60K35 (60F10, 82C31)

Derridj, Makhlouf La sous-ellipticité pour le problème $\overline{\partial}$-Neumann dans un domaine pseudoconvexe de $\mathbf{C}^n$ (d'après D. Catlin). (French summary) [Subellipticity of the $\overline{\partial}$-Neumann problem in a pseudoconvex domain in $\mathbf{C}^n$ (after D. Catlin)] Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 790, 3, 7–27. (A. Alexandrou Himonas) **98d:35160** 35N15 (32F20, 35H05)

— Analyticité globale de la solution canonique de $\overline{\partial}_b$ pour une classe d'hypersurfaces compactes pseudoconvexes de $\mathbf{C}^2$. [Global analyticity of the canonical solution of $\overline{\partial}_b$ for a class of pseudoconvex compact hypersurfaces in $\mathbf{C}^2$] *Math. Res. Lett.* **4** (1997), *no.* 5, 667–677. (Vincent Thilliez) **98j:32016** 32F20 (35N15)

Derrien, Jean-Marc Sur l'existence de cohomologues réguliers pour les cocycles intégrables. [Existence of regular cohomologues for integrable cocycles] *Séminaires de Probabilités de Rennes* (1995), 20 *pp.*, *Publ. Inst. Rech. Math. Rennes*, 1995, *Univ. Rennes I, Rennes*, 1995. (Mahesh Nerurkar) **98m:28032** 28D05 (58F11)

— (*with* Lesigne, Emmanuel) Un théorème ergodique polynomial ponctuel pour les endomorphismes exacts et les K-systèmes. (English and French summaries) [A pointwise polynomial ergodic theorem for exact endomorphisms and K-systems] *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 6, 765–778. (Karl Petersen) **98k:28023** 28D05

Derriennic, Marie-Madeleine Diminution du nombre de changements de signe par des opérateurs de Bernstein modifiés. (English and French summaries) [Nullity diminishing property for modified Bernstein operators] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 825–829. (Summary) **98i:41037** 41A36

Dershowitz, Nachum (*with* Reingold, Edward M.) ★ Calendrical calculations. *Cambridge University Press, Cambridge*, 1997. xxii+307 *pp.* *ISBN* 0-521-56413-1 (Victor J. Katz) **98g:01007** 01A05 (00A69)

— Innocuous constructor-sharing combinations. (English summary) *Rewriting techniques and applications (Sitges, 1997)*, 202–216, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68Q42

Deruelle, Nathalie (*with* Katz, Joseph; Uzan, Jean-Philippe) Integral constraints on cosmological perturbations and their energy. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 421–433. (Jürgen Tolksdorf) **98a:83049** 83C40 (83C25)

— (*with* Uzan, Jean-Philippe) Conservation laws for cosmological perturbations. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2461–2468. (Roh Suan Tung) **98k:83035** 83C40 (83F05)

— (*with* Langlois, David; Uzan, Jean-Philippe) Cosmological perturbations seeded by topological defects: setting the initial conditions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7608–7620. (Summary) **98j:83109** 83F05

DeRusso, Paul M. (*with* Roy, Rob J.; Close, Charles M.; Desrochers, Alan A.) ★ State variables for engineers. (English summary) Second edition. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+575 *pp.* *ISBN* 0-471-57795-2 (Petko Petkov) **98m:93001** 93–01

Deruyver, A. (*with* Hodé, Y.) Constraint satisfaction problem with bilevel constraint: application to interpretation of over-segmented images. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 321–335. (Summary) **98b:68170** 68T20

Dervieux, Alain (*with* Marco, Nathalie) Multilevel parametrization for aerodynamical optimization of 3D shapes. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 4, 259–277. 76G25 (76M25, 76M30)

— (*with* Marco, Nathalie; Koobus, Bruno) An additive multilevel optimization method and its application to unstructured meshes. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 233–251. (Summary) **98m:65218** 65N55

— (*with* Debiez, Christophe; Mer, Katherine; Nkonga, Boniface) Computation of unsteady flows with mixed finite volume/finite element upwind methods. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 193–206. (*see* **98j:76003**) 76M10 (76M25)

Deryugin, A. N. (*with* Loskutov, A. Yu.; Tereshko, Valeriĭ M.) On the generation of stable periodic behavior of parametrically excited dynamical systems. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 507–512; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1162–1165 (1996). (Summary) **98j:34069** 34C25

Derzho, O. G. (*with* Grimshaw, Roger H. J.) Solitary waves with a vortex core in a shallow layer of stratified fluid. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3378–3385. (Summary) **98i:76095** 76V05 (76C05)

De Sabata, Aldo (*with* Rothenstein, Bernhard) An uncommon way to special relativity. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 263–266. 83A05

De Sabbata, Venzo *see* **de Sabbata, Venzo**

De Sacrobosco, Johannes *see* **de Sacrobosco, Johannes**

Desages, A. C. (*with* Calandrini, G.; Castro, Liliana; Paolini, E.) Ritt's algorithm, Gröbner basis and discretization. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 67–77. (Summary) **98e:93013** 93B10 (70B15, 70Q05, 93B40)

Desai, A. R. (*with* Uralegaddi, B. A.) Univalent functions with two fixed points. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 123–126. 30C45

Desai, L. S. (*with* Patel, L. K.) A radiating blackhole with internal monopole in expanding universe. (English summary) *Math. Today (Ahmedabad)* **14** (1996), 9–14. 83C57

Desai, Madhav P. (*with* Rao, Vasant B.) Finite-time behavior of slowly cooled annealing chains. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 2, 137–176. (Summary) **98m:65234** 65U05 (60J10)

Desaint, Fabrice (*with* Zolésio, Jean-Paul) Dérivation de forme dans les problèmes elliptiques tangentiels. (English and French summaries) [Shape derivative for tangential elliptic problems] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 781–786. (W. P. Ziemer) **98a:49066** 49Q12 (46G05, 46N10, 49J27, 49J52)

— (*with* Zolésio, Jean-Paul) Shape boundary derivative for an elastic membrane. *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 481–491, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Veronique Lods) **98m:73058** 73K10 (49Q10, 73K40)

— (*with* Zolésio, Jean-Paul) Shape derivative for the Laplace-Beltrami equation. (English summary) *Partial differential equation methods in control and shape analysis (Pisa)*, 111–132, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Sergei Pavlovich Ohezin) **98d:49054** 49Q15 (35J60)

— (*with* Zolésio, Jean-Paul) Manifold derivative in the Laplace-Beltrami equation. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 234–269. (Maïtine Bergounioux) **98k:49053** 49Q10 (58E15)

De Saint-Venant, Adhémar-Jean-Claude Barré *see* **de Saint-Venant, Adhémar-Jean-Claude Barré**

Desaki, Yoshihisa (*with* Fujiwara, Toru; Kasami, Tadao) The weight distributions of extended binary primitive BCH codes of length 128. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1364–1371. 94B15

De Salvo, Mario (*with* Freni, Domenico; Lo Faro, Giovanni) On the hypergroups with four proper pairs and without scalars. *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 67–109. (Nobuaki Obata) **98h:20120** 20N20

— (*with* Lo Faro, Giovanni) Isomorphism classes in finite partial hypergroupoids of class two. *Riv. Mat. Pura Appl. No.* 19 (1996), 65–91. (Thomas N. Vougiouklis) **98m:20084** 20N20

— (*with* Lo Faro, Giovanni) Wrapping graphs and partial semi-hypergroups. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 157–166. (Summary) **98c:05076** 05C25

— (*with* Freni, Domenico; Lo Faro, Giovanni) On the hypergroups with four proper pairs and two or three non-scalar elements. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 29–51. (Umberto Cerruti) **98g:20104** 20N20

De Sam Lazaro, J. *see* **de Sam Lazaro, J.**

De Sampaio, R. J. B. *see* **de Sampaio, R. J. B.**

De Sanctis, Angela Geodesic submanifolds of a family of statistical models. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 2, 127–132. (Z. G. Gorgadze) **98a:62010** 62B10

De Santis, Alberto *see* **de Santis, Alberto**

De Santis, Alfredo (*with* Blundo, Carlo; Persiano, Giuseppe; Vaccaro, Ugo) On the number of random bits in totally private computation. (English summary) *Automata, languages and programming (Szeged, 1995)*, 171–182, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98f:68077** 68Q10 (68Q25, 94A60)

— (*with* Ateniese, Giuseppe; Blundo, Carlo; Stinson, Douglas R.) Constructions and bounds for visual cryptography. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 416–428, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98g:94020** 94A60 (68P25)

— (*with* Ateniese, Giuseppe; Blundo, Carlo; Stinson, Douglas R.) Visual cryptography for general access structures. (English summary) *Inform. and Comput.* **129** (1996), *no.* 2, 86–106. (Luis Hernández Encinas) **98a:94017** 94A60 (68P25, 94C15)

— (*with* Blundo, Carlo; Vaccaro, Ugo) Randomness in distribution protocols. (English summary) *Inform. and Comput.* **131** (1996), *no.* 2, 111–139. (Mu Lan Liu) **98e:94014** 94A60 (68P25, 94A17)

— (*with* Blundo, Carlo; de Simone, Roberto; Vaccaro, Ugo) Tight bounds on the information rate of secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 107–122. (Douglas R. Stinson) **98b:94012** 94A60

— (*with* De Prisco, Roberto) Catastrophic faults in reconfigurable systolic linear arrays. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 2, 105–123. (M. Dal Cin) **98f:68025** 68M15 (68Q35)

— (*with* De Prisco, Roberto) A new bound for the data expansion of Huffman codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2028–2032. (Summary) **98g:94012** 94A29 (94A24)

— (*with* Blundo, Carlo) Lower bounds for robust secret sharing schemes. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 317–321. (Summary) **98j:94012** 94A60 (68P25)

— *see also* **Advances in cryptology—EUROCRYPT '94. 98h:94001**

De Santis, Elena Feedback control of constrained discrete-time systems. *Control of uncertain systems with bounded inputs*, 1–24, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Abdelmoula El Bouhtouri) **98m:93069** 93C55 (93B03, 93B52, 93D09)

— On invariant sets for constrained discrete time linear systems with disturbances and parametric uncertainties. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2033–2039. (Summary) **98k:93064** 93C55 (93B52, 93C41)

De Santis, Fulvio (*with* Spezzaferri, Fulvio) Comparing hierarchical models using Bayes factor and fractional Bayes factor: a robust analysis. (English summary) *Bayesian robustness (Rimini, 1995)*, 305–314, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F15 (62F35)

DeSanto, J. A. (*with* Martin, Paul Andrew) On the derivation of boundary integral equations for scattering by an infinite two-dimensional rough surface. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 894–912. (Summary) **98k:76121** 76Q05

Desargues, Girard *see* **Desargues and his times. 98b:01001**; **Bottineau-Fuchs, Yves. 98d:01014**; **Le Goff, Jean-Pierre. 98d:01016**; **Field, J. V., 98e:01012**; **Fiorani, Francesca. 98f:01018**; **Dhombres, Jean. 98g:01029**; **Knobloch, Eberhard. 98m:01007**; **Damisch, Hubert, (98b:01001)**; **Taton, René, (98b:01001)**; **Mesnard, Jean, (98b:01001)**; **Picolet, Guy, (98b:01001)**; **Bkouche, Rudolphe, (98b:01001)**; **Laureat, Roger, (98b:01001)**; **Echeverría, Javier, (98b:01001)**; **Bessot, Didier, (98b:01001)**; **Navarro de Zuvillaga, Javier, (98b:01001)**; **Sakarovitch, Joel, (98b:01001)**; **Docci, Mario et al., (98b:01001)** *and* **Chaboud, Marcel, (98b:01001)**

DeSarkar, S. C. (*with* Dasgupta, Pallab; Chakrabarti, P. P.) A near optimal algorithm for the extended cow-path problem in the presence of relative errors. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 22–36, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68101** 68Q25 (68U05)

— (*with* Dasgupta, Pallab; Chakrabarti, P. P.) A new competitive algorithm for agent searching in unknown streets. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 147–155, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68U05

Désarménien, Jacques *see* **Festschrift: Foata, Dominique C., 98g:05003**

De Sarrazin, Gisela (*with* Chacon, Edgar; Szigeti, Ferenc) Pseudo-dynamic hybrid systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2533–2537. (*see* **98i:00030**) 93A30 (93C83)

Desbat, Laurent Échantillonnage parallèle efficace en tomographie 3D. (English and French summaries) [Efficient parallel sampling schemes in 3D tomography] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1193–1199. (Sergey Egorovich Sysoev) **98f:92003** 92C55 (44A12, 94A12)

— (*with* Colombet, L.) Speedup and efficiency of large-size applications on heterogeneous networks. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 31–44. (Summary) **98k:68019** 68M10 (68M20)

Desbois, Jean (*with* Nechaev, Sergei) Statistical mechanics of braided Markov chains. I. Analytic methods and numerical simulations. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 201–229. (E. J. Janse van Rensburg) **98m:82030** 82B41 (20F36, 20P05)

— (*with* Ouvry, S.; Texier, Christophe) Hall conductivity for two-dimensional magnetic systems. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 486–510. 81V70

Descartes, René *see* **van Ruler, J. A., 98b:01018**; **Devlin, Keith. 98f:00005** *and* **Schneider, Ivo. 98h:01011**

Desch, Wolfgang (*with* Schappacher, Wilhelm; Webb, Glenn F.) Hypercyclic and chaotic semigroups of linear operators. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 793–819. (Ryszard Rudnicki) **98j:47083** 47D06 (34G10, 47A99, 58F13)

— (*with* Rhandi, Abdelaziz) On the norm continuity of transition semigroups in Hilbert spaces. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 52–56. (I. Łojczyk-Królikiewicz) **98k:35203** 35R15 (46G05, 47D06)

martin-Deschamps, Mireille *see* **Martin-Deschamps, Mireille**

Deschamps, Philippe J. Monte Carlo methodology for LM and LR autocorrelation tests in multivariate regression. (English and French summaries) *Ann. Économ. Statist.* **1996**, *no.* 43, 149–169. 62M10 (62E25, 62P20)

— Full maximum likelihood estimation of dynamic demand models. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 335–359. 62P20

De Schepper, A. (*with* Goovaerts, M. J.; Kaas, R.) A recursive scheme for perpetuities with random positive interest rates. I. Analytical results. (English summary) *Scand. Actuar. J.* **1997**, *no.* 1, 1–10. (Jan Beirlant) **98e:62146** 62P05

De Schepper, H. (*with* Van Keer, R.) On a finite element method for second order elliptic eigenvalue problems with nonlocal Dirichlet boundary conditions. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 283–295. (Mark Ainsworth) **98i:65093** 65N25 (65N30)

De Schreye, Danny (*with* Decorte, Stefaan) Demand-driven and constraint-based automatic left-termination analysis for logic programs. (English summary) *Logic programming* (*Leuven*, 1997), 78–92, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68Q60)

— (*with* Van Belleghem, Kristof; Denecker, Marc) A strong correspondence between description logics and open logic programming. (English summary) *Logic programming* (*Leuven*, 1997), 346–360, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68T27)

— (*with* Van Belleghem, Kristof; Denecker, Marc) On the relation between situation calculus and event calculus. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 3–37. (Summary) **98a:68169** 68T27 (03B45, 03B70)

— (*with* Denecker, Marc) SLDNFA: an abductive procedure for abductive logic programs. (English summary) *J. Logic Programming* **34** (1998), *no.* 2, 111–167. (Summary) **98f:68041** 68N17

De Schutter, Bart (*with* De Moor, Bart L. R.) The singular-value decomposition in the extended max algebra. (English summary) *Linear Algebra Appl.* **250** (1997), 143–176. (Summary) **98e:93021** 93B25 (15A18)

— (*with* De Moor, Bart L. R.) A note on the characteristic equation in the max-plus algebra. (English summary) *Linear Algebra Appl.* **261** (1997), 237–250. (Summary) **98c:93067** 93C30

— (*with* De Moor, Bart L. R.) The *QR* decomposition and the singular value decomposition in the symmetrized max-plus algebra. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 378–406 (*electronic*). (Ilse C. F. Ipsen) **98m:15021** 15A23 (15A18, 16Y99)

Desclés, Jean-Pierre Logique combinatoire, types, preuves et langage naturel. [Combinatory logic, types, proofs, and natural language] *Introduction aux logiques non classiques*, 91–160, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B40 (03B65)

— (*with* Biskri, Ismail) Applicative and combinatory categorical grammar (from syntax to functional semantics). (English summary) *Recent advances in natural language processing* (*Tzigov Chark*, 1995), 71–84, *Amst. Stud. Theory Hist. Linguist. Sci. Ser. IV Curr. Issues Linguist. Theory*, 136, *Benjamins, Amsterdam*, 1997. (*see* **98k:68143**) 68S05 (03B65)

Descloux, J. (*with* Flueck, M.; Romerio, M. V.) Spectral aspects of an industrial problem. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 17–33, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Summary) **98i:35194** 35Q99 (76M25, 76W05, 78A55)

Desel, Jörg (*with* Esparza, Javier) ★ Free choice Petri nets. (English summary) Cambridge Tracts in Theoretical Computer Science, 40. *Cambridge University Press, Cambridge*, 1995. viii+244 *pp. ISBN* 0-521-46519-2 (From the text) **98f:68201** 68Q90 (68–01, 68–02)

Deser, S. (*with* Schwimmer, A.) Gauge field improvement, form-scalar duality, conformal invariance and quasi-locality. (English summary) *Perspectives on solvable models*, 293–300, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 81T40

— First order, 2D, Einstein gravities. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 579–582. (Ilya Shapiro) **98h:83008** 83C05

— Recent progress and problems in the geometrical representation of conformal anomalies. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 3–6. (*see* **98f:83002**) 81T50 (83E50)

— (*with* Gomberoff, Andrés; Henneaux, Marc; Teitelboim, C.) Duality, self-duality, sources and charge quantization in abelian *N*-form theories. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 80–86. (Summary) **98c:81129** 81T13

— (*with* Bautier, K.; Henneaux, Marc; Seminara, D.) No cosmological $D = 11$ supergravity. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 49–53. (Summary) **98c:83104** 83E50 (81V17)

— (*with* Griguolo, L.; Seminara, D.) Gauge invariance, finite temperature, and parity anomaly in $D = 3$. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1976–1979. (Summary) **98g:81195** 81T50 (58G26, 81V05, 81V10)

— (*with* Sarıoğlu, Ö.) Hamiltonian electric/magnetic duality and Lorentz invariance. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 369–372. 81T13

Désérable, Dominique Broadcasting in the arrowhead torus. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 6, 545–559. 68M10

Deseri, Luca (*with* Del Piero, Gianpietro) On the concepts of state and free energy in linear viscoelasticity. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 1, 1–35. (Maurizio Grasselli) **98i:73023** 73F05 (73B30, 73F15)

De Shalit, E. *see* **de Shalit, E.**

Desharnais, J. (*with* Frappier, M.; Mili, A.) Program construction by parts. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 257–281, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60

— (*with* Frappier, M.; Mili, A.) Unifying program construction and modification. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 317–340. (Summary) **98m:68172** 68Q60

Deshmukh, Sharief Normal curvature of minimal submanifolds in a sphere. *Glasgow Math. J.* **39** (1997), *no.* 1, 29–33. (Yi Bing Shen) **98a:53091** 53C42

Deshouillers, J.-M. (*with* Effinger, G.; te Riele, Herman J. J.; Zinoviev, Dmitrii) A complete Vinogradov 3-primes theorem under the Riemann hypothesis. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 99–104 (*electronic*). (Gunter Dufner) **98g:11112** 11P32

Deshpande, A. S. (*with* Triantaphyllou, E.) A greedy randomized adaptive search procedure (GRASP) for inferring logical clauses from examples in polynomial time and some extensions. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 75–99. 68T05

Deshpande, B. M. (*with* Pai, D. V.) On continuity of the prox map and the restricted center map. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 451–458, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Roberto Lucchetti) **98h:49028** 49K40 (41A65)

Deshpande, Jayant V. (*with* Karia, S. R.) Competing risks in bioassay: a nonparametric Bayesian approach. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 79–94, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G99 (62F15, 62P10)

— (*with* Chaudhuri, Gopal; Dharmadhikari, A. D.) A lower bound on the *L*-class of life distributions and its applications. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 269–274. (Summary) **98b:60034** 60E15

— (*with* Karia, S. R.) Bounds for the joint survival and incidence functions through coherent system data. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 478–497. (Philip J. Boland) **98h:62150** 62N05 (90B25)

— *see also* **Analysis of censored data, 98g:62003**

Deshpande, Mohan D. (*with* Milton, S. George) Kolmogorov scales in a driven cavity flow. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 6, 359–381. 76F05 (76M25)

Deshpande, S. M. (*with* Kulkarni, P. S.; Ghosh, Ashis Kumar) New developments in kinetic schemes. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 75–93. (Summary) **98k:76104** 76M25 (65M06, 76P05)

Désidéri, Jean-Antoine (*with* Hemker, Pieter W.; Koren, Barry; Lallemand, Marie-Hélène) Research in computational fluid dynamics, stimulated by ERCIM. *From universal morphisms to megabytes: a Baayen space odyssey*, 269–286, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 01A74

De Siena, Silvio (*with* De Martino, Salvatore; Graziano, Elvira; Vitiello, Giuseppe) Vacuum structure and jump Markovian processes. (English summary) *Field theory and collective phenomena* (*Perugia*, 1992), 358–365, *World Sci. Publishing, River Edge, NJ*, 1995. (Cheng Xun Wu) **98d:81044** 81T10 (82C31)

— (*with* De Martino, Salvatore; Illuminati, Fabrizio) Theory of controlled quantum dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4117–4132. (Gian Carlo Ghirardi) **98f:81038** 81P20 (81R30)

Desikan, Kalyani Cosmological models with bulk viscosity in the presence of particle creation. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 435–443. (Wathek Talebaoui) **98h:83040** 83C55 (83C15)

De Silva, Amal *see* **de Silva, Amal**

De Silva, I. P. D. (*with* Imberger, J.; Ivey, G. N.) Localized mixing due to a breaking internal wave ray at a sloping bed. (English summary) *J. Fluid Mech.* **350** (1997), 1–27. 76F99 (76–05, 76C10)

DeSimone, Antonio (*with* Podio-Guidugli, Paolo) On the continuum theory of deformable ferromagnetic solids. *Arch. Rational Mech. Anal.* **136** (1996), *no.* 3, 201–233. (Gérard A. Maugin) **98a:73051** 73R05 (73B25, 73S10)

— (*with* Podio-Guidugli, Paolo) Pointwise balances and the construction of stress fields in dielectrics. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 477–485. (E. S. Şuhubi) **98e:73108** 73R05 (78A25)

De Simone, Caterina (*with* Bertolazzi, Paola; Galluccio, Anna) A nice class for the vertex packing problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 3–19. (Gerard J. Chang) **98d:05118** 05C75 (05C70, 05C85)

— (*with* Jünger, Michael) On the two-connected planar spanning subgraph polytope. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 223–229. (Summary) **98h:05066** 05C10 (05C35)

DeSimone, Jeffrey (*with* Philipson, Tomas) Experiments and subject sampling. (English summary) *Biometrika* **84** (1997), *no.* 3, 619–630. (Summary) **98m:62214** 62K99 (62P10)

De Simone, Roberto *see* **de Simone, Roberto**

Desiniotis, C. D. (*with* Kazantzis, P. G.) Three-dimensional periodic orbits in three dipole problem. (English summary) *Astrophys. Space Sci.* **241** (1996), *no.* 2, 249–262 (1997). (Summary) **98b:78018** 78A35

Desjardins, Benoît Regularity results for two-dimensional flows of multiphase viscous fluids. (English summary) *Arch. Rational Mech. Anal.* **137** (1997), *no.* 2, 135–158. (Denis Serre) **98i:76090** 76T05 (35Q35, 76N10)

— Regularity of weak solutions of the compressible isentropic Navier-Stokes equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 977–1008. (Ivan Straškraba) **98e:35126** 35Q30 (35B10, 35D10, 76N10)

De Smedt, Stany Approximation lattices of p-adic numbers. *p-adic functional analysis* (*Nijmegen*, 1996), 375–382, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (B. M. M. de Weger) **98f:11129** 11S85 (11J13, 11J61)

— (*with* Khrennikov, Andrei) Dynamical systems and theory of numbers. (English summary) *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 117–132. (Evgenii I. Zelenov) **98g:58161** 58F99 (11S99, 11Z05, 58F12)

De Smedt, Vivian Hopf $\star$-deformation of any Lie group. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 65–75. (Mohsen Masmoudi) **98g:58068** 58F06 (17B37)

Desmedt, Yvo G. (*with* Burmester, Mike) Efficient and secure conference-key distribution. (English summary) *Security protocols* (*Cambridge*, 1996), 119–129, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94013** 94A60 (68P25)

— (*with* Burmester, Mike; Piper, F. C.; Walker, Michael) A general zero-knowledge scheme. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 13–37. (Joan Boyar) **98h:68057** 68P25 (94A60)

— (*with* Burmester, Mike; Kabatyanskiĭ, G. A.) Trust and security: a new look at the Byzantine generals problem. (English summary) *Network threats* (*New Brunswick, NJ*, 1996), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 38, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:68030** 68Q10 (68Q25, 90B12, 94A60)

De Smet, Veerle (*with* Van Maldeghem, Hendrik) A geometric construction of a class of twisted field planes by Ree-Tits unitals. (English summary) *Geom. Dedicata* **58** (1995), *no.* 2, 127–143. (Theo Grundhöfer) **98c:51009** 51E12 (51E21)

De Smit, Bart *see* **de Smit, Bart**

De Snoo, H. S. V. *see* **de Snoo, H. S. V.**

De Soete, Geert (*with* Carroll, J. Douglas) Multiple trees: fitting two or more tree structures to proximity data. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 313–330, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 62H30 (92G30)
— *see also* **Clustering and classification, 98d:62115**
De Soto, Adolfo R. *see* **de Soto, Adolfo R.**
De Sousa Vieira, Maria *see* **de Sousa Vieira, Maria**
De Souza, Aparecido J. *see* **de Souza, Aparecido J.**
De Souza, C. C. *see* **de Souza, C. C.**
De Souza, Carlos E. *see* **de Souza, Carlos E.**
De Souza, Manoelito M. *see* **de Souza, Manoelito M.**
De Souza, Quintino A. G. *see* **de Souza, Quintino A. G.**
De Souza, S. M. *see* **de Souza, S. M.**
De Souza Cruz, F. F. *see* **de Souza Cruz, F. F.**
De Souza Dutra, A. *see* **de Souza Dutra, A.**
De Souza Lima, C. A. *see* **de Souza Lima, C. A., Jr.**
Despeyroux, Joëlle (*with* Felty, Amy; Hirschowitz, André) Higher-order abstract syntax in Coq. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 124–138, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68T15 (03B40, 68N15)
— (*with* Pfenning, Frank; Schürmann, Carsten) Primitive recursion for higher-order abstract syntax. *Typed lambda calculi and applications* (*Nancy*, 1997), 147–163, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (*see* **98f:68017**) 03B40
De Spinadel, Vera W. *see* **de Spinadel, Vera W.**
nikolić-Despotović, Danica *see* **Nikolić-Despotović, Danica**
Després, Bruno Inégalité entropique pour un solveur conservatif du système de la dynamique des gaz en coordonnées de Lagrange. (English and French summaries) [An entropy inequality for a conservative solver of the system of gas dynamics in Lagrangian coordinates] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1301–1306. (Dennis C. Jespersen) **98d:76116** 76M20 (65M99, 76N15, 82C80)
— (*with* Benamou, Jean-David) A domain decomposition method for the Helmholtz equation and related optimal control problems. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 68–82. (Summary) **98c:65162** 65M55 (49K20)
lucquin-Desreux, Brigitte *see* **Lucquin-Desreux, Brigitte**
Desrochers, Alan A. (*with* DeRusso, Paul M.; Roy, Rob J.; Close, Charles M.) ★ State variables for engineers. (English summary) Second edition. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+575 *pp. ISBN* 0-471-57795-2 (Petko Petkov) **98m:93001** 93–01
Dessai, Anand (*with* Jung, Rainer) On the rigidity theorem for elliptic genera. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4195–4220. (Mark Hovey) **98m:58130** 58G10 (11F11, 19L47, 57R15)
Dessmark, Anders (*with* Lingas, Andrzej; Proskurowski, Andrzej) Faster algorithms for subgraph isomorphism of k-connected partial k-trees. (English summary) *Algorithms—ESA '96* (*Barcelona*), 501–513, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98g:68124** 68R10 (05C85, 68Q25)
— (*with* Lingas, Andrzej) On the power of nonconservative PRAM. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 303–311, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98g:68036** 68Q05 (68Q10)
— (*with* Garrido, Oscar; Lingas, Andrzej) A note on parallel complexity of maximum f-matching. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 107–109. (Summary) **98j:68043** 68Q22 (68Q25, 68R10, 90C27)
Destainville, N. (*with* Sadoc, J. F.) Excitations in one dimension: a geometrical view of the transfer matrix method. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1849–1863. (Oliver Knill) **98g:58159** 58F40
— (*with* Mosseri, R.; Bailly, Francis) Configurational entropy of codimension-one tilings and directed membranes. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 697–754. (Alexander I. Barvinok) **98i:52029** 52C22 (82D25)
D'Este, Gabriella (*with* Colpi, Riccardo; Tonolo, Alberto) Quasi-tilting modules and counter equivalences. (English summary) *J. Algebra* **191** (1997), *no.* 2, 461–494. (Lidia Angeleri Hügel) **98g:16003** 16D90 (16E30, 16G20)
De Stefano, Stefania (*with* Di Sieno, Simonetta) Near-rings with no nilpotent N-subsets. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **129** (1995), *no.* 1-2, 61–69 (1996). (Günter Pilz) **98a:16048** 16Y30
Destri, C. (*with* de Vega, H. J.) Non-linear integral equation and excited-states scaling functions in the sine-Gordon model. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 621–664. (Summary) **98k:82032** 82B20 (81T27)
Destuynder, Philippe Estimations d'erreur explicites pour les modèles de plaques de Kirchhoff-Love et Reissner-Mindlin. (English and French summaries) [Explicit error bounds for the Kirchhoff-Love and Reissner-Mindlin plate models] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 233–238. (Summary) **98c:73050** 73K10 (73C99, 73V99)
— (*with* Salaün, Michel) Approximation of shell geometry for non-linear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 3-4, 393–430. (Veronique Lods) **98m:73065** 73K15 (73V05)
Desvillettes, Laurent (*with* Mischler, Stéphane) About the splitting algorithm for Boltzmann and B.G.K. equations. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 8, 1079–1101. (Luisa Arlotti) **98d:82040** 82C40 (35Q99)
— Sur un modèle de type Borgnakke-Larsen conduisant à des lois d'énergie non linéaires en température pour les gaz parfaits polyatomiques. (English and French summaries) [On a model of Borgnakke-Larsen type leading to energy distributions nonlinear in temperature for polyatomic perfect gases] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 257–262. 35Q35 (76P05)
— Regularization properties of the 2-dimensional non-radially symmetric non-cutoff spatially homogeneous Boltzmann equation for Maxwellian molecules. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 341–357. (Carlo Cercignani) **98h:82058** 82C40 (76P05)
De Swart, Henricus Cornelius Maria *see* **de Swart, Henricus Cornelius Maria**
De Swart, Jacques J. B. *see* **de Swart, Jacques J. B.**
Deszcz, Ryszard On certain classes of hypersurfaces in spaces of constant curvature. (English summary) *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 101–110, *World Sci. Publishing, River Edge, NJ*, 1996. (Pascual Lucas Saorin) **98a:53078** 53C40 (53C50)
— (*with* Verstraelen, Leopold; Yaprak, Şahnur) On hypersurfaces with pseudosymmetric Weyl tensor. (English summary) *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 111–120, *World Sci. Publishing, River Edge, NJ*, 1996. (Pascual Lucas Saorin) **98a:53079** 53C40 (53C50)
— (*with* Defever, Filip; Verstraelen, Leopold) On pseudosymmetric para-Kähler manifolds. *Colloq. Math.* **74** (1997), *no.* 2, 253–260. (Andrew Bucki) **98h:53076** 53C25 (53C15, 53C50)
— (*with* Defever, Filip; Şentürk, Zerrin; Verstraelen, Leopold; Yaprak, Şahnur) On a problem of P. J. Ryan. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 371–376. (Andrew Bucki) **98m:53047** 53C20
— (*with* Verstraelen, Leopold; Yaprak, Şahnur) On 2-quasi-umbilical hypersurfaces in conformally flat spaces. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 45–57. (Bang-yen Chen) **98m:53078** 53C42 (53C40)
De Szoeke, Roland A. *see* **de Szoeke, Roland A.**
DeTemple, Duane (*with* Anbeek, Carreen; McAvaney, Kevin; Robertson, Jack M.) When are chordal graphs also partition graphs? (English summary) *Australas. J. Combin.* **16** (1997), 285–293. (Summary) **98e:05091** 05C75
Detemple, Jérôme B. (*with* Broadie, Mark) Recent advances in numerical methods for pricing derivative securities. *Numerical methods in finance*, 43–66, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (From the introduction) **98d:90033** 90A12 (90–02)
— (*with* Broadie, Mark) The valuation of American options on multiple assets. (English summary) *Math. Finance* **7** (1997), *no.* 3, 241–286. (Summary) **98b:90012** 90A09
— (*with* Gottardi, Piero) Aggregation, efficiency and mutual fund separation in incomplete markets. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 443–455. (Summary) **98i:90013** 90A09
De Teresa, Luz *see* **de Teresa, Luz**
De Thélin, François *see* **de Thélin, François**
Dethloff, Gerd-E. (*with* Grauert, Hans) Seminormal complex spaces. (Russian) *Complex analysis. Several variables*, 7 (*Russian*), 237–283, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1996. (*see* **98f:32001**) 32C15 (32C20)
— (*with* Zaidenberg, Mikhail G.) Examples of plane curves of low degrees with hyperbolic and C-hyperbolic complements. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 147–161, *World Sci. Publishing, River Edge, NJ*, 1996. (Eriko Hironaka) **98f:32024** 32H20
— (*with* Bandman, T. M.) Estimates of the number of rational mappings from a fixed variety to varieties of general type. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 3, 801–824. (Luciana Picco Botta) **98h:14016** 14E05 (14J30)
De Trenqualye, Pierre *see* **de Trenqualye, Pierre**
Dette, Holger (*with* Wong, Weng Kee) Optimal Bayesian designs for models with partially specified heteroscedastic structure. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2108–2127. (Aloke Dey) **98k:62131** 62K05
— (*with* Wong, Weng Kee) Robust optimal extrapolation designs. (English summary) *Biometrika* **83** (1996), *no.* 3, 667–680. (Christos P. Kitsos) **98d:62130** 62K05 (62B15, 62F35, 62M20)
— On the generating functions of a random walk on the non-negative integers. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1033–1052. (D. V. Gusak) **98d:60137** 60J15 (33C45)
— (*with* Munk, Axel) Sign regularity of a generalized Cauchy kernel with applications. (English summary) *J. Statist. Plann. Inference* **52** (1996), *no.* 2, 131–142. (Summary) **98c:62029** 62F03 (62K05)
— (*with* Studden, William J.) How many random walks correspond to a given set of return probabilities to the origin? (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 17–30. (Erik A. van Doorn) **98b:60122** 60J10 (60J15)
— (*with* Studden, William J.) ★ The theory of canonical moments with applications in statistics, probability, and analysis. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xx+327 *pp. ISBN* 0-471-10991-6 (Iosif Pinelis) **98k:60020** 60E05 (42C05, 60J15, 62F35, 62K05)
— (*with* Röder, Ingo) Optimal discrimination designs for multifactor experiments. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1161–1175. (Weng Kee Wong) **98f:62222** 62K05
— (*with* Brunner, Edgar; Munk, Axel) Box-type approximations in nonparametric factorial designs. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1494–1502. (Summary) **98m:62136** 62G10 (62K15)
— Designing experiments with respect to "standardized" optimality criteria. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 97–110. (K. G. Russell) **98e:62111** 62K05 (62J05)
— (*with* Neugebauer, H.-M.) Bayesian D-optimal designs for exponential regression models. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 331–349. (Christine Hildegard Müller) **98j:62056** 62K05
— (*with* Fill, James Allen; Pitman, James W.; Studden, William J.) Wall and Siegmund duality relations for birth and death chains with reflecting barrier. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 349–374. (Erik A. van Doorn) **98f:60168** 60J80
— (*with* Röder, Ingo) Correction: "Optimal discrimination designs for multifactor experiments" [Ann. Statist. **25** (1997), no. 3, 1161–1175; MR 98f:62222]. *Ann. Statist.* **26** (1998), *no.* 1, 449. 62K05
Dettmann, C. P. (*with* Cvitanović, Predrag) Cycle expansions for intermittent diffusion. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6687–6692. 58F03
Dettmar, U. (*with* Rashkhofer, R.; Sorger, Ulrich K.) On the complexity of lattices of block and convolutional codes. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 2, 10–21; *translation in Problems Inform. Transmission* **32** (1996), *no.* 2, 145–155. (Irina Bocharova) **98c:94028** 94B15 (94B35)
DeTurck, Dennis (*with* Goldschmidt, Hubert) Aspects of prescribing Ricci curvature. *CR-geometry and overdetermined systems* (*Osaka*, 1994), 60–84, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Kazushige Ueno) **98i:53053** 53C21

Detweiler, Steven L. (*with* Blackburn, James Kent) Slowly evolving black hole binary systems. *Nonlinear problems in relativity and cosmology (Gainesville, FL, 1990)*, 137–142, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83C57
— (*with* Brown, Lee H., Jr.) Post-Minkowski expansion of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 826–841. (Summary) **98f:83024** 83C25
— *see also* **Nonlinear problems in relativity and cosmology, 98g:83001**
Deuber, Walter A. (*with* Zhu, Xu Ding) Circular colorings of weighted graphs. (English summary) *J. Graph Theory* **23** (1996), *no.* 4, 365–376. (Ruth Bari) **98e:05037** 05C15
— (*with* Thumser, Wolfgang) A combinatorial approach to complexity theory via ordinal hierarchies [MR 95i:03124]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 179–192, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 03F15 (03D15, 03D20, 03F30, 06A06)
— (*with* Gunderson, D. S.; Hindman, Neil; Strauss, Dona) Independent finite sums for K_m-free graphs. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 171–198. (Tomasz J. Łuczak) **98d:05140** 05C99
— (*with* Erdős, Paul[1]; Gunderson, D. S.; Kostochka, A. V.; Meyer, Anja G.) Intersection statements for systems of sets. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 118–132. (H. L. Abbott) **98f:05144** 05D05
Deuflhard, Peter (*with* Bornemann, Folkmar A.) The cascadic multigrid method for elliptic problems. (English summary) *Numer. Math.* **75** (1996), *no.* 2, 135–152. (S. F. McCormick) **98a:65175** 65N55 (65F10, 65N30)
Deundyak, V. M. (*with* Simonenko, I. B.) A local method in pairs of L_p-spaces, and the index. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 592–595. (Boris A. Plamenevsky) **98e:47075** 47G30 (46M35, 47A53)
Deuring, Paul Finite element methods for the Stokes system in three-dimensional exterior domains. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 3, 245–269. (Jean-Luc Guermond) **98a:76051** 76M10 (65M60, 76D07)
Deutsch, Emeric A bijection on Dyck paths and its consequences. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 253–256. (Summary) **98g:05011** 05A15
— Corrigendum: "A bijection on Dyck paths and its consequences" [Discrete Math. **179** (1998), no. 1-3, 253–256; MR 98g:05011]. *Discrete Math.* **187** (1998), *no.* 1-3, 297. 05A15
Deutsch, Frank (*with* Li, Wu[3]; Ward, Joseph D.) A dual approach to constrained interpolation from a convex subset of Hilbert space. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 385–414. (H. H. Bauschke) **98m:41050** 41A65 (46C05, 47H15)
— (*with* Hundal, Hein) Two generalizations of Dykstra's cyclic projections algorithm. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 335–355. (J. Borwein) **98b:41033** 41A65 (65J05)
Deutscher, G. (*with* Tsallis, Constantino; Maynard, Roger) On probabilities and information—the envelope game. (English summary) *Rebrape* **10** (1996), *no.* 1, 103–118. (Friedrich Liese) **98a:62011** 62B10 (62A99)
Devabhaktuni, Srikrishna (*with* Beckman, David Eugene; Chari, Amalavoyal N.; Preskill, John) Efficient networks for quantum factoring. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 2, 1034–1063. (Summary) **98b:81026** 81P99 (68Q05)
Devadas, Manjunath V. (*with* Bhoosnurmath, Subhas S.) Subclasses of univalent functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 57–67. (Summary) **98g:30017** 30C45
— (*with* Bhoosnurmath, Subhas S.) Subclasses of Robertson functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 177–185. (Summary) **98f:30010** 30C45
— (*with* Bhoosnurmath, Subhas S.) Subclasses of spirallike functions defined by Ruscheweyh derivatives. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 59–65. (Alan D. Gluchoff) **98g:30018** 30C45
Devaney, Robert L. (*with* Aharonov, Dov; Elias, Uri) The dynamics of a piecewise linear map and its smooth approximation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 351–372. (Víctor Jiménez López) **98f:58156** 58F20 (54H20)
— (*with* Jarque, Xavier) Misiurewicz points for complex exponentials. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1599–1615. (Walter Bergweiler) **98m:58112** 58F23 (30D05)
De Vantier, B. A. (*with* Finn, J. E.) Discrete dispersion relations and Taylor-Galerkin FEM for transport of dispersed fronts. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1997), *no.* 1, 59–70. 76M10 (76R99)
Devasia, S. (*with* Paden, B.) Stable inversion for nonlinear nonminimum-phase time-varying systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 283–288. 93B40 (93B30)
DeVault, R. (*with* Ladas, G.; Schultz, S. W.) Necessary and sufficient conditions for the boundedness of $x_{n+1} = A/x_n^p + B/x_{n-1}^q$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 259–266. (Summary) **98m:39009** 39A10
— (*with* Dial, G.; Kocic, V. L.; Ladas, G.) Global behavior of solutions of $x_{n+1} = ax_n + f(x_n, x_{n-1})$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 311–330. (Summary) **98m:39010** 39A10 (92D40)
Devchand, C. (*with* Nuyts, Jean) Self-duality in generalised Lorentz superspaces. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 259–263. (Summary) **98i:81243** 81T60 (81T13, 83E50)
— (*with* Schiff, Jeremy) Hidden symmetries of the principal chiral model unveiled. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 675–695. (Henrik Aratyn) **98j:58051** 58F07 (81T40)
Devdariani, G. G. On the weighted problem for a second-order elliptic operator with singular coefficients. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 3, 346–349, 429; *translation in Differential Equations* **32** (1996), *no.* 3, 352–355. (Jia Xing Hong) **98a:35048** 35J70
— On systems of elliptic-type equations that degenerate on the entire boundary of a smooth domain. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 592–595. (Vladimir Mityushev) **98k:35078** 35J70 (35J45)
Deveau, Marie-Alix Caractérisation de la fonctionnalité des courbes obtenues par compression de graphe. (English and French summaries) [Characterisation of the functionality of curves obtained by compressing graphs] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 725–730. (Summary) **98b:03093** 03H05 (11J70)
Devecchi, Fernando P. (*with* Henneaux, Marc) Covariant path integral for chiral p-forms. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 2, 1606–1613. (Kostas Skenderis) **98e:81178** 81T70 (81S40, 81T18)
De Veciana, Gustavo (*with* Konstantopoulos, Takis; Zazanis, Michael A.) Conservation laws and reflection mappings with an application to multiclass mean value analysis for stochastic fluid queues. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 139–146. (Summary) **98k:60163** 60K25
De Vega, H. J. *see* **de Vega, H. J.**
Deveney, James K. (*with* Mordeson, John N.) Higher derivation Galois theory of inseparable field extensions. *Handbook of algebra, Vol.* 1, 187–220, *North-Holland, Amsterdam*, 1996. (H. F. Kreimer (Zbl 868.12004)) **98c:12008** 12F15
— (*with* Finston, David R.) On locally trivial $\mathbf{G}_a$-actions. (English summary) *Transform. Groups* **2** (1997), *no.* 2, 137–145. (Lucy Moser-Jauslin) **98h:14056** 14L30
Devenish, B. J. (*with* Fu, Y. B.) The nonlinear evolution of near-neutral and near-body wave modes in a pre-stressed incompressible elastic half-space. I. Upper branch near-neutral modes. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1431–1440. (Summary) **98m:73039a** 73D20 (73D40)
— (*with* Fu, Y. B.) The nonlinear evolution of near-neutral and near-body wave modes in a pre-stressed incompressible elastic half-space. II. Lower branch near-neutral modes. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1441–1455. (Summary) **98m:73039b** 73D20 (73D40)
Dèvenport, Dzh. *see* **Davenport, James Harold**
Devereux, Michael B. Growth, specialization, and trade liberalization. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 565–585. 90A16 (90A60)
Devi, A. R. Usha (*with* Sirsi, Swarnamala; Ramachandran, Gowravaram) Nonlocality in Einstein-Podolsky-Rosen spin correlations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5279–5288. 81P15
Devi, Ramasamy (*with* Balachandran, Krishnan; Maki, Haruo) Generalized α-closed maps and α-generalized closed maps. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 37–49. 54C10
Deville, M. O. *see* **Conference: Computational Fluid Dynamics, Three-dimensional Complex Flows, 98h:76002**
Deville, Robert (*with* El Haddad, E.) The viscosity subdifferential of the sum of two functions in Banach spaces. I. First order case. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 295–308. (Marcin Studniarski) **98f:49018** 49J52 (46G99)
— (*with* Ivanov, Milen) Smooth variational principles with constraints. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 418–426. (J. Borwein) **98m:49016** 49J40 (49J27, 49J52, 58E35)
— (*with* Azagra, Daniel) Subdifferential Rolle's and mean value inequality theorems. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 319–329. (Roxin Zhang) **98h:49016** 49J52 (26D10)
Deville, Y. (*with* Nguyen, Thanh Tung) A distributed arc-consistency algorithm. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 227–250. (*see* **98k:68005**) 68T20 (68Q10)
Devillers, Olivier (*with* Katz, Matthew J.) Optimal line bipartitions of point sets. (English summary) *Algorithms and computation (Osaka, 1996)*, 45–54, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05
— (*with* de Berg, Mark; van Kreveld, Marc; Schwarzkopf, Otfried; Teillaud, Monique) Computing the maximum overlap of two convex polygons under translations. (English summary) *Algorithms and computation (Osaka, 1996)*, 126–135, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05 (52B55)
— (*with* de Berg, Mark; Dobrindt, Katrin; Schwarzkopf, Otfried) Computing a single cell in the overlay of two simple polygons. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 215–219. (Summary) **98h:68220** 68U05
Devillers, Raymond Petri boxes and finite precedence. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 465–480, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68202** 68Q90
De Villiers, J. P. (*with* Frolov, V. P.; Hendy, S.) Rigidly rotating strings in stationary axisymmetric spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1099–1114. (Mark D. Roberts) **98c:83095** 83E30 (81T30, 83C57)
Devinatz, Ethan S. Morava modules and Brown-Comenetz duality. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 741–770. (Haynes R. Miller) **98i:55008** 55N20 (55T15, 55U30)
— A counterexample to a BP-analogue of the chromatic splitting conjecture. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 907–911. (Mark Hovey) **98k:55004** 55N22 (55P60, 55Q10)
De Vincenzo, Salvatore (*with* Alonso, Vidal; Mondino, Luigi) On the boundary conditions for the Dirac equation. (English and Spanish summaries) *European J. Phys.* **18** (1997), *no.* 5, 315–320. 81Q05
Devincre, Benoit (*with* Kubin, Ladislas P.) The modelling of dislocation dynamics: elastic behaviour versus core properties. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2003–2012. (Summary) **98k:82184** 82D25 (82–08, 82D20)
Devine, Karen (*with* Shadid, John N.; Hutchinson, Scott; Hennigan, Gary; Moffat, Harry; Salinger, A. G.) Efficient parallel computation of unstructured finite element reacting flow solutions. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1307–1325. (*see* **98f:76004**) 76M10 (65Y05)
De Vink, E. P. *see* **de Vink, E. P.**
De Viola-Prioli, Ana M. *see* **de Viola-Prioli, Ana M.**
Devito, Carl L. A combinatorial lemma with an application to group theory. *Math. Student* **64** (1995), *no.* 1-4, 87–88 (1996). 20D60
— A non-linear model for time. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 357–369. (Helmuth K. Urbantke) **98g:51015** 51P05 (70A05, 83A05)
— A non-linear model for time [MR 98g:51015]. (English summary) *Modern mathematical models of time and their applications to physics and cosmology (Tucson, AZ, 1996)*, 357–369, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 81P05 (00A79, 83A05)
De Vito, Ernesto (*with* Cassinelli, Gianni; Levrero, Alberto) On the decompositions of a quantum state. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 472–483. (S. Gudder) **98f:81028** 81P15 (46N50, 47N50)
— (*with* Cassinelli, Gianni; Levrero, Alberto) Integrability of the quantum adiabatic evolution and geometric phases. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6101–6118. (Péter Pál Lévay) **98i:81068** 81Q99 (47N50, 58F40, 81S10)

— (*with* Cassinelli, Gianni; Lahti, Pekka J.; Levrero, Alberto) Symmetry groups in quantum mechanics and the theorem of Wigner on the symmetry transformations. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 921–941. (S. Gudder) **98k:81082** 81R05 (22E70)

De Vito, Paola (*with* Lo Re, Pia Maria) Planar spaces on v points with $v+2$ planes. (Italian. English and Italian summaries) *Ricerche Mat.* **45** (1996), *no.* 1, 131–155. (Harald Löwe) **98h:51023** 51E26 (05B25)

De Vivo, Clorinda (*with* Russo, Alessio) On groups satisfying an extremal condition on subgroups. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 37–48. (Gary L. Walls) **98i:20024** 20E07 (20D35)

Devlin, Keith (*with* Rosenberg, Duska) ★ Language at work. (English summary) Analyzing communication breakdown in the workplace to inform systems design. CSLI Lecture Notes, 66. *CSLI Publications, Stanford, CA*, 1996. viii+212 *pp. ISBN* 1-57586-051-1 68S05 (03B65)

— Good-bye Descartes? *Math. Mag.* **69** (1996), *no.* 5, 344–349. (Pierre Crépel) **98f:00005** 00A30 (01A99)

— ★ Goodbye, Descartes. (English summary) The end of logic and the search for a new cosmology of the mind. *John Wiley & Sons, Inc., New York*, 1997. xii+301 *pp. ISBN* 0-471-14216-6 (A. A. Mullin) **98c:00003** 00A30 (03A05, 68T01, 68T30)

— The logical structure of computer-aided mathematical reasoning. *Amer. Math. Monthly* **104** (1997), *no.* 7, 632–646. (Zh. A. Chernyak) **98j:00010** 00A35 (03A05, 03F03)

De Voltaire *see* **de Voltaire**

De Vos, J. C. (*with* van de Ven, A. A. F.) The Golden-Ten equations of motion. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 281–304. (Summary) **98i:70002** 70E99 (70K99)

De Vries, Fer-Jan *see* **de Vries, Fer-Jan**

De Vries, Heiko *see* **de Vries, Heiko**

De Vrijer, R. C. *see* **de Vrijer, R. C.**

Devroye, Luc (*with* Cao-Abad, R.) The consistency of a smoothed minimum distance estimate. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 405–418. (G. Roussas) **98g:62059** 62G05 (62G07, 62G20)

— On the richness of the collection of subtrees in random binary search trees. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 195–199. (Summary) **98m:68041** 68P05

De Vylder, F. (*with* Marceau, E.) The numerical solution of the Schmitter problems: theory. (English summary) *Insurance Math. Econom.* **19** (1996), *no.* 1, 1–18. (Jozef L. Teugels) **98f:62295** 62P05 (26B25)

— (*with* Marceau, E.) Classical numerical ruin probabilities. (English summary) *Scand. Actuar. J.* **1996**, *no.* 2, 109–123. (Summary) **98f:62296** 62P05

— (*with* Goovaerts, M. J.; Marceau, E.) The solution of Schmitter's simple problem: numerical illustration. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 1, 43–58. 62P05

— (*with* Goovaerts, M. J.; Marceau, E.) The bi-atomic uniform minimal solution of Schmitter's problem. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 1, 59–78. (Summary) **98c:62196** 62P05

Dew, P. M. (*with* Selwood, P. M.; Berzins, Martin) 3D parallel mesh adaptivity: data-structures and algorithms. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*). *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55

De Waal, D. J. *see* **de Waal, D. J.**

Dewaghe, L. Remarks on the Schoof-Elkies-Atkin algorithm. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1247–1252. (Nigel P. Smart) **98m:11062** 11G20 (11Y16)

Dewan, Isha (*with* Prakasa Rao, B. L. S.) Remarks on the strong law of large numbers for a triangular array of associated random variables. (English summary) *Metrika* **45** (1997), *no.* 3, 225–234. (Zdzisław Rychlik) **98f:60057** 60F15

Dewanji, Anup Some issues related to estimation of component life time distributions in a coherent system. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 91–105. 62N05

Dewar, Michael C. Symbolic-numeric interfaces. *Annual reviews of computational physics, I*, 309–347, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98b:82001** 82-04 (65Y99, 68Q40, 82B80, 82C80)

Dewar, R. L. (*with* Hudson, S. R.) Stellarator symmetry. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 275–280. (Summary) **98m:76165** 76X05 (58F40)

Dewdney, Chris (*with* Horton, George) De Broglie, Bohm and the boson. *Bohmian mechanics and quantum theory: an appraisal*, 169–189, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81-03 (01A60, 81P05)

De Weger, Benjamin M. M. *see* **de Weger, Benjamin M. M.**

De Weger, John *see* **de Weger, John**

De Werra, Dominique *see* **de Werra, Dominique**

Dewey, T. Gregory Algorithmic complexity and thermodynamics of fractal growth processes. (English summary) *Fractals* **5** (1997), *no.* 4, 697–706. (Summary) **98k:82105** 82C03 (68Q30)

De Wild Propitius, Mark *see* **de Wild Propitius, Mark**

De Win, Erik (*with* Bosselaers, Antoon; Vandenberghe, Servaas; De Gersem, Peter; Vandewalle, Joos) A fast software implementation for arithmetic operations in GF(2^n). (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 65–76, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (68P25, 68Q40)

— (*with* Rijmen, Vincent; Preneel, Bart) On weaknesses of non-surjective round functions. (English summary) Selected areas in cryptography (Ottawa, ON, 1995). *Des. Codes Cryptogr.* **12** (1997), *no.* 3, 253–266. (Summary) **98e:94022** 94A60

De Wit, Bernard *see* **de Wit, Bernard**

DeWitt, B. (*with* Molina-Paris, C.) Gauge theory without ghosts. (English summary) *Functional integration (Cargèse, 1996)*, 327–361, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (R. Delbourgo) **98k:81168** 81T15 (58D30, 58Z05, 81T13, 81T18)

De Witt, Jan *see* **de Witt, Jan**

Dewitt-Morette, Cecile (*with* Cartier, Pierre) A rigorous mathematical foundation of functional integration. (English summary) With an appendix by David Collins. *Functional integration (Cargèse, 1996)*, 1–50, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (John I. LaChapelle) **98k:58040** 58D30 (46G12, 46N50, 81S40)

— (*with* Cartier, Pierre) Physics on and near caustics. (English summary) *Functional integration (Cargèse, 1996)*, 51–66, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (John I. LaChapelle) **98k:58053** 58E10 (58C28)

— (*with* Wu-Morrow, Xiao-Rong; Rozansky, Lev) Chern numbers and Green's functions in solid state physics. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 11, 1389–1410. (Summary) **98i:81289** 81V70 (82D20)

— *see also* **Functional integration, 98e:58004**

De Wolf, Ronald *see* **de Wolf, Ronald**

De-Xue, Zhang *see* **Zhang, De Xue**

Dey, Aloke (*with* Midha, Chand K.) Optimal block designs for diallel crosses. (English summary) *Biometrika* **83** (1996), *no.* 2, 484–489. (William I. Notz) **98a:62099** 62K05 (62K10)

— (*with* Midha, Chand K.; Buchthal, D. C.) Efficiency of the residual design under the loss of observations in a block. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 237–248, xiii. (Sanpei Kageyama) **98h:62120** 62K10 (05B05)

— (*with* Midha, Chand K.) A note on resolvable incomplete block designs. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 2, 81–84. (Summary) **98f:62230** 62K10

— (*with* Balasubramanian, Krishnaswami) Distributions characterized through conditional expectations. (English summary) *Metrika* **45** (1997), *no.* 3, 189–196. (Moshe Shaked) **98g:60023** 60E05 (62E10)

Dey, Aswini K. (*with* Martin, Clyde F.; Ruymgaart, Frits H.) Input recovery from noisy output data, using regularized inversion of the Laplace transform. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1125–1130. 94A12

Dey, Bishwajyoti Compacton solutions for a class of two parameter generalized odd-order Korteweg-de Vries equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4733–4738. 35Q53

Dey, Dipak K. (*with* Peng, Fengchun) Elimination of nuisance parameter using information measure. (English summary) *Purisankhyan Samikkha* **2** (1995), *no.* 2, 9–29. 62F15 (62B10)

— (*with* Ghosh, Sujit K.; Lou, Kou-Ren) On local sensitivity measures in Bayesian analysis. (English summary) With a discussion by Isabella Verdinelli and rejoinder by the authors. *Bayesian robustness (Rimini, 1995)*, 21–39, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98i:62001** 62A15 (62F15)

— (*with* Chung, Younshik) Bayes factor for change-point problem with conjugate prior. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 577–588. (Summary) **98a:62033** 62F15

— (*with* Purkayastha, Sumitra) Bayesian approach to change point problems. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 2035–2047. 62F15

— (*with* Sinha, Debajyoti) Semiparametric Bayesian analysis of survival data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1195–1212. (Summary) **98h:62065** 62G05 (62N05)

— (*with* Larose, Daniel T.) Modeling publication bias using weighted distributions in a Bayesian framework. (English summary) *Comput. Statist. Data Anal.* **26** (1998), *no.* 3, 279–302. 62F15

— (*with* Gangopadhyay, Ashis K.; Disario, Robert) A nonparametric approach to k-sample inference based on entropy. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 3, 237–252. (Summary) **98g:62084** 62G10 (62B10)

Dey, Jyotirmoy (*with* Das, Debopam) A note on the linear instability of the Blasius flow. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 253–258. 76E05 (76D10)

Dey, Saikat (*with* Turner, W. D.; Flaherty, Joseph E.; Shephard, Mark S.) Multilevel preconditioned QMR methods for unstructured mesh computation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 339–351. (*see* **98f:73002**) 65F10 (65N30)

— (*with* Shephard, Mark S.; Flaherty, Joseph E.) Geometry representation issues associated with p-version finite element computations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 39–55. (Summary) **98i:65096** 65N30

Dey, Subhrakanti (*with* Moore, John Barratt) Risk-sensitive filtering and smoothing via reference probability methods. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1587–1591. (George Yin) **98f:93020** 93E11 (93E20)

— (*with* Moore, John Barratt) Risk-sensitive dual control. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1047–1055. 93E20

Dey, Suhrit K. *see* **Recent advances in mathematical and computational studies in demography, 98i:92052**

Dey, Tamal Krishna (*with* Aronov, Boris; Davis, Alan R.; Pal, Sudebkumar P.; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 284–295, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68U05

— (*with* Pach, János) Extremal problems for geometric hypergraphs. *Algorithms and computation (Osaka, 1996)*, 105–114, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:05135** 05C65 (68R10, 68U05)

— (*with* Dillencourt, Michael B.; Ghosh, Subir Kumar; Cahill, Jason M.) Triangulating with high connectivity. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 39–56. (Summary) **98c:65214** 65Y25

— Efficient algorithms to detect null-homologous cycles on 2-manifolds. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 167–174. (Summary) **98c:57022** 57Q15 (57N05)

— Improved bounds for planar k-sets and related problems. (English summary) Dedicated to the memory of Paul Erdös. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 373–382. (Summary) **98k:52018** 52A37 (52B30, 52B55, 52C10)

Deyirmenjian, V. B. (*with* Daya, Zahir A.; Morris, Stephen W.) Weakly nonlinear analysis of electroconvection in a suspended fluid film. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1706–1713. (Summary) **98e:76038** 76E25 (76A15, 76E15, 76E30)

Deza, Antoine (*with* Deza, Michel-Marie) The combinatorial structure of small cut and metric polytopes. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*,

70–88, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:90051** 90C27 (05C10)

— (*with* Deza, Michel-Marie; Fukuda, Komei) On skeletons, diameters and volumes of metric polyhedra. (English summary) *Combinatorics and computer science (Brest, 1995)*, 112–128, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90107** 90C27 (52B12)

Deza, Michel-Marie (*with* Deza, Antoine) The combinatorial structure of small cut and metric polytopes. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 70–88, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:90051** 90C27 (05C10)

— (*with* Deza, Antoine; Fukuda, Komei) On skeletons, diameters and volumes of metric polyhedra. (English summary) *Combinatorics and computer science (Brest, 1995)*, 112–128, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90107** 90C27 (52B12)

— (*with* Grishukhin, V. P.) Bounds on the covering radius of a lattice. (English summary) *Mathematika* **43** (1996), *no.* 1, 159–164. (Christine Bachoc) **98b:11074** 11H31 (52C07)

— (*with* Shtogrin, M. I.) Isometric embeddings of semiregular polyhedra, partitions and their duals into hypercubes and cubic lattices. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 199–200; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1193–1194. (Béla Uhrin) **98d:52012** 52B05 (05C10)

— (*with* Laurent, Monique) ★ Geometry of cuts and metrics. (English summary) Algorithms and Combinatorics, 15. *Springer-Verlag, Berlin*, 1997. xii+587 *pp. ISBN* 3-540-61611-X (Alexander I. Barvinok) **98g:52001** 52-02 (05B30, 05C12, 51K05, 52B12, 52C07, 68R05, 90C28)

— (*with* Grishukhin, V. P.) Lattice points of cut cones [MR 95i:52017]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 193–216, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 52C07

— (*with* Chepoi, V. D.; Grishukhin, V. P.) Clin d'oeil on L_1-embeddable planar graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 3–19. (Hiroshi Maehara) **98j:05057** 05C10

— (*with* Grishukhin, V. P.) The skeleton of the 120-cell is not 5-gonal. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 205–210. (Béla Uhrin) **98d:52013** 52B05 (05C75)

— (*with* Shtogrin, M. I.) Embedding of graphs into hypercubes and cubic lattices. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 155–156; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1292–1293. 05C10

Deza, R. (*with* Bellini, Mauricio; Giovanbattista, N.) Exact travelling annular waves in generalized reaction-diffusion equations. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 200–206. 35K57 (81U30)

Dezani-Ciancaglini, Mariangiola (*with* de'Liguoro, Ugo; Piperno, Adolfo) Filter models for conjunctive-disjunctive λ-calculi. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 83–128. (Summary) **98c:68126** 68Q55 (03B40, 68Q10)

— *see also* **Typed lambda calculi and applications, 98e:03020**

De Zeeuw, P. M. *see* **de Zeeuw, P. M.**

Dezin, Aleksei A. ★ Multidimensional analysis and discrete models. Translated from the Russian by Irene Aleksanova. *CRC Press, Boca Raton, FL*, 1995. viii+244 *pp. ISBN* 0-8493-9425-2 (Jules Beckers) **98b:00015** 00A73 (53-02, 58-02, 81P99)

— The Schrödinger equation and Feynman dynamics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 96–106, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 97–107. (Summary) **98m:81028** 81Q10 (35J10, 81S40)

De Zutter, D. (*with* Knockaert, Luc; Olyslager, Frank) The diaphanous wedge. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 9, 1374–1381. (Summary) **98h:78014** 78A45 (33C90)

Dhaene, Geert ★ Encompassing. Formulation, properties and testing. Lecture Notes in Economics and Mathematical Systems, 446. *Springer-Verlag, Berlin*, 1997. x+160 *pp. ISBN* 3-540-61890-2 (Kajal Lahiri) **98d:62193** 62P20

Dhaene, J. (*with* Goovaerts, M. J.) Actuarial applications of financial models. (English summary) Mathematics of finance, Part II. *CWI Quarterly* **10** (1997), *no.* 1, 55–64. (Summary) **98e:90027** 90A09

— (*with* Goovaerts, M. J.) On the dependency of risks in the individual life model. (English summary) *Insurance Math. Econom.* **19** (1997), *no.* 3, 243–253. (Summary) **98d:62188** 62P05

Dhagat, V. B. (*with* Sharma, Birendra Kumar; Gupta, Gupteshwar) An extension of Delbosco's result. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 367–370. 54H25

Dhage, B. C. On generalized metric spaces and topological structure. II. (English summary) *Pure Appl. Math. Sci.* **40** (1994), *no.* 1-2, 37–41. (Summary) **98b:54038** 54E25

— (*with* Sharma, Sushil) On generalized one-point contraction mappings. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 89–94 (1996). 54H25 (54E40)

— General existence principles for first order discontinuous ordinary differential equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 617–624. (S. A. Brykalov) **98e:34006** 34A12

— Generalized multi-valued contractions and condensing mappings in D-metric spaces. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 9–20. 54H25 (54C60, 54E40)

Dhaliwal, Ranjit S. (*with* Wang, Jun[4]; Majumdar, Samir R.) Some theorems in the generalized theory of thermoelasticity for prestressed bodies. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 267–275. (J. Ignaczak) **98c:73016** 73B30 (73C15)

D'Halluin, Cyrille (*with* Denis, François; Gilleron, Rémi) PAC learning with simple examples. (English summary) *STACS 96 (Grenoble, 1996)*, 231–242, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68134** 68Q30 (68T05)

Dhamankar, Rohit (*with* Balakrishnan, Radha) Exact nonlinear spin waves in some models of interacting classical spins on a one-dimensional lattice. (English summary) *Phys. Lett. A* **237** (1997), *no.* 1-2, 73–79. 82B20

Dhana Balan, A. P. (*with* Chandrasekhara Rao, K.) Some functions on a topological space. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 49–55. 54A40 (54C08)

Dhanak, Manhar R. (*with* Duck, Peter W.) The effects of freestream pressure gradient on a corner boundary layer. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1793–1815. (Summary) **98i:76024** 76D10

Dhanawittayapol, Rujikorn (*with* Gates, S. James, Jr.; Rana, Lubna) A canticle on (4, 0) supergravity-scalar multiplet systems for a "cognoscente". (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 264–272. (J. A. H. Samtleben) **98a:83121** 83E50 (81V17)

Dhanda, K. K. (*with* Nagurney, Anna) Variational inequalities for marketable pollution permits with technological investment opportunities: the case of oligopolistic markets. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 1–25. (Summary) **98e:90059** 90A60 (49J40)

Dhanoa, M. S. (*with* de France, J. F.; Dijkstra, Jan; Baldwin, R. L.) Biomathematical applications in ruminant nutrition. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 241–258. (*see* **98i:92001**) 92C99

Dhar, Avinash The emergence of space-time gravitational physics as an effective theory from the $c = 1$ matrix model. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 277–291. (Summary) **98h:83088** 83E30 (81T30)

— (*with* David, Justin R.; Mandal, Gautam; Wadia, Spenta R.) Observability of quantum state of black hole. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 39–48. (Summary) **98c:83045** 83C47 (81T20, 83C57, 83E30)

— (*with* David, Justin R.; Mandal, Gautam) Probing type I′ string theory using D0 and D4-branes. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 135–143. (Summary) **98j:81265** 81T30

Dhar, Deepak (*with* Barma, Mustansir) Deposition and evaporation of k-mers: dynamics of a many-sector decomposable system. (English summary) *STATPHYS 19 (Xiamen, 1995)*, 72–84, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82C22 (82-02)

— (*with* Shukla, Prabodh; Sethna, James P.) Zero-temperature hysteresis in the random-field Ising model on a Bethe lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5259–5267. 82C20 (82C44)

— (*with* Koduvely, Hari M.) A model of subdiffusive interface dynamics with a local conservation of minimum height. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 57–77. (Summary) **98k:82059** 82B24 (82-04)

Dhar, Raj Shree On meromorphic functions that share values. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 207–217. (Jian-Hua Zheng) **98i:30044** 30D35

Dhar, Subhankar (*with* Mukherjea, Arunava) Convergence in distribution of products of i.i.d. nonnegative matrices. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 375–393. (Göran Högnäs) **98f:60005** 60B15 (15A51, 28C10, 60F05, 60J15)

Dharmadhikari, A. D. (*with* Chaudhuri, Gopal; Deshpande, Jayant V.) A lower bound on the L-class of life distributions and its applications. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 269–274. (Summary) **98b:60034** 60E15

Dharmaraja, S. (*with* Conolly, B. W.; Parthasarathy, P. R.) A chemical queue. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 83–91. (Summary) **98h:60125** 60J85 (80A30)

Dhatt, Gouri (*with* Henchi, Kamel; Talbot, Martin; Fafard, Mario) Comportement dynamique des poutres continues sollicitées par des charges mobiles. Approches semi-analytiques et éléments finis. (English and French summaries) [Dynamical behavior of continuous beams subject to moving loads. Semianalytic and finite-element approaches] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 165–195. 73K05 (73V05)

Dhersin, Jean-Stéphane (*with* Le Gall, Jean-François) Wiener's test for super-Brownian motion and the Brownian snake. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 1, 103–129. (John Verzani) **98j:60105** 60J45 (35J65, 60G57, 60J55)

Dhieb, Semi (*with* Ludwig, Jean) Caractérisation des convoluteurs de Schwartz des groupes de Lie nilpotents. (English and French summaries) [Characterization of the Schwartz multipliers of nilpotent Lie groups] *J. Funct. Anal.* **144** (1997), *no.* 1, 46–63. (Jacek Cygan) **98f:22009** 22E25 (43A22)

Dhillon, Ajneet (*with* Sun, Shu-Hao) Prime spectra of additive categories. I. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 135–157. (Summary) **98i:18005** 18E05 (18F10, 18F20)

Dhillon, Amrita (*with* Mertens, Jean-François) An impossibility theorem with von Neumann-Morgenstern preferences. (English summary) *Econom. Lett.* **56** (1997), *no.* 3, 305–309. (Summary) **98k:90004** 90A08 (90A10)

Dhillon, Balbir S. (*with* Yang, N.) Stochastic analysis of an active-standby redundant network with two types of common-cause failures. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 313–325. (Summary) **98b:90056** 90B25

Dhillon, Inderjit S. (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dongarra, Jack; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

D'Hoker, Eric (*with* Mimura, Yukihiro; Sakai, Norisuke) Gauge symmetry breaking through soft masses in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7724–7740. (Summary) **98a:81220** 81T60 (81R40, 81T13, 81V05)

— (*with* Aoki, Kenichiro) High energy scattering of non-critical strings. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1253–1263. (Summary) **98h:81090** 81T30

— (*with* Krichever, Igor Moiseevich; Phong, D. H.) The effective prepotential of $N = 2$ supersymmetric SU(N_c) gauge theories. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 179–210. (Peter R. Johnson) **98f:81316** 81T60 (14H52, 81T13)

— (*with* Krichever, Igor Moiseevich; Phong, D. H.) The effective prepotential of $N = 2$ supersymmetric SO(N_c) and Sp(N_c) gauge theories. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 211–222. (Peter R. Johnson) **98f:81317** 81T60 (14H52, 81T13)

— (*with* Aoki, Kenichiro) Non-critical strings at high energy. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 40–74. (Leonidas Sandoval, Jr.) **98g:81148** 81T30 (81T40)

— (*with* Krichever, Igor Moiseevich; Phong, D. H.) The renormalization group equation in $N = 2$ supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 89–104. (Henrik Aratyn) **98c:81214** 81T60 (81T13, 81T17)

— (*with* Phong, D. H.) Strong coupling expansions of SU(N) Seiberg-Witten theory. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 94–103. (Tomasz Brzeziński) **98f:81318** 81T60 (81T13)

Dholakia, Ajay (*with* Bitzer, Donald L.; Koorapaty, Havish; Vouk, Mladen A.) On locally invertible rate-1/n convolutional encoders. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 420–422. 94B99

Dhombres, Jean (*with* Julia, Dominique) Les repères d'une culture mathématique vers 1800: le témoignage de deux listes de livres. (English summary) [Image of the mathematical culture around 1800 as reflected in two lists of books] *Rir. Stor. Sci.* (2) **1** (1993), *no.* 1, 1–83. (Pierre Crépel) **98g:01034** 01A50 (00A15, 01A55, 01A80)
— La culture mathématique au temps de la formation de Desargues: le monde des coniques. [Mathematical culture during Desargues's formative years: the world of conics] *Desargues en son temps*, 55–85, *Libr. Sci. A. Blanchard, Paris*, 1994. (Pierre Crépel) **98g:01029** 01A45
— Le journal professionnel aux XIXème siècle: enjeux généraux d'une enquête en cours. (English summary) [Professional journals in the nineteenth century: general elements of an ongoing inquiry] *Riv. Stor. Sci.* (2) **2** (1994), *no.* 2, 99–136 (1995). 01A80
— *see also* **Martzloff, Jean-Claude**, **98a:01005** *and* **Desargues and his times**, **98b:01001**
Dhompongsa, Sompong (*with* Nguyen Van Sanh) On modules of finite length. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2301–2309. (Dinh Van Huynh) **98d:16002** 16D40 (16P20)
Dhondt, Guido (*with* Köhl, Manfred) On the force between a dielectric cylinder in a constant electric field and a conducting half space. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 347–359. (Summary) **98c:78012** 78A30
D'Hooghe, Bart (*with* Aerts, Diederik) Operator structure of a nonquantum and nonclassical system. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2285–2298. (S. Gudder) **98b:81017** 81P15 (81P10)
— (*with* Aerts, Diederik; Aerts, Sven; Coecke, Bob; Durt, Thomas; Valckenborgh, Frank) A model with varying fluctuations in the measurement context. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 7–9, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)
— (*with* Aerts, Diederik; Coecke, Bob; Valckenborgh, Frank) A mechanistic macroscopic physical entity with a three-dimensional Hilbert space description. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 793–802. (M. J. Mączyński) **98i:81011** 81P10
Dhooghe, Paul F. Multilocal invariants. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid*, 1995), 121–137, *World Sci. Publishing, River Edge, NJ*, 1996. (Allen Tannenbaum) **98b:58010** 58A20 (53A55)
Dhrymes, Phoebus J. Identification and Kullback information in the GLSEM. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 163–184. (Summary) **98m:62300** 62P20 (62B10)
D'Humières, D. *see* **d'Humières, D.**
Dhurandhar, Sanjeev *see* **Gravitation and cosmology**, **98b:83002**
Dhyani, Indu (*with* Jain, Madhu) A finite-multiserver queueing system with non-preemptive priorities. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 45–55. 60K25
Di, Ji Zheng A class of combinatorial formulas and the moments of B-type operators. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 426–432. 05A19
Di, Simon (*with* Poliquin, René A.) Optimality conditions for max-type nonsmooth minimization problems. (English summary) *Optimization* **41** (1997), *no.* 3, 219–236. (Summary) **98e:49035** 49J52 (90C30)
Di, Xiaojun (*with* Bleher, Pavel M.) Correlations between zeros of a random polynomial. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 269–305. (Kambiz Farahmand) **98m:60078** 60G99 (26C99, 60K99)
Dia, Boun Oumar (*with* Schatzman, Michelle) An estimate of the Kac transfer operator. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 108–135. (J. A. Van Casteren) **98b:47057** 47D06 (35J25, 35P05, 47F05, 47N20)
Diab, F. M. On the differential properties of complex continuous mappings. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 101–108 (1994). 30A05 (26A15)
— On the differential properties of complex continuous functions. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 95–102 (1994). 30A05 (26B05)
— About the analyticity conditions for complex continuous functions. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 103–110 (1994). (Summary) **98f:30002** 30A05
— On directional monogeneity sets. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 517–522; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 4, 569–575 (1998). (Wazir Hasan Abdi) **98k:30001** 30A05
Diab, Mahmoud (*with* Sreeram, V.; Liu, Wan Quan) Frequency weighted identification and model reduction via extended impulse response Gramian. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 103–122. 93B30 (93C80)
Diaconescu, Duiliu-Emanuel D-branes, monopoles and Nahm equations. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 220–238. (Roger Bielawski) **98m:58015** 58D27 (53C07, 81T30, 81T60)
— (*with* Entin, Rami) Nonrenormalization theorem for the $d = 1$, $\mathcal{N} = 8$ vector multiplet. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8045–8052. (Summary) **98k:83082** 83E30 (81T30, 83E50)
Diaconescu, Răzvan Foundations of behavioural specification in rewriting logic. (English summary) *First International Workshop on Rewriting Logic and its Applications* (*Pacific Grove, CA*, 1996), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (Summary) **98i:68186** 68Q60 (03B70, 68Q42)
— Category-based modularisation for equational logic programming. (English summary) *Acta Inform.* **33** (1996), *no.* 5, 477–510. (Summary) **98f:68043** 68N17 (03C05, 03C95, 03G30, 68Q55)
Diaconis, Persi (*with* Kemperman, J.) Some new tools for Dirichlet priors. (English summary) *Bayesian statistics*, 5 (*Alicante*, 1994), 97–106, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (James M. Dickey) **98i:62021** 62F15 (62G05)
— (*with* Blackwell, David) A non-measurable tail set. *Statistics, probability and game theory*, 1–5, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (K. P. S. Bhaskara Rao) **98m:28001** 28A05
— (*with* Holmes, Susan) Are there still things to do in Bayesian statistics? (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 145–158. (I. J. Good) **98i:62002** 62A15
— (*with* Saloff-Coste, Laurent) Walks on generating sets of abelian groups. (English summary) *Probab. Theory Related Fields* **105** (1996), *no.* 3, 393–421. (Ursula Porod) **98a:60093** 60J10 (60K35)
— (*with* Freedman, D. A.) Consistency of Bayes estimates for nonparametric regression: a review. (English summary) *Festschrift for Lucien Le Cam*, 157–165, *Springer, New York*, 1997. (Somnath Datta) **98i:62026** 62G05 (62F15)
Diaconu, Adrian On the convergence of an iterative proceeding of Chebyshev type. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 91–102. (Xiaojun Chen) **98m:65103** 65J15
Diacu, Florin (*with* Holmes, Philip J.) ★ Celestial encounters. (English summary) The origins of chaos and stability. *Princeton University Press, Princeton, NJ*, 1996. xviii+234 *pp. ISBN* 0-691-02743-9 (Jaume Llibre) **98e:70006** 70F15 (00A69, 01A05, 58–03, 70–03, 70F10, 70K20, 70K50)
Diagana, Y. (*with* Sangaré, Daouda; Dichi, Henri) Filtrations, generalized analytic independence, analytic spread. (English summary) *Afrika Mat.* (3) **4** (1994), 101–114. (P. Schenzel) **98f:13003** 13A30 (13B21)
Diakonos, F. K. (*with* Schmelcher, P.) Turning point properties as a method for the characterization of the ergodic dynamics of one-dimensional iterative maps. (English summary) *Chaos* **7** (1997), *no.* 2, 239–244. 58F11
— (*with* Schmelcher, P.) A turning point analysis of the ergodic dynamics of iterative maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2459–2474. 58F03 (58F11)
Dial, G. (*with* DeVault, R.; Kocic, V. L.; Ladas, G.) Global behavior of solutions of $x_{n+1} = ax_n + f(x_n, x_{n-1})$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 311–330. (Summary) **98m:39010** 39A10 (92D40)
Diamantini, M. C. Compact gauge theories of open p-branes. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1237–1241. (*see* **98f:81010**) 81T30 (83E30)
— (*with* Quevedo, Fernando; Trugenberger, Carlo A.) Confining strings with topological term. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 115–121. (Summary) **98a:81162** 81T30 (81T13)
Diamond, Beverly (*with* Barge, Marcy) Inverse limit spaces of infinitely renormalizable maps. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 103–108. (Leonard R. Rubin) **98j:54057** 54F15 (54B35, 58F12)
Diamond, Fred The Taylor-Wiles construction and multiplicity one. *Invent. Math.* **128** (1997), *no.* 2, 379–391. (Ian Kiming) **98c:11047** 11F80 (11G18, 13C15, 14F25)
— Congruences between modular forms: raising the level and dropping Euler factors. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11143–11146. (Ian Kiming) **98m:11033** 11F33 (11F67, 11F80)
Diamond, Phillip Morris (*with* Pokrovskiĭ, A. V.) Statistical laws for computational collapse of discretized chaotic mappings. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12A, 2389–2399. (Summary) **98b:58108** 58F13 (58F03)
— (*with* Kloeden, Peter E.; Pokrovskiĭ, A. V.) Collapsing effects in computation of dynamical systems. (English summary) With comments by I. Marcels. *Control and chaos* (*Honolulu, HI*, 1995), 60–90, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Mark J. Friedman) **98h:65032** 65L07 (58F03, 60G99, 65C20)
— (*with* Kloeden, Peter E.; Pokrovskiĭ, A. V.) Absolute retracts and a general fixed point theorem for fuzzy sets. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 377–380. (Summary) **98a:54003** 54A40 (04A72)
— (*with* Kloeden, Peter E.; Rubinov, Aleksandr M.; Vladimirov, A. A.) Comparative properties of three metrics in the space of compact convex sets. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 267–289. (Constantin Zălinescu) **98m:52004** 52A20 (04A72, 58C06, 90C25)
— (*with* Kloeden, Peter E.; Kozyakin, V. S.; Pokrovskiĭ, A. V.) Monotonic dynamical systems under spatial discretization. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2169–2174. (Hal Leslie Smith) **98h:58100** 58F08
— *see also* **Sparrow, Colin**, **98b:58130**
Dianin, S. I. (*with* Shirokov, I. V.) Application of the recursion operator in the problem of stability. Asymptotic distribution of a magnetic field in a long Josephson junction. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 7, 37–43; *translation in Russian Phys. J.* **40** (1997), *no.* 7, 624–629 (1998). (Summary) **98j:78028** 78A55 (35Q60)
Diao, Bai Qing (*with* He, Guo Ping; Gao, Zi You) An SQP algorithm with nonmonotone line search for general nonlinear constrained optimization problem. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 179–192. (Summary) **98c:90133** 90C30 (65K05)
Diao, Yuanan Unsplittability of random links. (English summary) *Random knotting and linking* (*Vancouver, BC*, 1993), 147–157, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:57009** 57M25
— (*with* Pippenger, Nicholas; Sumners, De Witt) On random knots. (English summary) *Random knotting and linking* (*Vancouver, BC*, 1993), 187–197, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:57010** 57M25
— (*with* Ernst, Claus Dieter; Janse van Rensburg, E. J.) In search of a good polygonal knot energy. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 633–657. (Anders Linnér) **98j:58027** 58E10 (57M25)
Diao, Zai Yun Interior point algorithms and dynamical systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 367–371. 93C05
Diarra, Bertin (*with* Escassut, Alain; Sarmant-Durix, Marie-Claude) p-adic characters on the restricted power series. (English summary) *p-adic functional analysis* (*Nijmegen*, 1996), 81–93, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Wim H. Schikhof) **98i:26029** 26E30 (30G06)
— Base de Mahler et autres. [The Mahler basis and other bases] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 16, 18 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (Ann Verdoodt) **98e:46093** 46S10 (12J25, 47S10)
— *see also* **Sarmant-Durix, Marie-Claude**, (**98a:00009**)
Dias, Danielle (*with* Le Barz, Patrick) ★ Configuration spaces over Hilbert schemes and applications. Lecture Notes in Mathematics, 1647. *Springer-Verlag, Berlin*, 1996. viii+143 *pp. ISBN* 3-540-62050-8 (S. L. Kleiman) **98j:14001** 14C05 (14C17)
Dias, Frédéric (*with* Laget, O.) Numerical computation of capillary-gravity interfacial solitary waves. (English summary) *J. Fluid Mech.* **349** (1997), 221–251. (Shu Ming Sun) **98m:76025** 76B25 (35Q35, 76B15, 76B45, 76M25)

— (*with* Daboussy, D.; Vanden-Broeck, Jean-Marc) On explicit solutions of the free-surface Euler equations in the presence of gravity. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2828–2834. (Summary) **98g:76018** 76C99 (76M25)

— (*with* Daboussy, D.; Vanden-Broeck, Jean-Marc) Gravity flows with a free surface of finite extent. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 1, 19–31. (Summary) **98m:76012** 76B10

— (*with* Akylas, T. R.; Grimshaw, Roger H. J.) The effect of the induced mean flow on solitary waves in deep water. (English summary) *J. Fluid Mech.* **355** (1998), 317–328. (Summary) **98k:76008** 76B15 (76B25)

Dias, João-Paulo (*with* Figueira, Mário) On a class of solutions for the simplified Wheeler-DeWitt equation with a massless single scalar field. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 145–155. (Jürgen Tolksdorf) **98g:83037** 83C45 (35Q75)

— (*with* Figueira, Mário) A remark on the blow-up of the solutions of the equation $u_t + f(x)a(u)u_x = h(x,u)$. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 385–391. (Fumioki Asakura) **98f:35103** 35L67 (35B05)

Dias, N. G. J. (*with* Brown, B. Malcolm) The HELP type integral inequalities for 2*n*th order differential operators. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 179–192, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Victor S. Rykhlov) **98e:34046** 34B20 (26D10, 34L05, 47F05)

Dias, Olen (*with* Pan, Victor Y.; Zheng, Ailong; Huang, Xiao Han) Newton's iteration for inversion of Cauchy-like and other structured matrices. (English summary) *J. Complexity* **13** (1997), *no.* 1, 108–124. (D. Bini) **98h:65014** 65F10 (65H10, 68Q25)

Dias, Ronaldo (*with* Girko, Vyacheslav L.) Numerical and Monte Carlo verification of V-distribution. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 201–212. 65C05 (65U05)

Dias da Silva, J. A. (*with* Brualdi, Richard A.) A retract characterization of posets with the fixed-point property. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 199–203. (Aleksander Rutkowski) **98f:06001** 06A06

— (*with* Beasley, Leroy B.) Orthogonal decomposable symmetrized tensors. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 1–21. (John Chollet) **98h:15052** 15A69 (15A15, 15A72, 15A75)

Diatta, Jean Dissimilarités multivoies et généralisations d'hypergraphes sans triangles. (English and French summaries) [Multiway dissimilarities and generalizations of hypergraphs with no triangles] *Math. Inform. Sci. Humaines No.* 138 (1997), 57–73. (Summary) **98g:05104** 05C65 (92J99)

tuero-Díaz, A. *see* **Tuero-Díaz, A.**

garcía Díaz, Alberto *see* **García Díaz, Alberto**

Díaz, Alejandro (*with* Lipton, Robert P.) Reinforced Mindlin plates with extremal stiffness. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 28, 3691–3704. (Leonid V. Gibiansky) **98h:73008** 73B27 (73K10, 73K20, 73K40)

jerez Díaz, C. *see* **Jerez Díaz, C.**

Díaz, Carroll J., Jr. (*with* Johnson, William D.) An F-test for multivariate repeated measures data with the Wiener stochastic process pattern in the covariance matrix. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 275–289. 62H15

Díaz, Daniel (*with* Codognet, Philippe; Rossi, Francesca) Constraint retraction in FD. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 168–179, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68N17 (68T20)

díaz y Díaz, F. *see* **Díaz y Díaz, F.**

Díaz, Guy La conjecture de Mahler-Manin. [The Mahler-Manin conjecture] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 24, 9 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (Michael C. Berg) **98i:11056** 11J89 (11F11, 11J81)

— Une nouvelle propriété d'approximation diophantienne. (English and French summaries) [A new Diophantine approximation property] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 969–972. (Damien Roy) **98d:11080** 11J04 (11J68)

— La conjecture des quatre exponentielles et les conjectures de D. Bertrand sur la fonction modulaire. (English and French summaries) [The four-exponential conjecture and D. Bertrand's conjectures for the modular function] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 229–245. (Damien Roy) **98h:11096** 11J91 (11F03, 11J81)

Díaz, J. C. *see* **Díaz Alcaide, Juan Carlos**

Díaz, J. I. *see* **Díaz Díaz, Jesús Ildefonso**

rodríguez-Díaz, J. M. *see* **Rodríguez-Díaz, J. M.**

Díaz, J. Miguel (*with* Díaz, Pedro A.) The segment center with l_∞ [l_1]-metric. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 223–237, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

— (*with* Gómez Martín, Francisco; Hurtado, Ferrán) Location of polygonal facilities with restricted number of vertices. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 239–250, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (90B80)

díaz Díaz, Jesús Ildefonso *see* **Díaz Díaz, Jesús Ildefonso**

borrego-Díaz, Joaquín *see* **Borrego-Díaz, Joaquín**

Díaz, Josep (*with* Balcázar, José L.; Gavaldà, Ricard; Watanabe, Osamu[2]) Algorithms for learning finite automata from queries: a unified view. (English summary) *Advances in algorithms, languages, and complexity*, 53–72, *Kluwer Acad. Publ., Dordrecht*, 1997. (Nicolae Ţăndăreanu) **98f:68228** 68T05 (68Q45)

— (*with* Gibbons, Alan; Pantziou, Grammati E.; Serna, Maria J.; Spirakis, Paul G.; Toran, Jacobo) Parallel algorithms for the minimum cut and the minimum length tree layout problems. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 267–287. (Summary) **98e:68089** 68Q22 (68Q25, 68Q35)

— *see also* **Algorithms—ESA '96, 98d:68007**

casado-Díaz, Juan *see* **Casado-Díaz, Juan**

Díaz, Juan Carlos *see* **Díaz Alcaide, Juan Carlos**

álvarez Díaz, Lilliam *see* **Álvarez Díaz, Lilliam**

Díaz, Lorenzo J. (*with* Rocha, Jorge) Non-critical saddle-node cycles and robust non-hyperbolic dynamics. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 2, 109–135. (Jörg M. Härterich) **98g:58122** 58F14 (34C37)

mulero Díaz, Ma. Ángeles *see* **Mulero Díaz, Ma. Ángeles**

Díaz, Michel *see* **Application and theory of Petri nets, 98a:68141**

lópez-Díaz, Miguel *see* **López-Díaz, Miguel**

rubió i Díaz, Pedro *see* **Rubió i Díaz, Pedro**

Díaz, Pedro A. (*with* Díaz, J. Miguel) The segment center with l_∞ [l_1]-metric. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 223–237, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

gonzález-Díaz, Pedro F. *see* **González-Díaz, Pedro F.**

Díaz, Raquel Non-convexity of the space of dihedral angles of hyperbolic polyhedra. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 993–998. (Igor Rivin) **98m:52016** 52B10 (52A55)

Díaz, Ricardo (*with* Robins, Sinai) The Ehrhart polynomial of a lattice polytope. *Ann. of Math.* (2) **145** (1997), *no.* 3, 503–518. (Alexander I. Barvinok) **98e:11117a** 11P21 (42B99, 52B20, 52C07)

— (*with* Robins, Sinai) Erratum: "The Ehrhart polynomial of a lattice polytope". *Ann. of Math.* (2) **146** (1997), *no.* 1, 237. (Alexander I. Barvinok) **98e:11117b** 11P21 (42B99, 52B20, 52C07)

Díaz, Rodolfo E. (*with* Alexopoulos, Nicolaos G.) An analytic continuation method for the analysis and design of dispersive materials. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1602–1610. (Summary) **98k:78023** 78A40

Díaz, Santiago *see* **Díaz Madrigal, Santiago**

Díaz, Steven (*with* Edidin, Dan) Towards the homology of Hurwitz spaces. (English summary) *J. Differential Geom.* **43** (1996), *no.* 1, 66–98. (Konrad Drechsler) **98e:14028** 14H30 (14F25, 14H10)

Díaz Alcaide, Juan Carlos Polynomials and multilinear forms on spaces isomorphic to their Cartesian square. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 135–138. (*see* **98k:46001**) 46E50 (46G20)

— On unconditional bases in tensor products of Köthe echelon spaces. *Michigan Math. J.* **44** (1997), *no.* 2, 409–415. (Andreas Defant) **98j:46003** 46A35 (46A32, 46A45, 46E50, 46M05)

— (*with* Grosse-Erdmann, Karl-Goswin) On non-distinguished matrix domains. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 285–290. (Summary) **98h:46005** 46A45

— On non-primary Fréchet Schwartz spaces. (English summary) *Studia Math.* **126** (1997), *no.* 3, 291–307. (Klaus-Dieter Bierstedt) **98j:46001** 46A04 (46Axx, 46E10)

Díaz Bejarano, José (*with* García-Margallo, J.) Melnikov's method for non-linear oscillators with non-linear excitations. (English summary) *J. Sound Vibration* **212** (1998), *no.* 2, 311–319. 34C15 (70K40)

Díaz Carrillo, M. (*with* de Amo, E.) Fubini-Tonelli theorems with local integrals. *Acta Math. Hungar.* **72** (1996), *no.* 3, 221–227. (T. V. Panchapagesan) **98m:28012** 28A35 (26A42, 28C05)

Díaz de León Santiago, J. Luis *see* **Workshop: Pattern Recognition**

Díaz-de-María, Fernando (*with* Figueiras-Vidal, Aníbal R.) Improving CELP coders by backward adaptive nonlinear prediction. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 585–601. 94A99

Díaz Díaz, Jesús Ildefonso A free-boundary problem in the study of the magnetohydrodynamic equilibrium of a plasma in a stellarator. (Spanish) Mathematical models in plasma physics (Spanish) (Madrid, 1991/1992). *Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid* **30** (1995), 73–132. (Maria J. Esteban) **98i:76099** 76W05 (35Q35, 35R35, 76X05, 82D10)

— (*with* Ramos, Ángel Manuel) Positive and negative approximate controllability results for semilinear parabolic equations. (English and Spanish summaries) *Rev. Real Acad. Cienc. Exact. Fís. Natur. Madrid* **89** (1995), *no.* 1-2, 11–30. (Toshihiro Kobayashi) **98e:93007** 93B05 (35K55, 93C20)

— (*with* Nagai, Toshitaka; Shmarëv, S. I.) On the interfaces in a nonlocal quasilinear degenerate equation arising in population dynamics. (English summary) *Japan J. Indust. Appl. Math.* **13** (1996), *no.* 3, 385–415. (Gaston E. Hernandez) **98a:35128** 35Q80 (35B65, 35K55, 92D25)

— (*with* Ramos, Ángel Manuel) Some results about the approximate controllability property for quasilinear diffusion equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1243–1248. (Summary) **98d:93009** 93B05 (35B37, 35K60, 93C20)

— (*with* Galiano, Gonzalo; Jüngel, Ansgar) Space localization and uniqueness of solutions of a quasilinear parabolic system arising in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 267–272. (J. W. Jerome) **98h:35099** 35K55 (35Q99, 76X05, 82D99)

— (*with* Hernández, Jesús; Tello, L.) On the multiplicity of equilibrium solutions to a nonlinear diffusion equation on a manifold arising in climatology. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 593–613. (Summary) **98i:86005** 86A10

— (*with* Fursikov, Andrei V.) Approximate controllability of the Stokes system on cylinders by external unidirectional forces. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 4, 353–375. (Sergey V. Nikitin) **98c:35128** 35Q30 (35B37, 76D07, 93C20)

— (*with* Galiano, Gonzalo) On the Boussinesq system with nonlinear thermal diffusion. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3255–3263. (*see* **98h:00034**) 35Q35 (76D99)

— *see also* **Mathematical models in plasma physics, 98h:00029**

Díaz-Emparanza, Ignacio Selecting the number of replications in a study of simulation. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 497–509. 62E25

— (*with* Caminero, Emilio) Estimation and testing of cointegration relationships with strongly seasonal monthly data. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 607–631. (*see* **98i:90006**) 62M10 (62P20)

Díaz-García, José A. (*with* Gutiérrez Jáimez, Ramón) Proof of the conjectures of H. Uhlig on the singular multivariate beta and the Jacobian of a certain matrix transformation. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2018–2023. (Summary) **98k:62092** 62H10

Díaz-Guilera, Albert (*with* Perez Vicente, Conrado J.; Arenas, Alex) Mechanisms of synchronization and pattern formation in a lattice of pulse-coupled oscillators. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 3820–3828. 34C15

Díaz-Herrera, Enrique (*with* Uribe, F. J.; Bravo-Mojica, Alejandro; Peralta-Fabi, R.) On the stability of the Jeffery-Hamel flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2798–2800. (Summary) **98g:76039** 76E99 (76M10)

Díaz Madrigal, Santiago (*with* Basallote, Manuela) Finite representability by quotients. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 4, 319–326. (David Yost) **98i:46008** 46B08 (46B07, 46B10, 46B20)

Díaz-Mendoza, C. (*with* Bultheel, Adhemar; González-Vera, P.; Orive Rodríguez, Ramón A.) Quadrature on the half-line and two-point Padé approximants to Stieltjes functions. II. Convergence. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 53–76. (Summary) **98a:41023** 41A21 (30E05, 42C05)

— (*with* Bultheel, Adhemar; González-Vera, P.; Orive Rodríguez, Ramón A.) Quadrature on the half line and two-point Padé approximants to Stieltjes functions. III. The unbounded case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 95–117. (Summary) **98j:41033** 41A55 (30E05, 42C05, 65D32)

Díaz y Díaz, F. (*with* Cohen, Henri; Olivier, Michel) Computing ray class groups, conductors and discriminants. (English summary) *Algorithmic number theory* (*Talence*, 1996), 49–57, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Franz Lemmermeyer) **98c:11123** 11R37 (11R29, 11Y40)

— (*with* Cohen, Henri; Olivier, Michel) Subexponential algorithms for class group and unit computations. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 433–441. (Joe P. Buhler) **98m:11138** 11Y40 (11R27, 11R29)

— (*with* Cohen, Henri; Olivier, Michel) Computing ray class groups, conductors and discriminants. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 773–795. (Duncan A. Buell) **98g:11128** 11R37 (11R20, 11R29, 11Y40)

Dib, K. A. (*with* Galhum, N.) Fuzzy ideals and fuzzy bi-ideals in fuzzy semigroups. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 103–111. 20M99 (04A72)

el-Dib, Yusry O. *see* **El-Dib, Yusry O.**

Di Bacco, M. (*with* Capotorti, A.) A note on the equivalence between certain equivalent and least expected penalization criteria. (English and Italian summaries) *Statistica (Bologna)* **56** (1996), *no.* 2, 243–247 (1997). (J. W. Pratt) **98h:62005** 62A99 (62B99)

Di Bari, Maria (*with* Cipriani, Piero) Dynamical behaviour of Bianchi IX models in a Finsler geometrical approach to chaos. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 407–411, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C20 (53B40, 58F13)

— (*with* Boccaletti, Dino; Cipriani, Piero; Pucacco, Giuseppe) Dynamical behavior of Lagrangian systems on Finsler manifolds. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6448–6458. (Miguel C. Muñoz-Lecanda) **98f:58080** 58F05 (53C60, 70H35)

Di Bartolo, Cayetano The Gauss constraint in the extended loop representation. (English summary) *Phys. Lett. B* **389** (1996), *no.* 4, 661–664. (Jorge A. Pullin) **98b:83035** 83C45

Di Battista, Giuseppe (*with* Liotta, Giuseppe) Computing proximity drawings of trees in the 3-dimensional space. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 239–250, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (68U05)

— (*with* Garg, Ashim; Liotta, Giuseppe; Tamassia, Roberto; Tassinari, Emanuele; Vargiu, Francesco) An experimental comparison of four graph drawing algorithms. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 303–325. (Summary) **98a:68181** 68U05 (05C85, 68R10)

— *see also* **Algorithms and complexity**, **98h:68004**

Di Bella, Beatrice (*with* Cubiotti, Paolo) A sup-inf condition for the existence of zeros of certain nonlinear operators. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 63–67 (1997). (Tomás Domínguez Benavides) **98c:47071** 47H15 (47H19)

— (*with* Cubiotti, Paolo) Some existence theorems for the inclusion $0 \in A(x)$. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 148–154. (Gérard Lebourg) **98j:47118** 47H04 (47H15, 54C60)

DiBenedetto, E. (*with* Diller, D. J.) On the rate of drying of gelatin in a photographic film. *Adv. Differential Equations* **1** (1996), *no.* 6, 989–1003. (Ioannis G. Stratis) **98a:35076** 35K65 (35B40, 35K20, 76R99)

— (*with* Alessandrini, Giovanni) Determining 2-dimensional cracks in 3-dimensional bodies: uniqueness and stability. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 1–82. (Paul Andrew Martin) **98g:35207** 35R30 (35J05, 35Q72, 73M25)

Di Benedetto, Fabio The use of discrete sine transform in computations with Toeplitz matrices. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 126–133, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F15

— Generalized updating problems and computation of the eigenvalues of rational Toeplitz matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 187–219. (Alan L. Andrew) **98m:65050** 65F15 (15A18, 15A57)

Di Biase, Fausto Exotic convergence in theorems of Fatou type. *Harmonic functions on trees and buildings* (*New York*, 1995), 125–127, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 31A20 (32A40)

— (*with* Fischer, Bert; Urbanke, Rüdiger L.) Twist points of the von Koch snowflake. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1487–1490. (Christopher Bishop) **98k:31001** 31A15 (30C85)

Di Biase, Giuseppe (*with* Critani, F.; Dall'Aglio, M.) Ranking and unranking permutations with applications. *Innovation in mathematics* (*Rovaniemi*, 1997), 99–106, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 05A05

— (*with* Manca, Raimondo) Automated generation of atoms from conditional events. *Innovation in mathematics* (*Rovaniemi*, 1997), 121–128, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 03B48

— (*with* Janssen, Jacques; Manca, Raimondo) Markov and semi-Markov option pricing models with arbitrage possibility. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 2, 103–113. 90A09 (90A20)

Di Blasio, Bianca An extension of the theory of Gelfand pairs to radial functions on Lie groups. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 623–642. (Jacques Faraut) **98m:22011** 22E30 (43A90)

— (*with* Astengo, Francesca; Camporesi, Roberto) The Helgason Fourier transform on a class of nonsymmetric harmonic spaces. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 405–424. (Ewa Damek) **98j:22008** 22E30 (22E25, 43A80, 43A90)

— Paley-Wiener type theorems on harmonic extensions of H-type groups. (English summary) *Monatsh. Math.* **123** (1997), *no.* 1, 21–42. (Ewa Damek) **98f:43009** 43A30 (22E25, 33C55, 33C80, 43A80, 43A90)

Di Biasio, Gabriella Parabolic Volterra integrodifferential equations with noncontinuous data. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 29–49 (1997). (Hana Petzeltová) **98f:35066** 35K22 (45K05, 46N20, 47N20)

Di Blasio, Paolo (*with* Fisher, Kathleen) A calculus for concurrent object. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 655–670, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68N15 (68Q10, 68Q55)

Diblík, Josef Behaviour at infinity of solutions of systems of differential equations with delay. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 219–227, *VSP, Utrecht*, 1993. (Summary) **98c:34110** 34K15 (34K25)

— Existence of decreasing positive solutions of a system of linear differential equations with delay. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 83–93, *VSP, Utrecht*, 1995. (Tibor Krisztin) **98d:34101** 34K15

— A multidimensional singular boundary value problem of the Cauchy-Nicoletti type. (English summary) *Georgian Math. J.* **4** (1997), *no.* 4, 303–312. (Johnny Henderson) **98d:34034** 34B15

— Asymptotic representation of solutions of equation $\dot{y}(t) = \beta(t)[y(t) - y(t - \tau(t))]$. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 200–215. (Tibor Krisztin) **98k:34126** 34K25 (34K15)

Di Bucchianico, A. ★ Probabilistic and analytical aspects of the umbral calculus. CWI Tract, 119. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1997. 148 *pp. ISBN* 90-6196-471-7 (Heinrich Niederhausen) **98d:05018** 05A40 (60E07, 60F99)

Di Campli, Giovanna (*with* Baccella, Giuseppe) Semi-Artinian rings whose Loewy factors are nonsingular. *Comm. Algebra* **25** (1997), *no.* 9, 2743–2764. (Jonathan Golan) **98d:16035** 16P70 (16D60, 16P20)

Dich, Mikael Accurate determination of antenna directivity. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 10, 1502–1505. (Summary) **98j:78026** 78A50 (78–08)

Dichi, Henri (*with* Diagana, Y.; Sangaré, Daouda) Filtrations, generalized analytic independence, analytic spread. (English summary) *Afrika Mat.* (3) **4** (1994), 101–114. (P. Schenzel) **98f:13003** 13A30 (13B21)

— Dépendance intégrale sur une filtration. [Integral dependence on a filtration] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 2, 10 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II), Clermont-Ferrand*, 1996. (Stephen McAdam) **98d:13003** 13B21

— (*with* Sangaré, Daouda) Asymptotic closure of filtrations on rings with Krull dimension 1. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 470–478. (Marco Fontana) **98k:13023** 13F05 (13D10, 13E15, 14A05)

DiCiccio, Thomas J. (*with* Efron, Bradley) Bootstrap confidence intervals. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **11** (1996), *no.* 3, 189–228. (Hung Trung Nguyen) **98i:62042** 62G09

— (*with* Kass, Robert E.; Raftery, Adrian E.; Wasserman, Larry) Computing Bayes factors by combining simulation and asymptotic approximations. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 903–915. (Summary) **98k:62035** 62F15

Dičiūnas, V. (*with* Basalykas, A.; Raudys, Š.) Letter to editors: "The expected probability of misclassification of a linear zero empirical error classifier" [Informatica (Vilnius) **7** (1996), no. 2, 137–154; MR 97k:62138]. *Informatica (Vilnius)* **8** (1997), *no.* 2, 310–311. (From the text) **98k:62106** 62H30

Dick, Erik (*with* Steelant, J.; Pattijn, S.) Multigrid methods for compressible Navier-Stokes equations in low-speed flows. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 379–388. (*see* **98d:65005**) 76M25 (65M55, 76N10)

Dick, Rainer Implications of a dilaton in gauge theory and cosmology. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 7, 537–587. (Paulo Moniz) **98m:83070** 83E15 (81T13, 83E30, 83F05)

— Complex structures in quantum field theory. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 159–164. (Summary) **98c:81130** 81T13

— Potentials of pointlike particles in gauge theory with a dilaton. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 2005–2012. 81T13

— The Coulomb potential in gauge theory with a dilaton. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 193–196. (Summary) **98e:81107** 81T13

— Vector and scalar confinement in gauge theory with a dilaton. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 321–324. 81T13

— Inequivalence of Jordan and Einstein frame: what is the low energy gravity in string theory? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 435–444. (Summary) **98j:83094** 83E30 (83D05)

Dicken, V. (*with* Maass, Peter) Wavelet-Galerkin methods for ill-posed problems. (English summary) *J. Inverse Ill-Posed Probl.* **4** (1996), *no.* 3, 203–221. (Ruud van Damme) **98b:65064** 65J20 (65D99)

Dickenstein, Alicia (*with* Cattani, Eduardo; Cox, David A.) Residues in toric varieties. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 35–76. (I. Dolgachev) **98f:14039** 14M25 (14F10, 32A27)

— (*with* Iriondo, Mirta Susana; Rojas, Teresita Alejandra) Integrating singular functions on the sphere. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5361–5370. (Alexandr M. Kytmanov) **98h:32006** 32A27 (30E20)

— (*with* Cattani, Eduardo) A global view of residues in the torus. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 119–144. (I. Dolgachev) **98i:14050** 14M25 (14F10)

Dickerson, Matthew T. (*with* Drysdale, Robert L. Scot; McElfresh, Scott A.; Welzl, Emo) Fast greedy triangulation algorithms. (English summary) *Comput. Geom.* **8** (1997), *no.* 2, 67–86. (Summary) **98c:68204** 68U05 (52B55)

— (*with* Barequet, Gill; Pau, Petru) Translating a convex polygon to contain a maximum number of points. (English summary) *Comput. Geom.* **8** (1997), *no.* 4, 167–179. (Rade Živaljević) **98f:52015** 52B55 (68U05)

— (*with* Keil, J. Mark; Montague, M. H.) A large subgraph of the minimum weight triangulation. (English summary) ACM Symposium on Computational Geometry

(Philadelphia, PA, 1996). *Discrete Comput. Geom.* **18** (1997), *no.* 3, 289–304. (Stanislav Jendrol') **98k:52032** 52B55 (05C85, 68Q25, 90C35)

Dickey, David A. (*with* Akdi, Yilmaz) Periodograms of unit root time series: distributions and tests. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 69–87. 62M10

Dickey, L. A. Field-theoretical (multi-time) Lagrange-Hamilton formalism and integrable equations. (English summary) *Lectures on integrable systems* (*Sophia-Antipolis*, 1991), 103–161, *World Sci. Publishing, River Edge, NJ*, 1994. (Alexander V. Shapovalov) **98b:58070** 58F07

— Lectures on classical W-algebras. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 3, 243–321. (Henrik Aratyn) **98d:58080** 58F07 (17B68, 81R10, 81T40)

Dickey, R. W. Equations of nonlinear membrane theory. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 95–102, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35Q72 (73K10)

Dickhaut, John (*with* Gjerstad, Steven) Price formation in double auctions. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 1–29. 90A12 (90A60)

Dickie, Garth A. (*with* Terwilliger, Paul M.) A note on thin P-polynomial and dual-thin Q-polynomial symmetric association schemes. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 5–15. (Patrick Solé) **98m:05199** 05E30

Dickinson, Detta (*with* Gramchev, Todor; Yoshino, Masafumi) First order pseudodifferential operators on the torus: normal forms, Diophantine phenomena and global hypoellipticity. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 51–64 (1997). (Elmar Schrohe) **98k:58221** 58G15 (11J25, 35H05, 35S05, 47G30)

— (*with* Velani, Sanju L.) Hausdorff measure and linear forms. (English summary) *J. Reine Angew. Math.* **490** (1997), 1–36. (Thomas Ward) **98e:11094** 11K60 (11K55)

Dickinson, Henrietta A note on the theorem of Jarnik-Besicovitch. *Glasgow Math. J.* **39** (1997), *no.* 2, 233–236. (Karma Dajani) **98k:11112** 11K60

Dicks, Warren (*with* Formanek, Edward) Automorphism subgroups of finite index in algebraic mapping class groups. (English summary) *J. Algebra* **189** (1997), *no.* 1, 58–89. (Darren D. Long) **98b:20057** 20F32 (20F38, 57M99)

— *see also* **Menal, Pere. 98e:01021**

Dickson, David C. M. (*with* dos Reis, Alfredo Egidio) The effect of interest on negative surplus. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 1, 1–16. 62P05

Dickson, Leonard Eugene *see* **Fenster, Della Dumbaugh. 98c:01031**

Dickson, Michael *see* **Dickson, W. Michael**

Dickson, Stewart *see* **Structural topology in art. 98h:00018**

Dickson, W. Michael Is the Bohm theory local? *Bohmian mechanics and quantum theory: an appraisal*, 321–330, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— The quantum-classical connection in the Bohm theory: aspects of the classical limit. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 127–132, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81P05

Dickstein, Flavio (*with* Cazenave, Thierry; Kavian, Otared) A parameter determination problem for a linearized model of well-reservoir coupling. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 87–97. (Hamid Bellout) **98b:35203** 35Q99 (35R30, 76S05, 86A22)

Di Cola, G. (*with* Lunardini, F.) A monotone iterative method for semilinear parabolic systems. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 235–244 (1997). (Pavel Năslău) **98g:65091** 65M60

Di Concilio, A. $\aleph$-completeness as E-compactness via the uniform dimension. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 51–56, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54048** 54D30 (54A10, 54A25, 54E15)

— On the Shirota theorem and uniform dimension. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 341–349. (Summary) **98b:54035** 54E15 (54F45)

Di Cosmo, Roberto (*with* Piperno, Adolfo) Expanding extensional polymorphism. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 139–153, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Kesner, Delia) Rewriting with extensional polymorphic λ-calculus. (English summary) *Computer science logic* (*Paderborn*, 1995), 215–232, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03037** 03B40 (03B45, 68Q42)

— On the power of simple diagrams. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 200–214, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68139** 68Q42

— (*with* Kesner, Delia) Combining algebraic rewriting, extensional lambda calculi, and fixpoints. (English summary) ICALP '94 (Jerusalem, 1994). *Theoret. Comput. Sci.* **169** (1996), *no.* 2, 201–220. (Mariangiola Dezani-Ciancaglini) **98g:03041** 03B40 (03B15, 03B70, 68N15, 68Q65)

— (*with* Ghani, Neil) On modular properties of higher order extensional lambda calculi. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 237–247, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 03B40 (03B70, 68N15, 68Q55)

Di Crescenzo, Antonio (*with* Shaked, Moshe) Some applications of the Laplace transform ratio order. (English summary) *Arab J. Math. Sci.* **2** (1996), *no.* 2, 121–128. (Author's review (M.S.)) **98d:60036** 60E15

— (*with* Giorno, V.; Nobile, A. G.; Ricciardi, L. M.) On first-passage-time and transition densities for strongly symmetric diffusion processes. *Nagoya Math. J.* **145** (1997), 143–161. (Götz Kersting) **98f:60151** 60J60

DiCristina, Gladys (*with* Hajek, Darrell W.) Strongly zeroed distance spaces. *Rev. Integr. Temas Mat.* **13** (1995), *no.* 2, 63–66. 54E99

Diday, Edwin (*with* Emilion, Richard) Treillis de Galois maximaux et capacités de Choquet. (English and French summaries) [Maximal Galois lattices and Choquet capacities] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 261–266. (Summary) **98c:06004** 06A15 (04A72, 28A12, 28E10, 62–07)

Didenko, V. D. (*with* Silbermann, Bernd) An approximate method on non-equidistant partitions for double layer potential equation. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 41–48. (*see* **98i:65004**) 65R20 (45L05)

Diebold, Francis X. (*with* Christoffersen, Peter F.) Optimal prediction under asymmetric loss. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 808–817. (Summary) **98m:62296** 62P20

Diebolt, Jean (*with* Posse, Christian) On the density of the maximum of smooth Gaussian processes. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1104–1129. (Robert J. Adler) **98k:60058** 60G15 (60G17, 60G70)

— (*with* Ngatchou Wandji, Joseph) A non-parametric test for generalized first-order autoregressive models. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 241–259. (Arup Bose) **98d:62158** 62M10 (62G10)

Dieci, Luca (*with* Lorenz, Jens) Lyapunov-type numbers and torus breakdown: numerical aspects and a case study. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 79–102. (Summary) **98f:65083** 65L99 (34C15, 34D99, 58F25)

tom Dieck, Tammo Zöpfe im Zylinder: Knoten, Kategorien, Quantengruppen. (German summary) [Braids in a cylinder: knots, categories, quantum groups] *Mitt. Dtsch. Math.-Ver.* **1997,** *no.* 4, 22–25. (From the summary) **98m:57007** 57M25 (16W30, 18D10, 20F36)

— Bridges with pillars: a graphical calculus of knot algebra. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 21–38. (Sergei V. Chmutov) **98j:57006** 57M25 (20F38, 20F55)

Diederich, Adele Dynamic stochastic models for decision making under time constraints. (English summary) *J. Math. Psych.* **41** (1997), *no.* 3, 260–274. 90A05 (92J99)

Diederich, Klas Some aspects of the Levi problem: recent developments. *Geometric complex analysis* (*Hayama*, 1995), 163–181, *World Sci. Publishing, River Edge, NJ*, 1996. (Mikio Furushima) **98e:32020** 32E99

martin de Diego, David *see* **Martin de Diego, David**

de Diego, Teresa Points rationnels sur les familles de courbes de genre au moins 2. (English and French summaries) [Rational points on families of curves of genus at least 2] *J. Number Theory* **67** (1997), *no.* 1, 85–114. (David Harari) **98k:11082** 11G30 (14G05, 14G25)

Diehl, Stefan Continuous sedimentation of multi-component particles. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1345–1364. (F. Feuillebois) **98g:76075** 76T05 (35Q80)

— Dynamic and steady-state behavior of continuous sedimentation. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 991–1018. (Summary) **98f:76075** 76T05 (35L99, 35Q35, 80A20)

van Diejen, Jan F. The relativistic Calogero model in an external field. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 470–477, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81V70

— On the diagonalization of difference Calogero-Sutherland systems. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 79–89, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (Peter J. Forrester) **98m:39052** 39A70 (33D45, 47N50, 81Q99)

— Self-dual Koornwinder-Macdonald polynomials. (English summary) *Invent. Math.* **126** (1996), *no.* 2, 319–339. (Introduction) **98k:33025** 33C80 (05E35, 33C55)

— Confluent hypergeometric orthogonal polynomials related to the rational quantum Calogero system with harmonic confinement. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 467–497. (Tim H. Baker) **98j:33007** 33C50 (81V70)

— Applications of commuting difference operators to orthogonal polynomials in several variables. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 341–347. (Tim H. Baker) **98e:33008** 33D45 (33D80)

— On certain multiple Bailey, Rogers and Dougall type summation formulas. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 3, 483–508. (Mizan Rahman) **98j:33011** 33D20 (11L05, 33C20)

Diek, Adel (*with* Cho, Hing Tong; Kantowski, R.) Dirac's field operator Ψ. (English summary) *Clifford algebras and spinor structures*, 257–263, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jayme Vaz, Jr.) **98i:81090** 81R25

Diekert, Volker (*with* Gastin, Paul) A domain for concurrent termination: a generalization of Mazurkiewicz traces (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 15–26, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q10 (68Q45)

— (*with* Muscholl, Anca) Construction of asynchronous automata. *The book of traces*, 249–267, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q68 (68Q10, 68Q45, 68Q80)

— (*with* Gastin, Paul; Petit, Antoine) Recent developments in trace theory. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 373–385, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45 (68Q10)

— (*with* Muscholl, Anca) Code problems on traces. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 2–17, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98g:68080** 68Q45 (68Q10)

— (*with* Bertol, Michael) Trace rewriting: computing normal forms in time $O(n \log n)$. (English summary) *STACS* 96 (*Grenoble*, 1996), 269–280, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68151** 68Q45 (68Q10, 68Q42)

— (*with* Muscholl, Anca) A note on Métivier's construction of asynchronous automata for triangulated graphs. *Fund. Inform.* **25** (1996), *no.* 3-4, 241–246. (Ferucio Laurentiu Tiplea) **98e:68136** 68Q45 (05C85, 68Q10)

— (*with* Matiyasevich, Yu. V.; Muscholl, Anca) Solving trace equations using lexicographical normal forms. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 336–346, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68Q10)

— (*with* Métivier, Yves) Partial commutation and traces. *Handbook of formal languages, Vol.* 3, 457–533, *Springer, Berlin*, 1997. (Jetty Kleijn) **98i:68151** 68Q45 (03D05, 68Q10)

— (*with* Gastin, Paul; Petit, Antoine) Removing ε-transitions in timed automata. (English summary) *STACS* 97 (*Lübeck*), 583–594, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98i:68200** 68Q68 (68Q10)

— *see also* **Book of traces, 98i:68001**

Diekmann, Ralf (*with* Monien, Burkhard) A local graph partitioning heuristic meeting bisection bounds (extended abstract). (English summary) *Proceedings of the Eighth*

SIAM Conference on Parallel Processing for Scientific Computing (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68R10 (05C85, 68Q35)

Diele, F. (*with* Lopez, Luciano; Politi, T.) One step semi-explicit methods based on the Cayley transform for solving isospectral flows. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 219–223. 65L05 (34A12, 58F07, 65L06)

Diem, Tran Ngoc (*with* Nguyen Thanh Long) On the nonlinear wave equation $u_{tt} - u_{xx} = f(x, t, u, u_x, u_t)$ associated with the mixed homogeneous conditions. *Nonlinear Anal.* **29** (1997), *no.* 11, 1217–1230. (Valery Covachev) **98h:35164** 35L70 (35A25)

Diener, G. Energy transport in dispersive media and superluminal group velocities. (English summary) *Phys. Lett. A* **235** (1997), *no.* 2, 118–124. (Summary) **98j:78021** 78A40

Dienes, Keith R. (*with* March-Russell, John) Realizing higher-level gauge symmetries in string theory: new embeddings for string GUTs. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 113–172. (Angel Maria Uranga) **98a:81264** 81V22 (81T30, 83E30)

— New constraints on SO(10) model-building from string theory. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 141–158. (Angel Maria Uranga) **98b:81187** 81T30 (81R10, 81V22)

— Understanding gauge coupling unification in string theory: a review. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 276–283. (Summary) **98j:81266** 81T30 (81V22)

— (*with* Blum, Julie D.) Duality without supersymmetry: the case of the SO(16) × SO(16) string. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 260–268. (Summary) **98g:81152** 81T30 (83E30)

— String theory and the path to unification: a review of recent developments. (English summary) *Phys. Rep.* **287** (1997), *no.* 6, 447–525. (Angel Maria Uranga) **98f:81249** 81T30 (81–02, 81V22)

Dienstfrey, A. (*with* Canuto, V. M.; Dubovikov, M. S.) A dynamical model for turbulence. IV. Buoyancy-driven flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2118–2131. (Summary) **98d:76084** 76F99 (76R10)

Diep, Thanh A. Capacity of multilevel threshold devices. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 241–255. (Summary) **98m:94065** 94C10 (68T05)

Dierckx, Paul On calculating normalized Powell-Sabin B-splines. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 61–78. (Crăciun Iancu) **98j:41004** 41A15 (41A63, 65D17)

Dierker, P. (*with* Bialostocki, A.) On zero sum Ramsey numbers: small graphs. Twelfth British Combinatorial Conference (Norwich, 1989). *Ars Combin.* **29** (1990), *A*, 193–198. (Wen Li Chen) **98b:05067** 05C55 (05D10)

Dierkes, Ulrich (*with* Huisken, Gerhard) The N-dimensional analogue of the catenary: prescribed area. (English summary) *Geometric analysis and the calculus of variations*, 1–12, *Internat. Press, Cambridge, MA*, 1996. (Ulrich Dierkes) **98e:58051** 58E12 (35J60, 49Q05, 53A10)

— On the regularity of solutions for a singular variational problem. *Math. Z.* **225** (1997), *no.* 4, 657–670. (Alberto Fiorenza) **98h:49042** 49N60 (49K10, 49K30)

Dierolf, Susanne (*with* Khin Aye Aye) On projective limits of Moscatelli type. (English summary) *Functional analysis* (*Trier*, 1994), 105–118, *de Gruyter, Berlin*, 1996. (Paweł Domański) **98a:46008** 46A13

— (*with* Domański, Paweł) Null sequences in coechelon spaces. (English summary) *Math. Nachr.* **184** (1997), 167–176. (Pedro J. Paúl) **98a:46013** 46A45 (46A04, 46A50, 47B07)

Diersen, J. (*with* Trenkler, Götz) Records tests for trend in location. (English summary) *Statistics* **28** (1996), *no.* 1, 1–12. (Arup Bose) **98d:62079** 62G10

Diestel, Reinhard (*with* Aharoni, Ron) Menger's theorem for a countable source set [MR 95e:05070]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 11–22, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C40

— (*with* Leader, Imre) The growth of infinite graphs: boundedness and finite spreading [MR 95e:05101]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 217–221, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C78

Dietel, Jana (*with* Hecker, Hans-Dietrich) Quadrilaterizing an orthogonal polygon in parallel. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 50–68. (Evangelos Kranakis) **98m:68272** 68U05 (03D15, 68Q22, 68Q25)

Dieter, U. Reciprocity theorems for Dedekind sums. *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 11–24, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Charles Helou) **98i:11024** 11F20

Diethelm, Kai Error bounds for compound quadratures for Hadamard-type finite-part integrals. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 58–63, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98e:65013** 65D32

— An algorithm for the numerical solution of differential equations of fractional order. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Mar.*, 1–6 (*electronic*). (J. B. Butler, Jr.) **98k:65037** 65L05 (26A33, 34A45)

— Generalized compound quadrature formulae for finite-part integrals. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 479–493. (Summary) **98f:65030** 65D32

— New error bounds for modified quadrature formulas for Cauchy principal value integrals. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 93–104. (Summary) **98g:41032** 41A55 (65D30)

— Peano kernels of non-integer order. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 727–738. (Gen Sun Fang) **98i:41043** 41A55 (26A33, 65D32)

Dietrich, C. R. (*with* Newsam, G. N.) Fast and exact simulation of stationary Gaussian processes through circulant embedding of the covariance matrix. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1088–1107. (Summary) **98c:86008** 86A32 (62M40, 65C20)

Dietrich, Duane L. (*with* Somerville, Ian F.; Mazzuchi, Thomas A.) Bayesian reliability analysis using the Dirichlet prior distribution with emphasis on accelerated life testing run in random order. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4415–4423. (*see* **98i:00032**) 62N05 (62F15)

Dietrich, H. On the Palais-Smale condition for nonsmooth functions over closed and convex sets of restrictions. (English summary) *Optimization* **37** (1996), *no.* 3, 195–211. (Jean-Paul Penot) **98e:49036** 49J52 (49K20, 90C26)

Diettrich, Olaf Kann es eine ontologiefreie evolutionäre Erkenntnistheorie geben? (English summary) [Can an evolutionary theory of epistemology exist that is free of ontology?] *Philos. Natur.* **34** (1997), *no.* 1, 71–105. (Summary) **98c:00004** 00A30 (00A79)

Dietz, Jill (*with* Ratliff, Tommy) Classifying spaces of central group extensions. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 191–196, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:55014** 55R35

Dietz, Klaus (*with* Becker, Niels G.) Reproduction numbers and critical immunity levels for epidemics in a community of households. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 267–276, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (*see* **98e:60004**) 92C60

— (*with* Stilianakis, Nikolaos I.; Schenzle, Dieter) Analysis of a model for the pathogenesis of AIDS. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 27–46. 92C60

Dietzfelbinger, Martin Universal hashing and k-wise independent random variables via integer arithmetic without primes. (English summary) *STACS 96* (*Grenoble*, 1996), 569–580, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68P10 (68Q25)

— (*with* Hromkovič, Juraj; Schnitger, Georg) A comparison of two lower-bound methods for communication complexity. (English summary) 19th International Symposium on Mathematical Foundations of Computer Science (Košice, 1994). *Theoret. Comput. Sci.* **168** (1996), *no.* 1, 39–51. (Summary) **98a:68068** 68Q15 (68Q25)

— Gossiping and broadcasting versus computing functions in networks. (English summary) *STACS 97* (*Lübeck*), 189–200, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68M10 (68Q22, 68Q25)

— (*with* Hagerup, Torben; Katajainen, Jyrki; Penttonen, Martti) A reliable randomized algorithm for the closest-pair problem. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 19–51. (Summary) **98h:68223** 68U05 (68P10, 68Q25)

Dieudonné, Jean *see* **Galois, Évariste**, **98g:01073** *and* **Mac Lane, Saunders**, **98g:01075**

villanueva Diez, Ignacio *see* **Villanueva Diez, Ignacio**

Diez, José A. A hundred years of numbers. An historical introduction to measurement theory 1887–1990. II. Suppes and the mature theory. Representation and uniqueness. (English summary) *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 2, 237–265. (Summary) **98d:01031** 01A60 (01A55, 03B30, 92G05)

Diez, Pedro (*with* Egozcue, Juan José; Huerta, Antonio) Analysis of the average efficiency of an error estimator. *Finite element methods* (*Jyväskylä*, 1997), 113–126, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65N30 (65N12)

— (*with* Huerta, Antonio; Egozcue, Juan José) Error estimation for linear and nonlinear problems. *Finite element methods* (*Jyväskylä*, 1997), 183–194, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65N30 (65N15)

Di Fazio, G. Oblique derivative problem for linear and quasilinear elliptic equations with discontinuous coefficients. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 567–577. (Mircea Sofonea) **98g:35055** 35J25 (35J65)

Di Felice, Paolino (*with* Clementini, Eliseo; Hernández, Daniel) Qualitative representation of positional information. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 317–356. (Olga M. Kosheleva) **98m:68255** 68T30

Di Francesco, P. (*with* Golinelli, O.; Guitter, E.) Meanders. *The mathematical beauty of physics* (*Saclay*, 1996), 12–50, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Sergei K. Lando) **98j:82027** 82B41 (05A15)

— Enumerative geometry from string theory. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 75–96. (Summary) **98j:14072** 14N10 (81T30)

Di Garbo, A. (*with* Fronzoni, L.; Chillemi, S.) Ring wave solutions of a $(n+1)$-dimensional Sine-Gordon model. (English summary) *Chaos* **7** (1997), *no.* 4, 765–768. (Summary) **98k:35127** 35L70 (35B99, 35Q53)

Digas, B. V. (*with* Bukchin, B. G.; Maksimov, Vyacheslav I.) On the problem of reconstructing the intensity of point sources from the results of sensor observations. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 201–216, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ulrich Tautenhahn) **98j:35183** 35R30 (45D05, 65M30, 93B30, 93C20)

Di Gati, Leonardo (*with* Giambanco, Giuseppe) A cohesive interface model for the structural mechanics of block masonry. *Mech. Res. Comm.* **24** (1997), *no.* 5, 503–512. (From the text) **98h:73048** 73E99 (73K99)

Di Gennaro, S. (*with* Castillo-Toledo, B.; Monaco, Salvatore; Normand-Cyrot, Dorothée) On regulation under sampling. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 864–868. (Summary) **98a:93045** 93C57 (93C10)

Di Gennaro, Vincenzo (*with* Chiantini, Luca; Ciliberto, Ciro) On the genus of projective curves verifying certain flag conditions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 3, 701–732. (Summary) **98g:14028** 14H45

Diggle, Peter J. (*with* Chetwynd, Amanda G.) ★ Discrete mathematics. (English summary) Modular Mathematics Series. *Arnold, London*, 1995. x+209 *pp. ISBN* 0-340-61047-6 (From the preface) **98f:00002** 00A05 (05–01)

— (*with* Chetwynd, Amanda G.) On estimating the reduced second moment measure of a stationary spatial point process. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 11–15. 62M30

— (*with* Tawn, Jonathan A.; Moyeed, R. A.) Model-based geostatistics. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. C* **47** (1998), *no.* 3, 299–350. 62J12 (62M30, 62P99, 86A32)

— *see also* **Modelling longitudinal and spatially correlated data**, **98h:62003**

Di Gianantonio, Pietro An abstract data type for real numbers. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 121–131, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q55 (03D80, 68N15, 68Q05, 68Q65)

Di Giuseppe, G. (*with* Boschi, D.; De Martini, F.) Test of the violation of local realism in quantum mechanics without Bell inequalities. (English summary) *Phys. Lett. A* **228** (1997), *no.* 4-5, 208–214. (Summary) **98e:81014** 81P15 (81V80)

Digne, F. (*with* Lehrer, Gus I.; Michel, Jean Christian Marie) On Gel'fand-Graev characters of reductive groups with disconnected centre. *J. Reine Angew. Math.* **491** (1997), 131–147. (Meinolf Geck) **98i:20015** 20C33 (20G40)

Dihidar, K. (*with* Khan, A. R.; Pal Choudhury, Pabitra; Mitra, Subrata; Sarkar, Palash) VLSI architecture of a cellular automata machine. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 79–94. (Summary) **98b:68138** 68Q80 (68Q35)

Di Ianni, Miriam (*with* Cesati, Marco) Computation models for parameterized complexity. (English summary) Workshop on Computability, Complexity and Logic (Zinnowitz, 1996). *Math. Logic Quart.* **43** (1997), *no.* 2, 179–202. (William Gasarch) **98b:68056** 68Q15 (03D10, 68Q25)

— Efficient delay routing. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 131–151. (Summary) **98k:68021** 68M10

van Dijk, G. (*with* Hille, S. C.) Canonical representations related to hyperbolic spaces. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 109–139. (Jacques Faraut) **98k:22053** 22E46 (43A85)

van Dijk, Marten A linear construction of perfect secret sharing schemes. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 23–34, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* Jackson, Wen-Ai; Martin, Keith M.) A note on duality in linear secret sharing schemes. (English summary) *Bull. Inst. Combin. Appl.* **19** (1997), 93–101. (Douglas R. Stinson) **98a:94020** 94A60 (05B35)

— More information theoretical inequalities to be used in secret sharing? (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 41–44. (Summary) **98j:94017** 94A60 (68P25)

van Dijk, Nico M. Error bounds for arbitrary approximations of "nearly reversible" Markov chains and a communications example. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 171–184. (Summary) **98a:60094** 60J10 (60K25)

— (*with* Miyazawa, Masakiyo) Error bounds on a practical approximation for finite tandem queues. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4, 201–208. (Summary) **98h:60132** 60K25

— (*with* Miyazawa, Masakiyo) A note on bounds and error bounds for nonexponential batch arrival systems. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 2, 189–201. (Summary) **98k:60168** 60K25 (90B22)

van Dijke, Marinus I. J. (*with* van der Zee, Sjoerd E. A. T. M.) A similarity solution for light oil spreading on groundwater. (English summary) *Progress in industrial mathematics at ECMI 96* (*Lyngby*, 1996), 27–34, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 86A05 (76S05)

Dijkgraaf, Robbert (*with* Moore, Gregory W.; Verlinde, Erik; Verlinde, Herman) Elliptic genera of symmetric products and second quantized strings. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 197–209. (Richard A. Corrado) **98g:81191** 81T40 (11F03, 14C05, 58G12, 81T30)

— (*with* Moore, Gregory W.) Balanced topological field theories. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 411–440. (Gloria Luzón) **98i:58054** 58D29 (81T60, 81T70)

— (*with* Verlinde, Erik; Verlinde, Herman) BPS spectrum of the five-brane and black hole entropy. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 77–88. (Fermin Aldabe) **98f:83103** 83E30 (81T30, 83C57)

— (*with* Verlinde, Erik; Verlinde, Herman) BPS quantization of the five-brane. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 89–113. (Fermin Aldabe) **98f:83104** 83E30 (81T30, 83C57)

— (*with* Verlinde, Erik; Verlinde, Herman) Matrix string theory. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 43–61. (Richard A. Corrado) **98m:81137** 81T30 (81T60)

— *see also* **String theory, gauge theory and quantum gravity, 98b:81004**

Dijkhuizen, Mathijs S. Some remarks on the construction of quantum symmetric spaces. (English summary) Representations of Lie groups, Lie algebras and their quantum analogues. *Acta Appl. Math.* **44** (1996), *no.* 1-2, 59–80. (Summary) **98c:33020** 33D80 (05E35, 33D45, 43A90, 81R50)

— (*with* Noumi, Masatoshi; Sugitani, Tetsuya) Multivariable Askey-Wilson polynomials and quantum complex Grassmannians. (English summary) *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 167–177, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:33040** 33D80 (17B37, 33D55)

Dijksma, Aad (*with* Langer, Heinz) Notes on a Nevanlinna-Pick interpolation problem for generalized Nevanlinna functions. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 69–91, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Daniel Alpay) **98g:47015** 47A57 (30E05, 47B50)

— (*with* Arocena, Rodrigo; Azizov, Tomas Ya.; Marcantognini, Stefania A. M.) On commutant lifting with finite defect. II. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 105–116. (T. Ando) **98a:47006** 47A20 (47B50)

Dijkstra, Henk A. (*with* Katsman, Caroline A.) Temporal variability of the wind-driven quasi-geostrophic double gyre ocean circulation: basic bifurcation diagrams. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 3-4, 195–232. (Summary) **98d:86005** 86A05 (76E20)

Dijkstra, Jan (*with* de France, J. F.; Dhanoa, M. S.; Baldwin, R. L.) Biomathematical applications in ruminant nutrition. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 241–258. (*see* **98i:92001**) 92C99

Dijkstra, Jan J. (*with* van Mill, Jan) On remainders without arcs. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 3, 263–266. (Douglas Mooney) **98h:54018** 54C20 (54D35)

— (*with* van Mill, Jan) Groups without convergent sequences. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 275–282. (M. Rajagopalan) **98f:22001** 22A10 (54C45, 54H11)

— (*with* Mogilski, Jerzy) Countable dimensionality and dimension raising cell-like maps. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 73–79. (Zbigniew Karno) **98i:54017** 54F45 (54C56, 54E40)

Dikansky, Arnold On stability of nonhomogeneous periodic solutions to reaction-diffusion equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 181–185. (*see* **98i:00027**) 35K57 (35B10, 35B35)

Diker, Murat (*with* Brown, Lawrence M.) A bitopological view on weight and cardinality in almost stably locally compact spaces. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 40–53, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54065** 54E55 (54A25)

— (*with* Brown, Lawrence M.) The biweight of pairwise fine p-spaces. (English summary) *Quaestiones Math.* **20** (1997), *no.* 2, 147–155. (Summary) **98g:54066** 54E55 (54A25)

Dikhovichnil, O. O. *see* **Dykhovichnyĭ, A. A.**

Dikıcı, Ramazan (*with* Işık, Ahmet) The Jacobi modular forms. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 181–186. 11F55 (33C80)

— (*with* Işık, Ahmet) Fibonacci sequences in modular groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 187–189. 20H10 (11B39)

— (*with* Smith, Geoff C.) Fibonacci sequences in finite nilpotent groups. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 133–142. (H. Bechtell) **98i:20019** 20D15 (11B39)

Dikin, I. I. (*with* Roos, Cornelis) Convergence of the dual variables for the primal affine scaling method with unit steps in the homogeneous case. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 305–321. (Florian Jarre) **98k:90055** 90C05

Dikovskiĭ, A. Ya. (*with* Dekhtyar, Mikhail I.) Total homeostaticity and integrity constraints restorability recognition. (English summary) *Logic programming* (*Leuven*, 1997), 241–255, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68063** 68P15 (68N17)

— (*with* Dekhtyar, Mikhail I.) Recognition of deductive data base stability. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 67–77, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:68046** 68P15 (68N17)

Dikranjan, Dikran N. (*with* Tonolo, Alberto) On characterization of linear compactness. *Riv. Mat. Pura Appl. No.* 17 (1995), 95–106. (From the introduction) **98g:18003** 18B30 (54B30)

— (*with* Ciesielski, Krzysztof^2) Uniformly approachable maps. *Topology Proc.* **20** (1995), 75–89. (Michael Tkačenko) **98e:54018** 54C35 (54C10)

— (*with* Uspenskiĭ, Vladimir V.) Isomorphisms between homeomorphic connected compact-like abelian groups. (English summary) *Infinite groups* 1994 (*Ravello*), 33–39, *de Gruyter, Berlin*, 1996. (K. D. Magill, Jr.) **98k:54067** 54H11 (22C05, 54A35, 54D25)

— (*with* Policriti, Alberto) Complementation in the lattice of equivalence relations. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 83–94. (Marcel Erné) **98g:06015** 06C15 (54A10)

— (*with* Shakhmatov, Dmitriĭ B.) Algebraic structure of pseudocompact groups. (English summary) *Mem. Amer. Math. Soc.* **133** (1998), *no.* 633, $x+83$ *pp.* (Dieter Remus) **98j:22001** 22A05 (22C05, 54H11)

Diks, C. (*with* Takens, F.; DeGoede, J.) Spatio-temporal chaos: a solvable model. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 269–285. (Summary) **98b:58109** 58F13

Diks, Erik Bas ★ Controlling divergent multi-echelon systems. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Technische Universiteit Eindhoven, Eindhoven*, 1997. iv+158 *pp. ISBN* 90-901-0794-0 (Jean B. Lasserre) **98f:90016** 90B05 (90B15, 90B22)

— (*with* van der Heijden, M. C.) Modeling stochastic lead times in multi-echelon systems. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 469–485. 90B05

Diks, Krzysztof (*with* Chlebus, Bogdan S.; Pelc, Andrzej) Reliable broadcasting in hypercubes with random link and node failures. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 337–350. (M. Dal Cin) **98i:68021** 68M10 (90B12)

— (*with* Hagerup, Torben) More general parallel tree contraction: register allocation and broadcasting in a tree. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 126–140, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98h:68045** 68N20 (68M10)

— (*with* Pelc, Andrzej) System diagnosis with smallest risk of error. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 141–150, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68M15

— (*with* Berman, Piotr; Pelc, Andrzej) Reliable broadcasting in logarithmic time with Byzantine link failures. (English summary) *J. Algorithms* **22** (1997), *no.* 2, 199–211. (A. T. Amin) **98c:68026** 68M10 (90B12)

Dikshit, H. P. Wavelets through multiresolution analysis. *Math. Student* **65** (1996), *no.* 1-4, 179–195. 42C15 (41A99)

Dikusar, V. V. Methods for the synthesis of optimal systems with feedback. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1812–1818, 1941; *translation in Differential Equations* **31** (1995), *no.* 11, 1780–1786 (1996). (F. M. Kirillova) **98c:49061** 49L20 (49N10)

— A generalized linear programming problem. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 6, 752–754. (K. Zimmermann) **98c:90064** 90C05

— A generalized quadratic programming problem. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 29–31. (K. Zimmermann) **98b:90100** 90C20 (65J15, 90C26)

Dilão, Rui (*with* Schiappa, Ricardo) Stable knotted strings. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 57–65. (Bogusław Broda) **98f:81250** 81T30 (57M25)

Di Lascio, Luigi (*with* Cavaliere, Luisa; Gisolfi, Antonio) The algebraic properties of the linguistic truth-values. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 805–827. (Summary) **98g:03072** 03B52

Dilcher, Karl (*with* Agoh, Takashi; Skula, Ladislav) Fermat quotients for composite moduli. (English summary) *J. Number Theory* **66** (1997), *no.* 1, 29–50. (Andrew Granville) **98h:11002** 11A07 (11B68)

— (*with* Anderson, N. D.; Rovnyak, J.) Mathematics research libraries at the end of the twentieth century. *Notices Amer. Math. Soc.* **44** (1997), *no.* 11, 1469–1472. 01A74

— (*with* Agoh, Takashi; Skula, Ladislav) Wilson quotients for composite moduli. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 843–861. (Andrew Granville) **98h:11003** 11A07 (11B68)

Dil'dabaev, Sh. A. (*with* Altaliev, Sh. M.; Alekseeva, L. A.; Zhanbyrbaev, N. B.) ★ Метод граничных интегральных уравнений в задачах динамики упругих многосвязных тел. (Russian. Russian summary) [The method of boundary integral equations in problems of the dynamics of elastic multiply connected bodies] "*Gylym*", *Alma Ata*, 1992. 228 *pp. ISBN* 5-628-00984-9 (Summary) **98a:73018** 73C02 (35Q72, 73D10, 73D99, 73V10)

DiLellio, J. A. (*with* Olmstead, W. E.) Shear band formation due to a thermal flux inhomogeneity. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 959–971. (Summary) **98e:73066** 73E50 (45G05, 73B30)

Di Lello, Roberto A peanian analysis of tigrigna. II. Derivation and grammar algebra. *Metalogicon* **8** (1995), *no.* 2, 73–90. 03B65

DiLena, Giovanni (*with* Messano, Basilio; Zitarosa, A.) Results associated with the iterative process $x_{n+1} = f(x_n, x_{n-1})$. (Italian. English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 109–130. (Remo Badii) **98g:58108** 58F12 (58F10)

— (*with* Iavernaro, F.; Mazzia, Francesca) On the unique solvability of the systems arising from boundary value methods. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 1–12. (Martin Hermann) **98e:34023** 34A45 (65L10)

— (*with* Messano, Basilio; Roux, Delfina) Rigid sets and nonexpansive mappings. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3575–3580. (Józef Banaś) **98b:47069** 47H09 (46B20)

Diligenti, M. (*with* Carini, A.; Maier, Giulio) Symmetric boundary integral formulations of transient heat conduction: saddle-point theorems for BE analysis and BE-FE coupling. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 2, 253–283. (P. Rochus) **98i:80003** 80A20 (80–08)

— (*with* Aimi, A.; Monegato, G.) New numerical integration schemes for applications of Galerkin BEM to 2-D problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 11, 1977–1999. (Summary) **98c:73082** 73V10

— (*with* Monegato, G.) Integral evaluation in the BEM solution of (hyper)singular integral equations. 2D problems on polygonal domains. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 29–57. (Yumin Cheng) **98k:65073** 65N38 (65D32)

Di Lisio, R. (*with* Grenier, Emmanuel; Pulvirenti, Mario) On the regularization of the pressure field in compressible Euler equations. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 227–238. (Denis Serre) **98h:76114** 76N10 (35L65, 35Q30)

— (*with* Grenier, Emmanuel; Pulvirenti, Mario) The convergence of the SPH method. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 95–102. (Summary) **98i:76063** 76M25 (76N10)

Dill, K. A. (*with* Phillips, A. T.; Rosen, J. Ben) Molecular structure prediction by global optimization. (English summary) *Developments in global optimization* (*Szeged*, 1995), 217–234, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C30 (90C90)

— (*with* Phillips, A. T.; Rosen, J. Ben) CGU: an algorithm for molecular structure prediction. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 1–21, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C26 (65K05, 90C90, 92C40)

Dillen, Franki (*with* Van de Woestyne, Ignace; Verstraelen, Leopold; Walrave, Johan) Curves and ruled surfaces of finite type in Minkowski space. *Geometry and topology of submanifolds, VII* (*Leuven*, 1994/*Brussels*, 1994), 124–127, *World Sci. Publishing, River Edge, NJ*, 1995. (Ricardo Sa Earp) **98a:53080** 53C40 (53C50)

— Lagrangian submanifolds of $S^6(1)$. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 138–144, *World Sci. Publishing, River Edge, NJ*, 1996. (Maria Falcitelli) **98a:53092** 53C42 (53C40)

— (*with* Abdalla, B. E.; Vrancken, Luc) Affine homogeneous surfaces in $\mathbf{R}^3$ with vanishing Pick invariant. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 105–115. (Hui Li Liu) **98h:53020** 53A15 (53C30)

— (*with* Petrović-Torgašev, Miroslava; Verstraelen, Leopold) Einstein, conformally flat and semi-symmetric submanifolds satisfying Chen's equality. (English summary) *Israel J. Math.* **100** (1997), 163–169. (Ivko Dimitric) **98g:53097** 53C40 (53C25)

Dillencourt, Michael B. (*with* Dey, Tamal Krishna; Ghosh, Subir Kumar; Cahill, Jason M.) Triangulating with high connectivity. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 39–56. (Summary) **98c:65214** 65Y25

Diller, D. J. (*with* DiBenedetto, E.) On the rate of drying of gelatin in a photographic film. *Adv. Differential Equations* **1** (1996), *no.* 6, 989–1003. (Ioannis G. Stratis) **98a:35076** 35K65 (35B40, 35K20, 76R99)

Diller, Jeffrey Limits on an extension of Carleson's $\overline{\partial}$-theorem. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 1, 1–17. (M. Nakai) **98a:30053** 30F30 (30C25, 30F10, 30H05)

Dillon, Charles H. (*with* Yoneyama, Jun; Speyer, Jason L.) Robust adaptive control for linear systems with unknown parameters. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1909–1916. 93D21 (93C41)

Dillon, L. K. (*with* Ramakrishna, Y. S.; Moser, Louise E.; Melliar-Smith, P. M.; Kutty, G.) A real-time interval logic and its decision procedure. (English summary) *Sādhanā* **21** (1996), *no.* 2, 147–184. (Editors) **98i:68195** 68Q60 (03B25, 03B45, 03B70, 68Q10)

— (*with* Ramakrishna, Y. S.; Melliar-Smith, P. M.; Moser, Louise E.; Kutty, G.) Interval logics and their decision procedures. I. An interval logic. (English summary) *Theoret. Comput. Sci.* **166** (1996), *no.* 1-2, 1–47. (Wolfgang Thomas) **98h:68167** 68Q60 (03B25, 03B45, 03B70, 03D05)

— (*with* Ramakrishna, Y. S.; Melliar-Smith, P. M.; Moser, Louise E.; Kutty, G.) Interval logics and their decision procedures. II. A real-time interval logic. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 1–46. (Summary) **98c:03049** 03B45 (03B25, 68Q60, 68Q68)

Dil'manov, T. B. On the conditional well-posedness of a problem in integral geometry. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 52–60, 169–170, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 43A50

Di Loreto, Mario The "Stockholm inventory" and "First register" of Descartes. Marginal notes on the posthumous mathematical works. (Italian. English and Italian summaries) *Nuncius Ann. Storia Sci.* **10** (1995), *no.* 2, 551–615. (A. C. Garibaldi) **98f:01017** 01A45

Dilworth, S. J. (*with* Hsu, Yu-Ping) On a property of Kadec-Klee type for quasi-normed unitary matrix spaces. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 183–194. (Dirk Werner) **98a:46021** 46B20 (46B28, 47B10)

— (*with* Sobecki, David) On hereditariness for real and complex interpolation. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 91–98. (Fernando Cobos) **98c:46159** 46M35 (46B20)

Di Maio, Giuseppe (*with* Holá, Ľubica) On hit-and-miss topologies. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **62** (1995), 103–124 (1996). (Summary) **98f:54010** 54B20 (54A10, 54A20, 54E50)

— (*with* Holá, Ľubica; Holý, Dušan) A characterization of locally compact spaces by epiconvergence and convergence in epitopology. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 245–257. (Summary) **98h:54016** 54C05 (54A20, 54B20, 54C30, 54C35)

— (*with* Holá, Ľubica) Wijsman topology on function spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 52–70. (Taras Banakh) **98e:54019** 54C35 (54B05, 54B20, 54C05, 54E35)

Di Maio, Maria Concetta Inductive logic: aims and procedures. *Theoria* **60** (1994), *no.* 2, 129–153. (Peter Milne) **98g:03062** 03B48 (60A05)

Dimaki, Caterina (*with* Xekalaki, Evdokia) Additive and multiplicative distortion of observations: some characteristic properties. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 113–127. (J. A. Melamed) **98e:62021** 62E10

Dimakis, Aristophanes (*with* Müller-Hoissen, Folkert) Differential calculus and discrete structures. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 213–218, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:58025** 58B30 (81R50)

— (*with* Müller-Hoissen, Folkert) Discrete differential manifolds and physics. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 469–474, *World Sci. Publishing, River Edge, NJ*, 1995. (Andreas Cap) **98f:58026** 58B30 (05C20, 81P99)

— (*with* Tzanakis, Constantinos) Noncommutative geometry and its relation to stochastic calculus and symplectic mechanics. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 137–146, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Andreas Cap) **98i:58022** 58B30 (58F05, 58G32)

— (*with* Tzanakis, Constantinos) On the uniqueness of the Moyal structure of phase-space functions. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4857–4866. (Mohsen Masmoudi) **98j:58046** 58F06 (81S10)

Di Marco, Silvia C. (*with* González, Roberto L. V.) A numerical procedure for minimizing the maximum cost. (English summary) *System modelling and optimization* (*Prague*, 1995), 285–291, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 49K35 (90D25)

— (*with* González, Roberto L. V.) A finite state stochastic minimax optimal control problem with infinite horizon. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 134–141, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 93E20 (90C40)

— On the numerical resolution of Isaac's inequalities. (English and French summaries) *RAIRO Rech. Opér.* **31** (1997), *no.* 4, 363–373. (L. Stettner) **98m:90210** 90D25 (49J40, 60G40, 90D15)

Dimarogonas, A. D. (*with* Panteliou, S. D.; Katz, I. Norman) Direct and inverse interpolation for Jacobian elliptic functions, zeta function of Jacobi and complete elliptic integrals of the second kind. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 51–57. (Summary) **98b:33041** 33E05 (33C90, 65D05, 92C05)

Di Martino, L. (*with* Tamburini Bellani, Maria Chiara; Zalesskiĭ, Aleksandr E.) Carter subgroups in classical groups. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 264–276. (R. H. Dye) **98h:20085** 20G40

Di Masi, G. B. (*with* Stettner, Ł.) Bayesian ergodic adaptive control of diffusion processes. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 155–183. (Summary) **98c:93116** 93E20 (49K45)

Dimassi, Mouez Formule de trace et applications. [The trace formula and applications] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. VI*, 9 *pp., École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 35S05 (35P05, 47G30)

Di Matteo, Ilaria (*with* Orsingher, Enzo) Detailed probabilistic analysis of the integrated three-valued telegraph signal. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 671–684. (Summary) **98e:60114** 60J25 (60J80)

Di Meglio, A. (*with* Ercoli Finzi, A.) Minimum time control of flexible spacecraft by Hamilton's principle. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 6, 555–565. 49N55 (70Q05, 73K50)

Di Menza, Laurent (*with* Bruneau, Ch.-H.) Artificial boundary conditions for nonlinear Schrödinger equations. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 266–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q55

— Transparent and absorbing boundary conditions for the Schrödinger equation in a bounded domain. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 759–775. (Jennifer Zhao) **98h:65036** 65M06 (35J10, 35Q55, 65N06)

le Dimet, Jean-Yves *see* **Le Dimet, Jean-Yves**

Dimiev, Stancho Problems in almost complex analytic geometry. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 46–52, *World Sci. Publishing, River Edge, NJ*, 1997. (Gary A. Harris) **98k:32011** 32B05 (53C56)

— *see also* **Topics in complex analysis, differential geometry and mathematical physics. 98c:00017**

Diminnie, Charles (*with* Andalafte, Edward; Freese, Raymond) Pythagorean Euclidean four point properties. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 7–14. (J. A. Lester) **98b:51018** 51F20 (54E50)

Dimitrić, Ivko A note on equivariant embeddings of Grassmannians. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **59(73)** (1996), 131–137. (Bang-yen Chen) **98c:53062** 53C40

— 1-type submanifolds of non-Euclidean complex space forms. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 673–684. (Marcos Dajczer) **98i:53075** 53C40

Dimitrić, Radoslav M. A note on Kurepa's hypotheses in algebra. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 31–34. (Summary) **98c:04003** 04A20 (20D25, 20F24, 20F50, 20K10, 20K40, 20K45)

Dimitrijević, Vladimir (*with* Šarić, Zoran) An efficient transformation of the generalized traveling salesman problem into the traveling salesman problem on digraphs. (English summary) *Inform. Sci.* **102** (1997), *no.* 1-4, 105–110. 68Q25 (05C20, 68R10, 90C35)

Dimitropoulos, Costas D. (*with* Beris, Antony N.) An efficient and robust spectral solver for nonseparable elliptic equations. *J. Comput. Phys.* **133** (1997), *no.* 1, 186–191. (From the introduction) **98a:65170** 65N35

Dimitrov, Boyan (*with* Green, David, Jr.) Stochastic optimization problems under incomplete information on distribution functions. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 93–110. 90B25 (90C15)

Dimitrov, Dimitar K. A problem of Pólya concerning polynomials which obey Descartes' rule of signs. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 241–250. (Summary)

98d:41007 41A10 (11C08)

— A refinement of the Gauss-Lucas theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2065–2070. (George L. Csordas) **98h:30005** 30C15

Dimitrov, Dinko (*with* Atanassov, Krassimir Todorov; Kacprzyk, Janusz; Kim, Soon-Ki; Shannon, Anthony; Szmidt, Eulalia) Applications of operators over intuitionistic fuzzy sets in analysis of asymmetric information. (English summary) *Notes IFS* **3** (1997), *no.* 1, 29–34. 03E72

Dimitrov, P. (*with* Zheleva, I.; Kambourova, V.; Rusev, R.) Numerical algorithm for studying heat transfer in a glass melting furnace. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 589–595, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 80–08 (65M70, 80A20)

— (*with* Zheleva, I.; Kambourova, V.; Rusev, R.) Identification of the heat-transfer in a glass melting furnace. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 596–605, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 80A20 (80–08)

Dimitrov, V. S. (*with* Jullien, G. A.; Miller, William C.) A fast and robust RNS algorithm for evaluating signs of determinants. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 9–14. (Summary) **98m:65076** 65F40 (11Y16, 65Y25)

Dimitrova, Margarita (*with* Bainov, Drumi D.; Dishliev, A. B.) Oscillating solutions of nonlinear impulsive differential equations with a deviating argument. (English summary) *Note Mat.* **15** (1995), *no.* 1, 45–54 (1997). (Yuri V. Rogovchenko) **98m:34133** 34K15 (34A37)

— (*with* Bainov, Drumi D.) Oscillation of sub- and superlinear impulsive differential equations with constant delay. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 57–67. (Summary) **98b:34087** 34K15 (34A37)

— (*with* Bainov, Drumi D.; Dishliev, A. B.) Asymptotic properties of solutions of a class of impulsive differential equations of second order with a retarded argument. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 120–126. (Eduardo Liz) **98e:34020** 34A37 (34K15, 34K25)

Dimitrova, Neli S. (*with* Ullrich, Christian P.) Verified solving of linear systems with uncertainties in Maple. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 142–149, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F10 (65G10)

Dimitrovski, Dragan (*with* Mijatović, Mijat; Cvejić, Stana D.) Differential equation II-order geometry. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 65–72, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 34A26 (34A05, 34A30, 51N20)

— (*with* Mitevska, J.) Canonization of nonlinear trigonometry. (Macedonian. French and Macedonian summaries) *Prirod.-Mat. Fak. Univ. Kiril Metodij Skopje Godishen Zb.* **36** (1995), 47–60. 34A99 (34C10)

— (*with* Mijatović, Mijat) A series-iteration method in the theory of ordinary differential equations. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 441–461, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98d:00020**) 34A05 (34A45)

— (*with* Rajović, Miloje; Stojiljković, Rade) Elemental solution of Vecua equation with analytic coefficients on z, $\overline{z}$. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 14–21. 35J45 (30G20)

— (*with* Rajović, Miloje; Stojiljković, Rade) Properties of the general solution of the homogeneous I. N. Vecua equation with analytic coefficients in dependence on z and $\overline{z}$. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 22–28. 35J45 (30G20)

— (*with* Rajović, Miloje; Stoiljković, Rade) The generalization of the I. N. Vecua equation with the analytic coefficients in z, $\overline{z}$. (English summary) *Filomat No.* 11 (1997), 29–32. 30G20 (35J45)

Dimock, J. Canonical quantization of Yang-Mills on a circle. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 1, 85–102. (Summary) **98b:81139** 81T13 (22E70, 58Z05, 81S99)

— A non-Gaussian fixed point for the renormalization group. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 39–46, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98g:00029**) 81T17 (81T08, 81T10, 82B28)

Dimopoulos, S. (*with* Dvali, Gia; Rattazzi, Riccardo) Dynamical inflation and unification scale on quantum moduli spaces. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 119–124. (Summary) **98j:81325** 81T60 (81T13, 81V22)

Dimopoulos, Yannis On computing logic programs. (English summary) *J. Automat. Reason.* **17** (1996), *no.* 3, 259–289. (Summary) **98j:68007** 68N17 (68Q55)

— (*with* Magirou, Vangelis; Papadimitriou, Christos H.) On kernels, defaults and even graphs. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 1–12. (Summary) **98b:68178** 68T27 (03B60, 03B70)

Dimotakis, Paul E. (*with* Papalexandris, Miltiadis V.; Leonard, Anthony) Unsplit schemes for hyperbolic conservation laws with source terms in one space dimension. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 31–61. (Summary) **98d:76120** 76M20 (65M06, 76L05, 80–08, 80A25)

Dimou, G. E. (*with* Tsagas, Grigorios T.) The spectrum of the Laplace operator for a Dold manifold. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 115–125. (Haruo Kitahara) **98k:58233** 58G25

— (*with* Tsagas, Grigorios T.) Classification of Siegel domains of dimension 14 over $\mathbf{C}$. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 242–257. (Akio Kodama) **98e:32058** 32M10

Dimov, H. D. (*with* Nenov, Svetoslav I.) Some features of uncontinuable solutions of impulsive dynamical systems. *Extracta Math.* **11** (1996), *no.* 3, 443–456. (Yuri V. Rogovchenko) **98e:34022** 34A37 (34A12)

Dimov, Ivan T. (*with* Brandt, Jørgen[2]; Christensen, Jesper Heke; Georgiev, Krassimir; Uria, I.; Zlatev, Z.) Treatment of large air pollution models. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 66–77, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 86A10 (86–02)

— (*with* Karaivanova, A. N.) Iterative Monte Carlo algorithms for linear algebra problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 150–160, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65C05 (65F10)

— (*with* Nedyalkov, M.; Bordone, P.; Brunetti, R.; Jacoboni, C.) Using the Wigner function for quantum transport in device simulation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 33–53. 81S30

Dimova, E. A. On the distribution of the zeros of the composition of the kind $\Phi(z) = \sum_{k=0}^{m} \binom{n-k}{m-k} f_1^{(m-k)}(z) f_2^{(k)}(z)$. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 107–112. 30C15

Dimovski, Donče Combinatorial description of spin manifolds. (English summary) *Prirod.-Mat. Fak. Univ. Kiril Metodij Skopje Godishen Zb.* **35** (1994), 5–11. (Summary) **98f:57047** 57R20 (57Q99, 57R15)

bahei-el-Din, A. *see* **Bahei-El-Din, A.**

hossam el-Din, M. *see* **Hossam El-Din, M.**

mohie el-Din, M. M. *see* **Mohie El-Din, M. M.**

abou-Dina, M. S. *see* **Abou-Dina, M. S.**

Dinaburg, E. I. (*with* Sinaĭ, Yakov Grigor′evich; Soshnikov, A. B.) Splitting of the low Landau levels into a set of positive Lebesgue measure under small periodic perturbations. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 559–575. (Peter D. Hislop) **98j:81079** 81Q10 (35J10, 35P05, 47N50, 81Q15, 82B10)

— Some problems in the spectral theory of discrete operators with quasiperiodic coefficients. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 3–52; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 451–499. (Svetlana Jitomirskaya) **98m:47051** 47B39 (39A12, 47N55, 82B10)

naṣīr al-Dīn al-Ṭūsī *see* **Naṣīr al-Dīn al-Ṭūsī**

Di Nasso, Mauro Erratum: ""ZFC: an axiomatic "approach to nonstandard methods" [C. R. Acad. Sci. Paris Sér. I Math. **324** (1997), no. 9, 963–967; MR 97m:03097]. (French) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 5. 03H05

— Pseudo-superstructures as nonstandard universes. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 222–236. (Summary) **98j:03094** 03H05

Dinca, George (*with* Jebelean, Petru) Une méthode de point fixe pour le p-laplacien. (English and French summaries) [A fixed point method for the p-Laplacian] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 165–168. (Elvira Mascolo) **98a:35037** 35J65

Dinculeanu, Nicolae Stochastic integration with respect to a stochastic integral. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 701–721. (W. Hackenbroch) **98k:60085** 60H05 (28B05)

Dindoš, Martin Limits of transfinite convergent sequences of derivatives. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 338–345. (Ralph Henstock) **98b:03071** 03E50 (03E15, 03E65, 04A30, 26A24, 40A30)

— (*with* Toma, Vladimír) Filippov implicit function theorem for quasi-Carathéodory functions. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 475–481. (Corneliu Ursescu) **98h:49006** 49J24 (47H15)

Dine, Michael (*with* Banks, Tom) Couplings and scales in strongly coupled heterotic string theory. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 173–196. (Summary) **98b:81176** 81T30

— Supersymmetry phenomenology (with a broad brush). (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 813–881, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98j:81326** 81T60 (81R40, 81T30, 81V22)

— (*with* Banks, Tom) The cosmology of string-theoretic axions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 445–460. (Summary) **98g:83097** 83E30 (81T30)

— (*with* Seiberg, Nathan) Comments on higher derivative operators in some SUSY field theories. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 239–244. (Summary) **98j:81327** 81T60 (81T15)

Dineen, Seán Complex analysis in an infinite-dimensional setting. *Geometric complex analysis* (*Hayama*, 1995), 183–194, *World Sci. Publishing, River Edge, NJ*, 1996. (Jorge Mujica) **98e:46053** 46G20 (32K05, 46A11, 46B15, 58B12)

— ★ Multivariate calculus and geometry. (English summary) Springer Undergraduate Mathematics Series. *Springer-Verlag London, Ltd., London*, 1998. xii+262 *pp. ISBN* 3-540-76176-4 26–01 (00A05)

Dineykhan, M. (*with* Efimov, G. V.) Stability of three-body Coulomb systems with $J = 1$ in the oscillator representation. (English summary) *Few-Body Systems* **21** (1996), *no.* 2, 63–79. (Summary) **98f:81361** 81V10

Ding, A. Adam (*with* Hwang, J. T. Gene) Prediction intervals for artificial neural networks. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 748–757. (Summary) **98f:62073** 62F25 (62G15)

Ding, B. *see* **Ding, Baoyan**

Ding, Bang Jun Approximative distributions of the mean and variance of a sample of independent variables with censored data. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 159–166. 62E17

Ding, Baoyan (*with* Best, Michael J.) Global and local quadratic minimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 1, 77–90. (Vera V. Kovačević-Vujčić) **98c:90085** 90C20 (65K05)

Ding, C. *see* **Ding, Cun Sheng**

Ding, Chongwen Asymptotic behaviour of a diffusion system with time delay in population dynamics. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 2, 154–161. (Jian Hong Wu) **98b:35211** 35R10 (35K57, 35Q80, 92D25)

Ding, Cun Sheng (*with* Pei, Dingyi; Salomaa, Arto) ★ Chinese remainder theorem. Applications in computing, coding, cryptography. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. viii+213 *pp. ISBN* 981-02-2827-9 (Alexander M. Barg) **98d:94001** 94–02 (11A07, 11T71, 65–02, 94A60)

Ding, Decheng (*with* Qian, Lei) Isolated d.r.e. degrees are dense in r.e. degree structure. *Arch. Math. Logic* **36** (1996), *no.* 1, 1–10. (A. Kučera) **98f:03040** 03D25 (03D30)

Ding, E-Jiang (*with* Ding, Mingzhou; Ditto, William L.; Gluckman, Bruce J.; In, Visarath; Peng, Jian-Hua; Spano, Mark L.; Yang, Weiming) Control and synchronization of chaos in high-dimensional systems: review of some recent results. (English summary) *Chaos* **7** (1997), *no.* 4, 644–652. 58F13 (58F40)

Ding, Fang Yun (*with* Ding, Rui) Dynamic properties of viscoelastic columns. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 1, 28–32. 73F15 (34D20, 73H10, 73K05)

Ding, Feng[2] Convergence analysis of an auxiliary model identification method for multivariable systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 192–200. 93E12 (93B30)

Ding, Guanggui Small into isomorphisms on L_∞ spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 719–720. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 4, 417–421. (Krzysztof Jarosz) **98c:46057** 46E30 (47B38)

Ding, Guoli (*with* Oporowski, Bogdan; Oxley, James; Vertigan, Dirk) Unavoidable minors of large 3-connected matroids. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 244–299. (Talmage J. Reid) **98h:05052** 05B35

Ding, Hao-Gang (*with* Guo, Han-Ying; Li, Jian-Ming; Wu, Ke[1]) Gauge theory on discrete groups and the standard model. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 79–92, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81367** 81V22 (58B30)

Ding, Hao Jiang (*with* Peng, Nan Ling; Li, Yu) The wedge subjected to traction with distribution r^n: a paradox resolved. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 1, 62–73. (Jian Ke Lu) **98e:73027** 73C02 (73V35)

— (*with* Wang, Guo Qing; Chen, Wei Qiu) General solution of plane problem of piezoelectric media expressed by "harmonic functions". *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 8, 757–764; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 703–710 (*Chinese. English and Chinese summaries*). (Summary) **98j:73075** 73R05 (73C02)

— (*with* Wang, G. Q.; Chen, Wei Qiu) Green's functions for a two-phase infinite piezoelectric plane. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2241–2257. (Summary) **98e:73109** 73R05 (73B27, 73K20)

Ding, Hongming (*with* Gross, Kenneth I.; Richards, Donald St. P.) Ramanujan's master theorem for symmetric cones. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 447–490. (Jacques Faraut) **98b:43019** 43A90 (17C50, 33C50)

Ding, Hongyu Classification of cyclic group actions on noncompact surfaces. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 325–341. (Jeanine K. Nolan) **98e:57023** 57M60 (55M20, 57N05)

Ding, J. *see* **Ding, Jiu**

Ding, Jintai (*with* Iohara, Kenji) Drinfeld comultiplication and vertex operators. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 1–13. (Hai Sheng Li) **98i:17034** 17B69 (17B37, 81R50)

— Spinor representations of $U_q(\delta(N))$. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 1, 81–94. (Mirko Primc) **98f:17011** 17B37 (17B10, 81R50)

— (*with* Iohara, Kenji) Generalization of Drinfeld quantum affine algebras. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 181–193. (Oleg Andreev) **98e:17019** 17B37 (81R50)

— (*with* Miwa, Tetsuji) Quantum current operators. I. Zeros and poles of quantum current operators and the condition of quantum integrability. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 277–284. (Nicolás Andruskiewitsch) **98d:17021** 17B37 (17B67, 81R50)

— (*with* Feigin, B. L.) Quantum current operators. II. Difference equations of quantum current operators and quantum parafermion construction. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 285–300. (Nicolás Andruskiewitsch) **98d:17022** 17B37 (17B67, 33D80, 81R50)

Ding, Jiu Computing fixed densities of Markov operators defined by stochastic kernels. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 85–88. 65U05

— (*with* Huang, Liang Jiao) On the continuity of generalized inverses of linear operators in Hilbert spaces. (English summary) *Linear Algebra Appl.* **262** (1997), 229–242. (Vladimir Rakočević) **98k:47002** 47A05 (47A50)

— Decomposition theorems for Koopman operators. *Nonlinear Anal.* **28** (1997), *no.* 6, 1011–1018. (T. Y. Li) **98b:28023** 28D05

— Absolutely continuous invariant measure of a piecewise concave mapping of [0, 1]. *Nonlinear Anal.* **28** (1997), *no.* 7, 1133–1140. (T. Y. Li) **98c:28019** 28D05

— (*with* Hang, Weihua) New perturbation results for equality-constrained least squares problems. (English summary) *Linear Algebra Appl.* **272** (1998), 181–192. (Mu Sheng Wei) **98m:65063** 65F20 (65F30)

— (*with* Li, Tien-Yien) A convergence rate analysis for Markov finite approximations to a class of Frobenius-Perron operators. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 765–777. (Makoto Mori) **98j:58090** 58F19 (47B38)

— (*with* Zhou, Aihui) Computing fixed densities of a class of Frobenius-Perron operators. *Nonlinear Anal.* **32** (1998), *no.* 3, 409–416. (Makoto Mori) **98m:58079** 58F11 (47B38, 58F19)

— The point spectrum of Frobenius-Perron and Koopman operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1355–1361. (Sen-Yen Shaw) **98j:47012** 47A35 (28D05, 47A10, 47B38)

Ding, Jiyu (*with* Song, Guo Dong[2]) On the problem of optimization of sociogram. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 89–96, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 05C85 (92H30)

Ding, Kequan Rook placements and cellular decomposition of partition varieties. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 107–151. (James B. Haglund) **98i:05166** 05E15 (05A30, 14M17)

Ding, Li Xin (*with* Zhou, Shu Zi) A parallel Schwarz algorithm for the finite element approximation of obstacle problem. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 141–146. 65K10 (65Y05)

Ding, Lian Yu (*with* Yang, De Li) Analysis of a class of repairable acyclic fork-join queueing networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 408–412. 90B22 (60K25)

Ding, Lijuan On accuracy of Lax-Friedrichs scheme for discontinuous solutions of convection equations. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 208–212. 65M06 (65M12)

Ding, Lixin (*with* Kang, Lishan; Chen, Yuping; Pan, Zhengjun) Using evolutionary computation to solve problems in nonparametric regression. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 27–31. 62G05 (62–04)

Ding, Mingzhou (*with* Ott, Edward) Chaotic scattering in systems with more than two degrees of freedom. *Three-dimensional systems* (*Gainesville, FL*, 1993), 182–204, *Ann. New York Acad. Sci.*, 751, *New York Acad. Sci., New York*, 1995. (*see* **98b:70018**) 58F13

— (*with* Ding, E-Jiang; Ditto, William L.; Gluckman, Bruce J.; In, Visarath; Peng, Jian-Hua; Spano, Mark L.; Yang, Weiming) Control and synchronization of chaos in high-dimensional systems: review of some recent results. (English summary) *Chaos* **7** (1997), *no.* 4, 644–652. 58F13 (58F40)

— (*with* Yang, Weiming) Stability of synchronous chaos and on-off intermittency in coupled map lattices. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4009–4016. (Volker Matthias Gundlach) **98g:58113** 58F13

Ding, Pei-zhu (*with* Wu, Cheng Xun[2]; Mu, Ying-kui; Li, Yan-xin; Jin, Ming-xing) Square-preserving and symplectic structure and scheme for quantum system. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 245–248. (Summary) **98d:81011** 81Q05 (81–08)

Ding, Peng (*with* Shen, Wen Huai; Zuo, Zai Si) Problems of extending localization functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 647–652. (Summary) **98m:55010** 55P60

Ding, Ping On a conjecture of Chalk. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 116–129. (Cécile Dartyge) **98f:11086** 11L07

Ding, Q. *see* **Ding, Qing[2]**

Ding, Qing[1] On the Cauchy problem for harmonic maps from two-dimensional curved Lorentzian manifolds. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 59–66. (Caio J. C. Negreiros) **98c:58033** 58E20

Ding, Qing[2] (*with* Cheng, T. C. Edwin) The complexity of scheduling starting time dependent tasks with release times. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 75–79. (Summary) **98k:90043** 90B35 (68M20)

Ding, Ren (*with* Reay, John R.; Zhang, Jianguo) Areas of generalized H-polygons. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 2, 304–317. (G. D. Chakerian) **98a:52027** 52C05 (52A38)

Ding, Rui (*with* Ding, Fang Yun) Dynamic properties of viscoelastic columns. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 1, 28–32. 73F15 (34D20, 73H10, 73K05)

Ding, Shi Jin (*with* Liu, Zu Han; Yu, Wanghui) Pinning of vortices for the Ginzburg-Landau functional with variable coefficient. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 77–88. (Yun Bo Zeng) **98b:35179** 35Q55 (35J99, 58E15)

— (*with* Liu, Zu Han) Asymptotic behavior of a class of Ginzburg-Landau functionals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 437–444; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 239–248. (Xian Guo Geng) **98k:35175** 35Q55 (35B40)

— (*with* Liu, Zu Han) On the zeros and asymptotic behavior of minimizers to the Ginzburg-Landau functional with variable coefficient. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 1, 45–64. (Monica Lazzo) **98h:58049** 58E20 (35Q55)

— (*with* Liu, Zu Han) Pinning of vortices for a variational problem related to the superconducting thin films having variable thickness. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 174–192. (Peter L. Christiansen) **98i:35173** 35Q55 (58E50, 82D55)

Ding, Shu Liang The lognormal distribution in a simple biological growth model. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 345–352. 62H99

Ding, Shusen (*with* Ling, Yi) Weighted norm inequalities for conjugate A-harmonic tensors. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 278–288. (M. Yu. Vasil'chik) **98c:58003** 58A14 (35J60)

— (*with* Ling, Yi) On radii of starlikeness and convexity for convolutions of starlike functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 403–404. (S. Bhargava) **98a:30013** 30C45 (30C55)

Ding, Sun Hong A theorem on periodic solutions to second-order ordinary differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 321–327. (Xin-Zhi Liu) **98c:34067** 34C25 (34B15)

Ding, Tongren Non-existence theorem of homoclinic solutions for some dissipative Duffing's equations. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 28–34, *World Sci. Publishing, River Edge, NJ*, 1995. (Sergei A. Dovbysh) **98g:34074** 34C25 (34C37, 70K10, 70K40)

Ding, Wanding (*with* Chen, Mu Fa; Zhu, Dongjin) Ergodicity of reversible reaction diffusion processes with general reaction rates. (English summary) A Chinese summary appears in Acta Math. Sinica **38** (1995), no. 2, 288. *Acta Math. Sinica* (*N.S.*) **10** (1994), *no.* 1, 99–112. (T. M. Liggett) **98b:60169** 60K35 (35K57)

Ding, Weiyue (*with* Jost, Jürgen; Li, Jia Yu[1]; Wang, Guofang) The differential equation $\Delta u = 8\pi - 8\pi he^u$ on a compact Riemann surface. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 230–248. (Yisong Yang) **98k:58062** 58E15 (35J60, 58G30)

— (*with* Li, Jia Yu[1]) A new proof of Hamilton's theorem on harmonic maps from manifolds with boundary. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 169–173. (Giandomenico Orlandi) **98h:58050** 58E20

Ding, Xia Xi (*with* Wang, Zhen[1]; Li, Cai Zhong) On a problem of Gel'fand. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 665–672. (L. Hsiao) **98f:35087** 35L15

— Some results on nonlinear evolution equations. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 43–51, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L60 (35K55, 35Qxx)

— (*with* Wang, Zhen[1]; Huang, Fei Min) On the Cauchy problem of transportation equations. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 2, 113–122. (Roberto Natalini) **98f:35102** 35L65 (35Q35, 76N10, 76X05)

— (*with* Wang, Zhen) Uniqueness of generalized solution for the Cauchy problem of transportation equations. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 3, 341–352. (Hermano Frid) **98j:35119** 35L65 (35D05, 35Q99)

— *see also* **Nonlinear evolutionary partial differential equations, 98d:35003** *and* **Gu, Yong Geng et al., 98k:01028**

Ding, Xiang-Mao (*with* Fan, Heng; Shi, Kang-jie; Wang, Pei[1]) The unitarity of the $W^{(3)}$ algebra from SU(3) parafermion. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 197–202. (Isabel P. Ennes) **98c:81085** 81R10 (17B68)

Ding, Xiao Dong Existence and uniqueness of strong solutions to two-parameter stochastic functional-differential equations with jumps. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 57–61, 56. 60H99

— (*with* Sun, Xiaojun) A note on monotone iterative technique for one-dimensional stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 65–81. (Summary) **98i:60052** 60H10

Ding, Xiao Hua (*with* Zhang, Shao Tai) Existence of periodic solutions to functional-differential equations with infinite delays. (Chinese. English and Chi-

nese summaries) *J. Harbin Inst. Tech.* **28** (1996), *no.* 5, 8–11. (Yuan-Tong Xu) **98c:34111** 34K15 (34C25)

— (*with* Liu, Hui Jie; Zou, Zhong Ying) Dissipativity for an ecosystem with unbounded delay. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 21–23. 92D40 (34K15)

Ding, Xiaoqing (*with* Lin, Xiaofan; Wu, Youshou) Theoretical analysis of the confidence metrics for nearest neighbor classifier. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 464–467. 62H30 (62G99)

Ding, Xie Ping Iterative solutions of nonlinear equations involving accretive and dissipative operators. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **19** (1996), *no.* 6, 1–12. (Dan Tiba) **98e:47099** 47H15 (47H17, 65J10)

— A coincidence theorem involving contractible spaces. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 53–56. 47H10 (54C60, 54H25)

— Existence of solutions for generalized quasi-variational-like inequalities. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 2, 141–150; *translated from Appl. Math. Mech.* **18** (1997), *no.* 2, 131–139 (*Chinese. English and Chinese summaries*). (Muhammad Aslam Noor) **98c:49024** 49J40 (47H19)

— Iterative process with errors to nonlinear φ-strongly accretive operator equations in arbitrary Banach spaces. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 75–82. (Summary) **98c:47078** 47H17 (47H09, 47H10)

— General algorithm of solutions for nonlinear variational inequalities in Banach space. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 131–137. (George Isac) **98m:49017** 49J40 (47H19)

— Iterative solution of equation $f \in x + Tx$ for an accretive operator T in uniformly smooth Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 13–21. (Dan Tiba) **98e:47100** 47H15 (47H06, 47H17, 65J10)

— Iterative process with errors of nonlinear equations involving m-accretive operators. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 191–201. (Charles Ejike Chidume) **98k:47125** 47H17 (47H06)

— Perturbed proximal point algorithms for generalized quasivariational inclusions. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 88–101. (George Isac) **98d:49005** 49J40 (47H19, 65K10)

— Generalized variational-like inequalities with nonmonotone set-valued mappings. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 601–613. (Daniel Goeleven) **98k:47129** 47H19 (47H04, 49J40)

— (*with* Deng, Lei) Generalized strongly nonlinear quasivariational inequalities and quasicomplementarity problems. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 1, 6–15. (George Isac) **98e:47105** 47H19 (47N10, 49J40)

— Iterative processes with errors for finding fixed points of multivalued monotone operators. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 54–59. (Summary) **98d:47134** 47H10 (47H04, 47H17)

— Equilibria of generalized games. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 22–27. 90D10 (90A14)

— Generalized quasi-variational-like inequalities with nonmonotone discontinuous mappings. (English summary) *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 1, 27–50. (Muhammad Aslam Noor) **98m:49018** 49J40 (47H19, 47N10, 90C33)

— Coincidence theorems involving composites of acyclic mappings in contractible spaces. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 85–89. 54H25 (47H10, 54C60, 55M20)

Ding, Xuan Hao Superisometric dilations of operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 5, 577–584. (Shunhua Sun) **98c:47007** 47A20 (47A15, 47B99)

— (*with* Sun, Shun Hua) Compositions of inner maps. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 313–316. (Shu Jin Chen) **98i:32032** 32H02

— (*with* Sun, Shun Hua) Essential commutant of analytic Toeplitz operators. *Chinese Sci. Bull.* **42** (1997), *no.* 7, 548–552. (Benjamin A. Lotto) **98m:47033** 47B35 (47C99)

Ding, Yan (*with* Kawahara, Mutsuto) Analysis of dynamic response of prey-predator system with nonlinear diffusion-reaction equations by using superposition. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 375–388. 92D40 (35K57, 35Q80, 65L06, 65N30)

— (*with* Kawahara, Mutsuto) Linear stability of incompressible fluid flow in a cavity using finite element method. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 139–157. (Summary) **98k:76086** 76M10 (76E99)

— (*with* Kawahara, Mutsuto) Linear stability of incompressible flow using a mixed finite element method. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 243–273. (Summary) **98m:76103** 76M10 (76D05, 76E99)

Ding, Yanheng (*with* Li, Shujie) The existence of infinitely many periodic solutions to Hamiltonian systems in a symmetric potential well. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 163–172. (Vittorio Coti Zelati) **98k:58043** 58E05 (34C25, 58F22, 70H05)

— (*with* Li, Shujie) Periodic solutions of a superlinear wave equation. *Nonlinear Anal.* **29** (1997), *no.* 3, 265–282. (Mitsuhiro Nakao) **98h:35159** 35L70 (35B10)

Ding, Ye On the asymptotic normality of multinomial population size estimators with application to backcalculation of AIDS epidemic. (English summary) *Biometrika* **83** (1996), *no.* 3, 695–699. (Jian-Lun Xu) **98e:62039** 62F12 (62P10)

Ding, Yong L^p-boundedness for fractional oscillatory integral operator with rough kernel. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 70–79. (Summary) **98i:42005** 42B20 (47G10)

— Weighted boundedness for commutators of integral operators of fractional order with rough kernels. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 157–161. (Tao Qian) **98e:42014** 42B20 (47G10)

— (*with* Lu, Shanzhen) Weighted L^p-boundedness for higher order commutators of oscillatory singular integrals. (English summary) *Tôhoku Math. J.* (2) **48** (1996), *no.* 3, 437–449. (Josefina Alvarez) **98f:42011** 42B20

— A class of rough singular integral operators on product domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 687–694. 42B20 (42B30)

— Rough singular integral operators with Hardy space function kernels on a product domain. (English summary) *Colloq. Math.* **73** (1997), *no.* 1, 15–23. (Javier Duoandikoetxea) **98e:42015** 42B20

— L^2-boundedness of Marcinkiewicz integral with rough kernel. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 105–115. (Rodolfo Torres) **98m:42015** 42B20 (42B25)

Ding, You Dong (*with* Deng, Jian Song) HCT spline interpolating surfaces over a triangulation. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 377–381. 65D07 (65D17)

Ding, Z. *see* **Ding, Zhong Hai**

Ding, Zheng Zhong Uniqueness of the solution for the problem of primary frost heave. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 127–138. 35R35 (35K05, 80A22)

Ding, Zhi Qiang Duality of multivariate Padé approximants. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 48–49. 41A21

Ding, Zhong Hai (*with* Zhou, Jianxin) Constrained LQR problems in elliptic distributed control systems with point observations—convergence results. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 173–201. (Uldis É. Raitums) **98d:49028** 49K20 (49M07)

— (*with* Lagoudas, Dimitris C.) A domain transformation technique in oxygen diffusion problems with moving oxidation fronts on unbounded domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 2, 361–384. (Summary) **98m:80001** 80–08 (80A22)

Ding, Zhuanxin (*with* Granger, Clive W. J.) Some properties of absolute return: an alternative measure of risk. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 40, 67–91. 90A46 (62M10, 62P20)

Ding, Zuo Hua (*with* Ma, Ming; Kandel, Abraham) Existence of the solutions of fuzzy differential equations with parameters. (English summary) *Inform. Sci.* **99** (1997), *no.* 3-4, 205–217. (Osmo Kaleva) **98c:34024** 34A99 (04A72, 47H11, 47N20)

— (*with* Kandel, Abraham) Existence and stability of fuzzy differential equations. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 681–697. (Peter E. Kloeden) **98k:34003** 34A12 (34A60, 34D99)

— A new product integral representation for differential equations in separable Banach spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 287–295. (Summary) **98e:34108** 34G20 (47N20)

Dingel, Jürgen Modular verification for shared-variable concurrent programs. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 703–718, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q10, 68Q55)

Dingguo, Wang *see* **Wang, Ding Guo**

Dingoyan, Pascal Fonctions méromorphes sur un ouvert localement pseudoconvexe étalé au-dessus d'une variété projective. (English and French summaries) [Meromorphic functions on a locally pseudoconvex domain spread over a projective manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 817–822. (Thierry Bouche) **98e:32021** 32F15 (32A20)

pham ngoc Dinh, A. *see* **Pham Ngoc Dinh, A.**

Dinh, Nguyen Gia On certain stable wedge summands of $B(\mathbf{Z}/p)^n_+$. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 1, 1–13. (N. J. Kuhn) **98b:55015** 55R35 (20C33)

nguyễn Đình Công *see* **Nguyễn Đình Công**

Dinh Dung (*with* Schempp, Walter) Reconstruction of images in magnetic resonance imaging. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 493–500. 41A25 (42B10, 92C55)

— Best multivariate approximations by trigonometric polynomials with frequencies from hyperbolic crosses. (English summary) *J. Approx. Theory* **91** (1997), *no.* 2, 205–225. (V. A. Baskakov) **98k:41043** 41A50 (41A63, 42A10)

dang Dinh Hai *see* **Dang Dinh Hai**

Dinh Huy Hoang (*with* Thai Thuan Quang) The inheritance of the linear topological invariant (DN). (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 1, 45–58. (Jorge Mujica) **98c:46047** 46E10 (32E10, 32K99)

Dinh Ngoc Thanh (*with* Đặng Đình Áng; Pham Ngoc Dinh, A.) Regularization of a two-dimensional two-phase inverse Stefan problem. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 607–619. (Barbara E. E. Stoth) **98d:35241** 35R35 (65R30)

— (*with* Đặng Đình Áng; Pham Ngoc Dinh, A.) A bidimensional inverse Stefan problem: identification of boundary value. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 227–240. (Galina I. Bizhanova) **98g:35221** 35R35 (35K05, 45E10, 65M30, 80A22)

Dinh Quang Lu'u Convergence of Banach-space-valued martingale-like sequences of Pettis-integrable functions. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 233–245. (Xia Chen) **98g:60091** 60G48 (60B11)

pham Dinh Tao *see* **Pham Dinh Tao**

Dinh Thế Lục Generalized monotone set valued maps and support bifunctions. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 2, 213–252. (Jean-Pierre Crouzeix) **98e:49037** 49J52 (47H04, 47N10, 58C06)

— (*with* Schaible, S.) Generalized monotone nonsmooth maps. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 195–205. (Nicolae H. Pavel) **98c:49025** 49J40 (47H05, 49J52, 90C48)

— A resolution of Simons' maximal monotonicity problem. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 367–370. (Dariusz Zagrodny) **98d:49020** 49J52 (26B25, 47H05, 47N10, 49J35)

— (*with* Schaible, S.) Efficiency and generalized concavity. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 147–153. (R. N. Kaul) **98d:90099** 90C29

— (*with* Volle, Michel) Levels sets infimal convolution and level addition. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 695–714. (Jean-Pierre Crouzeix) **98j:90097** 90C48 (49N15)

Dinh Van Huynh (*with* Jain, Surender Kumar; López-Permouth, S. R.) On weakly injective continuous modules. (English summary) *Abelian groups and modules (Colorado Springs, CO*, 1995), 385–392, *Lecture Notes in Pure and Appl. Math.*, 182, *Dekker, New York*, 1996. (B. M. Pandeya) **98a:16003** 16D50

— (*with* Hirano, Yasuyuki; Park, Jae Keol) On rings whose prime radical contains all nilpotent elements of index two. *Arch. Math. (Basel)* **66** (1996), *no.* 5, 360–365. (From the text) **98b:16018** 16N80 (16N40)

— (*with* Müller, Bruno J.) Rings over which direct sums of CS modules are CS. (English summary) *Advances in ring theory (Granville, OH*, 1996), 151–159, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98i:16008** 16D70

— (*with* Rizvi, S. Tariq) An approach to Boyle's conjecture. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 267–273. (Robert Wisbauer) **98c:16010** 16E60 (16D50)

Dinh Van Ruy (*with* Nguyen Thanh Long; Binh, Duong Thi Thanh) On a nonexistence of positive solution of Laplace equation in upper half-space. *Demonstratio Math.* **30** (1997), *no.* 1, 7–14. (Rolando Magnanini) **98f:35031** 35J05 (35B05)

choukairi-Dini, Ahmed *see* **Choukairi-Dini, Ahmed**

Dinitz, Jeffrey H. (*with* Colbourn, Charles J.) Complete arcs in Steiner triple systems. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 320–333. (K. T. Phelps) **98j:05027a** 05B07

— (*with* Rodney, Peter) Disjoint difference families with block size 3. (English summary) *Util. Math.* **52** (1997), 153–160. 05B10

— (*with* Colbourn, Charles J.) Erratum: "Complete arcs in Steiner triple systems". *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 262. (K. T. Phelps) **98j:05027b** 05B07

Dinitz, Yefim (*with* Nutov, Zeev) Finding optimum k-vertex connected spanning subgraphs: improved approximation algorithms for $k = 3, 4, 5$. (English summary) *Algorithms and complexity* (*Rome*, 1997), 13–24, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:05147** 05C85 (68Q25, 68R10)

Dinneen, Michael J. (*with* Cattell, Kevin; Fellows, Michael R.) Obstructions to within a few vertices or edges of acyclic. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 415–427, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98d:05132** 05C85 (68R10)

fam Din' Ng'em *see* **Fam Din' Ng'em**

Di Nola, Antonio (*with* Lettieri, A.) Coproduct MV-algebras, nonstandard reals, and Riesz spaces. (English summary) *J. Algebra* **185** (1996), *no.* 3, 605–620. (V. V. Gorlov) **98h:06026** 06D99 (03G25)

— (*with* Georgescu, Georges) Projective limits of MV-spaces. (English summary) *Order* **13** (1996), *no.* 4, 391–398. (S. Comer) **98d:06015** 06D99 (03G20)

Dintelmann, Peter On Fourier multipliers between Besov spaces with $0 < p_0 \le \min\{1, p_1\}$. (Russian summary) *Anal. Math.* **22** (1996), *no.* 2, 113–123. (Bui Huy Qui) **98b:46040** 46E35 (42B15)

— Fourier multipliers between weighted anisotropic function spaces. I. Besov spaces. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 3, 579–601. (Vladimir D. Stepanov) **98f:42007** 42B15 (46E35, 46E39)

— Fourier multipliers between weighted anisotropic function spaces. II. Besov-Triebel spaces. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 4, 799–818. (Vladimir D. Stepanov) **98f:42008** 42B15 (46E35, 46E39)

D'Inverno, Ray A. *see* **d'Inverno, Ray A.**

Diogo, Teresa (*with* Lima, Pedro) An extrapolation method for a Volterra integral equation with weakly singular kernel. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 131–148. (V. S. Sizikov) **98d:45011** 45L05 (45D05, 45E99, 65R20)

Dion, J. M. (*with* Commault, C.; Hovelaque, V.) A geometric approach for structured systems: application to disturbance decoupling. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 403–409. (Summary) **98e:93026** 93B27 (93C05)

Dion, J. P. (*with* Yanev, N. M.) Limit theorems and estimation theory for branching processes with an increasing random number of ancestors. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 309–327. (Anthony G. Pakes) **98k:60148** 60J80 (60F05, 62M05)

Dionne, Benoit (*with* Silber, Mary; Skeldon, Anne C.) Stability results for steady, spatially periodic planforms. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 321–353. (Ian Melbourne) **98a:58122** 58F14 (34C23, 34C35)

álvarez-Dios, José A. *see* **Álvarez-Dios, José A.**

Dios, R. (*with* Chopra, D. V.) Some combinatorial investigations on balanced arrays of strength three and five. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 173–179. (Summary) **98i:05013** 05B05

Diósi, Lajos Coherent states and the measurement problem. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 115–124, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P15 (81R30)

— (*with* Strunz, Walter T.) The non-Markovian stochastic Schrödinger equation for open systems. (English summary) *Phys. Lett. A* **235** (1997), *no.* 6, 569–573. (Summary) **98i:81122** 81S20

Di Paola, M. (*with* Vasta, M.) Stochastic integro-differential and differential equations of non-linear systems excited by parametric Poisson pulses. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 855–862. (Summary) **98b:73027** 73K35 (34F05, 45J05, 70L05)

Di Paola, Robert A. (*with* Montagna, Franco) Progressions of theories of bounded arithmetic. *Complexity, logic, and recursion theory*, 123–156, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Constantine Dimitracopoulos) **98j:03079** 03F30 (03F15, 68Q15)

Dipert, Randall R. The mathematical structure of the world: the world as graph. *J. Philos.* **94** (1997), *no.* 7, 329–358. 03A05

Di Piazza, Luisa (*with* Bongiorno, Benedetto; Skvortsov, Valentin) On continuous major and minor functions for the n-dimensional Perron integral. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 318–327. (Š. Schwabik) **98b:26007** 26A39 (26A42, 26A45)

Di Pierro, Alessandra (*with* Drabent, Włodzimierz) On negation as instantiation. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 32–46, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98f:68042** 68N17

Di Pillo, G. (*with* Brachetti, P.; De Felice Ciccoli, M.; Lucidi, S.) A new version of the Price's algorithm for global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 165–184. (A. H. Žilinskas) **98a:90094** 90C30 (65K05)

— (*with* Grippo, L.; Lucidi, S.) Smooth transformation of the generalized minimax problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 1–24. (V. F. Dem'yanov) **98i:90088** 90C30 (49K35)

Dipper, Richard (*with* James, Gordon; Murphy, G. E.) Gram determinants of type B_n. (English summary) *J. Algebra* **189** (1997), *no.* 2, 481–505. (Robert Bédard) **98a:20010** 20C20 (20F55)

Dippon, J. (*with* Renz, Joachim) Weighted means in stochastic approximation of minima. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1811–1827. (George Yin) **98f:62234** 62L20 (60F05, 60F17, 93E23)

Di Prisco, A. (*with* Herrera, L.; Hernández-Pastora, J. L.; Martín, Jésus; Martínez, Justino) Thermal conduction in systems out of hydrostatic equilibrium. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2239–2247. (Summary) **98d:83043** 83C55

Di Prisco, Carlos Augusto (*with* De La Cruz, Omar) Weak choice principles. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 867–876. (Paul E. Howard) **98e:03030** 03E25 (03E35, 04A25)

— *see also* **Set theory, 98h:03061**

el-Diriny, M. A. *see* **El-Diriny, M. A.**

Dirkse, Steven P. (*with* Ferris, Michael C.) Crash techniques for large-scale complementarity problems. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 40–61, *SIAM, Philadelphia, PA*, 1997. (S. R. Mohan) **98c:90158** 90C33 (49M15)

Dirl, R. (*with* Davies, B. L.) Space group structures: integrated software for IBM-compatible PCs. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 457–464, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 20H15 (81R05, 82D25)

— (*with* Davies, B. L.) Space group representations: integrated software for IBM-compatible PCs. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 465–468, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 20H15 (81R05, 82D25)

— (*with* Payer, K.; Davies, B. L.) Symmetrized plane waves. I. Symmorphic space groups. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 52–72. (Vojtěch Kopský) **98b:82081** 82D25 (20G45, 20H15)

— (*with* Payer, K.; Davies, B. L.) Symmetrized plane waves. II. Symmetrized $Pm\bar{3}m$-plane waves. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 73–82. (Vojtěch Kopský) **98b:82082** 82D25 (20G45, 20H15)

— (*with* Payer, K.; Davies, B. L.) Symmetrized plane waves. III. Nonsymmorphic space groups. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 83–97. (Vojtěch Kopský) **98b:82083** 82D25 (20G45, 20H15)

— (*with* Payer, K.; Davies, B. L.) Symmetrized plane waves. IV. Symmetrized $Pm\bar{3}n$-plane waves. (English summary) *Comput. Phys. Comm.* **98** (1996), *no.* 1-2, 98–110. (Vojtěch Kopský) **98b:82084** 82D25 (20G45, 20H15)

— (*with* Zeiner, P.; Davies, B. L.; Janovec, V.) Coset decompositions of space groups: applications to domain structure analysis. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 456–466. (Vojtěch Kopský) **98g:20079** 20H15 (82–01, 82D25)

— (*with* Davies, B. L.; Goldsmith, Brendan) Canonical subgroup matrices for free abelian groups of finite rank: application to intersection and union subgroups. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3573–3583. (Vojtěch Kopský) **98g:20078** 20H15 (82D25)

Di Salvo, E. (*with* Agnese, A. G.) Wave-particle association: uniqueness of the de Broglie assumption. (English and French summaries) *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 3, 281–285. (Koichiro Matsuno) **98b:81007** 81P05

Disario, Robert (*with* Gangopadhyay, Ashis K.; Dey, Dipak K.) A nonparametric approach to k-sample inference based on entropy. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 3, 237–252. (Summary) **98g:62084** 62G10 (62B10)

Di Serio, Angela (*with* Contreras, Xiomara; Curiel, Mariela) Parallel processing to solve elliptic EDP. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30 (65Y05)

Dishliev, A. B. (*with* Bainov, Drumi D.; Dimitrova, Margarita) Oscillating solutions of nonlinear impulsive differential equations with a deviating argument. (English summary) *Note Mat.* **15** (1995), *no.* 1, 45–54 (1997). (Yuri V. Rogovchenko) **98m:34133** 34K15 (34A37)

— (*with* Bainov, Drumi D.; Khristova, S. G.) Monotone iterative technique for impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 13–27, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Eduardo Liz) **98h:34116** 34K05 (34A37, 34A45)

— (*with* Bainov, Drumi D.) The phenomenon "beating" of the solutions of impulsive functional-differential equations. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 435–441. (Eduardo Liz) **98e:34019** 34A37 (34K15)

— (*with* Bainov, Drumi D.; Dimitrova, Margarita) Asymptotic properties of solutions of a class of impulsive differential equations of second order with a retarded argument. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 120–126. (Eduardo Liz) **98e:34020** 34A37 (34K15, 34K25)

Di Sieno, Simonetta (*with* De Stefano, Stefania) Near-rings with no nilpotent N-subsets. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **129** (1995), *no.* 1-2, 61–69 (1996). (Günter Pilz) **98a:16048** 16Y30

Diskant, V. I. Generalization of the Bonnesen inequalities in Minkowski geometry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 450–453. (Marek Lassak) **98i:52010** 52A40 (52A38, 52A39)

— Stability of the solution of an isoperimetric problem in Minkowski geometry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 261–266. (Marek Lassak) **98h:52016** 52A38 (52A39)

— Stability of the solution of the isodiameter problem in Minkowski geometry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 334–338. (Summary) **98m:51003** 51B20 (52A38)

Distler, Jacques (*with* Karch, Andreas) $N = 1$ dualities for exceptional gauge groups and quantum global symmetries. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 6, 517–533. (Summary) **98i:81244** 81T60 (81T13)

— (*with* Hanany, Amihay) $(0, 2)$ non-critical strings in six dimensions. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 75–90. (Gerardo Marcelo Aldazabal) **98d:81080** 81T30 (83E30)

— (*with* Chiang, Ti-Ming; Greene, Brian R.) Some features of $(0, 2)$ moduli space. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 590–616. (Michael A. I. Flohr) **98m:32036** 32G81 (14J32, 32G13, 32J81, 81T30)

Ditkowski, Adi (*with* Abarbanel, Saul) Asymptotically stable fourth-order accurate schemes for the diffusion equation on complex shapes. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 279–288. (Summary) **98a:65109** 65M06 (65M12)

Ditlevsen, P. D. Cascades of energy and helicity in the GOY shell model of turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 5, 1482–1484. (Summary) **98a:76043** 76F99

Dito, Giuseppe (*with* Flato, Moshé; Sternheimer, Daniel; Takhtajan, Leon A.) Deformation quantization and Nambu mechanics. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 1–22. (Summary) **98f:58088** 58F06 (70H99, 81S10)

— (*with* Flato, Moshé) Generalized abelian deformations: application to Nambu mechanics. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 107–125. (Markus J. Pflaum) **98f:58089** 58F06 (58H15)

Ditri, John J. Bounds on phase velocity changes of plane waves in elastic media due to changes in elastic moduli. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 17, 2105–2114. (Summary) **98e:73047** 73D15 (73B40)

Dittmann, Frank (*with* Ségal, Jérôme) Hermann Schmidt (1894–1968) et la théorie générale de la régulation: une cybernétique allemande en 1940? (English and French summaries) [Hermann Schmidt (1894–1968) and general control theory: a German cybernetics in 1940?] *Ann. of Sci.* **54** (1997), *no.* 6, 547–565. (Summary) **98j:01030** 01A60 (93–03)

Ditto, William L. (*with* Showalter, Kenneth) Introduction: control and synchronization of chaos. *Chaos* **7** (1997), *no.* 4, 509–511. 58F13 (93C99)

— (*with* Ding, Mingzhou; Ding, E-Jiang; Gluckman, Bruce J.; In, Visarath; Peng, Jian-Hua; Spano, Mark L.; Yang, Weiming) Control and synchronization of chaos in high-dimensional systems: review of some recent results. (English summary) *Chaos* **7** (1997), *no.* 4, 644–652. 58F13 (58F40)

Dittrich, T. (*with* Mehlig, B.; Schanz, Holger; Smilansky, Uzy) Universal spectral properties of spatially periodic quantum systems with chaotic classical dynamics. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1205–1227. 81Q50

Ditzian, Z. (*with* Chen, Weiyu) Best approximation and K-functionals. *Acta Math. Hungar.* **75** (1997), *no.* 3, 165–208. (D. S. Lubinsky) **98h:41013** 41A17 (41A63, 42A10, 46E99, 46M35)

Diudea, Mircea V. (*with* Ivanciuc, O.; Nikolić, Sonja; Trinajstić, N.) Matrices of reciprocal distance, polynomials and derived numbers. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 41–64. (Xiao Feng Guo) **98h:05130** 05C50 (05C90, 92E10)

— (*with* Minailiuc, Ovidiu M.; Katona, Gabriel; Gutman, Ivan M.) Szeged matrices and related numbers. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 129–143. (Haruo Hosoya) **98i:05152** 05C90 (05C50, 92E10)

— Cluj matrix, $\mathbb{CL}_n$: source of various graph descriptors. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 169–183. (Zhibo Chen) **98f:92012** 92E10 (05C50, 05C90)

Divaani-Aazar, K. (*with* Tousi, M.) Asymptotic associated and attached prime ideals related to projective modules. (English summary) *Comm. Algebra* **25** (1997), *no.* 4, 1129–1142. (P. Schenzel) **98a:13004** 13A15 (13C10)

Divakaran, P. P. Quantum theory as the representation theory of symmetries. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 12, 2159–2163. (Stephen J. Summers) **98h:81068** 81S99 (22E70, 81P99, 81R05)

Di Vecchia, Paolo (*with* Frau, Marialuisa; Pesando, Igor; Sciuto, Stefano; Lerda, Alberto; Russo, Rodolfo) Classical p-branes from boundary state. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 259–276. (Summary) **98k:81203** 81T30

— (*with* Billó, Marco; Cangemi, Daniel) Boundary states for moving D-branes. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 63–70. (Summary) **98d:81077** 81T30

DiVincenzo, David P. Topics in aperiodicity: Penrose tiling growth and quantum circuits. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON, 1995*), 127–140, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Richard Kenyon) **98c:52023** 52C20 (81P99)

— (*with* Bennett, Charles H.; Smolin, John A.) Capacities of quantum erasure channels. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 16, 3217–3220. (Summary) **98f:81041** 81P99

Divsalar, Dariush (*with* Benedetto, Sergio; Montorsi, Guido; Pollara, Fabrizio) Serial concatenation of interleaved codes: performance analysis, design, and iterative decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 909–926. 94B35

Diwan, Ajit A. (*with* Usharani, N.) A condition for the three colourability of planar locally path graphs. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore, 1995*), 52–61, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98c:05059** 05C15 (68R10)

Dix, Daniel B. ★ Large-time behavior of solutions of linear dispersive equations. Lecture Notes in Mathematics, 1668. *Springer-Verlag, Berlin*, 1997. xiv+203 *pp. ISBN* 3-540-63434-7 (Alan Jeffrey) **98m:35017** 35B40 (35C20, 35K15, 35Q53)

Dix, Jürgen (*with* Brass, Stefan) Characterizations of the stable semantics by partial evaluation. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY, 1995*), 85–98, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55)

— (*with* Brass, Stefan) Characterizing D-WFS: confluence and iterated GCWA. (English summary) *Logics in artificial intelligence* (*Évora, 1996*), 268–283, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98f:68039** 68N17 (68Q55)

— (*with* Gottlob, Georg; Marek, Victor W.) Reducing disjunctive to non-disjunctive semantics by shift-operations. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 87–100. (M. I. Dekhtyar) **98b:68013** 68N17 (03D15, 68Q25)

— (*with* Pereira, Luís Moniz; Przymusinski, Teodor C.) Prolegomena to logic programming for non-monotonic reasoning. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef, 1996*), 1–36, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (*see* **98h:68010**) 68N17

— (*with* Stolzenburg, Frieder) Computation of non-ground disjunctive well-founded semantics with constraint logic programming. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef, 1996*), 202–224, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (*see* **98h:68010**) 68N17 (68Q55)

— (*with* Brass, Stefan) Characterizations of the disjunctive stable semantics by partial evaluation. (English summary) *J. Logic Programming* **32** (1997), *no.* 3, 207–228. (Summary) **98a:68023** 68N17 (68Q55)

— *see also* **Non-monotonic extensions of logic programming**, **98h:68010**

Dix, Trevor I. (*with* Yee, Chut N.) A platform for restriction mapping. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 81–99. (Summary) **98i:92028** 92D20 (68N17, 68T20)

Dixit, Ulhas J. (*with* Moore, Karen L.; Barnett, Vic) On the estimation of the power of the scale parameter of the exponential distribution in the presence of outliers generated from uniform distribution. (English and Italian summaries) *Metron* **54** (1996), *no.* 3-4, 201–211 (1997). (Summary) **98h:62026** 62F10

Dixmier, Jacques ★ Algèbres enveloppantes. (French) [Enveloping algebras] Reprint of the 1974 original. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1996. iv+349 *pp. ISBN* 2-87647-014-4 (Editors) **98a:17012** 17B35 (01A75)

— ★ Les algèbres d'opérateurs dans l'espace hilbertien (algèbres de von Neumann). (French) [Operator algebras in Hilbert space (von Neumann algebras)] Reprint of the second (1969) edition. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1996. x+367 *pp. ISBN* 2-87647-012-8 (Editors) **98a:46065** 46Lxx (01A75, 46L10)

— ★ Les C^*-algèbres et leurs représentations. (French) [C^*-algebras and their representations] Reprint of the second (1969) edition. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1996. 403 *pp. ISBN* 2-87647-013-6 (Editors) **98a:46066** 46Lxx (01A75, 46L10)

— Sur l'œuvre mathématique d'Alain Guichardet. [On the mathematical works of Alain Guichardet] *Gaz. Math. No.* 74 (1997), 69–71. 01A70

Dixon, Geoffrey Octonion X-product orbits. (English summary) *Clifford algebras with numeric and symbolic computations*, 201–212, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

Dixon, Huw David (*with* Santoni, Michele) An imperfectly competitive open economy with sequential bargaining in the labour market. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 293–317. 90A50 (90A58)

Dixon, J. M. (*with* Parthasarathy, S.) Analytic structure and chaotic dynamics of the damped driven Toda oscillator. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3942–3947. (Summary) **98c:70023** 70K50 (34A20, 34A25, 34A34, 34C15, 58F13)

— (*with* Tuszyński, J. A.; Sept, D.) Orthogonal trajectories and analytical solutions of the van der Pol equation without forcing. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 65–71. (Summary) **98m:34076** 34C15 (70K99)

Dixon, John D. (*with* Mortimer, Brian) ★ Permutation groups. (English summary) Graduate Texts in Mathematics, 163. *Springer-Verlag, New York*, 1996. xii+346 *pp. ISBN* 0-387-94599-7 (Martin W. Liebeck) **98m:20003** 20B05 (20–01, 20B07)

— Polynomials with nontrivial relations between their roots. *Acta Arith.* **82** (1997), *no.* 3, 293–302. (G. Turnwald) **98j:12004** 12F10 (12E05)

— Groups with a Cayley graph isomorphic to a hypercube. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 385–393. (Kevin Lawrence McAvaney) **98h:05088** 05C25 (05C30)

Dixon, L. C. W. (*with* Christianson, D. B.; Davies, Alan J.; Roy, Ranadhir; Van der Zee, P.) Giving reverse differentiation a helping hand. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 53–67. (Summary) **98k:65009** 65D25 (65N06)

Dixon, Lance (*with* Bern, Zvi; Dunbar, David C.; Kosower, David A.) One-loop self-dual and $N = 4$ super Yang-Mills. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 105–115. (Summary) **98a:81214** 81T60 (81T13, 81V05)

Dixon, Martyn R. (*with* Beidleman, James C.; Robinson, Derek J. S.) Normalizers of subnormal subgroups. *Infinite groups* 1994 (*Ravello*), 23–32, *de Gruyter, Berlin*, 1996. (*see* **98e:20004**) 20E15

— (*with* Shin, Hyunyong; Lyou, Ikseung) On free product in $V(\mathbf{Z}S_3)$. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 637–643. (Summary) **98h:16051** 16U60 (20E06)

Dixon, P. G. Topologically irreducible representations and radicals in Banach algebras. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 1, 174–200. (H. G. Dales) **98b:46066** 46H15 (46H35, 46J40)

Dixon, Peter B. (*with* Parmenter, B. R.) Computable general equilibrium modelling for policy analysis and forecasting. *Handbook of computational economics, Vol. I*, 3–85, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A14

Dixon, T. W. (*with* Kenny, B. G.; Briggs, K. M.) On the universality of singular circle maps. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 359–366. 58F13

Dizendorf, K. I. (*with* Derr, V. Ya.) On differential equations in C-generalized functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 39–49; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 11, 37–47 (1997). (B. B. Pakholok) **98d:34013** 34A30 (46F10)

Di Zenzo, Silvano (*with* Bottoni, Paolo; Mussio, Piero) A notion of information related to computation. *Inform. Process. Lett.* **64** (1997), *no.* 4, 207–215. (B. H. Mayoh) **98m:68057** 68Q05 (68Q55)

Djaa, Mustapha (*with* Messirdi, Bekkai) Prolongation des champs de tenseurs au fibré tangent d'ordre r. (English, French and Arabic summaries) [Extension of tensor fields for the tangent bundle of order r] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 19–27. (I. Kolář) **98k:58010** 58A20 (53A55)

mohammad-Djafari, Ali *see* **Mohammad-Djafari, Ali**

Djafari Naini, Alireza *see* **Wußing, Hans**, **98g:01004**

Djakov, P. (*with* Yurdakul, M.) Strictly singular operators and isomorphisms of Cartesian products. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 4, 9–11. (Andreas Defant) **98j:46004** 46A45 (47A05)

Djambazov, Krassimir (*with* Popov, Peter) Concurrent spreading of diagnostic information in systems tolerating Byzantine behaviour. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 43–53. 68Q10

Djambov, Velichko A generalization of properties related to classes of sets. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 40–42. 04A05

— Complexity parametrization of a class of combinatorial optimization problems. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **45** (1997), 64–67. 90C27

Djavo, Hasanian D. Magneto-acoustic antiplane waves with the account of microrotational motion of particles. (English summary) *Smart structures and materials* 1997: *mathemat-*

ics and control in smart structures (*San Diego, CA*), 726–734, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73D20 (73R05, 78A55)

Djawadi, Mehdi (*with* Hofmeister, Gerd) Linear Diophantine problems. *Number theory* (*New York*, 1991–1995), 91–95, *Springer, New York*, 1996. (Béla Vizvári) **98e:11044** 11D85 (11D04)

Djebbar, Ahmed On mathematical activities in North Africa from 9th to 11th centuries. *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 71–75. 01A30

— La rédaction de L'*Istikmāl* d'al-Mu'taman (XIe s.) par Ibn Sartāq, un mathématicien des XIIIe–XIVe siècles. (English, French and Arabic summaries) [The redaction of al-Mu'taman's *Istikmāl* by Ibn Sartāq, a mathematician of the XIIIth–XIVth centuries] *Historia Math.* **24** (1997), *no.* 2, 185–192. (Bruno Poizat) **98e:01006** 01A30

Djelatova, Mariana *see* **Dzhelatova, Mariana N.**

Djelatova, Mariana N. *see* **Dzhelatova, Mariana N.**

Djellouli, Rabia Calcul par méthode integrale des constantes de propagation et des fréquences de coupure des modes guidés dans les fibres optiques en régime de faible guidage. II. Cas du couplage de deux cœurs à saut d'indice et de section quelconque. (English, French and Arabic summaries) [An integral method for computing the propagation constants and cutoff frequencies of guided modes in optical fibers under weak guidance. II. Case of the coupling of two cores with discontinuity of the refractive index and arbitrary cross section] *Maghreb Math. Rev.* **3** (1994), *no.* 2, 97–115. (Summary) **98d:78010** 78A60 (65N99, 78–08)

Djemaï, A. E. F. Three-generation models from global gauge anomaly-free theories. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 3, 299–306. (Summary) **98b:81113** 81T50 (81T13)

— Quantum mechanics, knot theory, and quantum doubles. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 10, 2029–2056. (Louis H. Kauffman) **98g:57008** 57M25 (81R50)

— Quantum homomorphisms of associative algebras. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 38, 2963–2974. (Summary) **98m:16041** 16W30 (81R50)

Djennoune, S. (*with* El-Moudni, A.) Closed loop stability of a class of non-linear singularly perturbed systems with discretized composite feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 749–769. 93D15 (93C30)

Djerassi, Shlomo Dynamics of a satellite retracting a long elastic appendage. (English summary) *J. Astronaut. Sci.* **44** (1996), *no.* 4, 425–442. (Summary) **98b:70032** 70M20 (73K12)

Djidjev, Hristo N. A linear algorithm for the maximal planar subgraph problem. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 369–380, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C85, 68Q25)

— (*with* Pantziou, Grammati E.; Zaroliagis, Christos D.) Fast algorithms for maintaining shortest paths in outerplanar and planar digraphs. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 191–200, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68R10 (05C38)

— Efficient algorithms for shortest path queries in planar digraphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 151–165, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98h:68180** 68R10 (05C85, 68Q25)

— (*with* Venkatesan, Shankar M.) Reduced constants for simple cycle graph separation. (English summary) *Acta Inform.* **34** (1997), *no.* 3, 231–243. (Summary) **98e:68200** 68R10 (05C35)

Djojodihardjo, Harijono Buffeting problems modelling by use of lifting surface methods in unsteady aerodynamics with separation. (English summary) *Differential equations* (*Bandung*, 1996), 51–88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 76G25 (73K70, 76B05)

Djoković, Dragomir Ž. (*with* Bell, Jason) Construction of Baumert-Hall-Welch arrays and *T*-matrices. (English summary) *Australas. J. Combin.* **14** (1996), 93–107. (Summary) **98i:05025** 05B15 (05B10, 05B20)

— Base sequences, complementary ternary sequences, and orthogonal designs. (English summary) *J. Combin. Des.* **4** (1996), *no.* 5, 339–351. (Summary) **98i:05030** 05B15 (05B20)

— (*with* Zhao, Kai Ming) Some simple subalgebras of generalized Block algebras. *J. Algebra* **192** (1997), *no.* 1, 74–101. (Daniel K. Nakano) **98d:17030** 17B65 (17B40)

— (*with* Zhao, Kai Ming) Generalized Cartan type *S* Lie algebras in characteristic zero. *J. Algebra* **193** (1997), *no.* 1, 144–179. (Naoki Kawamoto) **98k:17026** 17B65 (16S34, 17B20, 17B40, 17B70)

— (*with* Zhao, Kai Ming) Generalized Cartan type *W* Lie algebras in characteristic zero. *J. Algebra* **195** (1997), *no.* 1, 170–210. (Miguel A. Rodriguez) **98j:17021** 17B56 (17B40)

— (*with* Hofmann, Karl H.) The surjectivity question for the exponential function of real Lie groups: a status report. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 171–199. (Karl-Hermann Neeb) **98m:22008** 22E15 (22–02, 22E10, 22E60)

— (*with* Nguyễn Quốc Thắng) Lie groups with dense exponential image. *Math. Z.* **225** (1997), *no.* 1, 35–47. (K. H. Hofmann) **98i:22011** 22E15 (17B99)

— Note on periodic complementary sets of binary sequences. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 251–256. (Summary) **98m:05020** 05B10

— (*with* Zhao, Kai Ming) Derivations, isomorphisms, and second cohomology of generalized Witt algebras. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 643–664. (Naoki Kawamoto) **98d:17031** 17B65 (17B40, 17B56)

Djordjević, G. S. *see* **Đorđević, Goran S.**

Djordjević, Slaviša V. The continuity of the essential approximative point spectrum. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 97–104. (Jaroslav Zemánek) **98e:47003** 47A10 (47A53, 47A55)

— On continuity of the Browder essential approximative point spectrum. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 69–73. (R. W. Cross) **98b:47004** 47A10

— The semi-continuity of the Browder essential generalized spectrum. (English summary) *Filomat No.* 10 (1996), 169–172. (R. W. Cross) **98d:47012** 47A10 (47A53)

Djorić, Mirjana Geometry of geodesic tubes on Kähler manifolds. (English summary) *Saitama Math. J.* **14** (1996), 41–54. (Vicente Miquel) **98d:53058** 53C22 (53C55)

Djukic, Djordje S. (*with* Atanackovic, Teodor M.; Jones, S. E.) On the rotating rod with shear and extensibility. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 593–606. (Summary) **98k:73039** 73K05 (73H10, 73K12)

Djungu, A. O. (*with* Luhandjula, Monga K.; Kasoro, N. M.) On fuzzy probabilistic linear programming. (English summary) *Problèmes variationnels en mathématiques appliquées* (*Kinshasa*, 1995), 45–60, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (*see* **98g:00032**) 90C70 (04A72)

Djuranović-Miličić, Nada I. A convergence proof of the exterior penalty function method. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 161–163, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 90C30 (65K05)

— A step-size algorithm in nonlinear programming. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 143–151. (Kurt Marti) **98f:90058** 90C30 (65K05)

— On a generalization of a first order step-size algorithm. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 213–220. (Stefan Mititelu) **98b:90127** 90C30 (65K05)

— A step-size algorithm in nonlinear optimization. (English summary) *PRIM '96* (*Budva*), 65–73, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98a:00033**) 90C30 (65K05)

— A convergence proof of a general optimization algorithm. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 201–204, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 90C30 (65K05)

Djurdjević, Predrag (*with* Radojević, Dragan) Modification of adaptive network based fuzzy inference system (ANFIS). (English summary) *PRIM '96* (*Budva*), 75–85, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98a:00033**) 68T05 (04A72)

Djurić, Mirjana *see* **Đurić, Mirjana**

Dlab, Vlastimil *see* **Trends in ring theory, 98h:16003**

Dłotko, Tadeusz Periodic boundary value problem for a matrix differential equation. *Differential equations and its applications* (*Budapest*, 1991), 87–99, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 34B15 (34C25)

— Some records on second order differential equations. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 21–26. (Anna Capietto) **98j:34029a** 34B15 (34C25, 47H15)

— Errata: "Some records on second order differential equations", *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 121. (Anna Capietto) **98j:34029b** 34B15 (34C25, 47H15)

— On a paper of Mawhin on second order differential equations. (English summary) *Ann. Math. Sil. No.* 11 (1997), 55–66. (Maria Patrizia Pera) **98m:34035** 34B15 (34C10, 47H11)

Dłotko, Tomasz (*with* Cholewa, Jan W.) Global solutions via partial information and the Cahn-Hilliard equation. (English summary) *Singularities and differential equations* (*Warsaw*, 1993), 39–50, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Sergei A. Vakulenko) **98d:35213** 35Q80 (35B40, 35K55, 47H20, 58F39)

— (*with* Cholewa, Jan W.) Cauchy problem with subcritical nonlinearity. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 531–548. (Ioannis G. Stratis) **98d:35093** 35K55 (35B40, 47H20)

— (*with* Cholewa, Jan W.) Global attractors for parabolic P.D.E.'s in Hölder spaces. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 263–283. (Ioan I. Vrabie) **98j:35084** 35K55 (34G20, 35B40, 47H20, 58F39)

Dmitrienko, A. A. (*with* Vexler, A. A.) Renewal theory results for autoregressive processes. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 477–490. (Vladimir Zaiats) **98j:62062** 62M10 (62L10, 62L12)

— (*with* Konev, Viktor; Pergamenshchikov, Sergei) Sequential generalized least squares estimator for an autoregressive parameter. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 25–46. (Adhir K. Basu) **98g:62161** 62M10 (62L15)

— (*with* Govindarajulu, Z.) On the "demon" problem of Youden. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 65–72. (H. L. Harter) **98h:62087** 62G30 (62G20)

Dmitriev, A. S. (*with* Shirokov, Maksim Evgen'evich; Starkov, S. O.) Chaotic synchronization in ensembles of coupled maps. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 918–926. (*see* **98g:93002**) 93D15 (58F13, 93C10)

Dmitriev, Vladimir Ivanovich Inverse sounding problem using stabilization of the magnetic field of a loop. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 270–277. (Philip Huddleston) **98j:78029** 78A55 (35R30, 86A20, 86A22)

— (*with* Saltykov, E. G.) High-frequency approximation of the Green's function for the Helmholtz equation in an axial nonhomogeneous medium. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 278–281. (Summary) **98h:78007** 78A40

— (*with* Titov, A. V.) Inverse problem of electromagnetic sounding of the shape of a conducting body. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 348–354. (Summary) **98k:86025** 86A22 (78A55)

— (*with* Mershchikova, N. A.) Mathematical modeling of vertical electrical sounding of quasilayered media. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 361–368. (Summary) **98k:86026** 86A22 (78A55)

— (*with* Kostyanev, S. G.; Mershchikova, N. A.) On the inverse problem of paleoclimate reconstruction. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 1, 5–12, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 1, 5–14. (Summary) **98j:86006** 86A10 (35R30, 86A22)

Dmitrieva, L. A. (*with* Khlabystova, M. A.) Scheme of constructing soliton-type solutions of the (2 + 1)-dimensional Harry Dym equation. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 75–93. (Summary) **98f:35127** 35Q53 (65N30)

— (*with* Antoniou, Ioannis E.; Kuperin, Yu. A.; Mel'nikov, Yu. B.[1]) Resonances and the extension of dynamics to rigged Hilbert space. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 399–425. (Alexander A. Kiselev) **98k:81073** 81Q99 (47A70, 47N50, 81U99)

— (*with* Kuperin, Yu. A.; Rudin, G. E.) Extended class of Dubrovin's equations related to the one-dimensional quantum three-body problem. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 571–585. (Ghias Hachem) **98m:81200** 81U10 (14K25)

— (*with* Kuperin, Yu. A.; Mel'nikov, Yu. B.[1]) One-dimensional discrete Stark Hamiltonian and resonance scattering by an impurity. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3087–3099. (Mihai Pascu) **98f:81069** 81Q15 (47B25, 47B39, 47N50, 81U05)

— (*with* Khlabystova, M. A.) Spectral properties and identities for the polar operator with nonsmooth periodic density. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 355–366. (Alexander A. Kiselev) **98e:34147** 34L05 (34L40, 47B25, 47E05)

— (*with* Khlabystova, M. A.) Multisoliton solutions of the (2 + 1)-dimensional Harry Dym equation. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 369–380. 35Q53

Dmitrieva, M. V. (*with* Tikhonenko, N. Ya.) Noether theory and the approximate solution of Wiener-Hopf integro-differential equations with difference and sum kernels. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1227–1236, 1294–1295; *translation in Differential Equations* **32** (1996), *no.* 9, 1228–1236 (1997). (A. Böttcher) **98j:45004** 45E10 (45L05, 47A53, 47G20)

Dmitrieva, O. M. (*with* Malozëmov, V. N.) On a fast algorithm based on arithmetic-geometric means. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 277–290. (Gh. Adam) **98h:65005** 65B99 (11Y60, 33E05, 65D20)

Dmitrieva, V. V. (*with* Boldin, A. Yu.; Safin, S. S.; Sharipov, R. A.) Dynamical systems on Riemannian manifolds that admit normal shift. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 256–266; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 543–549. (Valery Covachev) **98m:58114** 58F25 (34A26, 53B20, 70H99)

— (*with* Boldin, A. Yu.; Bronnikov, A. A.; Sharipov, R. A.) Complete normality conditions for dynamical systems on Riemannian manifolds. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 267–275; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 550–555. (Valery Covachev) **98m:58115** 58F25 (34A26, 53B20, 70H99)

Dmitruk, A. V. Quadratic order conditions of a local minimum for abnormal extremals. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2439–2448. (*see* **98i:00030**) 49K15

Do, Hae Young (*with* Hong, Dug Hun) Fuzzy system reliability analysis by the use of T_w (the weakest t-norm) on fuzzy number arithmetic operations. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 307–316. 90B25 (04A72)

Do, Hyong (*with* Hong, Sungbok) Myrberg-Agard density points and Schottky groups. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 77–86. (Darryl McCullough) **98c:30052** 30F40 (20H10, 57M50, 57S30)

nguyen quang Do, T. *see* **Nguyen Quang Do, T.**

Do, Tae S. (*with* Bobisud, L. E.) A nonlocal heat conduction problem. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 381–389. 35K05 (80A20)

Doan The Hieu On the comass norm of a 3-covector. *Acta Math. Vietnam.* **21** (1996), *no.* 2, 349–367. (C. Vinti) **98e:53127** 53C65 (49Q05)

Dobado, A. (*with* Gómez-Nicola, A.; Maroto, A. L.; Peláez, J. R.) ★ Effective Lagrangians for the standard model. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xii+315 *pp. ISBN* 3-540-62570-4 (Massimo Di Pierro) **98k:81313** 81V22 (81–02, 81T50, 81V05, 81V15, 81V17)

Dobbertin, Hans (*with* Cusick, Thomas W.) Some new three-valued crosscorrelation functions for binary m-sequences. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1238–1240. (Summary) **98c:94013** 94A55

Dobbs, David E. The expected weighted dimension of a sum of vector spaces. *Commutative ring theory (Fès, 1995)*, 251–267, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (From the introduction) **98g:15002** 15A03 (60C05)

— (*with* Kabbaj, Salah-Eddine; Mahdou, Najib) n-coherent rings and modules. (English summary) *Commutative ring theory (Fès, 1995)*, 269–281, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (J. W. Brewer) **98b:13018** 13E15

— On characterizations of Prüfer domains using polynomials with unit content. *Factorization in integral domains (Iowa City, IA, 1996)*, 295–303, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Valentina Barucci) **98g:13018** 13F05 (13F20)

— On flat divided prime ideals. *Factorization in integral domains (Iowa City, IA, 1996)*, 305–315, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Marco Fontana) **98h:13021** 13D05 (13A18, 13C11)

— On Henselian pullbacks. *Factorization in integral domains (Iowa City, IA, 1996)*, 317–326, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Valentina Barucci) **98h:13034** 13J15 (13A15)

— Limits along curves determine limits. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 2, 303–307. (W. T. Whitley) **98g:26013** 26B99 (26–01)

— Realizing arbitrary defects in hyperbolic plane geometry. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 447–451. (Hanna Sandler) **98h:51029** 51M09

— (*with* Zarestky, Jill L.) Acute random triangles. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 141–162. 60D05 (52A22)

— Computing arclength by means of improper integrals. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 600–605. 26–01

Dobkin, David P. (*with* Gunopulos, Dimitris; Maass, Wolfgang) Computing the maximum bichromatic discrepancy, with applications to computer graphics and machine learning. (English summary) Seventh Annual Workshop on Computational Learning Theory (COLT) (New Brunswick, NJ, 1994). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 1, 453–470. (Rani Siromoney) **98b:68159** 68T05 (68U05)

— (*with* Chazelle, Bernard; Shouraboura, Nadia; Tal, Ayellet) Strategies for polyhedral surface decomposition: an experimental study. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 327–342. (Rade Živaljević) **98c:52019** 52B55 (68U05)

Doblaré, M. (*with* Gracia, L.) On non-linear transformations for the integration of weakly-singular and Cauchy principal value integrals. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3325–3358. 73V10

Dobner, H.-J. Effective differentiation techniques in simulation modelling. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 69–76. 65D25

— (*with* Ritter, Stefan) Verified computation of Lamé functions with high accuracy. (English summary) *Computing* **60** (1998), *no.* 1, 81–89. 65D20

Dobnikar, Jure (*with* Robnik, Marko; Rapisarda, Andrea; Prosen, Tomaž; Petkovšek, Marko) New universal aspects of diffusion in strongly chaotic systems. (English summary) *J. Phys. A* **30** (1997), *no.* 23, *L*803–*L*813. 82C05 (58F13, 82–04)

Doboš, Jozef On modifications of the Euclidean metric on reals. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 51–54. (O. Lipovan) **98k:26022** 26B35

Dobrescu, Bogdan A. B-L mediated supersymmetry breaking. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 285–290. (Summary) **98f:81320** 81T60 (81R40)

Dobrescu, Ion Gravitational radiation in a vectorial theory of gravitation. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 3-4, 221–226. (S. Kichenassamy) **98a:83105** 83D05

Dobrev, V. K. Positive energy representations of noncompact quantum algebras. (English summary) *Generalized symmetries in physics (Clausthal, 1993)*, 90–110, *World Sci. Publishing, River Edge, NJ*, 1994. (Christian Fronsdal) **98i:81103** 81R50 (17B37)

— New q-Minkowski space-time and generalized q-Maxwell equations hierarchies. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 407–415, *World Sci. Publishing, River Edge, NJ*, 1995. (Mathias Pillin) **98c:81097** 81R50

— Group-theoretical approach to noncommutative spaces and new q-Minkowski space-time. *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 402–405, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R50 (58B30)

— q-difference intertwining operators and q-conformal invariant equations. (English summary) Representations of Lie groups, Lie algebras and their quantum analogues. *Acta Appl. Math.* **44** (1996), *no.* 1-2, 81–116. (Ji Sheng Na) **98a:81078** 81R50 (17B37, 22E60, 39A70)

— (*with* Doebner, H.-D.; Mrugalla, Christian) A q-Schrödinger algebra, its lowest-weight representations and generalized q-deformed heat/Schrödinger equations. (English summary) *J. Phys. A* **29** (1996), *no.* 18, 5909–5918. (Marcelo R. Ubriaco) **98a:81077** 81R50 (17B37)

— Kazhdan-Lusztig polynomials, subsingular vectors and conditionally invariant (q-deformed) equations. *Symmetries in science, IX (Bregenz, 1996)*, 47–80, *Plenum, New York*, 1997. (Vladimir S. Mazorchuk) **98j:17010** 17B37 (17B10)

— (*with* Truini, P.) Irregular $U_q(\mathrm{sl}(3))$ representations at roots of unity via Gel'fand-(Weyl)-Zetlin basis. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2631–2651. (Marcelo R. Ubriaco) **98g:17017** 17B37 (81R50)

— (*with* Truini, P.) Polynomial realization of the $U_q(\mathrm{sl}(3))$ Gel'fand-(Weyl)-Zetlin basis. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3750–3767. (Guy Laffaille) **98e:17020** 17B37 (39A10, 81R50)

— (*with* Aneva, B. L.; Mihov, S. G.) Duality for the Jordanian matrix quantum group $\mathrm{GL}_{g,h}(2)$. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6769–6781. (Joris Van der Jeugt) **98j:81136** 81R50 (17B37)

— (*with* Doebner, H.-D.; Twarock, Reidun) Quantization of kinematics and dynamics on S^1 with difference operators and a related q-deformation of the Witt algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6841–6859. (Pavel Šťovíček) **98m:81072** 81R50 (39A10, 81S99)

— (*with* Moylan, Patrick Joseph) Singleton representations of $U_q(\mathrm{so}(3,2))$. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 73–79. (Horia Pop) **98m:17021** 17B37 (81R50)

— (*with* Doebner, H.-D.; Mrugalla, Christian) Lowest weight representations of the Schrödinger algebra and generalized heat Schrödinger equations. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 201–218. (Bo-Wei Xu) **98j:81109** 81R05 (17B10, 22E70, 81Q05)

— *see also* **Nonlinear, deformed and irreversible quantum systems, 98b:00026** *and* **Generalized symmetries in physics, 98f:81007**

Dobrić, V. (*with* Ghosh, Bhaskar K.) Some analogs of the Berry-Esséen bound for first-order Chebyshev-Edgeworth expansions. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 383–404. (Zhi-Dong Bai) **98f:60038** 60F05 (62E20)

Dobrindt, Katrin (*with* de Berg, Mark; Devillers, Olivier; Schwarzkopf, Otfried) Computing a single cell in the overlay of two simple polygons. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 215–219. (Summary) **98h:68220** 68U05

Dobritsa, V. P. An example of an unconstructivizable semilattice of computable numberings. (English summary) *Algebra (Krasnoyarsk, 1993)*, 45–48, *de Gruyter, Berlin*, 1996. (Andrzej Orlicki) **98c:03094** 03D45

Dobrokhotov, S. Yu. (*with* Martínez Olivé, Víctor; Ruzmaĭkin, A. A.; Shafarevich, Andrei) Magnetic field asymptotics in a well conducting fluid. (English summary) *Geophys. Astrophys. Fluid Dynam.* **82** (1996), *no.* 3-4, 255–280. (Manuel Núñez Jiménez) **98c:76119** 76W05 (34E20, 35Q35)

— (*with* Shafarevich, Andrei) On the behavior of an incompressible fluid velocity field at infinity. *Fluid Dynam.* **31** (1996), *no.* 4, 511–514 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996**, *no.* 4, 38–42 (*Russian. Russian summary*). (Paolo Maremonti) **98b:76023** 76D05 (35Q30)

— On the reduction to the Hill equation of the Hugoniot-Maslov chain for trajectories of point singularities of shallow water equations. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 203–204; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1195–1197. (Alexander L. Sakhnovich) **98b:35143** 35Q35 (76B15)

— Hugoniot-Maslov chains for trajectories of point vortex singularities of shallow water equations, and the Hill equation. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 5, 600–603. (Peter N. Zhevandrov) **98h:76016** 76C05 (35Q35, 76U05)

— (*with* Martínez Olivé, Víctor; Shafarevich, Andrei) Closed trajectories and two-dimensional tori in the quantum Kepler problem with variable anisotropy. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 299–302. (Ivailo M. Mladenov) **98k:81058** 81Q20 (70F05)

— Reduction of the Hugoniot-Maslov chain for trajectories of solitary vortices of "shallow water" equations to the Hill equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 47–66; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 827–843 (1998). (Nikolay G. Kuznetsov) **98k:76020** 76C05 (35Q35)

— (*with* Martínez Olivé, Víctor) Closed trajectories and two-dimensional tori in a quantum spectral problem for a three-dimensional anharmonic oscillator. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 3–87; *translation in Trans. Moscow Math. Soc.* **1997**, 1–73. (Oleg Yu. Shvedov) **98k:81059** 81Q20 (34E20, 34L40, 47G30)

Dobronets, Boris S. Two-sided methods based on defects. (English summary) *Numerical methods and error bounds (Oldenburg, 1995)*, 64–73, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (*see* **98a:65004**) 65L70 (65N15)

Dobrosavljević, Zoran S. (*with* Dukić, Miroslav L.) The performance analysis of the adaptive two-stage DFB narrowband interference suppression filter in DSSS receiver. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 51–60. (*see* **98g:93001**) 93E35 (93E11)

Dobrowolski, T. *see* **Dobrowolski, Tomasz Jacek**

Dobrowolski, Tadeusz Enlarging ANR's with SDAP to l_2-manifolds revisited. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 345–348. (Summary) **98i:57036** 57N20
— (*with* Ancel, Fredric D.) On the Sternfeld-Levin counterexamples to a conjecture of Chogoshvili-Pontrjagin. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 7–19. (Leonard R. Rubin) **98j:54059** 54F45
— (*with* Levin, Michael A.; Rubin, Leonard R.) Certain 2-stable embeddings. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 81–90. (Alexander N. Dranishnikov) **98g:54063** 54E50 (54C55, 54F45)
— (*with* Marciszewski, Witold) Rays and the fixed point property in noncompact spaces. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 97–112. (Summary) **98d:54036** 54C55 (46A55, 54F35, 54H25)
Dobrowolski, Tomasz Jacek Excitations of vortices in abelian Higgs model. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1191–1198. (Bernd J. Schroers) **98d:81051** 81T13 (35Q99)
Dobrushin, Roland L. (*with* Groeneboom, Piet; Ledoux, M.) ★ Lectures on probability theory and statistics. Lectures from the 24th Saint-Flour Summer School held July 7–23, 1994. Edited by P. Bernard. Lecture Notes in Mathematics, 1648. *Springer-Verlag, Berlin*, 1996. viii+300 *pp. ISBN* 3-540-62055-9 (Editors) **98g:60002** 60-06 (62-06)
— *see also* **Minlos, R. A. et al.**, **98b:01034**; **Karpelevich, F. I. et al.**, **98d:60182**; **Ibragimov, I. A.**, **98m:60104**; **Jaffe, Arthur et al.**; **Prelov, Vyacheslav V.**; **Minlos, R. A.** *and* **Pecherskiĭ, E. A.**
Dobrushkin, V. A. On solvability of mixed problem in domain with angle for wave equation. (English summary) *Siberian J. Differential Equations* **1** (1997), *no.* 3, 241–248. 35L05
Dobry, Ariel (*with* Cabra, Daniel C.; Greco, Andrés; Rossini, Gerardo L.) On the path integral representation for spin systems. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2699–2704. (Summary) **98j:82005** 82B10
Dobrynin, A. A. A new formula for the calculation of the Wiener index of hexagonal chains. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 75–90. (Bojan Mohar) **98g:05051** 05C12 (05C90, 92E10)
— (*with* Gutman, Ivan M.) Szeged index of some polycyclic bipartite graphs with circuits of different size. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 117–128. (Haruo Hosoya) **98i:05151** 05C90 (92E10)
— The Szeged index for complements of hexagonal chains. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 227–242. (Haruo Hosoya) **98i:05153** 05C90 (05C50, 92E10)
— (*with* Gutman, Ivan M.) Congruence relations for the Szeged index of hexagonal chains. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 106–113. (Summary) **98h:05070** 05C12 (05C90)
Dobrynskiĭ, V. A. On semi-unimodal maps of the plane and the structure of their sets of nonwandering points. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 3–34; *translation in Izv. Math.* **61** (1997), *no.* 5, 899–931. (Mikhail Zaks) **98m:58084** 58F12 (58F08)
— Semi-unimodal 2-endomorphisms with complicated nonwandering set. *Nonlinear Anal.* **29** (1997), *no.* 9, 997–1022. (Heinrich Steinlein) **98g:58114** 58F13 (58F15)
— Generating chaos piecewise mappings of $\mathbf{R}^2$. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 455–458. (Frederick R. Marotto) **98j:58074** 58F13 (70K50)
Dobrzycki, Jerzy (*with* Kremer, Richard L.) Alfonsine meridians: tradition versus experience in astronomical practice c. 1500. *J. Hist. Astronom.* **29** (1998), *no.* 2, 187–199. 01A40
Dobson, Edward Packing almost stars into the complete graph. (English summary) *J. Graph Theory* **25** (1997), *no.* 2, 169–172. (Summary) **98c:05124** 05C70
Dobyinsky, Sylvia La "version ondelettes" du théorème du Jacobien. (French summary) [The "wavelet version" of the theorem of the Jacobian] *Rev. Mat. Iberoamericana* **11** (1995), *no.* 2, 309–333. (I. Ya. Novikov) **98a:42020** 42C15
Do Carmo, M. *see* **do Carmo, M.**
Docci, Mario (*with* Migliari, Riccardo; Bianchini, Carlo) Les "vies parallèles" de Girard Desargues et de Guarino Guarini, fondateurs de la science moderne de la représentation. [The "parallel lives" of Girard Desargues and Guarino Guarini, founders of the modern science of representation] *Desargues en son temps*, 395–412, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45 (01A70)
bouas-Dockery, K. *see* **Bouas-Dockery, K.**
Docobo, J. A. *see* **Visual double stars: formation, dynamics and evolutionary tracks**, **98j:70013**
Dodd, Julian On a Davidsonian objection to minimalism. *Analysis* (*Oxford*) **57** (1997), *no.* 4, 267–272. 03A05
Dodd, R. K. Periodic orbits arising from Hopf bifurcations in a Volterra prey-predator model. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 432–452. (Pauline van den Driessche) **98j:34140** 34K15 (34K20, 45J05, 92D25)
— The symmetry group of the ILW equation and a novel reduction. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 31–34. 35Q53
Dodds, P. G. (*with* Sukochev, F. A.) Contractibility of the linear group in Banach spaces of measurable operators. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 305–337. (Françoise Lust-Piquard) **98k:46108** 46L50 (46L10, 46L85, 47B99, 47D99)
— (*with* Sukochev, F. A.) RUC-decompositions in symmetric operator spaces. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 269–287. (Wend Werner) **98m:46008** 46B15 (46B28, 46L50, 46L89, 47D99)
— (*with* Chilin, Vladimir I.; Sukochev, F. A.) The Kadec-Klee property in symmetric spaces of measurable operators. (English summary) *Israel J. Math.* **97** (1997), 203–219. (Camillo Trapani) **98c:46129** 46L10 (46B28, 46E30, 47D40)
— (*with* Dodds, T. K.; de Pagter, Ben; Sukochev, F. A.) Lipschitz continuity of the absolute value and Riesz projections in symmetric operator spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 28–69. (Camillo Trapani) **98g:46098** 46L50 (46B28, 47D40)
Dodds, S. J. (*with* Luk'yanov, A. G.) Synthesis of linear multidimensional time-dependent systems with discontinuous control actions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 28–44; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 735–748. (Florin Iacob) **98j:93039** 93B50 (93C15)
Dodds, T. K. (*with* Dodds, P. G.; de Pagter, Ben; Sukochev, F. A.) Lipschitz continuity of the absolute value and Riesz projections in symmetric operator spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 28–69. (Camillo Trapani) **98g:46098** 46L50 (46B28, 47D40)
Dodge, Harold F. (*with* Romig, Harry G.) ★ Sampling inspection tables. Single and double sampling. Reprint of the 1959 second edition. With a preface by Edward G. Schilling. Wiley Classics Library. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xii+224 *pp. ISBN* 0-471-25549-1 62N10
Dodge, Yadolah The guinea pig of multiple regression. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 91–117, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (*see* **98h:62004**) 62J05 (62F35)
— LAD regression for detecting outliers in response and explanatory variables. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 1, 144–158. (Summary) **98b:62120** 62J05
— (*with* Jurečková, Jana) Adaptive choice of trimming proportion in trimmed least-squares estimation. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 167–176. (Summary) **98g:62053** 62F35 (62J05)
Dodonov, V. V. (*with* Mizrahi, Salomon S.) Gaussian solutions of Doebner-Goldin and Kostin nonlinear equations. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 180–187, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:82088** 82C10
— (*with* Man'ko, O. V.; Man'ko, Vladimir I.) Nonstationary parametric chain of oscillators. (English summary) *Nova J. Theor. Phys.* **4** (1996), *no.* 1, 1–45. (Apostolos Vourdas) **98c:81261** 81V80 (81R30)
— (*with* Klimov, A. B.; Man'ko, Vladimir I.) Quantum multidimensional systems with quadratic Hamiltonians, evolution of distinguished subsystems. (English summary) *Nova J. Theor. Phys.* **4** (1996), *no.* 2-3, 101–219. (Jerzy Łuczka) **98c:81032** 81Q05 (82C10)
— (*with* Mizrahi, Salomon S.) Competition between one- and two-photon absorption processes. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2915–2935. (K. Wódkiewicz) **98e:81208** 81V80
— (*with* Mizrahi, Salomon S.) Exact stationary photon distributions due to competition between one- and two-photon absorption and emission. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5657–5667. (Le Man Kuang) **98k:81336** 81V80
— (*with* Man'ko, Vladimir I.) Positive distribution description for spin states. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 335–339. (Summary) **98e:81045** 81R05
Dodsan, M. *see* **Dodson, M. M.**
Dodson, Bruce (*with* Lenstra, Arjen K.) NFS with four large primes: an explosive experiment. (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 372–385, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98d:11156** 11Y05 (94A60)
— (*with* Cowie, James; Elkenbracht-Huizing, R.-Marije; Lenstra, Arjen K.; Montgomery, Peter L.; Zayer, Jörg) A World Wide number field sieve factoring record: on to 512 bits. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 382–394, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (11Y05)
Dodson, M. M. (*with* Bernīk, V. Ī.) The exact order of zero approximation by values of integral polynomials of a complex variable. (Belorussian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 10–13, 122. (Summary) **98j:11056** 11J83
— A note on metric inhomogeneous Diophantine approximation. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 175–185. (Yao Chen Zhu) **98b:11085** 11J83 (11J20)
Dodunekov, Stefan M. (*with* Landgev, I.) On the quaternary [11, 6, 5] and [12, 6, 6] codes. *Applications of finite fields* (*Egham*, 1994), 75–84, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Mihai Caragiu) **98c:11138** 11T71 (94B05)
— (*with* Dodunekova, Rositsa D.; Kløve, Torleiv) Almost-MDS and near-MDS codes for error detection. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 285–290. 94B05
— (*with* Dodunekova, Rositsa D.) Sufficient conditions for good and proper error-detecting codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2023–2026. 94B05
— (*with* Boukliev, Iliya; Helleseth, Tor; Ytrehus, Øyvind) On the [162, 8, 80] codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2055–2057. 94B05
Dodunekova, Rositsa D. (*with* Dodunekov, Stefan M.; Kløve, Torleiv) Almost-MDS and near-MDS codes for error detection. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 285–290. 94B05
— (*with* Dodunekov, Stefan M.) Sufficient conditions for good and proper error-detecting codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2023–2026. 94B05
Dodziuk, Józef (*with* Jorgenson, Jay) On the geometry and spectral asymptotics of degenerating hyperbolic three manifolds. (English summary) *Extremal Riemann surfaces* (*San Francisco, CA*, 1995), 191–206, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Jack Quine) **98b:58166** 58G18 (57M50, 58G11, 58G25, 58G26)
— (*with* Mathai, Varghese) Approximating L^2 invariants of amenable covering spaces: a heat kernel approach. (English summary) *Lipa's legacy* (*New York*, 1995), 151–167, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Edward L. Bueler) **98j:58106** 58G11 (58G18, 58G25)
— (*with* Baker, Garth A.) Stability of spectra of Hodge-de Rham Laplacians. *Math. Z.* **224** (1997), *no.* 3, 327–345. (Friedbert Prüfer) **98b:58191** 58G25 (35P99, 58G20)
— *see also* **Lipa's legacy**, **98e:00027**
Doebner, H.-D. (*with* Ushveridze, A. G.) Integrable and algebraically solvable systems. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 255–272, *World Sci. Publishing, River Edge, NJ*, 1994. (Introduction) **98i:58113** 58F07 (81R99)
— (*with* Mann, H.-J.) Hamiltonians with three-dimensional Lie-algebras as spectrum generating algebra—a lecture in appreciation of A. O. Barut. *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 11–23, *World Sci. Publishing, River Edge, NJ*, 1996. (J.-P. Antoine) **98m:81047** 81R05
— (*with* Nattermann, P.) Borel quantization: kinematics and dynamics. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2327–2339. (Wojciech Lisiecki) **98f:81151** 81S10 (58F06)
— (*with* Dobrev, V. K.; Mrugalla, Christian) A q-Schrödinger algebra, its lowest-weight representations and generalized q-deformed heat/Schrödinger equations. (English

summary) *J. Phys. A* **29** (1996), *no.* 18, 5909–5918. (Marcelo R. Ubriaco) **98a:81077** 81R50 (17B37)

— (*with* Goldin, Gerald A.) Introducing nonlinear gauge transformations in a family of nonlinear Schrödinger equations. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 5, 3764–3771. (Woodford W. Zachary) **98a:81028** 81Q05 (81R10)

— (*with* Mann, H.-J.) Vector bundles over configuration spaces of nonidentical particles: topological potentials and internal degrees of freedom. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3943–3952. (Marc Sanders) **98f:55014** 55R25 (81S99)

— (*with* Groth, W.) Quantum Borel kinematics on three-dimensional manifolds and knot groups. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L503–L506. (Râzvan Gelca) **98m:57003** 57M12 (57M25, 81S10)

— (*with* Dobrev, V. K.; Twarock, Reidun) Quantization of kinematics and dynamics on S^1 with difference operators and a related q-deformation of the Witt algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6841–6859. (Pavel Šťovíček) **98m:81072** 81R50 (39A10, 81S99)

— (*with* Dobrev, V. K.; Mrugalla, Christian) Lowest weight representations of the Schrödinger algebra and generalized heat Schrödinger equations. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 201–218. (Bo-Wei Xu) **98j:81109** 81R05 (17B10, 22E70, 81Q05)

— *see also* **Nonlinear, deformed and irreversible quantum systems**, **98b:00026** *and* **Generalized symmetries in physics**, **98f:81007**

Doedel, Eusebius J. Nonlinear numerics. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 1049–1073. (Summary) **98g:65070** 65L10 (65H17)

— (*with* Aronson, D. G.; Terman, D. H.) A codimension-two point associated with coupled Josephson junctions. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1231–1255. (Peter Ashwin) **98f:58142** 58F14 (34C23, 34C37, 78A55)

Doeff, H. Erik Rotation measures for homeomorphisms of the torus homotopic to a Dehn twist. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 575–591. (Shigenori Matsumoto) **98e:58138** 58F20 (58F11)

— (*with* Misiurewicz, Michał) Shear rotation numbers. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1755–1762. (Jérôme Buzzi) **98m:58080** 58F11 (58F20)

Doelman, Arjen (*with* Holmes, Philip J.) Homoclinic explosions and implosions. *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1709, 845–893. (Summary) **98k:58166a** 58F14 (58F30)

— (*with* Holmes, Philip J.) Errata: "Homoclinic explosions and implosions". *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1713, 1837–1839. (Summary) **98k:58166b** 58F14 (58F30)

— (*with* Rottschäfer, V.) Singularly perturbed and nonlocal modulation equations for systems with interacting instability mechanisms. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 4, 371–409. (Daniel Ševčovič) **98m:35190** 35Q55 (34C99, 34E15, 35B25, 76E30)

van der Does, Jaap (*with* Groeneveld, Willem; Veltman, Frank) An update on "might". (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 4, 361–380. (Frans Voorbraak) **98k:68153** 68T27 (03B48, 03B60)

de Does, Jesse State-space formulas for the computation of the gap. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 737–748. (Summary) **98m:93029** 93B28 (93B40, 93C05)

Doets, Kees ★ Basic model theory. (English summary) Studies in Logic, Language and Information. *CSLI Publications, Stanford, CA; FoLLI: European Association for Logic, Language and Information, Amsterdam*, 1996. viii+130 *pp. ISBN* 1-57586-049-X; 1-57586-048-1 (Jane E. Kister) **98c:03076** 03C07 (03–01)

Dofs, Erik Two exponential Diophantine equations. *Glasgow Math. J.* **39** (1997), *no.* 2, 231–232. (Wells Johnson) **98e:11039** 11D61

Dogan, A. (*with* Gardner, L. R. T.; Gardner, G. A.) A Petrov-Galerkin finite element scheme for Burgers' equation. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 99–109. 65M60 (76M10)

Dogaru, O. C. On the occurrences of a word in a text. *Approximation and optimization, Vol. II (Cluj-Napoca*, 1996), 79–82, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 68R15

Dogaru, Oltin (*with* Udrişte, Constantin; Ţevy, Ionel) Extremum points associated with Pfaff forms. (English summary) In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 115–121. (J. Chrastina) **98g:58002** 58A17

Doha, E. H. On the coefficients of differentiated expansions of double and triple Legendre polynomials. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **15** (1995), 23–35. (Summary) **98b:33028** 33C50 (33C45, 33C90)

Doherty, Patrick (*with* Łukaszewicz, Witold; Szałas, Andrzej) A reduction result for circumscribed semi-Horn formulas. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 261–271. (Summary) **98b:68179** 68T27 (03B60, 30B70)

— (*with* Łukaszewicz, Witold; Szałas, Andrzej) Computing circumscription revisited: a reduction algorithm. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 3, 297–336. (Zoran Ognjanović) **98h:03036** 03B60 (03B70, 68T27)

Dohi, Tadashi (*with* Kaio, Naoto; Osaki, Shunji) Mathematical models of product warranties with age-dependent cost structures. (Japanese) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 41–52. (*see* **98h:90004**) 90B70

Dohmae, Kazuhiro A note on Sinnott's index formula. *Acta Arith.* **82** (1997), *no.* 1, 57–67. (Radan Kučera) **98k:11156** 11R27 (11R20)

Dohmen, Claus (*with* Giga, Yoshikazu; Mizoguchi, Noriko) Existence of selfsimilar shrinking curves for anisotropic curvature flow equations. *Calc. Var. Partial Differential Equations* **4** (1996), *no.* 2, 103–119. (Zhi Ren Jin) **98b:35050** 35J60 (34B15, 34C25, 58E99)

— A Pohozaev-type inequality for a quasilinear Haraux-Weissler equation. *Funkcial. Ekvac.* **39** (1996), *no.* 3, 389–397. (Dian K. Palagachev) **98a:35061** 35K55 (35B05)

— Structure of positive solutions to scalar field equations. (English summary) *Nonlinear waves (Sapporo*, 1995), 39–44, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q55 (34A12, 35B05, 35J10)

— Existence of fast decaying solutions to a Haraux-Weissler equation with a prescribed number of zeros. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 449–466. (Summary) **98h:35100** 35K55 (34A12, 34A34, 35B40, 35Q35)

Dohmen, Klaus A note on Möbius inversion over power set lattices. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 121–124. (Summary) **98c:05004** 05A15 (05C15, 06A07)

— Bounds to the chromatic polynomial of a graph. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 87–88. 05C15

Dohrmann, C. R. (*with* Robinett, Rush D.) Efficient sequential quadratic programming implementations for equality-constrained discrete-time optimal control. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 323–346. (Summary) **98h:49034** 49M29 (49M37)

Dohse, Fritz-Egbert Das Gauß-Dunnington-Archiv in Natchitoches (USA). [The Gauss-Dunnington archive in Natchitoches (USA)] *Gauss-Ges. Göttingen Mitt. No.* 34 (1997), 63–66. 01A70

Dohtani, A. (*with* Misawa, Tetsuya; Inaba, T.; Yokoo, M.; Owase, T.) Chaos, complex transients and noise: illustration with a Kaldor model. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2157–2174. (*see* **98a:90007**) 90A16

Doi, Akimitsu (*with* Hinamoto, Takao; Harada, Ken-Ichi) Design of multidimensional separable-denominator digital filters in the spatial domain. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 273–293. (A. Bultheel) **98d:94005** 94A12 (93E11)

Doi, Hideo A chiral model related to the Einstein equation. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 1, 141–148. (Carlos N. Kozameh) **98e:83026** 83C20

Doi, Shin-ichi Smoothing effect for Schrödinger evolution equation via commutator algebra. *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp No.* XX, 15 *pp., École Polytech., Palaiseau*, 1997. (Michael A. Perel'muter) **98i:58224** 58G11 (35J10, 47D06, 47F05, 58G15)

Doi, Yukio A note on Frobenius extensions in Hopf algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3699–3710. (Walter R. Ferrer Santos) **98i:16037** 16W30

Doignon, Jean-Paul (*with* Falmagne, Jean-Claude) Well-graded families of relations. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 35–44. (James W. Lea, Jr.) **98j:06001** 06A06 (92G05)

— (*with* Regenwetter, Michel) An approval-voting polytope for linear orders. (English summary) *J. Math. Psych.* **41** (1997), *no.* 2, 171–188. (Graham J. G. Upton) **98i:90027** 90A28

— (*with* Falmagne, Jean-Claude) Stochastic evolution of rationality. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 107–138. (E.-A. Weiss, Jr.) **98h:90010** 90A06 (60J25, 60K30)

Doikou, Anastasia (*with* Mezincescu, Luca; Nepomechie, Rafael I.) Simplified calculation of boundary S matrices. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L507–L512. (Summary) **98f:82019** 82B20

Dokken, D. P. Idempotent measures associated to a locally compact topological group. (English summary) *Topological dynamics and applications (Minneapolis, MN*, 1995), 169–182, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:54074** 54H20 (28C10)

— *see also* **Topological dynamics and applications**, **98h:54001**

Dökmeci, M. C. (*with* Aşkar Altay, G.) Numerical algorithms for dynamics of thermopiezoceramic bars. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 429–445. 73R05 (73B30, 73K05, 73V25)

Đoković, D. Ž. *see* **Djoković, Dragomir Ž.**

Đoković, Dragomir Ž. *see* **Djoković, Dragomir Ž.**

Doksum, Kjell A. (*with* Normand, Sharon-Lise T.) Models for degradation processes and event times based on Gaussian processes. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA*, 1994), 85–91, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62182** 62N05 (62P10)

— (*with* Chaudhuri, Probal; Samarov, Alexander) Nonparametric estimation of global functionals of conditional quantiles. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau*, 1994), 63–78, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98h:62045** 62G05

— (*with* Chaudhuri, Probal; Samarov, Alexander) On average derivative quantile regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 715–744. (Stergios B. Fotopoulos) **98d:62054** 62G05 (62G20, 62H10)

Doktorov, E. V. (*with* Shchesnovich, V. S.) Nonlinear initial-boundary evolutions with singular dispersion laws associated to the quadratic bundle. (English summary) *Nonlinear physics: theory and experiment (Lecce*, 1995), 75–82, *World Sci. Publishing, River Edge, NJ*, 1996. (F. Pempinelli) **98g:58072** 58F07 (35Q55)

— Spectral transform and solitons for the three-wave coupling model with nontrivial boundary conditions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4138–4150. (Spyridon Kamvissis) **98f:35135** 35Q55

— (*with* Shchesnovich, V. S.) Perturbation theory for solitons of the Manakov system. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part B*, 7626–7635. (Summary) **98d:78013** 78A60 (35Q55)

— Erratum: "Spectral transform and solitons for the three-wave coupling model with nontrivial boundary conditions" [J. Math. Phys. **38** (1997), no. 2, 4138–4150; MR 98f:35135]. *J. Math. Phys.* **39** (1998), *no.* 2, 1249. 35Q55

Doktorovich, A. B. The "betweenness" relation and support sets. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 748–750. (A. A. Mullin) **98m:00008** 00A30 (04A05, 68P99)

Dōku, Isamu On the Laplacian on a space of white noise functionals. *Tsukuba J. Math.* **19** (1995), *no.* 1, 93–119. (Sheng Wu He) **98b:60105** 60H07

— On a class of infinite-dimensional Fourier type transforms in white noise calculus. (English summary) *Probability theory and mathematical statistics (Tokyo*, 1995), 51–61, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:60004**) 46F25 (46G12, 60G99, 60H20)

— White noise analysis and the boundary value problem in the space of stochastic distributions. (English summary) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 36–53. (*see* **98b:00034**) 60G20 (46F25, 60H10)

Dokuchaev, M. A. (*with* Juriaans, Stanley O.; Polcino Milies, César) Integral group rings of Frobenius groups and the conjectures of H. J. Zassenhaus. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2311–2325. (Jürgen Ritter) **98e:20010** 20C10 (16U60)

Dokuchaev, N. G. Parabolic equations without a Cauchy boundary condition and problems of the control of diffusion processes. II. (Russian. Russian summary) *Differ. Uravn.*

31 (1995), *no.* 8, 1409–1418, 1439; *translation in Differential Equations* **31** (1995), *no.* 8, 1362–1372 (1996). (Vyacheslav N. Pavlenko) **98c:35094** 35K60 (35R60, 60H30, 93E20)

Dolado, Juan J. (*with* Marmol, Francesc) On the properties of the Dickey-Pantula test against fractional alternatives. (English summary) *Econom. Lett.* **57** (1997), *no.* 1, 11–16. 62M10 (62P20)

Dolan, Brian P. Geodesic renormalization group flow. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2413–2424. (Lewis H. Ryder) **98c:81143** 81T17

Dolan, L. Gauge symmetry in background charge conformal field theory. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 245–263. (Ernest Bauer) **98j:81309** 81T40 (81R10)

Dolbeault, Pierre Recent progress on holomorphic chains with given boundary. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 1–7, *World Sci. Publishing, River Edge, NJ*, 1997. (Mohammed El Amrani) **98h:32014** 32C30

— (*with* Khenkin, G. M.) Chaînes holomorphes de bord donné dans $\mathbf{CP}^n$. (English and French summaries) [Holomorphic chains with given boundary in $\mathbf{CP}^n$] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 383–445. (Mongi Blel) **98m:32014** 32C30

Dol'berg, M. D. (*with* Chudinovich, I. Yu.) Passage to the limit with respect to a small parameter in Green matrices of singularly perturbed differential operators. (Russian) *Functional analysis and applied mathematics* (*Russian*), 13–23, 212, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 35B25 (35A08, 47N20)

Dolbilin, Nikolai P. (*with* Zinov'ev, Yu. M.; Mishchenko, A. S.; Shtan'ko, M. A.; Shtogrin, M. I.) Homological properties of two-dimensional coverings of lattices on surfaces. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 19–33, 95; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 163–173 (1997). (J. S. Joel) **98b:82014** 82B20 (57M12, 57M20)

— (*with* Danzer, Ludwig) Delone graphs; some species and local rules. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 85–114, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (O. V. Shvartsman) **98g:52031** 52C22

— (*with* Shtan'ko, M. A.; Shtogrin, M. I.) Nonbendability of the covering of a sphere by squares. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 443–445. (Marek Lassak) **98e:52027** 52C25 (52B10)

— (*with* Huson, Daniel H.) Periodic Delone tilings. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 57–64. (Summary) **98k:52052** 52C22 (52B55)

capuzzo Dolcetta, I. *see* **Capuzzo Dolcetta, I.**

Dolcetti, Alberto (*with* Casnati, Gianfranco; Ellia, Philippe) On subcanonical curves lying on smooth surfaces in $\mathbf{P}^3$. *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 3-4, 289–300. (Angelo Lopez) **98d:14045** 14H50 (14H45, 14J60)

— (*with* Ellia, Philippe) Curves on generic surfaces of high degree through a complete intersection in $\mathbf{P}^3$. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 203–213. (A. Prabhakar Rao) **98k:14043** 14H50 (14J25, 14J60, 14M10)

Dolcher, Mario *see* **Tironi, Gino, 98f:01091**

Dold-Samplonius, Yvonne Qubba for al-Kāshī. (English summary) *American Mathematical Society, Providence, RI*, 1995. 1 *videocassette* (*NTSC*; *1/2 inch*; *VHS*) (16 *min.*); *sd., col.* (Publisher's description) **98g:01018** 01A30

— In memoriam: Bartel Leendert van der Waerden (1903–1996). *Historia Math.* **24** (1997), *no.* 2, 125–130. (C. R. Fletcher) **98f:01060** 01A70

Dolejši, Vít (*with* Felcman, Jiří) Adaptive methods in internal and external flow computations. (English summary) *Progress in industrial mathematics at ECMI* 96 (*Lyngby*, 1996), 424–431, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76M25 (76H05)

Dolev, Danny (*with* Shavit, Nir) Bounded concurrent time-stamping. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 418–455. (Andrea Maggiolo-Schettini) **98a:68082** 68Q22

Dolev, Shlomi (*with* Welch, Jennifer L.) Wait-free clock synchronization. (English summary) *Algorithmica* **18** (1997), *no.* 4, 486–511. (Summary) **98c:68057** 68Q10

— (*with* Herman, Ted) Superstabilizing protocols for dynamic distributed systems. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 4, 40 *pp.* (*electronic*). (Summary) **98h:68016** 68M10

Doležal, Jaroslav *see* **System modelling and optimization, 98d:90014**

Dolezal, Vaclav When is the stability of a nonlinear input-output system robust? (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 487–505. (Ji Tao Sun) **98m:93090** 93D09 (93C25)

— Input-output systems whose transmission operators furnish nearly best approximations to a given map. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 625–647. (Alexander M. Kovalev) **98k:93009** 93A25 (47N70, 93B99)

— On a "central inequality" in the theory of input-output systems. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 655–661. (Alexander M. Kovalev) **98k:93010** 93A25 (47N70, 93B99)

Dolff, Susanne (*with* Kemnitz, Arnfried) Score sequences of multitournaments. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 85–95. (Summary) **98j:05072** 05C20

Dolfi, Silvio (*with* Casolo, Carlo) Conjugacy class lengths of metanilpotent groups. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 121–130. (David Gluck) **98a:20021** 20D10 (20D60)

Dolfin, Marina (*with* Ciancio, Vincenzo; Ván, Peter) Thermodynamical theory of dia- and paramagnetic materials. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 125–135. (Summary) **98j:82071** 82D40

— (*with* Rogolino, P.) Acceleration waves and stability. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 1, 91–96. (Summary) **98k:73031** 73D40 (73D35)

Dolgii, Yu. F. Asymptotics of the eigenvalues of the monodromy operator for periodic differential equations with delay. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1994**, *no.* 11, 20–28; *translation in Russian Math.* (*Iz. VUZ*) **38** (1994), *no.* 11, 17–25 (1995). (Teresa Winiarska) **98j:34162** 34K99 (34L20)

— (*with* Plastinin, N. V.) On the asymptotics of the eigenvalues of the monodromy operator of a differential equation of neutral type with periodic coefficients. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1558–1560, 1583; *translation in Differential Equations* **32** (1996), *no.* 11, 1554–1557 (1997). (Summary) **98i:34092** 34K05 (34K15)

Dolgopolova, A. V. Asymptotic behavior of the Shannon function for a class of circuits consisting of functional elements. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 1, 37–41, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 1, 51–56. (Zh. A. Chernyak) **98g:94013** 94A29 (94C10)

Dolgopolova, O. B. Construction of all two-sheeted unlimited unramified coverings of a closed Riemann surface. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 1, 32–34, 79–80. (Victor Vinnikov) **98a:14039** 14H30 (30F10, 57M05, 57M10, 57M12)

Dolgopyat, D. Bounded orbits of Anosov flows. *Duke Math. J.* **87** (1997), *no.* 1, 87–114. (Dmitry Y. Kleinbock) **98b:58133** 58F15 (58F03, 58F11)

Doličanin, Čemal (*with* Stefanović, Milisav) The study of cycles by use of matrices. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 101–103, *Univ. Priština, Priština*, 1995. (Serguey M. Pokas') **98d:53017** 53A35

— (*with* Antonevich, Anatolii B.; Stefanović, Milisav) Invariant and ergodic measures in relation to movement of invariant. (English summary) *J. Electrotech. Math.* **1996**, *no.* 1, 81–84. 28D05

— (*with* Romanovskiĭ, V. G.; Stefanović, Milisav) The center conditions for a class of cubic systems. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 61–68. (Alexandru Şubă) **98e:34051** 34C05

— (*with* Nikolić, Radovan) Some exact solutions of the equation $\partial z^2/\partial x\partial y = \operatorname{sh} z$. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 119–125, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 35C05 (35L70)

Dolinar, Samuel J., Jr. (*with* Kiely, Aaron B.; McEliece, Robert J.; Ekroot, Laura L.; Lin, Wei[3]) Trellis decoding complexity of linear block codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1687–1697. (*see* **98c:94001**) 94B35

Dolinka, Igor (*with* Crvenković, Siniša) Undecidable varieties with solvable word problems. I. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 1–8. (Ewa Graczyńska) **98e:08001** 08A50 (03B25, 03D35, 08B05)

— (*with* Crvenković, Siniša) Undecidable varieties with solvable word problems. II. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 21–30. (Ewa Graczyńska) **98j:08005** 08A50 (03B25, 03D40, 08B05)

Dolinkina, O. P. (*with* Eremeev, V. N.; Kolesnikov, P. M.; Kolesnikov, P. P.) Generalized hyperbolic equations for the transport of contaminants in the ocean and their boundary conditions. Direct and inverse problems. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 123–128 (1997). (Summary) **98b:86004** 86A05 (35L99, 35Q99, 45K05)

Dolinsky, Yu. (*with* Elperin, T.) Inductive instability in heterogeneous nonstationary systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part B*, 3633–3637. (Manuel Núñez Jiménez) **98i:76100** 76W05

Dolinszky, T. Scattering by singular potentials. B. Varying the linear parameters. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 16–29. (Summary) **98j:81353** 81U05

D'Olivo, Juan Carlos *see* **Workshop: Particles and Fields, 98e:81004**

Doliwa, Adam Harmonic maps and periodic Toda systems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1685–1691. (John C. Wood) **98d:58040** 58E20 (53C42, 58F07)

— Holomorphic curves and Toda systems. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 1, 21–32. (Iskander A. Taimanov) **98a:58047** 58E20 (22E46, 58F07)

— (*with* Mañas, Manuel; Santini, Paolo Maria) Darboux transformations for multidimensional quadrilateral lattices. I. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 99–105. (F. Pempinelli) **98h:58178** 58F37 (35Q99, 39A12)

— (*with* Santini, Paolo Maria) Multidimensional quadrilateral lattices are integrable. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 365–372. (Summary) **98f:58100** 58F07

— Geometric discretisation of the Toda system. (English summary) *Phys. Lett. A* **234** (1997), *no.* 3, 187–192. (Summary) **98g:58073** 58F07 (39A12)

Dollas, Apostolos (*with* Rankin, William T.; McCracken, David) A new algorithm for Golomb ruler derivation and proof of the 19 mark ruler. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 379–382. 68Q22 (94A60)

Dolov, M. V. An integrating factor in a neighborhood of a node. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 158–160, 284; *translation in Differential Equations* **33** (1997), *no.* 2, 158–160. (From the text) **98j:34042** 34C05

— (*with* Chistyakova, S. A.) Algebraic differential equations with an integrating factor of Darboux type. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 618–622, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 621–625 (1998). (Summary) **98k:34045** 34C05 (34A34)

Dolz, Manuel (*with* Pellicer, Julio; Hernández, María-Jesús) A new definition of the logarithmic temperature scale based on the triple point of water. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 5, 837–841. 80A05

Dolzhenko, E. P. Remarks on the modulus of continuity of a conformal mapping of a disk onto a Jordan domain. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 2, 176–184, 318; *translation in Math. Notes* **60** (1996), *no.* 1-2, 130–136 (1997). (Shun Sheng Guo) **98a:41044** 41A63 (30C20, 30C35)

— *see also* **Men'shov, D. E., 98i:01038**

Dolzhenkov, V. A. Extremal problems for surfaces with bounded absolute mean integral curvature in an n-dimensional space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 267–273. (Summary) **98m:52010** 52A38 (52A22)

Dolzmann, Andreas (*with* Sturm, Thomas) Simplification of quantifier-free formulae over ordered fields. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 209–231. (Joachim Schmid) **98j:68067** 68Q40 (03C10, 03C60, 12J15)

Dolzmann, Georg (*with* Hungerbühler, Norbert; Müller, Stefan) The p-harmonic system with measure-valued right hand side. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 353–364. (Summary) **98c:35055** 35J65 (35R05)

Domachowski, Stanisław (*with* Pruszko, Tadeusz) An application of the Lefschetz fixed-point theorem to non-convex differential inclusions on manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1231–1236. (Salvatore A. Marano) **98f:34017** 34A60

Domain, Christophe (*with* Gutowitz, Howard) The topological skeleton of cellular automaton dynamics. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 155–168. (Summary) **98e:68187** 68Q80 (82C20)

Domański, Paweł (*with* Dierolf, Susanne) Null sequences in coechelon spaces. (English summary) *Math. Nachr.* **184** (1997), 167–176. (Pedro J. Paúl) **98a:46013** 46A45 (46A04, 46A50, 47B07)

— (*with* Krone, Jörg; Vogt, Dietmar) Standard exact projective resolutions relative to a countable class of Fréchet spaces. (English summary) *Studia Math.* **123** (1997), *no.* 3, 275–290. (José Bonet) **98a:46005** 46A04 (46A13)

— (*with* Bonet, José; Lindström, Mikael; Taskinen, Jari) Composition operators between weighted Banach spaces of analytic functions. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 101–118. (H. Jarchow) **98m:47039** 47B38 (30D55, 46E15)

Domanskiĭ, E. N. On the regularization in the sense of Maslov of a perturbed linear operator equation of the first kind. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 442–444. (Anton Suhadolc) **98m:47010** 47A50 (65J20)

— Letter to the editors: "Maslov's regularizability of discontinuous mappings" [Izv. Ross. Akad. Nauk Ser. Mat. **57** (1993), no. 1, 33–58; MR 94h:47130]. (Russian) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 199–200; *translation in Izv. Math.* **61** (1997), *no.* 2, 435–436. (From the text) **98e:47103** 47H17 (47H15, 54E40, 65J15)

Domans'kiĭ, P. P. A method for expansion by tensor functions in the construction of equations for the stability of motion of elastic cylindrical bodies. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 53–59. 73K12 (73H10)

Domanskiĭ, V. K. Game-theoretic model for constructing linear objective functions. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 253–267, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90D40 (90A05)

Domar, Yngve Entire functions of order ≤ 1, with bounds on both axes. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 339–348. (Sergey Georgievich Merzlyakov) **98i:30040** 30D15

Dombi, G. (*with* Valkó, B.) On a problem of Erdős. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 47–56. (Vsevolod F. Lev) **98h:11020** 11B34

Dombre, Thierry (*with* Gilson, Jean-Louis) Intermittency, chaos and singular fluctuations in the mixed Obukhov-Novikov shell model of turbulence. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 265–287. (Summary) **98k:76073** 76F99

Dombrovskiĭ, Georgiĭ Arsen'evich *see* **Sedov, Leonid Ivanovich**

Dombrovskiĭ, I. R. Diophantine approximations on the Cartesian product of curves, and the Hausdorff dimension. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 121–124, 134. (Dmitry Y. Kleinbock) **98d:11089** 11J83 (11J13, 11J54)

Dombrowski, J. (*with* Pedersen, Steen) Spectral measures and Jacobi matrices related to Laguerre-type systems of orthogonal polynomials. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 421–433. (From the text) **98e:47041** 47B25 (33C45, 42C05, 47A10, 47A57, 47B39)

Domelevo, K. (*with* Clouet, J. F.) Solution of a kinetic stochastic equation modeling a spray in a turbulent gas flow. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 239–263. (Introduction) **98m:76095** 76F99 (60H10, 76M35, 76T05, 82C40)

Domenech, S. (*with* Laquerbe, C.; Floquet, P.; Pibouleau, L.) Conception de séquences de séparation par un algorithme génétique. (English and French summaries) [Synthesis of separation sequences by a genetic algorithm] *RAIRO Rech. Opér.* **31** (1997), *no.* 4, 375–397. 92E20

Domenig, Thomas (*with* Nagasawa, Masao) Diffusion processes on an open time interval and their time reversal. (English summary) *Itô's stochastic calculus and probability theory*, 261–280, *Springer, Tokyo*, 1996. (Götz Kersting) **98k:60132** 60J60 (60H10)

Domenjoud, Eric (*with* Tomás, Ana Paula) From Elliott-MacMahon to an algorithm for general linear constraints on naturals. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 18–35, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 68Q40 (11Y50, 68T20)

Domergue, M. *see* **Progress in knot theory and related topics, 98g:57002**

Domick, G. *see* **Visualization methods in high performance computing and flow simulation**

Dominé, Marco (*with* Pieper, Volkmar; Kurth, Petra) Level crossing problems and drift reliability. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 347–354. (*see* **98b:90005**) 60K10 (90B25)

Domingo, Carlos Francisco Exact learning of subclasses of CDNF formulas with membership queries. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 179–188, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98b:68144** 68Q99 (68T05)

— Polynomial time algorithms for some self-duality problems. (English summary) *Algorithms and complexity* (*Rome*, 1997), 171–180, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98h:68109** 68Q25 (03D15, 06E30)

— Corrigendum: "Exact learning of subclasses of CDNF formulas with membership queries" [in *Computing and combinatorics (Hong Kong, 1996)*, 179–188, Lecture Notes in Comput. Sci., 1090, Springer, Berlin, 1996; MR 98b:68144]. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 516–519, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q99 (68T05)

— (*with* Tsukiji, Tatsuie; Watanabe, Osamu²) Partial Occam's razor and its applications. *Inform. Process. Lett.* **64** (1997), *no.* 4, 179–185. (From the introduction) **98m:68194** 68Q99 (68T05)

Domingos Cavalcanti, V. N. Behaviour near the boundary for solutions of elasticity systems. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 12, 18 *pp.* (*electronic*). (Sophia Demoulini) **98h:35030** 35D10 (35L20, 73C02)

Domínguez, Alfredo E. (*with* Kozameh, Carlos N.; Ludvigsen, Malcolm) The phase space of radiative spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3377–3390. (Simonetta Frittelli) **98m:83007** 83C05 (83C30)

Dominguez, David R. C. (*with* Theumann, W. K.) Generalization and chaos in a layered neural network. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1403–1414. (Dimitri Petritis) **98e:82041** 82C32 (58F13, 58F40, 92B20)

Dominguez, E. *see* **Domingnez Murillo, Eladio**

Dominguez, Eduardo (*with* Barraco, D.; Guibert, R.; Hamity, V.) Conservation laws and symmetry properties of a class of higher order theories of gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 629–642. (Summary) **98m:83060** 83D05 (83C40)

Dominguez, Jesús M. (*with* Gómez Pérez, Javier; Mulero Díaz, Ma. Ángeles) Intermediate algebras between $C^*(X)$ and $C(X)$ as rings of fractions of $C^*(X)$. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 115–130. (Summary) **98c:54011** 54C40

ferreirós Dominguez, José *see* **Ferreirós Dominguez, José**

traversoni Dominguez, Leonardo *see* **Traversoni Dominguez, Leonardo**

ramos Dominguez, Maria Teresa *see* **Ramos Dominguez, Maria Teresa**

Dominguez, P. Connectedness properties of Julia sets of transcendental entire functions. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 199–215. (Jeffrey Diller) **98f:30027** 30D05 (58F23)

ramos Dominguez, Rosa Maria *see* **Ramos Dominguez, Rosa Maria**

Domínguez Benavides, Tomás A geometrical coefficient implying the fixed point property and stability results. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 835–849. (Brailey Sims) **98h:47070** 47H09 (46B20, 47H10)

— Some geometric properties concerning fixed point theory. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 109–124. (Elisabetta Maluta) **98d:47135** 47H10 (46B20, 47H09)

— (*with* Ayerbe Toledano, José María; Cutillas, S. Francisco) A modulus for property (β) of Rolewicz. (English summary) *Colloq. Math.* **73** (1997), *no.* 2, 183–191. (Y. Benyamini) **98c:46017** 46B20 (47H09)

— Geometric constants concerning metric fixed point theory: finite- or infinite-dimensional character. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2297–2308. (Brailey Sims) **98m:47092** 47H10 (46B20, 54H25)

— Fixed point theorems for uniformly Lipschitzian mappings and asymptotically regular mappings. *Nonlinear Anal.* **32** (1998), *no.* 1, 15–27. (Jarosław Górnicki) **98k:47109** 47H10 (46B20, 47H09, 54H25)

Dominguez-Cascante, Raquel Information theory in the study of anisotropic radiation. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7707–7719. (Summary) **98m:85002** 85A25 (82C70, 82D10)

Dominguez Murillo, Eladio (*with* Ayala, R.; Frances Román, Ángel Ramón; Quintero, A.) Determining the components of the complement of a digital $(n-1)$-manifold in $\mathbf{Z}^n$. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 163–176, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98k:68173** 68U10 (52B55, 57N99)

de Dominicis, G. *see* **De Dominicis, G.**

Dominicis, G. De *see* **De Dominicis, G.**

Domitrz, Wojciech (*with* Janeczko, Stanisław) On Martinet's singular symplectic structures. *Singularities and differential equations* (*Warsaw*, 1993), 51–59, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98i:58086** 58F05 (57R45, 58A35)

— (*with* Janeczko, Stanisław) Equivalence of Lagrangian germs in the presence of a surface. *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 31–37, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (V. M. Zakalyukin) **98f:58033** 58C27 (57R45)

Domke, Gayla S. (*with* Dunbar, Jean E.; Haynes, Teresa W.; Knisley, D. J.; Markus, Lisa R.) Independence, domination and generalized maximum degree. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 145–152. (Summary) **98j:05083** 05C35 (05C70)

— (*with* Dunbar, Jean E.; Markus, Lisa R.) Gallai-type theorems and domination parameters. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 237–248. (Summary) **98b:05053** 05C35

— (*with* Laskar, Renu C.) The bondage and reinforcement numbers of γ_f for some graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 249–259. (Summary) **98b:05054** 05C35

— (*with* Bevis, Jean H.; Blount, Kevin K.; Davis, George J.; Miller, Valerie A.) The rank of a graph after vertex addition. (English summary) *Linear Algebra Appl.* **265** (1997), 55–69. (Slobodan Simić) **98i:05116** 05C50

Dommermuth, Douglas G. (*with* Longuet-Higgins, Michael S.) Crest instabilities of gravity waves. III. Nonlinear development and breaking. (English summary) *J. Fluid Mech.* **336** (1997), 33–50. (Summary) **98c:76014** 76B15 (76E30, 76E99)

Domokos, Gábor Arc length as bifurcation parameter in elementary beam theory. *Differential equations and its applications* (*Budapest*, 1991), 101–111, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 73H05 (73K05)

— Static solitary waves as limits of discretization: a plausible argument. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2099–2116. (Summary) **98g:73018** 73H05 (73H10, 73K12)

— (*with* Zoltani, C. K.; Kovesi-Domokos, S.) Variational method in the statistical theory of turbulence. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 185–202. (Summary) **98d:76096** 76F99 (76M30, 76M35)

Domokos, Mátyás (*with* Drensky, Vesselin) A Hilbert-Nagata theorem in noncommutative invariant theory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2797–2811. (Jacques Alev) **98k:16049** 16W20 (15A72, 16R30)

Domokos, P. (*with* Szabó, S.; Adam, Peter; Janszky, J.) Coherent-state representation on an infinitesimal interval in phase space. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 203–206. (Summary) **98m:81068** 81R30

kovesi-Domokos, S. *see* **Kovesi-Domokos, S.**

Domoshnitskiĭ, A. I. On periodic boundary value problem for first order impulsive functional-differential nonlinear equation. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 39–46 (1998). (Eduardo Liz) **98j:34133** 34K10 (34A37)

— (*with* Drakhlin, Mikhail E.) Nonoscillation of first order impulse differential equations with delay. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 254–269. (Jun Jie

Wei) **98a:34075** 34K15 (34A37, 34C10)

Domowitz, Ian (*with* Bollerslev, Tim; Wang, Jianxin) Order flow and the bid-ask spread: an empirical probability model of screen-based trading. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1471–1491. (*see* **98c:90003**) 90A60

Dompere, Kofi Kissi The theory of approximate prices: analytical foundations of experimental cost-benefit analysis in a fuzzy-decision space. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 1, 1–26. (J. C. Hwang) **98d:90015** 90A05 (04A72, 90A08)

— Cost-benefit analysis, benefit accounting and fuzzy decisions. I. Theory. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 275–287. 90A05 (04A72)

Dompierre, J. (*with* Habashi, Wagdi G.; Fortin, Michel; Vallet, M.-G.; Bourgault, Y.) Anisotropic mesh adaptation: a step towards a mesh-independent and user-independent CFD. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 99–117, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98k:65055** 65M50 (76M25)

Domps, A. (*with* Reinhard, P.-G.; Suraud, E.) Fermionic Vlasov propagation for Coulomb interacting systems. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 171–190. (Summary) **98h:81135** 81V70

Domrin, A. V. On the spanning of maximally complex cycles by CR-submanifolds. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 776–777; *translation in Math. Notes* **60** (1996), *no.* 5-6, 582–583 (1997). (J. S. Joel) **98m:32011** 32C16 (32F25)

Domschke, Wolfgang (*with* Krispin, Gabriela) Location and layout planning. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 181–194. 90B80 (90–02)

Domshlak, Yu. I. (*with* Drakhlin, Mikhail E.; Litsyna, E. M.; Kiguradze, Ivan Tarielovich; Maksimov, V. P.) Professor Nikolai Viktorovich Azbelev (on the occasion of his 75th birthday). *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 259–264 (1997). (Editors) **98f:01061** 01A70

— (*with* Bainov, Drumi D.; Simeonov, Pavel) On the oscillation properties of first-order impulsive differential equations with a deviating argument. (English summary) *Israel J. Math.* **98** (1997), 167–187. (Jun Jie Wei) **98k:34017** 34A37 (34K15)

Don, Wai Sun (*with* Solomonoff, Alex) Accuracy enhancement for higher derivatives using Chebyshev collocation and a mapping technique. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1040–1055. (Summary) **98c:65029** 65D25 (65G05)

Donagi, Ron Spectral covers. (English summary) *Current topics in complex algebraic geometry* (*Berkeley, CA*, 1992/93), 65–86, *Math. Sci. Res. Inst. Publ.*, 28, *Cambridge Univ. Press, Cambridge*, 1995. (Summary) **98e:14007** 14D20 (14J05)

— (*with* Ein, Lawrence; Lazarsfeld, Robert) Nilpotent cones and sheaves on $K3$ surfaces. *Birational algebraic geometry* (*Baltimore, MD*, 1996), 51–61, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Huybrechts) **98f:14006** 14D20 (14J28, 14J60)

Donaho, Stephen Are declarative sentences representational? (English summary) *Mind* **107** (1998), *no.* 425, 33–58. 03A05 (03B65)

Donahue, M. J. (*with* Gurvits, Leonid; Darken, C.; Sontag, Eduardo D.) Rates of convex approximation in non-Hilbert spaces. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 187–220. (D. Leviatan) **98c:41051** 41A65 (41A45, 46N40)

mac Dónaill, D. A. *see* **Mac Dónaill, D. A.**

Donaire, Juan Jesús (*with* Carmona, Juan José) On removable singularities for the analytic Zygmund class. *Michigan Math. J.* **43** (1996), *no.* 1, 51–65. (Peter Boyadjiev) **98g:30005** 30B40

Donald, John (*with* Gillman, David S.) Almost reconstruction of the 3-dimensional ball from $K_{p_1p_2} \times I$. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1335–1349. (John Bryant) **98h:57008** 57M20 (57M40, 57Q10)

Donald, Matthew J. (*with* Bacciagaluppi, Guido; Vermaas, Pieter E.) Continuity and discontinuity of definite properties in the modal interpretation. (English summary) *Helv. Phys. Acta* **68** (1995), *no.* 7-8, 679–704. (Oliver Rudolph) **98b:81008** 81P05 (81Q15)

Donald, Stephen G. (*with* Cragg, John G.) On the asymptotic properties of LDU-based tests of the rank of a matrix. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1301–1309. (Summary) **98k:62098** 62H15

— Inference concerning the number of factors in a multivariate nonparametric relationship. (English summary) *Econometrica* **65** (1997), *no.* 1, 103–131. (Luis Firinguetti) **98d:62194** 62P20 (62G10, 62J99)

Donaldson, David (*with* Blackorby, Charles; Bossert, Walter) Birth-date dependent population ethics: critical-level principles. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 260–284. (Summary) **98j:90009** 90A08

Donaldson, S. K. On the existence of symplectic submanifolds. Notes by C. B. Thomas. *Contact and symplectic geometry* (*Cambridge*, 1994), 307–310, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Hansjörg Geiges) **98b:57049** 57R95 (58F05)

— Symplectic submanifolds and almost-complex geometry. *J. Differential Geom.* **44** (1996), *no.* 4, 666–705. (Daniel Pollack) **98h:53045** 53C15 (53C40, 53C65, 57R15, 58F05)

Donati, Leonbattista Sets of convergent power series given by differential conditions. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 217–227. (Zbigniew Szafraniec) **98g:32007** 32B05 (68Q40)

— (*with* Stolfi, Noëlle) Shade singularities. *Math. Ann.* **308** (1997), *no.* 4, 649–672. (Peter Giblin) **98h:58019** 58C27 (53A05, 53A07, 78A05)

Donati-Martin, C. (*with* Yor, Marc) Some Brownian functionals and their laws. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1011–1058. (Paavo H. Salminen) **98e:60135** 60J65 (60H05, 60J60)

— (*with* Pardoux, Etienne) EDPS réfléchies et calcul de Malliavin. [SPDEs with reflection and Malliavin calculus] *Bull. Sci. Math.* **121** (1997), *no.* 5, 405–422. (Marta Sanz Solé) **98k:60101** 60H15 (60H07)

Donato, Andrea (*with* Oliveri, Francesco) Exceptionality condition and linearization of hyperbolic equations. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 193–207. (Paolo Secchi) **98j:35115** 35L60 (35L45, 35Q35, 76N10)

Donato, Patrizia (*with* Cioranescu, Doina) On a Robin problem in perforated domains. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 123–135, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dietrich Göhde) **98m:35009** 35B25 (35B27, 35J25)

— (*with* El Hajji, M.) An application of the H^0-convergence to some nonhomogeneous Neumann problems. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 137–156, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dietrich Göhde) **98m:35010** 35B25 (35B27, 35J25, 49J10)

— (*with* Nabil, Aïssam) Homogénéisation et contrôlabilité approchée de l'équation de la chaleur dans des domaines perforés. (English and French summaries) [Homogenization and approximate controllability for the heat equation in perforated domains] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 789–794. (Jacqueline Mossino) **98f:35011** 35B27 (35K05, 93B05)

— *see also* **Homogenization and applications to material sciences**, **98d:35002**

Doncel, Manuel G. Reconsidering Faraday: the process of conversion to his magnetic curves. (English summary) Aspects of mid to late nineteenth century electromagnetism. *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **33** (1996), *no.* 1-3, 53–84. (*see* **98d:01001**) 01A55 (78–03)

Donchev, Doncho S. (*with* Yushkevich, Aleksandr A.) Average optimality in a Poissonian bandit with switching arms. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 265–280. (Summary) **98c:90207** 90D60 (62L05)

Donchev, Tzanko Qualitative properties of a class differential inclusions. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 269–276. (G. Anichini) **98c:34019** 34A60 (34C99, 49J24)

— Lower semicontinuous differential inclusions. One-sided Lipschitz approach. (English summary) *Colloq. Math.* **74** (1997), *no.* 2, 177–184. (Giovanni Colombo) **98i:34026** 34A60 (34H05, 49J24)

Donets, E. E. (*with* Gal'tsov, D. V.; Zotov, M. Yu.) Internal structures of Einstein-Yang-Mills black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3459–3465. (Summary) **98e:83073** 83C57

— (*with* Gal'tsov, D. V.; Zotov, M. Yu.) On singularities in non-abelian black holes. *JETP Lett.* **65** (1997), *no.* 12, 895–901; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 855–860 (*Russian*). (Summary) **98g:83061** 83C57

Donetz, J. M. *see* **Petrosyan, L. A., 98h:90002**

Doney, R. A. (*with* Bertoin, Jean) Spitzer's condition for random walks and Lévy processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 167–178. (N. H. Bingham) **98a:60099** 60J15 (60J30)

— One-sided local large deviation and renewal theorems in the case of infinite mean. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 4, 451–465. (Noël Veraverbeke) **98e:60040** 60F10 (60J15, 60K05)

Dong, Bing Hua (*with* Tian, Wei-wen; Zhang, Lian-sheng; Pu, Ding-guo) An algorithm to minimized locally Lipschitzian function. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 1, 31–48. 90C30 (65K05)

Dong, Chongying (*with* Li, Haisheng; Mason, Geoffrey) Compact automorphism groups of vertex operator algebras. *Internat. Math. Res. Notices* **1996**, *no.* 18, 913–921. (Jürgen Schulze) **98a:17044** 17B69

— (*with* Lepowsky, James) The algebraic structure of relative twisted vertex operators. (English summary) *J. Pure Appl. Algebra* **110** (1996), *no.* 3, 259–295. (Mirko Primc) **98e:17036** 17B69 (81R10, 81T40)

— (*with* Li, Haisheng; Mason, Geoffrey) Regularity of rational vertex operator algebras. *Adv. Math.* **132** (1997), *no.* 1, 148–166. (Dražen Adamović) **98m:17037** 17B69

— (*with* Li, Haisheng; Mason, Geoffrey) Vertex operator algebras associated to admissible representations of sl_2. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 65–93. (Dražen Adamović) **98i:17035** 17B69 (17B67, 81R10)

— (*with* Li, Haisheng; Mason, Geoffrey) Hom functor and the associativity of tensor products of modules for vertex operator algebras. (English summary) *J. Algebra* **188** (1997), *no.* 2, 443–475. (Dražen Adamović) **98a:17045** 17B69

— (*with* Li, Haisheng; Mason, Geoffrey) Certain associative algebras similar to $U(\mathrm{sl}_2)$ and Zhu's algebra $A(V_L)$. (English summary) *J. Algebra* **196** (1997), *no.* 2, 532–551. (Dražen Adamović) **98i:17036** 17B69 (16S99, 17B35)

Dong, F. M. *see* **Dong, Feng Ming**

Dong, Fang A note on minimal orthogonal plans. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 799–803. (Summary) **98c:62151** 62K15

Dong, Feng Ming (*with* Koh, K. M.) On graphs in which any pair of colour classes but one induces a tree. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 39–54. (Summary) **98g:05057** 05C15 (05C05)

— (*with* Koh, K. M.) On the structure and chromaticity of graphs in which any two colour classes induce a tree. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 97–113. (Summary) **98h:05073** 05C15

— (*with* Liu, Yan Pei; Koh, K. M.) The chromaticity of odd wheels with a missing spoke. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 31–44. (C. Y. Chao) **98f:05059** 05C15

— (*with* Koh, K. M.) Non-chordal graphs having integral-root chromatic polynomials. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 67–77. (Summary) **98k:05064** 05C15

— (*with* Liu, Yan Pei) All wheels with two missing consecutive spokes are chromatically unique. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 71–85. (Summary) **98m:05066** 05C15

Dong, Guangchang (*with* Zhang, Dan; Liu, Zhicheng; Ma, Lizhuang) Curve fairing. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **7** (1997), *no.* 5, 525–538. 65D07 (41A15)

Dong, Guozhu (*with* Su, Jianwen) Deterministic FOIES are strictly weaker. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 127–146. (Summary) **98b:68030** 68P15

— (*with* Pang, Chaoyi) Maintaining transitive closure in first order after node-set and edge-set deletions. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 193–199. (Summary) **98b:68029** 68P15

Dong, Hou Kui (*with* Su, Ben Tang; Cheng, Shu Han) Neighborhood unions and $[a, b]$-covered graphs. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 32–36. 05C70

Dong, Jia Li (*with* Li, Xiu Fen; Liu, Qing Huai) Lipschitz B-vex functions and nonsmooth programming. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 557–574. (B. Mond) **98d:90088** 90C26 (90C29)

— (*with* Shen, Yang) Set-valued derivatives of n-dimensional generalized functions. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 213–220. (Jia Liu Mei) **98k:49027** 49J52 (26E25)

Dong, Jian Xin (*with* Zhou, Jian Jun; Cao, Yong Zhi) The structure and eigenvalues of symmetric r-cyclic matrices. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 129–132. (Summary) **98g:15007** 15A18

Dong, Jin Tian (*with* Liu, Chun Xu; Liu, Shao Wu) Analytic solutions of a geological model with ringlike vertical crossflow area. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 30–32. (Summary) **98b:86006** 86A05

Dong, Jun (*with* Hu, Shang Xu) Progress and prospects of research on chaotic neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **26** (1997), *no.* 5, 360–368, 378. 93C83 (93C10)

Dong, Nai Chang Transfinite ordered sets and transfinite induction. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 7–9. 04A05

Dong, Ronald R. (*with* Katz, Joseph; Huang, Thomas T.) On the structure of bow waves on a ship model. (English summary) *J. Fluid Mech.* **346** (1997), 77–115. 76B20

Dong, Rui-Tao (*with* Wong, Wing Shing; Yau, Stephen S.-T.) Filtering systems with finite-dimensional estimation algebras. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1601–1606. (Summary) **98e:93101** 93E11 (93B25)

Dong, Sai-keung (*with* Pan, Peichen; Liu, Chung Laung) Optimal graph constraint reduction for symbolic layout compaction. (English summary) *Algorithmica* **18** (1997), *no.* 4, 560–574. (Joseph Ja'Ja') **98e:68121** 68Q35 (68Q25)

Dong, Su Qin (*with* Li, De Yuan) Segment explicit-implicit scheme for a parabolic equation with discontinuous coefficients. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 193–204. (Summary) **98e:65069** 65M12

Dong, Wenlong (*with* Wang, Zhenpeng) On representation and regularity of continuous parameter multivalued martingales. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1799–1810. (Klaus D. Schmidt) **98m:60014** 60D05 (60G25, 60G35, 60G48)

Dong, Xiaoning (*with* Chen, Guanrong; Chen, Liang[7]) Adaptive control of the uncertain Duffing oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1651–1658. 70K50 (93C40)

Dong, Xinhan (*with* Zhang, Shunyan) The Hardy-Stein-Spencer identities for meromorphic functions. *Chinese Sci. Bull.* **41** (1996), *no.* 24, 2038–2042. (P. Agranovich) **98d:30045** 30D35

— (*with* He, Yu Zan) BMOA and multivalent functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 47–62. (Summary) **98d:30025** 30C55 (30D50)

Dong, Xiu Yuan (*with* Wu, Qi Guang; Feng, Tai) A note on parameter estimation in growth curve models. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 311–320. 62H12

Dong, Y. F. (*with* Gea, H. C.) A non-hypersingular boundary integral formulation for displacement gradients in linear elasticity. (English summary) *Acta Mech.* **129** (1998), *no.* 3-4, 187–205. 73C99 (73V10)

Dong, Yali (*with* Meng, Jixiang) On circulant digraphs with regular automorphism groups. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 2, 244. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 2, 239–242. (Hugo S. Sun) **98a:05079** 05C25

Dong, Ying Oscillation criterion for a class of second order sublinear differential equations. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 228–231. (Ondřej Došlý) **98i:34052** 34C10

Dong, Yu Fei (*with* Wei, Z. L.; Xu, Cheng[2]) Transition of separated shear layer from order to chaos. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2580–2584. 76F20 (76-05)

Dong, Yu Xing (*with* Shen, Yi Bing) On twistor Gauss maps of surfaces in 4-spheres. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica* (*N.S.*) **12** (1996), *no.* 2, 167–174. (John C. Wood) **98e:58060** 58E20 (53C42)

— A Bernstein theorem for harmonic morphisms. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 19, 1735–1737. (Y. L. Xin) **98e:58055** 58E20 (53C42)

— (*with* Shen, Yi Bing) Factorization and uniton numbers for harmonic maps into the unitary group $U(N)$. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 6, 589–597. (Summary) **98e:58056** 58E20

— (*with* Shen, Yi Bing) Pluriharmonic maps from compact Kähler manifolds with positive first Chern class to quaternionic projective spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 453–458; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 261–267. (Y. L. Xin) **98i:58068** 58E20

— (*with* Cheng, Qiyuan) On factorization theorems of pluriharmonic maps into the unitary group. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 323–330. (John C. Wood) **98k:58065** 58E20 (31C10)

— Bernstein theorem for harmonic morphisms from $(N+1)$-sphere to N-manifold. *Chinese Sci. Bull.* **42** (1997), *no.* 1, 11–14. (G. Tóth) **98d:58041** 58E20

Dong, Yu Zi (*with* Wang, La Di) The threshold of survival for a system of three competing species in a polluting environment. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 221–225. 92D40

Dong, Yujun Periodic boundary value problems for functional-differential equations with impulses. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 170–181. (Eduardo Liz) **98c:34104** 34K10 (34A37, 34C25, 34K15, 47N20)

— On solvability of second-order Sturm-Liouville boundary value problems at resonance. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 145–152. (Michal Fečkan) **98c:34030** 34B15 (47H15, 47N20)

Dong, Yunmei An interactive learning algorithm for acquisition of concepts represented as CFL. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 1–8. 68T05

Dong, Yuxin *see* **Dong, Yu Xing**

Dong, Zhao A representation of capacity by first hitting time of an m-tight process on a general state space and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 3, 261–266. (Summary) **98k:60126** 60J45 (31C99)

Dong, Zhifa (*with* Levy, Alan J.) Effective transverse response of fiber composites with nonlinear interface. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1279–1300. 73K20

Dongarra, Jack (*with* Henry, Greg; Watkins, David) A distributed memory implementation of the nonsymmetric QR algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN, 1997*), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30

— (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Hammarling, S.; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN, 1997*), 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

— (*with* Bai, Zhaojun; Demmel, James W.; Petitet, A.; Robinson, H.; Stanley, K.) The spectral decomposition of nonsymmetric matrices on distributed memory parallel computers. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1446–1461. (Summary) **98d:65027** 65F05 (65F30, 65Y05)

van Dongen, M. E. H. (*with* Smeulders, D. M. J.) Wave propagation in porous media containing a dilute gas-liquid mixture: theory and experiments. (English summary) *J. Fluid Mech.* **343** (1997), 351–373. (Summary) **98c:76104** 76S05 (76Q05, 76T05)

nguyễn Đông Yên *see* **Nguyễn Đông Yên**

Do-Nhat, Tam (*with* MacPhie, R. H.) On the accurate computation of the prolate spheroidal radial functions of the second kind. (English summary) *Quart. Appl. Math.* **54** (1996), *no.* 4, 677–685. (J. P. Singhal) **98b:33004** 33C05 (33C45, 65D20)

— Full asymptotic expansion of the relativistic orbit of a test particle under the exact Schwarzschild metric. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 328–336. (Summary) **98j:83012** 83C10

Donin, Joseph On the quantization of Poisson brackets. (English summary) *Adv. Math.* **127** (1997), *no.* 1, 73–93. (Markus J. Pflaum) **98c:58063** 58F06 (16S80)

Donini, Francesco M. (*with* Massacci, Fabio; Nardi, Daniele; Rosati, Riccardo) A uniform tableaux method for nonmonotonic modal logics. (English summary) *Logics in artificial intelligence* (*Évora, 1996*), 87–103, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98c:03044** 03B45 (68T27)

— (*with* Nardi, Daniele; Rosati, Riccardo) Ground nonmonotonic modal logics. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 523–548. (Summary) **98d:03027** 03B45 (03D15, 68T30)

— (*with* Cadoli, Marco; Schaerf, Marco; Silvestri, Riccardo) On compact representations of propositional circumscription. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 183–202. (Summary) **98e:68231** 68T27 (68Q15)

Donkin, Stephen On free modules for finite subgroups of algebraic groups. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 287–296. (Ben Ford) **98c:20083** 20G05

Donkov, A. A. (*with* Donkov, A. D.; Grancharova, E. I.) The exact solution of the Cauchy problem for two generalized Fokker-Planck equations—algebraic approach. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 165–170. (Summary) **98c:82054** 82C31 (35C05, 35Q99, 35S99)

Donkov, A. D. (*with* Donkov, A. A.; Grancharova, E. I.) The exact solution of the Cauchy problem for two generalized Fokker-Planck equations—algebraic approach. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 165–170. (Summary) **98c:82054** 82C31 (35C05, 35Q99, 35S99)

Donley, Robert W., Jr. Irreducible representations of $SL(2, \mathbf{R})$. *Representation theory and automorphic forms* (*Edinburgh, 1996*), 51–59, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:22001**) 22E45 (22–02)

— The Borel-Weil theorem for $U(n)$. *Representation theory and automorphic forms* (*Edinburgh, 1996*), 115–121, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:22001**) 22E45 (22–02)

— Intertwining operators into cohomology representations for semisimple Lie groups. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 138–165. (Leticia Barchini) **98m:22017** 22E45 (32L10)

Donnat, Phillipe (*with* Rauch, Jeffrey) Modeling the dispersion of light. *Singularities and oscillations* (*Minneapolis, MN, 1994/1995*), 17–35, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Introduction) **98m:78012** 78A10 (35Q60, 78A60)

— (*with* Rauch, Jeffrey) Dispersive nonlinear geometric optics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1484–1523. (Olivier Guès) **98c:35022** 35C20 (35L60, 35Q99, 78A05)

Donnay, Victor J. Elliptic islands in generalized Sinai billiards. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 975–1010. (Nikolai Chernov) **98c:58143** 58F27 (58F10, 82C05)

— (*with* Burns, Keith) Embedded surfaces with ergodic geodesic flows. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1509–1527. (Rafael Ruggiero Rodriguez) **98j:58084** 58F17 (58F11)

Donneaud, Marie-Christine (*with* Topin, Frédéric; Daurelle, Jean-Vincent) Modélisation des transferts couplés de chaleur et de masse avec changement de phase en milieux poreux. Application au séchage en vapeur d'eau surchauffée. (English and French summaries) [Modelling coupled heat-mass transfer with phase change in porous media. Application to drying with superheated steam] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 1, 71–98. (Summary) **98a:80005** 80A20 (76S05)

Donnellan, Keith Reference and definite descriptions. *The philosophy of language*, 231–243, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

Donnellan, T. M. (*with* Chui, W. K.; Glimm, James; Tangerman, F. M.; Jardine, A. P.; Madsen, J. S.; Leek, R.) Process modeling in resin transfer molding as a method to enhance product quality. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 714–727. (Summary) **98j:76141** 76T05 (73K20, 76S05)

Donnelly, Harold Harmonic maps between rank one symmetric spaces—regularity at the ideal boundary. *Houston J. Math.* **22** (1996), *no.* 1, 73–87. (Zhi Ren Jin) **98d:58042** 58E20

— Elliptic operators and covers of Riemannian manifolds. *Math. Z.* **223** (1996), *no.* 2, 303–308. (Friedbert Prüfer) **98a:58163** 58G25 (11F72)

— L_2 cohomology of the Bergman metric for weakly pseudoconvex domains. *Illinois J. Math.* **41** (1997), *no.* 1, 151–160. (Kensho Takegoshi) **98a:32034** 32H10 (32F99)

Donnelly, Peter (*with* Kurtz, Thomas G.) A countable representation of the Fleming-Viot measure-valued diffusion. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 698–742. (John Verzani) **98f:60162** 60J70 (60J25, 60J80, 60K35, 92D10)

— (*with* Kurtz, Thomas G.) The asymptotic behavior of an urn model arising in population genetics. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 1–16. (Summary) **98g:60152** 60J80 (60F99, 60J75, 60K35, 92D10)

Donnelly, Robert A. Potential transformation method for global optimization. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN, 1995*),

23–45, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C30 (65K05, 90C90)

Donnelly, Rod (*with* Power, Desmond) The behavior of electromagnetic localized waves at a planar interface. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 4, 580–591. (Summary) **98b:78022** 78A40

de Donno, M. *see* **De Donno, M.**

D'Onofrio, B. (*with* Dell'Antonio, Gianfausto; Ekeland, Ivar) Nonergodic properties of systems of oscillators coupled through convex even potentials. *Variational methods in nonlinear analysis* (*Erice*, 1992), 77–82, *Gordon and Breach, Basel*, 1995. (Gabriella Tarantello) **98i:58194** 58F22 (34C25, 58E05, 58F05)

Donoho, David L. Abstract statistical estimation and modern harmonic analysis. *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 997–1005, *Birkhäuser, Basel*, 1995. (Sidney J. Yakowitz) **98b:62058** 62G05 (42C99, 62C20)

— Unconditional bases and bit-level compression. *Appl. Comput. Harmon. Anal.* **3** (1996), *no.* 4, 388–392. (Introduction) **98a:94012** 94A29 (42C15)

— Renormalizing experiments for nonlinear functionals. *Festschrift for Lucien Le Cam*, 167–181, *Springer, New York*, 1997. (Alain F. Berlinet) **98h:62047** 62G05

— CART and best-ortho-basis: a connection. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1870–1911. (Mohsen Pourahmadi) **98k:62052** 62G05 (62G20)

Donovan, Diane (*with* Cooper, Joan; Gower, Rebecca A. H.) Critical sets in direct products of back circulant Latin squares. (English summary) *Utilitas Math.* **50** (1996), 127–162. (G. H. J. Van Rees) **98a:05030** 05B15

— (*with* Hoffman, D. G.) Critical sets in a family of groups. (English summary) *Australas. J. Combin.* **16** (1997), 21–28. 05B15

— (*with* Oates-Williams, Sheila; Praeger, Cheryl E.) On the distance between distinct group Latin squares. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 235–248. (J. Dénes) **98e:05017** 05B15

— (*with* Howse, Adelle; Adams, Peter) A discussion of Latin interchanges. (English summary) *J. Combin. Math. Combin. Comput.* **23** (1997), 161–182. (Katherine Heinrich) **98b:05019** 05B15

Donovan, George C. (*with* Geronimo, Jeffrey S.; Hardin, Douglas P.) Intertwining multiresolution analyses and the construction of piecewise-polynomial wavelets. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1791–1815. (Peter R. Massopust) **98c:42029** 42C15 (41A15)

Donsig, Allan P. (*with* Peters, Justin R.) Nest algebras with locally constant cocycles. *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 569–587. (Miron E. Shpigel) **98d:47095** 47D25 (46L05)

Donskoĭ, V. I. (*with* Perekhod, Anna) On pseudo-Boolean multicriteria optimization problems with incomplete information. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 197–200, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C09)

Dont, Miroslav (*with* Dontová, Eva; Král, Josef) Reflection and a mixed boundary value problem concerning analytic functions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 317–336. (Elias Wegert) **98k:30054** 30E25

— Fourier problem with bounded Baire data. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 405–441. (Alain Brillard) **98m:31002** 31A25 (31A20, 35R35, 47A10, 47B38)

— (*with* Dontová, Eva) A numerical solution of the Dirichlet problem on some special doubly connected regions. (English summary) *Appl. Math.* **43** (1998), *no.* 1, 53–76. (Andreas Rathsfeld) **98i:65108** 65N38 (31A20, 45L05)

Dontchev, Asen L. Local analysis of a Newton-type method based on partial linearization. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 295–306, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Gérard Lebourg) **98a:65079** 65J15 (49J52, 49M15, 90C30)

— Uniform convergence of the Newton method for Aubin continuous maps. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 283–296. (Doug Ward) **98i:90089** 90C30 (49M37, 65K10, 90C31)

Dontchev, Julian On Hausdorff spaces via topological ideals and $\mathcal{I}$-irresolute functions. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 28–37, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54040** 54D10 (54C10)

— (*with* Cao, Jiling) On some weaker forms of continuity for multifunctions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 842–852. (Summary) **98h:54017** 54C08 (26A15, 54C60)

— (*with* Ganster, Maximilian) On covering spaces with semi-regular sets. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 229–245. (Summary) **98d:54040** 54D20 (54H05)

— Strong $\mathcal{B}$-sets and another decomposition of continuity. *Acta Math. Hungar.* **75** (1997), *no.* 3, 259–265. (From the introduction) **98c:54010** 54C08

— (*with* Ganster, Maximilian) A decomposition of irresoluteness. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 41–46. (From the text) **98k:54005** 54A40 (54C10)

— On some separation axioms associated with the α-topology. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 31–35. (Ivan L. Reilly) **98h:54030** 54D10

— (*with* Arenas, Francisco G.; Ganster, Maximilian) On λ-sets and the dual of generalized continuity. *Questions Answers Gen. Topology* **15** (1997), *no.* 1, 3–13. (From the introduction) **98c:54009** 54C05 (54C08, 54D10, 54H05)

— (*with* Maki, Haruo) On sg-closed sets and semi-λ-closed sets. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 259–266. (Summary) **98h:54002** 54A05 (54C05, 54C08, 54H05)

— (*with* Maki, Haruo) On the behavior of gp-closed sets and their generalizations. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 57–72. (Summary) **98m:54001** 54A05 (54C08, 54H05)

— (*with* Ganster, Maximilian) Codense ideals, local $\mathcal{I}$-compactness and three questions of Rose and Hamlett. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 37–40. 54D30 (54A20, 54D45, 54H05)

Dontová, Eva (*with* Dont, Miroslav; Král, Josef) Reflection and a mixed boundary value problem concerning analytic functions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 317–336. (Elias Wegert) **98k:30054** 30E25

— (*with* Dont, Miroslav) A numerical solution of the Dirichlet problem on some special doubly connected regions. (English summary) *Appl. Math.* **43** (1998), *no.* 1, 53–76. (Andreas Rathsfeld) **98i:65108** 65N38 (31A20, 45L05)

Dony, Edmond (*with* Bouzette, Sabine; Buekenhout, Francis; Gottcheiner, Alain) A theory of nets for polyhedra and polytopes related to incidence geometries. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 115–136. (P. McMullen) **98a:52016** 52B11 (51M20)

Doole, S. H. The pressure head and flowforce parameter space for waves with constant vorticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 61–71. (Summary) **98k:76026** 76C99 (76B15)

Doolen, Gary D. (*with* Hou, Shu Ling; Shan, Xiaowen; Zou, Qisu; Soll, Wendy E.) Evaluation of two lattice Boltzmann models for multiphase flows. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 695–713. (Summary) **98i:76064** 76M25 (76M35, 76T05)

— (*with* Chen, Shiyi) Lattice Boltzmann method for fluid flows. (English summary) *Annual review of fluid mechanics, Vol.* 30, 329–364, *Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:76118** 76M25 (65M55, 76P05, 76T05)

Dooley, Anthony H. (*with* Ørsted, Bent; Zhang, Gen Kai) Relative discrete series of line bundles over bounded symmetric domains. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 4, 1011–1026. (D. Miličić) **98b:22028** 22E46 (32M15)

— (*with* Eigen, S. J.) A family of generalized Riesz products. (English summary) *Canad. J. Math.* **48** (1996), *no.* 2, 302–315. (Colin C. Graham) **98e:42006** 42A32 (43A25)

— (*with* Gupta, Sanjiv Kumar) On norms of trigonometric polynomials on SU(2). (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 491–505. (G. I. Gaudry) **98b:43015** 43A75 (22C05, 22E30, 43A17)

— (*with* Dajani, Karma) The mean ratio set for $ax + b$ valued cocycles. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 671–688. (S. I. Bezuglyĭ) **98g:28019** 28D05 (22D40)

— Recent results on G-measures. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 97–100, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98k:60004**) 28A35 (28D99, 42A55)

— (*with* Cotton, Peter) Contraction of an adapted functional calculus. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 147–164. (John W. Rice) **98f:22012** 22E30 (22E60)

van Dooren, Paul *see* **Van Dooren, Paul**

van Doorn, Erik A. (*with* Kijima, Masaaki) Weighted sums of orthogonal polynomials with positive zeros. (English summary) Proceedings of the International Conference on Orthogonality, Moment Problems and Continued Fractions (Delft, 1994). *J. Comput. Appl. Math.* **65** (1995), *no.* 1-3, 195–206. (Summary) **98b:42040** 42C05 (60J80)

— (*with* Kijima, Masaaki; Nair, M. G.; Pollett, P. K.) Limiting conditional distributions for birth-death processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 185–204. (E. Seneta) **98a:60122** 60J80 (60J27)

— (*with* Schrijner, Pauline) Weak convergence of conditioned birth-death processes in discrete time. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 46–53. (Summary) **98f:60173** 60J80

Doornbos, Hendrik ★ Reductivity arguments and program construction. Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1996. *Technische Universiteit Eindhoven, Eindhoven*, 1995. vi+177 *pp. ISBN* 90-386-0098-4 (David B. Benson) **98b:68004** 68N05 (68P05, 68Q60, 68Q65)

— (*with* Backhouse, Roland) Induction and recursion on datatypes. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 242–256, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60

— (*with* Backhouse, Roland; van der Woude, Jaap) A calculational approach to mathematical induction. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 103–135. (D. Rosenblatt) **98i:68187** 68Q60 (03G15, 04A05, 06A15)

— (*with* von Karger, Burghard) On the union of well-founded relations. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 195–201. (*see* **98k:68018**) 04A05 (68Q42)

Dopazo, César (*with* Valiño, Luis; Fueyo, Norberto) Statistical description of the turbulent mixing of scalar fields. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 25, 2975–3014. (Summary) **98g:76046** 76F99 (76M35)

Doplicher, Sergio Quantum field theory, categories and duality. (English summary) *Advances in dynamical systems and quantum physics* (*Capri*, 1993), 106–116, *World Sci. Publishing, River Edge, NJ*, 1995. (Stephen J. Summers) **98b:81125** 81T05 (18D10, 46L60, 81–02)

— *see also* **Operator algebras and quantum field theory**, **98h:00032**

ben-Dor, A. *see* **Ben-Dor, A.**

Dor, Avner A domain in $\mathbf{C}^m$ not containing any proper image of the unit disc. *Math. Z.* **222** (1996), *no.* 4, 615–625. (Bernard Joseph Coupet) **98b:32023** 32H35 (32H02)

Dor, Dorit (*with* Chew, L. Paul; Efrat, Alon; Kedem, Klara) Geometric pattern matching in d-dimensional space. (English summary) *Algorithms—ESA '95* (*Corfu*), 264–279, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Tarsi, Michael) Graph decomposition is NP-complete: a complete proof of Holyer's conjecture. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1166–1187. (Italo José Dejter) **98e:68102** 68Q25 (05C85, 68R10)

ben-Dor, G. *see* **Ben-Dor, G.**

Doran, Chris (*with* Lasenby, Anthony; Gull, Stephen) Linear algebra. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 65–82, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66

— (*with* Gull, Stephen; Lasenby, Anthony) Dynamics. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 83–94, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 70E15 (73C99)

— (*with* Gull, Stephen; Lasenby, Anthony) Electromagnetism. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 95–110, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 78A25

— (*with* Gull, Stephen; Lasenby, Anthony) Electron physics. I. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 111–127, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Gull, Stephen; Lasenby, Anthony) Electron physics. II. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 129–145, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Lasenby, Anthony; Gull, Stephen) STA and the interpretation of quantum mechanics. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 147–169, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81P99

— (*with* Lasenby, Anthony; Gull, Stephen) Gravity. I. Introduction. *Clifford (geometric) algebras (Banff, AB, 1995)*, 171–184, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60

— (*with* Lasenby, Anthony; Gull, Stephen) Gravity. II. Field equations. *Clifford (geometric) algebras (Banff, AB, 1995)*, 185–195, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C05 (83C60)

— (*with* Lasenby, Anthony; Gull, Stephen) Gravity. III. First applications. *Clifford (geometric) algebras (Banff, AB, 1995)*, 197–210, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60 (83C10)

— (*with* Lasenby, Anthony; Gull, Stephen) Gravity. IV. The "intrinsic" method. *Clifford (geometric) algebras (Banff, AB, 1995)*, 211–222, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C15 (83C60)

— (*with* Lasenby, Anthony; Gull, Stephen) Gravity. V. Further applications. *Clifford (geometric) algebras (Banff, AB, 1995)*, 223–235, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C57 (83F05)

— (*with* Lasenby, Anthony; Gull, Stephen) Physics of rotating cylindrical strings. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6021–6031. (A. D. Popova) **98a:83106** 83D05 (81V17)

Doran, Howard E. (*with* Rambaldi, Alicia N.) Applying linear time-varying constraints to econometric models: with an application to demand systems. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 83–95. 62P20 (62M99)

Doran, William F., IV A plethysm formula for $p_\rho(\underline{x}) \circ h_\lambda(\underline{x})$. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 14, 10 *pp.* (*electronic*). (Angèle M. Hamel) **98f:05147** 05E05 (05E10)

Doran-Wu, Patrick (*with* Joshi, Nalini) Direct asymptotic analysis of the second Painlevé equation: three different limits. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4701–4708. (Andrei A. Kapaev) **98i:34003** 34A20 (34E05)

Dorato, Mauro On becoming, relativity, and nonseparability. (English summary) *Philos. Sci.* **63** (1996), *no.* 4, 585–604. (Lawrence Sklar) **98a:81004** 81P05 (83A05)

Dorato, Peter (*with* Yang, Wei^2; Abdallah, Chaouki T.) Quantifier elimination approach to frequency domain design. *Control of uncertain systems with bounded inputs*, 165–172, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (*see* **98c:93008**) 93B51 (03B80, 93C80)

Doray, Louis G. (*with* Luong, Andrew) Goodness of fit test statistics for the zeta family. (English summary) *Insurance Math. Econom.* **19** (1996), *no.* 1, 45–53. (Philip J. Boland) **98e:62077** 62G10 (62F12, 62F35, 62P05)

— (*with* Luong, Andrew) Efficient estimators for the Good family. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1075–1088. (Summary) **98d:62032** 62F10 (62F12)

Dorca, Miquel (*with* Verdaguer, Enric) Quantum fields interacting with colliding plane waves: the stress-energy tensor and backreaction. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 435–475. (Dmitri V. Vassilevich) **98c:81145** 81T20 (83C47)

carbó-Dorca, Ramon *see* **Carbó-Dorca, Ramon**

Đorđević, Goran S. (*with* Dragović, Branko G.) On p-adic functional integration. (English summary) *Proceedings of the II Mathematical Conference in Priština (1996)*, 221–228, *Univ. Priština, Priština*, 1997. (Eugen Belokolos) **98e:81095** 81S40 (11S80, 11Z05)

— (*with* Dragović, Branko G.) p-adic path integrals for quadratic actions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1455–1463. (Evgenii I. Zelenov) **98g:81109** 81S40 (11S99, 11Z05)

Đorđević, Radosav Ž. (*with* Rašković, Miodrag D.) Completeness theorem for probability models with finitely many valued measure. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 35–39. (K. J. Barwise) **98c:03084** 03C70 (03B48)

Đorđević, Slavita *see* **Djordjević, Slavita V.**

Dore, Mohammed On playing fair: Professor Binmore on game theory and the social contract. (English summary) *Theory and Decision* **43** (1997), *no.* 3, 219–239. 90D40 (90A05)

Dórea, Carlos E. T. (*with* Milani, Basílio E. A.) Disturbance decoupling in a class of linear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1427–1431. (Summary) **98h:93008** 93B27 (93B52)

Dorea, Chang Chung Yu Stationary distribution of Markov chains in $\mathbf{R}^d$ with application to global random optimization. (English summary) *Bernoulli* **3** (1997), *no.* 4, 415–427. (Onésimo Hernández Lerma) **98j:60095** 60J05 (90C30)

— On the efficiency of a continuous version of the simulated annealing algorithm. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 247–253. (Summary) **98a:90096** 90C30 (60G40, 60J05, 65K05)

Dorey, Nicholas (*with* Fraser, Christophe; Hollowood, Timothy J.; Kneipp, Marco A. C.) S-duality in $N = 4$ supersymmetric gauge theories with arbitrary gauge group. (English summary) *Phys. Lett. B* **383** (1996), *no.* 4, 422–428. (Summary) **98f:81194** 81T13 (81T60)

— (*with* Khoze, Valentin V.; Mattis, Michael P.) Multi-instanton calculus in $N = 2$ supersymmetric gauge theory. II. Coupling to matter. (Engiish summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7832–7848. (Katsushi Ito) **98b:81246** 81T60 (81T13)

— (*with* Khoze, Valentin V.; Mattis, Michael P.) On $N = 2$ supersymmetric QCD with four flavors. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 607–622. (Summary) **98e:81168** 81T60 (14H52, 81T13, 81V05)

— (*with* Khoze, Valentin V.; Mattis, Michael P.) On mass-deformed $N = 4$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 141–149. (Summary) **98m:81178** 81T60 (81T13)

— (*with* Khoze, Valentin V.; Mattis, Michael P.; Slater, M. J.; Weir, W. A.) Instantons, higher-derivative terms, and nonrenormalization theorems in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 213–221. (Summary) **98j:81328** 81T60 (81T13, 81T15)

Dorey, Patrick (*with* Tateo, Roberto) Excited states by analytic continuation of TBA equations. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 639–659. (Andrei Babichenko) **98e:82014** 82B20 (81T40, 82B23)

Dörfel, B.-D. (*with* Meißner, St.) Finite-size corrections of an integrable chain with alternating spins. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1831–1841. (Summary) **98f:82020** 82B20 (82B23)

— (*with* Meißner, St.) Complete phase diagram for the integrable chain with alternating spins in the sectors with competing interactions. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 61–71. (Summary) **98m:82026** 82B26 (82B20)

Dorfer, Gerhard (*with* Dvurečenskij, Anatolij; Länger, Helmut) Symmetric difference in orthomodular lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 435–444. (Jānis Cīrulis) **98h:06019** 06C15 (03G12, 81P10)

Dorff, Michael J. (*with* Suffridge, T. J.) The inner mapping radius of harmonic mappings of the unit disk. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 97–103. (Summary) **98m:30007** 30C20

— Some harmonic n-slit mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 569–576. (Otto Fekete) **98d:30017** 30C45 (30C55)

Dorfman, Alan H. (*with* Wang, Suojin) A new estimator for the finite population distribution function. (English summary) *Biometrika* **83** (1996), *no.* 3, 639–652. (Carlo E. Sempi) **98c:62016** 62D05 (62G05)

— (*with* Chambers, Raymond L.; Wang, Suojin) Limited information likelihood analysis of survey data. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 397–411. (Summary) **98m:62019** 62D05

Dorfman, J. R. (*with* Appert, C.; van Beijeren, H.; Ernst, M. H.) Thermodynamic formalism and localization in Lorentz gases and hopping models. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1253–1271. (Summary) **98g:82035** 82C40

Dorfmeister, Josef (*with* McIntosh, Ian; Pedit, Franz; Wu, Hongyou) On the meromorphic potential for a harmonic surface in a k-symmetric space. *Manuscripta Math.* **92** (1997), *no.* 2, 143–152. (Seiichi Udagawa) **98h:58051** 58E20

— (*with* Haak, Guido) Meromorphic potentials and smooth surfaces of constant mean curvature. *Math. Z.* **224** (1997), *no.* 4, 603–640. (Karsten Grosse-Brauckmann) **98c:53009** 53A10

Dörfner, Michael The extension of Lipschitz continuous operators. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **129** (1995), *no.* 1-2, 47–59 (1996). (Tomás Domínguez Benavides) **98f:46009** 46B20 (47H09, 54C20)

— (*with* Appell, Jürgen) Some spectral theory for nonlinear operators. *Nonlinear Anal.* **28** (1997), *no.* 12, 1955–1976. (Yi Hong Du) **98e:47098** 47H12 (47H09)

Doria, Francisco Antonio Leopoldo Nachbin: some personal recollections. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 31–33. (*see* **98k:03006**) 01A70

— *see also* **Contemporary Brazilian research in logic, 98k:03006**

Doria, Serena (*with* Maturo, Antonio) Hyperstructures and geometric spaces associated to a family of events. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 125–137. 20N20 (68T30)

Dorier, Jean-Luc Genèse des premiers espaces vectoriels de fonctions. (English and French summaries) [The inception of the first vector spaces of functions] *Rev. Histoire Math.* **2** (1996), *no.* 2, 265–307. (F. Smithies) **98c:01023** 01A55 (01A60, 46–03)

Dorland, W. (*with* Snyder, P. B.; Hammett, G. W.) Landau fluid models of collisionless magnetohydrodynamics. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3974–3985. (Summary) **98j:82066** 82D10 (76W05, 85A30)

Dorlas, T. C. Two non-commutative limit theorems. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 176–188, *World Sci. Publishing, River Edge, NJ*, 1996. (R. Jajte) **98i:46068** 46L50 (46L60, 60B99, 81S25)

— (*with* Macris, Nicolas; Pulé, J. V.) The nature of the spectrum for a Landau Hamiltonian with delta impurities. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 847–875. (Peter Stollmann) **98h:82031** 82B44 (35J10, 47N50, 81Q10)

Dormuth, Darryl Wayne (*with* Alfa, Attahiru Sule) Two finite-difference methods for solving $MAP(t)/PH(t)/1/K$ queueing models. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 55–78. 60K25 (90B22)

Dormy, Emmanuel (*with* Aurell, Erik; Frik, P. G.) Binary tree models of high-Reynolds-number turbulence. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1692–1698. 76F99 (76M35)

Dorn, Georg J. W. ★ Deductive, probabilistic and inductive dependence. (English summary) An axiomatic study in probability semantics. *Peter Lang, Frankfurt am Main*, 1997. 361 *pp. ISBN* 3-631-48442-9 (Henry E. Kyburg, Jr.) **98d:03033** 03B48 (03–02, 60A05)

Dorn, H. Non-abelian gauge field dynamics on matrix D-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 105–118. (Masoud Alimohammadi) **98g:81159** 81T30 (81T60, 83E30)

— (*with* Otto, H.-J.) Remarks on T-duality for open strings. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 30–35. (Javier Borlaf González) **98e:81135** 81T30

Dorney, Suzanne M. (*with* Peters, Thomas J.; Rosen, David W.) The diversity of topological applications within computer-aided geometric design. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 198–209, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98f:68273** 68U07 (52B55, 54D05, 57N99)

Dorning, John J. (*with* Zhang, Hongbin; Rizwan-uddin) A multiple-scales systematic theory for the simultaneous homogenization of lattice cells and fuel assemblies. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 7, 765–811. 82D75

— *see also* **Proceedings: Conference on Latest Developments and Fundamental Advances in Radiative Transfer, 98e:82002**

Doringer, Dietmar (*with* Länger, Helmut; Maczyński, Maciej) The logic induced by a system of homomorphisms and its various algebraic characterizations. *Demonstratio Math.* **30** (1997), *no.* 1, 215–232. (Marjan Matvejchuk) **98g:81015** 81P10 (03G12, 06E05, 08A55, 47N50)

Dorodnitsyn, Anatolii Alekseevich *see* **Birthday: Dorodnitsyn, Anatolii Alekseevich, (98b:00022)**

Dorodnitsyn, L. V. (*with* Chetverushkin, B. N.) On an implicit scheme for modeling a subsonic gas flow. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 108–118. (Nikolay P. Moshkin) **98g:76057** 76M20 (76G25, 76P05)

Dorodnitsyn, V. A. Continuous symmetries of finite-difference evolution equations and grids. *Symmetries and integrability of difference equations (Estérel, PQ, 1994)*, 103–112, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (Irina Yehorchenko) **98e:39002** 39A10 (22E70, 35A30, 39A12, 65M06)

Dorofaeff, Brian Weak amenability and semidirect products in simple Lie groups. *Math. Ann.* **306** (1996), *no.* 4, 737–742. (Alain Valette) **98c:22005** 22E30 (22E45, 22E46, 43A30)

Dorofeev, E. A. Upper and lower functions for Wiener angles on a plane. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 111–134, 358–359. (Andrzej Mądrecki) **98m:60054** 60G15 (60G17, 60J55, 60J65)

Dorogovtsev, A. A. ★ Стохастические уравнения с упреждением. (Russian. Russian and Ukrainian summaries) [Anticipating stochastic equations] Труди Інституту Математики Національної Академії Наук України [Proceedings of the Institute of Mathematics of the National Academy of Sciences of the Ukraine], 15. *Natsional'na Akademiya Nauk Ukraïni, Institut Matematiki, Kiev*, 1996. 152 *pp. ISBN* 966-02-0019-6 (Constantin Tudor) **98k:60086** 60H05 (34F05, 60H20)

— Some characteristics of sequences of iterations with random perturbations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 8, 1047–1063; *translation in Ukrainian Math. J.* **48** (1996), *no.* 8, 1182–1201 (1997). (Constantin Tudor) **98f:60126** 60H25

Dorogovtsev, A. Ya. (*with* Sil'vestrov, D. S.; Skorokhod, Anatoliĭ Vladimirovich; Yadrenko, M. I.) ★ Probability theory: collection of problems. (English summary) Translated from the 1976 Ukrainian original by O. I. Klesov and V. A. Kotov. Translations of Mathematical Monographs, 163. *American Mathematical Society, Providence, RI*, 1997. xii+347 *pp. ISBN* 0-8218-0372-7 (V. K. Rohatgi) **98k:60001** 60–00 (60–01)

— (*with* Petrova, T. A.) Bounded and periodic solutions of the Riccati operator equation with an unbounded operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 309–315, 428; *translation in Differential Equations* **33** (1997), *no.* 3, 305–311. (From the text) **98k:34101** 34G20 (34C25, 47N20)

Doron, Eyal (*with* Frischat, Steffen D.) Quantum phase-space structures in classically mixed systems: a scattering approach. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3613–3634. (Summary) **98c:81069** 81Q50

Do Rosário Pinto, Maria *see* **do Rosário Pinto, Maria**

Dorovskiĭ, V. N. A hydrodynamic nonlinear model of bubble liquid. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 1–12. (Summary) **98c:76110a** 76T05 (76Q05)

— (*with* Imomnazarov, Kh. Kh.; Romenskiĭ, E. I.) A hydrodynamic nonlinear model of bubble liquid. II. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 13–15. (From the summary) **98c:76110b** 76T05 (76Q05)

Dorovskikh, A. V. (*with* Ivaneshkin, A. I.) Control of the queue structure in a single-server system with a variable service rate. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 112–125, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 837–845 (1997). 90B22 (60K25)

Dorovsky, V. N. *see* **Dorovskiĭ, V. N.**

Dörr, Heiko ★ Efficient graph rewriting and its implementation. Lecture Notes in Computer Science, 922. *Springer-Verlag, Berlin*, 1995. x+266 *pp. ISBN* 3-540-60055-8 (From the preface) **98a:68110** 68Q42 (68–02, 68N15, 68R10)

— Computing an upper bound for SVS(gg) by abstract interpretation. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 279–288, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q42 (68R10)

Dörre, Jochen (*with* Manandhar, Suresh) On constraint-based Lambek calculi. (English summary) *Specifying syntactic structures (Amsterdam, 1994)*, 25–44, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1997. (*see* **98d:03041**) 03B65

Dorris, Ann D. (*with* Beard, J. T. B., Jr.) On uniquely realizable degree sequences. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 87–98. (Summary) **98i:05157** 05C99

Dorsaz, Frédéric *see* **Ross, Sheldon M.**

Dorsett, Charles New applications of semi-regular sets. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 21–27. 54A10 (54D20)

Dorsey, John F. (*with* Qu, Zhihua; Kamen, Edward W.) Continuous I/O robust control of SISO time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 533–550. (Long Wang) **98d:93044** 93B36 (93C50)

van Dorsselaer, Jos L. M. Pseudospectra for matrix pencils and stability of equilibria. (English summary) *BIT* **37** (1997), *no.* 4, 833–845. (Zdeněk Dostál) **98m:65099** 65H17 (15A18, 34D05, 65F15, 65L07)

— Computing eigenvalues occurring in continuation methods with the Jacobi-Davidson QZ method. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 714–733. (Summary) **98j:65037** 65H17 (65H20, 65L15, 76E15, 76M25)

Dorst, Leo *see* **Reasoning with uncertainty in robotics, 98c:68017**

Dósa, György The generalization of the residual elimination algorithm for solving system of linear equations. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 3-4, 223–234. (Summary) **98d:65030** 65F05

Dos Anjos, A. G. *see* **dos Anjos, A. G.**

Došen, Kosta Errata: "Deductive completeness" [Bull. Symbolic Logic **2** (1996), no. 3, 243–283; MR 97j:03118]. *Bull. Symbolic Logic* **2** (1996), *no.* 4, 523. 03G30 (03B20, 03B40, 03B45)

Došlá, Zuzana (*with* Došlý, Ondřej) Quadratic functionals with general boundary conditions. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 3, 243–262. (Vera Zeidan) **98e:49046** 49K10 (34C10, 34H05)

— (*with* Cecchi, Mariella; Marini, Mauro) Asymptotic behavior of solutions of third order delay differential equations. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 99–108. (A. F. Ivanov) **98j:34156** 34K25

— (*with* Cecchi, Mariella; Marini, Mauro) Some properties of third order differential operators. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 729–748. (C. A. Swanson) **98k:34056** 34C10 (34A30)

— (*with* Bartušek, Miroslav) On the limit-point/limit-circle problem for nonlinear third order differential equations. (English summary) *Math. Nachr.* **187** (1997), 5–18. (Anton Zettl) **98h:34047** 34B20 (34C10)

Došlý, Ondřej A remark on polyconvex envelopes of radially symmetric functions in dimension 2×2. (English summary) *Appl. Math.* **42** (1997), *no.* 3, 195–212. (Michele Carriero) **98h:49011** 49J40 (73C50, 73V25)

— (*with* Došlá, Zuzana) Quadratic functionals with general boundary conditions. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 3, 243–262. (Vera Zeidan) **98e:49046** 49K10 (34C10, 34H05)

— (*with* Hilscher, Roman) Spectral properties of fourth order differential operators. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 153–168. (Anton Zettl) **98g:34131** 34L05 (34B05)

— Oscillation and spectral properties of a class of singular self-adjoint differential operators. (English summary) *Math. Nachr.* **188** (1997), 49–68. (E. Müller-Pfeiffer) **98j:34053** 34C10 (34L05)

— Oscillation and spectral properties of self-adjoint differential operators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1375–1384. (*see* **98i:00029**) 34C10

— Sixty years of Professor František Neuman. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 177–183. (Editors) **98k:01021** 01A70

Dos Reis, Alfredo Egidio *see* **dos Reis, Alfredo Egidio**

Dos Reis, José Geraldo (*with* Santos, J. S.) Unbounded continuum of periodic solutions for autonomous delay equations. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 840–849. (A. Pelczar) **98b:34094** 34K15 (34C23)

— (*with* Benà, Maria Aparecida) A stability theorem in terms of two measures. *Nonlinear Anal.* **29** (1997), *no.* 7, 737–740. (A. A. Martynyuk) **98g:34122** 34K20

Doss, Hani (*with* Athreya, Krishna B.; Sethuraman, Jayaram) On the convergence of the Markov chain simulation method. (English summary) *Ann. Statist.* **24** (1996), *no.* 1, 69–100. (Arnoldo Frigessi) **98c:60074** 60J05 (60B10)

— (*with* Huffer, Fred W.; Lawson, Kevin L.) Bayesian nonparametric estimation via Gibbs sampling for coherent systems with redundancy. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1109–1139. (Truc Nguyen) **98g:62060** 62G05 (62N05)

Dossa, Marcel Espaces de Sobolev non isotropes, à poids et problèmes de Cauchy quasi-linéaires sur un conoide caractéristique. (English and French summaries) [Nonisotropic weighted Sobolev spaces and quasilinear Cauchy problems on a weighted conoid] *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 1, 37–107. (R. Schimming) **98b:35117** 35L70 (35A05, 46E35, 46N20, 83C05)

Dos Santos, Clotilzio Moreira *see* **dos Santos, Clotilzio Moreira**

Dos Santos, Marcelo Martins *see* **dos Santos, Marcelo Martins**

Dos Santos, Roberto J. V. *see* **dos Santos, Roberto J. V.**

Dos Santos Filho, José Ruidival (*with* Hounie, Jorge) A fractional Friedrichs lemma for Hölder norms and applications. *Nonlinear Anal.* **28** (1997), *no.* 6, 1063–1077. (V. S. Rabinovich) **98c:35017** 35B45 (35J99, 35S05, 47G30)

Dostál, Zdeněk (*with* Vondrák, V.) Duality based solution of contact problem with Coulomb friction. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 3, 453–460. (Summary) **98e:73117** 73T05 (73V25)

— Box constrained quadratic programming with proportioning and projections. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 871–887. (Wu Li) **98j:90048** 90C20 (65K05)

Dostanić, Milutin R. On a theorem of Ky-Fan type. (English summary) *Mat. Vesnik* **47** (1995), *no.* 1-2, 7–10. (Asuman Aksoy) **98b:47027** 47B06

— On the completeness of the system of functions $\{e^{a|n+a|i}\sin(n+a)x\}_n^{\infty}$. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 672–676. (Yurii Lyubarskiĭ) **98c:42008** 42A65

— The properties of the Cauchy transform on a bounded domain. (English summary) *J. Operator Theory* **36** (1996), *no.* 2, 233–247. (From the introduction) **98m:47041** 47B38 (30E20, 47B10, 47G10)

— A basis property of families of the Mittag-Leffler functions. (English summary) *Mat. Vesnik* **48** (1996), *no.* 3-4, 77–82. (Summary) **98c:30005** 30B60

— Asymptotic behavior of eigenvalues of certain integral operators. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **59(73)** (1996), 95–113. (Hermann König) **98d:47104** 47G10 (45P05, 47B06)

— (*with* Milinković, Darko Z.) Asymptotic behavior of singular values of certain integral operators. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 83–98. (B. S. Rubin) **98j:47108** 47G10 (26A33, 47B38)

— Spectral properties of the operator of Riesz potential type. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2291–2297. (Hermann König) **98j:47109** 47G10 (47A10, 47B06, 47B38)

Dotsenko, I. S. (*with* Filippov, G. F.; Lisetskyi, A. F.) Construction of the basis states with $L = 2$ for a three-cluster system. (English, Russian and Ukrainian summaries) *Ukrain. Fiz. Zh.* **41** (1996), *no.* 9, 779–785. (Summary) **98a:81250** 81U10 (81R05)

Dotsenko, Viktor (*with* Mézard, Marc) Vector breaking of replica symmetry in some low-temperature disordered systems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3363–3382. (Summary) **98f:82076** 82B44

D'Ottaviano, I. M. L. (*with* Carnielli, W. A.; Alves, E. H.) The centre for logic in Campinas and the development of logic in Brazil. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 15–29. (*see* **98k:03006**) 03–03 (01A72)

D'Ottavio, A. (*with* Cavaliere, Paola; Leonetti, Francesco; Musciano, C.) Higher integrability for the gradient of solutions to some nonlinear elliptic systems. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 1, 187–196 (1997). (Gong Qing Zhang) **98g:35064** 35J60 (49N60)

Dotti, Filippo The category of theories and interpretations. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 91–102 (1997). (Ioan Tofan) **98h:03080** 03G30 (03C07, 18B99)

Dotti, Gustavo 't Hooft conditions in supersymmetric dual theories. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 275–280. (Summary) **98m:81179** 81T60 (81T13)

Dotti Miatello, Isabel (*with* Barberis, María Laura) Hypercomplex structures on a class of solvable Lie groups. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 389–404. (Andrew Swann) **98k:53055** 53C25 (22E25, 53C30)

Doty, Stephen R. (*with* Nakano, Daniel K.; Peters, Karl M.) Infinitesimal Schur algebras of finite representation type. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 323–345. (Stuart Martin) **98i:20044** 20G05

— Polynomial representations, algebraic monoids, and Schur algebras of classical type. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 165–199. (Jochen Gruber) **98j:20057** 20G05

Dou, Alberto *see* **Dou Masdexexàs, Albert**

Dou, Ji Hong (*with* Zhang, Yi Kuan; Mu, Yu Jie) Geometric properties of limiting curves of uniform refinements of curves. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 101–105. 65D15 (65Y25)

Dou, Jia Wei (*with* Zhu, Ji Xiang) Persistence and periodic solutions of a class of predator-prey systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 1, 20–24. (Lan-Sun Chen) **98c:92014** 92D40 (34C25)

Dou, Xueli (*with* Zhu, Ben-ren) On an inverse initial-boundary value problem for a one-dimensional hyperbolic system of differential equations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 1, 33–44. (Gustavo Perla Menzala) **98i:35204** 35R30 (35L40, 35P25)

Douady, Adrien (*with* Sentenac, Pierrette; Zinsmeister, Michel) Implosion parabolique et dimension de Hausdorff. (English and French summaries) [Parabolic implosion and Hausdorff dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 765–772. (Walter Bergweiler) **98i:58195** 58F23 (28A78, 30D05)

Douady, S. (*with* Couder, Y.) Phyllotaxis: the avoidance of rationals and a relation with quasi-crystals. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 121–127, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 92C15

— (*with* Andreotti, B.; Couder, Y.) About the interaction between vorticity and stretching in coherent structures. (English summary) *Turbulence modeling and vortex dynamics (Istanbul, 1996)*, 92–108, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76068** 76F99 (76–05, 76C05)

Douai, Antoine (*with* Terao, Hiroaki) The determinant of a hypergeometric period matrix. *Invent. Math.* **128** (1997), *no.* 3, 417–436. (Jesús A. de Loera) **98j:32046** 32S40 (52B30)

Douai, Jean-Claude (*with* Dèbes, Pierre) Algebraic covers: field of moduli versus field of definition. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 303–338. (Katherine F. Stevenson) **98k:11081** 11G25 (11G20, 12F12, 14E20, 14G20, 14H30)

Douak, K. (*with* Maroni, P.) On d-orthogonal Tchebychev polynomials. I. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 1, 23–53. (Summary) **98g:42038** 42C05 (41A50)

Douanya Nguetsé, Guy-Blaise (*with* Hansen, Pierre; Jaumard, Brigitte) Probabilistic satisfiability and decomposition. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 151–161, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B48, 03B70, 68T27)

Douari, J. (*with* Daoud, M.; Hassouni, Y.) Quonic realization of the deformed Heisenberg-Weyl algebra. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3071–3077. 81R50

Doubtsov, Evgueni *see* **Dubtsov, E. S.**

Doucette, Robert L. Composite rules for improper integrals. *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 83–90. 65D30

Dougalis, V. A. (*with* Akrivis, Georgios; Zouraris, Georgios E.) Error estimates for finite difference methods for a wide-angle "parabolic" equation. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2488–2509. (Biyue Liu) **98a:65110** 65M06 (65M15, 76M20, 76Q05)

Dougherty, Edward R. (*with* Chen, Yidong) Logical granulometric filtering in the signal-union-clutter model. (English summary) *Random sets (Minneapolis, MN*, 1996), 73–95, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (68U10)

— Optimal binary morphological bandpass filters induced by granulometric spectral representation. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 2, 175–192. (Christian Ronse) **98d:68202** 68U10

Dougherty, George G., Jr. Estimation of common linear functional relationships in k data sets. (English summary) *Biometrika* **84** (1997), *no.* 1, 103–110. (Summary) **98e:62098** 62J05 (62H12)

Dougherty, Michael M. (*with* Phillips, Daniel) Higher gradient integrability of equilibria for certain rank-one convex integrals. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 270–273. (Martin Fuchs) **98a:49059** 49N60 (35J60)

— Higher gradient integrability of minimizers for a polyconvex case in two dimensions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 530–538. (Jean-Pierre Raymond) **98f:49004** 49J10 (49N60, 73C50, 73V25)

Dougherty, Randall (*with* Jech, Thomas) Left-distributive embedding algebras. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 28–37 (*electronic*). (Norbert Endres) **98b:20114** 20N02 (03E55, 03F30, 08B20)

Dougherty, Steven T. (*with* Gulliver, T. Aaron; Harada, Masaaki) Extremal binary self-dual codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2036–2047. (Summary) **98i:94044** 94B60

Douglas, C. C. A sparse matrix approach to abstract multilevel solvers on serial and parallel computers. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 139–142. (*see* **98b:65005**) 65F50 (65Y05)

— (*with* Malhotra, S.; Schultz, M. H.) A characterization of mapping unstructured grids onto structured grids and using multigrid as a preconditioner. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 661–677. (*see* **98f:65005**) 65N55 (65F35)

— *see also* **Direct methods, linear algebra in optimization, iterative methods**, **98f:65005**

Douglas, I. (*with* Yang, R.) Simple genetic algorithm with local tuning: efficient global optimizing technique. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 449–465. 90C27

Douglas, J., Jr. (*with* Huang, Chieh-Sen) An accelerated domain decomposition procedure based on Robin transmission conditions. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 678–686. (*see* **98f:65005**) 65N55 (65F35)

Douglas, Jeff Joint consistency of nonparametric item characteristic curve and ability estimation. (English summary) *Psychometrika* **62** (1997), *no.* 1, 7–28. (Mir Masoom Ali) **98c:62060** 62G05 (62P15)

Douglas, Michael R. (*with* Berkooz, Micha; Leigh, Robert G.) Branes intersecting at angles. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 265–278. (Edward Teo) **98d:81076** 81T30

— (*with* Banks, Tom; Seiberg, Nathan) Probing F-theory with branes. (English summary) *Phys. Lett. B* **387** (1996), *no.* 2, 278–281. (Summary) **98a:81152** 81T30

— Large N quantum field theory and matrix models. (English summary) *Free probability theory (Waterloo, ON*, 1995), 21–40, *Fields Inst. Commun.*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:81155** 81T10 (46L50, 46L60, 81T30)

— (*with* Katz, Sheldon H.; Vafa, Cumrun) Small instantons, del Pezzo surfaces and type I′ theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 155–172. (Bruce Hunt) **98k:81204** 81T30 (14J26, 83E30)

— (*with* Greene, Brian R.; Morrison, David R.) Orbifold resolution by D-branes. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 84–106. (Angel Maria Uranga) **98k:81206** 81T30 (83E30)

— (*with* Lowe, David A.; Schwarz, John H.) Probing F-theory with multiple branes. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 297–301. (Summary) **98a:81163** 81T30 (83E30)

— (*with* Berkooz, Micha) Five-branes in M(atrix) theory. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 196–201. (Summary) **98b:81181** 81T30

— (*with* Ooguri, Hirosi; Shenker, Stephen H.) Issues in M(atrix) theory compactification. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 36–42. (Richard A. Corrado) **98e:81136** 81T30 (81T20)

Douglas, Ronald G. (*with* Kaminker, Jerome) Induced cyclic cocycles and higher eta invariants. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 301–326. (Vicumpriya S. Perera) **98h:58186** 58G12 (19K56, 46L89)

Douglas, Scott C. (*with* Bodson, Marc) Narrowband disturbance rejection using adaptive feedback algorithms. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA)*, 45–56, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C40 (93B52)

— (*with* Bodson, Marc) Adaptive algorithms for the rejection of sinusoidal disturbances with unknown frequency. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2213–2221. 93B40 (93E35)

Douglass, J. Matthew An involution of the variety of flags fixed by a unipotent linear transformation. (English summary) *Adv. in Appl. Math.* **17** (1996), *no.* 3, 357–379. (Eric N. Sommers) **98c:14042** 14M15

Douka, Panagiota Chaotic behavior in discrete semi-dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 477–482. (*see* **98i:00027**) 58F13

Douke, H. Group sequential design with delayed observations for selecting one of two processes in a production system. *Frontiers in statistical quality control*, 5 (*Osaka*), 168–182, *Physica, Heidelberg*, 1997. (*see* **98e:62009**) 62N10 (62L05)

Doukhan, Paul (*with* Ango Nze, P.) Functional estimation for time series. I. Quadratic convergence properties. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 404–423. (Theo Gasser) **98g:62054** 62G05 (60G10, 62J02)

— (*with* León, José R.; Soulier, Philippe) Central and non-central limit theorems for quadratic forms of a strongly dependent Gaussian field. (English summary) *Rebrape* **10** (1996), *no.* 2, 205–223. (Vladimir Zaiats) **98k:60031** 60F05 (60G15, 62M15, 62M40)

Dou Masdexexàs, Albert Origins of non-Euclidean geometry: Saccheri, Lambert and Taurinus. (Spanish) *History of mathematics in the XIXth century, Part 1 (Spanish) (Madrid*, 1991), 43–63, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1992. (Doru Ştefănescu) **98g:01038** 01A55 (51–03)

Doupovec, Miroslav (*with* Kurek, Jan) Some geometrical constructions with (0, 2)-tensor fields on higher order cotangent bundles. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 43–50. (Jan Slovák) **98h:58005** 58A20 (53A55)

— (*with* Kurek, Jan) Liftings of covariant (0, 2)-tensor fields to the bundle of k-dimensional 1-velocities. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 111–121. (Frans Cantrijn) **98f:58012** 58A20

— (*with* Kurek, Jan) Natural operations of Hamiltonian type on the cotangent bundle. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 81–86. (Manuel de León) **98h:58060** 58F05

Doust, Ian (*with* Berkson, Earl; Gillespie, Thomas Alastair) Properties of AC-operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 249–271. (Jörg Eschmeier) **98e:47054** 47B40 (46E30, 46M35, 47A60)

— (*with* Cheng, Qingping) The dual theory of well-bounded operators. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 35–50. (Jörg Eschmeier) **98c:47043** 47B40 (46B20)

Dỗ Văn Lu'u (*with* Craven, B. D.) Optimization with set-functions described by functions. (English summary) *Optimization* **42** (1997), *no.* 1, 39–50. (Summary) **98h:90067** 90C29

Dovbush, P. V. Boundary behavior of normal holomorphic functions of several complex variables. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 3–6, 113, 116. (J. Siciak) **98m:32004** 32A40

Dovčiak, M. (*with* Karas, Vladimír) Region of magnetic dominance near a rotating black hole. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 1011–1022. (Summary) **98d:83054** 83C57

Dover, Jeremy M. A family of non-Buekenhout unitals in the Hall planes. *Mostly finite geometries (Iowa City, IA*, 1996), 197–205, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Tamás Szönyi) **98h:51012** 51E20

Doveri, Francesco (*with* Chambolle, Antonin) Continuity of Neumann linear elliptic problems on varying two-dimensional bounded open sets. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 811–840. (Summary) **98c:35033** 35J20 (35B20)

— (*with* Chambolle, Antonin) Minimizing movements of the Mumford and Shah energy. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 153–174. (Alan V. Lair) **98g:35091** 35K55 (47N20, 49Q20, 73M25)

Dovermann, Karl Heinz (*with* Herzog, Marcel) Gap conditions for representations of symmetric groups. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 2, 113–137. (Ronnie Lee) **98g:57058** 57S17 (20C30, 57S25)

Dovier, Agostino (*with* Policriti, Alberto; Rossi, Gianfranco) Integrating lists, multisets, and sets in a logic programming framework. (English summary) *Frontiers of combining systems (Munich*, 1996), 303–319, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68014** 68N17 (03B35)

Dow, Alan On MAD families and sequential order. (English summary) *Papers on general topology and applications (Amsterdam*, 1994), 79–94, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (W. W. Comfort) **98k:54043** 54D55 (03E05, 03E35, 54A20)

— (*with* Steprāns, Juris; Watson, W. Stephen) Reaping numbers of Boolean algebras. (English summary) *Bull. London Math. Soc.* **28** (1996), *no.* 6, 591–599. (Judith Roitman)

98d:06017 06E05 (05C05)
— On Boolean subalgebras of $\mathcal{P}(\omega_1)$/ctble. *J. Symbolic Logic* **61** (1996), *no.* 3, 873–879. (Judith Roitman) **98a:06020** 06E05 (03E05, 03E45, 03G05, 05C05)
— (*with* Juhász, Istvan; Soukup, L.; Szentmiklóssy, Z.) More on sequentially compact implying pseudoradial. (English summary) *Topology Appl.* **73** (1996), *no.* 2, 191–195. (Summary) **98j:54042** 54D30 (54A20, 54A35, 54D55)
— On the character of normal non-CWH spaces. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 207–213. (From the text) **98a:54025** 54E35
— Extending real-valued functions in $\beta\kappa$. (English summary) *Fund. Math.* **152** (1997), *no.* 1, 21–41. (O. T. Alas) **98c:03107** 03E65 (03E05, 54C05, 54C45, 54D35, 54D40)
— (*with* Juhász, Istvan) Are initially ω_1-compact separable regular spaces compact? (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 123–132. (J. E. Vaughan) **98m:54012** 54A35 (03E35, 54D30, 54D45)
— (*with* Hart, Klaas Pieter) A new subcontinuum of $\beta\mathbf{R} \setminus \mathbf{R}$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 6, 1861–1871. (Michel Smith) **98b:54033** 54D40 (04A30, 54D35, 54F15, 54G05)
— (*with* Junnila, H.; Pelant, Jan) Weak covering properties of weak topologies. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 349–368. (Douglass L. Grant) **98i:54010** 54D20 (03E35, 46B99, 46E99, 54A35, 54D35, 54H13)
— (*with* Monk, J. Donald) Depth, π-character, and tightness in superatomic Boolean algebras. (English summary) *Topology Appl.* **75** (1997), *no.* 2, 183–199. (Judith Roitman) **98a:54002** 54A25 (03G05, 04A20, 06E15)
Dow, R. A. Additive cellular automata and global injectivity. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 67–91. (Franco Vivaldi) **98k:58134** 58F08 (68Q80)
Dowbor, Piotr Galois covering reduction to stabilizers. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 3, 341–352. (Héctor A. Merklen) **98a:16015** 16G10 (16G60)
Dowe, David L. (*with* Oliver, Jonathan J.; Wallace, Chris S.) MML estimation of the parameters of the spherical Fisher distribution. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 213–227, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 62H11 (62B10)
Dowe, Phil A defense of backwards in time causation models in quantum mechanics. (English summary) *Synthese* **112** (1997), *no.* 2, 233–246. 81P05
Dowek, Gilles Lambda-calculus, combinators and the comprehension scheme. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 154–170, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:03011** 03B40
Dowell, Earl H. (*with* Epureanu, B. I.; Trickey, S. T.) Stabilization of unstable limit cycles in systems with limited controllability: expanding the basin of convergence of OGY-type controllers. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 2, 191–205. 34C05 (34D99, 34H05, 93B05, 93D05)
Dowerah, S. (*with* Sachdev, P. L.; Mayil Vaganan, B.; Philip, Varughese) Exact analysis of a nonlinear partial differential equation of gas dynamics. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 201–229. (Denis Serre) **98b:35136** 35Q30 (35A25, 35C99, 76N15)
Dowker, J. S. (*with* Bordag, Michael; Kirsten, Klaus) Heat-kernels and functional determinants on the generalized cone. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 371–393. (Emili Elizalde) **98d:58193** 58G26 (58G11)
— (*with* Apps, J. S.) Functional determinants on certain domains. The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 799–812. (Emili Elizalde) **98k:58239** 58G26 (81T50)
— (*with* Kirsten, Klaus) Heat-kernel coefficients for oblique boundary conditions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L169–L175. (Guido Cognola) **98i:58225** 58G11 (58G20)
Dowla, Farid U. (*with* Anant, Kanwaldip Singh) Wavelet transform methods for phase identification in three-component seismograms. (English summary) *Bull. Seismol. Soc. Amer.* **87** (1997), *no.* 6, 1598–1612. (Summary) **98h:86006** 86A15 (86–08)
Dowle, Matthew (*with* Mantel, Rolf Martin; Barkley, Dwight) Fast simulations of waves in three-dimensional excitable media. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2529–2545. 65C20 (92C05)
Dowling, A. P. Nonlinear self-excited oscillations of a ducted flame. (English summary) *J. Fluid Mech.* **346** (1997), 271–290. (Summary) **98d:80013** 80A25 (93C95)
Dowling, P. N. (*with* Lennard, C. J.; Turett, B.) Asymptotically isometric copies of c_0 in Banach spaces. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 377–391. (Y. Benyamini) **98m:46023** 46B25
darby-Dowman, Ken *see* **Darby-Dowman, Ken**
Down, D. G. (*with* Cohen, J. W.) On the role of Rouché's theorem in queueing analysis. (English summary) *Queueing Systems Theory Appl.* **23** (1996), *no.* 1-4, 281–291. (Ivo Adan) **98d:60175** 60K25 (60J15)
Downarowicz, T. (*with* Lacroix, Y.) A non-regular Toeplitz flow with preset pure point spectrum. (English summary) *Studia Math.* **120** (1996), *no.* 3, 235–246. (Summary) **98f:54032** 54H20 (28D05)
Downey, Rodney G. On presentations of algebraic structures. *Complexity, logic, and recursion theory*, 157–205, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Andreas Blass) **98k:03099** 03D45 (03C57, 03G05, 06A05, 06E05)
— (*with* Cai, Liming; Chen, Jianer; Fellows, Michael R.) Advice classes of parameterized tractability. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 119–138. (William Gasarch) **98b:68055** 68Q15 (03D15)
— (*with* Cai, Liming; Chen, Jianer; Fellows, Michael R.) On the parameterized complexity of short computation and factorization. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 321–337. (Mukkai S. Krishnamoorthy) **98m:68085** 68Q15 (03D15, 68Q25)
— (*with* Stob, M.) Minimal pairs in initial segments of the recursively enumerable degrees. (English summary) *Israel J. Math.* **100** (1997), 7–27. (Marat M. Arslanov) **98k:03094** 03D25
— On the universal splitting property. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 311–320. (Steffen Lempp) **98f:03041** 03D25
— (*with* Fellows, Michael R.; Regan, Kenneth W.) Parameterized circuit complexity and the *W* hierarchy. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 97–115. (Summary) **98m:68088** 68Q15 (68Q25)
Downs, M. L. N. On some graphs related to regular, oriented triangular maps. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 525–539. (Martin Škoviera) **98i:05093** 05C25 (05C10)
— Some enumerations of regular hypermaps with automorphism group isomorphic to $\mathrm{PSL}_2(q)$. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 189, 39–58. (John G. Ratcliffe) **98c:20095** 20H10 (05C30)
Dowson, Duncan Modelling of elastohydrodynamic lubrication of real solids by real lubricants. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 1, 47–58. 76D08 (73K70)
Doyen, L. (*with* Quincampoix, Marc) Multi-target control problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 121–139. (Martino Bardi) **98c:49012** 49J24 (49L20)
— (*with* Saint-Pierre, Patrick) Scale of viability and minimal time of crisis. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 227–246. (Corneliu Ursescu) **98i:49004** 49J24 (34A60, 34H05, 49K24)
Doyle, John C. (*with* Lu, Wei-Min; Zhou, Kemin) Stabilization of uncertain linear systems: an LFT approach. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 1, 50–65. (Vladimir G. Sragovich) **98a:93070** 93D21 (93C42)
— (*with* Young, Peter Michael) A lower bound for the mixed μ problem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 123–128. (Anton A. Stoorvogel) **98b:93052** 93D09 (93B35, 93B36, 93B40)
Doyle, M. M. (*with* Arnold, Ludwig; Sri Namachchivaya, N.) Small noise expansion of moment Lyapunov exponents for two-dimensional systems. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 187–211. (Oliver Knill) **98m:34118** 34F05 (34C23, 34D08, 60H10, 70L05)
Doyle, Philip W. (*with* Vassiliou, Peter J.) Separation of variables for the 1-dimensional non-linear diffusion equation. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 315–326. (Summary) **98e:35084** 35K55 (35A25, 35C05, 76R50)
Dozias, Sandrine Clustering for the spectrum of h-pseudodifferential operators with periodic flow on an energy surface. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 296–311. (Viorel Iftimie) **98d:35168** 35P20 (35S05, 47G30, 58G15)
Iami Dozo, E. *see* **Lami Dozo, E.**
Dozzi, Marco (*with* Vallois, Pierre) Level crossing times for certain processes without positive jumps. (English and French summaries) *Bull. Sci. Math.* **121** (1997), *no.* 5, 355–376. (Paul Embrechts) **98k:60123** 60J30 (60K30, 62P05)
Draad, A. A. (*with* Nieuwstadt, F. T. M.) The Earth's rotation and laminar pipe flow. (English summary) *J. Fluid Mech.* **361** (1998), 297–308. 76U05 (76D99)
Draaisma, Teun (*with* Noussair, Charles) Optimal bidding in a uniform price auction with multi-unit demand. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 157–162. 90A60 (90A09)
Draayer, J. P. (*with* Rompf, D.; Troltenier, D.; Scheid, Werner) Coupled quantum rotors and their SU(3) realization. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 1-2, 193–205. (Summary) **98a:81269** 81V35 (81–01, 81R05)
— (*with* Asherova, R. M.; Kharitonov, Yu. I.; Smirnov, Yu. F.) The Biedenharn-Louck-Hecht resolution of the outer multiplicity problem for the U(3) and $U_q(3)$ groups. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 1035–1046. (A. U. Klimyk) **98i:81097** 81R50 (17B37, 81R05)
— (*with* Filippov, G. F.; Lisetskyi, A. F.) Microscopic $SU_R(3) \times SU_r(3)$ interpretation of a two triaxial rotor model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1350–1365. (R. Mirman) **98m:81213** 81V35 (22E70, 81R05)
— (*with* Pan, Feng; Ormand, W. E.) A particle-number-conserving solution to the generalized pairing problem. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 1–5. (Summary) **98m:81223** 81V70 (82D55)
Drabant, Bernhard Real complexified quantum groups, their vector fields and quantum enveloping algebras. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1293–1302. (*see* **98c:17001**) 17B37 (81R50)
— (*with* Schlieker, Michael; Weich, Wolfgang; Weixler, Ralf) Inhomogeneous quantum groups. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1303–1312. (Andrei G. Bytsko) **98e:17021** 17B37 (16W30, 81R50)
Drábek, Pavel (*with* Kufner, Alois; Nicolosi, Francesco) ★ Quasilinear elliptic equations with degenerations and singularities. (English summary) de Gruyter Series in Nonlinear Analysis and Applications, 5. *Walter de Gruyter & Co., Berlin*, 1997. xii+219 *pp. ISBN* 3-11-015490-0 (Isabella Birindelli) **98k:35068** 35J65 (35J70, 47H15, 47N20)
— (*with* Heinig, Hans P.; Kufner, Alois) Higher-dimensional Hardy inequality. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 3–16, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Maria J. Carro) **98k:26026** 26D10
— (*with* Binding, Paul A.; Huang, Yin Xi) The range of the p-Laplacian. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 77–82. (Summary) **98g:34035** 34B15 (35J65, 47H12, 47N20)
— (*with* Moudan, Zakaria; Touzani, Abdelfettah) Nonlinear homogeneous eigenvalue problem in $\mathbf{R}^N$: nonstandard variational approach. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 421–431. (Summary) **98i:35059** 35J65 (49J40)
— (*with* Huang, Yin Xi) Multiplicity of positive solutions for some quasilinear elliptic equation in $\mathbf{R}^N$ with critical Sobolev exponent. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 106–132. (Vyacheslav N. Pavlenko) **98k:35052** 35J60 (35B32, 58E05)
— (*with* Čepička, Jan; Jenšiková, Jolana) On the stability of periodic solutions of the damped pendulum equation. *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 712–723. (Rafael Ortega) **98j:34068** 34C25 (34D20)
— (*with* Huang, Yin Xi) Positive solutions and bifurcation problems for some quasilinear elliptic equations in $\mathbf{R}^N$. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3671–3681. (Yi Hong Du) **98m:35054** 35J60 (35B05, 35B32, 47H12, 58E07)
— (*with* Binding, Paul A.; Huang, Yin Xi) On the Fredholm alternative for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3555–3559. (Summary) **98b:35058** 35J65 (35P30)

— (*with* Pokhozhaev, Stanislav Ivanovich) Positive solutions for the p-Laplacian: application of the fibering method. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 703–726. (P. Lindqvist) **98h:35061** 35J60 (35B05, 35B32, 35J70)

— *see also* **Topological and variational methods for nonlinear boundary value problems, 98e:00023**

Drabent, Włodzimierz (*with* Di Pierro, Alessandra) On negation as instantiation. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 32–46, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98f:68042** 68N17

Drabla, S. (*with* Rochdi, Mohamed; Sofonea, Mircea) A frictionless contact problem for elastic-viscoplastic materials with internal state variables. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 31–47. (Kenneth Kuttler) **98m:73073** 73T05 (35Q72, 73E60)

Dragalin, Albert G. Cut-elimination in the theory of definable sets of natural numbers. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 153–164. (Mariko Yasugi) **98k:03112** 03F05 (03F35)

Dragan, Feodor F. (*with* Brandstädt, Andreas) r-dominating cliques in graphs with hypertree structure. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 93–108. (Gerard J. Chang) **98b:05075** 05C70 (05C65, 05C85, 68Q25, 68R10)

— (*with* Nicolai, Falk; Brandstädt, Andreas) LexBFS-orderings and powers of graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 166–180, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98h:05157** 05C75 (68R10)

— (*with* Brandstädt, Andreas; Nicolai, Falk) LexBFS-orderings and powers of chordal graphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 27–42. (Daniel Turzík) **98h:05156** 05C75

— (*with* Nicolai, Falk) r-domination problems on homogeneously orderable graphs. (English summary) *Networks* **30** (1997), *no.* 2, 121–131. (Dieter Kratsch) **98g:05140** 05C85

— (*with* Brandstädt, Andreas; Chepoĭ, V. D.) Clique r-domination and clique r-packing problems on dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 109–127. (Gerard J. Chang) **98b:05073** 05C70 (05C85, 68Q25, 68R10)

— (*with* Brandstädt, Andreas; Nicolai, Falk) Homogeneously orderable graphs. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 209–232. (Henry Martyn Mulder) **98g:05118** 05C75 (05C85, 68R10)

Dragan, Irinel On some relationships between the Shapley value and the Banzhaf value. *Libertas Math.* **16** (1996), 31–42. (Frank Thuijsman) **98a:90150** 90D12

Dragan, S. (*with* Revenko, S.; Soltan, V. P.) On Gallai's problem for congruent circles. *Intuitive geometry (Budapest, 1995)*, 311–318, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Jürgen Eckhoff) **98j:52003** 52A10 (52A37)

Drăgan, Vasile (*with* Halanay, Aristide; Stoica, Adrian) On robustness with respect to multiplicative perturbations. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 3, 363–377. (Summary) **98e:93093** 93D21 (93D09)

— (*with* Halanay, Aristide; Stoica, Adrian) An LMI solution to a disturbance attenuation problem with state feedback for stochastic systems. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 4, 513–519. 93E15 (93D15)

— (*with* Morozan, T.) Mixed input-output optimization for time varying Itô systems with state-dependent noise. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 317–333. (Min Sun) **98e:93108** 93E20 (49N10, 60H10)

— Robust stabilization of time-varying infinite-dimensional systems. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 137–151. (Hartmut Logemann) **98j:93076** 93D21 (93C25, 93C50, 93D15)

— (*with* Morozan, T.) Global solutions to a game-theoretic Riccati equation of stochastic control. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 328–350. (Jose Luis Menaldi) **98i:93079** 93E05 (49K45, 93E20)

— (*with* Halanay, Aristide; Stoica, Adrian) Well-conditioned computation for H^∞ controller near the optimum. (English summary) *Numer. Algorithms* **15** (1997), *no.* 2, 193–206. (Jacob Hammer) **98i:93022** 93B36

Drăgan, Vladimir (*with* Teodoru, Georgeta) The Darboux problem for random hyperbolic multivalued equations. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 91–104. 35R70 (35L70, 35R60, 47H40, 47N20)

Drăgănescu, Gh. E. (*with* Avram, C. N.) The time-frequency uncertainty relations for signals. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 1, 103–109. (Summary) **98a:94001** 94A12

Drăghici, Eugen About an integral operator preserving meromorphic starlike functions. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 2, 245–250. (Grigore Ştefan Sălăgean) **98f:30023** 30C80 (30C45)

— On certain analytic functions with positive real part. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 29–34. (O. P. Juneja) **98b:30011** 30C45

Draghici, Tedi Seiberg-Witten invariants when reversing orientation. *Turkish J. Math.* **21** (1997), *no.* 1, 83–86. (Jim A. Bryan) **98h:57055** 57R57 (57N13)

Dragilev, M. M. On subspaces of nuclear spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 568–577, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 490–499. (N. Tiţa) **98c:46004** 46A11

— On spaces of generalized Dirichlet series. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 4, 481–491. (Fritz Haslinger) **98a:46032** 46E10 (30B50)

Dragoman, D. Wigner-transform approach to paraxial light propagation in stratified media. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 5, 1103–1109. (Summary) **98c:78006** 78A10

Dragomir, S. *see* **Dragomir, Sorin**

Dragomir, Sever Silvestru (*with* Mond, Bertram) Some mappings associated with Cebysev's inequality for sequences of real numbers. *Bull. Allahabad Math. Soc.* **8/9** (1993/94), 37–55 (1997). (J. Sándor) **98g:26021** 26D15

— Nonlinear discrete generalizations of Gronwall's inequality. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 69–74. 26D15 (39A12)

— A characterization of reflexivity. *Bull. Math. Soc. Sci. Math. Roumanie (N.S.)* **38(86)** (1994), *no.* 1-2, 33–36. (Yves Raynaud) **98c:46012** 46B10

— (*with* Mond, Bertram) On the superadditivity and monotonicity of Schwarz's inequality in inner product spaces. (English and Macedonian summaries) *Makedon. Akad. Nauk. Umet. Oddel. Mat.-Tehn. Nauk. Prilozi* **15** (1994), *no.* 2, 5–22 (1996). (P. Miličić) **98f:46016** 46C05 (26D20)

— (*with* Mond, Bertram; Pečarić, Josip E.) On Jensen's inequality for self-adjoint operators in Hilbert space. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 7–13. (Takayuki Furuta) **98e:47024** 47A63 (47B15)

— (*with* Mond, Bertram) Some inequalities for Fourier coefficients in inner product spaces. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 167–182. (P. Miličić) **98k:46035** 46C05 (26D10, 26D15, 26D20)

— (*with* Arslanagić, Šefket; Milošević, Dragoljub M.) Sharpenings of Jensen's inequality and applications. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 51–60. (L. Leindler) **98e:26019** 26D15

— A characterization of reflexivity. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 101–103. 46B10

— (*with* Mond, Bertram; Páles, Zsolt) On a superadditivity property of Gram's determinant. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 199–204. (P. Miličić) **98j:46018** 46C05 (15A15, 26D20, 51K05)

— (*with* Goh, C. J.) Some bounds on entropy measures in information theory. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 23–28. (Leandro Pardo) **98h:94007** 94A17 (62B10, 94A15)

— (*with* Comănescu, D.; Pearce, Charles E. M.) On some mappings associated with geometric and arithmetic means. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 299–309. (Zsolt Páles) **98c:26010** 26D10

— (*with* Wang, Song) An inequality of Ostrowski-Grüss type and its applications to the estimation of error bounds for some special means and for some numerical quadrature rules. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 15–20. (Dumitru Acu) **98f:26014** 26D15 (41A55, 65D32)

— (*with* Mond, Bertram) On Hadamard's inequality for a class of functions of Godunova and Levin. *Indian J. Math.* **39** (1997), *no.* 1, 1–9. (Lars Erik Persson) **98i:26024** 26D15

— (*with* Fitzpatrick, S. P.) s-Orlicz convex functions in linear spaces and Jensen's discrete inequality. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 419–439. (Constantin Zălinescu) **98d:46045** 46G99 (26A51, 26D07, 46N10)

— (*with* Koliha, J. J.) The mapping $\gamma_{x,y}$ in normed linear spaces and applications. *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 549–563. (Ioan Şerb) **98c:46020** 46B20 (46C50)

— (*with* Koliha, J. J.) Mappings Φ^p in normed linear spaces and new characterizations of Birkhoff orthogonality, smoothness and best approximants. (English summary) *Soochow J. Math.* **23** (1997), *no.* 2, 227–239. (Ioan Şerb) **98c:46019** 46B20 (41A65, 46C50)

— (*with* Wang, Song) Applications of Ostrowski's inequality to the estimation of error bounds for some special means and for some numerical quadrature rules. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 105–109. 26D10 (65D32)

— (*with* Agarwal, Ravi P.) Two new mappings associated with Hadamard's inequalities for convex functions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 33–38. 76D15 (26A51)

Dragomir, Sorin (*with* Barletta, Elisabetta) On the spectrum of a strictly pseudoconvex CR manifold. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 33–46. (Shanyu Ji) **98m:32029** 32F40 (32C16, 35P15)

— (*with* Barletta, Elisabetta) New CR invariants and their application to the CR equivalence problem. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 193–203. (Andrea Spiro) **98h:32010** 32C16 (53C56)

— (*with* Barletta, Elisabetta) On C-tangent foliations of maximum modulus sets. (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 143–153. (Summary) **98m:32027** 32F30 (53C15)

— A survey of pseudo-Hermitian geometry. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 101–112. (Raúl Ibáñez) **98m:53041** 53C15 (32C16)

— (*with* Barletta, Elisabetta) Transversally CR foliations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 1, 51–85. (Kimio Miyajima) **98m:53037** 53C12 (32C16)

Dragon, Norbert (*with* Hurth, Tobias; van Nieuwenhuizen, Peter) Polynomial form of the Stueckelberg model. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 318–321. (Summary) **98f:81175** 81T10 (81T15)

Dragoni, Roberto (*with* Macki, Jack W.; Nistri, Paolo; Zecca, Pietro) ★ Solution sets of differential equations in abstract spaces. (English summary) Pitman Research Notes in Mathematics Series, 342. *Longman, Harlow*, 1996. xii+100 *pp. ISBN* 0-582-29450-9 (Nikolaos S. Papageorgiou) **98e:34109** 34G20 (34A12, 34A60, 34B15, 47N20)

Dragotti, S. (*with* Esposito, Rosa; Magro, G.; Parlato, L.) Geometric representations of the homology functor. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 3–12. 55N40 (57Q20)

Dragović, Branko G. On p-adic series with rational sums. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng.* *No.* 19-20 (1996), 97–104. (Summary) **98k:11178** 11S85

— On some p-adic series with factorials. *p-adic functional analysis (Nijmegen, 1996)*, 95–105, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Daniel Barsky) **98i:11101** 11S80 (11R56, 33C20)

— (*with* Đorđević, Goran S.) On p-adic functional integration. (English summary) *Proceedings of the II Mathematical Conference in Priština (1996)*, 221–228, *Univ. Priština, Priština*, 1997. (Eugen Belokolos) **98e:81095** 81S40 (11S80, 11Z05)

— (*with* Đorđević, Goran S.) p-adic path integrals for quadratic actions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1455–1463. (Evgenii I. Zelenov) **98g:81109** 81S40 (11S99, 11Z05)

Dragović, Vladimir (*with* Jovanović, Božidar Žarko) On integrable potential perturbations of the billiard system within an ellipsoid. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3063–3068. (Kang-Jie Shi) **98c:58148** 58F30 (58F05, 58F07, 70H05)

— (*with* Radnović, Milena) Conditions of Cayley's type for ellipsoidal billiard. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 355–362. (Roberto Markarian) **98j:14041** 14H40 (14N05, 58F99)

Dragovich, B. *see* **Dragović, Branko G.**

Dragovich, Branko *see* **Dragović, Branko G.**

Drăgușin, Constantin (*with* Prepeliţă, Valeriu; Niculescu, Miron) Adjoint problems for generalized acausal linear systems. International Conference on Differential Geometry

and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 187–195. (Ivan Ginchev) **98e:93057** 93C15 (34H05)

Drake, F. R. (*with* Singh, Dasharath) ★ Intermediate set theory. *John Wiley & Sons, Ltd., Chichester*, 1996. x+234 *pp. ISBN* 0-471-96496-4 (Eva Coplakova) **98a:03001** 03-01 (03-02, 03Exx, 04-01)

Drake, S. P. (*with* Turolla, R.) The application of the Newman-Janis algorithm in obtaining interior solutions of the Kerr metric. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1883–1897. (Giulio Magli) **98e:83013** 83C15

Drake, Stillman *see* **Shea, William R.**

Drakengren, Thomas (*with* Jonsson, Peter) Twenty-one large tractable subclasses of Allen's algebra. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 297–319. (Neculai Curteanu) **98e:68234** 68T27 (03B70, 68Q25, 68T30)

— (*with* Jonsson, Peter) A complete classification of tractability in RCC-5. (English summary) *J. Artificial Intelligence Res.* **6** (1997), 211–221 (*electronic*). (Summary) **98f:68247** 68T27 (03B70, 03D15, 68Q25)

— (*with* Jonsson, Peter) Eight maximal tractable subclasses of Allen's algebra with metric time. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 25–45. (Summary) **98f:68244** 68T27 (03B30, 03B45, 68Q25)

— A decidable canonical representation of the compact elements in Scott's reflexive domain in $P\omega$. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 181–195. (Guo-Qiang Zhang) **98m:06014** 06B35 (03B40, 68N15, 68Q55)

Drakhlin, Mikhail E. (*with* Domshlak, Yu. I.; Litsyna, E. M.; Kiguradze, Ivan Tarielovich; Maksimov, V. P.) Professor Nikolai Viktorovich Azbelev (on the occasion of his 75th birthday). *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 259–264 (1997). (Editors) **98f:01061** 01A70

— (*with* Stepanov, Eugene) Γ-convergence for a class of functionals with deviating argument. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 69–89. (M. Beatrice Lignola) **98j:49022** 49J52 (34K35, 49J45, 49N25)

— (*with* Domoshnitskiĭ, A. I.) Nonoscillation of first order impulse differential equations with delay. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 254–269. (Jun Jie Wei) **98a:34075** 34K15 (34A37, 34C10)

— (*with* Buttazzo, Giuseppe; Freddi, L.; Stepanov, Eugene) Homogenization of optimal control problems for functional-differential equations. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 103–119. (Stanisław Migórski) **98d:49015** 49J45 (34K35, 49J25)

— (*with* Stepanov, Eugene) On weak lower semicontinuity for a class of functionals with deviating argument. *Nonlinear Anal.* **28** (1997), *no.* 12, 2005–2015. (Jean-Pierre Raymond) **98b:49015** 49J45 (34K35)

— (*with* Stepanov, Eugene) Weak convergence of inner superposition operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 173–179. (Isaac V. Shragin) **98c:47038** 47B38 (47H30)

Drakopoulos, John A. *see* **Ovchinnikov, Sergei**, **98d:41029**

Drakunov, Sergei V. (*with* Su, Wu Chung; Özgüner, Ümit) Constructing discontinuity surfaces for variable structure systems: a Lyapunov approach. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 6, 925–928. (Edward Jezierski) **98c:93023** 93B12 (93D05)

— (*with* Hanchin, G. D.; Su, Wu Chung; Özgüner, Ümit) Nonlinear control of a rodless pneumatic servoactuator, or Sliding modes versus Coulomb friction. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1401–1408. 93C95 (93C85)

Dramalidis, Achilles Some geometrical P-H_1-structures. (English summary) *New frontiers in hyperstructures (Molise, 1995)*, 93–102, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

— Duality of H_1-rings defined on the same set. (English summary) *Algebraic hyperstructures and applications (Prague, 1996)*, 35–42, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20

Dranga, M. Matrix algorithm for the motion equation of spatial mechanisms. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **56/57** (1994/95), *no.* 1-4, 139–143. 70B15

Drangmeister, K. U. (*with* Krumke, S. O.; Noltemeier, H.; Marathe, Madhav V.; Ravi, S. S.) Modifying networks to obtain low cost trees. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 293–307, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68217** 68R10 (68Q25)

Dranishnikov, A. N. (*with* Daverman, R. J.) Cell-like maps and aspherical compacta. *Illinois J. Math.* **40** (1996), *no.* 1, 77–90. (John J. Walsh) **98h:54045** 54F15 (54B20, 54F45, 55M10, 57P99)

— (*with* Repovš, Dušan D.) Cohomological dimension with respect to perfect groups. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 123–140. (John J. Walsh) **98e:55002** 55M10 (54C25, 54F45, 57Q55, 57Q65)

— Cohomology, dimension and large Riemannian manifolds. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 633–636. (Summary) **98i:54018** 54F45 (54D35, 55M10, 57M10, 57S30)

— On the virtual cohomological dimensions of Coxeter groups. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 1885–1891. (Alexander I. Suciu) **98d:55001** 55M10 (20F55, 20J05, 57S30)

— On Chogoshvili's conjecture. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 2155–2160. (John J. Walsh) **98c:55002** 55M10 (54F45)

— (*with* Arkhangel'skiĭ, A. V.) P. S. Alexandroff and topology: an introductory note. *Topology Appl.* **80** (1997), *no.* 1-2, 1–6. 01A70 (54-03)

— (*with* Uspenskiĭ, Vladimir V.) Light maps and extensional dimension. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 91–99. (John J. Walsh) **98j:54060** 54F45 (54C10, 54C20, 54C56, 55M10, 55M15)

— (*with* West, J. E.) Compact group actions that raise dimension to infinity. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 101–114. (John J. Walsh) **98i:55006** 55M35 (54F45, 54H15, 57S99)

— (*with* Ferry, Steven C.) On the Higson-Roe corona. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 133–146; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1017–1028. (Yuri A. Kordyukov) **98k:58214** 58G12 (46L87, 55N99, 57R99)

Dranov, A. (*with* Kellendonk, Johannes; Seiler, R.) Discrete time adiabatic theorems for quantum mechanical systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1340–1349. (Péter Pál Lévay) **98m:81019** 81Q05 (47N50, 81Q15)

Drápal, Aleš (*with* Kepka, Tomáš) Groupoids and the associative law. VIII. Diagonally non-associative groupoids. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 23–37. 20N02

— (*with* Ježek, Jaroslav; Kepka, Tomáš) Groupoids and the associative law. IX. Associative triples in some classes of groupoids. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 39–52. 20N02

— Low level computations in finite left distributive algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2071–2084. (M. K. Sen) **98i:20068** 20N99

— Finite left distributive groupoids with one generator. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 723–748. (B. H. Neumann) **98k:20108** 20N02

Draper, Norman R. (*with* Pukelsheim, Friedrich) A. M. Kshirsagar and J. C.-I. Cheng's rotatability measure. Letter to the editor: "A new measure of rotatability of response surface designs" [Austral. J. Statist. **38** (1996), no. 1, 83–89]. *Austral. J. Statist.* **39** (1997), *no.* 2, 236–238. 62K99

— (*with* Yang, Yonghong) Generalization of the geometric mean functional relationship. (English summary) *Comput. Statist. Data Anal.* **23** (1997), *no.* 3, 355–372. (Summary) **98m:62189** 62J05

— (*with* Prescott, P.; Lewis, Susan Margaret; Dean, Angela M.) Further properties of mixture designs for five components in orthogonal blocks. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 2, 147–156. (Summary) **98a:62100** 62K05 (62K10)

Drasin, D. (*with* Langley, J. K.) On deficiencies and fixpoints of composite meromorphic functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 63–82. (Summary) **98d:30046** 30D35

Drašković, Zoran V. On a stipulation of the relationships between the covariant derivatives of space and surface tensors in shell theory. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1995), *no.* 5, 561–566. 73K15 (53B50)

— Contribution to the invariant derivation of finite element equations of motion in curvilinear coordinates. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 25–32. 73V05

Draškovičová, Hilda Modular median algebras generated by some partial modular median algebras. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 405–412. (Joel Berman) **98m:08017** 08B20 (06C05, 08B15)

Draux, André (*with* Moalla, Borhane) Rectangular matrix Padé approximants and square matrix orthogonal polynomials. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 321–341. (A. J. Rodrigues) **98d:41022** 41A21 (42C05, 65D15)

Dräxler, P. (*with* de la Peña, J. A.) On the existence of postprojective components in the Auslander-Reiten quiver of an algebra. *Tsukuba J. Math.* **20** (1996), *no.* 2, 457–469. (Lidia Angeleri Hügel) **98a:16020** 16G70 (16G20)

Dray, Tevian (*with* Schray, Jörg; Manogue, Corinne A.; Tucker, Robin W.; Wang, Charles Hou-Tzao) The construction of spinor fields on manifolds with smooth degenerate metrics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 8, 3882–3896. (Reinhard Illge) **98f:53063** 53C50 (53A50, 53C80, 58G30)

— (*with* Davies, Paul C. W.; Manogue, Corinne A.) Detecting the rotating quantum vacuum. (English summary) *Phys. Rev. D* (3) **53** (1996), *no.* 8, 4382–4387. (Enric Verdaguer) **98a:81138** 81T20 (83C47)

— (*with* Ellis, George F. R.; Hellaby, Charles; Manogue, Corinne A.) Gravity and signature change. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 591–597. (Viqar Husain) **98a:83011** 83C05

Drazin, P. G. (*with* Tourigny, Y.) Extending the utility of perturbation series in problems of waves and stability. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 209–219. (Summary) **98f:76030** 76Exx (65B10, 65M99, 76M25)

— (*with* McAlpine, A.) On the spatio-temporal development of small perturbations of Jeffery-Hamel flows. (English summary) With an appendix by R. R. Kerswell and Drazin. *Fluid Dynam. Res.* **22** (1998), *no.* 3, 123–138. (Alexander Lifschitz) **98a:76066** 76E05 (76D99, 76E99)

Dreben, Burton (*with* Kanamori, Akihiro) Hilbert and set theory. A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 77–125. (Ignacio Angelelli) **98h:01019** 01A60 (03-03, 03A05, 04-03)

Drechsler, Rolf (*with* Becker, Bernd; Theobald, Michael) OKFDDs versus OBDDs and OFDDs. (English summary) *Automata, languages and programming (Szeged, 1995)*, 475–486, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q05

Drechsler, W. (*with* Tuckey, Philip A.) On quantum and parallel transport in a Hilbert bundle over spacetime. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 4, 611–632. (Summary) **98b:81115** 81S20 (58B20, 58D30)

— Geometro-stochastically quantized fields with internal spin variables. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5531–5558. (Michael B. Mensky) **98j:81178** 81S20 (58Z05, 81S10)

Dreeben, Thomas D. (*with* Pope, Stephen B.) Wall-function treatment in pdf methods for turbulent flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2692–2703. (Summary) **98g:76047** 76F99 (76M35)

— (*with* Pope, Stephen B.) Probability density function/Monte Carlo simulation of near-wall turbulent flows. (English summary) *J. Fluid Mech.* **357** (1998), 141–166. 76F99 (76M35)

Drees, Christof (*with* Epkenhans, Martin; Krüskemper, Martin) On the computation of the trace form of some Galois extensions. (English summary) *J. Algebra* **192** (1997), *no.* 1, 209–234. (Chr. U. Jensen) **98c:12004** 12F10

Dreier, I. On the uncertainty principle for positive definite densities. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 4, 1015–1023. (Alexander Ulanovskiĭ) **98c:60014** 60E10

Dreier, Roland Examples of genus 2 curves over $\mathbb{Q}$ with Jacobians of high Mordell-Weil rank. *Internat. Math. Res. Notices* **1997**, *no.* 18, 875–880. (Dino J. Lorenzini) **98k:11083** 11G30 (11Y50, 14G25)

Drekic, S. (*with* Hlynka, M.; McPhail, G.) A non-monotone waiting time queueing model. (English summary) *Util. Math.* **52** (1997), 83–89. 60K25

Drell, Persis S. Experimental aspects of the standard model: a short course for theorists. (English summary) *Fields, strings and duality (Boulder, CO, 1996)*, 983–1057, *World Sci.*

Publishing, River Edge, NJ, 1997. (*see* **98f:81005**) 81V22

Drensky, Vesselin (*with* Regev, Amitai) Exact asymptotic behaviour of the codimensions of some P.I. algebras. (English summary) *Israel J. Math.* **96** (1996), *part A*, 231–242. (Antonio Giambruno) **98b:16021** 16R10 (16P99)

— Identities of representations of nilpotent Lie algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2115–2127. (Duncan J. Melville) **98d:17015** 17B30 (17B10, 17B65)

— (*with* Gupta, Chander Kanta) New automorphisms of generic matrix algebras and polynomial algebras. (English summary) *J. Algebra* **194** (1997), *no.* 2, 408–414. (E. Formanek) **98h:16033** 16R30

— Automorphisms of polynomial, free and generic matrix algebras. (English summary) *Trends in ring theory (Miskolc, 1996)*, 13–26, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98i:16033** 16W20 (16S10, 16S50)

— (*with* Domokos, Mátyás) A Hilbert-Nagata theorem in noncommutative invariant theory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2797–2811. (Jacques Alev) **98k:16049** 16W20 (15A72, 16R30)

Dresden, Gregory P. Orbits of algebraic numbers with low heights. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 815–820. (D. Boyd) **98h:11128** 11R06

Dresden, Max (*with* Muriel, A.) An integral formulation of hydrodynamics. (English summary) *Phys. D* **101** (1997), *no.* 3-4, 299–316. (Vitor R. Vieira) **98b:82049** 82C05 (76A02, 76M35)

— *see also* **Rise of the standard model, 98h:81002**

Dresel, L. A. G. On pseudoprimes related to generalized Lucas sequences. *Fibonacci Quart.* **35** (1997), *no.* 1, 35–42. (Neville Robbins) **98b:11010** 11B39 (11A51)

Dress, Andreas W. M. (*with* Yang, Lu; Zeng, Zhenbing) Heilbronn problem for six points in a planar convex body. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 97–118, *World Sci. Publishing, River Edge, NJ*, 1995. (Carla Peri) **98g:52012** 52A37 (52A40)

— (*with* Müller, Thomas W.) Decomposable functors and the exponential principle. (English summary) *Adv. Math.* **129** (1997), *no.* 2, 188–221. (G. L. Alexanderson) **98h:05013** 05A15

— A simple, (almost) non-inductive proof for the existence of composite fields and algebraic closures. *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 213–215. 12F99

— (*with* Brinkmann, Gunnar; Perrey, S. W.; Stoye, J.) Two applications of the divide & conquer principle in the molecular sciences. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 71–97. (Summary) **98e:90220** 90C90 (92D20, 92E10)

Drew, Donald A. *see* **Particulate flows, 98j:76004**

Drew, John (*with* Haulk, Claire Cates; Johnson, Charles Royal; Tart, J. Hunter) Characterization of supercommuting matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 35–51. (Summary) **98j:15021** 15A27

Drewes, Frank Semirings and tree-to-graph-to-tree transductions. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q70 (68Q42, 68R10)

— On the connectedness of pictures defined by iterated function systems. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 289–298, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:68110** 68Q25 (28A80)

— A lower bound on the growth of functions computed by tree transducers. (English summary) Graph transformations (Noordwijkerhout, 1993). *Fund. Inform.* **26** (1996), *no.* 3-4, 267–285. (Richard M. Thomas) **98e:68122** 68Q40 (68Q68)

— (*with* Kreowski, Hans-Jörg; Lapoire, Denis) Criteria to disprove context-freeness of collage languages. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 169–178, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q50 (68Q45)

Drewes, R. (*with* Stevens, Jan) Deformations of cones over canonical trigonal curves. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 289–315. (Allen B. Altman) **98c:14003** 14B07 (14J17)

Drewnowski, Lech Barrelled spaces with Boolean rings of projections. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 467–478. (I. Tweddle) **98m:46001** 46A08 (46A45, 46B42, 46E30)

— (*with* Kamińska, Anna; Lin, Pei-Kee) On multipliers and L- and M-projections in Banach lattices and Köthe function spaces. *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 83–102. (W. A. J. Luxemburg) **98c:46034** 46B42 (46E30, 47B60)

— (*with* Labuda, Iwo) The Orlicz-Pettis theorem for topological Riesz spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 823–825. (Summary) **98e:46003** 46A40

— (*with* Labuda, Iwo) Lacunary convergence of series in L_0. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1655–1659. (M. S. Ramanujan) **98g:40001** 40A30 (28A20, 46E30)

— (*with* Labuda, Iwo) Copies of c_0 and l_∞ in topological Riesz spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3555–3570. (Yu. A. Abramovich) **98k:46007** 46A40 (46B45, 46E10)

Drews, Klaus-Dieter Zu zwei Aufgaben aus Anfangsgründen der fraktalen. [On two problems from the beginnings of fractal geometry] *Rostock. Math. Kolloq. No.* 51 (1997), 177–182. 51M99 (58F13)

Drexl, Andreas (*with* Sprecher, Arno; Hartmann, Sönke) An exact algorithm for project scheduling with multiple modes. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 195–203. (Summary) **98c:90054** 90B35

Dreyer, Paul A., Jr. (*with* Biedl, Therese C.) Rectangle breaking in grids. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 19–32. (Summary) **98j:05046** 05B45

Drezner, Zvi (*with* Sasaki, Mihiro; Suzuki, Atsuo) On the selection of relay points in a logistics system. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 39–54. 90B80 (90C27)

Drias, H. (*with* Bensalma, A.) On the average number of solutions for SAT instances. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 295–307. (Summary) **98j:68050** 68Q25

Driebe, Dean J. (*with* Prigogine, Ilya) Time, chaos and the laws of nature. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 206–223, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:58005**) 82C05 (58F13)

— Jordan blocks in a one-dimensional Markov map. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 103–109. (Makoto Mori) **98f:58154** 58F19 (47B38)

— (*with* Ordóñez, Gonzalo E.) Polynomial shift states of a chaotic map. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 1087–1096. (Makoto Mori) **98k:58156** 58F13

van den Dries, Lou o-minimal structures. *Logic: from foundations to applications (Staffordshire, 1993)*, 137–185, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Christopher L. Miller) **98b:03053** 03C50 (03–02, 06F20, 14P10)

— o-minimal structures on the field of real numbers. *Jahresber. Deutsch. Math.-Verein.* **98** (1996), *no.* 3, 165–171. (A. J. Wilkie) **98b:03054** 03C65 (03–02, 14P99)

— T-convexity and tame extensions. II. *J. Symbolic Logic* **62** (1997), *no.* 1, 14–34. (O. V. Belegradek) **98h:03048** 03C60 (03C10, 03C35, 12L12)

van den Driessche, P. (*with* Bapat, R. B.; Olesky, D. D.) Perron-Frobenius theory for a generalized eigenproblem. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 141–152. (Summary) **98c:15028** 15A18

— (*with* Li, Chi-Kwong; Stanford, David P.; Olesky, D. D.) Minimum positive determinant of integer matrices with constant row and column sums. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 163–170. (Morris Newman) **98a:15036** 15A36 (15A15)

— (*with* Johnson, Charles Royal; Maybee, John S.; Olesky, D. D.) Nested sequences of principal minors and potential stability. (English summary) *Linear Algebra Appl.* **262** (1997), 243–257. (Clark Jeffries) **98d:15010** 15A18

— (*with* McDonald, Judith J.; Olesky, D. D.; Tsatsomeros, Michael J.) Ray patterns of matrices and nonsingularity. (English summary) *Linear Algebra Appl.* **267** (1997), 359–373. (Anna Lee) **98j:15026** 15A42

— (*with* Fallat, Shaun) Maximum determinant of (0, 1) matrices with certain constant row and column sums. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 303–318. (Summary) **98h:15007** 15A15 (05C50, 15A36)

— (*with* Hadeler, K. P.) Backward bifurcation in epidemic control. (English summary) *Math. Biosci.* **146** (1997), *no.* 1, 15–35. (Summary) **98j:92009** 92C60 (34C23)

— (*with* Iwata, Satoru; Olesky, D. D.) Patterns that preserve sparsity in orthogonal factorization. (English summary) *Linear Algebra Appl.* **268** (1998), 345–354. (Donald W. Robinson) **98j:15019** 15A23 (05C50, 65F25)

Driessel, Kenneth R. (*with* Ashlock, Daniel A.; Hentzel, Irvin R.) On matrix structures invariant under Toda-like isospectral flows. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 29–48. (O. Christov) **98b:58067** 58F07 (15A18, 58F19)

Driessen, Theo S. H. Tree enterprises and bankruptcy ventures. A game-theoretic similarity due to a graph-theoretic proof. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 105–117. (Prabir Das) **98i:90133** 90D12 (05C05, 05C90, 90D43)

— (*with* Radzik, Tadeusz; Nowak, Andrzej S.) Weighted Banzhaf values. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 1, 109–118. (G. A. Heuer) **98a:90156** 90D12

Drigo Filho, Elso (*with* Ricotta, Regina Maria) Supersymmetric quantum mechanics and the Hulthén potential. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 226–230, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q60

— (*with* Teso, A.; Agostinho Neto, A.) Solution of the Poisson-Boltzmann equation for a system with four ionic species. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 814–824. (Summary) **98h:92056** 92E20 (35Q80)

— (*with* Agostinho Neto, A.) Supersymmetric quantum mechanics and the equivalent classical transformation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 13, 899–903. (Avinash Khare) **98i:81063** 81Q60

Drinfel'd, V. G. (*with* Iskovskikh, V. A.; Kostrikin, Alekseĭ Ivanovich; Tyurin, A. N.; Shafarevich, Igor' Rostislavovich) Yuriĭ Ivanovich Manin (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 233–242; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 863–873. (Editors) **98f:01062** 01A70

aregba-Driollet, Denise *see* **Aregba-Driollet, Denise**

Driscoll, J. R. (*with* Healy, Dennis M., Jr.; Rockmore, Daniel N.) Fast discrete polynomial transforms with applications to data analysis for distance transitive graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1066–1099. (David K. Maslen) **98j:42012** 42C05 (42C10, 65T20)

Driscoll, Robert B. A detailed special relativistic analysis of the Michelson-Morley experiment. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 394–400. 83A05

Driscoll, Tobin A. (*with* Fornberg, Bengt) A block pseudospectral method for Maxwell's equations. I. One-dimensional case. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 47–65. (Summary) **98m:78005** 78–08

Drisko, Arthur A. (*with* Moore, Cristopher) Algebraic properties of the block transformation on cellular automata. (English summary) *Complex Systems* **10** (1996), *no.* 3, 185–194. (Summary) **98h:68174** 68Q80

— On the number of even and odd Latin squares of order $p+1$. (English summary) *Adv. Math.* **128** (1997), *no.* 1, 20–35. (Anthony B. Evans) **98e:05018** 05B15

— Loops of order p^n+1 with transitive automorphism groups. (English summary) *Adv. Math.* **128** (1997), *no.* 1, 36–39. (Summary) **98c:20118** 20N05

Drissi, Driss Local spectrum and Kaplansky's theorem on algebraic operators. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 159–165. (Michael M. Neumann) **98k:47005** 47A11 (47A60)

Dritsakis, Nicolaos (*with* Papanastasiou, John; Velentzas, Kostas; Paparrizos, Konstantinos) Core and coalition-power in a public good economy. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 241–246. (Summary) **98k:90153** 90D12 (90A27)

Dritschel, David G. *see* **Zabusky, Norman J. et al., (98h:70003)**

Dritschel, Michael A. (*with* Woerdeman, Hugo J.) Model theory and linear extreme points in the numerical radius unit ball. (English summary) *Mem. Amer. Math. Soc.* **129** (1997), *no.* 615, viii+62 *pp.* (T. Ando) **98b:47007** 47A12 (15A21, 47A45)

Driver, Bruce K. (*with* Hu, Yao Zhong) On heat kernel logarithmic Sobolev inequalities. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 189–200, *World Sci. Publishing, River Edge, NJ*, 1996. (Elton Pei Hsu) **98h:58183** 58G11 (46E35, 58G32, 60H07, 60J60)

— Integration by parts for heat kernel measures revisited. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 8, 703–737. (Shi Zan Fang) **98h:58198** 58G32 (60H07, 60H30)

Driver, George (*with* Youssefi, John A.) File access methods on parallel processing. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68P20

Driver, R. D. Torricelli's law—an ideal example of an elementary ODE. *Amer. Math. Monthly* **105** (1998), *no.* 5, 453–455. 34A12 (76B99)

Drmač, Zlatko Generalized eigensolutions by Jacobi methods. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 295–297. (*see* **98b:65005**) 65F15

— (*with* Hari, Vjeran) On scaled almost-diagonal Hermitian matrix pairs. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1000–1012. (Jaroslav Zemánek) **98m:65053** 65F15 (15A57)

— Implementation of Jacobi rotations for accurate singular value computation in floating point arithmetic. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1200–1222. (Ljiljana Petković) **98e:65027** 65F15 (65G10)

Drmota, Michael (*with* Baron, Gerd; Mutafchiev, Lyuben R.) Predecessors in random mappings. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 317–335. (Zbigniew Palka) **98a:05130** 05C80 (60C05)

— Irregularities of distributions with respect to polytopes. (English summary) *Mathematika* **43** (1996), *no.* 1, 108–119. (W. W. L. Chen) **98c:11076** 11K38

— (*with* Tichy, Robert F.) ★ Sequences, discrepancies and applications. Lecture Notes in Mathematics, 1651. *Springer-Verlag, Berlin*, 1997. xiv+503 *pp. ISBN* 3-540-62606-9 (Oto Strauch) **98j:11057** 11Kxx (11K06, 11K38)

— (*with* Soria, Michèle) Images and preimages in random mappings. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 246–269. (Edward A. Bender) **98c:05011** 05A16 (05A15, 05C30, 05C80, 41A60)

— (*with* Gajdosik, Johannes) The parity of the sum-of-digits-function of generalized Zeckendorf representations. *Fibonacci Quart.* **36** (1998), *no.* 1, 3–19. (Peter J. Grabner) **98m:11009** 11A63 (11B37)

Drnovšek, Roman An irreducible semigroup of idempotents. (English summary) *Studia Math.* **125** (1997), *no.* 1, 97–99. (P. Rosenthal) **98e:47011** 47A15 (20M99, 47D03)

Drobne, S. *see* **Proceedings: Symposium on Operational Research in Slovenia, 98e:90008**

Drobnič, Andreja Lexicographical isotone linear operators. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 3, 89–96. 15A04 (47B60)

Drobotenko, M. I. (*with* Dautov, R. Z.; Lyashko, A. D.) Investigation of the well-posedness of the generalized solution of the filtration consolidation problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 515–521, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 518–525. (Summary) **98k:76131** 76S05 (34G20, 35Q72, 73N20, 73V25)

— The filtration consolidation problem for media with long-term memory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 330–336. (From the text) **98k:76132** 76S05 (34G20, 35Q35, 73E50, 76M30)

Droegemeier, Kelvin K. (*with* Xue, Ming[1]; Xu, Qin) A theoretical and numerical study of density currents in nonconstant shear flows. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 15, 1998–2019. 86A10

Droge, Bernd Some comments on cross-validation. (English summary) *Statistical theory and computational aspects of smoothing* (*Semmering*, 1994), 178–199, *Contrib. Statist., Physica, Heidelberg*, 1996. (*see* **98e:62011**) 62G05

Dronka, Janusz On Fredholm-Stieltjes and Hammerstein-Stieltjes integral operators over an infinite interval. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 5–19. (Anatolij Semenovich Kalitvin) **98j:47110** 47G10 (45G10, 45P05, 47H30)

Dror, Ron (*with* Ganguli, Suman; Strichartz, Robert S.) A search for best constants in the Hardy-Littlewood maximal theorem. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 473–486. (Loukas Grafakos) **98b:42030** 42B25

Dror Farjoun, Emmanuel ★ Cellular spaces, null spaces and homotopy localization. Lecture Notes in Mathematics, 1622. *Springer-Verlag, Berlin*, 1996. xiv+199 *pp. ISBN* 3-540-60604-1 (Carles Casacuberta) **98f:55010** 55P60 (55–02, 55P65)

Drory, Alon Theory of continuum percolation. I. General formalism. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 6, 5992–6002. (C. Chris Wu) **98c:82033** 82B43

— Theory of continuum percolation. II. Mean field theory. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 6, 6003–6013. (C. Chris Wu) **98c:82034** 82B43

— Exact solution of a one-dimensional continuum percolation model. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3878–3885. (C. Chris Wu) **98k:82084** 82B43

— (*with* Berkowitz, Brian; Parisi, Giorgio; Balberg, I.) Theory of continuum percolation. III. Low-density expansion. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1379–1395. (C. Chris Wu) **98m:82033** 82B43

Drost, Feike C. (*with* Klaassen, Chris A. J.; Werker, Bas J. M.) Adaptive estimation in time-series models. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 786–817. (Philippe Vieu) **98i:62027** 62G05 (62F12, 62M10)

— (*with* Klaassen, Chris A. J.) Efficient estimation in semiparametric GARCH models. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 193–221. (Summary) **98k:62186** 62P20

Drost, John L. A shorter proof of the Ramanujan congruence modulo 5. *Amer. Math. Monthly* **104** (1997), *no.* 10, 963–964. (Richard P. Lewis) **98k:11144** 11P83 (11P81)

Droste, Manfred (*with* Kuske, Dietrich) Languages and logical definability in concurrency monoids. (English summary) *Computer science logic* (*Paderborn*, 1995), 233–251, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98d:68122** 68Q45 (03D05, 68Q10, 68Q68)

— (*with* Gastin, Paul) Asynchronous cellular automata for pomsets without auto-concurrency. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 627–638, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q80)

— (*with* Kuske, Dietrich) Trace languages definable with modular quantifiers. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 386–395, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68137** 68Q45 (03D05)

— (*with* Göbel, Rüdiger) The automorphism groups of generalized McLain groups. *Ordered groups and infinite permutation groups*, 97–120, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (Manfred Dugas) **98j:20039** 20F28

— Aperiodic languages in concurrency monoids. (English summary) *Inform. and Comput.* **126** (1996), *no.* 2, 105–113. (Ferucio Laurentiu Tiplea) **98b:68133** 68Q70 (68Q10, 68Q45)

— (*with* Gastin, Paul) On recognizable and rational formal power series in partially commuting variables. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 682–692, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68Q70)

— (*with* Göbel, Rüdiger) The automorphism groups of Hahn groups. *Ordered algebraic structures* (*Curaçao*, 1995), 183–215, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. Dugald Macpherson) **98f:20023** 20F60 (06F15, 20F28)

— (*with* Bracho, Felipe; Kuske, Dietrich) Representation of computations in concurrent automata by dependence orders. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 67–96. (Wiesław Zielonka) **98d:68066** 68Q10 (68Q55)

Droste, Stefan New results on visual cryptography. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 401–415, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98j:94018** 94A60 (68P25)

Drouffe, J. M. *see* **Mathematical beauty of physics, 98g:00034**

Droz, Michel (*with* Rey, Pierre-Antoine) A renormalization group study of a class of reaction-diffusion models, with particles input. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1101–1114. (Summary) **98c:82066** 82C70 (82C28)

Droz, S. Numerical investigation of black hole interiors. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3575–3579. (Summary) **98a:83002** 83–08 (83C57)

Drozd, Yu. A. (*with* Greuel, Gert-Martin) Semicontinuity for representations of one-dimensional Cohen-Macaulay rings. *Math. Ann.* **306** (1996), *no.* 2, 371–389. (Yuji Yoshino) **98a:16019** 16G50 (13C14, 14B12)

Drozdov, A. D. ★ Finite elasticity and viscoelasticity. A course in the nonlinear mechanics of solids. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xx+434 *pp. ISBN* 981-02-2433-8 (Mircea Sofonea) **98e:73036** 73C50 (73Fxx, 73Gxx)

— Almost sure stability of viscoelastic structural members driven by random loads. (English summary) *J. Sound Vibration* **197** (1996), *no.* 3, 293–307. (V. K. Arya) **98h:73049** 73F15 (73K35)

— Fractional differential models in finite viscoelasticity. (English summary) *Acta Mech.* **124** (1997), *no.* 1-4, 155–180. (Rouben Rostamian) **98h:73052** 73G25 (73F15)

— The non-isothermal behavior of polymers. I. A model of adaptive links. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 6, 947–972. (From the summary) **98k:73035a** 73F05 (73B30)

— The non-isothermal behavior of polymers. II. Numerical simulation. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 6, 973–991. (From the summary) **98k:73035b** 73F05 (73B30)

— (*with* Kalamkarov, A. L.) Explicit stability conditions for viscoelastic structural members. (English summary) *J. Vib. Control* **3** (1997), *no.* 2, 161–182. (Summary) **98c:73043** 73F15 (73H10, 73K12, 73K70)

— A constitutive model in finite viscoelasticity with an entropy-driven material clock. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 45–66. (Summary) **98d:73035** 73F05 (73F15, 73G25, 76A10)

— Explicit stability conditions for integro-differential equations with operator coefficients. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 2, 261–277. (Kenneth B. Hannsgen) **98b:45009** 45M10 (34K20, 45D05, 45K05, 76J20)

— Stability of a viscoelastic pipe filled with a moving fluid. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 689–700. (Summary) **98h:73065** 73K70 (45K05, 73F15, 73H10, 76D99)

— Continuous accretion of a composite cylinder. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 117–135. 73G99

— A model of temporal polymeric networks in nonlinear viscoelasticity. *Mech. Res. Comm.* **25** (1998), *no.* 1, 83–90. 73F15 (73G25)

Drozdov, A. N. (*with* Brey, J. Javier) Higher-order quasilinear approximations for the propagator of the Kramers equation. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 119–125. 82B41

Drozdov, Aleksey D. *see* **Drozdov, A. D.**

Drozdov, M. A. (*with* Antonov, I. L.; Samartseva, E. V.) On a property of the phase trajectories of a mathematical pendulum with a randomly moving suspension point. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 71–79, 105. (Summary) **98g:70021** 70L05 (70K99)

Drozdowski, Maciej (*with* Bianco, L.; Błażewicz, Jacek; Dell'Olmo, Paolo) Preemptive multiprocessor task scheduling with release times and time windows. (English summary) *Ann. Oper. Res.* **70** (1997), 43–55. (Jan Węglarz) **98f:68206** 68R05 (68M20, 68Q10, 68Q25, 90B35)

— (*with* Błażewicz, Jacek) Distributed processing of divisible jobs with communication startup costs. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 21–41. (Summary) **98b:68041** 68Q10 (68M20)

Droz-Vincent, Philippe Two-body relativistic system in external field. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 132–139, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81350** 81U99

— Direct interactions in relativistic statistical mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 3, 363–387. (Anatoliy Yu. Zakharov) **98j:82037** 82C05 (70H40)

Drud, Arne Stolbjerg (*with* Lasdon, Leon) Nonlinear programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 10.1–10.45, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **98g:90003**) 90C30 (90C31)

— Interactions between nonlinear programming and modeling systems. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 99–123. (Summary) **98e:90150** 90C30

Druetta, Maria J. On a class of solvable Kähler algebras of nonpositive curvature. (English summary) *Geom. Dedicata* **65** (1997), *no.* 1, 63–87. (J. Dorfmeister) **98h:53107** 53C55

(53C30)

Druilhet, Pierre (*with* Azaïs, Jean-Marc) Optimality of neighbour balanced designs when neighbour effects are neglected. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 353–367. 62K05 (05B05, 62K10)

Drummond, I. T. (*with* Dean, David S.; Horgan, R. R.) Renormalization of drift and diffusitivity in random gradient flows. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7867–7879. (Summary) **98c:82051** 82C28 (82C70)

— (*with* Dean, David S.; Horgan, R. R.) Continuum Derrida approach to drift and diffusivity in random media. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 385–396. (Summary) **98f:82115** 82C44

Drummond, Oliver E. (*with* Poore, Aubrey B.) Track initiation and maintenance using multidimensional assignment problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 407–422, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C27)

Drummond, P. D. (*with* Werner, M. J.) Robust algorithms for solving stochastic partial differential equations. (English summary) *J. Comput. Phys.* **132** (1997), *no.* 2, 312–326. (Denis Talay) **98b:81297** 81V80 (65U05, 78–08, 78A10)

Drury, Luke O'C. (*with* Farrell, Kevin) An explicit, adaptive grid algorithm for one-dimensional initial value problems. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 3–12. (*see* **98i:65004**) 65M50 (65L06)

Drury, S. W. The mathematical work of Carl S. Herz. *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 1–10, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **98k:01022** 01A70

— (*with* Ambikkumar, S.) Some remarks on a conjecture of Boyle and Handelman. (English summary) *Linear Algebra Appl.* **264** (1997), 63–99. (Israel Koltracht) **98h:15036** 15A45 (15A48)

— *see also* **Harmonic analysis and number theory**, **98d:00028**

Druţu, C. Nondistorsion des horosphères dans des immeubles euclidiens et dans des espaces symétriques. (English summary) [Nondistortion of horospheres in Euclidean buildings and symmetric spaces] *Geom. Funct. Anal.* **7** (1997), *no.* 4, 712–754. (Raul Quiroga) **98h:53084** 53C35 (51E24)

Druzdzel, Marek J. Five useful properties of probabilistic knowledge representations from the point of view of intelligent systems. (English summary) Intelligent information systems. *Fund. Inform.* **30** (1997), *no.* 3-4, 241–254. (*see* **98f:68008**) 68T30 (03B20, 60A99)

Druzhinina, M. V. (*with* Nikiforov, V. O.; Fradkov, A. L.) Remarks on: "Methods for the adaptive control of nonlinear objects with respect to output" [Avtomat. i Telemekh. **1996**, no. 2, 3–33; MR 97d:93046]. (Russian) *Avtomat. i Telemekh.* **1997**, *no.* 6, 219. 93C40 (93–02, 93B10, 93C10)

Drużkowski, Ludwik M. The Jacobian conjecture in case of "non-negative coefficients". (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 67–75. (Arno van den Essen) **98a:14022** 14E05

— (*with* Ploski, Arkadiusz) On complexified norm. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 115–120. (Summary) **98e:46025** 46C05

— (*with* Gurycz, Jerzy) An elementary proof of the tameness of polynomial automorphisms of k^2. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 251–260. (Summary) **98d:14018** 14E09

Dryanov, Dimiter P. (*with* Rahman, Qazi I.) An extension of a polynomial inequality of P. Erdős and T. Grünwald. (English summary) *Analysis* **17** (1997), *no.* 2-3, 187–195. (Summary) **98j:41007** 41A17

— (*with* Vatchev, V.) On quadrature formulae with maximal trigonometric degree of precision. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 59–82. (Hans Strauss) **98j:65018** 65D32

— (*with* Rahman, Qazi I.) On the growth of polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1415–1423. (D. Leviatan) **98j:41008** 41A17 (41A05)

Dryden, Ian L. (*with* Faghihi, Mohammad Reza; Taylor, Charles Catherwood) Procrustes shape analysis of planar point subsets. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 353–374. (Daijin Ko) **98j:62042** 62H11 (62H12, 62H15, 62P10)

Dryja, Maksymilian (*with* Bialecki, Bernard) Preconditioned conjugate gradient multilevel methods for orthogonal spline collocation discretization of the Dirichlet problem for Poisson's equation. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 77–89, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (Summary) **98e:65104** 65N35

— An iterative substructuring method for elliptic mortar finite element problems with a new coarse space. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 79–98. (Srinivasan Kesavan) **98g:65107** 65N30

Drysdale, Robert L. Scot (*with* Dickerson, Matthew T.; McElfresh, Scott A.; Welzl, Emo) Fast greedy triangulation algorithms. (English summary) *Comput. Geom.* **8** (1997), *no.* 2, 67–86. (Summary) **98c:68204** 68U05 (52B55)

Dryuma, V. S. (*with* Konopelchenko, B. G.) On equation of geodesic deviation and its solutions. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 61–73, 121, 123. (Volker Perlick) **98k:83011** 83C10 (35Q75, 53C80)

— (*with* Bordag, L. A.) Investigation of dynamical systems using tools of the theory of invariants and projective geometry. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 725–743. (Jair Koiller) **98j:34012** 34A26 (34C20, 58F36)

Dshalalow, Jewgeni H. On applications of excess level processes to (N, D)-policy bulk queueing systems. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 551–562. (J. G. C. Templeton) **98c:60120a** 60K25

— Corrections: "On applications of excess level processes to (N, D)-policy bulk queueing systems". *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 207–208. (J. G. C. Templeton) **98c:60120b** 60K25

— On the level crossing of multidimensional delayed renewal processes. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 355–361. 60K05 (60G17, 60K25)

Dsouza, Ashvin (*with* Bloom, Bard) On the expressive power of CCS. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 309–323, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q10 (68Q60)

D'Souza, Christopher N. (*with* Cloutier, James R.; Mracek, Curtis P.) Nonlinear regulation and nonlinear H_∞ control via the state-dependent Riccati equation technique. I. Theory. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 117–130, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B36

— (*with* Cloutier, James R.; Mracek, Curtis P.) Nonlinear regulation and nonlinear H_∞ control via the state-dependent Riccati equation technique. II. Examples. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 131–141, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B36

D'Souza, J. C. (*with* Hambly, B. M.) On the survival probability of a branching process in a random environment. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 38–55. (Dean H. Fearn) **98d:60162** 60J80

D'Souza, Kelwyn A. (*with* Obuchowicz, Andrzej; Banaszak, Zbigniew A.) An algebraic approach to modelling and performance optimisation of a traffic route system. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 335–365. 90C90 (90C27)

Du, B. *see* **Du, Bei Liang**

Du, Bau-Sen Point bifurcations and bubbles for some one-parameter families of quadratic polynomials. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 1–9. (Helena E. Nusse) **98c:58118** 58F14

Du, Bei Liang $K_{1,k}$-factorization of bipartite graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 500. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 493–498. (Summary) **98h:05147** 05C70

— (*with* Bennett, F. E.; Zhang, Hantao) Existence of conjugate orthogonal diagonal Latin squares. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 449–461. (Summary) **98i:05026** 05B15

— (*with* Bennett, F. E.; Zhang, Hantao) Existence of self-conjugate self-orthogonal diagonal Latin squares. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 51–62. (Summary) **98m:05022** 05B15

Du, Bin² (*with* Gu, Jun; Pardalos, Panos M.) Multispace search for protein folding. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 47–67, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92C40)

Du, Chao He Approximation theorems for Sikkema operators. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 1, 6–10. 41A35

Du, Chun Ling (*with* Zou, Yun; Yang, Cheng Wu) Separability conditions for 2-D linear discrete systems with constant coefficients. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 243–246. 93C30 (93C55)

Du, D. *see* **Du, Ding Zhu**

Du, Dian Lou A new approach to the generation of finite-dimensional integrable systems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 1–7. 35Q58

Du, Ding Zhu (*with* Xue, Guoliang) $O(n \log n)$-average-time algorithm for shortest network under a given topology. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 11–20, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98b:68082** 68Q25

— (*with* Shragowitz, Eugene; Wan, Peng-Jun) Two special cases for rectilinear Steiner minimum trees. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 221–233, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **98k:90124** 90C35 (05C05, 90C27)

— (*with* Gao, Biao; Wu, Weili) A special case for subset interconnection designs. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 51–60. (Summary) **98e:05099** 05C85

— (*with* Fishburn, Peter C.; Hwang, Frank K.; Gao, Biao) On 1-rate wide-sense nonblocking for 3-stage Clos networks. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 75–87. (Summary) **98f:05140** 05C90 (68M10)

— (*with* Wan, Peng-Jun; Graham, Ronald L.) The Steiner ratio for the dual normed plane. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 261–275. (Zhibo Chen) **98h:05062** 05C05

— (*with* Borchers, Al) The k-Steiner ratio in graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 857–869. (Ortrud R. Oellermann) **98h:05057** 05C05 (05C85, 68R10)

— *see also* **Recent advances in nonsmooth optimization**, **98a:90009**; **Computing and combinatorics**, **98c:68009**; **Satisfiability problem: theory and applications**, **98i:68016** *and* **Network design: connectivity and facilities location**, **98k:68011**

Du, Dong Lei (*with* Du, Yu Xiang; Zhang, Guo Chuan) Open shop scheduling problems with release times—the worst case analysis. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 191–196. 90B35

— (*with* Han, Ji Ye; Chen, Bo) An improved heuristic for one-machine scheduling with delays constraints. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 680–686. (Summary) **98k:90044** 90B35 (68M20)

— (*with* Hou, Sixiang) A heuristic for $F3/b_i = b/C_{\max}$ and its worst-case analysis. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 141–151. (Knut Richter) **98f:90030** 90B35

Du, Gen Min Cordiality of complete k-partite graphs and some special graphs. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 9–12. (Summary) **98i:05144** 05C78

Du, Gong-huan (*with* Qin, Tuan-fa; Ni, Wan-sun; Chen, Guang Zhi) Targeting in the system described by nonlinear differential equations. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 12, 885–888. (Summary) **98b:58122** 58F13 (34C99)

Du, Gui Lian (*with* Qian, Neng Sheng) Convergence of random measures with values in Banach spaces. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **15** (1995), *no.* 1, 77–88. (Summary) **98g:60093** 60G57 (60B12)

Du, Hang K. (*with* Sederberg, Thomas W.; Goldman, Ronald) Implicitizing rational curves by the method of moving algebraic curves. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 153–175. (K. Kiyek) **98g:14072** 14Q05 (14H45)

— (*with* Deaconescu, Marian) Counting similar automorphisms of finite cyclic groups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 345–348. (Summary) **98f:20004** 20D45

Du, Hong Complex ruled surfaces. I. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 4, 331–334. (Lin Weng) **98b:14032** 14J26

Du, Hongke (*with* Zhang, Jian Hua) Derivations on nest-subalgebras of von Neumann algebras. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 3, 269–276. (David R. Pitts) **98a:47046** 47D25 (46L57, 47B47)

Du, Ji Hong (*with* Miao, Yuan; Li, Chun Wen) A stability equivalence between nonlinear time-invariant systems and polynomials of their time-invariant Lyapunov functions. (Chinese) *Acta Automat. Sinica* **23** (1997), *no.* 6, 850–853. 93D05 (93C10)

Du, Jie Global IC bases for quantum linear groups. (English summary) *J. Pure Appl. Algebra* **114** (1996), *no.* 1, 25–37. (Nicolás Andruskiewitsch) **98b:17013** 17B37 (16W30)

Du, Jinguan (*with* Cheng, Ximing; Wu, Yougui; Liu, Huowang) The zero-crossing rate of pth-order autoregressive processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 355–374. (P. A. Morettin) **98i:62070** 62M10

Du, Jun (*with* Wu, Yong-Hui) Remarks on diffusivity versus absorption through the boundary. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 376–382. (Elena Comparini) **98c:35082** 35K55 (35B45, 35K65)

Du, Li The design of a robust adaptive controller for plants with bounded stochastic noise. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 1, 110–115. 93E03 (93C40)

Du, Li Qun (*with* Li, Shu Jun; Zhang, Guo Zhong) Topological characteristics of kinematic chains and mechanisms and evaluation of their performance. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 6, 671–675. 70B15

Du, Lingu (*with* Sun, Xiao Rui) The complexity of two problems on windy graphs. (English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 1, 12–19. (Summary) **98c:68162** 68R10 (05C85)

Du, Ping (*with* Wu, Guangqing; Shi, Fugui) Decomposition theorems and representation theorems of L-fuzzy fields. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 483–488. (Summary) **98a:04010** 04A72

Du, Qi Kui Finite element and boundary integral methods for the heat conduction equation. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 17–28. 65M60 (65M12)

Du, Qiang (*with* Deang, Jennifer; Gunzburger, Max D.; Peterson, Janet) Vortices in superconductors: modelling and computer simulations. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1957–1968. (Summary) **98k:82203** 82D55

— Discrete gauge invariant approximations of a time dependent Ginzburg-Landau model of superconductivity. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 965–986. (Yisong Yang) **98m:82077** 82D55 (65M06)

Du, Shao Fei $\frac{1}{2}$-transitive graphs associated with linear groups. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 354–357. (Hong Zhang) **98j:05077** 05C25

— Construction of two classes of semisymmetric graphs. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 253–256. 05C75

Du, Shou Guo A duality theorem for double products of infinite group-graded rings. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 192–197. 16W50

Du, Shuqin (*with* Zagrodzki, P.; Barber, J. R.; Hulbert, G. M.) Finite element analysis of frictionally excited thermoelastic instability. (English summary) *J. Thermal Stresses* **20** (1997), *no.* 2, 185–201. (Summary) **98a:73010** 73B30 (73T05, 73V05)

Du, Weichang (*with* Orgun, Mehmet A.) Multi-dimensional logic programming: theoretical foundations. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 319–345. (Summary) **98g:68020** 68N17

Du, Xian Neng Generic modules of tilted algebras. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 19, 1729–1731. (Shi Ping Liu) **98b:16012** 16G60

— Generic modules for tilted algebras. *Chinese Sci. Bull.* **42** (1997), *no.* 3, 177–180. (Riccardo Colpi) **98e:16013** 16G10 (16G20, 16G60)

— Derived equivalence of algebras. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 130–136. (Dieter Happel) **98d:16016** 16G10 (18E30)

Du, Xiaoyong (*with* Liu, Zhibin[1]; Ishii, Naohiro) Speeding up string searching algorithms for nonuniform texts. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1344–1351. 68Q20

Du, Xin Guang (*with* Zong, Qun; Wang, Jiang; Tian, Shu Bao) Generalized predictive control with time-multiplied weighting. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 6, 728–734. 93B99 (93C99)

Du, Xinhua Brezis-Gallouet's inequality in higher-dimensional spaces. *Chinese Sci. Bull.* **41** (1996), *no.* 23, 1937–1942. (Petr Gurka) **98m:46044** 46E35 (26D10)

Du, Yihong (*with* Dancer, E. N.) A note on multiple solutions of some semilinear elliptic problems. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 626–640. (Xin Kang Guo) **98g:35075** 35J65 (35B32, 58E05)

— (*with* Lou, Yuan) Some uniqueness and exact multiplicity results for a predator-prey model. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 6, 2443–2475. (From the text) **98e:35164** 35Q80 (92D25)

Du, Yu Xiang (*with* Shi, Lijie; Zhao, Xiaodong) The structure of upper radius critical graphs. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 77–82. 05C75

— (*with* Du, Dong Lei; Zhang, Guo Chuan) Open shop scheduling problems with release times—the worst case analysis. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 191–196. 90B35

Du, Zhaowei Hall subgroups and π-separable groups. (English summary) *J. Algebra* **195** (1997), *no.* 2, 501–509. (David Chillag) **98h:20030** 20D20

Duan, Guang-Ren On the solution to the Sylvester matrix equation $AV + BW = EVF$. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 4, 612–614. (Vladimir B. Larin) **98f:93007** 93B40 (65F30, 93C05)

Duan, Jinqiao (*with* Bu, Charles; Gao, Hong-jun; Taboada, Mario) On a coupled Kuramoto-Sivashinsky and Ginzburg-Landau-type model for the Marangoni convection. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2465–2474. (Summary) **98c:76037** 76E15 (35Q35, 76E30, 76R10)

— (*with* Nee, Janpou) Limit set of trajectories of the coupled viscous Burgers' equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 57–61. 35Q53 (58F39)

— (*with* Gao, Hong-jun) A remark on the coupled Kuramoto-Sivashinsky and Ginzburg-Landau equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 83–90. (Summary) **98i:35150** 35Q35 (35Q55)

— (*with* Ervin, Vincent J.) Dynamics of a nonlocal Kuramoto-Sivashinsky equation. (English summary) *J. Differential Equations* **143** (1998), *no.* 2, 243–266. (Piotr Biler) **98m:35178** 35Q53 (35B10, 35B40)

Duan, Qi Hong (*with* Zhang, Wen Xiu; Nie, Zan Kan) Existence of Radon-Nikodým derivatives of closed-set-valued measures. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 571–575. (Summary) **98c:28011** 28B20 (46G10)

Duan, Qing Tang Measures of influence on the accuracy of parameter estimation for linear models with prior information. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 105–108. 62J05

Duan, Xiaoping (*with* Miao, Ying; Kageyama, Sanpei) Further constructions of nested group divisible designs. (English summary) *J. Japan Statist. Soc.* **26** (1996), *no.* 2, 231–239. (Bronisław Ceranka) **98f:05025** 05B05 (62K10)

— (*with* Kageyama, Sanpei) Some characteristic of partially balanced incomplete block designs. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 17–21. (Summary) **98d:05025** 05B05 (05E30)

— Robustness and constructions of some balanced block designs. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 1, 1–46. (Hariharan K. Iyer) **98g:62143** 62K10 (62K05)

— Some methods of constructing group divisible designs. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 15–21. (Xiao Dong Hu) **98h:05025** 05B05

Duan, Yanzheng (*with* Chen, Shutao) Block basis of sequence Orlicz spaces. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 269–271. (Summary) **98c:46036** 46B45 (46B15, 46E30)

Duan, Yi-Shi (*with* Feng, Sze-Shiang) Three-Poincaré algebra in complex general relativity. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 1, 93–100. (Summary) **98e:83046** 83C40

— (*with* Feng, Sze-Shiang) General covariant conservative angular momentum for topologically massive gravity. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 3, 343–348. (Summary) **98h:83021** 83C40 (83C99)

— (*with* Yang, Guohong; Jiang, Ying[3]) The quantization of the space-time defects in the early universe. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 565–577. (János Kánnár) **98f:83042** 83C45 (53C80, 81V17, 83D05)

Duan, Yi Wu (*with* An, Weike; Li, Siping; Hu, Xiangyue) Bifurcation of periodic orbits of electron in two-center Coulomb field. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 35–41. (Summary) **98e:81027** 81Q05 (34C23, 34C25, 81V55)

— (*with* Yuan, Jian-Min; Bao, Cheng Guang) Periodic orbits of the hydrogen molecular ion. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 497–501, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81V55

— (*with* Zhou, Guang Hui; Maofa, Fang) The explicit expressions for the phase shifts of N-soliton solution of the KdV equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 947–950. 35Q53 (35C05)

— (*with* Hai, Wenhua; Zhu, Xi Wen; Luo, Xueli; Shi, Lei[3]) Stable orbits embedded in a chaotic attractor for a trapped ion interacting with a laser field. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2991–2996. 81V80 (58F40)

Duan, Ying Quan The desirability of greater emphasis on the achievements of ancient Chinese mathematics in courses on mathematical analysis. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 4, 72–79. 01A25

Duan, Yu Rong (*with* Monti, Rodolfo; Carotenuto, Luigi; Li, Yu Guang; Tang, Ze Mei) Numerical analysis of the temperature distribution in vertical free thin films during solidification. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 457–466. 80A22

Duan, Ze Yong The decomposition of Noetherian modules over hyperfinite groups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 65–89. (Peter Pappas) **98g:20014** 20C07 (20F50)

Duan, Zhi Wen (*with* Zhou, Li[1]) Existence of boundary layer solutions for systems of semilinear equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 351–358. (Dao Qing Dai) **98b:35071** 35J65 (35B40)

— (*with* Zhou, Li[1]) The existence and stability of pointwise solutions having the boundary layer property. I. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 1, 86–91. (Lumin Jiang) **98c:35012** 35B25 (34E10, 34E15, 35J65)

— (*with* Zhou, Li[1]) The existence and stability of solutions having the boundary layer property. II. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **24** (1996), *suppl. I*, 143–146. (Lumin Jiang) **98c:35013** 35B25 (34E15, 35J65)

— (*with* Zhou, Li[1]) The blow-up property of solutions to a class of reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **9** (1996), *no.* 3, 306–310. (Chunqing Lu) **98c:35090** 35K57 (35B05)

Duane, Gregory S. Synchronized chaos in extended systems and meteorological teleconnections. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6475–6493. 86A10 (58F13, 58F40)

Duarte, C. Armando (*with* Oden, John Tinsley) An h-p adaptive method using clouds. (English summary) *Comput. Methods Appl. Mech. Engrg.* **139** (1996), *no.* 1-4, 237–262. (Michael Fröhner) **98b:73044** 73V20 (65N30, 73V05)

— (*with* Oden, John Tinsley) H-p clouds—an h-p meshless method. (English summary) *Numer. Methods Partial Differential Equations* **12** (1996), *no.* 6, 673–705. (Mark Ainsworth) **98a:65163** 65N30

Duarte, L. G. S. (*with* Cheb-Terrab, E. S.; da Mota, L. A. C. P.) Computer algebra solving of first order ODEs using symmetry methods. (English summary) *Comput. Phys. Comm.* **101** (1997), *no.* 3, 254–268. (Summary) **98a:34002** 34-04 (34A25)

— (*with* Cheb-Terrab, E. S.; da Mota, L. A. C. P.) Computer algebra solving of second order ODEs using symmetry methods. (English summary) *Comput. Phys. Comm.* **108** (1998), *no.* 1, 90–114. 65L06 (65-04)

báez-Duarte, Luis *see* **Báez-Duarte, Luis**

Dubasova, O. A. (*with* Mel'nikov, B. F.) On an extension of a class of context-free languages. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 6, 46–58; *translation in Program. Comput. Software* **21** (1995), *no.* 6, 299–306. (Summary) **98m:68144** 68Q45 (20M35)

Dubatovskaya, M. V. (*with* Rogozin, S. V.) Homogeneous characteristic equation with an infinite index in the exceptional case. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 19–23, 123. (Summary) **98h:45004** 45E05 (30E25)
— A characteristic singular equation with a minus-infinity index in the exceptional case. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 1, 53–56, 76. (Summary) **98k:45002** 45E05 (45P05, 47G10)
Dube, K. K. (*with* Chauhan, S. S.) Strongly closure semi-continuous mappings. *J. Indian Acad. Math.* **19** (1997), *no.* 2, 139–147. 54C08
Dube, O. P. (*with* Prasad, C. M.) Affinely connected Ricci-recurrent and recurrent Finsler spaces admitting projective transformation. (English summary) *J. Nat. Acad. Math. India* **9** (1991), *no.* 1, 22–29. 53B40
— (*with* Prasad, C. M.) Recurrent Finsler spaces with rectilinear extremals. *J. Nat. Acad. Math. India* **10** (1992/96), 136–143 (1997). (Tadashi Aikou) **98m:53032** 53B40
Dube, P. P. (*with* Gupta, Swapna) Origin of certain generating functions of $L_n^\alpha(x)$ from the view point of Lie algebra. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 135–140. 33C80 (33C45)
Dube, Simant (*with* Culik, Karel, II) Implementing Daubechies wavelet transform with weighted finite automata. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 347–366. (Summary) **98k:68117** 68Q68 (68U10)
Dubeau, François (*with* Savoie, Jean) On interlacing properties of the roots of orthogonal and Euler-Frobenius polynomials. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 185–191, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41001** 41A10 (33C45, 42C05)
— (*with* Savoie, Jean) On optimal error bounds for spline interpolation on a uniform partition. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 485–490, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A15
— Algorithms for n-th root approximation. (English and German summaries) *Computing* **57** (1996), *no.* 4, 365–369. (Summary) **98j:65033** 65H05
— (*with* Motta, Walter; Rachidi, Mustapha; Saeki, Osamu) On weighted r-generalized Fibonacci sequences. *Fibonacci Quart.* **35** (1997), *no.* 2, 102–110. (Neville Robbins) **98b:11011** 11B39
— (*with* Savoie, Jean) Best error bounds for odd and even degree deficient splines. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1167–1184. (Dietrich Braess) **98d:41009** 41A15 (41A44)
— (*with* Delfour, Michel C.) Fixed mesh approximation of ordinary differential equations with impulses. (English and French summaries) *Numer. Math.* **78** (1998), *no.* 3, 377–401. (Summary) **98j:65052** 65L50 (34A37, 34A45)
Dubejko, Tomasz Circle packings in the unit disc. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 1, 29–50. (Frédéric Mathéus) **98e:52019** 52C15 (30C62, 30D50, 30G25)
— Approximation of analytic functions with prescribed boundary conditions by circle-packing maps. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 1, 67–77. (Peter Boyadjiev) **98e:30042** 30E10 (52A15)
— Recurrent random walks, Liouville's theorem and circle packings. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 531–546. (Frédéric Mathéus) **98b:52022** 52C15 (05B40, 30C80, 60J15)
Dubey, B. *see* **Dubey, Balram**
Dubey, B. N. Some common fixed point theorems in normed linear space. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 4, 444–450. (Mo Tak Kiang) **98h:47074** 47H10
— (*with* Sharma, Reeta; Tiwari, R. N.; Shrivastava, G. P.) Fixed point theorem in a semi-Hausdorff space. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 181–188. 54H25
Dubey, Balram A resource based competition model: effect of population. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 11–32. (From the introduction) **98h:92045** 92D40
— (*with* Das, Biren) Models for migrating populations in a forested grassland. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 97–104. (Summary) **98h:92046** 92D40
— Modelling the effect of toxicant on forestry resources. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 1–12. (Summary) **98h:92047** 92D40 (90A30)
— (*with* Shukla, J. B.) Modelling the depletion and conservation of forestry resources: effects of population and pollution. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 71–94. (Summary) **98j:92021** 92D40
Dubey, Pradeep (*with* Neyman, Abraham) An equivalence principle for perfectly competitive economies. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 314–344. (Gerhard Sorger) **98d:90036** 90A14
Dubhashi, Devdatt (*with* Panconesi, Alessandro) Near-optimal distributed edge coloring. (English summary) *Algorithms—ESA '95 (Corfu)*, 448–459, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Summary) **98e:68201** 68R10 (05C15, 05C85, 68Q25)
— Simple proofs of occupancy tail bounds. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 119–123. 60C05
— (*with* Chaudhuri, Shiva P.) Probabilistic recurrence relations revisited. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 45–56. (Summary) **98d:68098** 68Q25 (60E15)
Dubickas, A. On the maximal product of distances between points on a sphere. (English and Lithuanian summaries) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 303–312; *reprinted in Lithuanian Math. J.* **36** (1996), *no.* 3, 241–248 (1997). (W. Moser) **98e:52015** 52C10 (52A40)
— On the maximal conjugate of a totally real algebraic integer. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 1, 18–25; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 1, 13–19. (D. Boyd) **98e:11124** 11R06
— The maximal conjugate of a non-reciprocal algebraic integer. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 168–174; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 2, 129–133 (1998). (D. Boyd) **98j:11083** 11R06
Dubin, D. A. (*with* Hennings, M. A.; Smith, T. B.) Asymptotics for the Weyl quantized phase. (English summary) *J. Phys. A* **28** (1995), *no.* 23, 6779–6807. (Summary) **98i:81069** 81Q99 (81R30)
— (*with* Hennings, M. A.; Smith, T. B.) Approximations to the quantum phase operator. (English summary) *J. Phys. A* **28** (1995), *no.* 23, 6809–6856. (Summary) **98i:81070** 81Q99
— (*with* Hennings, M. A.; Solomon, A. I.) Integrable representations of the ultra-commutation relations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3238–3262. (Władysław Adam Majewski) **98e:81084** 81S05
Dubiner, Moshe (*with* Zwick, Uri) Amplification by read-once formulas. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 15–38. (Summary) **98g:94051** 94C10 (68Q05)
Dubinin, V. V. Cubature formulas for Besov classes. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 27–52; *translation in Izv. Math.* **61** (1997), *no.* 2, 259–283. (Summary) **98f:41027** 41A55 (65D32)
Dubinskiĭ, Yu. A. On analytic multipoint problems in the plane. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 5, 585–590, 716; *translation in Differential Equations* **32** (1996), *no.* 5, 588–593. (Shlomo Strelitz) **98d:34003** 34A20 (34B10)
— On the conformal equivalence of multipoint problems. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 156–158. (From the text) **98b:34036** 34B10 (34A20)
— On analytic "boundary value" problems in the plane. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 53–104; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 501–550. (Boris E. Kats) **98k:30055** 30E25 (34A20, 34B05)
Dubner, Harvey (*with* Nelson, Harry) Seven consecutive primes in arithmetic progression. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1743–1749. (Hiroshi Mikawa) **98a:11122** 11N13 (11Y35)
Dubnov, D. V. On basis algebras of finite homological dimension. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 15–17, 62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 14–17. 16G10 (16E10)
Dubois, Didier (*with* Prade, Henri) Conditional objects, possibility theory and default rules. (English summary) *Conditionals: from philosophy to computer science*, 301–336, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B70 (03B45, 03B48, 68T27, 68T30)
— (*with* Benferhat, Salem; Prade, Henri) A local approach to reasoning under inconsistency in stratified knowledge bases. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 36–43, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98d:68184** 68T27 (03B70)
— (*with* Dupin de Saint-Cyr, F.; Prade, Henri) Update postulates without inertia. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 162–170, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B70 (68T27)
— (*with* Esteva, F.; Garcia-Calvés, Pere; Godo, Lluis; Prade, Henri) Similarity-based consequence relations. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 171–179, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B52 (68T27)
— (*with* Benferhat, Salem; Prade, Henri) Possibilistic and standard probabilistic semantics of conditional knowledge. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997)*, 70–75, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T27 (03B48)
— (*with* Benferhat, Salem; Prade, Henri) Nonmonotonic reasoning, conditional objects and possibility theory. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 259–276. (Summary) **98a:68165** 68T27 (03B60, 03B70, 68T30)
— (*with* Prade, Henri) The three semantics of fuzzy sets. (English summary) Fuzzy sets: Where do we stand? Where do we go? (São Paulo, 1995). *Fuzzy Sets and Systems* **90** (1997), *no.* 2, 141–150. (Summary) **98h:04004** 04A72
— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 127–131. 00A15 (04A72)
— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 409–413. 00A15 (04A72)
— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 129–135. 00A15 (04A72)
— (*with* Prade, Henri) Bayesian conditioning in possibility theory. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 223–240. (Summary) **98g:28031** 28E10 (62A15)
— (*with* Prade, Henri) A synthetic view of belief revision with uncertain inputs in the framework of possibility theory. 1996 Uncertainty in AI (UAI '96) Conference. *Internat. J. Approx. Reason.* **17** (1997), *no.* 2-3, 295–324. (Summary) **98c:03072** 03B70 (03B45, 03B48, 68T27)
— (*with* Moral, Serafín; Prade, Henri) A semantics for possibility theory based on likelihoods. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 359–380. (Krassimir Atanassov) **98a:03085** 03E72
— (*with* Bosc, Patrick; Pivert, Olivier; Prade, Henri) Flexible queries in relational databases—the example of the division operator. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 281–302. (Summary) **98g:68030** 68P15 (04A72)
— *see also* **Fuzzy sets: Where do we stand? Where do we go?**, **98f:00024**
Dubois, O. (*with* Boufkhad, Y.) A general upper bound for the satisfiability threshold of random r-SAT formulae. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 395–420. (Summary) **98e:68103** 68Q25
Dubois-Violette, Michel (*with* Kerner, Richard) Universal q-differential calculus and q-analog of homological algebra. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 175–188. (Kevin P. Knudson) **98h:16012** 16E40 (81R50)
— Generalized differential spaces with $d^N = 0$ and the q-differential calculus. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1227–1233. (Andreas Cap) **98g:18016** 18G60 (18G30, 18G35, 58B30, 81R50)
— (*with* Masson, Thierry) Basic cohomology of associative algebras. (English summary) *J. Pure Appl. Algebra* **114** (1996), *no.* 1, 39–50. (C. Năstăsescu) **98a:16010** 16E40
— Some aspects of noncommutative differential geometry. (English summary) *Geometry and nature (Madeira, 1995)*, 145–157, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Jacek Brodzki) **98c:58007** 58B30 (46L87)
— (*with* Kerner, Richard) Universal Z_N-graded differential calculus. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 235–246. (Ludwig Pittner) **98j:58012** 58B30 (16E99)

— (*with* Madore, John; Kerner, Richard) Shadow of noncommutativity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 730–738. (Florian Scheck) **98m:58007** 58B30 (81R50)

Dubov, Yu. A. (*with* Shvetsov, V. I.) Generalized models of competing opportunities. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 11–26. 90D40 (90A14, 90D10)

Dubovikov, M. S. (*with* Canuto, V. M.) A new theory for fully developed turbulence. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 91–96, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 76F99

— (*with* Canuto, V. M.; Dienstfrey, A.) A dynamical model for turbulence. IV. Buoyancy-driven flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2118–2131. (Summary) **98d:76084** 76F99 (76R10)

— (*with* Canuto, V. M.) A dynamical model for turbulence. V. The effect of rotation. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2132–2140. (Summary) **98d:76085** 76F99 (76U05)

— (*with* Canuto, V. M.; Wielaard, D. J.) A dynamical model for turbulence. VI. Two-dimensional turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2141–2147. (Summary) **98d:76086** 76F99

Dubovol, V. K. (*with* Livšic, Moshe S.; Arov, Damir Zyamovich; Sakhnovich, Lev Aronovich; Nudelman, Adolf Abramovich; Katsnelson, Victor Emanuelovich) Vladimir Petrovich Potapov as remembered by colleagues, friends and former students. *Topics in interpolation theory (Leipzig, 1994)*, 1–18, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 01A70 (47–03)

— The indefinite metric in the Schur interpolation problem for analytic functions. IV [MR 86c:47008]. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 93–104, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 47A57 (30E05, 47B50)

— (*with* Boĭko, S. S.) Unitary couplings and regular factorizations of operator functions in L^∞. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 41–44. (Dmitriy S. Kalyuzhniy) **98k:47016** 47A40 (47A15, 47A45, 47A56)

— (*with* Boĭko, S. S.) On some extremal problem connected with the suboperator of the scattering through inner channels of the system. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 7–11. (J. Rovnyak) **98m:47009** 47A40 (47A45, 47A57)

— (*with* Boĭko, S. S.; Kirstein, Bernd; Fritzsche, Bernd) Contraction operators, defect functions, and scattering theory. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 481–489; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 529–538 (1998). (Dmitriy S. Kalyuzhniy) **98j:47020** 47A48 (47A40, 47A56)

Dubovskiĭ, Pavel B. A uniqueness theorem for a Boltzmann equation arising in coagulation-fragmentation dynamics. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 69–73, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 45K05 (82C40)

— Existence theorem for spatially inhomogeneous Boltzmann equation from the coagulation-fragmentation dynamics. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 77–80, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q99 (45K05, 82C40)

Dubovskiĭ, S. V. The Kondrat′ev cycle as an object of modeling. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 6, 65–74. 90A14 (90A16)

Dubrovin, B. A. Functionals of the Peierls-Fröhlich type and the variational principle for the Whitham equations. *Solitons, geometry, and topology: on the crossroad*, 35–44, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Iskander A. Taimanov) **98a:58084** 58F07 (14H99, 35Q53, 58E30)

— (*with* Flickinger, Ron; Segur, Harvey) Three-phase solutions of the Kadomtsev-Petviashvili equation. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 2, 137–203. (Manuel Mañas) **98m:35179** 35Q53 (58F07)

— (*with* Zhang, Youjin) Extended affine Weyl groups and Frobenius manifolds. (English summary) *Compositio Math.* **111** (1998), *no.* 2, 167–219. (Lowell Abrams) **98k:32048** 32M10 (14B07, 17B20)

Dubrovin, N. I. (*with* Dubrovina, T. V.) Cones in groups. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 7, 59–74; *translation in Sb. Math.* **187** (1996), *no.* 7, 1005–1019. (From the text) **98c:20082** 20F99

Dubrovina, T. V. (*with* Dubrovin, N. I.) Cones in groups. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 7, 59–74; *translation in Sb. Math.* **187** (1996), *no.* 7, 1005–1019. (From the text) **98c:20082** 20F99

Dubrovskiĭ, G. V. (*with* Kuz′menko, A. V.; Markov, Yu. G.) The approximation of a three-dimensional lattice gas for multilayer adsorption. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 130–148; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1291–1306 (1996). 82B20 (82B24)

Dubrovskiĭ, V. A. Convectively unstable motions in the Earth's deep interior. (Russian) *Fiz. Zemli* **1995**, *no.* 9, 84–92. 86A17

— On the relation between vortices and deformations in hydrodynamic flows. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 36–38; *translation in Phys. Dokl.* **42** (1997), *no.* 9, 464–466. (Murad Brutyan) **98m:76034** 76C05

Dubrovskiĭ, V. G. The application of the $\overline{\partial}$-dressing method to some integrable $(2+1)$-dimensional nonlinear equations. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 94–103, *World Sci. Publishing, River Edge, NJ*, 1996. (F. Pempinelli) **98g:58074** 58F07 (35Q58, 58F37)

Dubrovskiĭ, V. V. Estimation of the difference of spectral functions with brackets on a diagonal for selfadjoint elliptic pseudodifferential operators in l_q for $1 \le q \le 2$. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 452–453. (Viorel Iftimie) **98h:47068** 47G30 (35P05, 35S05)

— (*with* Sadovnichiĭ, V. A.[1]) Formula for the first regularized trace for the Laplace-Beltrami operator with a potential. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2035–2051. (Friedbert Prüfer) **98f:58196** 58G25 (35P20, 47F05, 58G18)

— Regularized trace for a power of the Laplace operator with potential on the square. (Russian) *Mat. Zametki* **60** (1996), *no.* 1, 136–138; *translation in Math. Notes* **60** (1996), *no.* 1-2, 103–105 (1997). (Kamoliddin Kh. Boimatov) **98i:47045** 47F05 (35J05, 35P20, 47B25)

— A uniqueness theorem for the solution of inverse problems in spectral analysis. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 421–422, 432; *translation in Differential Equations* **33** (1997), *no.* 3, 423–425. 35R30 (35J05, 35P25, 47F05)

— On an inequality in inverse problems of spectral analysis. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 843–844, 864; *translation in Differential Equations* **33** (1997), *no.* 6, 847–848 (1998). 35P05 (35J25, 35R30, 47F05)

— (*with* Sedov, A. I.) Asymptotics of the eigenvalues of a singular differential operator of Jacobi type. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 3, 295–299. (Boris Skachek) **98k:34137** 34L20 (33C90, 34B30)

— Asymptotics of the eigenvalues of a singular differential operator of Gegenbauer type. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 24–28, 140. (From the text) **98j:34170** 34L40 (33C99, 34B30)

Dubrovsky, V. G. *see* **Dubrovskiĭ, V. G.**

Dubrulle, Bérengère (*with* Nazarenko, S. V.) Interaction of turbulence and large-scale vortices in incompressible 2D fluids. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 123–138. (Summary) **98j:76072** 76F99 (76C05)

Dubtsov, E. S. Approximation on the sphere by Besov analytic functions. (English summary) *Studia Math.* **124** (1997), *no.* 2, 179–192. (J. Siciak) **98c:32008** 32A40 (46E15)

— Corrected outer functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 515–522. (M. Hasumi) **98k:30048** 30D50 (30D55, 46E15, 46J15)

Dubuc, L. Les automates circulaires biaisés vérifient la conjecture de Černý. (English and French summaries) [Biased circular automata satisfy Černý's conjecture] *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 6, 495–505. (Summary) **98b:68134** 68Q70 (20M35, 68Q45)

Dubuc, S. (*with* Ayari, S.) La formule de Cauchy sur la longueur d'une courbe. (English and French summaries) [The Cauchy formula for the length of a curve] *Canad. Math. Bull.* **40** (1997), *no.* 1, 3–9. (J. E. Brothers) **98d:52006** 52A22

Dubucs, Jacques Logique, effectivité et faisabilité. (English summary) [Logic, effectivity and feasibility] Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 45–68. (Maurice Margenstern) **98j:03085** 03F50 (03A05)

ho ngoc Duc *see* **Ho Ngoc Duc**

Duc, Dinh Thanh (*with* Vũ Kim Tuấn) On a class of multidimensional Watson integral transforms. (English summary) *Integral Transform. Spec. Funct.* **1** (1993), *no.* 4, 301–312. (C. M. Joshi) **98e:44002** 44A15

Duc, Gilles (*with* Friang, Jean-Patrick; Bonnet, Jean-Paul) Robust autopilot for a flexible missile: loop-shaping H_∞ design and real ν-analysis. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 129–153. (Summary) **98m:93083** 93C95 (93B36)

Duc, Ho Ngoc *see* **Ho Ngoc Duc**

Duca, Dorel I. (*with* Duca, Eugenia; Lupşa, Liana) On the balanced and nonbalanced vector optimization problems. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 103–107. 90C29

— (*with* Lupşa, Liana; Duca, Eugenia) Equivalence classes in the set of efficient solutions. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 127–136. 90C29

— (*with* Duca, Eugenia; Lupşa, Liana) Sequences of multicriteria optimization problems. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 251–254, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 90C29 (90C31)

Duca, Eugenia (*with* Duca, Dorel I.; Lupşa, Liana) On the balanced and nonbalanced vector optimization problems. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 103–107. 90C29

— (*with* Lupşa, Liana; Duca, Dorel I.) Equivalence classes in the set of efficient solutions. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 127–136. 90C29

— (*with* Duca, Dorel I.; Lupşa, Liana) Sequences of multicriteria optimization problems. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 251–254, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 90C29 (90C31)

Ducati, G. C. (*with* de Oliveira, E. Capelas) On the generalized d'Alembert wave equation. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 371–375. 35L05 (35C05)

Ianchon-Ducauquis, H. *see* **Lanchon-Ducauquis, H.**

pham Duc Chinh *see* **Pham Duc Chinh**

Duceau, Eric (*with* Alestra, Stephane) An inverse time domain problem for a stratified, biperiodic and 2D medium using an optimization method. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 354–366, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 65M30 (78A45)

Duch, Włodzisław (*with* Jankowski, Norbert) New neural transfer functions. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 639–658. 92B20 (68T05)

trương xuân Đức Hà *see* **Trương Xuân Đức Hà**

Duchamp, Gérard (*with* Krob, Daniel) Combinatorics in trace monoids. II. *The book of traces*, 83–129, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68R15 (20M05, 68Q10, 68Q45)

— (*with* Kim, Sungsoon) Intertwining spaces associated with q-analogues of the Young symmetrizers in the Hecke algebra. (English and French summaries) *Parameter spaces (Warsaw, 1994)*, 61–70, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Richard M. Green) **98g:20025** 20C30 (05E10)

Duchamp, Tom (*with* Stuetzle, Werner) Geometric properties of principal curves in the plane. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 135–152, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98k:62105** 62H25 (62G99)

Ducharme, Gilles R. (*with* Boulerice, Bernard) Smooth tests of goodness-of-fit for directional and axial data. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 154–175. (Michael James Prentice) **98f:62161** 62H11

virotte Ducharme, M.-M. *see* **Virotte Ducharme, M.-M.**

DuChateau, Paul C. (*with* Cannon, John R.) An inverse problem for nonlinear source terms. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 101–116. (Summary) **98c:35165** 35R30 (35K60)

— An inverse problem for the hydraulic properties of porous media. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 611–632. (Hamid Bellout) **98c:76102** 76S05 (35K99, 35R30)

Du Châtelet, Marquise *see* **du Châtelet, Marquise**

Duchêne, Bernard (*with* Kleinman, Ralph E.; van den Berg, Peter M.; Lesselier, Dominique) Location and reconstruction of objects using a modified gradient approach. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 143–158, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (65J20)

Duchesne, Thierry (*with* Rioux, Jacques; Luong, Andrew) Minimum Cramér-von Mises distance methods for complete and grouped data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 401–420. (Jian-Lun Xu) **98e:62044** 62F15 (62F35)

Duchoň, Miloslav Generalized Herglotz theorem in vector lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 531–540. (M. K. Nayak) **98m:28021** 28B10 (42A82, 47B38, 47B60)

— (*with* Riečan, Beloslav) Generalized moment problem in vector lattices. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 53–61. (Serguey A. Malyugin) **98g:44003** 44A60 (46A40)

— (*with* Riečan, Beloslav) On the Kurzweil-Stieltjes integral in ordered spaces. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 133–141. (Ralph Henstock) **98m:26004** 26A39 (28B15)

— (*with* Dvurečenskij, Anatolij; de Lucia, Paolo) Moment problem for effect algebras. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1941–1958. (D. J. Foulis) **98k:81019** 81P10 (03G12)

— (*with* Debiève, Camille; Riečan, Beloslav) Moment problem in some ordered vector spaces. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 247–251. (Summary) **98k:28032** 28E10 (44A60)

— (*with* Kolesárová, Anna) Fourier transforms of complex measures on some compact semigroups. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 253–260. (Summary) **98k:28033** 28E10

Duck, Peter W. Solutions of the inviscid triple-deck equations. (English summary) *Transitional boundary layers in aeronautics* (*Amsterdam*, 1995), 349–360, *Konink. Nederl. Akad. Wetensch. Verh. Afd. Natuurk. Eerste Reeks*, 46, *North-Holland, Amsterdam*, 1996. (*see* **98k:76003**) 76D10 (76E99)

— (*with* Foster, M. R.; Hewitt, Richard E.) On the boundary layer arising in the spin-up of a stratified fluid in a container with sloping walls. (English summary) *J. Fluid Mech.* **335** (1997), 233–259. (Murad Brutyan) **98d:76161** 76V05 (76D10, 76U05)

— (*with* Dhanak, Manhar R.) The effects of freestream pressure gradient on a corner boundary layer. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1793–1815. (Summary) **98i:76024** 76D10

Duckstein, Lucien (*with* Michalland, B.; Parent, E.) Bi-objective dynamic programming for trading off hydropower and irrigation. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 1, 53–76. 90C90 (90C39)

— (*with* Özelkan, Ertunga C.; Galambosi, Ágnes; Bárdossy, András) A multi-objective fuzzy classification of large scale atmospheric circulation patterns for precipitation modeling. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 127–142. 86A10

Duclos, Jean-Yves (*with* Davidson, Russell) Statistical inference for the measurement of the incidence of taxes and transfers. *Econometrica* **65** (1997), *no.* 6, 1453–1465. 90A70 (62P20)

Duclos, Pierre[1] (*with* Asch, Joachim; Exner, Pavel) Stark-Wannier Hamiltonians with pure point spectrum. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 10–25, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Mihai Pascu) **98f:81066** 81Q10 (34L40, 47F05, 47N50)

— (*with* Šťovíček, Pavel; Vittot, M.) Perturbation of an eigenvalue from a dense point spectrum: an example. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7167–7185. (Peter N. Zhevandrov) **98k:81056** 81Q15 (47N50)

Du Cloux, Fokko *see* **du Cloux, Fokko**

Ducomet, B. Global existence for two laser models. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 363–384. (Apostolos Vourdas) **98f:81393** 81V80 (35Q99)

— On the stability of a stellar structure in one dimension. II. The reactive case. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 381–407. (John Adam) **98h:85003** 85A15 (35R35, 76N15, 85A20, 85A25)

vu Duc Thi *see* **Vu Duc Thi**

dang Duc Trong *see* **Dang Duc Trong**

trần Đứ'c Vân *see* **Trần Đứ'c Vân**

Duda, F. P. (*with* Martins, L. C.) Constrained elastic bodies and universal solutions in the class of plane deformations with uniform transverse stretch. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 91–106. (Summary) **98i:73025** 73G05

Duda, Jaromír (*with* Chajda, Ivan) Compact universal relation in varieties with constants. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 173–178. (James G. Raftery) **98c:08004** 08A30 (08B05)

Duda, U. Ya. (*with* Minchenko, L. I.) On optimality conditions for differential-difference inclusions. (English summary) *J. Electrotech. Math.* **1996**, *no.* 1, 75–79. (Maria do Rosário de Pinho) **98e:49060** 49K24 (34A60, 34K35)

Duda, Yurko (*with* Vakarin, Eduard; Golovko, M. F.) Continuum percolation of the four-bonding-site associating fluids. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1333–1352. (Summary) **98i:82029** 82B43

Duda, Z. Numerical solutions to bilinear models arising in cancer chemotherapy. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 53–72. (Michael E. Fisher) **98b:92006** 92C50 (34H05, 49N55)

Dudakov, Sergey M. The concurrency complexity for the Horn fragment of linear logic. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 78–87, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68Q25 (03D15, 03F50)

Dudas, Emilian (*with* Mourad, Jihad) On the strongly coupled heterotic string. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 71–79. (Summary) **98a:81164** 81T30

— Supersymmetry breaking in the effective Horava-Witten supergravity and quantization rules. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 309–318. (Summary) **98k:81207** 81T30 (83E30, 83E50)

Dudás, Tibor (*with* Burkard, Rainer E.; Çela, Eranda) A communication assignment problem on trees: heuristics and asymptotic behavior. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 127–155, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **98m:90113** 90C27 (90C31)

— (*with* Klinz, Bettina; Woeginger, Gerhard J.) The computational complexity of Steiner tree problems in graded matrices. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 35–39. 90C35 (68Q25, 90C60)

— (*with* Klinz, Bettina; Woeginger, Gerhard J.) The computational complexity of multi-level bottleneck programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 165–179, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C27 (90C60)

Duddeck, F. M. E. Fourier transform in bounded domains. (English and Italian summaries) Transform methods in solid mechanics (Munich, 1996). *Meccanica* **32** (1997), *no.* 3, 197–204. (*see* **98h:73004**) 46N99 (46F10, 65T99, 73V05, 73V20)

Dudek, Ewa *see* **Dudek-Dyduch, Ewa**

Dudek, Wiesław A. On distributive *n*-ary groups. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 132–151. 20N15

— A computer method of computations of BCK and BCI-algebras of small orders. (English summary) *PRIM '96* (*Budva*), 41–64, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 06F35 (03G25)

Dudek-Dyduch, Ewa (*with* Holly, Konstanty) The jump of the Laplacian on a submanifold. (English summary) *Math. Nachr.* **188** (1997), 69–78. (V. S. Rabinovich) **98k:58230** 58G25 (35J05, 58C35)

Dudenhöffer, Eva-Maria (*with* Nickel, Stefan) Weber's problem with attraction and repulsion under polyhedral gauges. (English summary) *J. Global Optim.* **11** (1997), *no.* 4, 409–432. (Summary) **98j:90034** 90B80 (90C90)

Dudewicz, E. J. (*with* Beirlant, Jan; Györfi, László; van der Meulen, Edward C.) Nonparametric entropy estimation: an overview. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 17–39. (Summary) **98d:62006** 62B10 (62G05)

Dudin, A. N. (*with* Klimenok, V. I.) Calculation of the characteristics of a single-server system functioning in a synchronous Markovian random environment. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 74–84; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 1, 58–66. (Summary) **98d:60176** 60K25 (90B22)

Dudkiewicz, Jadwiga (*with* Chrapek, M.; Dziubdziela, W.) On the limit distributions of kth order statistics for semi-Pareto processes. (English summary) *Appl. Math.* (*Warsaw*) **24** (1996), *no.* 2, 189–193. (Barry C. Arnold) **98f:60096** 60G70 (60F05, 62G30)

— Asymptotic of extremes of moving minima in arrays of independent random variables. *Demonstratio Math.* **29** (1996), *no.* 4, 715–721. (William P. McCormick) **98f:60097** 60G70 (60F05)

Dudley, R. M. (*with* Koltchinskii, Vladimir I.) Envelope moment conditions and Donsker classes. (English summary) *Theory Probab. Math. Statist. No.* 51 (1995), 39–48 (1996). (Summary) **98c:60037** 60F17 (60G50)

— Empirical processes and p-variation. (English summary) *Festschrift for Lucien Le Cam*, 219–233, *Springer, New York*, 1997. (Barbara H. Szyszkowicz) **98k:60045** 60F17 (62G10)

Dudley, Underwood ★ Numerology. (English summary) Or, what Pythagoras wrought. MAA Spectrum. *Mathematical Association of America, Washington, DC*, 1997. viii+316 *pp. ISBN* 0-88385-524-0 (E. J. Barbeau) **98g:00014** 00A99

— Is mathematics necessary? *College Math. J.* **28** (1997), *no.* 5, 360–364. 01A99 (00A35)

Dudnikov, E. E. (*with* Rybashov, M. V.) Neural networks with nonlinear feedback. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 64–73; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 935–943. (Summary) **98e:93065** 93C83 (92B20, 93D09)

Dudov, S. I. Penot's subdifferential formula for the distance function. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 46–47. (V. F. Dem'yanov) **98j:49023** 49J52

— On the fixed tolerance problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 937–944. (Summary) **98f:65069** 65K99 (65D99)

Duduchava, R. (*with* Saginashvili, A.; Shargorodskiĭ, E. M.) On two-dimensional singular integral operators with conformal Carleman shift. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 263–279. (I. Spitkovsky) **98d:47105** 47G10 (45E05, 45P05, 47B38)

Dudziński, Piotr Topological invariants of germs of real analytic functions. *Glasgow Math. J.* **39** (1997), *no.* 1, 85–89. (Maria Aparecida Soares Ruas) **98b:32031** 32S05 (32S55, 58C27)

Dudzyanik, S. Ĭ. (*with* Perestyuk, N. A.) On the stability of an invariant torus. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 9, 1213–1222. (Ya. S. Baris) **98j:34083** 34C30 (34D20, 34D35, 58F27)

Duenyas, Izak (*with* Neale, John J.) Stochastic scheduling of a batch processing machine with incompatible job families. (English summary) *Ann. Oper. Res.* **70** (1997), 191–220. (Yannis A. Phillis) **98g:90020** 90B35 (90B22, 93E20)

Duff, Iain S. (*with* Cardenal, Jesús; Jiménez, José M.) Solution of sparse quasi-square rectangular systems by Gaussian elimination. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 165–177. (Summary) **98m:65077** 65F50 (65F05)

— (*with* Cliffe, K. A.; Scott, Jennifer A.) Performance issues for frontal schemes on a cache-based high-performance computer. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 127–143. 65–04 (65F99)

— *see also* **Direct methods, linear algebra in optimization, iterative methods, 98f:65005**

Duff, M. J. M theory (the theory formerly known as strings). (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 32, 5623–5641. (Angel Maria Uranga) **98e:81137** 81T30 (83E30, 83E50)

— Electric/magnetic duality and its stringy origins. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 723–745. (Editors) **98g:81205** 81T60 (81T30, 83E30)

— Supermembranes. *Fields, strings and duality* (*Boulder, CO*, 1996), 219–289, *World Sci. Publishing, River Edge, NJ*, 1997. (Gerardo Marcelo Aldazabal) **98h:81092** 81T30 (83E30)

— Ten to eleven: it is not too late. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 314–317. (Summary) **98j:83095** 83E30 (81T30, 81V22)

— (*with* Lu, Hong[1]; Pope, C. N.) Supersymmetry without supersymmetry. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 136–144. (Summary) **98k:81208** 81T30 (53C80, 81T60, 83E30)

le Duff, Pierre *see* **Le Duff, Pierre**

le Duff, Y. *see* **Le Duff, Y.**
grant-Duff, Zully N. *see* **Grant-Duff, Zully N.**
Duffie, Darrell (*with* Fleming, Wendell; Soner, Halil Mete; Zariphopoulou, Thaleia) Hedging in incomplete markets with HARA utility. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 753–782. (Summary) **98b:90030** 90A16 (49L20)
Duffield, N. G. (*with* Kel'bert, M. Ya.; Sukhov, Yu. M.) A branching diffusion approximation for a class of queueing networks. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 201–220, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:60186** 60K25 (60J60)
– Economies of scale in queues with sources having power-law large deviation scalings. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 840–857. (Tim Zajic) **98d:60177** 60K25 (60F10, 60G18)
– (*with* Whitt, Ward) Control and recovery from rare congestion events in a large multi-server system. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 69–104. (Summary) **98f:60188** 60K25
– Exponents for the tails of distributions in some polling models. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 105–119. (Summary) **98f:60187** 60K25 (90B22)
Duffin, Richard J. *see* **Dedicated to the memory of Richard J. Duffin**
Düffner, M. Antónia (*with* Coelho, M. Purificação) Linear preservers of immanants on symmetric matrices. (English summary) *Linear Algebra Appl.* **255** (1997), 315–334. (Jacques Dubois) **98a:15009** 15A15
– A note on singular matrices satisfying certain polynomial identities. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 3, 213–219. (Summary) **98g:15005** 15A15
– (*with* Coelho, M. Purificação) Nonvanishing conjugacy classes for an irreducible character of S_n. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 441–447. (Summary) **98i:20013** 20C30
Duffus, D. (*with* Goddard, T.) The complexity of the fixed point property. (English summary) *Order* **13** (1996), *no.* 3, 209–218. (Christoph Meinel) **98h:06006** 06A07 (03D15, 04A05, 68Q25)
Duffy, B. R. (*with* Wilson, S. K.) On lubrication with comparable viscous and inertia forces. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 215–219, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 76D08
– (*with* Wilson, S. K.) A third-order differential equation arising in thin-film flows and relevant to Tanner's law. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 63–68. (Summary) **98a:76026** 76D45
– (*with* Parkes, E. J.) Travelling solitary wave solutions to a compound KdV-Burgers equation. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 217–220. (Summary) **98b:35164** 35Q53 (35C05)
– (*with* Wilson, S. K.) On lubrication with comparable viscous and inertia forces. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 105–124. (Summary) **98k:76033** 76D08
Duffy, John (*with* Bullard, James) A model of learning and emulation with artificial adaptive agents. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 179–207. 90A60 (90A16)
Duflo, Marie ★ Random iterative models. (English summary) Translated from the 1990 French original by Stephen S. Wilson and revised by the author. Applications of Mathematics, 34. *Springer-Verlag, Berlin*, 1997. xviii+385 *pp. ISBN* 3-540-57100-0 (Editors) **98m:62239** 62M10 (60J10, 62L20, 68T05)
Duflo, Michel Opérateurs transversalement elliptiques et formes différentielles équivariantes (d'après N. Berline et M. Vergne). (French summary) [Transversely elliptic operators and equivariant differential forms (after N. Berline and M. Vergne)] Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 791, 3, 29–45. (Alexander Fel'shtyn) **98d:58171** 58G10
Duflos, E. (*with* Borne, P.; Penel, P.; Vanheeghe, P.) Towards a new approach to model guidance laws. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 41–54, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (Yurii Ulybyshew) **98i:70020** 70Q05 (93C15)
Dufour, F. (*with* Bernard, F.; Bertrand, Pierre) On the JLQ problem with uncertainty. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 869–872. (Summary) **98d:93060** 93C42 (93B40, 93D09)
Dufour, Jean-Marie (*with* Campbell, Bryan) Exact nonparametric tests of orthogonality and random walk in the presence of a drift parameter. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 1, 151–173. (Jean Diebolt) **98f:62128** 62G10 (62P20)
– (*with* Kiviet, Jan F.) Exact tests in single equation autoregressive distributed lag models. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 325–353. 62P20 (62M10)
– (*with* Kiviet, Jan F.) Exact inference methods for first-order autoregressive distributed lag models. (English summary) *Econometrica* **66** (1998), *no.* 1, 79–104. (Summary) **98m:62240** 62M10 (62P20)
Dufour, Romuald Homogénéisation de problèmes quasilinéaires pour des milieux multistratifiés. (English and French summaries) [Homogenization of some quasilinear problems for multistratified media] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 12, 1225–1230. (Gérard Michaille) **98d:35019** 35B27 (35J25)
Dufourd, Jean-François (*with* Mathis, Pascal; Schreck, Pascal) Geometric construction by assembling solved subfigures. (English summary) *Artificial Intelligence* **99** (1998), *no.* 1, 73–119. (Summary) **98m:68273** 68U05
Dufresne, François (*with* Niederhauser, Eric) Some analytical approximations of stop-loss premiums. (English, French and German summaries) *Schweiz. Aktuarver. Mitt.* **1997**, *no.* 1, 25–47. 62P05
Dufty, James W. (*with* Brey, J. Javier; Santos, Andrés) Dissipative dynamics for hard spheres. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1051–1066. (Summary) **98g:82045** 82C70 (82C80)
Dufwenberg, Martin Some relationships between evolutionary stability criteria in games. (English summary) *Econom. Lett.* **57** (1997), *no.* 1, 45–50. 90D10 (90D05)
Dugas, Manfred (*with* Göbel, Rüdiger) Applications of abelian groups and model theory to algebraic structures. *Infinite groups* 1994 (*Ravello*), 41–62, *de Gruyter, Berlin*, 1996. (Fred Richman) **98m:20030** 20E22 (12F05)
– (*with* Göbel, Rüdiger) Classification of modules with two distinguished pure submodules and bounded quotients. (English summary) *Results Math.* **30** (1996), *no.* 3-4, 264–275. (Luigi Salce) **98a:13018** 13C13 (16G20, 20K20)
– (*with* Arnold, David M.) Representation type of posets and finite rank Butler groups. *Colloq. Math.* **74** (1997), *no.* 2, 299–320. (C. Vinsonhaler) **98m:16016** 16G20 (20K15)
– (*with* Göbel, Rüdiger; May, Warren Lee[2]) Free modules with two distinguished submodules. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3473–3481. (Serge N. Tronin) **98h:13009** 13C10 (13C13)
– (*with* Göbel, Rüdiger) Automorphism groups of fields. II. *Comm. Algebra* **25** (1997), *no.* 12, 3777–3785. (Chr. U. Jensen) **98j:12005** 12F12 (12F20)
– (*with* Göbel, Rüdiger) Endomorphism rings of B_2-groups of infinite rank. (English summary) *Israel J. Math.* **101** (1997), 141–156. (C. Vinsonhaler) **98k:20090** 20K20 (20K30)
Dugas, René ★ Histoire de la mécanique. (French) [History of mechanics] With a preface by Louis de Broglie. Reprint of the 1950 original. *Éditions Jacques Gabay, Paris*, 1996. 649 *pp. ISBN* 2-87647-025-X (Editors) **98a:01001** 01A05 (01A75, 70-03)
Dugdale, J. K. (*with* Hilton, A. J. W.) Amalgamated factorizations of complete graphs [MR 95f:05090]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 223–239, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70 (05C15)
Duggal, B. P. Roots of contractions with Hilbert-Schmidt defect operator and C_{10} completely non-unitary part. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 85–106. (E. Durszt) **98a:47010** 47A45 (47A65, 47B15)
– Quasi-similar p-hyponormal operators. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 338–345. (Takayuki Furuta) **98g:47019** 47B20
– On the spectrum of p-hyponormal operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 623–637. (Masatoshi Fujii) **98m:47024** 47B20 (47A10, 47A30)
– On characterising contractions with C_{10} pure part. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 314–323. (Hari Bercovici) **98j:47016** 47A45 (47B99)
– The Weyl spectrum of p-hyponormal operators. *Integral Equations Operator Theory* **29** (1997), *no.* 2, 197–201. (Gerhard Garske) **98j:47052** 47B20 (47A10)
– A remark on normal derivations. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2047–2052. (Fuad Kittaneh) **98h:47050** 47B47 (47A30, 47B15)
Duggan, John R. Virtual Bayesian implementation. (English summary) *Econometrica* **65** (1997), *no.* 5, 1175–1199. (Summary) **98e:90015** 90A08 (90A14)
– Hansson's theorem for generalized social welfare functions: an extension. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 471–478. (Summary) **98i:90011** 90A08
Duh, Dyi-Rong (*with* Chen, Gen-Huey) On the Rabin number problem. (English summary) *Networks* **30** (1997), *no.* 3, 219–230. (Summary) **98f:68022** 68M10 (05C35)
Duheille, Frédérique Une preuve probabiliste élémentaire d'un résultat de P. Baird et J. C. Wood. (English and French summaries) [A probabilistic proof of a result of P. Baird and J. C. Wood] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 283–291. (Jean Picard) **98c:58034** 58E20 (58G32, 60J45)
Duhem, Pierre ★ Essays in the history and philosophy of science. (English summary) Translated from the French, edited and with an introduction by Roger Ariew and Peter Barker. *Hackett Publishing Co., Indianapolis, IN*, 1996. xx+290 *pp. ISBN* 0-87220-309-3; 0-87220-308-5 (Pierre Kerszberg) **98c:01048** 01A75 (00A30, 01A70)
– *see also* **Needham, Paul** *and* **Stoffel, Jean-François**, (**98e:01001**)
van Duijn, C. J. (*with* Knabner, Peter) Travelling wave behaviour of crystal dissolution in porous media flow. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 1, 49–72. (Elena Comparini) **98a:76084** 76S05 (80A20)
Duijvestijn, A. J. W. (*with* Bouwkamp, C. J.) ★ Album of simple perfect squared squares of order 26. EUT Report-WSK, 94-02. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1994. xxiv+441 *pp.* 05B40
van Duin, C. N. A. (*with* Nieuwenhuizen, Th. M.) Ginzburg-Landau theory of the cluster glass phase. (English summary) *J. Phys. A* **30** (1997), *no.* 4, L55–L61. (Summary) **98c:82072** 82D30 (82B26)
Duistermaat, J. J. (*with* Cushman, Richard H.) A characterization of the Ligon-Schaaf regularization map. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 773–787. (Todd Ray Young) **98e:70002** 70F05 (58F05, 70H15)
Dujella, Andrej Some polynomial formulas for Diophantine quadruples. *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 25–30, *Gruzer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Milja R. Poe) **98g:11030** 11D09 (11D85)
– On Diophantine quintuples. *Acta Arith.* **81** (1997), *no.* 1, 69–79. (Péter Kiss) **98d:11041** 11D99
– The problem of Diophantus and Davenport for Gaussian integers. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 1–10. (Péter Kiss) **98h:11033** 11D09
Đukanović, Igor Numerical continuation methods in finding economic equilibrium. (English summary) *SOR '97 Proceedings* (*Preddvor*), 287–290, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90A14 (65H17)
Duke, W. (*with* Iwaniec, Henryk) Estimates for coefficients of L-functions. III. *Séminaire de Théorie des Nombres, Paris*, 1989–90, 113–120, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (M. Ram Murty) **98h:11056** 11F66 (11F30)
– (*with* Conrey, J. B.; Farmer, D. W.) The distribution of the eigenvalues of Hecke operators. *Acta Arith.* **78** (1997), *no.* 4, 405–409. (Tomasz Stefanicki) **98k:11047** 11F25 (11F11)
– (*with* Imamoğlu, Ö.) Siegel modular forms of small weight. *Math. Ann.* **310** (1998), *no.* 1, 73–82. (Stefan Breulmann) **98m:11037** 11F46 (11F66)
Dukeman, Gregory A. (*with* Hanson, John M.) Optimization of many-burn orbital transfers. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 1, 1–40. 70Q05 (70M20)
Dukes, Peter (*with* Bobylev, A. V.; Illner, Reinhard; Victory, Harold Dean, Jr.) On Vlasov-Manev equations. I. Foundations, properties, and nonglobal existence. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 885–911. (Carlo Cercignani) **98j:85001** 85A05 (45K05, 70F10, 82D10)
– (*with* Emerson, H.; MacGillivray, Gary) Undecidable generalized colouring problems. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 97–112. (Summary) **98i:05072** 05C15
Dukhovny, Alexander Multiple roots in queueing equations: how realistic must examples get? Addendum to: "Multiple roots in some equations of queueing theory" [Comm. Statist. Stochastic Models **10** (1994), no. 2, 519–524; MR 95b:60117]. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 763–765. 60K25 (60J10)

Dukić, Miroslav L. (*with* Dobrosavljević, Zoran S.) The performance analysis of the adaptive two-stage DFB narrowband interference suppression filter in DSSS receiver. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 51–60. (*see* **98g:93001**) 93E35 (93E11)

Dukowicz, John K. (*with* Smith, Richard D.) Stochastic theory of compressible turbulent fluid transport. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3523–3529. (Summary) **98j:76073** 76F99 (76M35, 86A05)

Dulinski, Joachim *L*-functions for Jacobi forms on $\mathbf{H} \times \mathbf{C}$. *Results Math.* **31** (1997), *no.* 1-2, 75–94. (Rolf Berndt) **98b:11052** 11F55 (11F66)

Dulio, Paolo Restrictions of measures on subfamilies. (English and Italian summaries) 5th Italian Conference on Integral Geometry, Geometric Probability Theory and Convex Bodies (Italian) (Milan, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 41 (1996), 45–68. (Jan Rataj) **98e:53128** 53C65 (52A22)

— On some methods for building measures. (English and Italian summaries) 5th Italian Conference on Integral Geometry, Geometric Probability Theory and Convex Bodies (Italian) (Milan, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 41 (1996), 69–79. (Jan Rataj) **98e:53129** 53C65 (52A22)

Dulleck, Uwe (*with* Oechssler, Jörg) The absent-minded centipede. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 309–315. 90A70 (90A05)

Dullin, Holger R. (*with* Bäcker, A.) Symbolic dynamics and periodic orbits for the cardioid billiard. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1991–2020. (Nikolai Chernov) **98f:58157** 58F20 (58F03, 82C05)

— Linear stability in billiards with potential. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 151–173. (Nikolai Chernov) **98k:58138** 58F10 (58F05, 58F22, 70H05)

Dulucq, S. (*with* Gire, S.; West, Julian) Permutations with forbidden subsequences and nonseparable planar maps. (English summary) Proceedings of the 5th Conference on Formal Power Series and Algebraic Combinatorics (Florence, 1993). *Discrete Math.* **153** (1996), *no.* 1-3, 85–103. (W. G. Brown) **98a:05081** 05C30 (05A05, 05C10, 68P10, 68Q20, 68R05)

— (*with* Guibert, O.) Stack words, standard tableaux and Baxter permutations. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 91–106. (Angèle M. Hamel) **98a:05009** 05A15 (05E10)

Dum, R. (*with* Villain, P.; Lewenstein, M.; Castin, Y.; You, Li; Imamoğlu, A.; Kennedy, T. A. B.) Quantum dynamics of the phase of a Bose-Einstein condensate. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1775–1799. 82C10

Duma, Adrian Zeeman's theorem in nondecomposable spaces. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 265–277. (Robert J. Low) **98j:46019** 46C20 (46N99, 47B50, 51P05, 83A05)

Duma, Andrei (*with* Arca, Giuseppe) "Large" convex bodies in a plane lattice. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 15–33. (Summary) **98i:60009** 60D05 (52A22, 52C05)

Dumas, H. Scott (*with* Golse, François) The averaging method for perturbations of mixing flows. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1339–1358. (James A. Murdock) **98k:34079** 34C29 (58F11, 58F30)

— (*with* Dumas, Laurent; Golse, François) Remarks on the notion of mean free path for a periodic array of spherical obstacles. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 943–950. (Nikolai Chernov) **98f:82107** 82C40

Dumas, Laurent (*with* Bardos, Claude; Golse, François) Diffusion approximation for billiards with totally accommodating scatterers. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 351–375. (Nikolai Chernov) **98b:82063** 82C40 (58F13, 58F40, 82C05)

— (*with* Dumas, H. Scott; Golse, François) Remarks on the notion of mean free path for a periodic array of spherical obstacles. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 943–950. (Nikolai Chernov) **98f:82107** 82C40

Dumas, Vincent A multiclass network with non-linear, non-convex, non-monotonic stability conditions. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 1–43. (Summary) **98d:60178** 60K25 (60J20, 90B15)

Dümbgen, Lutz Confidence sets for a change-point via randomization methods. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 108–129, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G15 (62G20)

Dumer, Ilya Suboptimal decoding of linear codes: partition technique. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1971–1986. (J. C. Hwang) **98i:94032** 94B05 (94B35, 94B65)

Dumesnil, Jill A. On *m*-semigroups. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 33–45. (Mark Verus Lawson) **98b:20098** 20M10

— The structure of compact completely simple semigroups with the congruence extension property. *Semigroup Forum* **55** (1997), *no.* 3, 396–398. (Mahmoud Filali) **98k:22012** 22A15 (08A30)

Dumett, Miguel A. Hadamard products of series of classical orthogonal polynomials. (Spanish. English and Spanish summaries) *Lect. Mat.* **16** (1995), *no.* 1, 37–61. (José Javier Guadalupe Hernández) **98m:33018** 33C45 (30C10, 42C05)

Dumir, V. C. (*with* Sehmi, Ranjeet) Isolated minima of non-homogeneous indefinite quadratic forms of type (3, 2) or (2, 3). *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 197–212. (Christine Bachoc) **98c:11065** 11H55 (11H50)

Dumitrescu, C. *see* **Dumitrescu, Constantin A.**

cucu-Dumitrescu, Cătălin *see* **Cucu-Dumitrescu, Cătălin**

Dumitrescu, Constantin A. (*with* Andrei, M.; Bălăcenoiu, Ion; Rădescu, E.; Rădescu, N.; Seleacu, Vasile) A linear combination with Smarandache function to obtain the identity. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 437–439, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 11A25

— (*with* Seleacu, Vasile) The equations $m \cdot S(m) = n \cdot S(n)$ and $m \cdot S(n) = n \cdot S(m)$ have infinitely many solutions. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 136–142. 11D99

— (*with* Bencze, Mihály) References on Smarandache notions. I. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 225–233. 11–00

— *see also* **Dumitrescu, Constantin-Antoniu**

Dumitrescu, Constantin-Antoniu Obituary for Constantin Dumitrescu [1949–1997]. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 240. 01A70

Dumitrescu, Cristian (*with* Udrişte, Constantin; Radu, Constantin F.; Zlatescu, Anca) Intégrales Biot-Savart-Laplace. [Biot-Savart-Laplace integrals] In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 196–202. (*see* **98d:53002**) 78A25

Dumitrescu, D.-F. Three methods of solving Prandtl's equation. *Z. Angew. Math. Mech.* **76** (1996), *no.* 10, 595–598. 65R20 (45L05, 65N99, 76M25)

Dumitrescu, S. *see* **Vicolov-Dumitrescu, Sorina**

vicolov-Dumitrescu, Sorina *see* **Vicolov-Dumitrescu, Sorina**

Dumitriu, Lucia (*with* Iordache, Mihai; Cristea, P.; Spinei, F.; Popescu, Nicolae) A diakoptic method for tree and *s*-forest generation without duplication. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **40** (1995), *no.* 4, 461–471. (W.-K. Chen) **98h:94031** 94C15 (05C05, 05C85)

Dummett, Michael Bivalence and vagueness. *Theoria* **61** (1995), *no.* 3, 201–216. 03A05

— The Borda count and agenda manipulation. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 289–296. 90A28

Dummigan, Neil Symplectic group lattices as Mordell-Weil sublattices. *J. Number Theory* **61** (1996), *no.* 2, 365–387. (H. G. Quebbemann (Zbl 869.11057)) **98h:11088** 11H56 (11G05)

Dummit, David S. (*with* Hayes, David R.) Checking the p-adic Stark conjecture when p is Archimedean. (English summary) *Algorithmic number theory (Talence, 1996)*, 91–97, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Franz Lemmermeyer) **98c:11124** 11R37 (11Y40)

Dumont, Dominique Grammaires de William Chen et dérivations dans les arbres et arborescences. [Grammars of William Chen and derivations in trees and arborescences] *Sém. Lothar. Combin.* **37** (1996), *Art.* B37a, 21 *pp.* (*electronic*). (Christian Radoux) **98j:05005** 05A15 (05A10, 68Q50)

Dumont, Guy (*with* Elshafei, Abdel-Latif; Elnaggar, Ashraf) Stability and convergence analyses of an adaptive GPC based on state-space modelling. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 193–210. 93B40 (93E25)

Dumont, Thierry Une méthode quasi-Newton pour le calcul d'écoulements viscoélastiques. (French summary) [A quasi-Newton method for calculating viscoelastic flows] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 173–182 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 76M10 (65N30, 76A10)

Dumortier, Freddy (*with* Li, Cheng Zhi[1]) Quadratic Liénard equations with quadratic damping. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 41–59. (Mohamed El Morsalani) **98j:34043** 34C05

— (*with* Li, Cheng Zhi[1]; Zhang, Zhi Fen) Unfolding of a quadratic integrable system with two centers and two unbounded heteroclinic loops. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 146–193. (Lubomir Gavrilov) **98f:34034** 34C05 (34C25, 58F21)

— (*with* Roussarie, Robert; Sotomayor, Jorge) Bifurcations of cuspidal loops. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1369–1408. (Jörg M. Härterich) **98k:58167** 58F14 (34C23, 34C25, 34C37)

Dumov, A. S. On simple universal mosaic homogeneous structures. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 134–142; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 611–619. (Summary) **98a:68137** 68Q80

Dunaeva, O. V. (*with* Shestakov, A. A.) On a connection between Lyapunov stability and Poincaré stability for motions of a nonlinear time-independent dynamical system. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 48–51; *translation in Phys. Dokl.* **41** (1996), *no.* 11, 536–539. (Tomáš Gedeon) **98a:34055** 34D99 (34D20, 54H20)

— (*with* Shestakov, A. A.) Phase asymptotic stability of an omega-limit set of Lagrange-stable motion of a nonlinear time-independent dynamical system. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 3, 332–334; *translation in Phys. Dokl.* **41** (1996), *no.* 11, 559–561. (Tomáš Gedeon) **98a:34056** 34D99 (34C25)

— On the robustness [stability] of the motion of a dynamical system. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 51–53; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 374–376. (From the text) **98g:34090** 34D99 (34C35, 34D05)

— (*with* Shestakov, A. A.) On the concepts of orbital stability and phase stability of the motions of a dynamical system. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 339–341; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 392–394. (From the text) **98g:34091** 34D99 (34C25, 34C35, 34D05)

— Conditions for the asymptotic stability and instability of motion of a dynamical system. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 476–478; *translation in Phys. Dokl.* **42** (1997), *no.* 8, 433–436. (János Karsai) **98m:34112** 34D99 (34D05)

Dunbar, David C. (*with* Norridge, Paul S.) Infinities within graviton scattering amplitudes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 351–365. (Summary) **98a:81125** 81T15 (81V17, 83C45)

— (*with* Bern, Zvi; Dixon, Lance; Kosower, David A.) One-loop self-dual and $N = 4$ super Yang-Mills. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 105–115. (Summary) **98a:81214** 81T60 (81T13, 81V05)

Dunbar, Jean E. (*with* Domke, Gayla S.; Haynes, Teresa W.; Knisley, D. J.; Markus, Lisa R.) Independence, domination and generalized maximum degree. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 145–152. (Summary) **98j:05083** 05C35 (05C70)

— (*with* Haynes, Teresa W.; Henning, Michael A.) The domatic number of a graph and its complement. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 53–63. (Summary) **98i:05101** 05C35

— (*with* Domke, Gayla S.; Markus, Lisa R.) Gallai-type theorems and domination parameters. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 237–248. (Summary) **98b:05053** 05C35

— (*with* Grossman, Jerrold W.; Hattingh, Johannes H.; Hedetniemi, Stephen T.; McRae, Alice A.) On weakly connected domination in graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 261–269. (Summary) **98b:05055** 05C35

Dunbar, Steven R. The average distance between points in geometric figures. *College Math. J.* **28** (1997), *no.* 3, 187–197. (E. J. F. Primrose) **98a:52007** 52A22 (60D05)

pasik-Duncan, Bożenna *see* **Pasik-Duncan, Bożenna**

Duncan, Dugald B. Symplectic finite difference approximations of the nonlinear Klein-Gordon equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1742–1760. (Manfred Dobrowolski) **98m:65139** 65M06 (65M20)

— *see also* **Proceedings: Conference on Grid Adaptation in Computational PDEs: Theory and Applications, 98i:65004**

Duncan, John (*with* Bowling, S.) First order cohomology of Banach semigroup algebras. *Semigroup Forum* **56** (1998), *no.* 1, 130–145. (B. E. Johnson) **98m:46092** 46M20 (20M50, 46H25)

Duncan, T. E. Identification and control of a stochastic manufacturing system with noisy demand. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 83–88, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:93105** 93E12 (90A11, 93E24)

— (*with* Pasik-Duncan, Bożenna; Stettner, Ł.) On ergodic control of stochastic evolution equations. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 723–750. (Vivek S. Borkar) **98j:93085** 93E20 (60H15)

phan minh Dung *see* **Phan Minh Dung**

nguyễn việt Dũng[2] *see* **Nguyễn Việt Dũng**[2]

Dung, Le (*with* Smith, Hal L.) A parabolic system modeling microbial competition in an unmixed bio-reactor. *J. Differential Equations* **130** (1996), *no.* 1, 59–91. (Joseph So) **98c:92008** 92D25 (35K57, 35Q80)

— Dissipativity and global attractors for a class of quasilinear parabolic systems. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 413–433. (Sergei A. Vakulenko) **98b:35096** 35K60 (34D45, 34G20, 35B40, 47H20)

— On a class of singular quasilinear elliptic equations with general structure and distribution data. *Nonlinear Anal.* **28** (1997), *no.* 11, 1879–1902. (Jun Yu Wang) **98a:35030** 35J60 (35D10)

— Correction to: "Dissipativity and global attractors for a class of quasilinear parabolic systems" [Comm. Partial Differential Equations **22** (1997), no. 3-4, 413–433; MR 98b:35096]. *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 387–388. (Editors) **98k:35105** 35K60 (34D45, 34G20, 35B40, 47H20)

Dung, Nguyen Viet *see* **Nguyễn Việt Dũng**[2]

Dung, P. M. *see* **Phan Minh Dung**

Dung, Phan Minh *see* **Phan Minh Dung**

Dünger, Volker p-adic interpolation of convolutions of Hilbert modular forms. (English summary) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 2, 365–428. (Alexey A. Panchishkin) **98b:11050** 11F41 (11F37, 11F67, 11F85)

lê Dũng Mu'u *see* **Lê Dũng Mu'u**

Dunham, Bruce Fluctuation theory for Moran's genetics model. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 777–789. (Warren J. Ewens) **98i:60063** 60J10 (60J20, 92D10)

Dunham, Charles B. (*with* Zhu, Chang Zhong) Parameter error estimate of near alternation approximation. (English summary) *BIT* **35** (1995), *no.* 1, 133–142. (Martin Bartelt) **98a:41040** 41A50 (41A52)

— (*with* Zhu, Chang Zhong; Schmidt, Darrell) Generalized strong unicity constants in linear uniform approximation. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 73–87. (Summary) **98a:41041** 41A52 (65D15)

Dunkels, Andrejs A note on the equilibrium potential of certain Dirichlet spaces. (English summary) *Potential Anal.* **6** (1997), *no.* 1, 99–104. (Emil Popescu) **98e:31006** 31B10 (31C25)

Dunkerton, Timothy J. Shear instability of internal inertia-gravity waves. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 12, 1628–1641. (Summary) **98e:76019** 76C10 (76E20, 76U05, 86A10)

Dunlop, François (*with* Collet, Pierre; Foster, Damien P.; Gobron, Thierry) Product measures and dynamics for solid-on-solid interfaces. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 509–536. (Barbara Gentz) **98k:82122** 82C22 (60K35, 82C20, 82C24)

— (*with* Collet, Pierre; Fritz, J.; Gobron, Thierry) Langevin dynamics of a semi-infinite interface. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 261–274. (Filippo Cesi) **98m:82050** 82C24 (60K35, 82C31)

Dunn, Gerald E_n-ring categories. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 27–45. (Donald M. Davis) **98e:55025** 55U35 (18D35, 55P47)

Dunn, Graham (*with* Clayton, David; Spiegelhalter, David; Pickles, Andrew) Analysis of longitudinal binary data from multiphase sampling. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 71–102. 62D05 (62H17, 62J12)

Dunn, J. C. On second order sufficient conditions for structured nonlinear programs in infinite-dimensional function spaces. (English summary) *Mathematical programming with data perturbations*, 83–107, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Sabine Pickenhain) **98i:49024** 49K15 (49K27)

Dunn, J. Ernest On steady motions in thermodynamics. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1311–1316. (Summary) **98i:86006** 86A10

Dunn, J. M. (*with* Hartonas, Chrysafis) Stone duality for lattices. (English summary) *Algebra Universalis* **37** (1997), *no.* 3, 391–401. (Brian A. Davey) **98m:06012** 06B15 (06A15)

Dunn, Kenneth A. (*with* Harriott, Tina A.; Williams, Jeffrey George) Matching conditions for the 1 + 1 de Sitter kinked spacetime. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 233–236, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83010** 83C15

— (*with* Harriott, Tina A.; Williams, Jeffrey George) Energy conditions for a spherically symmetric kink space-time. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6470–6474. (Nora Bretón Báez) **98k:83019** 83C20 (83C15)

Dunn, M. (*with* Watson, Deborah K.) Continuation of the wave function for higher angular momentum states to D dimensions. I. The generalized Schwartz expansion. (English summary) *Ann. Physics* **251** (1996), *no.* 2, 266–318. (A. Ventura) **98h:81131** 81V45 (81R05)

— (*with* Watson, Deborah K.) Continuation of the wave function for higher angular momentum states to D dimensions. II. Elimination of linear dependencies. (English summary) *Ann. Physics* **251** (1996), *no.* 2, 319–336. (A. Ventura) **98h:81132** 81V45 (81R05)

— (*with* Watson, Deborah K.) Continuation of the Schrödinger equation for higher angular-momentum states to D dimensions and interdimensional degeneracies. (English summary) *Few-Body Systems* **21** (1996), *no.* 3-4, 187–209. (Igor Yurievich Popov) **98e:81187** 81U10 (81Q15, 81U05, 81V45)

Dunne, Edward G. (*with* Zierau, Roger) The automorphism groups of complex homogeneous spaces. *Math. Ann.* **307** (1997), *no.* 3, 489–503. (John W. Rice) **98b:22029** 22E46 (32M10)

— (*with* Bailey, Toby N.) A twistor correspondence and Penrose transform for odd-dimensional hyperbolic space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1245–1252. (Michael G. Eastwood) **98h:32055** 32L25 (22E45, 32C35, 43A85)

Dunne, Gerald (*with* Lee, Kimyeong; Lu, Changhai) Finite temperature Chern-Simons coefficient. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 18, 3434–3437. (Summary) **98f:81195** 81T13

— (*with* Feinberg, Joshua) Self-isospectral periodic potentials and supersymmetric quantum mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1271–1276. (Summary) **98j:81099** 81Q60

— *see also* **Proceedings: Workshop on Low-dimensional Field Theory, 98f:81010**

Dunne, Paul E. (*with* Bench-Capon, Trevor J. M.) The maximum length of prime implicates for instances of 3-SAT. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 317–329. (Summary) **98f:68123** 68Q25 (03B05, 03D15)

— (*with* Zito, Michele) An improved upper bound on the non-3-colourability threshold. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 17–23. (Summary) **98i:05073** 05C15 (68R10)

Dunne, R. S. (*with* de Azcárraga, José A.; Pérez Bueno, J. C.; Macfarlane, A. J.) Braided structure of fractional Z_3-supersymmetry. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1145–1152. (Summary) **98f:81119** 81R50 (17B37, 81R10)

— (*with* Macfarlane, A. J.; de Azcárraga, José A.; Pérez Bueno, J. C.) The q-calculus for generic q and q a root of unity. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1235–1242. (Bernhard Drabant) **98c:81098** 81R50

— (*with* Macfarlane, A. J.; de Azcárraga, José A.; Pérez Bueno, J. C.) Supersymmetry from a braided point of view. (English summary) *Phys. Lett. B* **387** (1996), *no.* 2, 294–299. (Summary) **98a:81221** 81T60 (81R50)

— (*with* Macfarlane, A. J.; de Azcárraga, José A.; Pérez Bueno, J. C.) Geometrical foundations of fractional supersymmetry. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3275–3305. (Aleksei P. Isaev) **98f:81124** 81R50 (58B30)

Dunnett, Charles W. Multivariate Student's t and its applications. (English summary) *Statistical theory and applications*, 15–27, *Springer, New York*, 1996. (*see* **98h:62003**) 62H10 (62F07)

Dunning, Larry A. (*with* Clark, W. Edwin) Tight upper bounds for the domination numbers of graphs with given order and minimum degree. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 26, 25 *pp.* (*electronic*). (Bert L. Hartnell) **98m:05095** 05C35

Dunning-Davies, J. (*with* Cole, G. H. A.) Questions concerning relativity theory and some of its applications. (English summary) *Hadronic J.* **19** (1996), *no.* 6, 543–560. (Gábor Etesi) **98a:83008** 83A05 (83C99)

Dunninger, D. R. (*with* Wang, Hai Yan[1]) Existence and multiplicity of positive solutions for elliptic systems. *Nonlinear Anal.* **29** (1997), *no.* 9, 1051–1060. (Xin Kang Guo) **98g:35076** 35J65 (35B05)

Dunnington, G. Waldo *see* **Dohse, Fritz-Egbert**

Dunsby, Peter K. S. (*with* Bassett, Bruce A. C. C.; Ellis, George F. R.) Covariant analysis of gravitational waves in a cosmological context. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1215–1222. (J. B. Griffiths) **98a:83047** 83C35 (83C25, 83F05)

— A fully covariant description of cosmic microwave background anisotropies. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3391–3405. 83B05

Dunsmore, Ian R. (*with* Robson, David J.) Prediction in some Poisson errors in variables models. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 543–554. (Summary) **98m:62275** 62M99 (62F15)

— Some prediction problems concerning samples from the Pareto distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1221–1238. 62F15

Dunsmuir, John H. (*with* Ritman, Erik L.; Faridani, Adel; Finch, David V.; Smith, Kennan T.; Thomas, Paul J.) Local reconstruction applied to x-ray microtomography. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 443–452, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 44A12 (78A55)

Dunsmuir, William T. M. (*with* Davis, Richard Alan; Chen, Meiching) Inference for seasonal moving average models with a unit root. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 160–176, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62160** 62M10

— (*with* Davis, Richard Alan) Least absolute deviation estimation for regression with ARMA errors. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 481–497. (Vipul A. Kalamkar) **98i:62071** 62M10 (62M09)

Dunstan, Neil (*with* Lenders, Patrick M.) Reducing multiphase multirate arrays. (English summary) Nineteenth Australasian Computer Science Conference (Melbourne, 1996). *Austral. Comput. Sci. Comm.* **18** (1996), *no.* 1, 324–330. (*see* **98k:68006**) 68Q35

Dunster, T. M. Asymptotics of the generalized exponential integral, and error bounds in the uniform asymptotic smoothing of its Stokes discontinuities. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1949, 1351–1367. (Alexander Tovbis) **98b:41031** 41A60 (33B10)

— Error analysis in a uniform asymptotic expansion for the generalised exponential integral. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 127–161. (Eberhard Wagner) **98k:33003** 33B20 (34E05, 34E20, 41A60)

Dūntsch, Ivo A note on cylindric lattices. *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 231–238, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Jānis Cīrulis) **98c:03128** 03G15 (68P15)

— A logic for rough sets. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 427–436. (R. Gylys) **98h:03068** 03E72 (03G25, 06D15, 06E15)

Dunwoody, M. J. Cyclic presentations and 3-manifolds. *Groups—Korea '94* (*Pusan*), 47–55, *de Gruyter, Berlin*, 1995. (William A. Bogley) **98k:20067** 20F38 (57M07, 57N10)

— Groups acting on protrees. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 125–136. (Warren Dicks) **98f:20008** 20E08 (20E05)

Dunworth, Christopher (*with* Boneh, Dan; Lipton, Richard J.; Sgall, Jiří) On the computational power of DNA. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 79–94. (Eric Bach) **98b:68042** 68Q10 (68Q05, 92C40, 92D20)

Dunyak, James P. Reaction-diffusion equations in perforated media. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 377–388. (Zi Qian Yan) **98a:35067** 35K57 (60F10, 60J99)

ha-Duong, Tuong *see* **Ha-Duong, Tuong**

Duong, Xuan Thinh (*with* McIntosh, Alan) Functional calculi of second-order elliptic partial differential operators with bounded measurable coefficients. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 2, 181–205. (Atsushi Yagi) **98j:47104** 47F05 (35J15, 35S15, 47A60)

— (*with* Simonett, Gieri) H_∞-calculus for elliptic operators with nonsmooth coefficients. (English summary) *Differential Integral Equations* **10** (1997), *no.* 2, 201–217. (Vladimir B. Vasilyev) **98a:47052** 47F05 (35J45, 47A60, 47N20)

hoang Duong Tuan *see* **Hoang Duong Tuan**

Dupačová, Jitka (*with* Bertocchi, Maria) Management of bond portfolios via stochastic programming—postoptimality and sensitivity analysis. (English summary) *System modelling and optimization* (*Prague*, 1995), 574–581, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C90 (90C15)

— Moment bounds for stochastic programs in particular for recourse problems. *Distributions with given marginals and moment problems* (*Prague*, 1996), 199–204, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 90C15

— Postoptimality analysis for scenario based stochastic programs: a survey. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 43–57, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Summary) **98b:90094** 90C15

— (*with* Abaffy, József; Bertocchi, Maria; Hušková, Marie) On estimating the yield and volatility curves. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 659–673. (*see* **98i:90006**) 90A12 (90A09)

Dupuis, Yves (*with* Charpentier, Philippe) Pseudodistances et courants positifs fermés dans les domaines de $\mathbf{C}^3$. [Pseudodistances and closed positive currents in domains in $\mathbf{C}^3$] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 299–350. (Mongi Blel) **98m:32013** 32C30 (32H15)

Dupaix, C. (*with* Hilhorst, Danielle) A singularly perturbed phase field problem: upper-semicontinuity of the attractor. *Nonlinear analysis and applications* (*Warsaw*, 1994), 101–112, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 7, *Gakkōtosho, Tokyo*, 1996. (Albert J. Milani) **98b:35016** 35B25 (35K60)

limon Duparcmeur, Y. *see* **Limon Duparcmeur, Y.**

Dupin de Saint-Cyr, F. (*with* Dubois, Didier; Prade, Henri) Update postulates without inertia. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 162–170, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B70 (68T27)

Dupire, Bruno Pricing and hedging with smiles. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 103–111, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Du Plessis, Andrew *see* **du Plessis, Andrew**

Duplij, S. A. Supermatrix representations of semigroup bands. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 3-4, 235–261. (Anargyros Fellouris) **98j:20096** 20M30

Dupont, J.-M. (*with* Guérin, S.; Monti, F.; Jauslin, H. R.) On the relation between cavity-dressed states, Floquet states, RWA and semiclassical models. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7193–7215. (Allan I. Solomon) **98m:81224** 81V80

Dupont, Johan L. Dilogarithm identities in conformal field theory and group homology. *Geometry and global analysis* (*Sendai*, 1993), 191–195, *Tohoku Univ., Sendai*, 1993. (From the text) **98b:11073** 11G99 (20J05, 33B99, 81T40)

— (*with* Just, Henrik) Simplicial currents. *Illinois J. Math.* **41** (1997), *no.* 3, 354–377. (J. E. Brothers) **98m:58003** 58A25 (57Q99)

— (*with* Phillips, Anthony V.; Retakh, Vladimir; Roitman, Judith; Saul, Mark) Chih-Han Sah (1934–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 1, 79–83. 01A70

Dupret, K. (*with* Zakrzewski, J.; Delande, D.) Wigner or non-Wigner: that is the question. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 559–564, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98f:82011** 82B10 (81Q50, 81V45, 82B41)

Dupuis, Alain (*with* Guillemin, Fabrice M.; Sericola, Bruno) Asymptotic results for the superposition of a large number of data connections on an ATM link. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 121–150. (Summary) **98f:60189** 60K25

Dupuis, D. J. (*with* Tsao, Min) A hybrid estimator for generalized Pareto and extreme-value distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 925–941. 62F10

Dupuis, Jérôme A. Bayesian test of homogeneity for Markov chains. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 333–338. (Summary) **98k:62149** 62M02

Dupuis, Josée Statistical aspect of trait mapping using a dense set of markers: a partial review. *Genetic mapping and DNA sequencing* (*Minneapolis, MN*, 1994), 111–131, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98c:92006**) 92D20 (62P10)

Dupuis, Paul (*with* McEneaney, William M.) Risk-sensitive and robust escape criteria. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2021–2049. (Daniel Hernández-Hernández) **98k:93118** 93E20 (49L25, 60F10)

Duque, Alvaro *see* **Duque Hoyos, Álvaro**

Duque-Antón, Manuel Constructing efficient simulated annealing algorithms. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 2, 139–159. (Th. M. Liebling) **98h:90058** 90C27

— Erratum: "Constructing efficient simulated annealing algorithms" [Discrete Appl. Math. **77** (1997), no. 2, 139–159; MR 98h:90058]. *Discrete Appl. Math.* **80** (1997), *no.* 1, 115. 90C27

Duque Hoyos, Álvaro (*with* Ruíz Salguero, Carlos J.; Luna Torres, Joaquín) A filtration of the space $\mathbf{J} = \mathbf{Q} \cap [0, 1]$. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 210–216, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54080** 54F65 (55U10)

Dür, Mirjam (*with* Horst, Reiner) Lagrange duality and partitioning techniques in nonconvex global optimization. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 347–369. (Siegfried Schaible) **98k:90079** 90C26 (49N15, 90C32)

— (*with* Horst, Reiner; Locatelli, Marco) Necessary and sufficient global optimality conditions for convex maximization revisited. *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 637–649. (Ivan Ginchev) **98k:90070** 90C25

Durairajan, T. M. (*with* Raman, K. J.) Robustness and optimality of Durbin-Watson test. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 1, 39–44. (Summary) **98g:62127** 62J05 (62F35)

Duran, A. J. *see* **Durán Guardeño, Antonio J.**

Duran, Antonio J. *see* **Durán Guardeño, Antonio J.**

montalvo Durán, Francisco *see* **Montalvo Durán, Francisco**

Durán, Juan Eduardo Some classes containing a fork algebra equivalent variety involving projections. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 203–226. (Summary) **98m:03126** 03G15 (68Q65)

Durán, Ricardo (*with* Bermúdez de Castro, Alfredo; Rodríguez, Rodolfo) Finite element analysis of compressible and incompressible fluid-solid systems. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 111–136. (Igor Yu. Chudinovich) **98c:73073** 73V05 (65M60, 73K70, 76M10)

Durand, Arnaud (*with* Ranaivoson, Solomampionona) First-order spectra with one binary predicate. (English summary) *Computer science logic* (*Kazimierz*, 1994), 177–189, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:03034** 03C13 (03D15, 68Q15)

Durand, Bruno (*with* Mazoyer, Jacques) Growing patterns in 1D cellular automata. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 211–220, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q80

— Self-similarity viewed as a local property via tile sets. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 312–323, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98i:52027** 52C20 (28A80, 68Q80)

— Tilings and quasiperiodicity. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 65–75, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68220** 68R15 (05B45, 52C20, 68Q45)

Durand, Fabien A generalization of Cobham's thoerem. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 169–185. (Jean-Paul Allouche) **98k:11019** 11B85 (68R15)

Durand, Irène (*with* Middeldorp, Aart) Decidable call by need computations in term rewriting (extended abstract). (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 4–18, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68Q42

Durand, Ph. (*with* Paidarová, I.) Perturbation expansion of quantum resonance energies. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 362–366. (Summary) **98f:81377** 81V55

Durand, Sylvain (*with* Bonami, Aline; Weiss, Guido) Wavelets obtained by continuous deformations of the Haar wavelet. (English summary) *Rev. Mat. Iberoamericana* **12** (1996), *no.* 1, 1–18. (Summary) **98k:42033** 42C10 (42C15)

Durand-Lose, Jérôme Olivier Grain sorting in the one-dimensional sand pile model. (English summary) *Complex Systems* **10** (1996), *no.* 3, 195–206. (Summary) **98m:68189** 68Q80 (82C24)

— Intrinsic universality of a 1-dimensional reversible cellular automaton. (English summary) *STACS 97* (*Lübeck*), 439–450, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68116** 68Q80

Durand-Richard, Marie-José L'impact des travaux de l'école algébrique Anglaise dans les journaux scientifiques autour de 1830. (English summary) [The impact of the works of the English algebraic school in scientific journals around 1830] *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 119–156 (1997). (Summary) **98d:01023** 01A55

Durán Guardeño, Antonio J. Markov's theorem for orthogonal matrix polynomials. (English summary) *Canad. J. Math.* **48** (1996), *no.* 6, 1180–1195. (Walter Van Assche) **98f:42020** 42C05 (15A99, 65D15)

— On orthogonal matrix polynomials. *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 63–72, *Univ. Carlos III Madrid, Leganés*, 1997. (*see* **98b:33001**) 42C05

— (*with* Lopez-Rodriguez, Pedro) Density questions for the truncated matrix moment problem. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 708–721. (Olav Njåstad) **98m:42035** 42C05 (44A60)

— Ratio asymptotics and quadrature formulas. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 271–286. (Summary) **98m:42036** 42C05 (41A55)

— (*with* Lopez-Rodriguez, Pedro) The $\mathscr{L}^p$ space of a positive definite matrix of measures and density of matrix polynomials in $\mathscr{L}^1$. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 299–318. (Luboš Pick) **98i:46022** 46E30 (44A60, 46E35)

— (*with* Berg, Christian) Measures with finite index of determinacy or a mathematical model for Dr. Jekyll and Mr. Hyde. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 2, 523–530. (Walter Van Assche) **98c:42021** 42C05 (44A60, 47A57, 47B39)

Duranović-Miličić, Nada I. *see* **Djuranović-Miličić, Nada I.**

Durante, Nicola (*with* Metsch, Klaus) A characterization of projective 3-spaces. (English summary) *J. Combin. Des.* **4** (1996), *no.* 5, 377–387. (Summary) **98i:05037** 05B25 (51E15)

— (*with* Napolitano, Vito) Weakly $\{0, 2\}$-semiaffine planes. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 179–191. (Summary) **98k:51005** 51A45 (05B25)

— (*with* Napolitano, Vito) Finite $\{2, 4\}$-semiaffine planes. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 1–12. (Summary) **98k:51006** 51A45

Durany, J. (*with* García Lomba, Guillermo; Vázquez Cendón, C.) An elastohydrodynamic coupled problem between a piezoviscous Reynolds equation and a hinged plate model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 495–516. (Leonid K. Antanovskiĭ) **98d:76045** 76D08 (73K10, 73K70)

— (*with* Calvo, N.; Vázquez Cendón, C.) Comparison of numerical algorithms for one-dimensional hydrodynamical lubrication problems with cavitation. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 2, 185–209. (Summary) **98f:76048** 76M10 (76D08, 76M30)

Duras, M. M. (*with* Sokalski, K.; Sułkowski, P.) Statistical properties of sparse Gaussian random symmetrical ensemble. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 5, 1023–1038. (Alexei Khorunzhy) **98g:15039** 15A52 (15A18, 82B41)

Durbin, James (*with* Koopman, Siem Jan) Monte Carlo maximum likelihood estimation for non-Gaussian state space models. (English summary) *Biometrika* **84** (1997), *no.* 3, 669–684. (Summary) **98m:62241** 62M10

Durčić, Dragan (*with* Božin, Vladimir) A proof of an Aljančić hypothesis on $\mathcal{O}$-regularly varying sequences. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 46–52. (E. Omey) **98k:26004** 26A12 (40A30, 40D99, 40E99)

Đurđanović, Igor (*with* Del Castillo, Giuseppe; Glässer, Uwe) An evolving algebra abstract machine. (English summary) *Computer science logic* (*Paderborn*, 1995), 191–214, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98b:68034** 68Q05 (68Q60)

Đurđević, Mićo Classical spinor structures on quantum spaces. (English summary) *Clifford algebras and spinor structures*, 365–377, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Waldyr Alves Rodrigues, Jr.) **98m:58008** 58B30 (53A50)

— (*with* Oziewicz, Zbigniew) Spinors in braided geometry. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 315–325, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98m:15051** 15A66 (18D10, 81R50)

— Quantum principal bundles and Tannaka-Krein duality theory. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 313–324. (Tomasz Brzeziński) **98b:58017** 58B30 (17B37, 81R50)

— Quantum principal bundles and their characteristic classes. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 303–313, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Albert Jeu-Liang Sheu) **98i:58023** 58B30 (16W30)

— Quantum classifying spaces and universal quantum characteristic classes. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 315–327, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Albert Jeu-Liang Sheu) **98i:58024** 58B30 (16W30, 55R35, 57R20)

— Generalized braided quantum groups. (English summary) *Israel J. Math.* **98** (1997), 329–348. (Jacques Alev) **98h:16059** 16W30

— Quantum principal bundles and corresponding gauge theories. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2027–2054. (Tomasz Brzeziński) **98e:81072** 81R50 (46L60, 46N50, 81T13)

— Geometry of quantum principal bundles. II. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 5, 531–607. (Tomasz Brzeziński) **98k:58015** 58B30 (16W30, 17B37, 46L60, 46L89, 81R50)

Duren, Peter (*with* Pfaltzgraff, John A.; Thurman, Robert E.) Physical interpretation and further properties of Robin capacity. (English summary) *Algebra i Analiz* **9** (1997), *no.* 3, 211–219; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 607–614. (Vladimir N. Dubinin) **98k:31002** 31A15 (30C85)

— (*with* Khavinson, Dmitry) Boundary correspondence and dilatation of harmonic mappings. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 105–111. (Summary) **98m:30039** 30C99 (30C62)

— F. W. Gehring: a biographical sketch. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 1–4, *Springer, New York*, 1998. (*see* **98f:30001**) 01A70

— *see also* **Quasiconformal mappings and analysis**, **98f:30001**

Dürer, Albrecht *see* **Field, J. V., 98f:01016**

Durga Bhavani, S. (*with* Viswanath, K.) A general approach to stability and sensitivity in dynamical systems. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 131–140. (L. Janos) **98j:54069** 54H20 (34C35, 34D20)

Durga Prasad, M. V. (*with* Sreenivas, P. C.) Vector valued nonzero sum games and nonlinear programming. (English summary) *Opsearch* **34** (1997), *no.* 3, 180–185. 90D05 (90C30)

Durham, Stephen D. (*with* Flournoy, Nancy) Up-and-down designs. I. Stationary treatment distributions. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 139–157, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

— (*with* Flournoy, Nancy; Montazer-Haghighi, Ali A.) Up-and-down designs. II. Exact treatment moments. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 158–178, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

— (*with* Li, Zhengqing; Flournoy, Nancy) An adaptive design for maximization of a contingent binary response. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 179–196, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

Durhuus, Bergfinnur (*with* Ambjørn, Jan; Jonsson, Thordur) ★ Quantum geometry. (English summary) A statistical field theory approach. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1997. xiv+363 *pp. ISBN* 0-521-46167-7 (E. J. Janse van Rensburg) **98i:82001** 82–02 (81T30, 82B41, 82B80, 83C45)

— (*with* Kristjansen, C. F.) Phase structure of the O(n) model on a random lattice for $n > 2$. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 3, 535–551. (Summary) **98f:82021** 82B20 (82B27, 82B44)

Đurić, Mirjana (*with* Stanković, Miomir S.; Stanimirović, Predrag S.) The group inverse and commutative weak inverses for rectangular matrices. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 173–180, *Univ. Priština, Priština*, 1995. (Summary) **98c:15018** 15A09

Đurić, Zlata (*with* Savić, Vladimir) Asymptotic behaviour of the expression $\sup_{f\in V_\varphi^*} |f(x) - S_{n-1}(f,x)|$. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 143–149, *Univ. Priština, Priština*, 1997. (Summary) **98g:42006** 42A10 (42A16)

Durier, Roland Optimal locations and inner products. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 220–239. (P. K. Subramanian) **98c:90063** 90B85 (90C25)

— Constrained and unconstrained problems in location theory and inner products. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 297–310. (Laura Martein) **98e:90151** 90C30 (90B85)

Düring, Alexander (*with* Behn, Ulrich) Selective stabilisation of very long unstable periodic orbits in chaotic systems. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 177–182. (Summary) **98a:58116** 58F13 (58F22, 82C05)

Đurić, Pavol (*with* Galil, Zvi) Sensing versus nonsensing automata. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 455–463, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Katsushi Inoue) **98j:68110** 68Q68 (68Q45)

— (*with* Hromkovič, Juraj; Rolim, José D. P.; Schnitger, Georg) Las Vegas versus determinism for one-way communication complexity, finite automata, and polynomial-time computations. (English summary) *STACS 97* (*Lübeck*), 117–128, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68045** 68Q15 (68Q10, 68Q68, 68Q75)

sarmant-Durix, Marie-Claude *see* **Sarmant-Durix, Marie-Claude**

Durlauf, Steven N. An incomplete markets model of business cycles. (English summary) *Comput. Math. Organ. Theory* **2** (1996), *no.* 3, 197–218. 90A70

Durner, Alexander Distribution measures and Hausdorff dimensions. (English summary) *Forum Math.* **9** (1997), *no.* 6, 687–705. (Karma Dajani) **98i:11060** 11K55 (11K16)

Durnev, V. G. On the problem of the solvability of equations with one coefficient. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 6, 832–845, 959; *translation in Math. Notes* **59** (1996), *no.* 5-6, 601–610. (Alina A. Vdovina) **98d:20034** 20F10

— Studying algorithmic problems for free semi-groups and groups. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 88–101, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 03D35 (20M05, 68Q45)

Đurović, Željko M. (*with* Kovačević, Branko D.) QQ-plot approach to robust Kalman filtering. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 837–857. 93E11 (93B36)

Dürr, Christoph (*with* Lê Thanh, Huong; Säntha, Miklós) A decision procedure for well-formed linear quantum cellular automata. (English summary) *STACS 96* (*Grenoble*, 1996), 281–292, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68188** 68Q80 (68Q05, 68Q25, 81P99, 82C20)

Dürr, Detlef (*with* Goldstein, Sheldon; Zanghi, Nino) Bohmian mechanics as the foundation of quantum mechanics. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 21–44, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— (*with* Daumer, Martin; Goldstein, Sheldon; Zanghi, Nino) Naive realism about operators. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 379–397. (Dennis Dieks) **98e:81006** 81P05 (03B30)

— (*with* Daumer, Martin; Goldstein, Sheldon; Zanghi, Nino) On the quantum probability flux through surfaces. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 967–977. (Paul Busch) **98i:81026** 81P20 (81S20)

— (*with* Teufel, Stefan; Berndl, Karin; Goldstein, Sheldon; Zanghi, Nino) Locality and causality in hidden-variables models of quantum theory. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1217–1227. (S. Gudder) **98j:81030** 81P10 (81P15)

Dürr, S. (*with* Wipf, A.) Finite temperature Schwinger model with chirality breaking boundary conditions. (English summary) *Ann. Physics* **255** (1997), *no.* 2, 333–361. (Summary) **98b:81133** 81T10 (81V22)

Durrer, Ruth Global field dynamics and cosmological structure formation. (English summary) *Formation and interactions of topological defects* (*Cambridge*, 1994), 255–281, *NATO Adv. Sci. Inst. Ser. B Phys.*, 349, *Plenum, New York*, 1995. (Summary) **98f:83114** 83F05

Durrett, Richard ★ Probability: theory and examples. Second edition. *Duxbury Press, Belmont, CA*, 1996. xiii+503 *pp. ISBN* 0-534-24318-5 (Editors) **98m:60001** 60–01

— (*with* Neuhauser, Claudia) Coexistence results for some competition models. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 10–45. (Summary) **98g:60178** 60K35 (92B05, 92D40)

— (*with* Allouba, Hassan; Hawkes, John; Perkins, Edwin) Super-tree random measures. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 773–794. (Xue Lei Zhao) **98m:60074** 60G57 (60J80)

Durst, Franz (*with* Danov, Krassimir D.; Alleborn, Norbert; Raszillier, Hans) The stability of evaporating thin liquid films in the presence of surfactant. I. Lubrication approximation and linear analysis. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 131–143. 76E99 (76D08)

Dürst, Martin J. The progressive transmission disadvantage. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 347–350. 94A05

Dursun, Uğur (*with* Carter, Sheila) Isoparametric and Chen submanifolds. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid*, 1995), 41–45, *World Sci. Publishing, River Edge, NJ*, 1996. (Ivko Dimitric) **98e:53104** 53C42 (53A07, 53C40)

— Some results on spherical k-Chen submanifolds. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid*, 1995), 179–186, *World Sci. Publishing, River Edge, NJ*, 1996. (Ivko Dimitric) **98e:53089** 53C40

— (*with* Carter, Sheila) On generalised Chen and k-minimal immersions. *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 125–134. (Yi Bing Shen) **98b:53053** 53C42

— On product k-Chen submanifolds. *Glasgow Math. J.* **39** (1997), *no.* 3, 243–249. (Ivko Dimitric) **98j:53063** 53C40 (53C42)

Durt, Thomas Why God might play dice. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2271–2284. (S. Gudder) **98b:81009** 81P05 (81P10)

— (*with* Aerts, Diederik; Aerts, Sven; Coecke, Bob; D'Hooghe, Bart; Valckenborgh, Frank) A model with varying fluctuations in the measurement context. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 7–9, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)

— Three interpretations of the violation of Bell's inequalities. (English summary) *Found. Phys.* **27** (1997), *no.* 3, 415–434. (Emilio Santos) **98j:81010** 81P05

— (*with* Aerts, Diederik; Coecke, Bob; Valckenborgh, Frank) Quantum, classical and intermediate. I. A model on the Poincaré sphere. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 225–240. (S. Gudder) **98i:81016** 81P15

— (*with* Aerts, Diederik; Coecke, Bob; Valckenborgh, Frank) Quantum, classical and intermediate. II. The vanishing vector space structure. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 241–266. (S. Gudder) **98j:81022** 81P10 (81P15)

Duru, I. H. Quantum mechanical problems with q-deformations and over the p-adic number fields. *Symmetries in science, IX* (*Bregenz*, 1996), 93–97, *Plenum, New York*, 1997. (Evgenii I. Zelenov) **98g:81095** 81R99 (11Z05, 81Q99)

— (*with* Dayi, Ömer F.) q-Schrödinger equations for $V = u^2 + 1/u^2$ and Morse potentials in terms of the q-canonical transformation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2373–2384. (Summary) **98c:81096** 81R50 (81Q05)

— (*with* Ahmedov, H.) A q-oscillator Green's function. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3889–3894. (A. M. Gavrilik) **98f:81053** 81Q05 (33D80, 81R50)

Dury, Christian M. (*with* Ristow, Gerald H.) Radial segregation in a two-dimensional rotating drum. (English summary) *J. Physique I* **7** (1997), *no.* 5, 737–745. (Summary) **98a:82071** 82C05

Du Sautoy, Marcus P. F. *see* **du Sautoy, Marcus P. F.**

Dušek, Miloslav Impossibility of superluminal communication: a simple quantum mechanical exercise. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 2, 145–149. 81P05

Dushin, Fred (*with* Blair, Howard A.; Chidella, Jagan; Ferry, Audrey; Humenn, Polar) A continuum of discrete systems. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 153–186. (Summary) **98k:68034** 68N17 (68Q80)

Dushoff, Jonathan (*with* Huang, Wenzhang; Castillo-Chavez, Carlos) Backwards bifurcations and catastrophe in simple models of fatal diseases. *J. Math. Biol.* **36** (1998), *no.* 3, 227–248. 92C60

Dussault, J. P. (*with* Hamdi, Abdel; Mahey, P.) A new decomposition method in nonconvex programming via a separable augmented Lagrangian. (English summary) *Recent advances in optimization (Trier, 1996)*, 90–104, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:90121** 90C26

Dussy, Stéphane (*with* El Ghaoui, Laurent) Multi-objective bounded control of uncertain nonlinear systems: an inverted pendulum example. *Control of uncertain systems with bounded inputs*, 55–73, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Silvana Stefani) **98m:93067** 93C41 (93B52, 93C10)

— (*with* El Ghaoui, Laurent) Measurement-scheduled control for the RTAC problem: an LMI approach. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 377–400. (*see* **98k:93004**) 93C85 (93B52)

Duszyński, Zbigniew On the function of oscillation. *Problemy Mat. No.* 14 (1995), 15–20. (Babu Ram) **98f:26001** 26A12 (26A30)

Dutertre, Nicolas On p-parameter bifurcation of an n-dimensional function-germ. *Manuscripta Math.* **94** (1997), *no.* 1, 21–31. (Maria Aparecida Soares Ruas) **98i:58031** 58C27

Dutheil, R. Sur un modèle de photon tachyonique. (English and French summaries) [On a model of the tachyonic photon] *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 373–393. (Mariano A. del Olmo) **98f:81104** 81R20 (22E70, 81R05, 83A05)

Dutheillet, C. (*with* Barkaoui, Kamel; Couvreur, J. M.) On liveness in extended non-self-controlling nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 25–44, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68151** 68Q90

— (*with* Chiola, Giovanni; Franceschinis, G.; Haddad, Serge) A symbolic reachability graph for coloured Petri nets. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 39–65. (Wolfgang Reisig) **98c:68152** 68Q90

Dutka, Jacques On the summation of some divergent series of Euler and the zeta functions. *Arch. Hist. Exact Sci.* **50** (1996), *no.* 2, 187–200. (Bruce C. Berndt) **98a:11112** 11M06 (01A50, 11-03)

— A note on "Kepler's equation". *Arch. Hist. Exact Sci.* **51** (1997), *no.* 1, 59–65. (Ll. G. Chambers) **98d:70001** 70-03 (01A45, 70F05, 70F15)

de souza Dutra, A. *see* **de Souza Dutra, A.**

Dütsch, Michael (*with* Hurth, Tobias; Scharf, G.) Causal construction of Yang-Mills theories. III. (English summary) *Nuovo Cimento A* (11) **108** (1995), *no.* 6, 679–707. (Summary) **98c:81131** 81T13

— (*with* Hurth, Tobias; Scharf, G.) Causal construction of Yang-Mills theories. IV. Unitarity. (English summary) *Nuovo Cimento A* (11) **108** (1995), *no.* 6, 737–773. (Summary) **98c:81132** 81T13

— Non-uniqueness of quantized Yang-Mills theories. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7597–7617. (Tobias Hurth) **98a:81117** 81T13 (81T08, 81T15)

— On gauge invariance of Yang-Mills theories with matter fields. (English summary) *Nuovo Cimento A* (11) **109** (1996), *no.* 8, 1145–1186. (Tobias Hurth) **98b:81140** 81T13 (81T08, 81T15)

— Slavnov-Taylor identities from the causal point of view. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 18, 3205–3248. (Tobias Hurth) **98e:81108** 81T13 (81T15)

— (*with* Aste, A.; Scharf, G.) On gauge invariance and spontaneous symmetry breaking. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5785–5792. (Tobias Hurth) **98k:81165** 81T15 (81R40, 81T13)

Dutt, Shantanu (*with* Hayes, J. P.) A local-sparing design methodology for fault-tolerant multiprocessors. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 25–50. (Summary) **98g:68012** 68M15 (05C90)

— (*with* Mahapatra, Nihar R.) Node-covering, error-correcting codes and multiprocessors with very high average fault tolerance. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 997–1015. 68M15 (94B05)

Dutta, Bhaskar (*with* Sen, Arunava) Ranking opportunity sets and Arrow impossibility theorems: correspondence results. (English summary) *J. Econom. Theory* **71** (1996), *no.* 1, 90–101. (Fouad T. Aleskerov) **98a:90013** 90A05 (04A05, 06A05)

— (*with* Massó, Jordi) Stability of matchings when individuals have preferences over colleagues. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 464–475. (Summary) **98d:90046** 90A60 (90A07)

— (*with* Mutuswami, Suresh) Stable networks. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 322–344. (Summary) **98i:92053** 92H30 (90D40)

Dutta, Chandana (*with* Ganguly, D. K.) Some results on subseries of divergent series. *J. Pure Math.* **12** (1995), 22–26. (Jozef Antoni) **98m:40001** 40A05

Dutta, Debasish (*with* Allen, Seth) Supercyclides and blending. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 637–651. (Summary) **98c:65019** 65D17

— (*with* Allen, Seth) Results on nonsingular, cyclide transition surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 127–145. 65D17 (65Y25)

Dutta, J. (*with* Vetrivel, V.; Nanda, Sudarsan) On saddle points and optima for non-smooth and non-convex programs. (English summary) *Optimization* **42** (1997), *no.* 1, 71–83. (Summary) **98h:90076** 90C30 (49J52)

Dutta, Papia (*with* Goswami, Pranita; Baruah, Hemanta K.) The Latin square design using fuzzy data. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 767–779. 62K10 (04A72)

Dutta, S. P. Ext and Frobenius. II. *J. Algebra* **186** (1996), *no.* 3 724–735. (From the text) **98j:13012** 13D25 (13A30)

— Dualizing complex and the canonical element conjecture. II. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 49–63. (P. Schenzel) **98g:13010** 13D02 (13D45)

— A characterization of Gorenstein rings in characteristic $p(>0)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1637–1643. (J. K. Verma) **98g:13026** 13H10 (13A35)

— A note on the monomial conjecture. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2871–2878. (Yuji Yoshino) **98i:13047** 13H99 (13C15, 13D03)

Dutta, Sanjay Kumar (*with* Patra, Kuntala; Chetiya, Buddha Prasad) $\mathcal{ZS}$-metacyclic groups of automorphisms of compact Riemann surfaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 63–74. (G. M. Lyan) **98f:20032** 20H10 (30F10)

Dutta, T. K. *see* **Dutta, Tridib K.**

Dutta, Tapan Kumar[1] (*with* Sen, Paramita) Some characterisations of solvable groups using maximal θ-pairs. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 4, 295–302. (W. E. Deskins) **98a:20022** 20D10 (20E28)

— (*with* Biswas, B. K.) Fuzzy congruence and quotient semiring of a semiring. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 737–748. (Udo Hebisch) **98c:16063** 16Y60 (04A72)

Dutta, Tridib K. (*with* Roy, Bimal Kumar) Construction of symmetric balanced squares. (English summary) *Ars Combin.* **47** (1997), 49–64. (Summary) **98k:05017** 05B05

Dutta Gupta, Shamita On the Rankin-Selberg method for functions not of rapid decay on congruence subgroups. (English summary) *J. Number Theory* **62** (1997), *no.* 1, 115–126. (Solomon Friedberg) **98f:11041** 11F66 (11F12)

— Mean values of L-functions over function fields. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 101–131. (Solomon Friedberg) **98f:11042** 11F66 (11F70, 11M41, 11N36, 11R47)

Dutta Roy, S. C. (*with* Joshi, Y. V.) Design of IIR digital notch filters. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 415–427. 94A12

Dutter, Rudolf On robust estimation of variograms in geostatistics. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 153–171, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98i:86013** 86A32 (62F35, 62H11)

Dutto, Laura C. (*with* Habashi, Wagdi G.; Fortin, Michel) An algebraic multilevel parallelizable preconditioner for large-scale CFD problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 303–318. (*see* **98f:73002**) 76M25

— (*with* Yang, Geng; Fortin, Michel) Inexact block Jacobi-Broyden methods for solving nonlinear systems of equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1367–1392. (Ljiljana Petković) **98i:65044** 65H10 (65Y05, 76D05, 76M25, 76Y05)

Dutto, Patrick (*with* Impagliazzo, Jean-Luc; Novotny, Antonin) Schauder estimates for steady compressible Navier-Stokes equations in bounded domains. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 125–139. (Yu. G. Rykov) **98k:35148** 35Q30 (35B45, 76N10)

Dutton, Ronald D. (*with* Brigham, Robert C.) Pairs of maximal "almost" disjoint isomorphic subgraphs of spiders. (English summary) *Util. Math.* **52** (1997), 161–172. (Summary) **98i:05100** 05C35

Duursma, Iwan M. (*with* Bonnecaze, Alexis) Translates of linear codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1218–1230. (Summary) **98e:94026** 94B05

Duval, Anner *see* **Heun's differential equations, 98a:33005**

Duval, Art M. Algebraic shifting and sequentially Cohen-Macaulay simplicial complexes. (English summary) *Electron. J. Combin.* **3** (1996), *no.* 1, *Research Paper* 21, *approx.* 14 *pp.* (*electronic*). (Hideaki Morita) **98b:06009** 06A08 (52B20)

Duval, Béatrice (*with* Nicolas, Pascal) A theorem prover for Łukaszewicz' open default theory. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 311–319, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98f:68249** 68T27 (03B35, 68T15)

Duval, C. (*with* Ovsienko, V. Yu.) Space of second order linear differential operators as a module over the Lie algebra of vector fields. (English summary) *R.C.P. 25, Vol. 47 (Strasbourg, 1993–1995)*, 193–213, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Janusz Grabowski) **98f:17015** 17B66 (58G99, 81R10)

— (*with* Horváthy, P. A.) Chern-Simons vortices. (English summary) *Geometry and nature (Madeira, 1995)*, 271–288, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:81196** 81T13 (53C80, 58E15)

Duvall, P. (*with* Keesling, James) The dimension of the boundary of the Lévy dragon. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 627–632. 28A80 (28A78, 54E40, 54F45)

Duverney, Daniel Propriétés arithmétiques des solutions de certaines équations fonctionnelles de Poincaré. (English and French summaries) [Arithmetic properties of the solutions of some Poincaré functional equations] *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 443–447. (P. Bundschuh) **98b:11081** 11J72

— (*with* Nishioka, Keiji; Nishioka, Kumiko; Shiokawa, Iekata) Transcendence of Jacobi's theta series. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 9, 202–203. (Michael C. Berg) **98b:11044** 11F27 (11F03, 11J89, 11J91)

— Irrationalité de la somme des inverses de la suite de Fibonacci. (German summary) [Irrationality of the sum of the reciprocals of the Fibonacci sequence] *Elem. Math.* **52** (1997), *no.* 1, 31–36. (P. Bundschuh) **98c:11069** 11J72 (11B39)

— De Leibniz à Euler, en passant par Jacobi. [From Leibniz to Euler, by way of Jacobi] *Gaz. Math. No.* 72 (1997), 79–83. (Doru Ştefănescu) **98g:01030** 01A45 (01A50, 01A55, 11-03, 33D99)

— Explicit computation of Padé-Hermite approximants. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 80–91. (C. C. Rousseau) **98d:41023** 41A21

— Some arithmetical consequences of Jacobi's triple product identity. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 393–399. (P. Bundschuh) **98i:11050** 11J72 (11J82)

— (*with* Nishioka, Keiji; Nishioka, Kumiko; Shiokawa, Iekata) Transcendence of Rogers-Ramanujan continued fraction and reciprocal sums of Fibonacci numbers. *Proc.*

Japan Acad. Ser. A Math. Sci. **73** (1997), *no.* 7, 140–142. (Bruce C. Berndt) **98m:11078** 11J91 (11A55, 11B39)

Duvina, Sylvain (*with* Liouville, Joseph) Le Journal de mathématiques pures et appliquées sous la férule de Joseph Liouville (1836–1874): la solitude d'un directeur et ses conséquences. (English summary) [The Journal de Mathématiques Pures et Appliquées under the rule of Joseph Liouville (1836–1874): isolation of a director and its consequences] *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 157–171 (1997). (Summary) **98g:01039** 01A55

Duviryak, Askold Symmetries of the relativistic two-particle model with scalar-vector interaction. (English summary) Symmetry in nonlinear mathematical physics, Vol. 3 (Kiev, 1995). *J. Nonlinear Math. Phys.* **3** (1996), *no.* 3-4, 372–378. (J.-P. Antoine) **98b:81061** 81Q99 (70H40)

al-Duwaish, H. *see* **Al-Duwaish, H.**

khuat-Duy, David *see* **Khuat-Duy, David**

van der Duyn Schouten, Frank A. (*with* Dekker, Rommert; Wildeman, Ralph E.) A review of multi-component maintenance models with economic dependence. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 411–435. (Summary) **98c:90044** 90B25 (90A11)

nguyen Duy Thai Son *see* **Nguyen Duy Thai Son**

nguyen Duy Tien *see* **Nguyen Duy Tien**

Duzaar, Frank (*with* Fuchs, Martin[2]) Existence of area minimizing tangent cones of integral currents with prescribed mean curvature. (English summary) *Acta Math. Sci. (English Ed.)* **15** (1995), *no.* 1, 95–102. (Jon T. Pitts) **98c:49078** 49Q15 (49Q20, 53A10, 53C65)

— (*with* Steffen, Klaus) The Plateau problem for parametric surfaces with prescribed mean curvature. (English summary) *Geometric analysis and the calculus of variations*, 13–70, *Internat. Press, Cambridge, MA*, 1996. (Harold Parks) **98d:53011** 53A10 (35J60, 49Q20, 58E12)

— (*with* Steffen, Klaus) Existence of hypersurfaces with prescribed mean curvature in Riemannian manifolds. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1045–1093. (Harold Parks) **98h:49049** 49Q20 (53C42, 58E12)

Dvali, Gia (*with* Shifman, M. A.) Dynamical compactification as a mechanism of spontaneous supersymmetry breaking. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 127–146. (Summary) **98j:81134** 81R40 (81T60, 83E15)

— (*with* Dimopoulos, S.; Rattazzi, Riccardo) Dynamical inflation and unification scale on quantum moduli spaces. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 119–124. (Summary) **98j:81325** 81T60 (81T13, 81V22)

— (*with* Pomarol, Alex) Supersymmetry breaking with vanishing F-terms in supergravity theories. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 160–166. (Summary) **98h:83092** 83E50 (81T60)

Dvoeglazov, V. V. Fermion-fermion and boson-boson amplitudes: surprising similarities. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 62–65, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81122** 81U99

— Significance of the spinorial basis in the quantum theory. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 231–234, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R25

— A note on the relativistic covariance of the B-cyclic relations. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 383–391. 78A25

— Another Majorana idea: real and imaginary in the Weinberg theory. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 3, 635–642. (Bertfried Fauser) **98b:81081** 81R25 (81V15)

— Different quantum field constructions in the $(1/2, 0) \dotplus (0, 1/2)$ representation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 36, 2741–2748. (Summary) **98i:81271** 81V15 (81R25)

— Comment on: "Describing Weyl neutrinos by a set of Maxwell-like equations" [Nuovo Cimento B (11) **110** (1995), no. 1, 115–120; MR 96e:81075] by S. Bruce. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 847–852. (Summary) **98j:81123** 81R20 (81T99)

Dvorak, G. J. (*with* Bahei-El-Din, A.) Inelastic composite materials: transformation analysis and experiments. (English summary) *Continuum micromechanics*, 1–59, *CISM Courses and Lectures*, 377, *Springer, Vienna*, 1997. (*see* **98d:73002**) 73S10 (73E99, 73K20)

Dvořák, Jan[2] (*with* Skála, Lubomir) Analytical solution of the Schrödinger equation for the modified quartic oscillator. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **22** (1996), 5–10. (Summary) **98d:34010** 34A25 (34A05, 34L40, 81Q05)

— (*with* Skála, Lubomir) Analytic solution of the Schrödinger equation for generalized Kratzer potential. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **22** (1996), 11–22. (Summary) **98d:34007** 34A25 (34A05, 34L40, 81Q05)

Dvorak, Rudolf (*with* Siopis, Christos; Kandrup, Henry E.; Contopoulos, G.) Universal properties of escape in dynamical systems. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 57–68. (Summary) **98h:70026** 70K99 (58F40, 70–08, 70F15, 70H05)

— (*with* Kallrath, Josef; Schlöder, Johannes P.) Periodic orbits in the Sitnikov problem. (English summary) *The dynamical behaviour of our planetary system (Ramsau, 1996)*, 415–428, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70F07 (70F15)

— (*with* Sun, Yi-Sui) The phase space structure of the extended Sitnikov-problem. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 87–106. (Summary) **98f:70011** 70F07

— (*with* Contopoulos, G.; Voglis, N.; Efthymiopoulos, C.; Froeschlé, Claude; Gonczi, Robert; Lega, Elena; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

— Third body perturbations of double stars. (English summary) Visual double stars: formation, dynamics and evolutionary tracks (Santiago de Compostela, 1996). *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 1, 63–73. (*see* **98j:70013**) 70F15 (85A05)

— *see also* **Dynamical behaviour of our planetary system, 98g:70003** *and* **98m:70002**

Dvořák, Tomáš (*with* Havel, Ivan; Liebl, Petr) Euler cycles in the complete graph K_{2m+1}. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 89–102. (Cun-Quan Zhang) **98c:05103** 05C45

Dvorina, M. M. (*with* Gritsenko, V. I.; Strizhak, A. E.; Strizhak, P. E.) Violation of symmetry under Turing bifurcation—exact solutions. (Russian. Russian summary) *Kibernet. i Vychisl. Tekhn. No.* 99 (1993), 113–116. (Ladislav Andrey) **98h:35091** 35K57 (22E65, 22E70, 35A25, 35B32, 92B05, 92D25)

Dvornicich, R. Independence of values of algebraic functions. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 277–291. (N. Sankaran) **98c:12002** 12E25 (12E05)

Dvurečenskij, Anatolij Gleason's theorem and Cauchy's functional equation. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2687–2695. (D. J. Foulis) **98a:81008** 81P10 (39B52)

— Academician Štefan Schwarz (1914–1996). *Math. Slovaca* **46** (1996), *no.* 4, 433–434. 01A70

— (*with* Dorfer, Gerhard; Länger, Helmut) Symmetric difference in orthomodular lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 435–444. (Jānis Cīrulis) **98h:06019** 06C15 (03G12, 81P10)

— Remarks on Nikodým's boundedness theorem. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 25–51. (Marjan Matvejchuk) **98f:81022** 81P10 (46G12, 46N50)

— A note on the Nikodým boundedness theorem. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 229–238. (Serguey A. Malyugin) **98j:46071** 46L50 (46G10, 81P10)

— (*with* Duchoň, Miloslav; de Lucia, Paolo) Moment problem for effect algebras. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1941–1958. (D. J. Foulis) **98k:81019** 81P10 (03G12)

— Prof. Beloslav Riečan: sexagenarian. Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 9–16. (Editors) **98f:01063** 01A70

— A measure-theoretic characterization of inner product spaces. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 273–280. (Jan Hamhalter) **98f:46017** 46C15 (81P10)

— *see also* **Quantum structures, 98c:81004**

Dwarshuis, K. F. (*with* ten Dam, A. A.; Willems, Jan C.) The contact problem for linear continuous-time dynamical systems: a geometric approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 458–472. (Zheng Zhi Han) **98e:93027** 93B27 (34H05, 70F99)

Dwilewicz, Roman (*with* Boivin, André) Extension and approximation of CR functions on tube manifolds. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1945–1956. (J. Merker) **98h:32011** 32C16 (32D10, 32D15)

Dwivedi, A. P. (*with* Pandey, Sarita) Certain five series equations involving the product of "r" generalized Bateman K-functions. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 335–342. (R. N. Kalia) **98k:33028** 33C90 (26A33)

Dwivedi, Babita (*with* Abdussattar) On conharmonic transformations in general relativity. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 465–470. 83C99 (53B50)

Dwivedi, C. B. (*with* Das, G. C.; Talukdar, Madhuri; Sarma, Jnanjyoti) A new mathematical approach for shock-wave solution in a dusty plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 12, 4236–4239. (Summary) **98j:76150** 76X05 (76L05)

Dwivedi, I. H. (*with* Joshi, Pankaj S.) Initial data and the final fate of inhomogeneous dust collapse. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1223–1236. (Charles Hellaby) **98g:83051** 83C55

Dwivedi, P. K. (*with* Prasad, Baij Nath; Pandey, T. N.) C-derivation tensor. *J. Nat. Acad. Math. India* **10** (1992/96), 150–156 (1997). 53B40

Dwivedi, R. K. (*with* Chakraborty, Monotosh; Singh, Darogi) Fuzzy mixed integer linear programming with nonequivalent objectives. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 617–624. 90C10 (04A72, 90C70)

Dwork, Bernard M. On exponents of p-adic differential modules. *J. Reine Angew. Math.* **484** (1997), 85–126. (Takashi Harase) **98h:12008** 12H25 (11J91, 11S80, 12J27)

Dworkin, Morris Factorization of the cover polynomial. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 17–53. (Timothy Y. Chow) **98j:05006** 05A15 (05C20, 05C38, 05E10)

Dwyer, Vincent M. (*with* Kearney, Michael J.; Bressloff, Paul C.) On the convergence of a class of random geometric series with application to random walks and percolation theory. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L409–L414. (Stuart G. Whittington) **98k:82078** 82B41 (60J15, 82B43)

— (*with* Bressloff, Paul C.; Kearney, Michael J.) Classical localization and percolation in random environments on trees. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6765–6775. (Summary) **98f:82118** 82C70 (82C43, 82C44)

Dwyer, W. G. (*with* Møller, Jesper Michael) Homotopy fixed points for cyclic p-group actions. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3735–3739. (Haynes R. Miller) **98d:55013** 55P35 (55M20)

— (*with* Mitchell, Stephen A.) On the K-theory spectrum of a smooth curve over a finite field. *Topology* **36** (1997), *no.* 4, 899–929. (Stanisław Betley) **98g:19006** 19E08 (19D50, 55N15)

D'yachenko, M. I. Uniform convergence of double Fourier series for classes of functions with anisotropic smoothness. (Russian) *Mat. Zametki* **59** (1996), *no.* 6, 937–943; *translation in Math. Notes* **59** (1996), *no.* 5-6, 680–686. (Elijah Liflyand) **98g:42019** 42B05 (42A20)

— (*with* Vukolova, T. M.) Estimates for mixed norms of sums of double trigonometric series with multiply monotone coefficients. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 3–13; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 1–11. (From the text) **98g:42021** 42B05

D'yachin, V. (*with* Brill, Manfred; Hagen, Hans; Rodrian, Khans-Kristian; Klimenko, S. V.) The use of the streamball technique for visualizing flows. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 63–73; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 266–269. 76M25 (76–04)

— (*with* Brill, Manfred; Hagen, Hans; Rodrian, Khans-Kristian; Veimer, Khenrik; Klimenko, S. V.) Implicit methods for the visualization of a fluid flow. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 74–79; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 270–271. 76M25 (76–04)

D'yachkov, A. M. On the existence of the Stieltjes integral. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 158–161. (O. Lipovan) **98a:26010** 26A42

Dyadechko, E. Yu. (*with* Davydov, É. G.) On the application of controlled Markov processes in ecology. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 35–38, 51. 92D40 (90C40)

Dyadkin, Iosif G. (*with* Hamilton, Kenneth G.) A study of 64-bit multipliers for Lehmer pseudorandom number generators. (English summary) *Comput. Phys. Comm.* **103** (1997), *no.* 2-3, 103–130. (Summary) **98f:65013** 65C10

Dyakin, V. V. (*with* Ahner, John F.; Raevskiĭ, V. Ya.; Ritter, Stefan) On the spectral properties of operators in harmonic potential theory. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 1, 3–11, 157; *translation in Math. Notes* **59** (1996), *no.* 1-2, 3–9. (Summary) **98e:31003** 31B05 (47N20)

D'yakonov, E. G. Operator problems in strengthened Sobolev spaces and numerical methods for them. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 161–169, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65N30 (46E35, 46N40, 65J15, 65K10)

— A new approach to Dirichlet boundary conditions that is based on the use of strengthened Sobolev spaces. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 590–594. (Erwin Schechter) **98d:65132** 65N06 (65N25)

— Estimates for N-widths in the sense of Kolmogorov for some compacta in strengthened Sobolev spaces. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 32–50; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 4, 30–48. (Yuly Makovoz) **98h:41032** 41A46 (46E35)

Dyakonov, Konstantin M. Equivalent norms on Lipschitz-type spaces of holomorphic functions. *Acta Math.* **178** (1997), *no.* 2, 143–167. (Fernando Daniel Suárez) **98g:46029** 46E15 (46J15)

— The moduli of holomorphic functions in Lipschitz spaces. *Michigan Math. J.* **44** (1997), *no.* 1, 139–147. (Oscar Blasco) **98a:30041** 30D55 (30D40, 30D50)

D'yakonova, E. E. A branching process with migration in a random environment. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 30–42; *translation in Discrete Math. Appl.* **7** (1997), *no.* 1, 33–45. (I. Rakhimov) **98i:60083** 60J80

D'yakonova, M. (*with* Naval, Ê.; Savenko, L.) A simulation model of financial programming. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 105–115, 128, 131. 90A09 (90C90)

Dyatlov, G. V. (*with* Bukhgeĭm, A. L.; Isakov, Victor) Stability of memory reconstruction from the Dirichlet-Neumann operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 738–749, i; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 636–646. (Summary) **98g:35210** 35R30 (35L10, 45K05)

Dybjer, Peter (*with* Beylin, Ilya) Extracting a proof of coherence for monoidal categories from a proof of normalization for monoids. (English summary) *Types for proofs and programs (Torino, 1995)*, 47–61, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03036** 03F55 (03B35, 18D10)

— Internal type theory. (English summary) *Types for proofs and programs (Torino, 1995)*, 120–134, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03040** 03G30 (03B15, 03B35, 03F55, 18B99)

— (*with* Coquand, Thierry) Intuitionistic model constructions and normalization proofs. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 1, 75–94. (Summary) **98b:03022** 03B40 (03B70, 68Q55)

— Representing inductively defined sets by wellorderings in Martin-Löf's type theory. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 329–335. (Bart Jacobs) **98d:03013** 03B15 (18C10)

Dybkova, E. V. On net subgroups in a hyperbolic unitary group. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 79–86; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 725–731. (Alla S. Detinko) **98m:20080** 20M25

Dybvig, Philip H. Bond and bond option pricing based on the current term structure. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 271–293, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Dyckerhoff, Rainer (*with* Mosler, Karl) Orthant orderings of discrete random vectors. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 193–205. (Moshe Shaked) **98h:60020** 60E15

Dyckhoff, Roy *see* **Extensions of logic programming**, **98e:68003**

Dydak, Jerzy Extension theory: the interface between set-theoretic and algebraic topology. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 225–258. (K. Kuperberg) **98c:55003** 55M10 (54F45)

— Covariant and contravariant approaches to topology. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 621–626. (Summary) **98j:54011** 54B15 (54B17, 54C20, 54C35)

Dydo, James R. (*with* Busby, Henry R.) An improved algorithm for developing "special" finite element shape functions. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 9, 687–693. 65N30 (65D15)

dudek-Dyduch, Ewa *see* **Dudek-Dyduch, Ewa**

Dyduch, Tadeusz *see* **Proceedings: Conference on Engineering Computer Graphics and Descriptive Geometry**, **98m:51020**

Dye, R. H. Double-sixers of hexagons, A_6 and $\mathrm{PSL}_3(K)$. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 203–222. (I. Dolgachev) **98a:14049** 14J26 (14N05, 20D06)

— Space sextic curves with six bitangents, and some geometry of the diagonal cubic surface. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 85–97. (A. Sinan Sertöz) **98a:14069** 14N05 (14H50)

Dye, Shane (*with* Tomasgard, Asgeir; Wallace, Stein W.) Feasibility in transportation networks with supply eating arcs. (English summary) *Networks* **31** (1998), *no.* 3, 165–176. 90C10 (90B10)

Dyer, Charles C. (*with* Marleau, Francine R.; Shaver, Eric G.) Exact self-gravitating solutions for cosmic strings. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 376–380, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83F05

— (*with* Landry, Sylvie) Studies in the optical properties of the Einstein-de Sitter-Kasner ("cheese slices") universe. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 381–385, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

swinnerton-Dyer, H. P. F. *see* **Swinnerton-Dyer, H. P. F.**

Dyer, M. N. (*with* Bogley, W. A.) A group-theoretic reduction of J. H. C. Whitehead's asphericity question. (English summary) *Groups—Korea '94 (Pusan)*, 15–24, *de Gruyter, Berlin*, 1995. (Stephan Rosebrock) **98f:57005** 57M20 (20F19, 57M35)

Dyer, Martin (*with* Kannan, Ravindran) On Barvinok's algorithm for counting lattice points in fixed dimension. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 545–549. (Uwe Schnell) **98i:52021** 52C07 (90C27)

— (*with* Kannan, Ravindran; Mount, John) Sampling contingency tables. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 487–506. (Summary) **98i:68124** 68Q25 (60J10, 62H17, 68R05)

kłosek-Dygas, M. M. *see* **Kłosek-Dygas, M. M.**

van Dyk, David A. (*with* Meng, Xiao-Li) On the orderings and groupings of conditional maximizations within ECM-type algorithms. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 2, 202–223. (Summary) **98c:62042** 62F12 (62–04)

— (*with* Meng, Xiao-Li) The EM algorithm—an old folk-song sung to a fast new tune. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 511–567. (Lubomír Kubáček) **98j:62017** 62F10

van Dyke, Milton *see* **Van Dyke, Milton**

Dykema, Kenneth J. Free products of finite-dimensional and other von Neumann algebras with respect to non-tracial states. (English summary) *Free probability theory (Waterloo, ON, 1995)*, 41–88, *Fields Inst. Commun.*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Marie Choda) **98c:46131** 46L10 (46L35)

— Two applications of free entropy. *Math. Ann.* **308** (1997), *no.* 3, 547–558. (Dimitri Y. Shlyakhtenko) **98g:46099** 46L50 (46L10, 46L35)

Dykhovichnyĭ, A. A. (*with* Buldygin, V. V.) On some singular integrals and their applications to problems of statistical estimation. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 17–28. (Summary) **98d:62171** 62M15 (62M40)

Dykhta, V. A. Necessary conditions for the optimality of impulse processes with constraints on the image of the control measure. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 9–16; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 7–13 (1997). (M. P. Moklyachuk) **98a:49036** 49K27 (34K35, 49K40)

Dykstra, Richard L. (*with* El-Barmi, Hammou) Restricted product multinomial and product Poisson maximum likelihood estimation based upon Fenchel duality. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 2, 117–123. (G. P. Bhattacharjee) **98f:62041** 62F03 (62F10)

— (*with* Lee, Chu-In Charles; Yan, Xiaosong) Multinomial estimation procedures for two stochastically ordered distributions. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 4, 353–361. (Summary) **98m:62092** 62G05 (62F30)

Dym, Harry (*with* Freydin, Boris) Bitangential interpolation for upper triangular operators. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 105–142, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Joseph A. Ball) **98f:47016** 47A57 (47A48)

— (*with* Freydin, Boris) Bitangential interpolation for triangular operators when the Pick operator is strictly positive. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 143–164, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Joseph A. Ball) **98f:47017** 47A57 (47A48)

— *see also* **Topics in interpolation theory**, **98f:47001**

Dym, Jonathan (*with* Altas, Irfan; Gupta, Murli M.; Manohar, Ram P.) Multigrid solution of automatically generated high-order discretizations for the biharmonic equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1575–1585 (*electronic*). 65N55 (65N06, 76D07, 76M20)

Dymek, Feliks ★ Pewne szeregi potęgowe i transformaty całkowe. (Polish. English and Polish summaries) [Certain power series and integral transforms] *Wydawnictwa Akademii Górniczo-Hutniczej im. Stanisława Staszica w Krakowie (AGH), Kraków*, 1996. 47 *pp. ISBN* 83-905571-1-8 (Editors) **98c:44002** 44A10 (44–00)

Dymkov, M. P. (*with* Gaĭshun, Ivan Vasil'evich) Linear-quadratic optimal control for 2-D systems in Hilbert space. (English summary) *J. Electrotech. Math.* **1996**, *no.* 1, 65–74. (T. Kaczorek) **98e:49083** 49N10 (93C30, 93C55)

— The quadratic optimization problem in linear 2-D control systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 73–83; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 944–951. (Valeriu Prepeliță) **98i:49036** 49N10 (49K27, 93C35)

— Necessary conditions for optimality in convex problems of the control of discrete 2-D systems with constraints. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 161–166, 284; *translation in Differential Equations* **33** (1997), *no.* 2, 161–166. (Summary) **98j:49038** 49K99 (49K27, 49M37, 93C55)

— Constrained optimization problems for linear continuous-discrete 2-D control systems. (English summary) *J. Electrotech. Math.* **1997**, *no.* 1, 67–78. (T. Kaczorek) **98i:49030** 49K30

Dymnikov, V. P. (*with* Gritsun, A. S.) On the structure of the attractors of the finite-dimensional approximations of the barotropic vorticity equation on a rotating sphere. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 1, 13–32. (Yuri N. Skiba) **98e:76036** 76E20 (34D45, 34G10, 35B40, 65L06, 76M25, 76U05, 86A10)

Dymond, P. (*with* Dehne, Frank; Deng, Xiao Tie; Fabri, A.; Khokhar, A. A.) A randomized parallel three-dimensional convex hull algorithm for coarse-grained multicomputers. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 547–558. (Summary) **98f:68263** 68U05 (68Q22)

Dyn, Nira (*with* Levin, David) Analysis of Hermite-type subdivision schemes. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 117–124, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 41A63 (65D17)

— (*with* Narcowich, Francis J.; Ward, Joseph D.) A framework for interpolation and approximation on Riemannian manifolds. (English summary) *Approximation theory and optimization (Cambridge, 1996)*, 133–144, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98m:41003** 41A05 (46N40, 65D05)

— (*with* Cohen, Albert) Nonstationary subdivision schemes, multiresolution analysis, and wavelet packets. (English summary) *Signal and image representation in combined spaces*, 189–200, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (*see* **98m:94002**) 42C15 (94A11)

Dynkin, Eugene B. Lévy measure of superprocesses; absorption processes. (English summary) *Itô's stochastic calculus and probability theory*, 1–14, *Springer, Tokyo*, 1996. (Sylvie Roelly) **98f:60150** 60J55 (60G57, 60J25, 60K35)

— A new relation between diffusions and superdiffusions with applications to the equation $Lu = u^\alpha$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 439–444. (Summary) **98g:60139** 60J60

— A probabilistic approach to a nonlinear differential equation on a Riemannian manifold. (Russian) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 336–341; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 289–294 (1998). (Yu. E. Gliklikh) **98k:58243** 58G32 (35J60, 60G60)

— Stochastic boundary values and boundary singularities for solutions of the equation $Lu = u^\alpha$. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 1, 147–186. (Xue Lei Zhao) **98m:60125** 60J60 (35J65, 35R60, 60G57)

Dyn'kin, Evsey (*with* Hanin, Leonid G.) Spectral synthesis of ideals in Zygmund algebras: the asymptotic Cauchy problem approach. *Michigan Math. J.* **43** (1996), *no.* 3, 539–557. (Krishnan Parthasarathy) **98d:46055** 46J20 (46J10)

— Smoothness of a quasiconformal mapping at a point. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 3, 205–210; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 3, 601–605. (E. Złotkiewicz) **98g:30040** 30C62

— Estimates for asymptotically conformal mappings. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 275–304. (Albert Baernstein, II) **98h:30030** 30C62 (30D50, 30D60)

Dynnikov, I. A. The Alexander polynomial in several variables expressed in terms of Vassiliev invariants. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 1(313), 227–228; *translation in Russian Math. Surveys* **52** (1997), *no.* 1, 219–221. (Răzvan Gelca) **98g:57009** 57M25 (57N10)

Dyrek, Andrzej (*with* Golda, Zdzisław A.; Litterio, Marco; Sokołowski, Leszek M.; Amendola, Luca) Pure geometrical evolution of the multidimensional universe. (English summary) *Ann. Physics* **248** (1996), *no.* 2, 246–285. (Summary) **98c:83089** 83E15 (53C80)

Dyshko, A. L. (*with* Voronov, N. A.; Konyukhova, N. B.; Staroverova, I. B.) On nonlinear singular problems in relativistic cosmology. I. The Higgs field in Minkowski and Friedmann spaces. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1345–1361. (Summary) **98k:83096** 83F05 (35Q75)

— (*with* Voronov, N. A.; Konyukhova, N. B.; Staroverova, I. B.) On nonlinear singular problems in relativistic cosmology. II. The Higgs field in the de Sitter space. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1506–1519. (Summary) **98k:83097** 83F05 (35Q75)

Dyson, Janet (*with* Villella-Bressan, Rosanna; Webb, Glenn F.) Hypercyclicity of solutions of a transport equation with delays. *Nonlinear Anal.* **29** (1997), *no.* 12, 1343–1351. (Jan Turo) **98k:35201** 35R10 (35B99, 35Q80)

Dysthe, Kristian B. (*with* Jenkins, Alastair D.) The effective film viscosity coefficients of a thin floating fluid layer. (English summary) *J. Fluid Mech.* **344** (1997), 335–337. (Summary) **98i:76009** 76A99 (76D99)

— (*with* Trulsen, Karsten) Frequency downshift in three-dimensional wave trains in a deep basin. (English summary) *J. Fluid Mech.* **352** (1997), 359–373. (Summary) **98h:76012** 76B15 (76M25)

Dyszlewicz, Janusz ★ Boundary and initial-boundary value problems of the micropolar theory of elasticity. Translated from the Polish by Romuald Lenczewski and Artur Rozwadowski. *Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław*, 1997. 373 *pp. ISBN* 83-7085-198-3 (D. Ieşan) **98j:73007** 73B25 (35Q72, 73C99, 73V20)

— Stress equations of motion of Ignaczak type for the second axisymmetric problem of micropolar elastodynamics. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 3, 251–265. (D. Ieşan) **98e:73055** 73D20 (73B25)

Dyt, C. P. (*with* Quispel, G. R. W.) Volume-preserving integrators have linear error growth. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 25–30. 65L70

Dyte, David (*with* Phatarfod, R. M.; Pryde, A. J.) On the move-to-front scheme with Markov dependent requests. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 790–794. (Robert P. Dobrow) **98e:60109** 60J10 (68P10)

Dyukarev, Yu. M. Integral representations of a pair of nonnegative operators and interpolation problems in the Stieltjes class. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 165–184, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (D. M. Israfilov) **98k:30053** 30E20 (30E05, 44A60, 47A57)

Dzedzej, Zdzisław (*with* Graff, Grzegorz) Fixed point index for G-equivariant multivalued maps. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 179–195. (From the introduction) **98j:55003** 55M20 (54C60, 54H25)

Dzemyda, Gintautas Clustering of parameters on the basis of correlations: a comparative review of deterministic approaches. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 1, 83–118. (Summary) **98k:65078** 65U05 (65K05)

— On the visual analysis of extremal problems. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 2, 181–214. 90C30 (65K05)

Dzhabrailov, M. S. On coercive solvability of operator-differential equations in B-spaces. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1193–1197 (1996). (Atsushi Yagi) **98b:34081** 34G20 (47A50, 47N20)

Dzhalilov, A. A. Thermodynamic formalism for critical mappings of the circle. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1995), 57–66. (J. S. Joel) **98e:58071** 58F03

— (*with* Khanin, K. M.) On an invariant measure for homeomorphisms of the circle with one break point. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 201–202; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1198–1199. 28D05

Dzhalladova, I. A. Investigation of the stabilization of a mathematical model of a dynamical system with random action in the case of resonance. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1177–1181. 34F05 (34D99, 60H99)

Dzhamalov, M. Sh. On the asymptotics of Meixner polynomials. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 624–625. 33C45

Dzhangveladze, T. A. *see* **Reports: Seminar of I. Vekua Institute of Applied Mathematics, Enlarged Sessions, 98g:00015a**

Dzhaparidze, G. K. A constructive game semantics for the language of linear logic. (English summary) *Ann. Pure Appl. Logic* **85** (1997), *no.* 2, 87–156. (Henry Africk) **98j:03086** 03F50 (03B25, 03B60, 03B70, 03F30, 68Q55)

Dzhaparidze, K. O. (*with* Spreij, Peter) On optimality of regular projective estimators for semimartingale models. III. One step improvements. (English summary) *Stochastics Stochastics Rep.* **56** (1996), *no.* 1-2, 63–74. (Martin Jacobsen) **98c:62165** 62M09 (60G44)

— *see also* **Mathematics of finance, 98d:90010**

Dzhelatova, Mariana N. On the L-flow problem. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 3–7. 90C35 (90B10)

— On the multicriteria network flow. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **45** (1997), 59–63. 90C29 (90C35)

Dzhibladze, M. A. (*with* Baues, Hans-Joachim; Tonks, Andy) Cohomology of monoids in monoidal categories. *Operads: Proceedings of Renaissance Conferences (Hartford, CT/Luminy, 1995)*, 137–165, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (R. H. Street) **98a:18007** 18D10 (18D35, 18G50)

— A presentation of the initial lift-algebra. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 185–198. (Anna Labella) **98c:18002** 18B25 (03G30)

de Dzhiovanni, F. *see* **de Giovanni, Francesco**

Dzhishkariani, A. V. On the rate of convergence of a projection-iterative method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 663–669. (Bernd Heinrich) **98e:65088** 65N12 (65N30)

Dzhordzhadze, G. P. Constrained quantization on symplectic manifolds and quantum distribution functions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2851–2879. (Wojciech Lisiecki) **98f:81152** 81S10 (58F06, 81R30)

de Dzhovanni, F. *see* **de Giovanni, Francesco**

Dzhrbashyan, A. M. On some classes of subharmonic functions. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 1, 34–49 (1996). (A. Yu. Rashkovskiĭ) **98f:31001** 31A05 (31A10)

Dzhrbashyan, M. M. (*with* Zakharyan, V. S.) ★ Классы и граничные свойства функций, мероморфных в круге. (Russian. Russian summary) [Classes and boundary properties of functions that are meromorphic in the disk] *Fizmatlit "Nauka", Moscow*, 1993. 224 *pp. ISBN* 5-02-014317-2 (Publisher's description) **98h:30053** 30D40

Dzhumadil'daev, A. S. Symmetric (co)homologies of Lie algebras. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 497–502. (Teimuraz Pirashvili) **98c:17019** 17B56 (17B65)

— Cosmologies and deformations of semidirect sums of Lie algebras. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 586–588. 17B56

Dzhusoshaliev, V. D. Kolmogorov's algorithmic complexity and its probability interpretation in quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 603–612. (Frank Antonsen) **98m:83029** 83C45 (68Q30, 81V17)

Dzhuraev, Abdukhamid Dzhuraevich On linear boundary value problems in the unit ball of $\mathbf{C}^n$. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 2, 271–295. (Wolfgang Tutschke) **98d:35161** 35N15 (32A10, 35J55)

Dzhuraev, T. D. (*with* Kadyrov, R. R.) On the behavior at infinity of the solution of nonlocal boundary value problems for elliptic-parabolic equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1995), 66–72. (Andreas Müller-Rettkowski) **98d:35158** 35M10 (35B40, 35D99, 35J70)

Dziarmaga, Jacek (*with* Zakrzewski, Wojciech J.) What happens with an initially kicked soliton? (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 227–232. 81T10 (35Q51)

Dzieciol, A. *see* **Fröman, Nanny, 98m:81033**

Dziedziul, Karol (*with* Bešlka, Marek) Multiresolution and approximation and Hardy spaces. (English summary) *J. Approx. Theory* **88** (1997), *no.* 2, 154–167. (I. Ya. Novikov) **98f:42027** 42C15 (42B30)

Dzieliński, Andrzej (*with* Żbikowski, Rafał) Fourier transform symmetry and invariance for neurocontrol of Narma models. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 1985–1993. (*see* **98i:00030**) 93C83 (93B25)

Dzinotyiweyi, H. A. M. (*with* van Rooij, Arnoud C. M.) Non-Archimedean harmonic analysis on topological semigroups. II. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 107–113, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Summary) **98h:11102** 11K41 (22A30, 43A99, 46S10)

Dziok, Jacek (*with* Stankiewicz, Jan) The order of starlikeness of the p-valent α-convex functions. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 5–12. (Summary) **98g:30020** 30C45

— Classes of analytic functions involving some integral operator. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 21–39. (Herb Silverman) **98i:30007** 30C45

— The order of starlikeness of the p-valent alpha-convex functions and Nunokawa's conjecture. *Demonstratio Math.* **30** (1997), *no.* 3, 655–660. (Paul Eenigenburg) **98m:30015** 30C45

Dziri, Raja (*with* Zolésio, Jean-Paul) Shape existence in Navier-Stokes flow with heat convection. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 165–192. (Rodolfo Salvi) **98m:35155** 35Q30 (49Q15, 76D05)

— (*with* Zolésio, Jean-Paul) Shape-sensitivity analysis for nonlinear heat convection. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 1, 1–20. (Bernard Rousselet) **98a:49064** 49Q10 (35Q99, 76D05, 76R05)

— (*with* Zolésio, Jean-Paul) Interface minimisant l'énergie dans un écoulement stationnaire de Navier-Stokes. (English and French summaries) [Interface minimizing the energy of a stationary Navier-Stokes flow] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1439–1444. (Ruxandra Stavre) **98e:49101** 49Q20 (49J45, 76D05, 76M30)

Dziubański, Jacek Triebel-Lizorkin spaces associated with Laguerre and Hermite expansions. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3547–3554. (Sundaram Thangavelu) **98c:42026** 42C10 (22E10, 33C80, 42B25, 42C15)

— (*with* Zienkiewicz, Jacek) Hardy spaces associated with some Schrödinger operators. (English summary) *Studia Math.* **126** (1997), *no.* 2, 149–160. (Norman J. Weiss) **98k:42029** 42B30 (35J10, 46E15, 47D06)

Dziubdziela, W. (*with* Chrapek, M.; Dudkiewicz, Jadwiga) On the limit distributions of kth order statistics for semi-Pareto processes. (English summary) *Appl. Math. (Warsaw)* **24** (1996), *no.* 2, 189–193. (Barry C. Arnold) **98f:60096** 60G70 (60F05, 62G30)

— A note on the characterization of some minification processes. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 4, 425–428. (Barry C. Arnold) **98j:60096** 60J05 (60G10)

Dziubiński, I. (*with* Połubiński, J.) Some integral form of the logarithm in commutative Banach algebras. (English summary) *Demonstratio Math.* **30** (1997), *no.* 2, 329–338. (Catalin Badea) **98k:46072** 46G20 (46H30, 46J05)

Dzjadyk, V. K. *see* **Dzyadyk, Vladislav Kirillovich**

Džurina, Jozef (*with* Šoltés, Vincent) Comparison theorems for the second order nonlinear differential equations. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 7–13. (Summary) **98j:34054** 34C10

— Property (A) of *n*th order ODE's. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 349–356. (James M. D'Archangelo) **98m:34069** 34C10 (34C11, 34D05)

— (*with* Šoltés, Vincent) Asymptotic properties of delay differential equations. (English summary) *Math. Nachr.* **185** (1997), 59–66. (A. F. Ivanov) **98e:34132** 34K15 (34K20)

Dzyadyk, Vladislav Kirillovich (*with* Andrievskii, Vladimir; Belyi, Vladimir I.) ★ Conformal invariants in constructive theory of functions of complex variable. Translated from the Russian by D. N. Kravchuk. Advanced Series in Mathematical Science and Engineering, 1. *World Federation Publishers Company, Atlanta, GA*, 1995. x+199 *pp. ISBN* 1-885978-04-9 (David A. Herron) **98j:30041** 30E10 (30C62)

— (*with* Shevchuk, I. A.) Remarks on the Lebesgue constant of the Rogosinski kernel. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 7, 1002–1004; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1125–1128 (1998). 42A20 (44A15)

Dzyuba, I. A. On a variant of the multicomponent alternating direction method for solving a system of equations in elasticity. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 941–945, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 945–949 (1998). 65N06 (73V20)

–E–

E, Ming Cheng (*with* Wang, Ai Hu; Zha, Jian Zhong; Wang, Jin Min) A unified algorithm for the clipping, intersection and union operations on simple polygons. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 281–286. (Summary) **98f:52022** 52C15

E, Weinan (*with* Liu, Jian-Guo) Finite difference schemes for incompressible flows in vorticity formulations. (English summary) *Vortex flows and related numerical methods, II (Montreal, PQ, 1995), 181–195, ESAIM Proc., 1, Soc. Math. Appl. Indust., Paris, 1996.* (Summary) **98b:76047** 76M20

— (*with* Rykov, Yu. G.; Sinaĭ, Yakov Grigor′evich) Generalized variational principles, global weak solutions and behavior with random initial data for systems of conservation laws arising in adhesion particle dynamics. (English summary) *Comm. Math. Phys.* **177** (1996), *no.* 2, 349–380. (Reza Malek-Madani) **98a:82077** 82C21 (35D05, 35L65, 35R60)

— (*with* Liu, Jian-Guo) Finite difference methods for 3D viscous incompressible flows in the vorticity-vector potential formulation on nonstaggered grids. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 57–82. (Summary) **98j:76094** 76M20 (65M06)

— (*with* Palffy-Muhoray, P.) Phase separation in incompressible systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, R3844–R3846. (Summary) **98c:82038** 82B99 (82B26)

Eades, Peter (*with* Whitesides, Sue) The logic engine and the realization problem for nearest neighbor graphs. (English summary) *Theoret. Comput. Sci.* **169** (1996), *no.* 1, 23–37. (Summary) **98g:68063** 68Q25 (68R10, 68U05)

— (*with* Lin, Xuemin) Spring algorithms and symmetry (extended abstract). (English summary) *Computing and combinatorics (Shanghai, 1997), 202–211, Lecture Notes in Comput. Sci., 1276, Springer, Berlin, 1997.* (*see* **98k:68004**) 68R10 (05C85)

Eames, I. (*with* Hunt, J. C. R.) Forces on bodies moving in a weak density gradient without buoyancy effects. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996), 135–142, Fluid Mech. Appl., 41, Kluwer Acad. Publ., Dordrecht, 1997.* (*see* **98f:76002**) 76T05 (76D99)

— (*with* Hunt, J. C. R.) Inviscid flow around bodies moving in weak density gradients without buoyancy effects. (English summary) *J. Fluid Mech.* **353** (1997), 331–355. (From the summary) **98j:76020** 76C99 (76V05)

Eardley, Douglas M. Black hole boundary conditions and coordinate conditions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2299–2304. (Alexander N. Petrov) **98m:83043** 83C57 (83C99)

Earl, Richard The Mumford relations and the moduli of rank three stable bundles. (English summary) *Compositio Math.* **109** (1997), *no.* 1, 13–48. (Tohru Nakashima) **98j:14010** 14D20

Earle, Clifford J. (*with* Li, Zhong[1]) Extremal quasiconformal mappings in plane domains. *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995), 141–157, Springer, New York, 1998.* (Alexander Vasil′ev) **98j:30014** 30C62 (30C75, 30F60)

— (*with* Bott, Raoul; Hejhal, Dennis; Jenkins, James A.; Jorgensen, Troels; Marden, Albert; Osserman, Robert) Lars Valerian Ahlfors (1907–1996). Edited and with an introduction by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 248–255. (Editors) **98m:01028** 01A70

Earman, John (*with* Belot, Gordon) Chaos out of order: quantum mechanics, the correspondence principle and chaos. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 147–182. (Matthew J. Donald) **98m:81038** 81Q50 (00A30, 00A79, 58F13, 70K50)

Earnest, A. G. (*with* Khosravani, Azar) Representation of integers by positive definite binary Hermitian lattices over imaginary quadratic fields. (English summary) *J. Number Theory* **62** (1997), *no.* 2, 368–374. (Detlev W. Hoffmann) **98a:11047** 11E39 (11E41, 11H50)

— (*with* Khosravani, Azar) Universal binary Hermitian forms. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1161–1168. (Parvati Shastri) **98a:11048** 11E39

Easdown, David (*with* Gould, Victoria) Cancellative orders. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 185–195. (B. Pondělíček) **98h:20105** 20M17

Easson, W. J. (*with* Buick, J. M.; Greated, C. A.) Investigation of a lattice gas model for surface gravity waves. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2585–2597. (Summary) **98d:76012** 76B15 (76M25)

— (*with* Buick, J. M.; Greated, C. A.) Numerical simulation of internal gravity waves using a lattice gas model. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 6, 657–676. (Summary) **98m:76042** 76C10 (76M25, 76V05)

Eastham, M. S. P. (*with* Brown, B. Malcolm; McCormack, D. K. R.) A new algorithm for computing the spectral matrix for higher-order differential equations and the location of discrete eigenvalues. *The mathematics of numerical analysis (Park City, UT, 1995), 145–156, Lectures in Appl. Math., 32, Amer. Math. Soc., Providence, RI, 1996.* (Tassilo Küpper) **98c:65134** 65L10 (65L15)

— (*with* Brown, B. Malcolm; McCormack, D. K. R.) Spectral concentration and rapidly decaying potentials. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 333–348. (Günter Stolz) **98f:34126** 34L40 (34B24, 65L10)

— (*with* Brown, B. Malcolm; McCormack, D. K. R.) Spectral concentration and perturbed discrete spectra. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 415–425. (Summary) **98h:34145** 34L40 (34B24)

— The asymptotic nature of spectral functions in Sturm-Liouville problems with continuous spectrum. *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 573–582. (Bernard J. Harris) **98h:34146** 34L40 (34B24)

— (*with* Brown, B. Malcolm; McCormack, D. K. R.) A new algorithm for computing the asymptotic solutions of a class of linear differential systems. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 1, 119–131. (Archibald D. MacGillivray) **98h:34023** 34A45 (34–04, 34E05)

Eastwood, Bruce Stansfield Astronomy in Christian Latin Europe c.500–c.1150. *J. Hist. Astronom.* **28** (1997), *no.* 3, 235–258. 01A35

Eastwood, Michael G. Notes on conformal differential geometry. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 57–76. (A. Rod Gover) **98g:53021** 53A30 (58G30)

— (*with* Bailey, Toby N.) Zero-energy fields on real projective space. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 245–258. (Stephen Huggett) **98h:32054** 32L25 (53C65)

— (*with* Slovák, Jan) Semiholonomic Verma modules. (English summary) *J. Algebra* **197** (1997), *no.* 2, 424–448. (William M. McGovern) **98k:22054** 22E46 (17B35)

— Complex methods in real integral geometry. (English summary) With the collaboration of T. N. Bailey and C. R. Graham. The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 55–71. (Sergey Merkulov) **98j:32037** 32L25 (53C56)

Easwaran, Chirakkal V. A scaled characteristics method for the asymptotic solution of weakly nonlinear wave equations. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 03, 10 *pp.* (*electronic*). (Summary) **98h:35027** 35C20 (35L70)

Eatock Taylor, R. (*with* Huang, J. B.) Second-order wave-diffraction by an axisymmetric body in monochromatic waves. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1515–1541. (Summary) **98f:76011** 76B15

Eaton, Morris L. (*with* Giovagnoli, Alessandra; Sebastiani, Paola) A predictive approach to the Bayesian design problem with application to normal regression models. (English summary) *Biometrika* **83** (1996), *no.* 1, 111–125. (S. Mejza) **98c:62142** 62K05 (62C10, 62F15, 62J02)

Eaton, Nancy Ramsey numbers for sparse graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 63–75. (Summary) **98m:05127** 05C55

Eaves, B. Curtis (*with* Rothblum, Uriel G.) Approximations and complexity for computing algebraic curves. (English summary) *The mathematics of numerical analysis (Park City, UT, 1995), 307–321, Lectures in Appl. Math., 32, Amer. Math. Soc., Providence, RI, 1996.* (Hale F. Trotter) **98b:68089** 68Q40 (14Q05)

Ebanks, Bruce R. Determination of measurable sum form information measures satisfying $(2,2)$-additivity of degree (α, β). II. The whole story. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 159–169. (Summary) **98m:39066** 39B22 (94A17)

— (*with* Kannappan, Palaniappan; Sahoo, Prasanna K.; Sander, Wolfgang) Characterizations of sum form information measures on open domains. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 1–30. (Summary) **98m:39057** 39B05 (39–02, 39B52, 94A17)

— Regular recursive measures of information from general ones via the double difference property. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 49–62. (Boris D. Kudryashov) **98m:94019** 94A17

— (*with* Zhong, Ju Kang; Ng, C. T.; Sahoo, Prasanna K.; Zeng, Wei Bin) Quadratic differences that depend on the product of arguments. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 53–74. (László Székelyhidi) **98i:39010** 39B52

— (*with* Zhong, Ju Kang; Ng, C. T.; Sahoo, Prasanna K.) Erratum to: "On a quadratic-trigonometric functional equation and some applications" [Trans. Amer. Math. Soc. **347** (1995), no. 4, 1131–1161; MR 95j:39041]. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4691. (Editors) **98b:39026** 39B52 (39B22, 39B32)

Ebbesen, Sten The more the less. Natural philosophy and sophismata in the thirteenth century. (French summary) *La nouvelle physique du XIV^e siècle (Nice, 1993), 9–44, Bibl. Nuncius Studi Testi, XXIV, Olschki, Florence, 1997.* (Summary) **98g:01023** 01A35

Ebbinghaus, H.-D. Maschinen und Kreativität: metamathematische Argumente für das menschliche Denken. [Machines and creativity: metamathematical arguments for human thought] *Philos. Natur.* **29** (1992), *no.* 1, 1–30. (Siegfried Gottwald) **98g:03007** 03A05 (00A30, 68Q99, 68T01)

Ebeling, Wolfgang (*with* Gusein-Zade, S. M.) Coxeter-Dynkin diagrams of fat points in $\mathbf{C}^2$ and of their stabilizations. *Math. Ann.* **306** (1996), *no.* 3, 487–512. (Jan Stevens) **98b:32033** 32S30

Ebenfelt, Peter On the unique continuation problem for CR mappings into nonminimal hypersurfaces. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 385–405 (1997). (Elisabetta Barletta) **98h:32030** 32F40 (32F25)

— (*with* Shapiro, Harold S.) A quasi-maximum principle for holomorphic solutions of partial differential equations in $\mathbf{C}^n$. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 27–61. (Steven George Krantz) **98c:35006** 35A20 (35B50)

— Holomorphic extension of solutions of elliptic partial differential equations and a complex Huygens' principle. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 87–104. (Masafumi Yoshino) **98g:35029** 35B60 (35A20, 35J30)

Eberbach, Eugene (*with* Garzon, Max) Dynamical implementation of nondeterministic automata and concurrent systems. (English summary) *Automata implementation (London, ON, 1996), 35–49, Lecture Notes in Comput. Sci., 1260, Springer, Berlin, 1997.* (Summary) **98k:68119** 68Q68 (58F08, 68Q10)

Eberhard, Peter (*with* Jiang, Shoushan) Collision detection for contact problems in mechanics with a boundary search algorithm. (English summary) *Math. Model. Systems* **3** (1997), *no.* 4, 265–281. 70B15 (65Y25, 70–04, 70E99)

Eberhard, Walter (*with* Elbert, Árpád) Half-linear eigenvalue problems. (English summary) *Math. Nachr.* **183** (1997), 55–72. (Summary) **98a:34021** 34B15 (34L20, 34L30)

Eberhart, Carl (*with* Fugate, J. B.) Universal maps on trees. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4235–4251. (J. J. Charatonik) **98m:54048** 54H25 (54F15)

Eberlein, Patrick B. ★ Geometry of nonpositively curved manifolds. (English summary) Chicago Lectures in Mathematics. *University of Chicago Press, Chicago, IL, 1996.* vii+449 *pp. ISBN* 0-226-18197-9; 0-226-18198-7 (Maria J. Druetta) **98h:53002** 53–02 (53C20, 53C21, 53C35)

Eberly, J. H. (*with* Law, Chi-Kwong; Kneer, B.) Preparation of an arbitrary density matrix of a harmonic oscillator. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2149–2158. (Summary) **98i:81296** 81V80 (81P05, 82B10)

Eberly, Janice C. (*with* Abel, Andrew B.) An exact solution for the investment and value of a firm facing uncertainty, adjustment costs, and irreversibility. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 831–852. (N. H. Bingham) **98e:90023** 90A09

Eberspächer, Matthias (*with* Apagyi, Barnabás; Scheid, Werner) The inverse scattering problem for coupled channels with the modified Newton-Sabatier method. (English summary) *Inverse and algebraic quantum scattering theory (Lake Balaton, 1996), 98–111, Lecture Notes in Phys., 488, Springer, Berlin, 1997.* (*see* **98j:81005**) 81U40

Ebert, Frank Practical implementation of a survey for estimating quadratic objective functions. (English summary) *Constructing scalar-valued objective functions (Hagen,*

1995), 215–226, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90A06 (90C30)

Ebert, G. L. (*with* Baker, Ronald D.; Hemmeter, J.; Woldar, A. J.) Maximal cliques in the Paley graph of square order. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 33–38. (A. A. Makhnev) **98a:05084** 05C35

— Replaceable nests. *Mostly finite geometries* (*Iowa City, IA*, 1996), 35–49, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Norman L. Johnson) **98m:51007** 51E15

Ebert, Jürgen (*with* Vossen, Gottfried) I-serializability: generalized correctness for transaction-based environments. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 221–227. (Summary) **98e:68042** 68P10

Eberwein, Curtis J. (*with* Kollintzas, Tryphon) A dynamic model of bargaining in a unionized firm with irreversible investment. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 91–115. 90A50 (90A16)

Ebiefung, Aniekan A. (*with* Kostreva, Michael M.) The generalized linear complementarity problem: least element theory and Z-matrices. (English summary) *J. Global Optim.* **11** (1997), *no.* 2, 151–161. (R. N. Kaul) **98h:90093** 90C33

Ebihara, Yukiyoshi (*with* Fukuda, Hajime; Kurokiba, Masaki) On degenerate parabolic equations with quadratic convection. (English summary) *Fukuoka Univ. Sci. Rep.* **26** (1996), *no.* 2, 79–87. (Alexander L. Gladkov) **98a:35077** 35K65 (35K55, 35Q35)

— (*with* Makino, Midori) On the heat equation applied to shallow geothermics. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 401–412. (P. Rochus) **98e:86003** 86A60 (35K05)

Ebisuzaki, T. (*with* Sumiyoshi, K.) Performance of parallel solution of a block-tridiagonal linear system of Fujitsu VPP500. (English summary) *Parallel Comput.* **24** (1998), *no.* 2, 287–304. 65–04

Ebrahimi, M. Mehdi (*with* Mahmoudi, M.) When is the category of separated M-sets a quasitopos or a topos? (English and Persian summaries) *Bull. Iranian Math. Soc.* **21** (1995), *no.* 1, 25–33. (Summary) **98a:18004** 18B25

Ebrahimi, Nader (*with* Kirmani, S. N. U. A.) A characterisation of the proportional hazards model through a measure of discrimination between two residual life distributions. (English summary) *Biometrika* **83** (1996), *no.* 1, 233–235. (A. H. Khan) **98m:62280** 62N05 (62E10, 94A17)

— Testing whether lifetime distribution is decreasing uncertainty. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 9–19. (Summary) **98m:62139** 62G10

— (*with* Spizzichino, Fabio) Some results on normalized total time on test and spacings. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 231–243. (Summary) **98m:62281** 62N05

— Estimating the finite population versions of mean residual life-time function and hazard function using Bayes method. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 15–27. (Summary) **98m:62282** 62N05 (62F10)

Ebrahimi-Vishki, H. R. (*with* Pourabdollah, Mohammad Ali) On universal commutative compactification of semigroups. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 65–69, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 43A60 (22A15)

Eby, Peter Machian mechanics with isotropic inertia. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 621–635. (Jaume J. Carot) **98d:83067** 83C99 (70F15, 70G99)

Ecalle, Jean (*with* Vallet, Bruno) Passive and active resonance. Non-linear resurgence and isoresurgent deformations. (English summary) *The Stokes phenomenon and Hilbert's 16th problem* (*Groningen*, 1995), 103–138, *World Sci. Publishing, River Edge, NJ*, 1996. (J. S. Joel) **98e:58148** 58F36 (32S65, 34A25, 34C20, 40H05)

Eccles, Peter J. (*with* Turner, Paul R.; Wilson, W. Stephen) On the Hopf ring for the sphere. *Math. Z.* **224** (1997), *no.* 2, 229–233. (Edgar H. Brown, Jr.) **98e:55024** 55T25 (55P42, 55P47, 55S12, 55S15)

Echahed, Rachid (*with* Antoy, Sergio; Hanus, Michael) Parallel evaluation strategies for functional logic languages. (English summary) *Logic programming* (*Leuven*, 1997), 138–152, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68030** 68N15 (68N17)

Echegaray, José ★ José Echegaray. (Spanish) Edited and with a biography of Echegaray by José Manuel Sánchez Ron. Biblioteca de la Ciencia Española. [Spanish Science Library] *Fundación Banco Exterior, Madrid*, 1990. 499 *pp. ISBN* 84-86884-77-2 (M. Hormigon) **98d:01042** 01A75 (01A55, 01A70)

Echevarría, R. The numerical solution of some elliptic nonscalar problems with nonlinear discontinuities. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 131–147. (Summary) **98j:65078** 65N30 (65N12)

Echeverría, Javier Leibniz, interprète de Desargues. [Leibniz, interpreter of Desargues] *Desargues en son temps*, 283–293, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45

— The theory of signs in Carnap. (Spanish) *Carnap's program* (*Spanish*), 91–109, *Textos Bronce*, 3, *Bronce, Barcelona*, 1996. (*see* **98k:03013**) 03A05

— *see also* **Leibniz, Gottfried Wilhelm**, **98g:01032** *and* **Sánchez-Mazas, Miguel**, (**98m:00014**)

Echi, Othman (*with* Belaïd, Karim; Cherif, Bahri) On spectral binary relation [relations]. *Commutative ring theory* (*Fès*, 1995), 79–88, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Michael E. Detlefsen) **98a:06001** 06A06 (13A15, 54F05, 54H10)

Echterhoff, Siegfried (*with* Raeburn, Iain) The stabilisation trick for coactions. *J. Reine Angew. Math.* **470** (1996), 181–215. (Tsuyoshi Kajiwara) **98c:46142** 46L55 (22D25)

— Crossed products with continuous trace. (English summary) *Mem. Amer. Math. Soc.* **123** (1996), *no.* 586, viii+134 *pp.* (G. Loupias (Zbl 876.46045)) **98f:46055** 46L55 (22D25)

Ecimovic, Paule Patterns in a Hopfield linear associator as autocorrelatory simultaneous Byzantine agreement. (English summary) *Informatica* (*Ljubl.*) **22** (1998), *no.* 1, 69–74. 68Q10 (68T05)

Eck, Ch. (*with* Jarušek, J.) Dynamic contact problem with Coulomb friction for viscoelastic bodies, existence of solutions for a general body. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 111–115, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73T05 (35Q72, 73F15)

Eckelt, P. (*with* Stegemerten, B.) Hyperbolicity in a double-well potential. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2497–2508. (Federico Finkel) **98g:70015** 70H99 (58F15)

Ecker, Klaus Lectures on geometric evolution equations. (English summary) *Instructional Workshop on Analysis and Geometry, Part II* (*Canberra*, 1995), 79–107, *Proc. Centre Math. Appl. Austral. Nat. Univ.*, 34, *Austral. Nat. Univ., Canberra*, 1996. (Ben Andrews) **98c:58035** 58E20 (35K55, 53A10, 58E15, 58G11)

— Interior estimates and longtime solutions for mean curvature flow of noncompact spacelike hypersurfaces in Minkowski space. *J. Differential Geom.* **46** (1997), *no.* 3, 481–498. (Barbara Priwitzer) **98j:58034** 58E15 (35J60, 53C21)

Eckert, Kerstin (*with* Bestehorn, Michael; Thess, André) Square cells in surface-tension-driven Bénard convection: experiment and theory. (English summary) *J. Fluid Mech.* **356** (1998), 155–197. 76E15 (76–05)

Eckert, M. (*with* Simmel, F.) Statistical measures for eigenfunctions of nonseparable quantum billiard systems. (English summary) *Phys. D* **97** (1996), *no.* 4, 517–530. (Bing Hong Wang) **98b:81052** 81Q50 (81P15)

Eckertson, Frederick W. (*with* Ohta, Haruto) Weak pseudocompactness and zero sets in pseudocompact spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 737–748. (R. M. Stephenson, Jr.) **98g:54024** 54C30 (54B10, 54C25, 54D35)

— Resolvable, not maximally resolvable spaces. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 1–11. (A. H. Stone) **98i:54019** 54G15 (54A10, 54A25, 54A35, 54D80)

Eckhardt, Bruno (*with* de Vries, Heiko) Phase transitions in Scheidegger and Eden networks. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6233–6244. (Summary) **98k:82062** 82B26 (82B20)

Eckhardt, William A shooting-room view of doomsday. *J. Philos.* **94** (1997), *no.* 5, 244–259. 03B48

Eckhaus, Wiktor (*with* Kuske, Rachel) Pattern formation in systems with slowly varying geometry. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 112–152. (Marie Christine Néel) **98b:76035** 76E30 (34E05, 35C20, 86A05)

Eckhoff, Knut S. On a high order numerical method for solving partial differential equations in complex geometries. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 2, 119–138. (Ian Gladwell) **98k:65047** 65M06 (65M20, 65T20)

— On a high order numerical method for functions with singularities. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1063–1087. (De Hui Chen) **98j:65014** 65D30

Eckmann, Alain (*with* Eliahou, Shalom; Kervaire, Michel) Compressible difference lists. An appendix to: "A note on the equation $\theta\overline{\theta} = n + \lambda\Sigma$" [J. Statist. Plann. Inference **62** (1997), no. 1, 21–34] by Eliahou and Kervaire. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 35–38. (Summary) **98g:05022** 05B10 (62K05)

Eckmann, Beno Projective and Hilbert modules over group algebras, and finitely dominated spaces. *Comment. Math. Helv.* **71** (1996), *no.* 3, 453–462. (Carles Casacuberta) **98h:57046a** 57P10 (20C07, 57Q12)

— Addendum to: "Projective and Hilbert modules over group algebras, and finitely dominated spaces". *Comment. Math. Helv.* **72** (1997), *no.* 2, 329. (Carles Casacuberta) **98h:57046b** 57P10 (20C07, 57Q12)

Eckmann, Jean-Pierre (*with* Wayne, C. Eugene; Wittwer, Peter) Geometric stability analysis for periodic solutions of the Swift-Hohenberg equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 173–211. (Xian Guo Geng) **98m:35180** 35Q53 (35B10, 35K55, 58F39)

— (*with* Pillet, Claude-Alain) Zeta functions with Dirichlet and Neumann boundary conditions for exterior domains. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 44–65. (Jens Marklof) **98e:58174** 58G26 (35J25, 58G20)

— (*with* Erzan, Ayşe) q-analysis of fractal sets. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 17, 3245–3248. (Steen Pedersen) **98g:39003** 39A10 (28A80)

— (*with* Goren, Gilad; Procaccia, Itamar) Scenario for the onset of space-time chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4106–4134. (Summary) **98k:58157** 58F13 (35B99, 35Q55, 58F40, 82C03)

Eckstein, Barbara L. (*with* Kandrup, Henry E.) Transitional dynamics of chaotic orbits. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 139–159, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 85A05 (58F13, 70F15)

Eckstein, Jonathan (*with* Bertsekas, Dimitri P.; Castañon, David; Zenios, Stavros A.) Parallel computing in network optimization. *Network models*, 331–399, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C35 (65Y05, 68Q22)

— Distributed versus centralized storage and control for parallel branch and bound: mixed integer programming on the CM-5. (English summary) *Comput. Optim. Appl.* **7** (1997), *no.* 2, 199–220. (Jürgen Köhler) **98c:90080** 90C11 (90B35)

Economou, E. N. *see* **Fluctuations, nonlinearity and disorder**, **98k:00013**

Eda, Katsuya (*with* Kada, Masaru; Yuasa, Yoshifumi) The tightness about sequential fans and combinatorial properties. *J. Math. Soc. Japan* **49** (1997), *no.* 1, 181–187. (Gary Gruenhage) **98d:54009** 54A25 (03E35, 54A35, 54D99)

Edalat, Abbas Domain theory in learning processes. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98g:68140** 68T05 (68Q55, 68Q68, 68Q75)

— The Scott topology induces the weak topology. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 372–381, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98m:28024** 28C15 (28A33, 68Q99)

— (*with* Escardó, Martín Hötzel) Integration in real PCF. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 382–393, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q05 (68N15, 68Q55)

— (*with* Potts, Peter John) A new representation for exact real numbers. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98g:68099** 68Q55 (65G05, 68Q05)

— (*with* Sharp, David; While, Lyndon) Bounding the attractor of an IFS. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 197–202. 65Y25 (28A80, 58F03, 68U05)

Eddahbi, M'hamed (*with* N'zi, Modeste) A note on the functional law of the iterated logarithm for Lévy's area process. (English summary) *Appl. Math.* (*Warsaw*) **24** (1996), *no.* 2, 223–229. (Paolo Baldi) **98f:60068** 60F17 (60F10)

— (*with* Ouknine, Youssef) Grandes déviations des diffusions sur les espaces de Besov-Orlicz. (French summary) [Large deviations of diffusions in Besov-Orlicz spaces] *Bull. Sci. Math.* **121** (1997), *no.* 7, 573–584. (Gheorghe Stoica) **98i:60026** 60F10 (60J60)

— Large deviations for solutions of hyperbolic SPDE's in the Hölder norm. (English summary) *Potential Anal.* **7** (1997), *no.* 2, 517–537. (Alexander Veretennikov) **98k:60037** 60F10 (35L99, 35R60, 60H15)

Eddy, William (*with* Mockus, Jonas; Mockus, Audris; Mockus, Linas; Reklaitis, Gintaras) ★ Bayesian heuristic approach to discrete and global optimization. (English summary) With 2 IBM-PC floppy-disks (3.5 inch; HD). Algorithms, visualization, software, and applications. Nonconvex Optimization and its Applications, 17. *Kluwer Academic Publishers, Dordrecht*, 1997. xvi+396 *pp. ISBN* 0-7923-4327-1 (Panos M. Pardalos) **98a:90002** 90–02 (90C15, 90C27)

Edel, Yves (*with* Bierbrauer, Jürgen; Black, Stephen) Some t-homogeneous sets of permutations. (English summary) Second Upper Michigan Combinatorics Workshop on Designs, Codes and Geometries (Houghton, MI, 1994). *Des. Codes Cryptogr.* **9** (1996), *no.* 1, 29–38. (Douglas R. Stinson) **98b:05027** 05B30

— (*with* Bierbrauer, Jürgen) New code parameters from Reed-Solomon subfield codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 953–968. (Summary) **98d:94038** 94B15

— (*with* Bierbrauer, Jürgen) Lengthening and the Gilbert-Varshamov bound. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 991–992. (Summary) **98a:94033** 94B05

— (*with* Bierbrauer, Jürgen) Twisted BCH-codes. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 377–389. (Vikram Jha) **98g:94038a** 94B15 (51E22, 94B65)

— (*with* Bierbrauer, Jürgen) A family of 2-weight codes related to BCH-codes. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 391–396. (Vikram Jha) **98g:94038b** 94B15 (51E22, 94B65)

— (*with* Rains, Eric M.; Sloane, Neil J. A.) On kissing numbers in dimensions 32 to 128. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 22, 5 *pp.* (*electronic*). (Gabriele Nebe) **98m:52029** 52C17 (05B40, 11H31, 94B75)

Edelen, Dominic G. B. Explicit solutions of classes of exterior differential systems. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 1–15. (Summary) **98e:58010** 58A15

Edelman, Alan (*with* McCorquodale, Peter; Toledo, Sivan) The future fast Fourier transform? (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F20

— The probability that a random real Gaussian matrix has k real eigenvalues, related distributions, and the circular law. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 203–232. (Alexei Khorunzhy) **98b:15025** 15A52 (15A18)

— The mathematics of the Pentium division bug. (English summary) *SIAM Rev.* **39** (1997), *no.* 1, 54–67. (Behrooz Parhami) **98a:68009** 68M07

Edelman, Inna Ya. Asymptotic research of nonlinear wave processes in saturated porous media. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 1, 83–98. (Summary) **98d:73028** 73D15 (73N20, 76S05, 86A15)

Edelman, M. (*with* Zaslavskiĭ, G. M.; Niyazov, B. A.) Self-similarity, renormalization, and phase space nonuniformity of Hamiltonian chaotic dynamics. (English summary) *Chaos* **7** (1997), *no.* 1, 159–181. (Alexander Loskutov) **98d:58071** 58F05 (58F13)

— (*with* Zaslavskiĭ, G. M.) Maxwell's demon as a dynamical model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5310–5320. (András Krámli) **98m:82007** 82B03 (58F40)

Edelman, Paul H. (*with* Reiner, Victor) Catalan triangulations of the Möbius band. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 231–243. (E. Jucovič) **98i:52018** 52B70 (05C30)

— A note on voting. (English summary) *Math. Social Sci.* **34** (1997), *no.* 1, 37–50. (Ivar Petersen) **98i:90028** 90A28

Edelsbrunner, Herbert Smooth surfaces for multi-scale shape representation. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 391–412, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Evangelos Kranakis) **98e:68247** 68U05

— (*with* Akkiraju, Nataraj) Triangulating the surface of a molecule. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 5–22. (V. I. Bykov) **98b:92026** 92E10 (65D15, 68U05, 92–04)

— (*with* Waupotitsch, Roman) A combinatorial approach to cartograms. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 343–360. (Sandra L. Arlinghaus) **98b:05034** 05B99

— (*with* Valtr, Pavel; Welzl, Emo) Cutting dense point sets in half. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 243–255. (Rade Živaljević) **98a:52021** 52B55 (68U05)

— (*with* Ramos, Edgar A.) Inclusion-exclusion complexes for pseudodisk collections. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 287–306. (Rade Živaljević) **98a:52022** 52B55 (68U05)

— (*with* Shah, Nimish R.) Triangulating topological spaces. (English summary) Tenth Annual ACM Symposium on Computational Geometry (Stony Brook, NY, 1994). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 4, 365–378. (Nigel Martin) **98f:57038** 57Q05 (57Q15, 68U05)

Ėdel'shtein, S. L. Asymptotic splitting of boundary value problems for the Helmholtz equation in a strip with "permeable" boundaries. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 203–224; *translation in Izv. Math.* **61** (1997), *no.* 4, 877–898. (Igor Yurievich Popov) **98k:35027** 35J05 (34G20, 35B25, 47B25, 47N20, 76Q05)

Edelson, Allan L. The structure of the solutions to semilinear equations at a critical exponent. (English summary) *Harmonic analysis and nonlinear differential equations (Riverside, CA, 1995)*, 133–149, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Yoshihito Tomita) **98i:35049** 35J60 (35B40)

Edelstein, Dick *see* **Cirera, Ramon, 98d:01030**

Edelstein, E. (*with* Rosen, Aviv) Investigation of a new formulation of the Lagrange method for constrained dynamic systems. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 1, 116–122. (Edwin J. Kreuzer) **98f:70004** 70–08 (70E15, 70F20, 70F25, 70H35)

Edelstein, José D. (*with* Núñez, Carlos) Supersymmetry and bosonization in three dimensions. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 300–306. 81T60

Eden, Alp (*with* Kalantarov, V. K.) Finite-dimensional attractors for a class of semilinear wave equations. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 425–450. (Summary) **98j:34118** 34G20 (35L70, 35Q53, 46N20, 47H20, 58F39)

— (*with* Foias, C.; Kalantarov, V. K.) A remark on two constructions of exponential attractors for α-contractions. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 37–45. (Igor D. Chueshov) **98m:58125** 58F39 (34G20, 47H09, 47H20, 58F12)

— *see also* **Turbulence modeling and vortex dynamics, 98h:76005**

Eder, Elmar Backward reasoning in systems with cut. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 339–353, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98d:68181** 68T15 (03B35)

Eder, Gerhard Mathematical modelling of crystallization processes as occurring in polymer processing. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3807–3815. (*see* **98h:00034**) 82D60

Eder, Kerstin (*with* Hölldobler, Steffen; Thielscher, Michael) An abstract machine for reasoning about situations, actions, and causality. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 137–151, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68044** 68N17 (03B70, 68Q05)

Eder, Sven A generalization of Hilbert-Schmidt operators to Banach spaces. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 69–76, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Kevin T. Andrews) **98j:47049** 47B10

Edery, A. (*with* Paranjape, M. B.) Localized mass and spin in $(2+1)$-dimensional topologically massive gravity. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 35–40. (Summary) **98h:83064** 83C99

— (*with* Paranjape, M. B.) Cosmological sector for localized mass and spin in $(2+1)$-dimensional topologically massive gravity. (English summary) *Phys. Lett. B* **415** (1997), *no.* 4, 344–348. 83C99

van Ede van der Pals, P. (*with* Gaspard, Pierre) Two-dimensional quantum spin Hamiltonians: spectral and dynamical complexities. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 483–490, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 82B20

Edgar, S. Brian (*with* Andersson, Fredrik) The wave equations for the Weyl tensor/spinor and dimensionally dependent tensor identities. (English summary) *Internat. J. Modern Phys. D* **5** (1996), *no.* 3, 217–225. (Reinhard Illge) **98f:58187** 58G16 (53C80, 83C99)

— (*with* Ludwig, Garry) All conformally flat pure radiation metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, L65–L68. (Summary) **98m:83014** 83C20 (83C15)

— (*with* Ludwig, Garry) Integration in the GHP formalism. III. Finding conformally flat radiation metrics as an example of an "optimal situation". (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1309–1328. (J. B. Griffiths) **98i:83056** 83C60 (83C20)

— (*with* Höglund, A.) The Lanczos potential for the Weyl curvature tensor: existence, wave equation and algorithms. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1959, 835–851. (Patrick Dolan) **98i:83062** 83C99 (53C80, 83C60)

Edgington, Dorothy Lowe on conditional probability. *Mind* **105** (1996), *no.* 420, 617–630. (Lawrence Sklar) **98j:03029** 03B48

— Mellor on chance and causation. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 3, 411–433. 03B48

Edidin, Dan (*with* Graham, William A.) Characteristic classes and quadric bundles. *Duke Math. J.* **78** (1995), *no.* 2, 277–299. (Gary P. Kennedy) **98a:14004** 14C15 (57R20)

— (*with* Diaz, Steven) Towards the homology of Hurwitz spaces. (English summary) *J. Differential Geom.* **43** (1996), *no.* 1, 66–98. (Konrad Drechsler) **98e:14028** 14H30 (14F25, 14H10)

— (*with* Graham, William A.) Characteristic classes in the Chow ring. *J. Algebraic Geom.* **6** (1997), *no.* 3, 431–443. (Burt Totaro) **98m:14007** 14C25 (14C10, 14L30)

— (*with* Graham, William A.) Algebraic cuts. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 677–685. (Yi Hu) **98j:14063** 14L30

Edigarian, Armen (*with* Poletsky, Evgeny A.) Product property of the relative extremal function. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 331–335. (Finnur Lárusson) **98i:32017** 32F05 (32E10)

— Extremal mappings in convex domains. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 151–156. (Marcus Wright) **98j:32023** 32H15 (32H20)

Edirisinghe, N. C. P. (*with* Ziemba, W. T.) Implementing bounds-based approximations in convex-concave two-stage stochastic programming. (English summary) Approximation and computation in stochastic programming. *Math. Programming* **75** (1996), *no.* 2, *Ser. B*, 295–325. (A. H. Žilinskas) **98a:90065** 90C15

Edis, Firat O. (*with* Aslan, A. Rüstem) Efficient incompressible flow calculations using PQ2Q1 element. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 161–178. 76M10

Edixhoven, Bas (*with* Liu, Qing; Lorenzini, Dino) The p-part of the group of components of a Néron model. *J. Algebraic Geom.* **5** (1996), *no.* 4, 801–813. (Jean-Claude Douai) **98m:14051** 14L15 (14H40, 14H52, 14K15)

Edlund, Åke (*with* Vorobeichik, Ilya; Peskin, Uri) High order perturbation theory for Helmholtz/Schrödinger equations via a separable preconditioner. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 788–800. (Summary) **98j:65072** 65N22 (65F50)

Edlund, Ove Linear M-estimation with bounded variables. (English summary) *BIT* **37** (1997), *no.* 1, 13–23. (Summary) **98m:62190** 62J05 (62F35)

— (*with* Ekblom, Håkan; Madsen, Kaj) Algorithms for non-linear M-estimation. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 373–383. 62F35 (62J02)

Edmonds, Allan L. Automorphisms of the E_8 four-manifold. *Geometric topology (Athens, GA, 1993)*, 282–299, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Tatsuhiko Yagasaki) **98i:57066** 57S17 (57N13)

— Tori in certain aspherical four-manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1253–1255. (Terry Lawson) **98f:57034** 57N13 (57N35, 57R95)

Edmonds, Jack R. (*with* Maurras, Jean-François) Note sur les Q-matrices d'Edmonds. (English and French summaries) [Note on the Q-matrices of Edmonds] *RAIRO Rech. Opér.* **31** (1997), *no.* 2, 203–209. (Summary) **98d:90074** 90C10 (15A36, 90C27)

Edmonds, James D., Jr. ★ Relativistic reality: a modern view. Series on Knots and Everything, 12. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+342 *pp.* *ISBN* 981-02-2851-1 (Markku Lehto) **98m:83001** 83-01 (81-01)

— Extended Dirac factorization: "multi-mass" special cases in Clifford form. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 1–12. (John Ryan) **98i:30058** 30G35

Edmonds, Jeff (*with* Albanese, Andres; Blömer, Johannes; Luby, Michael; Sudan, Madhu) Priority encoding transmission. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1737–1744. (*see* **98c:94001**) 94C05 (94A05)

Edmunds, David E. (*with* Brown, Richard C.; Hinton, D. B.; Rákosník, Jiří) Some weighted Poincaré-type inequalities in one and higher dimensions. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 49–58, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 46E35

— (*with* Popivanov, N. I.) Some over-determined boundary-value problems for hyperbolic equations. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 75–80, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35N10 (35L80, 35R25)

— (*with* Gurka, Petr; Opic, Bohumír) On embeddings of logarithmic Bessel potential spaces. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 116–150. (W. P. Ziemer) **98f:46030** 46E35 (46E30)

— (*with* Evans, William Desmond; Harris, Desmond J.) Two-sided estimates of the approximation numbers of certain Volterra integral operators. (English summary) *Studia Math.* **124** (1997), *no.* 1, 59–80. (Hermann König) **98d:47106** 47G10 (45D05, 45P05, 47B06)

— Entropy numbers, approximation numbers, and embeddings. *Nonlinear analysis and continuum mechanics* (*Ferrara*, 1992), 37–44, *Springer, New York*, 1998. (Hermann König) **98k:47039** 47B06 (46E35)

— (*with* Gurka, Petr; Opic, Bohumír) Norms of embeddings of logarithmic Bessel potential spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2417–2425. (W. P. Ziemer) **98j:46026** 46E35 (46E30)

Edmundson, Darran E. Unstable higher modes of a three-dimensional nonlinear Schrödinger equation. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part B*, 7636–7644. (Summary) **98b:35180** 35Q55 (65M06, 81Q05)

Edoh, Kossi A numerical algorithm for the computation of invariant circles. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 117–122, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:00012**) 65D15 (34C99, 58F25)

Edward, Julian Spectral theory for the Neumann Laplacian on planar domains with horn-like ends. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 232–262. (Summary) **98j:47105** 47F05 (34L40, 35J25, 35P05, 47A40, 58G25)

Edwardes, Michael D. deB. Univariate random cut-points theory for the analysis of ordered categorical data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1114–1123. (Summary) **98f:62171** 62H17 (62G10)

— The evaluation of confidence sets with application to binomial intervals. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 393–409. 62F25

Edwards, A. W. F. Three early papers on efficient parametric estimation. (English summary) *Statist. Sci.* **12** (1997), *no.* 1, 35–47. 62-03

— What did Fisher mean by "inverse probability" in 1912–1922? (English summary) *Statist. Sci.* **12** (1997), *no.* 3, 177–184. (Summary) **98m:62007** 62A10 (62-03)

Edwards, C. Martin (*with* Rüttimann, Gottfried T.) The lattice of compact tripotents in bi-dual JB*-triples. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 155–168. (Cho Ho Chu) **98i:46074** 46L70 (46B20, 46L50)

Edwards, Carter (*with* Alpatov, Philip; Baker, Gregory R.; Gunnels, John; Morrow, Greg; Overfelt, James; van de Geijn, Robert; Wu, Yuan-Jye J.) PLAPACK: parallel linear algebra package. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04

Edwards, Christopher (*with* Postlethwaite, Ian) Anti-windup and bumpless-transfer schemes. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 199–210. (Summary) **98m:93033** 93B36

Edwards, Christopher T. Double-elimination tournaments: counting and calculating. (English summary) *Amer. Statist.* **50** (1996), *no.* 1, 27–33. 60C05 (05A05, 05C20)

Edwards, D. *see* **Edwards, Dean Barton**

Edwards, David Alan² A mathematical model for trapping skinning in polymers. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 1, 49–80. (Summary) **98b:76065** 76R50

Edwards, Dean Barton (*with* Choi, H. T.) Use of fuzzy logic to calculate the statistical properties of strange attractors in chaotic systems. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 2, 205–217. (Summary) **98b:58110** 58F13 (03B52)

Edwards, J. J. (*with* Bennett, John M.) A graph isomorphism algorithm using pseudoinverses. (English summary) *BIT* **36** (1996), *no.* 1, 41–53. (Summary) **98c:05117** 05C60 (05C85, 15A09)

Edwards, Jack R. A low-diffusion flux-splitting scheme for Navier-Stokes calculations. (English summary) *Comput. & Fluids* **26** (1997), *no.* 6, 635–659. (Summary) **98f:76053** 76M20 (76L05)

Edwards, Keith The harmonious chromatic number and the achromatic number. (English summary) *Surveys in combinatorics*, 1997 (*London*), 13–47, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (Gary MacGillivray) **98k:05065** 05C15 (68Q25, 68R10)

— (*with* Cairnie, Niall) Some results on the achromatic number. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 129–136. (Hans L. Bodlaender) **98i:68217** 68R10 (05C15, 68Q25)

— The harmonious chromatic number of bounded degree graphs. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 435–447. (Brian J. Wilson) **98b:05074** 05C15

Edwards, N. J. (*with* Goh, C. J.) Approximate output feedback optimal control of higher-order dynamical systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 2, 123–137. (Summary) **98a:93028** 93B52 (49N35)

Edwards, P. M. On joins with group congruences. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 63–67. (Karl Auinger) **98a:20067** 20M10

Edwards, S. F. Glass transitions. *STATPHYS* 19 (*Xiamen*, 1995), 1–11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82-01

Edwards, Stephen (*with* Oliveira, Arlindo L.) Limits of exact algorithms for inference of minimum size finite state machines. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 59–66, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68Q25)

Edwards, T. A. (*with* Miller, James Hale; Tannehill, J. C.; Lawrence, S. L.) Parabolized Navier-Stokes code for hypersonic flows in thermo-chemical equilibrium or nonequilibrium. (English summary) *Comput. & Fluids* **27** (1998), *no.* 2, 199–215. (Summary) **98m:76124** 76M25 (76K05, 80-08, 80A32)

Edwards, Ward (*with* Fishburn, Peter C.) Discount-neutral utility models for denumerable time streams. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 139–166. (Irving H. LaValle) **98m:90023** 90A10 (90A06)

Edwards, William R., Jr. (*with* Gilmore, Tara Lenore) Probabilistic context-free grammars, stack-based Markov sources, and probabilistic pushdown automata. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 97–119. (William R. Nico) **98k:68109** 68Q50 (68Q75)

Eeckhoudt, Louis (*with* Godfroid, Ph.; Gollier, Christian) Willingness to pay, the risk premium and risk aversion. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 355–360. 90A46

— (*with* Schneider, Thierry; Schieber, Caroline; Gollier, Christian) Economics of radiation protection: equity considerations. (English summary) *Theory and Decision* **43** (1997), *no.* 3, 241–251. 90A30

van Eekelen, Marko (*with* Smetsers, Sjaak; Plasmeijer, Rinus) Graph rewriting semantics for functional programming languages. (English summary) *Computer science logic* (*Utrecht*, 1996), 106–128, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (*see* **98k:03005**) 68Q55 (68N15, 68Q42, 68R10)

van Eemeren, Frans H. *see* **Logic and argumentation, 98f:03006**

van Eenige, M. J. A. ★ Queueing systems with periodic service. (English summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1996. *Technische Universiteit Eindhoven, Eindhoven*, 1996. iv+149 *pp.* *ISBN* 90-386-0348-7 (John P. Lehoczky) **98k:60161** 60K25 (90B22)

— Queueing systems with periodic service. *Ten years LNMB*, 121–130, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90B22 (60K25)

— (*with* Steutel, F. W.) Note on the approximation of distributions on **Z**$_+$ by mixtures of negative binomial distributions. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 271–274. (Charles M. Goldie) **98b:60048** 60F05 (60E05)

Efe, Kemal (*with* Broadwater, Adrienne; Fernández, Antonio) Embedding complete binary trees in product graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 56–66, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68R10 (05C10, 05C85)

— (*with* Eleser, Nancy) An optimal emulator and VLSI layout for complete binary trees. (English summary) *Acta Inform.* **34** (1997), *no.* 6, 429–447. (Summary) **98f:68213** 68R10 (05C85, 68Q35)

— (*with* Fernández, Antonio) Efficient VLSI layouts for homogeneous product networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1070–1082. (Summary) **98e:68007** 68M10 (68Q35)

Efendiev, Messoud (*with* Wendland, Wolfgang L.) Nonlinear Riemann-Hilbert problems without transversality. (English summary) *Math. Nachr.* **183** (1997), 73–89. (Petras Alekna) **98b:30038** 30E25 (35J60, 47H99, 47N20)

— (*with* Wolfrum, M.; Schuppert, A.) Isothermal upscaling of chemical reactors: two examples. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3455–3461. (*see* **98h:00034**) 80A32

— (*with* Wendland, Wolfgang L.) Nonlinear Riemann-Hilbert problems and the similarity principle for multiply connected domains. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 81–86, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35J55 (30E25)

Efetov, K. B. (*with* Fal'ko, Vladimir I.) Statistics of wave functions in mesoscopic systems. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 4935–4967. (Vitor R. Vieira) **98b:81047** 81Q50 (81T40, 82B10)

Effinger, G. (*with* Deshouillers, J.-M.; te Riele, Herman J. J.; Zinoviev, Dmitrii) A complete Vinogradov 3-primes theorem under the Riemann hypothesis. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 99–104 (*electronic*). (Gunter Dufner) **98g:11112** 11P32

Effros, Edward G. (*with* Winkler, Soren) Matrix convexity: operator analogues of the bipolar and Hahn-Banach theorems. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 117–152. (Seung-Hyeok Kye) **98e:46066** 46L05 (46B28, 47D15)

Efimov, G. V. (*with* Ganbold, G.) Gaussian equivalent representation of functional integrals in quantum physics. *Phys. Particles Nuclei* **26** (1995), *no.* 2, 198–219; *reprinted in Fiz. Élementar. Chastits i Atom. Yadra* **26** (1995), *no.* 2, 459–511, 513–514 (*English and Russian summaries*). (Lewis H. Ryder) **98c:81111** 81S40 (81T10, 81V70, 82B44)

— (*with* Dineykhan, M.) Stability of three-body Coulomb systems with $J = 1$ in the oscillator representation. (English summary) *Few-Body Systems* **21** (1996), *no.* 2, 63–79. (Summary) **98f:81361** 81V10

Efraimsson, Gunilla A 2D analysis of the influence of artificial viscosity terms on solutions of the Euler equations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 103–120. (Summary) **98j:76095** 76M20 (76L05, 76N15)

— A numerical method for the first-order wave equation with discontinuous initial data. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 353–365. 65M99

Efrat, Alon (*with* Chew, L. Paul; Dor, Dorit; Kedem, Klara) Geometric pattern matching in d-dimensional space. (English summary) *Algorithms—ESA '95* (*Corfu*), 264–279, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Schwarzkopf, Otfried) Separating and shattering long line segments. (English summary) *Algorithms and computation* (*Osaka*, 1996), 36–44, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Katz, Matthew J.) Computing fair and bottleneck matchings in geometric graphs. (English summary) *Algorithms and computation* (*Osaka*, 1996), 115–125, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:05177** 05C85 (68R10, 68U05)

— (*with* Schwarzkopf, Otfried) Separating and shattering long line segments. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 6, 309–314. (Summary) **98i:68264** 68U05

Efrat, Ido Pro-p Galois groups of algebraic extensions of **Q**. (English summary) *J. Number Theory* **64** (1997), *no.* 1, 84–99. (Chr. U. Jensen) **98i:11096** 11R32 (12F12)

— Free pro-p product decompositions of Galois groups. *Math. Z.* **225** (1997), *no.* 2, 245–261. (Martin Epkenhans) **98i:12004** 12F10 (13A20)

— On fields with finite Brauer groups. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 33–46. (Stefaan Caenepeel) **98e:12005** 12G05 (13A20)

Efremov, A. A. (*with* Sviridyuk, G. A.) Optimal control of Sobolev-type linear equations with relatively p-spectorial operators. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1912–1919, 1943; *translation in Differential Equations* **31** (1995), *no.* 11, 1882–1890 (1996). (Zbigniew Emirsajlow) **98c:93025** 93B28 (47N70, 49N10)

— (*with* Sviridyuk, G. A.) An optimal control problem for a class of linear equations of Sobolev type. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 75–83; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 72–80 (1997). (Krystyn Styczeń) **98e:49013** 49J20 (49J27, 90C48, 93C25)

Efremov, V. A. (*with* Kibzun, A. I.) Optimal extreme order estimates for quantiles. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 3–15; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1691–1700 (1997). 62G05

Efremov, Vladimir N. Siebenmann-type cobordisms with borders and topology changes by quantum tunneling. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1133–1151. (Jorge A. Pullin) **98c:83030** 83C45 (57N10, 57R75)

Efremova, L. S. (*with* Makhrova, E. N.) On the dynamics of the monotone mapping of n-od. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 31–36; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 29–34 (1998). (Alexander Loskutov) **98m:58071** 58F08 (58F03)

Efromovich, Sam On nonparametric regression for IID observations in a general setting. (English summary) *Ann. Statist.* **24** (1996), *no.* 3, 1125–1144. (Arup Bose) **98b:62059** 62G05 (62E20, 62F35, 62G20, 62J02)

— (*with* Pinsker, Mark S.) Sharp-optimal and adaptive estimation for heteroscedastic nonparametric regression. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 925–942. (Ewaryst Rafajłowicz) **98b:62060** 62G05

— Robust and efficient recovery of a signal passed through a filter and then contaminated by non-Gaussian noise. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1184–1191. (L. C. Godara) **98h:94003** 94A12

— Density estimation for the case of supersmooth measurement error. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 526–535. (Summary) **98h:62048** 62G05

Efron, Bradley (*with* Tibshirani, Robert) Using specially designed exponential families for density estimation. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2431–2461. (Margaret P. Gessaman) **98d:62057** 62G05 (62F05)

— (*with* DiCiccio, Thomas J.) Bootstrap confidence intervals. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **11** (1996), *no.* 3, 189–228. (Hung Trung Nguyen) **98i:62042** 62G09

— The length heuristic for simultaneous hypothesis tests. (English summary) *Biometrika* **84** (1997), *no.* 1, 143–157. (Ling Yau Chan) **98e:62029** 62F03

— (*with* Tibshirani, Robert) Improvements on cross-validation: the .632+ bootstrap method. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 548–560. (Summary) **98c:62083** 62G09

Eftekhari, M. Faisceaux caractères sur les groupes non connexes. [Character sheaves on nonconnected groups] *J. Algebra* **184** (1996), *no.* 2, 516–537. (Jean Michel) **98a:20047** 20G40 (20G05)

Efthimiou, Costas (*with* Spector, Donald) Shape invariance in the Calogero and Calogero-Sutherland models. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 208–219. (Avinash Khare) **98i:81282** 81V70 (81Q60)

— *see also* **Fields, strings and duality**, **98f:81005**

Efthymiopoulos, C. (*with* Contopoulos, G.; Voglis, N.; Froeschlé, Claude; Gonczi, Robert; Lega, Elena; Dvorak, Rudolf; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

Egami, Shigeki A note on the multiple elliptic Dedekind sum. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 43–45. (Marvin I. Knopp) **98h:11050** 11F20

Egashira, Shinji Qualitative theory and expansion growth of transversely piecewise-smooth foliated S^1-bundles. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 331–347. (Lawrence Conlon) **98j:57041** 57R30 (58F18)

Egawa, Hiroshi S. (*with* Inaba, Makoto) Numerical analysis of scaling behavior in 4D quantum simplicial gravity. (English summary) *Proc. School Sci. Tokai Univ.* **32** (1997), 73–84. (Summary) **98c:83031** 83C45 (81V17, 83C27, 83E30)

Egawa, Jirō Eigenvalues of some distal functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 273–278. (Krzysztof Ciesielski) **98e:54038** 54H20 (54C35)

Egawa, Yoshimi (*with* Ando, Kiyoshi) The minimum number of edges in a vertex diameter-2-critical graph. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 35–63. (Kathryn Fraughnaugh) **98c:05085** 05C35

— Contractible cycles in graphs with large minimum degree. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 103–119. (Zheng Sheng Wu) **98f:05096** 05C38 (05C40)

— (*with* Kano, Mikio; Kelmans, Alexander K.) Star partitions of graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 185–190. (Martin Bača) **98e:05087** 05C70

— Graph labelings in elementary abelian 2-groups. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 365–379. (Martin Bača) **98h:05161** 05C78 (05C25)

Egberts, Paul On the sum of two maximal monotone operators. II. *Nonlinear Anal.* **27** (1996), *no.* 6, 731–738. (Ioan I. Vrabie) **98c:47061** 47H05 (47H30)

Eğecioğlu, Ömer (*with* Agrawal, Divyakant; El Abbadi, Amr) Analysis of quorum-based protocols for distributed $(k+1)$-exclusion. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 161–170, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68052** 68Q10

— (*with* Srinivasan, Ashok) A fast non-parametric density estimation algorithm. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 755–763. 65U05 (62G05, 93E10)

— (*with* Ibel, Maximilian) Asymptotic hypercube embeddings of dynamic k-ary trees. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 21–32. (Summary) **98i:05053** 05C10 (05C05)

— (*with* Agrawal, Divyakant; El Abbadi, Amr) Billiard quorums on the grid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 9–16. 68Q10

Egeland, Olav (*with* Godhavn, John-Morten) A Lyapunov approach to exponential stabilization of nonholonomic systems in power form. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1028–1032. (Summary) **98f:93015** 93D21 (70F25, 70Q05)

— (*with* Dalsmo, Morten) State feedback $\mathscr{H}_\infty$-suboptimal control of a rigid spacecraft. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1186–1189. 93C95 (93B36)

Egelja, A. M. (*with* Litvin, F. L.; De Donno, M.) Computerized determination of singularities and envelopes to families of contact lines on gear tooth surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 23–34. 70–08 (70B99)

Eger, V. *see* **Jäger, Willi**

Egerland, W. O. (*with* Bhatia, N. P.) New proof and extension of Sarkovskiĭ's theorem. (English summary) *Far East J. Math. Sci.* **1996**, *Special Volume, Part I*, 53–67. (Louis Block) **98c:58048** 58F03 (54H20)

Egerstedt, Magnus (*with* Martin, Clyde F.) A control-theoretic model of the combined planar motion of the human head and eye. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 1, 61–95. 49N55 (70Q05, 93C30, 93C95)

Eggermont, P. P. B. (*with* LaRiccia, V. N.) A simple and effective bandwidth selector for kernel density estimation. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 285–301. (Ulrich Stadtmüller) **98f:62089** 62G05

— (*with* LaRiccia, V. N.) Nonlinearly smoothed EM density estimation with automated smoothing parameter selection for nonparametric deconvolution problems. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1451–1458. 62G05

Eggetsberger, Roland A. On extending codes from finite Ferrero pairs. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 151–162, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Kathryn J. Horadam) **98m:94051** 94B25 (05B05)

— Circles and their interior points from field generated Ferrero pairs. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 237–246, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Hubert Kiechle) **98k:16066** 16Y30 (51E05)

Egghe, L. (*with* Rousseau, R.) Stochastic processes determined by a general success-breeds-success principle. (English summary) *Math. Comput. Modelling* **23** (1996), *no.* 4, 93–104. (Summary) **98c:60146** 60K99 (60G44, 60J80)

Eggleton, Roger B. (*with* MacDougall, James A.) Triangle-saturated graphs: the hanging planter construction. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 79–96. (Summary) **98i:05136** 05C75

Eghlidos, Taraneh Vehicle system dynamics. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 51–68. (Summary) **98m:70012** 70E99 (34A09, 70–08)

Egiazaryan, K. O. (*with* Astola, Jaakko) On generalized Fibonacci cubes and unitary transforms. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 371–377. (Igor E. Shparlinski) **98h:11030** 11B85 (11B39)

Egidio dos Reis, Alfredo D. *see* **dos Reis, Alfredo Egidio**

Egishyants, S. A. (*with* Ostrovskiĭ, E. I.) Asymptotic behavior of random fields on a sequence of expanding sets. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 26–32; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 8, 23–29 (1998). (A. Ya. Olenko) **98j:60070** 60G60 (60F15)

Eglit, Margarita E. (*with* Bakhvalov, N. S.) Energy bounds in the case of the inapplicability of the Korn inequality, and orthogonal expansions in matrix spaces. (Russian) *Trudy Mat. Inst. Steklov.* **203** (1994), *Izbran. Voprosy Mat. Fiz. i Anal.*, 21–32; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 3 (203), 19–28. (Anna-Margarete Sändig) **98c:73025** 73C02

— (*with* Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part I. (English summary) Theory and problems. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv + 270 *pp. ISBN* 981-02-2962-3 (Gérard A. Maugin) **98f:73001a** 73–01 (76–01, 78–01, 80–01)

— (*with* Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part II. (English summary) Answers and solutions. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii + 253 *pp. ISBN* 981-02-2963-1 (Gérard A. Maugin) **98f:73001b** 73–01 (76–01, 78–01, 80–01)

— (*with* Bakhvalov, N. S.) Effective moduli of thin-wall constructions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 6, 53–56, 81. 73K20 (73B27)

Egloff, Daniel On the dynamics of uniform Finsler manifolds of negative flag curvature. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 101–116. (Rafael Ruggiero Rodriguez) **98d:53101** 53C60 (58F17)

— Uniform Finsler Hadamard manifolds. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 3, 323–357. (Zhongmin Shen) **98c:53079** 53C60 (53C22)

Egly, Uwe On different structure-preserving translations to normal form. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 2, 121–142. (Henry Africk) **98c:03032** 03B35 (03D15, 03F05, 68T15)

— Some pitfalls of LK-to-LJ translations and how to avoid them. (English summary) *Automated deduction—CADE-14 (Townsville, 1997)*, 116–130, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (Summary) **98d:03059** 03F07

— (*with* Baaz, Matthias; Fermüller, Christian G.) Lean induction principles for tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods*

(*Pont-à-Mousson*, 1997), 62–75, *Lecture Notes in Artificial Intelligence*, *Springer*, *Berlin*, 1997. (Summary) **98m:03115** 03F30

— Non-elementary speed-ups in proof length by different variants of classical analytic calculi. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 158–172, *Lecture Notes in Artificial Intelligence*, *Springer*, *Berlin*, 1997. (Summary) **98m:03113** 03F20

— (*with* Genther, Karin) Structuring of computer-generated proofs by cut introduction. (English summary) *Computational logic and proof theory* (*Vienna*, 1997), 140–152, *Lecture Notes in Comput. Sci.*, 1289, *Springer*, *Berlin*, 1997. (Summary) **98i:03021** 03B35 (68T15)

Egner, S. Semi-numerical solution to 6/6-Stewart-platform kinematics based on symmetry. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 6, 449–468. (Summary) **98c:70004** 70B15 (52C25)

Egorov, A. A. *see* **Egorov, Andreĭ Aleksandrovich**

Egorov, A. D. (*with* Zhidkov, E. P.; Petrov, Valeriĭ Alekseevich) Approximate formulas for functional integrals taking into account the contribution of Feynman diagrams of a given type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 69–78. (Summary) **98f:81161** 81S40 (65D32)

— On L_2-isomorphic Gaussian models for non-Gaussian distributions. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 2, 141–154. (Summary) **98b:28021** 28C20 (60B11, 60G15, 65C05)

Egorov, Andreĭ Aleksandrovich (*with* Tyrtyshnikov, E. E.) Numerical certification of algorithms and programs. (Russian. Russian summary) *Matrix methods and algorithms* (*Russian*), 67–95, *Ross. Akad. Nauk*, *Inst. Vychisl. Mat.*, *Moscow*, 1993. (*see* **98h:65002**) 65F15 (65–04)

— Efficient iterative algorithms for solving nonlinear multidimensional problems in mathematical physics. II. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 7, 1211–1216, 1270; *translation in Differential Equations* **31** (1995), *no.* 7, 1157–1162 (1996). (V. D. Glushenkov) **98f:65103** 65N06 (65F10, 65M06)

Egorov, E. E. On the minimal packing of a tree with fixed vertices. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 147–152; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 157–162. (Alexander M. Barg) **98d:05111** 05C70 (05C05, 68Q25)

Egorov, I. V. (*with* Ivanov, D. V.) Modeling of internal separated flows taking into account chemical nonequilibrium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 751–758. (Summary) **98b:76042** 76J20 (76M20, 76N15)

— (*with* Ivanov, D. V.) Application of the Newton method in the modeling of unsteady separated flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 504–509. 76M25

Egorov, V. A. On the asymptotic behavior of self-normalized sums of random variables. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 643–650; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 542–548 (1997). (Andrzej Krajka) **98k:60032** 60F05

Egorov, Yu. E. (*with* Komech, A. I.) Attractors and the asymptotic behavior of solutions in the nonlinear Lamb problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 5, 80–88, 105; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 5, 15–22 (1997). (Summary) **98d:35148** 35L70 (35B40)

Egorov, Yurīĭ Vladimirovich (*with* Kondrat′ev, Vladimir) On moments of negative eigenvalues of the Schrödinger operator. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 5, 585–587. (Viorel Iftimie) **98b:35128** 35P15 (35J10, 47F05)

— (*with* Kondrat′ev, Vladimir) On the optimal shape of a column. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 6, 727–729. (Vadim Komkov) **98c:73060** 73K40 (49Q10, 73K05)

— (*with* Schulze, Bert-Wolfgang) ★ Pseudo-differential operators, singularities, applications. (English summary) Operator Theory: Advances and Applications, 93. *Birkhäuser Verlag*, *Basel*, 1997. xiv+349 *pp. ISBN* 3-7643-5484-4 (Nguyễn Minh Trí) **98e:35181** 35Sxx (35–02, 46E35, 47G30, 58G15)

— On a Kondratiev problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 503–507. (Summary) **98a:49004** 49J05 (34L15, 49K05)

— (*with* Kondrat′ev, Vladimir) On a problem of O. A. Oleĭnik. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 159–160; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1296–1297. 35J05

— *see also* **Partial differential equations, 98e:35002**

Egorova, I. E. (*with* Boutet de Monvel-Berthier, Anne-Marie; Khruslov, Evgeniĭ Yakovlevich) Soliton asymptotics of the Cauchy problem solution for the Toda lattice. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 223–237. (Elena Medina Reus) **98f:35141** 35Q58 (34L25, 39A12, 47B99)

Egorychev, G. P. Van der Waerden conjecture and applications. (English summary) *Handbook of algebra*, *Vol.* 1, 3–26, *North-Holland*, *Amsterdam*, 1996. (Jorma Kaarlo Merikoski) **98i:15012** 15A15

Egozcue, Juan José (*with* Díez, Pedro; Huerta, Antonio) Analysis of the average efficiency of an error estimator. *Finite element methods* (*Jyväskylä*, 1997), 113–126, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker*, *New York*, 1998. (*see* **98i:65003**) 65N30 (65N12)

— (*with* Huerta, Antonio; Díez, Pedro) Error estimation for linear and nonlinear problems. *Finite element methods* (*Jyväskylä*, 1997), 183–194, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker*, *New York*, 1998. (*see* **98i:65003**) 65N30 (65N15)

Eguchi, Masayoshi (*with* Nakao, Takeshi) Functional analytic consideration of demodulation equations using the AR model of FSK modulated waves. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 155–162. (*see* **98e:00020**) 94A14

Eguchi, Tohru $N = 2$ supersymmetric gauge theories and soliton equations. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 277–284, *World Sci. Publishing*, *River Edge*, *NJ*, 1996. (Summary) **98c:81215** 81T60 (58F07, 81T13, 81T17)

— (*with* Hori, Kentaro) $N = 2$ superconformal field theories in 4 dimensions and *A-D-E* classification. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 67–82, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing*, *River Edge*, *NJ*, 1997. (Katsushi Ito) **98m:81180** 81T60 (81R10, 81T40)

— (*with* Yang, Sung-Kil) A new description of the E_6 singularity. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 315–322. (Summary) **98d:81081** 81T30 (32S30)

— (*with* Hori, Kentaro; Xiong, Chuan-Sheng) Quantum cohomology and Virasoro algebra. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 71–80. (Alexandre I. Kabanov) **98j:14035** 14H15 (14C17, 14D20, 17B68, 32G15, 32G81, 58D15, 81T70)

— *see also* **Nambu, Yôichirô, 98a:81001**

Eguiazarova, Elina V. The regularized Shapley value for a bin packing game. *Game theory and applications*, *III*, 21–26, *Nova Sci. Publ.*, *Commack*, *NY*, 1997. (*see* **98g:90008**) 90D12 (90D46)

Ehlers, Jürgen (*with* Prasanna, A. R.) A WKB formalism for multicomponent fields and its application to gravitational and sound waves in perfect fluids. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 8, 2231–2240. (Enric Verdaguer) **98e:83036** 83C25 (83C35, 83C55)

— Concepts of time in classical physics. *Time*, *temporality*, *now* (*Tegernsee*, 1996), 191–200, *Springer*, *Berlin*, 1997. (H. Treder) **98g:00013** 00A79 (01A45, 01A60)

— (*with* Rindler, Wolfgang) Local and global light bending in Einstein's and other gravitational theories. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 519–529. (W. B. Bonnor) **98b:83011** 83C10 (83D05)

— (*with* Buchert, Thomas) Newtonian cosmology in Lagrangian formulation: foundations and perturbation theory. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 733–764. (Hans P. Künzle) **98d:58048** 58E50 (85A40)

Ehlers, K. (*with* Koiller, J.; Montgomery, Richard) Problems and progress in microswimming. (English summary) *J. Nonlinear Sci.* **6** (1996), *no.* 6, 507–541. (H. W. Vayo) **98b:76083** 76Z10 (53C80, 76D07, 93C10, 93C95)

Ehlers, P. J. (*with* Porter, Timothy) Varieties of simplicial groupoids. I. Crossed complexes. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 221–233. (Summary) **98d:55012** 55P15 (18G30, 18G55, 55U35)

Ehm, Werner Adaptive kernel estimation of a cusp-shaped mode. *Applied mathematics and parallel computing*, 109–120, *Physica*, *Heidelberg*, 1996. (*see* **98c:65006**) 62G05

Ehrenborg, Richard (*with* Billera, Louis J.; Readdy, Margaret A.) The c-$2d$-index of oriented matroids. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 79–105. (Laura M. Anderson) **98h:05051** 05B35 (52B05, 52B40)

— (*with* Readdy, Margaret A.) On valuations, the characteristic polynomial, and complex subspace arrangements. (English summary) *Adv. Math.* **134** (1998), *no.* 1, 32–42. (P. Orlik) **98m:52018** 52B30

Ehrenfeucht, Andrzej (*with* Harju, Tero; Rozenberg, Grzegorz) Theory of 2-structures. *Automata*, *languages and programming* (*Szeged*, 1995), 1–14, *Lecture Notes in Comput. Sci.*, 944, *Springer*, *Berlin*, 1995. (*see* **98c:68007**) 68R10

— (*with* Ilie, Lucian; Păun, Gheorghe; Rozenberg, Grzegorz; Salomaa, Arto) On the generative capacity of certain classes of contextual grammars. (English summary) *Mathematical linguistics and related topics*, 105–118, *Ed. Acad. Române*, *Bucharest*, 1995. (Solomon Marcus) **98k:68106** 68Q50 (68Q45)

— (*with* Păun, Gheorghe; Rozenberg, Grzegorz) Contextual grammars and formal languages. *Handbook of formal languages*, *Vol.* 2, 237–293, *Springer*, *Berlin*, 1997. (From the summary) **98g:68089** 68Q50 (68Q45, 68S05)

— (*with* Harju, Tero; Rozenberg, Grzegorz) Invariants of inversive 2-structures on groups of labels. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 4, 303–327. (Summary) **98g:20089** 20M05 (05C25)

Ehrenmark, U. (*with* Body, G.) The effect of pumping and ripples on the classical 2-D plane beach problem. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 61–67. 76B15 (86A05)

Ehrenpreis, Leon The role of Paley-Wiener theory in partial differential equations. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge*, *MA*, 1994), 71–83, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc.*, *Providence*, *RI*, 1997. (Qing Yi Chen) **98e:35005** 35A20 (35A05, 35D05, 46F12)

Ehrenstein, U. (*with* Cherhabili, A.) Finite-amplitude equilibrium states in plane Couette flow. (English summary) *J. Fluid Mech.* **342** (1997), 159–177. (Summary) **98d:76069** 76E30 (76F99)

Ehrentraut, Harald (*with* Muschik, Wolfgang; Papenfuss, Christina; Blenk, S.) The connection between Ericksen-Leslie equations and the balances of mesoscopic theory of liquid crystals. (English summary) *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 185–194, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman*, *Harlow*, 1995. (*see* **98d:00025**) 76A15 (82D30)

— (*with* Muschik, Wolfgang; Papenfuss, Christina) Alignment tensor dynamics induced by the mesoscopic balance of the orientation distribution function. (English and Estonian summaries) EUROMECH Colloquium 348 "Nonlinear Dynamics of Heterogeneous and Microstructured Solids" (Tallinn, 1996). *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 1-2, 94–101. (*see* **98d:73001**) 73B99 (76A15, 82D30)

Ehrgott, Matthias (*with* Klamroth, Kathrin) Non-connected efficiency graphs in multiple criteria combinatorial optimization. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 140–150, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer*, *Berlin*, 1997. (Anton Volgenant) **98m:90125** 90C29 (90C35)

— (*with* Hamacher, Horst W.; Freitag, Jörg; Maffioli, Francesco) Heuristics for the K-cardinality tree and subgraph problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 87–114. (Sergeĭ L. Bezrukov) **98g:05076** 05C35

Ehrhardt, Torsten (*with* Roch, Steffen; Silbermann, Bernd) Symbol calculus for singular integrals with operator-valued PQC-coefficients. (English summary) *Singular integral operators and related topics* (*Tel Aviv*, 1995), 182–203, *Oper. Theory Adv. Appl.*, 90, *Birkhäuser*, *Basel*, 1996. (I. Spitkovsky) **98d:47107** 47G10 (45E10, 47B35, 47D25)

— (*with* Bart, H.; Silbermann, Bernd) Logarithmic residues, generalized idempotents, and sums of idempotents in Banach algebras. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 155–186. (Naum Ya. Krupnik) **98k:46079** 46J05 (46H30, 47D99)

— (*with* Silbermann, Bernd) Toeplitz determinants with one Fisher-Hartwig singularity. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 229–256. (Estelle L. Basor) **98i:47023** 47B35 (15A15)

Ehrich, Hans-Dieter (*with* Loeckx, Jacques; Wolf, Markus) ★ Specification of abstract data types. (English summary) Wiley-Teubner Computing. *John Wiley & Sons*, *Ltd.*, *Chichester*; *B. G. Teubner*, *Stuttgart*, 1996. xii+260 *pp. ISBN* 0-471-95067-X (Horst Reichel) **98b:68120** 68Q65 (68–01)

Ehrich, Sven Practical error estimates for the Gauss-Kronrod quadrature formula. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 74–79, *Math. Res.*, 89, *Akademie Verlag*, *Berlin*, 1996. (Summary) **98a:65028** 65D32

— High order error constants of Gauss-Kronrod quadrature formulas. (English summary) *Analysis* **16** (1996), *no.* 4, 335–345. (V. I. Polovinkin) **98a:41042** 41A55 (65D32)

Ehrig, Hartmut (*with* Heckel, Reiko; Corradini, Andrea; Löwe, Michael) Horizontal and vertical structuring of typed graph transformation systems. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 613–648. (K. G. Subramanian) **98f:68166** 68Q50 (68R10)

— (*with* Geisler, Robert; Klar, Marcus; Padberg, Julia) Horizontal and vertical structuring techniques for statecharts. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 181–195, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)

— (*with* Orejas, Fernando; Pino, Elvira) Institutions for logic programming. (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 485–511. (Summary) **98i:68051** 68N17 (68Q65)

Ehring, Martin Large deviations on one-dimensional hypergroups. (English summary) *Probability measures on groups and related structures, XI (Oberwolfach, 1994)*, 91–101, *World Sci. Publishing, River Edge, NJ*, 1995. (Walter R. Bloom) **98b:43012** 43A62 (60B99, 60F10)

Ehrlacher, Alain (*with* Hassani, Seddiq; Alaoui Soulimani, Amina) Modèle viscoélastique non-linéaire: le modèle pseudo-linéaire. (French summary) [The pseudolinear model, a nonlinear viscoelastic model] *Élasticité, viscoélasticité et contrôle optimal (Lyon, 1995)*, 243–252 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 73G25 (73F15)

— (*with* Jouhari, M.) Thermodynamic analysis of a propagating crack in saturated porous media. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 235–253. (Summary) **98k:73011** 73B30 (73M25, 76S05, 80A10)

Ehrlich, Philip Universally extending arithmetic continua. *Le labyrinthe du continu (Cerisy-la-Salle, 1990)*, 168–177, *Springer, Paris*, 1992. (Danielle Gondard-Cozette) **98j:03051** 03C60 (04A10, 12J15, 12L12)

— Dedekind cuts of Archimedean complete ordered abelian groups. *Algebra Universalis* **37** (1997), *no.* 2, 223–234. (Manfred Droste) **98c:06026** 06F20 (20F60)

— From completeness to Archimedean completeness. An essay in the foundations of Euclidean geometry. A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 57–76. (Victor V. Pambuccian) **98f:51003** 51–03 (01A60, 03B30, 03C65, 12D15, 12J15)

Ehsanes Saleh, A. K. Md. *see* **Saleh, A. K. Md. Ehsanes**

Ehtamo, H. (*with* Raivio, T.; Hämäläinen, R. P.) Aircraft trajectory optimization using nonlinear programming. (English summary) *System modelling and optimization (Prague, 1995)*, 435–441, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 49N55 (49M37)

Ei, S.-I. (*with* Mimura, Masayasu; Sakamoto, Kunimochi) A free boundary problem arising from combustion equations in cylindrical domains. (English summary) *Finite- and infinite-dimensional dynamics (Kyoto, 1988)*, 123–133, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (Gawtum Namah) **98h:35242** 35R35 (35K57, 80A25)

— (*with* Mimura, Masayasu; Sakamoto, Kunimochi) Singular perturbation problems to a combustion equation in very long cylindrical domains. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 75–84, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Vitaly A. Volpert) **98g:35015** 35B25 (35K55, 80A25)

Eichberger, Jürgen (*with* Grant, Simon) Dynamically consistent preferences, quadratic beliefs, and choice under uncertainty. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 195–205, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A08 (90A43)

— (*with* Bomze, Immanuel M.) Evolutive vs. naive Bayesian learning. (English summary) *The dynamics of norms*, 109–130, *Cambridge Stud. Probab. Induc. Decis. Theory, Cambridge Univ. Press, Cambridge*, 1997. (P. Neumann) **98b:90189** 90D20 (92B05, 92D15, 92D25)

Eichenauer-Herrmann, Jürgen Equidistribution properties of inversive congruential pseudorandom numbers with power of two modulus. (English summary) *Metrika* **44** (1996), *no.* 3, 199–205. (Harald Niederreiter) **98a:11102** 11K45 (65C10)

— (*with* Herrmann, Eva) Compound cubic congruential pseudorandom numbers. (English summary) *Computing* **59** (1997), *no.* 1, 85–90. (Robert F. Tichy) **98g:11089** 11K45 (65C10)

— (*with* Emmerich, Frank; Larcher, Gerhard) Average discrepancy, hyperplanes, and compound pseudorandom numbers. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 203–218. (Vladimir S. Anashin) **98j:11059** 11K45

— (*with* Niederreiter, Harald) Parallel streams of nonlinear congruential pseudorandom numbers. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 219–233. (Peter J. Hellekalek) **98k:11111** 11K45 (65C10)

— Quadratic congruential pseudorandom numbers: distribution of lagged pairs. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 1, 75–85. (Robert F. Tichy) **98a:11103** 11K45 (65C10)

— (*with* Niederreiter, Harald) Inversive congruential pseudorandom numbers: distribution of triples. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1629–1644. (Robert F. Tichy) **98a:65010** 65C10 (11K45)

Eichhorn, Heinrich Limits of comprehension, reference frames and general relativity. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 213–222. (Summary) **98h:83065** 83C99

Eichhorn, Jürgen (*with* Fricke, Jan; Lang, Alexander) Metrics conformally equivalent to bounded geometry. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 103–110. (Józef Dodziuk) **98h:53054** 53C20 (53C21)

— (*with* Friedrich, Thomas) Seiberg-Witten theory. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 231–267, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98i:57060** 57R57 (57R55, 58D29, 58G03, 58G10)

— (*with* Heber, Gerd) The configuration space of gauge theory on open manifolds of bounded geometry. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 269–286, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Ambar Sengupta) **98d:58020** 58D19 (22E65, 53C07, 81T13)

Eich-Soellner, Edda (*with* Lory, Peter; Burr, Peter; Kröner, Andreas) Stationary and dynamic flowsheeting in the chemical engineering industry. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 1–28. (Summary) **98d:65013** 65C20 (65L99, 65M99, 80A99)

Eick, Bettina (*with* Gähler, Franz; Nickel, Werner) Computing maximal subgroups and Wyckoff positions of space groups. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 467–474. (Vojtěch Kopský) **98g:20080** 20H15 (82D25)

Eid, George M. On Wallman spaces and the Lindelöf property. (English summary) *Papers on general topology and applications (Brookville, NY, 1990)*, 57–62, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98h:54033** 54D35 (28C15, 54E99)

Èĭdel'man, E. D. Some peculiarities of relativistic motion depending on one space variable. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 82–96; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 412–423. (Summary) **98d:76169** 76Y05 (76E99)

Èĭdel'man, S. D. (*with* Ivasishin, L. M.) On the domain of $(s, \mathbf{K})$-positivity of solutions of general elliptic systems. (Russian. English and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 13–15. (Summary) **98h:35052** 35J45 (35B05, 35D05)

— (*with* Porper, F. O.) Theorems on the asymptotic proximity of fundamental solutions of parabolic equations. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 586–589. (Vitali A. Liskevich) **98k:35086** 35K15 (35A08, 35B40)

— (*with* Zhitarashu, N. V.) L_p-theory of a class of nonlocal parabolic boundary value problems. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 445–448. (Introduction) **98j:35081** 35K35

— (*with* Ivasishen, S. D.) On fundamental solutions of the Cauchy problem for a new class of degenerate parabolic pseudodifferential equations. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 18–23. (Summary) **98i:35222** 35S05 (35A08, 35K65)

Èĭdel'man, Yu. S. Some inverse problems for parabolic and elliptic differential-operator equations. (English summary) *Ukrainian Math. J.* **45** (1993), *no.* 1, 132–140. (A. I. Atanasov) **98d:34091** 34G10 (35R30, 47N20)

— (*with* Gohberg, Israel) Inversion formulas and linear complexity algorithm for diagonal plus semiseparable matrices. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 4, 69–79. (Frank Uhlig) **98b:65029** 65F05 (65Y20)

Eidus, D. (*with* Khvoles, A. A.; Kresin, G.; Merzbach, Ely; Prössdorf, Siegfried; Shaposhnikova, T. O.; Sobolevskiĭ, P. E.) Mathematical work of Vladimir Maz'ya (on the occasion of his 60th birthday). *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 3–11 (1998). 01A70

Eie, M. (*with* Ong, Y. L.) A generalization of Kummer's congruences. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 149–157. (L. Skula) **98h:11024** 11B68 (11M35)

Eigen, S. J. (*with* Dooley, Anthony H.) A family of generalized Riesz products. (English summary) *Canad. J. Math.* **48** (1996), *no.* 2, 302–315. (Colin C. Graham) **98e:42006** 42A32 (43A25)

Eigenthaler, Günther (*with* Woracek, Harald) Permutable polynomials and related topics. *Contributions to general algebra*, 9 (*Linz*, 1994), 163–182, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Laurentiu Panaitopol) **98j:12001** 12E10

van Eijck, Jan Typed logics with states. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 623–645 (*electronic*). (Feodor Alexandrovich Murzin) **98j:03017** 03B40 (03B70, 68Q55)

van Eijl, Cleola Angelina ★ A polyhedral approach to the discrete lot-sizing and scheduling problem. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1996. *Technische Universiteit Eindhoven, Eindhoven*, 1996. ii+120 *pp.* (From the introduction) **98f:90035** 90B80 (90B35, 90C27)

Eilam, Tamar (*with* Flammini, Michele; Zaks, Shmuel) A complete characterization of the path layout construction problem for ATM networks with given hop count and load (extended abstract). (English summary) *Automata, languages and programming (Bologna, 1997)*, 527–537, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68M10 (90B12)

Eilbeck, J. C. (*with* Zolotaryuk, Y.; Savin, A. V.) Bound states of lattice solitons and their bifurcations. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 81–91. (Summary) **98h:70028** 70K99 (35Q51)

Eilers, Søren (*with* Abadie, Beatriz; Exel, Ruy) Morita equivalence for crossed products by Hilbert C^*-bimodules. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3043–3054. (Vladimir Manuilov) **98k:46109** 46L55 (22D25, 46H25, 46L05, 46L80)

Ein, Lawrence Multiplier ideals, vanishing theorems and applications. *Algebraic geometry—Santa Cruz* 1995, 203–219, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Takao Fujita) **98m:14006** 14C20 (14F17, 14K05)

— (*with* Donagi, Ron; Lazarsfeld, Robert) Nilpotent cones and sheaves on $K3$ surfaces. *Birational algebraic geometry (Baltimore, MD, 1996)*, 51–61, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Huybrechts) **98f:14006** 14D20 (14J28, 14J60)

Einarsson, T. Use of the braid group for anyons on various manifolds and connection to the fractional quantum Hall effect. (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 129–149, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 81V70 (20F36)

Einaudi, G. (*with* Dahlburg, R. B.; Boncinelli, P.) The evolution of plane current-vortex sheets. (English summary) *Phys. Plasmas* **4** (1997), *no.* 5, *part* 1, 1213–1226. (Summary) **98d:76064** 76E25 (76C05, 76E30, 76W05)

— (*with* Dahlburg, R. B.; Boncinelli, P.) The evolution of a plane jet in a neutral sheet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 79–93. (Summary) **98h:76135** 76W05 (76E25)

Einmahl, John H. J. (*with* Deheuvels, Paul) On the strong limiting behavior of local functionals of empirical processes based upon censored data. (English summary) *Ann. Probab.* **24** (1996), *no.* 1, 504–525. (Summary) **98f:62088** 62G05 (62E20)

— (*with* Beirlant, Jan) Maximal type test statistics based on conditional processes. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 1, 1–19. (Winfried Stute) **98k:62046** 62G05 (62G10, 62G20)

— Poisson and Gaussian approximation of weighted local empirical processes. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 1, 31–58. (M. Csörgő) **98m:60024** 60F05 (60F17, 62E20, 62G30)

— (*with* de Haan, Laurens; Sinha, Ashoke Kumar) Estimating the spectral measure of an extreme value distribution. (English summary) *Stochastic Process. Appl.* **70** (1997),

no. 2, 143–171. (Winfried Stute) **98m:60076** 60G70 (62G30)

— (*with* Van Zuijlen, Martien C. A.) On the approximation of an integral by a sum of random variables. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 107–114. 60F05 (62G30, 65D30)

Einmahl, Uwe (*with* Mason, David M.) Gaussian approximation of local empirical processes indexed by functions. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 283–311. (Miguel A. Arcones) **98d:60060** 60F15 (60F17)

— (*with* Mason, David M.) On the smallest maximal increment of partial sums of i.i.d. random variables. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 1, 67–86. (Erich Haeusler) **98e:60047** 60F15 (60E07)

Einstein, Albert ★ The collected papers of Albert Einstein. Vol. 6. The Berlin years: writings, 1914–1917. English translation of selected texts by Alfred Engel in consultation with Engelbert Schucking. With a preface by Engel and Schucking. *Princeton University Press, Princeton, NJ*, 1997. xii+449 *pp. ISBN* 0-691-01734-4 (Editors) **98i:01035** 01A75

— *see also* **Belousek, Darrin W., 98c:01030**; **Laudisa, Federico, 98f:01045**; **Miller, Arthur I., 98f:83001**; **Hey, Tony, 98g:01051**; **Corry, Leo et al., 98h:01016**; **Renn, Jürgen, 98h:01022**; **Franke, Almut, 98h:01024**; **Renn, Jürgen, 98j:01034**; **Cattani, Carlo, 98m:01021**; **Goenner, Hubert** *and* **Mehra, Jagdish**

Einy, Ezra (*with* Shitovitz, Benyamin) Stability of the core mapping in games with a countable set of players. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 45–50. (Su Sheng Wang) **98b:90180** 90D12 (90D06)

— (*with* Holzman, Ron; Monderer, Dov; Shitovitz, Benyamin) Core equivalence theorems for infinite convex games. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 1–12. (Peter Borm) **98j:90107** 90D12 (90D13)

Èĭrola, T. Stability of systems with incomplete correlations. The case of selfadjoint operators. (Russian. Russian summary) *Avtomat. i Telemekh.* **1995,** *no.* 11, 99–108; *translation in Automat. Remote Control* **56** (1995), *no.* 11, *part* 2, 1585–1593 (1996). (Yury Petrovich Yatsenko) **98a:93050** 93D05 (47N70, 93C55)

Eisele, Jeffrey R. Biased coin designs: some properties and applications. (English summary) *Adaptive designs (South Hadley, MA*, 1992), 48–64, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62E20)

Eisenbaum, Nathalie (*with* Kaspi, Haya) A counterexample for the Markov property of local time for diffusions on graphs. *Séminaire de Probabilités, XXIX*, 260–265, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Paul McGill) **98k:60140** 60J65 (60J55)

— (*with* de la Peña, Victor H.) Exponential Burkholder Davis Gundy inequalities. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 2, 239–242. (Summary) **98f:60146** 60J30 (60G44, 60J65)

— On the most visited sites by a symmetric stable process. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 4, 527–535. (M. G. Shur) **98g:60136** 60J55 (60J30, 60J65)

Eisenberg, Eli (*with* Horwitz, L. P.; Strauss, Y.) Irreversible quantum evolution for unstable systems in Lax-Phillips scattering theory. (English summary) *New developments on fundamental problems in quantum physics (Oviedo*, 1996), 171–184, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 82C10

— (*with* Shnerb, N.; Dana, Itzhack) Solvable model for dynamical localization near quantum anti-resonance. (English summary) *Quantum classical correspondence (Philadelphia, PA*, 1994), 453–459, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q99

— (*with* Avigur, R.; Shnerb, N.) Quantization process for the driven well—where P fails to commute with P^2. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 135–151. (Summary) **98a:81103** 81S99

— (*with* Dana, Itzhack) Limited sensitivity to analyticity: a manifestation of quantum chaos. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 153–170. (Summary) **98f:81075** 81Q50

Eisenblätter, Andreas A frequency assignment problem in cellular phone networks (extended abstract). (English summary) *Network design: connectivity and facilities location (Princeton, NJ*, 1997), 109–115, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90B12 (05C85, 68Q25)

Eisenbud, David (*with* Buhler, Joe; Graham, Ronald L.; Wright, Colin Douglas) Juggling drops and descents [MR 96a:05016]. *Organic mathematics (Burnaby, BC*, 1995), 133–154, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 05A99 (70B99, 70D99)

— (*with* Ulrich, Bernd) Modules that are finite birational algebras. *Illinois J. Math.* **41** (1997), *no.* 1, 10–15. (From the text) **98m:13012** 13B21 (13B02)

— (*with* Mazur, Barry C.) Evolutions, symbolic squares, and Fitting ideals. (English summary) *J. Reine Angew. Math.* **488** (1997), 189–201. (Liam O'Carroll) **98h:13035** 13N05 (11G05, 13C40, 13H10)

— (*with* Peeva, Irena; Sturmfels, Bernd) Non-commutative Gröbner bases for commutative algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 687–691. (Aldo Conca) **98e:16024** 16S10 (13P10)

Eisenfeld, J. Identification, interval bounds, and linear algebraic estimation for a class of nonlinear problems. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 17–29. (*see* **98g:00021**) 92C50 (65U05)

Eisenga, A. H. M. (*with* Verzicco, R.; van Heijst, G. J. F.) Dynamics of a vortex ring moving perpendicularly to the axis of a rotating fluid. (English summary) *J. Fluid Mech.* **354** (1998), 69–100. 76C05 (76–05, 76M25)

Eisenhart, Luther Pfahler ★ Non-Riemannian geometry. Reprint of the 1927 original. American Mathematical Society Colloquium Publications, 8. *American Mathematical Society, Providence, RI*, 1990. viii+184 *pp. ISBN* 0-8218-1008-1 (David Bao) **98j:53001** 53–01 (01A75, 53A20, 53B05, 53B40)

— ★ Riemannian geometry. (English summary) Eighth printing. Princeton Landmarks in Mathematics. Princeton Paperbacks. *Princeton University Press, Princeton, NJ*, 1997. x+306 *pp. ISBN* 0-691-02353-0 (Editors) **98h:53001** 53–01 (01A75)

Eisenstaedt, Jean L'optique balistique newtonienne à l'épreuve des satellites de Jupiter. [Newtonian ballistic optics tested against the satellites of Jupiter] *Arch. Hist. Exact Sci.* **50** (1996), *no.* 2, 117–156. (Peter M. Harman) **98a:01010** 01A45 (70–03, 78–03)

Eisenstat, Stanley C. (*with* Rothberg, Edward) Node selection strategies for bottom-up sparse matrix ordering. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 682–695 (*electronic*). 65F50

Eisert, J. (*with* Gonzales, R. A.; Koltracht, I.; Neumann, Michael; Rawitscher, G.) Integral equation method for the continuous spectrum radial Schrödinger equation. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 134–149. (V. I. Yukalov) **98i:81040** 81Q05 (81–04)

Eisfeld, Jörg On smallest covers of finite projective spaces. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 1, 77–80. (J. W. P. Hirschfeld) **98b:51016** 51E23

— (*with* Metsch, Klaus) Blocking s-dimensional subspaces by lines in $PG(2s, q)$. (English summary) *Combinatorica* **17** (1997), *no.* 2, 151–162. (Vladimir D. Tonchev) **98i:05038** 05B25 (51E21)

Eiswirth, Markus (*with* Zimmermann, Martin G.; Firle, Sascha O.; Natiello, Mario A.; Hildebrand, Michael; Bär, Markus; Bangia, Anil K.; Kevrekidis, Ioannis G.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)

Eiter, Thomas (*with* Gottlob, Georg; Leone, Nicola) Complexity results for abductive logic programming. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY*, 1995), 1–14, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q25, 68Q55)

— (*with* Gottlob, Georg) The complexity of nested counterfactuals and iterated knowledge base revisions. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 497–512. (Summary) **98e:68240** 68T30 (68Q25)

— (*with* Gottlob, Georg) The complexity class Θ_2^p: recent results and applications in AI and modal logic. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 1–18, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q15 (03B45, 03D15, 68T27)

— (*with* Mannila, Heikki) Distance measures for point sets and their computation. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 109–133. (Hans-Dietrich Hecker) **98k:68163** 68U05 (68Q25)

— (*with* Gottlob, Georg; Leone, Nicola) On the indiscernibility of individuals in logic programming. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 805–824. (Summary) **98j:68008** 68N17

— (*with* Gottlob, Georg) Expressiveness of stable model semantics for disjunctive logic programs with functions. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 167–178. (Summary) **98d:68043** 68N17 (68Q55)

Eitner, U. (*with* Bobenko, A.; Kitaev, A. V.) Surfaces with harmonic inverse mean curvature and Painlevé equations. (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 187–227. (Rabah Souam) **98j:53008** 53A10 (34A34, 34E05)

Ejiri, Norio Degenerate minimal surfaces of finite total curvature in $\mathbf{R}^N$. *Kobe J. Math.* **14** (1997), *no.* 1, 11–22. (Kotaro Yamada) **98m:53011** 53A10 (53A07)

Ekblom, Håkan (*with* Edlund, Ove; Madsen, Kaj) Algorithms for non-linear M-estimation. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 373–383. 62F35 (62J02)

Eke, B. G. Letter to the editor: "Coprimes in blocks of successive integers" [Discrete Math. **149** (1996), no. 1-3, 313–317; MR 97a:11016]. *Discrete Math.* **175** (1997), *no.* 1-3, 297. (From the text) **98i:11006** 11A51 (11B37)

Eke, Boniface I. (*with* Lee, Kyoung Hee; Mordeson, John N.) Fuzzy derivations. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 1–19. (Summary) **98c:13011** 13A99 (04A72, 13B10)

Ekedahl, Torsten (*with* Björner, Anders) Subspace arrangements over finite fields: cohomological and enumerative aspects. (English summary) *Adv. Math.* **129** (1997), *no.* 2, 159–187. (Volkmar Welker) **98h:52021** 52B30 (11G25, 14F30)

Ekeland, Ivar (*with* Dell'Antonio, Gianfausto; D'Onofrio, B.) Nonergodic properties of systems of oscillators coupled through convex even potentials. *Variational methods in nonlinear analysis (Erice*, 1992), 77–82, *Gordon and Breach, Basel*, 1995. (Gabriella Tarantello) **98i:58194** 58F22 (34C25, 58E05, 58F05)

— (*with* Chiappori, Pierre-André) Problèmes d'agrégation en théorie du consommateur et calcul différentiel extérieur. (English and French summaries) [Aggregation problems in consumer theory and exterior differential calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 5, 565–570. (Dave Furth) **98a:90035** 90A40 (58A15, 58A17)

Eker, S. Fast matching in combinations of regular equational theories. (English summary) *First International Workshop on Rewriting Logic and its Applications (Pacific Grove, CA*, 1996), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (*see* **98g:68007**) 03B70 (03C05, 68Q42, 68T15)

Ekert, A. K. (*with* Derka, R.; Bužek, V.) Universal algorithm for optimal estimation of quantum states from finite ensembles via realizable generalized measurement. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 8, 1571–1575. (Summary) **98k:81024** 81P15

Ekhad, Shalosh B. (*with* Zeilberger, Doron) Proof of Conway's lost cosmological theorem. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 78–82 (*electronic*). (From the text) **98i:05010** 05A99

— (*with* Amdeberhan, Tewodros) A condensed condensation proof of a determinant evaluation conjectured by Greg Kuperberg and Jim Propp. *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 169–170. (Thomas H. Foregger) **98b:15002** 15A15

— (*with* Ahlgren, Scott; Ono, Ken; Zeilberger, Doron) A binomial coefficient identity associated to a conjecture of Beukers. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 10, 1 *p.* (*electronic*). 05A19 (05A10)

Ekhaus, Michael (*with* Seppäläinen, Timo) Stochastic dynamics macroscopically governed by the porous medium equation for isothermal flow. (English summary) *Ann. Acad. Sci. Fenn. Math.* **21** (1996), *no.* 2, 309–352. (Pablo A. Ferrari) **98i:60091** 60K35 (76S05, 82C22)

Ekin, A. Bülent The rank and the crank modulo 5. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 169–178. (Richard P. Lewis) **98k:11145** 11P83

Ekin, Oya (*with* Crama, Yves; Hammer, Peter L.) Variable and term removal from Boolean formulae. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 217–230. (Bai Ying Shen) **98h:68120** 68Q35 (03B05, 03D15)

— (*with* Hammer, Peter L.; Peled, Uri N.) Horn functions and submodular Boolean functions. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 257–270. (N. Prabhakara Rao) **98e:06006** 06E30 (03D15, 03G05, 68Q99, 94C10)

Ekl, Randy L. New results in equal sums of like powers. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1309–1315. (Michael A. Bennett) **98m:11023** 11D72 (11Y50)

Eklof, Paul C. (*with* Shelah, Saharon) New nonfree Whitehead groups by coloring. (English summary) *Abelian groups and modules (Colorado Springs, CO, 1995)*, 15–22, *Lecture Notes in Pure and Appl. Math.*, 182, *Dekker, New York*, 1996. (Milan Grulović) **98k:20091** 20K20 (03E35, 03E75)

— (*with* Zimmermann-Huisgen, Birge; Shelah, Saharon) Torsion modules, lattices and p-points. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 547–555. (Mike Prest) **98m:16037** 16U20 (03E05, 06A23, 13C12)

— Set theory generated by abelian group theory. *Bull. Symbolic Logic* **3** (1997), *no.* 1, 1–16. (N. C. A. da Costa) **98g:03113** 03E05 (03–02, 03C55, 03E35, 03E50, 03E75, 20K99)

— (*with* Goodearl, K. R.; Trlifaj, Jan) Dually slender modules and steady rings. (English summary) *Forum Math.* **9** (1997), *no.* 1, 61–74. (Riccardo Colpi) **98a:16001** 16D40 (03C60, 16D90, 16E50)

— (*with* Shelah, Saharon) The Kaplansky test problems for $\aleph_1$-separable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1901–1907. (Manfred Dugas) **98j:20080** 20K20 (03C60, 03E35, 20K30)

Ekni, M. Some rank properties of the incidence matrix and the block-design model. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 223–233. 62K10

Ekroot, Laura L. (*with* Kiely, Aaron B.; Dolinar, Samuel J., Jr.; McEliece, Robert J.; Lin, Wei[3]) Trellis decoding complexity of linear block codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1687–1697. (*see* **98c:94001**) 94B35

Ekstrand, P. Local grid refinements for the Navier-Stokes equations based on truncation error estimates. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 363–392, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98e:76086** 76M25 (65M55)

Èl', G. A. (*with* Kamchatnov, A. M.; Krylov, A. L.) On the asymptotic evolution of a localized perturbation in the case of the one-dimensional Landau-Lifshits equation with uniaxial anisotropy. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 128–136; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1345–1351 (1997). 35Q55 (82B21)

— (*with* Mazur, N. G.; Nikolaevskiĭ, V. N.) Energy exchange between seismic and ultrasonic oscillations in an elastic medium with microstructure. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 336–340; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 325–328. 73D15 (86A15)

pour-El, Marian B. *see* **Pour-El, Marian B.**

abd-Elaal, M. Z. *see* **Abd-Elaal, M. Z.**

El Abbadi, Amr (*with* Agrawal, Divyakant; Eğecioğlu, Ömer) Analysis of quorum-based protocols for distributed $(k+1)$-exclusion. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 161–170, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68052** 68Q10

— (*with* Agrawal, Divyakant; Eğecioğlu, Ömer) Billiard quorums on the grid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 9–16. 68Q10

— (*with* Krishnaswamy, Vasudha; Agrawal, Divyakant; Bruno, J. L.) Relative serializability: an approach for relaxing the atomicity of transactions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 344–354. (Summary) **98i:68067** 68P15 (68Q10)

Elabbasy, E. M. Oscillation criteria for second order superlinear differential equations. (English summary) *Far East J. Math. Sci.* **2** (1994), *no.* 2, 213–227. (E. S. Chichkin) **98h:34067** 34C10

— On the qualitative behavior of solutions of generalized Liénard equation. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 275–282. (Gabriele Villari) **98c:34054** 34C10 (34C05, 34C15)

— Oscillation of certain second order nonlinear perturbed differential equations. (English summary) *Southeast Asian Bull. Math.* **20** (1996), *no.* 4, 37–46. (E. S. Chichkin) **98h:34068** 34C10

— On the oscillation of second order sublinear ordinary differential equations. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 141–154. (J. S. W. Wong) **98h:34069** 34C10

— Oscillation theorems for second-order nonlinear differential equations with damping term. (English summary) *J. Fract. Calc.* **11** (1997), 95–102. (Ch. G. Philos) **98c:34055** 34C10

— (*with* Elsharabasy, M. A.) Oscillation properties for second order nonlinear differential equations. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 211–220. (Ondřej Došlý) **98m:34070** 34C10

El Abdouni, B. (*with* Thibault, Lionel) Optimality conditions for problems with set-valued objectives. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 2, 183–201. (Tetsuzo Tanino) **98d:90100** 90C29 (49J52)

nour El Abidine, D. *see* **Nour El Abidine, D.**

El-Adad, El-Sayed El-Sayed Abd El-Aal About Riesz summability of multiple Hermite series. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 1, 13–16. (Sushil Sharma) **98a:40005** 40A30 (46E30)

El-Ahmady, A. E. (*with* Kozae, A. M.) Retracts and semiretracts of topological spaces. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 76–79. 54C08 (54C15)

El Aïdi, Mohammed Borne inférieure d'un opérateur elliptique perturbé par un potentiel. (English and French summaries) [Lower bound for an elliptic operator perturbed by a potential] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 273–276. (Summary) **98e:35044** 35J10

El Alami, N. (*with* Ouansafi, A.; Znaidi, N.) On the discrete linear quadratic minimum-time problem. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 525–532. (Summary) **98k:49046** 49N10 (93C55)

El-Alaoui, El-H. Ch. (*with* Gauthier, J. P.; Kupka, Ivan A. K.) Small sub-Riemannian balls on $\mathbf{R}^3$. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 3, 359–421. (Claudio Gorodski) **98a:53043b** 53C15 (49L05, 53C20)

El-Alem, Mahmoud (*with* Dennis, J. E., Jr.; Maciel, Maria C.) A global convergence theory for general trust-region-based algorithms for equality constrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 177–207. (Wen Yu Sun) **98b:90126** 90C30 (65K05)

El-Amawy, Ahmed (*with* Kulasinghe, Priyalal) On the complexity of designing optimal branch-and-combine clock networks. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 264–269. 68M10 (68Q25)

El Amine, Khalid (*with* Coquel, Frédéric; Godlewski, Edwige; Perthame, Benoît; Rascle, Paul) Une méthode numérique décentrée pour la résolution d'écoulements diphasiques. (English and French summaries) [A numerical method using upwind schemes for the solution of two-phase flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 717–723. (Summary) **98c:76078** 76M25 (65M06, 76N99, 76T05)

— (*with* Coquel, Frédéric; Godlewski, Edwige; Perthame, Benoît; Rascle, Paul) A numerical method using upwind schemes for the resolution of two-phase flows. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 272–288. (Summary) **98h:76092** 76M20 (76N10, 76T05)

Elander, Nils Quantization in the continuum—complex dilated expansions of scattering quantities. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics (Minneapolis, MN, 1995)*, 283–317, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Tuncay Aktosun) **98k:81289** 81U05 (34L40, 81Q10, 81V45, 81V55)

El-Assar, S. (*with* Badawy, A.) Homomorphisms and subalgebras of MS-algebras. (English and Arabic summaries) *Qatar Univ. Sci. J.* **15** (1995), *no.* 2, 279–285. (T. S. Blyth) **98h:06023** 06D30

El Attar, M. A. (*with* Arino, O.) Necessary and sufficient condition for the oscillation of higher-order neutral differential system with several delays. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 81–86. (Summary) **98c:34107** 34K15 (34K40)

Elaydi, S. (*with* Murakami, Satoru) Uniform asymptotic stability in linear Volterra difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 203–218. (Summary) **98m:39040** 39A11

Elayyan, Alaeddin (*with* Isakov, Victor) On an inverse diffusion problem. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1737–1748. (Ulrich Tautenhahn) **98j:35182** 35R25 (35K55, 35R30, 65J15, 93B30)

— (*with* Isakov, Victor) On uniqueness of recovery of the discontinuous conductivity coefficient of a parabolic equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 1, 49–59. (Brian D. Sleeman) **98a:35140** 35R30 (35K10)

El Bachari, Essaïd Modélisation d'une jonction 3d-2d en élasticité non linéaire par Γ-convergence. (English and French summaries) [Modelling of a 3d-2d junction in nonlinear elasticity by Γ-convergence] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1241–1246. (Juan M. Viaño Rey) **98m:73031** 73C50 (35Q72, 49J99, 73K99, 73V25)

Elbarbary, Elsayed M. E. (*with* Ismail, Hassan N. A.) Restrictive Padé approximation and parabolic partial differential equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 343–351. (Summary) **98m:65142** 65M06 (41A21)

El-Barmi, Hammou (*with* Dykstra, Richard L.) Restricted product multinomial and product Poisson maximum likelihood estimation based upon Fenchel duality. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 2, 117–123. (G. P. Bhattacharjee) **98f:62041** 62F03 (62F10)

— Testing for or against a trend in odds ratios. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1877–1891. (Summary) **98e:62089** 62H17

— (*with* Zimmerman, Dale L.; Núñez-Antón, Vicente) Computational aspects of likelihood-based estimation of first-order antedependence models. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 67–84. 62J05

El Bashir, Robert (*with* Kepka, Tomáš) On when commutative Noetherian rings are slender. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2585–2591. (Luigi Salce) **98h:13011** 13C13

El Baz, D. (*with* Miellou, J. C.; Spiteri, P.) A new class of asynchronous iterative algorithms with order intervals. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 237–255. (Klaus Ritter) **98c:65211** 65Y05 (65H10)

Elbaz, E. (*with* Novello, M.; Salim, J. M.; Motta da Silva, M. C.; Klippert, R.) Hamiltonian formulation of FRW equations of cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 481–487. (Alexander N. Petrov) **98b:83008** 83C05 (83F05)

El-Bendary, Sherif (*with* Awad, Labib R.) On the solvability of some systems of linear differential equations with unbounded coefficients. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 289–297. (V. G. Kurbatov) **98f:34047** 34C11 (34B05)

Elbert, Árpád (*with* Vosmanský, Jaromír) On solutions of differential equations with "common zero" at infinity. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 109–120. (Summary) **98g:34061** 34C10 (33C10, 34A30)

— (*with* Kusano, Takaši; Tanigawa, Tomoyuki) An oscillatory half-linear differential equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 4, 355–361. (V. B. Headley) **98m:34071** 34C10 (35J60, 46F10)

— (*with* Eberhard, Walter) Half-linear eigenvalue problems. (English summary) *Math. Nachr.* **183** (1997), 55–72. (Summary) **98a:34021** 34B15 (34L20, 34L30)

— (*with* Laforgia, Andrea) An upper bound for the zeros of the derivative of Bessel functions. (English summary) *Rend. Circ. Mat. Palermo (2)* **46** (1997), *no.* 1, 123–130. (Boro Döring) **98m:33008** 33C10

— Linear oscillators with occasionally large damping. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 73–84. (N. Chafee) **98m:34104** 34D20 (34C10)

ElBialy, Mohamed Sami The flow of the N-body problem near a simultaneous-binary-collision singularity and integrals of motion on the collision manifold. (English summary) *Arch. Rational Mech. Anal.* **134** (1996), *no.* 4, 303–340. (Donald G. Saari) **98a:70010** 70F10 (70F15, 70F35)

— Collision-ejection manifold and collective analytic continuation of simultaneous binary collisions in the planar N-body problem. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 55–77. (Donald G. Saari) **98a:70009** 70F10 (70F15, 70F35)

El-Borai, Mahmoud M. (*with* Assaad, Farouk K.) On the Cauchy problem for some parabolic partial differential equations with time delays. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 1–8. (Summary) **98b:35212** 35R10 (35K30)

— (*with* Assaad, Farouk K.) On the asymptotic behaviour of some nonlinear parabolic systems. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 37–42. (Summary) **98d:35095** 35K55 (35B40)

El Boukhari, Abderrahman Détermination explicite du cône contingent; application à l'optimisation. (English and French summaries) [Explicit determination of a contingent cone; application to optimization] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 831–833. (Summary) **98i:49020** 49J52 (49K99)

El Bouzid, H. (*with* Nicaise, Serge) Refined mixed finite element methods for the Stokes problem. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 158–162, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N30 (35Q30, 76D05, 76M10)

Elby, Andrew (*with* Brown, Harvey R.; Weingard, Robert) Cause and effect in the pilot-wave interpretation of quantum mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 309–319, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Elchouemi, A. (*with* Ayoubi, R.; Bayoumi, Magdy A.; Alhalabi, B.) An efficient mapping algorithm of multilayer perceptron on mesh-connected architectures. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 273–285. (Summary) **98j:65096** 65Y05 (68T05)

Elcrat, Alan R. (*with* DeLillo, Thomas K.; Pfaltzgraff, John A.) Numerical conformal mapping methods based on Faber series. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 205–236. (N. Papamichael) **98j:30003** 30C30 (65E05)

— (*with* Papanicolaou, Vassilis G.) On the inverse problem of a fourth-order self-adjoint binomial operator. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 886–896. (Vjacheslav A. Yurko) **98f:34015** 34A55 (34B05, 34L05, 47E05)

El-Daou, M. K. (*with* Ortiz, E. L.) The number of extrema of the error function of a class of methods for differential equations. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 69–79. (David R. Hill) **98c:41028** 41A30 (65L06)

Eldem, V. (*with* Özçaldiran, K.) A complete classification of minimal realizations of nonsingular and strictly proper transfers under similarity transformations. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 835–850. (Xiao Yun Lu) **98e:93017** 93B15 (93C05)

Eldén, Lars (*with* Park, Haesun) Perturbation and error analyses for block downdating of a Cholesky decomposition. (English summary) *BIT* **36** (1996), *no.* 2, 247–263. (Summary) **98j:65030** 65F20 (65F35)

— (*with* Regińska, Teresa) Solving the sideways heat equation by a wavelet-Galerkin method. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1093–1106. (Riccardo Fazio) **98e:65075** 65M30 (35K05, 65M60)

— (*with* Park, Haesun) Stability analysis and fast algorithms for triangularization of Toeplitz matrices. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 383–402. (Raffaella Pavani) **98d:65033** 65F05

— (*with* Lamm, Patricia K.) Numerical solution of first-kind Volterra equations by sequential Tikhonov regularization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1432–1450. (Otmar Scherzer) **98g:65132** 65R30 (45L05, 65J20)

Elder, G. Griffith (*with* Madan, Manohar L.) Galois module structure of the integers in wildly ramified $C_p \times C_p$ extensions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 722–735. (Martha Rzedowski-Calderón) **98g:11134** 11S23 (11S15, 20C10, 20C11)

Elder, John R. Estimating the arbitrage pricing theory with observed macro factors. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 241–246. 90A12 (90A20)

Eldesbaev, T. On an inverse problem for an equation of mixed type whose order degenerates. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1995,** *no.* 5, 20–24 (1996). (Megumi Saigo) **98a:35093** 35M10 (35R30)

El-Dib, Yusry O. The stability of a rigidly rotating magnetic fluid column: effect of a periodic azimuthal magnetic field. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3585–3602. (Summary) **98c:76042** 76E25 (76U05, 76W05)

— The relation between surface charges and viscosity in interfacial stability influenced by a periodic electric force. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 60–86. (Summary) **98a:76033** 76E25 (76D45, 76W05)

bahei-El-Din, A. *see* **Bahei-El-Din, A.**

bossam El-Din, M. *see* **Hossam El-Din, M.**

mohie El-Din, M. M. *see* **Mohie El-Din, M. M.**

El Din S. Hussein, Salah *see* **Hussein, Salah El Din S.**

El-Diriny, M. A. (*with* El Naggar, Abd-Elrahiem) Response of two internal resonant oscillators subjected to combined quadratic parametric and external excitation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **24** (1995), *no.* 2, 85–102. (A. Y. T. Leung) **98a:70023** 70K40 (70K28)

Eldredge, Michael (*with* Hughes, Thomas J. R.; Ferencz, Robert M.; Rifai, Steven M.; Raefsky, Arthur; Herndon, Bruce) High-performance parallel computing in industry. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1217–1233. (*see* **98f:76004**) 65Y05 (65–02)

Elduque, Alberto (*with* Albuquerque, Helena) Classification of Mal′tsev superalgebras of small dimensions. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 6, 629–654, 751; *translation in Algebra and Logic* **35** (1996), *no.* 6, 351–365. (Paul Demkin) **98e:17006** 17A70 (17D10)

— (*with* Albuquerque, Helena; Laliena Clemente, Jesús A.) Superalgebras with semisimple even part. *Comm. Algebra* **25** (1997), *no.* 5, 1573–1587. (Alexander V. Il′tyakov) **98d:17005** 17A70 (17C70, 17D05, 17D10)

— (*with* Pérez, José María) Composition algebras with large derivation algebras. (English summary) *J. Algebra* **190** (1997), *no.* 2, 372–404. (Summary) **98i:17003** 17A75

— Symmetric composition algebras. (English summary) *J. Algebra* **196** (1997), *no.* 1, 282–300. (Cándido M. González) **98m:17008** 17A75 (17A20)

Elek, Gábor The determinant in the Laurent ring and the L^2-Reidemeister-Franz torsion. (English summary) *Math. Scand.* **79** (1996), *no.* 2, 202–208. (Patrick T. McDonald) **98k:58240** 58G26 (46L99, 57Q10, 58G25)

— On the Cayley graph of an amenable group. *Acta Math. Hungar.* **74** (1997), *no.* 3, 229–234. (Alain Valette) **98d:46078** 46L85 (05C25, 20F32, 57R20)

— Betti numbers and Euler's formula for combinatorial foliations. *Manuscripta Math.* **92** (1997), *no.* 2, 239–247. (John Roe) **98d:58177** 58G12 (57R20, 57R30)

Elekes, György On the number of sums and products. *Acta Arith.* **81** (1997), *no.* 4, 365–367. (Yuri Bilu) **98h:11026** 11B75 (05D99, 11B13, 11B25, 52C10)

Elemesova, B. N. Simple waves in a layer of a vortical barotropic fluid. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 5, 56–64; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 5, 703–710 (1998). (Nikolay G. Kuznetsov) **98m:76132** 76N10 (35Q35)

Elenbogen, B. (*with* Walsh, J. A.; Hall, G. R.) Computer protocol and torus maps. (English summary) *Dynam. Stability Systems* **11** (1996), *no.* 3, 239–263. (Eric Cornelis) **98e:68017** 68M20 (58F12, 58F40, 68M10)

Elenin, G. G. (*with* Kurkina, E. S.) Bifurcation analysis of a nonideal model for the (NO + CO)/Pt(100) reaction in a continuously stirred reactor. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 11, 41–58. 92E20 (34C23)

— (*with* Kalachinskaya, I. S.; Kurkina, E. S.) Stationary dissipative structures in three-component systems of reaction-diffusion type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 54–62. 35K57 (92E20)

Eleonskiĭ, V. M. (*with* Korolev, V. G.) On coding of series of homoclinic loops. (English summary) Nonlinear dynamics, bifurcations and chaotic behavior. *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 6, 1029–1057. (Alexander Loskutov) **98d:58128** 58F14

— (*with* Korolev, V. G.; Kulagin, N. E.) Dynamical systems with a Hamiltonian that is a function of momentum moduli: pseudobilliards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6604–6607. (András Krámli) **98d:58056** 58F05 (70H05)

— (*with* Korolev, V. G.; Kulagin, N. E.) On a classical analog of the isospectral Schrödinger problem. *JETP Lett.* **65** (1997), *no.* 11, 889–893; *translated from Pis′ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 11, 851–854 (*Russian*). 81Q05

Eleser, Nancy (*with* Efe, Kemal) An optimal emulator and VLSI layout for complete binary trees. (English summary) *Acta Inform.* **34** (1997), *no.* 6, 429–447. (Summary) **98f:68213** 68R10 (05C85, 68Q35)

Eleutheriadis, Georgios I. (*with* Boudourides, Moses A.) Integral separation, Lyapunov transformations, and the small change in the direction of the solutions of periodic linear systems of ordinary differential equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 590–604. (Sergei Mazanik) **98g:34021** 34A30 (34C20, 34D08)

— An improved estimate for the highest Lyapunov exponent in the method of freezing. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2931–2937. (Nikolay A. Izobov) **98c:34078** 34D08

Elezgaray, Juan (*with* Berkooz, Gal; Dankowicz, Harry; Holmes, Philip J.; Myers, Mark) Local models and large scale statistics of the Kuramoto-Sivashinsky equation. (English summary) *Multiscale wavelet methods for partial differential equations*, 441–471, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98d:65124** 65M60

Elezović, Neven A note on continued fractions of quadratic irrationals. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 27–33. (Péter Kiss) **98h:11011** 11A55

Elezović-Hadžić, Sunčica (*with* Knežević, Milan) Yang-Lee edge singularity on a class of tree-like lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2103–2107. (Summary) **98c:82014** 82B20 (82B27)

Elfallah, A. (*with* Chakir, H.; Saidi, E. H.) On generalized fractional superstring theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2049–2060. (Marco Moriconi) **98m:81135** 81T30 (83E30)

El Fallah Seghrouchni, Amal Multi-agent systems as a paradigm for intelligent system design. (English summary) Human-like systems using AI techniques. *Informatica (Ljubl.)* **21** (1997), *no.* 2, 173–184. (*see* **98c:68013**) 68T20 (68Q90)

Elfessi, Abdulaziz (*with* Jin, Chun) On robust estimation of the common scale parameter of several Pareto distributions. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 4, 345–352. (Andrzej S. Kozek) **98m:62055** 62F10 (62F11)

— Estimation of a linear function of the parameters of an exponential distribution from doubly censored samples. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 251–259. (Summary) **98m:62056** 62F10

El-Fiky, Ahmed On the solution of some linear homogeneous difference equation with periodic coefficients. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **36** (1996), *no.* 2, 317–323. (M. Znojil) **98a:39001** 39A10

— On the Cauchy problem for a degenerate parabolic differential equation. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **37** (1997), *no.* 1, 11–14. (Bruno Franchi) **98b:35103** 35K65 (35K15)

El-Gabali, Magdi A. Efficient multiple-term approximations for the generalised elliptic-type integrals. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 3, 411–426. (Summary) **98b:65023** 65D20 (35E05)

— Multiple-term approximations for Appell's F_1 function. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 135–148. (H. S. P. Shrivastava) **98k:33023** 33C65 (33C45, 33C90, 41A29)

— New results on the approximations of the generalised elliptic-type integrals. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **24** (1997), *no.* 2, 217–226. 33E05 (33–04)

El Galiou, Mohamed Déformations des structures de Poisson quadratiques. (English and French summaries) [Deformations of quadratic Poisson structures] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 937–940. (Summary) **98k:58253** 58H15 (16E99, 16S99)

Elgamal, Mahmoud (*with* Nakagiri, Shin-ichi) Weak solutions of the sine-Gordon equation and their numerical analysis. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 123–137. (*see* **98h:00040**) 35L70 (35D99, 65M99)

El-Ganayni, W. A. (*with* Fawzy, Tharwat; Holail, F. S.) Convergence of the spline solving $(0, m)$ lacunary interpolation problem. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 129–148. (Hans-Jörg Wenz) **98d:41010** 41A15

El Gayar, Sanaa M. On the geometric and analytical characteristics of complete even power exponential distributions. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **25** (1996), *no.* 2, 5 *pp.* 62E10

— On the two-way analysis of variance under heteroscedasticity. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 191–210. 62J10

El-Gebeily, M. A. (*with* Abu-Zaid, I. T.) A finite difference method for approximating the solution of a certain class of singular two-point boundary value problems. (English summary) *Arab J. Math. Sci.* **1** (1995), *no.* 1, 25–39. (Summary) **98f:65077** 65L10 (65L12)

— (*with* Attili, Basem S.; Elgindi, M. B. M.) Initial value methods for the eigenelements of singular two-point boundary value problems. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 67–77. (Summary) **98m:65120** 65L10 (65L15)

— (*with* Abu-Zaid, I. T.) On a finite difference method for singular two-point boundary value problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 179–190. (Summary) **98m:65121** 65L10 (65L12)

Elgersma, Mike (*with* Freudenberg, James S.; Morton, Blaise G.) Polynomial methods for the structured singular value with real parameters. (English summary) *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 2, 147–170. (Summary) **98b:93049** 93D09 (93C41)

abd El-Ghaffar, F. S. *see* **Abd El-Ghaffar, F. S.**

El-Ghaffar, F. S. Abd (*with* Geaisa, A. N.) Fuzzy β-separation axioms. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 59–69 (1994). 54A40 (54D10)

El Ghaoui, Laurent (*with* Dussy, Stéphane) Multi-objective bounded control of uncertain nonlinear systems: an inverted pendulum example. *Control of uncertain systems with bounded inputs*, 55–73, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Silvana Stefani) **98m:93067** 93C41 (93B52, 93C10)

— (*with* Lebret, Hervé) Robust solutions to least squares problems with uncertain data. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 161–170, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Oustry, Francois; Rami, Mustapha Ait) A cone complementarity linearization algorithm for static output-feedback and related problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1171–1176. 93B18 (93B40)

— (*with* Dussy, Stéphane) Measurement-scheduled control for the RTAC problem: an LMI approach. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 377–400. (*see* **98k:93004**) 93C85 (93B52)

El-Ghezawi, Omar M. E. Insight into the recursive eigenstructure assignment method with modifications. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **24** (1997), *no.* 3, 556–566. 93B55 (65F15)

— Recursive and modified recursive eigenstructure assignment of uncontrollable systems. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **24** (1997), *no.* 3, 620–628. 93B55 (65F15)

El-Ghoul, M. Fuzzy covering spaces of fuzzy graphs and their folding. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 299–304. 05C99 (54A40)

— The limit of the folding of a manifold and its deformation retract. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 133–140. 57N15

osama El Giar, M. *see* **Osama El Giar, M.**

Elgindi, M. B. M. (*with* Attili, Basem S.; El-Gebeily, M. A.) Initial value methods for the eigenelements of singular two-point boundary value problems. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 67–77. (Summary) **98m:65120** 65L10 (65L15)

— (*with* Guan, Zhengyuan) On the global solvability of a class of fourth-order nonlinear boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 257–262. (L. E. Bobisud) **98c:34031** 34B15 (73H05, 73K05)

El-Gohary, A. I. On the stability of an equilibrium position and rotational motion of a gyrostat. (English summary) *Mech. Res. Comm.* **24** (1997), *no.* 4, 457–462. (Summary) **98b:70005** 70E05 (70K20, 70Q05)

El Goul, Jawher (*with* Demailly, Jean-Pierre) Connexions méromorphes projectives partielles et variétés algébriques hyperboliques. (English and French summaries) [Partial projective meromorphic connections and hyperbolic projective varieties] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1385–1390. (Evgenii Nochka) **98j:32026** 32H20 (32H30)

El Gradechi, Amine M. (*with* Nieto, Luis M.) Supercoherent states, super-Kähler geometry and geometric quantization. (English summary) *Comm. Math. Phys.* **175** (1996), *no.* 3, 521–563. (Summary) **98c:58064** 58F06 (22E70, 32C11, 81R30)

Elgueta, Manuel (*with* Cortázar, Carmen; del Pino, Manuel) On the short-time behavior of the free boundary of a porous medium equation. *Duke Math. J.* **87** (1997), *no.* 1, 133–149. (Elena Comparini) **98d:35240** 35R35 (35K60, 76S05)

— (*with* Cortázar, Carmen; Felmer, Patricio L.) Some uniqueness results for $\Delta u + f(u) = 0$ in $\mathbf{R}^N$, $N \geq 3$. *Reaction diffusion systems* (*Trieste*, 1995), 67–77, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Alexandra Kurepa) **98m:35053** 35J60 (34B15)

Elgueta, R. Characterizing classes defined without equality. (English summary) *Studia Logica* **58** (1997), *no.* 3, 357–394. (Constantin Milici) **98m:03010** 03B10

El Hachem, Saeb (*with* Breton, Michèle) A scenario aggregation algorithm for the solution of stochastic dynamic minimax problems. (English summary) *Stochastics Stochastics Rep.* **53** (1995), *no.* 3-4, 305–322. (Summary) **98k:90065** 90C15

El Haddad, E. (*with* Deville, Robert) The viscosity subdifferential of the sum of two functions in Banach spaces. I. First order case. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 295–308. (Marcin Studniarski) **98f:49018** 49J52 (46G99)

El Hadrami, Mohamed Ould (*with* Bloch, Anthony M.; Flaschka, Hermann; Ratiu, Tudor S.) Maximal tori of some symplectomorphism groups and applications to convexity. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 201–222, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Valentino Zocca) **98k:58029** 58D05 (22E65, 58F05)

Elhafsi, Mohsen (*with* Bai, Sherman X.; Tsai, Y.-K.; Deng, K.) Production scheduling in a price competition. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 5–19. (Summary) **98a:90052** 90B35 (90A12)

— (*with* Bai, Sherman X.) The common cycle economic lot scheduling problem with backorders: benefits of controllable production rates. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 283–303. (Roman Słowiński) **98e:90073** 90B35 (90B05)

El Hajji, M. (*with* Donato, Patrizia) An application of the H^0-convergence to some nonhomogeneous Neumann problems. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 137–156, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dietrich Göhde) **98m:35010** 35B25 (35B27, 35J25, 49J10)

El Hamidi, A. (*with* Garbey, Marc) Using MAPLE for the analysis of bifurcation phenomena in gas combustion. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 249–262. (Summary) **98f:80005** 80A25 (76–04, 76N15, 80–04)

El Haouzi, Abdallah Courants-traces. [Trace-currents] *Math. Ann.* **308** (1997), *no.* 2, 221–249. (Mongi Blel) **98f:32009** 32C30

El Hassouni, A. (*with* Hassouni, Y.; Tahri, E. H.) Differential calculi on the quantum superplane. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2517–2525. (Peter Prešnajder) **98d:58006** 58B30 (81R50)

— (*with* Hassouni, Y.; Zakkari, M.) q-structure algebra of $U_q(\hat{g})$ from its adjoint action. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1039–1043. (Summary) **98g:81072** 81R50

El-Hawary, H. M. (*with* Nigm, E. M.) Chebyshev approximation for the integrals in the extremal quotient. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 13–30. 60F05 (60G70, 62E20, 62G30)

— (*with* Nigm, E. M.) On order statistics from the Weibull distribution. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 1, 80–92. (Summary) **98a:62067** 62G30

Elhay, Sylvan (*with* Datta, Biswa Nath; Ram, Yitshak M.) Orthogonality and partial pole assignment for the symmetric definite quadratic pencil. (English summary) *Linear Algebra Appl.* **257** (1997), 29–48. (L. Rodman) **98c:15040** 15A22 (93B55)

Elhefnawy, A. R. F. The nonlinear stability of mass and heat transfer in magnetic fluids. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 19–31. (Summary) **98a:80002** 80A20 (76E25, 76W05)

El Himdi, Khalid (*with* Roy, Roch) Tests for noncorrelation of two multivariate ARMA time series. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 233–256. (Vladimir Zaiats) **98m:62242** 62M10 (62P20)

Elia, Michele Are fifth-degree equations over GF(5^m) solvable by radicals? (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 27–40. (G. Turnwald) **98e:12002** 12E10 (11T06, 12F05)

— (*with* Interlando, J. Carmelo; Palazzo, Reginaldo, Jr.) On the decoding of Reed-Solomon and BCH codes over integer residue rings. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1013–1021. (Summary) **98e:94042** 94B35 (94B05)

— (*with* Filipponi, Piero) Equations of the Bring-Jerrard form, the golden section, and square Fibonacci numbers. *Fibonacci Quart.* **36** (1998), *no.* 3, 282–286. 11B39

Elia, Nicola (*with* Dahleh, Munther A.) Controller design with multiple objectives. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 596–613. (Summary) **98d:93050** 93B51 (90C29)

— (*with* Dahleh, Munther A.) l_1-minimization with magnitude constraints in the frequency domain. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 27–51. (Summary) **98c:93036** 93B36 (93C80)

Eliahou, S. (*with* Tumin, A.; Wygnanski, I.) Laminar-turbulent transition in Poiseuille pipe flow subjected to periodic perturbation emanating from the wall. (English summary) *J. Fluid Mech.* **361** (1998), 333–349. 76F99

Eliahou, Shalom (*with* Kervaire, Michel) A note on the equation $\theta\overline{\theta} = n + \lambda\Sigma$. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 21–34. (Surinder K. Sehgal) **98k:05027** 05B10

— (*with* Eckmann, Alain; Kervaire, Michel) Compressible difference lists. An appendix to: "A note on the equation $\theta\overline{\theta} = n + \lambda\Sigma$" [J. Statist. Plann. Inference **62** (1997), no. 1, 21–34] by Eliahou and Kervaire. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 35–38. (Summary) **98g:05022** 05B10 (62K05)

Elias, Peter The rise and fall of cybernetics in the US and the USSR. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 21–29, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (D. J. Struik) **98m:01022** 01A60 (01A72)

Elias, Uri ★ Oscillation theory of two-term differential equations. (English summary) Mathematics and its Applications, 396. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+217 *pp. ISBN* 0-7923-4447-2 (Gary D. Jones) **98e:34058** 34C10 (34B05)

— (*with* Aharonov, Dov; Devaney, Robert L.) The dynamics of a piecewise linear map and its smooth approximation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 351–372. (Víctor Jiménez López) **98f:58156** 58F20 (54H20)

— Integral means and Pólya factorizations. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2071–2075. (Hassan El-Owaidy) **98k:26002** 26A06 (26D10, 34A30)

Eliashberg, Yakov M. (*with* Thomas, C. B.; Giroux, E.) 3-dimensional contact geometry. *Contact and symplectic geometry* (*Cambridge*, 1994), 48–65, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Hansjörg Geiges) **98b:53026** 53C15 (57R30, 58F05)

— Symplectic geometry of plurisubharmonic functions. (English summary) With notes by Miguel Abreu. *Gauge theory and symplectic geometry* (*Montreal, PQ*, 1995), 49–67, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 488, *Kluwer Acad. Publ., Dordrecht*, 1997. (Yong-Geun Oh) **98g:58055** 58F05 (53C15, 58D10)

— (*with* Polterovich, Leonid) The problem of Lagrangian knots in four-manifolds. *Geometric topology* (*Athens, GA*, 1993), 313–327, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel M. Burns, Jr.) **98k:58087** 58F05 (57M25)

— (*with* Gromov, Mikhael L.) Lagrangian intersections and the stable Morse theory. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 289–326. (Joa Weber) **98d:58057** 58F05 (58E05)

— (*with* Thurston, William P.) ★ Confoliations. (English summary) University Lecture Series, 13. *American Mathematical Society, Providence, RI*, 1998. x+66 *pp. ISBN* 0-8218-0776-5 (Hansjörg Geiges) **98m:53042** 53C15 (57N10, 57R30, 58F05)

Eliashvili, Merab On quantum fields and systems with ordered ground state. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **9** (1996), 1–170. (Lewis H. Ryder) **98a:81279** 81V70 (81T13, 82D55)

Elie, Laure (*with* Babillot, Martine; Bougerol, Philippe) The random difference equation $X_n = A_n X_{n-1} + B_n$ in the critical case. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 478–493. (Charles M. Goldie) **98c:60075** 60J10 (60B15, 60J15, 60K05)

Elipe Sánchez, Antonio C. (*with* Lara, Martín) Periodic orbits in the restricted three body problem with radiation pressure. (English summary) Visual double stars: formation, dynamics and evolutionary tracks (Santiago de Compostela, 1996). *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 1, 1–11. (*see* **98j:70013**) 70F07

— (*with* Lanchares, V.) Phase flow of an axially symmetrical gyrostat with one constant rotor. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3533–3544. (Igor Gashenenko) **98f:70009** 70E15 (58F40, 70H05, 70M20)

— (*with* Arribas, M.; Riaguas, A.) Complete analysis of bifurcations in the axial gyrostat problem. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 587–601. (Igor Gashenenko) **98d:70007** 70E15 (58F14, 70H05)

— *see also* **Visual double stars: formation, dynamics and evolutionary tracks, 98j:70013**

Elishakoff, Isaac (*with* Ren, Yongjian) Finite element method for stochastic structures based on inverse of stiffness matrix. (English summary) *Uncertainty modeling in finite*

element, fatigue and stability of systems, 51–70, *Ser. Stab. Vib. Control Syst. Ser. B*, 9, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98h:73005**) 73V05 (73K35, 73V30)

Elitzur, Avshalom C. Time anisotropy and quantum measurement: clues for transcending the geometric picture of time. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 313–319. (*see* **98c:83004**) 81P05

— Time anisotropy and quantum measurement: clues for transcending the geometric picture of time. (English summary) *Modern mathematical models of time and their applications to physics and cosmology* (*Tucson, AZ*, 1996), 313–319, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 81P05 (81P15)

Elitzur, Shmuel (*with* Giveon, Amit; Kutasov, David; Rabinovici, Eliezer; Schwimmer, A.) Brane dynamics and $N = 1$ supersymmetric gauge theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 202–250. (Summary) **98k:81262** 81T60 (81T13, 81T30)

— (*with* Giveon, Amit; Kutasov, David) Branes and $N = 1$ duality in string theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 269–274. (Introduction) **98f:81251** 81T30 (83E30)

ben-Eliyahu-Zohary, Rachel *see* **Ben-Eliyahu-Zohary, Rachel**

Elizalde, E. (*with* Romeo, A.) Calculation of the entropy from the heat kernel in a spacetime with a conical singularity. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6555–6558. (Ivan G. Avramidi) **98b:58160** 58G11 (58G26, 81T20)

— (*with* Lygren, M.; Vasilevich, D. V.) Zeta function for the Laplace operator acting on forms in a ball with gauge boundary conditions. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 645–660. (Giampiero Esposito) **98h:58195** 58G26 (58G11, 58G18)

— Complete determination of the singularity structure of zeta functions. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2735–2743. (Thomas Ackermann) **98k:58241** 58G26 (47G30, 81T16)

— (*with* Romeo, A.) One-dimensional Casimir effect perturbed by an external field. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5393–5403. (Klaus Kirsten) **98j:81367** 81V10

— (*with* Bordag, Michael; Kirsten, Klaus; Leseduarte, S.) Casimir energies for massive scalar fields in a spherical geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4896–4904. (Summary) **98g:81142** 81T20 (81T16)

— (*with* Shil′nov, Yu. I.; Chitov, V. V.) Dynamical symmetry breaking in the Nambu-Jona-Lasinio model with external gravitational and constant electric fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 735–748. (Summary) **98m:81111** 81T20 (81R40, 83C47)

Elizarov, A. M. (*with* Il′inskiĭ, N. B.; Potashev, A. V.) ★ Обратные краевые задачи аэрогидродинамики. (Russian. English and Russian summaries) [Inverse boundary value problems in aerohydrodynamics] Теория и методы проектирования и оптимизации формы крыловых профилей. [Theory and methods in the design and optimization of airfoil shapes] *Fizmatlit "Nauka", Moscow*, 1994. 440 *pp. ISBN* 5-02-015143-2 (Adrian Carabineanu) **98c:76055** 76G25 (76B05, 76D10, 76H05, 76N20)

— (*with* Avkhadiev, F. G.) Sharp estimates for the solution of a variational inverse boundary value problem in a countably connected domain. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 3, 3–13; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 3, 1–11. (Vladimir Mityushev) **98a:30048** 30E25

El-Jahel, Lina (*with* Lindberg, Hans; Perraudin, William) Interest rate distributions, yield curve modelling and monetary policy. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 423–453, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

El Jai, Abdelhak (*with* Uciński, Dariusz) On weak spreadability of distributed-parameter systems and its achievement via linear-quadratic control techniques. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 153–174. (Summary) **98e:93061** 93C20 (49N10)

El Kacimi Alaoui, Aziz (*with* Matsumoto, Shigenori; Moussa, Tarek) Currents invariant by a Kleinian group. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 177–202. (B. N. Apanasov) **98b:58011** 58A25 (20H10)

— (*with* Gmira, B.) Stabilité du caractère kählérien transverse. (French summary) [Stability of the transverse Kähler character] *Israel J. Math.* **101** (1997), 323–347. (Syoji Tsuboi) **98m:32031** 32G05 (32L30, 58G05)

abd El-Kader, Z. *see* **Abd El-Kader, Z.**

El Kadiri, Mohamed Sur les génératrices extrémales de certains cônes de formes quadratiques doublement positives. (English and French summaries) [On the extremal generatrices of some cones of doubly positive quadratic forms] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 421–425. (Carl Riehm) **98d:15027** 15A63 (47B37)

El-Kady, M. A. (*with* Al-Ohaly, A. A.) A rank-1 matrix formula applied to eigenvalue sensitivities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 321–333. 65F30

El-Kalaawy, O. H. (*with* Khater, A. H.; Helal, M. A.) Two new classes of exact solutions for the KdV equation via Bäcklund transformations. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 12, 1901–1909. 35Q53 (58F37)

Elkan, Charles Reasoning about unknown, counterfactual, and nondeterministic actions in first-order logic. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 54–68, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T27 (03B60, 03B70, 68T20)

El Karoui, Nicole (*with* Quenez, M. C.) Imperfect markets and backward stochastic differential equations. *Numerical methods in finance*, 181–214, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (A. Ya. Olenko) **98e:90057** 90A60 (60H10, 65U05)

— (*with* Kapoudjian, C.; Pardoux, Etienne; Peng, Shi Ge; Quenez, M. C.) Reflected solutions of backward SDE's, and related obstacle problems for PDE's. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 702–737. (Philip Protter) **98k:60096** 60H10 (35K85, 35R60, 60H30)

— (*with* Peng, Shi Ge; Quenez, M. C.) Backward stochastic differential equations in finance. (English summary) *Math. Finance* **7** (1997), *no.* 1, 1–71. (Rüdiger Kiesel) **98d:90030** 90A09 (60H10)

— (*with* Jeanblanc-Picqué, Monique; Shreve, Steven E.) Robustness of the Black and Scholes formula. (English summary) *Math. Finance* **8** (1998), *no.* 2, 93–126. (Summary) **98m:90016** 90A09

Elkenbracht-Huizing, R.-Marije (*with* Cowie, James; Dodson, Bruce; Lenstra, Arjen K.; Montgomery, Peter L.; Zayer, Jörg) A World Wide number field sieve factoring record: on to 512 bits. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 382–394, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (11Y05)

— A multiple polynomial general number field sieve. (English summary) *Algorithmic number theory* (*Talence*, 1996), 99–114, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Oliver Schirokauer) **98g:11142** 11Y05

— An implementation of the number field sieve. (English summary) *Experiment. Math.* **5** (1996), *no.* 3, 231–253. (Joe P. Buhler) **98a:11182** 11Y05

El-Kholy, E. M. Convex isometric folding. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 83–89. (Wolfgang Kühnel) **98e:52001** 52A10 (57M12)

— (*with* Farran, H. R.; Robertson, S. A.) Folding a surface to a polygon. (English summary) *Geom. Dedicata* **63** (1996), *no.* 3, 255–266. (Summary) **98d:57028** 57N05 (54C05)

El-Kholy, N. A. (*with* Youness, E.; Hughes, John B.) Parametric Nash coalitive differential games. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 97–105. (Ivan Ginchev) **98i:90141** 90D25 (90D12)

Elkies, Noam D. Mordell-Weil lattices in characteristic 2. II. The Leech lattice as a Mordell-Weil lattice. *Invent. Math.* **128** (1997), *no.* 1, 1–8. (Rainer Schulze-Pillot) **98c:11063** 11H31 (11E12, 11G05)

Elkin, V. I. Decomposition of affine controlled systems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1819–1828, 1941; *translation in Differential Equations* **31** (1995), *no.* 11, 1787–1795 (1996). (Sergey V. Nikitin) **98d:93027** 93B11 (58A17)

— (*with* Pavlovskiĭ, Yu. N.) Decomposition of models of control processes. Optimization and control, 1. *J. Math. Sci. (New York)* **88** (1998), *no.* 5, 723–761. (Andrew D. Lewis) **98m:93027** 93B17 (93C10)

El Kinani, Abdellah (*with* Oudadess, Mohamed) Banach algebras whose positive elements are totally ordered. (English, French and Arabic summaries) *Maghreb Math. Rev.* **3** (1994), *no.* 2, 117–120. (Horst Behncke) **98a:46062** 46K05

— (*with* Oudadess, Mohamed) Entire functions and m-convex structure in commutative Baire algebras. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 685–687. (Summary) **98j:46048** 46J05 (46H05)

— Harmonic functions operating in Hermitian Banach algebras. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 403–409. (Catalin Badea) **98k:46084** 46K05 (46H30)

El Kinani, E. H. (*with* Zakkari, M.) q-area preserving algebras $\mathrm{SDiff}(T^{\lambda})$ and the matrix algebra $\overline{a}_{\infty}$. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 12, 821–825. (Marcelo R. Ubriaco) **98f:81125** 81R50 (17B65)

— Pseudo-differential operators ($\psi\mathcal{DO}$) algebra and certain infinite-dimensional Lie algebras. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1589–1595. (Paul Demkin) **98k:17028** 17B66 (81R50)

Elkohen, A. (*with* Sadiky, H.) Estimation L^p de la solution de l'équation des ondes sur le demi-plan de Poincaré. [L^p estimation of the solution of the wave equation on the Poincaré half-plane] *Extracta Math.* **12** (1997), *no.* 1, 47–51. (R. Schimming) **98k:58224** 58G16 (35L05, 43A90)

El Koulani, Abdelmajid (*with* Léger, Alain) Comportement post-critique des poutres élastoplastiques: existence et régularité des branches bifurquées. (English and French summaries) [Post-critical behavior of elastoplastic beams: existence and regularity of the bifurcated branches] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1307–1313. (Summary) **98d:73040** 73H05 (34A47, 34B15, 47H15, 73K05)

Ellermeier, Wolfgang Friedrich Acoustic resonance of radially symmetric waves in a thermoviscous gas. (English summary) *Acta Mech.* **121** (1997), *no.* 1-4, 97–113. (Summary) **98a:76069** 76N15 (76Q05)

Ellers, Erich W. (*with* Gordeev, N. L.) Gauss decomposition with prescribed semisimple part in Chevalley groups. III. Finite twisted groups. *Comm. Algebra* **24** (1996), *no.* 14, 4447–4475. (Toshiaki Shoji) **98a:20048** 20G40 (20E32)

— (*with* Nolte, Wolfgang) Groups satisfying Scherk's length theorem. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 39–45. (Wenxue Huang) **98m:20032** 20F05 (20G15, 51F15)

— (*with* Gordeev, N. L.) On the conjectures of J. Thompson and O. Ore. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3657–3671. (R. W. Carter) **98k:20022** 20D06 (20F12)

Ellerton, Nerida F. (*with* Clarkson, Philip C.) Language factors in mathematics teaching and learning. (English summary) *International handbook of mathematics education, Part* 1, 2, 987–1033, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:00004**) 00A35 (01A80)

Ellia, Philippe (*with* Casnati, Gianfranco; Dolcetti, Alberto) On subcanonical curves lying on smooth surfaces in $\mathbf{P}^3$. *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 3-4, 289–300. (Angelo Lopez) **98d:14045** 14H50 (14H45, 14J60)

— (*with* Catalisano, M. V.; Gimigliano, A.) Fat points on rational normal curves. *The Curves Seminar at Queen's, Vol. XI* (*Kingston, ON*, 1997), 75–89, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Martin Kreuzer) **98k:13016** 13D40 (14C99)

— (*with* Dolcetti, Alberto) Curves on generic surfaces of high degree through a complete intersection in $\mathbf{P}^3$. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 203–213. (A. Prabhakar Rao) **98k:14043** 14H50 (14J25, 14J60, 14M10)

— (*with* Ballico, Edoardo; Bolondi, Giorgio; Mirò-Roig, Rosa Maria) Curves of maximum genus in range A and stick-figures. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4589–4608. (Gunnar Fløystad) **98b:14030** 14H50

— (*with* Beorchia, Valentina) On the equations defining quasicomplete intersection space curves. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 244–249. (Apostolos Thoma) **98k:14042** 14H50 (14M05, 14M07)

Elliasmine, A. (*with* Jaulin, L.; Godet, J.-L.; Walter, Eric; Le Duff, Y.) Light scattering data analysis via set inversion. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7733–7738. 78A45

Ellinas, Demosthenes (*with* Arvanitoyeorgos, Andreas) Quantum group (co)actions on G-spaces and quantum modules. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1137–1144. (Yu. N. Bespalov) **98h:17011** 17B37 (16W30, 81R50)

Ellingham, M. N. (*with* Goddyn, Luis) List edge colourings of some 1-factorable multigraphs. (English summary) *Combinatorica* **16** (1996), *no.* 3, 343–352. (Bradley W.

Jackson) **98a:05068** 05C15 (05C70)
— (*with* Aldred, R. E. L.; Hemminger, R. L.; Jipsen, Peter) P_3-isomorphisms for graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 35–51. (Xue Liang Li) **98d:05104** 05C60
Ellingsrud, Geir (*with* Strømme, Stein Arild) An intersection number for the punctual Hilbert scheme of a surface. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2547–2552. (Bruce Hunt) **98h:14007** 14C17 (14C05)
Elliott, Charles M. (*with* Garcke, Harald) Existence results for diffusive surface motion laws. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 467–490. (Jing Xue Yin) **98h:58044** 58E12 (35K99, 82B24, 82B26)
— (*with* Deckelnick, Klaus; Richardson, Giles William) Long time asymptotics for forced curvature flow with applications to the motion of a superconducting vortex. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 655–678. (Peter L. Christiansen) **98b:35080** 35K55 (35Q99, 53A04, 82D55)
Elliott, David The cruciform crack problem and sigmoidal transformations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 2, 121–132. (Tian You Fan) **98b:45002** 45E05 (45L10, 73M25)
Elliott, Frank W., Jr. (*with* Horntrop, David J.; Majda, Andrew J.) Monte Carlo methods for turbulent tracers with long range and fractal random velocity fields. (English summary) *Chaos* **7** (1997), *no.* 1, 39–48. (Summary) **98a:76044** 76F99 (65C05, 76M25, 76M35)
Elliott, George A. (*with* Gong, Guihua) On the classification of C^*-algebras of real rank zero. II. (English summary) *Ann. of Math.* (2) **144** (1996), *no.* 3, 497–610. (Summary) **98j:46055** 46L05 (19K56, 46L80)
— (*with* Natsume, Toshikazu; Nest, Ryszard) The Atiyah-Singer index theorem as passage to the classical limit in quantum mechanics. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 505–533. (K. Furutani (Zbl 876.58047)) **98k:58215** 58G12 (35S05, 47G30, 47N50, 58G15, 81S30)
— (*with* Gong, Guihua; Lin, Hua Xin; Pasnicu, Cornel) Abelian C^*-subalgebras of C^*-algebras of real rank zero and inductive limit C^*-algebras. (English summary) *Duke Math. J.* **85** (1996), *no.* 3, 511–554. (George Popescu) **98a:46076** 46L35 (46L45, 46L80)
— (*with* Lin, Qing) Cut-down method in the inductive limit decomposition of non-commutative tori. *J. London Math. Soc.* (2) **54** (1996), *no.* 1, 121–134. (Berndt Brenken) **98e:46067** 46L05 (46L87)
— (*with* Bratteli, Ola) Small eigenvalue variation and real rank zero. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 47–59. (P. A. Fillmore) **98c:46113** 46L05
— (*with* Lin, Qing) Cut-down method in the inductive limit decomposition of non-commutative tori. II. The degenerate case. (English summary) *Operator algebras and their applications* (*Waterloo, ON*, 1994/1995), 91–123, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:46068** 46L05 (46L87)
— (*with* Gong, Guihua; Jiang, Xinhui; Su, Hongbing) A classification of simple limits of dimension drop C^*-algebras. *Operator algebras and their applications* (*Waterloo, ON*, 1994/1995), 125–143, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Hua Xin Lin) **98a:46067** 46L05
— A classification of certain simple C^*-algebras. II. *J. Ramanujan Math. Soc.* **12** (1997), *no.* 1, 97–134. (Terry A. Loring) **98j:46060** 46L05 (19K14, 46L35, 46L80)
Elliott, Graham On the robustness of cointegration methods when regressors almost have unit roots. *Econometrica* **66** (1998), *no.* 1, 149–158. 62M10 (62P20)
Elliott, Lionel (*with* Lesnic, D.; Ingham, D. B.) Spacewise coefficient identification in steady and unsteady one-dimensional diffusion problems. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 183–192. (Summary) **98g:35196** 35Q99 (35R30, 76S05)
Elliott, P. D. T. A. (*with* Murata, Leo) On the average of the least primitive root modulo p. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 435–454. (S. W. Graham) **98m:11094** 11N05 (11K65)
Elliott, Robert James (*with* Beneš, Vaclav E.) Finite-dimensional solutions of a modified Zakai equation. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 4, 341–351. (Onésimo Hernández Lerma) **98d:93092** 93E11 (93E20)
— (*with* Lahaie, Charles H.; Madan, Dilip B.) Filtering derivative security valuations from market prices. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 141–162, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
— (*with* Krishnamurthy, Vikram) Filters for estimating Markov modulated Poisson processes and image-based tracking. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 821–833. (Alexander I. Matasov) **98e:93097** 93E10 (60G35)
— (*with* Charalambous, Charalambos D.) Certain nonlinear partially observable stochastic optimal control problems with explicit control laws equivalent to LEQG/LQG problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 482–497. (Vivek S. Borkar) **98b:93068** 93E20 (93E11)
— (*with* Krishnamurthy, Vikram) Exact finite-dimensional filters for doubly stochastic auto-regressive processes. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1289–1293. (Summary) **98g:93051** 93E11
— (*with* Krishnamurthy, Vikram) Exact finite-dimensional filters for maximum likelihood parameter estimation of continuous-time linear Gaussian systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1908–1923. (Engin Yaz) **98j:93081** 93E11 (60G35, 93E12)
— (*with* Geman, Helyette; Korkie, Bob M.) Portfolio optimization and contingent claim pricing with differential information. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 185–203. (Summary) **98d:90034** 90A12 (60H99)
— (*with* Moore, John Barratt) Almost sure parameter estimation and convergence rates for hidden Markov models. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 203–207. (Summary) **98h:62126** 62M05
— (*with* Hunter, William C.; Jamieson, Barbara M.) Drift and volatility estimation in discrete time. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 209–218. (Summary) **98m:90017** 90A09
— (*with* Aggoun, Lakhdar) MAP estimation for hidden discrete Markov random fields. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 83–89. (Summary) **98h:62127** 62M05 (62M40)
Ellipse (*with* Nanda, Sudarsan) Best simultaneous approximation and simultaneous farthest points in L_p norm. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 51–56. (A. I. Vasil′ev) **98g:41022** 41A28 (41A50)
Ellis, David Bennett Suspensions, inheritance, and flows on homogeneous spaces. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 149–157, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:54044** 54H20
— *see also* **Topological dynamics and applications, 98h:54001**
Ellis, George F. R. (*with* Coles, Peter) ★ Is the Universe open or closed? (English summary) Cambridge Lecture Notes in Physics, 7. *Cambridge University Press, Cambridge*, 1997. xvi+236 *pp. ISBN* 0-521-56689-4 (Markku Lehto) **98h:83096** 83F05 (83-02)
— Cosmological models from a covariant viewpoint. (English summary) *Gravitation and cosmology* (*Pune*, 1995), 53–74, *Astrophys. Space Sci. Lib.*, 211, *Kluwer Acad. Publ., Dordrecht*, 1997. (Volker Perlick) **98i:83091** 83F05 (83C15)
— (*with* Van Elst, Henk; Uggla, Claes; Lesame, William M.; Maartens, Roy) Integrability of irrotational silent cosmological models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1151–1162. (From the text) **98h:83011** 83C15 (83C20)
— (*with* Dunsby, Peter K. S.; Bassett, Bruce A. C. C.) Covariant analysis of gravitational waves in a cosmological context. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1215–1222. (J. B. Griffiths) **98a:83047** 83C35 (83C25, 83F05)
— (*with* Maartens, Roy; Siklos, Stephen T. C.) Local freedom in the gravitational field. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1927–1936. (Charles G. Torre) **98j:83078** 83C99 (83C35)
— (*with* Hogan, P. A.) The electromagnetic analogue of some gravitational perturbations in cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 2, 235–244. (Charles G. Torre) **98b:83048** 83C50 (83F05)
— (*with* Dray, Tevian; Hellaby, Charles; Manogue, Corinne A.) Gravity and signature change. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 591–597. (Viqar Husain) **98a:83011** 83C05
— (*with* Hellaby, Charles; Sumeruk, Ariel) Classical signature change in the black hole topology. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 2, 211–238. (Marek Kossowski) **98j:83059** 83C57
— (*with* Maartens, Roy; Lesame, William M.) Consistency of dust solutions with div H = 0. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5219–5221. (Alicia M. Sintes) **98c:83015** 83C15 (83C50)
— *see also* **Dynamical systems in cosmology, 98f:83003**
Ellis, Graham (*with* Burns, John M.) On the nilpotent multipliers of a group. *Math. Z.* **226** (1997), *no.* 3, 405–428. (Paul Igodt) **98h:20050** 20F14 (20F05)
— A bound for the derived and Frattini subgroups of a prime-power group. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2513–2523. (Pham Anh Minh) **98k:20028** 20D25 (20J05)
Ellis, Jonathan Richard (*with* Mavromatos, Nick E.; Nanopoulos, D. V.) D branes from Liouville strings. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 15, 2639–2673. (Richard A. Corrado) **98c:81162** 81T30 (81T17, 83E30)
— (*with* Mavromatos, Nick E.; Winstanley, Elizabeth; Nanopoulos, D. V.) Quantum decoherence in a four-dimensional black hole background. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 243–256. (Summary) **98a:83078** 83C57 (83C47)
— (*with* Mavromatos, Nick E.; Nanopoulos, D. V.) Quantum decoherence in a D-foam background. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 24, 1759–1773. (Summary) **98d:83087** 83E30 (81T30)
— (*with* Amelino-Camelia, Giovanni; Mavromatos, Nick E.; Nanopoulos, D. V.) On the space-time uncertainty relations of Liouville strings and D-branes. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 27, 2029–2035. 81T30 (81P05)
— (*with* Mavromatos, Nick E.; Nanopoulos, D. V.) *M*-theory from worldsheet defects in Liouville string. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 36, 2813–2827. 81T30
— Abdus Salam: a pioneer in physics. (English summary) *Nova J. Theor. Phys.* **5** (1997), *no.* 2-3, 117–130. 01A70 (81–03)
— Particle physics and cosmology. *Nova J. Theor. Phys.* **5** (1997), *no.* 2-3, 153–207. 81–02 (83–02, 83F05)
— (*with* Mavromatos, Nick E.; Nanopoulos, D. V.) D-brane recoil mislays information. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 7, 1059–1089. (Summary) **98c:81209** 81T30
— (*with* Faraggi, Alon E.; Nanopoulos, D. V.) M-theory model-building and proton stability. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 123–131. (Summary) **98m:81212** 81V22 (81T30)
Ellis, Jules L. (*with* Junker, Brian W.) A characterization of monotone unidimensional latent variable models. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1327–1343. (Ramesh C. Gupta) **98g:62023** 62E10
— (*with* Junker, Brian W.) Tail-measurability in monotone latent variable models. (English summary) *Psychometrika* **62** (1997), *no.* 4, 495–523. (Summary) **98k:62183** 62P15
Ellis, Robert Mortimor *see* **Topological dynamics and applications, 98h:54001**
Ellison, Glenn Learning from personal experience: one rational guy and the justification of myopia. (English summary) *Games Econom. Behav.* **19** (1997), *no.* 2, 180–210. (Summary) **98d:90138** 90D10 (90A05)
Ellner, Stephen P. (*with* Sasaki, Akira; Haraguchi, Yoshihiro; Matsuda, Hirotsugu) Speed of invasion in lattice population models: pair-edge approximation. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 469–484. 92D25 (82C20)
Ell-sana, Jihad (*with* Meisels, Amnon; Gudes, Ehud) Decomposing and solving timetabling constraint networks. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 486–505. 68T20
Ellwood, D. (*with* Brodzki, Jacek; Connes, Alain) Polarized modules and Fredholm modules. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 15–24. (Éric Leichtnam) **98i:58021** 58B30 (46H25, 46L05, 47B50)
Eltzey, Janet L. (*with* Henneke, Michael R.) The shock-vortex interaction: the origins of the acoustic wave. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 3, 171–184. (Summary) **98c:76057** 76L05 (76N15, 76Q05)
El Maâche, Hamani (*with* Leibovici, Didier) Une décomposition en valeurs singulières d'un élément d'un produit tensoriel de k espaces de Hilbert séparables. (English and French summaries) [A singular value decomposition of an element belonging to a tensor product of k separable Hilbert spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 779–782. 62H25

El Maghri, M. (*with* Bolintinéanu, S.) Pénalisation dans l'optimisation sur l'ensemble faiblement efficient. (English and French summaries) [Penalization in optimization over the weakly efficient set] *RAIRO Rech. Opér.* **31** (1997), *no.* 3, 295–310. (Alberto Cambini) **98e:90134** 90C29 (90C26)

El-Mahdy, S. S. On graded fully idempotent modules. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 767–774. (Andrew Borisovich Verëvkin) **98h:16071** 16W50 (16D40)

— On graded fully idempotent modules. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 17–24. (*see* **98g:00017**) 16W50

Elmahi, A. (*with* Benkirane, A.) Almost everywhere convergence of the gradients of solutions to elliptic equations in Orlicz spaces and application. *Nonlinear Anal.* **28** (1997), *no.* 11, 1769–1784. (Tsvetomir Tsachev) **98b:35057** 35J65 (35B35)

Elmallah, E. S. (*with* Stewart, Lorna K.) Polygon graph recognition. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 101–140. (Dieter Kratsch) **98j:68130** 68R10 (05C75, 05C85, 68Q25)

Elman, Howard C. Perturbation of eigenvalues of preconditioned Navier-Stokes operators. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 733–751. (Alan L. Andrew) **98d:65045** 65F15 (65N25, 76D05, 76M25)

El Marhomy, Abd Alla Liapunov stability analysis of a rotor-bearing system with a flexible attachment of appendage to shaft. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 605–617. 70K15

El Marraki, Mohamed (*with* Hanusse, Nicolas; Zipperer, Jörg; Zvonkin, Alexander) Cacti, braids and complex polynomials. (English and French summaries) *Sém. Lothar. Combin.* **37** (1996), *Art.* B37b, 36 *pp.* (*electronic*). (Volkmar Welker) **98j:57003** 57M12 (05C25, 20F36)

El Matouat, Abdelaziz (*with* Hallin, Marc) Order selection, stochastic complexity and Kullback-Leibler information. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 291–299, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62162** 62M10 (62B10)

El Mazouni, Abdelghani Quotient de la variété des points infiniment voisins d'ordre 9 sous l'action de PGL_3. (English and French summaries) [Quotient of the variety of infinitely near points of order 9 under the action of PGL_3] *Bull. Soc. Math. France* **124** (1996), *no.* 3, 425–455. (John B. Little) **98m:14024** 14H10 (14D20, 14D25, 14L30)

ben-El-Mechaiekh, H. *see* **Ben-El-Mechaiekh, H.**

Elmendorf, A. D. (*with* May, J. Peter) Algebras over equivariant sphere spectra. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 139–149. (J. P. C. Greenlees) **98b:55009** 55P42 (55N91, 55P91, 55U35)

Elmer, Franz-Josef Nonlinear dynamics of dry friction. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6057–6063. (Summary) **98g:70016** 70K25 (70F99)

Elmkies, Alexandre (*with* Joly, Patrick) Éléments finis d'arête et condensation de masse pour les équations de Maxwell: le cas 2D. (English and French summaries) [Edge finite elements and mass lumping for Maxwell's equations: the 2D case] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1287–1293. (Summary) **98b:65114** 65M60 (78–08)

— (*with* Joly, Patrick) Éléments finis d'arête et condensation de masse pour les équations de Maxwell: le cas de dimension 3. (English and French summaries) [Edge finite elements and mass lumping for Maxwell's equations: the 3D case] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1217–1222. (Summary) **98m:78006** 78–08 (65N30, 78A25)

abd El-Monsef, M. E. *see* **Abd El-Monsef, M. E.**

El-Mosalamy, M. (*with* Abujabal, Hamza A. S.) Bipartite groups. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 95–99 (1997). 20F32

El-Moudni, A. (*with* Bouyekhf, R.) On analysis of discrete singularly perturbed non-linear systems: application to the study of stability properties. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 2, 199–212. (G. A. Kurina) **98h:39001** 39A10 (34E15, 39A11)

— (*with* Djennoune, S.) Closed loop stability of a class of non-linear singularly perturbed systems with discretized composite feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 749–769. 93D15 (93C30)

El Moumni, Said Rangements optimaux de carrés unité dans une bande infinie. (English and French summaries) [Optimal packings of unit squares into an infinite strip] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 121–125. (Salvatore Vassallo) **98f:52020** 52C15

Elnagar, Gamal N. (*with* Khamayseh, Ahmed) On the optimal spectral Chebyshev solution of a controlled nonlinear dynamical system. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 2, 147–157. (Summary) **98d:65096** 65L06 (49M30, 49N55, 70Q05)

— (*with* Razzaghi, Mohsen) A collocation-type method for linear quadratic optimal control problems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 3, 227–235. (Summary) **98d:49038** 49M25 (49N10)

El Naggar, Abd-Elrahiem (*with* El-Diriny, M. A.) Response of two internal resonant oscillators subjected to combined quadratic parametric and external excitation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **24** (1995), *no.* 2, 85–102. (A. Y. T. Leung) **98a:70023** 70K40 (70K28)

Elnaggar, Ashraf (*with* Elshafei, Abdel-Latif; Dumont, Guy) Stability and convergence analyses of an adaptive GPC based on state-space modelling. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 193–210. 93B40 (93E25)

Elnagger, A. M. *see* **El Naggar, Abd-Elrahiem**

El Naschie, M. S. A note on quantum gravity and Cantorian spacetime. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 1, 131–133. (J. S. Joel) **98b:83036** 83C45 (83C99)

— Dimensional symmetry breaking and gravity in Cantorian space. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 5, *Special Issue*, 753–759. (Summary) **98b:83074** 83D05

— Fractal gravity and symmetry breaking in a hierachical Cantorian space. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 11, 1865–1872. 81P99 (83D05)

— Remarks on superstrings, fractal gravity, Nagasawa's diffusion and Cantorian spacetime. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 11, 1873–1886. 83E30 (81T30, 83D05)

— The Bethe lattice and the dimension of micro spacetime. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 11, 1887–1889. 81P99

— Branching polymers and the fractal Cantorian spacetime. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 135–141. (*see* **98k:58002**) 82D60 (83F05)

— On the uncertainty of Cantorian geometry and the two-slit experiment. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 517–529. 81P15

Elnatanov, N. A. (*with* Schiff, Jeremy) The Hamilton-Jacobi difference equation. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 279–286 (1997). (Summary) **98c:70015** 70H05 (39A12, 49L20, 65M99, 70–08, 70H20)

Elnitsky, Serge Rhombic tilings of polygons and classes of reduced words in Coxeter groups. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 2, 193–221. (Richard Kenyon) **98g:05039** 05B45 (05E15, 52C20)

Eloe, Paul W. (*with* Henderson, Johnny) Positive solutions for $(n-1,1)$ conjugate boundary value problems. *Nonlinear Anal.* **28** (1997), *no.* 10, 1669–1680. (Marie-Françoise Bidaut-Véron) **98a:34022** 34B15 (47N20)

— (*with* Henderson, Johnny) A boundary value problem for a system of ordinary differential equations with impulse effects. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 785–799. (Eduardo Liz) **98i:34020** 34A37 (34A45, 34B15)

— (*with* Henderson, Johnny; Kaufmann, Eric R.) Multiple positive solutions for difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 219–229. (Summary) **98m:39011** 39A10

Eloranta, Jaana (*with* Tienari, Martti; Valmari, Antti) Essential transitions to bisimulation equivalences. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 397–419. (Summary) **98b:68045** 68Q10 (68Q60)

Eloranta, Kari A note on certain rigid subshifts. (English summary) *Ergodic theory of $\mathbf{Z}^d$ actions (Warwick, 1993–1994)*, 307–317, *London Math. Soc. Lecture Note Ser.*, 228, *Cambridge Univ. Press, Cambridge*, 1996. (Mahesh Nerurkar) **98f:54033** 54H20 (58F03)

— Critical growth phenomena in cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 478–484. (Fernanda Botelho) **98k:58135** 58F08 (68Q80, 82C20)

Elperin, T. (*with* Dolinsky, Yu.) Inductive instability in heterogeneous nonstationary systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part B*, 3633–3637. (Manuel Núñez Jiménez) **98i:76100** 76W05

Elphick, Christian Relativistic $(3+1)$-dimensional nontopological solitons under perturbations. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7749–7753. (Summary) **98c:81133** 81T13 (81T10)

abd El-Rady, A. S. *see* **Abd El-Rady, A. S.**

abd-Elrahman, A. M. *see* **Abd-Elrahman, A. M.**

abd-El-Reheem, Zaki F. *see* **Abd-El-Reheem, Zaki F.**

El-Reheem, Zaki F. A. *see* **Abd-El-Reheem, Zaki F.**

El-Sabbagh, A. A. On the solution of Nevanlinna Pick problem with selfadjoint extensions of symmetric linear relations in Hilbert space. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 457–464. (Daniel Alpay) **98h:47019** 47A57 (30E05)

El-Safty, Abdalla (*with* Ibrahim, M. A.-K.; Abo-Hasha, Shadia M.) Application of spline functions to neutral delay-differential equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 233–239. (Summary) **98h:65029** 65L06 (34K40)

El-Saidi, Mohammed A. (*with* Shakhbagyan, R. L.) A control problem for higher-order evolution equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 2, 67–87 (1996). (Uldis Ê. Raitums) **98c:49010** 49J20 (35L30, 93B05)

Elsanousi, S. A. Filtering for a signal given by a linear stochastic retarded differential equation. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 75–87. (Krystyna Twardowska) **98m:93112** 93E11 (34K50, 60G35)

Elsässer, Klaus (*with* Spiess, Peter) Lyapunov stability and thermal stability of partially relaxed fluids and plasmas. (English summary) *Phys. Plasmas* **3** (1996), *no.* 10, 3573–3582. (Summary) **98b:76032** 76E25 (76W05)

— (*with* Popel, Sergeĭ I.) Plasma equations in general relativity. (English summary) *Phys. Plasmas* **4** (1997), *no.* 7, 2348–2356. (Summary) **98d:83042** 83C55

El-Sayed, Ahmed M. A. Fractional differential-difference equations. (English summary) *J. Fract. Calc.* **10** (1996), 101–107. (Summary) **98e:34143** 34K30 (26A33, 34A25)

— (*with* Ibrahim, A. G.) Definite integral of fractional order for set-valued functions. (English summary) *J. Fract. Calc.* **11** (1997), 81–87. (Summary) **98a:28010** 28B20 (26A33)

— (*with* Gaafar, F. M.) Sturm-Liouville equation of fractional order. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 9–17. (K. S. Miller) **98e:34007** 34A12 (26A33, 34B05)

— Fractional calculus and Laguerre polynomials of fractional orders. (English summary) *Math. Sci. Res. Hot-Line* **1** (1997), *no.* 10, 7–14. (Summary) **98h:26008** 26A33 (33C45)

El-Sayed, Hoda K. Invex bodies and focal points. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 25–28. (Fulga Pop) **98j:53040** 53C20 (53C22)

El-Sayed, M. A. (*with* Nasr, A. H.) Perturbed solutions of general differential equations. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 55–65 (1997). (Anton Zettl) **98i:34057** 34C11

El-Sayed, M. F. (*with* Callebaut, D. K.) Alternative kind of solitary waves. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 126–128. (Summary) **98e:35138** 35Q51

El-Sayed, M. Salah (*with* Petkov, Milko Georgiev) Several theorems for block diagonally dominant matrices. (English summary) *Math. Balkanica (N.S.)* **9** (1995), *no.* 4, 345–352. (Summary) **98a:15047** 15A57 (15A60)

— A direct method for solving band systems of linear algebraic equations. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 397–405. 65F05

El-Sayed, Sayed M. The sampling distribution of ridge parameter estimator. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 211–219. 62J07 (62E15)

El-Sayed, Wagdy Gomaa (*with* Deebes, Eman Ibrahim) Monotone solutions of a functional integral equation. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 41–50. (Yubo Chen) **98a:45013** 45N05 (45G10)

— (*with* Moustafa, Osama L.) On solutions of nonlinear integral equations of convolution type. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **37** (1997), *no.* 1, 1–9. (S. N. Askhabov) **98c:45008** 45G10 (47G10, 47H15, 47N10)

— On the distance between two Chebyshev sets in Banach spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 611–612. 46B20 (41A65)

— Nonlinear functional integral equations of convolution type. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 449–456. (R. R. Akhmerov) **98m:45009** 45G10 (45E10, 47H09)

El-Sayed El-Sayed Abd El-Aal El-Adad *see* **El-Adad, El-Sayed El-Sayed Abd El-Aal**

El-Sayyad, S. (*with* Abujabal, Hamza A. S.; Alghamdi, Mohamed Ali) A few classes of subalgebras of BCI-algebras. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 1–15. (Summary) **98m:06028** 06F35 (03G25)

Elschner, Johannes Collocation and quadrature methods for Symm's integral equation on curves with corners. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 11–14. (*see* **98b:65005**) 65R20 (45L10)

— (*with* Jeon, Youngmok; Sloan, I. H.; Stephan, Ernst P.) Discrete qualocation methods for logarithmic-kernel integral equations on a piecewise smooth boundary. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 547–571. (Andreas Rathsfeld) **98d:65167** 65R20

— (*with* Graham, Ivan G.) Quadrature methods for Symm's integral equation on polygons. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 643–664. (Summary) **98h:45013** 45L05 (47G30, 65R20)

— (*with* Jeon, Youngmok; Sloan, I. H.; Stephan, Ernst P.) The collocation method for mixed boundary value problems on domains with curved polygonal boundaries. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 355–381. (Bruce A. Finlayson) **98h:65055** 65N35

abou El-Seoud, M. S. *see* **Abou El-Seoud, M. S.**

Elshafei, Abdel-Latif (*with* Dumont, Guy; Elnaggar, Ashraf) Stability and convergence analyses of an adaptive GPC based on state-space modelling. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 193–210. 93B40 (93E25)

El-Shahat, M. A. T. Estimation of the parameters and reliability function of a generalized life testing model. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 151–171. 62N05

Elshamy, Maged Stochastic models of damped vibrations. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1159–1168. (Summary) **98f:60122** 60H15 (60F10, 60G60)

Elsharabasy, M. A. (*with* Elabbasy, E. M.) Oscillation properties for second order nonlinear differential equations. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 211–220. (Ondřej Došlý) **98m:34070** 34C10

El-Sharkawy, M. (*with* Sinha, A. S. C.; Rizkalla, M.) Sliding mode control of uncertain delay differential systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1075–1086. (*see* **98i:00028**) 93B12 (34K35)

El-Sherbiny, H. M. (*with* Ali, M. B.) On the Painleve property of nonlinear evolution equations in $2+1$ dimensions. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 73–81. (*see* **98g:00017**) 35Q53 (35K55)

Elsibai, Khaled A. (*with* Sinha, Surendra B.) Reflection and refraction of thermoelastic waves at an interface of two semi-infinite media with two relaxation times. (English summary) *J. Thermal Stresses* **20** (1997), *no.* 2, 129–145. (Summary) **98a:73013** 73B30 (73D25)

Elskens, Y. (*with* Misguich, J. H.; Reuss, Jean Daniel; Balescu, R.) Motion in a stochastic layer described by symbolic dynamics. (English summary) *Chaos* **8** (1998), *no.* 1, 248–256. (Summary) **98m:76171** 76X05 (58F03, 58F40)

Elsner, Carsten On inhomogeneous approximations to irrational numbers with arithmetical conditions. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 223–228. (Michael A. Bennett) **98b:11077** 11J20

— On the approximation of irrationals by rationals. (English summary) *Math. Nachr.* **189** (1998), 243–256. (Christoph Baxa) **98m:11074** 11J04 (11J70)

Elsner, Ludwig F. (*with* Ikramov, Kh. D.) On normal matrices with normal principal submatrices. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **229** (1995), *Chisl. Metody i Voprosy Organ. Vychisl.* 11, 63–94, 322; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 6, 1631–1651. (Zhi Jie Chen) **98b:15027** 15A57

— (*with* Szulc, Tomasz) Convex combinations of matrices—nonsingularity and Schur stability. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 170–175, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 15A99 (65F10)

— (*with* Beyn, W.-J.) Infinite products and paracontracting matrices. (English summary) *Electron. J. Linear Algebra* **2** (1997), 1–8 (*electronic*). (L. W. Ehrlich) **98a:65036** 65F10

— (*with* Fasse, A.; Langmann, E.) A divide-and-conquer method for the tridiagonal generalized eigenvalue problem. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 141–148. (Summary) **98h:65015** 65F15

— (*with* Ikramov, Kh. D.) On a condensed form for normal matrices under finite sequences of elementary unitary similarities. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 79–98. (Summary) **98b:15011** 15A21

— (*with* Nabben, R.; Neumann, Michael) Orthogonal bases that lead to symmetric nonnegative matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 323–343. (Jeffrey Stuart) **98m:15038** 15A48 (15A57)

Elson, Rob (*with* Rabinovich, M. I.; Abarbanel, Henry D. I.; Huerta, Ramón; Selverston, Al I.) Self-regularization of chaos in neural systems: experimental and theoretical results. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 997–1005. (*see* **98g:93002**) 93D15 (58F40, 93C83)

Elsonbaty, Ahmed (*with* Stachel, Hellmuth) Generating solids by sweeping polyhedra. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 1, 13–21. (Johann Lang) **98m:53022** 53A17

El Soufi, A. (*with* Sandier, E.) p-harmonic diffeomorphisms. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 161–169. (Albert Jeune) **98k:58066** 58E20

ter Elst, A. F. M. (*with* Robinson, Derek W.) Subcoercivity and subelliptic operators on Lie groups. I. Free nilpotent groups. (English summary) *Potential Anal.* **3** (1994), *no.* 3, 283–337. (Summary) **98c:22006** 22E30 (22E45, 35H05, 43A65)

— (*with* Robinson, Derek W.) Reduced heat kernels on nilpotent Lie groups. (English summary) *Comm. Math. Phys.* **173** (1995), *no.* 3, 475–511. (Summary) **98c:22008** 22E30 (22E25, 58G11)

— (*with* Robinson, Derek W.) Subcoercivity and subelliptic operators on Lie groups. II. The general case. (English summary) *Potential Anal.* **4** (1995), *no.* 3, 205–243. (Summary) **98c:22007** 22E30 (35H05, 43A65)

— (*with* Robinson, Derek W.) High order divergence-form elliptic operators on Lie groups. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 335–348. (C. J. K. Batty) **98c:22009** 22E30 (35J30, 47F05)

— (*with* Robinson, Derek W.) On Kato's square root problem. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 365–376. (Atsushi Yagi) **98k:47069** 47B44 (35J99, 47A60, 47F05)

— (*with* Robinson, Derek W.) Second-order strongly elliptic operators on Lie groups with Hölder continuous coefficients. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 3, 297–363. (C. J. K. Batty) **98i:22014** 22E30 (35J15, 47F05, 58G11)

— (*with* Arendt, Wolfgang) Gaussian estimates for second order elliptic operators with boundary conditions. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 87–130. (Matthias Hieber) **98k:47094** 47F05 (47A60, 47D06)

van Elst, Henk *see* **Van Elst, Henk**

Elstrodt, J. (*with* Grunewald, Fritz; Mennicke, Jens L.) ★ Groups acting on hyperbolic space. (English summary) Harmonic analysis and number theory. Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. xvi+524 *pp.* *ISBN* 3-540-62745-6 (Stefan Kühnlein) **98g:11058** 11F72 (11F12, 11M36, 22E40, 57M50, 57S30)

El-Taha, Muhammad (*with* Stidham, Shaler, Jr.) Sample-path techniques in queueing theory. (English summary) *Advances in queueing*, 119–166, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1995. (Richard F. Serfozo) **98b:60166** 60K25

— Pathwise rate-stability for input-output processes. (English summary) *Queueing Systems Theory Appl.* **22** (1996), *no.* 1-2, 47–63. (Ravi Mazumdar) **98g:60165** 60K25 (90B22)

— (*with* Stidham, Shaler, Jr.; Anand, Ravinder) Sample-path insensitivity of symmetric queues in discrete-time. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1099–1110. (*see* **98i:00028**) 60K25

El-Tantawy, Osama A. H. *see* **Tantawy, Osama A.**

Eltayeb, I. A. (*with* Hamza, E. A.) Compositional convection in the presence of rotation. (English summary) *J. Fluid Mech.* **354** (1998), 277–299. 76R99 (76U05, 80A22)

abd-Eltwab, Yhia A. *see* **Abd-Eltwab, Yhia A.**

calmelet-Eluhu, C. *see* **Calmelet-Eluhu, C.**

El-Wakil, S. A. (*with* Saied, Effat A.) On the diffusion in a lattice gas model: group-theoretic approach. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 301–310. (Summary) **98k:82120** 82C20

Elwood, John K. (*with* Irges, Nikolaos; Ramond, Pierre) A model of Yukawa hierarchies. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 322–330. 81V22

Elworthy, K. D. (*with* Ma, Zhi-Ming) Admissible vector fields and related diffusions on finite-dimensional manifolds. (English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 3, 410–423; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 451–466 (1998). (Ming Liao) **98i:58247** 58G32 (31C25, 46G05)

Ely, Todd A. (*with* Howell, Kathleen C.) Dynamics of artificial satellite orbits with tesseral resonances including the effects of luni-solar perturbations. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 243–269. (Summary) **98m:70032** 70M20 (70F15, 70K50)

El Yazidi, Mohamed (*with* Moreau, Françoise; Hellou, Mustapha) Écoulements cellulaires de Stokes dans un canal plan obstrué par une file de cylindres. (English and French summaries) [Cellular Stokes flow in a channel obstructed by a row of cylinders] *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 31–45. (Summary) **98i:76023** 76D07

Elyutin, P. V. Classical susceptibilities of chaotic systems. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 175–180. 58F13 (58F40)

— (*with* Pavlov-Verevkin, B. V.) Bohr billiard: decay in the chaotic Hamiltonian system with two integrals of motion. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5044–5050. 82C05 (58F13, 70H05, 81Q50)

Elyutin, S. O. (*with* Maimistov, A. I.) Hamiltonian formulation of self-induced transparency theory without slowly varying envelope approximation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 3, 369–376. (Summary) **98b:81295** 81V80 (58F40)

El-Zahar, Mohamed H. (*with* Bayoumi, B. I.; Khamis, S. M.) Algorithmic counting of types of UPO graphs and posets. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 117–122. (Summary) **98j:05002** 05A15 (05C30, 06A07)

— (*with* Khairat, M. K.; Bahig, H. M.) An exact graph coloring algorithm using color exchange. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 65–71. (Summary) **98g:05061** 05C15

— A graph-theoretic version of the union-closed sets conjecture. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 155–163. (Dinesh G. Sarvate) **98i:05002** 05A05 (05C65)

Elzaidi, S. M. On the solution of the differential equation $y^{(\alpha)}(x) = y/x$ ($x \neq 0$, $\alpha \in \mathbf{R}^+$). (English summary) *J. Fract. Calc.* **11** (1997), 75–80. (Summary) **98a:34015** 34A45

— On the oscillation of solutions of certain differential equations. *Results Math.* **32** (1997), *no.* 3-4, 291–297. (Enid M. Steinbart) **98m:34010** 34A20

El-Zanati, Saad I. (*with* Adams, Peter; Bryant, Darryn E.; Vanden Eynden, Charles) d-cube decompositions of $K_n \setminus K_m$. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 1–7. (Chris Rodger) **98a:05037** 05B30 (05C70)

— (*with* Plantholt, Michael J.; Tipnis, Shailesh K.) Extensions of some factorization results from simple graphs to multigraphs. (English summary) *J. Graph Theory* **24** (1997), *no.* 4, 291–295. (Martin Bača) **98a:05114** 05C70

Elżanowski, Marek (*with* Preston, Serge) On non-holonomic second-order connections with applications to continua with microstructure. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 51–58. (Manuel de León) **98b:53018** 53B05 (53B50, 73B99, 73C50)

Él'zner, L. *see* **Elsner, Ludwig F.**

Emaci, E. (*with* Vakakis, Alexander F.; Andrianov, I. V.; Mikhlin, Y. V.) Study of two-dimensional axisymmetric breathers using Padé approximants. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 327–338. (Summary) **98c:35150** 35Q55 (35B40)

Emamirad, Hassan (*with* Holtz, René) Vecteurs d'état cohérent et image de la transformée de Husimi. (English and French summaries) [Coherent state vectors and range of the Husimi transformation] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1295–1300. (Alexander Isaakovich Shtern) **98h:47026** 47A70 (47B25, 47N50, 81R30)

— Hypercyclicité du semi-groupe de transport et le théorème de représentation de Lax et Phillips. (English and French summaries) [Hypercyclicity of the transport semigroup and the Lax and Phillips representation theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 157–162. (V. Protopopescu) **98h:47058** 47D06 (45K05, 47A40, 47N55, 82C70)

— Hypercyclicity in the scattering theory for linear transport equation. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3707–3716. (Alexei V. Rybkin) **98k:47077** 47D06 (45K05, 47A40, 47N55, 82C70)

Emamy-K., M. Reza (*with* Kalantari, Bahman) On linear programming and matrix scaling over the algebraic numbers. (English summary) *Linear Algebra Appl.* **262** (1997), 283–306. (Florica Luban) **98c:90066** 90C05 (65F35)

— How efficiently can we maximize threshold pseudo-Boolean functions? (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 127–135, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:90090** 90C09

Èmanuilov, O. Yu. A class of inverse problems for semilinear elliptic and parabolic equations. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **55** (1994), 285–309, 366; *translation in Trans. Moscow Math. Soc.* **1994**, 221–238 (1995). (Jan Koroński) **98g:35212** 35R30 (35J60, 35K55)

Embacher, F. Mode decomposition and unitarity in quantum cosmology. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 291–294. (*see* **98f:83002**) 83C45

Embley, David W. (*with* Mok, Wai Yin) On improving dependency implication algorithms. *Inform. Process. Lett.* **64** (1997), *no.* 3, 135–141. (From the introduction) **98k:68049** 68P15

Embrechts, Paul (*with* Bühlmann, Hans; Delbaen, Freddy; Shiryaev, Albert N.) No-arbitrage, change of measure and conditional Esscher transforms. Mathematics of finance, Part I. *CWI Quarterly* **9** (1996), *no.* 4, 291–317. (Jakša Cvitanić) **98h:90015** 90A09

— (*with* Klüppelberg, Claudia; Mikosch, Thomas) ★ Modelling extremal events. (English summary) For insurance and finance. Applications of Mathematics, 33. *Springer-Verlag, Berlin*, 1997. xvi+645 *pp. ISBN* 3-540-60931-8 (R. A. Maller) **98k:60080** 60G70 (60Fxx, 60K05, 62M10, 62P05)

Embree, Mark (*with* Ribbens, Calvin) On the scalability of parallel Krylov subspace methods. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30 (65Y05)

Emch, Gérard G. Comments on a recent paper by S. L. Adler: "Projective group representations in quaternionic Hilbert spaces" [J. Math. Phys. **37** (1996), no. 5, 2352–2360; MR 97e:81040]. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6582–6585. (Mariano A. del Olmo) **98k:81083** 81R05 (22E70)

— *see also* **Wigner, Eugene Paul**, **98i:81002** *and* **Adler, Stephen L.**, **98k:81084**

van Emde Boas, Peter The full non-renameability result; a lost tale. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 301–309, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Summary) **98i:68101** 68Q15 (03D15)

— The convenience of tilings. (English summary) *Complexity, logic, and recursion theory*, 331–363, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Summary) **98b:68057** 68Q15 (68Q25)

van Emden, M. H. Value constraints in the CLP scheme. (English summary) Interval constraints (Portland, OR, 1995). *Constraints* **2** (1997), *no.* 2, 163–183. (Summary) **98m:68033** 68N17 (68T20)

Emelichev, V. A. (*with* Kravtsov, M. K.; Yanushkevich, O. A.) Solvability of a vector trajectory problem for "bottlenecks" by means of an algorithm for the linear convolution of criteria. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 29–33, 124. (Summary) **98i:90083** 90C29 (90C27)

— (*with* Gladkiĭ, A. A.; Yanushkevich, O. A.) On multicriterial problems of determining lexicographic optima. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996,** *no.* 3, 82–86, 132. (E. G. Gol′shtein) **98e:90135** 90C29 (90C27)

— (*with* Girlich, Eberhard; Yanushkevich, O. A.) Lexicographic optima of a multicriterial problem. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 2, 3–14, 115. (Summary) **98i:90084** 90C29 (90C27)

— (*with* Kravtsov, M. K.; Yanushkevich, O. A.) On the solvability of a class of discrete vector problems by the algorithm of a linear convolution of criteria. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1405–1408. (Summary) **98k:90083** 90C27 (90C29)

Emelin, D. S. (*with* Golubkin, V. N.) Computation of the maximum hypersonic quality and the optimal shapes of wings of small span with laminar and turbulent boundary layers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1237–1245. 76K05

Emel′yanov, D. D. On a problem of the trajectory control of observations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 47–58; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1592–1600 (1998). 93B07 (49K15)

— Optimal impulse control of an information set in the problem of guidance from incomplete data. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 1, 35–43; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 28–35. (Summary) **98m:49053** 49N25 (93C41)

Emel′yanov, Èduard Yu. Some aspects of the theory of bounded groups of operators in Banach spaces. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 1, 26–31. (Summary) **98f:47046** 47D03

— Invariant homomorphisms of nonstandard extensions of Boolean algebras and vector lattices. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 286–296, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 244–252. (Žarko Mijajlović) **98g:06022** 06E05 (03H05, 46A40, 46S20)

Emel′yanov, K. V. Application of one-dimensional optimal grids to the solution of two-dimensional problems with singular perturbation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 425–432. (Summary) **98m:65174** 65N06

Emel′yanov, S. V. (*with* Denisov, A. M.; Il′in, Vladimir Aleksandrovich[1]; Osipov, Yu. S.; Samarskiĭ, A. A.; Sveshnikov, A. G.) Andreĭ Nikolaevich Tikhonov (on the occasion of the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **32** (1996), *no.* 10, 1299–1302; *translation in Differential Equations* **32** (1996), *no.* 10, 1297–1299 (1997). 01A70

— (*with* Korovin, S. K.) Theory of nonlinear feedback under uncertainty. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 273–323. (É. G. Al′brekht) **98i:93052** 93C41 (34H05, 93D21)

— (*with* Zhuravlev, Yu. I.; Il′in, Vladimir Aleksandrovich[1]; Moiseev, E. I.; Oleĭnik, Ol′ga Arsen′evna; Prokhorov, Yu. V.; Samarskiĭ, A. A.) Anatoliĭ Platonovich Prudnikov (on the occasion of his seventieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 6, 730–736; *translation in Differential Equations* **33** (1997), *no.* 6, 733–740 (1998). (Editors) **98k:01023** 01A70

— (*with* Korovin, S. K.; Bobylev, N. A.) On a problem in the theory of robustness. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 747–749. (From the text) **98j:93062** 93D09 (15A42)

Emerald, J. D. (*with* Subramanian, K. G.; Thomas, Durairaj Ginanaraj) Learning code regular and code linear languages. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 211–221, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (*see* **98e:68004**) 68T05 (68Q45)

Emeric, P. (*with* Banks, H. T.; Plancke, L.) Modeling of nonsymmetrical damage in plate-like structures. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 55–65. (Summary) **98i:73030** 73K10 (73D30, 73K12, 73K50)

Emerson, E. Allen Model checking and the mu-calculus. (English summary) *Descriptive complexity and finite models* (*Princeton, NJ*, 1996), 185–214, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 31, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:68138** 68Q60 (03B45, 03B70, 03C80)

Emerson, H. (*with* Dukes, Peter; MacGillivray, Gary) Undecidable generalized colouring problems. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 97–112. (Summary) **98i:05072** 05C15

Émery, M. (*with* Attal, S.; Burdzy, Krzysztof; Hu, Yueyun) Sur quelques filtrations et transformations browniennes. [Some filtrations and Brownian transformations] *Séminaire de Probabilités, XXIX*, 56–69, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Peter Imkeller) **98j:60111** 60J65 (60G05, 60G44, 60H05)

— Sur certains polynômes d'un vecteur gaussien. (French summary) [Some polynomials of a Gaussian vector] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 1, 65–76. (Stéphane Attal) **98c:60012** 60E05 (15A69, 60G15, 62H10)

— (*with* Attal, S.) Martingales d'Azéma bidimensionnelles. (French summary) [Two-dimensional Azéma martingales] Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 9–21. (Philippe Biane) **98f:60083** 60G44 (60H20)

— *see also* **Seminar: Probability Theory**, **98b:60005**; **98c:60001** *and* **98e:60005**

Emilion, Richard (*with* Diday, Edwin) Treillis de Galois maximaux et capacités de Choquet. (English and French summaries) [Maximal Galois lattices and Choquet capacities] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 261–266. (Summary) **98c:06004** 06A15 (04A72, 28A12, 28E10, 62–07)

Èminyan, K. M. On the representation of numbers with given properties of the binary expansion as sums of two squares. (Russian) *Trudy Mat. Inst. Steklov.* **207** (1994), 377–382; *translation in Proc. Steklov Inst. Math.* **1995,** *no.* 6 (207), 347–351. (Matti Jutila) **98m:11101** 11P05 (11P55)

Emiris, Ioannis Z. (*with* Galligo, André; Lombardi, Henri) Numerical univariate polynomial GCD. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 323–343, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Maurice Mignotte) **98a:68105** 68Q40 (65D15, 65Y20)

— (*with* Canny, J. F.; Seidel, Raimund) Efficient perturbations for handling geometric degeneracies. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 219–242. (Summary) **98c:68205** 68U05 (65Y25)

— (*with* Galligo, André; Lombardi, Henri) Certified approximate univariate GCDs. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 229–251. (Miodrag Petković) **98f:65135** 65Y20 (13P99, 15A18, 68Q40)

— A complete implementation for computing general-dimensional convex hulls. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 223–253. 68U05 (52B55)

Emmanuele, G. On the position of the space of representable operators in the space of linear operators. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 255–262. (Françoise Lust-Piquard) **98e:46016** 46B28 (46E40, 47D15)

— (*with* John, Kamil) Uncomplementability of spaces of compact operators in larger spaces of operators. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 19–32. (Andreas Defant) **98e:46017** 46B28 (46B03, 46B07, 47D15)

— (*with* John, Kamil) Some remarks on the position of the space $K(X, Y)$ inside the space $W(X, Y)$. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 183–189. (Dirk Werner) **98m:46024** 46B28 (47B07, 47D15)

— (*with* Bombal, Fernando) Remarks on completely continuous polynomials. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 85–93. (Ignacio Zalduendo) **98e:46052** 46G20 (46B20)

Emmer, Michele Interview with Ennio De Giorgi. Translated from the Italian. *Notices Amer. Math. Soc.* **44** (1997), *no.* 9, 1097–1101. 01A70

Emmerich, Frank (*with* Eichenauer-Herrmann, Jürgen; Larcher, Gerhard) Average discrepancy, hyperplanes, and compound pseudorandom numbers. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 203–218. (Vladimir S. Anashin) **98j:11059** 11K45

— Equidistribution properties of quadratic congruential pseudorandom numbers. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 207–214. (Peter J. Hellekalek) **98f:11082** 11K45 (65C10)

Emmrich, C. (*with* Römer, H.) Multicomponent WKB and quantization. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2393–2402. (Gabriel Alvarez) **98c:81105** 81S10 (81Q20)

Emms, P. W. Freckle formation in a solidifying binary alloy. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 175–200. (Summary) **98k:80008** 80A22

Emond, Mary Jane (*with* Self, Steven G.) An efficient estimator for the generalized semilinear model. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1033–1040. (Summary) **98h:62110** 62J02 (62G05)

Emparan, Roberto Composite black holes in external fields. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 365–390. (C. Gauthier) **98f:83066** 83C57 (83C15)

— Born-Infeld strings tunneling to D-branes. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 71–78. (Summary) **98m:81138** 81T30

díaz-Emparanza, Ignacio *see* **Díaz-Emparanza, Ignacio**

Enăchescu, Călin Neuronal networks as an approximation method. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 83–92, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 41A30 (92B20)

Enander, Rickard Implicit explicit residual smoothing for the multidimensional Euler and Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1243–1254. (Summary) **98c:76074** 76M20 (65M99, 76G25, 76H05)

Ènat-skaya, N. Yu. (*with* Khakimullin, E. R.) Limit theorems for the number of empty cells. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 120–130; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 209–219. (Lyuben R. Mutafchiev) **98j:60010** 60C05 (60F05)

Encarnación, Mark J. (*with* Collins, George E.) Improved techniques for factoring univariate polynomials. (English summary) *J. Symbolic Comput.* **21** (1996), *no.* 3, 313–327. (Summary) **98b:68088** 68Q40 (13P05)

— The average number of modular factors in Trager's polynomial factorization algorithm. (English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 66–72. (*see* **98h:00039**) 13P99

Encheva, Sylvia B. On binary linear codes which satisfy the two-way chain condition. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 1038–1047. (Jaume Pujol) **98e:94029** 94B05 (94B25)

Encinas, A. M. (*with* Bendito, E.) Minimizing energy on locally compact spaces: existence and approximation. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 9-10, 843–865. (W. P. Ziemer) **98c:31008** 31C15 (31C20, 49J45)

hernández Encinas, L. *see* **Hernández Encinas, L.**

Enciso, Agustín (*with* Urías, Jesús; Salazar-Anaya, G.; Ugalde, Edgardo) Traveling patterns in cellular automata. (English summary) *Chaos* **6** (1996), *no.* 3, 493–503. (Fernanda Botelho) **98c:58084** 58F08 (68Q80)

— (*with* Urías, Jesús) Internal symmetries of cellular automata. (English summary) *Chaos* **7** (1997), *no.* 3, 447–454. (Summary) **98g:58090** 58F08

— (*with* Urías, Jesús; Rechtman, Raúl) Sensitive dependence on initial conditions for cellular automata. (English summary) *Chaos* **7** (1997), *no.* 4, 688–693. (Summary) **98j:58066** 58F08 (68Q80)

Enciso, Manuel (*with* de Guzmán, Inma P.; Rossi, Carlos) Temporal reasoning over linear discrete time. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 303–319, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T15 (03B35, 03B45)

Endimioni, Gérard On the locally finite p-groups in certain varieties of groups. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 169–178. (John S. Wilson) **98j:20029** 20E10 (20F12, 20F18, 20F45)

Endo, Hideki Correspondence analysis of artificial binary data with circular structure. (English summary) *Math. Japon.* **43** (1996), *no.* 2, 339–355. (Summary) **98c:62115** 62H25

Endo, Hiroshi On a certain tensor field in almost cosymplectic manifolds. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 114–118. (Domingo Chinea) **98d:53041** 53C15

— On some properties of almost cosymplectic manifolds. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 79–94 (1997). (Zbigniew Olszak) **98m:53043** 53C15

— On an invariant submanifold with harmonic curvature of certain contact metric manifolds. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 237–241. (Themis Koufogiorgos) **98g:53098** 53C40 (53C15)

Endo, Mikihiko Analytic properties of functions represented by p-adic integration. *p-adic functional analysis* (*Nijmegen*, 1996), 115–129, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Daniel Barsky) **98k:11175** 11S80 (12J25, 30G06)

— (*with* Escassut, Alain) A counter example of p-adic Hartogs theorem on a product of closed disks. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 1, 1–2. (Daniel Barsky) **98e:32060** 32P05 (11S80, 32D20)

Endo, Toshiki The pagenumber of toroidal graphs is at most seven. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 87–96. (Summary) **98f:05047** 05C10

Endrédi, Gábor *see* **Inverse and algebraic quantum scattering theory, 98j:81005**

Èndzhirgli, M. V. (*with* Kozachenko, Yu. V.) Conditions for uniform convergence of $\overline{\mathrm{Sub}}_\varphi(\Omega)$-stochastic integrals. *Theory Probab. Math. Statist. No.* 48 (1994), 47–54; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 66–77 (*Ukrainian. Ukrainian summary*). (Summary) **98c:60054** 60H05 (60G99)

— (*with* Kozachenko, Yu. V.) Justification of application of the Fourier method to boundary value problems subject to random initial conditions. II. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 58–68. (Summary) **98a:35148** 35R60 (60G99)

Ene, Cristian (*with* Ţiplea, Ferucio Laurenţiu) Hierarchies of Petri net languages and a super-normal form. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 396–405, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q90

Ene, Horia Thermal flow. *Homogenization and porous media*, 147–162, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05

Ene, Nicoleta (*with* Stoica, Adrian) Optimal design of a stability augmentation system using a model-matching technique. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 3, 379–389. (Summary) **98e:93042** 93B36 (93C95)

Ene, Vasile Local systems and Taylor's theorem. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 638–644. (Brian S. Thomson) **98g:26008** 26A24

— On Borel measurable functions that are VBG and (N). (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 688–695. (D. K. Dutta) **98i:26005** 26A24 (26A39)

— Riesz type theorems for general integrals. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 714–733. (James Foran) **98e:26009** 26A39

Enea, Maria R. (*with* Korchmáros, Gábor) Ovals in commutative semifield planes. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 259–264. (William Cherowitzo) **98e:51012** 51E21 (51A40)

Enenkel, Robert F. (*with* Jackson, Kenneth R.) DIMSEMs-diagonally implicit single-eigenvalue methods for the numerical solution of stiff ODEs on parallel computers. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 97–133. (Beny Neta) **98c:65106** 65L05 (65L20, 65Y05)

Enescu, Florian (*with* Pfister, Gerhard; Popescu, Dorin) Infinitesimal module deformations in the Thom-Sebastiani problem. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 196–208. (Yuji Yoshino) **98i:13015** 13C14 (13H10)

Enflo, Per (*with* Ansari, Shamim I.) Extremal vectors and invariant subspaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 539–558. (Hari Bercovici) **98d:47019** 47A15

Eng, Tony (*with* Okamoto, Tatsuaki) Single-term divisible electronic coins. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 306–319, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

Engberg, Uffe (*with* Winskel, Glynn) Completeness results for linear logic on Petri nets. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 2, 101–135. (Aldo Ursini) **98k:68059** 68Q10 (03B70, 03F50, 68Q90)

Enge, O. (*with* Maisser, P.; Kielau, G.; Freudenberg, H.) Dynamics and control of discrete electromechanical systems. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 215–222, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98h:70035**) 70Q05 (70E99, 93C95)

Engel, Alfred *see* **Einstein, Albert, 98i:01035**

Engel, Arthur ★ Problem-solving strategies. (English summary) Problem Books in Mathematics. *Springer-Verlag, New York*, 1998. x+403 *pp. ISBN* 0-387-98219-1 (Editors) **98m:00004** 00A07 (05–01)

Engel, Bas In memoriam Bertus Keen (1945–1996). *Statist. Neerlandica* **51** (1997), *no.* 2, 145. 01A70

— A simple illustration of the failure of PQL, IRREML and APHL as approximate ML methods for mixed models for binary data. (English summary) *Biom. J.* **40** (1998), *no.* 2, 141–154. 62J12

Engel, Joachim (*with* Kneip, Alois) A remedy for kernel estimation under random design. (English summary) *Statistics* **28** (1996), *no.* 3, 201–225. (Patricia B. Cerrito) **98c:62063** 62G05 (62F11)

— (*with* Fan, Jianqing; Gasser, Theo; Gijbels, Irène; Brockmann, Michael) Local polynomial regression: optimal kernels and asymptotic minimax efficiency. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 79–99. (Wolfgang Polonik) **98j:62030** 62G05 (62G20)

— The multiresolution histogram. (English summary) *Metrika* **46** (1997), *no.* 1, 41–57. (Summary) **98h:62049** 62G05

— Zur stochastischen Modellierung funktionaler Abhängigkeiten: Konzepte, Postulate, fundamentale Ideen. (German summary) [On the stochastic modeling of functional dependencies: concepts, postulates, fundamental ideas] *Math. Semesterber.* **45** (1998), *no.* 1, 95–112. 62J99 (62A99)

Engel, Konrad ★ Sperner theory. (English summary) Encyclopedia of Mathematics and its Applications, 65. *Cambridge University Press, Cambridge*, 1997. x+417 *pp. ISBN* 0-521-45206-6 (J. R. Griggs) **98m:05187** 05D05 (05–02, 06A07, 90C27, 90C35)

— (*with* Bouchemakh, Isma) The order-interval hypergraph of a finite poset and the König property. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 51–61. (Douglas B. West) **98f:05116** 05C65 (06A07)

Engel, Pascal La signification philosophique du calcul des séquents. [The philosophical meaning of the sequent calculus] *Raisonnement et calcul* (*Neuchâtel*, 1994), 91–111, *Travaux Centre Rech. Sémiol.*, 63, *Univ. Neuchâtel, Neuchâtel*, 1995. (Roman Murawski) **98a:03007** 03A05 (03F05)

— De modalibus non disputat asinus. Review of: *Modalities* [Oxford Univ. Press, New York, 1993; MR 96m:03002] by R. B. Marcus. (French) Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 157–169. (*see* **98b:03007**) 03B48

— La logique peut-elle mouvoir l'esprit? (English summary) [Can logic set the mind in motion?] *Dialogue* **37** (1998), *no.* 1, 35–53. 03A05

Engelbrecht, Jüri ★ Nonlinear wave dynamics. (English summary) Complexity and simplicity. Kluwer Texts in the Mathematical Sciences, 17. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+183 *pp. ISBN* 0-7923-4508-8 (Gérard A. Maugin) **98m:73038** 73D15 (35Qxx, 73B30, 73F15, 76B15, 76D33)

— (*with* Salupere, Andrus; Maugin, Gérard A.) Solitons in systems with a quartic potential and higher-order dispersion. (English and Estonian summaries) EUROMECH Colloquium 348 "Nonlinear Dynamics of Heterogeneous and Microstructured Solids" (Tallinn, 1996). *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 1-2, 118–127. (*see* **98d:73001**) 35Q53 (73D15, 76B25)

van Engelen, Fons Borel groups of low descriptive complexity. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 95–100, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Oleg G. Okunev) **98g:54087** 54H05 (03H05, 22A05)

Engelfriet, Joeri (*with* Marek, Victor W.; Treur, Jan; Truszczyński, Mirosław) Infinitary default logic for specification of nonmonotonic reasoning. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 224–236, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98c:68193** 68T27 (03B60, 03B70)

— (*with* Treur, Jan) Executable temporal logic for non-monotonic reasoning. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 615–625. (Zoran Ognjanović) **98a:68130** 68Q60 (03B45, 03B60, 03B70)

Engelfriet, Joost (*with* Vereijken, Jan Joris) Context-free graph grammars and concatenation of graphs. (English summary) *Acta Inform.* **34** (1997), *no.* 10, 773–803. (Summary) **98h:68146** 68Q50 (68R10)

— (*with* Bodlaender, Hans L.) Domino treewidth. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 94–123. (Gary MacGillivray) **98m:68200** 68R10 (05C85, 68Q25)

Engelhardt, Kai (*with* de Roever, Willem-Paul) Simulation of specification statements in Hoare logic. (English summary) *Mathematical foundations of computer science* 1996

(*Cracow*), 324–335, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q60

Engelhardt, Michael (*with* Levit, S.) Variational master field for large-N interacting matrix models—free random variables on trial. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 735–774. (Roland Speicher) **98a:81111** 81T10 (46L50, 81S25, 81T40)

— *see also* **O'Raifeartaigh, L.**, (**98k:81306**); **Shifman, M. A.**, (**98k:81306**); (**98k:81306**) *and* **Klebanov, Igor R.**, (**98k:81306**)

Engen, Steinar (*with* Lillegård, Magnar) Stochastic simulations conditioned on sufficient statistics. (English summary) *Biometrika* **84** (1997), *no.* 1, 235–240. (Summary) **98c:62090** 62G10

Engevall, Stefan (*with* Göthe-Lundgren, Maud; Värbrand, Peter) A strong lower bound for the node weighted Steiner tree problem. (English summary) *Networks* **31** (1998), *no.* 1, 11–17. (Summary) **98i:05049** 05C05 (68R10, 90C35)

Enghiş, Pavel Generalized T-recurrent E-connections. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 121–124. (Andrew Bucki) **98g:53024** 53B05

Engibaryan, B. N. (*with* Engibaryan, N. B.) An integral convolution equation on the half-line with a completely monotone kernel. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 53–72; *translation in Sb. Math.* **187** (1996), *no.* 10, 1465–1485. (V. S. Pilidi) **98a:45005** 45E10 (47A68, 47B35, 47G10)

— On multiple factorization of convolution-type integral operators. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 447–458. (I. Spitkovsky) **98d:47108** 47G10 (45E10, 47A68, 47B35)

Engibaryan, N. B. Convolution equations containing singular probability distributions. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 2, 21–48; *translation in Izv. Math.* **60** (1996), *no.* 2, 251–279. (From the text) **98a:45004** 45E10 (60J15, 60K25)

— (*with* Engibaryan, B. N.) An integral convolution equation on the half-line with a completely monotone kernel. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 53–72; *translation in Sb. Math.* **187** (1996), *no.* 10, 1465–1485. (V. S. Pilidi) **98a:45005** 45E10 (47A68, 47B35, 47G10)

Enginer, Y. (*with* Hortaçsu, M.; Özdemir, N.) Quantum fluctuations for a scalar field in the space-time of gravitational impulsive wave. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1201–1211. 81T20 (83C35, 83C47)

Engl, Heinz W. (*with* Blaschke-Kaltenbacher, Barbara; Grever, W.; Klibanov, Michael V.) An application of Tikhonov regularization to phase retrieval. (English summary) *Nonlinear World* **3** (1996), *no.* 4, 771–786. (Hans-Jürgen Reinhardt) **98d:65080** 65J20 (42A38, 65T20)

— *see also* **Inverse problems in medical imaging and nondestructive testing, 98k:00016**

England, David E. (*with* McNider, Richard T.) Absence of limit in a two-layer nocturnal slope-flow model. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 163–171. (Summary) **98g:86005** 86A10

England, Roland (*with* Lamour, René) Dichotomic stability and multiple shooting for numerical boundary-value problems in index-one differential-algebraic equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 87–90. (*see* **98b:65005**) 65L08 (34A09)

Engle, Robert F. (*with* Vahid, Farshid) Codependent cycles. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 199–221. 62P20 (62M10)

Engler, Antonio José Totally real rigid elements and F_π-Henselian valuation rings. *Comm. Algebra* **25** (1997), *no.* 11, 3673–3697. (Giuseppe Paxia) **98h:13029** 13F30

— (*with* Koenigsmann, Jochen) Abelian subgroups of pro-p Galois groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2473–2485. (Ido Efrat) **98h:12004** 12F10 (12J20)

Engler, H. The behavior of the QR-factorization algorithm with column pivoting. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 7–11. 65F10

Englert, F. (*with* Argurio, R.; Houart, L.) Intersection rules for p-branes. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 61–68. (Summary) **98a:81151** 81T30 (83E30)

— (*with* Argurio, R.; Houart, L.; Windey, P.) Opening of branes. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 151–156. (Summary) **98j:81242** 81T30 (83E30)

Engliš, Miroslav (*with* Peetre, Jaak) A Green's function for the annulus. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 313–377. (Steven George Krantz) **98b:35045** 35J40 (35C10, 35J30, 73C02)

— (*with* Peetre, Jaak) On the correspondence principle for the quantized annulus. *Math. Scand.* **78** (1996), *no.* 2, 183–206. (Nicolaas P. Landsman) **98g:58066** 58F06 (32H99, 46E22, 47B38, 81S10)

— A Loewner-type lemma for weighted biharmonic operators. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 343–353. (Summary) **98e:35055** 35J40 (31A30, 35B05)

Englisch, Brigitte Die Artes liberales im frühen Mittelalter (5.–9. Jh.). Das Quadrivium und der Komputus als Indikatoren für Kontinuität und Erneuerung der exakten Wissenschaften zwischen Antike und Mittelalter. [The artes liberales in the early Middle Ages (5th to 9th century). The quadrivium and the computus as indicators for continuity and renewal of the exact sciences between classical Antiquity and the Middle Ages] Dissertation, Ruhr-Universität Bochum, Bochum, 1992. *Sudhoffs Arch.* **1994**, *suppl.* 33, 494 *pp.* (Jens Høyrup) **98a:01006** 01A35

English, B. J. (*with* Rousseau, George) Bounds for certain harmonic sums. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 428–441. (Fuyao Ren) **98j:39002** 39A10 (30A10)

English, Lars (*with* Ahlgren, Scott; Winters, Ron) An amusing representation of $x/\sin x$. *Amer. Math. Monthly* **104** (1997), *no.* 10, 964–966. 26A09

Engquist, Björn (*with* Sjögreen, Björn) Examples of error propagation from discontinuities. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 27–42, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 65M12 (35L60, 65M15, 76L05, 76M20)

— *see also* **Computational wave propagation, 98g:65007**

Engstler, Christian (*with* Kaps, Peter) A comparison of one-step methods for multibody system dynamics in descriptor and state space form. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 4, 457–468. (Summary) **98c:70002** 70–08 (34A09, 65L06, 70E99, 70F25)

— (*with* Lubich, Christian) MUR8: a multirate extension of the eighth-order Dormand-Prince method. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 185–192. (T. E. Simos) **98m:65112** 65L06

— (*with* Lubich, Christian) Multirate extrapolation methods for differential equations with different time scales. (English and German summaries) *Computing* **58** (1997), *no.* 2, 173–185. (Kevin Burrage) **98b:65076** 65L05 (85–08)

Enikeev, I. Kh. Application of the large particle method for computing multiphase flows in domains of complex form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1997**, *no.* 3, 43–46, 71. 76M25 (76T05)

Enikeeva, L. G. (*with* Lokshin, A. A.; Sagomonyan, E. A.) On the factorization of an equation of a nonlinear oscillator. (Russian) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1996**, *no.* 1, 90–92. 34A05 (70K99)

Enikov, Eniko (*with* Stépán, Gábor) Microchaotic motion of digitally controlled machines. (English summary) *J. Vib. Control* **4** (1998), *no.* 4, 427–443. 70Q05 (70K50, 93C62)

Ennes, I. P. (*with* Ramallo, A. V.; Sanchez de Santos, J. M.) On the free field realization of the osp(1|2) current algebra. (English summary) *Phys. Lett. B* **389** (1996), *no.* 3, 485–493. (Stanislav Z. Pakuliak) **98a:81061** 81R10 (17B67, 17B81, 81T40)

— (*with* Ramallo, A. V.; Sanchez de Santos, J. M.) Structure constants for the osp(1|2) current algebra. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 3, 574–618. (Stanislav Z. Pakuliak) **98f:81096** 81R10 (17B68, 81T40, 81T60)

— (*with* Ramallo, A. V.) Fusion rules and singular vectors of the osp(1|2) current algebra. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 671–712. (Zoltán Bajnok) **98i:81082** 81R10 (17B68)

Ennyu, Daiji (*with* Nakazawa, Naohito) Algebraic structure in non-orientable open-closed string field theories. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 247–252. 81T30

Enochs, Edgar E. (*with* Branner, Frank M.) Homology with models and Tor. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 123–129. (Summary) **98c:18008** 18G15 (18A40, 18B20, 18G05)

— (*with* Jenda, Overtoun M. G.; Xu, Jinzhong) Lifting group representations to maximal Cohen-Macaulay representations. (English summary) *J. Algebra* **188** (1997), *no.* 1, 58–68. (Yasuo Iwanaga) **98c:16004** 16E10 (16G10)

— (*with* Martínez Hernández, Juan; del Valle, Alberto) Coherent rings of finite weak global dimension. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1611–1620. (J. L. Gómez Pardo) **98g:16001** 16D40 (16E70)

Enoki, Ichiro A bimeromorphic characterization of compact complex parallelizable manifolds. *Geometric complex analysis* (*Hayama*, 1995), 195–198, *World Sci. Publishing, River Edge, NJ*, 1996. (G. K. Sankaran) **98c:32037** 32J18

Énol'skiĭ, V. Z. (*with* Kondrat'ev, A. Yu.) Jacobi polynomials and Lax representation for completely integrable dynamical systems. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1198–1201 (1996). (Alexander Burov) **98b:58076** 58F07 (33C45)

— (*with* Bukhshtaber, V. M.; Leĭkin, D. V.) Hyperelliptic Kleinian functions and applications. (English summary) *Solitons, geometry, and topology: on the crossroad*, 1–33, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Gabino González Diez) **98b:14029** 14H42 (14H40, 33E05, 35Q53, 58F07)

Enomoto, Hikoe (*with* Nakamigawa, Tomoki; Ota, Katsuhiro) On the pagenumber of complete bipartite graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 111–120. (Douglas B. West) **98h:05098** 05C35 (05C15, 05C50)

— (*with* Matsunaga, Shinsuke) Graph decompositions without isolated vertices. III. (English summary) *J. Graph Theory* **24** (1997), *no.* 2, 155–164. (Dalibor Fronček) **98a:05116** 05C70

— (*with* Matsunaga, Shinsuke) Graph decompositions without isolated vertices. II. *J. Math. Soc. Japan* **49** (1997), *no.* 1, 161–180. (Dalibor Fronček) **98a:05115** 05C70

Enomoto, Kazuyuki Plane curves with asymptotic lines. *Kyushu J. Math.* **49** (1995), *no.* 2, 317–319. (Ronaldo Alves Garcia) **98d:53005** 53A04

— Closed curves in E^2 and S^2 whose total squared curvatures are almost minimal. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 193–201. (Joel L. Weiner) **98b:53002** 53A04

Enomoto, Masatoshi Noncommutative multivariate analysis and uncertainty relations. (English summary) *Bull. Koshien Univ. B No.* 24 (1996), 47–50. (Kalyanapuram R. Parthasarathy) **98c:81117** 81S99 (46L50)

Enright, W. H. (*with* Hu, Min) Continuous Runge-Kutta methods for neutral Volterra integro-differential equations with delay. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 175–190. (Jose Cuminato) **98g:65126** 65R20 (34K40, 45L05, 65L06)

— (*with* Hu, Min) Improving performance when solving high-order and mixed-order boundary value problems in ODEs. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 107–116 (1998). 65L10

— (*with* Hayashi, Hiroshi[2]) A delay differential equation solver based on a continuous Runge-Kutta method with defect control. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 349–364 (1998). 65L06

Enriques, Federigo *see* **Gray, Jeremy J.**, **98a:01018** *and* **Castelnuovo, Emma**

Enriquez, Benjamin (*with* Feĭgin, B. L.) Integrals of motion of classical lattice sine-Gordon system. (English summary) *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 127–150, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Aleksandr Panov) **98i:17027** 17B65 (35Q58, 58F07)

— (*with* Frenkel, Edward) Equivalence of two approaches to integrable hierarchies of KdV type. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 211–230. (Alexander V. Shapovalov) **98i:58114** 58F07 (35Q53)

Ensor, A. Algebraic coalitions. (English summary) *Algebra Universalis* **38** (1997), *no.* 1, 1–14. (V. A. Artamonov) **98m:08014** 08B10 (08C05)

Ensor, Katherine Bennett (*with* Glynn, Peter W.) Stochastic optimization via grid search. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 89–100, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:60039** 60F05 (60E07, 65K99, 90C15, 93E10, 93E30)

— (*with* McGee, Monnie) Tests for harmonic components in the spectra of categorical time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 309–323. 62M15

Entacher, Karl Quasi-Monte Carlo methods for numerical integration of multivariate Haar series. (English summary) *BIT* **37** (1997), *no.* 4, 846–861. (Summary) **98m:65011** 65C05 (42C10)

— (*with* Uhl, A.; Wegenkittl, S.) Linear congruential generators for parallel Monte Carlo: the leap-frog case. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 1–15.

65C10 (65C05)

van Enter, Aernout C. D. On the set of pure states for some systems with non-periodic long-range order. (English summary) The nature of crystalline states (Kudowa-Zdrój, 1995). *Phys. A* **232** (1996), *no.* 3-4, 600–607. (Matthias Löwe) **98d:82029** 82B44 (60K35, 82D30)

— (*with* Fernández, Roberto; Schonmann, Roberto H.; Shlosman, S. B.) Complete analyticity of the 2D Potts model above the critical temperature. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 373–393. (Aernout C. D. van Enter) **98k:82033** 82B20 (60K35, 82B26)

— (*with* Zegarlinski, Bogusław) Non-periodic long-range order for one-dimensional pair interactions. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 501–505. (L. A. Turski) **98h:82004** 82B05

Entin, Rami (*with* Diaconescu, Duiliu-Emanuel) Nonrenormalization theorem for the $d = 1$, $\mathcal{N} = 8$ vector multiplet. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8045–8052. (Summary) **98k:83082** 83E30 (81T30, 83E50)

Enting, Ian G. (*with* Jensen, Iwan; Guttmann, Anthony J.) The Potts model on Kagomé and honeycomb lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8067–8083. (Summary) **98m:82014** 82B20 (82B27)

Entorf, Horst Random walks with drifts: nonsense regression and spurious fixed-effect estimation. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 287–296. (Summary) **98k:62187** 62P20 (62M05)

Entov, V. M. (*with* Kestenboim, Kh. S.; Pokrovskiĭ, S. V.; Shugai, G. A.) One-dimensional dynamics of jet flows of elastic fluids. *Fluid Dynam.* **32** (1997), *no.* 6, 761–771 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 3–15 (*Russian. Russian summary*). 76A10 (76D25)

Entringer, R. C. (*with* Barefoot, C. A.; Székely, László A.) Extremal values for ratios of distances in trees. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 37–56. (J. W. Moon) **98i:05047** 05C05 (05C12, 05C35)

— Distance in graphs: trees. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 65–84. (A. Meir) **98f:05056** 05C12 (05C05)

Eom, Tae-Dok (*with* Sugisaka, Masanori; Lee, Ju-Jang) New skill learning paradigm using various kinds of neurons. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 9–22. 68T05

Ephrati, Eithan (*with* Rosenschein, Jeffrey S.) A heuristic technique for multi-agent planning. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 13–67. (Guy Jumarie) **98e:68224** 68T20 (90A05, 90B35, 90D40)

Ephremides, Anthony (*with* Bhattacharya, Partha P.; Tassiulas, Leandros) Optimal scheduling with deadline constraints in tree networks. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1703–1705. 90B12 (90B35)

Epkenhans, Martin (*with* Drees, Christof; Krüskemper, Martin) On the computation of the trace form of some Galois extensions. (English summary) *J. Algebra* **192** (1997), *no.* 1, 209–234. (Chr. U. Jensen) **98c:12004** 12F10

Epp, Richard J. (*with* Kunstatter, Gabor) Dirac vs. reduced quantization of Poincaré invariant gauge theories. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 307–311, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81197** 81T13 (81T20)

Epperly, Thomas G. W. (*with* Swaney, Ross E.) Branch and bound for global NLP: new bounding LP. *Global optimization in engineering design*, 1–35, *Nonconvex Optim. Appl.*, 9, *Kluwer Acad. Publ., Dordrecht*, 1996. (Thomas F. Coleman) **98c:90132** 90C30 (65K05)

— (*with* Pistikopoulos, Efstratios N.) A reduced space branch and bound algorithm for global optimization. (English summary) *J. Global Optim.* **11** (1997), *no.* 3, 287–311. (Summary) **98e:90152** 90C30 (65K05)

Epperson, James F. (*with* Ames, Karen A.) A kernel-based method for the approximate solution of backward parabolic problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1357–1390. (Jacques Rappaz) **98g:65079** 65M12 (35A35, 35K99, 45L05)

Epperson, Jay Hermite and Laguerre wave packet expansions. (English summary) *Studia Math.* **126** (1997), *no.* 3, 199–217. (Sundaram Thangavelu) **98k:42040** 42C15

Eppler, K. (*with* Unger, A.) Boundary control of semilinear elliptic equations—existence of optimal solutions. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 249–259. (Uldis Ē. Raitums) **98h:49005** 49J20

Eppler, R. Induced drag and winglets. (English summary) *Aerosp. Sci. Technol.* **1** (1997), *no.* 1, 3–15. (Adrian Carabineanu) **98e:76012** 76B05 (76G25)

Epps, T. W. Stock prices as branching processes. (English summary) *Comm. Statist. Stochastic Models* **12** (1996), *no.* 4, 529–558. (Summary) **98a:90024** 90A12 (60J85)

Eppstein, David (*with* Bern, Marshall; Guibas, Leonidas J.; Hershberger, J. E.; Suri, Subhash; Wolter, Jan) The centroid of points with approximate weights. (English summary) *Algorithms—ESA '95* (*Corfu*), 460–472, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Fernández-Baca, David; Slutzki, Giora) Using sparsification for parametric minimum spanning tree problems. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 149–160, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 05C85 (05C05, 68Q25, 68R10)

— (*with* Fernández-Baca, David; Slutzki, Giora) Using sparsification for parametric minimum spanning tree problems. (English summary) The 5th Scandinavian Workshop on Algorithm Theory (SWAT '96) (Reykjavík, 1996). *Nordic J. Comput.* **3** (1996), *no.* 4, 352–366. (Peter B. Gibbons) **98a:05133** 05C85 (05C05, 68Q25, 68R10)

— Faster geometric k-point MST approximation. (English summary) *Comput. Geom.* **8** (1997), *no.* 5, 231–240. (Summary) **98d:68199** 68U05 (68Q25)

— (*with* Paterson, M. S.; Yao, Foong Frances) On nearest-neighbor graphs. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 263–282. (C. C. Rousseau) **98d:05121** 05C75 (05C80, 68R10)

— Dynamic connectivity in digital images. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 121–126. (Summary) **98a:68188** 68U10 (68Q25, 68T20)

— (*with* Galil, Zvi; Italiano, Giuseppe F.; Nissenzweig, Amnon) Sparsification—a technique for speeding up dynamic graph algorithms. (English summary) *J. ACM* **44** (1997), *no.* 5, 669–696. (Peter B. Gibbons) **98k:68039** 68P05 (68R10)

— Minimum range balanced cuts via dynamic subset sums. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 375–385. (Summary) **98k:05129** 05C85 (68R10)

— (*with* Hirschberg, Daniel S.) Choosing subsets with maximum weighted average. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 177–193. (Summary) **98a:68095** 68Q25

Epstein, Charles L. (*with* Khenkin, G. M.) Extension of CR-structures for 3-dimensional pseudoconcave manifolds. (English summary) *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 51–67, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (John M. Lee) **98h:32012** 32C16 (32F25, 32G07)

— *see also* **Melrose, Richard B., 98k:58218**

Epstein, David B. A. (*with* Iano-Fletcher, Anthony R.; Zwick, Uri) Growth functions and automatic groups. (English summary) *Experiment. Math.* **5** (1996), *no.* 4, 297–315. (Susan Hermiller) **98h:20056** 20F32

— (*with* Lieb, Elliott H.; Taylor, Jean E.; Almgren, Robert; Kusner, Robert B.; Morgan, Frank; Sullivan, John M.; Marden, Albert) In memoriam Frederick J. Almgren Jr., 1933–1997. *Experiment. Math.* **6** (1997), *no.* 1, 1–12. 01A70

— (*with* Fujiwara, Koji) The second bounded cohomology of word-hyperbolic groups. *Topology* **36** (1997), *no.* 6, 1275–1289. (Thomas Delzant) **98k:20088** 20J05 (20F32)

— *see also* **Symposium: Foundations of Computer Science, 98c:68023**

Epstein, Larry G. (*with* Wang, Tan) "Beliefs about beliefs" without probabilities. (English summary) *Econometrica* **64** (1996), *no.* 6, 1343–1373. (Hans Peters) **98a:90014** 90A05 (90D10, 90D35, 90D40)

— Preference, rationalizability and equilibrium. (English summary) *J. Econom. Theory* **73** (1997), *no.* 1, 1–29. (Shigeo Muto) **98e:90246** 90D35 (90A05)

Epstein, Leah (*with* Azar, Yossi) On two-dimensional packing. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 321–332, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68Q25 (90C27)

— (*with* Azar, Yossi) On two-dimensional packing. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 290–310. (Ulrich Faigle) **98k:52041** 52C15 (90C27)

Epstein, Marcelo (*with* de León, Manuel) Uniformity and homogeneity of elastic rods, shells and Cosserat three-dimensional bodies. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 4, 267–280. (From the introduction) **98b:73005** 73B99 (53C80, 73K99)

— (*with* de León, Manuel) Homogeneity conditions for generalized Cosserat media. (English summary) *J. Elasticity* **43** (1996), *no.* 3, 189–201. (Cesare Davini) **98a:73006** 73B27 (73B10, 73B50)

Epstein, Susan L. (*with* Gelfand, Jack; Lock, Esther) Learning game-specific spatially-oriented heuristics. (English summary) *Constraints* **3** (1998), *no.* 2-3, 239–253. 68T20 (68T05)

Epstein-Feldman, Raisa (*with* Iyer, Srikanth K.) A representation for functionals of superprocesses via particle picture. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 173–186. (Sylvie Roelly) **98d:60149** 60J55 (60F05, 60F17, 60G57, 60J80)

Epureanu, B. I. (*with* Trickey, S. T.; Dowell, Earl H.) Stabilization of unstable limit cycles in systems with limited controllability: expanding the basin of convergence of OGY-type controllers. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 2, 191–205. 34C05 (34D99, 34H05, 93B05, 93D05)

Er, Guo-Kang Crossing rate analysis with a non-Gaussian closure method for nonlinear stochastic systems. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 3, 279–291. 70L05

— Multi-Gaussian closure method for randomly excited non-linear systems. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 201–214. (Summary) **98d:70026** 70L05

Er, Lianje (*with* Sun, Fuchun; Sun, Zengqi) Sliding mode control for discrete-time systems and its application to the control of a servo-control system. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 466–472. 93B12 (93C95)

Era, Hiroshi (*with* Tsuchiya, Morimasa) Remarks on relations between upper bound graphs and double bound graphs. (English summary) *Proc. School Sci. Tokai Univ.* **32** (1997), 1–6. (Summary) **98c:05137** 05C75

— (*with* Tsuchiya, Morimasa) On upper bound graphs whose complements are also upper bound graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 103–109. (Summary) **98g:05121** 05C75

Erar, A. (*with* Candan, M.) Robust estimators in linear regression analysis. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 267–283. 62J05 (62F35)

Induráin Eraso, Esteban *see* **Induráin Eraso, Esteban**

Erbe, Lynn (*with* Sree Hari Rao, V.) On the generalized Emden-Fowler and Thomas-Fermi differential equations. (English summary) *Bull. Allahabad Math. Soc.* **5** (1990), 21–78 (1991). (From the introduction) **98b:34021** 34A34 (34–02, 34C10, 34D05)

— (*with* Tang, Moxun) Structure of positive radial solutions of semilinear elliptic equations. (English summary) *J. Differential Equations* **133** (1997), *no.* 2, 179–202. (Alexandra Kurepa) **98d:35072** 35J65 (34A12, 35B05)

— (*with* Tang, Moxun) Uniqueness theorems for positive radial solutions of quasilinear elliptic equations in a ball. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 351–379. (Summary) **98k:35069** 35J65 (35B05)

Erber, Thomas (*with* Hockney, G. M.) Complex systems: equilibrium configurations of N equal charges on a sphere ($2 \le N \le 112$). *Advances in chemical physics, Vol. XCVIII*, 495–594, *Adv. Chem. Phys., XCVIII, Wiley, New York*, 1997. (From the text) **98e:78002** 78A30

Erciyeş, K. (*with* Bakkaloğlu, B.; Koç, Çetin Kaya) A parallelization of Parlett's algorithm for functions of triangular matrices. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 61–69. (Summary) **98c:65208** 65Y05 (65F30)

Ercolani, Nicholas (*with* Caflisch, Russel E.; Steele, Gregory) Geometry of singularities for the steady Boussinesq equations. (English summary) *Selecta Math. (N.S.)* **2** (1996), *no.* 3, 369–414. (Michael Siegel) **98f:35121** 35Q35 (35A20, 35B99, 65M99, 76C05, 76V05)

— Singularities and defects in patterns far from threshold. *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 137–160, *Birkhäuser Boston, Boston, MA*, 1997. (Stanislaus Maier-Paape) **98i:58079** 58E50 (35Q99)

— (*with* Caflisch, Russel E.; Steele, Gregory) Generic singularities for the steady Boussinesq equations. (English summary) *Partial differential equations and their applications* (*Toronto, ON*, 1995), 17–23, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:35132** 35Q35 (76C05)

Ercolessi, E. (*with* Balachandran, A. P.; Bimonte, G.; Teotonio-Sobrinho, Paulo) Finite approximations to quantum physics: quantum points and their bundles. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 1–17,

World Sci. Publishing, River Edge, NJ, 1994. (Francois Vanderseypen) **98j:81196** 81S99 (58B30)

— (*with* Bimonte, G.; Landi, Giovanni; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 318–328. (Francois Vanderseypen) **98b:58015** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Bimonte, G.; Landi, Giovanni; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Noncommutative lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 329–348. (Francois Vanderseypen) **98b:58016** 58B30 (46L99, 54H12, 81T25, 81T27)

Ercoli Finzi, A. (*with* Di Meglio, A.) Minimum time control of flexible spacecraft by Hamilton's principle. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 6, 555–565. 49N55 (70Q05, 73K50)

Erdélyi, A. *see* **Kölbig, K. S.**

Erdélyi, Tamás (*with* Borwein, P. B.) On the zeros of polynomials with restricted coefficients. *Illinois J. Math.* **41** (1997), *no.* 4, 667–675. (Raphaële Supper) **98g:30008** 30C15

— (*with* Borwein, P. B.) Markov- and Bernstein-type inequalities for polynomials with restricted coefficients. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 309–323. (M. Lachance) **98m:41021** 41A17

— (*with* Nevai, Paul) Lower bounds for derivatives of polynomials and Remez type inequalities. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4953–4972. (A. K. Agarwal) **98c:33007** 33C45 (26C05, 42C05)

— *see also* **Lorentz, George G.**, **98i:01037**

Erdélyi-Szabó, Miklós Decidability of Scott's model as an ordered **Q**-vectorspace. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 917–924. (Wim Ruitenburg) **98m:03014** 03B25 (03F55)

— Decidability in the constructive theory of reals as an ordered **Q**-vectorspace. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 343–354. (Douglas S. Bridges) **98j:03005** 03B25 (03F55, 03F65)

Erdem, Sadettin Harmonic maps of Lorentz surfaces, quadratic differentials and paraholomorphicity. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 19–32. (Luis M. Hervella) **98h:58052** 58E20 (53C50)

Érdi, Bálint The Trojan problem. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 149–164. (*see* **98g:70003**) 70F15

Erdmann, Bodo (*with* Bornemann, Folkmar A.; Kornhuber, Ralf) A posteriori error estimates for elliptic problems in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 3, 1188–1204. (Rolf Rannacher) **98a:65161** 65N30 (65N50)

Erdmann, Grant (*with* Göktaş, Ünal; Hereman, Willy) Computation of conserved densities for systems of nonlinear differential-difference equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 30–38. (Summary) **98h:35205** 35Q53 (35Q55)

Erdmann, Karin (*with* Michler, Gerhard O.) Blocks for symmetric groups and their covering groups and quadratic forms. *Beiträge Algebra Geom.* **37** (1996), *no.* 1, 103–118. (Jorn B. Olsson) **98a:20016** 20C30 (20C20)

grosse-Erdmann, Karl-Goswin *see* **Grosse-Erdmann, Karl-Goswin**

Erdmenger, Johanna Conformally covariant differential operators: properties and applications. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2061–2084. (Guido Cognola) **98i:58255** 58G40 (81T20, 83C47)

— (*with* Osborn, Hugh) Conserved currents and the energy-momentum tensor in conformally invariant theories for general dimensions. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 431–474. (R. Delbourgo) **98f:81312** 81T50 (81T10, 81T20)

Erdoğan, Eren (*with* Büyükaksoy, A.; Birbir, F.; Uzgören, G.) Plane wave diffraction by a rectangular groove in a reactive surface. (English summary) *Direct and inverse electromagnetic scattering (Gebze, 1995)*, 101–120, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (Summary) **98f:78019** 78A45

— (*with* Idemen, M.) High-frequency surface currents induced on a spherical reflector by the edge-diffraction of obliquely incident waves. *Direct and inverse electromagnetic scattering (Gebze, 1995)*, 121–141, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (I. Kay) **98h:78013** 78A45 (45E10)

— The diffraction of a whispering-gallery mode by a spherical soft-hard cap. (English summary) *Internat. J. Engrg. Sci.* **34** (1996), *no.* 11, 1247–1258. (Summary) **98i:76080** 76Q05

Erdoğan, M. E. Unsteady flow of a viscous fluid over a plane wall. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 733–740. (Summary) **98j:76022** 76D05

Erdoğan, Mehmet (*with* Turhan, Essin) Some curvature identities for almost Kaehler manifold M^{2n+2}. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 311–316. 53C15

Erdogmus, M. Hakan Architecture-driven verification of concurrent systems. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 380–413. 68Q60

Erdos, J. A. Basis theory and operator algebras. (English summary) *Operator algebras and applications (Samos, 1996)*, 209–223, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Cecelia Laurie) **98j:47097** 47D25 (46B15, 46B28)

Erdős, László Dia- and paramagnetism for nonhomogeneous magnetic fields. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1289–1317. (Mihai Pascu) **98b:81035** 81Q10 (47N50, 81V10)

Erdős, Paul[1] (*with* Joó, Istvan; Schnitzer, Franz J.) On Pisot numbers. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 95–99 (1997). (Yann Bugeaud) **98d:11127** 11R06 (11B83)

— (*with* Arkin, Joseph; Arney, David C.) Two theorems of Arkin-Arney-Erdos. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **119** (1996), 151–159. (*see* **97h:05005**) 11A07

— (*with* Tuza, Zsolt; Valtr, Pavel) Ramsey-remainder. (English summary) *European J. Combin.* **17** (1996), *no.* 6, 519–532. (Summary) **98d:05146** 05D10

— (*with* Hamburger, Peter; Pippert, Raymond E.; Weakley, William D.) Hypercube subgraphs with minimal detours. (English summary) *J. Graph Theory* **23** (1996), *no.* 2, 119–128. (Summary) **98g:05052** 05C12 (05C35)

— (*with* Totik, Vilmos) On the size of products of distances from prescribed points. *Math. Proc. Cambridge Philos. Soc.* **120** (1996), *no.* 3, 403–409. (W. Moser) **98c:52021** 52C10 (42A05)

— Some unsolved problems. *Combinatorics, geometry and probability (Cambridge, 1993)*, 1–10, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 00A07 (05–02, 11–02, 51–02)

— (*with* Faudree, Ralph J.; Rousseau, Cecil C.; Schelp, R. H.) Ramsey size linear graphs [MR 95c:05087]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 241–251, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C55 (05C35)

— (*with* Hajnal, András; Simonovits, M.; Sós, V. T.; Szemerédi, Endre) Turán-Ramsey theorems and K_p-independence numbers [MR 96b:05078]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 253–281, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C35 (05C55)

— (*with* Makai, Endre, Jr.; Pach, János) Nearly equal distances in the plane [MR 95i:52018]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 283–290, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 52C10

— (*with* Ordman, Edward T.; Zalcstein, Yechezkel) Clique partitions of chordal graphs [MR 95g:05080]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 291–297, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70

— Some of my favorite problems and results. *The mathematics of Paul Erdős, I*, 47–67, *Algorithms Combin., 13, Springer, Berlin*, 1997. (Gérald Tenenbaum) **98e:11002** 11–02 (01A60, 11–03)

— (*with* Rosenfeld, Moshe) The factor-difference set of integers. *Acta Arith.* **79** (1997), *no.* 4, 353–359. (Sergio Console) **98e:11025** 11B75 (11A51)

— Some old and new problems in various branches of combinatorics. Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 227–231. (Donald W. Vanderjagt) **98g:05001** 05–XX

— (*with* Fishburn, Peter C.) Distinct distances in finite planar sets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 97–132. (W. Moser) **98j:52031** 52C10

— (*with* Gyárfás, András; Kohayakawa, Yoshiharu) The size of the largest bipartite subgraphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 267–271. (Summary) **98j:05084** 05C35

— (*with* Sarkozy, Gabor N.) On cycles in the coprime graph of integers. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 8, *approx.* 11 *pp.* (*electronic*). (Gennady Bachman) **98d:11022** 11B75 (05C38)

— (*with* Jackson, Steve; Mauldin, R. Daniel) On infinite partitions of lines and space. (English summary) *Fund. Math.* **152** (1997), *no.* 1, 75–95. (W. W. Comfort) **98b:03066** 03E05 (03E50, 05A18)

— (*with* Chen, Guantao; Gyárfás, András; Schelp, R. H.) A class of edge critical 4-chromatic graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 139–146. (Summary) **98c:05057** 05C15

— (*with* Deuber, Walter A.; Gunderson, D. S.; Kostochka, A. V.; Meyer, Anja G.) Intersection statements for systems of sets. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 118–132. (H. L. Abbott) **98f:05144** 05D05

— Some of my favourite unsolved problems. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 527–537. 00A07

— (*with* Calkin, Neil J.; Tovey, Craig A.) New Ramsey bounds from cyclic graphs of prime order. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 381–387. (Stanisław P. Radziszowski) **98e:05078** 05C55

— (*with* Makai, Endre, Jr.; Vincze, István) On the best approximating ellipse containing a plane convex body. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 111–116. (Martin Henk) **98d:52007** 52A27 (52A10)

— (*with* Révész, Pál) On the radius of the largest ball left empty by a Wiener process. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 117–125. (Jean Bertoin) **98g:60146** 60J65 (60G17)

— (*with* Alavi, Yousef; Lam, Peter Che Bor; Lick, Don R.; Liu, Jiuqiang; Wang, Jian Fang) Upper bounds on linear vertex-arboricity of complementary graphs. (English summary) *Util. Math.* **52** (1997), 43–48. 05C05

— *see also* **Bollobás, Béla**, **98b:01028**; **Stone, A. H.**, **98b:01029**; **Combinatorics, geometry and probability**, **98d:00027**; **Chung, Fan R. K.**, **98e:05027**; **Pach, János**, **98f:01080**; **de Castro Korgi, Rodrigo**, **98h:01041**; **Nešetřil, Jaroslav**, **98k:05093**; **Bubai, László et al.**, **98m:01025**; **98m:01026**; **Soifer, Alexander**; **Bencze, Mihály**; **Sárközy, András**; **Soifer, Alexander**; **Ádám, András et al.**; **Soifer, Alexander**; **Lipschütz-Yevick, Miriam**; **Soifer, Alexander**; **Dedicated to the memory of Paul Erdős**; **Ruzsa, Imre Z.**; **Łuczak, Tomasz**; **Bencze, Mihály**; **Dánè, Károly** *and* **Soifer, Alexander**, (**98h:05002**)

Erdős, Péter L. (*with* Steel, Michael A.; Székely, László A.; Warnow, Tandy J.) Constructing big trees from short sequences. (English summary) *Automata, languages and programming (Bologna, 1997)*, 827–837, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q20 (92D15)

— (*with* Seress, Ákos; Székely, László A.) On intersecting chains in Boolean algebras [MR 96a:05140]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 299–304, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05D05 (05A05, 06A07)

— (*with* Ahlswede, Rudolf; Alon, Noga; Ruszinkó, Miklós; Székely, László A.) Intersecting systems. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 127–137. (Miklós Bóna) **98c:05154** 05D05

— (*with* Steel, Michael A.; Székely, László A.; Warnow, Tandy J.) Local quartet splits of a binary tree infer all quartet splits via one dyadic inference rule. (English summary) Special issue on parallel and distributed computing (Bratislava, 1996). *Comput. Artificial Intelligence* **16** (1997), *no.* 2, 217–227. (Summary) **98c:68163** 68R10 (05C05, 92B10)

Eremeev, V. A. (*with* Zubov, L. M.) Equations of a viscoelastic micropolar fluid. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 472–475; *translation in Phys. Dokl.* **41** (1996), *no.* 12, 598–601. 76A10 (73B99, 73F15)

Eremeev, V. N. (*with* Kolesnikov, P. M.; Dolinkina, O. P.; Kolesnikov, P. P.) Generalized hyperbolic equations for the transport of contaminants in the ocean and their boundary conditions. Direct and inverse problems. (Russian. English summary) *Dopov. Nats.*

Akad. Nauk Ukraïni **1996**, *no.* 11, 123–128 (1997). (Summary) **98b:86004** 86A05 (35L99, 35Q99, 45K05)

Eremenko, A. Ė. An elementary remark on the set of entire solutions of systems of ordinary differential equations. (Russian) *Functional analysis and applied mathematics* (*Russian*), 31–32, 212, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 34A25 (34A34)

— An analogue of the defect relation for the uniform metric. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 83–97. (Summary) **98f:30030** 30D30 (30D35)

— *see also* **Complex analysis, 98d:30002**

Eremenko, V. A. On periodic solutions of second-order linear degenerate ordinary differential equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1137–1142; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1279–1285 (1998). (Michal Fečkan) **98j:34070** 34C25

Erĕmin, A. Yu. (*with* Goreinov, S. A.; Tyrtyshnikov, E. E.) Matrix-free iterative solution strategies for large dense linear systems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 4, 273–294. (Summary) **98c:65047** 65F10

Eremin, I. I. Duality for improper problems of Pareto and lexicographic linear optimization. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 322–336, 377, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Phan Quốc Khánh) **98k:90099** 90C29 (90C05)

— Duality in improper programming. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 125–137, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 846–855 (1997). (E. G. Gol′shteĭn) **98e:90153** 90C30 (49N15)

Eremin, Yu. A. Dissipative matrices in functional representations for wave fields. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1581–1583, 1607; *translation in Differential Equations* **31** (1995), *no.* 9, 1540–1543 (1996). (Summary) **98a:76077** 76Q05 (76M25, 78A45)

Erez, Boas On the Hermitian structure of Galois modules in number fields and Adams operations. *Séminaire de Théorie des Nombres, Paris*, 1989–90, 53–69, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Nigel Byott) **98h:11144** 11R33 (11E70, 19G38)

— (*with* Chinburg, Ted; Pappas, Georgios; Taylor, Martin J.) On the ε-constants of a variety over a finite field. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 503–522. (Nigel Byott) **98e:14023** 14G10 (11G20)

— (*with* Chinburg, Ted; Pappas, Georgios; Taylor, Martin J.) ε-constants and the Galois structure of de Rham cohomology. *Ann. of Math.* (2) **146** (1997), *no.* 2, 411–473. (Nigel Byott) **98j:14025** 14F40 (11G09, 11R33)

— (*with* Chinburg, Ted; Pappas, Georgios; Taylor, Martin J.) Riemann-Roch type theorems for arithmetic schemes with a finite group action. *J. Reine Angew. Math.* **489** (1997), 151–187. (Nigel Byott) **98e:14006** 14C40 (11R33, 14C35, 14G40, 14L30, 19L10)

Ergenç, T. (*with* Karasözen, B.) Runge-Kutta collocation methods for rigid body Lie-Poisson equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 63–71. (Summary) **98b:70006** 70E15 (65M60, 70–08)

Ergincan, Fahir Ö. (*with* Bermond, Jean-Claude; Dawes, Robin W.) De Bruijn and Kautz bus networks. (English summary) *Networks* **30** (1997), *no.* 3, 205–218. (Summary) **98e:05102** 05C90 (68M10)

Ergün, Funda (*with* Codenotti, Bruno; Gemmell, Peter; Kumar, S. Ravi) Checking properties of polynomials (extended abstract). (English summary) *Automata, languages and programming* (*Bologna*, 1997), 203–213, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60 (68Q40)

Ergün, G. (*with* Inal, C.) An investigation of Kalman filter under outliers. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 171–179. 93E11

Ergün, Rahmiye (*with* Aliev, Fikret Akhmadalioglu) Decomposition of factorization problem of a polynomial matrix with a very small norm. (English and Turkish summaries) *İstanbul Tek. Üniv. Bül.* **48** (1995), *no.* 3-4, 365–383. (Summary) **98d:65053** 65F30

Erhardsson, Torkel On the number of high excursions of linear growth processes. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 31–53. (M. P. Quine) **98d:60096** 60G70 (60D05, 60F05, 60G55)

Ericksen, J. L. Equilibrium theory for X-ray observations of crystals. *Arch. Rational Mech. Anal.* **139** (1997), *no.* 2, 181–200. (Victor A. L′vov) **98k:73021** 73C50 (73–03, 82D25)

— ★ Introduction to the thermodynamics of solids. (English summary) Revised edition. Applied Mathematical Sciences, 131. *Springer-Verlag, New York*, 1998. xii+189 *pp. ISBN* 0-387-98364-3 (From the preface) **98k:73009** 73B30 (80A99)

Erickson, J. (*with* Seidel, Raimund) Erratum to: "Better lower bounds on detecting affine and spherical degeneracies" [Discrete Comput. Geom. **13** (1995), no. 1, 41–57; MR 95j:52029]. *Discrete Comput. Geom.* **18** (1997), *no.* 2, 239–240. (From the text) **98j:52020** 52B55 (68U05)

Ericson, Thomas (*with* Simonis, Juriaan; Tarnanen, Hannu; Zinov′ev, V. A.) F-partitions of cyclic groups. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 387–393. (Willem H. Haemers) **98f:20040** 20K01 (05E30)

Ericsson, Stefan Exact descriptions of some K and E functionals. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 75–87. (Summary) **98c:46160** 46M35 (46E30)

Eriguchi, Yoshiharu (*with* Yoshida, Shijun) New static axisymmetric and nonvacuum solutions in general relativity: equilibrium solutions of boson stars. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 1994–2001. (Summary) **98b:83026** 83C20 (83F05)

— (*with* Yoshida, Shijun) Rotating boson stars in general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 762–771. (Giulio Magli) **98d:83044** 83C55 (83–08)

Eriksen, P. Svante Tests in covariance selection models. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 275–284. (Nariaki Sugiura) **98g:62111** 62H15 (62H10, 68R10)

Eriksson, Gerd (*with* Eriksson, Henrik; Eriksson, Kimmo) Moving a food trolley around a corner. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 193–203. (From the introduction) **98k:68164** 68U05

Eriksson, H. G. (*with* Wahlberg, C.; Jiang, Z. X.) Nonlinear dynamics of an elliptic magnetic stagnation line. (English summary) *Phys. Plasmas* **4** (1997), *no.* 7, 2397–2405. (Summary) **98d:76066** 76E25 (76E30, 76W05)

Eriksson, Henrik (*with* Eriksson, Gerd; Eriksson, Kimmo) Moving a food trolley around a corner. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 193–203. (From the introduction) **98k:68164** 68U05

Eriksson, Kimmo (*with* Linusson, Svante) Combinatorics of Fulton's essential set. *Duke Math. J.* **85** (1996), *no.* 1, 61–76. (Witold Kraśkiewicz) **98b:05105** 05E15

— Autocorrelation and the enumeration of strings avoiding a fixed string. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 45–48. (Bernard Harris) **98m:05005** 05A15

— (*with* Eriksson, Gerd; Eriksson, Henrik) Moving a food trolley around a corner. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 193–203. (From the introduction) **98k:68164** 68U05

Eriksson-Bique, Sirkka-Liisa Multiply hyperharmonic functions. (English summary) *Potential Anal.* **6** (1997), *no.* 2, 149–162. (J. Lukeš) **98f:31020** 31D05

Erjaee, G. H. Numerical simulation of a class of integro-partial differential equations using a transformation technique. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 2, 19–41. 65R20 (65M06)

Erkanli, Alaattin Boundary-mode approximations for posterior expectations. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 217–239. (Summary) **98d:62022** 62E17 (62E20, 62F15)

— (*with* Mazzuchi, Thomas A.; Soyer, Refik) Bayesian computations for a class of reliability growth models. (English summary) *Technometrics* **40** (1998), *no.* 1, 14–23. 62N05 (62F15)

Erkel-Rousse, Hélène Endogenous differentiation strategies, comparative advantage and the volume of trade. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 121–149. (*see* **98g:90010**) 90A60

Erlebach, Thomas (*with* Kaklamanis, Christos; Persiano, Pino; Jansen, Klaus) Constrained bipartite edge coloring with applications to wavelength routing. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 493–504, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (68M10, 90B12)

— (*with* Rossmanith, Peter; Stadtherr, Hans; Steger, Angelika; Zeugmann, Thomas) Learning one-variable pattern languages very efficiently. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 47–57. (Summary) **98m:68227** 68T05

Erler, Jens Asymmetric orbifolds and higher level models. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 3, 597–626. (Fermin Aldabe) **98a:81165** 81T30

Erlich, Joshua (*with* Freedman, Daniel Z.) Conformal symmetry and the chiral anomaly. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6522–6537. (Summary) **98d:81108** 81T50 (81T60)

— (*with* Csáki, Csaba; Freedman, Daniel Z.; Skiba, Witold) $N = 1$ supersymmetric product group theories in the Coulomb phase. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5209–5217. (Summary) **98g:81203** 81T60 (81T13)

Erlichson, Herman Evidence that Newton used the calculus to discover some of the propositions in his *Principia*. *Centaurus* **39** (1997), *no.* 3, 253–266. (Niccolò Guicciardini) **98e:01011** 01A45

— Hooke's September 1685 ellipse vertices construction and Newton's instantaneous impulse construction. (English, French and German summaries) *Historia Math.* **24** (1997), *no.* 2, 167–184. (Ivo Schneider) **98i:01010** 01A45 (01A50, 70–03)

Erlijman, Juliana New subfactors from braid group representations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 185–211. (Marie Choda) **98k:46100** 46L37 (20F36)

Ermakov, A. *see* **Ermakov, Alexei Borisovich**

Ermakov, A. I. Best Hausdorff approximations by algebraic polynomials, and porosity. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 5, 692–702, 798; *translation in Math. Notes* **59** (1996), *no.* 5-6, 498–506. (Bl. Sendov) **98c:41001** 41A10 (41A50)

Ermakov, Alexei Borisovich Exact probabilities and asymptotics for the one-dimensional coalescing ideal gas. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 275–284. (T. M. Liggett) **98j:60135** 60K35 (82B41)

Ermakov, Mikhail Sergeevich Asymptotically minimax criteria for testing composite nonparametric hypotheses. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 2, 54–67; *translation in Problems Inform. Transmission* **32** (1996), *no.* 2, 184–196. (M. P. Moklyachuk) **98d:62080** 62G10 (62C20, 62G20, 93E12)

— On asymptotic minimaxity of Kolmogorov and omega-square tests. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 3, 227–233. (Margaret P. Gessaman) **98b:62084** 62G10 (62G20)

Ermakov, S. M. (*with* Danilov, D. L.) Asymptotic complexity of the collision estimator for the solution of linear systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 515–523. (Summary) **98a:15005** 15A06

Ermakova, O. N. (*with* Gorshkov, A. S.; Marchenko, V. F.) Coupled wave method in the theory of a diatomic anharmonic lattice. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 1007–1014. (Summary) **98c:82012** 82B20 (70K99, 81V70)

Ermentrout, George Bard (*with* Chen, Zhi-Xiong; McLeod, J. Bryce) Traveling fronts for a class of non-local convolution differential equations. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 235–253. (Summary) **98e:45010** 45K05 (35Q80, 92B05)

— (*with* Chen, Xinfu; Chen, Zhi-Xiong) Transition fronts and localized structures in bistable reaction-diffusion equations. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 147–167. (Summary) **98f:35076** 35K57

Ermert, Olaf Continuity of homomorphisms from AF-C^*-algebras and other inductive limit C^*-algebras. *J. London Math. Soc.* (2) **54** (1996), *no.* 2, 369–386. (Terry A. Loring) **98c:46114** 46L05 (46H40)

— (*with* Albrecht, Ernst) Commutative nilpotent extensions of commutative C^*-algebras split. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 601–608. (Niels Grønbæk) **98g:46073** 46J40 (46J10, 46L05, 46M20)

Ermilova, T. V. (*with* Pavlov, B. V.; Rutkovskiĭ, V. Yu.) Organization of processes for the tuning of coefficients for an adaptive autopilot under noise conditions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 84–96; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1759–1769 (1997). 93C95 (93B52)

Ermolaeva, L. B. (*with* Gabdulkhaev, B. G.) Lagrange interpolation polynomials in Sobolev spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 7–19; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 4–16. (G. S. Smirnov) **98i:41001** 41A05 (42A15)

Ermoliev, Yuri Mikhailevich (*with* Ruszczyński, Andrzej) Convex optimization by radial search. (English summary) *J. Optim. Theory Appl.* **91** (1996), *no.* 3, 731–738. (Summary) **98k:90106** 90C30 (49J52)

— (*with* Kryazhimskii, Arkadii V.; Ruszczyński, Andrzej) Constraint aggregation principle in convex optimization. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 353–372. (J. Frédéric Bonnans) **98c:90091** 90C25 (65K05)

Ermolin, V. S. Multitudes of values for the length of discretization interval in the problem of discrete stabilization. *J. Comput. Systems Sci. Internat.* **34** (1996), *no.* 4, 13–18; *translated from Izv. Ross. Akad. Nauk Teor. Sistemy Upravlen.* **1995,** *no.* 3, 15–21 (*Russian. Russian summary*). (Vimal Singh) **98b:93056** 93D15 (93B05)

Ern, Alexandre Vorticity-velocity formulation of the Stokes problem with variable density and viscosity. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 203–218. (Summary) **98m:76052** 76D07 (35Q72, 76M30)

Erné, Reinie The degree of an integral point in $\mathbf{P}^3$ minus a hypersurface. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1121–1126. (Genady Lazarevich Margolin) **98d:14035** 14G25

Ernest, Paul The legacy of Lakatos: reconceptualising the philosophy of mathematics. (English summary) *Philos. Math.* (3) **5** (1997), *no.* 2, 116–134. (Eduard Glas) **98f:00006** 00A30 (01A60, 03A05)

— ★ Social constructivism as a philosophy of mathematics. (English summary) SUNY Series in Science, Technology, and Society. SUNY Series, Reform in Mathematics Education. *State University of New York Press, Albany, NY*, 1998. xiv+315 *pp. ISBN* 0-7914-3588-1 (From the introduction) **98f:00007** 00A30

Erneux, Thomas (*with* Kuske, Rachel) Bifurcation to localized oscillations. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 389–402. (Summary) **98d:34068** 34C15 (34C23, 34E15)

— (*with* Booth, Victoria; Carr, Thomas W.) Near-threshold bursting is delayed by a slow passage near a limit point. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1406–1420. (Summary) **98f:34079** 34D15 (34C23, 34E15, 92C45)

Ernst, C. *see* **Ernst, Claus Dieter**

Ernst, Catherine *see* **Hölder, Otto, 98c:00001**

Ernst, Claus Dieter Tangle equations. II. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 1, 1–11. (G. Burde) **98h:57015** 57M25

— (*with* Diao, Yuanan; Janse van Rensburg, E. J.) In search of a good polygonal knot energy. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 633–657. (Anders Linnér) **98j:58027** 58E10 (57M25)

Ernst, Fabian (*with* Herman, Gérard) Scattering of guided waves in laterally varying layered media. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 294–305, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 86A15 (73D25, 73N20)

Ernst, M. H. (*with* Appert, C.; van Beijeren, H.; Dorfman, J. R.) Thermodynamic formalism and localization in Lorentz gases and hopping models. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1253–1271. (Summary) **98g:82035** 82C40

— (*with* Appert, C.) Chaos properties and localization in Lorentz lattice gases. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5106–5122. (Summary) **98m:82060** 82C40 (58F40)

Ernst, Oliver G. A finite-element capacitance matrix method for exterior Helmholtz problems. (English summary) *Numer. Math.* **75** (1996), *no.* 2, 175–204. (Summary) **98i:65097** 65N30 (65F30)

Ernström, Lars A Plücker formula for singular projective varieties. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2897–2901. (Summary) **98b:14040** 14N10 (14C17)

Erokhin, G. N. (*with* Anikonov, Yu. E.) Symmetry in inverse problems. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 21–25, 173, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 35R30

Erovenko, V. A. On L^p-essential spectra of some classes of nonselfadjoint ordinary differential operators. I. Operators with sufficiently smooth coefficients. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1024–1034, 1148; *translation in Differential Equations* **32** (1996), *no.* 8, 1030–1039 (1997). (L. V. Kritskov) **98m:47075** 47E05 (34L05)

— On L^p-essential spectra of some classes of nonselfadjoint ordinary differential operators. II. Operators with constant coefficients and Euler operators. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1162–1170, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1164–1172 (1997). (L. V. Kritskov) **98m:47076** 47E05 (34L05)

— Essential spectra of linear differential operators with almost constant coefficients. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 39–43, 122. (Summary) **98i:47042** 47E05 (34L05, 47A10)

— Essential Weyl spectrum of analytic functions of bounded operators in a Banach space. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 20–24, 124. (Summary) **98i:47002** 47A10 (47A60)

— Application of the abstract theory of perturbations to the investigation of essential spectra of ordinary differential operators in L^p. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 867–875, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 871–878 (1998). (Summary) **98m:47077** 47E05 (34L05, 47A55)

Erra, Robert (*with* Philippe, Bernard) On some structured inverse eigenvalue problems. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 15–35. (Summary) **98d:65046** 65F15

Errokh, Mohamed (*with* Grazzini, Fulvio) Sur la cohomologie modulo 2 des groupes de Coxeter à trois générateurs. (English and French summaries) [On the modulo 2 cohomology of three-generator Coxeter groups] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 741–745. (J. R. J. Groves) **98h:20094** 20J06 (20F55)

Ershad, F. (*with* Seddighi, K.) Finite codimensional subspaces of Banach algebras. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 71–72, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 46J05 (46J20)

Ershov, A. P. ★ Избранные труды. (Russian. Russian summary) [Selected works] With a preface and biography of Ershov by I. V. Pottosin. *VO "Nauka", Novosibirsk*, 1994. 416 *pp. ISBN* 5-02-030344-5 (Publisher's description) **98g:01072** 01A75 (68–03)

Ershov, E. K. (*with* Osipenko, G. S.; Kim, Jong Heon) ★ Lectures on invariant manifolds of perturbed differential equations and linearization. (English summary) *St. Petersburg State Technical University, St. Petersburg*, 1996. 152 *pp.* (Stephen Schecter) **98d:58160** 58F30 (34C30, 34D99)

— (*with* Osipenko, G. S.) Perturbation of invariant manifolds of ordinary differential equations. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 213–265, *World Sci. Publishing, River Edge, NJ*, 1996. (Patrick Bonckaert) **98b:58128** 58F14 (34C20, 34C23, 34C30, 34D35)

Ershov, S. V. (*with* Potapov, A. B.) On mean field fluctuations in globally coupled logistic-type maps. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 9–38. (Volker Matthias Gundlach) **98e:58117** 58F13 (58F11, 82C05)

Ershov, Yu. L. Nice locally global fields. I. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 411–423, 497; *translation in Algebra and Logic* **35** (1996), *no.* 4, 229–235. (M. A. Taĭtslin) **98g:03091a** 03C60 (03B25, 03C10, 03C65, 12L05)

— Nice locally global fields. II. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 5, 503–528, 624; *translation in Algebra and Logic* **35** (1996), *no.* 5, 281–295. (M. A. Taĭtslin) **98g:03091b** 03C60 (03B25, 03C10, 03C65, 12L05)

— On semilocal fields. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 596–598. 12F10 (03C60)

— On free products of absolute Galois groups. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 583–585. (From the text) **98k:20036** 20E06 (12F12)

— (*with* Lavrent'ev, Mikhail Mikhaĭlovich; Beresnev, V. L.; Borovkov, A. A.; Godunov, S. K.; Kutateladze, Semën Samsonovich; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

— Nice locally global fields. III. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 526–532, i; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 449–454. (M. A. Taĭtslin) **98g:03091c** 03C60 (03B25, 03C10, 03C65, 12L05)

— The bounded-complete hull of an α-space. Non-standard logics and logical aspects of computer science (Kanazawa, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 1, 3–13. (Peter Johnstone) **98g:68100** 68Q55 (06B35, 06D10, 54B30, 54D35)

Ershova, O. V. (*with* Vasil'ev, F. P.) A regularized gradient projection method based on set extension. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 3, 6–9, 50. (Nada I. Djuranović-Miličić) **98m:90150** 90C30 (65K05)

Ertas, Abdulkadir An elementary solution for generalized polyaxially symmetric potential equation. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 39–43. (Summary) **98g:35030** 35C05 (31B35, 35J15)

— A theorem on the local solvability of a partial differential equation. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 11–15. (Abdelhamid Meziani) **98h:35004** 35A07 (35F05)

Ertel, Hans ★ Ertel's potential vorticity. Edited, collected and with an introduction by Wilfried Schröder and Hans-Jürgen Treder. Ertel's Collected Papers, 3. *Interdivisional Commission on History of the International Association of Geomagnetism and Aeronomy, Bremen-Rönnebeck; History Commission of the German Geophysical Society (DGG), Bremen-Rönnebeck*, 1997. 175 *pp.* (Editors) **98f:01041** 01A60 (01A75, 76C05, 86–03)

Ertel, Wolfgang (*with* Aczél, János) A new formula for speedup and its characterization. (English summary) *Acta Inform.* **34** (1997), *no.* 8, 637–652. (Evangelos Kranakis) **98i:68113** 68Q22

Ertürk, R. Prime-separation axioms in fuzzy topology and their bitopological counterparts. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 1–14. 54A40 (04A72, 54D10, 54E55)

Erugin, Nikolai Pavlovich *see* **Andreev, A. F. et al.**

Ervin, Vincent J. (*with* Duan, Jinqiao) Dynamics of a nonlocal Kuramoto-Sivashinsky equation. (English summary) *J. Differential Equations* **143** (1998), *no.* 2, 243–266. (Piotr Biler) **98m:35178** 35Q53 (35B10, 35B40)

Erwin, Richard S. (*with* Kapila, Vikram; Haddad, Wassim M.; Bernstein, Dennis S.) Robust controller synthesis via shifted parameter-dependent quadratic cost bounds. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1003–1007. 93B51

— (*with* Sparks, Andrew G.; Bernstein, Dennis S.) Fixed-structure robust controller synthesis via decentralized static output feedback. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 6, 499–522. 93A14 (93B35, 93B52)

Erzakova, N. A. On measures of non-compactness and applications to embeddings. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 535–540. (Luboš Pick) **98m:46045** 46E35 (47H09)

— Compactness with respect to a measure, and a measure of noncompactness. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1071–1073, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 926–928. (Summary) **98g:46034** 46E30 (46B20, 47B07)

Erzan, Ayşe Finite q-differences and the discrete renormalization group. (English summary) *Phys. Lett. A* **225** (1997), *no.* 4-6, 235–238. (Summary) **98a:82050** 82B28 (39A10)

— (*with* Eckmann, Jean-Pierre) q-analysis of fractal sets. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 17, 3245–3248. (Steen Pedersen) **98g:39003** 39A10 (28A80)

— *see also* **Turbulence modeling and vortex dynamics, 98h:76005**

Erzin, A. I. (*with* Gladyshev, A. I.; Dement'ev, V. T.) Models and problems of the optimal synthesis of homogeneous hierarchical systems. (Russian. Russian summary) *Models and methods of optimization* (*Russian*), 63–76, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98a:93003** 93A13 (49N55)

van Es, A. J. *see* **Van Es, A. J.**

van Es, Bert A note on the integrated squared error of a kernel density estimator in non-smooth cases. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 241–250. (Summary) **98k:62053** 62G05

Esakov, V. D. Why P. L. Kapitsa was denied the right to travel abroad. (Russian) *Vestnik Ross. Akad. Nauk* **67** (1997), *no.* 6, 543–553. 01A70

Escalante, R. (*with* Raydán M., Marcos) Dykstra's algorithm for constrained least-squares rectangular matrix problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 73–79. 65F30 (15A18, 65K05)

Escalona, Joaquín (*with* Antillón, Armando; Germán, Gabriel; Torres, Manuel) Non-abelian Chern-Simons vortices. (English summary) *Workshops on Particles and Fields and Phenomenology of Fundamental Interactions* (*Puebla*, 1995), 479–482, *AIP Conf. Proc.*, 359, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Summary) **98f:81190** 81T13

Escande, D. F. (*with* Bénisti, D.) Nonstandard diffusion properties of the standard map. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4871–4874. 58F40 (58F13)

Escardó, Martín Hötzel (*with* Edalat, Abbas) Integration in real PCF. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 382–393, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q05 (68N15, 68Q55)

Escassut, Alain (*with* Boussaf, Kamal) Closed homomorphisms of algebras of analytic elements. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 39–47, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Summary) **98e:46092** 46S10 (46J15)

— (*with* Diarra, Bertin; Sarmant-Durix, Marie-Claude) *p*-adic characters on the restricted power series. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 81–93, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Wim H. Schikhof) **98i:26029** 26E30 (30G06)

— (*with* Haddad, Labib; Sarmant-Durix, Marie-Claude) Characterial functions. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 131–141, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Bertin Diarra) **98g:12012** 12J27 (22A99, 46S10)

— (*with* Khrennikov, Andrei) Nonlinear differential equations over the field of the complex *p*-adic numbers. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 143–151, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Nobuo Tsuzuki) **98f:12007** 12H25 (34A34)

— (*with* Boutabaa, Abdelbaki) Uniqueness of *p*-adic meromorphic functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 571–575. (Dinamérico P. Pombo, Jr.) **98m:30064** 30G06 (12J25, 30D35, 46S10)

— (*with* Endo, Mikihiko) A counter example of *p*-adic Hartogs theorem on a product of closed disks. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 1, 1–2. (Daniel Barsky) **98e:32060** 32P05 (11S80, 32D20)

— *see also* **Sarmant-Durix, Marie-Claude.** (**98a:00009**)

Escauriaza, Luis (*with* Adolfsson, Vilhelm) $C^{1,\alpha}$ domains and unique continuation at the boundary. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 10, 935–969. (A. Yu. Rashkovskiĭ) **98m:31003** 31B05 (31B20, 35J25)

Eschenauer, H. A. (*with* Schumacher, A.) Topology and shape optimization procedures using hole positioning criteria—theory and applications. (English summary) *Topology optimization in structural mechanics*, 135–196, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (*see* **98h:73003**) 73K40 (73Vxx)

Eschenbach, Carolyn A. (*with* Li, Zhongshan) How many negative entries can A^2 have? (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 99–117. (R. A. Horn) **98c:15063** 15A48

— (*with* Hall, Frank J.; Johnson, Charles Royal; Li, Zhongshan) The graphs of the unambiguous entries in the product of two $(+,-)$ sign pattern matrices. (English summary) *Linear Algebra Appl.* **260** (1997), 95–118. (Koduvayur R. Parthasarathy) **98e:05075** 05C50

Escher, Joachim (*with* Amann, Herbert) Strongly continuous dual semigroups. *Ann. Mat. Pura Appl.* (4) **171** (1996), 41–62. (El Maati Ouhabaz) **98c:47048** 47D06 (35J40, 47F05, 47N20)

— (*with* Simonett, Gieri) Analyticity of the interface in a free boundary problem. *Math. Ann.* **305** (1996), *no.* 3, 439–459. (Jing Xue Yin) **98d:35242** 35R35 (35B65, 35K99, 76S05)

— (*with* Simonett, Gieri) Classical solutions for Hele-Shaw models with surface tension. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 4, 619–642. (Jing Xue Yin) **98b:35204** 35Q99 (35B40, 35K55, 76D45)

— On moving boundaries in deformable media. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 275–316. (Galina I. Bizhanova) **98g:35222** 35R35 (35K05, 47N20, 73K70, 76S05)

— (*with* Simonett, Gieri) Classical solutions of multidimensional Hele-Shaw models. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1028–1047. (Elena Comparini) **98i:35213** 35R35 (35K20, 35S99, 76D99, 76S05)

— (*with* Constantin, Adrian) Well-posedness, global existence, and blowup phenomena for a periodic quasi-linear hyperbolic equation. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 475–504. (Bruno Scheurer) **98k:35165** 35Q53 (35B60, 35D05, 35L67)

— (*with* Simonett, Gieri) A center manifold analysis for the Mullins-Sekerka model. (English summary) *J. Differential Equations* **143** (1998), *no.* 2, 267–292. (Claudia B. Lederman) **98m:35228** 35R35 (35Q99)

— (*with* Simonett, Gieri) The volume preserving mean curvature flow near spheres. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2789–2796. (Barbara Priwitzer) **98m:53054** 53C21 (35B40, 35K55, 53A07, 53C40, 58G11)

Eschmeier, Jörg (*with* Putinar, Mihai) ★ Spectral decompositions and analytic sheaves. London Mathematical Society Monographs. New Series, 10. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. x+362 *pp. ISBN* 0-19-853667-4 (Raúl E. Curto) **98h:47002** 47–02 (32C35, 46M20, 47A13, 47A53, 47B38, 58G05)

— Invariant subspaces for spherical contractions. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 1, 157–176. (Raúl E. Curto) **98j:47007** 47A15 (47A13, 47A20, 47A63)

— (*with* Albrecht, Ernst) Analytic functional models and local spectral theory. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 323–348. (Michael M. Neumann) **98f:47043** 47B40 (47A11, 47B38)

Esclarín, Julio (*with* Álvarez León, Luis) Image quantization using reaction-diffusion equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 153–175. (L. Hsiao) **98d:35106** 35K57 (49J40, 65M99, 94A12)

Escobar, G. (*with* Ortega, Romeo; Reyhanoglu, Mahmut) Regulation and tracking of the nonholonomic double integrator: a field-oriented control approach. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 125–131. 93C10 (93B51)

Escobar, José Fernando (*with* Lesmes, Jaime; Pareja Heredia, Diego; O'Connor, John J.; Robertson, Edmund F.) Mathematical obituary: Leopoldo Nachbin (1922–1993), Ricardo Mañé (1948–1995), Morris Kline (1908–1992), John C. Burkill (1900–1993). (Spanish) *Lect. Mat.* **16** (1995), *no.* 2, 217–229. (Editors) **98j:01037a** 01A70

— Conformal deformation of a Riemannian metric to a constant scalar curvature metric with constant mean curvature on the boundary. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 917–943. (Wen Xiong Chen) **98d:53051** 53C21 (35J60, 58G30)

— The geometry of the first non-zero Stekloff eigenvalue. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 544–556. (Julian Edward) **98g:58180** 58G25 (35J05, 35P15)

Escobar, María Teresa (*with* Moreno-Jiménez, José María) The hierarchical compromise programming. (English summary) *Top* **5** (1997), *no.* 2, 253–281. (Summary) **98i:90085** 90C29 (90B50, 90C31)

Escobedo, F. A. (*with* de Pablo, J. J.) Gibbs-Duhem integration in lattice systems. (English summary) *Europhys. Lett.* **40** (1997), *no.* 2, 111–116. (Summary) **98i:82003** 82–08 (82B26, 82D60)

Escobedo Conde, Raul (*with* Bustamante González, Jorge) Maximal ideal space of function algebras. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 78–90. (Sten Bjon) **98g:46070** 46J10 (46J20)

Escofier, Jean-Pierre ★ Théorie de Galois. (French. French summary) [Galois theory] Cours avec exercices corrigés. [Course with exercises and solutions] Enseignement des Mathématiques. [The Teaching of Mathematics] *Masson, Paris*, 1997. viii+248 *pp. ISBN* 2-225-82948-9 (John Swallow) **98j:12003** 12Fxx (11R32, 12–01)

Escoriza, José (*with* Torrecillas Jover, Blas) Relative multiplication and distributive modules. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 205–221. (T. Albu) **98c:13016** 13C13 (13C12)

Escott, Adrian E. (*with* Perkins, Stephanie) Binary Huffman equivalent codes with a short synchronizing codeword. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 346–351. (Summary) **98m:94026** 94A45

garcía-Escudero, Juan *see* **García-Escudero, Juan**

Escudero, L. F. (*with* Ortuño, M. T.) On due-date based valid cuts for the sequential ordering problem. (English summary) *Top* **5** (1997), *no.* 1, 159–166. (Summary) **98f:90069** 90C35 (90B35)

cárdenas Escudero, Manuel Enrique *see* **Cárdenas Escudero, Manuel Enrique**

Èsenamanov, G. M. (*with* Kurbanmuradov, O. A.) On a functional relationship between Euler and Lagrange statistical characteristics of local-isotropic turbulence. (Russian) *Analysis and discrete mathematics (Russian)*, 88–96, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (Radyadour Kh. Zeytounian) **98m:76084** 76F05 (76M35)

pezeshki-Esfahani, Hossain *see* **Pezeshki-Esfahani, Hossain**

Esfahanian, Abdol-Hossein (*with* Sitarama, Swamy K.) Designing distance-preserving fault-tolerant topologies. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 352–366, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68221** 68R10 (68M15)

Eshima, Nobuoki (*with* Tabata, Minoru) The point spectrum of the linearized Boltzmann operator with the external-potential term in an exterior domain. *J. Korean Math. Soc.* **33** (1996), *no.* 1, 89–99. (A. Balint (Zbl 874.76077)) **98g:35199** 35Q99 (45K05, 76P05, 82C40)

— (*with* Tabata, Minoru) The spectrum of the linear transport operator with a force in a torus. *Acta Math. Hungar.* **74** (1997), *no.* 1-2, 63–81. (Luisa Arlotti) **98d:82044** 82C70 (45K05, 47N20)

— (*with* Tabata, Minoru) The spectrum of the transport operator with a potential term under the spatial periodicity condition. (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 211–233. (Hassan Emamirad) **98i:47049** 47G20 (45K05, 47N55, 82C70)

Èshmatov, D. Sh. (*with* Aripov, M. M.) On the asymptotic behavior of self-similar solutions of some equations that describe nonlinear thermophysical and gas-dynamic processes. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 6, 95–110. 35Q99 (76N15, 80A99)

Eshraghian, Kamran (*with* Tabrizi, Nozar; Liebelt, Michael J.) A tabular method for guard strengthening, symmetrization, and operator reduction for Martin's asynchronous design methodology. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 1050–1054. 94C05

Ésik, Zoltán (*with* Bertol, Michael) Nonfinite axiomatizability of the equational theory of shuffle. (English summary) *Automata, languages and programming (Szeged, 1995)*, 27–38, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q45 (68Q10)

— (*with* Bernátsky, László) Scott induction and equational proofs. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 28 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98g:68101** 68Q55 (03G30, 68N15)

— (*with* Labella, Anna) Equational properties of iteration in algebraically complete categories. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 336–347, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 03G30 (68Q65)

— Completeness of Park induction. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 217–283. (Heinrich Seidel) **98j:03044** 03B70 (03C35, 06B35, 08A70, 08B05, 20M35, 68Q55, 68Q70)

— (*with* Bloom, Stephen L.) The equational logic of fixed points. *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 1–60. (Heinrich Seidel) **98i:68176** 68Q55 (03C05)

— (*with* Simon, Imre) Modeling literal morphisms by shuffle. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 225–227. (Summary) **98j:68079** 68Q45 (20M35)

— (*with* Labella, Anna) Equational properties of iteration in algebraically complete categories. (English summary) Mathematical foundations of computer science (Cracow, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 1, 61–89. (Summary) **98j:18007** 18C10 (03C05, 03G30, 68Q65)

Esipov, S. E. (*with* Shapiro, James A.) Kinetic model of *Proteus mirabilis* swarm colony development. (English summary) *J. Math. Biol.* **36** (1998), *no.* 3, 249–268. 92C45 (92D25)

Eskin, Alex (*with* Mozes, Shahar; Shah, Nimish A.) Non-divergence of translates of certain algebraic measures. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 1, 48–80. (Alexander Starkov) **98d:22006** 22E40 (22E46)

— (*with* Farb, Benson) Quasi-flats and rigidity in higher rank symmetric spaces. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 653–692. (Alexander Starkov) **98e:22007** 22E40 (53C35)

— Quasi-isometric rigidity of nonuniform lattices in higher rank symmetric spaces. *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 321–361. (Lee Mosher) **98g:22005** 22E40 (20F32, 53C35)

Èskin, L. D. (*with* Chugunov, V. A.; Tonkonog, S. L.) Methods of group analysis in dynamics of non-Newtonian fluid. *Algebra and analysis* (*Kazan*, 1994), 31–40, *de Gruyter, Berlin*, 1996. (H. Ramkissoon) **98k:76004** 76A05 (76M99)

— On an integral equation in the theory of phase transitions in a system of magnetic rods. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 427–440; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1578–1589 (1997). (Summary) **98g:82017** 82B26 (82D30)

— (*with* Tonkonog, S. L.) On some symmetries and invariant solutions of equations of the dynamics of a non-Newtonian fluid. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 55–66. (Victor V. Zharinov) **98m:76004** 76A05 (35Q35)

Eskow, E. (*with* Shao, Chung-Shang; Byrd, R. H.; Schnabel, Robert B.) Global optimization for molecular clusters using a new smoothing approach. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 163–199, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92E10)

Eslami, Esfandiar (*with* Abian, Alexander) Compactness of the product of two compact spaces without the axiom of choice. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 97–99. (Summary) **98k:54040** 54D30 (04A25)

— (*with* Buckley, J. J.) Fuzzy plane geometry. II. Circles and polygons. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 1, 79–85. (Summary) **98a:51018** 51M05 (04A72)

— (*with* Buckley, J. J.) Inverse approximate reasoning. II. Maximize entropy. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 291–295. (Summary) **98c:03064** 03B52

Esler, J. Gavin Wave packets in simple equilibrated baroclinic systems. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 24, 2820–2849. (Summary) **98k:76050** 76E20 (76C10, 76U05, 86A10)

Esmaeili, Morteza (*with* Gulliver, T. Aaron; Secord, Norman P.) Quasi-cyclic structure of Reed-Muller codes and their smallest regular trellis diagram. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1040–1052. (Summary) **98e:94030** 94B05 (94B12)

Esmailzadeh, E. (*with* Nakhaie-Jazar, G.) Periodic solution of a Mathieu-Duffing type equation. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 905–912. (T. J. Mahar) **98f:73023** 73K05 (34C25, 70K99, 73K12)

Esnault, Hélène Recent developments on characteristic classes of flat bundles on complex algebraic manifolds. *Jahresber. Deutsch. Math.-Verein.* **98** (1996), *no.* 4, 182–191. (I. Dolgachev) **98b:14005** 14C25 (14F40, 32J25, 57R20)

— (*with* Bloch, Spencer J.) Algebraic Chern-Simons theory. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 903–952. (Burt Totaro) **98i:32050** 32L10 (14C30, 32J25, 57R20)

— (*with* Levine, Marc; Viehweg, Eckart) Chow groups of projective varieties of very small degree. *Duke Math. J.* **87** (1997), *no.* 1, 29–58. (Claudio Pedrini) **98d:14002** 14C15

— (*with* Kahn, Bruno; Levine, Marc; Viehweg, Eckart) The Arason invariant and mod 2 algebraic cycles. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 73–118. (Burt Totaro) **98d:14010** 14C25 (11E72, 14C35)

Eső, Márta (*with* Ladányi, László; Ralphs, Theodore K.; Trotter, Leslie E., Jr.) Fully parallel generic branch-and-cut. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 90C10 (65Y05)

Esparza, Javier (*with* Desel, Jörg) ★ Free choice Petri nets. (English summary) Cambridge Tracts in Theoretical Computer Science, 40. *Cambridge University Press, Cambridge*, 1995. viii+244 *pp. ISBN* 0-521-46519-2 (From the text) **98f:68201** 68Q90 (68–01, 68–02)

— Petri nets, commutative context-free grammars, and basic parallel processes. *Fundamentals of computation theory* (*Dresden*, 1995), 221–232, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (From the text) **98d:68155** 68Q90 (68Q10, 68Q45)

— (*with* Bradfield, Julian; Mader, Angelika) An effective tableau system for the linear time μ-calculus. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 98–109, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68164** 68Q60 (03B45)

— (*with* Jančar, Petr) Deciding finiteness of Petri nets up to bisimulation. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 478–489, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68190** 68Q90

— (*with* Melzer, Stephan) Model checking LTL using constraint programming. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 1–20, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q60 (68Q90)

— (*with* Bouajjani, Ahmed; Maler, Oded) Reachability analysis of pushdown automata: application to model-checking. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 135–150, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q68 (68Q60)

— (*with* Burkart, Olaf) More infinite results. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98k:68056** 68Q10 (68Q60)

— Decidability of model checking for infinite-state concurrent systems. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 85–107. (Rüdiger Valk) **98h:68070** 68Q10 (68Q05, 68Q60, 68Q90)

— Reachability in live and safe free-choice Petri nets is NP-complete. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 211–224. (Summary) **98m:68193** 68Q90 (68Q25)

ruiz Espejo, Mariano *see* **Ruiz Espejo, Mariano**

montero de Espinosa, F. *see* **Montero de Espinosa, F.**

Espinosa, Fernando Hitt Researching a problem of convergence with Mathematica: history and visualization of a mathematical idea. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 697–706. 65–04 (26–04)

aleyda Espinosa, Maria *see* **Aleyda Espinosa, Maria**

Espinosa Garrido, A. A. (*with* Agüero Granados, M. A.; Martínez Ortiz, J.) Soliton creation and annihilation in the nonlinear string equation. (Spanish. English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 3, 361–373. (Elaine Machtyngier) **98e:35149** 35Q55 (35Q51)

Espinosa-Pérez, Gerardo (*with* Nicklasson, Per J.; Ortega, Romeo) Passivity-based control of a class of Blondel-Park transformable electric machines. (English summary) *MIC—Model. Identif. Control* **18** (1997), *no.* 4, 273–305. 93C95 (93B51)

Espinoza Ortiz, J. S. (*with* Ozorio de Almeida, A. M.) Bogomolny section for the stadium. I. Quantum theory. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7301–7313. 81Q50 (82C10)

corbo Esposito, Antonio *see* **Corbo Esposito, Antonio**

Esposito, Giampiero V. M. Euclidean Maxwell theory in the presence of boundaries. (English summary) *Heat kernel techniques and quantum gravity* (*Winnipeg, MB*, 1994), 11–22, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Alfred Actor) **98f:81362** 81V10 (58Z05, 81T20)

— (*with* Kamenshchik, A. Yu.; Kirsten, Klaus) One-loop effective action for Euclidean Maxwell theory on manifolds with a boundary. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7328–7337. (Summary) **98i:81168** 81T20 (58G26, 81T16)

— (*with* Kamenshchik, A. Yu.) Axial gauge in quantum supergravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 299–303, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83E50 (58G26)

— (*with* Pollifrone, Giuseppe) Noncovariant gauges in simple supergravity. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 4, 479–490. (Sergiu I. Vacaru) **98j:83105** 83E50 (81T15)

— (*with* Stornaiolo, C.) Multimomentum maps in general relativity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 241–244. (Summary) **98g:83025** 83C40

— (*with* Avramidi, Ivan G.; Kamenshchik, A. Yu.) Axial gauge in Euclidean quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 245–246. (Summary) **98g:83031** 83C45

— Green functions for classical Euclidean Maxwell theory. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 10, 1405–1413. (Summary) **98j:83047** 83C50

— Nonlocal boundary conditions for massless spin-1/2 fields. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3886–3888. (Summary) **98d:81065** 81T16 (83C45)

— (*with* Kamenshchik, A. Yu.; Miele, Gennaro) Unified gauge models and one-loop quantum cosmology. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1328–1331. (Summary) **98c:83032** 83C45 (81T20)

— Quantized Maxwell theory in a conformally invariant gauge. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2442–2444. (H. S. Green) **98f:81363** 81V10 (81R20)

— (*with* Avramidi, Ivan G.) New invariants in the 1-loop divergences on manifolds with boundary. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 281–297. (Guido Cognola) **98m:81109** 81T20 (58G11, 58G25, 83C47)

Esposito, R. *see* **Esposito, Rosa**

Esposito, Raffaele (*with* Marra, R.; Yau, Horng-Tzer) Diffusive limit of asymmetric simple exclusion. (English summary) *The state of matter* (*Copenhagen*, 1992), 451–489, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B40 (82C20)

— (*with* Marra, R.; Yau, Horng-Tzer) Navier-Stokes equations for stochastic particle systems on the lattice. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 395–456. (Ellen Saada) **98h:82042** 82C20 (60K35, 76D05, 76M35, 82C22, 82C31)

— (*with* Marra, R.; Yau, Horng-Tzer) Erratum: "Diffusive limit of asymmetric simple exclusion" [Rev. Math. Phys. **6** (1994), no. 5A, 1233–1267; MR 96d:82030]. *Rev. Math. Phys.* **8** (1996), *no.* 6, 905. (Aernout C. D. van Enter) **98a:82055** 82B40

Esposito, Rosa (*with* Parlato, L.) The Hurewicz and Whitehead theorems for homotopy functors associated with manifold classes. (Italian. English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 359–368 (1996). 55P65 (57P99)

— (*with* Dragotti, S.; Magro, G.; Parlato, L.) Geometric representations of the homology functor. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 3–12. 55N40 (57Q20)

Esposito, Salvatore Classical $v_{gr} \neq c$ solutions of Maxwell's equations and the photon tunneling effect. (English summary) *Phys. Lett. A* **225** (1997), *no.* 4-6, 203–209. (Summary) **98a:78009** 78A40

degli Esposti, M. *see* **Degli Esposti, M.**

Espriu, Domènec (*with* Baig, M.; Johnston, Desmond Alexander; Malmini, Ranasinghe P. K. C.) String tension in gonihedric three-dimensional Ising models. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7695–7706. 82B20

— (*with* Ambjørn, Jan; Sasakura, Naoki) U(1) lattice gauge theory and $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2665–2681. (Summary) **98j:81235** 81T25 (81T60)

Esquivel, Manuel Leote Tavares Inglês A mathematical model for risk assessment of loans. (English summary) *Bol. Inst. Actuar. Port. No.* 34 (1994), 19–37. (Angelos Dassios) **98e:90054** 90A46

— ★ Applications of Fourier methods to the analysis of some stochastic processes. (English and Portuguese summaries) Dissertation, Universidade Nova de Lisboa, Lisbon, 1996. Text in English and Portuguese. *Universidade Nova de Lisboa, Departamento de Matemática, Lisbon*, 1996. 241 *pp.* (Summary) **98m:60063** 60G20 (42A99, 60G17)

— On the space of random tempered distributions having a mean. (English summary) *Classical analysis* (*Kazimierz Dolny*, 1995), 13–47, *Wars. Agric. Univ. Press, Warsaw*, 1996. (Habib Ouerdiane) **98b:60079** 60G20 (42A61)

— On the local behavior of the Brownian sheet. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 81–89, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Robert C. Dalang) **98f:60094** 60G60 (60G15, 60G17)

Esrafilian, Ebrahim (*with* Shidfar, Afima Abdullah) Hölder continuity of Cellerier's non-differentiable function. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **28** (1995), 118–121. (Summary) **98c:26003** 26A27 (26A15)

Essam, J. W. (*with* Bhatti, F. M.; Brak, R.; Lookman, T.) Series expansion analysis of the backbone properties of two-dimensional percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6215–6232. (Summary) **98k:82083** 82B43 (82–04, 82B27)

Essawy, A. H. (*with* Abdel-hafez, A. M.; Moubark, M. A. M.) Numerical solution diffraction of water waves using both isosceles triangle and rectangular headland. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 15–29. 76M20 (65M99, 76B15)

— (*with* Abdel-hafez, A. M.; Moubark, M. A. M.) The diffraction of Kelvin wave due to an island. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 147–160. (Summary) **98h:76010** 76B15 (86A05)

Essawy, A. R. Hypergeometric solutions of a parabolic equation related to heat conduction. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 2, 81–84. 33C15 (35K05, 80A20)

van den Essen, Arno (*with* Hubbers, Engelbert) Chaotic polynomial automorphisms: counterexamples to several conjectures. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 382–388. (L. Andrew Campbell) **98b:14011** 14E09 (30D05, 34C20, 58F08, 58F23)

— (*with* Cima, Anna; Gasull, Armengol; Hubbers, Engelbert; Mañosas, Francesc) A polynomial counterexample to the Markus-Yamabe conjecture. (English summary) *Adv. Math.* **131** (1997), *no.* 2, 453–457. (Gary H. Meisters) **98k:34084** 34D05 (58F10)

— (*with* Hubbers, Engelbert) $\mathscr{D}_n(A)$ for a class of polynomial automorphisms and stably tameness. (English summary) *J. Algebra* **192** (1997), *no.* 1, 460–475. (Ludwik M. Drużkowski) **98k:14016** 14E09

— (*with* Shpilrain, Vladimir) Some combinatorial questions about polynomial mappings. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 47–52. (Gary H. Meisters) **98g:13007** 13B25 (13B10, 14A05)

Essén, Matts Universal Phragmén-Lindelöf theorems and a lemma of Beurling. *Festschrift in honour of Lennart Carleson and Yngve Domar (Uppsala, 1993)*, 143–147, *Acta Univ. Upsaliensis Skr. Uppsala Univ. C Organ. Hist.*, 58, *Uppsala Univ., Uppsala*, 1995. (G. Jank (Zbl 852.30015)) **98f:30024** 30C80

— (*with* Aikawa, Hiroaki) ★ Potential theory—selected topics. Lecture Notes in Mathematics, 1633. *Springer-Verlag, Berlin*, 1996. x+200 *pp. ISBN* 3-540-61583-0 (Noriaki Suzuki) **98f:31005** 31B05 (31A05, 31B15, 31B25)

— (*with* Xiao, Jie[1]) Some results on Q_p spaces, $0 < p < 1$. (English summary) *J. Reine Angew. Math.* **485** (1997), 173–195. (Fernando Daniel Suárez) **98d:46024** 46E15 (30D50, 46E10)

Esser, Olivier An interpretation of the Zermelo-Fraenkel set theory and the Kelley-Morse set theory in a positive theory. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 369–377. (Peter Vojtáš) **98i:03068** 03E35 (03E70)

Esser, W. (*with* Obukhov, Yu. N.; Vlachynsky, E. J.; Hehl, Friedrich W.) Effective Einstein theory from metric-affine gravity models via irreducible decompositions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7769–7778. (Alberto Saa Vazquez) **98m:83067** 83D05 (83C15)

Essid, Samir Choice under risk with certainty and potential effects: a general axiomatic model. (English summary) *Math. Social Sci.* **34** (1997), *no.* 3, 223–247. (Summary) **98i:90016** 90A10

— Choix dans le risque et effet de certitude: un modèle axiomatique général. (English and French summaries) [Choice under risk and the certainty effect: a general axiomatic model] *RAIRO Rech. Opér.* **31** (1997), *no.* 3, 231–267. (Summary) **98c:90028** 90A43

Eßer, Fabian H. L. (*with* Frahm, Holger; It-s, A. R.; Korepin, Vladimir E.) Determinant representation for a quantum correlation function of the lattice sine-Gordon model. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 219–244. (Deng Feng Wang) **98d:81069** 81T25 (82B20, 82B23)

Estabrook, Frank B. (*with* Robinson, R. Steve; Wahlquist, Hugo D.) Hyperbolic equations for vacuum gravity using special orthonormal frames. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1237–1247. (Simonetta Frittelli) **98a:83012** 83C05

Estabrook, George Ancestor-descendant relations and incompatible data: motivation for research in discrete mathematics. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 1–28, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92D15 (05C90, 06A12)

Esteban, Ernesto P. (*with* Spyrou, Nicholas K.; Kazanas, Demosthenes) Steadily rotating perfect-fluid gravitating prolate spheroids in Weyl gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2663–2671. (R. N. Tiwari) **98k:83050** 83C55 (83D05)

Esteban, Juan R. (*with* Rodriguez, Ana; Vazquez, Juan L.) The maximal solution of the logarithmic fast diffusion equation in two space dimensions. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 867–894. (Summary) **98k:35094** 35K55 (35B05)

Esteban, M. D. A general class of entropy statistics. (English summary) *Appl. Math.* **42** (1997), *no.* 3, 161–169. (P. N. Rathie) **98f:62010** 62B10 (62E20)

— (*with* Pardo, Maria del Carmen; Vicente Hernanz, Ma. Lina; Pardo Llorente, Julio Ángel) Testing hypotheses in truncated samples by means of divergence statistics. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 707–732. (Summary) **98c:62039** 62F10

— (*with* Pardo Llorente, Julio Ángel; Pardo, Maria del Carmen; Vicente Hernanz, Ma. Lina) A statistical information theory approach to compare the homogeneity of several variances. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 411–416. 62B10 (62E20)

Esteban, Maria J. (*with* Séré, Eric) Existence and multiplicity of solutions for linear and nonlinear Dirac problems. *Partial differential equations and their applications (Toronto, ON, 1995)*, 107–118, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Thierry Cazenave) **98h:35200** 35Q40 (35P99, 81U10)

garcía-Esteban, Mauricio *see* **García-Esteban, Mauricio**

Esterle, Jean (*with* Zarrabi, M.) Local properties of powers of operators. *Arch. Math. (Basel)* **65** (1995), *no.* 1, 53–60. (Hari Bercovici) **98f:47026** 47A99 (47A15)

— Picard's theorem, Mittag-Leffler methods, and continuity of characters on Fréchet algebras. (English summary) *Ann. Sci. École Norm. Sup.* (4) **29** (1996), *no.* 5, 539–582. (Peter Dixon) **98f:46043** 46H40 (46J05)

— Countable inductive limits of Fréchet algebras. (English summary) *J. Anal. Math.* **71** (1997), 195–204. (Hermann Render) **98d:46046** 46H20 (46A13, 46J15)

— Singular inner functions and biinvariant subspaces for dissymmetric weighted shifts. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 1, 64–104. (D. Sarason) **98d:47021** 47A15 (46J15, 47B37)

Estes, Dennis R. (*with* Guralnick, Robert M.) A stable range for quadratic forms over commutative rings. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 255–280. (Adrian R. Wadsworth) **98m:11029** 11E88 (13F99)

Esteva, F. (*with* Dubois, Didier; Garcia-Calvés, Pere; Godo, Lluis; Prade, Henri) Similarity-based consequence relations. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 171–179, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B52 (68T27)

— *see also* **Symposium: System Analysis and Computer Science, 98k:93007**

Esteves, Eduardo Very ampleness for theta on the compactified Jacobian. *Math. Z.* **226** (1997), *no.* 2, 181–191. (Juan-Carlos Naranjo) **98k:14037** 14H40 (14C20, 14H42)

Esteves dos Santos, José Luís (*with* Martins, Ernesto Queirós Vieira) An algorithm for the quickest path problem. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 4, 195–198. (Summary) **98a:90125** 90C35 (90B10)

Estévez, P. G. (*with* Gordoa, P. R.) Generalized singular manifold method for a dispersive long wave equation in 2 + 1 dimensions. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 303–307, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q53

— (*with* Gordoa, P. R.) Darboux transformations via Painlevé analysis. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 939–957. (Bo Ling Guo) **98h:35204** 35Q53 (35A30, 58F37)

Estivill-Castro, Vladimir (*with* Wood, Derick) An adaptive generic sorting algorithm that uses variable partitioning. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 181–194. (Summary) **98c:68043** 68P10

— (*with* Abello, James; Shermer, Thomas C.; Urrutia, Jorge) Illumination of orthogonal polygons with orthogonal floodlights. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 25–38. (Ruth Silverman) **98m:68264** 68U05 (52B55)

Estrada, Ernesto (*with* Rodríguez, Lissette; Gutiérrez, Amauri) Matrix algebraic manipulation of molecular graphs. I. Distance and vertex-adjacency matrices. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 145–156. (N. Trinajstić) **98g:05093** 05C50 (05C90, 92E10)

— (*with* Rodríguez, Lissette) Matrix algebraic manipulation of molecular graphs. II. Harary- and MTI-like molecular descriptors. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 157–167. (N. Trinajstić) **98g:05094** 05C50 (05C90, 92E10)

bonilla Estrada, M. *see* **Bonilla Estrada, M.**

alvarez-Estrada, Ramón F. *see* **Alvarez-Estrada, Ramón F.**

Estrada, Ricardo Asymptotic approximation by cardinal series. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 193–198, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A58

— (*with* Ulate, Carlos M.) Expansion of distributional kernels of the type $f(\lambda \mathbf{x}, \mathbf{x})$, as $\lambda \to \infty$. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 1, 129–139. (Ahmed I. Zayed) **98b:46055** 46F10 (41A58, 44A99, 46F12)

— Vector moment problems for rapidly decreasing smooth functions of several variables. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 761–768. (Mihai Putinar) **98e:44005** 44A60 (47A57)

Estrade, Anne A characterization of Markov solutions for stochastic differential equations with jumps. *Séminaire de Probabilités, XXXI*, 315–321, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Philip Protter) **98m:60088** 60H10

Estudillo, Francisco J. M. (*with* Alías, Luis J.; Romero, Alfonso) Spacelike submanifolds with parallel mean curvature in pseudo-Riemannian space forms. *Tsukuba J. Math.* **21** (1997), *no.* 1, 169–179. (Qing Ming Cheng) **98g:53106** 53C42 (53C40, 53C50)

Eszter, E. G. (*with* Hollot, C. V.) An IQC for uncertainty satisfying both norm-bounded and passivity constraints. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1545–1548. 93C42 (93D09)

Et, Mikail (*with* Başarir, Metin) On matrix sequences on *cs* and *bs*. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 3, 243–246. (Mursaleen) **98f:40002** 40C05 (46A45)

Et al. *see* **et al.**

Etayo Gordejuela, Fernando (*with* Roşca, Radu M.) On para-Kählerian manifolds having the symmetric Killing property. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Sect. I a Mat.* **41** (1995), *no.* 2, 293–306 (1997). (Ion Mihai) **98e:53041** 53C15 (53C50)

— (*with* Roşca, Radu M.) On Riemannian manifolds endowed with a $\mathscr{T}$-parallel almost contact 4-structure. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 57–68. (Ion Mihai) **98a:53045** 53C15

Etayo Miqueo, José Javier The bases of differential geometry. (Spanish) *History of mathematics in the XIXth century, Part 2 (Spanish) (Madrid, 1993)*, 171–190, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (Claudio Bartocci) **98g:01040** 01A55 (53–03)

Etemadi, N. Criteria for the strong law of large numbers for sequences of arbitrary random vectors. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 151–157. (Allan Gut) **98k:60041** 60F15 (60B12)

Etessami, Kousha (*with* Wilke, Thomas) An Until hierarchy for temporal logic. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 108–117, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98d:68139** 68Q60 (03B45, 03D15)

Étesse, J.-Y. (*with* Le Stum, B.) Fonctions *L* associées aux *F*-isocristaux surconvergents. II. Zéros et pôles unités. (English and French summaries) [*L*-functions associated with superconvergent *F*-isocrystals. II. Unit roots and poles] *Invent. Math.* **127** (1997), *no.* 1, 1–31. (Vasile Brînzănescu) **98a:14035** 14G10 (11G25, 11G40, 14F20, 14F30)

Etheridge, Alison M. (*with* Fleischmann, Klaus) Persistence of a two-dimensional super-Brownian motion in a catalytic medium. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 1, 1–12. (Xue Lei Zhao) **98k:60149** 60J80 (60G57, 60K35)

Ethier, S. N. A gambling system and a Markov chain. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1248–1259. (Robert Kertz) **98c:60078** 60J10 (60J20)

Etienne, Gwihen (*with* Las Vergnas, Michel) External and internal elements of a matroid basis. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 111–119. (Laura M. Anderson) **98m:05038** 05B35

Etikan, H. (*with* Bashirov, A. E.; Semi, N.) Filtering, smoothing and prediction for wide-band noise driven linear systems. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 4, 667–683. (V. N. Fomin) **98d:93090** 93E11 (93E14)

Etingof, Pavel (*with* Gel'fand, Izrail' Moiseevich; Retakh, Vladimir) Factorization of differential operators, quasideterminants, and nonabelian Toda field equations. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 413–425. (Alexander V. Shapovalov) **98d:58081** 58F07 (35Q58)

— (*with* Braverman, Alexander; Gaitsgory, Dennis) Quantum integrable systems and differential Galois theory. (English summary) *Transform. Groups* **2** (1997), *no.* 1, 31–56. (Alexandru Buium) **98g:58070** 58F07 (12H05, 13N10)

Etman, L. F. P. (*with* Schoofs, A. J. G.; van Houten, M. H.; van Campen, D. H.) Global and mid-range function approximation for engineering optimization. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 335–359. (*see* **98j:90004**) 90C90

Etnyre, John (*with* Bižaca, Žarko) Smooth structures on collarable ends of 4-manifolds. (English summary) *Topology* **37** (1998), *no.* 3, 461–467. (Richard Stong) **98j:57046** 57R55 (57N13)

Eto, Kazufumi Affine semigroup rings of codimension two. (Japanese) Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 106–112. (*see* **98e:13002**) 13D02

Etse, Guillermo *see* **MECOM'96, 98k:73002**

Etuk, U. H. Binomial promotion and Poisson recruitment model for manpower development. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 105–110. 90B70

Etxebarria, V. (*with* de la Sen, Manuel) Adaptive control based on special compensation methods for time-varying systems subject to bounded disturbances. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 667–694. 93C40 (93D21)

Etzion, Tuvi Optimal constant weight codes over Z_4 and generalized designs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 55–82. (Man Keung Siu) **98g:05032** 05B30 (05B15, 94B60)

— Cascading methods for runlength-limited arrays. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 319–324. (Summary) **98j:94034** 94B60

— The depth distribution—a new characterization for linear codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1361–1363. 94B05

— (*with* Skachek, Vitaly; Roth, Ron M.) Efficient encoding algorithm for third-order spectral-null codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 846–851. (Summary) **98k:94017** 94B60

Eubank, R. L. (*with* Speckman, Paul L.) Nonparametric estimation of functions with jump discontinuities. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 130–144, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G20 (62G05)

— (*with* LaRiccia, V. N.) Component type tests for ordered categorical data. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 51–60. 62H17 (62H15)

— Testing goodness of fit with multinomial data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1084–1093. (Summary) **98f:62131** 62G10

Eubank, Stephen G. (*with* Farmer, J. Doyne) Introduction to dynamical systems. *Introduction to nonlinear physics*, 55–105, *Springer, New York*, 1997. (*see* **98b:00013**) 58–01 (00A69)

— (*with* Farmer, J. Doyne) Probability, random processes, and the statistical description of dynamics. *Introduction to nonlinear physics*, 106–151, *Springer, New York*, 1997. (*see* **98b:00013**) 00A71

— (*with* Farmer, J. Doyne) Modeling chaotic systems. *Introduction to nonlinear physics*, 152–175, *Springer, New York*, 1997. (*see* **98b:00013**) 00A71

Eucken, Rudolph *see* **Dathe, Uwe, 98e:01015**

Euclid *see* **Grattan-Guinness, Ivor, 98b:01007a**; **Mo, De, 98d:01006a** *and* **Martzloff, Jean-Claude, 98d:01006b**

Eudave-Muñoz, Mario Non-hyperbolic manifolds obtained by Dehn surgery on hyperbolic knots. *Geometric topology* (*Athens, GA*, 1993), 35–61, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Kimihiko Motegi) **98i:57007** 57M25

— 4-punctured tori in the exteriors of knots. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 659–676. (Carlo Petronio) **98f:57022** 57M50 (57M25)

Eugeni, F. *see* **Combinatorics, 98e:00015**

Eulenstein, Oliver (*with* Mirkin, Boris G.; Vingron, Martin) Comparison of annotating duplication, tree mapping, and copying as methods to compare gene trees with species trees. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 71–93, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:92023** 92D15 (05C05, 05C90)

Euler, Leonhard *see* **Boyé, Anne, 98a:01012**; **Rodríguez Salinas, Baltasar, 98g:01035**; **Gilain, Christian** *and* **Stigler, Stephen M., (98b:62001)**

Euler, Norbert Painlevé analysis and conditional auto-Bäcklund transformations for a two-dimensional Boltzmann model. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 42–48. (Summary) **98k:82150** 82C40 (35A30, 35Q99, 76P05)

Euler, Reinhardt (*with* Le Verge, H.; Zamfirescu, Tudor) A characterization of infinite, bipartite Toeplitz graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 119–130, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05124** 05C75 (05C50)

Euler, Russell A relationship between chords and the radius of a circle. *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 102–104. (H. W. Guggenheimer) **98f:51028** 51M04

— Evaluating a family of integrals. *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 156–159. (M. Lawrence Glasser) **98i:33002** 33B10

Eulering, Georg (*with* Krüskemper, Martin) On zeros of bounded degree of systems of homogeneous polynomial equations. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 1–5. (Adrian R. Wadsworth) **98j:11027** 11E76

Eun, Hee-Chang (*with* Udwadia, Firdaus E.; Kalaba, Robert E.) Equations of motion for constrained mechanical systems and the extended d'Alembert's principle. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 321–331. (Edwin J. Kreuzer) **98f:70016** 70F25 (70E99, 70F20)

van Eupen, Marijn (*with* Brouwer, A. E.) The correspondence between projective codes and 2-weight codes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 261–266. (Summary) **98a:94031** 94B05

— (*with* Tonchev, Vladimir D.) Linear codes and the existence of a reversible Hadamard difference set in $Z_2 \times Z_2 \times Z_2^4$. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 161–167. (Summary) **98a:05026** 05B10

Evain, Laurent Calculs de dimensions de systèmes linéaires de courbes planes par collisions de gros points. (English and French summaries) [Dimensions of linear systems of plane curves and collisions of fat points] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1305–1308. (Summary) **98j:14032** 14H10 (13F40)

Evako, Alexander V. (*with* Melter, Robert A.) Graphical dimension for line segments. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 170–173, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (From the introduction) **98j:54037** 54D05 (54F05, 68U05)

Evangelista, F. (*with* Raghavan, Tirukkannamangai E. S.; Vrieze, O. J.) Repeated ARAT games. (English summary) *Statistics, probability and game theory*, 13–28, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98k:90160** 90D20 (90D15)

Evans, D. J. *see* **Evans, David J.**

Evans, D. V. (*with* Porter, Richard) Trapped modes about multiple cylinders in a channel. (English summary) *J. Fluid Mech.* **339** (1997), 331–356. (Summary) **98d:76014** 76B15 (76Q05)

Evans, David E. The Rohlin property and classification of trace scaling automorphisms of AF algebras. *Operator algebras and quantum field theory* (*Rome*, 1996), 123–135, *Internat. Press, Cambridge, MA*, 199?. (A. I. Danilenko) **98k:46097** 46L35

— (*with* Kishimoto, Akitaka) Trace scaling automorphisms of certain stable AF algebras. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 211–224. (Władysław Adam Majewski) **98e:46081** 46L40 (46L05)

Evans, David J. (*with* Shen, Hong[2]) Fast sequential and parallel algorithms for finding extremal sets. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 195–211. (Summary) **98c:68099** 68Q25 (68Q20, 68Q22, 68R05)

— (*with* Al-Wali, A. A.) A comparison of the computational complexities of the stride reduction methods. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 307–320. (Summary) **98b:65151** 65Y20 (65F10)

— (*with* Bhuruth, M.) Block iterative methods for the nine-point approximation to the convection-diffusion equation. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 321–335. (Summary) **98c:65173** 65N06

— (*with* Martins, M. M.) The block successive relaxation-additive iterative method for least squares problems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 89–99. (Summary) **98a:65041** 65F10

— (*with* Bamigbola, O. M.; Ibiejugba, M. A.) Analysis of Chebyshev finite element method for linear differential equations using equal interval elements. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 113–130. (Summary) **98c:65139** 65L60

— (*with* Chawla, M. M.; Al-Zanaidi, M. A.) A class of generalized trapezoidal formulas for the numerical integration of $y' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 131–142. (Summary) **98d:65094** 65L06

— (*with* Li, Changjun) A new iterative method for large sparse linear systems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 241–248. (Summary) **98g:65044** 65F50

— (*with* Cao, Zhi Hao) On quasi-minimal residual approach of iterative algorithms for solving nonsymmetric linear systems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 249–270. 65F30 (65Y05)

— (*with* Sun, Wen-Yu; de Sampaio, R. J. B.; Yuan, Jin Yun) The restricted generalized inverses corresponding to constrained quadratic system. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 285–296. (Summary) **98d:65050** 65F20

— ★ Group explicit methods for the numerical solution of partial differential equations. (English summary) Topics in Computer Mathematics, 7. *Gordon and Breach Science Publishers, Amsterdam*, 1997. viii+465 *pp. ISBN* 90-5699-019-5 (Ian Gladwell) **98m:65005** 65–02 (65M06, 65N06, 65Y05)

— (*with* Gušev, Marjan) A regular folding procedure. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 229–242. 68Q22

— (*with* Taiwo, O. A.) Collocation approximation for fourth-order boundary value problems. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 57–66. 65M06

— (*with* He, Qi Ming[2]; Kang, Lishan) Schwarz domain decomposition method for multidimensional and nonlinear parabolic equations: multidimensional subdomains with overlaps. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 101–119. (Beny Neta) **98k:65056** 65M55

— (*with* Bhuruth, M.) Block alternating group explicit preconditioning (BLAGE) for a class of fourth order difference schemes. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 121–136. (Summary) **98d:65060** 65F35 (65N06)

— (*with* Bai, Zhong-Zhi) Matrix multisplitting relaxation methods for linear complementarity problems. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 309–326. (Summary) **98d:90121** 90C33 (65K05)

— (*with* Wang, Xin Min[2]) Stein-Rosenberg type theorems for the SSOR and USSOR, PSD and MPSD methods. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 73–88. 65F10 (65F30)

— (*with* Bai, Zhong-Zhi) Blockwise matrix multi-splitting multi-parameter block relaxation methods. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 103–118. (Summary) **98d:65037** 65F10 (65H20)

— (*with* Bhuruth, M.) Strides reduction algorithms for block tridiagonal linear systems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 165–180. 65F10

— (*with* Cao, Zhi Hao) On a relaxation procedure for domain decomposition methods with many subdomains and inexact solver. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 89–107. (Summary) **98m:65212** 65N55 (65N06)

— (*with* Yaacob, Nazeeruddin) A new fifth order explicit Runge-Kutta method with four stages for solving initial value problems in ODEs. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 141–147. (Summary) **98i:65059** 65L06 (65L05)

— (*with* Zainuddin, Z.) Acceleration of the backpropagation through dynamic adaptation of the momentum. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 297–308. 90C30 (92B20)

— The parallel solution of tridiagonal systems by recursive striding. (English summary) *Parallel Algorithms Appl.* **10** (1997), *no.* 3-4, 161–164. (Summary) **98a:65038** 65F10 (65Y05)

— (*with* Margaritis, Konstantinos G.) A VLSI processor array for flexible string matching. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 45–60. 68Q35

— (*with* Calinescu, Radu) Bulk-synchronous parallel algorithms for QR and QZ matrix factorisation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 97–112. (Summary) **98c:65209** 65Y05 (65F05)

— (*with* Bai, Zhong-Zhi; Wang, De Ren) A class of multi-parameter relaxed parallel multisplitting methods for large sparse linear complementarity problems. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 113–127. (Summary) **98f:90066** 90C33 (65F30, 65Y05)

— (*with* Al-Dabass, D.; Vindlacheruvu, P.) Parallelism in neural nets. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 169–185. (Summary) **98f:65134** 65Y05 (68T05, 92B20)

— (*with* Wan, C. R.) A linear systolic array for preconditioned conjugate gradient method. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 227–247. (Summary) **98f:65035** 65F10 (65Y05)

— (*with* Shen, Hong[2]; You, Jia) Fault-tolerant multicast with traffic-balancing in hypercubes. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 287–298. (Summary) **98e:68013** 68M10 (68M15)

— (*with* Okša, G.) Parallel solution of symmetric positive definite Toeplitz systems. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 297–303. 65Y05 (65F30)

— (*with* Amin, S. A.) Systolic algorithms for the solution of Toeplitz matrices. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 321–339. (Summary) **98m:65068** 65F30

— (*with* Yaakub, A. R.) High order integration formula using trigonometric polynomials for periodic IVPs. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 277–297. (Summary) **98m:65118** 65L06

Evans, David M. An infinite highly arc-transitive digraph. *European J. Combin.* **18** (1997), *no.* 3, 281–286. (Cheryl E. Praeger) **98c:05077** 05C25 (05C20, 20B27)

— Computation of first cohomology groups of finite covers. (English summary) *J. Algebra* **193** (1997), *no.* 1, 214–238. (H. Dugald Macpherson) **98d:20001** 20B30 (20C32, 20J05)

Evans, G. A. An expansion method for irregular oscillatory integrals. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 137–148. (Summary) **98d:65025** 65D32

Evans, Gareth The causal theory of names. *The philosophy of language*, 271–283, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— *see also* **Schröder, Jürgen**, **98e:03024**

Evans, George William, III (*with* Honkapohja, Seppo) Economic dynamics with learning: new stability results. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 23–44. (Summary) **98i:62086** 62P20

Evans, H. B. (*with* Kember, G.; Fowler, A. C.) Local nonlinear filtering. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 5, 411–425. (Summary) **98c:93111** 93E11 (34C99, 58F40, 70K50)

Evans, J. *see* **Evans, James Carl**

Evans, J. D. *see* **Evans, Jonathan David**

Evans, James Carl (*with* Nandi, Kamal K.; Islam, Anwarul) Induced quantum fluctuations in the spherically symmetric space-time. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 18, 3171–3180. (Summary) **98e:83063** 83C47 (81T20)

— (*with* Nandi, Kamal K.; Bhattacharjee, B.; Alam, S. M. K.) Brans-Dicke wormholes in the Jordan and Einstein frames. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 823–828. 83D05 (83E05)

Evans, James W. (*with* Johnson, Richard A.; Green, David W.) Goodness-of-fit tests for two-parameter and three-parameter Weibull distributions. (English summary) *Advances in the theory and practice of statistics*, 159–178, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62G10

Evans, Jamie (*with* Krishnamurthy, Vikram) Finite-dimensional filters for passive tracking of Markov jump linear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 765–770. 93E11

Evans, Jonathan David (*with* Tayler, A. B.; King, John Robert) Finite-length mask effects in the isolation oxidation of silicon. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 2, 121–146. (Summary) **98a:80003** 80A20 (73K20)

Evans, Jonathan M. (*with* Madsen, Jens Ole) Integrability versus supersymmetry. (English summary) *Phys. Lett. B* **389** (1996), *no.* 4, 665–672. (Carlos R. Fernández-Pousa) **98f:81299** 81T40 (58F07, 81T60)

— (*with* Hollowood, Timothy J.) Exact scattering in the SU(n) supersymmetric principal chiral model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 517–540. (Wen-li Yang) **98i:81231** 81T40 (81T60, 81U20, 82B23)

— (*with* Madsen, Jens Ole) Dynkin diagrams and integrable models based on Lie superalgebras. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 715–746. (Alexander V. Shapovalov) **98k:58108** 58F07 (17B20, 17B81)

Evans, Lawrence C. A geometric interpretation of the heat equation with multivalued initial data. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 4, 932–958. (From the introduction) **98g:35092** 35K55 (35B25, 35K05, 35Q53)

— (*with* Bardi, Martino; Crandall, Michael G.; Soner, Halil Mete; Souganidis, Panagiotis E.) ★ Viscosity solutions and applications. Lectures given at the 2nd C.I.M.E. Session held in Montecatini Terme, June 12–20, 1995. Edited by I. Capuzzo Dolcetta and P. L. Lions. Lecture Notes in Mathematics, 1660. Fondazione C.I.M.E., [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1997. x+259 *pp. ISBN* 3-540-62910-6 (Editors) **98b:35005** 35–06 (49L25)

— Regularity for fully nonlinear elliptic equations and motion by mean curvature. *Viscosity solutions and applications (Montecatini Terme, 1995)*, 98–133, *Lecture Notes in Math., 1660, Springer, Berlin*, 1997. (Zhi Ren Jin) **98f:35046** 35J60 (35B65, 35D10)

— (*with* Feldman, Mikhail; Gariepy, R. F.) Fast/slow diffusion and collapsing sandpiles. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 166–209. (Maria Elena Schonbek) **98g:35093** 35K55 (35B40)

Evans, Mark (*with* Giannakis, Ioannis) T-duality in arbitrary string backgrounds. (English summary) *Nuclear Phys. B* **472** (1996), *no.* 1-2, 139–162. (Masoud Alimohammadi) **98c:81163** 81T30 (81T40, 83E30)

Evans, Martin J. (*with* Riley, David M.) Lie algebras of finite subalgebra rank. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 3, 185–191. (Yuri B. Ermolaev) **98g:17029** 17B99

— Presentations of free abelian-by-(nilpotent of class 2) groups. *Bull. London Math. Soc.* **30** (1998), *no.* 2, 136–144. (Javier Otal) **98k:20042** 20F05 (20E10)

Evans, Martin R. (*with* Derrida, Bernard) The asymmetric exclusion model: exact results through a matrix approach. *Nonequilibrium statistical mechanics in one dimension*, 277–304, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98h:82034**) 82B41

— Exact steady states of disordered hopping particle models with parallel and ordered sequential dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5669–5685. (Dimitri Petritis) **98h:82062** 82C44

Evans, Michael *see* **Evans, Michael John**

Evans, Michael J. *see* **Evans, Michael Jon**

Evans, Michael John Bayesian inference procedures derived via the concept of relative surprise. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1125–1143. (Summary) **98a:62004** 62A15 (62F15)

Evans, Michael Jon (*with* Darji, Udayan B.; Freiling, Chris; O'Malley, Richard J.) Fine properties of Baire one functions. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 177–188. (Oleksandr V. Sobchuk) **98k:26007** 26A21 (54C08, 54C30)

Evans, Nick (*with* Schmaltz, Martin) Diagrammatic analysis of duality in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3776–3784. (Richard A. Corrado) **98d:81114** 81T60 (81T13)

Evans, R. J. *see* **Evans, Robin J.**

Evans, R. M. L. (*with* Cates, M. E.) Diffusive evolution of stable and metastable phases. I. Local dynamics of interfaces. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 5738–5747. (Summary) **98m:82051** 82C24

— (*with* Poon, W. C. K.) Diffusive evolution of stable and metastable phases. II. Theory of nonequilibrium behavior in colloid-polymer mixtures. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 5748–5758. (Summary) **98m:82052** 82C24

Evans, Robert Andrew (*with* Thomas, Jonathan P.) Reputation and experimentation in repeated games with two long-run players. (English summary) *Econometrica* **65** (1997), *no.* 5, 1153–1173. (Tatsuro Ichiishi) **98m:90203** 90D20

Evans, Robin J. (*with* Savkin, A. V.; Petersen, Ian R.; Skafidas, Efstratios) Hybrid dynamical systems: robust control synthesis problems. (English summary) *Systems Control Lett.* **29** (1996), *no.* 2, 81–90. (Zbigniew Banaszak) **98a:93039** 93C30 (93C57)

— (*with* Li, Zheng; Wittenmark, Björn) Minimum variance prediction for linear time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 607–618. (Shin'ichi Aihara) **98d:93094** 93E11 (62M20)

— (*with* Li, Zheng) Minimum-variance control of linear time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1531–1537. (Summary) **98d:93103** 93E20 (93E10)

Evans, Steven N. p-adic white noise, chaos expansions, and stochastic integration. (English summary) *Probability measures on groups and related structures, XI (Oberwolfach, 1994)*, 102–115, *World Sci. Publishing, River Edge, NJ*, 1995. (Andrzej Mądrecki) **98e:60083** 60H05 (43A32, 43A35, 46G12, 46S10)

— (*with* Fleischmann, Klaus) Cluster formation in a stepping-stone model with continuous, hierarchically structured sites. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 1926–1952. (Summary) **98g:60179** 60K35 (60B15, 60J30, 60J60)

— (*with* Stark, Philip B.) Shrinkage estimators, Skorokhod's problem and stochastic integration by parts. (English summary) *Ann. Statist.* **24** (1996), *no.* 2, 809–815. (Summary) **98f:62016** 62C15 (62F10)

— Coalescing Markov labelled partitions and a continuous sites genetics model with infinitely many types. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 3, 339–358. (Klaus Fleischmann) **98m:60126** 60J60 (60J40)

Evans, T. S. Thermal Green functions at zero energy. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 486–502. (Summary) **98e:81183** 81T99

Evans, V. D. *see* **Evans, William Desmond**

Evans, W. A. B. Design of a "piston" for the generation of large amplitude solitary water waves. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 284–292, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 76B25

— (*with* Cunha, M. D.; Konotop, V. V.; Vázquez, Luis) Numerical study of various sine-Gordon "breathers". (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 293–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65M99 (35Q53)

Evans, William Desmond (*with* Burenkov, Viktor I.) On compact embeddings of Sobolev spaces and extension operators which preserve some smoothness. *Function spaces, differential operators and nonlinear analysis (Paseky nad Jizerou, 1995)*, 17–26, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 46E35

— (*with* Lewis, Roger T.; Siedentop, Heinz; Solovej, Jan Philip) Counting eigenvalues using coherent states with an application to Dirac and Schrödinger operators in the semi-classical limit. *Ark. Mat.* **34** (1996), *no.* 2, 265–283. (Ghias Hachem) **98d:35165** 35P05 (35Q40, 81R30)

— (*with* Brown, B. Malcolm) The computation of the Titchmarsh-Weyl m-function. *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 197–210, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (From the introduction) **98c:34038** 34B20 (34L05)

— (*with* Burenkov, Viktor I.) A weighted Hardy inequality for differences, and the complete continuity of the embedding of Sobolev spaces for domains of arbitrarily strong degeneration. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 583–585. 46E35 (46E15)

— (*with* Edmunds, David E.; Harris, Desmond J.) Two-sided estimates of the approximation numbers of certain Volterra integral operators. (English summary) *Studia Math.* **124** (1997), *no.* 1, 59–80. (Hermann König) **98d:47106** 47G10 (45D05, 45P05, 47B06)

Evdokimov, E. V. (*with* Shapovalov, A. V.) The Hamiltonian approach in the dynamics of Darwinian systems. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 7, 23–28; *translation in Russian Phys. J.* **40** (1997), *no.* 7, 610–615 (1998). (Summary) **98i:92024** 92D15 (34C99, 58F40)

Even, Guy (*with* Even, Shimon) Embedding interconnection networks in grids via the layered cross product. (English summary) *Algorithms and complexity (Rome, 1997)*, 3–12, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:68022** 68M10

— (*with* Naor, Joseph; Rao, Satish B.; Schieber, Baruch) Spreading metric based graph partitioning algorithms (extended abstract). (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68R10 (05C85, 68Q25)

— (*with* Naor, Joseph; Schieber, Baruch; Sudan, Madhu) Approximating minimum feedback sets and multicuts in directed graphs. (English summary) *Algorithmica* **20** (1998), *no.* 2, 151–174. (Summary) **98i:68218** 68R10 (05C20, 05C85, 68Q25)

Even, Shimon (*with* Even, Guy) Embedding interconnection networks in grids via the layered cross product. (English summary) *Algorithms and complexity (Rome, 1997)*, 3–12, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:68022** 68M10

— (*with* Litman, Ami; Winkler, Peter M.) Computing with snakes in directed networks of automata. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 158–170. (Summary) **98a:68054** 68Q10 (68P05, 68Q68)

— (*with* Mansour, Yishay) A construction of a cipher from a single pseudorandom permutation. (English summary) *J. Cryptology* **10** (1997), *no.* 3, 151–161. (Mu Lan Liu) **98j:94019** 94A60

— (*with* Litman, Ami) Layered cross product—a technique to construct interconnection networks. (English summary) *Networks* **29** (1997), *no.* 4, 219–223. (Qiao Li) **98c:68164** 68R10 (05C75, 68M10)

Evens, Sam (*with* Mirković, Ivan) Fourier transform and the Iwahori-Matsumoto involution. *Duke Math. J.* **86** (1997), *no.* 3, 435–464. (From the introduction) **98m:22022** 22E50

— On Springer representations and the Zuckerman functor. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 221–228. (Jen-Tseh Chang) **98k:22055** 22E46

Everest, G. R. (*with* Győry, K.) Counting solutions of decomposable form equations. *Acta Arith.* **79** (1997), *no.* 2, 173–191. (Paul M. Voutier) **98e:11037** 11D57 (11D72)

Everett, Allen E. (*with* Roman, Thomas A.) Superluminal subway: the Krasnikov tube. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2100–2108. (W. B. Bonnor) **98i:83013** 83C15 (83C10)

Everett, Anthony Absorbing Dialetheia? *Mind* **103** (1994), *no.* 412, 413–419. (Jean-Yves Béziau) **98f:03024** 03B53 (03A05)

— *see also* **Priest, Graham, 98k:03012**

Everett, Hazel (*with* de Figueiredo, Celina M. H.; Linhares-Sales, Cláudia; Maffray, Frédéric; Porto, Oscar; Reed, Bruce A.) Path parity and perfection. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 233–252. (Irena C. Rusu) **98a:05069** 05C15 (05C38, 05C85)

— (*with* Czyzowicz, Jurek; Robert, Jean-Marc) Separating translates in the plane: combinatorial bounds and an algorithm. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 551–562. (Stelian S. Dumitrascu) **98k:52017** 52A37 (52B55, 65U05)

Everett, M. G. (*with* Walshaw, C.; Cross, Mark) Dynamic load-balancing for parallel adaptive unstructured meshes. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55

Everitt, Brent Alternating quotients of the $(3, q, r)$ triangle groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1817–1832. (Marston Conder) **98b:20043** 20F05

— A family of conformally asymmetric Riemann surfaces. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 2, 221–225. (David Singerman) **98i:30055** 30F10 (20H10, 57M60)

Everitt, W. N. (*with* Möller, Manfred; Zettl, Anton) Discontinuous dependence of the nth Sturm-Liouville eigenvalue. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 145–150, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (J. K. Shaw) **98f:34033** 34B24 (34B05, 34L40)

— (*with* Shubin, C.; Stolz, Günter; Zettl, Anton) Sturm-Liouville problems with an infinite number of interior singularities. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 211–249, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Horst Behncke) **98i:47043** 47E05 (34B20, 34B24, 34L40)

Evertse, J.-H. (*with* Győry, K.) The number of families of solutions of decomposable form equations. *Acta Arith.* **80** (1997), *no.* 4, 367–394. (Paul M. Voutier) **98e:11038** 11D57 (11D72)

Evertsz, C. J. G. *see* **Fractal geometry and analysis, 98i:58003**

Eves, Howard ★ Foundations and fundamental concepts of mathematics. (English summary) With a foreword by Bruce E. Meserve. Reprint of the third (1990) edition. *Dover Publications, Inc., Mineola, NY*, 1997. xvi+344 *pp. ISBN* 0-486-69609-X (Editors) **98g:00001** 00–01 (00A05, 01–01, 03A05)

Eveson, S. P. Eigenvalues of totally positive integral operators. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 2, 216–222. (Anton Schep) **98e:47071** 47G10 (45P05, 47B38)

Evje, Steinar (*with* Karlsen, Kenneth Hvistendahl) ★ Monotone difference approximation of BV solutions to degenerate convection-diffusion equations. (English summary) Report, 115. *University of Bergen, Department of Applied Mathematics, Bergen*, 1998. ii+21 *pp.* (Summary) **98m:65140** 65M06 (35A35)

Evseev, A. E. (*with* Lyapin, E. S.) ★ The theory of partial algebraic operations. (English summary) Translated from the 1991 Russian original and with a preface by J. M. Cole. Revised by the authors. Mathematics and its Applications, 414. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+235 *pp. ISBN* 0-7923-4609-2 (H.-J. Hoehnke) **98j:20099** 20N02 (08A55, 08C15, 20M20)

Evseev, E. G. *see* **Reports: Seminar of I. Vekua Institute of Applied Mathematics, Enlarged Sessions, 98g:00015c**

Evseeva, L. G. (*with* Stoyan, Yu. G.; Romanova, T. E.) A combinatorial optimization problem of the arrangement of rectangles taking into account the error of the initial data. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 56–60. 90C27 (90C10)

Evstigneev, Igor V. The shortest path around an island outside the shallows. (English summary) *Markov Process. Related Fields* **1** (1995), *no.* 3, 407–418. (Robert C. Dalang) **98d:60092** 60G60 (60G70, 60J25)

— (*with* Flåm, Sjur Didrik) Noncooperative games in networks; stability and sensitivity of equilibria. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 62–75, *SIAM, Philadelphia, PA*, 1997. (Vivek S. Borkar) **98c:90192** 90D10 (90D46)

— (*with* Hildenbrand, W.; Jerison, Michael) Metonymy and cross-section demand. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 397–414. (Summary) **98g:90016** 90A40

— *see also* **Errata: "Metonymy and cross-section demand"**

Evstratov, I. Yu. (*with* Kabanov, S. A.) Control of a stabilization process using an optimal adaptive controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 135–143; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 996–1002. 93D15 (93D21)

Evtikhiev, NikolaiNikolaevich (*with* Vasin, A. A.) Some decision-making problems associated with random walks. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 1, 18–23, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 1, 25–31. 90A05 (90C15)

Evtimova, E. N. Hydrogen atom energy spectrum via the Terletsky distribution function in phase space. (English summary) *Bulgar. J. Phys.* **24** (1997), *no.* 1-2, 3–12. 81V45

Evtukhov, V. M. On conditions for oscillation and nonoscillation of the solutions of a semilinear second-order differential equation. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 7, 912–921 (1995). (From the text) **98e:34059** 34C10

Evtushenko, A. A. On a method for determining the interaction region of bodies in contact problems in the theory of elasticity. (Ukrainian. English and Russian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 60–65. 73T05

Evtushenko, Yu. G. (*with* Zasukhina, E. S.; Zubov, V. I.) On a numerical approach to the optimization of the solution of the Burgers problem by means of boundary conditions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1449–1458. (Summary) **98k:49044** 49M07 (76M30)

— *see also* **Abaffy, József, 98g:65004**

Ewacha, Kevin (*with* Rival, Ivan; Zaguia, Nejib) Approximating the number of linear extensions. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 271–282. (Václav Koubek) **98g:06009** 06A07 (06A05, 68R05)

Ewald, William *see* **From Kant to Hilbert: a source book in the foundations of mathematics, 98i:01040**

Ewell, John A. On an identity of Ramanujan. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3769–3771. (Bruce C. Berndt) **98f:11007** 11A25 (11P05, 33D10)

— A note on a Jacobian identity. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 421–423. (Richard P. Lewis) **98k:33030** 33D10 (05A19, 11P83)

Ewen, Holger (*with* Förger, Kristin) Simple calculation of instanton corrections in massive $N = 2$ SU(3) SYM. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4725–4742. (C. Gauthier) **98j:81329** 81T60 (14D05, 32G20, 81T13)

— (*with* Förger, Kristin; Theisen, Stefan) Prepotentials in $N = 2$ supersymmetric SU(3) YM theory with massless hypermultiplets. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 63–84. (João P. Nunes) **98a:81222** 81T60 (81T13)

Ewens, W. J. Remarks on the law of succession. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 229–244, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Andrew D. Barbour) **98g:92001** 92B10 (60C05)

Ewerhart, Christian Bayesian optimization and genericity. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 243–248. 90A05 (90D15)

Ewert, Heiko A splitting theorem for equifocal submanifolds in simply connected compact symmetric spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2443–2452. (Gudlaugur Thorbergsson) **98j:53064** 53C40 (53C35, 57S25)

Ewert, Janina Almost quasicontinuity of multivalued maps on product spaces. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 279–284. (O. T. Alas) **98a:54014** 54C60 (54C08)

— On convergence of multivalued maps. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 43–50. (Summary) **98e:54021** 54C60 (54A20)

— On strong form of Arzela convergence. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 417–421. (Summary) **98b:54004** 54A20

Ewert-Krzemieniewski, Stanisław On manifolds with curvature condition of recurrent type of the second order. *Period. Math. Hungar.* **34** (1997), *no.* 3, 185–194. (Andrew Bucki) **98m:53028** 53B20 (53B30)

Ewing, Bruce (*with* Millett, Kenneth C.) Computational algorithms and the complexity of link polynomials. *Progress in knot theory and related topics*, 51–68, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (From the introduction) **98k:57010** 57M25

Ewing, Richard E. Numerical simulation of the multiphase flow of contaminants in porous media. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 133–145, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (*see* **98f:76003**) 76Mxx (76S05)

— (*with* Chen, Zhangxin) Stability and convergence of a finite element method for reactive transport in ground water. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 881–904. (Summary) **98a:76049** 76M10 (65M60, 76S05, 76T05, 86–08, 86A05)

— (*with* Chen, Zhangxin) Fully discrete finite element analysis of multiphase flow in groundwater hydrology. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2228–2253. (Summary) **98f:76049** 76M10 (65M60, 76S05, 86A05)

Exel, Ruy Twisted partial actions: a classification of regular C^*-algebraic bundles. (English summary) *Proc. London Math. Soc.* (3) **74** (1997), *no.* 2, 417–443. (Carla Farsi) **98d:46075** 46L55 (46L05, 46M20)

— (*with* Abadie, Beatriz) Hilbert C^*-bimodules over commutative C^*-algebras and an isomorphism condition for quantum Heisenberg manifolds. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 411–423. (Andrzej Sitarz) **98d:46060** 46L05 (46L89, 58B30)

— (*with* Abadie, Beatriz; Eilers, Søren) Morita equivalence for crossed products by Hilbert C^*-bimodules. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3043–3054. (Vladimir Manuilov) **98k:46109** 46L55 (22D25, 46H25, 46L05, 46L80)

Exner, Pavel (*with* Gawlista, R.; Šeba, P.; Tater, M.) Point interactions in a strip. (English summary) *Ann. Physics* **252** (1996), *no.* 1, 133–179. (Peter N. Zhevandrov) **98b:81036** 81Q10 (81–04)

— (*with* Šeba, P.; Tater, M.; Vaněk, D.) Bound states and scattering in quantum waveguides coupled laterally through a boundary window. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 4867–4887. (H. Hogreve) **98b:81032** 81Q05 (81Q15, 81Q50, 81U05)

— (*with* Šeba, P.) Point interactions in two and three dimensions as models of small scatterers. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 1–4. (Allina A. Suzko) **98b:81033** 81Q05 (47N50)

— (*with* Asch, Joachim; Duclos, Pierre[1]) Stark-Wannier Hamiltonians with pure point spectrum. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 10–25, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Mihai Pascu) **98f:81066** 81Q10 (34L40, 47F05, 47N50)

— A duality between Schrödinger operators on graphs and certain Jacobi matrices. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 4, 359–371. (Jean-Michel Ghez) **98d:81015** 81Q10 (34L40, 47B39, 47E05)

— Magnetoresonances on a lasso graph. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 171–190. (Mihai Pascu) **98e:81033** 81Q10 (34L25, 81U20)

— (*with* Vugal'ter, S. A.) Bound states in a locally deformed waveguide: the critical case. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 1, 59–68. (Pavel Šťovíček) **98b:81298** 81V99 (35J05, 81Q10)

— Erratum: "Weakly coupled states on branching graphs" [Lett. Math. Phys. **38** (1996), no. 3, 313–320; MR 97j:81065]. *Lett. Math. Phys.* **42** (1997), *no.* 2, 193. 81Q15 (47B25, 47N50, 81Q10)

— (*with* Šeba, P.) Resonance statistics in a microwave cavity with a thin antenna. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 146–150. (Summary) **98f:78029** 78A50 (81U05)

— Laterally coupled quantum waveguides. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 69–82, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Serguei E. Tcheremchantsev) **98m:35140** 35P05 (35J05, 47N50, 81Q10, 81V80)

rodriguez Expósito, José *see* **Rodriguez Expósito, José**

Exton, Harold New Neumann and Kapteyn series of confluent hypergeometric functions and modified Bessel functions. (Italian summary) *Riv. Mat. Univ. Parma* (5) **4** (1995), 133–136 (1996). (N. Hayek Calil) **98b:33009** 33C10

— Laplace transforms of the Appell functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 69–82. (V. L. Deshpande) **98k:33013** 33C45 (44A10)

— A non-trivial special case of the biconfluent Heun equation $[0, 1, 1_3]$: orthogonality of its solutions. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 105–111 (1997). (V. L. Deshpande) **98k:33043** 33E30 (33E20)

— New generating relations for the multivariate biorthogonal Wilson polynomials. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 11, 1395–1401. (H. S. P. Shrivastava) **98g:33008** 33C20 (33C45, 33C65, 33C70)

— A new family of pseudo-orthogonal polynomials. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 71–76 (1997). (R. N. Kalia) **98k:33044** 33E30

— Some new summation formulae for the generalised hypergeometric function of higher order. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 183–187. (H. M. Srivastava) **98g:33009** 33C20

— On the reducibility of the Kampé de Fériet function. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 119–121. (Summary) **98m:33039** 33C70

— Series of Bessel functions of Neumann type. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 109–115. (Summary) **98m:33009** 33C10

Eydgahi, Ali Mohammadzadeh (*with* Beigy, Hamid) Fuzzy modeling of two-dimensional linear systems. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 41–45 (*reprinted on* 79–83), *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 93C42 (93A30)

Eyink, Gregory L. Fluctuations in the irreversible decay of turbulent energy. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5413–5422. (Summary) **98m:76096** 76F99 (76M35)

Eynard, B. (*with* Kristjansen, C. F.) More on the exact solution of the O(n) model on a random lattice and an investigation of the case $|n| > 2$. (English summary) *Nuclear Phys. B* **466** (1996), *no.* 3, 463–487. (Summary) **98f:81228** 81T27 (81T25, 82B20, 82B44)

vanden Eynden, Charles *see* **Vanden Eynden, Charles**

Eyral, Christophe Homotopie des pinceaux de sections hyperplanes. (English and French summaries) [Homotopy of a pencil of hyperplane sections] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1377–1380. (Vasily A. Chernecky) **98d:14026** 14F35 (32S60, 55Q52)

Eyras, E. (*with* Bergshoeff, E. A.; de Roo, Mees; Janssen, Bert; van der Schaar, J. P.) Intersections involving monopoles and waves in eleven dimensions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2757–2769. (André J. Van Tonder) **98j:83092** 83E30 (81T30, 83E50)

— (*with* Bergshoeff, E. A.; de Roo, Mees; Janssen, Bert; van der Schaar, J. P.) Multiple intersections of D-branes and M-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 119–143. (Gerardo Marcelo Aldazabal) **98d:81075** 81T30 (83E30)

— (*with* Bergshoeff, E. A.; de Roo, Mees) Gauged supergravity from dimensional reduction. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 70–78. (Summary) **98h:83086** 83E30 (81T30, 83E50)

Eyre, T. M. W. (*with* Hudson, Robin Lyth) Representations of Lie superalgebras and generalized boson-fermion equivalence in quantum stochastic calculus. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 87–94. (Summary) **98i:81125** 81S25 (17B81)

Eyssidieux, Philippe La caractéristique d'Euler du complexe de Gauss-Manin. (English summary) [The Euler characteristic of the Gauss-Manin complex] *J. Reine Angew. Math.* **490** (1997), 155–212. (Shanyu Ji) **98g:32050** 32J25 (32G20, 53C55)

Ezawa, Kiyoshi Multi-plaquette solutions for a discretized Ashtekar gravity. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 227–236, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:83037** 83C45

— (*with* Matsuo, Yutaka; Murakami, Koichi) BPS configuration of supermembrane with winding in M-direction. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 47–52. (Summary) **98k:81210** 81T30 (81T60)

— Nonperturbative solutions for canonical quantum gravity: an overview. (English summary) *Phys. Rep.* **286** (1997), *no.* 5, 271–348. (Jorge A. Pullin) **98f:83043** 83C45

— (*with* Ishikawa, Atushi) OSp(1|2) Chern-Simons gauge theory as 2D $N = 1$ induced supergravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2362–2368. (Summary) **98i:81154** 81T13 (81T60, 83E50)

Ezawa, Yasuo (*with* Kakimoto, F.; Soda, J.; Yano, Tadashi) Semiclassical approach to stability of extra-dimensional spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 257–268. (Ilya Shapiro) **98a:83055** 83C45 (83E15)

Ezawa, Z. F. Quantum coherence and $W_\infty \times$ SU(2) algebra in bilayer quantum Hall systems. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 392–400. (Summary) **98f:81380** 81V70 (81R10, 81T13)

Ezentaş, R. (*with* Arslan, K.) Finite type immersions and their products. *Geometry and topology of submanifolds, VIII* (*Brussels*, 1995/*Nordfjordeid*, 1995), 16–21, *World Sci. Publishing, River Edge, NJ*, 1996. (Bang-yen Chen) **98b:53042** 53C40 (53B25)

Ezhov, I. I. (*with* Kadankov, V. F.) The investigation of the $G_0/G_\zeta/1$ system in terms of Spitzer's series. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 55–67. (Summary) **98a:60134** 60K25 (68M20, 90B22)

Ezhov, V. V. (*with* Schmalz, Gerd) Normal form and two-dimensional chains of an elliptic CR manifold in $\mathbf{C}^4$. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 495–529 (1997). (Matthew B. Stenzel) **98m:32025** 32F25 (32C16)

Ezin, Jean-Pierre Scalar curvature and spherical-type Riemannian manifolds. (English summary) Proceedings of the UMA Symposium (Porto-Novo, 1993). *Afrika Mat.* (3) **2** (1993), 19–28. (Bang-yen Chen) **98c:53063** 53C40 (53B25)

Ežov, Vladimir V. *see* **Ezhov, V. V.**

Ezquerra, Norberto F. (*with* Kenmochi, Yukiko; Imiya, Atsushi) Polyhedra generation from lattice points. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 127–138, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 52B55 (68U10)

alegría Ezquerra, Pedro *see* **Alegría Ezquerra, Pedro**

Ezquerro, José A. (*with* Hernández Verón, Miguel A.) A note on a family of Newton type iterative processes. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 223–232. (Summary) **98d:65064** 65H05

— A modification of the Chebyshev method. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 511–525. (Mihai Turinici) **98j:65042** 65J15 (47H17)

— (*with* Hernández Verón, Miguel A.) Relaxing convergence conditions for an inverse-free Jarratt-type approximation. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 131–135. (Summary) **98i:65045** 65J15 (47H17)

Ezquerro Marín, Luis Miguel (*with* Gómez-Fernández, M.) Finite groups in which all p-subnormal subgroups form a lattice. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 1, 1–6. (Francesco de Giovanni) **98b:20030** 20D35 (20D30)

Ezzaki, Fatima (*with* Castaing, Charles; Hess, Christian) Convergence of conditional expectations for unbounded closed convex random sets. (English summary) *Studia Math.* **124** (1997), *no.* 2, 133–148. (Zvi Artstein) **98i:28016** 28B20 (60D05)

Ezzat, M. A. (*with* Abd-Elaal, M. Z.) State space approach to viscoelastic fluid flow of hydromagnetic fluctuating boundary-layer through a porous medium. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 197–207. (Summary) **98c:76120** 76W05 (76A10, 76S05)

Ezzinbi, K. (*with* Ait Dads, E.; Arino, O.) Existence of periodic solution for some neutral nonlinear integral equation with delay time dependent. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 79–92. (C. Corduneanu) **98h:45007** 45G10 (45M15, 92C60)

— (*with* Ait Dads, E.; Fatajou, S.) Weakly almost periodic solutions of the inhomogeneous linear equations and periodic processes in a Banach space. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 507–516. (C. Corduneanu) **98m:34121** 34G20 (34C27)

— (*with* Arino, O.; Benkhalti, R.) Existence results for initial value problems for neutral functional-differential equations. *J. Differential Equations* **138** (1997), *no.* 1, 188–193. (From the introduction) **98d:34099** 34K05 (34K40)

— (*with* Ait Dads, E.; Arino, O.) Pseudo almost periodic solutions for some differential equations in a Banach space. *Nonlinear Anal.* **28** (1997), *no.* 7, 1141–1155. (John R. Graef) **98d:34089** 34G10 (34C27, 47N20)

— (*with* Ait Dads, E.; Arino, O.) Periodic and almost periodic results for some differential equations in Banach spaces. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 163–170. (A. I. Perov) **98j:34116** 34G20 (34C25, 34C27)

–F–

Fabbri, Alessandro (*with* Balbinot, R.) Two-dimensional black holes in accelerated frames: quantum aspects. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 463–476. (Asghar Qadir) **98b:83052** 83C57 (81T20, 83C47)

Fabbri, Paolo (*with* Ritelli, Daniele; Barbiroli, Giancarlo) Predation among technologies on the market: a modellistic analysis. (English summary) *J. Math. Econom.* **27** (1997), *no.* 3, 347–374. (Jeffrey L. Coles) **98h:90030** 90A60 (90A16)

Faber, Carel Intersection-theoretical computations on $\mathcal{M}_g$. *Parameter spaces (Warsaw, 1994)*, 71–81, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Montserrat Teixidor i Bigas) **98j:14033** 14H10 (14C15, 14C17)

Faber, M. (*with* Ivanov, A. N.; Troitskaya, N. I.; Zach, M.) Shape fluctuations of dual Dirac strings in the dual Higgs model with dual Dirac strings. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 331–338. 81T30 (81V05)

Faber, V. (*with* Joubert, W.; Knill, Emanuel; Manteuffel, Thomas A.) Minimal residual method stronger than polynomial preconditioning. (English summary) *SIAM J. Matrix Anal. Appl.* **17** (1996), *no.* 4, 707–729. (Zdeněk Dostál) **98a:65039** 65F10 (65F35)

Fabes, Eugene Barry *see* **Kenig, Carlos E.**

peralta-Fabi, R. *see* **Peralta-Fabi, R.**

Fabian, Marián J. ★ Gâteaux differentiability of convex functions and topology. Weak Asplund spaces. Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+180 *pp. ISBN* 0-471-16822-X (John R. Giles) **98h:46009** 46B20 (46G05, 49J52, 58C20)

— (*with* Borwein, Jonathan M.; Vanderwerff, Jon D.) Characterizations of Banach spaces via convex and other locally Lipschitz functions. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 53–69. (Warren B. Moors) **98k:46019** 46B20 (46G99, 52A41)

— (*with* Zizler, Václav) A note on bump functions that locally depend on finitely many coordinates. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 447–451. (Summary) **98h:46010** 46B20 (46G05)

— (*with* Zizler, Václav) A note on twisted sums of rotund Banach spaces and extension of injections. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 323–329. (G. J. O. Jameson) **98m:46003** 46B03

— (*with* Hájek, Petr[1]; Zizler, Václav) A note on lattice renormings. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 263–272. (Y. Benyamini) **98e:46008** 46B20 (46B26)

Fabián, Zdeněk Information and entropy of continuous random variables. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1080–1084. (Ma. Luisa Menéndez) **98e:94008** 94A15 (62B10, 94A17)

— On the relation between gnostical and probability theories. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 3, 259–270. 62A99 (62B10, 62F99)

Fabiano, A. (*with* Pucci, Gemma; Yger, Alain) Effective Nullstellensatz and geometric degree for zero-dimensional ideals. *Acta Arith.* **78** (1996), *no.* 2, 165–187. (From the introduction) **98j:13027** 13P10 (32A27)

— Boundary values of monogenic functions. *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 193–206. (Klaus Gürlebeck) **98a:30063** 30G35 (46F15)

— An introduction to the microlocal analysis of hypercomplex functions. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 201–224 (1997). (Klaus Gürlebeck) **98j:30058** 30G35 (35A27, 46F15)

— (*with* Pucci, Gemma) Bezout identities with pseudopolynomial entries. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 6, 477–495. (Carlos A. Berenstein) **98g:32008** 32B05 (32F05)

Fabiano, Richard H. Stability and approximation for a linear viscoelastic model. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 1, 206–220. (From the introduction) **98b:34105** 34K30 (45J05, 47D06, 47N20, 73F15)

Fabio, Marcela A. (*with* Serrano, Eduardo P.) Undecimated wavelet transform from orthogonal spline wavelets. *Wavelet theory and harmonic analysis in applied sciences (Buenos Aires, 1995)*, 33–72, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Li Zhong Peng) **98k:42047** 42C15 (94A12)

Fabling, R. B. (*with* Craig, I. J. D.) Dynamic magnetic reconnection in three space dimensions: fan current solutions. (English summary) *Phys. Plasmas* **5** (1998), *no.* 3, 635–644. (Summary) **98m:76156** 76W05

Fabre, Cyrille (*with* Antoniadis, Ignatios; Bachas, C.; Partouche, H.; Taylor, T. R.) Aspects of type I–type II–heterotic triality in four dimensions. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 160–178. (Angel Maria Uranga) **98f:81232** 81T30 (83E30)

— (*with* Bachas, C.; Kiritsis, Elias; Obers, N. A.; Vanhove, Pierre) Heterotic/type I duality and D-brane instantons. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 33–52. (Summary) **98k:81191** 81T30

Fabre, Sylvie Study of an approximation model issued from plasma physics and quasineutrality. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 7, 887–900. (Summary) **98a:82098** 82D10

Fàbrega, J. *see* **Fàbrega, Josep**

Fàbrega, Joan (*with* Ortega, Joaquín M.) Weighted Sobolev spaces in complex ellipsoids. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 2, 325–362. (Petr Gurka) **98b:32011** 32F20 (46E35)

Fàbrega, Josep (*with* Fiol, M. A.) Bipartite graphs and digraphs with maximum connectivity. (English summary) *Discrete Appl. Math.* **69** (1996), *no.* 3, 271–279. (Summary) **98f:05104** 05C40 (05C20)

— (*with* Zaragozà, M.) Fault-tolerant routings in double fixed-step networks. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 61–74. (Jean-Claude Bermond) **98i:05154** 05C90

— (*with* Balbuena, C.; Carmona, Angeles; Fiol, M. A.) Extraconnectivity of graphs with large minimum degree and girth. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 85–100. (Prabir Das) **98d:05088** 05C40

— (*with* Balbuena, M. C.; Carmona, Angeles; Fiol, M. A.) Connectivity of large bipartite digraphs and graphs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 3–17. (Alexander M. Barg) **98k:05101** 05C40

— (*with* Balbuena, M. C.; Carmona, Angeles; Fiol, M. A.) On the order and size of s-geodetic digraphs with given connectivity. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 19–27. (Summary) **98f:05071** 05C20 (05C40)

Fabri, A. (*with* Dehne, Frank; Deng, Xiao Tie; Dymond, P.; Khokhar, A. A.) A randomized parallel three-dimensional convex hull algorithm for coarse-grained multicomputers. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 547–558. (Summary) **98f:68263** 68U05 (68Q22)

Fabri, Elio (*with* Giannitrapani, R.) Combinatorial tools for Regge calculus. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 311–315, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C27

Fabri, Simon (*with* Kadirkamanathan, Visakan) Dual adaptive control of nonlinear stochastic systems using neural networks. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 245–253. 93E24 (93C83)

Fabrici, Igor (*with* Jendroľ, Stanislav) Subgraphs with restricted degrees of their vertices in planar 3-connected graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 245–250. (Joseph Zaks) **98h:05112** 05C38 (05C99)

Fabrie, Pierre (*with* Bruneau, Ch.-H.) New efficient boundary conditions for incompressibie Navier-Stokes equations: a well-posedness result. (English summary) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 7, 815–840. (Chang Hao Lin) **98f:35114** 35Q30 (76D05, 76M25)

— (*with* Rasetarinera, P.) Analyse mathématique d'un système de transport-diffusion-réaction modélisant la restauration biologique d'un milieu poreux. (English and French summaries) [Mathematical analysis of a transport-reaction-diffusion system modelling the biorestoration of a porous medium] *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 393–433. (Elena Comparini) **98b:76068** 76S05 (35Q35)

— (*with* Le Thiez, Pierre; Tardy, Philippe) On a system of nonlinear elliptic and degenerate parabolic equations describing compositional water-oil flows in porous media. *Nonlinear Anal.* **28** (1997), *no.* 9, 1565–1600. (Li Shang Jiang) **98h:35222** 35Q72 (35J60, 35K65, 76S05)

— (*with* Bruneau, Ch.-H.; Veersé, F.) Optimal control data assimilation with an atmospheric model. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 691–722. (Qin Xu) **98g:49026** 49N55 (86A10)

Fabrikant, A. L. (*with* Stepanyants, Yu. A.) ★ Распространение волн в сдвиговых потоках. (Russian. English and Russian summaries) [Wave propagation in shear flows] Современные Проблемы Физики. [Current Problems in Physics] "*Nauka*", *Moscow*, 1996. 240 *pp. ISBN* 5-02-014864-4 (Alexander Lifschitz) **98e:76003** 76-02 (76Exx)

Fabrikant, V. I. Interaction of a parallel circular cracks subjected to arbitrary loading in transversely isotropic elastic space. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 273–290. (Summary) **98m:73071** 73M25 (73B40, 73C02)

— New approach to mixed-mixed problems in linear elasticity. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 4, 595–618. (Gennady S. Mishuris) **98f:73012** 73C35 (73B40, 73C02)

— Computation of the resultant forces and moments in elastic contact problems. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 681–698. (Summary) **98e:73118** 73T05

— Generalized method of images in the crack analysis. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1159–1184. (Summary) **98h:73068** 73M25

— Exact solution of tangential contact problem for a circular domain. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 1, 113–134. (K. N. Srivastava) **98b:73032** 73T05 (73C35)

— Interaction of an arbitrary force with a flexible punch or with a penny-shaped crack. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 2, 303–319. (Summary) **98d:73022** 73C35 (73B40, 73M25)

Fabris, Drazen (*with* Liepmann, Dorian) Vortex ring structure at late stages of formation. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2801–2803. 76C05

Fabris, Francesco (*with* Sgarro, Andrea; Pauletti, Rudy) Tunstall adaptive coding and miscoding. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2167–2180. (Viktor A. Obuljen) **98k:94006** 94A29 (94A45)

Fabris, Júlio C. (*with* Bronnikov, Kirill A.) Weyl spacetimes and wormholes in D-dimensional Einstein and dilaton gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 831–842. (Alexander Yanovich Burinskiĭ) **98g:83092** 83E15

de Fabritiis, C. Commuting maps and families of hyperbolic automorphisms. *Complex analysis and geometry (Trento, 1995)*, 94–111, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Marco Abate) **98i:32045** 32H99 (32M99)

Fabrizio, M. (*with* Gentili, Giorgio; Reynolds, D. W.) Free energy and stability for heat conductors with linear memory. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 221–229. (Reinhard Racke) **98h:73011** 73B30

— (*with* Gentili, Giorgio; Lazzari, B.) A nonlocal thermodynamic theory of superconductivity. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 345–362. (Summary) **98f:82139** 82D55

Facchinei, Francisco (*with* Fischer, Andreas[1]; Kanzow, Christian) A semismooth Newton method for variational inequalities: the case of box constraints. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 76–90, *SIAM, Philadelphia, PA*, 1997. (Wan Tao Fu) **98d:90122** 90C33 (65H05)

— (*with* Kanzow, Christian) On unconstrained and constrained stationary points of the implicit Lagrangian. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 99–115. (S. R. Mohan) **98b:90142** 90C33 (90C30)

— Robust recursive quadratic programming algorithm model with global and superlinear convergence properties. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 543–579. (Paul H. Calamai) **98a:90076** 90C20 (65K05)

— (*with* Kanzow, Christian) A nonsmooth inexact Newton method for the solution of large-scale nonlinear complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 493–512. (Zun Quan Xia) **98c:90159** 90C33 (65K05)

— (*with* Soares, João) A new merit function for nonlinear complementarity problems and a related algorithm. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 225–247. (S. R.

Mohan) **98a:90114** 90C33

Facchini, Alberto (*with* Busqué, Claudi) Abelian categories in which linear algebra is possible. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 2, 137–156. (Daniel Simson) **98g:18010** 18E15 (16D90)

— (*with* Nguyễn Viêt Dũng[2]) Weak Krull-Schmidt for infinite direct sums of uniserial modules. *J. Algebra* **193** (1997), *no.* 1, 102–121. (Yasuyuki Hirano) **98i:16009** 16D70

Facchini, Giovanni (*with* van Megen, Freek; Borm, Peter; Tijs, Stef) Congestion models and weighted Bayesian potential games. (English summary) *Theory and Decision* **42** (1997), *no.* 2, 193–206. (Summary) **98a:90141** 90D10 (90A14)

Faccio, R. J. (*with* Kornhauser, I.; Rojas, F.; Riccardo, J. L.; Vidales, A. M.; Zgrablich, G.) Structure characterization of disordered porous media—a memorial review dedicated to Vicente Mayagoitia. (English summary) *Fractals* **5** (1997), *no.* 3, 355–377. (Rahul Roy) **98m:73017** 73B99 (82B80)

Fachini, Emanuela (*with* Monti, Angelo) Chomsky hierarchy and systolic Y-tree automata. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 325–339. (Summary) **98g:68081** 68Q45 (68Q68)

Fadda, Dani (*with* Chen, Shea; Johnson, David Bascomb; Raad, Peter E.) The surface marker and micro cell method. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 749–778. (Summary) **98h:76102** 76M25 (76B10)

Faddeev, D. K. (*with* Ishkhanov, V. V.; Lur′e, B. B.) ★ The embedding problem in Galois theory. (English summary) Translated from the 1990 Russian original by N. B. Lebedinskaya. Translations of Mathematical Monographs, 165. *American Mathematical Society, Providence, RI*, 1997. xii+182 *pp. ISBN* 0-8218-4592-6 (Editors) **98c:12007** 12F12 (11R32, 11S20)

Faddeev, L. D. The end of physics as seen by a mathematician [MR 92j:00030]. (Finnish) *In the forest of symbols* (*Finnish*), 231–243, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 00A79 (00A69)

— The state of Russian mathematics. (Russian) *Vestnik Ross. Akad. Nauk* **64** (1994), *no.* 6, 467–472. 01A72

— (*with* Volkov, A. Yu.) Shift operator for the discrete SL(2) current algebra. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 35–42, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Bani Mitra Södermark) **98m:81061** 81R10 (17B37)

— (*with* Arnol′d, Vladimir Igorevich; Bolibrukh, A. A.; Gamkrelidze, R. V.; Maslov, V. P.; Mishchenko, E. F.; Novikov, S. P.; Osipov, Yu. S.; Sinaĭ, Yakov Grigor′evich; Stepin, A. M.) Dmitriĭ Viktorovich Anosov (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 437–445. (Editors) **98f:01055** 01A70

Faddy, M. J. On extending the negative binomial distribution, and the number of weekly winners of the UK national lottery. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 77–82. 60J20 (60C05)

Fadlalla, Adib A. Transfer of estimates from convex to strongly pseudoconvex domains in $\mathbf{C}^n$. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 85–94, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (John Bland) **98e:32042** 32H15 (32F15)

Faermann, B. Efficient and reliable a-posteriori error estimates for boundary element methods. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 87–91, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N38 (65N15)

Faetti, Sandro (*with* Virga, Epifanio G.) On nematic surface energies. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 293–299. (Summary) **98f:76008** 76A15 (73B99, 82D30)

Fafard, Mario (*with* Henchi, Kamel; Dhatt, Gouri; Talbot, Martin) Comportement dynamique des poutres continues sollicitées par des charges mobiles. Approches semi-analytiques et éléments finis. (English and French summaries) [Dynamical behavior of continuous beams subject to moving loads. Semianalytic and finite-element approaches] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 165–195. 73K05 (73V05)

Fafurin, A. V. (*with* Grigor′ev, M. M.) A boundary element method for steady viscous fluid flow using penalty function formulation. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 8, 907–929. (Summary) **98h:76088** 76M15

Fagart, Marie-Cécile Concurrence en contrats, anti-sélection et structure d'information. (English and French summaries) [Competition between principals, adverse selection and information schemes] *Ann. Économ. Statist.* **1996**, *no.* 43, 1–27. 90D40 (90A60)

Fagerberg, Rolf (*with* Boyar, Joan; Larsen, Kim S.) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 270–281, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05 (68Q10)

— Binary search trees: how low can you go? (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 428–439, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98e:68039** 68P05

Fages, François (*with* Gori, Roberta) A hierarchy of semantics for normal constraint logic programs. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 77–91, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17 (68Q55, 68T20)

— Constructive negation by pruning. (English summary) *J. Logic Programming* **32** (1997), *no.* 2, 85–118. (Summary) **98a:68024** 68N17 (68Q55, 68T20)

Faggioli, Enrico (*with* Pezzella, Ferdinando) Solving large set covering problems for crew scheduling. (English summary) *Top* **5** (1997), *no.* 1, 41–59. 90B35 (90C27)

Faghihi, Mohammad Reza (*with* Dryden, Ian L.; Taylor, Charles Catherwood) Procrustes shape analysis of planar point subsets. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 353–374. (Daijin Ko) **98j:62042** 62H11 (62H12, 62H15, 62P10)

Fagin, Ronald (*with* Choy, D. M.; Stockmeyer, L.) Efficiently extendible mappings for balanced data distribution. (English summary) *Algorithmica* **16** (1996), *no.* 2, 215–232. (Summary) **98c:68047** 68P15

— Easier ways to win logical games. (English summary) *Descriptive complexity and finite models* (*Princeton, NJ*, 1996), 1–32, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 31, *Amer. Math. Soc., Providence, RI*, 1997. (M. Yasuhara) **98d:03046** 03C13 (03–02, 03C80, 03C85, 03D15, 68Q15)

— Comparing the power of games on graphs. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 431–455. (Damian Niwiński) **98m:03085** 03D15 (03B15, 03C13, 68Q15)

— (*with* Arora, Sanjeev) On winning strategies in Ehrenfeucht-Fraïssé games. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 97–121. (Bruno Poizat) **98g:03080** 03C13 (03D15, 68Q15)

— (*with* Halpern, Joseph Y.) Corrigendum: "Reasoning about knowledge and probability" [J. Assoc. Comput. Mach. **41** (1994), no. 2, 340–367; MR 96h:68192]. *J. ACM* **45** (1998), *no.* 1, 214. 68T27 (03B45, 03B48)

— *see also* **ACM Symposium: Principles of Database Systems. 98c:68002**

Fagiuoli, Enrico (*with* Pellerey, Franco) Moment inequalities for sums of DMRL random variables. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 525–535. (A. M. Abouammoh) **98f:60027** 60E15 (62N05)

Fagnani, Fabio (*with* Zampieri, Sandro) Dynamical systems and convolutional codes over finite abelian groups. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1892–1912. (Douglas A. Leonard) **98c:94036** 94B10

— Shifts on compact and discrete Lie groups: algebraic-topological invariants and classification problems. (English summary) *Adv. Math.* **127** (1997), *no.* 2, 283–306. (A. I. Danilenko) **98c:54034** 54H20 (22B99, 22C05, 22D45, 93A30)

— (*with* Profeti, Alessandro) Asymptotic stability of random dynamical systems over tori. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 243–268. (Thomas Bogenschütz) **98m:60102** 60J05 (28D05, 47A35, 58F11)

Fagnart, Jean-François (*with* Licandro, Omar; Sneessens, Henri R.) Capacity utilization and market power. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 123–140. 90A16 (90A60)

Fagnola, F. (*with* Sinha, Kalyan B.) Scattering theory for unitary cocycles. (English summary) *Stochastic processes*, 81–88, *Springer, New York*, 1993. (Timothy M. W. Eyre) **98a:81098** 81S25 (46N50)

— (*with* Chebotarëv, A. M.) On quantum extensions of the Azéma martingale semigroup. *Séminaire de Probabilités, XXIX*, 1–16, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Stanisław Goldstein) **98j:46075** 46L55 (81S25)

— (*with* Bhat, B. V. Rajarama) On minimality of Evans-Hudson flows. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 671–683. (Timothy M. W. Eyre) **98i:81124** 81S25

Fagnot, Isabelle On the subword equivalence problem for morphic words. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 231–253. (Frédérique Bassino) **98e:68215** 68R15 (03D05, 68Q45)

Fahmy, Amr F. (*with* Roos, Robert S.) Efficient learning of real time two-counter automata (extended abstract). (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 113–126, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68Q68)

Fahmy, Mohamed Hussein (*with* Hassanein, A.) P. I. differential operator rings. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 35–38 (1994). 16R10

— (*with* Mohammady, S.) Normalizing extensions of regular and π-regular P. I.-rings. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 39–46 (1994). (J. C. Robson) **98m:16030** 16S20 (16E50, 16S35)

— (*with* Salem, Refaat M.) The ring of Morita context satisfying r-Bnd property. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 47–52 (1994). 16D99

Fahroo, Fariba (*with* Ito, Kazufumi) Optimum damping design for an abstract wave equation. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika* (*Prague*) **32** (1996), *no.* 6, 557–574. (Xiao Liang He) **98c:93084** 93D15 (93C20, 93D21)

Fahsi, A. (*with* Belhaq, M.) Higher-order approximation of subharmonics close to strong resonances in the forced oscillators. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 133–144. (Summary) **98a:34037** 34C23 (34C23, 34C29)

Faigle, Ulrich (*with* Kern, Walter; Spieker, Boris) On the communication complexity of t-intersection problems in generalized Boolean algebras. (English summary) Discrete optimization. *Math. Methods Oper. Res.* **43** (1996), *no.* 2, 239–254. (Summary) **98c:68088** 68Q25 (68Q10, 90D46)

— (*with* Kern, Walter; Fekete, Sándor P.; Hochstättler, Winfried) On the complexity of testing membership in the core of min-cost spanning tree games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 361–366. (Summary) **98c:90250** 90D43 (65Y20)

— (*with* Hunting, M.; Kern, Walter; Prakash, Ravi; Supowit, K. J.) Simplices by point-sliding and the Yamnitsky-Levin algorithm. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 131–142. (F. Pickel) **98m:90082** 90C05

— *see also* **Workshop: Graphs and Combinatorial Optimization. 98c:05003**

Fain, Benjamin Quantum measurement and pure dephasing. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 3, 221–233. (A. Barchielli) **98e:81016** 81P15

Faina, Giorgio (*with* Marcugini, S.; Milani, Alfredo; Pambianco, Fernanda) The spectrum of the values k for which there exists a complete k-arc in PG$(2, q)$ for $q \le 23$. (English summary) *Ars Combin.* **47** (1997), 3–11. (György Kiss) **98m:51008** 51E21

— (*with* Pambianco, Fernanda) Small complete caps in PG(r, q), $r \ge 3$. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 117–123. (J. W. P. Hirschfeld) **98k:51023** 51E22

— Complete arcs and caps in some papers of Giuseppe Tallini and walking with Giuseppe Tallini along the streets of "Augusta Perusia". *Results Math.* **32** (1997), *no.* 3-4, 248–253. 51–03 (01A70, 51E22)

Faina, Loris (*with* Buttazzo, Giuseppe) Existence for optimal control problems governed by noncoercive state equations. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 417–431. (Jean-Pierre Raymond) **98e:49009** 49J20 (49J45)

— The parametric Weierstrass integral over a BV curve as a length functional. (English summary) *Studia Math.* **127** (1998), *no.* 1, 9–19. (Fei-Tsen Liang) **98i:49048** 49Q25 (58C35)

Fainaru, I. (*with* Sitter, Randy R.) Optimal designs for the logit and probit models for binary data. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 175–190. (Summary) **98c:62145** 62K05

Fainberg, V. Ya. (*with* Pak, N. K.; Shikakhwa, M. S.) The path integral quantization and the construction of the S-matrix operator in the abelian and non-abelian Chern-Simons theories. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3947–3965. (Summary) **98e:81109** 81T13 (81S40, 81T15, 81V05, 81V10)

Fair, Ivan J. (*with* Wang, Qiang; Bhargava, Vijay K.) Characteristics of guided scrambling encoders and their coded sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 342–347. (Summary) **98j:94001** 94A05

Fair, Ray C. Computational methods for macroeconometric models. *Handbook of computational economics, Vol. I*, 143–169, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A15 (90A17)

Fairén, Victor (*with* Hernández-Bermejo, Benito) Lotka-Volterra representation of general nonlinear systems. (English summary) *Math. Biosci.* **140** (1997), *no.* 1, 1–32. (Ovide Arino) **98i:92042** 92D40 (34A34)

— (*with* Hernández-Bermejo, Benito) A constant of motion in 3D implies a local generalized Hamiltonian structure. (English summary) *Phys. Lett. A* **234** (1997), *no.* 1, 35–40. (Domingo Chinea) **98j:58043** 58F05 (34A26, 70H05)

Fairlie, David B. Integrable systems in higher dimensions. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 273–284, *World Sci. Publishing, River Edge, NJ*, 1994. (Mayumi Ohmiya) **98f:58101** 58F07

— Integrable systems in dimensions greater than two. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 326–334, *World Sci. Publishing, River Edge, NJ*, 1995. (Iskander A. Taimanov) **98g:58075** 58F07 (35Q58, 81Q99)

— (*with* Strachan, I. A. B.) The algebraic and Hamiltonian structure of the dispersionless Benney and Toda hierarchies. (English summary) *Inverse Problems* **12** (1996), *no.* 6, 885–908. (Oktay K. Pashaev) **98d:58082** 58F07 (35Q58)

— (*with* Nuyts, Jean) Two-index generalizations of superconformal algebras. (English summary) *J. Phys. A* **29** (1996), *no.* 20, L511–L515. (Ioannis Tsohantjis) **98c:81086** 81R10 (17B68)

— (*with* Zhdanov, R. Z.) A model for classical spacetime coordinates. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 245–249. (Alicia M. Sintes) **98e:83092** 83C99 (70G50)

— (*with* Wu, Ming-Yuan) The reversed q-exponential functional relation. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5405–5409. (Mizan Rahman) **98i:33020** 33D15

— (*with* Curtright, Thomas; Zachos, Cosmas) Integrable symplectic trilinear interaction terms for matrix membranes. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 37–44. (Summary) **98g:81158** 81T30 (58F07, 58Z05)

— Formal solutions of an evolution equation of Riemann type. (English summary) *Stud. Appl. Math.* **98** (1997), *no.* 2, 203–205. (Haitao Fan) **98f:35018** 35C10 (35F20, 35L60)

— (*with* Ueno, Tatsuya) Higher-dimensional generalisations of the Euler top equations. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 132–136. (Summary) **98m:70011** 70E15 (70H99, 83E30)

Fairman, Frederick W. (*with* Pavel, Lacramioara) Robust stabilization of nonlinear plants—an L_2 approach. (English summary) *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 7, 691–726. (Summary) **98c:93099** 93D21 (93B36)

— (*with* Pavel, Lacramioara) Nonlinear H_∞ control: a J-dissipative approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1636–1653. (Ian Petersen) **98k:93033** 93B36 (93C10)

— (*with* Pavel, Lacramioara) Controller reduction for nonlinear plants—an L_2 approach. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 5, 475–505. (Vimal Singh) **98e:93014** 93B11 (93B36)

Fairtlough, Matt (*with* Mendler, Michael) An intuitionistic modal logic with applications to the formal verification of hardware. (English summary) *Computer science logic* (*Kazimierz*, 1994), 354–368, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03B45 (03B70, 68Q60)

— (*with* Mendler, Michael) Propositional lax logic. (English summary) *Inform. and Comput.* **137** (1997), *no.* 1, 1–33. (Neculai Curteanu) **98j:03045** 03B70 (03B45, 68Q60)

Faith, Carl Rings with few zero divisors are those with semilocal Kasch quotient rings. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 687–690. (Summary) **98b:13007** 13B30

— (*with* Herbera, Dolors) Endomorphism rings and tensor products of linearly compact modules. *Comm. Algebra* **25** (1997), *no.* 4, 1215–1255. (J. L. Gómez Pardo) **98b:16026** 16S50 (13C13, 13J10)

— Addendum to: "Rings whose modules have maximal submodules" [Houston J. Math. **22** (1996), no. 4, 687–690; MR 98b:13007]. *Publ. Mat.* **42** (1998), *no.* 1, 265–266. 13B30

Faivre, C. The rate of convergence of approximations of a continued fraction. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 21–28. (Douglas Hensley) **98m:11083** 11K50 (11J25)

Faĭziev, Valeriĭ A. Pseudocharacters on free products of groups. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 3–8 (1998). 20E06 (39B52)

— Pseudocharacters on free semigroups invariant with respect to their automorphism groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 333–342. (J. L. Chrislock) **98d:20070** 20M15 (20M30)

Fakhre-Zakeri, Issa (*with* Slud, Eric V.) Optimal stopping of sequential size-dependent search. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2215–2232. (Alexander V. Gnedin) **98a:62108** 62L15 (60G40)

— (*with* Lee, Sangyeol) A random functional central limit theorem for stationary linear processes generated by martingales. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 417–422. (Gutti J. Babu) **98m:60049** 60F17 (60G10, 60G42)

— (*with* Farshidi, Jamshid) Limit theorems for sample covariances of stationary linear processes with applications to sequential estimation. (English summary) *Statistics* **29** (1997), *no.* 3, 251–260. (Summary) **98g:62147** 62L12

Fakhri, H. (*with* Jafarizadeh, M. A.) Calculation of the determinant of shape invariant operators. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 157–163. (Avinash Khare) **98m:81043** 81Q60 (58G11, 58G26, 81Q20)

— (*with* Jafarizadeh, M. A.) Supersymmetry and shape invariance in differential equations of mathematical physics. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 164–170. (Avinash Khare) **98m:81044** 81Q60 (33C80)

Fakhry, M. E. (*with* Mahmoud, M. R.; Ahmad, Abd EL-Baset A.) Characterizations of mixtures of two truncated normal distributions. (English summary) *J. Appl. Statist. Sci.* **2** (1995), *no.* 3, 221–231. (A. H. Khan) **98f:62024** 62E10

Fakikh, D. S. (*with* Cheban, D. N.) Global attractors of infinite-dimensional dynamical systems. III. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 3–13, 113, 115. (Piotr Biler) **98h:34087** 34C35 (34D45, 54H20, 58F12)

Fakler, Winfried On second order homogeneous linear differential equations with Liouvillian solutions. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 27–48. (Michael F. Singer) **98h:34013** 34A30 (12H20, 68Q40)

Falaschi, Moreno (*with* Gabbrielli, Maurizio; Marriott, Kim; Palamidessi, Catuscia) Constraint logic programming with dynamic scheduling: a semantics based on closure operators. (English summary) *Inform. and Comput.* **137** (1997), *no.* 1, 41–67. (Neculai Curteanu) **98h:68038** 68N17 (68Q10, 68Q55, 68T20)

— (*with* Gabbrielli, Maurizio; Marriott, Kim; Palamidessi, Catuscia) Confluence in concurrent constraint programming. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 281–315. (Summary) **98h:68071** 68Q10 (68T20)

Falbel, Elisha (*with* Gorodski, Claudio; Rumin, Michel) Holonomy of sub-Riemannian manifolds. (English summary) *Internat. J. Math.* **8** (1997), *no.* 3, 317–344. (Fernand Pelletier) **98e:53032** 53C05

Falceto, Fernando (*with* Gawędzki, Krzysztof) Elliptic Wess-Zumino-Witten model from elliptic Chern-Simons theory. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 2, 155–175. (V. A. Golubeva) **98d:81101** 81T40 (32G81)

— (*with* Asorey, Manuel; López García, José Luis; Luzon, Gloria) Vacuum structure of $(2+1)$-dimensional gauge theories. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 183–199, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98f:58045** 58D29 (58D19, 58Z05, 81T13, 81T70)

— (*with* Gawędzki, Krzysztof) Unitarity of the Knizhnik-Zamolodchikov-Bernard connection and the Bethe ansatz for the elliptic Hitchin systems. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 267–290. (Martin Schlichenmaier) **98e:81154** 81T40 (14H60, 32G13, 57R19, 58D27)

— (*with* Asorey, Manuel) Vacuum structure of $\mathbf{CP}^N$ sigma models at $\theta = \pi$. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 234–237. (Summary) **98k:81164** 81T15 (81T10)

Falcó, A. (*with* Alsedà, Lluís) A characterization of the kneading pair for bimodal degree one circle maps. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 273–304. (Feliks Przytycki) **98h:58055** 58F03

de Falco, I. *see* **De Falco, I.**

tortora de Falco, Lorenzo *see* **Tortora de Falco, Lorenzo**

Falcone, Maurizio (*with* Camilli, Fabio) Analysis and approximation of an impulse control problem on an infinite time interval. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 169–184; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1203–1215. (Summary) **98m:49052** 49N25 (93C57)

Falconer, Etta Z. The challenge of diversity. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 169–182, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:00012**) 01A80

Falconer, K. J. (*with* Howroyd, J. D.) Packing dimensions of projections and dimension profiles. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 269–286. (Irene Hueter) **98j:28004** 28A78

Falconi, Manuel J. A quasilinear differential game of evasion. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 89–99. (A. M. Tarasyev) **98b:90193** 90D26

Falcovitz, J. (*with* Alfandary, G.; Hanoch, G.) A two-dimensional conservation laws scheme for compressible flows with moving boundaries. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 83–102. (Summary) **98j:76106** 76M25 (65M06, 76L05, 76N10)

Faldum, A. (*with* Willems, W.) A characterization of codes with extreme parameters. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2255–2257. (Summary) **98a:94034** 94B05

— (*with* Willems, W.) Codes of small defect. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 3, 341–350. (Summary) **98a:94035** 94B05

Falikman, D. I. Inequalities for permanents of Hermitian matrices. (English summary) *Linear Algebra Appl.* **263** (1997), 63–74. (Natalia Bebiano) **98c:15024** 15A15 (15A45)

— The permanent of a class of matrices associated with a finite group. *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 323–347. (Summary) **98i:15013** 15A15 (15A45, 15A51, 26A48)

Falin, G. I. (*with* Artalejo, J. R.) Stochastic decomposition for retrial queues. (English summary) *Top* **2** (1994), *no.* 2, 329–342. 60K25 (90B22)

Falk, Michael (*with* Christoph, Gerd) A note on domains of attraction of p-max stable laws. (English summary) *Statist. Probab. Lett.* **28** (1996), *no.* 3, 279–284. (N. R. Mohan) **98a:60023** 60F05 (60G70, 62E20)

Falk, Richard S. (*with* Coleman, B. D.; Moakher, M.) Diffusion in axially symmetric surfaces. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 99–111, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Alain Brillard) **98m:73007** 73B30 (35Q53, 80A22)

— (*with* Arnold, Douglas N.) Analysis of a linear-linear finite element for the Reissner-Mindlin plate model. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 217–238. (Rolf Rannacher) **98b:73034** 73V05 (65M60, 73K10)

Falkenberg, Sven (*with* Odintsov, Sergei D.) Gauge dependence of the effective average action in Einstein gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 607–623. 83C45

Fal'ko, Vladimir I. (*with* Efetov, K. B.) Statistics of wave functions in mesoscopic systems. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 4935–4967. (Vitor R. Vieira) **98b:81047** 81Q50 (81T40, 82B10)

Fal'kone, M. *see* **Falcone, Maurizio**

Falkovich, G. (*with* Balkovsky, E.; Kolokolov, I. V.; Lebedev, V. V.) Viscous instanton for Burgers' turbulence. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3223–3245. (Summary) **98k:76069** 76F99 (76M35)

— (*with* Balkovsky, E.) Two complementary descriptions of intermittency. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, R1231–R1234. (Summary) **98i:76044** 76F99 (76M35)

Fal'kovskiĭ, L. A. (*with* Klama, S.) Integral relations and symmetry group expansions for the Helmholtz equation. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5627–5635. (J. P. Singhal) **98b:33005** 33C05 (35J05)

Falkowski, Bernd-Jürgen Predicates and superimposed coding: an application to image recognition. (English summary) *Computational intelligence* (*Dortmund*, 1997), 250–271,

Lecture Notes in Comput. Sci., 1226, *Springer, Berlin*, 1997. (*see* **98g:68003**) 68P20

Falkowski, Bogdan J. (*with* Chang, Chip-Hong) Forward and inverse transformations between Haar spectra and ordered binary decision diagrams of Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1272–1279. (Summary) **98i:94054** 94C10

el Fallah Seghrouchni, Amal *see* **El Fallah Seghrouchni, Amal**

Fallat, Shaun (*with* van den Driessche, P.) Maximum determinant of (0, 1) matrices with certain constant row and column sums. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 303–318. (Summary) **98h:15007** 15A15 (05C50, 15A36)

Fallert, Hermann (*with* Goodey, Paul; Weil, Wolfgang) Spherical projections and centrally symmetric sets. *Adv. Math.* **129** (1997), *no.* 2, 301–322. (Marek Lassak) **98j:52005** 52A20 (52A21, 52A39)

Fallis, Don The epistemic status of probabilistic proof. *J. Philos.* **94** (1997), *no.* 4, 165–186. (A. A. Mullin) **98k:00003** 00A30 (03A05, 03B48, 68Q99)

Fallon, B. (*with* Lesieur, Marcel; Delcayre, F.; Grand, D.) Large-eddy simulations of stable-stratification effects upon a backstep flow. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 625–644. 76M25 (76F99, 76V05)

Fällström, Anders (*with* Backlund, Ulf) The Gleason property for Reinhardt domains. *Math. Ann.* **308** (1997), *no.* 1, 85–91. (T. Tonev) **98d:32018** 32E25 (32A07, 46J15)

Fällström, Karl-Evert (*with* Lindblom, Ove; Näslund, Reinhold; Persson, Lars-Erik) A study of bending waves in infinite and anisotropic plates. (English summary) *Appl. Math.* **42** (1997), *no.* 3, 213–232. (Summary) **98e:73060** 73D99 (35Q72, 73B40, 73K10)

Falmagne, Jean-Claude (*with* Doignon, Jean-Paul) Well-graded families of relations. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 35–44. (James W. Lea, Jr.) **98j:06001** 06A06 (92G05)

— Stochastic token theory. (English summary) *J. Math. Psych.* **41** (1997), *no.* 2, 129–143. (Joachim Krauth) **98i:92054** 92J40

— (*with* Doignon, Jean-Paul) Stochastic evolution of rationality. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 107–138. (E.-A. Weiss, Jr.) **98h:90010** 90A06 (60J25, 60K30)

Falomir, H. (*with* Gamboa Saravi, R. E.; Santangelo, E. M.) Dirac operator on a disk with global boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 532–544. (Summary) **98g:35171** 35Q40 (81Q05)

Faloutsos, Christos (*with* Kamel, Ibrahim) Relaxing the uniformity and independence assumptions using the concept of fractal dimension. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 229–240. (Summary) **98i:68065** 68P15

— (*with* Triantafillou, Peter) Overlay striping and optimal parallel I/O for modern applications. (English summary) *Parallel Comput.* **24** (1998), *no.* 1, 21–43. 68N25

Falqui, Gregorio (*with* Casati, Paolo; Magri, Franco; Pedroni, Marco) Darboux coverings and rational reductions of the KP hierarchy. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 291–305. (Luigi Martina) **98h:58074** 58F07 (35Q53)

Falsaperla, P. (*with* Fonte, G.) Two methods for determining upper and lower bounds to the eigenvalues of non-semibounded self-adjoint operators. (English summary) *J. Natur. Geom.* **12** (1997), *no.* 2, 101–124. (Summary) **98h:47027** 47A75 (47B25, 49R05, 81Q10)

garcia Falset, Jesús *see* **Garcia Falset, Jesús**

Faltings, B. (*with* Sam-Haroud, D.) Consistency techniques for continuous constraints. (English summary) *Constraints* **1** (1996), *no.* 1-2, 85–118. (Summary) **98m:90176** 90C35 (65G10, 68T20)

Faltings, Gerd Crystalline cohomology and p-adic Galois-representations. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 25–80, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Abdellah Mokrane) **98k:14025** 14F30 (14F40)

— The determinant of cohomology in etale topology. *Arithmetic geometry* (*Cortona*, 1994), 157–168, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Gennady Lyubeznik) **98k:14023** 14F20 (14G10)

— Explicit resolution of local singularities of moduli-spaces. *J. Reine Angew. Math.* **483** (1997), 183–196. (Michel Brion) **98c:14043** 14M17 (14E15, 14L30)

— Integrality of Tate-cycles. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11142. (Summary) **98i:14024** 14F30 (11G18, 14G35)

Fam Din' Ng'em The role of model structures in a definition of logical consequence. (Russian. Russian summary) *Logical investigations, No.* 3 (*Russian*), 72–80, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B20

Famoye, Felix Characterization of generalized negative binomial distribution. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 2, 71–81. 62E10

— Sampling from the generalized logarithmic series distribution. (English and German summaries) *Computing* **58** (1997), *no.* 4, 365–375. (Summary) **98c:65008** 65C20 (65U05)

— Generalized geometric distribution and some of its applications. (English summary) *J. Math. Sci.* (*Calcutta*) **8** (1997), *no.* 1, 1–13. 62E15

— Computer generation of generalized negative binomial deviates. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 2, 107–122. 65C10

Fampa, Marcia (*with* Anstreicher, Kurt M.; Lee, Jon[2]; Williams, Joy) Continuous relaxations for constrained maximum-entropy sampling. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 234–248, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael L. Dowling) **98d:90070** 90C08 (65F10)

Fan, Ai Hua Ergodicity, unidimensionality and multifractality of self-similar measures. *Kyushu J. Math.* **50** (1996), *no.* 2, 541–574. (Norbert Patzschke) **98f:28008** 28A80 (28A12, 28D05, 39B52, 58F11)

— Sur les chaos de Lévy stables d'indice $0 < \alpha < 1$. (English and French summaries) [On stable Lévy chaoses of index $0 < \alpha < 1$] *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 53–66. (Summary) **98f:60142** 60J30 (60G55)

— A refinement of an ergodic theorem and its application to Hardy functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 145–150. (Summary) **98d:28010** 28D05 (28A78)

Fan, C. Kenneth (*with* Green, R. M.) Monomials and Temperley-Lieb algebras. (English summary) *J. Algebra* **190** (1997), *no.* 2, 498–517. (Robert Bédard) **98a:20037** 20F55 (20G05)

— (*with* Stembridge, John R.) Nilpotent orbits and commutative elements. (English summary) *J. Algebra* **196** (1997), *no.* 2, 490–498. (Dmitri I. Panyushev) **98g:20067** 20F55 (05E15)

— Schubert varieties and short braidedness. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 51–56. (E. Akyıldız) **98m:14052** 14M15 (20F55)

Fan, C. W. (*with* Hwu, Chyanbin) Sliding punches with or without friction along the surface of an anisotropic elastic half-plane. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 159–177. 73T05

Fan, Cheng Ming (*with* Shyr, H. J.) Partial powers of finite maximal prefix codes. (English summary) *Soochow J. Math.* **22** (1996), *no.* 4, 583–606. (Véronique Bruyère) **98a:68115** 68Q45 (94A45)

— (*with* Shyr, H. J.) Some properties of Fibonacci languages. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 2, 165–182. (Patrice Séébold) **98a:68153** 68R15 (68Q45)

Fan, Cong (*with* Lick, Don R.; Liu, Jiuqiang) Pseudo-Cartesian product and Hamiltonian decompositions of Cayley graphs on abelian groups. (English summary) *Discrete Math.* **158** (1996), *no.* 1-3, 49–62. (Jean-Claude Bermond) **98b:05046** 05C25 (05C45)

Fan, Dashan L^p estimates for bi-invariant operators on classical groups. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 651. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 435–444. (Norman J. Weiss) **98m:43002** 43A15 (22E30, 43A77)

— (*with* Blank, Brian E.) S and g_α^*-functions on compact Lie groups. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 327–344. (Norman J. Weiss) **98f:43004** 43A15 (22E30, 43A75)

— (*with* Wu, Zhijian) Transference of multipliers on certain Hardy-type spaces. *Integral Equations Operator Theory* **27** (1997), *no.* 2, 184–194. (Nakhlé Asmar) **98b:42038** 42B30 (42B15, 46E15)

— (*with* Pan, Yibiao) On the Fourier transform of measures carried by submanifolds of finite type. *J. Anal. Math.* **71** (1997), 135–147. (Christoph M. Thiele) **98i:42004** 42B10 (42B20, 42B30)

— Cesàro kernels on classical groups. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 3, 364–389. (Paolo M. Soardi) **98m:43011** 43A75 (43A50)

— (*with* Pan, Yibiao) A singular integral operator with rough kernel. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3695–3703. (Andreas Seeger) **98b:42026** 42B20

Fan, En Gui Global solutions of the Cauchy problem for a class of nonlinear wave equations with strongly dissipative terms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 39–43. 35L70

— (*with* Wang, Yunbo) Cauchy problem for strongly damped nonlinear wave equations. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 505–508, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L70

— (*with* Zhang, Hong Qing[1]) Solitary wave solutions of a class of nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1254–1258. 35Q53 (35L70)

Fan, Genghua (*with* Kierstead, H. A.) Hamiltonian square-paths. (English summary) *J. Combin. Theory Ser. B* **67** (1996), *no.* 2, 167–182. (Hansjoachim Walther) **98c:05104** 05C45

— Extensions of flow theorems. (English summary) *J. Combin. Theory Ser. B* **69** (1997), *no.* 2, 110–124. (Cun-Quan Zhang) **98a:05117** 05C70 (05C38)

— Minimum cycle covers of graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 229–242. (Cun-Quan Zhang) **98b:05076** 05C70 (05C38)

Fan, Guimei (*with* Ku, Tung-Hsin; Yao, Bing; Wang, Jian Fang) On sub-bandwidth of graph. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 131–144, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05133** 05C78

Fan, H. *see* **Fan, Hong**

Fan, Haitao Self-similar solutions for a modified Broadwell model and its fluid-dynamic limits. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 831–851. (A. D. Khon'kin) **98i:82053** 82C40 (35Q35, 76N10, 76P05, 82C23)

— Existence and uniqueness of traveling waves and error estimates for Godunov schemes of conservation laws. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 87–109. (Jian Guo Liu) **98h:65040** 65M15 (35L65)

Fan, Heng (*with* Ding, Xiang-Mao; Shi, Kang-jie; Wang, Pei[1]) The unitarity of the $W^{(3)}$ algebra from SU(3) parafermion. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 197–202. (Isabel P. Ennes) **98c:81085** 81R10 (17B68)

— (*with* Yue, Rui-Hong; Hou, Bo-Yu) Exact diagonalization of the quantum supersymmetric $SU_q(n|m)$ model. (English summary) *Nuclear Phys. B* **462** (1996), *no.* 1, 167–191. (Henrik Johannesson) **98a:82040** 82B23 (81R50, 82B20)

— (*with* Hou, Bo-Yu; Shi, Kang-jie) Drinfeld constructions of the quantum affine superalgebra $U_q(\widehat{gl(m/n)})$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 411–433. (Pavel Šťovíček) **98a:17016** 17B37 (81R50)

— (*with* Hou, Bo-Yu; Shi, Kang-jie) Properties of eigenstates of the six-vertex model with twisted and open boundary conditions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3446–3456. (Murray T. Batchelor) **98f:82044** 82B23 (82B20)

— (*with* Hou, Bo-Yu; Shi, Kang-jie; Yang, Wen Li[2]) Bosonization of vertex operators for the Z_n-symmetric Belavin model. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5687–5696. (Andrey V. Tsiganov) **98j:82018** 82B23 (17B37, 81R50, 82B20)

— (*with* Hou, Bo-Yu; Li, Guang-Liang; Shi, Kang-jie) Integrable $A_{n-1}^{(1)}$ IRF model with reflecting boundary conditions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1929–1942. (Andrey V. Tsiganov) **98i:82021** 82B23 (81R50, 82B20)

— Bethe ansatz for the Izergin-Korepin model. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 409–425. (Yu Kui Zhou) **98e:82024** 82B23 (82B20)

— (*with* Hou, Bo-Yu; Shi, Kang-jie) Representation of the boundary elliptic quantum group $\mathcal{B}E_{\tau,\eta}(sl_2)$ and the Bethe ansatz. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 551–570. (V. A. Golubeva) **98f:81126** 81R50 (17B37, 82B23)

— (*with* Hou, Bo-Yu; Shi, Kang-jie) Boundary K-operator for the elliptic R-operator acting on functional space. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 19–23. (Andrey V. Tsiganov) **98g:81073** 81R50 (82B23)

Fan, Hong (*with* Söderström, Torsten; Carlsson, Bengt; Bigi, Stefano) Least squares parameter estimation of continuous-time ARX models from discrete-time data. (English

summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 659–673. (Han Fu Chen) **98f:93019** 93E10 (62M10)

— A normalized Schur-Cohn stability test for the delta-operator-based polynomials. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1606–1612. (Summary) **98j:93063** 93D09 (93B60)

Fan, Hong Yi[1] (*with* Ren, Yong) Applications of the coherent state to quantum rotation. III. Calculation of group class operators. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 241–246. (Summary) **98f:81113** 81R30

— (*with* Jing, Si-Cong) Relationship between negative binomial state and SU(1, 1) coherent state and its q-deformed generalization. (English summary) *Comm. Theoret. Phys.* **24** (1995), *no.* 3, 377–380. (Qi Hong Fan) **98c:81093** 81R30 (22E45, 81R50)

— (*with* Xu, Zhi Hua) The relations between the lattice Green's functions for semi-infinite and infinite square lattices and their application. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 8, 1372–1379. (Wen-li Yang) **98d:82015** 82B20

— (*with* Zhang, Zhong-Xi) Some expressions for Legendre polynomials and Jacobian polynomials gained by virtue of the IWOP technique. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 509–512. (R. Delbourgo) **98e:33002** 33C45

— (*with* Fan, Yue) A new kq representation in two-mode Fock space. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 253–256. (K. Wódkiewicz) **98c:81262** 81V80

— (*with* Yang, Zhen-shan) Phase probability density function in two-mode Fock space. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 7, 481–484. (Summary) **98j:81393** 81V80 (81S30)

— (*with* Fan, Yue) Multimode boson realization of SU(1, 1) Lie algebra gained via IWOP technique. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 1, 105–108. (Stefan Berceanu) **98e:81061** 81R30 (22E70)

— (*with* Chen, Bo-Zhan) Correlated Holstein-Primakoff transformation for correlated spin coherent state. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 245–248. 81R30

— (*with* Fan, Yue) Derivation of squeezed states via Weyl ordering approach. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2325–2329. (Constantin Brif) **98i:81293** 81V80 (81R30)

— (*with* Wu, He-Jun) Two-mode Wigner operator in $\langle\eta|$ representation. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 13, 549–554. (Summary) **98c:81110** 81S30

— (*with* Fan, Yue) Coherent state representation for generalized bosonic Bogolyubov transformation. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 26-27, 1157–1160. 81R30

— (*with* Xiao, Min) Number-difference-phase uncertainty relation for NFM operational quantum phase description. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 192–196. (Summary) **98a:81285** 81V80

— (*with* Li, Liang-shi) Reply to: "On the Morse oscillator with a kinetic coupling" [Phys. Lett. A **229** (1997), no. 4, 262–263; MR 98f:81337] by F. M. Fernández. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 264–266. (Summary) **98f:81338** 81U05

— (*with* Fan, Yue) δ-function operator formulas of photon creation and annihilation operators. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 317–320. 81R30 (81V80)

— *see also* **Fernández, Francisco M., 98f:81337**

Fan, Hongbing (*with* Xu, Bao Gang) On reconstructible local-nucleic subgraphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 414–419, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05115** 05C60

— (*with* Xie, Li Tong) On reconstructible local subgraphs. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 1, 65–70. (Summary) **98g:05103** 05C60

— Almost every graph has a fixed edge. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 99–101. (Summary) **98m:05083** 05C25

Fan, Hongyi *see* **Fan, Hong Yi**[1]

Fan, Houhong Self-duality operators on odd-dimensional manifolds. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3673–3706. (Liviu I. Nicolaescu) **98k:58209** 58G05 (57R25, 58G10, 58G20)

Fan, Jian Ren (*with* Xu, Xue Zi; Shi, Jun Mei) Group theory analysis of mixed convection over a horizontal moving plate. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 6, 605–614; *translated from Appl. Math. Mech.* **18** (1997), *no.* 6, 563–571 (*Chinese. English and Chinese summaries*). (From the summary) **98f:76070** 76R99

Fan, Jian Xi Finding fundamental cycles of graphs on cellular graph automata. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 1, 49–53. (From the summary) **98d:68153** 68Q80 (05C38)

— Another proof method for the diagnosability of enhanced hypercube interconnection networks. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 49–53. 05C99

Fan, Jiang Hua (*with* Wang, Ze Ke) A note on a vector labeling algorithm. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 2, 149–151. 47H10 (54H25)

Fan, Jianqing (*with* Gasser, Theo; Gijbels, Irène; Brockmann, Michael; Engel, Joachim) Local polynomial regression: optimal kernels and asymptotic minimax efficiency. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 79–99. (Wolfgang Polonik) **98j:62030** 62G05 (62G20)

— (*with* Gijbels, Irène; King, Martin) Local likelihood and local partial likelihood in hazard regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1661–1690. (J. A. Melamed) **98f:62090** 62G05

— (*with* Cheng, Ming-Yen; Marron, J. S.) On automatic boundary corrections. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1691–1708. (Winfried Stute) **98k:62049** 62G05 (62C20)

— (*with* Carroll, Raymond J.; Gijbels, Irène; Wand, M. P.) Generalized partially linear single-index models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 477–489. (Summary) **98f:62215** 62J12

— (*with* Masry, Elias) Local polynomial estimation of regression functions for mixing processes. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 165–179. (Lin-Cheng Zhao) **98h:62057** 62G05 (62G20)

Fan, Jin Cheng (*with* Lu, Ya Qin) Bayesian modeling and forecasting of elliptically distributed AR(p) series. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 63–68. 62M10 (62F15, 62M20)

— (*with* Chen, Shao Zhong[2]) Estimation of higher-order moments of the parameters in the bilinear model BL(p, 1; p, 1). (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 31–36. 62M10

Fan, Jinjun (*with* Zhuang, Wan) Remarks of differential equations on closed subsets in a Banach space. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 53–61. (R. R. Akhmerov) **98h:34109** 34G20 (47H09, 47N20)

Fan, Jishan (*with* Guan, Ping) Some remarks on stationary thermistor problem. (English summary) *J. Southeast Univ. (English Ed.)* **12** (1996), *no.* 2, 93–96. (G. Albinus) **98e:35087** 35K55 (35J65, 35Q99, 80A20)

— (*with* Guan, Ping) Global existence, uniqueness and asymptotic behavior of the solutions of the thermistor problem. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 156–167. (Jianzhong Su) **98h:35133** 35K65 (35Q99)

Fan, Kaisheng Convergence in mean square for controlled singularly perturbed stochastic systems. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 327–344. (George Yin) **98c:93117** 93E20 (60H10)

Fan, Kwai-Man Direct product of free groups as the fundamental group of the complement of a union of lines. *Michigan Math. J.* **44** (1997), *no.* 2, 283–291. (Richard Randell) **98j:14039** 14H30 (57M05)

Fan, L. T. (*with* Imreh, B.; Friedler, F.) An algorithm for improving the bounding procedure in solving process network synthesis by a branch-and-bound method. (English summary) *Developments in global optimization (Szeged, 1995)*, 315–348, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. T. Lau) **98f:90070** 90C35 (90B12)

— (*with* Friedler, F.; Imreh, B.) Process network synthesis: problem definition. (English summary) *Networks* **31** (1998), *no.* 2, 119–124. (Summary) **98m:90060** 90B10

Fan, Li *see* **Li, Fan**[2]

Fan, Li Qiong A description of the first axiom of countability in terms of convergence classes. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 148–150. 54A20 (54A25)

Fan, Lin Xing (*with* Shao, Jia Yu; Xu, Xin Fu) Subpsace structure and dimensional relations of vector spaces. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 2, 182–188. (Summary) **98g:15003** 15A03

Fan, M. K. H. (*with* Gong, Y.) Eigenvalue multiplicity estimate in semidefinite programming. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 55–72. (Alexander Shapiro) **98e:90154** 90C30 (65K05)

Fan, Qi Bin An algorithm for determining the definiteness or nondefiniteness of real quadratic forms under linear constraints. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 4, 405–409. 65F30

Fan, Qihong On the essential self-adjointness of pseudodifferential operators. (English summary) A Chinese summary appears in Acta Math. Sinica **38** (1995), no. 2, 288. *Acta Math. Sinica (N.S.)* **10** (1994), *no.* 1, 72–79. (Viorel Iftimie) **98d:47110** 47G30 (35S05)

— (*with* Wong, M. W.) A characterization of some non-elliptic pseudo-differential operators as Fredholm operators. (English summary) *Forum Math.* **9** (1997), *no.* 1, 17–28. (Qing Yi) **98c:47060** 47G30 (35S05, 47A53)

Fan, Ru-Zong Potential theory of hyperfinite Dirichlet forms. (English summary) *Potential Anal.* **5** (1996), *no.* 5, 417–462. (Patrick Fitzsimmons) **98j:31006** 31C25 (60J45, 60J55)

Fan, Rui Xia (*with* Ren, Xue Mei; Huang, Hong) Learning control for nonlinear systems by means of neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 156–159. 93E35 (93C42)

Fan, S. *see* **Fan, Shaobin**

Fan, S. C.[2] (*with* Fung, T. C.; Sheng, Gang) A comprehensive unified set of single-step algorithms with controllable dissipation for dynamics. I. Formulation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 1-2, 87–98. (Summary) **98d:73059a** 73V05 (73K12)

— (*with* Fung, T. C.; Sheng, Gang) A comprehensive unified set of single-step algorithms with controllable dissipation for dynamics. II. Algorithms and analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 1-2, 99–107. (Summary) **98d:73059b** 73V05 (73K12)

— (*with* Fung, T. C.; Sheng, Gang) Mixed time finite elements for vibration response analysis. (English summary) *J. Sound Vibration* **213** (1998), *no.* 3, 409–428. 73V05 (73K12)

Fan, Shaobin (*with* Wang, Xin Yi; Kyu, T.) Complete and exact solutions of a class of nonlinear diffusion equations and problem of velocity selection. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, R4931–R4934. 35K55 (35C05, 76R50)

Fan, Shu Xiang (*with* He, Ye Ping; Wang, Wei) A two-level refined design of an RSA public key cryptosystem. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 2, 10–13. (Summary) **98e:94018** 94A60

Fan, Suo Hai The regularity of the endomorphism monoid of a split graph. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 419–422. 05C25 (20M20)

Fan, Tai-He (*with* Wang, Guo Jun[1]) On some gross misunderstandings about the theory of topological molecular lattices. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 61–67. (Summary) **98c:06028** 06F30 (54A40)

Fan, Tianyou Mathematical modelling on instability of shear fault. (English summary) *Sci. China Ser. E* **39** (1996), *no.* 6, 561–570. (Summary) **98b:86012** 86A17 (73M25, 73N20)

— (*with* Guo, Yucui) Mathematical methods for a class of mixed boundary-value problems of planar pentagonal quasicrystal and some solutions. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 990–1003. (Summary) **98k:82185** 82D25

Fan, Tsai-Hung (*with* Hung, Wen-Liang) Balanced resampling for bootstrapping finite state Markov chains. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1465–1475. 62G09

— (*with* Fuh, Cheng-Der) A Bayesian bootstrap for finite state Markov chains. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1005–1019. (Summary) **98k:62077** 62G09 (62M05)

Fan, Wei Xun (*with* Huang, Zai Xing; Huang, Wei Yang) New points of view on the nonlocal field theory and their applications to the fracture mechanics. I. Fundamental theory. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 1, 45–54; *translated from Appl.*

Math. Mech. **18** (1997), *no.* 1, 45–54 (*Chinese. English and Chinese summaries*). (E. S. Şuhubi) **98e:73001** 73A05 (73B18, 73C99, 73M25)

Fan, Wen Tao (*with* Tan, Lian Sheng) Solvability of the output stabilization problem for singular systems via general state feedback. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 64–67. 93D15 (93B40)

Fan, Xi Hui Conserved currents of nonabelian gauge fields in $(2+1)$-dimensional space-times. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 49–52. 81T13 (58Z05)

Fan, Xian-ling The regularity of Lagrangians $f(x,\xi)=|\xi|^{\alpha(x)}$ with Hölder exponents $\alpha(x)$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 254–261. (Summary) **98e:49092** 49N60 (26A16, 49J10)

— (*with* Li, Feng Quan) Periodic solutions of "subquadratic" Hamiltonian systems. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 1, 6–10. (Zhi Qiang Wang) **98i:34064** 34C25 (58E05, 58F22, 70H05)

— (*with* Wang, Bi Xiang) Error analysis of nonlinear Galerkin methods for Kuramoto-Sivashinsky equations. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 1, 49–61. 65M60 (35Q72)

— (*with* Wang, Zong Xin) Inertial manifolds for non-autonomous evolution equations. *Adv. in Math. (China)* **26** (1997), *no.* 2, 185–186. 34G20 (47H20, 58F39)

Fan, Xiao Ping (*with* Xu, Jian Min; Zhou, Qi Jie; Leung, Tin-Pui) Dynamic modeling and control of flexible robotic manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 318–329. 93C85 (70B15, 70Q05)

Fan, Yanqin (*with* Li, Qi[1]) A consistent nonparametric test for linearity of AR(p) models. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 53–59. 62M10 (62G10)

— Goodness-of-fit tests for a multivariate distribution by the empirical characteristic function. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 36–63. (Norbert Henze) **98m:62140** 62G10 (60E10, 62H15)

— (*with* Liu, Zhenjuan) A simple test for a parametric single index model. (English summary) *Opsearch* **34** (1997), *no.* 3, 186–195. 62P20

Fan, Yong Liang (*with* Zhou, Zhi Jian) A multivariate transition probability flow graph method for continuous sampling plans. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 390–400. 62N10

Fan, Yuan-An (*with* Zhang, Jianzhong; Xu, Cheng Xian) A SLP method with a quadratic correction step for nonsmooth optimization. (English summary) *Recent advances in nonsmooth optimization*, 438–458, *World Sci. Publishing, River Edge, NJ*, 1995. (Roxin Zhang) **98h:90087** 90C30 (49J52)

Fan, Yue (*with* Fan, Hong Yi[1]) A new kq representation in two-mode Fock space. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 253–256. (K. Wódkiewicz) **98c:81262** 81V80

— (*with* Fan, Hong Yi[1]) Multimode boson realization of SU(1, 1) Lie algebra gained via IWOP technique. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 1, 105–108. (Stefan Berceanu) **98e:81061** 81R30 (22E70)

— (*with* Fan, Hong Yi[1]) Derivation of squeezed states via Weyl ordering approach. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2325–2329. (Constantin Brif) **98i:81293** 81V80 (81R30)

— (*with* Fan, Hong Yi[1]) Coherent state representation for generalized bosonic Bogolyubov transformation. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 26-27, 1157–1160. 81R30

— (*with* Fan, Hong Yi[1]) δ-function operator formulas of photon creation and annihilation operators. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 317–320. 81R30 (81V80)

— *see also* **Fernández, Francisco M., 98f:81337**

Fan, Yun Several questions about finite group representations and their applications. *Group theory in China*, 31–40, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (Jacques Thévenaz) **98d:20009** 20C20

— Relative local control and the block source algebras. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 785–798. (Burkhard Külshammer) **98i:20004** 20C05 (20C20)

Fan, Yun Xia (*with* Li, Peng; Xiong, Hong Chuan; Zhao, Song Qing; Chen, Yu[6]) The correlation functions of the Ising model on a finite lattice. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 283–286. (Summary) **98f:82028** 82B20

Fan, Zhengfu (*with* Feng, Ding; Wang, Yan Geng) The measure on S-closed spaces. II. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 94–97, 102. (Summary) **98g:54043** 54D20 (28C15)

Fan, Zhou-Tian (*with* Liu, De-Fu) Convergence of the power sequence of a nearly monotone increasing fuzzy matrix. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 363–372. (Summary) **98c:15085** 15A99 (04A72)

— (*with* Liu, De-Fu) On the power sequence of a fuzzy matrix convergent power sequence. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 147–165. (Summary) **98f:65054** 65F99 (04A72)

— (*with* Liu, De-Fu) On the oscillating power sequence of a fuzzy matrix. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 75–85. (Summary) **98h:15060** 15A99 (04A72)

Fandom Noubiap, R. On modifications of the standard embedding in nonlinear optimization. (English summary) *Parametric optimization and related topics, IV (Enschede, 1995)*, 59–84, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Hubertus Th. Jongen) **98c:90149** 90C31

Fang, Ainong (*with* Jiang, Yueping; Fang, Ming[1]) The traces of Clifford matrices and Jørgensen's inequality in $\overline{\mathbf{R}}^n$. (English summary) *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 21–30, *de Gruyter, Berlin*, 1996. (Tadashi Kuroda) **98b:30019** 30C62 (20H10, 30F40)

Fang, B. Q. (*with* Dawid, A. P.) Comparison of full Bayes and Bayes-least square criteria for normal discrimination. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 4, 401–410. (Summary) **98h:62105** 62H30

— Prior information in optimal allocation for multinomial population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 211–222. (Summary) **98m:62067** 62F15

Fang, Chang-Jia (*with* Lin, Shir-Kuan) Nonovershooting and monotone nondecreasing step responses of a third-order SISO linear system. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1299–1303. 93B52 (93C05)

Fang, Chong Zhi (*with* Sun, Xi; Jin, Yi Hui) Self-tuning decoupling control for multivariable bilinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 173–179. 93C40 (93C10)

— (*with* Sun, Xi; Jin, Yi Hui) Bilinear adaptive feedforward control and its application. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 184–191. 93C40 (93C10)

Fang, Chun-Hsiung (*with* Lee, Li; Hsieh, Jer-Guang) Exact unidirectional perturbation bounds for robustness of uncertain generalized state-space systems: continuous-time cases. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1923–1927. 93D09 (93C05)

Fang, Dao Yuan (*with* Gong, Xiaoqing) Multidimensional Goursat problem for semilinear hyperbolic equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 1, 125. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 1, 43–50. (Sergio Spagnolo) **98e:35116** 35L70

— Analysis of strong singularities for nonlinear hyperbolic equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 237–251. (Guenther Hoermann) **98f:35106** 35L70 (35D10)

— (*with* Mu, Chun Lai) The blow-up and global existence problems for systems of parabolic equations with nonlinear boundary conditions. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 163–168. (Zi Qian Yan) **98g:35114** 35K60 (35B05, 35B60)

Fang, Duo (*with* Zheng, Yonggang; Li, Guifen) Basic equations of turbulent flow for variable density and variable viscosity fluid in pipe. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 6, 728–733. 76F99

Fang, Fukang The symmetry approach on economic systems. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2247–2257. (*see* **98a:90087**) 90A16

Fang, Fuquan Embeddings of nonorientable 4-manifolds in $\mathbf{R}^6$. *Topology* **35** (1996), *no.* 4, 835–844. (Introduction) **98g:57033** 57N35 (57N13, 57R40)

— Topology of complete intersections. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 3, 466–480. (P. E. Newstead) **98k:14071** 14M10 (14F45, 55P10, 57R20, 57R50)

— Embedding 3-manifolds and smooth structures of 4-manifolds. (English summary) *Topology Appl.* **76** (1997), *no.* 3, 249–259. (Sadayoshi Kojima) **98b:57037** 57Q35 (57N10, 57R40, 57R55)

Fang, Gen Sun (*with* Wang, Jian Jun) A multidimensional sampling theorem and an estimate of the aliasing error. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 481–488. (Summary) **98b:42020** 42B10 (94A13)

— Optimization of approximate solutions to a class of multivariate Fredholm integral equations. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 170–174. (Yuesheng Xu) **98j:45010** 45L05 (45B05, 65R20)

— The asymptotic connection between approximation by cardinal splines and entire functions of exponential type. *Chinese Sci. Bull.* **41** (1996), *no.* 4, 265–270. (Antonio Bonilla-Ramirez) **98c:41008** 41A15 (30D20)

— Approximating properties of entire functions of exponential type. (English summary) *J. Math. Anal. Appl.* **201** (1996), *no.* 2, 642–659. (Summary) **98k:30038** 30D15 (30E10)

— (*with* Wang, Jian Jun) A truncation error estimate for a nonequidistant sampling representation. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 18–21. 42A38

Fang, H. *see* **Fang, Hui[2]**

Fang, Haitao (*with* Qian, Minping; Gong, Guang Lu) Disconvergence of Cauchy annealing. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 9, 945–954. (Laurent Miclo) **98b:60126** 60J25 (60F10, 60J75, 65C05)

— (*with* Gong, Guang Lu) Einstein relations of velocities of diffusions along Schwartz's 2-forms. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 13–21. (Ming Liao) **98i:58248** 58G32 (60J60)

— (*with* Gong, Guang Lu; Qian, Minping) Annealing of iterative stochastic schemes. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1886–1907. (Dominique Lépingle) **98h:93028** 93E35 (60J05)

Fang, Hao (*with* Zhang, Xiao Hui; Dai, Guan Zhong) Encoding mechanisms for genetic algorithms. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 134–139. 90C27 (68T05)

Fang, Hua Jing (*with* Lu, Hao[2]; Huang, Xin Han) The structure of H^∞ optimal controllers for infinite-dimensional systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 8–11. 93B36 (93C25)

— (*with* Lu, Hao[2]; Wang, Zhi Hong; Huang, Xin Han) Finite-dimensional approximation and H^∞ error bounds for a class of distributed parameter systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 8, 14–17. 93B36 (93C20)

Fang, Hui[2] (*with* Johari, H.) Horizontal vortex ring motion in linearly stratified media. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2605–2616. 76C05 (76–05, 76V05)

Fang, J. *see* **Fang, John**

Fang, Jian[1] On ker-injective modules. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 205–209. (Summary) **98a:16006** 16D80

— Remarks on Grothendieck groups. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 200–202. 19A49 (16E20)

Fang, Jian Yin (*with* Kou, Xiao Ming; Shi, Dong Yang) A class of product-type two-parameter rectangular plate elements with geometric symmetry. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 2, 18–22. 65N30 (73V05)

Fang, Jie The braided product of Ockham algebras. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 249–253. (R. Sh. Grigolia) **98f:06011** 06D30 (03G25)

— On the properties of congruencies on double MS-algebras. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 37–43. (T. S. Blyth) **98f:06009** 06D20 (06D15)

— Congruence relations on K_{pq}-algebras. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 41–48; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 1–9. (Summary) **98c:06015** 06D30 (03G25, 08A30)

— (*with* Blyth, T. S.; Varlet, J. C.) Ockham algebras with pseudocomplementation. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3605–3615. (Miroslav Haviar) **98m:06017** 06D30 (08B26)

— (*with* Wu, Li Yun) A note on free Ockham algebras on ordered sets. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 617–618. 06D30

Fang, Jin Xuan (*with* Yan, Cong Hua) Some properties of final locally m-convex fuzzy topologies. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 4, 1–6. 54A40

— (*with* Yan, Cong Hua) Initial topologies determined by families of fuzzy algebraic mappings. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 2, 1–7. 54A40

— On local bases of fuzzy topological vector spaces. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 341–347. (Summary) **98c:46166** 46S40 (04A72, 46A35)

— The continuity of fuzzy linear order-homomorphism. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 829–838. (Summary) **98i:46078** 46S40 (04A72)

— (*with* Yan, Cong Hua) Final topologies determined by the family of fuzzy algebraic mappings. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 2, 1–7. 54A40 (04A72)

— (*with* Ren, Bai-lin) A set of new separation axioms in L-fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 359–366. 54A40 (54D10, 54D15)

Fang, Jinming Fuzzy S-regular spaces and S-almost regular spaces. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 28–33. 54A40 (04A72)

Fang, John (*with* Christensen, W. J., Jr.; Nakashima, M. M.) A generalized consistency condition for massless fields. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 2, 213–216. (Jürgen Tolksdorf) **98a:83056** 83C45 (81V17)

Fang, Kai Tai (*with* Yuan, Ke-Hai; Bentler, Peter M.) Applications of number-theoretic methods to quantizers of elliptically contoured distributions. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 237–251, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H99

— (*with* Shiu, Wai Chee; Ma, Siu Lun) On the rank of cyclic Latin squares. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 183–188. (David E. Woolbright) **98c:05033** 05B15 (15A03)

— (*with* Pan, Jian-Xin; Liski, Erkki P.) Bayesian local influence for the growth curve model with Rao's simple covariance structure. (English summary) *J. Multivariate Anal.* **58** (1996), *no.* 1, 55–81. (Yasunori Fujikoshi) **98c:62109** 62H12 (62J20)

— (*with* Zhu, Li-Xing; Li, Run-Ze) A new approach for testing symmetry of a high-dimensional distribution. (English summary) *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 1, 35–46. 62G10 (62H15)

— (*with* Li, Run-Ze) Some methods for generating both an NT-net and the uniform distribution on a Stiefel manifold and their applications. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 1, 29–46. (A. K. Gupta) **98f:62158** 62H10

— (*with* Winker, Peter) Application of threshold-accepting to the evaluation of the discrepancy of a set of points. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 2028–2042. (Stefan Heinrich) **98i:65015** 65D32

— (*with* Lam, Peter Che Bor; Wu, Qi Guang) Estimation for seemingly unrelated regression equations. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 183–189. (V. K. Srivastava) **98m:62057** 62F10 (62J05)

— *see also* **Multivariate analysis and its applications**, **98e:62010**

Fang, Kui Piecewise cubic shape-preserving interpolation. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 104–113. 65D17 (41A29)

— (*with* Tan, Yuan Fa) A new practical lofted surface modeling. (English summary) *Hunan Ann. Math.* **17** (1997), *no.* 1, 109–111. 65D17

— (*with* Jiang, Zhao Lin; Li, Zi Nian) Special methods for finding the inverses of k-circulant matrices of type $(n_1, n_2, \cdots, n_k)$. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 87–90. (Summary) **98f:65051** 65F30 (15A09)

Fang, Li Ping Completely invariant domains of holomorphic self-maps on $\mathbf{C}^n$. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 187–191. (Summary) **98j:30021** 30D05 (58F23)

Fang, Lu Ming (*with* Ge, Hong Li) An unbiased iteration method based on ridge regression. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 4, 320–326. 62J07

Fang, Ming[1] (*with* Fang, Ainong; Jiang, Yueping) The traces of Clifford matrices and Jørgensen's inequality in $\overline{\mathbf{R}}^n$. (English summary) *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 21–30, *de Gruyter, Berlin*, 1996. (Tadashi Kuroda) **98b:30019** 30C62 (20H10, 30F40)

Fang, Ming Liang (*with* Xu, Wan Song) On the uniqueness of entire functions. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 1, 29–37. (Summary) **98g:30054** 30D35

— (*with* Xu, Wan Song) A note on a problem of Gross. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 563–568; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 395–402 (1998). (Hong Xun Yi) **98m:30046** 30D35 (30D20)

— (*with* Hua, Xin-hou) Meromorphic functions sharing four small functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 797–811. (Gary G. Gundersen) **98j:30029** 30D35

— (*with* Qiu, Huiling) On the uniqueness of meromorphic functions. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 3, 1–5. (Summary) **98j:30028** 30D35

Fang, Pei De (*with* Kong, Shu Lan) A global intrinsic rigidity theorem for submanifolds of spheres. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 1, 77–83. (Bang-yen Chen) **98d:53083** 53C40

Fang, S.-C. *see* **Fang, Shu Cherng**

Fang, Shao C. (*with* Venkatesh, Santosh S.) A threshold function for harmonic update. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 482–498. (Summary) **98b:68148** 68R05 (60F05, 68T05)

Fang, Shao Mei Fully discrete Fourier spectral methods for ferromagnetic chain equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 93–98. 65T20 (65M70)

— Semidiscrete spectral methods for the Heisenberg spin chain equation. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 26–30. 82B20

Fang, Shi Zu Notes on processes induced by generalized n-parameter Wiener processes and generalized n-parameter Ornstein-Uhlenbeck processes. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 4, 99–102. (Summary) **98a:60065** 60G60 (60J65)

Fang, Shizan (*with* Franchi, Jacques) A differentiable isomorphism between Wiener space and path group. (English summary) *Séminaire de Probabilités, XXXI*, 54–61, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Asao Arai) **98k:58244** 58G32 (60H07)

— (*with* Cruzeiro, Ana Bela) An L^2 estimate for Riemannian anticipative stochastic integrals. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 2, 400–414. (David Nualart) **98d:60106** 60H07 (58G32)

— (*with* Franchi, Jacques) De Rham-Hodge-Kodaira operator on loop groups. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 391–407. (Ana Bela Cruzeiro) **98k:58245** 58G32 (22E30, 22E67, 58B20, 60H07)

Fang, Shu Cherng (*with* Guan, Shanguchuan) Linear programming with stochastic elements: an on-line approach. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 61–82. (C. Bergthaller) **98h:90049** 90C15 (90C08)

— (*with* Natu, Madan) The point-to-point connection problem—analysis and algorithms. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 207–226. (Summary) **98i:90117** 90C35 (05C85, 68Q25, 90C39)

— (*with* Tsao, H. S. J.) Perturbing the dual feasible region for solving convex quadratic programs. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 73–85. (R. Tichatschke) **98e:90109** 90C20 (90C31)

— (*with* Li, Xing Si) On the entropic regularization method for solving min-max problems with applications. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 119–130. (Alberto Seeger) **98i:90092** 90C30 (65K05)

Fang, Shuhong Finite-dimensional behavior of periodic and asymptotically periodic processes. *Nonlinear Anal.* **28** (1997), *no.* 11, 1785–1797. (Peter E. Kloeden) **98a:58141** 58F39 (34G20, 35Q30, 47H20, 47N20, 76D05)

Fang, Tao (*with* Liu, Jian Zhou) Some properties of Kronecker products of generalized positive definite matrices of spectral positive type. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 44–47. 15A48

— (*with* Luo, Min Xia; Li, Xiu Xi) The adjoint semigroup of a positive implicative BCK-algebra. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 71–73. 06F35

Fang, Wei Wu On a global optimization problem in the study of information discrepancy. (English summary) *J. Global Optim.* **11** (1997), *no.* 4, 387–408. (Summary) **98j:90046** 90C15 (90C90)

Fang, Weifu (*with* Ito, Kazufumi) Steady-state solutions of a one-dimensional hydrodynamic model for semiconductors. (English summary) *J. Differential Equations* **133** (1997), *no.* 2, 224–244. (J. W. Jerome) **98a:35131** 35Q99 (78A35, 82D99)

— (*with* Ito, Kazufumi) Weak solutions to a one-dimensional hydrodynamic model of two carrier types for semiconductors. *Nonlinear Anal.* **28** (1997), *no.* 5, 947–963. (J. W. Jerome) **98b:35205** 35Q99 (78A35, 82D99)

— (*with* Ito, Kazufumi) On the inhomogeneous system of isentropic gas dynamics by the viscosity method. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 261–280. (Summary) **98k:35116** 35L60 (35D05, 35Q35, 76N15)

Fang, Weiwu *see* **Fang, Wei Wu**

Fang, Xi Ming (*with* Feng, Mang; Shi, Lei[3]; Gao, Ke Lin; Zhu, Xi Wen) Exact solutions to the Jaynes-Cummings model by the rotationless wave approximation in the coherent-state representation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2160–2165. 81V80

Fang, Xiao Chun Crossed products of twisted covariant systems. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 3, 349–353. (Sze-Kai Tsui) **98k:46112** 46L55

Fang, Yi ★ Lectures on minimal surfaces in $\mathbf{R}^3$. Proceedings of the Centre for Mathematics and its Applications, Australian National University, 35. *Australian National University, Centre for Mathematics and its Applications, Canberra*, 1996. ii+176 *pp. ISBN* 0-7315-2443-8 (João Lucas Marques Barbosa) **98d:53012** 53A10 (58E12)

— (*with* Hutchinson, John E.) Hessian energy and optimal parametrisations of surfaces. *Math. Z.* **225** (1997), *no.* 3, 507–535. (Giandomenico Orlandi) **98i:58064** 58E12

— (*with* Wei, Fusheng) On uniqueness of Riemann's examples. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1531–1539. (Vladimir G. Tkachev) **98j:53010** 53A10 (35P99, 49Q20)

Fang, Yong (*with* Yang, Cheng Wu) Observer design for disturbance decoupling in a general 2-D system model. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 413–417. 93B51

Fang, Yu Kun (*with* Zhang, Xi Tang; Tian, Yi Xiang) p-completeness of sets and the existence of efficient points. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 20–24. 90C29

Fang, Yuguang A new general sufficient condition for almost sure stability of jump linear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 378–382. (Olusola Akinyele) **98b:93058** 93D20 (93E15)

— (*with* Loparo, Kenneth A.; Feng, Xiangbo) New estimates for solutions of Lyapunov equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 408–411. (Kaiqi Xiong) **98a:93051** 93D05 (93C05)

Fang, Yun (*with* Wang, Yi Ju; Zhou, Jian Qin; Liu, Xiang Lan) Fineness of the nonalternate tree $T(q_1, q_2, q_3, q_4)$. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 5–9. 05C05

Fang, Zhaoben (*with* Hu, Taizhong) Developments on MTP_2 properties of absolute value multinormal variables with nonzero means. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 376–384. (Summary) **98m:60021** 60E15 (62H05)

Fannes, M. (*with* Nachtergaele, Bruno; Werner, R. F.) Quantum spin chains with quantum group symmetry. (English summary) *Comm. Math. Phys.* **174** (1996), *no.* 3, 477–507. (Summary) **98j:82006** 82B10 (46L05, 46L60, 81R50, 82B20)

Fannjiang, Albert (*with* Papanicolaou, George C.) Diffusion in turbulence. (English summary) *Probab. Theory Related Fields* **105** (1996), *no.* 3, 279–334. (N. Leonenko) **98d:60156** 60J60 (35K10, 35R60, 76F99, 76M35, 76R50)

Fano, U. (*with* Rau, A. R. P.) ★ Symmetries in quantum physics. (English summary) *Academic Press, Inc., San Diego, CA*, 1996. xiv+333 *pp. ISBN* 0-12-248455-X (A. Ventura) **98d:81024** 81R05 (22E70, 81-01, 81V35, 81V45)

Fano, Vincenzo Carnap's analysis of the concept of space. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 297–318, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 00A30

Fantauzzi, Francesco (*with* Gaivoronskiĭ, A. A.; Messina, Enza) Decomposition methods for network optimization problems in the presence of uncertainty. (English summary) *Network optimization (Gainesville, FL, 1996)*, 234–248, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

Fantechi, Alessandro (*with* Gnesi, Stefania; Latella, Diego) Towards automatic temporal logic verification of value passing process algebra using abstract interpretation. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 563–578, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q55)

Fantechi, Barbara (*with* Pardini, Rita) Automorphisms and moduli spaces of varieties with ample canonical class via deformations of abelian covers. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1413–1441. (Atanas Iliev) **98c:14028** 14J10 (14J50)

— (*with* Behrend, K.) The intrinsic normal cone. (English summary) *Invent. Math.* **128** (1997), *no.* 1, 45–88. (Tohru Nakashima) **98e:14022** 14F99 (14C15, 14D20)

Fantini, Maurizio (*with* Buzzi, Andrea) Baroclinic waves in a shallow saturated layer. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 16, 2146–2154. 76C99 (86A10)

Farach-Colton, Martin (*with* Przytycka, Teresa M.; Thorup, Mikkel) Computing the agreement of trees with bounded degrees. (English summary) *Algorithms—ESA '95 (Corfu)*, 381–393, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q25 (92D10)

— (*with* Christopher, George; Trick, Michael) The structure of circular decomposable metrics. (English summary) *Algorithms—ESA '96 (Barcelona)*, 486–500, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Frank Werner) **98i:90072** 90C27 (68Q25)

— (*with* Muthukrishnan, S.) Optimal logarithmic time randomized suffix tree construction. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 550–561, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68P05 (68Q20)

— (*with* Agarwala, Richa; Batzoglou, Serafim; Dančík, Vlado; Decatur, Scott E.; Hannenhalli, Sridhar; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

— (*with* Amir, Amihood; Benson, Gary) Optimal two-dimensional compressed matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 354–379. (Summary) **98d:68081** 68Q20 (68P99)

Faraday, Michael *see* **Steinle, Friedrich**, **98f:01034** *and* **Doncel, Manuel G.**, (**98d:01001**)

Faradzhev, R. G. (*with* Feĭziev, F. G.) On a quadratic optimization problem for binary multidimensional nonlinear sequential cellular machines. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 5, 104–119; *translation in Automat. Remote Control* **57** (1996), *no.* 5, *part* 2, 702–715. (Introduction) **98c:68145** 68Q80 (90C09)

— (*with* Feĭziev, F. G.) An algorithm for constructing orthogonal test sequences for binary multidimensional nonlinear sequential cellular machines. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 114–124; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 2, 862–870. (Juraj Hromkovič) **98c:68146** 68Q80 (68M15, 94C99)

Farafonova, N. K. Riemannian metrics in fiber spaces. II. The metric of a Grassmannian foliation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 2, 59–72; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 2, 56–68. (Yi Bing Shen) **98a:53053** 53C20 (53C07, 53C12)

— The geometry of a Grassmannian foliation. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 57–70; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 9, 54–67 (1998). (Peter J. Topalov) **98j:53035** 53C12

Faraggi, Alon E. (*with* Matone, Marco) Duality of x and ψ and a statistical interpretation of space in quantum mechanics. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 2, 163–166. (Summary) **98a:81005** 81P05

— (*with* Ellis, Jonathan Richard; Nanopoulos, D. V.) M-theory model-building and proton stability. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 123–131. (Summary) **98m:81212** 81V22 (81T30)

Faraggi, David (*with* Korn, Edward L.) Competing risks with frailty models when treatment affects only one failure type. (English summary) *Biometrika* **83** (1996), *no.* 2, 467–471. (Ramesh C. Gupta) **98f:62288** 62N05

Faragó, István Positivity of the finite difference scheme for the linear parabolic problem. *Differential equations and its applications (Budapest, 1991)*, 113–118, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 65M06

— On the mesh for difference schemes of higher accuracy for the heat-conduction equation. *Finite element methods (Jyväskylä, 1997)*, 127–133, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65M06 (65M50)

Farah, Ilijas OCA and towers in $\mathcal{P}(\mathbb{N})$/fin. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 861–866. (Carlos A. Di Prisco) **98f:03043** 03E05 (03E35, 03E50, 04A20, 06A05)

— Embedding partially ordered sets into ω_ω. (English summary) *Fund. Math.* **151** (1996), *no.* 1, 53–95. (From the summary) **98i:03069** 03E35 (03E40, 04A20)

— On a problem of Mathias. Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 61–63. (Editors) **98m:03107** 03E40

Farahmand, Kambiz Level crossings of a random orthogonal polynomial. (English summary) *Analysis* **16** (1996), *no.* 3, 245–253. (G. Samal) **98h:60071** 60G99 (42C10)

— (*with* Cooke, N.) Single retrial queues with service option on arrival. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 1, 5–12. 60K25

— On the variance of the number of real zeros of a random trigonometric polynomial. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 1, 57–66. (V. Thangaraj) **98k:60084** 60G99 (42B99)

— Real zeros of a random polynomial with Legendre elements. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 257–264. (V. Thangaraj) **98j:60074** 60G99

— (*with* Smith, N. H.) On the expected number of level crossings of a random polynomial. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 205–217. (Natesan Renganathan) **98e:60076** 60G99 (65C99, 65U05)

— On the number of real solutions of a random polynomial. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 229–249. (G. Samal) **98m:60079** 60G99 (42B99)

— (*with* Hannigan, Paddy) On the expected number of zero crossings of a random algebraic polynomial. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1219–1224. (*see* **98i:00028**) 60G99

Faraoni, Valerio (*with* Bayın, Selçuk Ş.; Cooperstock, Fred I.) A singularity-free cosmological model *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 361–365, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

— (*with* Sonego, Sebastiano) The equivalence principle determines the coupling constant to the curvature for a scalar field. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 386–390, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 81T20 (83C47)

— (*with* Cooperstock, Fred I.; Overduin, James M.) COBE constraints on Kaluza-Klein cosmologies. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 237–243, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:83001**) 83B05 (83E15)

Faraut, Jacques (*with* Korányi, Adam) ★ Analysis on symmetric cones. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1994. xii+382 *pp. ISBN* 0-19-853477-9 (Hong Ming Ding) **98g:17031** 17C37 (22E30, 33C80, 35A30, 43A85, 46-02)

— Opérateurs différentiels invariants hyperboliques sur un espace symétrique ordonné. (English summary) [Invariant hyperbolic differential operators on an ordered symmetric space] *J. Lie Theory* **6** (1996), *no.* 2, 271–289. (Joachim Hilgert) **98e:43004** 43A85 (22E30, 58G16)

Faraway, Julian J. (*with* Csörgő, Sándor) On the estimation of a normal variance. (English summary) *Statist. Decisions* **14** (1996), *no.* 1, 23–34. (Kurt Hoffmann) **98m:62053** 62F10 (62C15)

— Regression analysis for a functional response. (English summary) *Technometrics* **39** (1997), *no.* 3, 254–261. 62G07

Farb, Benson Combing lattices in semisimple Lie groups. (English summary) *Groups—Korea '94 (Pusan)*, 57–67, *de Gruyter, Berlin*, 1995. (D. F. Holt) **98h:22012** 22E40 (20F32)

— (*with* Schwartz, Richard Evan) The large-scale geometry of Hilbert modular groups. (English summary) *J. Differential Geom.* **44** (1996), *no.* 3, 435–478. (Alexander Starkov) **98f:22018** 22E40 (11F41, 22E46)

— (*with* Eskin, Alex) Quasi-flats and rigidity in higher rank symmetric spaces. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 653–692. (Alexander Starkov) **98e:22007** 22E40 (53C35)

— The quasi-isometry classification of lattices in semisimple Lie groups. *Math. Res. Lett.* **4** (1997), *no.* 5, 705–717. (Lee Mosher) **98k:22044** 22E40 (20F32, 22-02)

Farber, Michael S. Combinatorial invariants computing the Ray-Singer analytic torsion. (English summary) *Differential Geom. Appl.* **6** (1996), *no.* 4, 351–366. (V. P. Snaith) **98c:58176** 58G26 (57Q10, 57R57)

— (*with* Levine, Jerome P.) Jumps of the eta-invariant. With an appendix by Shmuel Weinberger: Rationality of ρ-invariants. *Math. Z.* **223** (1996), *no.* 2, 197–246. (M. S. Farber (Zbl 867.57027)) **98m:58131** 58G10 (57R57)

— (*with* Carey, A. L.; Mathai, Varghese) Determinant lines, von Neumann algebras and L^2 torsion. (English summary) *J. Reine Angew. Math.* **484** (1997), 153–181. (Patrick T. McDonald) **98c:58175** 58G26 (46H25, 46L10, 46L85)

— (*with* Braverman, Maxim) Equivariant Novikov inequalities. (English summary) *K-Theory* **12** (1997), *no.* 4, 293–318. (Serge L. Tabachnikov) **98m:57043** 57R70 (57R91, 57S15)

Fardigola, L. V. On a nonlocal two-point boundary value problem in a layer for an equation with variable coefficients. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 424–438, v; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 367–379. (Summary) **98a:35017** 35G15

Fardoun, Ali On equivariant p-harmonic maps. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 25–72. (Martin Fuchs) **98m:58027** 58E20 (35J99, 49Q99)

Färe, Rolf (*with* Chambers, Robert G.; Jaenicke, Edward; Lichtenberg, Erik) Using dominance in forming bounds on DEA models: the case of experimental agricultural data. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 189–203. 62P20

Farebrother, Richard William The historical development of the linear minimax absolute residual estimation procedure 1786–1960. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 455–466. (Summary) **98b:62121** 62J05 (62-03)

— A. C. Aitken and the consolidation of matrix theory. (English summary) *Linear Algebra Appl.* **264** (1997), 3–12. (Summary) **98d:01032** 01A60 (01A55, 15-03)

Farell, Cesar E. (*with* Chu, Kenneth C.-K.; Fee, Greg J.; McLenaghan, R. G.) General relativity calculations in Maple. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 195–199, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Sergey I. Tertychniy) **98e:83001** 83-04 (83-08)

Farenick, Douglas R. (*with* Lee, Woo Young) On hyponormal Toeplitz operators with polynomial and circulant-type symbols. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 202–210. (Takahiko Nakazi) **98j:47059** 47B35 (47B20)

— (*with* Zhou, Hongding) The structure of C^*-extreme points in spaces of completely positive linear maps on C^*-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1467–1477. (Paul Jolissaint) **98j:46066** 46L30 (46L05)

Farforovskaya, Yu. B. Double operator integrals and their estimates in the uniform norm. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 148–173, 217. (Alexei V. Rybkin) **98i:47018** 47B15 (47A30)

Farge, Marie (*with* Wickerhauser, Mladen Victor; Goirand, Eric) Theoretical dimension and the complexity of simulated turbulence. (English summary) *Multiscale wavelet methods for partial differential equations*, 473–492, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98h:76074** 76F99 (35Q35, 76M25)

— (*with* Kevlahan, N. K.-R.) Vorticity filaments in two-dimensional turbulence: creation, stability and effect. (English summary) *J. Fluid Mech.* **346** (1997), 49–76. (Summary) **98f:76042** 76F99 (76D99)

Farges, Jean-Loup (*with* Gallego, Jean-Louis; Henry, Jean-Jacques) Traffic queue estimation. (English summary) *Top* **5** (1997), *no.* 1, 81–93. 90B22 (90B20)

Fargue, Daniel *see* **de Broglie, Louis, 98a:70001**

Farhadmotamed, F. (*with* van Wonderen, A. J.; Lendi, K.) Entropy studies for the damped and the undamped Jaynes-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3395–3416. 81V80

Farhat, Charbel (*with* Franca, Leopoldo P.; Macedo, Antonini P.; Lesoinne, Michel) Residual-free bubbles for the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 4003–4009. 65N06 (65N50)

— (*with* Géradin, Michael G.) On the general solution by a direct method of a large-scale singular system of linear equations: application to the analysis of floating structures. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 4, 675–696. 65F30 (73K99, 73V05)

— (*with* Chen, Po-Shu; Risler, Franck; Roux, Francois-Xavier) A unified framework for accelerating the convergence of iterative substructuring methods with Lagrange multipliers. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 2, 257–288. (Summary) **98m:65041** 65F10 (65N30)

— (*with* Franca, Leopoldo P.; Lesoinne, Michel; Russo, Alessandro) Unusual stabilized finite element methods and residual free bubbles. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 159–168. (Summary) **98k:76087** 76M10 (65N30)

Farhloul, Mohamed (*with* Fortin, Michel) Méthodes duales-hybrides pour les équations de l'élasticité linéaire: une approche unifiée. (French summary) [Dual-hybrid methods for the equations of linear elasticity: a unified approach] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 87–97 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98g:73037** 73V05 (65N30, 73C02)

— (*with* Fortin, Michel) Dual hybrid methods for the elasticity and the Stokes problems: a unified approach. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 419–440. (Ji Chun Li) **98f:65106** 65N30 (73V05, 76M10)

Faria, Álvaro E., Jr. (*with* Smith, Jim Q.) Conditionally externally Bayesian pooling operators in chain graphs. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1740–1761. (Summary) **98h:62007** 62C10 (62H99)

de Faria, Edson A priori bounds for C^2 homeomorphisms of the circle. (English summary) Dynamical phase transitions (São Paulo, 1994). *Resenhas* **1** (1994), *no.* 4, 487–493. (Feliks Przytycki) **98a:58062** 58F03 (30C62)

— On conformal distortion and Sullivan's sector theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 67–74. (Fuyao Ren) **98i:58196** 58F23 (30C35)

de Faria, M. *see* **De Faria, M.**

Faria, Teresa Normal forms for periodic retarded functional-differential equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 21–46. (From the introduction) **98k:34111** 34K15 (34C23, 58F32)

Fariborz, A. H. (*with* McKeon, D. G. C.) Spinors in Weyl geometry. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2517–2525. (Sergiu I. Vacaru) **98m:53094** 53C80 (53A50, 83E30)

Farid, F. O. Topics on a generalization of Gershgorin's theorem. (English summary) *Linear Algebra Appl.* **268** (1998), 91–116. (Morris Newman) **98i:15015** 15A18

Faridani, Adel Results, old and new, in computed tomography. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 167–193, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 65R10 (44A12, 65R30)

— (*with* Ritman, Erik L.; Dunsmuir, John H.; Finch, David V.; Smith, Kennan T.; Thomas, Paul J.) Local reconstruction applied to x-ray microtomography. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 443–452, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 44A12 (78A55)

— (*with* Finch, David V.; Ritman, Erik L.; Smith, Kennan T.) Local tomography. II. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1095–1127. (Fritz Keinert) **98h:92016** 92C55 (44A12, 65R10)

Faridani, Jacqueline (*with* Chan, Hong-Mo; Pfaudler, Jakov; Tsou, Sheung Tsun) Rudiments of dual Feynman rules for Yang-Mills monopoles in loop space. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5015–5026. (Summary) **98a:81135** 81T18 (81T13, 81V10)

Faried, N. (*with* Ramadan, F.) n-diameters and Kolmogorov numbers of finite Cartesian products of $\mathfrak{B}$-compact sets and direct sums of operators. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 7–18 (1997). (Asuman Aksoy) **98j:47050** 47B10 (46B20)

— (*with* Abd El-Kader, Z.) Approximation numbers and Tichomirov numbers of an infinite matrix operator on the space l_1. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 41–47 (1997). (Asuman Aksoy) **98j:47045** 47B06 (47B10)

Faries, Douglas (*with* Moser, Barry Kurt) A new sequential approximation method. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 2, 175–189. (Rasul A. Khan) **98c:62161** 62L20

Farin, Gerald (*with* Wolters, Hans J.) Geometric curve approximation. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 499–513. (Summary) **98b:65022** 65D17 (41A63)

— (*with* Baumgarten, Christoph) Approximation of logarithmic spirals. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 515–532. (Summary) **98b:65018** 65D17 (41A63)

— (*with* Hamann, Bernd) Current trends in geometric modeling and selected computational applications. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 1–15. (Summary) **98f:65023** 65D17 (65Y25)

— (*with* Razdan, Anshuman) Determination of end conditions for NURB surface interpolation. *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 757–768. 65D10 (65D07, 65D17)

Farina, A. *see* **Farina, Angiolo**

Farina, Alberto (*with* Akopian, Vardan) Sur les solutions radiales de l'équation $-\Delta u = u(1-|u|^2)$ dans $\mathbf{R}^N$ ($N \geq 3$). (English and French summaries) [Radial solutions of the Ginzburg-Landau equation in $\mathbf{R}^N$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 601–604. (Summary) **98h:35057** 35J60 (34A34, 35B05)

Farina, Angiolo (*with* Fasano, Antonio) Flow characteristics of waxy crude oils in laboratory experimental loops. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 75–86. (Summary) **98c:76002** 76A05

— (*with* Cocito, P.; Boretto, G.) Flow in deformable porous media: modelling and simulations of compression moulding processes. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 1–15. 73K70 (73K20, 76M25, 76S05)

— Waxy crude oils: some aspects of their dynamics. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 435–455. (Vadim S. Nustrov) **98e:76005** 76A05 (35Q35, 45K05, 76S05)

Farina, C. *see* **Farina de Souza, Carlos**

Fariña, J. C. *see* **Fariña Gil, Juan Carlos**

Farina, Leandro (*with* Martin, Paul Andrew) Radiation of water waves by a heaving submerged horizontal disc. (English summary) *J. Fluid Mech.* **337** (1997), 365–379. (Summary) **98c:76016** 76B15

Farina, Lorenzo (*with* Benvenuti, Luca) Polyhedral reachable set with positive controls. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 364–380. (Boris G. Zaslavskiĭ) **98j:93007** 93B03 (93C55)

Farina de Souza, Carlos (*with* Cougo-Pinto, M. V.; Tort, A.) Schwinger's formula for the Casimir effect at finite temperature. (English summary) *Lett. Math. Phys.* **37** (1996), *no.* 2, 159–165. (Summary) **98j:81218** 81T16 (33C10, 58G26, 81V10)

— (*with* Cougo-Pinto, M. V.; Tort, A.) Schwinger's method for the fermionic Casimir effect at finite temperature. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 3, 337–340. (Ivan G. Avramidi) **98a:81129** 81T16 (58G26, 81V10)

— (*with* Cougo-Pinto, M. V.) Creation of matter and radiation from deformation of Poincaré invariance. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 67–70. (Anatol Nowicki) **98a:81266** 81V25 (81R50)

Fariña Gil, Juan Carlos (*with* Bonilla, A.) C^m-approximation with C^m-extension on closed sets. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **10** (1996), *no.* 3, 679–690. (Summary) **98d:41026** 41A30 (30E10)

Farinas, Marie-Isabelle (*with* Page, Maryse; Garon, André) Imposition of slip boundary conditions without the explicit computation of consistent normals. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 949–961. (Summary) **98i:76056** 76M10 (76M25)

Fariñas del Cerro, Luis (*with* Crocco, Gabriella; Herzig, Andreas) Introduction. *Conditionals: from philosophy to computer science*, 1–12, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B65 (03B70)

— (*with* Herzig, Andreas) Combining classical and intuitionistic logic. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 93–102, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Branislav Boričić) **98c:03022** 03B20 (03B60)

— (*with* Balbiani, Philippe) A relational model of movement. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 369–378. 03B30

— (*with* Balbiani, Philippe; Tinchev, Tinko; Vakarelov, Dimit$^{\prime}$r) Modal logics for incidence geometries. (English summary) *J. Logic Comput.* **7** (1997), *no.* 1, 59–78. (Silvio Ghilardi) **98a:03018** 03B45 (03B30)

— *see also* **Conditionals: from philosophy to computer science, 98d:03003**

Farini, A. (*with* Boccaletti, S.; Arecchi, F. Tito) Adaptive strategies for recognition, control and synchronization of chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1431–1448. 58F13 (93D15)

Faris, William G. Random waves and localization. *Notices Amer. Math. Soc.* **42** (1995), *no.* 8, 848–853. (Editors) **98b:82042** 82B44 (82–02)

dror Farjoun, Emmanuel *see* **Dror Farjoun, Emmanuel**

Farjoun, Emmanuel Dror *see* **Dror Farjoun, Emmanuel**

Farkas, Daniel R. Poisson polynomial identities. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 401–416. (I. S. Krasil'shchik) **98m:16029** 16R50 (16S10)

Farkas, Henrik (*with* Simon, Peter L.) Geometric theory of trigger waves—a dynamical system approach. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 301–315. (Wolf-Jürgen Beyn) **98d:92005** 92C45 (58F17, 92E20)

Farkas, Hershel M. (*with* Kra, Irwin) Automorphic forms for subgroups of the modular group. II. Groups containing congruence subgroups. *J. Anal. Math.* **70** (1996), 91–156. (Noemi Patricia Kisbye) **98d:11045** 11F12

— (*with* Brooks, Robert Wolfe; Kra, Irwin) Number theory, theta identities, and modular curves. *Extremal Riemann surfaces* (*San Francisco, CA*, 1995), 125–154, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (S. J. Patterson (Zbl 870.30030)) **98m:11030** 11F27 (11F06)

— (*with* Kra, Irwin) Theta constant identities with applications to combinatorial number theory. *Lipa's legacy* (*New York*, 1995), 227–252, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Yaacov Kopeliovich) **98k:11049** 11F27

Farkas, M. *see* **Differential equations and its applications, 98e:00018**

Farley, Arthur M. (*with* Fujita, Satoshi) Minimum-cost line broadcast in paths. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 255–268. (Summary) **98c:90036** 90B12 (68M10)

— (*with* Proskurowski, Andrzej) Minimum self-repairing graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 345–351. (Summary) **98g:05122** 05C75

Farley, Jonathan David Perfect sequences of chain-complete posets. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 271–296. (Yehuda Rav) **98h:06001** 06A06 (04A05)

Farmer, D. W. (*with* Conrey, J. B.; Duke, W.) The distribution of the eigenvalues of Hecke operators. *Acta Arith.* **78** (1997), *no.* 4, 405–409. (Tomasz Stefanicki) **98k:11047** 11F25 (11F11)

Farmer, J. Doyne (*with* Eubank, Stephen G.) Introduction to dynamical systems. *Introduction to nonlinear physics*, 55–105, *Springer, New York*, 1997. (*see* **98b:00013**) 58–01 (00A69)

— (*with* Eubank, Stephen G.) Probability, random processes, and the statistical description of dynamics. *Introduction to nonlinear physics*, 106–151, *Springer, New York*, 1997. (*see* **98b:00013**) 00A71

— (*with* Eubank, Stephen G.) Modeling chaotic systems. *Introduction to nonlinear physics*, 152–175, *Springer, New York*, 1997. (*see* **98b:00013**) 00A71

Farmer, Jeff D. (*with* Arias, Alvaro) On the structure of tensor products of l_p-spaces. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 13–37. (K. Floret) **98d:46015** 46B28 (46B20, 47H99)

Farmer, William M. Reasoning about partial functions with the aid of a computer. (English summary) Varia with a Workshop on the Foundations of Partial Functions and Programming (Irvine, CA, 1995). *Erkenntnis* **43** (1995), *no.* 3, 279–294. (Petr Jirků) **98g:03035** 03B35 (03B10, 03B60, 68Q55, 68T15)

lo Faro, Giovanni *see* **Lo Faro, Giovanni**

Faro, Jose (*with* Velasco, Santiago) An approximation for prey-predator models with time delay. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 313–322. 92D25

Farouki, Rida T. Conic approximation of conic offsets. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 301–313. (Hellmuth Stachel) **98h:53007** 53A04 (68U05)

— On integrating lines of curvature. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 187–192. (Summary) **98i:65010** 65D17 (65Y25)

Farran, H. R. (*with* El-Kholy, E. M.; Robertson, S. A.) Folding a surface to a polygon. (English summary) *Geom. Dedicata* **63** (1996), *no.* 3, 255–266. (Summary) **98d:57028** 57N05 (54C05)

Farré, Rafel (*with* Delon, Françoise) Some model theory for almost real closed fields. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1121–1152. (Danielle Gondard-Cozette) **98k:03084** 03C60 (06F20, 12D15, 12L12)

Farrell, E. J. (*with* Constantine, G. M.) On the reconstruction of the subgraph polynomial and the reconstruction conjecture. (English summary) *J. Math. Sci. (Calcutta)* **5** (1994), *no.* 1, 1–9. (Summary) **98c:05118** 05C60

— (*with* Guo, Jing Ming) On the matching polynomials of graphs with cutsets, and applications. (English summary) *J. Math. Sci. (Calcutta)* **5** (1994), *no.* 2, 33–44. (Summary) **98b:05077** 05C70

— Matching in cacti. (English summary) *J. Math. Sci. (Calcutta)* **8** (1997), *no.* 2, 85–96. (Charles H. C. Little) **98m:05144** 05C70

— A note on the clique polynomial and its relation to other graph polynomials. (English summary) *J. Math. Sci. (Calcutta)* **8** (1997), *no.* 2, 97–102. 05C15 (05C70)

— (*with* Grell, J. C.) On circuit polynomials and determinants of matrices. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 139–146. (Summary) **98i:05117** 05C50

Farrell, F. T. ★ Lectures on surgical methods in rigidity. *Published for the Tata Institute of Fundamental Research, Bombay; by Springer-Verlag, Berlin*, 1996. iv+98 *pp. ISBN* 3-540-58977-5 (Ian Hambleton) **98j:57050** 57R65 (57N70, 57R67)

— (*with* Jones, Lowell Edwin) Compact infrasolvmanifolds are smoothly rigid. *Geometry from the Pacific Rim (Singapore*, 1994), 85–97, *de Gruyter, Berlin*, 1997. (Laurence R. Taylor) **98h:57065** 57S25 (57R50)

— (*with* Aravinda, C. S.; Roushon, S. K.) Surgery groups of knot and link complements. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 400–406. (Masayuki Yamasaki) **98e:57047** 57R67 (57M25, 57Q45)

Farrell, Jay A. (*with* Chen, Jie[4]; Nett, Carl N.; Zhou, Kemin) $\mathscr{H}_\infty$ identification of multivariable systems by tangential interpolation methods. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 12, 1822–1828. (P. Bertrand) **98a:93016** 93B30 (93B40, 93E12)

Farrell, Kevin (*with* Drury, Luke O'C.) An explicit, adaptive grid algorithm for one-dimensional initial value problems. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 3–12. (*see* **98i:65004**) 65M50 (65L06)

Farrell, Paul A. (*with* Vulanović, Relja) Analysis of multiple turning point problems. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 105–113. (Bernard J. Harris) **98g:34098** 34E20 (34B05)

— (*with* Hemker, Pieter W.; Shishkin, Grigorii I.) Discrete approximations for singularly perturbed boundary value problems with parabolic layers. II. (English summary) *J. Comput. Math.* **14** (1996), *no.* 2, 183–194. (Bernhard A. Schmitt) **98a:65150** 65N06 (65N15, 65N50)

— (*with* Hemker, Pieter W.; Shishkin, Grigorii I.) Discrete approximations for singularly perturbed boundary value problems with parabolic layers. III. (English summary) *J. Comput. Math.* **14** (1996), *no.* 3, 273–290. (Bernhard A. Schmitt) **98a:65114** 65M06 (65M15, 65M20)

— (*with* Miller, John J. H.; O'Riordan, Eugene; Shishkin, Grigorii I.) On the non-existence of ε-uniform finite difference methods on uniform meshes for semilinear two-point boundary value problems. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 603–617. (Martin Stynes) **98g:65072** 65L12 (65L10)

Farreny, Henri Algorithms φ for $\mathscr{L}$-standard state graphs: results about termination and admissibility. (English summary) *Advances in artificial intelligence (Curitiba*, 1996), 41–50, *Lecture Notes in Comput. Sci.*, 1159, *Springer, Berlin*, 1996. (*see* **98h:68002**) 68T20

Farris, C. (*with* Misra, Manavendra) Distributed algebraic multigrid for finite element computations. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 41–67. 65M55 (65N55, 73V05)

Farris, T. N. (*with* Blair, K. B.; Krousgrill, C. M.) Harmonic balance and continuation techniques in the dynamic analysis of Duffing's equation. (English summary) *J. Sound Vibration* **202** (1997), *no.* 5, 717–731. (Summary) **98b:70001** 70–08 (34C15, 70K40, 70K50)

Farrow, D. A. (*with* Skalak, R.; Hoger, Anne) Kinematics of surface growth. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 869–907. (Summary) **98i:92013** 92C15 (73P20)

Farsaci, F. (*with* Palumbo, A.) Nonlinear wave analysis for layered inhomogeneous elastic tubes. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 9–19. (Summary) **98a:76096** 76Z05 (35Q72, 73K70)

Farshidi, Jamshid (*with* Fakhre-Zakeri, Issa) Limit theorems for sample covariances of stationary linear processes with applications to sequential estimation. (English summary) *Statistics* **29** (1997), *no.* 3, 251–260. (Summary) **98g:62147** 62L12

sanjari Farsipour, N. *see* **Sanjari Farsipour, N.**

Farto, José M. (*with* Martín Ordóñez, Pablo) Increasing the order of the SMF method for a special type of problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 773–777 (*electronic*). (Summary) **98m:70004** 70–08 (70F15, 70K99)

Farwell, R. S. (*with* Chisholm, J. S. R.) Properties of Clifford algebras for fundamental particles. *Clifford (geometric) algebras (Banff, AB*, 1995), 365–388, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R25 (15A66)

Farza, M. (*with* Busawon, K.; Hammouri, H.) A simple observer for a class of nonlinear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 27–31. 93B07 (93C10)

— (*with* Busawon, K.; Hammouri, H.) Simple nonlinear observers for on-line estimation of kinetic rates in bioreactors. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 301–318. 93C95 (93C15)

Farzan, R. H. Integral equation method for three-dimensional partial differential equations. *Differential equations and its applications (Budapest*, 1991), 119–132, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 35C99 (35Q60, 45E05, 45L10, 45P05, 47G10, 78A25)

— Integral equation method for Maxwell equations. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 103–127. (John A. DeSanto) **98d:78009** 78A45 (35Q60, 45E10)

Fasano, Antonio (*with* Primicerio, M.) Flows through saturated mass exchanging porous media under high pressure gradients. (English summary) *Calculus of variations, applications and computations (Pont-à-Mousson*, 1994), 109–129, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (Olga A. Hachay) **98b:76069** 76S05 (35Q35)

— (*with* Andreucci, Daniele; Gianni, Roberto; Primicerio, M.; Ricci, Riccardo) Diffusion driven crystallization in polymers. *Free boundary problems, theory and applications (Zakopane*, 1995), 359–367, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 82D60 (35R35)

— (*with* Farina, Angiolo) Flow characteristics of waxy crude oils in laboratory experimental loops. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 75–86. (Summary) **98c:76002** 76A05

— (*with* Andreucci, Daniele; Ricci, Riccardo) On the growth of a polymer layer around a catalytic particle: a free boundary problem. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 511–520. (Summary) **98g:35219** 35R35 (82D60)

Fasino, Dario (*with* Inglese, Gabriele) Recovering a probability density from a finite number of moments and local a priori information. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 183–200 (1997). 62E99 (60E99)

Fasoli, Maria Alessandra Classification of nilpotent linear spaces in $M(4;\mathbf{C})$. *Comm. Algebra* **25** (1997), *no.* 6, 1919–1932. (Eric N. Sommers) **98c:15004** 15A03 (17B20)

Fassari, Silvestro (*with* Inglese, Gabriele) Spectroscopy of a three-dimensional isotropic harmonic oscillator with a δ-type perturbation. (English summary) *Helv. Phys. Acta* **69** (1996), *no.* 2, 130–140. (H. Hogreve) **98b:81037** 81Q10 (35J10, 47N50, 81Q15)

— (*with* Inglese, Gabriele) On the spectrum of the harmonic oscillator with a δ-type perturbation. II. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 858–865. (Raghu R. Gompa) **98j:81360** 81U40 (47N50, 81Q10, 81Q15)

— (*with* Inglese, Gabriele) On the eigenvalues of the Hamiltonian of the harmonic oscillator with the interaction $\lambda x^2/(1+gx^2)$. II. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 77–86. (Ê. S. Kryachko) **98k:81039** 81Q05 (81Q15)

Faßbender, Heike (*with* Bunse-Gerstner, Angelika) A Jacobi-like method for solving algebraic Riccati equations on parallel computers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1071–1084. (Vladimir B. Larin) **98g:93018** 93B40 (65Y05)

— (*with* Benner, Peter) An implicitly restarted symplectic Lanczos method for the Hamiltonian eigenvalue problem. (English summary) *Linear Algebra Appl.* **263** (1997), 75–111. (Lars Eldén) **98f:65039** 65F15 (15A18)

— Inverse unitary eigenproblems and related orthogonal functions. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 323–345. (M. Znojil) **98m:65051** 65F15 (15A23, 42A10, 65T10)

Faßbender, Heinz Implementation of a UU-algorithm for primitive recursive tree functions. (English summary) *Fundamentals of computation theory (Dresden*, 1995), 233–242, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q42 (68N15)

— (*with* Maneth, Sebastian) A strict border for the decidability of E-unification for recursive functions. (English summary) *Algebraic and logic programming (Aachen*, 1996), 194–208, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68044** 68N17 (03B25, 03D20, 03D35, 68N15)

Fasse, A. (*with* Elsner, Ludwig F.; Langmann, E.) A divide-and-conquer method for the tridiagonal generalized eigenvalue problem. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 141–148. (Summary) **98h:65015** 65F15

Fassino, C. (*with* Arioli, M.) Roundoff error analysis of algorithms based on Krylov subspace methods. (English summary) *BIT* **36** (1996), *no.* 2, 189–205. (Jean-Marie Chesneaux) **98e:65018** 65F10 (15A23, 65G05)

— (*with* Arioli, M.; Codenotti, Bruno) The Padé method for computing the matrix exponential. (English summary) *Linear Algebra Appl.* **240** (1996), 111–130. (Summary) **98f:65016** 65D15 (65F05, 65L99)

Fassò, F. (*with* Benettin, G.; Carati, A.) On the conservation of adiabatic invariants for a system of coupled rotators. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 253–268. (Summary) **98a:70016** 70H05 (70–08, 70K99, 82B05)

Fast, Stephen H. Sum and mapping theorems for $B(D,\omega_0)$-refinable spaces. (English summary) *Papers on general topology and applications (Brookville, NY*, 1990), 63–67, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54021** 54C10

Fastenberg, Lisa A. Mordell-Weil groups in procyclic extensions of a function field. *Duke Math. J.* **89** (1997), *no.* 2, 217–224. (John W. Jones) **98f:11058** 11G05 (11R23)

Fatajou, S. (*with* Ait Dads, E.; Ezzinbi, K.) Weakly almost periodic solutions of the inhomogeneous linear equations and periodic processes in a Banach space. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 507–516. (C. Corduneanu) **98m:34121** 34G20 (34C27)

Fatalov, V. R. Large deviations of Gaussian measures in the spaces l^p and L^p, $p \geq 2$. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 682–689; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 548–555 (1997). (Werner Linde) **98e:60041** 60F10 (60B05, 60G15)

Fateev, Vladimir (*with* Luk'yanov, Sergeĭ L.; Zamolodchikov, Aleksandr B.; Zamolodchikov, Alekseĭ B.) Expectation values of boundary fields in the boundary sine-Gordon model. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 83–88. (Wen-li Yang) **98g:81123** 81T10

Fatema Hassan, M. (*with* Hassan Nasr, A.; Osama El Giar, M.) The relaxation schemes for the two-dimensional anisotropic elliptic partial differential equation using multigrid method. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 409–425 (1997). (D. Schultz) **98i:65087** 65N06

Fath-Alla, M. A. Strong forms of α-continuity in fuzzy topological spaces. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 1–14. 54A40 (54C05)

Fathi, Albert Partitions of unity for countable covers. *Amer. Math. Monthly* **104** (1997), *no.* 8, 720–723. 54D99 (54E35)

— Théorème KAM faible et théorie de Mather sur les systèmes lagrangiens. (English and French summaries) [A weak KAM theorem and Mather's theory of Lagrangian systems] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1043–1046. (Ugo C. Bessi) **98g:58151** 58F27 (58F05, 70H35)

Fatibene, L. (*with* Ferraris, Marco; Francaviglia, Mauro) Why metrics? Is the metric the most fundamental description for gravity? (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 305–309, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C99

— (*with* Ferraris, Marco; Francaviglia, Mauro) Nöther formalism for conserved quantities in classical gauge field theories. II. The arbitrary bosonic matter case. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3953–3967. (Takayuki Nôno) **98i:58076** 58E30 (70G50, 78A25, 81T13)

Faticoni, Theodore G. (*with* Schultz, Phillip) Direct decompositions of ACD groups with primary regulating index. *Abelian groups and modules* (*Colorado Springs, CO*, 1995), 233–241, *Lecture Notes in Pure and Appl. Math.*, 182, *Dekker, New York*, 1996. (Manfred Dugas) **98a:20061** 20K15

— (*with* Albrecht, Ulrich F.; Goeters, H. Patrick; Wickless, William) Subalgebras of rational matrix algebras. *Acta Math. Hungar.* **74** (1997), *no.* 1-2, 1–6. (R. Göbel) **98a:20063** 20K30 (20K15)

Fatollahi, Amir H. (*with* Ardalan, Farhad) Point-like structure in strings and non-commutative geometry. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 157–163. (Jihad Mourad) **98j:81241** 81T30 (58B30)

Fatone, Lorella (*with* Maponi, Pierluigi; Pignotti, Cristina; Zirilli, Francesco) An inverse problem for the two-dimensional wave equation in a stratified medium. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 263–274, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 65M30 (35L05)

Fatori, Luci Harue (*with* Muñoz Rivera, Jaime E.) Smoothing effect and propagations of singularities for viscoelastic plates. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 397–427. (J. A. Nohel) **98d:73038** 73F15 (35Q72, 45K05, 45M99, 73K10)

Fatourou, Panagiota (*with* Spirakis, Paul G.) Scheduling algorithms for strict multithreaded computations. (English summary) *Algorithms and computation* (*Osaka*, 1996), 407–416, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68M20

Fattorini, H. O. Robustness and convergence of suboptimal controls in distributed parameter systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1153–1179. (Sergey V. Nikitin) **98j:49035** 49K27 (49M99, 93C20, 93C25)

— A remark on existence of solutions of infinite-dimensional noncompact optimal control problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1422–1433. (Tsvetomir Tsachev) **98f:49008** 49J20 (49J52)

Faudree, Ralph J. (*with* Favaron, Odile; Flandrin, Evelyne; Li, Hao[1]) Pancyclism and small cycles in graphs. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 1, 27–40. (Yong Bing Shi) **98f:05097** 05C38

— (*with* Erdős, Paul[1]; Rousseau, Cecil C.; Schelp, R. H.) Ramsey size linear graphs [MR 95c:05087]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 241–251, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C55 (05C35)

— (*with* Ryjáček, Zdeněk; Schiermeyer, Ingo) Local connectivity and cycle extension in claw-free graphs. (English summary) *Ars Combin.* **47** (1997), 185–190. (Summary) **98h:05123** 05C40 (05C38)

— (*with* Flandrin, Evelyne; Ryjáček, Zdeněk) Claw-free graphs—a survey. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 87–147. (Hao Li) **98f:05106** 05C45 (05C38, 05C70)

— (*with* Gould, Ronald J.) Characterizing forbidden pairs for Hamiltonian properties. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 45–60. (Zdeněk Ryjáček) **98j:05094** 05C45

— A conjecture of Erdős. *Amer. Math. Monthly* **105** (1998), *no.* 5, 451–453. 05C35

— (*with* Sheehan, J.) The maximum number of edges in a graph with fixed edge-degree. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 81–101. (Pak-Ken Wong) **98m:05099** 05C35

Faulkner, T. R. (*with* Stewart, I. W.) The stability of travelling waves induced by crossed electric and magnetic fields in nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 4, 191–203. (Summary) **98g:82051** 82D30 (76A15)

Faure, Claude-Alain (*with* Guénard, François) Upper and lower approximations of Perron integrable functions. *Real Anal. Exchange* **22** (1996/97), *no.* 2, 626–637. (Cheng-Ming Lee) **98m:26005** 26A39

Faure, H. (*with* Xiao, Yi-Jun) Volume-discrepancy estimates in one and two dimensions. (English summary) Monte Carlo and quasi-Monte Carlo methods. *Math. Comput. Modelling* **23** (1996), *no.* 8-9, 25–36. (Summary) **98f:65012** 65C05 (65U05)

Fauser, Bertfried Clifford algebraic remark on the Mandelbrot set of two-component number systems. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 1, 1–26. (Dominique Lambert) **98a:15057** 15A66

Fausett, D. (*with* Amer, Mustafa A.; Abdel-Hamid, B. A.) Parallelization of the Kronecker product technique for solving rank deficient least-squares problems. (English and Arabic summaries) Conference on Parallel and Distributed Computing (Kuwait, 1995). *Kuwait J. Sci. Engrg.* **1996**, *Topical Issue No.* 1, 163–173. (Ming Kui Chen) **98a:65058** 65F35 (65F20, 65Y05)

— (*with* Amer, Mustafa A.; Abdel-Hamid, B. A.) Parallel implementation of the Kronecker product technique for numerical solution of parabolic partial differential equations. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 1997–2005. (Summary) **98b:65095** 65M06 (65Y05)

Faust, Jon Near observational equivalence and theoretical size problems with unit root tests. (English summary) *Econometric Theory* **12** (1996), *no.* 4, 724–731. (Luis Firinguetti) **98b:62159** 62M10 (62P20)

— (*with* Leeper, Eric M.) When do long-run identifying restrictions give reliable results? (English summary) *J. Bus. Econom. Statist.* **15** (1997), *no.* 3, 345–353. 62P20 (62M10)

Faustov, R. N. (*with* Vshivtsev, A. S.; Galkin, V. O.; Tatarintsev, A. V.) The spectral problem for the radial Schrödinger equation with power potentials of confining type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 397–412; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1530–1542 (1998). 81Q10 (34L40)

Fauve, Stephan Parametric instabilities. (English summary) *Dynamics of nonlinear and disordered systems*, 67–115, *World Sci. Ser. Nonlinear Sci. Ser. B Spec. Theme Issues Proc.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:70018** 70K20 (76B15, 76E30)

Fauvel, John (*with* Van Manen, Jan) The role of the history of mathematics in the teaching and learning of mathematics: discussion document for an I.C.M.I. study 1997–2000. *Ganita-Bhāratī* **19** (1997), *no.* 1-4, 107–114. 01A67

Faux, M. (*with* Claus, P.; de Wit, Bernard; Termonia, P.) Chern-Simons couplings and inequivalent vector-tensor multiplets. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 201–220. (Angel Maria Uranga) **98d:81079** 81T30 (81T60)

Fava, Franco Franco Tricerri (1947–1994). (Italian) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, vii–xxii. (Pietro Nastasi) **98g:01060** 01A70

— In memoriam Franco Tricerri. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 13–24. (Editors) **98k:01024** 01A70

Favaretto, Daniela (*with* Viscolani, Bruno) Optimal purchase and advertising for a product with immediate sale start. (English summary) *Top* **4** (1996), *no.* 2, 301–318. 90A60 (90C90)

— (*with* Viscolani, Bruno) Determining optimal production and advertising policies for a seasonal product. (English summary) *Optimization* **42** (1997), *no.* 4, 359–378. 90A16 (90B60)

Favaron, Odile (*with* Cockayne, E. J.; Mynhardt, Christina M.) Universal maximal packing functions of graphs. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 57–68. (Gary MacGillivray) **98a:05113** 05C70

— (*with* Faudree, Ralph J.; Flandrin, Evelyne; Li, Hao[1]) Pancyclism and small cycles in graphs. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 1, 27–40. (Yong Bing Shi) **98f:05097** 05C38

— (*with* Tian, Feng[1]; Zhang, Lei[4]) Independence and Hamiltonicity in 3-domination-critical graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 173–184. (Linda Lesniak) **98f:05085** 05C35 (05C45)

— (*with* Puech, Joël) Irredundance in grids. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 257–265. (Summary) **98g:05077** 05C35

Favati, P. Asymptotic bit cost of quadrature formulas obtained by variable transformation. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 1–7. 65D32 (41A55)

Favier, S. J. (*with* Zalik, R. A.) Frames and Riesz bases: a short survey. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 93–117, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Ole Christensen) **98e:46026** 46C05 (42C15, 46B15, 65J05, 94A11)

Favin, Stanley (*with* Maryak, John L.; Hunter, Lawrence W.) Automated system monitoring and diagnosis via singular value decomposition. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2059–2063. 93B30 (94C12)

Favini, Angelo (*with* Barbu, Viorel) Periodic problems for degenerate differential equations. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 29–57 (1997). (Alfred S. Carasso) **98m:34119** 34G10 (34A09, 34C25, 35K99, 35L99, 47D06, 47N20)

— (*with* Goldstein, Jerome A.; Romanelli, Silvia) An analytic semigroup associated to a degenerate evolution equation. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 85–100, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Irina V. Mel′nikova) **98a:47038** 47D06 (35K99, 47N20)

Favorov, S. Yu. On the growth of holomorphic mappings from a finite-dimensional space into a Banach space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 240–251. (Adam Janik) **98k:32040** 32K99 (32H30, 46G20)

— Estimates for asymptotic measures and Jessen functions for almost periodic functions. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 10, 27–30. (Summary) **98a:42015** 42B99 (42A75)

Favorskiĭ, A. P. (*with* Bakirova, M. I.; Nikishin, V. V.; Tyurina, N. N.) Energy-consistent conservative schemes for the transport equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 993–994, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 1000–1002 (1998). (Summary) **98m:65135** 65M06

Favre, Alexandre *see* **Chassaing, Patrick**, **98f:76002**

Favre, G. (*with* Santharoubane, L.) Nilpotent Lie algebras of maximal rank and of classical simple type A_l. *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 57–72, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (Duncan J. Melville) **98m:17016** 17B30

Favre, Wilfrid (*with* Scavarda, Serge) Bond graph representation of multibody systems with kinematic loops. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 643–660. 70B15

Fawkes, James The behaviour of the spectral counting function for a family of sets with fractal boundaries. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 126–138. (Norbert Weck) **98b:35040** 35J20 (35J05)

Fawzy, Tharwat (*with* Badr, Badr Saad; Ramadan, Z.) Error of an arbitrary order for the approximate solution of systems of nth order differential equations with spline functions. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 23–32, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:65073** 65L70 (65D07)

— (*with* Holail, F. S.; El-Ganayni, W. A.) Convergence of the spline solving $(0, m)$ lacunary interpolation problem. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 129–148. (Hans-Jörg Wenz) **98d:41010** 41A15

Fay, Michael P. (*with* Shih, Joanna H.) Permutation tests using estimated distribution functions. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 387–396. (Summary) **98m:62141** 62G10

Fay, Temple H. Weakly hereditary regular closure operators. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **37** (1996), *no.* 4, 279–293. (Summary) **98g:18004** 18B30 (54B30)

Fayazov, K. S. An ill-posed boundary value problem for an equation of parabolic type with changing time direction. (Russian) *Analysis and discrete mathematics* (*Russian*),

125–130, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (*see* **98b:00016**) 35K65
— The Cauchy problem for partial differential equations with operator coefficients. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 5, 592–594. (Uljana A. Anufrieva) **98b:35219** 35R20 (34G10, 35J99, 47F05)
— Boundary value problems for a second-order differential equation with selfadjoint operator coefficients. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 6, 1397–1406, iv; *translation in Siberian Math. J.* **37** (1996), *no.* 6, 1228–1236. (Tamara G. Sukacheva) **98a:34058** 34G10 (34B05)
Fayazov, Zh. M. The principle of localization of spectral expansions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1572–1573, 1584; *translation in Differential Equations* **32** (1996), *no.* 11, 1570–1571 (1997). 35P10 (35J40, 47F05)
Faybusovich, Leonid Semidefinite programming: a path-following algorithm for a linear-quadratic functional. (English summary) *SIAM J. Optim.* **6** (1996), *no.* 4, 1007–1024. (Hubertus Th. Jongen) **98b:90104** 90C25 (34C35)
— (*with* Nakamura, Yoshimasa) On explicitly solvable gradient systems of Moser-Karmarkar type. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 1, 88–106. (Summary) **98g:90022** 90C05 (34C35, 34C99, 58F25)
— (*with* Moore, John Barratt) Long-step path-following algorithm for convex quadratic programming problems in a Hilbert space. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 615–635. (Vladimir I. Venets) **98m:90102** 90C25
Faye, Alain (*with* Billionnet, Alain) A lower bound for a constrained quadratic 0-1 minimization problem. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 135–146. (Gerald Hammer) **98d:90072** 90C09 (90C20)
Fayet, Pierre (*with* Connes, Alain; Damour, Thibault) Aspherical gravitational monopoles. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 391–431. (Bernd J. Schroers) **98e:83091** 83C99 (81T99)
Faynzilberg, Peter S. (*with* Kumar, Praveen) Optimal contracting of separable production technologies. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 15–39. (Summary) **98m:90026** 90A11
Fayolle, Guy (*with* Lasgouttes, Jean-Marc) Asymptotics and scalings for large product-form networks via the central limit theorem. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 2, 317–348. (Charles Tier) **98e:60151** 60K25 (68M20)
— (*with* Afanassieva, L. G.; Popov, S. Yu.) Models for transportation networks. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan′, 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1091–1103. (A. A. Chernyak) **98f:90022** 90B22 (60K30, 68M20)
— *see also* **Statistical mechanics of large networks, 98i:00035**
Fayos, Francesc (*with* Senovilla, José M. M.; Torres, Ramón) General matching of two spherically symmetric spacetimes. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 4862–4872. (Nora Bretón Báez) **98a:83025** 83C15
Fayyazuddin, Ansar (*with* Smith, Douglas J.) p-brane solutions in IKKT IIB matrix theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1447–1453. (From the text) **98g:81160** 81T30
— Results in supersymmetric field theory from 3-brane probe in F-theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 101–109. (Angel Maria Uranga) **98j:81330** 81T60 (81T30, 83E30)
— (*with* Makeenko, Yu. M.; Olesen, Poul; Smith, Douglas J.; Zarembo, K.) Towards a non-perturbative formulation of IIB superstrings by matrix models. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 159–182. (Richard A. Corrado) **98g:81161** 81T30
— (*with* Smith, Douglas J.) A note on T^5/Z_2 compactification of the M-theory matrix model. (English summary) *Phys. Lett. B* **407** (1997), *no.* 1, 8–11. (Summary) **98f:81252** 81T30
Fazekas, István (*with* Liese, F.) Some properties of the Hellinger transform and its application in classification problems. (English summary) *Comput. Math. Appl.* **31** (1996), *no.* 8, 107–116. (Summary) **98d:60034** 60E10 (44A15, 62C05)
— A note on "optimal measures". (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 273–277. 28E10 (28A99)
di Fazio, G. *see* **Di Fazio, G.**
Fazio, Riccardo A numerical test for the existence and uniqueness of solution of free boundary problems. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 89–100. (Summary) **98k:34029** 34B15 (34A45)
Fazio, Rosario (*with* Blanter, Ya. M.; Schön, Gerd) Duality in Josephson junction arrays. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 79–90. (*see* **98f:81004**) 82D55
Fazli, K. (*with* Behboodian, J.) Skorohod's theorem and convergence of types. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 73–74, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98b:00035**) 60F05
Fazylov, A. Z. (*with* Absametov, B.) The survival problem for linear control systems with integral constraints. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1661–1664, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1654–1657 (1997). (Corneliu Ursescu) **98m:49005** 49J15
— Sufficient conditions for optimality for the viability problem. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 535–537; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 519–521. 49K15 (93B03)
Fdil, A. A new technique of selection between sequence transformations. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 21–40. (John P. Coleman) **98j:65002** 65B99
Fearnley, David L. Metrisation of Moore spaces and abstract topological manifolds. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 395–401. (Summary) **98h:54039** 54E35
Febrero-Bande, M. (*with* Cao-Abad, R.; González-Manteiga, W.; Prada-Sánchez, J. M.; García-Jurado, Ignacio) Saving computer time in constructing consistent bootstrap prediction intervals for autoregressive processes. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 961–978. (Summary) **98d:62155** 62M10 (62G09)
Fechete, I. (*with* Ban, Adrian I.) The application of t-measures of fuzziness. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 163–169. 28E10 (04A72)
Fečkan, Michal Semilinear problems with nonlinearities depending only on derivatives. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 27–36. (Andrey Ponomaryov) **98g:34036** 34B15 (47H15, 47N20)
— Bifurcation from homoclinic to periodic solutions in ordinary differential equations with multivalued perturbations. (English summary) *J. Differential Equations* **130** (1996), *no.* 2, 415–450. (From the introduction) **98j:34071** 34C25 (34A60, 34C23, 34C37, 58F13)
— (*with* Battelli, Flaviano) Subharmonic solutions in singular systems. (English summary) *J. Differential Equations* **132** (1996), *no.* 1, 21–45. (From the introduction) **98k:34068** 34C25 (34C23, 34C37)
— Nontrivial critical points of asymptotically quadratic functions at resonances. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 1, 43–57. (Jolanta Przybycin) **98g:58025** 58E05 (34B15, 35J65)
— Bifurcation of periodic solutions in differential inclusions. (English summary) *Appl. Math.* **42** (1997), *no.* 5, 369–393. (Jean Mawhin) **98h:34078** 34C25 (34A47, 34A60)
— (*with* Battelli, Flaviano) Chaos in singular impulsive o.d.e. *Nonlinear Anal.* **28** (1997), *no.* 4, 655–671. (Peter Ashwin) **98h:34064** 34C37 (34D15, 58F13)
— Chaos in ordinary differential equations with multivalued perturbations: applications to dry friction problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1355–1364. (*see* **98i:00029**) 34C99 (34A60)
Feddersen, Timothy (*with* Pesendorfer, Wolfgang) Voting behavior and information aggregation in elections with private information. (English summary) *Econometrica* **65** (1997), *no.* 5, 1029–1058. 90A28 (90A08)
Fedeli, Alessandro (*with* Watson, W. Stephen) Elementary submodels and cardinal functions. (English summary) *Topology Proc.* **20** (1995), 91–110. (R. Hodel) **98e:54003** 54A25 (03C55, 54D20)
— On the cardinality of functionally Hausdorff spaces. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 797–801. (Marion Scheepers) **98b:54005** 54A25 (54D10, 54D70)
— Special almost P-spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 371–374. (Summary) **98d:54010** 54A25
— A note on the cardinality of functionally Hausdorff spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 157–161. 54A25
— On two questions related to H-sets. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 17–23. (Summary) **98m:54010** 54A25
Feder, Moshe (*with* Sitter, Randy R.; Chen, Jiahua) Fractional resolution and minimum aberration in blocked 2^{n-k} designs. (English summary) *Technometrics* **39** (1997), *no.* 4, 382–390. 62K15
Federici Vescovini, Graziella The place of the sun in medieval Arabo-Latin astronomy: the *Lucidator dubitabilium astronomiae* (1303–10) of Peter de Padua. *J. Hist. Astronom.* **29** (1998), *no.* 2, 151–155. 01A35 (01A30)
Fedorchenko, A. T. A nonlocal mathematical model of a subsonic flow in a gravitational field. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 633–636; *translation in Phys. Dokl.* **41** (1996), *no.* 12, 611–614. (Natalya A. Vladimirova) **98i:76077** 76N15
— A model of unsteady subsonic flow with acoustics excluded. (English summary) *J. Fluid Mech.* **334** (1997), 135–155. (Summary) **98b:76060** 76N10 (76G25)
Fedorchuk, V. V. Completions of spaces of functions on compact spaces with respect to the Hausdorff uniformity. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2118–2129. (Summary) **98j:54025** 54C35 (46E25, 54A20, 54C60, 54E15)
— (*with* Todorčević, Stevo) Cellularity of covariant functors. (English summary) Proceedings of the Fourth Russian-Japanese Colloquium on General Topology (Moscow, 1995). *Topology Appl.* **76** (1997), *no.* 2, 125–150. (Summary) **98c:54002** 54A25 (54B10, 54B20, 54B30, 54D35)
Fedorenko, O. D. (*with* Sharkovs′kiĭ, Aleksandr; Ivanov, Anatoliĭ Fedorovich; Fedorenko, V. V.) Coexistence of periodic orbits for a class of discontinuous mappings. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraini* **1996**, *no.* 11, 21–25 (1997). (Mikhail Zaks) **98g:58048** 58F03 (58F27)
Fedorenko, V. V. (*with* Sharkovs′kiĭ, Aleksandr; Ivanov, Anatoliĭ Fedorovich; Fedorenko, O. D.) Coexistence of periodic orbits for a class of discontinuous mappings. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraini* **1996**, *no.* 11, 21–25 (1997). (Mikhail Zaks) **98g:58048** 58F03 (58F27)
— (*with* Sharkovs′kiĭ, Aleksandr; Kolyada, S. F.; Sivak, A. G.) ★ Dynamics of one-dimensional maps. (English summary) Translated from the 1989 Russian original by Sivak, P. Malyshev and D. Malyshev and revised by the authors. Mathematics and its Applications, 407. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+261 *pp. ISBN* 0-7923-4532-0 (Helena E. Nusse) **98k:58083** 58F03 (58F10, 58F11, 58F13, 58F20)
Fëdorov, A. L. (*with* Rubshtein, Ben-Zion) Admissible subgroups of full ergodic groups. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1221–1239. (Scot Adams) **98e:28023** 28D15 (22D40)
Fedorov, Andrei Vladimirovich (*with* Ayrian, E. A.) Utilization of CANM for magnetic field calculation. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 34–37, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 78–08 (65M60, 65M70, 78A30)
Fedorov, Andrey *see* **Fëdorov, A. L.**
Fedorov, D. V. (*with* Jensen, A. S.; Garrido, E.) Three-body systems with square-well potentials in $L = 0$ states. (English summary) *Few-Body Systems* **22** (1997), *no.* 4, 193–236. (Summary) **98k:81293** 81U10
Fedorov, V. E. Linear equations of Sobolev type with relatively p-radial operators. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 3, 316–318. (Irina V. Mel′nikova) **98j:47084** 47D06 (34G10)
Fedorov, Ya. V. (*with* Sommers, Hans-Jürgen) Statistics of resonance poles, phase shifts and time delays in quantum chaotic scattering: random matrix approach for systems with broken time-reversal invariance. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1918–1981. (Jacobus Verbaarschot) **98k:81297** 81U20 (81Q50, 82B10, 82B41)
— (*with* Khoruzhenko, Boris A.; Sommers, Hans-Jürgen) Almost-Hermitian random matrices: eigenvalue density in the complex plane. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 46–52. (Estelle L. Basor) **98b:82004** 82B05 (82B44)
— (*with* Khoruzhenko, Boris A.; Sommers, Hans-Jürgen) Almost Hermitian random matrices: crossover from Wigner-Dyson to Ginibre eigenvalue statistics. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 4, 557–560. (Summary) **98f:82067** 82B41
Fedorovskiĭ, K. Yu. On uniform approximations of functions by n-analytic polynomials on rectifiable contours in **C**. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4,

604–610, 640; *translation in Math. Notes* **59** (1996), *no.* 3-4, 435–439. (Yu. A. Brudnyĭ) **98b:41005** 41A10 (30E10)

Fedorovykh, A. M. (*with* Bogush, A. A.) On a generalization of the algebra of complex numbers to the multidimensional case with a nonlinear multiplication operation. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 49–53, 125. (Summary) **98k:81081** 81R05 (81T13)

— Formulation of electrodynamics in terms of relativistic vector algebra. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 75–79, 141–142. (Summary) **98k:78013** 78A25 (83A05)

Fedoseev, A. V. (*with* Astakhov, N. D.; Chan Van Khung) ★ О применении ускоренных алгоритмов решения задач транспортного типа. (Russian. Russian summary) [Application of accelerated algorithms for solving transportation-type problems] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 50 *pp.* (Publisher's description) **98c:90073** 90C08 (65K05, 90C90)

Fedoseev, S. A. (*with* Gitman, M. B.; Trusov, P. V.) On the stochastic optimization problems of plastic metal-working processes. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1109–1112. (*see* **98b:60002**) 90C90 (90C15)

Fedosenko, V. S. (*with* Novik, A. A.) Unsteady internal waves in an inhomogeneous fluid flow. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 56–60, 141. (Summary) **98h:76022** 76C10

Fedosov, Boris V. The index theorem for deformation quantization. (English summary) *Boundary value problems, Schrödinger operators, deformation quantization*, 206–318, *Math. Top.*, 8, *Akademie Verlag, Berlin*, 1995. (Summary) **98f:58182** 58G10 (58F06)

— A trace density in deformation quantization. (English summary) *Boundary value problems, Schrödinger operators, deformation quantization*, 319–333, *Math. Top.*, 8, *Akademie Verlag, Berlin*, 1995. (Summary) **98f:58090** 58F06 (58G10, 81S10)

— Non-abelian reduction in deformation quantization. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 137–154. (Éric Leichtnam) **98k:58096** 58F06

Fedosov, E. N. Numerical filtering of the intensity of an MC-flow in the presence of dead time. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 4, 38–44; *translation in Russian Phys. J.* **40** (1997), *no.* 4, 344–350. 94A12

Fedósova, Alina Immunity to perturbations in the gradient descent method. (Spanish. Spanish summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 1, 19–30 (1997). 90C30 (90C31)

Fedotkin, M. A. (*with* Vysotskiĭ, A. A.) Limit properties and optimization of time-sharing processes. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 295–297. 60K99 (60J10)

Fedotov, A. *see* **Fedotov, Aleksandr A.**

Fedotov, A. I. Convergence of the quadrature-difference method for a class of linear singular integro-differential equations on an interval. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 73–76; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 72–75. 45L05 (65R20)

Fedotov, A. M. Construction of computational algorithms for the solution of ill-posed problems. (Russian) *Conditionally well-posed problems in mathematical physics and analysis (Russian)*, 205–216, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (I. Păvăloiu) **98d:65073** 65J10 (47A50, 65G05)

Fedotov, Aleksandr A. (*with* Buslaev, Vladimir) Spectral properties of the monodromy matrix for Harper equation. *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts*, 1996), *Exp. No. IV*, 11 *pp.*, *École Polytech., Palaiseau*, 1996. (Summary) **98m:81032** 81Q20 (39A10, 47B39)

Fedotov, Sergei Large-scale probability density function for scalar field advected by high Reynolds number turbulent flow. (English summary) *J. Phys. A* **30** (1997), *no.* 5, L77–L82. (Summary) **98c:76048** 76F05 (76M35)

— Scaling and renormalization for the Kolmogorov-Petrovskiĭ-Piskunov equation with turbulent convection. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 3, *part A*, 2750–2756. (Summary) **98a:76045** 76F99 (76M35, 76R99, 80A25)

Fedotova, I. A. Generalized Legendre functions: limit relations, generating functions and integral representations. (Russian. Russian summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 13, i+16 *pp.* (M. Lawrence Glasser) **98f:33004** 33C05 (33C45)

Fedotova, Z. I. (*with* Pashkova, V. Yu.) Methods of construction and the analysis of difference schemes for nonlinear dispersive models of wave hydrodynamics. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 127–149. (F. Milinazzo) **98e:76075** 76M20 (65M06, 76B15)

Fédou, Jean-Marc (*with* Roblet, Emmanuel; Viennot, Xavier Gérard) An identity on Thron's dual continued fractions. (English and French summaries) *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 67–82. (K. C. Prasad) **98m:05014** 05A19 (40A15, 68R05)

Fedri, Valeria (*with* Brandl, Rolf; Serena, Luigi) On self-centralizing Sylow subgroups of order four. *Rend. Sem. Mat. Univ. Padova* **95** (1996), 189–199. (Hiroyoshi Yamaki) **98b:20022** 20D05 (20D06, 20D08)

— (*with* Brandl, Rolf; Serena, Luigi) Groups with the same Cartan matrix as PSL(2, r). (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 805–820. (Hiroyoshi Yamaki) **98k:20083** 20G40 (20D06)

— (*with* Bryce, R. A.; Serena, Luigi) Covering groups with subgroups. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 469–476. (M. J. Tomkinson) **98h:20074** 20F99

Fee, Greg J. (*with* Chu, Kenneth C.-K.; Farell, Cesar E.; McLenaghan, R. G.) General relativity calculations in Maple. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB*, 1995), 195–199, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Sergey I. Tertychniy) **98e:83001** 83–04 (83–08)

Feehery, William F. (*with* Tolsma, John E.; Barton, Paul I.) Efficient sensitivity analysis of large-scale differential-algebraic systems. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 41–54. (Summary) **98d:65084** 65L05 (34A09, 34A45, 65L99)

Feely, Orla (*with* Kotsios, Stelios) A BIBO stability theorem for a two-dimensional feedback discrete system with discontinuities. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 533–537. 93D15 (93D05)

Feeman, Timothy G. The Bourgain algebra of a nest algebra. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 151–166. (Allan P. Donsig) **98c:47055** 47D25 (46J10)

— On higher order Bourgain algebras of a nest algebra. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1391–1396. (Introduction) **98j:47098** 47D25 (46J10)

Feeny, B. F. (*with* Liang, J. W.) Phase-space reconstructions and stick-slip. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 1, 39–57. (Summary) **98a:70021** 70K05 (34C15, 58F40, 70K40, 70K50)

Feferman, Solomon Definedness. (English summary) Varia with a Workshop on the Foundations of Partial Functions and Programming (Irvine, CA, 1995). *Erkenntnis* **43** (1995), *no.* 3, 295–320. (M. Randall Holmes) **98f:03026** 03B60 (03B35, 03B40, 68Q55, 68Q60, 68Q65)

— Gödel's program for new axioms: why, where, how and what? (English summary) *Gödel '96 (Brno*, 1996), 3–22, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Yehuda Rav) **98b:03077** 03F25 (03–03, 03E25, 03E30, 03E50, 03E55, 03E65, 03F03)

— (*with* Jäger, Gerhard) Systems of explicit mathematics with non-constructive μ-operator. II. (English summary) *Ann. Pure Appl. Logic* **79** (1996), *no.* 1, 37–52. (Ulrich Kohlenbach) **98b:03081** 03F35 (03F25, 03F50)

Feffer, Loren Butler Mathematical physics and the planning of American mathematics: ideology and institutions. (English, French and German summaries) *Historia Math.* **24** (1997), *no.* 1, 66–85. (Albert C. Lewis) **98f:01042** 01A60 (01A73, 01A80)

Fefferman, Charles L. On electrons and nuclei in a magnetic field. *Adv. Math.* **124** (1996), *no.* 1, 100–153. (Giorgio Cattapan) **98b:81291** 81V70 (47N50, 81V10)

— Erratum: "Pointwise convergence of Fourier series" [Ann. of Math. (2) **98** (1973), no. 3, 551–571; MR **49** #5676]. *Ann. of Math.* (2) **146** (1997), *no.* 1, 239. (From the text) **98h:42004** 42A20

— (*with* Bugliaro, L.; Fröhlich, Jürg; Graf, Gian Michele; Stubbe, J.) A Lieb-Thirring bound for a magnetic Pauli Hamiltonian. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 567–582. (Hiroshi Isozaki) **98i:81044** 81Q10

— (*with* Fröhlich, Jürg; Graf, Gian Michele) Stability of ultraviolet-cutoff quantum electrodynamics with non-relativistic matter. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 309–330. (Giorgio Cattapan) **98k:81325** 81V55 (81V10)

Fefferman, Robert A. Harmonic analysis of operators associated with a multiparameter group of dilations. (English summary) *Convergence in ergodic theory and probability (Columbus, OH*, 1993), 145–156, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Javier Duoandikoetxea) **98a:42011** 42B20

— (*with* Pipher, Jill C.) Multiparameter operators and sharp weighted inequalities. (English summary) *Amer. J. Math.* **119** (1997), *no.* 2, 337–369. (Stephen Buckley) **98b:42027** 42B20 (42B15, 42B25)

Fegan, H. D. Regularity of convolution operators. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 53–62. (Stephen Slebarski) **98g:22007** 22E46 (22E30, 46F10, 58G15)

Fehér, F. (*with* Strauss, Maximilian Jürgen) Interpolation functors in weak-type interpolation. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 95–104. (Fernando Cobos) **98d:46082** 46M35 (46E30)

Fehér, László (*with* Marshall, Ian) Extensions of the matrix Gelfand-Dickey hierarchy from generalized Drinfeld-Sokolov reduction. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 423–461. (Henrik Aratyn) **98f:58102** 58F07 (17B65, 35Q53)

— (*with* Marshall, Ian) Extended matrix Gelfand-Dickey hierarchies: reduction to classical Lie algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5815–5824. (Summary) **98j:58052** 58F07 (35Q53, 81R10)

Fehér, Marta Patterns of argumentation in Galileo's *Discorsi*. (English summary) *Internat. Stud. Philos. Sci.* **12** (1998), *no.* 1, 17–24. 01A45

Fehér, Zoltán A generalization of some combinatorial identities. (English summary) *Octogon Math. Mag.* **5** (1997), *no.* 2, 32–16. 05A19 (05A30)

Fei, Bao Jun (*with* Li, Zhi Gang[2]) Relativistic velocity and hyperbolic geometry. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 2, 248–255. 83A05 (51M10, 51P05)

Fei, Guihua The existence of homoclinic orbits for Hamiltonian systems with the potentials changing sign. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 651. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 403–410. (Maria Letizia Bertotti) **98b:58059** 58F05 (34C37, 58E05, 70H05)

— (*with* Qiu, Qing Jiu) Periodic solutions of asymptotically linear Hamiltonian systems. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 359–372. (Maria Letizia Bertotti) **98k:58044** 58E05 (34C25, 58F22)

Fei, He Liang Interval estimation in step-stress accelerated life testing based on the exponential model. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 3, 297–304. 62N05

— (*with* Kong, Fan Hui[1]) Limit theorems for the maximum likelihood estimate under general multiply type II censoring. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 731–755. (T. J. Sweeting) **98f:62062** 62F12 (62E20, 62N05)

— (*with* Han, Bo Chang; Chen, Di[1]) Shrinkage estimation for the shape parameter of the Weibull distribution. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 27–36. 62N05

— (*with* Han, Bo Chang) Shrinkage estimation for the scale parameter of a Weibull distribution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 283–290. 62F10

Fei, Pu Sheng (*with* Gong, Liu Tang) Penalty function methods for parabolic control problems with state constraints. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 170–175. (Hong Xing Zhou) **98j:49040** 49M05 (49K20, 93C20)

— (*with* Chen, Zhong[2]) Parallel multiplicative iterative methods for convex programming. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 205–210. 90C25 (65Y05)

— (*with* Mo, Zhong Xi) A new lower bound for the independence number of a graph. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 481–484. (Summary) **98j:05086** 05C35

— (*with* Gong, Liu Tang) Optimal control of nonsmooth system governed by quasi-linear elliptic equations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 339–346. (Fredi Tröltzsch) **98e:49010** 49J20 (35B37, 35J60, 49K20)

— (*with* Chen, Zhong[2]) Convergence analysis of the Broyden algorithm for LC[1] optimization problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 41–46. (Wen Yu Sun) **98e:90149** 90C30 (65K05)

Fei, Qi (*with* Qi, Huan) The minimum L_∞-norm method for nonlinear parameter estimation. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 336–340. 62F10

Fei, Shao-Ming Models with deformed symmetry. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 298–302, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81127** 81R50 (82D55)

— (*with* Wang, Lu-Yu; Cai, Yu; Guo, Han-Ying) Solutions of the Yang-Baxter equation and Temperley-Lieb algebraic structure. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 451–456. (Summary) **98f:82059** 82B23 (20C99)

Fei, Shu Min (*with* Feng, Zhao Sheng) Existence and the number of periodic solutions about one class differential equation. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 400–404. (M. A. Alwash) **98c:34068** 34C25

— (*with* Feng, Zhao Sheng) On analytic solution of Schrödinger equation and Klein-Gordon equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 119–124. 35Q55 (35Q53)

— (*with* Feng, Zhao Sheng) The existence of periodic solutions of second-order neutral equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 553–556. 34K15 (34K40)

— (*with* Feng, Zhao Sheng; Ji, Wen Duo) Analytic solutions of a generalized Klein-Gordon equation. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 222–226. 35Q53 (35C99)

Fei, Yu An application of a matrix derivative method to influence analysis for a multivariate regression model. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 49–54. 62J05 (62J20, 92B15)

Feichtinger, G. Optimal complex dynamics in environmental economics. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 373–380, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A30

— (*with* Wirl, F.; Novak, Andreas J.; Dawid, Herbert) Indeterminacy of open-loop Nash equilibria: the ruling class versus the tabloid press. (English summary) *Uncertainty: models and measures (Lambrecht, 1996)*, 124–136, *Math. Res., 99, Akademie Verlag, Berlin*, 1997. (*see* **98e:00024**) 90A16 (00A69, 90D15)

Feichtinger, Hans G. Amalgam spaces and generalized harmonic analysis. (English summary) *Proceedings of the Norbert Wiener Centenary Congress, 1994 (East Lansing, MI, 1994)*, 141–150, *Proc. Sympos. Appl. Math., 52, Amer. Math. Soc., Providence, RI*, 1997. (Kristian Seip) **98e:40005** 40E05 (42B99, 43A20, 43A55)

— (*with* Gröchenig, Karlheinz) Gabor frames and time-frequency analysis of distributions. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 464–495. (Ole Christensen) **98k:42041** 42C15 (46E99)

— (*with* Zimmermann, Georg) A Banach space of test functions for Gabor analysis. (English summary) *Gabor analysis and algorithms*, 123–170, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42018** 42C15

— (*with* Kozek, Werner) Quantization of TF lattice-invariant operators on elementary LCA groups. (English summary) *Gabor analysis and algorithms*, 233–266, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42019** 42C15 (43A55)

— *see also* **Gabor analysis and algorithms**, **98b:42001**

Feige, Uriel (*with* Lund, Carsten) On the hardness of computing the permanent of random matrices. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 2, 101–132. (H.-J. Hoehnke) **98b:15004** 15A15 (65Y20, 68Q15, 68Q25)

— A fast randomized LOGSPACE algorithm for graph connectivity. (English summary) ICALP '94 (Jerusalem, 1994). *Theoret. Comput. Sci.* **169** (1996), *no.* 2, 147–160. (Summary) **98a:68145** 68R10 (68Q25)

— (*with* Kilian, Joe) On limited versus polynomial nondeterminism. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 1, *approx.* 20 *pp.* (*electronic*). (William Gasarch) **98a:68069** 68Q15 (68Q10)

— A spectrum of time-space trade-offs for undirected s-t connectivity. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 305–316. (Peter Damaschke) **98f:68124** 68Q25 (05C40, 68R10)

Feigelstock, Shalom Distributively generated trivial near-rings. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 143–144. 16Y30

— Additive groups of rings whose subrings are ideals. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 477–481. (Summary) **98b:20091** 20K99

— Additive groups of unequivocal rings. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 31–34. 20K99

Feigenbaum, Joan (*with* Cowen, Lenore J.; Kannan, Sampath) A formal framework for evaluating heuristic programs. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 634–645, *Lecture Notes in Comput. Sci., 1099, Springer, Berlin*, 1996. (Summary) **98i:68057** 68N99 (68Q99)

— (*with* Strauss, Martin Joel) An information-theoretic treatment of random-self-reducibility (extended abstract). (English summary) *STACS 97 (Lübeck)*, 523–534, *Lecture Notes in Comput. Sci., 1200, Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q15

— (*with* Beaver, Donald; Kilian, Joe; Rogaway, Phillip) Locally random reductions: improvements and applications. (English summary) *J. Cryptology* **10** (1997), *no.* 1, 17–36. (Claus-Peter Schnorr) **98g:94022** 94A60 (68Q15)

— (*with* Condon, Anne; Lund, Carsten; Shor, Peter W.) Random debaters and the hardness of approximating stochastic functions. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 369–400. (Marius Zimand) **98a:68067** 68Q15

— *see also* **Codes and complexity**, **98c:94001**

Feigenbaum, Mitchell J. (*with* Chhabra, Ashvin B.; Kadanoff, Leo P.; Kolan, Amy J.; Procaccia, Itamar) Sandpiles, avalanches, and the statistical mechanics of nonequilibrium stationary states. (English summary) *Phys. Rev. E* (3) **47** (1993), *no.* 5, 3099–3121. (Manfred Requardt) **98e:82039** 82C27 (93E30)

— Where will the future go? *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 321–326, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:58005**) 00A79 (01A67, 01A70)

Feighn, M. (*with* Bestvina, Mladen; Handel, Michael) Laminations, trees, and irreducible automorphisms of free groups. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 215–244. (S. Andreadakis) **98c:20045** 20E05 (05C25, 20F28, 57M07)

— (*with* Bestvina, Mladen; Handel, Michael) Erratum to: "Laminations, trees, and irreducible automorphisms of free groups" [Geom. Funct. Anal. **7** (1997), no. 2, 215–244; MR 98c:20045]. *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1143. (From the text) **98k:20034** 20E05 (05C25, 20F28, 57M07)

Feigin, B. L. (*with* Enriquez, Benjamin) Integrals of motion of classical lattice sine-Gordon system. (English summary) *R.C.P. 25, Vol. 47 (Strasbourg, 1993–1995)*, 127–150, *Prépubl. Inst. Rech. Math. Av., 1995/24, Univ. Louis Pasteur, Strasbourg*, 1995. (Aleksandr Panov) **98i:17027** 17B65 (35Q58, 58F07)

— (*with* Frenkel, Edward) Quantum $\mathcal{W}$-algebras and elliptic algebras. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 3, 653–678. (Jun'ichi Shiraishi) **98a:81062** 81R10 (17B68)

— (*with* Loktev, S. A.) Cohomology of nilpotent subalgebras of the algebra $\hat{sl}_2$. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 80–83; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 285–287 (1997). (Elena Poletaeva) **98a:17033** 17B56 (17B55)

— (*with* Malikov, F. G.) Modular functor and representation theory of $\hat{sl}_2$ at a rational level. (English summary) *Operads: Proceedings of Renaissance Conferences (Hartford, CT/Luminy, 1995)*, 357–405, *Contemp. Math., 202, Amer. Math. Soc., Providence, RI*, 1997. (Andrew Pressley) **98a:17034** 17B65 (14D20, 17B37)

— (*with* Odesskiĭ, A. V.) A family of elliptic algebras. *Internat. Math. Res. Notices* **1997**, *no.* 11, 531–539. (Michel Van den Bergh) **98g:16028** 16S99

— (*with* Antonov, Alexander) Quantum group representations and the Baxter equation. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 115–122. (Alexei Zhedanov) **98e:81066** 81R50 (81T40, 81U40)

— (*with* Ding, Jintai) Quantum current operators. II. Difference equations of quantum current operators and quantum parafermion construction. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 285–300. (Nicolás Andruskiewitsch) **98d:17022** 17B37 (17B67, 33D80, 81R50)

Feigin, M. V. (*with* Chalykh, O. A.; Veselov, A. P.) New integrable generalizations of Calogero-Moser quantum problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 695–703. (Kazuhiro Hikami) **98m:81219** 81V70 (82B23)

Feigin, Paul D. (*with* Kratz, Marie F.; Resnick, Sidney I.) Parameter estimation for moving averages with positive innovations. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1157–1190. (Vladimir Zaiats) **98f:62249** 62M10 (60F05, 60G55, 62E20)

— (*with* Brown, Tim C.; Pallant, Diana L.) Estimation for a class of positive nonlinear time series models. (English summary) *Stochastic Process. Appl.* **63** (1996), *no.* 2, 139–152. (Paul Embrechts) **98b:62155** 62M10 (60J05, 62E20, 62F12)

— (*with* Resnick, Sidney I.) Linear programming estimators and bootstrapping for heavy tailed phenomena. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 759–805. (Arup Bose) **98j:60031** 60F05 (60G55, 60G57, 60G70, 62F12, 62G09, 62M10)

Feijen, W. H. J. (*with* van Gasteren, A. J. M.) On a method for the formal design of multiprograms. (English summary) *Mathematical methods in program development (Marktoberdorf, 1996)*, 53–81, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (Summary) **98m:68171** 68Q60 (68Q10)

— (*with* van der Sommen, F. W.; van Gasteren, A. J. M.) Peterson's mutual exclusion algorithm revisited. (English summary) *Sci. Comput. Programming* **29** (1997), *no.* 3, 327–334. 68Q10

Feinberg, E. L. Landau, Kapitsa and Stalin (on the 90th anniversary of the birth of L. D. Landau). (Russian) *Priroda* **1998**, *no.* 1, 65–75. 01A70

Feinberg, Eugene A. (*with* Shwartz, Adam) Constrained discounted dynamic programming. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 922–945. (Masami Kurano) **98d:90132** 90C40

— (*with* Denardo, Eric V.; Kella, Offer) Stochastic monotonicity for stationary recurrence times of first passage heights. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 326–339. (Stergios B. Fotopoulos) **98e:60143** 60K05 (60J40, 60K20, 60K25)

Feinberg, Joshua (*with* Zee, A.) Dynamical generation of solitons in a $(1+1)$-dimensional chiral field theory: non-perturbative Dirac operator resolvent analysis. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1133–1142. (Summary) **98h:81084** 81T16

— (*with* Zee, A.) Renormalizing rectangles and other topics in random matrix theory. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 473–504. (Aernout C. D. van Enter) **98k:82090** 82B44 (60F05, 60H25, 82D30)

— (*with* Zee, A.) Non-Gaussian non-Hermitian random matrix theory: phase transition and addition formalism. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 3, 643–669. (Alexei Khorunzhy) **98k:82091** 82B44 (15A52, 60H25)

— (*with* Zee, A.) Non-Hermitian random matrix theory: method of Hermitian reduction. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 579–608. (Summary) **98g:82019** 82B31 (82B41)

— (*with* Dunne, Gerald) Self-isospectral periodic potentials and supersymmetric quantum mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1271–1276. (Summary) **98j:81099** 81Q60

Feinberg, V. (*with* Levin, A. G.; Rabinovich, E. B.) ★ VLSI planarization. (English summary) Methods, models, implementation. Mathematics and its Applications, 399. *Kluwer Academic Publishers Group, Dordrecht*, 1997. vi+184 *pp. ISBN* 0-7923-4510-X (Christoph Meinel) **98m:68128** 68Q35 (68R10, 94C05, 94C15)

Feingold, Alex J. (*with* Akman, Füsun; Weiner, Michael D.) Minimal model fusion rules from 2-groups. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 159–169. (Summary) **98k:81094** 81R10 (17B68, 81T40)

Feingold, Mario Localization in strongly chaotic systems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3603–3612. (Summary) **98e:81037** 81Q50

Feingold, Mordechai Decline and fall: Arabic science in seventeenth-century England. *Tradition, transmission, transformation (Norman, OK, 1992/1993)*, 441–469, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (*see* **98b:01002**) 01A45 (01A30)

Feinsilver, Philip (*with* Schott, René) ★ Algebraic structures and operator calculus. Vol. II. (English summary) Special functions and computer science. Mathematics and its Applications, 292. *Kluwer Academic Publishers Group, Dordrecht*, 1994. x+148 *pp. ISBN* 0-7923-2921-X (P. D. F. Ion) **98m:33001** 33–02 (22E70, 68P05, 81R05)

— (*with* Schott, René) An operator calculus approach to the evolution of dynamic data structures. (English summary) *Mathematical foundations of computer science*

1995 (*Prague*), 574–586, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98e:68104** 68Q25 (22E99, 68P05)

— (*with* Franz, Uwe[1]; Schott, René) Duality and multiplicative processes on quantum groups. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 462–468, *World Sci. Publishing, River Edge, NJ*, 1995. (Roland Speicher) **98d:81038** 81S25 (81R50)

— (*with* Schott, René) ★ Algebraic structures and operator calculus. Vol. III. (English summary) Representations of Lie groups. Mathematics and its Applications, 347. *Kluwer Academic Publishers Group, Dordrecht*, 1996. x+228 *pp. ISBN* 0-7923-3834-0 (P. D. F. Ion) **98k:22001** 22–02 (22E70, 33D80, 68Q40)

— (*with* Atakishiev, N. M.) Two Ramanujan's integrals with a complex parameter. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 406–412, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98m:33043** 33D10

— (*with* McSorley, John P.; Schott, René) Combinatorial interpretation and operator calculus of Lommel polynomials. (English summary) *J. Combin. Theory Ser. A* **75** (1996), *no.* 1, 163–171. (Jiang Zeng) **98a:33002** 33C45 (05E35)

— (*with* Atakishiev, N. M.) On the coherent states for the q-Hermite polynomials and related Fourier transformation. (English summary) *J. Phys. A* **29** (1996), *no.* 8, 1659–1664. (Summary) **98j:81125** 81R30 (33D45)

— (*with* Franz, Uwe[1]; Schott, René) Duality and multiplicative stochastic processes on quantum groups. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 795–818. (Roland Speicher) **98g:81105** 81S25 (16W30, 60J30)

Feinstein, Alexander (*with* Ibáñez, J.; Lazkoz, Ruth) Cosmologies with two-dimensional inhomogeneity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 245–248, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83011** 83C15

— (*with* Lazkoz, Ruth; Vázquez-Mozo, M. A.) Closed inhomogeneous string cosmologies. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5166–5171. (Sergey Nikolaevich Roshchupkin) **98i:83076** 83E30 (81T30)

Feintuch, Avraham ★ Robust control theory in Hilbert space. (English summary) Applied Mathematical Sciences, 130. *Springer-Verlag, New York*, 1998. xvi+225 *pp. ISBN* 0-387-98291-4 (Joseph A. Ball) **98j:93001** 93–02 (47N70, 93B36, 93C25)

Feireisl, Eduard Finite energy solitary waves for semilinear damped wave equations. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 181–189, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98e:35117** 35L70 (35B40, 35Q51)

— (*with* Simondon, Frédérique) Convergence for degenerate parabolic equations in one dimension. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 3, 251–255. (Summary) **98g:35120** 35K65 (35B40, 35K60)

— A stabilizing effect of vanishing diffusion in electrohydrodynamics. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 217–227. (J. W. Jerome) **98d:76165** 76W05 (35Q30)

— Long-time behavior and convergence for semilinear wave equations on $\mathbf{R}^N$. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 133–155. (Summary) **98c:35114** 35L70 (35B40)

— (*with* Petzeltová, Hana) On the long-time behaviour of solutions to a conservation law with memory. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 7, 569–581. (Pavel Dubovskiĭ) **98d:35138** 35L65 (35B40, 45K05)

— (*with* Petzeltová, Hana) Asymptotic spatial homogeneity of solutions to conservation laws with memory in several space dimensions. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 17, 1459–1468. (Summary) **98h:35151** 35L65 (45K05)

Feiring, B. R. (*with* Cheng, C. H.) Linearizing binary products in binary programming problems. (English summary) *J. Math. Sci.* (*Calcutta*) **4** (1993), *no.* 2, 69–72. 90C09 (90C08)

— (*with* Cheng, C. H.; Shek, Kamlun) Mathematical programming approaches to the linear complementary problem. (English summary) *J. Math. Sci.* (*Calcutta*) **6** (1995), *no.* 2, 61–66. 90C33 (90C30)

— (*with* Sastri, T.; Sim, L. S. M.) A Stochastic programming model for water resource planning. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 1–7. 90C90 (90C15)

Feistauer, Miloslav (*with* Felcman, Jiří; Lukáčová-Medviďová, Mária) On the convergence of a combined finite volume–finite element method for nonlinear convection-diffusion problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 163–190. (Claus-Dieter Munz) **98a:65123** 65M12 (65M60, 76M10, 76R99)

— (*with* Schwab, Christopher) On modelling of viscous incompressible flow in exterior domains via coupled procedures. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 92–96, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 76D05 (35Q30, 76D07)

Feit, Paul Existence of orbifolds. III. Pseudoétale topologies. (English summary) *Comm. Algebra* **24** (1996), *no.* 4, 1281–1326. (Andreas Blass) **98b:18018** 18F15 (58A03, 58A05)

— Existence of orbifolds. IV. Examples. (English summary) *Comm. Algebra* **24** (1996), *no.* 4, 1327–1369. (Andreas Blass) **98b:18019** 18F15 (58A03, 58A05)

Feit, Walter Orders of finite linear groups. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 9–11, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20G40

— *see also* **Serre, Jean-Pierre**, **98i:20008**

Felziev, F. G. (*with* Faradzhev, R. G.) On a quadratic optimization problem for binary multidimensional nonlinear sequential cellular machines. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 5, 104–119; *translation in Automat. Remote Control* **57** (1996), *no.* 5, *part* 2, 702–715. (Introduction) **98c:68145** 68Q80 (90C09)

— (*with* Faradzhev, R. G.) An algorithm for constructing orthogonal test sequences for binary multidimensional nonlinear sequential cellular machines. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 114–124; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 2, 862–870. (Juraj Hromkovič) **98c:68146** 68Q80 (68M15, 94C99)

Fekete, Alan (*with* Kaashoek, M. Frans; Lynch, Nancy) Implementing sequentially consistent shared objects using broadcast and point-to-point communication. (English summary) *J. ACM* **45** (1998), *no.* 1, 35–69. (Summary) **98m:68007** 68M10 (68Q60)

Fekete, Sándor P. (*with* Khuller, Samir; Klemmstein, Monika; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 105–117, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael A. Trick) **98i:90112** 90C35 (05C05)

— (*with* Woeginger, Gerhard J.) Angle-restricted tours in the plane. (English summary) *Comput. Geom.* **8** (1997), *no.* 4, 195–218. (Henk Meijer) **98m:05119** 05C45 (68R10, 68U05)

— (*with* Faigle, Ulrich; Kern, Walter; Hochstättler, Winfried) On the complexity of testing membership in the core of min-cost spanning tree games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 361–366. (Summary) **98e:90250** 90D43 (65Y20)

— (*with* Khuller, Samir; Klemmstein, Monika; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 310–324. (Summary) **98h:68181** 68R10 (05C85, 68Q25, 90C35)

Fekih-Ahmed, Lazhar (*with* Chiang, Hsiao-Dong) Quasi-stability regions of nonlinear dynamical systems: theory. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **43** (1996), *no.* 8, 627–635. (V. B. Smirnova) **98f:34076** 34D05 (58F10)

— (*with* Chiang, Hsiao-Dong) Quasi-stability regions of nonlinear dynamical systems: optimal estimations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **43** (1996), *no.* 8, 636–643. (V. B. Smirnova) **98f:34077** 34D05 (34D10, 58F10)

Felbacq, D. (*with* Bouchitté, Guy) Homogenization of a set of parallel fibres. (English summary) *Waves Random Media* **7** (1997), *no.* 2, 245–256. (Summary) **98b:78031** 78A45 (73B27, 78A25)

Felcman, Jiří (*with* Dolejší, Vít) Adaptive methods in internal and external flow computations. (English summary) *Progress in industrial mathematics at ECMI 96* (*Lyngby*, 1996), 424–431, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76M25 (76H05)

— (*with* Feistauer, Miloslav; Lukáčová-Medviďová, Mária) On the convergence of a combined finite volume–finite element method for nonlinear convection-diffusion problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 163–190. (Claus-Dieter Munz) **98a:65123** 65M12 (65M60, 76M10, 76R99)

Fel'd, Ya. N. On a new quadratic lemma for nonmonochromatic processes of electrodynamics. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 3, 316–319. (From the text) **98k:78019** 78A30

Felder, Giovanni (*with* Varchenko, A. N.) On representations of the elliptic quantum group $E_{\tau,\eta}(\mathrm{sl}_2)$. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 3, 741–761. (V. A. Golubeva) **98b:17014** 17B37 (17B10, 81R50)

— (*with* Varchenko, A. N.) Algebraic Bethe ansatz for the elliptic quantum group $E_{\tau,\eta}(\mathrm{sl}_2)$. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 485–503. (V. A. Golubeva) **98b:82024** 82B23 (17B37, 81R50)

Felderhof, B. U. (*with* Cichocki, B.) Long-time translational and rotational Brownian motion in two dimensions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 989–1003. (Summary) **98g:82044** 82C41

Feldman, Arnold D. (*with* Dasgupta, Amil) An intersection property of Sylow 2-subgroups in non-solvable groups. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 261–268. (Henry S. Leonard, Jr.) **98h:20031** 20D20

— A nonabnormal subgroup contained only in self-normalizing subgroups in a finite group. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 9–10. 20D99

Feldman, David *see* **Feldman, David V.**

Feldman, David P. (*with* Crutchfield, James P.) Measures of statistical complexity: why? (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 244–252. (Summary) **98m:82005** 82B03

Feldman, David V. Doubly stochastic measures: three vignettes. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 84–96, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98k:28031** 28E05 (15A51)

Fel'dman, G. M. (*with* Carnal, H.) Phase retrieval for probabili y measures on abelian groups. II. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 1065–1074. (Michael Voit) **98j:60006** 60B15 (22B99, 43A25)

Feldman, Jacob[2] Regularity-based perceptual grouping. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 582–623. (Summary) **98j:68158** 68T99 (03B70, 68N17)

Feldman, Joel (*with* Magnen, Jacques; Rivasseau, Vincent; Trubowitz, Eugene) Constructive many-body theory. (English summary) *The state of matter* (*Copenhagen*, 1992), 293–330, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 81V70 (81T08, 81T17, 82–02, 82B10, 82B28)

Feldman, M. Non-linear free vibration identification via the Hilbert transform. (English summary) *J. Sound Vibration* **208** (1997), *no.* 3, 475–489. (Summary) **98i:70018** 70K25 (70K99)

Feldman, Marcus W. (*with* Christiansen, Freddy Bugge) Algorithms, genetics, and populations: the schemata theorem revisited. (English summary) *Complexity* **3** (1998), *no.* 3, 57–64. 92D10 (68T05)

Feldman, Mikhail (*with* Evans, Lawrence C.; Gariepy, R. F.) Fast/slow diffusion and collapsing sandpiles. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 166–209. (Maria Elena Schonbek) **98g:35093** 35K55 (35B40)

Fel'dman, Naum Il'ich *see* **Nesterenko, Yu. V.**

Feldman, Pesech (*with* Micali, Silvio) An optimal probabilistic protocol for synchronous Byzantine agreement. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 873–933. (Summary) **98f:68115** 68Q22 (68M15, 68Q10, 68R05)

epstein-Feldman, Raisa *see* **Epstein-Feldman, Raisa**

Feldman, Raisa E. *see* **Epstein-Feldman, Raisa**

Feldmann, Anja (*with* Kao, Ming-Yang; Sgall, Jiří; Teng, Shang-Hua) Optimal on-line scheduling of parallel jobs with dependencies. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 393–411. (Summary) **98k:68026** 68M20 (90B35)

Feldmann, Heiko (*with* Shrock, Robert; Tsai, Shan-Ho) A mapping relating complex and physical temperatures in the 2D q-state Potts model and some applications. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L663–L668. 82B20

Feldmann, Rainer (*with* Monien, Burkhard; Mysliwietz, Peter; Tschöke, Stefan) A better upper bound on the bisection width of de Bruijn networks (extended abstract). (English summary) *STACS 97* (*Lübeck*), 511–522, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68M10 (68R10)

Feldstein, Alan (*with* Kim, Young Ik) Bifurcation and k-cycles of a finite-dimensional iterative map, with applications to logistic delay equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 411–424. (Frederick R. Marotto) **98h:58126** 58F14 (34K15, 39B12, 58F08)
— *see also* **Volterra centennial, 98b:65008**
Felea, Victor On the family of conditional embedded implicational dependencies. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 238–251. (Summary) **98g:68032** 68P15
Feledziak, Krzysztof (*with* Nowak, Marian) Locally solid topologies on vector valued function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 487–511. (Pilar Cembranos) **98k:46061** 46E40 (46A40)
— Uniformly Lebesgue topologies on Köthe-Bochner spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 81–98. (Pilar Cembranos) **98k:46062** 46E40 (46A70, 46E30)
Felgenhauer, Ursula Numerical optimality test for control problems. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 85–101, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Ludmila N. Polyakova) **98c:49067** 49M25 (49M37)
— Algorithmic stability analysis for certain trust region methods. *Mathematical programming with data perturbations*, 109–131, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Joachim Hirche) **98k:90117** 90C31 (65K05)
de Felice, Clelia *see* **De Felice, Clelia**
de Felice, Fernando (*with* Semerák, Oldřich) Quasi-local measurements and orientation in black-hole fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2381–2392. (Valter Moretti) **98i:83052** 83C57
de Felice, Gianmarco (*with* de Buhan, Patrick) A homogenization approach to the ultimate strength of brick masonry. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 7, 1085–1104. (Summary) **98b:73002** 73B27 (73E05, 73K20)
di Felice, Paolino *see* **Di Felice, Paolino**
de Felice Ciccoli, M. *see* **De Felice Ciccoli, M.**
Feliks, Yizhak (*with* Ghil, Michael) Stability of a front separating water masses with different stratifications. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 3-4, 165–204. 76E20 (76V05, 86A05)
gonzález Felipe, R. *see* **González Felipe, R.**
Felippa, C. A. (*with* Park, K. C.) A direct flexibility method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 319–337. (*see* **98f:73002**) 73V05
Félix, Yves (*with* Murillo-Mas, Aniceto) A note on the nilpotency of subgroups of self-homotopy equivalences. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 486–488. (Ken-ichi Maruyama) **98d:55019** 55P62 (55P10)
— The fibre of an iterative adjunction of cells. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 53–65. (Daniel Tanré) **98h:55011** 55P05 (55R05)
— (*with* Murillo-Mas, Aniceto) A bound for the nilpotency of a group of self homotopy equivalences. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 625–627. (M. Arkowitz) **98d:55010** 55P10
Felleisen, Matthias (*with* Weeks, Stephen) On the orthogonality of assignments and procedures in ALGOL. (English summary) *ALGOL-like languages, Vol. 1*, 101–124, *Progr. Theoret. Comput. Sci., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98d:68036** 68N15 (03B40, 03F05)
Fellmann, Emil A. Partielle Differentiation im Briefwechsel Eulers mit Niklaus I Bernoulli—eine Miszelle. (English summary) [Partial differentiation in Euler's correspondence with Niklaus I Bernoulli—a miscellany] *History of mathematics*, 223–236, *Academic Press, San Diego, CA*, 1996. (Summary) **98f:01026** 01A50
Fellows, Michael R. (*with* Cattell, Kevin; Dinneen, Michael J.) Obstructions to within a few vertices or edges of acyclic. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 415–427, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98d:05132** 05C85 (68R10)
— (*with* Cai, Liming; Chen, Jianer; Downey, Rodney G.) Advice classes of parameterized tractability. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 119–138. (William Gasarch) **98b:68055** 68Q15 (03D15)
— (*with* Cai, Liming; Chen, Jianer; Downey, Rodney G.) On the parameterized complexity of short computation and factorization. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 321–337. (Mukkai S. Krishnamoorthy) **98m:68085** 68Q15 (03D15, 68Q25)
— (*with* Balasubramanian, Ramachandran; Raman, Venkatesh) An improved fixed-parameter algorithm for vertex cover. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 163–168. (Summary) **98m:68198** 68R10 (68Q15, 68Q25)
— (*with* Downey, Rodney G.; Regan, Kenneth W.) Parameterized circuit complexity and the W hierarchy. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 97–115. (Summary) **98m:68088** 68Q15 (68Q25)
Felmer, Patricio L. (*with* del Pino, Manuel) Semi-classical states for nonlinear Schrödinger equations. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 245–265. (Summary) **98i:35183** 35Q55 (35B25, 35B40, 35J10)
— (*with* Cortázar, Carmen; Elgueta, Manuel) Some uniqueness results for $\Delta u + f(u) = 0$ in $\mathbf{R}^N$, $N \geq 3$. *Reaction diffusion systems* (*Trieste*, 1995), 67–77, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Alexandra Kurepa) **98m:35053** 35J60 (34B15)
Fels, G. A note on homogeneous locally symmetric spaces. (English summary) *Transform. Groups* **2** (1997), *no.* 3, 269–277. (Sergio Console) **98e:53084** 53C35 (53C30)
Fels, Mark E. (*with* Anderson, Ian M.) Symmetry reduction of variational bicomplexes and the principle of symmetric criticality. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 609–670. (Juha Pohjanpelto) **98k:58208** 58G05 (58E30, 58G35)
Felsenthal, Dan S. (*with* Machover, Moshé) Ternary voting games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 335–351. (Maurice Salles) **98k:90005** 90A08 (90D12, 90D40)
Felsner, Stefan (*with* Müller, Rudolf; Wernisch, Lorenz) Trapezoid graphs and generalizations, geometry and algorithms. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 1, 13–32. (Daniel Turzik) **98c:05148** 05C85
— On the number of arrangements of pseudolines. (English summary) ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Discrete Comput. Geom.* **18** (1997), *no.* 3, 257–267. (Igor Rivin) **98k:52031** 52B30 (52B40)
— On-line chain partitions of orders. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 283–292. (Volkmar Welker) **98h:06002** 06A06 (68R05)
Felten, Michael On an algebraic modulus of smoothness and best algebraic approximation. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 199–206, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41029** 41A58
— A modulus of smoothness based on an algebraic addition. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 56–73. (Z. Ditzian) **98m:41010** 41A10
— Characterization of best algebraic approximation by an algebraic modulus of smoothness. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 1–25. (Dimitar Kolev Dimitrov) **98e:41006** 41A10 (41A25)
Feltenmark, S. (*with* Lindberg, P. O.) Network methods for head-dependent hydro power scheduling. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 249–264, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90B35)
Feltkamp, Vincent (*with* Arin, Javier) The nucleolus and kernel of veto-rich transferable utility games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 61–73. (G. A. Heuer) **98a:90157** 90D12
Felton, Anthony J. (*with* Rogosinski, H. P.) Biorthogonality in the real sequence spaces l^p. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 325–330. (Summary) **98c:46042** 46C05 (46B45)
Felty, Amy (*with* Despeyroux, Joëlle; Hirschowitz, André) Higher-order abstract syntax in Coq. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 124–138, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68T15 (03B40, 68N15)
— (*with* Théry, Laurent) Interactive theorem proving with temporal logic. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 4, 367–397. (Zoran Ognjanović) **98c:03033** 03B35 (03B45, 68Q60, 68T15)
— *see also* **Theorem proving in higher order logics, 98i:68018**
Femat, Ricardo (*with* Álvarez-Ramírez, José; Solís-Daun, Julio) A note on bounded-input feedback global stabilization of robot manipulators. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 115–119. 93C85 (70B15, 70Q05, 93D15)
— (*with* Álvarez-Ramírez, José) Synchronization of a class of strictly different chaotic oscillators. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 307–313. 58F13 (70K50, 93C99)
Fendler, Gero Dilations of one parameter semigroups of positive contractions on L^p spaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 736–748. (Wojciech Bartoszek) **98i:47035** 47D03 (22D12, 43A22, 47B38, 47B65)
Fendley, Paul (*with* Ludwig, Andreas W. W.; Saleur, Hubert) Quantum impurity problems in condensed matter physics. (English summary) *STATPHYS 19* (*Xiamen*, 1995), 137–157, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82-02
Feneyrol-Perrin, Yvette Résolution d'équations différentielles par les méthodes infinitésimales. [Solution of differential equations by infinitesimal methods] *Méthodes et analyse non standard*, 57–67, *Cahiers Centre Logique*, 9, *Acad.-Bruylant, Louvain-la-Neuve*, 1996. (*see* **98h:03084**) 03H05 (34A46)
— Moyennées sur des ensembles hyperfinis. [Averaged values on hyperfinite sets] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 6, 13 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 28E05 (03H05)
Feng, Bei Ye Stability of homoclinic cycles and heteroclinic cycles in space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 5, 649–658. (Yi Yuan Chen) **98b:58111** 58F13 (34C05, 34C37, 58F14)
Feng, Binlu (*with* Tso, Kaising; Yu, Yuan Hong) Unbounded solutions of second order nonlinear differential equations with deviating arguments. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 51–58. (M. Cecchi) **98h:34130** 34K15
Feng, Chen *see* **Chen, Feng**
Feng, Chun Bo (*with* Guo, Lei[1]; Xin, Xin) Design of reduced order controllers for singular H_∞ control problems on the basis of inequalities for linear matrices. (Chinese. English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 709–716. (Summary) **98c:93037** 93B36 (93C05)
— (*with* Zhang, Ying[4]) A bias-compensated least squares method for the identification of closed-loop systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 308–313. 93B30 (93C05)
— (*with* Zhang, Tian-Ping) Adaptive fuzzy sliding mode control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 361–369. 93C42 (04A72)
— (*with* Xin, Xin) Solvability of quadratic matrix inequalities of singular H^∞ control problems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 387–390. 93B36
— (*with* Tian, Yu Ping[1]) Finite checking of robust stability for interval systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 529–532. 93D09
— (*with* Guo, Lei[1]; Xin, Xin) The positive real control problem for generalized linear plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 577–583. 93C05 (93B52)
— (*with* Xin, Xin; Guo, Lei[1]) The design of strictly proper H^∞ controllers for general generatized plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 668–672. 93B36
— (*with* Zhang, Ying[4]) Unbiased parameter estimation of linear systems with colored noises. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 969–973. (Summary) **98c:93108** 93E10
— (*with* Guo, Lei[1]; Xin, Xin) Reduced-order output feedback controllers for the robust H^∞ performance problem. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 517–522. (Takehiro Mori) **98d:93041** 93B36 (93B11)
— (*with* Zhao, Xiao Hui[2]) Robust adaptive control for linear continuous-time systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3,

411–415. 93C40 (93D21)

— (*with* Liu, Bing[1]; Xu, Li Hong) Dynamic compensation for multivariable continuous-time predictive control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 570–573. 93D15

— (*with* Zhang, Ying[4]; Su, Weizhou) Robust stability of the state-space models with structured perturbations. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 665–670. 93D09

— (*with* Zhang, Tian-Ping) Decentralized adaptive fuzzy control for large-scale nonlinear systems. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 61–70. 93C42 (04A72)

— (*with* Zhang, Ying[4]) Identification of closed-loop systems via least-squares method. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 1, 29–39. (Summary) **98k:93028** 93B30 (93E12)

Feng, Chun Hua Positive periodic solutions to a population model equation with delay. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 62–64. (Qing Kai Kong) **98f:34100** 34K15 (34K20, 92D25)

— Positive periodic solutions of an infectious disease model. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 4, 339–344. (Summary) **98m:92026** 92D30 (34K15)

— Periodic solutions for a class of nonautonomous systems. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 401–405. (Summary) **98k:34070** 34C25

— (*with* Li, Zhengwu; Xiao, Lihua) The solvability of the boundary value problem of the four elements with the Carleman shift and complex-conjugate values. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 247–256. (Summary) **98g:35061** 35J55 (30E25, 35Q15)

Feng, Da Hsuan (*with* Zhang, Wei-Min) Geometrical and dynamical controllings for quantum to classical transition. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 295–310, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q05

— *see also* **Quantum classical correspondence, 98m:81002**

Feng, Dan (*with* Pulliam, Thomas H.) Tensor-GMRES method for large systems of nonlinear equations. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 757–779. (E. Spedicato) **98g:65047** 65H10

Feng, De Jun (*with* Rao, Hui; Wu, Jun[2]) The Hausdorff dimensions of one-dimensional homogeneous Cantor sets. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 331–336. (Summary) **98k:28005** 28A78

— (*with* Wu, Jun[2]) The rigidity of the dimension. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 6, 587–590. 54F45

— (*with* Wu, Jun[2]; Liang, Jyh-Ching; Tseng, Shiojenn) Appendix to the paper by T. Łuczak—a simple proof of the lower bound: "On the fractional dimension of sets of continued fractions". *Mathematika* **44** (1997), *no.* 1, 54–55. (Mohamed Mkaouar) **98i:11059b** 11K50 (11K55)

— (*with* Rao, Hui; Wu, Jun[2]) The net measure properties of symmetric Cantor sets and their applications. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **7** (1997), *no.* 2, 172–178. (Summary) **98b:28010** 28A78

— (*with* Wen, Zhi Ying; Wu, Jun[2]) Some dimensional results for homogeneous Moran sets. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 5, 475–482. (Summary) **98m:28015** 28A78 (28A80)

Feng, De Xing (*with* Luo, Yue Hu) Stability and controllability of second-order distributed parameters systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 673–677. 93C20 (93B05, 93D05)

— (*with* Zhang, Wei-Tao; Zhu, Wei-Dong) A sensible feedback coefficient and an exponential decay domain of the energy. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 801–806. (Y. Cherruault) **98c:93063** 93C20 (49J20)

— (*with* Zhang, Wei-Tao) On the boundary stabilization of wave equation with variable coefficient. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 275–281. (Takao Nambu) **98i:93050** 93C20 (35L05, 93D15)

Feng, Dengguo (*with* Pei, Dingyi) Judging of the orthogonal system over rings Z_N. *Chinese Sci. Bull.* **41** (1996), *no.* 24, 2092–2095. (Simon N. Litsyn) **98a:11180** 11T71

Feng, Ding (*with* Fan, Zhengfu; Wang, Yan Geng) The measure on S-closed spaces. II. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 94–97, 102. (Summary) **98g:54043** 54D20 (28C15)

Feng, Dong Qin (*with* Mao, Wei Jie; Sun, You Xian) The principle of small gain recursion in inverse Nyquist array design and its implementation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 574–578. 93D05 (93B40)

Feng, Fu Lin (*with* Li, De Mao) Error estimates for semidiscrete solutions to one-dimensional singular nonstationary problems. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **27** (1996), *no.* 6, 755–762. (Fu Ming Ma) **98d:65125** 65M60 (65M12)

Feng, Gang[1] (*with* Cao, S. G.; Rees, N. W.) Analysis and design for a class of complex control systems. I. Fuzzy modelling and identification. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1017–1028. (Summary) **98d:93005** 93A30 (04A72, 93B51, 93C42)

— (*with* Cao, S. G.; Rees, N. W.) Analysis and design for a class of complex control systems. II. Fuzzy controller design. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 6, 1029–1039. (Summary) **98d:93006** 93A30 (04A72, 93B51, 93C42)

Feng, Gui-Liang (*with* Rao, T. R. N.; Berg, Gene A.; Zhu, Junmei) Generalized Bezout's theorem and its applications in coding theory. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1799–1810. (Antoine Lobstein) **98k:94010** 94B05 (94B65)

Feng, Guo Chen (*with* Wang, Yu[2]) A Newton-like method with direct column corrections of Cholesky factorization. (English summary) *Chinese J. Numer. Math. Appl.* **16** (1994), *no.* 3, 39–48. 90C30 (65K05)

— (*with* Yu, Bo[1]) Combined homotopy interior point method for nonlinear programming problems. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 9–16, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Hubertus Th. Jongen) **98h:90077** 90C30 (65H20)

— (*with* Zhang, Shugong; Zhang, Chuan Lin) The eigenvalue method for computing high-dimensional varieties. *Northeast. Math. J.* **12** (1996), *no.* 1, 1–4. (From the text) **98j:15022** 15A30 (13P99, 68Q30)

— (*with* Zhang, Chuan Lin) Duals of spaces of polynomials and their application to interpolation in several variables. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 3, 257–263. 13P10

— (*with* Lin, Zheng Hua; Yu, Bo[1]) A combined homotopy interior point method for convex nonlinear programming. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 193–211. (Joachim Hirche) **98e:90117** 90C25 (65K05, 90C05)

Feng, Guo Tai (*with* Wu, Yu Chun; Zhou, Xue Dong) An analysis of the total variation diminishing property of the locally implicit finite element method. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 62–64. 65M60

Feng, Hanqiao (*with* Zhang, Fu Tai) The topological structures of the hyperreal number field $^*R$. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 5, 435–439. 54J05 (03H05)

Feng, Hong (*with* Sun, Qiang) Association schemes of free submodules over $\mathbf{Z}/(p^r)$. (English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 631–634. 05E30 (20B99)

Feng, Hui Finite element method for variational inequalities with discontinuous coefficients. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 1, 21–27. 65N30 (49J40, 65K10)

— (*with* Shen, Long Jun) Long time asymptotic behavior of the solutions of the finite element method for parabolic equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 159–163. 65M60

Feng, J. *see* **Feng, Jimmy**

Feng, James Q. Electrically charged conducting drops revisited. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 525–536. (R. Finn) **98i:76014** 76B45 (35Q35, 76W05)

Feng, Jia Xin (*with* Wang, Chun Li; Dai, Yong Jie; Zhang, Cheng Xue; Yang, Yuan Sheng) The construction of regular self-complementary graphs and Kotzig's conjecture. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 3, 335–339. (Summary) **98g:05123** 05C75

Feng, Jian Feng A discussion of the learning in a simple perceptron. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 20–26. (Summary) **98f:68230** 68T05

— (*with* Pan, Hong) Determining the parameter region of Linsker's network. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 302–315. (Summary) **98k:92002** 92B20 (58F40)

— The hydrodynamic limit for the reaction diffusion equation—an approach in terms of the GPV method. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 2, 285–299. (Claudio Landim) **98a:60149** 60K35 (35K57, 35R60, 82B05)

— (*with* Tirozzi, Brunello; Zucchi, R.) Rigorous results and critical capacity for a short-term memory model. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 4, 539–554. (Min Ping Qian) **98d:60189** 60K35 (82C32)

— (*with* Tirozzi, Brunello) Convergence theorems for the Kohonen feature mapping algorithms with VLRPs. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 3, 45–63. (Philippe De Wilde) **98c:82056** 82C32 (82B31, 82C80, 92B20)

— (*with* Chen, Dayue; Qian, Minping) The metastable behavior of the three-dimensional stochastic Ising model. I. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 832–842. (Summary) **98j:82033** 82B44 (82B20)

Feng, Jian Hua (*with* Lu, Yin Zhi) An LL(2) parsing method based on LL(1). (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 1, 102–105. 68Q52

Feng, Jian Wen (*with* Chen, Shi Hua[3]) Bifurcation of a perturbed Hamiltonian system with two centers. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 3, 307–311. (Zhengrong Liu) **98e:34049** 34C05 (34C23, 58F14)

— (*with* Chen, Shi Hua[3]) A simple derivation of Bautin's focus value formulas. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 4, 431–436. (Jinghuang Tian) **98j:34044** 34C05

Feng, Jiaxin (*with* Jiang, Guang Feng) An algorithm to produce the structure sequence of arrangement. (English summary) *Singularities and complex geometry* (*Beijing*, 1994), 83–92, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Johann Linhart) **98f:52013** 52B30 (32S70)

Feng, Jimmy (*with* Huang, Peter Y.; Hu, H. H.; Joseph, Daniel D.) Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. (English summary) *J. Fluid Mech.* **343** (1997), 73–94. (Summary) **98c:76006** 76A10 (76M25, 76T05)

Feng, Jinghai (*with* Xi, Lifeng) Constructions of the invariant sets and invariant measures. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 363–370. (Summary) **98m:60105** 60J10 (58F11)

Feng, Jun (*with* Wang, Li Guang) Local symmetry of Green functions on loop fields. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 3, 51–54. (Summary) **98a:81246** 81T99

Feng, Kang (*with* Yu, De-hao) A theorem for the natural integral operator of harmonic equation. (English summary) *Chinese J. Numer. Math. Appl.* **16** (1994), *no.* 3, 95–101. 65N38

— (*with* Wang, Lie Heng) A Sobolev imbedding theorem for nonconforming finite element spaces. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 110–113; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 2, 92–95. 46E39 (46E35, 65N30)

— (*with* Wang, Lie Heng) Fractional order Sobolev spaces for nonconforming finite elements. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 305–310. 65N30 (65D15)

Feng, Keqin Anderson's root numbers and Thakur's Gauss sums. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 279–294. (Ernst-Ulrich Gekeler) **98e:11070** 11G09 (11G40, 11R18, 11R58)

Feng, Liang Gui (*with* Chen, Huan Yin) Group rings over semihereditary rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 357–361. (Zhong Kui Liu) **98c:16005** 16E20 (16S34)

— Essential extensions, excellent extensions and finitely presented dimension. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 2, 231–238. (J. Kuzmanovich) **98m:16011** 16E10

— Remarks on the shifting theorem of F. P. dimension. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 93–97. 16E10

— The meta-Grothendieck group of a ring. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 143–148. (Reinhard C. Laubenbacher) **98g:16005** 16E20 (19A31)

Feng, Lu Xiang (*with* Li, Geng Chao) The solutions of a class of first-order linear differential equations. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 2, 21–24. 34A05

Feng, Mang (*with* Fang, Xi Ming; Shi, Lei[3]; Gao, Ke Lin; Zhu, Xi Wen) Exact solutions to the Jaynes-Cummings model by the rotationless wave approximation in the coherent-state representation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2160–2165. 81V80

— (*with* Fu, Li Ping; Chen, Xiao Lin; Zhang, Qing Ying) The quantum solution of a time-dependent harmonic oscillator by the space-time transformation method and its application. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 3, 1–5. 81Q05

Feng, Min Fu (*with* Zhu, Rui; Tian, Haiyan; Chen, Yumei) On analysis of the combined finite element approximation of branches of nonsingular solutions of the three-field N-S equations. (English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 752–757. (Summary) **98j:76087** 76M10 (65M60, 76D05)

Feng, Peirong (*with* Tao, Renji) On relations between $R_a R_b$ transformation and canonical diagonal form of λ-matrix. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 258–268. (Wasin So) **98h:15025** 15A21

Feng, Ping Hua Inverse projective transformations and polar transformations in higher-dimensional projective spaces. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 26–30. 51N15

Feng, Qing Zeng On force-free magnetic fields and Beltrami flows. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 10, 997–1003; *translated from Appl. Math. Mech.* **18** (1997), *no.* 10, 931–936 (*Chinese. English and Chinese summaries*). 76W05

Feng, Rongquan (*with* Wan, Zhe-xian) A construction of Cartesian authentication codes from vector space and dual authentication codes. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 63–72. (Giorgio Faina) **98i:94019** 94A60

Feng, Shi Yong (*with* Zou, Guo Hua) Poststratification for several commonly used sampling designs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 228–236. (Summary) **98c:62014** 62D05

— (*with* Zou, Guo Hua) Nonnegative unbiased estimation of variance for systematic sampling with supplementary observations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 301–307. 62D05

— (*with* Zou, Guo Hua; Cheng, Ping[1]) Admissible estimation of linear functions of characteristic values of a finite population. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 598–605. (Summary) **98f:62023** 62D05

Feng, Shui (*with* Chen, Xiong) Critical phenomenon of a two component nonlinear stochastic system. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 2, 147–155. (Pablo A. Ferrari) **98d:60188** 60K35 (60J27)

— The propagation of chaos of multitype mean field interacting particle systems. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 346–362. (René Ferland) **98d:60044** 60F05 (60J75, 60K35)

Feng, Su Wei Dynamical modeling and numerical simulation of traffic flow. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 4, 443–453. 90B20

Feng, Sze-Shiang (*with* Duan, Yi-Shi) Three-Poincaré algebra in complex general relativity. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 1, 93–100. (Summary) **98e:83046** 83C40

— (*with* Duan, Yi-Shi) General covariant conservative angular momentum for topologically massive gravity. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 3, 343–348. (Summary) **98h:83021** 83C40 (83C99)

— (*with* Zhu, Zhi-Yuan) Path integral quantization and the ground-state wave functional for multiplier scalar-vector field systems. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 1, 41–46. (Summary) **98i:81145** 81T10 (81S40)

— (*with* Huang, Chao-Guang) Can Dirac observability apply to gravitational systems? (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1179–1187. (Valter Moretti) **98a:83097** 83C99 (83C47)

— (*with* Zong, Hong-Shi; Wang, Zhi-Xing; Qiu, Xi-Jun) Induced electronic interactions in Chern-Simons systems. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1717–1731. (Summary) **98h:81079** 81T13 (81V70)

— (*with* Qiu, Xi-Jun) Energy-momentum and angular-momentum in ISO(1, 2) Chern-Simons gravity. (English summary) *Phys. Lett. B* **411** (1997), *no.* 3-4, 256–260. (Summary) **98j:83077** 83C99

— Some exact results of Hubbard model at finite temperature. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 14-15, 555–559. 82B20

Feng, Tai (*with* Wu, Qi Guang; Dong, Xiu Yuan) A note on parameter estimation in growth curve models. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 311–320. 62H12

Feng, Tse-yun *see* **Marom, Dan M., 98d:68108**

Feng, W. *see* **Feng, Wei[4]**

Feng, Wei[1] (*with* Lu, Chenhong; Lu, Xin) Long-term survival in a 3-species ecological system. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 199–213. (Miklós Farkas) **98i:92044** 92D40 (35K57, 35Q80, 92B05)

— (*with* Lu, Xin) Harmless delays for permanence in a class of population models with diffusion effects. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 547–566. (Weihua Ruan) **98d:92014** 92D25 (35K57, 35Q80)

— Competitive exclusion and persistence in models of resource and sexual competition. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 683–694. (Summary) **98h:92033** 92D25

— (*with* Wang, Fan[2]) Asymptotic periodicity and permanence in a competition-diffusion system with discrete delays. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 99–110. (Summary) **98h:35230** 35R10 (35B40, 35K57)

Feng, Wei[4] (*with* Hoa, S. V.; Huang, Qian) Classification of stress modes in assumed stress fields of hybrid finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4313–4339. 73V05

Feng, Wei Bing (*with* Li, Kaitai; Ma, Yichen) Nonlinear Galerkin method for Navier-Stokes equations with stream form. (English summary) *Nonlinear evolution-ary partial differential equations* (*Beijing*, 1993), 521–525, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:76068** 76M10 (65M60, 76D05)

— (*with* Wang, Wei Dong; Wang, Yu Qiang) An arc length continuous method for solving the Navier-Stokes equations and an optimal control algorithm. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 2, 23–27. 65M06 (49M25)

Feng, Wei Chuan *see* **Yang, Shi Guo**

Feng, Wei Dong (*with* He, Guo Guang; Ma, Shou Feng) A study on the self-organization development law and its theoretic models of urban population scale. (Chinese. English and Chinese summaries) *J. Systems Engrg.* **11** (1996), *no.* 4, 84–93. (From the summary) **98f:92014** 92H10

Feng, Wei Zhen (*with* Chen, Yong Shao) Oscillations of second order nonlinear ODE with impulses. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 150–169. (O. S. Chernikova) **98f:34043** 34C10 (34A37)

— Oscillations of nonlinear second-order differential equations with impulses. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 76–80. 34C10 (34A37)

Feng, Weiguo (*with* Yang, Ya Ping; Wu, Xiang) The q-phase-difference operator and two-mode q-coherent states. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6315–6327. (Apostolos Vourdas) **98k:81106** 81R30 (39A70, 81R50, 81V80)

— (*with* Yang, Ya Ping; Wu, Xiang) Representations of q-commutator and eigenstates of a_q in the case of $q^{n+1} = 1$. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1327–1334. (Alexei Zhedanov) **98f:81141** 81R50 (81R30)

— (*with* Yang, Ya Ping; Wu, Xiang) The phase-difference properties of two-mode coherent states. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 29, 2141–2152. (Apostolos Vourdas) **98j:81132** 81R30 (81V80)

Feng, Wen Ying (*with* Webb, J. R. L.) Surjectivity results for nonlinear mappings without oddness conditions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 15–28. (Norman Dancer) **98h:47083** 47H15 (34B15, 47H12, 47N20)

— (*with* Webb, J. R. L.) Solvability of m-point boundary value problems with nonlinear growth. *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 467–480. (Jean Mawhin) **98h:34035** 34B10 (34B15, 47H15, 47N20)

Feng, Xiangbo (*with* Fang, Yuguang; Loparo, Kenneth A.) New estimates for solutions of Lyapunov equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 408–411. (Kaiqi Xiong) **98a:93051** 93D05 (93C05)

Feng, Xiangchu (*with* Xu, Chen; Li, Yan) A new control method for FRM with two links. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 102–106. 93C85 (70B15, 70Q05)

Feng, Xiaobing (*with* Bennethum, Lynn Schreyer) A domain decomposition method for solving a Helmholtz-like problem in elasticity based on the Wilson nonconforming element. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 1–25. (Summary) **98j:73101** 73V25 (65N55)

Feng, Xu Ning *see* **Borel, Armand, 98c:11036**

Feng, Xue Bin (*with* Shen, Bing; Jiang, Rui Quan; Wang, Xiao Chun[1]) Oscillation-free uniform cubic B-spline interpolation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 2, 57–62. 41A15 (41A63, 65D07)

Feng, Y. *see* **Feng, You Yi**

Feng, Y. T. (*with* Perić, D.; Owen, D. R. J.) A non-nested Galerkin multi-grid method for solving linear and nonlinear solid mechanics problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **144** (1997), *no.* 3-4, 307–325. (Summary) **98c:73083** 73V20

Feng, Yan Qi (*with* Shi, Dao Ji) Parametric estimates by the maximum likelihood and stepwise methods for multivariate extreme value distributions. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 244–251. 62F10

Feng, Ying Jun (*with* Zhai, Jun) A recursive implementation method for associative memory. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 40–42. 92B90

Feng, Yong (*with* Lü, Tao) Splitting extrapolation based on domain decomposition for finite element approximations. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 2, 144–155. (Tsorng-Whay Pan) **98b:65138** 65N55 (65N30)

— (*with* Lü, Tao) The splitting extrapolation for finite element method. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 372–382. (Summary) **98i:65102** 65N30

Feng, Yong (*with* Chi, Yu Dong) Design of variable structure output feedback control systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 32–35, 46. 93B51 (93B10)

Feng, You Yi (*with* Xiao, Baichun) Alternative discriminant vectors in LP models and a regularization method. (English summary) *Ann. Oper. Res.* **74** (1997), 113–127. 62H30

Feng, Yu Ming (*with* Xu, Zhong Ling[2]; Wang, Sheng Pei; Yang, Ning Hui; Sun, Hai Rong) Trends in Chinese mathematical research as shown by Chinese mathematicians' publications in 1996. (Chinese. Chinese summary) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 149–154. 01A65 (01A25)

Feng, Yu Yu (*with* Kozak, Jernej) On G^2 continuous cubic spline interpolation. (English summary) *BIT* **37** (1997), *no.* 2, 312–332. (Crăciun Iancu) **98c:65014** 65D07 (41A15, 65D05)

Feng, Yusheng (*with* Oden, John Tinsley) Local and pollution error estimation for finite element approximations of elliptic boundary value problems. (English summary) TICAM Symposium (Austin, TX, 1995). *J. Comput. Appl. Math.* **74** (1996), *no.* 1-2, 245–293. (Stephen W. Brady) **98c:65188** 65N30 (65N15)

Feng, Zaichun (*with* Leal, L. G.) Nonlinear bubble dynamics. (English summary) *Annual review of fluid mechanics, Vol. 29*, 201–243, *Annu. Rev. Fluid Mech., 29, Annual Reviews, Palo Alto, CA*, 1997. (Stephen K. Wilson) **98b:76074** 76T05 (76B99, 76D99)

Feng, Zhao Sheng (*with* Fei, Shu Min) Existence and the number of periodic solutions about one class differential equation. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 400–404. (M. A. Alwash) **98c:34068** 34C25

— (*with* Fei, Shu Min) On analytic solution of Schrödinger equation and Klein-Gordon equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 119–124. 35Q55 (35Q53)

— (*with* Fei, Shu Min) The existence of periodic solutions of second-order neutral equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 553–556. 34K15 (34K40)

— (*with* Ji, Wen Duo; Fei, Shu Min) Analytic solutions of a generalized Klein-Gordon equation. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 222–226. 35Q53 (35C99)

Feng, Zhao Shu (*with* Deng, Qi Fei; Liu, Yong Qing) Mean-square stability and feedback stabilization of linear delay stochastic systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 4, 441–447. (Daoyi Xu) **98b:93067** 93E15 (93D15)

— (*with* Liu, Yong Qing; Deng, Fei Qi) Robust stabilization of linear delay systems by retarded feedback. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 754–762. (Kunihiko Ichikawa) **98d:93081** 93D21 (34K35, 93C30)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Variable structure control of stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 267–270. 93E03 (93C42)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Characteristic matrices and similarity of time-varying linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 10–15. (Sergei Mazanik) **98g:34020** 34A30 (34C20)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Decentralized stabilization of stochastic large-scale systems by variable structure control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 254–259. 93D21 (93B12)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Suboptimal decentralized stabilization of large-scale delay stochastic systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 495–501. (Summary) **98i:93084** 93E15 (93A14, 93D15)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Practical stability of uncertain linear control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 623–628. 93D09 (93C41)

— (*with* Deng, Fei Qi; Liu, Yong Qing) A design method for robust controllers of linear delay systems based on Riccati-Itô equations. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 887–890. 93D21 (93B36)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Asymptotic representation of solutions of linear functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 50–54. (Summary) **98a:34088** 34K25 (34K20)

— (*with* Deng, Fei Qi; Liu, Yong Qing) Stability and feedback stabilization of general linear retarded systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 299–303. 93D15

Feng, Zhen Xing (*with* Tang, Shao Wu; Li, Zheng Xiu) BEM analysis of a nonlinear coupled heat problem with a moving phase-change boundary. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 95–105. 80A22 (65M60)

Feng, Zhuojen (*with* Alam, Khursheed) Estimating probability of occurrence of the most likely multinomial event. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 257–277. (S. Panchapakesan) **98g:62039** 62F10 (62C15, 62F07)

Feng, Zu Ren (*with* Xie, Yong Bin; Luo, Zhong; Hu, Bao Sheng) Closed-loop analysis of DMC predictive control of second-order inertial systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 398–402. 93C40 (93B52)

— (*with* Xie, Yong Bin; Hu, Bao Sheng; Luo, Zhong; Li, Lin) A generalized predictive control algorithm based on cerebellar model articulation control. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 30–34. 93B40 (93B30)

Fengqiu, Su *see* **Su, Feng Qiu**

Fenley, Sérgio R. Incompressible tori transverse to Anosov flows in 3-manifolds. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 105–121. (Lee Mosher) **98c:58122** 58F15 (57N10, 57R30, 58F18)

— Homotopic indivisibility of closed orbits of 3-dimensional Anosov flows. *Math. Z.* **225** (1997), *no.* 2, 289–294. (Lee Mosher) **98f:58152** 58F18 (57R30, 58F15)

— Local and global properties of limit sets of foliations of quasigeodesic Anosov flows. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3923–3941. (Lee Mosher) **98m:58107** 58F18 (57R30, 58F15)

Fenn, Roger On the structure of certain links. *Progress in knot theory and related topics*, 7–12, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (From the text) **98i:57044** 57Q45

lopez Fenner, Julio *see* **Lopez Fenner, Julio**

Fenner, Stephen A. (*with* Lutz, Jack H.; Mayordomo, Elvira) Weakly useful sequences. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 393–404, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98h:68085** 68Q15 (03D15)

— (*with* Fortnow, Lance; Li, Lide) Gap-definability as a closure property. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 1–17. (Lane Hemaspaandra) **98e:68075** 68Q15 (03D15)

— (*with* Buhrman, Harry; Fortnow, Lance) Results on resource-bounded measure. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 188–194, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

— (*with* Homer, Steven; Ogihara, Mitsunori; Selman, Alan L.) Oracles that compute values. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1043–1065. (Uwe Schöning) **98e:68056** 68Q05 (03D10, 03D15, 68Q15)

Fenrick, Maureen H. ★ Introduction to the Galois correspondence. (English summary) Second edition. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xii+244 *pp. ISBN* 0-8176-4026-6 (Editors) **98g:12001** 12-01 (12F10, 13F15)

Fenster, Della Dumbaugh Role modeling in mathematics: the case of Leonard Eugene Dickson (1874–1954). (English, French and German summaries) *Historia Math.* **24** (1997), *no.* 1, 7–24. (Albert C. Lewis) **98c:01031** 01A60 (01A70)

Feodos'ev, S. B. (*with* Syrkin, E. S.) Investigation of temperature dependence of mean-square displacements and velocities of ideal and foreign atoms in anisotropic crystals. (Russian) *Functional analysis and applied mathematics* (*Russian*), 173–191, 216, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 82D25

Feoli, Antonio (*with* Scarpetta, Gaetano) Caianiello's maximal acceleration in string dynamics. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **63** (1996), 149–159 (1997). (Summary) **98c:81146** 81T20 (83C47)

Ferapontov, E. V. (*with* Mokhov, O. I.) The equations of the associativity as hydrodynamical type system: Hamiltonian representation and integrability. *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 104–115, *World Sci. Publishing, River Edge, NJ*, 1996. (Iskander A. Taimanov) **98c:58017** 58D29 (58F07)

— (*with* Mokhov, O. I.) Associativity equations of two-dimensional topological field theory as integrable Hamiltonian nondiagonalizable systems of hydrodynamic type. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 62–72, 96; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 195–203 (1997). (Igor Polyubin) **98c:58019** 58D29 (58F07)

— (*with* Agafonov, S. I.) Systems of conservation laws from the point of view of the projective theory of congruences. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 3–30; *translation in Izv. Math.* **60** (1996), *no.* 6, 1097–1122. (Victor V. Zharinov) **98a:35083** 35L65

— (*with* Sharipov, R. A.) On first-order conservation laws for systems of hydrodynamic-type equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 1, 109–128; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 1, 937–952 (1997). (Reza Malek-Madani) **98h:35152** 35L65 (53B50)

— (*with* Mokhov, O. I.) On the Hamiltonian representation of the associativity equations. (English summary) *Algebraic aspects of integrable systems*, 75–91, *Progr. Nonlinear Differential Equations Appl.*, 26, *Birkhäuser Boston, Boston, MA*, 1997. (Alexander V. Shapovalov) **98a:58085** 58F07

— (*with* Galvão, C. A. P.; Mokhov, O. I.; Nutku, Y.) Bi-Hamiltonian structure of equations of associativity in 2-d topological field theory. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 649–669. (Iskander A. Taimanov) **98g:58022** 58D29 (58F07, 81T40, 81T70)

— (*with* Fordy, Allan P.) Separable Hamiltonians and integrable systems of hydrodynamic type. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 2, 169–182. (Efthymia Meletlidou) **98a:58067** 58F05 (58F07, 70H05)

— Laplace transformations of hydrodynamic-type systems in Riemann invariants: periodic sequences. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6861–6878. (Summary) **98f:35128** 35Q53 (35L60, 35Q55)

— (*with* Fordy, Allan P.) Non-homogeneous systems of hydrodynamic type, related to quadratic Hamiltonians with electromagnetic term. (English summary) *Phys. D* **108** (1997), *no.* 4, 350–364. (Efthymia Meletlidou) **98g:58056** 58F05 (35Q35, 58F07, 70H05)

— Laplace transforms of hydrodynamic-type systems in Riemann invariants. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 86–97; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 68–77. (Alexander Burov) **98k:58109** 58F07 (35Q58)

Ferapontova, E. (*with* Apartsin, Alexander; Gurvich, Vladimir A.) A circular graph—counterexample to the Duchet kernel conjecture. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 229–231. (Summary) **98f:05122** 05C75

Ferdinands, R. J. D. (*with* Schultz, Reinhard) Algebraic fiberings of Grassmann varieties. *Illinois J. Math.* **41** (1997), *no.* 1, 31–53. (From the text) **98j:14069** 14M15 (55R10)

porto Fereira da Silva, A. M. *see* **Porto Fereira da Silva, A. M.**

Ferencz, Robert M. (*with* Eldredge, Michael; Hughes, Thomas J. R.; Rifai, Steven M.; Raefsky, Arthur; Herndon, Bruce) High-performance parallel computing in industry. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1217–1233. (*see* **98f:76004**) 65Y05 (65–02)

Ferenczi, Miklos On inducing cylindrical homomorphism by point function. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 4, 179–187. 03G15

Ferenczi, Sébastien Systems of finite rank. *Colloq. Math.* **73** (1997), *no.* 1, 35–65. (Jan Kwiatkowski) **98g:28020** 28D05

— (*with* Mauduit, Christian) Transcendence of numbers with a low complexity expansion. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 146–161. (Yao Chen Zhu) **98m:11079** 11J91 (11B83)

Ferenczi, V. Operators on subspaces of hereditarily indecomposable Banach spaces. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 3, 338–344. (M. I. Kadets) **98b:47028** 47B07 (46B20, 47A99)

— A uniformly convex hereditarily indecomposable Banach space. (English summary) *Israel J. Math.* **102** (1997), 199–225. (Yu. I. Petunin) **98m:46013** 46B20 (46B10, 46M35)

— Hereditarily finitely decomposable Banach spaces. (English summary) *Studia Math.* **123** (1997), *no.* 2, 135–149. (Anatolij M. Plichko) **98a:46022** 46B20

Ferenstein, Elżbieta Z. Two-person stopping games with priority for one of the players. *Game theory and applications*, 105–111, *Nova Sci. Publ., Commack, NY*, 1996. (Vladimir Mazalov) **98b:60086** 60G40 (90D05)

— (*with* Sierociński, A.) Optimal stopping of a risk process. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 3, 335–342. (Frans Boshuizen) **98d:60081** 60G40 (60J25)

Ferentinos, K. (*with* Tsairidis, Ch.; Zografos, K.) Fisher's information matrix and φ-divergence for finite and optimal partitions of the sample space. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2271–2289. (Leandro Pardo) **98m:62016** 62B10

Ferfera, Abdelhak (*with* Iggidr, Abderrahman) A remark on the stabilization of partially linear composite systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 411–414. (Han Sheng Wu) **98a:93061** 93D15 (93D05)

Ferger, Dietmar Nonparametric change-point tests of the Kolmogorov-Smirnov type. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 145–148, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G10 (62G20)

— Optimal bounds for the Prokhorov distance of the Miller-Sen process and Brownian motion. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 202–208; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 1, 155–162 (1998). (Erich Haeusler) **98i:60032** 60F17

Fergola, P. (*with* Tenneriello, C.; Ma, Zhi En; Wen, Xianzhang) Polluted chemostat models with periodic nutrient and fluctuating toxicant input. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 231–251. (*see* **98b:00028**) 92D40

— (*with* Wang, Wen Di; Tenneriello, C.) Global attractivity of periodic solutions of population models. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 498–511. (Edoardo Beretta) **98h:34131** 34K15 (34K20, 47N20, 92D25)

Ferguson, Ronald Irreducible polynomials with many roots of equal modulus. *Acta Arith.* **78** (1997), *no.* 3, 221–225. (Christopher Smyth) **98f:11114** 11R09 (11C08, 12E05)

Ferguson, Sarah H. Backward shift invariant operator ranges. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 526–543. (Douglas N. Clark) **98j:47017** 47A45 (46E20, 46H25,

46M20, 47B35)

Ferguson, Thomas S. (*with* Bruss, F. Thomas) Half-prophets and Robbins' problem of minimizing the expected rank. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 1–17, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Alexander V. Gnedin) **98k:60066** 60G40 (62L15)

— (*with* Shapley, Lloyd S.; MacQueen, James B.) Preface [biography of David Blackwell]. *Statistics, probability and game theory*, v–xiv, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Editors) **98f:01064** 01A70

— A Poisson fishing model. (English summary) *Festschrift for Lucien Le Cam*, 235–244, *Springer, New York*, 1997. (Summary) **98f:62232** 62L10

— (*with* Bruss, F. Thomas) Multiple buying or selling with vector offers. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 959–973. (Minoru Sakaguchi) **98k:60067** 60G40 (62L15, 90B50, 90C39)

— (*with* Melolidakis, Costis) Last round betting. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 974–987. (Su Sheng Wang) **98i:90128** 90D05 (90D10, 90D60, 90D80)

— (*with* Melolidakis, Costis) On the inspection game. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 3, 327–334. (Summary) **98m:90204** 90D20

— Some chip transfer games. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 157–171. (Summary) **98j:90113** 90D46 (05A99)

— *see also* **Statistics, probability and game theory, 98e:60006**

Ferland, J. A. (*with* Crouzeix, Jean-Pierre) Criteria for differentiable generalized monotone maps. (English summary) *Math. Programming* **75** (1996), *no.* 3, *Ser. A*, 399–406. (Siegfried Schaible) **98a:49026** 49J52 (47H99, 47N10, 90C26)

— (*with* Crouzeix, Jean-Pierre; Zălinescu, C.) α-convex sets and strong quasiconvexity. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 998–1022. (Giorgio Giorgi) **98k:90078** 90C26 (52A41)

Ferleger, S. V. (*with* Ayupov, Sh. A.; Sukochev, F. A.) Isomorphism between the associative and non-associative L_p-spaces of type II_1 hyperfinite factors. (English summary) *Math. Scand.* **78** (1996), *no.* 2, 271–285. (Stanisław Goldstein) **98d:46074** 46L50 (46L35, 46L70)

Ferm, Lars (*with* Lötstedt, Per) Two-grid solution of shock problems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1533–1552. (Alberto Valli) **98m:65164** 65M55 (76J20, 76L05, 76M25)

— The number of coarse-grid iterations every cycle for the two-grid method. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 493–501 (*electronic*). (Summary) **98m:65213** 65N55 (76M25, 76N10)

Fermanian, Jean-David Multivariate hazard rates under random censorship. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2, 273–309. (Shaw-Hwa Lo) **98m:62093** 62G05 (62E20)

de Fermat, Pierre *see* **Singh, Simon, 98i:01001**

Fermigier, Stéfane Étude expérimentale du rang de familles de courbes elliptiques sur **Q**. (English and French summaries) [Experimental study of the rank of families of elliptic curves over **Q**] *Experiment. Math.* **5** (1996), *no.* 2, 119–130. (Joe P. Buhler) **98g:11061** 11G05 (11G40, 11Y99)

— Une courbe elliptique définie sur **Q** de rang ≥ 22. [An elliptic curve defined over **Q** of rank ≥ 22] *Acta Arith.* **82** (1997), *no.* 4, 359–363. (Alain Kraus) **98j:11041** 11G05 (11Y35)

Fermüller, Christian G. (*with* Baaz, Matthias) Combining many-valued and intuitionistic tableaux. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 65–79, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03031** 03B50 (03B20, 03B35)

— (*with* Baaz, Matthias; Egly, Uwe) Lean induction principles for tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 62–75, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03115** 03F30

Fernandes, A. S. (*with* Reinecke, S.; Kremer, G. M.) A combined Chapman-Enskog and Grad method. III. Polyatomic gases in magnetic fields. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 309–322. (Summary) **98k:82151** 82C40 (76P05)

Fernandes, Cristina G. (*with* Călinescu, Gruia) Finding large planar subgraphs and large subgraphs of a given genus. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 152–161, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05053** 05C10

Fernandes, Luis (*with* Portugal, Luis; Júdice, Joaquim) A truncated Newton interior-point algorithm for the solution of a multicommodity spatial equilibrium model. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 315–344, *SIAM, Philadelphia, PA*, 1997. (Shinji Mizuno) **98b:90086** 90C06 (90C33, 90C35)

Fernandes, Marco (*with* Hiley, Basil J.) Process and time. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 365–383, *Springer, Berlin*, 1997. (*see* **98b:81013**) 81P05

Fernandes, Paolo (*with* Gilardi, Gianni) Magnetostatic and electrostatic problems in inhomogeneous anisotropic media with irregular boundary and mixed boundary conditions. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 957–991. (Valentin V. Lychagin) **98h:78006** 78A30 (35Q60)

Fernandes, Ryan I. Efficient orthogonal spline collocation methods for solving linear second order hyperbolic problems on rectangles. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 223–241. (Bernard Bialecki) **98j:65069** 65M70

monteiro Fernandes, Teresa *see* **Monteiro Fernandes, Teresa**

Fernandes, Vitor H. Semigroups of order preserving mappings on a finite chain: a new class of divisors. (English summary) *Semigroup Forum* **54** (1997), *no.* 2, 230–236. (P. M. Higgins) **98b:20095** 20M07 (20M15, 20M17)

Fernández, Antonio (*with* Broadwater, Adrienne; Efe, Kemal) Embedding complete binary trees in product graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 56–66, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68R10 (05C10, 05C85)

— (*with* Efe, Kemal) Efficient VLSI layouts for homogeneous product networks. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1070–1082. (Summary) **98e:68007** 68M10 (68Q35)

Fernández, Arturo *see* **Workshop: Particles and Fields, 98e:81004**

Fernández, Arturo J. (*with* Bravo, José I.; De Fuentes, Íñigo) Lifetime estimation from doubly censored data and Dirichlet process prior knowiedge on the observable random vector. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1541–1558. (J. V. Deshpande) **98i:62028** 62G05 (62N05)

Fernandez, Bastien (*with* Pindor, Maciej) On the eigenvalues of some transfer matrices. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 249–255. (Summary) **98a:65068** 65H05

— (*with* Coutinho, Ricardo) Extended symbolic dynamics in bistable CML: existence and stability of fronts. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 60–80. (Volker Matthias Gundlach) **98f:58072** 58F03 (82C05)

requejo Fernández, Batildo *see* **Requejo Fernández, Batildo**

gonzález Fernández, Camino *see* **González Fernández, Camino**

Fernández, Carmen *see* **Fernández Llana, Carmen**

Fernandez, Cecília S. A counterexample to the Bartle-Graves selection theorem for multilinear maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2687–2690. (G. M. Ustinov) **98k:46021** 46B20 (46G20, 47A05)

Fernández, F. R. *see* **Fernández García, Francisco Ramón**

Fernández, Federico A class of pleasing periodic designs. *College Math. J.* **29** (1998), *no.* 1, 18–26. 52C20

sánchez Fernández, Fernando *see* **Sánchez Fernández, Fernando**

Fernández, Francisco M. (*with* Guardiola, R.) An improved algorithm to determine the density of resonance states using the stabilization method. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3101–3105. (Summary) **98a:81248** 81U05 (81Q10)

— (*with* Guardiola, R.) The Riccati-Padé method for coupled-channel equations. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5825–5833. (Summary) **98g:81024** 81Q05 (34L40)

— (*with* Guardiola, R.) The strong coupling expansion for anharmonic oscillators. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7187–7192. 81Q15 (81–08)

— On the Morse oscillator with a kinetic coupling. Comment on: "Energy level formula for the Morse oscillator with an additional kinetic coupling potential" [Phys. Lett. A **213** (1996), no. 5-6, 226–230; MR 97c:81193] by H. Y. Fan, Chen and Y. Fan. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 262–263. (Summary) **98f:81337** 81U05

— *see also* **Fan, Hong Yi[1], 98f:81338**

Fernández, Guillermo *see* **Fernández Anaya, Guillermo**

garcía-Fernández, I. *see* **García-Fernández, I.**

gutierrez Fernandez, J. Carlos *see* **Gutierrez Fernandez, J. Carlos**

Fernández, J. L. *see* **Fernández-Pérez, José L.**

Fernandez, Javier Alejandro (*with* Zuccalli, Marcela) On Lie algebra extensions in a symplectic framework. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3768–3771. (Raúl Ibáñez) **98f:58081** 58F05 (17B55, 22E15, 22E60)

delgado Fernández, Joaquín *see* **Delgado Fernández, Joaquín**

Fernández, José Alberto (*with* Grant, John; Minker, Jack) Model-theoretic approach to view updates in deductive databases. (English summary) *J. Automat. Reason.* **17** (1996), *no.* 2, 171–197. (M. I. Dekhtyar) **98d:68056** 68P15 (03B70, 68N17)

Fernández, Luis (*with* Gooransarab, Haedeh) ★ Solutions manual for *Techniques of problem solving*. With assistance from Steven G. Krantz. *American Mathematical Society, Providence, RI*, 1997. viii+188 *pp. ISBN* 0-8218-0628-9 (W. T. Whitley) **98b:00003** 00–01 (00A05, 00A07)

Fernández, Luis Alberto On the limits of the Lagrange multiplier rule. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 292–297. (Philip D. Loewen) **98g:90031** 90C30 (49K27, 49N15)

Fernández, Luis M. (*with* Guo, Zhen; Cabrerizo, José L.; Fernandez Andrés, Manuel) On ξ-conformally flat contact metric manifolds. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 725–734. (José A. Oubiña) **98e:53042** 53C15 (53C25)

gómez-Fernández, M. *see* **Gómez-Fernández, M.**

Fernández, M. A. *see* **Fernández, Miguel Alejandro**

Fernández, Manuel *see* **Fernandez Andrés, Manuel**

Fernández, Maribel (*with* Barbanera, Franco) Intersection type assignment systems with higher-order algebraic rewriting. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 173–207. (Betti Venneri) **98b:68006** 68N15 (03B15, 03B40, 68Q42, 68Q55)

— (*with* van Bakel, Steffen) Normalization results for typeable rewrite systems. (English summary) *Inform. and Comput.* **133** (1997), *no.* 2, 73–116. (Summary) **98j:68072** 68Q42

— (*with* Barbanera, Franco; Geuvers, Herman) Modularity of strong normalization in the algebraic-λ-cube. (English summary) *J. Funct. Programming* **7** (1997), *no.* 6, 613–660. (Summary) **98k:03032** 03B40 (68N15)

— (*with* Mackie, Ian) Interaction nets and term-rewriting systems. (English summary) Trees in algebra and programming (Linköping, 1996). *Theoret. Comput. Sci.* **190** (1998), *no.* 1, 3–39. (Summary) **98m:68135** 68Q42 (68Q60)

Fernández, Marisa (*with* Ibáñez, Raúl; de León, Manuel) Poisson cohomology and canonical homology of Poisson manifolds. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 1, 29–56. (Juan Carlos Marrero Gonzalez) **98h:58061** 58F05 (53C15, 58A12)

— (*with* Cordero, Luis A.; Ugarte, Luis; Gray, Alfred) A general description of the terms in the Frölicher spectral sequence. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 75–84. (Sorin Dragomir) **98m:53092** 53C56 (32C10, 55T99)

— (*with* Ibáñez, Raúl; de León, Manuel) A Nomizu's theorem for the coeffective cohomology. *Math. Z.* **226** (1997), *no.* 1, 11–23. (Domingo Chinea) **98k:58008** 58A12 (53C15)

Fernández, Miguel Alejandro (*with* Rueda, C.; Salvador González, Bonifacio) On the maximum likelihood estimator under order restrictions in uniform probability models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1971–1980. 62F10

— (*with* Rueda, C.; Salvador González, Bonifacio) Simultaneous estimation in a restricted linear model. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 1, 61–66. (Mervyn J. Silvapulle) **98d:62051** 62F30 (62J05, 62J15)

— (*with* Rueda, C.; Salvador González, Bonifacio) A good property of the maximum likelihood estimator in a restricted normal model. (English summary) *Test* **6** (1997), *no.* 1, 127–135. 62F30

Fernández, Roberto (*with* Datta, Nilanjana; Fröhlich, Jürg; Rey-Bellet, Luc) Low-temperature phase diagrams of quantum lattice systems. II. Convergent perturbation expansions and stability in systems with infinite degeneracy. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part 1 (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 752–820. (Bruno Nachtergaele) **98e:82006** 82B10 (82B20, 82B26)

— (*with* Pfister, Charles-Edouard) Global specifications and nonquasilocality of projections of Gibbs measures. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1284–1315. (Christian Maes) **98h:60066** 60G60 (60J99, 60K35, 82B20)

— (*with* van Enter, Aernout C. D.; Schonmann, Roberto H.; Shlosman, S. B.) Complete analyticity of the 2D Potts model above the critical temperature. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 373–393. (Aernout C. D. van Enter) **98k:82033** 82B20 (60K35, 82B26)

Fernández, V. I. (*with* Naón, C. M.) Functional integral approach to multipoint correlators in two-dimensional critical systems. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1843–1848. (Summary) **98f:82022** 82B20

Fernández Anaya, Guillermo (*with* Aguirre, Baltazar; Álvarez-Ramírez, José; Suárez, Rodolfo) First harmonic analysis of linear control systems with high-gain saturating feedback. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2501–2510. 93C05 (93C80)

Fernandez Andrés, Manuel (*with* Guo, Zhen; Cabrerizo, José L.; Fernández, Luis M.) On ξ-conformally flat contact metric manifolds. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 725–734. (José A. Oubiña) **98e:53042** 53C15 (53C25)

Fernández Arias, Arturo Klein coverings of the closed unit disc. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 4, 335–345 (1996). (Grzegorz Gromadzki) **98a:30057** 30F50 (57M12)

fernández y Fernández-Arroyo, Fidel José *see* **Fernández y Fernández-Arroyo, Fidel José**

Fernández-Baca, David (*with* Slutzki, Giora; Eppstein, David) Using sparsification for parametric minimum spanning tree problems. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 149–160, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 05C85 (05C05, 68Q25, 68R10)

— (*with* Lagergren, Jens) On the approximability of the Steiner tree problem in phylogeny. (English summary) *Algorithms and computation* (*Osaka*, 1996), 65–74, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q25 (92D15)

— (*with* Slutzki, Giora; Eppstein, David) Using sparsification for parametric minimum spanning tree problems. (English summary) The 5th Scandinavian Workshop on Algorithm Theory (SWAT '96) (Reykjavík, 1996). *Nordic J. Comput.* **3** (1996), *no.* 4, 352–366. (Peter B. Gibbons) **98a:05133** 05C85 (05C05, 68Q25, 68R10)

— (*with* Slutzki, Giora) Optimal parametric search on graphs of bounded tree-width. (English summary) *J. Algorithms* **22** (1997), *no.* 2, 212–240. (Hans L. Bodlaender) **98a:68146** 68R10 (05C05, 68Q25)

— (*with* Slutzki, Giora) Linear-time algorithms for parametric minimum spanning tree problems on planar graphs. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 57–74. (Summary) **98d:68163** 68R10 (05C85, 68Q25)

Fernández-Berdaguer, E. M. (*with* Santos, Juan Enrique) Estimation of the complex plain-wave modulus in viscoelastic media. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 315–327, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98b:00035**) 73F15 (73D15, 73V20)

— *see also* **Wavelet theory and harmonic analysis in applied sciences, 98b:00035**

Fernández C., David J. (*with* Negro, Javier; Del Olmo, Mariano A.) On a link between shift and ladder operators. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 235–238, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81R05

— (*with* Rosas-Ortiz, J. Oscar; Nieto, Luis M.) On a distorted version of the Heisenberg algebra representation. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 413–416, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:81074** 81R50 (81R30)

— SUSUSY quantum mechanics. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 171–176. (Summary) **98c:81072** 81Q60

— (*with* Rosas-Ortiz, J. Oscar) Inverse techniques and evolution of spin-1/2 systems. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 275–279. (Summary) **98k:81040** 81Q05

Fernández-Cara, Enrique Null controllability for semilinear parabolic equations with critical growth of the nonlinearity. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1371–1375. (Summary) **98d:93010** 93B05 (35B37, 35K55, 93C20)

— Null controllability of the semilinear heat equation. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 87–103 (*electronic*). (Sergei A. Ivanov) **98d:93011** 93B05 (93C20)

— (*with* Climent, B.) Existence and uniqueness results for a coupled problem related to the stationary Navier-Stokes system. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 4, 307–319. (Alain Miranville) **98d:35175** 35Q30 (76D05, 76F99)

— (*with* Cruz Soto, J. L.; Calzada Canalejo, M. C.; Marín Beltrán, M.) A convergence result for a parallel algorithm for solving the Navier-Stokes equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 71–88. (Summary) **98m:76119** 76M25 (65M12, 76D05)

Fernández de Córdoba, P. (*with* Segura, Javier; Ratis, Yu. L.) A code to evaluate modified Bessel functions based on the continued fraction method. (English summary) *Comput. Phys. Comm.* **105** (1997), *no.* 2-3, 263–272. (Summary) **98k:65008** 65D20 (33C10)

Fernández de la Nuez, Isabel (*with* García-Cortí, J. L.; Pacheco Castelao, José Miguel) An analysis of morphogenesis in reaction-diffusion systems with a catalyst. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 11–18. (Summary) **98i:92011** 92C15 (35K57)

Fernandez de la Vega, Wenceslao MAX-CUT has a randomized approximation scheme in dense graphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 187–198. (Summary) **98i:05148** 05C85

— (*with* Zissimopoulos, Vassilis) An approximation scheme for strip packing of rectangles with bounded dimensions. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 93–101. (Summary) **98m:68117** 68Q25

Fernández del Busto, Guillermo A Matsusaka-type theorem on surfaces. *J. Algebraic Geom.* **5** (1996), *no.* 3, 513–520. (From the introduction) **98d:14007** 14C20 (14J99)

— *see also* **Lazarsfeld, Robert, 98h:14008**

Fernández García, Francisco Ramón (*with* Mármol Conde, Amparo María; Monroy, L.; Puerto Albandoz, Justo) Utopian efficient strategies in multicriteria matrix games. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 245–254, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90D10 (90D35)

— (*with* Puerto Albandoz, Justo) Pareto-optimality in classical inventory problems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 83–98. (Summary) **98j:90028** 90B05 (90C39)

Fernández García-Hierro, Manuel (*with* Benítez, Carlos; Soriano, María L.) Suitable norms for simultaneous approximation. *Extracta Math.* **11** (1996), *no.* 3, 485–488. (Joseph M. Lambert) **98c:41024** 41A28 (41A65, 46B20)

— (*with* Benítez, Carlos; Soriano, María L.) Location of best simultaneous approximations. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 9-10, 867–875. (Summary) **98f:41031** 41A65 (46B20)

— (*with* Benítez, Carlos; Soriano, María L.) Suitable norms for simultaneous approximation. *Acta Math. Hungar.* **74** (1997), *no.* 4, 333–343. (Ion Badea) **98b:41019** 41A28 (41A65, 46B99)

— (*with* Soriano, María L.) On the Chebyshev alternation theorem. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 169–178. (Asuman Aksoy) **98h:41020** 41A28 (41A65)

Fernández-Gaucherand, Emmanuel (*with* Moskowitz, Simon; Whalen, Michael) Passage-detector-based traffic queue estimation in intelligent transportation systems: a computational study of competing algorithms. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 93–113. (Summary) **98c:90041** 90B22 (90B20)

— (*with* Marcus, Steven I.) Risk-sensitive optimal control of hidden Markov models: structural results. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1418–1422. (Angelos Dassios) **98j:93083** 93E15 (93E20)

Fernández-Jambrina, L. Singularity-free cylindrical cosmological model. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3407–3412. (Nora Bretón Báez) **98m:83015** 83C20 (83C15)

Fernández Llana, Carmen (*with* Osiewalski, Jacek; Steel, Mark F. J.) On the use of panel data in stochastic frontier models with improper priors. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 169–193. (Kajal Lahiri) **98k:62188** 62P20

Fernández López, Antonio[1] (*with* García Rus, Eulalia; Gómez Lozano, M.; Siles Molina, M.) Jordan canonical form for finite rank elements in Jordan algebras. (English summary) *Linear Algebra Appl.* **260** (1997), 151–167. (Armin Thedy) **98e:17040** 17C10

— (*with* García Rus, Eulalia; Jaa, Omar) Towards a Goldie theory for Jordan pairs. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 79–90. (José A. Anquela) **98i:17041** 17C10 (17C20, 17C27)

Fernández-Macho, Francisco Javier A dynamic factor model for economic time series. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 583–606. (Summary) **98i:62087** 62P20 (62M10)

Fernández-Margarit, Alejandro (*with* Borrego-Díaz, Joaquín; Pérez-Jiménez, Mario) On overspill principles and axiom schemes for bounded formulas. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 3, 341–348. (A. J. Wilkie) **98c:03117** 03F30 (03C62, 03H15)

Fernández Moreno, Luis Truth in pure semantics: a reply to H. Putnam: *Representation and reality* [MIT Press, Cambridge, MA, 1988; MR 89m:00018]. (English summary) *Sorites No.* 8 (1997), 3, 15–23 (*electronic*). (Summary) **98c:03011** 03A05

Fernández Muñiz, José Luis Approximation theories with A-convergence. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 175–191. (Jia-Ding Cao) **98f:41024** 41A36

Fernández-Pérez, José L. (*with* Granados, A.) On geodesic curvature and conformal mapping. *Algebra i Analiz* **9** (1997), *no.* 3, 220–244; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 615–637. (D. H. Hamilton) **98k:30010** 30C35

Fernandez-Ponce, J. M. (*with* Muñoz-Perez, J.) Characterization of lifetime distributions in the L_s-sense by a generalized spread. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 323–331. (A. H. Khan) **98k:62171** 62N05 (62E10)

Fernández-Pousa, Carlos R. (*with* Gallas, Manuel V.; Hollowood, Timothy J.; Miramontes, J. Luis) Solitonic integrable perturbations of parafermionic theories. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 673–689. (Luigi Martina) **98k:81247** 81T40 (58F07, 81R10)

Fernandez-Rubio, J. (*with* Rebollo-Neira, L.; Plastino, Angel Luis) Frames: a maximum entropy statistical estimate of the inverse problem. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4863–4871. (J.-P. Antoine) **98k:81104** 81R30 (46N50)

Fernández Sanjuán, Miguel Angel (*with* Kennedy, Judy A.; Grebogi, Celso; Yorke, James A.) Indecomposable continua in dynamical systems with noise: fluid flow past an array of cylinders. (English summary) *Chaos* **7** (1997), *no.* 1, 125–138. (Summary) **98a:76027** 76D99 (58F40, 76F20)

Fernández Unzueta, Maite Unconditionally convergent polynomials in Banach spaces and related properties. *Extracta Math.* **12** (1997), *no.* 3, 305–307. 46G20 (46B20)

Fernández y Fernández-Arroyo, Fidel José (*with* López García, María Luz; Martín del Ama, María Victoria) General integration in locally convex spaces. (Spanish. English summary) *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 7-8, 593–597. (T. V. Panchapagesan) **98b:28017** 28B05

Fernando, K. V. Computing an eigenvector of a tridiagonal when the eigenvalue is known. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 299–302. (*see* **98b:65005**) 65F15

— On computing an eigenvector of a tridiagonal matrix. I. Basic results. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1013–1034. (George D. Poole) **98j:15011** 15A18 (65F15)

Fernando, Suren L. Reflection groups and a convolution theorem. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 229–249. (Sait Halıcıoğlu) **98k:20065** 20F55 (51F15)

Fernando Perez, J. *see* **Perez, J. Fernando**

Fernau, Henning (*with* Bordihn, Henning) Accepting grammars and systems: an overview. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 199–208, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q42 (68Q50)

— (*with* Lange, Klaus-Jörn; Reinhardt, Klaus) Advocating ownership. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 286–297, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68058** 68Q05

— On unconditional transfer. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 348–359, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68163** 68Q50 (68Q45)

— (*with* Holzer, Markus) Accepting multi-agent systems. II. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 361–379. (Summary) **98a:68125** 68Q50

— Valuations, regular expressions, and fractal geometry. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 59–75. (Summary) **98k:68101** 68Q45 (13A18, 28A80)

— (*with* Bordihn, Henning) Accepting grammars and systems via context condition grammars. (English summary) Second International Conference on Developments in Language Theory (Magdeburg, 1995). *J. Autom. Lang. Comb.* **1** (1996), *no.* 2, 97–112. (Jetty Kleijn) **98a:68122** 68Q50 (68Q45)

— Membership for k-limited ET0L languages is not decidable. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 4, 243–245. (Summary) **98c:68114** 68Q45 (03D35)

— (*with* Holzer, Markus) Conditional context-free languages of finite index. (English summary) *New trends in formal languages*, 10–26, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68080** 68Q45

— (*with* Freund, Rudolf) Accepting array grammars with control mechanisms. (English summary) *New trends in formal languages*, 95–118, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68170** 68Q50 (68Q45)

— Unconditional transfer in regulated rewriting. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 837–857. (Peter R. J. Asveld) **98k:68107** 68Q50 (68Q45)

Ferng, W. R. (*with* Lin, Wen-Wei; Wang, Chern-Shuh) The shift-inverted J-Lanczos algorithm for the numerical solutions of large sparse algebraic Riccati equations. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 23–40. (Vladimir B. Larin) **98e:65035** 65F30 (93B40)

Fernholz, Luisa Turrin Reducing the variance by smoothing. (English summary) Robust statistics and data analysis, I. *J. Statist. Plann. Inference* **57** (1997), *no.* 1, 29–38. (Carlo E. Sempi) **98f:62060** 62F12 (62G20)

Feron, Eric A more reliable robust stability indicator for linear systems subject to parametric uncertainties. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1326–1330. (Summary) **98g:93033** 93D09

— Analysis of robust H_2 performance using multiplier theory. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 160–177. (Ian Petersen) **98a:93021** 93B36 (93B40, 93D09)

— (*with* Boussios, C.) Estimating the conservatism of Popov's criterion for real parametric uncertainties. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 173–183. (Summary) **98g:93031** 93D09 (93D10)

Ferone, A. (*with* Volpicelli, R.) Symmetrization in parabolic obstacle problems. *Bull. Sci. Math.* **120** (1996), *no.* 6, 555–572. (Bernhard Kawohl) **98d:35123** 35K85 (35B45)

Ferone, Vincenzo (*with* Alvino, Angelo; Trombetti, Guido; Lions, Pierre-Louis) Convex symmetrization and applications. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 275–293. (Andrzej Swiech) **98d:35068** 35J65 (35B05, 49Q20)

— (*with* Fusco, Nicola) VMO solutions of the N-Laplacian with measure data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 365–370. (Summary) **98e:35068** 35J65 (35D05, 35R05)

Ferragina, Paolo (*with* Luccio, Fabrizio) On the parallel dynamic dictionary matching problem: new results with applications. (English summary) *Algorithms—ESA '96 (Barcelona)*, 261–275, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (68Q25)

— (*with* Grossi, Roberto; Montangero, Manuela) A note on updating suffix tree labels. (English summary) *Algorithms and complexity (Rome*, 1997), 181–192, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68P05 (68Q20)

— Dynamic text indexing under string updates. (English summary) *J. Algorithms* **22** (1997), *no.* 2, 296–328. (Summary) **98a:68081** 68Q20 (68Q25)

Ferragut, L. (*with* Montenegro, R.; Plaza, A.) Applications of an adaptive finite element method. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv*, 1993), 189–198, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65M60 (76M10)

— (*with* Montenegro, R.; Plaza, A.; Asensio Sevilla, María Isabel) Application of a nonlinear evolution model to fire propagation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2873–2882. (*see* **98i:00031**) 92D40

rodriguez-Ferran, Antonio *see* **Rodriguez-Ferran, Antonio**

Ferrand, Emmanuel On a theorem of Chekanov. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw*, 1995), 39–48, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Sergei V. Chmutov) **98i:53039** 53C15 (58F05)

Ferrand, Jacqueline Conformal capacities and extremal metrics. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 41–49. (Matti Vuorinen) **98j:30018** 30C70 (31B15, 53A30)

Ferrández, Angel (*with* Lucas, Pascual; Meroño, Miguel Angel) Pseudo-spherical and pseudo-hyperbolic submanifolds via the quadric representation. I. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 6, 520–528. (Bang-yen Chen) **98e:53090a** 53C40 (53B25)

— (*with* Lucas, Pascual; Meroño, Miguel Angel) Pseudo-spherical and pseudo-hyperbolic submanifolds via the quadric representation. II. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 82–88. (Bang-yen Chen) **98e:53090b** 53C40

Ferrández Leal, José Manuel (*with* Pérez, M. Teresa) Recent developments on numerical integrators for curves on prescribed surfaces. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv*, 1992), 45–54, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 65D17 (65L06)

— (*with* San Saturio Lapeña, María Eugenia; Vigo-Aguiar, J.) Non-integrability of some Hamiltonian systems in polar coordinates. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5869–5876. (Richard C. Churchill) **98i:58100** 58F05 (70F15, 70H05)

— (*with* Martín Ordóñez, Pablo) Multistep numerical methods based on the Scheifele G-functions with application to satellite dynamics. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 359–375. (Ram Krishan Sharma) **98d:70003** 70–08 (65L99, 70M20)

— (*with* Vigo-Aguiar, J.) VSVO multistep formulae adapted to perturbed second-order differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 83–87. 65L05

— (*with* San Saturio Lapeña, María Eugenia; Vigo-Aguiar, J.) The non-integrability of the truncated two fixed centres problem. *J. Differential Equations* **143** (1998), *no.* 1, 147–150. (From the text) **98m:70016** 70F07 (70H05)

Ferrando, J. C. On trigonometric polynomials. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 319–321. 42A05

Ferrante, Augusto (*with* D'Alessandro, Domenico) Optimal steering for an extended class of nonholonomic systems using Lagrange functionals. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1635–1646. (Summary) **98j:49029** 49K15 (70F25, 70Q05, 93B10)

— A parametrization of the minimal square spectral factors of a nonrational spectral density. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 197–226. (Summary) **98g:93006** 93B15 (60G10, 60G25, 93E03)

— A homeomorphic characterization of minimal spectral factors. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1508–1523. (Summary) **98g:93043** 93E03 (93B60)

Ferrante, Francesco "Folgerichtigkeit"—the basic conception of logical thought in Ernst Schröder's introduction to [his] *Lessons on algebra of logic (1890)* [*Vorlesungen über die Algebra der Logik* (German), Teubner, Leipzig]. *Metalogicon* **8** (1995), *no.* 1, 33–40. 01A55 (03–03, 03A05)

Ferrante, Marco The Picard boundary value problem for a third order stochastic difference equation. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 85–98. (David Nualart) **98k:60112** 60J05 (60H10)

Ferrara, A. (*with* Shchekinov, Yu.) Self-similarity and nonlinear dynamics of thermally unstable media. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 3-4, 273–307. (Summary) **98e:76110** 76X05 (76E25, 85A30)

Ferrara, Antonella (*with* Bartolini, G.; Usai, E.) Output tracking control of uncertain nonlinear second-order systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2203–2212. (Summary) **98k:93103** 93D21 (93C41)

— (*with* Bartolini, G.; Usai, E.) Chattering avoidance by second-order sliding mode control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 241–246. 93B12 (93C10)

Ferrara, Laura (*with* Celletti, Alessandra) An application of the Nekhoroshev theorem to the restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **64** (1996), *no.* 3, 261–272. (Summary) **98j:70008** 70F07 (70H05)

Ferrara, Sergio (*with* Billó, Marco; Ceresole, Anna; D'Auria, Riccardo; Fré, Pietro; Regge, Tullio; Soriani, Paolo; Van Proeyen, Antoine) A search for non-perturbative dualities of local $N = 2$ Yang-Mills theories from Calabi-Yau 3-folds. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 831–864. (Summary) **98a:32026** 32G81 (14J32, 32J17, 32J81, 53C25, 81T30)

— (*with* Antoniadis, Ignatios; Gava, E.; Narain, K. S.; Taylor, T. R.) Duality symmetries in $N = 2$ heterotic superstring. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **45B,C** (1996), 177–187. (Miguel A. Vázquez-Mozo) **98a:81150** 81T30 (81–02, 83E30)

— (*with* Ceresole, Anna; D'Auria, Riccardo) The symplectic structure of $N = 2$ supergravity and its central extension. (English summary) S-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 67–74. (Krzysztof Galicki) **98a:81217** 81T60 (32J81, 81T30, 83E30, 83E50)

— (*with* Ceresole, Anna; D'Auria, Riccardo; Lerche, Wolfgang; Louis, Jan; Regge, Tullio) Picard-Fuchs equations, special geometry and target space duality. (English summary) *Mirror symmetry, II*, 281–353, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Krzysztof Galicki) **98b:32015** 32G20 (32G81, 53C25, 81T30, 81T40, 83E30)

— (*with* Billó, Marco; Fré, Pietro; D'Auria, Riccardo; Soriani, Paolo; Van Proeyen, Antoine) R symmetry and the topological twist of $N = 2$ effective supergravities of heterotic strings. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 2, 379–418. (J. A. H. Samtleben) **98e:83112** 83E30 (81T30, 83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo) Central extension of extended supergravities in diverse dimensions. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 21, 3759–3773. (Krzysztof Galicki) **98g:83112** 83E50 (81T60, 83E30)

— (*with* Andrianopoli, Laura; Bertolini, Matteo; Ceresole, Anna; D'Auria, Riccardo; Fré, Pietro; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Fré, Pietro; Minasian, Ruben; Trigiante, Mario) Solvable Lie algebras in type IIA, type IIB and M-theories. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 249–277. (Angel Maria Uranga) **98k:81187** 81T30 (17B30, 81R05, 83E30)

— Supergravities in diverse dimensions and their central extension. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 145–156. (Piet Termonia) **98i:83086** 83E50 (81T60)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo) U-invariants, black-hole entropy and fixed scalars. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 12–19. (Summary) **98d:83086** 83E30 (81T30, 83C57, 83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo) Five-dimensional U-duality, black-hole entropy and topological invariants. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 39–45. (Ion V. Vancea) **98m:83074** 83E50 (83C57, 83E30)

— (*with* Chamseddine, Ali H.; Gibbons, Gary W.; Kallosh, Renata) Enhancement of supersymmetry near a 5D black hole horizon. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3647–3653. (Summary) **98d:83049** 83C57 (83E30)

Ferrara Dentice, Eva Some remarks about a result of G. Tallini. (Italian. English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 389–396 (1996). (Giorgio Faina) **98i:51001b** 51A30

Ferrarese, G. (*with* Stazi, L.) Generalized reference frames in relativity. (Italian. Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 245–256 (1997). (Helmuth K. Urbantke) **98h:83066** 83C99 (53C80)

— Relativistic superfluids and Cosserat continua. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 247–258. (Ilija Lukačević) **98k:76154** 76Y05 (73B99, 83C55)

— (*with* Burzio, M.) The subdivision graph of a graceful tree is a graceful tree. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 275–281. (Summary) **98k:05124** 05C78 (05C05)

Ferrari, F. *see* **Ferrari, Franco**

Ferrari, Fausto A comparison theorem for harmonic functions in domains with Hölder boundary. (Italian. English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 175–181 (1997). (Alain Brillard) **98j:35012** 35B05 (31C05, 35B50, 35J05)

Ferrari, Franco (*with* Sobczyk, Jan) Creation and annihilation operators for b-c systems on general algebraic curves. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 259–263, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Martin Schlichenmaier) **98j:81310** 81T40 (14H30)

— Field theories on the Poincaré disk. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 30, 5389–5404. (Summary) **98h:81085** 81T20

— Topologically nontrivial sectors of Maxwell field theory on Riemann surfaces. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 4, 371–378. (Ambar Sengupta) **98i:81232** 81T40 (58Z05, 81T13)

— (*with* Lazzizzera, I.) Dirac quantization of the Chern-Simons field theory in the Coulomb gauge. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 250–256. (Summary) **98a:81118** 81T13 (81T70)

Ferrari, Frank (*with* Bilal, Adel) Curves of marginal stability, and weak- and strong-coupling BPS spectra in $N = 2$ supersymmetric QCD. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 3, 589–619. (Summary) **98a:81215** 81T60 (81T13, 81V05)

— Duality and BPS spectra in $N = 2$ supersymmetric QCD. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 245–252. (Summary) **98d:81115** 81T60 (81T13)

Ferrari, Gian-Luigi (*with* Corradini, Flavio; Pistore, Marco) Eager, busy-waiting and lazy actions in timed computation. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68Q10)

— (*with* Montanari, Ugo) Tiles for concurrent and located calculi. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q55, 68Q60)

— Atomicity and concurrency control in process calculi. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 341–368. (Rüdiger Valk) **98m:68069** 68Q10 (68Q22, 68Q60)

— (*with* Montanari, Ugo; Mowbray, Miranda) Structured transition systems with parametric observations: observational congruences and minimal realizations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 3, 241–282. (Raymond Devillers) **98g:68102** 68Q55 (18A15, 68Q10, 68Q90)

Ferrari, I. (*with* Moscatelli, E.) The Weierstrass theorem in mechanics. (Italian. English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 493–521. (Summary) **98k:34081** 34C99 (34A34, 70K99)

Ferrari, Mauro[1] (*with* Avellone, Alessandro) Almost duplication-free tableau calculi for propositional lax logics. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 48–64, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03021** 03B45 (03B35, 68Q60)

Ferrari, Pablo A. (*with* Kesten, Harry; Martínez, Servet A.) R-positivity, quasi-stationary distributions and ratio limit theorems for a class of probabilistic automata. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 2, 577–616. (Pierre Picco) **98f:60131** 60J10 (60F05, 60K35)

— (*with* Martínez, Servet A.; San Martín, Jaime) Phase transition for absorbed Brownian motion with drift. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 213–231. (H. Kesten) **98d:60073** 60G15 (60F15, 82C31)

— (*with* Belitsky, Vladimir; Konno, Norio; Liggett, Thomas M.) A strong correlation inequality for contact processes and oriented percolation. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 213–225. (Olle Häggström) **98e:60156** 60K35 (82C22)

Ferrari, Silvia L. de Paula (*with* Uribe-Opazo, Miguel A.; Cribari-Neto, Francisco) Second order asymptotics for score tests in exponential family nonlinear models. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 2, 179–194. 62E20 (62G10, 62G20)

— (*with* Cordeiro, Gauss M.) Generalized Bartlett correction. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 509–527. 62F10 (62E20)

— (*with* Cribari-Neto, Francisco) On bootstrap and analytical bias corrections. (English summary) *Econom. Lett.* **58** (1998), *no.* 1, 7–15. 62G09

Ferrari, V. (*with* Gualtieri, L.) On the perturbations of a nonrotating star excited by a massive source. I. The matching conditions at the surface of the star. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 323–339. (Summary) **98f:83025** 83C25

— *see also* **General relativity and gravitational physics, 98i:83002**

Ferrari d'Occhieppo, Konradin *see* **Šolle, Zdenko**

Ferrario, Benedetta On a unilateral problem for a Navier-Stokes type equation. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 1, 83–105 (1995). (Jürgen Socolowsky) **98f:35116** 35Q30 (76D05)

— The Bénard problem with random perturbations: dissipativity and invariant measures. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 1, 101–121. (Peter E. Kloeden) **98c:35174** 35R60 (35B20, 35Q30, 76D05, 76R99)

— Ergodic results for stochastic Navier-Stokes equation. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 271–288. (Summary) **98h:60090** 60H15 (35Q30, 35R60, 47D07, 76D05, 76M35)

Ferrario, Davide Fixed points in bouquets of circles. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 129–136. (Summary) **98m:55001** 55M20

Ferraris, Marco (*with* Raiteri, M.; Francaviglia, Mauro) General relativity as a gauge theory of orthogonal groups in three dimensions. (English summary) *Gravity, particles and space-time*, 81–98, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. P. Rybakov) **98h:83068** 83C99 (58Z05)

— (*with* Fatibene, L.; Francaviglia, Mauro) Why metrics? Is the metric the most fundamental description for gravity? (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 305–309, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C99

— (*with* Francaviglia, Mauro; Volovich, I. V.) A model of affine gravity in two dimensions and plurality of topology. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5067–5080. (Michael O. Katanaev) **98j:83081** 83D05

— (*with* Fatibene, L.; Francaviglia, Mauro) Nöther formalism for conserved quantities in classical gauge field theories. II. The arbitrary bosonic matter case. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3953–3967. (Takayuki Nôno) **98i:58076** 58E30 (70G50, 78A25, 81T13)

Ferrari Trecate, G. (*with* De Nicolao, G.) On the zeros of discrete-time linear periodic systems. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 703–718. (Summary) **98k:93049** 93B60 (93C55)

Ferraro, Nicolina A class of parallel V_0-stable methods for Volterra integral equations. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 221–230. (Summary) **98g:65127** 65R20 (45L05)

Ferraro, Rafael (*with* Simeone, Claudio) Canonical gauges in the path integral for parametrized systems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 599–610. (Phillial Oh) **98a:81102** 81S40

— (*with* Sforza, Daniel M.) BRST operator quantization of generally covariant gauge systems. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4785–4790. (Liviu Tătar) **98c:81223** 81T70 (81T50)

Ferrarotti, Massimo A complex of stratified forms satisfying de Rham's theorem. (English summary) *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 25–38, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Jean-Paul Brasselet) **98i:58008** 58A12 (58A35)

— Some results about volume of stratified sets. *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 39–43, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (María-Angeles Zurro) **98k:32053** 32S60 (58A35)

— (*with* Wilson, Leslie Charles) Generalized Hestenes' lemma and extension of functions. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1957–1975. (Wiesław Pawłucki) **98h:58018** 58C25 (26B05, 58C05)

Ferrater Mora, José *see* **Mosterín, Jesús, (98m:00014)** *and* **Terricabras, Josep-Maria, (98m:00014)**

Ferraty, Frédéric (*with* Besse, Philippe C.; Cardot, Hervé) Simultaneous non-parametric regressions of unbalanced longitudinal data. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 3, 255–270. (Summary) **98b:62056** 62G05

Ferraz-Mello, S. On Hamiltonian averaging theories and resonance. (English summary) *Celestial Mech. Dynam. Astronom.* **66** (1996/97), *no.* 1, 39–50. (Summary) **98b:70016** 70F15

Ferré, Louis (*with* Boularan, Joël; Vieu, Philippe) Location of particular points in non-parametric regression analysis. (English summary) *Austral. J. Statist.* **37** (1995), *no.* 2, 161–168. (Michael B. Malyutov) **98f:62082** 62G05

Ferreira, Afonso Galvao (*with* Caceres, Edson N.; Dehne, Frank; Flocchini, Paola; Rieping, I.; Roncato, A.; Santoro, Nicola; Song, S. W.) Efficient parallel graph algorithms for coarse grained multicomputers and BSP. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 390–400, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q22 (05C85, 68R10)

— *see also* **Solving irregularly structured problems in parallel, 98j:65097**

Ferreira, Eva *see* **Ferreira Garcia, Eva**

Ferreira, F. F. (*with* Pinto, A. A.) Existence of eigenvalues for (uaa) Markov maps. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 421–429. (Luis M. Barreira) **98j:58091** 58F20 (26A24, 58F19)

Ferreira, Hendrik C. (*with* Abdel-Ghaffar, Khaled A. S.) Systematic encoding of the Varshamov-Tenengol'ts codes and the Constantin-Rao codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 340–345. (Summary) **98m:94056** 94B40

Ferreira, J. A. *see* **Ferreira, José Augusto Mendes**

Ferreira, J. Campos ★ Introduction to the theory of distributions. (English summary) Translated from the 1993 Portuguese original by J. Sousa Pinto and R. F. Hoskins. Pitman Monographs and Surveys in Pure and Applied Mathematics, 87. *Longman, Harlow*, 1997. xiv+157 *pp. ISBN* 0-582-31144-6 (Piotr Mikusinski) **98h:46036** 46Fxx (46–01)

Ferreira, Jorge (*with* Lar'kin, N. A.) Decay of solutions of nonlinear hyperbolic-parabolic equations in noncylindrical domains. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 75–81. (Summary) **98c:35122** 35M10 (35B40, 35L70)

Ferreira, José Augusto Mendes The method of lines and the supraconvergence of the spatial discretization for parabolic problems defined on $\mathbf{R}^2$. (English summary) *First Meeting on Numerical Methods for Partial Differential Equations* (*Coimbra*, 1995), 29–42, *Textos Mat. Sér. B*, 11, *Univ. Coimbra, Coimbra*, 1997. (*see* **98h:65003**) 65M20 (65M06)

Ferreira, L. A. (*with* Aratyn, H.; Gomes, J. F.; Zimerman, A. H.) Constrained KP models as integrable matrix hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1559–1576. (Carlos R. Fernández-Pousa) **98e:58090** 58F07

Ferreira, Maria C. F. (*with* Zantema, Hans) Dummy elimination: making termination easier. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 243–252, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q42

— (*with* Kesner, Delia; Puel, Laurence) λ-calculi with explicit substitutions and composition which preserve β-strong normalization (extended abstract). (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 284–298, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 03B40 (68N15)

— Dummy elimination in equational rewriting. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 78–92, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68140** 68Q42

— (*with* Zantema, Hans) Total termination of term rewriting. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 2, 133–162. (Summary) **98d:68113** 68Q42

Ferreira, Placid M. (*with* Reveliotis, Spiridon A.; Lawley, Mark A.) Polynomial-complexity deadlock avoidance policies for sequential resource allocation systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1344–1357. 90B80 (90B70, 93C95)

Ferreira, Raul (*with* Bernis, Francisco) Source-type solutions to thin-film equations in higher dimensions. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 5, 507–524. (Summary) **98j:35150** 35Q35 (76D08)

garcía-Ferreira, Salvador *see* **García-Ferreira, Salvador**

Ferreira García, Eva Spline methods applied to spectral density estimation. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 435–459. 62M15 (62G05)

— (*with* Núñez-Antón, Vicente; Rodríguez-Póo, Juan) Growth curve models with non-stationary errors. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997),

no. 3-4, 233–239. 62H12
— (*with* Núñez-Antón, Vicente; Rodríguez-Póo, Juan) Kernel regression estimates of growth curves using nonstationary correlated errors. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 413–423. (Summary) **98f:62091** 62G05
Ferreirós Domínguez, José Notes on types, set and logicism, 1930–1950. (English summary) *Theoria (San Sebastián)* (2) **12** (1997), *no.* 28, 91–124. (E. Mendelson) **98d:01033** 01A60 (00A30, 03–03, 03A05)
Ferrell, Robert C. (*with* Kothe, Douglas B.; Turner, John A.) PGSLib: a library for portable, parallel, unstructured mesh simulations. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04 (65N55)
Ferrer, J. *see* **Ferrer Llop, Josep**
Ferrer, J. R. *see* **Ferrer Villanueva, José R.**
Ferrer, Jesús (*with* Gregori, V.) Topological linearly ordered spaces determined by Pervin's quasi-uniformity. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 16–21, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54058** 54E55 (54E35, 57N17)
— Real normed spaces whose unit sphere determines polynomials. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 59–65. (Ignacio Zalduendo) **98g:46060** 46G20 (46B20)
— (*with* Alegre Gil, Carmen; Gregori, V.) Quasi-uniformities on real vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 929–937. 46A16 (54E15)
— A property of connected Baire spaces. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 177–182. (Summary) **98b:54041** 54E52 (26A21, 46G20)
Ferrer, Leonor (*with* Martínez, Antonio; Milán, F.) Improper affine hyperspheres. *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 187–194, *World Sci. Publishing, River Edge, NJ*, 1996. (Udo Simon) **98b:53013** 53A15
Ferrer, M. V. (*with* Camacho, Javier; Navarro, E.) Analytic-numerical solutions with a prefixed accuracy for partial differential systems with coupled separated boundary value conditions. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 2, 138–155. (Hideo Yamagata) **98m:65157** 65M15 (35C99)
Ferreres, G. (*with* Fromion, V.) Computation of the robustness margin with the skewed μ tool. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 193–202. (Summary) **98k:93082** 93D09
Ferreri, Carlo On the ML-estimator of the positive and negative two-parameter binomial distribution. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 129–134. 62F10
Ferrer Llop, Josep (*with* García-Planas, Ma. I.; Puerta Sales, Fernando) Brunowsky local form of a holomorphic family of pairs of matrices. (English summary) *Linear Algebra Appl.* **253** (1997), 175–198. (Juan Miguel Gracia) **98a:93010** 93B10 (15A21, 15A54)
— (*with* Compta, A.) On $(A, B)'$-invariant subspaces having extendible Brunovsky bases. (English summary) *Linear Algebra Appl.* **255** (1997), 185–201. (Rafael Bru) **98a:15024** 15A21 (15A04)
cotti Ferrero, Celestina *see* **Cotti Ferrero, Celestina**
Ferrero, Giovanni (*with* Cotti Ferrero, Celestina) Near-rings with particular Clay semigroups. (Italian) *Matematiche (Catania)* **51** (1996), *suppl.*, 81–89 (1997). (Raffaele Scapellato) **98m:16056** 16Y30
Ferrero, Miguel *see* **Ferrero Melgar, Miguel**
Ferrero, Miguel A. Closed submodules of centred bimodules over semiprime rings, and applications to ring extensions. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 4, 309–345. (A. G. Heinicke) **98h:16047** 16S90 (16D20, 16N60, 16S20)
— (*with* Paques, Antonio) Galois theory of commutative rings revisited. *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 399–410. (F. DeMeyer) **98i:13010** 13B05
Ferrero Melgar, Miguel (*with* Santos, Emilio) Empirical consequences of the scientific construction: the program of local hidden-variables theories in quantum mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 6, 765–800. (Frank Antonsen) **98h:81006** 81P05
— *see also* **New developments on fundamental problems in quantum physics, 98i:81004**
Ferrer Villanueva, José R. (*with* Sánchez Ruiz, L. M.) Barrelledness of class $\mathfrak{R}_0$ of the space $l_0^\infty(X, \mathscr{A})$ and measure theory. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Sect. I a Mat.* **41** (1995), *no.* 2, 371–374 (1997). (Pedro J. Paúl) **98c:46003** 46A08 (28A33, 46E99)
Ferretti, Claudio (*with* Zandron, Claudio; Mauri, Giancarlo) A reduced distributed splicing system for RE languages. (English summary) *New trends in formal languages*, 319–329, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68165** 68Q45 (68Q05)
Ferretti, Gabriele (*with* Danielsson, Ulf H.; Sundborg, Bo) D-particle dynamics and bound states. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 31, 5463–5477. (Daniel N. Kabat) **98a:81161** 81T30
— (*with* Danielsson, Ulf H.) The heterotic life of the D-particle. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 25, 4581–4595. (Summary) **98j:81264** 81T30
— The critical exponents of the matrix-valued Gross-Neveu model. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 3, 739–755. (Summary) **98d:81045** 81T10 (81T27)
— (*with* Danielsson, Ulf H.; Kalkkinen, Jussi; Stjernberg, Pär) Supersymmetric gauge theories in five and six dimensions. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 265–270. (Summary) **98f:81319** 81T60
— (*with* Danielsson, Ulf H.; Klebanov, Igor R.) Creation of fundamental strings by crossing Dirichlet branes. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1984–1987. 81T30
Ferretti, Gianni (*with* Rocco, Paolo; Magnani, Gianantonio) Implicit force control for industrial robots in contact with stiff surfaces. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2041–2047. 93C85
Ferretti, Nelida (*with* Romo, Juan) Unit root bootstrap tests for AR(1) models. (English summary) *Biometrika* **83** (1996), *no.* 4, 849–860. (Francesco Battaglia) **98g:62163** 62M10
Ferretti, Roberto Convergence of semidiscrete approximations to optimal control problems in Hilbert spaces: a counterexample. (English summary) *Systems Control Lett.* **27** (1996), *no.* 2, 125–128. (Vladimir I. Sumin) **98i:49033** 49M25 (47N70, 49J27)
— Dynamic programming techniques in the approximation of optimal stopping time problems in Hilbert spaces. *Partial differential equation methods in control and shape analysis (Pisa)*, 153–162, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Min Sun) **98e:49069** 49L20 (60G40)
— High-order approximations of linear control systems via Runge-Kutta schemes. (English and German summaries) *Computing* **58** (1997), *no.* 4, 351–364. (Vladimir Veliov) **98f:93001** 93B03 (65L06)
Ferri, Giuseppe The appearance of Fibonacci and Lucas numbers in the simulation of electrical power lines supplied by two sides. *Fibonacci Quart.* **35** (1997), *no.* 2, 149–155. (From the introduction) **98g:94050** 94C05 (11B39)
Ferri, Massimo Size functions: a new topological approach to shape analysis. (English summary) *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 299–304, *World Sci. Publishing, River Edge, NJ*, 1995. (Introduction) **98c:51020** 51K99
Ferri, Osvaldo (*with* Ferri, Stefania) On some caps of class $[1, m, n]_2$ in AG$(3, q)$. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 475–478. 51E22
Ferri, S. *see* **Ferry, Steven C.**
Ferri, Stefania (*with* Ferri, Osvaldo) On some caps of class $[1, m, n]_2$ in AG$(3, q)$. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 475–478. 51E22
Ferrier, Jean-Louis (*with* Chapeau-Blondeau, François; Janez, Fabrice) A dynamic adaptive relaxation scheme applied to the Euclidean Steiner minimal tree problem. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1037–1053. (Summary) **98k:90123** 90C35 (05C05)
Ferris, Michael C. (*with* Ralph, Daniel) Projected gradient methods for nonlinear complementarity problems via normal maps. (English summary) *Recent advances in nonsmooth optimization*, 57–87, *World Sci. Publishing, River Edge, NJ*, 1995. (Zun Quan Xia) **98h:90094** 90C33
— (*with* Dirkse, Steven P.) Crash techniques for large-scale complementarity problems. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 40–61, *SIAM, Philadelphia, PA*, 1997. (S. R. Mohan) **98c:90158** 90C33 (49M15)
— (*with* Billups, Stephen C.) QPCOMP: a quadratic programming based solver for mixed complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 533–562. (Summary) **98k:90121** 90C33 (65K10, 90C20)
— (*with* Pang, Jong-Shi) Engineering and economic applications of complementarity problems. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 669–713. (Shinji Mizuno) **98m:90155** 90C33 (70E99, 73T05)
— *see also* **Complementarity and variational problems, 98a:90006**
carra' Ferro, G. *see* **Carra' Ferro, G.**
Ferrucci, F. (*with* Pacini, G.; Satta, Giorgio; Sessa, M. I.; Tortora, G.; Tucci, Maurizio; Vitiello, Giuseppe) Symbol-relation grammars: a formalism for graphical languages. (English summary) *Inform. and Comput.* **131** (1996), *no.* 1, 1–46. (K. G. Subramanian) **98f:68144** 68Q42
Ferry, Audrey (*with* Blair, Howard A.; Chidella, Jagan; Dushin, Fred; Humenn, Polar) A continuum of discrete systems. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 153–186. (Summary) **98k:68034** 68N17 (68Q80)
Ferry, Steven C. Remarks on Steenrod homology. *Novikov conjectures, index theorems and rigidity, Vol. 2 (Oberwolfach, 1993)*, 148–166, *London Math. Soc. Lecture Note Ser.*, 227, *Cambridge Univ. Press, Cambridge*, 1995. (L. J. Hernández) **98d:55004** 55N07 (57M50)
— (*with* Dranishnikov, A. N.) On the Higson-Roe corona. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 133–146; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1017–1028. (Yuri A. Kordyukov) **98k:58214** 58G12 (46L87, 55N99, 57R99)
Fershtman, Chaim (*with* Kalai, Ehud) Unobserved delegation. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 763–774. 90A09 (90A14)
valiente Feruglio, Gabriel *see* **Valiente Feruglio, Gabriel**
Ferziger, Joel H. Large eddy simulation: an introduction and perspective. *New tools in turbulence modelling (Les Houches, 1996)*, 29–47, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (From the introduction) **98k:76062** 76Fxx (76M25)
— (*with* Im, Hong G.; Lund, Thomas S.) Large eddy simulation of turbulent front propagation with dynamic subgrid models. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3826–3833. (Summary) **98j:76109** 76M25 (76F05, 80A25)
— (*with* Briggs, David A.; Koseff, Jeffrey R.; Monismith, Stephen G.) Turbulent mixing in a shear-free stably stratified two-layer fluid. (English summary) *J. Fluid Mech.* **354** (1998), 175–208. 76F99 (76V05)
— *see also* **New tools in turbulence modelling, 98i:76001**
Fesenko, I. B. Complete discrete valuation fields. Abelian local class field theories. *Handbook of algebra, Vol. 1*, 221–268, *North-Holland, Amsterdam*, 1996. (Yoshihiro Koya) **98a:11162** 11S31 (11S70)
victoria-Feser, Maria-Pia *see* **Victoria-Feser, Maria-Pia**
Festa, Roberto Carnap and Popper reconciled. Probability, verisimilitude and Bayesian inference. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 215–235, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 03B48
— Analogy and exchangeability in predictive inferences. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 229–252. (Reinhard Suck) **98j:03027** 03B48 (60A05)
Fetter, Helga (*with* Gamboa de Buen, Berta) ★ The James forest. (English summary) With a foreword by Robert C. James and a prologue by Bernard Beauzamy. London Mathematical Society Lecture Note Series, 236. *Cambridge University Press, Cambridge*, 1997. xii+255 *pp. ISBN* 0-521-58760-3 (Y. Benyamini) **98k:46013** 46Bxx (01A65, 46–03)
— (*with* Gamboa de Buen, Berta) Spreading sequences in JT. (English summary) *Studia Math.* **125** (1997), *no.* 1, 57–66. (Steven F. Bellenot) **98d:46009** 46B15 (46B20)
Fettig, Roland (*with* Löchner, Bernd) Unification of higher-order patterns in a simply typed lambda-calculus with finite products and terminal type. (English summary) *Rewriting techniques and applications (New Brunswick, NJ, 1996)*, 347–361, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q40 (03B40, 68N15, 68Q42)
Fettweis, Alfred Numerische Integration partieller Differentialgleichungen mit Hilfe diskreter passiver dynamischer Systeme. (German summary) [Numerical integration of partial differential equations with the aid of discrete passive dynamical systems] With discussion and a reply by the author. *Vorträge Nordrhein-Westfälische Akad. Wiss. No.* 412 (1995), 32 *pp.* 65M99
Feudel, Fred (*with* Schmidtmann, Olaf; Seehafer, Norbert) Nonlinear Galerkin methods for 3D magnetohydrodynamic equations. (English summary) *Internat. J. Bifur. Chaos*

Appl. Sci. Engrg. **7** (1997), *no.* 7, 1497–1507. (Summary) **98g:76079** 76W05 (76M25)
— (*with* Zienicke, E.; Seehafer, Norbert) Bifurcations in two-dimensional Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 428–435. 76E15
Feudel, Ulrike (*with* Pikovskiĭ, A. S.; Politi, Antonio) Renormalization of correlations and spectra of a strange non-chaotic attractor. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5297–5311. (Yves Elskens) **98b:58112** 58F13 (82C05)
— (*with* Grebogi, Celso) Multistability and the control of complexity. (English summary) *Chaos* **7** (1997), *no.* 4, 597–604. (Summary) **98i:58156** 58F13
— (*with* Witt, Annette; Pikovskiĭ, A. S.) Birth of strange nonchaotic attractors due to interior crisis. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 180–190. (*see* **98k:58004**) 58F13
— (*with* Grebogi, Celso; Poon, Leon; Yorke, James A.) Dynamical properties of a simple mechanical system with a large number of coexisting periodic attractors. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 171–180. (Summary) **98m:70030** 70K50
— (*with* Kuznetsov, Sergeĭ Petrovich[1]; Pikovskiĭ, A. S.) Renormalization group of scaling at the torus-doubling terminal point. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1585–1590. 58F13
Feuer, Arie (*with* Goodwin, Graham C.; Mayne, D. Q.) Duality of hybrid optimal regulator and hybrid optimal filter. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1465–1471. 93B52 (93E11)
— (*with* Goodwin, Graham C.; Gómez, Guillermo I.) A state-space technique for the evaluation of diagonalizing compensators. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 173–177. 93B51 (93C05)
Feuer, J. (*with* Janowski, E. J.; Ladas, G.) Lyness-type equations in the third quadrant. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1183–1189. (From the text) **98m:39012** 39A10
Feuerstein, Esteban (*with* Ausiello, Giorgio; Leonardi, Stefano; Stougie, Leen; Talamo, Maurizio) Competitive algorithms for the on-line traveling salesman. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 206–217, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (90C27)
— (*with* Strejilevich de Loma, Alejandro) On multi-threaded paging. (English summary) *Algorithms and computation* (*Osaka*, 1996), 417–426, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68N25
— Paging more than one page. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 75–90. (Summary) **98d:68052** 68N25
Feuerverger, Andrey (*with* Beran, Rudolf; Hall, Peter Gavin) On nonparametric estimation of intercept and slope distributions in random coefficient regression. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2569–2592. (Ewaryst Rafajłowicz) **98b:62055** 62G05 (62J05)
— (*with* Hall, Peter Gavin) On distribution-free inference for record-value data with trend. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2655–2678. (Syed N. U. A. Kirmani) **98b:62061** 62G05 (60G70)
Feuillebois, F. (*with* Bruneau, D.; Blawzdziewicz, J.; Anthore, R.) Three-dimensional intrinsic convection in dilute and dense dispersions of settling spheres. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 55–59. 76R99 (76T05)
akbari-Feyzaabaadi, S. *see* **Akbari-Feyzaabaadi, S.**
Fezoui, Loula (*with* Bossy, Mireille; Piperno, Serge) Comparison of a stochastic particle method and a finite volume deterministic method applied to Burgers equation. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 2, 113–140. (Sergei A. Nemnyugin) **98f:65008** 65C05 (65M60, 76M10, 76M35)
Fezzi, S. (*with* Barcucci, Elena; Del Lungo, Alberto; Pinzani, Renzo) Nondecreasing Dyck paths and q-Fibonacci numbers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 211–217. (Summary) **98d:05009** 05A15 (11B39)
F. G.-M. *see* **Brunhes, Edmond**
Fhlathóin, Bríd Ní The height on an abelian variety. (English summary) *Algorithmic number theory* (*Talence*, 1996), 121–131, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Summary) **98e:11074** 11G10 (14K05)
Fiacca, Antonella (*with* Cardinali, Tiziana; Papageorgiou, Nikolaos S.) On the solution set of nonlinear integrodifferential inclusions in $\mathbf{R}^N$. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 117–127. (Alexsander Ivan Bulgakov) **98i:34025** 34A60 (34K99, 45J05)
— (*with* Cardinali, Tiziana; Papageorgiou, Nikolaos S.) Extremal solutions for nonlinear parabolic problems with discontinuities. (English summary) *Monatsh. Math.* **124** (1997), *no.* 2, 119–131. (Yoshihito Tomita) **98i:35101** 35K60
Fiacco, Anthony V. *see* **Mathematical programming with data perturbations, 98d:90009**
Fiadeiro, J. L. On the emergence of properties in component-based systems. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 421–443, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98h:68164** 68Q60 (68Q65)
Fiagbedzi, Y. A. Characterization of small solutions in functional-differential equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 97–102. (Shu Chun Gao) **98g:34106** 34K05 (34K20)
Fiala, Jiří *see* **Grant, Hardy, 98c:00005**
Fiala, Petr Heuristic solving a bicriteria parallel-machine scheduling problem. (English summary) Econometrics and operational research. *Kybernetika* (*Prague*) **33** (1997), *no.* 6, 687–694. (*see* **98i:90006**) 90B35 (90C29)
Fialho, Ian J. (*with* Georgiou, Tryphon T.) l_1 state-feedback control with a prescribed rate of exponential convergence. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1476–1481. 93B52 (93B36)
Fiat, Amos (*with* Awerbuch, Baruch; Azar, Yossi; Leonardi, Stefano; Rosén, Adi) On-line competitive algorithms for call admission in optical networks. (English summary) *Algorithms—ESA '96* (*Barcelona*), 431–444, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:68023** 68M10 (90B12)
— (*with* Aspnes, James; Azar, Yossi; Plotkin, Serge; Waarts, Orli) On-line routing of virtual circuits with applications to load balancing and machine scheduling. (English summary) *J. ACM* **44** (1997), *no.* 3, 486–504. (Summary) **98e:68006** 68M10 (68Q25)
Fibich, Gadi (*with* Papanicolaou, George C.) A modulation method for self-focusing in the perturbed critical nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 167–173. 35Q55
Fich, Faith E. (*with* Miltersen, Peter Bro) Tables should be sorted (on random access machines). (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 482–493, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98c:68050** 68P20
— (*with* Beame, Paul W.; Sinha, Rakesh Kumar) Separating the power of EREW and CREW PRAMs with small communication width. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 89–99. (Summary) **98f:68069** 68Q05 (68Q10, 68Q22)
Fichant, Michel Leibniz, cet inconnu. [The unknown Leibniz] *Vie Sci.* **13** (1996), *no.* 4, 343–353. (Pierre Crépel) **98c:01012** 01A45
Fichera, Gaetano Asymptotic behaviour of solutions of evolution problems. With notes in Italian. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part II (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part II* (1996), 685–698. (Piotr Biler) **98d:34096** 34G20 (35B40, 35K10)
— On a boundary value problem connected with the response of a semispace to a short laser pulse. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 191–192; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 400–401. 35Q99 (78A60)
Fichet, Bernard (*with* Chepoĭ, V. D.) Recognition of Robinsonian dissimilarities. (English and French summaries) *J. Classification* **14** (1997), *no.* 2, 311–325. 62H30
— (*with* Chepoĭ, V. D.) A note on circular decomposable metrics. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 237–240. (Summary) **98m:52001** 52A01 (52A30)
Fichman, Mati (*with* Goldshtein, A.; Shuster, K.; Vainshtein, P.; Gutfinger, Chaim) Particle motion in resonance tubes. (English summary) *J. Fluid Mech.* **360** (1998), 1–20. 76Q05 (76L05, 76T05)
— (*with* Broday, David; Shapiro, Michael; Gutfinger, Chaim) Motion of spheroidal particles in vertical shear flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 86–100. 76T05 (76E99)
Fichtenholz, G. M. ★ Rachunek różniczkowy i całkowy. Tom 1. (Polish. Polish summary) [Differential and integral calculus. Vol. 1] Translated from the Russian by Ryszard Bittner, Bolesław Gleichgewicht and Tadeusz Huskowski. Eleventh edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 550 *pp. ISBN* 83-01-02175-6 26–01 (00A05)
— ★ Rachunek różniczkowy i całkowy. Tom 3. (Polish. Polish summary) [Differential and integral calculus. Vol. 3] Translated from the Russian by Ryszard Bittner. Ninth edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 568 *pp. ISBN* 83-01-02177-2 26–01 (00A05)
— ★ Rachunek różniczkowy i całkowy. Tom 2. (Polish. Polish summary) [Differential and integral calculus. Vol. 2] Translated from the Russian by Abraham Goetz, Lucjan Szamkołowicz, Bolesław Gleichgewicht, Tadeusz Huskowski and Edward Piegat. Eleventh edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 696 *pp. ISBN* 83-01-02176-4 26–01 (00A05)
Fico, Milan Theory of local register allocation for Prolog clauses. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 5, 497–543. (Summary) **98j:68009** 68N17 (68R10)
lópez Fidalgo, Jesús F. *see* **López Fidalgo, Jesús F.**
Fiddelaers, P. (*with* Pauwels, E. J.; Van Gool, L. J.) Geometry-driven evolution and functional optimization for curves. *Geometry and topology of submanifolds, VII* (*Leuven, 1994/Brussels*, 1994), 309–312, *World Sci. Publishing, River Edge, NJ*, 1995. (Allen Tannenbaum) **98a:58039** 58E10 (68T10)
Fiddy, M. A. (*with* Pommet, D. A.) Recovery of strongly scattering permittivity distributions from limited backscattered data using a nonlinear filtering technique. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 58–70, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45
Fidel, B. (*with* Heyman, Ehud; Kastner, R.; Ziolkowski, Richard W.) Hybrid ray-FDTD moving window approach to pulse propagation. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 480–500. (Summary) **98j:78004** 78–08 (78A40)
Fidler, Jiří *see* **System modelling and optimization, 98d:90014**
Fiebig, Denzil G. (*with* Krämer, Walter; Bartels, Robert Henry) Another twist on the equality of OLS and GLS. (English summary) *Statist. Papers* **37** (1996), *no.* 3, 277–281. (Summary) **98k:62116** 62J05
Fiebig, Doris (*with* Boyle, Mike; Fiebig, Ulf-Rainer) A dimension group for local homeomorphisms and endomorphisms of onesided shifts of finite type. (English summary) *J. Reine Angew. Math.* **487** (1997), 27–59. (François Blanchard) **98i:54020** 54H20 (58F03, 58F08, 68Q80)
Fiebig, Ulf-Rainer (*with* Boyle, Mike; Fiebig, Doris) A dimension group for local homeomorphisms and endomorphisms of onesided shifts of finite type. (English summary) *J. Reine Angew. Math.* **487** (1997), 27–59. (François Blanchard) **98i:54020** 54H20 (58F03, 58F08, 68Q80)
Fiech, Adrian Colimits in the category DCPO. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 5, 455–468. (Summary) **98f:18002** 18A30 (68Q55)
Fiedeldey, Harry *see* **Obituary: Fiedeldey, Harry, (98j:81005)**
Fiedler, Bernd A use of ideal decomposition in the computer algebra of tensor expressions. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 145–164. (C. Sri Hari Nagore) **98g:20013** 20C05 (20C40)
Fiedler, Frank Oscillation and discreteness criteria of certain fourth order elliptic differential operators. *Math. Nachr.* **187** (1997), 101–113. (Jan Koroński) **98j:35048** 35J30 (35B05)
Fiedler, Miroslav (*with* Pták, Vlastimil) Block analogies of comparison matrices. (English summary) *Linear Algebra Appl.* **256** (1997), 95–108. (Ronald L. Smith) **98c:15064** 15A48 (15A45)
— (*with* Markham, Thomas L.) Consecutive-column and -row properties of matrices and the Loewner-Neville factorization. (English summary) *Linear Algebra Appl.* **266** (1997), 243–259. (Aurelian Gheondea) **98g:15020** 15A23
Fieker, C. (*with* Pohst, Michael E.) On lattices over number fields. *Algorithmic number theory* (*Talence*, 1996), 133–139, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Wieb Bosma) **98g:11079** 11H06 (11Y40)
Field, Christopher A. (*with* Ronchetti, Elvezio; Blanchard, Wade) Robust linear model selection by cross-validation. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1017–1023. (Summary) **98f:62204** 62J05 (62F35)
— (*with* Welsh, A. H.) Robust confidence intervals for regression parameters. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 53–64. 62F35 (62F25, 62J05)
Field, J. H. A new kinematical derivation of the Lorentz transformation and the particle description of light. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 542–564.

(Helmuth K. Urbantke) **98f:83004** 83A05 (78A25)

Field, J. V. The infinitely great and the infinitely small in the work of Girard Desargues. *Desargues en son temps*, 219–230, *Libr. Sci. A. Blanchard, Paris*, 1994. (William R. Shea) **98e:01012** 01A45 (00A30)

— Rediscovering the Archimedean polyhedra: Piero della Francesca, Luca Pacioli, Leonardo da Vinci, Albrecht Dürer, Daniele Barbaro, and Johannes Kepler. *Arch. Hist. Exact Sci.* **50** (1997), *no.* 3-4, 241–289. (Doru Ştefănescu) **98f:01016** 01A40 (01A20, 01A45, 52–03)

Field, Michael (*with* Golubitsky, Martin) ★ Symmetry in chaos. (English summary) A search for pattern in mathematics, art and nature. Corrected reprint of the 1992 original. *Oxford University Press, Oxford*, 1995. xii+218 *pp. ISBN* 0-19-853688-7 (Michael Dellnitz) **98a:58117** 58F13 (58F12)

Fieldhouse, Martin The duality gap in trim problems: not yet solved. (English summary) Duality in practice. *IMA J. Math. Appl. Bus. Indust.* **8** (1997), *no.* 3, 243–252. (Summary) **98g:90024** 90C08

Fielding, Antony On scoring ordered classifications. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 285–307. 62P15

Fields, Joe (*with* Pless, Vera S.; Leon, Jeffrey S.) All Z_4 codes of type II and length 16 are known. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 32–50. (Summary) **98a:94039** 94B05 (11T71)

Fieldsteel, Adam (*with* Hasfura-Buenaga, J. Roberto) Dyadic equivalence to completely positive entropy. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1143–1166. (Meir Smorodinsky) **98k:28029** 28D15 (28D20)

Fierro, F. (*with* Goglione, R.; Paolini, M.) Finite element minimization of curvature functionals with anisotropy. (English summary) *Calcolo* **31** (1994), *no.* 3-4, 191–210 (1996). (Viorel Arnautu) **98c:65185** 65N30 (58E12, 65K10)

Fierro, Ricardo D. (*with* Vanhamme, Leentje; Van Huffel, Sabine) Total least squares algorithms based on rank-revealing complete orthogonal decompositions. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 99–116, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Hansen, Per Christian) Low-rank revealing UTV decompositions. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 37–55. (A. Bultheel) **98d:65031** 65F05 (65F30)

— (*with* Golub, Gene H.; Hansen, Per Christian; O'Leary, Dianne P.) Regularization by truncated total least squares. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1223–1241. (Frederick N. Fritsch) **98d:65051** 65F20 (65F30)

Fieseler, Karl-Heinz (*with* Barthel, Gottfried; Brasselet, Jean-Paul; Kaup, Ludger) Invariante Divisoren und Schnitthomologie von Torischen Varietäten. (English summary) [Invariant divisors and intersection homology of toric varieties] *Parameter spaces* (*Warsaw*, 1994), 9–23, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Joseph Gubeladze) **98j:14024** 14F32 (14M25)

— (*with* Brasselet, Jean-Paul; Kaup, Ludger) Caractérisation des variétés homologiques à l'aide des invariants d'homologie d'intersection. (French summary) [Characterization of homology manifolds using intersection homology invariants] *Singularities and differential equations* (*Warsaw*, 1993), 19–22, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (J. S. Joel) **98d:55008** 55N33 (57N65)

— (*with* Barthel, Gottfried) Invariant divisors and homology of compact complex toric varieties. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3615–3624. (Mina Teicher) **98a:14066** 14M25 (14F25)

— (*with* Barthel, Gottfried; Brasselet, Jean-Paul; Kaup, Ludger) Diviseurs invariants et homomorphisme de Poincaré de variétés toriques complexes. (English and French summaries) [Invariant divisors and Poincaré homomorphism of complex toric varieties] *Tôhoku Math. J.* (2) **48** (1996), *no.* 3, 363–390. (Alicia Dickenstein) **98c:14044** 14M25 (14C20, 14F25)

Fiestras-Janeiro, M. Gloria (*with* García-Jurado, Ignacio) Perfectly almost strict equilibria for finite games in strategic form. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 269–276. (Summary) **98a:90142** 90D10 (90A14)

— (*with* Borm, Peter; van Megen, Freek) Protective and prudent behaviour in games. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 167–175. (Summary) **98k:90172** 90D40 (90D05)

Fife, Paul C. (*with* Bates, Peter W.; Ren, Xiaofeng; Wang, Xuefeng) Traveling waves in a convolution model for phase transitions. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 2, 105–136. (Vitaly A. Volpert) **98f:45004** 45K05 (35Q99, 73B30)

— Travelling waves for a nonlocal double-obstacle problem. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 581–594. (Summary) **98m:35116** 35K85 (35Q99)

— (*with* Kielhöfer, Hansjörg; Maier-Paape, Stanislaus; Wanner, Thomas) Perturbation of doubly periodic solution branches with applications to the Cahn-Hilliard equation. (English summary) *Phys. D* **100** (1997), *no.* 3-4, 257–278. (Jing Xue Yin) **98a:35004** 35B10 (35J60, 82B26)

Figari, Rodolfo (*with* Dell'Antonio, Gianfausto; Teta, Alessandro) A limit evolution problem for time-dependent point interactions. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 1, 249–275. (Paolo Acquistapace) **98m:81027** 81Q10 (26A33, 35Q99, 47N55)

— (*with* Dell'Antonio, Gianfausto; Teta, Alessandro) Statistics in space dimension two. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 235–256. (Pavel Šťovíček) **98c:81052** 81Q10 (81S05)

Figà-Talamanca, Alessandro Local fields and trees. *Harmonic functions on trees and buildings* (*New York*, 1995), 3–16, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (Paul Jolissaint) **98h:22005** 22D10 (22E35, 43A90)

Figoli, Franklin The object orientation of intuitive reasoning. (English summary) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 205–211, *Edit. UNESP, São Paulo*, 199?. (*see* **98d:00018**) 00A35

Figotin, Alexander On the absence of an absolutely continuous component of the spectrum in random Jacobi matrices. I. (Russian) *Functional analysis and applied mathematics* (*Russian*), 192–200, 216, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 47B80 (47A10, 47B39, 60B99, 60F99)

— On the absence of an absolutely continuous component of the spectrum in random Jacobi matrices. II. (Russian) *Functional analysis and applied mathematics* (*Russian*), 200–208, 216, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 47B80 (47A10, 47B39, 60B99, 60F99)

— (*with* Kuchment, P.) Band-gap structure of spectra of periodic dielectric and acoustic media. II. Two-dimensional photonic crystals. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1561–1620. (Volker Vogelsang) **98f:35012** 35B27 (35Q60, 78A40)

— (*with* Godin, Yuri A.) The computation of spectra of some 2D photonic crystals. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 585–598. (Summary) **98h:82067** 82D25

— (*with* Khalfin, Igor) Bound states of a one-band model for 3D periodic medium. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 153–170. (Summary) **98k:82183** 82D20

— (*with* Kuchment, P.) 2D photonic crystals with cubic structure: asymptotic analysis. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 23–30, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98m:78014** 78A25 (35Q60)

Figueira, Mário (*with* Dias, João-Paulo) On a class of solutions for the simplified Wheeler-DeWitt equation with a massless single scalar field. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 145–155. (Jürgen Tolksdorf) **98g:83037** 83C45 (35Q75)

— (*with* Dias, João-Paulo) A remark on the blow-up of the solutions of the equation $u_t + f(x)a(u)u_x = b(x,u)$. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 385–391. (Fumioki Asakura) **98f:35103** 35L67 (35B05)

Figueiras-Vidal, Aníbal R. (*with* Díaz-de-María, Fernando) Improving CELP coders by backward adaptive nonlinear prediction. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 585–601. 94A99

de Figueiredo, Celina M. H. (*with* Everett, Hazel; Linhares-Sales, Cláudia; Maffray, Frédéric; Porto, Oscar; Reed, Bruce A.) Path parity and perfection. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 233–252. (Irena C. Rusu) **98a:05069** 05C15 (05C38, 05C85)

de Figueiredo, Djairo G. Semilinear elliptic systems: a survey of superlinear problems. (English summary) *Resenhas* **2** (1996), *no.* 4, 373–391. (Ya Zhe Chen) **98g:35068** 35J60 (35J45)

— (*with* Ramos, Miguel) On linear perturbations of superquadratic elliptic systems. *Reaction diffusion systems* (*Trieste*, 1995), 121–130, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Gong Qing Zhang) **98i:35043** 35J55 (35B20, 58E05)

Figueiredo, W. (*with* Santos, Marcio) Critical dynamics of a double chain of spins with four spin interactions. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 362–366. (Miroslav Kolesík) **98a:82026** 82B20 (82B27)

Figueroa, José Luis (*with* Agamennoni, Osvaldo; Palazoglu, Ahmet) Robust controller design under highly structured uncertainty. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 721–733. 93B35 (93C41)

Figueroa, Raúl F. (*with* Cordero, Minerva) Transitive autotopism groups and the generalized twisted field planes. *Mostly finite geometries* (*Iowa City, IA*, 1996), 191–196, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (M. J. Kallaher) **98j:51008** 51E15

Figueroa-O'Farrill, José M. (*with* Stanciu, Sonia) On the structure of symmetric self-dual Lie algebras. (English summary) *J. Math. Phys.* **37** (1996), *no.* 8, 4121–4134. (Ben Lewis Cox) **98b:17004** 17B05 (17B81, 81R05, 81T40)

— (*with* Kimura, Takashi[2]; Vaĭntrob, A. Yu.) The universal Vassiliev invariant for the Lie superalgebra gl(1|1). (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 93–127. (Sergei V. Chmutov) **98e:17014** 17B35 (57M25)

— (*with* Stanciu, Sonia) Non-reductive WZW models and their CFTs. II. $N = 1$ and $N = 2$ cosets. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 583–608. (Summary) **98j:81311** 81T40 (22E70, 81R10)

— (*with* Köhl, C.; Spence, B.) Supersymmetry and the cohomology of (hyper)Kähler manifolds. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 614–626. (Krzysztof Galicki) **98k:53062** 53C25 (32J27, 58A12, 81T60)

— Extended superconformal algebras associated with manifolds of exceptional holonomy. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 77–84. (Summary) **98b:81075** 81R10 (14J32, 53C25, 53C80, 81T30, 83E30)

Fikera, G. *see* **Fichera, Gaetano**

Fikes, Richard E. (*with* Levy, Alon Y.; Iwasaki, Yumi) Automated model selection for simulation based on relevance reasoning. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 351–394. 68T99 (68U20)

— (*with* Levy, Alon Y.; Sagiv, Yehoshua) Speeding up inferences using relevance reasoning: a formalism and algorithms. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 83–136. (Summary) **98j:68154** 68T30 (03B70)

Fikhtengol'ts, I. G. On some particular solutions of Einstein's gravitational equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 341–352; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1467–1476 (1996). (Kishore Marathe) **98j:83016** 83C15 (83C20)

— Characteristic vectors and characteristic tensors for spaces with a conformally flat metric. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 318–322; *translation in Phys. Dokl.* **42** (1997), *no.* 1, 13–17. (Alexander N. Petrov) **98d:53029** 53B50 (83C99)

— On a class of wave solutions of Einstein's gravitational equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 484–492; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 384–391. (Jan Novotný) **98j:83022** 83C20 (83C35)

Fikioris, George Table erratum: *Table of integrals, series, and products*, [English translation, Fifth edition, Academic Press, Boston, MA, 1994; MR 94g:00008] by I. S. Gradshteyn and I. M. Ryzhik. *Math. Comp.* **67** (1998), *no.* 224, 1753–1754. 00A22 (33–00, 65–00)

el-Fiky, Ahmed *see* **El-Fiky, Ahmed**

Fila, Marek (*with* Filo, Ján) Blow-up on the boundary: a survey. *Singularities and differential equations* (*Warsaw*, 1993), 67–78, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Song Mu Zheng) **98c:35076** 35K55 (35B05, 35B40)

— (*with* Levine, Howard A.) On the boundedness of global solutions of abstract semilinear parabolic equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 654–666. (Summary) **98i:35086** 35K55 (34G20, 35B35, 47H20)

— (*with* Quittner, Pavol) Global solutions of the Laplace equation with a nonlinear dynamical boundary condition. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1325–1333. (Yao Tian Shen) **98m:35059** 35J65

— Boundedness of global solutions of nonlocal parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.*

30 (1997), *no.* 2, 877–885. (I. Łojczyk-Królikiewicz) **98m:35103** 35K60 (35B05)

Filakovszky, Péter The Diophantine equation $x^4 + kx^2y^2 + y^4 = z^2$. *Math. Student* **64** (1995), *no.* 1-4, 105–108 (1996). 11D25

Filali, Mahmoud A note on distal functions. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 39–44, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Douglas P. Dokken) **98k:54075** 54H20 (43A60, 54C35)

— (*with* Baker, John Walter) Minimal ideals in group algebras and their biduals. (English summary) *Math. Proc. Cambridge Philos. Soc.* **120** (1996), *no.* 3, 475–488. (Brian E. Forrest) **98f:22004** 22D15 (22D05)

Filar, Jerzy A. (*with* Liu, Ke) Hamiltonian cycle problem and singularly perturbed Markov decision process. (English summary) *Statistics, probability and game theory*, 45–63, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98k:90129** 90C40 (05C45)

— (*with* Haurie, A.) Optimal ergodic control of singularly perturbed hybrid stochastic systems. (English summary) *Mathematics of stochastic manufacturing systems (Williamsburg, VA, 1996)*, 101–126, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Arie Leizarowitz) **98e:49067** 49K45 (93E20)

— (*with* Szczechla, W. W.; Connell, S. A.; Vrieze, O. J.) On the Puiseux series expansion of the limit discount equation of stochastic games. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 860–875. (Costis Melolidakis) **98m:90202** 90D15 (93E05)

Filaseta, Michael The smallest maximal set of pairwise disjoint partitions. *Number theory (New York, 1991–1995)*, 103–113, *Springer, New York*, 1996. (Norbert Hegyvári) **98a:11135** 11P81 (05A17)

— (*with* Solan, Ikhalfani) Norms of factors of polynomials. *Acta Arith.* **82** (1997), *no.* 3, 243–255. (D. Boyd) **98k:11022** 11C08 (12D05)

Filatov, A. Yu. (*with* Neledova, A. V.; Tishkin, V. F.) Nonregular adaptive grids for solving problems in mathematical physics. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 2, 13–20. 65M55

Filatov, O. P. On the theory of asymptotic stability. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 1002–1003, 1008; *translation in Differential Equations* **32** (1996), *no.* 7, 1014–1016 (1997). (Summary) **98i:34073** 34D05

Filatov, P. S. Local anisotropic Hölder estimates for solutions of an equation of quasi-elliptic type. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1397–1409, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1215–1226. (From the text) **98k:35022** 35G05 (35B45, 35J99)

Files, Steve T. The fully invariant subgroups of local Warfield groups. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3515–3518. (S. Janakiraman) **98b:20090** 20K27 (20K21, 20K30)

— (*with* Goldsmith, Brendan) Transitive and fully transitive groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1605–1610. (Mark Lane) **98g:20087** 20K10 (20K25, 20K30)

Filev, Dimiter (*with* Yager, Ronald R.) Operations on fuzzy numbers via fuzzy reasoning. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 137–142. (Summary) **98e:04001** 04A72 (03B52)

— (*with* Yager, Ronald R.) On the issue of obtaining OWA operator weights. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 157–169. (Summary) **98m:68261** 68T35

Filgueiras, Miguel (*with* Tomás, Ana Paula) Solving linear Diophantine equations using the geometric structure of the solution space. (English summary) *Rewriting techniques and applications (Sitges, 1997)*, 269–283, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Summary) **98j:11124** 11Y50 (68Q40)

de morais Filho, D. C. *see* **de Morais Filho, D. C.**

drigo Filho, Elso *see* **Drigo Filho, Elso**

boschi Filho, H. *see* **Boschi Filho, H.**

ruas-Filho, J. G. *see* **Ruas-Filho, J. G.**

dos santos Filho, José Ruidival *see* **Dos Santos Filho, José Ruidival**

oliveira Filho, O. C. *see* **Oliveira Filho, O. C.**

lima-Filho, P. *see* **Lima-Filho, P.**

rocha Filho, T. M. *see* **Rocha Filho, T. M.**

Filimonov, A. M. Continuous approximations of difference operators. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 411–422. (I. P. Stavroulakis) **98g:34129** 34K99 (35A35, 39A10)

Filinov, V. S. (*with* Kamskiĭ, V. L.; Medvedev, Yu. V.) A method of stochastic dynamics in the Wigner formulation of quantum mechanics. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 7, 119–134; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 7, 923–934. (Yu. P. Virchenko) **98a:81095** 81S20

Filipczak, Małgorzata Some remarks on Foran's sequence conditions. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 143–146. (James Foran) **98i:26002** 26A15

Filipe, J. A. N. (*with* Rodgers, G. J.) Exact results for surface deposition with precursor layer diffusion. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3449–3461. (Summary) **98a:82046** 82B24

Filipoiu, A. (*with* Boicescu, V.) On Post algebras and representation by continuous functions. Part one. (English and Romanian summaries) *Politeh. Univ. Buchar. Sci. Bull. Ser. B Chem. Mater. Sci.* **55** (1993), *no.* 3-4, 17–25. (Summary) **98a:06019** 06D25 (03G20)

— (*with* Georgescu, Georges; Lettieri, A.) Maximal MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 53–62. (Summary) **98c:03133** 03G25

Filipović, M. H. (*with* Berisha, F. M.) On some transforms of trigonometric series. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 53–60. (Summary) **98g:42012** 42A32

Filipowicz, I. Product $\mathbf{Z}^d$-actions on a Lebesgue space and their applications. (English summary) *Studia Math.* **122** (1997), *no.* 3, 289–298. (G. R. Goodson) **98c:28020** 28D05 (28D15, 47A35)

Filipowski, Sharon A note on using linear knowledge to solve efficiently linear programs specified with approximate data. (English summary) *Mathematical programming with data perturbations*, 133–158, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Ding Zhu Du) **98m:90089** 90C08

Filippi, Paul J. T. (*with* Mazzoni, Daniel) Response of a vibrating structure to a turbulent wall pressure: fluid-loaded structure modes series and boundary element method. (English summary) *Uncertainty modeling in finite element, fatigue and stability of systems*, 117–158, *Ser. Stab. Vib. Control Syst. Ser. B*, 9, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98h:73005**) 73K70 (73K12, 73V10, 76M15, 76Q05)

de Filippo, Sergio *see* **De Filippo, Sergio**

Filipponi, Piero Modified Dickson polynomials. *Fibonacci Quart.* **35** (1997), *no.* 1, 11–18. (S. D. Cohen) **98a:11018** 11B39 (12E10)

— An observation on summation formulas for generalized sequences. *Fibonacci Quart.* **35** (1997), *no.* 1, 57–61. (Pentti Haukkanen) **98b:11012** 11B39 (11B37)

— Summation formulas for special Lehmer numbers. *Fibonacci Quart.* **35** (1997), *no.* 3, 252–257. (Ákos Pintér) **98e:11017** 11B39

— A family of 4-by-4 Fibonacci matrices. *Fibonacci Quart.* **35** (1997), *no.* 4, 300–308. (Neville Robbins) **98j:11005** 11B39 (11C20)

— (*with* Horadam, Alwyn F.) Derivative sequences of Jacobsthal and Jacobsthal-Lucas polynomials. *Fibonacci Quart.* **35** (1997), *no.* 4, 352–357. (Neville Robbins) **98j:11006** 11B39 (11B37)

— A curious problem involving geometric series. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 35–40. (Y. H. Harris Kwong) **98g:11023** 11B83

— Combinatorial expressions for Lucas numbers. *Fibonacci Quart.* **36** (1998), *no.* 1, 63–65. 11B39 (05A10)

— A note on two theorems of Melham and Shannon. *Fibonacci Quart.* **36** (1998), *no.* 1, 66–67. 11B39

— (*with* Elia, Michele) Equations of the Bring-Jerrard form, the golden section, and square Fibonacci numbers. *Fibonacci Quart.* **36** (1998), *no.* 3, 282–286. 11B39

Filippov, A. T. Integrable $(1 + 1)$-dimensional gravity models. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 13–22. (Michael O. Katanaev) **98e:81155** 81T40

— *see also* **Constrained dynamics and quantum gravity, 98f:83002**

Filippov, G. F. (*with* Dotsenko, I. S.; Lisetskyi, A. F.) Construction of the basis states with $L = 2$ for a three-cluster system. (English, Russian and Ukrainian summaries) *Ukraïn. Fiz. Zh.* **41** (1996), *no.* 9, 779–785. (Summary) **98a:81250** 81U10 (81R05)

— (*with* Lisetskyi, A. F.; Draayer, J. P.) Microscopic $SU_\pi(3) \times SU_\nu(3)$ interpretation of a two triaxial rotor model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1350–1365. (R. Mirman) **98m:81213** 81V35 (22E70, 81R05)

Filippov, K. M. (*with* Arnautov, V. I.) On premaximal topologies on vector spaces. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 96–105, 115, 119. (Mihail Ursul) **98m:16051** 16W80

Filippov, S. B. Application of asymptotic methods for the evaluation of optimal parameters for ring-stiffened cylindrical shells. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 79–83, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73K15

Filippov, S. P. (*with* Kaganovich, B. M.) ★ Равновесная термодинамика и математическое программирование. (Russian. Russian summary) [Equilibrium thermodynamics and mathematical programming] *"Nauka" Sibirskaya Izdatel'skaya Firma Rossiĭskoĭ Akademii Nauk, Novosibirsk*, 1995. 236 *pp. ISBN* 5-02-030848-X (Publisher's description) **98j:80005** 80A10 (90C90)

Filippov, S. S. (*with* Sanochkin, Yu. V.; Sogomonyan, A. Y.; Tygliyan, A. V.) Numerical solution of a BVP in hydrodynamics (thermocapillary convection). (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 176–183, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 76M25 (65M06, 76R99)

Filippov, V. T. Mal'tsev h_0-algebras. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 2, 214–227, 245–246; *translation in Algebra and Logic* **35** (1996), *no.* 2, 120–128. (Paul Demkin) **98g:17032** 17D10

— On trivial nuclear ideals of alternative algebras. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 1, 97–115, 118; *translation in Algebra and Logic* **36** (1997), *no.* 1, 60–71. (I. P. Shestakov) **98j:17031** 17D05

Filippov, V. V. Basic topological structures of the theory of ordinary differential equations. *Topology in nonlinear analysis (Warsaw, 1994)*, 171–192, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Zvi Artstein) **98i:34070** 34C35 (34A34, 54H20)

— (*with* Gabdrakhmanov, S. R.) On the absence of periodic solutions of the equation $z'(t) = z^2 + h(t)$. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 737–740, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 741–744 (1998). (Introduction) **98k:34071** 34C25

— On the theory of the Cauchy problem for an ordinary differential equation with discontinuities with respect to the space variables. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 885–891, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 888–894 (1998). (From the text) **98k:34004** 34A12

— On the topological properties of the solution spaces of ordinary differential equations. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 6, 735–738. (L. Górniewicz) **98c:34004** 34A12 (34C25, 54C35, 54H25)

— Homological properties of sets of solutions of ordinary differential equations. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 6, 139–160; *translation in Sb. Math.* **188** (1997), *no.* 6, 933–953. (L. Górniewicz) **98i:34065** 34C25 (34C99, 55M25)

Filippova, L. M. (*with* Zubov, L. M.) The theory of shells with continuously distributed dislocations. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 619–622; *translation in Phys. Dokl.* **40** (1995), *no.* 10, 531–533. 73K15 (73S10)

Filippucci, Roberta Non-existence of one-signed solutions for variational equations with locally amplifying potentials. (Italian summary) *Rend. Circ. Mat. Palermo (2)* **46** (1997), *no.* 1, 5–28. (Giovanna Citti) **98h:35062** 35J60 (34A12)

Filippychev, D. S. Application of the particle method to simulate one-dimensional bounded plasma with a distributed source. (English summary) Numerical methods in mathematical physics. *Comput. Math. Model.* **8** (1997), *no.* 2, 135–143. (*see* **98a:00011**) 76X05 (76M25)

— Numerical modeling of a collisional bounded plasma using a large time step. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 2, 21–24, 48. 82D10 (82–04)

Filipsson, Lars Complex mean-value interpolation and approximation of holomorphic functions. (English summary) *J. Approx. Theory* **91** (1997), *no.* 2, 244–278. (R. A. Zalik) **98k:41006** 41A05 (30E05, 30E10, 32E30, 41A63)

Filiptsov, A. V. (*with* Izobov, N. A.) On the sharpness of conditions for the coincidence of lower Perron exponents of linear differential systems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1300–1309, 1436; *translation in Differential Equations* **31** (1995), *no.* 8, 1244–1252 (1996). (Alexander V. Lasunsky) **98d:34081** 34D08 (34A30)

— (*with* Izobov, N. A.) On the invariance of lower Perron exponents of linear systems with respect to exponentially decreasing perturbations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 177–184, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 177–183. (Summary) **98j:34100** 34D08 (34D10)

Fill, James Allen (*with* Dette, Holger; Pitman, James W.; Studden, William J.) Wall and Siegmund duality relations for birth and death chains with reflecting barrier. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 349–374. (Erik A. van Doorn) **98f:60168** 60J80

Fillmore, Jay P. (*with* Paluszny, Marco) On the geometry of a quadratic form: pencils and the Apollonius contact problem. (English and Spanish summaries) *Acta Cient. Venezolana* **46** (1995), *no.* 1, 3–16. (Martin Funk) **98e:51033** 51N15 (51M05, 51N35)

Fillmore, Peter A. From K-theory to E-theory. *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 125–134, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00020**) 46L80 (19–02)

Filo, Ján (*with* Fila, Marek) Blow-up on the boundary: a survey. *Singularities and differential equations (Warsaw, 1993)*, 67–78, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Song Mu Zheng) **98c:35076** 35K55 (35B05, 35B40)

Filonov, N. Principal singularities of the magnetic field component in resonators with a boundary of a given class of smoothness. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 241–255; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 379–390. (Summary) **98k:78014** 78A25 (35Q60)

Filonov, Yu. P. Stability of null-recurrent Markov chains. I. Non-positivity. *Theory Probab. Math. Statist. No.* 48 (1994), 135–141; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 191–199 (*Ukrainian. Ukrainian summary*). (Summary) **98b:60117** 60J05

Filter, Wolfgang Equivalence relations on Stonian spaces. (English summary) *Adv. Math.* **123** (1996), *no.* 2, 120–143. (Dan Vuza) **98m:28010** 28A33 (28C05, 28C15)

— (*with* Weber, Karl) ★ Integration theory. (English summary) Chapman and Hall Mathematics Series. *Chapman & Hall, London*, 1997. xii+294 *pp. ISBN* 0-412-57680-5 (Richard Becker) **98i:28001** 28–01 (46–01)

Fimin, N. N. (*with* Chuyanov, V. A.) Applied aspects of Wigner formalism. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 85–109. (Woodford W. Zachary) **98k:81136** 81S30

— (*with* Chuyanov, V. A.) Branching of solutions of kinetic equations, and shock waves. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 10, 120–124. 82C40 (35L67, 35Q99, 45K05, 47H15, 76L05, 76P05)

Finashin, S. M. Decomposability of quotients by complex conjugation for rational and Enriques surfaces. (English summary) *Topology Appl.* **79** (1997), *no.* 2, 121–128. (M. Kh. Gizatullin) **98e:14038** 14J26 (14J28, 14M20, 57R55)

— Complex conjugation equivariant topology of complex surfaces. *Turkish J. Math.* **21** (1997), *no.* 1, 119–127. (Jim A. Bryan) **98e:32050** 32J15 (57R15)

— (*with* Mikhalkin, G. B.) A (-86)-sphere in the $K3$ surface. *Turkish J. Math.* **21** (1997), *no.* 1, 129–131. (Zhenbo Qin) **98d:57051** 57R40 (14J28)

— (*with* Degtyarëv, Aleksandr Igorevich) Pin-structures on surfaces and quadratic forms. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 187–193. (Summary) **98g:57039** 57R15

Finch, David V. (*with* Ritman, Erik L.; Dunsmuir, John H.; Faridani, Adel; Smith, Kennan T.; Thomas, Paul J.) Local reconstruction applied to x-ray microtomography. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 443–452, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 44A12 (78A55)

— (*with* Faridani, Adel; Ritman, Erik L.; Smith, Kennan T.) Local tomography. II. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1095–1127. (Fritz Keinert) **98h:92016** 92C55 (44A12, 65R10)

Finch, Steven R. (*with* Calkin, Neil J.) Conditions on periodicity for sum-free sets. (English summary) *Experiment. Math.* **5** (1996), *no.* 2, 131–137. (Georges Grekos) **98c:11010** 11B13 (11B75)

von Finckenstein, Karl Graf Finck (*with* Forkel, H.) Difference methods for quasilinear 2D-diffusion problems in toroidal configurations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 477–493. (Magdi M. Shoucri) **98d:76117** 76M20 (65M06, 76X05)

Fine, Arthur On the interpretation of Bohmian mechanics. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 231–250, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— Contextualism, locality and the no-go theorems. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 125–132, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05

— (*with* Fine, Dana) Gauge theory, anomalies and global geometry: the interplay of physics and mathematics. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 307–323. (R. Delbourgo) **98k:81255** 81T50 (58G10, 58Z05, 81–02, 81T13)

— *see also* **Bohmian mechanics and quantum theory: an appraisal, 98i:81003**

Fine, Benjamin (*with* Rosenberger, Gerhard; Stille, Michael) Nielsen transformations and applications: a survey. *Groups—Korea '94 (Pusan)*, 69–105, *de Gruyter, Berlin*, 1995. (S. Andreadakis) **98g:20039** 20E05 (20E06, 20F05, 20F10)

— (*with* Rosenberger, Gerhard) ★ The fundamental theorem of algebra. (English summary) Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xii+208 *pp. ISBN* 0-387-94657-8 (D. A. Brannan) **98h:30001** 30–02 (12F10, 55M25)

— (*with* Levin, Frank; Rosenberger, Gerhard) Faithful complex representations of one relator groups. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 45–52. (S. Andreadakis) **98e:20041** 20F05 (20C15, 20E06)

— (*with* Rosenberger, Gerhard; Stille, Michael) The isomorphism problem for a class of para-free groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 541–549. (Martin Edjvet) **98m:20036** 20F10 (20E06, 20F05)

Fine, Dana (*with* Fine, Arthur) Gauge theory, anomalies and global geometry: the interplay of physics and mathematics. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 307–323. (R. Delbourgo) **98k:81255** 81T50 (58G10, 58Z05, 81–02, 81T13)

Fine, Kit (*with* Schurz, Gerhard) Transfer theorems for multimodal logics. *Logic and reality (Christchurch, 1989)*, 169–213, *Oxford Univ. Press, New York*, 1996. (Marcus Kracht) **98f:03016** 03B45

Finelli, Michele (*with* Cattaneo, Gianpiero; Margara, Luciano) Topological chaos for elementary cellular automata. (English summary) *Algorithms and complexity (Rome, 1997)*, 241–252, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:58129** 58F08 (58F13, 68Q80)

Finet, C. (*with* Tkebuchava, G. E.) Some classical function systems in separable Orlicz spaces. (English summary) *Studia Math.* **121** (1996), *no.* 2, 193–205. (P. Simon) **98c:42005** 42A20 (42C10, 46E30)

— (*with* Garling, D. J. H.) Some nicely placed Hardy spaces. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 329–335. (Y. Benyamini) **98m:46032** 46E30 (46E15)

de Finetti, Bruno *see* **Cifarelli, Donato Michele, 98b:01033**

Finger, Marcelo (*with* Kibble, Rodger; Gabbay, Dov M.; Kempson, Ruth) Parsing natural language using LDS: a prototype. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 647–671 (*electronic*). (Neculai Curteanu) **98m:03059** 03B65 (68Q52, 68S05, 68T27, 68T30, 92K20)

Fingerhut, J. Andrew (*with* Suri, Subhash; Turner, Jonathan S.) Designing least-cost nonblocking broadband networks. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 287–309. (Summary) **98m:90170** 90C35

Finizio, Norman J. Some new infinite classes of Z-cyclic triplewhist tournaments. (English summary) Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 81–96. (Ian Anderson) **98a:05038** 05B30

— Z-cyclic triplewhist tournaments—new results. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 175–191. (Summary) **98j:05040** 05B30

— Z-cyclic triplewhist tournaments—the noncompatible case. II. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 189–201. (Ian Anderson) **98b:05028** 05B30

— (*with* Anderson, Ian) Triplewhist tournaments that are also Mendelsohn designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 397–406. (D. P. Roselle) **98h:05046** 05B30

— (*with* Lewis, James T.) A criterion for cyclic whist tournaments with the three person property. (English summary) *Util. Math.* **52** (1997), 129–140. (Summary) **98i:05040** 05B30

Fink, A. M. Shapiro's inequality. (English summary) *Recent progress in inequalities (Niš, 1996)*, 241–248, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98m:26001** 26–03 (01A60, 26D20)

Fink, J. (*with* Wolff, Hans W.) A new approach for describing and controlling process capability. *Frontiers in statistical quality control, 5 (Osaka)*, 207–226, *Physica, Heidelberg*, 1997. (*see* **98e:62009**) 62N10

Fink, Jonathan H. (*with* Griffiths, Ross W.) Solidifying Bingham extrusions: a model for the growth of silicic lava domes. (English summary) *J. Fluid Mech.* **347** (1997), 13–36. 86A60 (76A05)

Finke, G. (*with* Jiang, Hua Guang) A variant of the permutation flow shop model with variable processing times. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 123–140. (Summary) **98c:90074** 90B35 (90C27)

Finkel, Alain (*with* Tellier, Isabelle) A polynomial algorithm for the membership problem with categorial grammars. (English summary) *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 207–221. (B. H. Mayoh) **98a:68156** 68S05 (03D05, 03D15, 68Q45)

— (*with* Bouziane, Zakaria) Cyclic Petri net reachability sets are semi-linear effectively constructible. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems (Bologna, 1997)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q90 (68Q60)

Finkel, Federico (*with* González-López, Artemio; Kamran, Niky; Olver, Peter J.; Rodríguez, Miguel Angel^2) Lie algebras of differential operators and partial integrability. (English summary) *Differential geometry and its applications (Santiago de Compostela, 1995)*, 29–53, *An. Fís. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Zoya I. Symenoh) **98c:58180** 58G35 (17B99)

— (*with* González-López, Artemio; Rodríguez, Miguel Angel^2) Orthogonal polynomials and quasi-exactly solvable potentials on the line. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 73–80, *Univ. Carlos III Madrid, Leganés*, 1997. (Tuncay Aktosun) **98k:81041** 81Q05 (33C80)

— (*with* González-López, Artemio; Rodríguez, Miguel Angel^2) Quasi-exactly solvable spin 1/2 Schrödinger operators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2795–2811. (Piotr Kosiński) **98c:81033** 81Q05 (34A30, 34L40, 81U05)

— (*with* Kamran, Niky) On the equivalence of matrix differential operators to Schrödinger form. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 278–286. (Zoya I. Symenoh) **98k:35009** 35A30 (35Q40, 58G35)

— (*with* González-López, Artemio; Rodríguez, Miguel Angel^2) Quasi-exactly solvable Lie superalgebras of differential operators. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6879–6892. (Janusz Grabowski) **98m:17031** 17B66 (35A30, 81R10)

Finkelberg, Michael (*with* Kuznetsov, Alexander Gennadievich) Global intersection cohomology of quasimaps' spaces. *Internat. Math. Res. Notices* **1997**, *no.* 7, 301–328. (G. K. Sankaran) **98f:14013** 14F32 (14E10, 17B10)

Finkelshtain, Israel (*with* Bar-Shira, Ziv) Nonparametric analysis of pooled production data. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 173–178. 62M10 (62G10, 62P20)

martinez-Finkelshtein, Andrei *see* **Martinez-Finkelshtein, Andrei**

Finkel'shtein, M. S. Imperfect repair models for systems subject to shocks. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 385–390. 60K10 (62N05)

— The concealed age of distribution functions and the problem of general repair. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 315–321. 60K10 (62N05)

Finkelstein, David (*with* Saller, Heinrich; Tang, Zhong) Quantum spacetime. (English summary) *Gravity, particles and space-time*, 145–171, *World Sci. Publishing, River Edge, NJ*, 1996. (Derek Raine) **98k:83028** 83C27 (81P99, 83C45)

Finkelstein, Larry (*with* Cooperman, Gene; Linton, Steve) Constructive recognition of a black box group isomorphic to GL(n, 2). (English summary) *Groups and computation,*

II (*New Brunswick, NJ*, 1995), 85–100, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (D. F. Holt) **98d:20054** 20G40 (20–04)

— (*with* Cooperman, Gene; Tselman, Michael; York, Bryant) Constructing permutation representations for matrix groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 471–488. (J. D. Dixon) **98h:20090** 20H30 (20D08, 68Q40)

Finkelstein, M. S. *see* **Finkel'shtein, M. S.**

Finkelstein, Mark (*with* Tucker, Howard G.) Unconditional limit theorems from conditional limit theorems. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 3, 267–274. (Summary) **98g:62083** 62G10 (60F05)

Finkelstein, Robert (*with* Chan, Gordon; Oganesyan, Vadim) The q-isotropic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2132–2147. (Roland Speicher) **98e:81083** 81S05 (81R50)

— A note on q-transformation theory. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 195–206. (Roland Speicher) **98g:81097** 81S05 (81R50)

Finkelstein, Stacy E. (*with* Freyd, P. J.; Lipton, James) Logic programming in tau categories. (English summary) *Computer science logic* (*Kazimierz*, 1994), 249–263, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68029** 68N17 (68Q55)

Finken, K. H. (*with* Abdullaev, S. S.; Kaleck, A.; Spatschek, K. H.) Twist mapping for the dynamics of magnetic field lines in a tokamak ergodic divertor. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 196–210. 76X05

Finley, J. D., III (*with* Plebański, Jerzy F.; Przanowski, Maciej) An iterative approach to twisting and diverging, type-N, vacuum Einstein equations: a (third-order) resolution of Stephani's "paradox". (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 489–497. (Garry Ludwig) **98f:83026** 83C25 (83C30, 83C35)

Finn, J. E. (*with* De Vantier, B. A.) Discrete dispersion relations and Taylor-Galerkin FEM for transport of dispersed fronts. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1997), *no.* 1, 59–70. 76M10 (76R99)

Finn, Robert S. On the contact angle in capillarity. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 55–62, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 76D45

— (*with* Solonnikov, Vsevolod) Gradient estimates for solutions of the Navier-Stokes equations. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 29–39. (Alexander Yurjevich Chebotarev) **98j:35138** 35Q30 (35D10, 76D05)

— (*with* Concus, Paul) Discontinuous behavior of liquids between parallel and tilted plates. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 39–43. (Summary) **98j:76029** 76D45

Finn, Robert T. Reflections on the global dimensions of rings of continuous functions. *Ordered algebraic structures* (*Curaçao*, 1995), 27–42, *Kluwer Acad. Publ., Dordrecht*, 1997. (Sarah Glaz) **98g:13012** 13D05 (06F25, 13–02, 16S60)

— (*with* Martinez, Jorge[2]; McGovern, Warren W.) Commutative singular f-rings. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 149–166, *Kluwer Acad. Publ., Dordrecht*, 1997. (Sarah Glaz) **98f:06017** 06F25 (13D05, 13F05)

Finner, H. (*with* Roters, M.) Log-concavity and inequalities for chi-square, F and beta distributions with applications in multiple comparisons. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 771–787. (Mir Masoom Ali) **98k:62019** 62E99 (62J15)

Fino, A. (*with* Salamon, Simon) Observations on the topology of symmetric spaces. *Geometry and physics* (*Aarhus*, 1995), 275–286, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (McKenzie Y. Wang) **98a:53071** 53C35 (53C25, 57T15)

Finocchi, F. (*with* Petry, Martin; Busse, F. H.) Convection in a rotating cylindrical annulus in the presence of a magnetic field. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 6, 817–833. 76R10 (76E15, 76E25, 76W05)

Finocchiaro, Maurice A. Informal factors in the formal evaluation of arguments. (English summary) *Logic and argumentation* (*Amsterdam*, 1994), 143–162, *K. Ned. Akad. Wet. Verh. Afd. Lett.* (*N. S.*), 170, *North-Holland, Amsterdam*, 1996. (*see* **98f:03006**) 03A05

Finogenko, Ivan A. (*with* Matrosov, Vladimir M.) The invariance principle and attracting sets for autonomous systems. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 46–48; *translation in Phys. Dokl.* **41** (1996), *no.* 7, 313–315. (From the text) **98a:34050** 34D20 (70F20, 70K20)

— (*with* Matrosov, Vladimir M.) On stability of the equilibrium points for autonomous system with dry friction. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2839–2842. (*see* **98i:00031**) 34D99 (70F25, 70K20)

Finol, Carlos Equations in linear operators intertwining with representations of the Euclidean and Poincaré groups. (English and Spanish summaries) *Acta Cient. Venezolana* **45** (1994), *no.* 4, 268–277. (Alexander Isaakovich Shtern) **98j:22009** 22E30 (22E43, 43A80, 47D03, 81R05)

— (*with* Hudzik, Henryk; Maligranda, Lech) Orlicz spaces which are AM-spaces. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 234–242. (Cong Xin Wu) **98h:46027** 46E30 (46A45)

Finsler, Paul ★ Finsler set theory: Platonism and circularity. (English summary) Translation of Paul Finsler's papers on set theory with introductory comments. Edited and with comments by David Booth and Renatus Ziegler. *Birkhäuser Verlag, Basel*, 1996. x+278 *pp. ISBN* 3-7643-5400-3 (Siegfried Gottwald) **98g:03008** 03A05 (00A30, 01A60, 01A75, 03–06, 03E70, 04–06)

Finster, Felix Ground state structure of a coupled 2-fermion system in supersymmetric quantum mechanics. (English summary) *Ann. Physics* **256** (1997), *no.* 2, 135–143. (Kirill Nikolaevich Ilinski) **98j:81100** 81Q60

Finston, David R. (*with* Walcher, Sebastian) Centralizers of locally nilpotent derivations. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 1, 39–49. (V. L. Popov) **98d:14057** 14L30

— (*with* Deveney, James K.) On locally trivial $\mathbf{G}_a$-actions. (English summary) *Transform. Groups* **2** (1997), *no.* 2, 137–145. (Lucy Moser-Jauslin) **98h:14056** 14L30

— *see also* **Staniswalis, Joan G.**

Finta, Béla A characterization of some sets of the real line by the fixed point property. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 105–109. 54H25 (26A15)

— A criterion for the convergence of series. *Octogon Math. Mag.* **5** (1997), *no.* 1, 54–56. 40A05

— Some remarks about iterative methods with two steps. *Octogon Math. Mag.* **5** (1997), *no.* 2, 49–52. 65J05

— A remark about vector and operator norms. *Octogon Math. Mag.* **6** (1998), *no.* 1, 58–60. 46B20

Finta, Lucian (*with* Liu, Zhen[1]) Single machine scheduling subject to precedence delays. (English summary) *Discrete Appl. Math.* **70** (1996), *no.* 3, 247–266. (Yuri Nazarovich Sotskov) **98c:90046** 90B35

Finta, Zoltán On some properties of a class of functions. *Mathematica* **38(61)** (1996), *no.* 1-2, 53–59. 26A15

Fintushel, Ronald New directions in 4-manifold theory. (English summary) *Nonlinear partial differential equations in geometry and physics* (*Knoxville, TN*, 1995), 1–28, *Progr. Nonlinear Differential Equations Appl.*, 29, *Birkhäuser, Basel*, 1997. (Summary) **98a:57031** 57N13 (57R57, 58D29)

— (*with* Stern, Ronald John) Rational blowdowns of smooth 4-manifolds. *J. Differential Geom.* **46** (1997), *no.* 2, 181–235. (Zhenbo Qin) **98j:57047** 57R57 (14J27, 14J29)

— (*with* Stern, Ronald John) Surfaces in 4-manifolds. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 907–914. (Vicente Muñoz) **98k:57047** 57R57 (57M25, 57N13, 57R55)

Finzel, Martina Plücker-Grassmann coordinates and elementary vectors. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 207–214, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (S. Rolewicz) **98h:15002** 15A03 (41A15)

ercoli Finzi, A. *see* **Ercoli Finzi, A.**

Fiol, M. A. (*with* Fàbrega, Josep) Bipartite graphs and digraphs with maximum connectivity. (English summary) *Discrete Appl. Math.* **69** (1996), *no.* 3, 271–279. (Summary) **98f:05104** 05C40 (05C20)

— (*with* Aguiló, F.; Garcia, Christine) Triple loop networks with small transmission delay. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 3–16. (Summary) **98a:05072** 05C20 (05C90)

— (*with* Balbuena, C.; Carmona, Angeles; Fàbrega, Josep) Extraconnectivity of graphs with large minimum degree and girth. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 85–100. (Prabir Das) **98d:05088** 05C40

— (*with* Garriga, E.; Yebra, J. L. A.) The alternating polynomials and their relation with the spectra and conditional diameters of graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 297–307. (Summary) **98c:05108** 05C50

— (*with* Balbuena, M. C.; Carmona, Angeles; Fàbrega, Josep) Connectivity of large bipartite digraphs and graphs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 3–17. (Alexander M. Barg) **98k:05101** 05C40

— (*with* Balbuena, M. C.; Carmona, Angeles; Fàbrega, Josep) On the order and size of s-geodetic digraphs with given connectivity. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 19–27. (Summary) **98f:05071** 05C20 (05C40)

— (*with* Brunat, Josep M.; Fiol, M. L.) Digraphs on permutations. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 73–86. (Joseph B. Klerlein) **98i:05087** 05C20

— An eigenvalue characterization of antipodal distance-regular graphs. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 30, 13 *pp.* (*electronic*). (Jaume Pujol) **98j:05098** 05C50 (05E30)

— (*with* Garriga, E.; Yebra, J. L. A.) From regular boundary graphs to antipodal distance-regular graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 123–140. (Robert Beezer) **98m:05161** 05C75 (05C35, 05C50, 05E30)

Fiol, M. L. (*with* Brunat, Josep M.; Fiol, M. A.) Digraphs on permutations. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 73–86. (Joseph B. Klerlein) **98i:05087** 05C20

Fionov, A. N. (*with* Ryabko, B. Ya.) A fast method for complete randomization of messages. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 3–14; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 191–201 (1998). (Summary) **98e:94023** 94A60

Fiorani, Francesca The theory of shadows and aerial perspective: Leonardo, Desargues and Bosse. *Desargues en son temps*, 267–282, *Libr. Sci. A. Blanchard, Paris*, 1994. (Victor V. Pambuccian) **98f:01018** 01A45

Fioravanti, D. (*with* Amadesi, S.) A proof of the canonical Gibbs distribution. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 10, 1187–1194. (Peter Neu) **98a:82004** 82B05 (82B10)

Fiore, Gaetano $SO_q(N)$-isotropic harmonic oscillator on the quantum Euclidean space $\mathbf{R}^N_q$. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 428–440, *World Sci. Publishing, River Edge, NJ*, 1995. (Marcelo R. Ubriaco) **98j:81148** 81R50 (17B37)

Fiore, Marcelo P. Lifting as a KZ-doctrine. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 146–158, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (*see* **98c:68008**) 68Q55 (03G30, 06B35, 18D15, 68Q65)

— ★ Axiomatic domain theory in categories of partial maps. (English summary) Dissertation, University of Edinburgh, Edinburgh, 1994. Distinguished Dissertations in Computer Science. *Cambridge University Press, Cambridge*, 1996. xiv+240 *pp. ISBN* 0-521-57188-X (Guo-Qiang Zhang) **98c:68127** 68Q55 (18B10, 18D20)

— (*with* Moggi, Eugenio; Sangiorgi, Davide) A fully-abstract model for the π-calculus (extended abstract). (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 43–54, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Abadi, Martín) Syntactic considerations on recursive types. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 242–252, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40)

— (*with* Plotkin, Gordon D.) An extension of models of axiomatic domain theory to models of synthetic domain theory. (English summary) *Computer science logic* (*Utrecht*, 1996), 129–149, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98k:03124** 03G30 (68Q55)

— (*with* Rosolini, Giuseppe) The category of cpos from a synthetic viewpoint. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997),

18 pp. (electronic), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98j:68100** 68Q55 (03G30, 06B35, 18B25)

— (*with* Rosolini, Giuseppe) Two models of synthetic domain theory. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 151–162. (Summary) **98j:18003** 18B25 (03G30, 68Q55)

— An enrichment theorem for an axiomatisation of categories of domains and continuous functions. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 591–618. (Summary) **98j:18013** 18D20 (06B35, 68Q55)

Fiorentini, Riccardo (*with* Beltrametti, Luca; Marengo, Luigi; Tamborini, Roberto) A learning-to-forecast experiment on the foreign exchange market with a classifier system. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1543–1575. (*see* **98c:90003**) 90A60 (90A12)

Fiorentino, Giuseppe (*with* Serra, Stefano) A τ algebra based multiiterative solver for (block) Toeplitz systems. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II (Nijmegen, 1996)*, 129–140, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65F10

Fiorenza, Alberto (*with* Capone, Claudia) Maximal inequalities in weighted Orlicz spaces. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **62** (1995), 213–224 (1996). (Ron Kerman) **98i:42009** 42B25 (46E30)

— Regularity results for minimizers of certain one-dimensional Lagrange problems of calculus of variations. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 943–962. (Michele Carriero) **98h:49043** 49N60

— A Liouville-type theorem for very weak solutions of nonlinear partial differential equations. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 513–522. (Summary) **98k:35053** 35J60 (35B05, 35D99, 46N20)

— (*with* Sbordone, Carlo) Existence and uniqueness results for solutions of nonlinear equations with right hand side in L^1. (English summary) *Studia Math.* **127** (1998), *no.* 3, 223–231. (Summary) **98j:35062** 35J65

Fioresi, R. Quantizations of flag manifolds and conformal space time. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 453–465. (Tomasz Brzeziński) **98g:58008** 58B30 (16W30, 17B37, 81R50)

Fioretto, Anna (*with* Sgarro, Andrea) Two equality criteria for fractional entropy. (English summary) *Mathematical linguistics and related topics*, 119–126, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:94010** 94A17 (94A34)

Fiori, Carla (*with* Quattrocchi, Pasquale; Rinaldi, Gloria) Permutations and geometries. (Italian) *Proceedings of the Study Meeting in Memory of Giuseppe Gemignani (Italian) (Modena, 1994)*, 69–85, *Coll. Studi*, 11, *Accad. Naz. Sci. Lett. Arti, Modena*, 1995. (Giovanni Ferrero) **98f:51008** 51B05 (20B20, 51A05, 51B20)

Fiorini, S. (*with* Sciriha, Irene) On the characteristic polynomial of homeomorphic images of a graph. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 293–308. (N. Trinajstić) **98h:05135** 05C50

Fiorio, Christophe (*with* Gustedt, Jens) Memory management for union-find algorithms. (English summary) *STACS 97 (Lübeck)*, 67–79, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68P10 (68P05)

Fiorot, J. C. (*with* Jeannin, P.; Sucher, B.) Recursive calculation of the derivatives of rational curves in (*BR*) form. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 751–764. (Adam Marlewski) **98c:65024** 65D17 (68U05)

Firby, Peter (*with* Haviland, Julie) Maximal spacing configurations in graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 455–463. (Michael E. Raines) **98i:05063** 05C12

Firdaouss, Mouaouia (*with* Guermond, Jean-Luc; Le Quéré, Patrick) Nonlinear corrections to Darcy's law at low Reynolds numbers. (English summary) *J. Fluid Mech.* **343** (1997), 331–350. (Sam D. Howison) **98k:76133** 76S05

Firdosh Khan, M. (*with* Siddiqi, Abul Hasan; Ahmad, Rais) An existence theorem for generalized multivalued vector variational inequality. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 393–396. 49J40 (47H19)

Firica, Gabriel Refined Landau-Zener formulae: multilevel systems and applications. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 449–454. (Mihai Pascu) **98j:81357** 81U20 (47N50, 81Q20)

Firle, Sascha O. (*with* Zimmermann, Martin G.; Natiello, Mario A.; Hildebrand, Michael; Eiswirth, Markus; Bär, Markus; Bangia, Anil K.; Kevrekidis, Ioannis G.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)

Firlej, Barbara (*with* Rempulska, Lucyna) Approximation of functions of several variables by some operators of the Szasz-Mirakjan type. (English summary) *Fasc. Math. No.* 27 (1997), 15–27. (Naseer Shahzad) **98m:41034** 41A35

Firmo, S. (*with* Sarmiento, A.) Codimension one foliations without unstable compact leaves. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 247–267. (Lawrence Conlon) **98m:57035** 57R30

Firoozye, Nikan B. (*with* Šverák, Vladimír) Measure filters: an extension of Wiener's theorem. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 3, 695–707. (Steen Pedersen) **98k:28006** 28A78 (28A80, 42B10)

Firrao, Sisto On the foundations of thermodynamics. (English summary) *Cybernetica* **40** (1997), *no.* 3, 189–200. 80A10

— Errata: "On the foundations of thermodynamics" [Cybernetica **40** (1997), no. 3, 189–200]. *Cybernetica* **40** (1997), *no.* 4, 329 (1998). 80A10

Firsova, N. E. (*with* Goncharov, Yu. P.) Hawking radiation for twisted complex scalar fields on the Reissner-Nordström black holes and Dirac monopoles. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 371–389. (Summary) **98a:83082** 83C57 (83C47)

Firth, David (*with* Hinde, J. P.) On Bayesian *D*-optimum design criteria and the equivalence theorem in non-linear models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 793–797. 62K05 (62F15)

— (*with* Hinde, J. P.) Parameter neutral optimum design for non-linear models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 799–811. 62K05 (62J02)

— (*with* Bennett, K. E.) Robust models in probability sampling. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 3–21. 62D05

Fisch, Robert (*with* Gravner, Janko) One-dimensional deterministic Greenberg-Hastings models. (English summary) *Complex Systems* **9** (1995), *no.* 5, 329–348. (B. M. Gurevich) **98c:68147** 68Q80 (28D99, 60K35)

Fischer, Adelheid On wavelets and prewavelets with vanishing moments in higher dimensions. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 46–74. (Margit Rösler) **98k:42042** 42C15 (41A25, 41A63)

Fischer, Alexander Structure of Fourier exponents of almost periodic functions and periodicity of almost periodic functions. (English summary) *Math. Bohem.* **121** (1996), *no.* 3, 249–262. (H. Günzler) **98h:42008** 42A75 (42A32)

Fischer, Andreas *see* **Fischer, Andreas[2]**

Fischer, Andreas[1] An NCP-function and its use for the solution of complementarity problems. (English summary) *Recent advances in nonsmooth optimization*, 88–105, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98d:90123** 90C33

— (*with* Facchinei, Francisco; Kanzow, Christian) A semismooth Newton method for variational inequalities: the case of box constraints. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 76–90, *SIAM, Philadelphia, PA*, 1997. (Wan Tao Fu) **98d:90122** 90C33 (65H05)

— Solution of monotone complementarity problems with locally Lipschitzian functions. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 513–532. (Michael M. Kostreva) **98b:90143** 90C33 (49J40)

Fischer, Andreas[2] Stability radii of infinite-dimensional positive systems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 223–236. (Hartmut Logemann) **98m:93091** 93D09 (93C25, 93C55)

Fischer, Bernd ★ Polynomial based iteration methods for symmetric linear systems. (English summary) Wiley-Teubner Series Advances in Numerical Mathematics. *John Wiley & Sons, Ltd., Chichester; B. G. Teubner, Stuttgart*, 1996. 283 *pp. ISBN* 0-471-96796-3 (Zuhe Shen) **98e:65017** 65Fxx

— (*with* Prestin, Jürgen) Wavelets based on orthogonal polynomials. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1593–1618. (I. Ya. Novikov) **98f:42021** 42C05

Fischer, Bert (*with* Di Biase, Fausto; Urbanke, Rüdiger L.) Twist points of the von Koch snowflake. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1487–1490. (Christopher Bishop) **98k:31001** 31A15 (30C85)

Fischer, Bert (*with* Tarkhanov, Nikolai N.) A representation of solutions with singularities. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 57–70, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98i:35006** 35A20 (35C10, 35E05)

Fischer, Clemens (*with* Janssen, Wil) Synchronous development of asynchronous systems. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 735–750, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q10)

Fischer, Gerald *see* **Jackiw, Roman, 98k:81306**

Fischer, Hans-Jürgen On the condition of orthogonal polynomials via modified moments. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 1, 223–244. (Antonio J. Durán) **98c:33008** 33C45 (42C05, 44A60)

Fischer, Herbert Automatic differentiation: the key idea and an illustrative example. (English summary) *Applied mathematics and parallel computing*, 121–139, *Physica, Heidelberg*, 1996. (Summary) **98d:65022** 65D25

— *see also* **Applied mathematics and parallel computing, 98c:65006**

Fischer, Jan The use of power expansions in quantum field theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 21, 3625–3663. (Lewis H. Ryder) **98f:81198** 81T13 (81T15, 81T17, 81V05)

Fischer, Jan-Wilhelm Zur Approximation linearer Funktionale bei periodischen Funktionen. [On the approximation of linear functionals in periodic functions] *Abh. Braunschweig. Wiss. Ges.* **48** (1997), 67–74 (1998). 65D32 (41A55)

Fischer, Klaus G. (*with* Morris, Walter D., Jr.; Shapiro, Jay) Mixed dominating matrices. (English summary) *Linear Algebra Appl.* **270** (1998), 191–214. (K. Chandrasekhara Rao) **98j:15029** 15A57

Fischer, Marta *see* **Poggendorff, J. C., 98g:00006**

Fischer, Patrick (*with* Defranceschi, Mireille) Numerical solution of the Schrödinger equation in a wavelet basis for hydrogen-like atoms. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 1–12 (*electronic*). 65N25 (42C15, 65F10, 81Q05)

Fischer, Paul (*with* Cesa-Bianchi, Nicolò; Shamir, Eli; Simon, Hans Ulrich) Randomized hypotheses and minimum disagreement hypotheses for learning with noise (extended abstract). (English summary) *Computational learning theory (Jerusalem, 1997)*, 119–133, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05 (68Q99)

Fischer, Ronald D. (*with* Mirman, Leonard J.) Limit policies in *n*-sector dynamic growth games with externalities. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 2, 81–87. (Summary) **98k:90022** 90A16

Fischer, Sophie (*with* Torenvliet, Leen) The malleability of $TSP_{2\text{-opt}}$. (English summary) *Graph-theoretic concepts in computer science (Aachen, 1995)*, 152–166, *Lecture Notes in Comput. Sci.*, 1017, *Springer, Berlin*, 1995. (Nikolai K. Krivulin) **98c:68089** 68Q25 (90B40, 90C27, 90C60)

— (*with* Hemaspaandra, Lane A.; Torenvliet, Leen) Witness-isomorphic reductions and local search. (English summary) *Complexity, logic, and recursion theory*, 207–223, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (William Gasarch) **98f:68097** 68Q15 (03D15, 68Q05)

Fischer, Thomas Manfred Global existence of solutions of an extended Landau equation. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 44–58. (Arjen Doelman) **98i:76032** 76E05 (45J05, 76D10, 76E20)

Fischer, Werner (*with* Leschke, Hajo; Müller, Peter[1]) Towards localisation by Gaussian random potentials in multi-dimensional continuous space. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 4, 343–348. (Nariyuki Minami) **98b:81038** 81Q10 (47B80, 47N50, 82B44)

— (*with* Leschke, Hajo; Müller, Peter[1]) Comment on: "On the Coulomb potentials in one dimension" [J. Phys. A **29** (1996), no. 8, 1767–1771; MR 98k:81045a] by P. Kurasov. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5579–5581. (Summary) **98k:81045b** 81Q05 (81U05)

— *see also* **Kurasov, Pavel, 98k:81045c**

Fischetti, Matteo (*with* Caprara, Alberto; Toth, Paolo; Vigo, Daniele; Guida, Pier Luigi) Algorithms for railway crew management. (English summary) Lectures on mathematical

programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 125–141. (Summary) **98e:90221** 90C90 (90B35)

herz-Fischler, Roger *see* **Herz-Fischler, Roger**

Fischler, Willy (*with* Paban, Sonia; Rozali, Moshe) Collective coordinates for D-branes. (English summary) *Phys. Lett. B* **381** (1996), *no.* 1-3, 62–67. (From the introduction) **98b:81188** 81T30

— (*with* Banks, Tom; Seiberg, Nathan; Susskind, Leonard) Instantons, scale invariance and Lorentz invariance in matrix theory. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 111–116. (Summary) **98j:81247** 81T30

— (*with* Rajaraman, Arvind) M(atrix) string theory on $K3$. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 53–58. (Summary) **98j:81267** 81T30

— (*with* Banks, Tom; Shenker, Stephen H.; Susskind, Leonard) M theory as a matrix model: a conjecture. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5112–5128. (Robbert Dijkgraaf) **98j:81248** 81T30 (81V17, 83E30)

— (*with* Banks, Tom; Klebanov, Igor R.; Susskind, Leonard) Schwarzschild black holes from matrix theory. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 226–229. (Summary) **98k:83080** 83E30 (83C57)

Fischlin, Marc Incremental cryptography and memory checkers. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 393–408, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Fischlin, R. (*with* Schnorr, C. P.) Stronger security proofs for RSA and Rabin bits. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 267–279, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Fischman, Arão (*with* Trofino-Neto, Alexandre; Castelan, Eugênio B.) H_∞ output feedback control with state constraints. *Control of uncertain systems with bounded inputs*, 119–127, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Ian Petersen) **98i:93030** 93B36 (93B52)

Fischman, D. (*with* Bakhturin, Yu. A.; Montgomery, Susan) On the generalized Lie structure of associative algebras. (English summary) *Israel J. Math.* **96** (1996),, *part A*, 27–48. (Antonio Giambruno) **98d:16048** 16W30 (17B01)

— (*with* Montgomery, Susan; Schneider, Hans-Jürgen[2]) Frobenius extensions of subalgebras of Hopf algebras. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4857–4895. (Mitsuhiro Takeuchi) **98c:16049** 16W30

Fisette, P. (*with* Valembois, R. E.; Samin, J. C.) Comparison of various techniques for modelling flexible beams in multibody dynamics. (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 4, 367–397. (Summary) **98c:73048** 73K05 (70E99)

Fish, Jacob (*with* Shek, Kamlun; Pandheeradi, Muralidharan; Shephard, Mark S.) Computational plasticity for composite structures based on mathematical homogenization: theory and practice. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 53–73. (From the summary) **98e:73149** 73V20 (73B27, 73E99, 73K20)

— (*with* Belsky, V.) Generalized aggregation multilevel solver. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4341–4361. (Summary) **98j:65022** 65F10

Fish, Peter J. (*with* Bellis, Stephen J.; Marnane, William P.) Optimal systolic arrays for real-time implementation of the modified covariance spectral estimator. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 71–96. 65Y05 (94A12)

Fishburn, Peter C. (*with* Hammer, Peter L.) Bipartite dimensions and bipartite degrees of graphs. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 127–148. (R. Balakrishnan) **98i:05129** 05C70

— (*with* Schwander, Peter; Shepp, Larry A.; Vanderbei, Robert J.) The discrete Radon transform and its approximate inversion via linear programming. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 39–61. (Róbert Fullér) **98g:90025** 90C08 (04A72, 44A12, 65T99, 90C70)

— (*with* Hwang, Frank K.; Du, Ding Zhu; Gao, Biao) On 1-rate wide-sense nonblocking for 3-stage Clos networks. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 75–87. (Summary) **98f:05140** 05C90 (68M10)

— (*with* Erdős, Paul[1]) Distinct distances in finite planar sets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 97–132. (W. Moser) **98j:52031** 52C10

— Failure of cancellation conditions for additive linear orders. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 353–365. (N. Prabhakara Rao) **98k:06001** 06A05

— (*with* Wright, Paul E.) Bandwidth edge counts for linear arrangements of rectangular grids. (English summary) *J. Graph Theory* **26** (1997), *no.* 4, 195–202. (Yixun Lin) **98k:05125** 05C78

— Generalizations of semiorders: a review note. (English summary) *J. Math. Psych.* **41** (1997), *no.* 4, 357–366. (Summary) **98k:06003** 06A06 (92G05)

— (*with* Kelly, Jerry S.) Super Arrovian domains with strict preferences. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 83–95. (Maurice Salles) **98e:90016** 90A08

— Acyclic sets of linear orders. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 113–124. (C. G. Wagner) **98m:90011** 90A08 (05A05, 90A06)

— (*with* Edwards, Ward) Discount-neutral utility models for denumerable time streams. (English summary) *Theory and Decision* **43** (1997), *no.* 2, 139–166. (Irving H. LaValle) **98m:90023** 90A10 (90A06)

— Isosceles planar subsets. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 391–398. (Summary) **98k:52039** 52C10

Fisher, B. *see* **Fisher, Brian**

Fisher, Benji A note on Hensel's lemma in several variables. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3185–3189. (Giuseppe Paxia) **98b:13022** 13J15 (13B40)

Fisher, Brian (*with* Taş, Kenan; Telci, Mustafa) A common fixed point theorem for three mappings. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 63–67. 54H25

— (*with* Yakubovich, Semën B.; Chen, Yongping) Some non-commutative neutrix convolution products of functions. (English summary) *Math. Balkanica (N.S.)* **9** (1995), *no.* 4, 287–297. (Arpad Takači) **98c:46075** 46F10

— (*with* Kiliçman, Adem; Pehlivan, Serpil) On the neutrix convolution product $\ln x_- \boxdot \ln x_+$. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **28** (1995), 132–138. (Summary) **98c:46078** 46F10

— (*with* Kiliçman, Adem) On the non-commutative neutrix product $x_+^{-r} \circ x_+^{-s}$. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **28** (1995), 139–146. (Summary) **98c:46076** 46F10

— (*with* Pathak, H. K.) Common fixed point theorems with applications in dynamic programming. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 321–328. (George Isac) **98d:47138** 47H10 (47N10, 49L20, 90C39)

— (*with* Kiliçman, Adem) A commutative neutrix product of ultradistributions. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 77–82. (Summary) **98j:46036** 46F10

— (*with* Jain, Rajendra Kumar[1]; Sahu, H. K.) Related fixed point theorems for three metric spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 11–17. 54H25

— (*with* Pathak, H. K.) A common fixed point theorem for compatible mappings on a normed vector space. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 3, 245–251. (J. Matkowski) **98m:47097** 47H10 (54H25)

— (*with* Chen, Yongping) Generalizations of non-commutative neutrix convolution products of functions. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 413–419. (Arpad Takači) **98i:46037** 46F10

— (*with* Murthy, P. P.) Related fixed point theorems for two pairs of mappings on two metric spaces. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 343–347. (S. Swaminathan) **98k:54081** 54H25

— (*with* Namdeo, R. K.; Tiwari, Narendra Kumar; Taş, Kenan) Related fixed point theorems on two complete and compact metric spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 559–563. 54H25

Fisher, D. Grant (*with* Niu, Steve S.) Detecting parameter identifiability problems in system identification. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 603–619. 93B30 (93E12)

Fisher, David C. (*with* Fraughnaugh, Kathryn L.; Langley, Larry) P_3-connected graphs of minimum size. (English summary) *Ars Combin.* **47** (1997), 299–306. (Summary) **98j:05089** 05C40 (05C35)

— (*with* Fraughnaugh, Kathryn L.; Langley, Larry; West, Douglas B.) The number of dependent arcs in an acyclic orientation. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 73–78. (L. W. Beineke) **98g:05066** 05C20 (05C38)

— (*with* Beel, Sarah R.) The 2-packing number of 3-dimensional grids. (English summary) *Ars Combin.* **48** (1998), 245–256. (Summary) **98m:05041** 05B45

Fisher, Doug *see* **Learning from data, 98d:68195**

Fisher, Eric O'N. A note on the core of a monetary economy. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 425–434. (Stanislav Palúch) **98m:90044** 90A56 (90A14)

Fisher, Evan (*with* Lee, Travis; Minzner, Max) The length of an excursion above a linear boundary by a random walk. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 397–402. (Summary) **98e:60113** 60J15

Fisher, J. Chris (*with* Karzel, Helmut; Kiechle, Hubert) Bundles of conics derived from planar projective incidence groups. *J. Geom.* **59** (1997), *no.* 1-2, 34–45. (Gary L. Ebert) **98f:51026** 51J10 (51A30)

— (*with* Coxeter, Harold Scott MacDonald; Wilker, J. B.) Coordinates for the regular complex polygons. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 527–548. (Egon Schulte) **98b:52012** 52B05 (51M20)

Fisher, Kathleen (*with* Mitchell, John C.) A delegation-based object calculus with subtyping. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 42–61, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68N15

— (*with* Di Blasio, Paolo) A calculus for concurrent object. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 655–670, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68N15 (68Q10, 68Q55)

— (*with* Mitchell, John C.) On the relationship between classes, objects and data abstraction. (English summary) *Mathematical methods in program development* (*Marktoberdorf*, 1996), 371–407, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (*see* **98k:68010**) 68N15 (68N05)

Fisher, Michael Ellis (*with* Longuet-Higgins, H. Christopher) Lars Onsager (27 November, 1903–5 October, 1976). *The collected works of Lars Onsager*, 9–34, *World Sci. Ser. 20th Century Phys.*, 17, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98b:01042**) 01A70

Fisher, Nicholas I. (*with* Hall, Peter Gavin; Jing, Bing-Yi; Wood, Andrew T. A.) Improved pivotal methods for constructing confidence regions with directional data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1062–1070. (Hung Trung Nguyen) **98f:62121** 62G09 (62G15)

Fisher, P. H. A note on almost partial geometries. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 137–139. (Dirk Hachenberger) **98m:51006** 51E14 (05B25)

Fisher, Ronald Aylmer *see* **Aldrich, John, 98m:62006** *and* **Edwards, A. W. F., 98m:62007**

Fisher, Stephen D. (*with* Micchelli, Charles A.) Minimal norm interpolation with nonnegative real part on multiply connected planar domains. *Michigan Math. J.* **44** (1997), *no.* 1, 167–181. (Kristian Seip) **98c:46052** 46E20 (30D55, 30E05, 93B30)

— (*with* Shapiro, Jonathan E.) Singular factors are rare. *Michigan Math. J.* **44** (1997), *no.* 2, 231–237. (Keiji Izuchi) **98j:30039** 30D55 (46E20)

Fishman, L. Z. Determination of unsafe and safe boundaries of the domain of stability of equations with delay. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 788–791, 862; *translation in Differential Equations* **32** (1996), *no.* 6, 794–797 (1997). (Pyotr M. Simonov) **98e:34137** 34K20 (34D20)

— On the preservation of equilibrium states and their stability under replacement of the continuous system by a discrete system constructed by the Runge-Kutta method. (Russian) *Mat. Zametki* **59** (1996), *no.* 5, 784–787; *translation in Math. Notes* **59** (1996), *no.* 5-6, 568–571. (Alexander O. Ignat'ev) **98d:34020** 34A45 (34C05, 34D99, 65L05)

— On discrete systems constructed by the Adams and the Nyström methods. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 110–117; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1330–1336 (1998). 93C55 (49M25)

— Preservation of the properties of second-order differential equations under discretization. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 6, 739–741. (From the text) **98a:34016** 34A45 (34C23, 34D20, 65L99)

— On a property of multistep difference methods for ordinary differential equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1068–1077. (Mark J. Friedman) **98j:34018** 34A45 (34C30, 65L06)

Fishman, Louis (*with* Gautesen, A. K.; Sun, Zhiming) Uniform high-frequency approximations of the square root Helmholtz operator symbol. (English summary) *Wave Mo-*

tion **26** (1997), *no.* 2, 127–161. (Summary) **98d:65133** 65N06 (35P05, 73D25, 76Q05, 78A45)

Fishman, Shmuel Quantum localisation. *Quantum dynamics of simple systems* (*Stirling*, 1994), 115–151, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (*see* **98m:81003**) 81Q50

— (*with* Keating, Jonathan P.) The diagonal approximation for non-time-reversal-symmetric systems. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L*313–*L*319. 81Q50 (82B44)

— (*with* Iomin, A.; Gangardt, D.) Nonlinear dynamics in periodic phase space. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4054–4062. (Summary) **98m:82037** 82C05 (58F40, 78A35)

Fishtik, Ilie (*with* Geană, Dan; Gutman, Ivan M.; Nagypál, István) Joule-Thomson coefficient in systems with multiple chemical equilibria. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 365–384 (1997). (Giles Auchmuty) **98g:80002** 80A15 (80A30)

Fisk, Steve Homology of projective space over finite fields. *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 309–312. (J. W. P. Hirschfeld) **98f:51016** 51E99

Fitouhi, A. (*with* Mahmoud, N. H.; Mahmoud, S. A. Ould Ahmed) Polynomial expansions for solutions of higher-order Bessel heat equations. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 155–167. (Patrice Sawyer) **98j:33003** 33C10 (35C99, 35K05)

Fitspatrik, P. M. *see* **Fitzpatrick, Patrick M.**

Fitt, A. D. When Tuck's double integral which should (?) vanish does. (English summary) *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 1, 22–25. (E. R. Love) **98e:26015** 26B35 (30E20, 40A10, 45E05)

raynaud de Fitte, Paul *see* **Raynaud de Fitte, Paul**

Fitting, Melvin Annotated revision specification programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 143–155, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98d:68191** 68T30 (03B70, 68N17, 68P15)

— (*with* Smullyan, Raymond M.) ★ Set theory and the continuum problem. Oxford Logic Guides, 34. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xiv+288 *pp. ISBN* 0-19-852395-5 (J. M. Plotkin) **98a:03071** 03Exx (03-01, 03-02)

— A modal Herbrand theorem. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 101–122. (Lilija A. Chagrova) **98b:03028** 03B45

— A theory of truth that prefers falsehood. (English summary) *J. Philos. Logic* **26** (1997), *no.* 5, 477–500. (Summary) **98f:03021** 03B50 (03A05)

— leanTAP revisited. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 33–47. (Summary) **98i:68246** 68T15 (03B35, 03F07)

Fittipaldi, Ivon P. (*with* Stošić, Borko D.; Stošić, Tatjana; Veerman, J. J. P.) Residual entropy of the square Ising antiferromagnet in the maximum critical field: the Fibonacci matrix. (English summary) *J. Phys. A* **30** (1997), *no.* 10, L331–L337. (Summary) **98f:82033** 82B20 (15A57)

Fittro, R. (*with* Knospe, C. R.; Tamer, S. M.) Rotor synchronous response control: approaches for addressing speed dependence. (English summary) *J. Vib. Control* **3** (1997), *no.* 4, 435–458. 93C95

Fitzenberger, Bernd The moving blocks bootstrap and robust inference for linear least squares and quantile regressions. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 235–287. (Summary) **98m:62127** 62G09 (62P20)

Fitzgerald, Robert W. Local Artinian rings and the Fröberg relation. *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1351–1369. (Şerban Bărcănescu) **98j:13015** 13E10

— Gorenstein Witt rings. II. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 499–519. (Murray Marshall) **98f:11031** 11E81 (12F05, 13H10)

Fitzgibbon, William E. (*with* Hollis, S. L.; Morgan, J. J.) Stability and Lyapunov functions for reaction-diffusion systems. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 595–610. (Ying Guo Lei) **98d:35107** 35K57 (35B35)

Fitzpatrick, Ben G. (*with* Ackleh, Azmy S.) Estimation of discontinuous parameters in general nonautonomous parabolic systems. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika* (*Prague*) **32** (1996), *no.* 6, 543–556. (Ulrich Tautenhahn) **98z:65131** 65M30 (65J20)

— (*with* Ackleh, Azmy S.) Modeling aggregation and growth processes in an algal population model: analysis and computations. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 480–502. (Summary) **98i:92040** 92D40 (35Q80)

— (*with* Demetriou, Michael A.) An adaptive change detection scheme for a nonlinear beam model. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 103–120. (*see* **98g:93001**) 93E10 (73K05, 73K50, 93B05, 93C20)

— (*with* Bailey, K. R.) Estimation of groundwater flow parameters using least squares. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 117–127. 76M20 (76S05, 86A05)

Fitzpatrick, Patrick Solving a multivariable congruence by change of term order. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 5, 575–589. (Jonathan Pila) **98k:13030** 13P10 (68Q40)

Fitzpatrick, Patrick M. (*with* Pejsachowicz, Jacobo; Recht, Lázaro) Spectral flow and bifurcation of critical points. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 743–747. (Thomas Bartsch) **98k:47021** 47A53 (58E05)

— (*with* Pejsachowicz, Jacobo) Complement of a mapping at a singular point of maximal rank. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 97–107; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 2, 90–99. (Ulrich Kosel) **98j:47145** 47H15 (47H11, 58E07)

Fitzpatrick, S. P. (*with* Hood, M. J.) A Fourier transform exercise. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 2, 74–75. 35K10 (35R05)

— (*with* Dragomir, Sever Silvestru) s-Orlicz convex functions in linear spaces and Jensen's discrete inequality. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 419–439. (Constantin Zălinescu) **98d:46045** 46G99 (26A51, 26D07, 46N10)

Fitzsimmons, P. J. (*with* Getoor, R. K.) Smooth measures and continuous additive functionals of right Markov processes. (English summary) *Itô's stochastic calculus and probability theory*, 31–49, *Springer, Tokyo*, 1996. (M. G. Shur) **98g:60137** 60J55 (60J40)

— Absolute continuity of symmetric diffusions. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 230–258. (Yoichi Ōshima) **98c:60097** 60J60 (31C25)

Fivel, Daniel I. Implications of the Markov property of quantum mechanics for the analysis of the EPR problem. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 123–126, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81P05

— Dynamical reduction theory of Einstein-Podolsky-Rosen correlations and a possible origin of CP violations. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 146–156. (M. J. Mączyński) **98g:81016** 81P10

Fix, George J. (*with* Bedivan, Dana M.) Analysis of finite element approximation and quadrature of Volterra integral equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 663–672. (Jose Cuminato) **98i:65119** 65R20 (45L05)

Fix, Limor (*with* Grumberg, Orna) Verification of temporal properties. (English summary) *J. Logic Comput.* **6** (1996), *no.* 3, 343–361. (G. Mirkowska) **98i:68188** 68Q60 (03B35, 03B45)

Fjällström, Per-Olof (*with* Petersson, Jan; Nilsson, Larsgunnar; Zhong, Zhi-Hua) Evaluation of range searching methods for contact searching in mechanical engineering. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 67–83. 73V20 (73D05)

Fjelstad, Paul T. Limitless calculus via ethereal numbers. With loose erratum. *UMAP J.* **15** (1994), *no.* 2, 161–174. (Augustin Fruchard) **98a:03106** 03H05 (26E35)

fon-der-Flaass, D. G. *see* **Fon-Der-Flaass, D. G.**

Flach, M. (*with* Burns, David J.) Motivic L-functions and Galois module structures. *Math. Ann.* **305** (1996), *no.* 1, 65–102. (Introduction) **98g:11127** 11R33 (11G40)

Flach, S. (*with* Willis, C. R.) Discrete breathers. (English summary) *Phys. Rep.* **295** (1998), *no.* 5, 181–264. (C. Eugene Wayne) **98k:58186** 58F22 (34C25, 82C21)

Flachsmeyer, Jürgen (*with* Katrnoška, František) On the number of the idempotents of some matrix rings. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 129–132. (Summary) **98f:15012** 15A30

Flagg, Robert C. (*with* Kopperman, Ralph) Fixed points and reflexive domain equations in categories of continuity spaces. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68150** 68Q55

— (*with* Kopperman, Ralph) Tychonoff poset structures and auxiliary relations. *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 45–61, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Shu Hao Sun) **98g:06002** 06A06 (06B35, 54D15, 54E55, 54F05)

— (*with* Kopperman, Ralph) Computational models for ultrametric spaces. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 9 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68151** 68Q55 (06B35, 54E35)

— Quantales and continuity spaces. *Algebra Universalis* **37** (1997), *no.* 3, 257–276. (Shu Hao Sun) **98g:06018** 06D10 (06A23, 54E25)

— (*with* Kopperman, Ralph) Continuity spaces: reconciling domains and metric spaces. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 111–138. (Summary) **98k:68152** 68Q55

— Algebraic theories of compact pospaces. (English summary) *Topology Appl.* **77** (1997), *no.* 3, 277–290. (Peter Johnstone) **98f:18009** 18C15 (54D25, 54D30, 54D35, 54F05)

Flaherty, Joseph E. (*with* Turner, W. D.; Dey, Saikat; Shephard, Mark S.) Multilevel preconditioned QMR methods for unstructured mesh computation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 339–351. (*see* **98f:73002**) 65F10 (65N30)

— (*with* Dey, Saikat; Shephard, Mark S.) Geometry representation issues associated with p-version finite element computations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 39–55. (Summary) **98i:65096** 65N30

— (*with* Givoli, Dan; Shephard, Mark S.) Parallel adaptive finite element analysis of viscous flows based on a combined compressible-incompressible formulation. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 880–906. (From the introduction) **98k:76089** 76M10

— (*with* Moraes, Augusto C. M.; Nagamatsu, Henry T.) Compressible laminar boundary layers for perfect and real gases in equilibrium to $M_\infty = 30$ and $T_0 = 10000K$. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 4, 275–292. 76K05 (76M10, 76N20)

— (*with* Shephard, Mark S.; Bottasso, C. L.; de Cougny, H. L.; Özturan, Can; Simone, M. L.) Parallel automatic adaptive analysis. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1327–1347. (*see* **98f:76004**) 65Y05 (65M55, 73V20, 76M25)

— (*with* Loy, R. M.; Özturan, Can; Shephard, Mark S.; Szymanski, Boleslaw K.; Teresco, J. D.; Ziantz, L. H.) Parallel structures and dynamic load balancing for adaptive finite element computation. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 241–263. (*see* **98i:65004**) 65M50 (65Y05)

Flajolet, Philippe (*with* Gourdon, Xavier; Panario, Daniel) Random polynomials and polynomial factorization. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 232–243, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68123** 68Q40

— (*with* Wang, Zhen Yu[†]) Some enumeration characteristics of recursive trees. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 198–203. (Summary) **98j:05053** 05C05

— (*with* Gourdon, Xavier; Martínez, Conrado) Patterns in random binary search trees. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 223–244. (Robert P. Dobrow) **98m:68042** 68P05 (68R10)

— (*with* Vallée, Brigitte) Continued fraction algorithms, functional operators, and structure constants. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 1–34. (Douglas Hensley) **98j:11061** 11K50 (11A55, 11Y65, 60F99)

— *see also* **Average-case analysis of algorithms, 98k:68003**

Flak, T. (*with* Schmid, Wolfgang P.) Extreme sums of strictly stationary sequences of m-dependent variables. (English summary) *Sankhyā Ser. A* **57** (1995), *no.* 2, 186–201. (Georg Lindgren) **98a:60071** 60G70

Flåm, Sjur Didrik Approaches to economic equilibrium. (English summary) *J. Econom. Dynam. Control* **20** (1996), *no.* 9-10, 1505–1522. (Summary) **98e:90041** 90A14

— (*with* Evstigneev, Igor V.) Noncooperative games in networks; stability and sensitivity of equilibria. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 62–75, *SIAM, Philadelphia, PA*, 1997. (Vivek S. Borkar) **98c:90192** 90D10 (90D46)

— Gradient approaches to equilibrium. (English summary) *Recent advances in optimization* (*Trier*, 1996), 49–60, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:90115** 90C25 (90C30)

Flammang, V. Inégalités sur la mesure de Mahler d'un polynôme. (English and French summaries) [Inequalities for the Mahler measure of a polynomial] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 69–74. (D. Boyd) **98d:11128** 11R06 (11C08)

— (*with* Rhin, G.; Smyth, C. J.) The integer transfinite diameter of intervals and totally real algebraic integers. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 137–168. (D. Boyd) **98g:11119** 11R06

Flammenkamp, Achim Progress in the no-three-in-line problem. II. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 108–113. (Summary) **98j:05048** 05B99

Flammini, A. (*with* Maritan, A.; Banavar, J. R.; Cieplak, M.; Colaiori, F.; Giacometti, A.; Rinaldo, A.; Rodriguez-Iturbe, I.) Statistical mechanics of river networks. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 262–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 86A05 (82–02, 82B99)

Flammini, Michele (*with* Gambosi, Giorgio; Nanni, Umberto; Tan, Richard B.) Multi-dimensional interval routing schemes. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 131–144, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68Q10)

— (*with* Eilam, Tamar; Zaks, Shmuel) A complete characterization of the path layout construction problem for ATM networks with given hop count and load (extended abstract). (English summary) *Automata, languages and programming* (*Bologna*, 1997), 527–537, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68M10 (90B12)

— Deadlock-free interval routing schemes. (English summary) *STACS* 97 (*Lübeck*), 351–362, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68M10

— On the hardness of devising interval routing schemes. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 1, 39–47. (Summary) **98d:68026** 68M10 (68Q25)

— (*with* Gambosi, Giorgio) On devising Boolean routing schemes. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 171–198. (Sudhangshu B. Karmakar) **98i:68023** 68M10 (05C85)

Flanagan, Éanna É. Quantum inequalities in two-dimensional Minkowski spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4922–4926. (Summary) **98g:81133** 81T15 (81T10)

van Flandern, Tom *see* **Van Flandern, Tom**

Flandoli, Franco (*with* Schmalfuß, Björn) Random attractors for the 3D stochastic Navier-Stokes equation with multiplicative white noise. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 1-2, 21–45. (Krystyna Twardowska) **98g:60113** 60H15 (35B40, 35Q30, 35R60)

— (*with* Crauel, Hans; Debussche, Arnaud) Random attractors. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 307–341. (Björn Schmalfuss) **98c:60066** 60H15 (35B40, 35Qxx, 35R60, 47H20, 58F11, 58F12, 76D05)

— Irreducibility of the 3-D stochastic Navier-Stokes equation. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 160–177. (Peter E. Kloeden) **98j:35195** 35R60 (35Q30, 60H15, 76D05)

Flandre, Olivier Four results about self-blocking clutters. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 51–62. (T. T. Raghunathan) **98i:05123** 05C65

Flandrin, Evelyne (*with* Faudree, Ralph J.; Favaron, Odile; Li, Hao[1]) Pancyclism and small cycles in graphs. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 1, 27–40. (Yong Bing Shi) **98f:05097** 05C38

— (*with* Faudree, Ralph J.; Ryjáček, Zdeněk) Claw-free graphs—a survey. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 87–147. (Hao Li) **98f:05106** 05C45 (05C38, 05C70)

Flannery, Brian P. (*with* Press, William H.; Teukolsky, Saul A.; Vetterling, William T.) ★ Numerical recipes in Fortran 90. The art of parallel scientific computing. Second edition. With a foreword by Michael Metcalf. With separately available software. Fortran Numerical Recipes, 2. *Cambridge University Press, Cambridge*, 1996. *pp.* i–xx *and* 935–1486. *ISBN* 0-521-57439-0 (Ian Gladwell) **98a:65001a** 65–00 (65–04, 65Y05, 65Y15)

— (*with* Press, William H.; Teukolsky, Saul A.; Vetterling, William T.) ★ Numerical recipes in Fortran 77 and Fortran 90. The art of scientific and parallel computing. Second edition diskette v 2.06h. *Cambridge University Press, Cambridge*, 1996. 1 *IBM-PC floppy disk* (3.5 *inch*; *HD*). *ISBN* 0-521-57440-4 (Ian Gladwell) **98a:65001b** 65–00 (65–04, 65Y05, 65Y15)

— (*with* Press, William H.; Teukolsky, Saul A.; Vetterling, William T.) ★ Numerical recipes: the art of scientific computing. Code CD-ROM v 2.06 with Windows, DOS, or Macintosh single-screen license. *Cambridge University Press, Cambridge*, 1996. 1 *disk*. *ISBN* 0-521-57608-3 (Ian Gladwell) **98a:65001c** 65–00 (65–04, 65Y05, 65Y15)

— (*with* Press, William H.; Teukolsky, Saul A.; Vetterling, William T.) ★ Numerical recipes: the art of scientific computing. Code CD-ROM v 2.06 with UNIX single-screen license. *Cambridge University Press, Cambridge*, 1996. 1 *disk*. *ISBN* 0-521-57607-5 (Ian Gladwell) **98a:65001d** 65–00 (65–04, 65Y05, 65Y15)

Flannery, D. L. Cocyclic Hadamard matrices and Hadamard groups are equivalent. (English summary) *J. Algebra* **192** (1997), *no.* 2, 749–779. (Kathryn J. Horadam) **98f:20036** 20J05 (05B20, 20D99)

— The finite irreducible linear 2-groups of degree 4. (English summary) *Mem. Amer. Math. Soc.* **129** (1997), *no.* 613, viii+77 *pp.* (Wolfgang Knapp) **98b:20078** 20H20 (20C15, 20D15, 20J06)

Flaschka, Hermann Integrable systems and torus actions. *Lectures on integrable systems* (*Sophia-Antipolis*, 1991), 43–101, *World Sci. Publishing, River Edge, NJ*, 1994. (From the introduction) **98m:58052** 58F07 (58F05)

— (*with* Ratiu, Tudor S.) A convexity theorem for Poisson actions of compact Lie groups. (English summary) *Ann. Sci. École Norm. Sup.* (4) **29** (1996), *no.* 6, 787–809. (Karl-Hermann Neeb) **98a:58068** 58F05 (22E46)

— (*with* Bloch, Anthony M.; El Hadrami, Mohamed Ould; Ratiu, Tudor S.) Maximal tori of some symplectomorphism groups and applications to convexity. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 201–222, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Valentino Zocca) **98k:58029** 58D05 (22E65, 58F05)

— (*with* Ratiu, Tudor S.) A Morse-theoretic proof of Poisson Lie convexity. *Integrable systems and foliations/Feuilletages et systèmes intégrables* (*Montpellier*, 1995), 49–71, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Joachim Hilgert) **98d:58058** 58F05 (22E15, 57S15)

Flato, Moshé (*with* Simon, Jacques Charles-Henri; Taflin, Erik) The Maxwell-Dirac equations: asymptotic completeness and the infrared problem. (English summary) *The state of matter* (*Copenhagen*, 1992), 265–278, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 81R20 (35Q40, 81Q05, 81V10)

— (*with* Dito, Giuseppe; Sternheimer, Daniel; Takhtajan, Leon A.) Deformation quantization and Nambu mechanics. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 1–22. (Summary) **98f:58088** 58F06 (70H99, 81S10)

— (*with* Dito, Giuseppe) Generalized abelian deformations: application to Nambu mechanics. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 107–125. (Markus J. Pflaum) **98f:58089** 58F06 (58H15)

Flatto, Leopold The waiting time distribution for the random order service $M/M/1$ queue. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 382–409. (Ravi Mazumdar) **98d:60179** 60K25

— (*with* Lagarias, Jeffrey C.) The lap-counting function for linear mod one transformations. II. The Markov chain for generalized lap numbers. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 123–146. (Makoto Mori) **98e:58139** 58F20

— (*with* Lagarias, Jeffrey C.) The lap-counting function for linear mod one transformations. III. The period of a Markov chain. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 369–403. (Makoto Mori) **98e:58140** 58F20

— (*with* Coffman, Edward G., Jr.; Gilbert, E. N.; Greenberg, A. G.) An approximate model of processor communication rings under heavy load. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 61–67. (Summary) **98h:68015** 68M10

Flavin, James N. (*with* Rionero, Salvatore) ★ Qualitative estimates for partial differential equations. An introduction. Library of Engineering Mathematics. *CRC Press, Boca Raton, FL*, 1996. xx+368 *pp. ISBN* 0-8493-8512-1 (M. S. Agranovich) **98a:35003** 35Bxx (35–01, 35–02)

Fleckinger, Jacqueline Pellé (*with* Manásevich, R. F.; Stavrakakis, Nikos M.; de Thélin, François) Principal eigenvalues for some quasilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 981–1003. (Summary) **98m:35060** 35J65 (35B05, 35P15)

— (*with* Boccardo, Lucio; de Thélin, François) Elliptic systems with various growth. *Reaction diffusion systems* (*Trieste*, 1995), 59–66, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Rolando Magnanini) **98i:35041** 35J45

— (*with* Hernández, Jesús; Takáč, Peter; de Thélin, François) Uniqueness and positivity for solutions of equations with the p-Laplacian. *Reaction diffusion systems* (*Trieste*, 1995), 141–155, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Rolando Magnanini) **98h:35074** 35J65

Fleckinger, V. (*with* Kolster, M.; Nguyen Quang Do, T.) Correction to: "Twisted S-units, p-adic class number formulas, and the Lichtenbaum conjectures" [Duke Math. J. **84** (1996), no. 3, 679–717; MR 97g:11136]. *Duke Math. J.* **90** (1997), *no.* 3, 641–643. (Cornelius Greither) **98k:11172** 11R70 (11R23, 11R34, 11R42, 19F27)

Fleckinger-Pellé, Jacqueline *see* **Fleckinger, Jacqueline Pellé**

Fleige, Andreas ★ Spectral theory of indefinite Krein-Feller differential operators. (English summary) Mathematical Research, 98. *Akademie Verlag, Berlin*, 1996. 133 *pp. ISBN* 3-05-501742-0 (Björn Textorius) **98c:47058** 47E05 (34L05, 34L10, 47B50)

— A counterexample to completeness properties for indefinite Sturm-Liouville problems. (English summary) *Math. Nachr.* **190** (1998), 123–128. (Summary) **98k:34037** 34B24 (34L10, 34L40)

Fleiner, Tamás Covering a symmetric poset by symmetric chains. (English summary) *Combinatorica* **17** (1997), *no.* 3, 339–344. (Summary) **98k:06005** 06A07 (05C70)

Fleischer, Gunter (*with* Hofmann, Bernd) The local degree of ill-posedness and the autoconvolution equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3323–3332. (*see* **98h:00034**) 47H17 (65J20)

Fleischer, Isidore A Vitali-like convergence theorem for the Henstock integral. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 174–176. (R. G. Bartle) **98b:26008** 26A39 (28A20)

Fleischer, Jochem (*with* Kotikov, A. V.; Veretin, O. L.) The differential equation method: calculation of vertex-type diagrams with one non-zero mass. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 163–172. (Summary) **98k:81179** 81T18

Fleischer, Lisa (*with* Tardos, Éva) Separating maximally violated comb inequalities in planar graphs. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 475–489, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98a:05134** 05C85 (90C27)

Fleischer, Rudolf (*with* Das, Gautam; Gąsieniec, Leszek; Gunopulos, Dimitris; Kärkkäinen, Juha) Episode matching. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 12–27, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68040** 68Q20

— (*with* Bradford, Phillip G.; Smid, Michiel) More efficient parallel totally monotone matrix searching. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 386–400. (Ming Kui Chen) **98g:65037** 65F30 (65Y05)

Fleischer, V. (*with* Knauer, Ulrich) Right and left PP-endomorphism monoids of free right acts. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 101–109, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexey Vernitskiĭ) **98j:20097** 20M50 (20M30)

Fleischhack, Hans (*with* Best, Eike; Frączak, Wojciech; Hopkins, Richard P.; Klaudel, Hanna; Pelz, Elisabeth) A class of composable high level Petri nets. (English summary)

Application and theory of Petri nets 1995 (*Turin*), 103–120, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)
— (*with* Gronewold, Anja) Computing Petri net languages by reductions. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 253–262, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q90 (68Q45)
Fleischhacker, Louis Eduard Mathematics as the paradigm for metaphysics. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 311–321, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 00A30
Fleischmann, Bernhard (*with* Meyr, Herbert) The general lotsizing and scheduling problem. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 1, 11–21. (Summary) **98c:90047** 90B35 (90C40)
Fleischmann, Klaus (*with* Evans, Steven N.) Cluster formation in a stepping-stone model with continuous, hierarchically structured sites. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 1926–1952. (Summary) **98g:60179** 60K35 (60B15, 60J30, 60J60)
— (*with* Dawson, Donald A.) A continuous super-Brownian motion in a super-Brownian medium. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 213–276. (Steven N. Evans) **98a:60062** 60G57 (60J60, 60K35)
— (*with* Mueller, Carl Eric) A super-Brownian motion with a locally infinite catalytic mass. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 325–357. (Xue Lei Zhao) **98f:60090** 60G57 (60J55, 60J80)
— (*with* Etheridge, Alison M.) Persistence of a two-dimensional super-Brownian motion in a catalytic medium. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 1, 1–12. (Xue Lei Zhao) **98k:60149** 60J80 (60G57, 60K35)
Fleischmann, Peter Primitive p-Frobenius groups and p-intersection subgroups of finite groups. (English summary) *Darstellungstheoretage Jena* 1996, 37–46, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Peter Müller) **98b:20003** 20B15 (20D05)
— (*with* Roelse, Peter) Comparative implementations of Berlekamp's and Niederreiter's polynomial factorization algorithms. (English summary) *Finite fields and applications* (*Glasgow*, 1995), 73–83, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (Bernard J. M. Smeets) **98a:12009** 12Y05 (68Q40)
— (*with* Lempken, W.) On generators of modular invariant rings of finite groups. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 585–591. (Andrzej Tyc) **98g:13005** 13A50 (20C05)
— Finite fields, root systems, and orbit numbers of Chevalley groups. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 1, 33–47. (Demetris I. Deriziotis) **98a:20049** 20G40
— (*with* Lempken, W.; Tiep, Pham Huu) Finite p'-semiregular groups. *J. Algebra* **188** (1997), *no.* 2, 547–579. (I. M. Isaacs) **98b:20007** 20C15 (20C20)
— Polynomial identities for orbit numbers of general linear and unitary groups over finite fields. (English summary) *Linear Algebra Appl.* **253** (1997), 341–362. (Summary) **98i:20051** 20G40
— (*with* Paar, Christof; Roelse, Peter) Efficient multiplier architectures for Galois fields GF(2^{4n}). (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 162–170. (Summary) **98m:68004** 68M07 (68Q35)
— (*with* Janiszczak, I.; Knörr, R.) The number of regular semisimple classes of special linear and unitary groups. *Linear Algebra Appl.* **274** (1998), 17–26. (Jürgen Müller) **98m:20063** 20G40 (20D06)
— (*with* Lempken, W.; Tiep, Pham Huu) The primitive p-Frobenius groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1337–1343. (Krasarm K. Shchukin) **98j:20002** 20B15
— A new degree bound for vector invariants of symmetric groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1703–1712. (Dmitri I. Panyushev) **98i:13008** 13A50 (20C30)
Fleming, Gordon N. A GHZ argument for a single spinless particle. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 646–653, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P15
mackenzie-Fleming, Kirsten *see* **Mackenzie-Fleming, Kirsten**
Fleming, Peter J. (*with* Baxter, M. J.; Tokhi, M. O.) A generic approach to parallelizing and developing control algorithms for heterogeneous architectures. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 443–460. (*see* **98e:93001**) 93B40 (65Y05)
bulman-Fleming, Sydney *see* **Bulman-Fleming, Sydney**
Fleming, Thomas R. (*with* Shen, Yu^3) Weighted mean survival test statistics: a class of distance tests for censored survival data. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 269–280. (Benjamin Epstein) **98e:62142** 62N05 (62G05)
— (*with* Shen, Yu^3) Large sample properties of some survival estimators in heterogeneous samples. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 1, 123–138. (Benjamin Epstein) **98g:62189** 62N05 (62E20)
Fleming, Wendell (*with* Duffie, Darrell; Soner, Halil Mete; Zariphopoulou, Thaleia) Hedging in incomplete markets with HARA utility. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 753–782. (Summary) **98b:90030** 90A16 (49L20)
— (*with* Hernández-Hernández, Daniel) Risk-sensitive control of finite state machines on an infinite horizon. I. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1790–1810. (Tim Zajic) **98k:93119** 93E20 (49L20, 93B36)
Flenner, Hubert (*with* Vogel, Wolfgang) Limits of joins and intersections. *Higher-dimensional complex varieties* (*Trento*, 1994), 209–220, *de Gruyter, Berlin*, 1996. (Rüdiger Achilles) **98k:14004** 14C17 (14N05)
— (*with* Manaresi, Mirella) Intersections of projective varieties and generic projections. (English summary) *Manuscripta Math.* **92** (1997), *no.* 3, 273–286. (Susan J. Colley) **98c:14005** 14C17 (14E22, 14N05)
— (*with* Ulrich, Bernd; Vogel, Wolfgang) On limits of joins of maximal dimension. *Math. Ann.* **308** (1997), *no.* 2, 291–318. (Allen B. Altman) **98h:13013** 13C15 (13C40, 14C17)
Flensted-Jensen, M. (*with* van den Ban, Erik P.; Schlichtkrull, Henrik) Harmonic analysis on semisimple symmetric spaces: a survey of some general results. (English summary) *Representation theory and automorphic forms* (*Edinburgh*, 1996), 191–217, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:43005** 43A85 (22E45)
Flesaker, Bjorn (*with* Hughston, Lane P.) Dynamic models for yield curve evolution. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 294–314, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
Flesch, Janos (*with* Thuijsman, Frank; Vrieze, Koos) Cyclic Markov equilibria in stochastic games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 303–314. (Said Hamadene) **98h:90114** 90D15 (93E05)
Flessas, George (*with* Govinder, K. S.; Leach, P. G. L.) Characterisation of the algebraic properties of first integrals of scalar ordinary differential equations of maximal symmetry. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 349–374. (Maria Clara Nucci) **98h:34014** 34A30 (58F35)
— *see also* **Coule, D. H., 98d:83031**
iano-Fletcher, Anthony R. *see* **Iano-Fletcher, Anthony R.**
Fletcher, Peter (*with* Frith, J.; Hunsaker, Worthen N.; Schauerte, A.) The Nachbin quasi-uniformity of a bi-Stonian space. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 322–326. (Summary) **98g:54056** 54E15 (03G10, 06D20, 54E05, 54F05)
Fletcher, Roger (*with* Al-Homidan, Suliman) Hybrid methods for finding the nearest Euclidean distance matrix. (English summary) *Recent advances in nonsmooth optimization*, 1–17, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:90009**) 90C30 (65F15)
— (*with* Buhmann, Martin D.) M. J. D. Powell's contributions to numerical mathematics. *Approximation theory and optimization* (*Cambridge*, 1996), 1–30, *Cambridge Univ. Press, Cambridge*, 1997. (Editors) **98k:01017** 01A70 (65–03)
— (*with* Grothey, Andreas; Leyffer, Sven) Computing sparse Hessian and Jacobian approximations with optimal hereditary properties. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 37–52, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98e:90155** 90C30 (65F50)
— (*with* Johnson, Tom) On the stability of null-space methods for KKT systems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 938–958. (Hubertus Th. Jongen) **98f:65049** 65F30 (90C25)
Fleurbaey, M. (*with* Maniquet, F.) Implementability and horizontal equity imply no-envy. *Econometrica* **65** (1997), *no.* 5, 1215–1219. 90A09 (90A14)
Fleury, C. (*with* Zhang, Wei-Hong) A modification of convex approximation methods for structural optimization. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 89–95. (Summary) **98e:73101** 73K40 (73V20)
Fleury, Laurence (*with* Thual, Olivier) Stationary fronts of the thermohaline circulation in the low-aspect-ratio limit. (English summary) *J. Fluid Mech.* **349** (1997), 117–147. (Summary) **98j:76134** 76R05
Fleury, Odile Automorphismes de $\hat{U}_q(\mathfrak{b}^+)$. (French summary) [Automorphisms of $\hat{U}_q(\mathfrak{b}^+)$] *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 343–356. (Walter R. Ferrer Santos) **98j:17011** 17B37 (16W30, 17B40)
Flicker, Yuval Z. On the symmetric square. Unit elements. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 507–526. (Gordan Savin) **98a:11065** 11F70 (11R39)
— Cusp forms on GL($2n$) with GL(n) × GL(n) periods, and simple algebras. (English summary) *Math. Nachr.* **183** (1997), 91–111. (Henry H. Kim) **98f:11045** 11F70 (22E55)
Flickinger, Ron (*with* Dubrovin, B. A.; Segur, Harvey) Three-phase solutions of the Kadomtsev-Petviashvili equation. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 2, 137–203. (Manuel Mañas) **98m:35179** 35Q53 (58F07)
Fliege, J. Nondifferentiability detection and dimensionality reduction in minisum multifacility location problems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 365–380. (Sandra L. Arlinghaus) **98e:90087** 90B80 (90C30)
Fliegner, D. (*with* Reuter, Martin; Schmidt, Michael G.; Schubert, Christian) The two-loop Euler-Heisenberg Lagrangian in dimensional renormalization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 289–300; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1442–1451 (1998). 81V10 (81T15)
Flierl, G. R. (*with* Meacham, S. P.; Morrison, P. J.) Hamiltonian moment reduction for describing vortices in shear. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2310–2328. (Summary) **98f:76018** 76C05 (58F05, 76U05, 86A10)
Fliess, Michel (*with* Lévine, Jean; Martin, Philippe Pierre; Rouchon, Pierre) Flatness and defect of non-linear systems: introductory theory and examples. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1327–1361. 93C10 (93B25)
— (*with* Lévine, Jean; Martin, Philippe Pierre; Ollivier, François; Rouchon, Pierre) Controlling nonlinear systems by flatness. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 137–154, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (From the introduction) **98g:93025** 93C10 (58F40, 70Q05)
— (*with* Lévine, Jean; Martin, Philippe Pierre; Rouchon, Pierre) Deux applications de la géométrie locale des diffiétés. (English and French summaries) [Two applications of the local geometry of diffieties] *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 3, 275–292. (Alexandru Buium) **98i:58254** 58G37 (12H05)
— (*with* Lévine, Jean; Martin, Philippe Pierre; Rouchon, Pierre) On a new differential geometric setting in nonlinear control. Dynamical systems, 3. *J. Math. Sci. (New York)* **83** (1997), *no.* 4, 524–530. (Henk Nijmeijer) **98d:93054** 93C10 (58E25, 93B27)
— (*with* Lévine, Jean; Martin, Philippe Pierre; Ollivier, François; Rouchon, Pierre) A remark on nonlinear accessibility conditions and infinite prolongations. (English summary) *Systems Control Lett.* **31** (1997), *no.* 2, 77–83. (Carlos José Braga Barros) **98e:93028** 93B27 (58A20)
Fligner, D. *see* **Fliegner, D.**
Flo, Olav (*with* Øhrstrøm, Peter) Bibliography of Prior's philosophical writings. *Logic and reality* (*Christchurch*, 1989), 519–532, *Oxford Univ. Press, New York*, 1996. (John W. Dawson, Jr.) **98g:01059** 01A70 (03–00, 03–03)
Floater, Michael S. On zero curves of bivariate polynomials. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 399–415. (Marco Paluszny) **98g:65142** 65Y25 (14H45, 65D17)
— (*with* Carnicer, J. M.) Piecewise linear interpolants to Lagrange and Hermite convex scattered data. (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 345–364 (1997). (Summary) **98k:41005** 41A05 (65D05)
— An $O(h^{2n})$ Hermite approximation for conic sections. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 2, 135–151. (R. Franke) **98c:41009** 41A15 (65D07)
— Parametrization and smooth approximation of surface triangulations. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 3, 231–250. (Ljubiša M. Kocić) **98a:65018** 65D17 (41A63)
— A counterexample to a theorem about the convexity of Powell-Sabin elements. *Comput. Aided Geom. Design* **14** (1997), *no.* 4, 383–385. (From the text) **98c:65012** 65D05

— (*with* Carnicer, J. M.; Peña, J. M.) Linear convexity conditions for rectangular and triangular Bernstein-Bézier surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 27–38. (Frederick N. Fritsch) **98m:65023** 65D17 (68U05, 68U07)

Flocard, H. (*with* Onishi, N.) On the restoration of symmetry in paired fermion systems. (English summary) *Ann. Physics* **254** (1997), *no.* 2, 275–327. (Summary) **98a:81268** 81V35

Flocchini, Paola (*with* Caceres, Edson N.; Dehne, Frank; Ferreira, Afonso Galvao; Rieping, I.; Roncato, A.; Santoro, Nicola; Song, S. W.) Efficient parallel graph algorithms for coarse grained multicomputers and BSP. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 390–400, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q22 (05C85, 68R10)

— (*with* Mans, Bernard; Santoro, Nicola) On the impact of sense of direction on message complexity. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 23–31. (Summary) **98e:68105** 68Q25 (68M10, 68Q10, 68R10)

— (*with* Geurts, Frédéric; Santoro, Nicola) CA-like error propagation in fuzzy CA. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1673–1682. (*see* **98h:68006**) 68Q80 (04A72)

— (*with* Cattaneo, Gianpiero; Mauri, Giancarlo; Quaranta Vogliotti, C.; Santoro, Nicola) Cellular automata in fuzzy backgrounds. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 105–120. (Summary) **98d:68151** 68Q80 (04A72, 54A40, 54H20)

Flocos, E. (*with* Voloshin, V. I.) Mixed interval hypergraphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 1, 29–41. (Ioan Tomescu) **98g:05058** 05C15 (05C65)

— Chromatic properties of co-monostars. (Moldavian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 8–18, 105, 108. 05C15

Flohr, Michael A. I. Two-dimensional turbulence: a novel approach via logarithmic conformal field theory. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 567–578. (Katsushi Ito) **98b:81271** 81T99 (76F99, 81T40)

— (*with* Gurarie, Victor; Nayak, Chetan) The Haldane-Rezayi quantum Hall state and conformal field theory. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 3, 513–538. (Guillermo Zemba) **98f:81382** 81V70 (81T40)

— (*with* Blumenhagen, Ralph) Aspects of (0, 2) orbifolds and mirror symmetry. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 41–48. (Bruce Hunt) **98f:81241** 81T30 (32J81)

Flohr, P. (*with* Vassilicos, J. C.) Accelerated scalar dissipation in a vortex. (English summary) *J. Fluid Mech.* **348** (1997), 295–317. (P. L. Sulem) **98j:76138** 76R50 (76C05, 76F99)

Flondor, Paul (*with* Pascu, Eugen) Foliations of mixed manifolds. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 1-2, 5–13. (Summary) **98b:32006** 32C16 (57R30)

— (*with* Pascu, Eugen) "Even parts" of supermanifolds are differentiable spaces. Travaux de la Conférence Internationale d'Analyse Complexe et du 7e Séminaire Roumano-Finlandais (1993). *Rev. Roumaine Math. Pures Appl.* **39** (1994), *no.* 10, 933–938. (Gerard Vinel) **98a:58007** 58A40 (58A50)

Flood, Joe Optimal investment strategies for renewable facilities. (English summary) *J. Appl. Math. Decis. Sci.* **2** (1998), *no.* 1, 3–21. 90B05 (90B25)

Floquet, P. (*with* Laquerbe, C.; Domenech, S.; Pibouleau, L.) Conception de séquences de séparation par un algorithme génétique. (English and French summaries) [Synthesis of separation sequences by a genetic algorithm] *RAIRO Rech. Opér.* **31** (1997), *no.* 4, 375–397. 92E20

Flór, J. B. (*with* van de Konijnenberg, J. A.; van Heijst, G. J. F.) Decaying quasi-two-dimensional viscous flow on a square domain. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 595–606. (Summary) **98k:76031** 76D07 (76–05, 76V05)

Flor, Peter Eigenvalue multiplicity and number of orbits. II. (English summary) *Iteration theory* (*Batschuns*, 1992), 77–80, *World Sci. Publishing, River Edge, NJ*, 1996. (B. Crstici) **98g:39015** 39B12 (47B38)

Florack, Luc (*with* Nielsen, Mads; Deriche, Rachid) Regularization, scale-space, and edge detection filters. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 4, 291–307. (Jayant M. Shah) **98j:68169** 68U10 (94A12)

Floratos, E. G. (*with* Athanasiu, G. G.; Nicolis, S.) Holomorphic quantization on the torus and finite quantum mechanics. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6737–6745. (Ivailo M. Mladenov) **98c:81104** 81S10 (11Z05, 22E70, 81R05)

— (*with* Leontaris, G. K.) Uncertainty relation and non-dispersive states in finite quantum mechanics. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 35–41. (Summary) **98k:81146** 81S99 (81Q99)

Florchinger, Patrick Global stabilization of affine stochastic systems. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 493–502. (Tomás Caraballo) **98i:93085** 93E15 (93D15)

Floreanini, Roberto (*with* Vinet, Luc) Symmetries of q-deformed heat equations. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 385–400, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98j:33014** 33D90 (33D80, 39A12, 58G11, 81R50)

— (*with* LeTourneux, Jean; Vinet, Luc) Symmetry techniques for the Al-Salam-Chihara polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3107–3114. (Walter Van Assche) **98k:33036** 33D45 (43A65)

— (*with* Benatti, Fabio) Testing complete positivity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 20, 1465–1472. (Robert Alicki) **98f:82084** 82C10 (81V25)

— (*with* Benatti, Fabio) Completely positive dynamical maps and the neutral kaon system. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 335–363. (Robert Alicki) **98d:82032** 82C10 (46L57, 46L60, 81V25)

Florek, Wojciech Mac Lane method in the investigation of magnetic translation groups. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 325–332. (Joshua Zak) **98b:20075** 20G45 (20J05, 81R05)

— (*with* Waŀcerz, Stanisław) The role of a form of vector potential—normalization of the antisymmetric gauge. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 739–748. (Joshua Zak) **98k:81326** 81V55 (20C35, 81R05)

— *see also* **Symmetry and structural properties of condensed matter, 98k:82003**

Florencio, Miguel (*with* Mayoral, Fernando; Paúl, Pedro J.) Dieudonné-Köthe duality for vector-valued function spaces: localization of bounded sets and barrelledness. (English summary) *Quaestiones Math.* **20** (1997), *no.* 2, 185–214. (José Bonet) **98i:46033** 46E40 (46Axx)

Florens, Jean-Pierre (*with* Ivaldi, Marc; Larribeau, Sophie) Sobolev estimation of approximate regressions. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 753–772. (Summary) **98m:62301** 62P20 (62G05)

Florenzano, M. (*with* Ben-El-Mechaiekh, H.; Chebbi, S.) A Leray-Schauder type theorem for approximable maps: a simple proof. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2345–2349. (L. Górniewicz) **98k:54080** 54H25 (47H10, 54C60)

sánchez-Flores, Adolfo *see* **Sánchez-Flores, Adolfo**

hernández Flores, C. N. *see* **Hernández Flores, C. N.**

román-Flores, H. *see* **Román-Flores, H.**

Flores, Jolen *see* **Conference: Numerical Methods in Fluid Dynamics**

Flores-Bazán, Fabián On radial solutions to non-convex variational problems. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 161–181. (Helmut Kaul) **98a:49024** 49J45

— On minima of the difference of functions. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 525–531. (Stefan Mititelu) **98d:49029** 49K27 (90C48)

— Approximate minima via the Ekeland variational principle. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 777–788. 49J27 (49J52, 49K27)

Flores de Chela, Delia (*with* Buchsbaum, D. A.) Intertwining numbers; the three-rowed case. *J. Algebra* **183** (1996), *no.* 2, 605–635. (From the introduction) **98k:13015** 13D25 (05A17, 20G05)

Flores-Franulic, A. (*with* Román-Flores, H.; Rojas-Medar, Marko Antonio; Bassanezi, Rodney Carlos) Stability of fixed points set of fuzzy contractions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 33–37. 54A40 (54H25)

Floret, Klaus (*with* Alencar, Raymundo) Weak-strong continuity of multilinear mappings and the Pełczyński-Pitt theorem. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 532–546. (Richard M. Aron) **98h:46045** 46G20 (46B28)

Floría Gimeno, Luis Perturbed Gylden systems and time-dependent Delaunay-like transformations. (English summary) Visual double stars: formation, dynamics and evolutionary tracks (Santiago de Compostela, 1996). *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 1, 75–85. (Summary) **98m:70020** 70F15 (70F05)

Florian, Michael (*with* Lebeuf, Denis) An efficient implementation of the network simplex method. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 265–291, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)

— (*with* Chen, Yang^2) Congested O-D trip demand adjustment problem: bilevel programming formulation and optimality conditions. (English summary) *Multilevel optimization: algorithms and applications*, 1–22, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90A08 (90B06)

Florig, Martin (*with* Summers, Stephen J.) On the statistical independence of algebras of observables. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1318–1328. (Gerald Hofmann) **98f:81168** 81T05 (46L50, 46L60)

Floris, Paul G. A. A noncommutative discrete hypergroup associated with q-disk polynomials. (English summary) *J. Comput. Appl. Math.* **68** (1996), *no.* 1-2, 69–78. (From the introduction) **98d:33010** 33D45 (17B37, 33D80, 43A62)

— Addition formula for q-disk polynomials. (English summary) *Compositio Math.* **108** (1997), *no.* 2, 123–149. (A. U. Klimyk) **98i:33026** 33D45 (17B37, 33D80)

— (*with* Koelink, H. Tjerk) A commuting q-analogue of the addition formula for disk polynomials. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 511–535. (Walter Van Assche) **98j:33012** 33D45 (33D90)

Florit, Carme (*with* Nualart, David) Diffusion approximation for hyperbolic stochastic differential equations. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 1–15. (Jean-Pierre Fouque) **98c:60067** 60H15 (60G60)

Florit, Luis A. A splitting theorem for Euclidean submanifolds of nonpositive sectional curvature. *Math. Z.* **225** (1997), *no.* 4, 685–690. (Sergio Console) **98d:53079** 53C40

Florkiewicz, Bronisław (*with* Chanas, Stefan) Mathematical programming problem with fuzzy coefficients—a general analysis. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 639–651. (Roman Słowiński) **98j:90099** 90C70 (04A72)

— (*with* Kuchta, Małgorzata) Some quadratic integral inequalities of first order. *Colloq. Math.* **75** (1998), *no.* 1, 7–18. (Alberto Fiorenza) **98k:26027** 26D10

Flöthmann, Eugen (*with* Welge, Karl H.) Crossed-field hydrogen atom and the three-body Sun-Earth-Moon problem. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1884–1888. (Summary) **98e:81201** 81V45 (70F07)

Flotow, Carsten Graphs whose powers are chordal and graphs whose powers are interval graphs. (English summary) *J. Graph Theory* **24** (1997), *no.* 4, 323–330. (R. Balakrishnan) **98d:05122** 05C75

Floudas, Christodoulos A. (*with* Visweswaran, V.) New formulations and branching strategies for the GOP algorithm. (English summary) *Global optimization in engineering design*, 75–109, *Nonconvex Optim. Appl.*, 9, *Kluwer Acad. Publ., Dordrecht*, 1996. (G. R. Wood) **98e:90173** 90C30 (65K05)

— (*with* Visweswaran, V.) Computational results for an efficient implementation of the GOP algorithm and its variants. (English summary) *Global optimization in engineering design*, 111–153, *Nonconvex Optim. Appl.*, 9, *Kluwer Acad. Publ., Dordrecht*, 1996. (G. R. Wood) **98e:90174** 90C30 (65K05)

— Deterministic global optimization in design, control, and computational chemistry. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 129–184, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (*see* **98d:90008**) 90C30 (90C90, 92E99)

— (*with* Maranas, C. D.; Androulakis, I. P.; Berger, A. J.; Mulvey, J. M.) Solving long-term financial planning problems via global optimization. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1405–1425. (*see* **98c:90003**) 90A09 (90C90)

— (*with* Androulakis, I. P.; Maranas, C. D.) Prediction of oligopeptide conformations via deterministic global optimization. (English summary) *J. Global Optim.* **11** (1997), *no.* 1, 1–34. 90C90 (92C40)

— (*with* Adjiman, C. S.; Schweiger, C. A.) Nonlinear and mixed-integer optimization in chemical process network systems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 429–452, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C11 (90C90)

Flouret, M. (*with* Laugerotte, E.) Noncommutative minimization algorithms. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 123–126. (Summary) **98h:68138** 68Q45 (68Q70)

Flournoy, Nancy (*with* Durham, Stephen D.) Up-and-down designs. I. Stationary treatment distributions. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 139–157, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

— (*with* Durham, Stephen D.; Montazer-Haghighi, Ali A.) Up-and-down designs. II. Exact treatment moments. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 158–178, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

— (*with* Li, Zhengqing; Durham, Stephen D.) An adaptive design for maximization of a contingent binary response. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 179–196, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

— *see also* **Adaptive designs, 98e:62004**

Flowers, Joe Some characterizations of perfect numbers. *Missouri J. Math. Sci.* **7** (1995), *no.* 3, 104–115. (Armel Mercier) **98f:11008** 11A25

Floyd, Edward R. Where and why the generalized Hamilton-Jacobi representation describes microstates of the Schrödinger wave function. (English summary) *Found. Phys. Lett.* **9** (1996), *no.* 5, 489–497. (Summary) **98j:81050** 81P99

Floyd, William J. (*with* Cannon, J. W.; Parry, Walter) Introductory notes on Richard Thompson's groups. *Enseign. Math.* (2) **42** (1996), *no.* 3-4, 215–256. (Michael L. Mihalik) **98g:20058** 20F32 (57M07)

— (*with* Parry, Walter) The growth of nonpositively curved triangles of groups. *Invent. Math.* **129** (1997), *no.* 2, 289–359. (Lee Mosher) **98j:20042** 20F32 (57M07)

Fløystad, Gunnar Higher initial ideals of homogeneous ideals. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 638, *viii*+68 *pp.* (Joachim Apel) **98m:13021** 13D25 (13P10, 14H50)

Flucher, M. (*with* Bandle, Catherine) Applications of harmonic transplantation to variational problems. *Progress in elliptic and parabolic partial differential equations* (*Capri*, 1994), 9–18, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (J. Hersch) **98c:31007** 31B35 (35J20, 49R05)

— (*with* Rumpf, Martin) Bernoulli's free-boundary problem, qualitative theory and numerical approximation. (English summary) *J. Reine Angew. Math.* **486** (1997), 165–204. (Alberto Valli) **98i:35214** 35R35 (35Q99, 65P05, 76B99)

— (*with* Bandle, Catherine; Brillard, A.) Green's function, harmonic transplantation, and best Sobolev constant in spaces of constant curvature. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1103–1128. (H. Triebel) **98g:35045** 35J05 (46E35)

Flueck, M. (*with* Descloux, J.; Romerio, M. V.) Spectral aspects of an industrial problem. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 17–33, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Summary) **98i:35194** 35Q99 (76M25, 76W05, 78A55)

de Fluiter, Babette (*with* Bodlaender, Hans L.) Intervalizing k-colored graphs. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 87–98, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68R10 (05C15, 05C85, 68Q25)

— (*with* Bodlaender, Hans L.) Parallel algorithms for series parallel graphs. (English summary) *Algorithms—ESA '96* (*Barcelona*), 277–289, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (05C85, 68R10)

— (*with* Bodlaender, Hans L.) Reduction algorithms for constructing solutions in graphs with small treewidth. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 199–208, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:05131** 05C85 (68Q22, 68R10)

— (*with* Bodlaender, Hans L.) On intervalizing k-colored graphs for DNA physical mapping. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 55–77. (Dietmar Dorninger) **98d:92008** 92D20 (05C15, 05C90, 68Q25)

— (*with* Yamazaki, Koichi; Bodlaender, Hans L.; Thilikos, Dimitris M.) Isomorphism for graphs of bounded distance width. (English summary) *Algorithms and complexity* (*Rome*, 1997), 276–287, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q25 (05C60, 05C85, 68R10)

— Algorithms for graphs of small treewidth. (English summary) *Ten years LNMB*, 23–29, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90C35 (05C85)

Flury, Bernhard (*with* Goria, Mohammed N.) Common canonical variates in k independent groups. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1735–1742. (Summary) **98k:62103** 62H20

— (*with* Tarpey, Thaddeus) Self-consistency: a fundamental concept in statistics. (English summary) *Statist. Sci.* **11** (1996), *no.* 3, 229–243. (Satish Iyengar) **98c:62021** 62E10 (62H05)

— ★ A first course in multivariate statistics. (English summary) Springer Texts in Statistics. *Springer-Verlag, New York*, 1997. xvi+713 *pp. ISBN* 0-387-98206-X (Publisher's description) **98f:62001** 62-01 (62Hxx)

— (*with* Flury, Leah; Boukai, Benzion) The discrimination subspace model. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 758–766. (Peter A. Lachenbruch) **98h:62106** 62H30

— (*with* Neuenschwander, Beat E.) A note on Silvey's (1959) theorem. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 307–317. 62F12

Flury, Leah (*with* Boukai, Benzion; Flury, Bernhard) The discrimination subspace model. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 758–766. (Peter A. Lachenbruch) **98h:62106** 62H30

Flynn, D. (*with* McLoone, S.; Irwin, G. W.; Brown, M. D.; Swidenbank, E.; Hogg, B. W.) Neural control of turbogenerator systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1961–1973. 93C95 (93C83)

Flynn, E. V. (*with* Smart, N. P.) Canonical heights on the Jacobians of curves of genus 2 and the infinite descent. *Acta Arith.* **79** (1997), *no.* 4, 333–352. (Joseph H. Silverman) **98f:11066** 11G30 (11G10)

— (*with* Poonen, Bjorn; Schaefer, Edward F.) Cycles of quadratic polynomials and rational points on a genus-2 curve. *Duke Math. J.* **90** (1997), *no.* 3, 435–463. (Joseph H. Silverman) **98j:11048** 11G30 (11G10, 14G05)

Flynn, Michael J. (*with* Oberman, Stuart F.) Division algorithms and implementations. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 833–854. 68M07 (65G10)

Flytzanis, Nikos (*with* Gaididei, Yu. B.; Neuper, Andreas; Mertens, Franz G.) Effect of non-local interactions on soliton dynamics in anharmonic chains: scale competition. (English summary) *Phys. D* **107** (1997), *no.* 1, 83–111. (Summary) **98d:35214** 35Q80 (35Q51, 92C40, 92D20)

Foata, Dominique C. (*with* Krattenthaler, Christian) Graphical major indices. II. (English summary) *Sém. Lothar. Combin.* **34** (1995), *Art. B34k, approx.* 16 *pp.* (*electronic*). (Jozef Širáň) **98b:05005** 05A15 (05C20, 33D15)

— (*with* Zeilberger, Doron) Graphical major indices. (English and French summaries) *J. Comput. Appl. Math.* **68** (1996), *no.* 1-2, 79–101. (Jozef Širáň) **98b:05004** 05A15 (05C20, 33D15)

— (*with* Han, Guo-Niu) Calcul basique des permutations signées. I. Longueur et nombre d'inversions. (English and French summaries) [Basic calculus of signed permutations. I. Length and number of inversions] *Adv. in Appl. Math.* **18** (1997), *no.* 4, 489–509. (Jozef Širáň) **98c:05001a** 05A05 (33D10)

— (*with* Han, Guo-Niu) Calcul basique des permutations signées. II. Analogues finis des fonctions de Bessel. (English and French summaries) [Basic calculus of signed permutations. II. Finite analogues of Bessel functions] The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 9, *approx.* 25 *pp.* (*electronic*). (Jozef Širáň) **98c:05001b** 05A05 (33D10)

— *see also* **Festschrift: Foata, Dominique C., 98g:05003**

Fochi, Margherita D'Alembert's functional equation on restricted domains. (English summary) *Aequationes Math.* **52** (1996), *no.* 3, 246–253. (Wolfgang Sander) **98a:39024** 39B52

Fock, V. V. (*with* Marshakov, A. V.) A note on quantum qroups and relativistic Toda theory. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 208–214. (Summary) **98d:58083** 58F07 (17B37, 22E70, 81R50)

Foda, M. A. (*with* Zhang, Derrick) An instability mechanism for the sliding motion of finite depth of bulk granular materials. (English summary) *Acta Mech.* **121** (1997), *no.* 1-4, 1–19. (Summary) **98e:86004** 86A60 (73N20, 76A99, 76E20)

— (*with* Hill, D. F.) Subharmonic resonance of oblique interfacial waves by a progressive surface wave. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1129–1144. 76C10

Foda, Omar (*with* Quano, Yas-Hiro) Virasoro character identities from the Andrews-Bailey construction. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1651–1675. (Vladimir S. Mazorchuk) **98a:17041** 17B68 (11P83, 17B81, 33D80, 81R10)

Fodor, Ferenc Linear spaces and partitioning the projective plane. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 168–172. (Harald Löwe) **98e:51007** 51E15 (51A45)

Fodor, János C. (*with* Yager, Ronald R.; Rybalov, Alexander) Structure of uninorms. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 4, 411–427. (Summary) **98d:04001** 04A72

— (*with* Czogała, Ernest; Łęski, Jacek) The Fodor fuzzy implication in approximate reasoning. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 17–28. 03B52

Fodor, Jerry A. (*with* Lepore, Ernest) What cannot be evaluated cannot be evaluated, and it cannot be supervalued either. *J. Philos.* **93** (1996), *no.* 10, 516–535. (Anthony M. Ungar) **98f:03029** 03B65

Foerster, Angela Quantum group invariant supersymmetric t-J model with periodic boundary conditions. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7625–7633. (Summary) **98f:82045** 82B23 (81R50)

— (*with* Links, Jon R.) On the construction of integrable closed chains with quantum supersymmetry. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2483–2487. (Rinat M. Kashaev) **98f:82052** 82B23 (17B81, 81R50, 82B20)

Fofana, Ibrahim Transformation de Fourier dans $(L^q, l^p)^\alpha$ et $M^{p,\alpha}$. (English summary) [Fourier transform in $(L^q, l^p)^\alpha$ and $M^{p,\alpha}$] *Afrika Mat.* (3) **5** (1995), 53–76. (Summary) **98c:42006** 42A38 (46E30, 47B38)

Fofana, Lancine Sous-variétés Cauchy-Riemann des variétés presque cosymplectiques à feuilles Kähler. (Romanian summary) [Cauchy-Riemann submanifolds of almost cosymplectic manifolds with Kähler leaves] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 1-2, 9–14. 53C15

Fofana, Mustapha S. (*with* Lamb, David J., Jr.) On the stability bifurcation of a nonlinear time delay system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 375–378. 34K15 (34C23)

Fogden, Andrew S. The S'-S'' and H'-T minimal surfaces and their application to structural modelling of intermediate phases. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1715, 2159–2172. (L. Debnath) **98b:53007** 53A10 (76T05, 80A15, 80A22)

Fogel, David B. *see* **Handbook: Evolutionary computation, 98g:68001**

Fogel, Lawrence J. *see* **Evolutionary programming, 98g:90007**

Fogo, José Carlos (*with* Achcar, Jorge Alberto) A useful reparameterization for the reliability in the Weibull case. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 387–400. 62N05

Foguel, Tuval Normality conditions on subgroups of finite simple groups. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 59–63, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20D05

— Conjugate-permutable subgroups. *J. Algebra* **191** (1997), *no.* 1, 235–239. (M. J. Tomkinson) **98b:20028** 20D20 (20E07)

— *see also* **Proceedings: Conference on Group Theory and its Applications, 98g:20004**

Foias, C. (*with* Frazho, A. E.; Gohberg, Israel; Kaashoek, M. A.) A time-variant version of the commutant lifting theorem and nonstationary interpolation problems. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 158–190. (Dmitriy S. Kalyuzhniy) **98f:47008** 47A20 (30E05, 47A57)

— (*with* Frazho, A. E.; Gohberg, Israel; Kaashoek, M. A.) Errata: "Discrete time-variant interpolation as classical interpolation with an operator argument" [Integral Equations Operator Theory **26** (1996), no. 4, 371–403; MR 97k:47012]. *Integral Equations Operator Theory* **28** (1997), *no.* 4, 500. 47A57 (30E05, 47A20)

— (*with* Frazho, A. E.; Gohberg, Israel; Kaashoek, M. A.) Parameterization of all solutions of the three chains completion problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 455–490. (Mark A. Nudel′man) **98k:47031** 47A57 (30E05, 47A20, 93B28, 93C50)

— (*with* Frazho, A. E.; Gohberg, Israel; Kaashoek, M. A.) The maximum principle for the three chains completion problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 67–82. (Joseph A. Ball) **98m:47006** 47A20 (47A57)

— (*with* Eden, Alp; Kalantarov, V. K.) A remark on two constructions of exponential attractors for α-contractions. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 37–45. (Igor D. Chueshov) **98m:58125** 58F39 (34G20, 47H09, 47H20, 58F12)

Fokas, Athanassios S. (*with* Luo, Laihan) On the asymptotic integrability of a generalized Burgers equation. *Mathematical problems in the theory of water waves* (*Luminy*, 1995), 85–98, *Contemp. Math.*, 200, *Amer. Math. Soc., Providence, RI*, 1996. (Márcia Scialom) **98b:35156** 35Q53 (35Q58, 76B15)

— (*with* Ablowitz, Mark J.) ★ Complex variables: introduction and applications. (English summary) Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1997. xii+647 *pp. ISBN* 0-521-48058-2; 0-521-48523-1 (D. H. Armitage) **98b:30001** 30–01

— Asymptotic integrability of physical equations. *Nonlinear waves* (*Sapporo*, 1995), 45–51, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q53 (35Q55)

— A unified transform method for solving linear and certain nonlinear PDEs. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1411–1443. (Summary) **98e:35007** 35A22 (34A55, 34L25, 35Q53, 35Q55)

Fokin, D. A. (*with* Il′inskiĭ, N. B.) A universal algorithm for solving the direct, inverse, and mixed problems of the airfoil theory. *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 77–80. (Adrian Carabineanu) **98a:76001** 76B05 (65N30, 76M25)

Fokina, V. N. (*with* Turlapov, V. E.; Shashkov, V. M.) A fast iterative method for the displacement analysis of spatial mechanisms. (Russian. Russian summary) *Mathematical modeling and optimal control* (*Russian*), 136–142, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 70B15 (70–08)

Fokkema, Diederik R. (*with* Booten, A.; Sleijpen, Gerard L. G.; Van der Vorst, Henk A.) Jacobi-Davidson methods for generalized MHD-eigenvalue problems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 131–134. (*see* **98b:65005**) 65F15

— (*with* Sleijpen, Gerard L. G.; Van der Vorst, Henk A.) Accelerated inexact Newton schemes for large systems of nonlinear equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 657–674 (*electronic*). 65H10

Fokkink, Robbert J. (*with* Aarts, Jan M.; Vermeer, Johannes) Variations on a theorem of Lusternik and Schnirelmann. (English summary) *Topology* **35** (1996), *no.* 4, 1051–1056. (Summary) **98e:55003** 55M20 (54H25)

— (*with* Aarts, Jan M.) Coincidence and the colouring of maps. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 73–79. (Dušan Repovš) **98j:55002** 55M20 (05C15, 54H25)

Fokkink, Willem Jan On the completeness of the equations for the Kleene star in bisimulation. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 180–194, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98k:68060** 68Q10 (68Q45, 68Q55, 68Q60)

— (*with* Bergstra, Jan A.; Middelburg, C. A.) Algebra of timed frames. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 227–255. (Summary) **98b:68040** 68Q10 (68Q55, 68Q60)

— Axiomatizations for the perpetual loop in process algebra. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 571–581, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q10 (68Q55, 68Q60)

— (*with* Aceto, Luca) An equational axiomatization for multi-exit iteration. (English summary) *Inform. and Comput.* **137** (1997), *no.* 2, 121–158. (Andrea Maggiolo-Schettini) **98h:68063** 68Q10 (68Q55, 68Q60)

— Unification for infinite sets of equations between finite terms. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 183–188. (A. Tauts) **98h:68207** 68T15 (03B35, 03C05)

— (*with* Zantema, Hans) Termination modulo equations by abstract commutation with an application to iteration. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 407–423. (Andrea Maggiolo-Schettini) **98e:68127** 68Q42 (68Q10)

Folacci, Antoine *see* **Functional integration, 98e:58004**

Földes, Antónia (*with* Csáki, Endre; Révész, Pál) Random walk with alternating excursions. (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 3-4, 267–280. (Aart J. Stam) **98d:60136** 60J15 (60F05, 60F15)

— (*with* Csáki, Endre) On the logarithmic average of iterated processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 347–358. (Davar Khoshnevisan) **98i:60079** 60J65 (60F15)

— (*with* Csáki, Endre; Csörgő, Miklós; Révész, Pál) On the occupation time of an iterated process having no local time. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 199–217. (Davar Khoshnevisan) **98k:60139** 60J65 (60F05, 60F15, 60J55)

Foley, Thomas A. (*with* Wolters, Hans J.) The hybrid quintic Bézier tetrahedron. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 603–618. (Summary) **98c:65025** 65D17

Folina, Janet Logic and intuition in Poincaré's philosophy of mathematics. (French summary) *Henri Poincaré: science et philosophie* (*Nancy*, 1994), 417–434, 584–585, *Publ. Henri-Poincaré-Arch., Akademie Verlag, Berlin*, 1996. (Hourya Sinaceur) **98b:00011** 00A30 (01A60, 03A05)

Folkerts, Menso Regiomontanus' role in the transmission and transformation of Greek mathematics. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 89–113, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (Jens Høyrup) **98g:01026** 01A40 (01A20, 01A35)

— "Ein freundschaftliches Verhältniß": J. L. Tiarks und C. F. Gauß. ["A friendly relationship": J. L. Tiarks and C. F. Gauss] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 159–174. (Wilfried Schröder) **98k:01025** 01A70 (01A55)

— *see also* **Nature, mathematics and history**

Folkow, Peter D. (*with* Billger, D. V. J.) The imbedding equations for the Timoshenko beam. (English summary) *J. Sound Vibration* **209** (1998), *no.* 4, 609–634. (Summary) **98i:73036** 73K12 (73F15, 73K05)

— (*with* Olsson, Peter; Kristensson, Gerhard) Time domain Green functions for the homogeneous Timoshenko beam. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 125–141. (Summary) **98k:73045** 73K12 (73K05)

Folland, Gerald B. ★ A course in abstract harmonic analysis. Studies in Advanced Mathematics. *CRC Press, Boca Raton, FL*, 1995. x+276 *pp. ISBN* 0-8493-8490-7 (Robert S. Doran) **98c:43001** 43–01 (22–01, 46–01)

— Fundamental solutions for the wave operator. *Exposition. Math.* **15** (1997), *no.* 1, 25–52. (Hidetoshi Tahara) **98d:35124** 35L05 (35A08, 46F10)

— (*with* Sitaram, Alladi) The uncertainty principle: a mathematical survey. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 207–238. (Michael Cowling) **98f:42006** 42B10 (22E30, 43A30, 81S05, 81S30)

— Hermite distributions associated to the group $O(p, q)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1751–1763. (Sergei S. Platonov) **98g:33036** 33E30 (22E30, 33C80, 35C05)

Follert, Frank (*with* Schömer, Elmar; Sellen, Jürgen; Smid, Michiel; Thiel, Christian[2]) Computing a largest empty anchored cylinder, and related problems. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 428–442, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68248** 68U05

— (*with* Schömer, Elmar; Sellen, Jürgen; Smid, Michiel; Thiel, Christian[2]) Computing a largest empty anchored cylinder, and related problems. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 563–580. (Summary) **98h:68224** 68U05

Follmann, Dean A. (*with* Proschan, Michael A.) A restricted test of circadian rhythm. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 717–724. (Summary) **98f:62048** 62F03

Föllmer, Hans (*with* Gantert, Nina) Entropy minimization and Schrödinger processes in infinite dimensions. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 901–926. (Luis G. Gorostiza) **98a:60111** 60J60 (60F10, 60J45)

— (*with* Kramkov, D.) Optional decompositions under constraints. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 1–25. (Walter Schachermayer) **98j:60065** 60G44 (60H05, 60H30, 90A09, 93E20)

Föister, Stefan (*with* Trofimov, G. Yu.) Industry evolution and R& D externalities. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 10, 1727–1746. 90A11 (90A16)

Foltin, G. (*with* Bausch, R.; Blossey, R.) Critical holes in undercooled wetting layers. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2937–2946. (Summary) **98d:82022** 82B24

Folwell, Nathan (*with* Guha, Sumanta; Suzuki, Ichiro[1]) A practical algorithm for integer sorting on a mesh-connected computer. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 265–278. 68P10 (68Q22)

Fomby, Thomas B. (*with* Balke, Nathan S.) Threshold cointegration. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 627–645. 90A14 (90D12)

Fomenko, A. T. (*with* Bolsinov, A. V.; Zhang, Xing Ru) Three types of bordisms of integrable systems with two degrees of freedom. Computation of bordism groups. (Russian) *Trudy Mat. Inst. Steklov.* **205** (1994), *Novye Rezul′t. v Teor. Topol. Klassif. Integr. Sistem*, 32–72; *translation in Proc. Steklov Inst. Math.* **1995,** *no.* 4 (205), 29–62. (Sergey S. Anisov) **98d:58078** 58F07 (55N22, 57R90, 58F05)

— (*with* Trofimov, V. V.) ★ Алгебра и геометрия интегрируемых гамильтоновых дифференциальных уравнений. (Russian. English and Russian summaries) [Algebra and geometry of integrable Hamiltonian differential equations] Математика и ее Приложения. [Mathematics and its Applications] *Izdatel′stvo "Faktorial", Moscow; copublished with Izdatel′stvo Udmurt-skogo Universiteta, Izhevsk*, 1995. 448 *pp. ISBN* 5-88688-002-X; 5-7029-0063-4; 985-410-030-8 (Iskander A. Taimanov) **98f:58118** 58F07 (70H05)

— (*with* Aptekarev, A. I.; Kalyagin, V. A.; Kozlov, Valeriĭ V.; Potapov, M. K.; Sorokin, Vladimir N.; Ul′yanov, P. L.; Shidlovskiĭ, A. B.) Evgeniĭ Mikhaĭlovich Nikishin. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 6, 110–111. 01A70

— (*with* Kunii, T. L.) ★ Topological modeling for visualization. (English summary) With appendices by Fomenko and S. V. Matveev, A. V. Bolsinov, O. E. Orël, S. Takahashi, and A. G. Belyaev, E. V. Anoshkina and Kunii. *Springer-Verlag, Tokyo*, 1997. x+395 *pp. ISBN* 4-431-70200-8 (Christine Médan) **98i:58001** 58–01 (57R99, 58–02, 70B15, 70E15, 70H05)

— (*with* Matveev, S. V.) ★ Algorithmic and computer methods for three-manifolds. (English summary) Translated from the 1991 Russian original by M. Tsaplina and Michiel Hazewinkel and revised by the authors. With a preface by Hazewinkel. Mathematics and its Applications, 425. *Kluwer Academic Publishers, Dordrecht*, 1997. xii+334 *pp. ISBN* 0-7923-4770-6 (Darren D. Long) **98k:57001** 57–01 (57–02, 57M25, 57M35, 57M40, 57N05)

Fomenko, T. N. (*with* Borisovich, Yu. G.; Bliznyakov, N. M.; Izrailevich, Ya. A.) ★ Введение в топологию. (Russian. English and Russian summaries) [Introduction to topology] Second edition. *Fizmatlit "Nauka", Moscow*, 1995. 416 *pp. ISBN* 5-02-014118-6 (Alexander N. Dranishnikov) **98f:55001** 55–01 (54–01, 57–01)

Fomenko, Valentin T. ARG-deformations of a hypersurface with a boundary in a Riemannian space. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 28–34. (V. Oproiu) **98h:53033** 53B25

Fomethe, Anaclet (*with* Maugin, Gérard A.) Phase-transition fronts in deformable ferromagnets. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 4, 347–362. (D. S. Chandrasekharaiah) **98k:73060** 73R05 (73B30, 82D40)

— (*with* Maugin, Gérard A.) Propagation criterion for phase-transition fronts in thermoelastic ferromagnets. (English and Estonian summaries) EUROMECH Colloquium 348 "Nonlinear Dynamics of Heterogeneous and Microstructured Solids" (Tallinn, 1996). *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 1-2, 48–54. (*see* **98d:73001**) 73B30 (73D99, 73R05)

— (*with* Maugin, Gérard A.) On the crack mechanics of hard ferromagnets. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 1, 85–95. (Summary) **98e:73110** 73R05 (73G05, 73M25)

Fomichev, V. V. (*with* Korovin, S. K.; Il'in, A. V.) The controllable model method in problems of the inversion of dynamical systems. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 171–173. 93B30 (93A30)

Fomin, A. A. (*with* Wickless, William) Quotient divisible abelian groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 45–52. (Fred Richman) **98c:20100** 20K21 (20K40)

Fomin, S. V. (*with* Berenstein, Arkady; Zelevinsky, Andrei) Parametrizations of canonical bases and totally positive matrices. *Adv. Math.* **122** (1996), *no.* 1, 49–149. (Kailash C. Misra) **98j:17008** 17B37 (05E15, 20G05)

— (*with* Kirillov, Anatol N.) The Yang-Baxter equation, symmetric functions, and Schubert polynomials. (English summary) Proceedings of the 5th Conference on Formal Power Series and Algebraic Combinatorics (Florence, 1993). *Discrete Math.* **153** (1996), *no.* 1-3, 123–143. (Jean-Yves Thibon) **98b:05101** 05E05 (14C17, 14M15, 82B23)

— (*with* Kirillov, Anatol N.) Combinatorial B_n-analogues of Schubert polynomials. (English summary) *Trans. Amer. Math. Soc.* **348** (1996), *no.* 9, 3591–3620. (From the introduction) **98e:05110** 05E15 (14M15)

— (*with* Barvinok, A. I.) Sparse interpolation of symmetric polynomials. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 271–285. (Summary) **98i:05164** 05E05 (68Q25, 68Q40)

— (*with* Greene, Curtis; Reiner, Victor; Shimozono, Mark) Balanced labellings and Schubert polynomials. (English summary) *European J. Combin.* **18** (1997), *no.* 4, 373–389. (Witold Kraśkiewicz) **98j:05130** 05E10 (05E05, 05E15)

— (*with* Kirillov, Anatol N.) Reduced words and plane partitions. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 311–319. (Kimmo Eriksson) **98m:05196** 05E15 (05A15)

— (*with* Gelfand, Sergei I.; Postnikov, A. E.) Quantum Schubert polynomials. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 565–596. (Gary P. Kennedy) **98d:14063** 14M15 (05E15, 14N10)

Fomin, V. E. (*with* Lashin, Èl'-Said Radvan) Canonical form of the metric of a Riemannian space of constant curvature of Banach type. (Russian) *Trudy Geom. Sem. Kazan. Univ. No.* 22 (1994), 31–47. (M. Malakhal'tsev (Zbl 841.53016)) **98k:58014** 58B20

Fomin, V. M. *see* **Fomin, Vasilii Mikhailovich**

Fomin, V. N. Linear optimal filtering of discrete homogeneous fields. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 251–275. (Leopoldo Jetto) **98g:93050** 93E11 (60G60, 93E10)

— Linear optimal filtering of discrete homogeneous fields. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 2-3, 177–192. (A. F. Gualtierotti) **98h:60055** 60G35 (93E11)

Fomin, Vasilii Mikhailovich (*with* Levchenko, V. Ya.) Research in aerogas-dynamics at the Institute of Theoretical and Applied Mechanics of the Siberian Branch of the Russian Academy of Sciences during the last decade. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 4, 45–76; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 4, 535–565 (1998). 76–03 (01A65, 76G25)

Fonda, Alessandro (*with* Buttazzoni, Paola) Periodic perturbations of scalar second order differential equations. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 451–455. (Kurt Munk Andersen) **98c:34066** 34C25

— (*with* Zanolin, Fabio) Bounded solutions of nonlinear second order ordinary differential equations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 91–98. (Rafael Ortega) **98h:34072** 34C11 (34C25)

Fon-Der-Flaass, D. G. Local equivalence of transversals in matroids. (English summary) *Electron. J. Combin.* **3** (1996), *no.* 1, *Research Paper* 24, *approx.* 7 *pp.* (*electronic*). (André Bouchet) **98e:05024** 05B35

— Arrays of distinct representatives—a very simple NP-complete problem. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 295–298. (Summary) **98a:05004** 05A05 (68Q25)

— On exponential trees. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 25–27. (Ioan Tomescu) **98m:05043** 05C05 (05C12)

Fonf, V. (*with* Pezzotta, A.; Zanco, C.) Tiling infinite-dimensional normed spaces. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 6, 713–719. (Bor-Luh Lin) **98h:46011** 46B20 (52C99)

Fong, Che Kao (*with* Wu, Pei Yuan) Band-diagonal operators. (English summary) *Linear Algebra Appl.* **248** (1996), 185–204. (Victor S. Shul'man) **98e:47029** 47A65 (47B15)

Fong, Daniel Y. T. (*with* Lawless, J. F.) The analysis of process variation transmission with multivariate measurements. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 151–164. 62N10 (62M20)

Fong, Duncan K. H. (*with* Bolton, Gary E.) Analyzing ultimatum bargaining: a Bayesian approach to the comparison of two potency curves under shape constraints. (English summary) *J. Bus. Econom. Statist.* **15** (1997), *no.* 3, 335–344. 62F15

Fong, I-Kong (*with* Lee, Fu-Ming; Fu, Li Chen) Stable on-line parameter identification with general knowledge on level of information noise: discrete-time case. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 83–91. (Summary) **98c:93106** 93E10

— (*with* Hu, Shao-Chung) An analytic approach for computing pi-coefficients of continuous-time systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 139–147. (Summary) **98g:93020** 93B40 (93D05)

Fong, Yuen (*with* Beidar, K. I.; Ke, Wen-Fong) On the simplicity of centralizer nearrings. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 139–146, *de Gruyter, Berlin*, 1996. (Geoffrey L. Booth) **98c:16059** 16Y30

— (*with* Beidar, K. I.; Knauer, Ulrich; Mikhalëv, A. V.; Shum, Kar Ping) Semigroups with generalized polynomial identities. (English summary) *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 147–157, *de Gruyter, Berlin*, 1996. (Nikola Ruškuc) **98d:20065** 20M10 (20M50)

— (*with* Ke, Wen-Fong; Lee, Ting-Tsung) On weakly syntactic near-rings. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 77–82, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:00006**) 16Y30

— (*with* Beidar, K. I.; Lee, Pjek Hwee; Wang, Ts'ai Lien) On additive maps of prime rings satisfying the Engel condition. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3889–3902. (Summary) **98i:16022** 16R50 (16N60)

— (*with* Beidar, K. I.; Stolin, Alexander) On antipodes and integrals in Hopf algebras over rings and the quantum Yang-Baxter equation. (English summary) *J. Algebra* **194** (1997), *no.* 1, 36–52. (Mitsuhiro Takeuchi) **98f:16026** 16W30 (16L60)

— (*with* Beidar, K. I.; Stolin, Alexander) Symmetric algebras and Yang-Baxter equation. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 15–28. (Shao-Ming Fei) **98g:17012** 17B35 (81R50)

— (*with* Bouchard, P.; Ke, Wen-Fong; Yeh, Yeong Nan) Counting f such that $f \circ g = g \circ f$. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 14–27. (Stanley Gill Williamson) **98c:05003** 05A15 (20D99)

— *see also* **Conference: Mathematics, 98a:00006**

Fonseca, Irene (*with* Malý, Jan) Relaxation of multiple integrals below the growth exponent. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 309–338. (Francesco Ferro) **98e:49030** 49J45 (49J10)

— (*with* Choksi, Rustum) Bulk and interfacial energy densities for structured deformations of continua. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 1, 37–103. (Pablo Pedregal) **98j:73026** 73C50 (49J10, 73B99, 73V25)

— (*with* Acerbi, Emilio; Fusco, Nicola) Regularity results for equilibria in a variational model for fracture. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 889–902. (Pablo Pedregal) **98j:73100** 73V25 (49N60, 49Q20, 73M25)

Fonseca, Jun S. Ono (*with* Kikuchi, Noboru; Nishiwaki, Shinji; Silva, Emílio C. Nelli) Design optimization method for compliant mechanisms and material microstructure. (English summary) Symposium on Advances in Computational Mechanics, Vol. 4 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 3-4, 401–417. (*see* **98i:73002**) 73K40 (73K20, 73S10)

Fonseca, P. D. (*with* Bertolami, O.; Moniz, Paulo Rodrigues Lima Vargas) Quantum cosmological multidimensional Einstein-Yang-Mills model in an $\mathbf{R} \times S^1 \times S^d$ topology. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4530–4543. (Luis J. Garay) **98i:83069** 83E15 (83C45)

Font, Anamaria (*with* Aldazabal, G.; Ibáñez, L. E.; Uranga, A. M.) New branches of string compactifications and their F-theory duals. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 119–151. (Bruce Hunt) **98h:81089** 81T30 (32G81, 32J81, 83E30)

— (*with* Aldazabal, G.; Ibáñez, L. E.; Uranga, A. M.) String-string dualities in $D = 6, 4$ dimensions. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 318–325. (Summary) **98j:81239** 81T30 (14J32, 32J81)

— (*with* Candelas, Philip) Duality between the webs of heterotic and type II vacua. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 295–325. (Bruce Hunt) **98m:81134** 81T30 (14J32, 14M25, 32G81)

Font, Josep Maria (*with* Jansana, Ramon) ★ A general algebraic semantics for sentential logics. Lecture Notes in Logic, 7. *Springer-Verlag, Berlin*, 1996. vi+135 *pp. ISBN* 3-540-61699-3 (Manuel Abad) **98a:03002** 03–02 (03B22)

— Belnap's four-valued logic and De Morgan lattices. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 413–440 (*electronic*). (R. Sh. Grigolia) **98g:03068** 03B50 (03G25)

Font, Juan J. (*with* Araujo, Jesús; Hernández, Salvador) A note on Holsztyński's theorem. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 9–12, *Ann. New York Acad. Sci., 788, New York Acad. Sci., New York*, 1996. (Francesco Altomare) **98g:46028** 46E15 (46E25)

— (*with* Hernández, Salvador) Algebraic characterizations of locally compact groups. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 405–420. (Volker Runde) **98c:47039** 47B38 (43A20, 54C40)

— (*with* Araujo, Jesús) On Šilov boundaries for subspaces of continuous functions. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 79–85. (Summary) **98c:46104** 46J20 (54C40)

Fontaine, Emmanuel (*with* Cointe, Raymond) A slender body approach to nonlinear bow waves. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 565–574. (Summary) **98a:76010** 76B20 (76B10, 76M25)

Fontaine, Jean A semilinear wave equation on hyperbolic spaces. *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 633–659. (Valery Covachev) **98c:58167** 58G16 (35B99, 35L70, 58G17)

Fontana, Luigi (*with* Arcozzi, Nicola) A characterization of the Hilbert transform. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1747–1749. (Hans P. Heinig) **98g:42017** 42A50 (44A15)

Fontana, Marco (*with* Huckaba, James A.; Papick, Ira J.) ★ Prüfer domains. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 203. *Marcel Dekker, Inc., New York*, 1997. x+328 *pp. ISBN* 0-8247-9816-3 (Evan G. Houston) **98d:13021** 13F05 (13A15, 13G05)

— (*with* Gabelli, Stefania) Prüfer domains with class group generated by the classes of the invertible maximal ideals. *Comm. Algebra* **25** (1997), *no.* 12, 3993–4008. (Jean-Luc Chabert) **98j:13017** 13F05 (13C20, 13F20)

— (*with* Izelgue, Lahoucine; Kabbaj, Salah-Eddine; Tartarone, Francesca) On the Krull dimension of domains of integer-valued polynomials. *Exposition. Math.* **15** (1997), *no.* 5, 433–465. (Jean-Luc Chabert) **98m:13027** 13F20 (13C15)

Fontanari, J. F. (*with* Barbato, D. M. L.) Dilution in Boolean perceptrons that learn from noisy examples. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7003–7012. (Dimitri Petritis) **98a:82082** 82C32 (92B20)

— (*with* Alves, D.) Error threshold in the evolution of diploid organisms. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2601–2607. (Summary) **98g:92004** 92D15

— Cycles in a synchronous neural network. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6655–6659. 82C32

— (*with* de Oliveira, Viviane M.) Landscape statistics of the p-spin Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8445–8457. 82B20 (92D15)

Font Belaire, Begoña Bayesian inference in finite populations: a comparative analysis. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 309–320. 62F15 (62D05)

Fonte, G. (*with* Falsaperla, P.) Two methods for determining upper and lower bounds to the eigenvalues of non-semibounded self-adjoint operators. (English summary) *J. Natur. Geom.* **12** (1997), *no.* 2, 101–124. (Summary) **98h:47027** 47A75 (47B25, 49R05, 81Q10)

Fontenas, Éric Sur les constantes de Sobolev des variétés riemanniennes compactes et les fonctions extrémales des sphères. (French summary) [On Sobolev constants of compact Riemannian manifolds and extremal functions of spheres] *Bull. Sci. Math.* **121** (1997), *no.* 2, 71–96. (Summary) **98b:58172** 58G32

Fontenele, F. Submanifolds with parallel mean curvature vector in pinched Riemannian manifolds. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 47–70. (Summary) **98k:53071** 53C40 (53C20)

Fontenelle, Márcia T. (*with* Bužek, V.; Krähmer, D. S.; Schleich, Wolfgang P.) Quantum statistics of grey-body radiation. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 1–5. 82B10 (81V80)

galaz-Fontes, Fernando *see* **Galaz-Fontes, Fernando**

Fontich, Ernest (*with* Casasayas, Josefina; Nunes, Ana) Homoclinic orbits to parabolic points. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 201–216. (Vassili G. Gelfreich) **98c:58147** 58F30 (34C37)

— (*with* Gelfreich, V. G.) On analytical properties of normal forms. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 467–477. (A. D. Bruno) **98d:58161** 58F36 (34C20, 70H05)

Foo, Norman Y. (*with* Peppas, Pavlos; Williams, Mary-Anne) On the expressibility of propositions. (English summary) *Logique et Anal. (N.S.)* **35** (1992), *no.* 139-140, 251–272. (Kazumi Inoue) **98g:03056** 03B45

— (*with* Zhang, Yan[1]) Deriving invariants and constraints from action theories. (English summary) *Fund. Inform.* **30** (1997), *no.* 1, 109–123. (Olga M. Kosheleva) **98m:68260** 68T30 (68T05, 68T20, 93C85)

Foot, R. An alternative $SU(4) \times SU(2)_L \times SU(2)_R$ model. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 333–339. 81V22

Foran, James A note on convergence in measure. *Real Anal. Exchange* **22** (1996/97), *no.* 2, 802–805. (Elżbieta Wagner) **98g:28003** 28A20

— A note on the density of s-dimensional sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 863–865. (Hermann Haase) **98m:28017** 28A80 (28A78)

Forbes, Anne-Marie H. (*with* Forbes, Lawrence K.) A note on the qualitative structure of a quasi-stationary tropical cyclone in the vicinity of the eye. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 1, 1–14. (Summary) **98j:86007** 86A10 (76C05)

Forbes, B. E. (*with* Sitter, Randy R.) Optimal two-stage designs for binary response experiments. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 941–955. (Summary) **98k:62137** 62K05

Forbes, Florence (*with* François, Olivier; Ycart, B.) Stochastic comparison for resource sharing models. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 4, 581–605. (Micha Hofri) **98i:68114** 68Q22 (60K30, 68Q10, 90B22)

— (*with* François, Olivier) Increasing couplings for interacting particle systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 459–464. (Summary) **98j:82026** 82B31 (60K35, 82B20)

— (*with* François, Olivier) Stochastic comparison for Markov processes on a product of partially ordered sets. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 309–320. (Mu Fa Chen) **98j:60136** 60K35

Forbes, G. W. (*with* Butler, D. J.; Gordon, R. L.; Asatryan, A. A.) Algebraic corrections for paraxial wave fields. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3300–3315. (Summary) **98k:78033** 78A45

Forbes, Graeme Logic, logical form, and the open future. *Metaphysics*, 1996, 73–92, *Philos. Perspect.*, 10, *Blackwell, Cambridge, MA*, 1996. (Steve Kuhn) **98g:03051** 03B45 (03A05)

Forbes, Lawrence K. (*with* Sexton, M. J.; Gray, B. F.) A study of the dynamics of a continuously stirred tank reactor with feedback control of the temperature. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 2, 89–107. (Summary) **98d:80016** 80A32 (93C95)

— A two-dimensional model for large-scale bushfire spread. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 171–194. (Summary) **98e:80008** 80A99 (80–08, 80A25, 92D40)

— (*with* Forbes, Anne-Marie H.) A note on the qualitative structure of a quasi-stationary tropical cyclone in the vicinity of the eye. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 1, 1–14. (Summary) **98j:86007** 86A10 (76C05)

Forcheri, Paola (*with* Gentilini, Paolo; Molfino, Maria Teresa) Research in automated deduction as a basis for a probabilistic proof-theory. (English summary) *Logic and algebra (Pontignano, 1994)*, 491–527, *Lecture Notes in Pure and Appl. Math.*, 180, *Dekker, New York*, 1996. (Summary) **98f:03050** 03F30 (03B35)

— (*with* Gentilini, Paolo; Molfino, Maria Teresa) Informational logic for automated reasoning. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 354–372, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:68192** 68T30 (03B35, 68T15, 68T27)

Ford, Ben (*with* Kleshchev, A. S.) A proof of the Mullineux conjecture. *Math. Z.* **226** (1997), *no.* 2, 267–308. (G. D. James) **98k:20015a** 20C30 (05E10)

Ford, David (*with* Havas, George) A new algorithm and refined bounds for extended GCD computation. (English summary) *Algorithmic number theory (Talence, 1996)*, 145–150, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (P. G. Walsh) **98d:11157** 11Y16

— (*with* Johnson, Kenneth Walter) Determinants of Latin squares of order 8. (English summary) *Experiment. Math.* **5** (1996), *no.* 4, 317–325. (Charles Laywine) **98c:05032** 05B15 (15A15)

Ford, G. W. (*with* Lewis, John Trevor; O'Connell, R. F.) Master equation for an oscillator coupled to the electromagnetic field. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 362–385. (Jacques Renaud) **98b:82048** 82C05 (81V10)

Ford, J. A. (*with* Moghrabi, I. A.) Further development of minimum curvature multi-step quasi-Newton methods. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 85–92, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 90C30 (65K05)

— (*with* Moghrabi, I. A.) Alternating multi-step quasi-Newton methods for unconstrained optimization. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 105–116. (*see* **98d:65005**) 90C30 (65K05)

Ford, L. H. Decoherence and vacuum fluctuations. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 741–747, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P99

— (*with* Pfenning, M. J.) The unphysical nature of "warp drive". (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1743–1751. (Eugen Paal) **98g:83014** 83C20 (83C47)

— (*with* Roman, Thomas A.) Restrictions on negative energy density in flat spacetime. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2082–2089. (Summary) **98b:81156** 81T20

— (*with* Svaiter, N. F.) Cosmological and black hole horizon fluctuations. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2226–2235. (Summary) **98d:83052** 83C57

Ford, R. A. (*with* Hamdan, M. H.; Abu Rabia, R.) Numerical simulation of gas-particulate flow through curvilinear porous channels. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 267–284. 76S05 (76M20, 76T05)

Ford, Roseanne M. (*with* Brosilow, Benjamin J.; Sarman, Sten; Cummings, Peter T.) Numerical solution of transport equations for bacterial chemotaxis: effect of discretization of directional motion. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1639–1663. (Summary) **98b:92024** 92D50 (82C70, 82C80, 92D25)

Ford, Timothy J. The Brauer group of a curve over a strictly local discrete valuation ring. (English summary) *Israel J. Math.* **96** (1996),, *part A*, 259–266. (Ming-chang Kang) **98a:13006** 13A20 (12G05, 16H05)

Fordy, Allan P. (*with* Shabat, A. B.; Veselov, A. P.) Factorization and Poisson correspondences. (English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 225–245; *reprinted in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1369–1386 (1996). (Frans Cantrijn) **98m:58053** 58F07 (34L40, 35Q53)

— (*with* Ferapontov, E. V.) Separable Hamiltonians and integrable systems of hydrodynamic type. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 2, 169–182. (Efthymia Meletlidou) **98a:58067** 58F05 (58F07, 70H05)

— (*with* Harris, Simon D.) Hamiltonian flows on stationary manifolds. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 212–238. (Carlo Morosi) **98m:58054** 58F07 (35Q53)

— (*with* Ferapontov, E. V.) Non-homogeneous systems of hydrodynamic type, related to quadratic Hamiltonians with electromagnetic term. (English summary) *Phys. D* **108** (1997), *no.* 4, 350–364. (Efthymia Meletlidou) **98g:58056** 58F05 (35Q35, 58F07, 70H05)

Foreman, Matthew (*with* Beleznay, Ferenc) The complexity of the collection of measure-distal transformations. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 929–962. (Mahesh Nerurkar) **98f:28019** 28D05 (28A05)

— (*with* Baumgartner, James E.; Spinas, Otmar) The spectrum of the Γ-invariant of a bilinear space. (English summary) *J. Algebra* **189** (1997), *no.* 2, 406–418. (Peter Vojtáš) **98a:15056** 15A63 (03E35, 03E75)

— (*with* Magidor, Menachem) A very weak square principle. *J. Symbolic Logic* **62** (1997), *no.* 1, 175–196. (Jakub Jasiński) **98i:03062** 03E05

Forest, M. G. (*with* McLaughlin, K. T.-R.) Onset of oscillations in nonsoliton pulses in nonlinear dispersive fibers. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 1, 43–62. (Victor V. Zharinov) **98k:35197** 35Q99 (78A60)

Forest, S. (*with* Cailletaud, G.; Sievert, Rainer) A Cosserat theory for elastoviscoplastic single crystals at finite deformation. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 4, 705–736. (Victor A. L'vov) **98m:73032** 73C50 (73B27, 73E60, 73G25)

— (*with* Sab, K.) Cosserat overall modeling of heterogeneous materials. *Mech. Res. Comm.* **25** (1998), *no.* 4, 449–454. 73B27

Forestier, Alain (*with* Hérard, Jean-Marc; Louis, Xavier) Solveur de type Godunov pour simuler les écoulements turbulents compressibles. (English and French summaries) [A Godunov-type solver for turbulent compressible flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 919–926. (Tomás Chacón Rebollo) **98g:76048** 76F99 (65M55, 76M10, 76N99)

Forgács, P. (*with* Woynarovich, F.) Scaling limit of the one-dimensional attractive Hubbard model: the half-filled band case. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 3, 565–603. (T. Tuong Truong) **98k:82027** 82B10 (81T10)

— (*with* Balog, J.; Horváth, Zalán; Palla, L.) Quantum corrections of abelian duality transformations in sigma models. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 294–301. (Summary) **98f:81172** 81T10

Förger, Kristin (*with* Ewen, Holger) Simple calculation of instanton corrections in massive $N = 2$ SU(3) SYM. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4725–4742. (C. Gauthier) **98j:81329** 81T60 (14D05, 32G20, 81T13)

— (*with* Ewen, Holger; Theisen, Stefan) Prepotentials in $N = 2$ supersymmetric SU(3) YM theory with massless hypermultiplets. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 63–84. (João P. Nunes) **98a:81222** 81T60 (81T13)

Forger, Michael (*with* Hornos, Yvone M. M.; Hornos, José Eduardo Martinho) Global aspects in the algebraic approach to the genetic code. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7078–7082. (Summary) **98h:92029** 92D20

Forges, Françoise (*with* Minelli, Enrico) Self-fulfilling mechanisms and rational expectations. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 388–406. (Summary) **98h:90029** 90A56

Forgó, F. (*with* Joó, Istvan) Necessary conditions for maxmin=minmax. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 123–135. (Francesco Ferro) **98j:49037** 49K35 (49J35)

Forkel, H. (*with* von Finckenstein, Karl Graf Finck) Difference methods for quasilinear 2D-diffusion problems in toroidal configurations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 477–493. (Magdi M. Shoucri) **98d:76117** 76M20 (65M06, 76X05)

Formaggia, Luca (*with* Scheinine, A. L.; Quarteroni, Alfio) A numerical investigation of Schwarz domain decomposition techniques for elliptic problems on unstructured grids. (English summary) IMACS-COST Conference on Computational Fluid Dynamics, Three-dimensional Complex Flows (Lausanne, 1995). *Math. Comput. Simulation* **44** (1997), *no.* 4, 313–330. (Summary) **98i:65112** 65N55 (76M10, 76M25)

— (*with* Paglieri, L.; Ambrosi, D.; Quarteroni, Alfio; Scheinine, A. L.) Parallel computation for shallow water flow: a domain decomposition approach. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1261–1277. (*see* **98f:76004**) 76M10 (65M55, 65Y05, 76B15)

Formal'skiĭ, A. M. On a modification of the PID controller. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 269–277. 93B52 (93C05)

Formanek, Edward (*with* Dicks, Warren) Automorphism subgroups of finite index in algebraic mapping class groups. (English summary) *J. Algebra* **189** (1997), *no.* 1, 58–89. (Darren D. Long) **98b:20057** 20F32 (20F38, 57M99)

Formanov, Sh. K. (*with* Gharib, Mohamed) A Shepp-Stone local limit theorem for homogeneous Markov chains. (English summary) *Kobe J. Math.* **14** (1997), *no.* 1, 1–9. (Summary) **98h:60097** 60J10 (60F05)

Formato, Ferrante (*with* Borghoff, Uwe M.; Pareschi, Remo; Arcelli, Francesca) Constraint-based protocols for distributed problem solving. (English summary) Con-

current constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 201–225. (*see* **98k:68005**) 68T20 (68Q10)

Formenti, Enrico (*with* Cattaneo, Gianpiero; Mauri, Giancarlo) Rule space transformations and one-dimensional cellular automata. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 409–419, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q90

— (*with* Cattaneo, Gianpiero; Manzini, Giovanni; Margara, Luciano) On ergodic linear cellular automata over Z_m. (English summary) *STACS* 97 (*Lübeck*), 427–438, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68115** 68Q80

Formica, Anna (*with* Missikoff, Michele) A verification algorithm for inheritance hierarchies in object-oriented databases. *Inform. Process. Lett.* **62** (1997), *no.* 5, 269–279. (From the text) **98f:68065** 68P15 (68N15)

Fornaess, John Erik (*with* Grellier, Sandrine) Exploding orbits of Hamiltonian and contact structures. *Complex analysis and geometry* (*Trento*, 1993), 155–171, *Lecture Notes in Pure and Appl. Math.*, 173, *Dekker, New York*, 1996. (A. Klic (Zbl 852.58072)) **98g:32043** 32H99 (58F05)

— (*with* Buzzard, Gregery T.) Compositional roots of Hénon maps. *Geometric complex analysis* (*Hayama*, 1995), 67–73, *World Sci. Publishing, River Edge, NJ*, 1996. (Marco Abate) **98d:32032** 32H50 (58F23)

— (*with* Sibony, Nessim) The closing lemma for holomorphic maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 821–837. (Marco Abate) **98f:32026** 32H50 (58F23)

Fornari, Fabio (*with* Mele, Antonio) Weak convergence and distributional assumptions for a general class of nonlinear arch models. (English summary) *Econometric Rev.* **16** (1997), *no.* 2, 205–227. (Manfred Kraft) **98j:62072** 62P20 (62M05)

Fornasini, Ettore (*with* Marchesini, Giovanni; Valcher, Maria Elena) Matrix pairs and 2D systems analysis. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 56–69, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Summary) **98m:93063** 93C30 (93B25)

— (*with* Valcher, Maria Elena) Directed graph, 2D state models, and characteristic polynomials of irreducible matrix pairs. (English summary) *Linear Algebra Appl.* **263** (1997), 275–310. (Clark Jeffries) **98g:05124** 05C75 (05C20, 05C50)

— (*with* Valcher, Maria Elena) *n*D polynomial matrices with applications to multidimensional signal analysis. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 387–408. (Summary) **98d:94004** 94A12 (94B10)

— (*with* Valcher, Maria Elena) On some connections between bilinear input/output maps and 2D systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 1995–2005. (*see* **98i:00030**) 93A30 (93C30)

— (*with* Valcher, Maria Elena) Primitivity of positive matrix pairs: algebraic characterization, graph-theoretic description, and 2D systems interpretation. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 71–88 (*electronic*). (Summary) **98m:93070** 93C55 (15A48, 93B25)

Fornberg, Bengt (*with* Larsen, Tine B.; Yuen, David A.; Moser, Jiří) A high-order finite-difference method applied to large Rayleigh number mantle convection. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 1-2, 53–83. (Summary) **98m:86013** 86A60 (76R05, 86–08)

— (*with* Driscoll, Tobin A.) A block pseudospectral method for Maxwell's equations. I. One-dimensional case. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 47–65. (Summary) **98m:78005** 78–08

— (*with* White, Benjamin S.) On the chance of freak waves at sea. (English summary) *J. Fluid Mech.* **355** (1998), 113–138. (Summary) **98j:86003** 86A05 (76B15, 78A05)

Forney, G. David, Jr. (*with* Johannesson, Rolf; Wan, Zhe-xian) Minimal and canonical rational generator matrices for convolutional codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1865–1880. (Summary) **98d:94034** 94B10

— *see also* **Codes and complexity**, **98c:94001**

Forni, Giovanni Construction of invariant measures supported within the gaps of Aubry-Mather sets. (English summary) *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 35–40, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:58100** 58F11

Forrer, Hans (*with* Jeltsch, Rolf) A higher-order boundary treatment for Cartesian-grid methods. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 259–277. (Summary) **98m:76107** 76M20

Forrester, Peter J. (*with* Zuk, Josef A.) Applications of the Dotsenko-Fateev integral in random-matrix models. (English summary) *Nuclear Phys. B* **473** (1996), *no.* 3, 616–630. (Jacobus Verbaarschot) **98a:82061** 82B44 (81T40)

— (*with* Odlyzko, Andrew) Gaussian unitary ensemble eigenvalues and Riemann ζ function zeros: a nonlinear equation for a new statistic. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 5, R4493–R4495. (Christian Grosche) **98a:82054** 82B31 (11M26)

— (*with* Baker, T. H.) Finite-N fluctuation formulas for random matrices. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1371–1386. (Estelle L. Basor) **98m:82029** 82B41 (11Z05)

— (*with* Nagao, Taro) Correlations for parameter-dependent random matrices. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 69–110. (Alexei Khorunzhy) **98m:15043** 15A52 (82B31)

— (*with* Baker, T. H.) The Calogero-Sutherland model and polynomials with prescribed symmetry. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 682–716. (Kazuhiro Hikami) **98f:81379** 81V70 (33C80)

— (*with* Nagao, Taro) The smallest eigenvalue distribution at the spectrum edge of random matrices. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 561–598. (Estelle L. Basor) **98j:82029** 82B41 (33C90, 82B05)

Forsgren, Anders (*with* Murray, Walter) Newton methods for large-scale linear inequality-constrained minimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 162–176. (R. Tichatschke) **98a:90097** 90C30

Forsman, Kimmo (*with* Kettunen, Lauri; Bossavit, Alain) Formulation of the eddy current problem in multiply connected regions in terms of h. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 935–954. (Summary) **98m:78007** 78–08

Förste, J. *see* **Gergő, L., 98d:76053**

Förste, Stefan (*with* Kehagias, Alexandros A.; Schwager, Stefan) Non-abelian duality for open strings. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 141–155. (Javier Borlaf González) **98b:81189** 81T30 (81T40)

— (*with* Behrndt, Klaus; Schwager, Stefan) Instanton effects in string cosmology. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 391–408. (Summary) **98k:83081** 83E30 (81T30)

— (*with* Kehagias, Alexandros A.; Schwager, Stefan) Nonabelian T-duality for open strings. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 36–41. (Summary) **98f:81253** 81T30

— (*with* Kehagias, Alexandros A.) Three-dimensional solitonic solutions. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 102–107. (Summary) **98g:81206** 81T60 (32G81)

— (*with* Ghoshal, Debashis; Panda, Sudhakar) An orientifold of the solitonic fivebrane. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 46–52. (Summary) **98j:81268** 81T30

— (*with* Louis, Jan) Duality in string theory. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 3–22. (*see* **98j:81004**) 81T30 (81–02)

Forster, Jonathan J. (*with* Smith, Peter W. F.) Model-based inference for categorical survey data subject to non-ignorable non-response. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 57–70. 62D05

Förster, K.-H. (*with* Nagy, Béla) Spectral sets and projections of operator polynomials. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 40–51. (L. Rodman) **98c:47015** 47A56 (47A25)

— (*with* Nagy, Béla) Local spectral radii and Collatz-Wielandt numbers of monic operator polynomials with nonnegative coefficients. (English summary) *Linear Algebra Appl.* **268** (1998), 41–57. (L. Rodman) **98j:47031** 47A56 (47B60)

Forster, Paul Kant, Boole and Peirce's early metaphysics. (English summary) *Synthese* **113** (1997), *no.* 1, 43–70. 03A05 (01A55)

Forster, W. Homotopies for systems of polynomial equations. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 107–122. (E. Spedicato) **98j:90071** 90C30 (65H20)

Forstnerič, Franc (*with* Buzzard, Gregery T.) A Carleman type theorem for proper holomorphic embeddings. *Ark. Mat.* **35** (1997), *no.* 1, 157–169. (Yi Fei Pan) **98a:32028** 32H02

— (*with* Løw, Erik) Global holomorphic equivalence of smooth submanifolds in $\mathbf{C}^n$. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 133–153. (Marco Abate) **98h:32020** 32E20 (32F25)

Forsyth, P. A. (*with* Kropinski, M. C.) Monotonicity considerations for saturated-unsaturated subsurface flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1328–1354. (Summary) **98c:76103** 76S05 (65M60, 76M10, 76M25)

Fort, H. (*with* Aroca, Josep Maria; Gambini, Rodolfo) Path integral for the loop representation of lattice gauge theories. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7751–7756. (José A. Zapata) **98b:81163** 81T25 (81S40, 81T13)

Fort, J. *see* **Fort, Joaquim**

Fort, Jean-Claude (*with* Pagès, Gilles) Convergence of stochastic algorithms: from the Kushner-Clark theorem to the Lyapounov functional method. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 4, 1072–1094. (Jacek Koronacki) **98b:62147** 62L20 (60F05)

— (*with* Benaïm, Michel; Pagès, Gilles) Convergence presque sûre de l'algorithme de Kohonen unidimensionnel. (English and French summaries) [The a.s. convergence of the one-dimensional Kohonen algorithm] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1407–1412. (Summary) **98d:60059** 60F15 (60J20, 62L20, 68T05, 92B20)

Fort, Joaquim (*with* González, Josep-Abel; Llebot, Josep E.) Information-theoretical derivation of a nonequilibrium extension of Wien's displacement law. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 193–200. 82C03

— (*with* Llebot, Josep E.) Information-theoretical derivation of an extended thermodynamical description of radiative systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 345–354. (Summary) **98i:80005** 80A20 (76N15)

Forte, Sandra (*with* Vianello, Maurizio) Symmetry classes and harmonic decomposition for photoelasticity tensors. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1317–1326. (Summary) **98h:73070** 73R05 (73B10)

Forte Cunto, Ana (*with* Toranzos, Fausto A.) Local characterization of starshapedness. (English summary) *Geom. Dedicata* **66** (1997), *no.* 1, 65–67. (John D. Baildon) **98j:52008** 52A30

Fortes, José A. B. (*with* Lee, Hyuk-Jae[2]) Modular mappings and data distribution independent computations. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 2, 169–180. 68Q10 (68N05)

Forti, Gian Luigi (*with* Paganoni, Luigi) A system of functional equations related to plurality functions. A method for the construction of the solutions. (English summary) *Aequationes Math.* **52** (1996), *no.* 1-2, 135–156. (Gian-Italo Bischi) **98a:39026** 39B62 (92H10)

— Continuous increasing weakly bisymmetric groupoids and quasi-groups in $\mathbf{R}$. (English summary) *Math. Pannon.* **8** (1997), *no.* 1, 49–71. 20N02 (39B22)

— *see also* **Bibliography: Functional equations and inequalities in several variables**

Forti, Marco (*with* Honsell, Furio; Lenisa, Marina) Axiomatic characterizations of hyperuniverses and applications. (English summary) *Papers on general topology and applications* (*Gorham, ME*, 1995), 140–163, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Marion Scheepers) **98a:03076** 03E30 (03E65)

— (*with* Honsell, Furio; Lenisa, Marina) An axiomatization of partial n-place operations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 3, 283–302. (Summary) **98b:08003** 08A55 (03B40, 68Q05, 68Q55)

Forti, Mauro *see* **Liang, Xue Bin, 98k:94019**

Fortiana, J. (*with* Cuadras, C. M.) Weighted continuous metric scaling. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 27–40, *VSP, Utrecht*, 1996. (Rudolf Mathar) **98j:62050** 62H99 (60G99, 62H25)

— (*with* Cuadras, C. M.) Continuous scaling on a bivariate copula. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 137–142, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 62H25 (62H17, 62H30)

— (*with* Cuadras, C. M.) A family of matrices, the discretized Brownian bridge, and distance-based regression. (English summary) *Linear Algebra Appl.* **264** (1997),

173–188. (Summary) **98e:62107** 62J12
— (*with* Cuadras, C. M.; Atkinson, R. A.) Probability densities from distances and discrimination. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 405–411. (Summary) **98a:62069** 62H05 (62H30)
Fortier, Paul *see* **Information theory and applications, 98g:94002**
Fortier, Suzanne (*with* Leherte, Laurence; Glasgow, Janice; Baxter, Kim; Steeg, Evan) Analysis of three-dimensional protein images. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 125–159 (*electronic*). 92C40 (92D20)
Fortin, A. (*with* Béliveau, A.; Demay, Y.) Numerical solution of transport equations with applications to non-Newtonian fluids. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 311–322, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 65M06 (76A05, 76M25)
— (*with* Jardak, M.; Gervais, Jean-Jacques; Pierre, Roger) Localization of Hopf bifurcations in fluid flow problems. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 11, 1185–1210. (Summary) **98a:76019** 76D05 (76E99, 76M10, 76M25)
Fortin, Michel (*with* Farhloul, Mohamed) Méthodes duales-hybrides pour les équations de l'élasticité linéaire: une approche unifiée. (French summary) [Dual-hybrid methods for the equations of linear elasticity: a unified approach] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 87–97 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98g:73037** 73V05 (65N30, 73C02)
— (*with* Yang, Geng; Delfour, Michel C.) Error analysis of mixed finite elements for cylindrical shells. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 261–277. (Juhani Pitkäranta) **98i:73062** 73V05 (65N30, 73K15)
— (*with* Guénette, Robert; Pierre, Roger) Numerical analysis of the modified EVSS method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 79–95. (Summary) **98c:65167** 65M60 (73V05, 76M10)
— (*with* Dutto, Laura C.; Habashi, Wagdi G.) An algebraic multilevel parallelizable preconditioner for large-scale CFD problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 303–318. (*see* **98f:73002**) 76M25
— (*with* Farhloul, Mohamed) Dual hybrid methods for the elasticity and the Stokes problems: a unified approach. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 419–440. (Ji Chun Li) **98f:65106** 65N30 (73V05, 76M10)
— (*with* Yang, Geng; Dutto, Laura C.) Inexact block Jacobi-Broyden methods for solving nonlinear systems of equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1367–1392. (Ljiljana Petković) **98i:65044** 65H10 (65Y05, 76D05, 76M25, 76Y05)
— (*with* Habashi, Wagdi G.; Dompierre, J.; Vallet, M.-G.; Bourgault, Y.) Anisotropic mesh adaptation: a step towards a mesh-independent and user-independent CFD. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 99–117, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98k:65055** 65M50 (76M25)
Fortini, Sandra (*with* Ladelli, L.; Regazzini, Eugenio) A central limit problem for partially exchangeable random variables. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 353–379; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 224–246 (1997). (N. C. Weber) **98f:60039** 60F05 (60G09)
— *see also* **Liseo, Brunero et al., 98f:62069**
Fortnow, Lance (*with* Freivalds, Rūsiņš; Gasarch, William Ian; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank C.) Measure, category and learning theory. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 558–569, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68158** 68Q99 (03D20, 68T05)
— (*with* Fenner, Stephen A.; Li, Lide) Gap-definability as a closure property. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 1–17. (Lane Hemaspaandra) **98e:68075** 68Q15 (03D15)
— (*with* Buhrman, Harry; Fenner, Stephen A.) Results on resource-bounded measure. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 188–194, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15
— (*with* Buhrman, Harry) Resource-bounded Kolmogorov complexity revisited. (English summary) *STACS* 97 (*Lübeck*), 105–116, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98i:68131** 68Q30 (68Q15)
Fortov, V. E. (*with* Karpenko, A. P.; Lyakhov, V. N.; Protasov, I. N.) Numerical modeling of an unsteady three-dimensional gas flow with shock waves and flow separation from the surface. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 8, 36–59. 76M20 (76L05, 76N15)
— (*with* Kondaurov, V. I.; Kutlyarova, N. V.) Damage and failure of brittle initially porous materials. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 342–345; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 395–398. 73M25
Fortunato, Donato (*with* Benci, Vieri) Geodesics on space-time manifolds: a variational approach. *Variational methods in nonlinear analysis* (*Erice*, 1992), 1–37, *Gordon and Breach, Basel*, 1995. (Anna Germinario) **98g:58027** 58E10 (49Q20, 53C22, 83C99)
— Morse theory and nonlinear elliptic problems. *Progress in elliptic and parabolic partial differential equations* (*Capri*, 1994), 163–172, *Pitman Res. Notes Math. Ser.*, 350, *Longman, Harlow*, 1996. (James F. Reineck) **98a:58030** 58E05 (35J65)
Fortune, Steven (*with* Chew, L. Paul) Sorting helps for Voronoi diagrams. (English summary) *Algorithmica* **18** (1997), *no.* 2, 217–228. (Hans-Dietrich Hecker) **98c:68202** 68U05 (52B55, 68Q25)
— *see also* **ACM Symposium: Computational Geometry, 98e:68255**
Forys, U. Global analysis of Marchuk's model in a case of weak immune system. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 97–106. (Summary) **98h:92020** 92C60
Fosam, E. B. (*with* Kanji, G. K.) Applications of characterization theory to mixture distributions. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 23–28. 62E10
— (*with* Shanbhag, D. N.) Variants of the Choquet-Deny theorem with applications. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 101–106. (Ludwig Baringhaus) **98c:62018** 62E10 (60E05)
Fosco, C. D. (*with* Trinchero, R. C.) Regularized overlap and the chiral determinant. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 170–178. (Tobias Hurth) **98a:81206** 81T50
Fosdick, Roger L. (*with* Yu, Jang-Horng) Thermodynamics, stability and non-linear oscillations of viscoelastic solids. I. Differential type solids of second grade. (English summary) *Internat. J. Non-Linear Mech.* **31** (1996), *no.* 4, 495–516. (Igor Bock) **98c:73044** 73F15 (73B30, 73H10, 73K15)
— (*with* Yu, Jang-Horng) Thermodynamics, stability and non-linear oscillations of viscoelastic solids. II. History type solids. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 1, 165–188. (Introduction) **98f:73021** 73F15 (73B30, 73K12, 73K15)
Foss, S. G. (*with* Chernova, N. I.) Comparison theorems and ergodic properties of polling systems. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 46–71; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 342–364 (1997). (Summary) **98c:60121** 60K25
Fößmeier, Ulrich (*with* Kaufmann, Michael) Nice drawings for planar bipartite graphs. (English summary) *Algorithms and complexity* (*Rome*, 1997), 122–134, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68R10 (68U05)
— (*with* Kaufmann, Michael; Zelikovsky, A.) Faster approximation algorithms for the rectilinear Steiner tree problem. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 93–109. (Ding Zhu Du) **98c:05046** 05C05 (05C85, 68U05)
Fossorier, Marc P. C. (*with* Lin, Shu) Some decomposable codes: the $|a + x|b + x|a + b + x|$ construction. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1663–1667. 94B60
— (*with* Lin, Shu) Complementary reliability-based decodings of binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1667–1672. 94B05
— (*with* Lin, Shu) A unified method for evaluating the error-correction radius of reliability-based soft-decision algorithms for linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 691–700. (Summary) **98i:94033** 94B05
Foster, D. J. (*with* Keys, R. G.; Schmitt, D. P.) Detecting subsurface hydrocarbons with elastic wavefields. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 195–218, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 86A15 (73D50)
Foster, Damien P. (*with* Collet, Pierre; Dunlop, François; Gobron, Thierry) Product measures and dynamics for solid-on-solid interfaces. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 509–536. (Barbara Gentz) **98k:82122** 82C22 (60K35, 82C20, 82C24)
Foster, Dean P. (*with* Vohra, Rakesh V.) Calibrated learning and correlated equilibrium. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 40–55. (Summary) **98k:90138** 90D05 (90D10)
Foster, E. A. D. A causal bifurcation sequence producing a chaotic transient regime. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 319–330. (Laura Gardini) **98e:58126** 58F14 (58F13)
Foster, Ian T. (*with* Worley, Patrick H.) Parallel algorithms for the spectral transform method. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 806–837. (Summary) **98j:65091** 65T20 (65M60, 65Y05)
Foster, Leslie V. The growth factor and efficiency of Gaussian elimination with rook pivoting. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 177–194. (Jin Yun Yuan) **98k:65013** 65F05 (65G05)
Foster, M. R. (*with* Duck, Peter W.; Hewitt, Richard E.) On the boundary layer arising in the spin-up of a stratified fluid in a container with sloping walls. (English summary) *J. Fluid Mech.* **335** (1997), 233–259. (Murad Brutyan) **98d:76161** 76V05 (76D10, 76U05)
— (*with* Kunka, M. D.; Tanveer, S.) Dendritic crystal growth for weak undercooling. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part B*, 3068–3100. (Summary) **98k:80009** 80A22
Fotakis, Dimitris (*with* Spirakis, Paul G.) (poly(log log n), poly(log log n))-restricted verifiers are unlikely to exist for languages in NP. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 360–371, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98j:68036** 68Q15 (03D15)
Foth, Philip A. (*with* Tamarkin, Dmitry E.) Generalized topological index. (English summary) *K-Theory* **12** (1997), *no.* 4, 361–369. (Hiroshi Takai) **98k:19009** 19L47 (19K56, 58G10)
Fotia, G. (*with* Wilders, P.) Distributed implicit stepping with unstructured finite volumes for 2D-transport. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 433–446. (Summary) **98i:76073** 76M25 (65M55, 76S05)
Fotiadis, D. I. (*with* Charalambopoulos, A.; Dassios, George; Massalas, C. V.) Dynamic characteristics of the human skull-brain system. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 81–101. 92C10
Foucart, Thierry Stabilité de la matrice inverse d'une matrice symétrique définie positive. (English and French summaries) [Stability of the inverse matrix of a positive definite symmetric matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 91–96. (Summary) **98f:62194** 62J05 (15A09)
— Numerical analysis of a correlation matrix. (English summary) *Statistics* **29** (1997), *no.* 4, 347–361. (Summary) **98d:62092** 62H05 (62J05)
Fouché, W. L. Descriptive complexity and reflective properties of combinatorial configurations. (English summary) *J. London Math. Soc.* (2) **54** (1996), *no.* 1, 199–208. (Andreas Blass) **98a:03063** 03D15 (03E05, 60A99, 68Q30)
— Symmetry and the Ramsey degree of posets. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 309–315. (C. St. J. A. Nash-Williams) **98h:05175** 05D10 (06A07)
Foufoula-Georgiou, Efi (*with* Cârsteanu, Alin; Sapozhnikov, Victor B.; Venugopal, V.) Absolute optimal time-frequency basis—a research tool. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7133–7146. 94A05
Fougère, Denis (*with* Bonnal, Liliane; Sérandon, Anne) Evaluating the impact of French employment policies on individual labour market histories. (English summary) Evaluation of training and other social programmes (Madrid, 1993). *Rev. Econom. Stud.* **64** (1997), *no.* 4, 683–713. (*see* **98g:90006**) 90A50 (90A11)
Fougères, A.-L. (*with* Capéraà, Philippe; Genest, C.) A stochastic ordering based on a decomposition of Kendall's tau. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 81–86, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E15 (62G99)
Fouks, Jean-Denis (*with* Spehner, Jean-Claude) Meta-resolution: an algorithmic formalisation. (English summary) *Theoret. Comput. Sci.* **166** (1996), *no.* 1-2, 147–172. (Summary) **98m:68236** 68T15 (03B05, 03B35, 03D15, 68Q25)

Fouladvand, M. E. (*with* Khorashad, A. S.) Thermodynamics properties of one-dimensional Z_3 quantum Potts chain. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 18, 785–793. (Takeo Kojima) **98m:82020** 82B23 (81R50, 82B20)

Foulds, L. R. (*with* Haughland, D.) Multiperiod mixed integer programming models and techniques for new petroleum refinery construction. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 69–76. 90C11 (90C90)

— (*with* Yamaguchi, Tadashi) A partial joining operation on graphs and a graphical distance. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 103–107. (Summary) **98k:05060** 05C12

Foulis, David J. (*with* Pták, Pavel) On absolutely compatible elements and hidden variables in quantum logics. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 19–29. (Manfred Stern) **98m:81008** 81P10 (03G12, 06C15)

— (*with* Bennett, M. K.) Interval and scale effect algebras. *Adv. in Appl. Math.* **19** (1997), *no.* 2, 200–215. (Joel Berman) **98m:06024** 06F20 (03G12, 08A55, 81P10)

— Mathematical metascience. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 1, 1–50. (Jean-Pierre Ginisti) **98m:03124** 03G10 (00A30, 03B30, 81P10)

mayer-Foulkes, David *see* **Mayer-Foulkes, David**

Foulon, Patrick Locally symmetric Finsler spaces in negative curvature. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1127–1132. (David Bao) **98f:53064** 53C60

Foundas, E. (*with* Georgiacodis, M.) On the construction of Eulerian permutations. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 89–96. (Summary) **98a:05005** 05A05

Fountain, John B. Maximal orders in semigroups. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 111–124, *World Sci. Publishing, River Edge, NJ*, 1996. (P. R. Jones) **98m:20077** 20M17 (16H05)

— (*with* Bulman-Fleming, Sydney) Products of idempotent endomorphisms of free acts of infinite rank. (English summary) *Monatsh. Math.* **124** (1997), *no.* 1, 1–16. (D. C. Jackson) **98j:20095** 20M30

Fouque, Jean-Pierre (*with* Bailly, Florence; Clouet, J. F.) Parabolic and Gaussian white noise approximation for wave propagation in random media. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 5, 1445–1470. (Kazimierz Sobczyk) **98e:60105** 60H15 (35Q99, 35R60, 73B35, 73D25)

— (*with* Garnier, Josselin) On waves in random media in the diffusion-approximation regime. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 31–48, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 35Q35 (35L05, 76Q05, 78A45)

Fouqueré, Christophe (*with* Vauzeilles, Jacqueline) Linear logic for taxonomical networks and database updates (preliminary report). (English summary) *Linear logic* 96 (*Tokyo*), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B70 (03F50, 68P15)

— (*with* Coupey, Pascal) Extending conceptual definitions with default knowledge. (English summary) *Comput. Intelligence* **13** (1997), *no.* 2, 258–299. (Olga M. Kosheleva) **98h:68211** 68T27 (03B60, 03B70, 68T30)

Fouquet, Jean-Luc (*with* Giakoumakis, Vassilis) On semi-P_4-sparse graphs. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 277–300. (Chinh T. Hoang) **98d:05053** 05C15 (05C35)

— (*with* Berge, Claude) On the optimal transversals of the odd cycles. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 169–175. (Summary) **98c:05094** 05C38

— (*with* Parfenoff, I.; Thuillier, H.) An $O(n)$ time algorithm for maximum matching in P_4-tidy graphs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 6, 281–287. (Summary) **98b:05089** 05C85 (05C70, 68R10)

Fourdrinier, Dominique (*with* Strawderman, William E.) A paradox concerning shrinkage estimators: should a known scale parameter be replaced by an estimated value in the shrinkage factor? (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 109–140. (Margaret P. Gessaman) **98d:62033** 62F10 (62C15, 62C20, 62H12)

— (*with* Strawderman, William E.; Wells, Martin T.) Sur les estimateurs de Bayes minimax: une méthode constructive. (English and French summaries) [On Bayes minimax estimators: a constructive method] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1143–1148. (Summary) **98a:62073** 62H12 (62C20)

Fourer, Robert Extending a general-purpose algebraic modeling language to combinatorial optimization: a logic programming approach. *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 31–74, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27 (68N17)

— (*with* Czyzyk, Joseph; Mehrotra, Sanjay) Using a massively parallel processor to solve large sparse linear programs by an interior-point method. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 553–565 (*electronic*). 65K05 (65Y05)

Fourman, Michael (*with* Thielecke, Hayo) A proposed categorical semantics for ML modules. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 240–252, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (*see* **98c:68008**) 68N15 (68Q55)

Fournelle, T. A. (*with* Weston, K. W.) ★ Generalizations of Steinberg groups. Series in Algebra, 4. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+230 *pp. ISBN* 981-02-2028-6 (Saïd N. Sidki) **98h:20046** 20F05 (17B65, 20G35)

Fournet, Cédric (*with* Gonthier, Georges; Lévy, Jean-Jacques; Maranget, Luc; Rémy, Didier) A calculus of mobile agents. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 406–421, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10

— (*with* Laneve, Cosimo; Maranget, Luc; Rémy, Didier) Implicit typing à la ML for the join-calculus. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 196–212, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68N15 (03B70, 68Q60)

Fournie, Eric (*with* Lasry, J. M.; Lions, Pierre-Louis) Some nonlinear methods for studying far-from-the-money contingent claims. *Numerical methods in finance*, 115–145, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Monique Pontier) **98m:90029** 90A12 (90A09)

— (*with* Lasry, J. M.; Touzi, Nizar) Monte Carlo methods for stochastic volatility models. *Numerical methods in finance*, 146–164, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Monique Pontier) **98m:90018** 90A09 (65C05, 90A12)

— (*with* Lebuchoux, Jérôme; Touzi, Nizar) Small noise expansion and importance sampling. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 361–376. (Summary) **98e:90026** 90A09 (60H10, 60J60)

Fournier, Gilles (*with* Aït Ouassarah, Abderrahman; Belley, Jean-Marc) Note sur une méthode semi-variationnelle pour l'équation du pendule avec friction et forcing périodique de moyenne non nulle. (English and French summaries) [Note on a semivariational method for the pendulum equation with friction and periodic forcing of nonzero mean value] *Ann. Sci. Math. Québec* **20** (1996), *no.* 2, 109–117. (Jean Mawhin) **98a:58056** 58E30 (34B15, 34C25, 58F22)

— *see also* **Mawhin, Jean.** (**98b:34002**)

charoa-Fournier, Irène *see* **Charoa-Fournier, Irène**

Fournier, Jean-Daniel (*with* Mezincescu, G. Andrei; Bessis, Daniel; Mantica, Giorgio; Aaron, Francisc D.) Distribution of roots of random real generalized polynomials. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 675–705. (Kambiz Farahmand) **98e:60077** 60G99 (26C10, 30B20, 60F05)

Fournier, John J. F. Local and global properties of functions and their Fourier transforms. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 1, 115–131. (Satoru Igari) **98b:42009** 42A38

Fournier-Prunaret, Daniele (*with* Gardini, Laura; Mira, Christian) Properties of invariant areas in two-dimensional endomorphisms. (English summary) *Iteration theory* (*Batschuns*, 1992), 112–125, *World Sci. Publishing, River Edge, NJ*, 1996. (Remo Badii) **98a:58111** 58F12 (34C35, 58F13)

Fournou, E. (*with* Argyrakis, P.; Kargas, B.; Anninos, Photios A.) Hybrid neural nets with Poisson and Gaussian connectivities. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 847–867. (Dimitri Petritis) **98k:82136** 82C32 (92B20)

Fourrier, Laurence Topologie d'un polynôme de deux variables complexes au voisinage de l'infini. (English and French summaries) [Topology of a polynomial of two complex variables in a neighborhood of infinity] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 3, 645–687. (N. V. Ivanov) **98e:32066** 32S55 (14B05, 32S50, 57M25)

Foussats, A. (*with* Repetto, C. E.; Zandron, O. P.; Zandron, O. S.) Faddeev-Jackiw method versus canonical exterior formalism in quantum $(1+1)$ supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 269–284. (Paulo Moniz) **98a:83122** 83E50 (81T60)

— (*with* Repetto, C. E.; Zandron, O. P.; Zandron, O. S.) Nonlinear sigma model in the Faddeev-Jackiw quantization formalism. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2923–2935. (Summary) **98m:81190** 81T70

Foutsitzi, G. (*with* Kalpakidis, V. K.; Massalas, C. V.) On the existence and uniqueness in linear thermoviscoelasticity. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 33–43. (Mircea Sofonea) **98a:73030** 73F15 (35B45, 35Q72, 73B30)

Foutz, Robert V. (*with* Kim, Kangkyun) Kolmogorov-type tests of goodness-of-fit against stochastic ordering. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 885–897. (Thomas W. Epps) **98c:62091** 62G10

— (*with* Lee, Hoonja) A new spectral model for binary or categorical-valued time series data. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 3, 217–235. 62M15

Fouvry, Étienne (*with* Iwaniec, Henryk) Gaussian primes. *Acta Arith.* **79** (1997), *no.* 3, 249–287. (John B. Friedlander) **98a:11120** 11N05 (11N32, 11N35, 11N36)

— (*with* Michel, Philippe G.) Sur certaines sommes d'exponentielles sur les nombres premiers. (English and French summaries) [Some exponential sums over primes] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 1, 93–130. (John B. Friedlander) **98m:11088** 11L07 (11G25)

Fowler, A. C. ★ Mathematical models in the applied sciences. (English summary) Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1997. xiv+402 *pp. ISBN* 0-521-46140-5; 0-521-46703-9 (John Adam) **98j:00012** 00A71 (00A69, 73Bxx, 76Dxx, 92B05)

— (*with* Kember, G.; Evans, H. B.) Local nonlinear filtering. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 5, 411–425. (Summary) **98c:93111** 93E11 (34C99, 58F40, 70K50)

Fowler, Ronald Frederick *see* **Thatcher, Roger**

Fox, Geoffrey Charles (*with* Haupt, Tomasz; Klasky, Scott) HPF for numerical relativity. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30

Fox, Martin Adaptive estimation of a function of a mean vector. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 109–115. (Summary) **98g:62148** 62L12 (62C15)

Fox, R. O. The Lagrangian spectral relaxation model of the scalar dissipation in homogeneous turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2364–2386. (Summary) **98e:76053** 76F99 (76M35)

Fox, Robert *see* **Gillispie, Charles Coulston, 98k:01026**

Fox, Ronald F. (*with* Jung, Peter) Quasiadiabatic time evolution, avoided level crossings, and Berry's phase. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 4, 2339–2346. (Summary) **98m:81046** 81Q99

Fox, Thomas F. (*with* Markl, Martin) Distributive laws, bialgebras, and cohomology. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 167–205, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (R. Gylys) **98a:18006** 18C10 (16W30, 18C15, 18D15, 18G10, 18G60)

Foxby, Hans-Bjørn (*with* Avramov, Luchezar L.) Ring homomorphisms and finite Gorenstein dimension. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 241–270. (Santiago Zarzuela Armengou) **98d:13014** 13D05 (13B10, 13H10, 14E40)

del Fra, Alberto *see* **Del Fra, Alberto**

van Fraassen, Bas C. Probabilité conditionnelle et certitude. (English summary) [Conditional probability and certainty] With comments in English by William Harper and Alan Hajek. Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 69–100. (Otávio Bueno) **98m:03052** 03B48

— *see also* **Topics in the foundation of statistics, 98i:00009** *and* **Roeper, Peter, 98i:03031**

Frabetti, Alessandra Dialgebra homology of associative algebras. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 135–140. (Summary) **98f:16010** 16E40

Frachot, Antoine (*with* Lesne, Jean-Philippe) Modèles factoriels de la structure par termes des taux d'intérêt: théorie et application économétrique. (English and French sum-

maries) [Factor models of the term structure of interest rates: theory and econometric applications] *Ann. Économ. Statist.* **1995,** *no.* 40, 11–36. 90A20 (62P20)

Frączak, Wojciech (*with* Best, Eike; Fleischhack, Hans; Hopkins, Richard P.; Klaudel, Hanna; Pelz, Elisabeth) A class of composable high level Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 103–120, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

— (*with* Pelz, Elisabeth) Improved implementations via a new structural equivalence on labeled nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 117–135, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98k:68061** 68Q10 (68Q90)

Frączek, Krzysztof M. On a function that realizes the maximal spectral type. (English summary) *Studia Math.* **124** (1997), *no.* 1, 1–7. (Ian Raymond Doust) **98f:47027** 47B15 (28D05, 47A10)

— Cyclic space isomorphism of unitary operators. (English summary) *Studia Math.* **124** (1997), *no.* 3, 259–267. (Mahendra G. Nadkarni) **98m:28033** 28D05 (47B15)

Fradelizi, M. Sections of convex bodies through their centroid. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 515–522. (Uwe Schnell) **98h:52004** 52A20

Fradkin, Efim Samollovich (*with* Pal′chik, M. Ya.) ★ Conformal quantum field theory in *D*-dimensions. (English summary) Translated from the Russian manuscript by L. Fradkina. Mathematics and its Applications, 376. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xii+461 *pp. ISBN* 0-7923-4158-9 (Sergey Merkulov) **98g:81002** 81–02 (81T10, 81T13, 81T40)

— (*with* Pal′chik, M. Ya.) An axiomatic approach to conformal quantum field theory in *D* dimensions. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 320–322. (Stanislav Z. Pakuliak) **98h:81076** 81T10 (81R05, 81T40)

Fradkin, L. Ju. (*with* Osborne, A. R.) A non-linear model for fluid parcel motions in the presence of many large and meso-scale vortices. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 83–96, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98k:86003** 86A05 (76F99, 76M35, 76R99)

Fradkina, L. *see* **Fradkin, Efim Samollovich, 98g:81002**

Fradkov, A. L. (*with* Stotskiĭ, A. A.) Speed-gradient algorithms in problems of the adaptive control of mechanical systems. *J. Comput. Systems Sci. Internat.* **32** (1994), *no.* 4, 67–75; *translated from Izv. Ross. Akad. Nauk Tekhn. Kibernet.* **1993,** *no.* 2, 58–66 (*Russian. Russian summary*). 93C40

— (*with* Makarov, I. A.) Linearization of nonholonomic control systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 5, 3–16; *translation in Automat. Remote Control* **57** (1996), *no.* 5, *part* 1, 615–625. (V. A. Sobolev) **98a:93012** 93B18 (70F25, 70Q05, 93B10)

— (*with* Barabanov, Nikita E.; Gelig, A. Kh.; Leonov, G. A.; Likhtarnikov, A. L.; Matveev, A. S.; Smirnova, V. B.) The frequency theorem (the Yakubovich-Kalman lemma) in control theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 10, 3–40; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1377–1407 (1997). (Summary) **98m:93002** 93–02 (49J15, 93C80, 93Dxx)

— (*with* Druzhinina, M. V.; Nikiforov, V. O.) Remarks on: "Methods for the adaptive control of nonlinear objects with respect to output" [Avtomat. i Telemekh. **1996**, no. 2, 3–33; MR 97d:93046]. (Russian) *Avtomat. i Telemekh.* **1997,** *no.* 6, 219. 93C40 (93–02, 93B10, 93C10)

— (*with* Markov, A. Yu.) Adaptive synchronization of chaotic systems based on speed gradient method and passification. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 905–912. (*see* **98g:93002**) 93C10 (58F40, 93D15)

— (*with* Guzenko, P. Yu.) Gradient control of Hénon map dynamics. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 701–705. (Summary) **98b:58113** 58F13

— (*with* Markov, A. Yu.) Synthesis of an adaptive control of a Chua electric circuit by the velocity gradient method. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 2, 122–130, 189–190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 251–258. 93C40 (94C05)

— (*with* Blekhman, I. I.; Nijmeijer, Henk; Pogromsky, A. Yu.) On self-synchronization and controlled synchronization. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 299–305. (Summary) **98k:93052** 93C10 (34C99, 58F40)

Fradon, Myriam Diffusions réfléchies réversibles dégénérées. (English and French summaries) [Degenerate reversible reflected diffusions] *Potential Anal.* **6** (1997), *no.* 4, 369–414. (Zoran Vondraček) **98f:60149** 60J50 (31C25, 60J45, 60J55, 60J60)

Fraenkel, Aviezri S. Scenic trails ascending from sea-level Nim to alpine chess. (English summary) *Games of no chance* (*Berkeley, CA*, 1994), 13–42, *Math. Sci. Res. Inst. Publ.*, 29, *Cambridge Univ. Press, Cambridge*, 1996. (Imma J. Curiel) **98b:90195** 90D46 (05C99, 90D05)

— Error-correcting codes derived from combinatorial games. (English summary) *Games of no chance* (*Berkeley, CA*, 1994), 417–431, *Math. Sci. Res. Inst. Publ.*, 29, *Cambridge Univ. Press, Cambridge*, 1996. (Ram Autar) **98h:94023** 94B05 (90D46)

— (*with* Simpson, R. Jamie; Paterson, M. S.) On weak circular squares in binary words. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 76–82, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68140** 68R15

— Combinatorial game theory foundations applied to digraph kernels. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 10, *approx.* 17 *pp.* (*electronic*). (Summary) **98d:05138** 05C90 (05C85, 68Q25, 90D43)

— (*with* Simpson, R. Jamie) How many squares can a string contain? (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 1, 112–120. (Summary) **98m:68221** 68R15 (11B85)

Fraenkel, L. E. (*with* McLeod, J. Bryce) Some results for the entry of a blunt wedge into water. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 523–535. (Touvia Miloh) **98g:76004a** 76B10

— *see also* **Errata: "Some results for the entry of a blunt wedge into water", 98g:76004b**

Fraer, Ranan Tracing the origins of verification conditions. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 241–255, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q60

González Fragoso, Antonio *see* **González Fragoso, Antonio**

Fragoso, M. D. (*with* Costa, Oswaldo L. V.; de Souza, Carlos E.) A new approach to linearly perturbed Riccati equations arising in stochastic control. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 99–126. (Gerhard Freiling) **98k:93120** 93E20 (34H05, 93D15, 93E05)

Fraguela Collar, Andrés Motion of an ideal heavy liquid in an unbounded elastic container. (Spanish. English and Spanish summaries) *Rev. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **89** (1995), *no.* 1-2, 31–51. (Summary) **98h:76009** 76B10 (35Q72, 73K70)

— Guided waves in a fluid layer on an elastic irregular bottom. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 243–276. (Shu Ming Sun) **98a:76006** 76B15 (73K70)

Fragulis, G. F. *see* **Karampetakis, N. P., 98i:93003**

Frahm, Holger (*with* It-s, A. R.; Korepin, Vladimir E.) An operator-valued Riemann-Hilbert problem associated with the *XXX* model. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 133–142, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (Anne Schilling) **98f:82046** 82B23 (58F07)

— (*with* Eßler, Fabian H. L.; It-s, A. R.; Korepin, Vladimir E.) Determinant representation for a quantum correlation function of the lattice sine-Gordon model. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 219–244. (Deng Feng Wang) **98d:81069** 81T25 (82B20, 82B23)

— (*with* Bedürftig, Gerald) Spectrum of boundary states in the open Hubbard chain. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4139–4149. (Summary) **98i:82013** 82B20

— (*with* Rödenbeck, Claus) Properties of the chiral spin liquid state in generalized spin ladders. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4467–4479. (Summary) **98k:82034** 82B20 (82B26)

Fraigniaud, Pierre On XRAM and PRAM models, and on data-movement-intensive problems. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 225–237. (Summary) **98h:68072** 68Q10 (68Q05)

Fraiman, G. M. (*with* Ivanychev, D. N.) Formation of soliton pairs in nonlinear media with small dissipation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 254–271; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 199–213. (Summary) **98d:35190** 35Q53

Fraiman, Ricardo (*with* Boente, Graciela; Meloche, Jean) Robust plug-in bandwidth estimators in nonparametric regression. (English summary) Robust statistics and data analysis, I. *J. Statist. Plann. Inference* **57** (1997), *no.* 1, 109–142. (Lin-Cheng Zhao) **98g:62057** 62G05 (62G20)

mõseneder Frajria, Pierluigi *see* **Mõseneder Frajria, Pierluigi**

Frame, Michael (*with* Clancy, Colleen) Fractal geometry of restricted sets of circle inversions. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 689–699. (Christoph Bandt) **98c:28006** 28A80 (68Q45)

França, Felipe M. G. (*with* Protti, Fábio; Szwarcfiter, Jayme Luiz) On computing all maximal cliques distributedly. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 37–48, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 68R10 (68Q10)

França, H. M. (*with* Santos, R. B. B.) Anomalous paramagnetic behavior: the role of zero-point electromagnetic fluctuations. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 227–234. (Summary) **98m:81013** 81P20

Franca, Leopoldo P. An overview of the residual-free-bubbles method. *Numerical methods in mechanics* (*Concepción*, 1995), 83–92, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (*see* **98g:65009**) 65M06 (65–02)

— (*with* Russo, Alessandro) Mass lumping emanating from residual-free bubbles. (English summary) *Comput. Methods Appl. Mech. Engrg.* **142** (1997), *no.* 3-4, 353–360. (Summary) **98c:76064** 76M10 (65N30)

— (*with* Russo, Alessandro) Unlocking with residual-free bubbles. (English summary) *Comput. Methods Appl. Mech. Engrg.* **142** (1997), *no.* 3-4, 361–364. (Summary) **98d:73060** 73V05 (65N30, 73K05)

— (*with* Brezzi, Franco; Hughes, Thomas J. R.; Russo, Alessandro) $b = \int g$. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 329–339. (I. N. Molchanov) **98g:65086** 65M50 (65M60, 73V05)

— (*with* Farhat, Charbel; Macedo, Antonini P.; Lesoinne, Michel) Residual-free bubbles for the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 4003–4009. 65N06 (65N50)

— (*with* Farhat, Charbel; Lesoinne, Michel; Russo, Alessandro) Unusual stabilized finite element methods and residual free bubbles. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 159–168. (Summary) **98k:76087** 76M10 (65N30)

Francaviglia, Mauro Generalized symmetries and BRST-invariance in the Poincaré-Cartan formalism. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 27–39, *World Sci. Publishing, River Edge, NJ*, 1994. (Jaime Muñoz Masqué) **98g:58040** 58E30 (58E15)

— (*with* Raiteri, M.; Ferraris, Marco) General relativity as a gauge theory of orthogonal groups in three dimensions. (English summary) *Gravity, particles and space-time*, 81–98, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. P. Rybakov) **98h:83068** 83C99 (58Z05)

— (*with* Amici, Oriella; Casciaro, Biagio) The second variation for non-linear gravitational Lagrangians. (English summary) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 263–285. (Jaime Muñoz Masqué) **98m:58024** 58E11 (53C50, 83C05)

— (*with* Amici, Oriella; Casciaro, Biagio) Covariant second variation for first order Lagrangians on fibered manifolds. II. Generalized curvature and Bianchi identities. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 637–669. (Victor Tapia) **98d:58045** 58E30 (53C80)

— First order nonlinear actions for general relativity and 2-dimensional gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 173–180, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:83005** 83C05 (83D05)

— (*with* Fatibene, L.; Ferraris, Marco) Why metrics? Is the metric the most fundamental description for gravity? (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 305–309, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C99

— (*with* Ferraris, Marco; Volovich, I. V.) A model of affine gravity in two dimensions and plurality of topology. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5067–5080. (Michael O. Katanaev) **98j:83081** 83D05

— (*with* Fatibene, L.; Ferraris, Marco) Nöther formalism for conserved quantities in classical gauge field theories. II. The arbitrary bosonic matter case. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3953–3967. (Takayuki Nôno) **98i:58076** 58E30 (70G50, 78A25, 81T13)
— *see also* **General relativity and gravitational physics, 98i:83002**
de France, J. F. (*with* Dijkstra, Jan; Dhanoa, M. S.; Baldwin, R. L.) Biomathematical applications in ruminant nutrition. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 241–258. (*see* **98i:92001**) 92C99
mendès France, Michel *see* **Mendès France, Michel**
Francel, Margaret A note on the number of two-block configurations in BTD's with parameters $(V, B, R, 3, 3)$. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 129–135. (Summary) **98j:05019** 05B05
— (*with* Limaye, Nirmala B.; Sarvate, Dinesh G.) $(D; 4)$-cages: some new results. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 73–85. (Summary) **98j:05113** 05C75 (05C35)
Francés, A. R. *see* **Frances Román, Ángel Ramón**
della Francesca, Piero *see* **Field, J. V., 98f:01016** *and* **Peterson, Mark A., 98j:01014**
Franceschini, V. (*with* Bunimovich, Leonid A.; Giberti, C.; Vernia, C.) On stability of structures and patterns in extended systems. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 412–418. (Volker Matthias Gundlach) **98d:58098** 58F10 (34D30)
Franceschinis, G. (*with* Chiola, Giovanni; Dutheillet, C.; Haddad, Serge) A symbolic reachability graph for coloured Petri nets. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 39–65. (Wolfgang Reisig) **98c:68152** 68Q90
de Francesco, Nicoletta *see* **De Francesco, Nicoletta**
di Francesco, P. *see* **Di Francesco, P.**
Frances Román, Ángel Ramón (*with* Ayala, R.; Domínguez Murillo, Eladio; Quintero, A.) Determining the components of the complement of a digital $(n-1)$-manifold in $\mathbf{Z}^n$. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 163–176, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98k:68173** 68U10 (52B55, 57N99)
Francfort, Gilles (*with* Allaire, Grégoire; Bonnetier, Eric; Jouve, François) Shape optimization by the homogenization method. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 27–68. (Robert V. Kohn) **98a:73046** 73K40 (49Q15, 65K10, 73B27, 73V05, 73V25)
Franchek, Matthew A. (*with* Jayasuriya, Suhada) Controller design for performance guarantees in uncertain regulating systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 127–148. 93B51 (93C42)
Franchetti, Carlo (*with* Kuzin-Aleksinskiĭ, S. A.; Semënov, E. M.) Estimates for the norms of projections onto hyperplanes in rearrangement-invariant spaces. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 455–457. (Yu. A. Abramovich) **98f:46025** 46E30 (46B20)
Franchi, Bruno (*with* Serapioni, Raul; Serra Cassano, Francesco) Meyers-Serrin type theorems and relaxation of variational integrals depending on vector fields. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 859–890. (Francesco Ferro) **98c:49037** 49J45 (35F20)
— (*with* Serapioni, Raul; Serra Cassano, Francesco) Approximation and imbedding theorems for weighted Sobolev spaces associated with Lipschitz continuous vector fields. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 83–117. (Seng-Kee Chua) **98c:46062** 46E35 (35J70)
— (*with* Wheeden, Richard L.) Compensation couples and isoperimetric estimates for vector fields. *Colloq. Math.* **74** (1997), *no.* 1, 9–27. (Luigi Rodino) **98g:46042** 46E35 (35H05)
— (*with* Cancelier, Claudy) Subelliptic estimates for a class of degenerate elliptic integro-differential operators. (English summary) *Math. Nachr.* **183** (1997), 19–41. (Luca Capogna) **98d:35086** 35J70 (35B45, 35H05, 45K05)
Franchi, Jacques Chaos multiplicatif: un traitement simple et complet de la fonction de partition. [Multiplicative chaos: a simple and complete treatment of the partition function] *Séminaire de Probabilités, XXIX*, 194–201, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Flora Koukiou) **98k:82127** 82C31 (60K35)
— (*with* Le Jan, Yves) Brownian charges around loops. (English summary) *Probab. Theory Related Fields* **104** (1996), *no.* 4, 501–514. (Krzysztof Burdzy) **98a:60113** 60J65 (31C99, 60J45)
— (*with* Fang, Shizan) A differentiable isomorphism between Wiener space and path group. (English summary) *Séminaire de Probabilités, XXXI*, 54–61, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Asao Arai) **98k:58244** 58G32 (60H07)
— (*with* Fang, Shizan) De Rham-Hodge-Kodaira operator on loop groups. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 391–407. (Ana Bela Cruzeiro) **98k:58245** 58G32 (22E30, 22E67, 58B20, 60H07)
Franchiozi, S. *see* **Franciosi, Silvana**
Francia, Paolo (*with* Bădescu, Lucian; Beltrametti, Mauro C.) Positive curves in polarized manifolds. (English summary) *Manuscripta Math.* **92** (1997), *no.* 3, 369–388. (Yoshiaki Fukuma) **98a:14008** 14C20 (14C25, 14D15)
Francini, Elisa Starshapedness of level sets for solutions of elliptic and parabolic equations. (Italian) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 183–188 (1997). (*see* **98c:35002**) 35B99 (35J65, 35K60)
— Starshapedness of level sets for solutions of nonlinear parabolic equations. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 49–62 (1997). (Lumin Jiang) **98h:35101** 35K55 (35B99)
Franciosa, Paolo Giulio (*with* Frigioni, Daniele; Giaccio, Roberto) Semi-dynamic shortest paths and breadth-first search in digraphs. (English summary) *STACS 97* (*Lübeck*), 33–46, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68024** 68P05 (68R10)
— *see also* **Graph-theoretic concepts in computer science, 98e:68005**
Franciosi, Michelangelo A condition implying boundedness and VMO for a function f. (English summary) *Studia Math.* **123** (1997), *no.* 2, 109–116. (Oscar Blasco) **98a:46036** 46E30
Franciosi, Silvana (*with* de Giovanni, Francesco) Groups satisfying the minimal condition on certain non-normal subgroups. *Groups—Korea '94* (*Pusan*), 107–118, *de Gruyter, Berlin*, 1995. (Howard Smith) **98g:20043** 20E15 (20F24)
— (*with* de Giovanni, Francesco) On products of nilpotent groups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 489–506 (1996). (Ma. Jesús Iranzo) **98g:20054** 20F19
— (*with* de Giovanni, Francesco) Groups satisfying the minimal condition on non-subnormal subgroups. *Infinite groups* 1994 (*Ravello*), 63–72, *de Gruyter, Berlin*, 1996. (B. Amberg) **98h:20040** 20E15
— (*with* de Giovanni, Francesco) Triple factorizations by locally supersolvable groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 439–449, v; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 380–388. (J. Wiegold) **98g:20055** 20F19
— (*with* de Giovanni, Francesco; Sysak, Yaroslav P.) On ascending and subnormal subgroups of infinite factorizable groups. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 842–848; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 943–949 (1998). (L. A. Kurdachenko) **98i:20023** 20E07
Francis, Bruce A. (*with* Boulet, Benoit; Hughes, Peter C.; Hong, Tony) Daisy: a large flexible space structure testbed for advanced control experiments. *Trends in control* (*Rome*, 1995), 115–139, *Springer, Berlin*, 1995. (From the introduction) **98c:93074** 93C85 (73K50)
Francis, Richard L. Probable prime predicaments. (English summary) *Missouri J. Math. Sci.* **7** (1995), *no.* 3, 132–138. (Aleksander Grytczuk) **98g:11024** 11B83 (01A05, 11A67)
— A renaissance of geometric constructions. (English summary) *Missouri J. Math. Sci.* **8** (1996), *no.* 3, 113–124. (A. G. Molland) **98j:01022** 01A55 (01A50)
Franck, Birger (*with* Neumann, Klaus; Schwindt, Christoph) A capacity-oriented hierarchical approach to single-item and small-batch production planning using project-scheduling methods. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 77–85. (*see* **98e:90009**) 90B70 (90B35)
gavilanes-Franco, Antonio *see* **Gavilanes-Franco, Antonio**
Franco, Davide Vanishings for the cohomology of certain families of stable rank two vector bundles on $\mathbf{P}^3$. (Italian summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 133–145. (Xiao Jiang Tan) **98b:14015** 14F17 (14J60)
Franco, J. *see* **Franco, John V.**
Franco, J. M. (*with* Palacián, Jesús) High order adaptive methods of Nyström-Cowell type. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 115–134. (Zeng Fu Qin) **98g:65062** 65L05
— (*with* Gómez, I.; Rández, L.) SDIRK methods for stiff ODEs with oscillating solutions. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 197–209. (Xin Yuan Wu) **98i:65053** 65L05 (65L20)
Franco, John V. (*with* Berman, Kenneth A.; Schlipf, John S.) Computing the well-founded semantics faster. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 113–126, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98e:68027** 68N17 (68Q55)
— (*with* Gu, Jun; Purdom, Paul Walton, Jr.; Wah, Benjamin W.) Algorithms for the satisfiability (SAT) problem: a survey. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 19–151, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:90084** 90C27 (03B05, 03D15, 03F20, 68Q25, 68T15, 90C90)
— Relative size of certain polynomial time solvable subclasses of satisfiability. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 211–223, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:68102** 68Q15 (03B05, 03D15, 03F20, 68Q25, 68T15)
Franco, Jose Ricardo Queiroz (*with* Oden, John Tinsley; Ponter, Alan R. S.; Barros, Felicio B.) A posteriori error estimator and adaptive procedures for computation of shakedown and limit loads on pressure vessels. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 155–171. (Summary) **98i:73056** 73V05 (65N06, 73E20, 73K15)
Franco, Leoncio Simplicial derivation, higher Baer invariants and homology of crossed modules. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1125–1139. (Graham J. Ellis) **98m:18008** 18G50
Franco, Manuel (*with* Ruiz Gómez, José María) On characterizations of distributions by expected values of order statistics and record values with gap. (English summary) *Metrika* **45** (1997), *no.* 2, 107–119. (Ramesh C. Gupta) **98g:62021** 62E10 (62G30)
Franco, Zachary M. Distribution of binomial coefficients modulo three. *Fibonacci Quart.* **36** (1998), *no.* 3, 272–275. 11B65
Franco Brañas, J. R. (*with* Almeida Benítez, P. R.) The one-way dissection algorithm for regular meshes. (Spanish. Spanish summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 135–142. 65F30
François, Olivier Convergence in simulated evolution algorithms. (English summary) *Complex Systems* **10** (1996), *no.* 4, 311–319. 90C30 (90C27)
— (*with* Forbes, Florence; Ycart, B.) Stochastic comparison for resource sharing models. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 4, 581–605. (Micha Hofri) **98i:68114** 68Q22 (60K30, 68Q10, 90B22)
— (*with* Forbes, Florence) Increasing couplings for interacting particle systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 459–464. (Summary) **98j:82026** 82B31 (60K35, 82B20)
— Parallel simulations in ferromagnetic spin systems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3393–3405. (Summary) **98f:82023** 82B20 (82B80)
— (*with* Forbes, Florence) Stochastic comparison for Markov processes on a product of partially ordered sets. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 309–320. (Mu Fa Chen) **98j:60136** 60K35
Françoise, Jean Pierre Birkhoff normal forms and analytic geometry. *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 49–56, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Patrick Bonckaert) **98h:58174** 58F36 (34C20)
— (*with* Yomdin, Y.) Bernstein inequalities and applications to analytic geometry and differential equations. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 185–205. (Pierre D. Milman) **98h:34009c** 34A25 (12H20, 14P05, 32B05, 34A20, 34C05)
— The first derivative of the period function of a plane vector field. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 127–134. (Lubomir Gavrilov) **98e:34077** 34C25 (58F22)

Françon, Jean (*with* Schramm, Jean-Maurice; Tajine, Mohamed) Recognizing arithmetic straight lines and planes. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 141–150, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (Summary) **98m:68287** 68U10 (52B55)

Francos, Joseph M. (*with* Porat, Boaz; Meiri, A. Zvi) Orthogonal decompositions of 2-D nonhomogeneous discrete random fields. (English summary) *Math. Control Signals Systems* **8** (1995), *no.* 4, 375–389. (H. Salehi) **98d:60070** 60G12 (60G60)

— Bounds on the accuracy of estimating the parameters of discrete homogeneous random fields with mixed spectral distributions. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 908–922. (Summary) **98a:62121** 62M40 (62M15)

Francsics, Gábor (*with* Hanges, Nicholas) Analytic singularities. (English summary) *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 69–78, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Harold P. Boas) **98i:32036** 32H10 (32A25, 35A20)

— (*with* Hanges, Nicholas) Asymptotic behavior of the Bergman kernel and hypergeometric functions. (English summary) *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 79–92, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Harold P. Boas) **98h:32040** 32H10 (32A07, 33C65, 46E22)

Frandsen, Gudmund Skovbjerg (*with* Husfeldt, Thore; Miltersen, Peter Bro; Rauhe, Theis; Skyum, Søren) Dynamic algorithms for the Dyck languages. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 98–108, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q45

— (*with* Buss, Jonathan F.; Shallit, Jeffrey O.) The computational complexity of some problems of linear algebra (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 451–462, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q25 (15A03)

— (*with* Skyum, Sven) Dynamic maintenance of majority information in constant time per update. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 75–78. 68P05

Franek, F. (*with* Rosa, Alexander; Griggs, T. S.) Large sets of mutually almost disjoint Steiner triple systems not from Steiner quadruple systems. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 59–67. (Luc Teirlinck) **98h:05030** 05B07

— (*with* Dejter, Italo J.; Mendelsohn, E.; Rosa, Alexander) Triangles in 2-factorizations. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 83–94. (Chris Rodger) **98e:05086** 05C70

Frangi, Attilio (*with* Bonnet, Marc) A Galerkin symmetric and direct BIE method for Kirchhoff elastic plates: formulation and implementation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 2, 337–369. (Summary) **98i:73063** 73V10 (73K10)

— BE formulations for 2D scalar wave problems: regularization of singular integrals via the derivative transfer technique. *Mech. Res. Comm.* **25** (1998), *no.* 3, 305–312. 65N99 (73D15)

Frangioni, Antonio Solving semidefinite quadratic problems within nonsmooth optimization algorithms. (English summary) *Comput. Oper. Res.* **23** (1996), *no.* 11, 1099–1118. (Giorgio Giorgi) **98e:90116** 90C25 (49J52, 90C27)

Frangos, C. (*with* Yavin, Y.) Errata corrige: "Feasible command strategies for the control of motion of a simple mobile robot" [J. Optim. Theory Appl. **90** (1996), no. 3, 671–692]. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 519–520. 70B15 (70Q05)

— (*with* Yavin, Y.) Navigation and control of a system composed of a trolley and a mounted two-link manipulator. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 93–109. (Summary) **98i:70021** 70Q05 (70B15, 70F25, 93C85)

— (*with* Yavin, Y.) Feasible output feedback controller design for linear systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 2, 109–122. (Summary) **98c:93118** 93E20 (93B40, 93B52)

— (*with* Yavin, Y.) Navigation and control of the motion of a rolling disk carrying a controlled translational moving rod. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 897–914. 70Q05 (93C95)

— (*with* Yavin, Y.) Closed-loop control of the motion of a disk-rod system. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 453–473. (Summary) **98k:93075** 93C85 (70B15, 70Q05, 93B05)

— (*with* Yavin, Y.; Miloh, T.; Zilman, G.) Errata: "Collision avoidance by a ship with a moving obstacle: computation of feasible command strategies" [J. Optim. Theory Appl. **93** (1997), no. 1, 53–66; MR 97m:49030]. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 243–244. 49N55 (93C85)

Franić, Ivan On the best coapproximation in linear 2-normed spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 147–150. (S. Rolewicz) **98g:41038** 41A65 (46A19)

Franjou, Vincent (*with* Pirashvili, Teimuraz) On the Mac Lane cohomology for the ring of integers. *Topology* **37** (1998), *no.* 1, 109–114. (Dominique Arlettaz) **98h:19002** 19D55 (18G60, 55P20)

Frank, A. *see* **Frank, Alejandro**

Frank, A. M. Numerical modeling of the effect of a liquid jet holding a cylinder. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 195–198; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 624–627. 76B10 (76M25)

Frank, Alejandro (*with* Lemus, R.) Algebraic methods in molecular structure. I. Triatomic molecules. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 139–161, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (*see* **98f:81011**) 81V55 (81R05)

— (*with* Lemus, R.; Bijker, R.; Pérez-Bernal, F.; Arias, J. M.) A symmetry adapted algebraic approach to molecular spectroscopy. *Symmetries in science, IX* (*Bregenz*, 1996), 99–115, *Plenum, New York*, 1997. (*see* **98e:81003**) 81V55 (81R05)

Frank, András (*with* Karzanov, A. V.; Sebő, András) On integer multiflow maximization. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 158–170. (Nikolay N. Ivanov) **98b:90155** 90C35 (05C85, 90B10)

Frank, Jason (*with* Hundsdorfer, Willem; Verwer, J. G.) On the stability of implicit-explicit linear multistep methods. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 193–205. (H. Brunner) **98m:65126** 65L20 (65L06)

Frank, Jeremy (*with* Cheeseman, Peter; Stutz, John) When gravity fails: local search topology. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 249–281 (*electronic*). (Summary) **98m:90115** 90C27

— (*with* Gent, Ian P.; Walsh, Toby) Asymptotic and finite size parameters for phase transitions: Hamiltonian circuit as a case study. *Inform. Process. Lett.* **65** (1998), *no.* 5, 241–245. 68Q25

Frank, Karin² An optimal algorithm for the local solution of integral equations. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 357–379, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Stefan Heinrich) **98h:65062** 65R20 (45L05, 47A50, 65Y20, 68Q25)

— (*with* Heinrich, Stefan) Computing discrepancies of Smolyak quadrature rules. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 287–314. (Gh. Adam) **98e:65119** 65Y20 (65C05, 65D32, 68Q25)

Frank, Leonid S. Travelling waves in shallow water. (English summary) *Asymptotic Anal.* **13** (1996), *no.* 3, 217–252. (Summary) **98e:76014** 76B15 (35Q35, 76B25, 76B45)

— Travelling waves for KdV and Boussinesq's system revisited. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 1–14. (Summary) **98k:35166** 35Q53 (35B20, 58F07)

— *see also* **Bensoussan, Alain**

Frank, Michael (*with* Troitskiĭ, E. V.) Lefschetz numbers and the geometry of operators in W^*-modules. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 45–57, 96; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 257–266 (1997). (From the introduction) **98c:46126** 46L05 (19K56, 46L80, 46L87, 58G12)

— Isomorphisms of Hilbert C^*-modules and $*$-isomorphisms of related operator C^*-algebras. (English summary) *Math. Scand.* **80** (1997), *no.* 2, 313–319. (Beatriz Abadie) **98k:46086** 46L05 (46H25)

— A multiplier approach to the Lance-Blecher theorem. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 565–573. (Vladimir Manuilov) **98j:46056** 46L05 (46H25)

Frank, Ove Composition and structure of social networks. (English and French summaries) *Math. Inform. Sci. Humaines No.* 137 (1997), 11–23. 92H30

Frank, Paul M. (*with* Gegov, Alexander E.) Decentralized fuzzy control of multivariable systems by active decomposition of control laws. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 781–798. 93C42 (93A14)

Frank, Robert (*with* Klibanov, Michael V.; Lucas, T. R.) A fast and accurate imaging algorithm in optical/diffusion tomography. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1341–1361. (Summary) **98h:35234** 35R30 (35K10, 65M30)

Franke, Almut (*with* Franke, Fabian) Paul Langevin und Albert Einstein—eine Freundschaft zwischen Relativitätstheorie und politischer Realität. (English summary) [Paul Langevin and Albert Einstein—a friendship between relativity theory and political reality] *Ber. Wiss.gesch.* **20** (1997), *no.* 2-3, 199–215. (Summary) **98h:01024** 01A70 (01A60, 01A80)

Franke, Carsten (*with* Schaback, Robert) Solving partial differential equations by collocation using radial basis functions. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 73–82. 65N35

Franke, Fabian (*with* Franke, Almut) Paul Langevin und Albert Einstein—eine Freundschaft zwischen Relativitätstheorie und politischer Realität. (English summary) [Paul Langevin and Albert Einstein—a friendship between relativity theory and political reality] *Ber. Wiss.gesch.* **20** (1997), *no.* 2-3, 199–215. (Summary) **98h:01024** 01A70 (01A60, 01A80)

Franke, J. *see* **Franke, Jürgen**

Franke, John E. (*with* Yakubu, Abdul-Aziz) Principles of competitive exclusion for discrete populations with reproducing juveniles and adults. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1197–1205. (*see* **98i:00028**) 92D25

Franke, Jürgen (*with* Gründer, B.) General Kriging for spatial-temporal processes with random ARX-regression parameters. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 177–189, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M30

Franke, Richard (*with* Šalkauskas, Kęstutis) Localization of multivariate interpolation and smoothing methods. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 79–94. (John B. Kioustelidis) **98a:41045** 41A63 (65D10)

— (*with* Freeden, Willi; Schreiner, Michael) A survey on spherical spline approximation. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 29–85. (Guido Walz) **98m:65019** 65D07 (41A15, 41A63, 43A90, 86A30)

Frankel, Michael L. Turbulent fronts and self-fractalizing ornaments generated by an interface dynamics equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 239–252. (Summary) **98d:76088** 76F99 (76M25, 80A22)

— Wrinkling and fractalization of curves in an interface model of diffusionally unstable flames. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 125–130. 80A25

Frankel, Theodore ★ The geometry of physics. (English summary) An introduction. *Cambridge University Press, Cambridge*, 1997. xxii+654 *pp. ISBN* 0-521-38334-X (Liviu I. Nicolaescu) **98h:58001** 58–01 (53–01)

Frankel, Yair (*with* Chan, Agnes; MacKenzie, Philip; Tsiounis, Yiannis) Mis-representation of identities in e-cash schemes and how to prevent it. (English summary) *Advances in cryptology—ASIACRYPT* '96 (*Kyongju*), 276–285, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60

— (*with* Tsiounis, Yiannis; Yung, Moti) "Indirect discourse proofs": achieving efficient fair off-line e-cash. (English summary) *Advances in cryptology—ASIACRYPT* '96 (*Kyongju*), 286–300, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60

— (*with* Yung, Moti) On characterizations of escrow encryption schemes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 705–715, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 94A60 (68P25)

Fränken, Dietrich Complex digital networks: a sensitivity analysis based on the Wirtinger calculus. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 9, 839–843. (A. Bultheel) **98f:94028** 94C99 (94A12)

nicklisch-Franken, J. *see* **Nicklisch-Franken, J.**

Franken, Uwe (*with* Meise, Reinhold) Extension and lacunas of solutions of linear partial differential equations on ultradifferentiable functions of Beurling type. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 103–127, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael Langenbruch) **98g:35035** 35E20 (35A99, 46F05)

— Extension of zero-solutions of partial differential operators with dominating principal part. *J. Reine Angew. Math.* **484** (1997), 183–200. (Peter Wagner) **98e:35031** 35E20

(35A20, 47F05)

Frankenstein, Marilyn *see* **Ethnomathematics, 98b:01005**

Franketti, K. *see* **Franchetti, Carlo**

Frankiewicz, Ryszard (*with* Plebanek, Grzegorz) On asymptotic density and uniformly distributed sequences. (English summary) *Studia Math.* **119** (1996), *no.* 1, 17–26. (V. Losert) **98d:28011** 28D05 (03E50, 11K06)

— (*with* Plebanek, Grzegorz) Convex combinations and weak* null sequences. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 221–225. (Summary) **98i:46009** 46B20 (03E50)

Frankl, Peter (*with* Ota, Katsuhiro; Tokushige, Norihide) Uniform intersecting families with covering number restrictions. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 47–56. (Miklós Bóna) **98m:05188** 05D05

Franklin, James Where is mathematics going? *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 3, 114–119. 01A67

Franklin, Joel (*with* Bax, Eric) A permanent formula with many zero-valued terms. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 33–39. (Summary) **98d:68094** 68Q25 (15A15, 68R05)

Franklin, L. A. (*with* Bhattacharyya, B. B.; Richardson, Gary D.) Asymptotic inference for near unit roots in spatial autoregression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1709–1724. (Sung K. Ahn) **98m:62232** 62M10 (60F05)

Frankowska, Halina (*with* Aubin, Jean-Pierre) Set-valued solutions to the Cauchy problem for hyperbolic systems of partial differential inclusions. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 149–168. (Paola Loreti) **98d:49003** 49J24 (35L15, 35R70)

Frankowski, Krzysztof (*with* Sobel, Milton) Venn diagrams, coupon collections, bingo games and Dirichlet distributions. (English summary) *Advances in statistical decision theory and applications*, 343–367, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:60014** 60C05

Franks, Edwin Modified Cauchy kernels and functional calculus for operators on Banach space. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 91–99. (Summary) **98f:47018** 47A60

Franks, John The rotation set and periodic points for torus homeomorphisms. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 41–48, *World Sci. Publishing, River Edge, NJ*, 1995. (Lian-Fa He) **98j:58092** 58F20

Franks, S. (*with* Chávez-Ross, A.; Mason, H. D.; Hardy, K.; Stark, Jaroslav) Modelling the control of ovulation and polycystic ovary syndrome. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 95–118. 92C30 (92C50)

Franksen, Ole Immanuel Boole's development process revisited: from an array-theoretic viewpoint. Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 175–188. (Roman Murawski) **98m:01014** 01A55

castillo Franquet, Joan *see* **Castillo Franquet, Joan**

Franses, Philip Hans (*with* Hobijn, Bart) Critical values for unit root tests in seasonal time series. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 1, 25–47. (Summary) **98a:62113** 62M10

— (*with* Boswijk, H. Peter; Haldrup, Niels) Multiple unit roots in periodic autoregression. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 167–193. (Alastair R. Hall) **98i:62069** 62M10

— (*with* McAleer, Michael) Testing for unit roots and non-linear transformations. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 147–164. (Summary) **98m:62243** 62M10

Frantsiozi, S. *see* **Franciosi, Silvana**

Frantzeskakis, D. J. (*with* Hizanidis, K.; Polymilis, C.) Exact travelling wave solutions for a generalized nonlinear Schrödinger equation. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7687–7703. (Woodford W. Zachary) **98d:78011** 78A60 (35Q55, 81Q05)

Frantziskonis, George N. *see* **PROBAMAT-21st century: probabilities and materials**

flores-Franulic, A. *see* **Flores-Franulic, A.**

Franz, Alexander ★ Automatic ambiguity resolution in natural language processing. An empirical approach. With a foreword by Jaime Carbonell. Lecture Notes in Computer Science, 1171. Lecture Notes in Artificial Intelligence. *Springer-Verlag, Berlin*, 1996. xx+155 *pp. ISBN* 3-540-62004-4 68S05

Franz, Silvio (*with* Peliti, Luca) Error threshold in simple landscapes. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4481–4487. 92D25 (92D15)

— (*with* Barrat, Alain; Parisi, Giorgio) Temperature evolution and bifurcations of metastable states in mean-field spin glasses, with connections with structural glasses. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5593–5612. 82D30 (82–04)

— (*with* Barrat, Alain) Basins of attraction of metastable states of the spherical p-spin model. (English summary) *J. Phys. A* **31** (1998), *no.* 6, *L*119–*L*127. 82D30

Franz, Uwe[1] (*with* Feinsilver, Philip; Schott, René) Duality and multiplicative processes on quantum groups. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 462–468, *World Sci. Publishing, River Edge, NJ*, 1995. (Roland Speicher) **98d:81038** 81S25 (81R50)

— (*with* Schott, René) Diffusions on braided spaces. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 239–242, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:81075** 81R50 (81S20)

— (*with* Neuenschwander, Daniel; Schott, René) Gauss laws in the sense of Bernstein and uniqueness of embedding into convolution semigroups on quantum groups and braided groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 827–832. (Roland Speicher) **98b:81117** 81S25 (16W30, 60B99, 81R50)

— (*with* Feinsilver, Philip; Schott, René) Duality and multiplicative stochastic processes on quantum groups. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 795–818. (Roland Speicher) **98g:81105** 81S25 (16W30, 60J30)

colli Franzone, Piero *see* **Colli Franzone, Piero**

Franzosa, Robert (*with* Mischaikow, Konstantin) Algebraic transition matrices in the Conley index theory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 889–912. (Christopher K. McCord) **98e:58127** 58F14 (34C35, 58F25)

Franzosi, Roberto (*with* Cerruti-Sola, Monica; Pettini, Marco) Lyapunov exponents from geodesic spread in configuration space. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4872–4875. (Chalya S. Aravinda) **98i:58185** 58F17

— (*with* Ghilardi, M.; Guadagnini, E.) Modular transformations and one-polygon tessellation. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 42–45. (Francois Vanderseypen) **98m:83021** 83C27 (83C99)

Frapolli, Maria J. The logical enquiry into truth. *Hist. Philos. Logic* **17** (1996), *no.* 4, 179–197. (Anthony M. Ungar) **98k:03009** 03A05

Frappat, L. (*with* Arnaudon, D.; Bauer, Michel) On Casimir's ghost. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 429–439. (Anargyros Fellouris) **98h:17010** 17B37 (17B35, 81R10, 81R50)

— (*with* Sorba, P.; Sciarrino, A.; Sciuto, Stefano) Anyonic realization of the quantum affine Lie algebras. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 5–12. (Stanislav Z. Pakuliak) **98f:81128** 81R50 (17B37, 17B67, 81R10)

— (*with* Sciarrino, A.; Sciuto, Stefano; Sorba, P.) Anyonic realization of the quantum affine Lie superalgebras $\mathscr{U}_q(\hat{A}(M-1, N-1))$. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 903–914. (Jun'ichi Shiraishi) **98e:81073** 81R50 (17B37, 81S05)

— (*with* Avan, J.; Rossi, Marco; Sorba, P.) Poisson structures on the center of the elliptic algebra $\mathscr{A}_{q,p}(\mathrm{sl}(2),)$. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 323–334. (Stanislav Z. Pakuliak) **98i:81098** 81R50 (17B37, 81R10)

Frappier, M. (*with* Mili, A.; Desharnais, J.) Program construction by parts. (English summary) *Mathematics of program construction (Kloster Irsee, 1995)*, 257–281, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60

— (*with* Mili, A.; Desharnais, J.) Unifying program construction and modification. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 317–340. (Summary) **98m:68172** 68Q60

Frascolla, Pasquale The *Tractatus* system of arithmetic. (English summary) *Synthese* **112** (1997), *no.* 3, 353–378. (Summary) **98h:03007** 03A05

Fraser, Christophe (*with* Dorey, Nicholas; Hollowood, Timothy J.; Kneipp, Marco A. C.) S-duality in $N=4$ supersymmetric gauge theories with arbitrary gauge group. (English summary) *Phys. Lett. B* **383** (1996), *no.* 4, 422–428. (Summary) **98f:81194** 81T13 (81T60)

— (*with* Hollowood, Timothy J.) On the weak coupling spectrum of $N=2$ supersymmetric SU(n) gauge theory. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 217–235. (Tomasz Brzeziński) **98f:81321** 81T60 (81T13)

— (*with* Hollowood, Timothy J.) Semi-classical quantization in $N=4$ supersymmetric Yang-Mills theory and duality. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 106–112. (Claus Montonen) **98j:81331** 81T60 (81T13)

Fraser, D. A. S. (*with* Monette, G.; Ng, Kai Wang; Wong, Augustine C. M.) Higher order approximations with generalized linear models. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 253–262, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62E17 (62J12)

— (*with* Ng, Kai Wang) Inference for linear models with radially decomposable error. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 359–367, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62J05 (62A25)

— Towards close connections between mathematics and statistics. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 1–5. 62A99

— (*with* McDunnough, P.; Taback, N.) Improper priors, posterior asymptotic normality, and conditional inference. (English summary) *Advances in the theory and practice of statistics*, 563–569, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Stig I. Rosenlund) **98m:62068** 62F15

canals-Frau, Damian *see* **Canals-Frau, Damian**

Frau, Marialuisa (*with* Sciuto, Stefano; Lerda, Alberto) Anyons and deformed Lie algebras. *Quantum groups and their applications in physics (Varenna, 1994)*, 215–243, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (Guillermo Zemba) **98a:81280** 81V70 (81R50)

— (*with* Sciuto, Stefano; Lerda, Alberto; Zemba, Guillermo R.) The extended conformal theory of Luttinger systems. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1113–1122. (Summary) **98i:81283** 81V70 (81T40, 82B10)

— (*with* Sciuto, Stefano; Lerda, Alberto; Zemba, Guillermo R.) Algebraic bosonization: the study of the Heisenberg and Calogero-Sutherland models. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 25, 4611–4661. (Hamid Kachkachi) **98k:81330** 81V70 (81R10, 82B20)

— (*with* Di Vecchia, Paolo; Pesando, Igor; Sciuto, Stefano; Lerda, Alberto; Russo, Rodolfo) Classical p-branes from boundary state. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 259–276. (Summary) **98k:81203** 81T30

— (*with* Pesando, Igor; Sciuto, Stefano; Lerda, Alberto; Russo, Rodolfo) Scattering of closed strings from many D-branes. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 52–62. (Summary) **98a:81166** 81T30

Frauendiener, Jörg On an integral formula on hypersurfaces in general relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3413–3423. (Peter R. Law) **98m:83051** 83C60 (83C40)

Frauendorfer, Karl Barycentric scenario trees in convex multistage stochastic programming. (English summary) Approximation and computation in stochastic programming. *Math. Programming* **75** (1996), *no.* 2, *Ser. B*, 277–293. (Vlasta Kaňková) **98a:90066** 90C15

Frauenfelder, Hans *see* **Landscape paradigms in physics and biology, 98g:82002**

Frauenkron, Helge (*with* Torcini, Alessandro; Grassberger, Peter) A novel integration scheme for partial differential equations: an application to the complex Ginzburg-Landau equation. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 605–610. (*see* **98b:00025**) 65M06

Fraughnaugh, Kathryn L. (*with* Fisher, David C.; Langley, Larry) P_3-connected graphs of minimum size. (English summary) *Ars Combin.* **47** (1997), 299–306. (Summary) **98j:05089** 05C40 (05C35)

— (*with* Fisher, David C.; Langley, Larry; West, Douglas B.) The number of dependent arcs in an acyclic orientation. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 73–78. (L. W. Beineke) **98g:05066** 05C20 (05C38)

— (*with* Locke, Stephen C.) Lower bounds on size and independence in K_4-free graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 61–71. (Stanisław P. Radziszowski) **98h:05099** 05C35 (05C55)

Fray, Roland L. On direct decompositions in group near-rings. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 247–252, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30

de Fraysseix, Hubert (*with* Ossona de Mendez, Patrice; Rosenstiehl, Pierre) On triangle contact graphs [MR 95j:05078]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 165–178, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C10

Frazho, A. E. (*with* Foias, C.; Gohberg, Israel; Kaashoek, M. A.) A time-variant version of the commutant lifting theorem and nonstationary interpolation problems. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 158–190. (Dmitriy S. Kalyuzhniy) **98f:47008** 47A20 (30E05, 47A57)

— (*with* Foias, C.; Gohberg, Israel; Kaashoek, M. A.) Errata: "Discrete time-variant interpolation as classical interpolation with an operator argument" [Integral Equations Operator Theory **26** (1996), no. 4, 371–403; MR 97k:47012]. *Integral Equations Operator Theory* **28** (1997), *no.* 4, 500. 47A57 (30E05, 47A20)

— (*with* Foias, C.; Gohberg, Israel; Kaashoek, M. A.) Parameterization of all solutions of the three chains completion problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 455–490. (Mark A. Nudel'man) **98k:47031** 47A57 (30E05, 47A20, 93B28, 93C50)

— (*with* Foias, C.; Gohberg, Israel; Kaashoek, M. A.) The maximum principle for the three chains completion problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 67–82. (Joseph A. Ball) **98m:47006** 47A20 (47A57)

Fré, Pietro (*with* Billó, Marco; Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Regge, Tullio; Soriani, Paolo; Van Proeyen, Antoine) A search for non-perturbative dualities of local $N = 2$ Yang-Mills theories from Calabi-Yau 3-folds. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 5, 831–864. (Summary) **98a:32026** 32G81 (14J32, 32J17, 32J81, 53C25, 81T30)

— (*with* Billó, Marco; D'Auria, Riccardo; Ferrara, Sergio; Soriani, Paolo; Van Proeyen, Antoine) R symmetry and the topological twist of $N = 2$ effective supergravities of heterotic strings. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 2, 379–418. (J. A. H. Samtleben) **98e:83112** 83E30 (81T30, 83E50)

— (*with* Andrianopoli, Laura; Bertolini, Matteo; Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Magri, T.) $N = 2$ supergravity and $N = 2$ super Yang-Mills theory on general scalar manifolds: symplectic covariance, gaugings and the momentum map. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 111–189. (Krzysztof Galicki) **98m:81177** 81T60 (53C25, 53C80, 81T13, 81T30, 83E50)

— (*with* Girardello, Luciano; Pesando, Igor; Trigiante, Mario) Spontaneous $N = 2 \to N = 1$ local supersymmetry breaking with surviving compact gauge groups. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 231–248. (C. Gauthier) **98j:81269** 81T30 (53C80, 81R40, 83E30, 83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Ferrara, Sergio; Minasian, Ruben; Trigiante, Mario) Solvable Lie algebras in type IIA, type IIB and M-theories. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 249–277. (Angel Maria Uranga) **98k:81187** 81T30 (17B30, 81R05, 83E30)

— The complete form of $N = 2$ supergravity and its place in the general framework of $D = 4$ N-extended supergravities. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 229–239. (Piet Termonia) **98g:83114** 83E50 (81T30, 81T60, 83E30)

— Supersymmetry and first order equations for extremal states: monopoles, hyperinstantons, black holes and p-branes. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 52–64. (Summary) **98j:83096** 83E30 (53C80, 81T30, 81T60, 83E50)

Freddi, L. (*with* Buttazzo, Giuseppe; Drakhlin, Mikhail E.; Stepanov, Eugene) Homogenization of optimal control problems for functional-differential equations. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 103–119. (Stanisław Migórski) **98d:49015** 49J45 (34K35, 49J25)

Freden, Eric M. Properties of convergence groups and spaces. (English summary) *Conform. Geom. Dyn.* **1** (1997), 13–23 (electronic). (Bruno Zimmermann) **98e:57051** 57S30 (20F32)

Fredenhagen, K. (*with* Brunetti, R.) Interacting quantum fields in curved space: renormalizability of φ^4. *Operator algebras and quantum field theory* (*Rome*, 1996), 546–563, *Internat. Press, Cambridge, MA*, 199?. (Rainer Verch) **98m:81110** 81T20 (81T05, 81T15)

— Towards a microlocal spectrum condition. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2677–2683. (Rainer Verch) **98e:81120** 81T20 (81T05)

— (*with* Gaberdiel, Matthias R.) Scattering theory for plektons in $2 + 1$ dimensions. (English and French summaries) New problems in the general theory of fields and particles, Part II (Paris, 1994). *Ann. Inst. H. Poincaré Phys. Théor.* **64** (1996), *no.* 4, 523–541. (Stephen J. Summers) **98b:81126** 81T05 (46L60, 81U99)

— (*with* Brunetti, R.; Köhler, Martin) The microlocal spectrum condition and Wick polynomials of free fields on curved spacetimes. (English summary) *Comm. Math. Phys.* **180** (1996), *no.* 3, 633–652. (Michael Keyl) **98b:81153** 81T20 (46N50, 58G16, 81T05)

Fredenthal, Robinson *see* **Structural topology in art, 98h:00018**

Frederickson, Greg N. A data structure for dynamically maintaining rooted trees. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 37–65. (Summary) **98a:68036** 68P05

— Ambivalent data structures for dynamic 2-edge-connectivity and k smallest spanning trees. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 484–538. (Peter B. Gibbons) **98b:68022** 68P05 (05C85, 68R10)

Frederico, T. (*with* de Araujo, Carlos F., Jr.; Tomio, Lauro; Adhikari, Sadhan K.) Application of renormalization to potential scattering. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4687–4700. (Summary) **98j:81361** 81U99 (81T15)

Frederiks, Vsevolod Konstantinovich *see* **Sonin, A. S., 98k:01043**

Fredlund, Lars-åke (*with* Groote, Jan Friso; Korver, Henri) Formal verification of a leader election protocol in process algebra. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 459–486. (Summary) **98e:68166** 68Q60 (68Q10)

Fredriksson, Mats H. Grazing bifurcations in multibody systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4475–4483. (*see* **98i:00032**) 70K99 (34C23, 58F14, 70E99)

— (*with* Nordmark, Arne B.) Bifurcations caused by grazing incidence in many degrees of freedom impact oscillators. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1261–1276. (Peter Ashwin) **98c:34062** 34C23 (58F14, 70K99)

Freed, Daniel S. Determinant line bundles revisited. *Geometry and physics* (*Aarhus*, 1995), 187–195, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Liviu I. Nicolaescu) **98a:58166** 58G26

Freeden, Willi (*with* Windheuser, Ulrich) Spherical wavelet transform and its discretization. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 1, 51–94. (Jay Epperson) **98c:42030** 42C15 (41A58)

— (*with* Brand, Rüdiger; Fröhlich, Jochen) An adaptive hierarchical approximation method on the sphere using axisymmetric locally supported basis functions. (English and German summaries) *Computing* **57** (1996), *no.* 3, 187–212. (Menachem Dishon) **98a:86001** 86–08 (33C55, 65D15, 65D20, 86A30)

— (*with* Schneider, Frank; Schreiner, Michael) Gradiometry—an inverse problem in modern satellite geodesy. (English summary) *Inverse problems in geophysical applications* (*Yosemite, CA*, 1995), 179–239, *SIAM, Philadelphia, PA*, 1997. (Alexander S. Denisjuk) **98a:86014** 86A22

— (*with* Schreiner, Michael; Franke, Richard) A survey on spherical spline approximation. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 29–85. (Guido Walz) **98m:65019** 65D07 (41A15, 41A63, 43A90, 86A30)

— (*with* Schneider, Frank) Wavelet approximations on closed surfaces and their application to boundary-value problems of potential theory. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 2, 129–163. (Summary) **98j:31002** 31A25 (41A63, 42C15, 65D17)

Freedman, D. A. (*with* Diaconis, Persi) Consistency of Bayes estimates for nonparametric regression: a review. (English summary) *Festschrift for Lucien Le Cam*, 157–165, *Springer, New York*, 1997. (Somnath Datta) **98i:62026** 62G05 (62F15)

— From association to causation via regression. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 1, 59–110. (Summary) **98d:62117** 62J05 (62–01)

Freedman, Daniel Z. (*with* Erlich, Joshua) Conformal symmetry and the chiral anomaly. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6522–6537. (Summary) **98d:81108** 81T50 (81T60)

— (*with* Csáki, Csaba; Erlich, Joshua; Skiba, Witold) $N = 1$ supersymmetric product group theories in the Coulomb phase. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5209–5217. (Summary) **98g:81203** 81T60 (81T13)

Freedman, H. I. (*with* Zhao, Xiao-Qiang) Global asymptotics in some quasimonotone reaction-diffusion systems with delays. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 340–362. (Ludwik Byszewski) **98h:35114** 35K57 (35B40, 35R10, 47H20)

Freedman, Michael H. Percolation on the projective plane. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 889–894. (Oded Schramm) **98k:82085** 82B43 (52C99)

Freedman, Walden An alternative Dunford-Pettis property. (English summary) *Studia Math.* **125** (1997), *no.* 2, 143–159. (Wend Werner) **98c:46021** 46B20 (46L05)

Freeman, Randy A. (*with* Kokotović, Petar V.) ★ Robust nonlinear control design. (English summary) State-space and Lyapunov techniques. Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1996. xii+257 *pp.* *ISBN* 0-8176-3930-6 (B. I. Anan'ev) **98b:93001** 93–02 (93B36, 93B51)

— (*with* Praly, Laurent) Integrator backstepping for bounded controls and control rates. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 258–262. (Summary) **98k:93094** 93D15

perlo-Freeman, Samuel M. H. W. *see* **Perlo-Freeman, Samuel M. H. W.**

Freeman, T. L. (*with* Bull, J. M.) A comparison of parallel algorithms for multi-dimensional integration. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65D30 (65Y05)

Freeman, Walter J. (*with* Chang, Hung-Jen; Burke, B. C.; Rose, P. A.; Badler, J.) Taming chaos: stabilization of aperiodic attractors by noise. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 989–996. (*see* **98g:93002**) 93D15 (58F13)

Frees, Edward W. (*with* Banerjee, Mousumi) Influence diagnostics for linear longitudinal models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 999–1005. (Summary) **98f:62219** 62J20

Freese, Colin E. (*with* Tessler, Alexander; Riggs, H. Ronald; Cook, Geoffrey M.) An improved variational method for finite element stress recovery and a posteriori error estimation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 15–30. 73V05

Freese, Ralph (*with* Adams, M. E.; Nation, J. B.; Schmid, Jürg) Maximal sublattices and Frattini sublattices of bounded lattices. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 110–127. (Jaroslav Ježek) **98d:06008** 06B05 (06B20)

— Computing congruence lattices of finite lattices. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3457–3463. (Hartmut Höft) **98h:06016** 06B10 (06B05, 06B15)

Freese, Raymond (*with* Andalafte, Edward; Diminnie, Charles) Pythagorean Euclidean four point properties. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 7–14. (J. A. Lester) **98b:51018** 51F20 (54E50)

Frege, Gottlob On sense and nominatum. *The philosophy of language*, 186–198, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— Vorlesungen über Begriffsschrift. [Lectures on Begriffsschrift] Notes taken by Rudolf Carnap. With an introduction and commentary edited by Gottfried Gabriel, assisted by Christopher von Bülow and Brigitte Uhlemann. *Hist. Philos. Logic* **17** (1996), *no.* 1, xvi+48 *pp.* (Charles F. Kielkopf) **98f:01043** 01A60 (03–03)

— *see also* **Landini, Gregory, 98c:03014; Dathe, Uwe, 98e:01015; Beina, Jean-Pierre, 98e:01016; Born, Rainer, 98g:03005; Perry, John, 98h:03008; Heck, Richard G., Jr., 98i:03079; Weitzman, Leora, 98m:03009; Vassallo, Nicla** *and* **Picardi, Eva, (98h:00043)**

Frehse, Jens (*with* Růžička, Michael) Existence of regular solutions to the stationary Navier-Stokes equations. *Math. Ann.* **302** (1995), *no.* 4, 699–717. (Michael Wiegner) **98b:76024a** 76D05 (35Q30)

— (*with* Růžička, Michael) Existence of regular solutions to the steady Navier-Stokes equations in bounded six-dimensional domains. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 701–719 (1997). (Michael Wiegner) **98i:35142** 35Q30 (76D05)

— (*with* Naumann, J.) On weak solutions to the non-stationary van Roosbroeck's system with discontinuous permittivities. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 8, 689–706. (Yuanming Wang) **98d:35215** 35Q99 (82D99)

— (*with* Bensoussan, Alain; Nagai, Hideo) Some results on risk-sensitive control with full observation. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 1–41. (George Yin) **98i:93087** 93E20 (49L20)

kazakova-Frehse, N. *see* **Kazakova-Frehse, N.**

Frei, Christian W. (*with* Pao, Lucy Y.) Alternatives to Monte-Carlo simulation evaluations of two multisensor fusion algorithms. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 103–110. 93B40 (65C05)

Freidin, A. B. (*with* Morozov, N. F.; Nazyrov, I. R.) A one-dimensional problem on the phase transformation of an elastic ball. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 2, 188–191; *translation in Phys. Dokl.* **41** (1996), *no.* 1, 40–43. 73B35

Freidlin, M. I. (*with* Lee, Tzong-Yow) Wave front propagation and large deviations for diffusion-transmutation process. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 1, 39–70. (Ross Pinsky) **98c:60098** 60J60 (35K57)

Freilikher, V. (*with* Kanzieper, E.) Novel universal correlations in invariant random-matrix models. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 20, 3806–3809. (Summary) **98c:82029** 82B41

— (*with* Bass, F. G.) Scattering of waves from nonlinear media with rough surfaces. (English summary) *Waves Random Media* **7** (1997), *no.* 3, 385–394. 78A45

— (*with* Kaveh, Moshe; Pustilnik, M.; Yurkevich, I.; Sanches-Gil, J.; Maradudin, A. A.; Lu, Jun Q.) Coherent effects in scattering from bounded random systems with discrete spectrum. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 49–74, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:78034** 78A45

Freiling, Chris (*with* Darji, Udayan B.; Evans, Michael Jon; O'Malley, Richard J.) Fine properties of Baire one functions. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 177–188. (Oleksandr V. Sobchuk) **98k:26007** 26A21 (54C08, 54C30)

Freiling, G. (*with* Yurko, V. A.) Inverse problems for differential equations with turning points. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1247–1263. (Boris M. Levitan) **98i:34023** 34A55 (34B24, 34E20, 34L40)

Freiman, Gregory On solvability of a system of two Boolean linear equations. (English summary) *Number theory* (*New York*, 1991–1995), 135–150, *Springer, New York*, 1996. (Yuri Bilu) **98b:11023** 11D04 (90C10)

Freimer, Marshall (*with* Mudholkar, Govind S.; Hutson, Alan D.) On the efficiencies of some common quick estimators. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1623–1647. (Summary) **98b:62040** 62F10 (62F12)

Freire Macías, Emilio (*with* Ponce, Enrique; Torres, Francisco) Hopf-like bifurcations in planar piecewise linear systems. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 135–148. (Douglas S. Shafer) **98d:34067** 34C15 (34C05, 34C23, 58F14)

Freistühler, Heinrich Stability of non-classical shock waves. (English summary) *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 120–129, *World Sci. Publishing, River Edge, NJ*, 1996. (L. Hsiao) **98f:35104** 35L67 (35B35)

— Contributions to the mathematical theory of magnetohydrodynamic shock waves. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 175–187, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (R. M. Gundersen) **98f:76081** 76W05 (35Q35, 76L05)

Freitag, Burkhard (*with* Wichert, Carl-Alexander) Capturing database dynamics by deferred updates. (English summary) *Logic programming* (*Leuven*, 1997), 226–240, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68P15 (68N17)

— (*with* Brass, Stefan; Zukowski, Ulrich) Transformation-based bottom-up computation of the well-founded model. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 171–201, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98i:68046** 68N17 (68P15, 68Q55)

Freitag, Jörg (*with* Ehrgott, Matthias; Hamacher, Horst W.; Maffioli, Francesco) Heuristics for the K-cardinality tree and subgraph problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 87–114. (Sergeĭ L. Bezrukov) **98g:05076** 05C35

Freitag, Lori A. (*with* Jones, Mark T.; Plassmann, Paul E.) A parallel algorithm for mesh smoothing. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55 (65Y05)

— (*with* Ollivier-Gooch, Carl) Tetrahedral mesh improvement using swapping and smoothing. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 3979–4002. 65N55 (65D17)

Freitag, Paul Rigidity properties of imprimitive Fano 3-folds. *Math. Ann.* **309** (1997), *no.* 2, 179–198. (Mark Gross) **98k:14056** 14J45

de Freitas, J. A. Teixeira Formulation of elastostatic hybrid-Trefftz stress elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 127–151. 73V05

de Freitas, Luciane R. *see* **Lim, S. C., 98a:81019**

Freitas, Pedro (*with* Zuazua, Enrique) Stability results for the wave equation with indefinite damping. (English summary) *J. Differential Equations* **132** (1996), *no.* 2, 338–352. (Summary) **98c:35102** 35L05 (35B35)

— (*with* Grinfeld, Michael; Knight, P. A.) Stability of finite-dimensional systems with indefinite damping. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 437–448. (Summary) **98d:34084** 34D99 (15A18, 35L20)

— Some results on the stability and bifurcation of stationary solutions of delay-diffusion equations. *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 59–82. (Ludwik Byszewski) **98b:35213** 35R10 (35B32, 35B35, 35K55)

— Eigenvalue problems for the wave equation with strong damping. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 755–771. (Herbert Koch) **98g:35133** 35L20 (35L70, 35P15)

Freivalds, Rūsiņš (*with* Karpinski, Marek) Lower time bounds for randomized computation. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 183–195, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98g:68046** 68Q15

— (*with* Fortnow, Lance; Gasarch, William Ian; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank C.) Measure, category and learning theory. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 558–569, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68158** 68Q99 (03D20, 68T05)

— (*with* Kinber, Efim; Smith, Carl H.) On the impact of forgetting on learning machines. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 6, 1146–1168. (Mark R. Jerrum) **98i:68237** 68T05 (03D20, 68Q30)

— (*with* Ambainis, Andris) Transformations that preserve learnability. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 299–311, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68232** 68T05 (68Q99)

— (*with* Apsītis, Kalvis; Simanovskis, Raimonds; Smotrovs, Juris) Unions of identifiable families of languages. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 48–58, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (Summary) **98f:68227** 68T05 (68Q45)

— (*with* Bārzdiņš, Jānis; Smith, Carl H.) Learning with confidence. (English summary) *STACS 96* (*Grenoble*, 1996), 207–218, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68157** 68Q99 (68T05)

— (*with* Ambainis, Andris; Smith, Carl H.) General inductive inference types based on linearly-ordered sets. (English summary) *STACS 96* (*Grenoble*, 1996), 243–253, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 03D20 (68Q99, 68T05)

— (*with* Bārzdiņš, Jānis; Smith, Carl H.) Learning formulae from elementary facts. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 272–285, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98i:68210** 68Q99 (03C68, 68T05)

— (*with* Tervits, Gints; Wiehagen, Rolf; Smith, Carl H.) Learning small programs with additional information. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 102–112, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68T05 (68Q99)

— (*with* Ambainis, Andris; Karpinski, Marek) Weak and strong recognition by 2-way randomized automata. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 175–185, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68116** 68Q68

— (*with* Kaņeps, Jānis; Geidmanis, Dainis) Tally languages accepted by Monte Carlo pushdown automata. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 187–195, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98i:68013**) 68Q68

Freixas, J. Different ways to represent weighted majority games. (English summary) *Top* **5** (1997), *no.* 2, 201–212. (Summary) **98i:90132** 90D12

Freixas, Xavier The generalized irreversibility effect. Translated from the French by Gillian Lewis. *Markets, risk and money*, 233–248, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 26, *Kluwer Acad. Publ., Dordrecht*, 1995. (*see* **98c:90006**) 90A43 (90A05)

Frémond, M. A macroscopic predictive theory of supercooling. *Trends in applications of mathematics to mechanics* (*Lisbon*, 1994), 112–124, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 80A22 (35K05, 35R35)

Fremuth-Paeger, Christian ★ Degree constrained subgraph problems and network flow optimization. (English and German summaries) With a foreword in German by Dieter Jungnickel. Dissertation, Universität Augsburg, Augsburg, 1997. Augsburger Mathematisch-Naturwissenschaftliche Schriften [Augsburg Mathematical-Scientific Texts], 21. *Dr. Bernd Wißner, Augsburg*, 1997. ii+172 *pp. ISBN* 3-89639-083-X (Summary) **98m:90171** 90C35 (90–02)

French, Steven (*with* da Costa, Newton C. A.; Bueno, Otávio) Suppes predicates for space-time. (English summary) *Synthese* **112** (1997), *no.* 2, 271–279. (Summary) **98g:03029** 03B30

Freni, Domenico (*with* Gutan, Marin; Sureau, Y.) Sur le groupe des scalaires d'un hypergroupe. (French summary) [The group of scalars of a hypergroup] *New frontiers in hyperstructures* (*Molise*, 1995), 103–124, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (M. Stefănescu) **98h:20121** 20N20

— (*with* De Salvo, Mario; Lo Faro, Giovanni) On the hypergroups with four proper pairs and without scalars. *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 67–109. (Nobuaki Obata) **98h:20120** 20N20

— (*with* De Salvo, Mario; Lo Faro, Giovanni) On the hypergroups with four proper pairs and two or three non-scalar elements. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 29–51. (Umberto Cerruti) **98g:20104** 20N20

Frenk, Hans (*with* Dekker, Rommert; Kleijn, Marcel) A unified treatment of single component replacement models. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 437–454. (Summary) **98b:90057** 90B25 (60K10)

Frenkel, D. (*with* Lowe, C. P.; van der Hoef, M. A.) Deviations from Fick's law in Lorentz gases. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1229–1244. (Summary) **98g:82039** 82C40

Frenkel, Edward (*with* Reshetikhin, N. Yu.) Quantum affine algebras and deformations of the Virasoro and $\mathcal{W}$-algebras [MR 98a:17042]. *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 275–305, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (*see* **98c:00015**) 17B37 (17B67, 81R10, 81R50, 82B23)

— (*with* Reshetikhin, N. Yu.) Quantum affine algebras and deformations of the Virasoro and $\mathcal{W}$-algebras. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 1, 237–264. (Jun'ichi Shiraishi) **98a:17042** 17B68 (17B37, 81R10, 81R50, 82B23)

— (*with* Feigin, B. L.) Quantum $\mathcal{W}$-algebras and elliptic algebras. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 3, 653–678. (Jun'ichi Shiraishi) **98a:81062** 81R10 (17B68)

— (*with* Enriquez, Benjamin) Equivalence of two approaches to integrable hierarchies of KdV type. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 211–230. (Alexander V. Shapovalov) **98i:58114** 58F07 (35Q53)

Frenkel, Igor B. (*with* Turaev, Vladimir G.) Trigonometric solutions of the Yang-Baxter equation, nets, and hypergeometric functions. *Functional analysis on the eve of the 21st century, Vol. 1* (*New Brunswick, NJ*, 1993), 65–118, *Progr. Math.*, 131, *Birkhäuser Boston, Boston, MA*, 1995. (Louis H. Kauffman) **98i:17015** 17B37 (33C80, 33D80, 57N10, 81R50)

— (*with* Khesin, Boris A.) Four-dimensional realization of two-dimensional current groups. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 3, 541–562. (C. J. Atkin) **98c:22018** 22E65 (58B25, 81R10)

— (*with* Turaev, Vladimir G.) Elliptic solutions of the Yang-Baxter equation and modular hypergeometric functions. *The Arnold-Gelfand mathematical seminars*, 171–204, *Birkhäuser Boston, Boston, MA*, 1997. (Anne Schilling) **98k:33034** 33D20 (17B37, 33D80, 82B23)

Frenkel, Viktor Yakovlevich (*with* Sonin, A. S.) ★ Всеволод Константинович Фредерикс. 1885–1944. (Russian. Russian summary) [Vsevolod Konstantinovich Frederiks. 1885–1944] Научно-Биографическая Литература. [Scientific-Biographic Literature] "*Nauka*", *Moscow*, 1995. 176 *pp. ISBN* 5-02-015179-3 (Publisher's description) **98k:01043** 01A70

— *see also* **Josephson, Paul**

Frenkin, A. R. (*with* Kornienko, A. G.; Chizhov, G. A.) Classification of solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 5, 10–13. (Summary) **98i:35180** 35Q55 (35C99)

Frenod, E. (*with* Hamdache, Kamel) Homogenisation of transport kinetic equations with oscillating potentials. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1247–1275. (Carlo Cercignani) **98b:82068** 82C40 (35B27, 35Q99, 45K05, 76P05)

Frensel, Katia Rosenvald Stable complete surfaces with constant mean curvature. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **27** (1996), *no.* 2, 129–144. (Renato H. de L. Pedrosa) **98c:53068** 53C42 (53A10)

Frerick, L. On vector-valued sequence spaces. (English summary) *Note Mat.* **14** (1994), *no.* 1, 1–43 (1997). (Pedro J. Paúl) **98b:46014** 46A45 (46A04, 46A08, 46E40)

Fresnel, Jean (*with* van der Put, Marius) Uniformisation des variétés abéliennes. (English and French summaries) [Uniformization of abelian varieties] *Ann. Fac. Sci. Toulouse Math.* (5) **1989**, *suppl.*, 7–42. (Annette Werner) **98a:14059** 14K15 (11G10, 14G20)

Fresse, Benoit ★ Cogroupe dans les algèbres sur une opérade. (French. French summary) [Cogroups in algebras over an operad] Thèse, Université Louis Pasteur (Strasbourg I), Strasbourg, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1996/29. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1996. iv+107 *pp.* 18Cxx (16W30, 17Bxx)

— Opérations de Cartan pour les algèbres simpliciales sur une opérade. (English and French summaries) [Cartan operations for simplicial algebras over an operad] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 247–252. (Summary) **98c:18009** 18G50 (55S99)

Freudenberg, H. (*with* Maisser, P.; Kielau, G.; Enge, O.) Dynamics and control of discrete electromechanical systems. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 215–222, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70Q05 (70E99, 93C95)

Freudenberg, James S. (*with* Middleton, Richard H.; Braslavsky, Julio H.) Inherent design limitations for linear sampled-data feedback systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1387–1421. (Summary) **98m:93044** 93B50 (93C57)

— (*with* Elgersma, Mike; Morton, Blaise G.) Polynomial methods for the structured singular value with real parameters. (English summary) *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 2, 147–170. (Summary) **98b:93049** 93D09 (93C41)

— (*with* Middleton, Richard H.; Braslavsky, Julio H.) Robustness of zero shifting via generalized sampled-data hold functions. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1681–1692. (Summary) **98k:93068** 93C57 (93B35)

— (*with* Braslavsky, Julio H.; Middleton, Richard H.) L_2-induced norms and frequency gains of sampled-data sensitivity operators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 252–258. (Summary) **98k:93067** 93C57 (93B35)

Freudenburg, Gene Actions of $\mathbf{G}_a$ on $\mathbf{A}^3$ defined by homogeneous derivations. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 169–181. (David R. Finston) **98k:14068** 14L30 (13B10)

Freund, Franziska (*with* Freund, Rudolf) Test tube systems or How to bake a DNA cake. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 445–459. (Juraj Hromkovič) **98i:68073** 68Q05 (68Q10, 68Q15, 92D20)

Freund, Isaac "1001" correlations in random wave fields. (English summary) *Waves Random Media* **8** (1998), *no.* 1, 119–158. 78A45 (78–04)

Freund, M. *see* **Freund, Michael²**

Freund, Max A. A minimal logical system for computable concepts and effective knowability. *Logique et Anal. (N.S.)* **37** (1994), *no.* 147-148, 339–366. (J. M. Plotkin) **98a:03022** 03B45

— Some corrections: "A minimal logical system for computable concepts and effective knowability" [Logique et Anal. (N.S.) **37** (1994), no. 147, 339–366; MR 98a:03022]. *Logique et Anal. (N.S.)* **39** (1996), *no.* 155-156, 411–412. 03B45

— Semantics for two second-order logical systems: ≡ **RRC*** and Cocchiarella's **RRC***. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 483–505. (N. C. A. da Costa) **98h:03013** 03B15

Freund, Michael² Default extensions: dealing with computer information. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 277–288. (Summary) **98a:68171** 68T30 (68T27)

— Preferential orders and plausibility measures. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 147–158. (Summary) **98m:03057** 03B60 (03B70, 68T27)

Freund, Roland W. Computation of matrix Padé approximations of transfer functions via a Lanczos-type process. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 215–222, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A21 (65D15)

— (*with* Malhotra, Manish²; Pinsky, Peter M.) Iterative solution of multiple radiation and scattering problems in structural acoustics using a block quasi-minimal residual algorithm. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 173–196. (Summary) **98d:76104** 76M10 (73K70, 73V05, 76M25, 76Q05)

— (*with* Malhotra, Manish²) A block QMR algorithm for non-Hermitian linear systems with multiple right-hand sides. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 119–157. (Summary) **98g:65027** 65F10

Freund, Rudolf The generative power of quasi-monotonic array grammars. (English summary) *Mathematical linguistics and related topics*, 127–146, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:68090** 68Q50 (68Q45)

— Array grammar systems with prescribed teams of array productions. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 220–229, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q50

— (*with* Freund, Franziska) Test tube systems or How to bake a DNA cake. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 445–459. (Juraj Hromkovič) **98i:68073** 68Q05 (68Q10, 68Q15, 92D20)

— (*with* Fernau, Henning) Accepting array grammars with control mechanisms. (English summary) *New trends in formal languages*, 95–118, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68170** 68Q50 (68Q45)

Freund, Yoav (*with* Mansour, Yishay) Learning under persistent drift. (English summary) *Computational learning theory (Jerusalem, 1997)*, 109–118, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68141** 68T05 (68Q99)

— (*with* Cesa-Bianchi, Nicolò; Haussler, David; Helmbold, David P.; Schapire, Robert E.; Warmuth, Manfred K.) How to use expert advice. (English summary) *J. ACM* **44** (1997), *no.* 3, 427–485. (Peter Auer) **98e:68220** 68T05 (68Q99)

Fréville, Arnaud (*with* Gandibleux, Xavier; Mezdaoui, Nazik) A tabu search procedure to solve multiobjective combinatorial optimization problems. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 291–300, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C27)

Frey, Andreas (*with* Takahashi, Yoshitaka) A note on an $M/GI/1/N$ queue with vacation time and exhaustive service discipline. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 95–100. 60K25 (90B22)

Frey, Darrin D. Conjugacy of Alt_5 and $\mathrm{SL}(2,5)$ subgroups of $E_8(\mathbf{C})$. (English summary) *Mem. Amer. Math. Soc.* **133** (1998), *no.* 634, *viii*+162 *pp.* (R. W. Carter) **98m:20059** 20G20 (22E40)

Frey, Pascal J. (*with* Borouchaki, Houman) Triangulation des surfaces implicites. (English and French summaries) [Triangulation of implicit surfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 101–106. (Summary) **98c:65026** 65D17 (65Y25)

— (*with* Borouchaki, Houman) Qualité des maillages de surfaces. (English and French summaries) [Quality of surface meshes] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 925–930. (Summary) **98j:49053** 49Q05 (49Q10, 65N50)

— (*with* Borouchaki, Houman) Adaptive triangular-quadrilateral mesh generation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 915–934. 65N55 (65D17)

Frey, Rüdiger Derivative asset analysis in models with level-dependent and stochastic volatility. (English summary) Mathematics of finance, Part II. *CWI Quarterly* **10** (1997), *no.* 1, 1–34. (Summary) **98e:90052** 90A43

Freyd, P. J. (*with* Finkelstein, Stacy E.; Lipton, James) Logic programming in tau categories. (English summary) *Computer science logic (Kazimierz, 1994)*, 249–263, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68029** 68N17 (68Q55)

— (*with* O'Hearn, Peter W.; Power, Anthony John; Takeyama, Makoto; Tennent, Robert D.) Bireflectivity. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68153** 68Q55 (03G30, 18A35)

Freydin, Boris (*with* Dym, Harry) Bitangential interpolation for upper triangular operators. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 105–142, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Joseph A. Ball) **98f:47016** 47A57 (47A48)

— (*with* Dym, Harry) Bitangential interpolation for triangular operators when the Pick operator is strictly positive. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 143–164, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Joseph A. Ball) **98f:47017** 47A57 (47A48)

— Commutant lifting theorem and interpolation in discrete nest algebras. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 211–230. (Joseph A. Ball) **98g:47003** 47A20 (47A57, 47D25)

Frezza, Fabrizio (*with* Borghi, Riccardo; Santarsiero, Massimo; Schettini, Giuseppe) Plane-wave scattering by a dielectric circular cylinder parallel to a general reflecting flat surface. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1500–1504. (Summary) **98a:78011** 78A45

Frezza, Ruggero (*with* Perona, Pietro; Picci, Giorgio; Soatto, Stefano) System-theoretic aspects of dynamic vision. *Trends in control (Rome, 1995)*, 349–383, *Springer, Berlin*, 1995. (Guy Jumarie) **98b:93002** 93–02 (68T10, 68U10)

Frezzotti, A. Molecular dynamics and Enskog theory calculation of shock profiles in a dense hard sphere gas. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 103–112. (*see* **98i:76002**) 82C40

Friang, Jean-Patrick (*with* Duc, Gilles; Bonnet, Jean-Paul) Robust autopilot for a flexible missile: loop-shaping H_∞ design and real ν-analysis. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 129–153. (Summary) **98m:93083** 93C95 (93B36)

Frias, Marcelo F. (*with* Baum, Gabriel A.; Haeberer, Armando M.; Martínez López, Pablo E.) From specifications to programs: a fork-algebraic approach to bridge the gap. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 180–191, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q65 (03B70, 68Q60)

— (*with* Orłowska, Ewa) Equational reasoning in non-classical logics. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 1, 2–11. (S. Comer) **98b:03044** 03B60 (03C05, 03G15)

— (*with* Haeberer, Armando M.; Veloso, Paulo A. S.) A finite axiomatization for fork algebras. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 311–319 (*electronic*). (S. Comer) **98d:03065** 03G15 (03B70, 68Q65)

— (*with* Baum, Gabriel A.; Haeberer, Armando M.) Representability and program construction within fork algebras. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 227–257. (Summary) **98m:68180** 68Q65 (03G15)

— *see also* **Workshop: Relational Methods in Computer Science, 98k:68018**

Fribourg, Laurent (*with* Olsén, Hans) Proving safety properties of infinite state systems by compilation into Presburger arithmetic. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 213–227, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q90 (03B70, 03F30, 68Q60)

— (*with* Olsén, Hans) Reachability sets of parametrized rings as regular languages. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite*

State Systems (*Bologna*, 1997), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q60 (68Q45)
— (*with* Olsén, Hans) A decompositional approach for computing least fixed-points of Datalog programs with Z-counters. (English summary) *Constraints* **2** (1997), *no.* 3-4, 305–335. (Summary) **98m:68034** 68N17 (68Q90)
Frič, Roman (*with* Zanolin, Fabio) Relatively coarse sequential convergence. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 395–408. (Klaas Pieter Hart) **98d:54006** 54A20 (20K45, 54H11, 54H13)
Frick, H. A note on the bias of O'Brien's OLS test. (English summary) *Biometrical J.* **39** (1997), *no.* 1, 125–128. (Summary) **98d:62102** 62H15
Frick, K. (*with* Kazakova-Frehse, N.) The estimation of a robust domain of attraction using Gershgorin theorem. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 295–303. (Summary) **98k:93084** 93D09
Frick, Peter *see* **Frik, P. G.**
Frick, Rudolf A. A new Hamiltonian operator for a massive relativistic particle with spin one in a generalized Heisenberg/Schrödinger picture. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3457–3465. (Vladimir Georgescu) **98g:81044** 81Q99 (81S99)
— Erratum: "A new Hamilton operator for a massive relativistic particle with spin one in a generalized Heisenberg/Schrödinger picture" [J. Math. Phys. **38** (1997), no. 7, 3457–3465; MR 98g:81044]. *J. Math. Phys.* **39** (1998), *no.* 4, 2455. 81Q99 (81S99)
Fricke, Jan (*with* Eichhorn, Jürgen; Lang, Alexander) Metrics conformally equivalent to bounded geometry. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 103–110. (Józef Dodziuk) **98h:53054** 53C20 (53C21)
Fricke, Jens Transport equations including many-particle correlations for an arbitrary quantum system: a general formalism. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 479–498. (Ioan Bâldea) **98a:82091** 82C70 (81V70)
Frické, Martin What are the advantages of Hyperproof-like reasoning systems? (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 3, 397–410. (Summary) **98e:03003** 03A05
Fricker, Ronald D., Jr. Attrition models of the Ardennes campaign. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 1–22. 90B06
Frid, A. È. On the combinatorial complexity of iteratively generated symbol sequences. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 1, 53–59, 90. (Summary) **98i:68227** 68R15
Fridberg, A. (*with* Weidman, P. D.; Goto, Makoto) On the instability of inviscid, rigidly rotating immiscible fluids in zero gravity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 921–950. (Summary) **98j:76036** 76E05 (76U05)
Fridén, Jonas (*with* Kristensson, Gerhard) Transient external 3D excitation of a dispersive and anisotropic slab. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 691–709. (Summary) **98c:78020** 78A45
Fridli, S. (*with* Schipp, Ferenc) Strong summability and Sidon type inequalities. (English summary) *Acta Sci. Math. (Szeged)* **60** (1995), *no.* 1-2, 277–289. (Mursaleen) **98f:42002** 42A24 (40F05)
— Coefficient condition for L_1-convergence of Walsh-Fourier series. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 731–741. (W. R. Wade) **98m:42041** 42C10
Fridman, A. A. (*with* Adyan, S. I.; Ledenëv, V. P.; Tikhomirov, V. M.) Yurii Il'ich Khmelevskiĭ (on the sixtieth anniversary of his birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 243–246; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 875–880. (Editors) **98f:01052** 01A70
Fridman, G. M. Matched asymptotics for two-dimensional planing hydrofoils with spoilers. (English summary) *J. Fluid Mech.* **358** (1998), 259–281. (Summary) **98m:76013** 76B10
Fridrich, Jiří Discrete-time dynamical systems under observational uncertainty. (English summary) *Appl. Math. Comput.* **82** (1997), *no.* 2-3, 181–205. (Wolf-Jürgen Beyn) **98c:65201** 65Q05 (58F08, 65L70)
— Beneficial chaos? (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 1-2, 179–197. (Summary) **98d:94021** 94A60 (58F13, 94A12)
Fridy, J. A. Noninclusion theorems for summability matrices. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 511–516. (Hüseyin Bor) **98f:40003** 40C05 (40D25)
— (*with* Orhan, C.) Statistical core theorems. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 520–527. (Harry I. Miller) **98c:40004** 40C05 (26A03, 40A05)
— (*with* Orhan, C.) Statistical limit superior and limit inferior. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3625–3631. (Harry I. Miller) **98c:40003** 40C05 (26A03, 40A05)
Friedberg, Solomon (*with* Bump, Daniel; Furusawa, Masaaki) Explicit formulas for the Waldspurger and Bessel models. (English summary) *Israel J. Math.* **102** (1997), 125–177. (David Ginzburg) **98k:22070** 22E50
Friedberg, Stephen H. Applications of the binomial theorem. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 459–471. 05A10
— An analytical proof of the Cayley-Hamilton theorem. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 598–600. 15A18
Friedel, Holger (*with* Grauer, Rainer; Marliani, Christiane) Center manifold approach to controlling chaos. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 45–52. 58F13 (93C10)
Frieden, B. Roy Fisher information as a measure of time. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 387–391. (*see* **98c:83004**) 94A17
— Fisher information as a measure of time. (English summary) *Modern mathematical models of time and their applications to physics and cosmology* (*Tucson, AZ*, 1996), 387–391, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 81P99 (94A17)
— (*with* Cocke, William J.) Information and gravitation. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1397–1412. (Summary) **98m:83019** 83C25 (83C99)
Friedland, Bernard A nonlinear observer for estimating parameters in dynamic systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1525–1530. 93B07 (93E10)
— (*with* Haessig, David) Separate-bias estimation with reduced-order Kalman filters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 983–987. 93E11
Friedland, Lazar Resonant excitation and control of high order dispersive nonlinear waves. (English summary) *Phys. Plasmas* **5** (1998), *no.* 3, 645–658. (Summary) **98m:76166** 76X05
Friedland, Shmuel Discrete groups of unitary isometries and balls in hyperbolic manifolds. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 305–341. (B. N. Apanasov) **98c:46154** 46L99 (57M50)
— On the entropy of $\mathbf{Z}^d$ subshifts of finite type. (English summary) *Linear Algebra Appl.* **252** (1997), 199–220. (Manfred Denker) **98b:54052** 54H20 (28D99, 54C70, 82B05)
— The maximal orders of finite subgroups in $GL_n(\mathbf{Q})$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3519–3526. (Alexander Zimmermann) **98b:20064** 20G05 (20C10, 20G30, 20H25)
Friedlander, Ana (*with* Andreani, R.; Martínez, José Mario) Solution of finite-dimensional variational inequalities using smooth optimization with simple bounds. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 635–657. (Alfredo N. Iusem) **98j:90079** 90C33 (49J40)
— (*with* Gomes-Ruggiero, Márcia A.; Kozakevich, Daniel N.; Martínez, José Mario; Santos, Sandra Augusta) Solving nonlinear systems of equations by means of quasi-Newton methods with a nonmonotone strategy. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 25–51. (Summary) **98g:65048** 65H10
Friedlander, Benjamin (*with* Zeira, Ariela) Gabor representation and signal detection. (English summary) *Gabor analysis and algorithms*, 353–380, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **98h:42001**) 94A12 (42C15, 94A13)
Friedlander, Eric M. (*with* Suslin, A. A.) Cohomology of finite group schemes over a field. *Invent. Math.* **127** (1997), *no.* 2, 209–270. (Daniel K. Nakano) **98h:14055a** 14L15 (20C20, 20G10)
— (*with* Suslin, A. A.; Bendel, Christopher P.) Infinitesimal 1-parameter subgroups and cohomology. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 693–728. (Daniel K. Nakano) **98h:14055b** 14L15 (20C20, 20G10)
— (*with* Suslin, A. A.; Bendel, Christopher P.) Support varieties for infinitesimal group schemes. *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 729–759. (Daniel K. Nakano) **98h:14055c** 14L15 (20C20, 20G10)
Friedlander, John (*with* Iwaniec, Henryk) Using a parity-sensitive sieve to count prime values of a polynomial. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 4, 1054–1058. (G. Greaves) **98b:11097** 11N32 (11N35)
Friedler, F. (*with* Imreh, B.; Fan, L. T.) An algorithm for improving the bounding procedure in solving process network synthesis by a branch-and-bound method. (English summary) *Developments in global optimization* (*Szeged*, 1995), 315–348, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. T. Lau) **98f:90070** 90C35 (90B12)
— (*with* Fan, L. T.; Imreh, B.) Process network synthesis: problem definition. (English summary) *Networks* **31** (1998), *no.* 2, 119–124. (Summary) **98m:90060** 90B10
Friedler, Louis M. (*with* Martin, Harold W.) The space of maximal complete subgraphs of a graph. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 62–72, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Dušan Repovš) **98h:54049** 54F65 (05C99)
— (*with* Porter, Jack R.) Compactly functionally compact spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 775–785. (Summary) **98i:54004** 54A25 (54D35)
— (*with* Kitover, Arkady K.) Almost homeomorphic mappings of compact spaces. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 233–246. (Summary) **98g:54049** 54D30 (47B38, 54B10, 54G05)
Friedman, Avner (*with* Hu, Bei; Liu, Yong) A boundary value problem for the Poisson equation with multi-scale oscillating boundary. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 54–93. (Sergey Nikolaevich Alekseenko) **98j:35045** 35J25 (35B25)
— (*with* Hu, Bei) A non-stationary multi-scale oscillating free boundary for the Laplace and heat equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 119–165. (Lisa Santos) **98g:35223** 35R35 (35J05, 35K05, 76X05)
— Reflections on the future of mathematics. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 30–32. 01A67
Friedman, Eric J. (*with* Johnson, Simon) Dynamic monotonicity and comparative statics for real options. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 104–121. (Summary) **98c:90023** 90A16 (90A09)
Friedman, James W. (*with* Chen, Hsiao-Chi; Thisse, Jacques-François) Boundedly rational Nash equilibrium: a probabilistic choice approach. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 32–54. (Yeneng Sun) **98b:90175** 90D06
Friedman, Jerome H. (*with* Breiman, Leo) Predicting multivariate responses in multiple linear regression. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 3–54. (Summary) **98f:62191** 62J05
Friedman, Joel (*with* Joux, Antoine; Roichman, Yuval; Stern, Jacques; Tillich, Jean-Pierre) The action of a few random permutations on r-tuples and an application to cryptography. (English summary) *STACS 96* (*Grenoble*, 1996), 375–386, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98g:94026** 94A60 (05C25, 05C80, 68P25, 68R05)
Friedman, John L. (*with* Morris, Michael S.) The Cauchy problem on spacetimes with closed timelike curves. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 173–181, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (Robert J. Low) **98j:83073** 83C75
— Field theory on spacetimes that are not globally hyperbolic. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 43–57, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Alan D. Rendall) **98d:83038** 83C47 (58G16, 81T20)
— (*with* Morris, Michael S.) Existence and uniqueness theorems for massless fields on a class of spacetimes with closed timelike curves. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 495–529. (Summary) **98k:83031** 83C30 (81T20, 83C47)
Friedman, M. D. *see* **Kölbig, K. S.** *and* **Khinchin, Aleksandr Yakovlevich**
Friedman, Menahem (*with* Ma, Ming; Kandel, Abraham) On the validity of the Peano theorem for fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 331–334. (Summary) **98c:34005** 34A12 (04A72)
— (*with* Ma, Ming; Kandel, Abraham) Fuzzy linear systems. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 201–209. (Summary) **98k:15051** 15A99
Friedman, Nathaniel (*with* Adams, Terrence; Silva, Cesar E.) Rank-one weak mixing for nonsingular transformations. (English summary) *Israel J. Math.* **102** (1997), 269–281.

(Nathaniel F. G. Martin) **98j:28013** 28D05

Friedman, Nir (*with* Halpern, Joseph Y.) Modeling belief in dynamic systems. I. Foundations. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 257–316. (David Makinson) **98j:68149** 68T27 (03B45, 03B60, 03B70, 68T30)

Friedman, Robert David *see* **Gauge theory and the topology of four-manifolds, 98j:57001**

Friedman, Ronald S. (*with* Truhlar, Donald G.) Barrier resonances and chemical reactivity. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 243–281, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Summary) **98j:81355** 81U10 (81U05, 81U20, 81V55)

Friedman, Roy (*with* Attiya, Hagit; Chaudhuri, Soma; Welch, Jennifer L.) Shared memory consistency conditions for nonsequential execution: definitions and programming strategies. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 65–89 (*electronic*). (Summary) **98m:68001** 68M07 (68Q10, 68Q60)

Friedman, Sy D. The Σ^* approach to the fine structure of L. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 133–158. (A. Kanamori) **98k:03107** 03E45 (03E05)

— Coding without fine structure. *J. Symbolic Logic* **62** (1997), *no.* 3, 808–815. (A. Kanamori) **98m:03109** 03E45 (03E40)

Friedmann, A. (*with* Kharytonov, A.) Solving of nonlinear differential equations by a method of successive approximations. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 97–100, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65L99 (34A34)

Friedrich, Harald (*with* Trost, J.) WKB and exact wave functions for inverse power-law potentials. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 127–133. (Summary) **98f:81072** 81Q20

Friedrich, Helmut Gravitational fields near space-like and null infinity. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 2, 83–163. (Simonetta Frittelli) **98j:83007** 83C05 (53C80, 83C30)

Friedrich, Thomas (*with* Baum, Helga) Eigenvalues of the Dirac operator, twistors and Killing spinors on Riemannian manifolds. *Clifford algebras and spinor structures*, 243–256, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jean-Louis Milhorat) **98i:58235** 58G25 (58G30)

— ★ Dirac-Operatoren in der Riemannschen Geometrie. (German. German summary) [Dirac operators in Riemannian geometry] Mit einem Ausblick auf die Seiberg-Witten-Theorie. [With an outlook on Seiberg-Witten theory] Advanced Lectures in Mathematics. *Friedr. Vieweg & Sohn, Braunschweig*, 1997. xii+207 *pp. ISBN* 3-528-06926-0 (Jürgen Eichhorn) **98j:58102** 58Gxx (57R57, 58G03, 58G10, 58G25, 81R25)

— (*with* Eichhorn, Jürgen) Seiberg-Witten theory. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 231–267, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98i:57060** 57R57 (57R55, 58D29, 58G03, 58G10)

— On superminimal surfaces. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 41–56. (John C. Wood) **98h:53092** 53C42 (58E20)

— (*with* Kath, I.; Moroianu, Andrei; Semmelmann, U.) On nearly parallel G_2-structures. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 259–286. (Francisco M. Cabrera) **98j:53053** 53C25 (53C10, 57R15)

delgado Friedrichs, Olaf *see* **Delgado Friedrichs, Olaf**

Frieman, Joshua A. (*with* Harari, Diego D.; Surpi, Gabriela C.) Large scale structure, gravitational waves and gravitational lenses. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 361–365, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83048** 83C35

Fries, Arthur (*with* Sen, Ananda) Estimation in a discrete reliability growth model under an inverse sampling scheme. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 211–229. (Summary) **98i:62080** 62N05 (62J12)

Fries, Stefan Empirical validation of a Markovian learning model for knowledge structures. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 65–70. 92J40

Friesecke, Gero Pair correlations and exchange phenomena in the free electron gas. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 143–171. (A. Ventura) **98m:82008** 82B05 (82D20, 82D35)

— (*with* Lankers, Katharina) Fast, large-amplitude solitary waves in the 2D Euler equations for stratified fluids. *Nonlinear Anal.* **29** (1997), *no.* 9, 1061–1078. (Shu Ming Sun) **98e:76020** 76C10 (35Q30, 76M30, 76V05)

Friesen, Christian (*with* van Wamelen, Paul) Class numbers of real quadratic function fields. *Acta Arith.* **81** (1997), *no.* 1, 45–55. (Gabriel D. Villa-Salvador) **98d:11141** 11R58 (11R29)

Friesen, Donald (*with* Zhang, Jingyu) Parallelizing the computation of one eigenvalue for a large symmetric tridiagonal matrix. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F15 (65Y05)

Friesz, Terry L. (*with* Smith, Tony E.; Bernstein, David Howard; Suo, Zhong-Gui) A comparative analysis of two minimum-norm projective dynamics and their relationship to variational inequalities. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 405–424, *SIAM, Philadelphia, PA*, 1997. (Ruxandra Stavre) **98b:65072** 65K10 (49J40)

Frieze, Alan (*with* Alon, Noga; Welsh, Dominic J. A.) Polynomial time randomised approximation schemes for the Tutte polynomial of dense graphs. (English summary) *35th Annual Symposium on Foundations of Computer Science* (*Santa Fe, NM*, 1994), 24–35, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (05C85, 68R10)

— (*with* Szpankowski, Wojciech) Greedy algorithms for the shortest common superstring that are asymptotically optimal. (English summary) *Algorithms—ESA '96* (*Barcelona*), 194–207, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98h:68111** 68Q25 (92D20)

— (*with* Chen, Hui[4]) Coloring bipartite hypergraphs. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 345–358, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Peter Mihók) **98c:05058** 05C15 (05C65, 90C35)

— (*with* Cooper, Colin; Molloy, Michael Sean O'Brien) Hamilton cycles in random regular digraphs [MR 96c:05116]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 153–163, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C45 (05C20, 05C80)

— (*with* Cooper, Colin; Mehlhorn, Kurt; Priebe, Volker) Average-case complexity of shortest-paths problems in the vertex-potential model. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 15–26, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68082** 68Q25 (68R10)

— (*with* Jerrum, Mark) Improved approximation algorithms for MAX k-CUT and MAX BISECTION. (English summary) *Algorithmica* **18** (1997), *no.* 1, 67–81. (Yixun Lin) **98a:90083** 90C27 (90C35)

Frigaard, I. A. (*with* Scherzer, Otmar) Spraying the perfect billet. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 649–682. (Pekka Neittaanmäki) **98e:82047** 82D99 (35R30, 65M30)

Frigessi, Arnoldo (*with* Martinelli, Fabio; Stander, Julian) Computational complexity of Markov chain Monte Carlo methods for finite Markov random fields. (English summary) *Biometrika* **84** (1997), *no.* 1, 1–18. (Mark R. Jerrum) **98d:60093** 60G60 (60J10, 62M05, 68Q25, 68U10, 82B80)

— (*with* Rue, Håvard) Bayesian image classification with Baddeley's delta loss. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 1, 55–73. (V. V. Anh) **98h:62107** 62H30

Frigioni, Daniele (*with* Cicerone, Serafino; Nanni, Umberto; Pugliese, Francesco) Counting edges in a dag. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 85–100, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68055** 68P05 (05C85, 68R10)

— (*with* Franciosa, Paolo Giulio; Giaccio, Roberto) Semi-dynamic shortest paths and breadth-first search in digraphs. (English summary) *STACS 97* (*Lübeck*), 33–46, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68024** 68P05 (68R10)

Frigon, Marlène On continuation methods for contractive and nonexpansive mappings. (English summary) *Recent advances on metric fixed point theory* (*Seville*, 1995), 19–30, *Ciencias*, 48, *Univ. Sevilla, Seville*, 1996. (V. V. Obukhovskiĭ) **98c:47068** 47H10 (47H04, 47H09)

— (*with* O'Regan, Donal) Nonlinear first-order initial and periodic problems in Banach spaces. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 41–46. (Summary) **98c:34097** 34G20 (34A12, 34B15, 34C25)

— On a critical point theory for multivalued functionals and application to partial differential inclusions. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 735–753. (Jean-Noël Corvellec) **98k:58045** 58E05 (35R70, 49J20)

Frigui, Imed (*with* Alfa, Attahiru Sule; Xu, Xiaoyi) Algorithms for computing waiting time distributions under different queue disciplines for the D-BMAP/PH/1. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 559–576. 60K25 (90B22)

Friis, Helmer André (*with* Grue, John; Palm, Enok; Rusås, Per Olav) A method for computing unsteady fully nonlinear interfacial waves. (English summary) *J. Fluid Mech.* **351** (1997), 223–252. (Summary) **98i:76021** 76C10 (76M25, 86–08, 86A05)

Frik, P. G. (*with* Aurell, Erik; Dormy, Emmanuel) Binary tree models of high-Reynolds-number turbulence. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1692–1698. 76F99 (76M35)

— (*with* Sokolov, D. D.) Cascade and dynamo action in a shell model of magnetohydrodynamic turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4155–4164. (Summary) **98m:76097** 76F99 (76W05)

Fring, A. (*with* Belavin, A. A.) On the fermionic quasi-particle interpretation in minimal models of conformal field theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 199–205. (Isabel P. Ennes) **98m:81166** 81T40

Fripertinger, Harald Cycle indices of linear, affine, and projective groups. (English summary) *Linear Algebra Appl.* **263** (1997), 133–156. (Patrick Solé) **98h:05179** 05E20 (94B05)

Frisch, Alan M. (*with* Page, C. David, Jr.) Building theories into instantiation. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1210–1216, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T15 (68N17)

Frisch, Harry L. Some recent exact solutions of the Fokker-Planck equation. *Nonequilibrium statistical mechanics in one dimension*, 337–357, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98h:82034**) 82C35 (82C31)

Frisch, Sophie On the minimal distance between group tables. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 341–351. (J. Dénes) **98m:05023** 05B15 (20D60)

Frisch, Uriel ★ Turbulence. (English summary) The legacy of A. N. Kolmogorov. *Cambridge University Press, Cambridge*, 1995. xiv+296 *pp. ISBN* 0-521-45103-5 (Philip J. Holmes) **98e:76002** 76–02 (35Q30, 76D05, 76Fxx, 76M35)

— (*with* Wirth, Achim) Intermittency of passive scalars in delta-correlated flow: introduction to recent work. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 53–64, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76063** 76Fxx (76M35)

— (*with* Gurbatov, S. N.; Simdyankin, S. I.; Aurell, Erik; Tóth, Gábor[2]) On the decay of Burgers turbulence. (English summary) *J. Fluid Mech.* **344** (1997), 339–374. (W. A. Woyczyński) **98k:76075** 76F99 (60H15, 76D99, 76M35)

— (*with* Aurell, Erik; Noullez, A.; Blank, Michael) Bifractality of the Devil's staircase appearing in the Burgers equation with Brownian initial velocity. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1151–1164. (Summary) **98e:60104** 60H15 (35Q53, 35R60)

Frischat, Steffen D. (*with* Doron, Eyal) Quantum phase-space structures in classically mixed systems: a scattering approach. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3613–3634. (Summary) **98c:81069** 81Q50

Frishman, Y. (*with* Sonnenschein, Jacob) QCD_2 screening, confinement and novel non-abelian solutions. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 285–301. (Tsou Sheung Tsun) **98i:81155** 81T13 (81T40)

— (*with* Armoni, A.; Sonnenschein, Jacob) The string tension in massive QCD_2. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 3, 430–433. (Summary) **98i:81227** 81T40 (81V05)

Fristedt, Bert (*with* Gray, Lawrence) ★ A modern approach to probability theory. (English summary) Probability and its Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xx+756 *pp. ISBN* 0-8176-3807-5 (N. H. Bingham) **98e:60002** 60–01

— The deceptive number changing game, in the absence of symmetry. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 183–191. (Summary) **98c:90184** 90D05 (90D60)

Friswell, Michael I. (*with* Inman, Daniel J.) Sensor and actuator topology for vibration control and parameter estimation. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 735–746, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K12, 73K50, 93D15)

— (*with* Garvey, S. D.; Penny, J. E. T.) The convergence of the iterated IRS method. (English summary) *J. Sound Vibration* **211** (1998), *no.* 1, 123–132. (Summary) **98m:73078** 73V05 (73K12)

Frith, J. (*with* Fletcher, Peter; Hunsaker, Worthen N.; Schauerte, A.) The Nachbin quasi-uniformity of a bi-Stonian space. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 322–326. (Summary) **98g:54056** 54E15 (03G10, 06D20, 54E05, 54F05)

Fritsch, Hagen A necessary extremality condition for a set-valued stochastic control problem. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 29–49. (E. N. Barron) **98f:49028** 49K45 (93E20)

Fritsch, Kathleen S. (*with* Hsu, Jason C.) Multiple comparisons with the mean. (English summary) *Advances in statistical decision theory and applications*, 189–204, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62J15

Frittelli, Marco Semimartingales and asset pricing under constraints. (English summary) *Mathematics of derivative securities (Cambridge*, 1995), 255–268, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Frittelli, Simonetta (*with* Newman, Ezra T.) Pseudo-Minkowskian coordinates in asymptotically flat space-times. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 1971–1976. (Richard Hansen) **98a:83043** 83C30 (53C50)

— Note on the propagation of the constraints in standard 3 + 1 general relativity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5992–5996. (Alexander N. Petrov) **98e:83010** 83C05

— (*with* Kozameh, Carlos N.; Newman, Ezra T.; Rovelli, Carlo; Tate, Ranjeet S.) Quantization of the null-surface formulation of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 889–907. (Seth A. Major) **98i:83031** 83C45 (81V17)

— (*with* Kozameh, Carlos N.; Newman, Ezra T.) Dynamics of light cone cuts of null infinity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4729–4744. (Jörg Frauendiener) **98j:83029** 83C30

Fritts, David C. (*with* Arendt, Steve; Andreassen, Øyvind) The initial value problem for Kelvin vortex waves. (English summary) *J. Fluid Mech.* **344** (1997), 181–212. (Shu Ming Sun) **98i:76015** 76C05

— (*with* Arendt, Steve) The instability of a vortex tube in a weak external shear and strain. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 530–532. (Summary) **98i:76016** 76C05 (76E99)

Frittsshe, B. *see* **Fritzsche, Bernd**

Fritz, J. (*with* Rüdiger, B.) Approximation of a one-dimensional stochastic PDE by local mean field type lattice systems. (English summary) *Nonlinear stochastic PDEs (Minneapolis, MN*, 1994), 111–125, *IMA Vol. Math. Appl.*, 77, *Springer, New York*, 1996. (Ellen Saada) **98e:60157** 60K35 (35R60, 60H15, 82C05, 82C22)

— (*with* Collet, Pierre; Dunlop, François; Gobron, Thierry) Langevin dynamics of a semi-infinite interface. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 261–274. (Filippo Cesi) **98m:82050** 82C24 (60K35, 82C31)

Fritzen, Peter (*with* Wittekindt, Jörg) Numerical solution of viscoplastic constitutive equations with internal state variables. I. Algorithms and implementation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1411–1425. (Summary) **98h:73079** 73V15 (65M60, 73E60)

Fritzsche, Bernd (*with* Fuchs, Stefan; Kirstein, Bernd) On Arov-normalized j_{pq}-elementary factors. ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 129–156. (Mihály Bakonyi) **98d:47038** 47A57 (15A23, 30E05, 47A56)

— (*with* Kirstein, Bernd; Müller, Katja) A block completion problem for matrix-valued inner functions. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 157–172. (Jaroslav Zemánek) **98f:15017** 15A54 (15A60, 47A57)

— (*with* Boĭko, S. S.; Dubovoĭ, V. K.; Kirstein, Bernd) Contraction operators, defect functions, and scattering theory. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 481–489; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 529–538 (1998). (Dmitriy S. Kalyuzhniy) **98j:47020** 47A48 (47A40, 47A56)

— (*with* Kirstein, Bernd) On some interrelations between the generalized Nehari problem for the Carathéodory class and prediction theory. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 165–189. (Pedro Alegría) **98e:47022** 47A57 (30E05, 60G25)

— (*with* Arov, Damir Zyamovich; Kirstein, Bernd) A function-theoretic approach to a parametrization of the set of solutions of a completely indeterminate matricial Nehari problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 1–66. (Arne Stray) **98k:30052** 30E05 (47A57)

— *see also* **Topics in interpolation theory**, **98f:47001**

Fröberg, Carl-Erik (*with* Bohman, Jan) Generalized Goldbach problems. (Swedish. English summary) *Normat* **45** (1997), *no.* 4, 167–177, 188. (Summary) **98i:11084** 11P32

Fröberg, Ralf (*with* Barucci, Valentina) One-dimensional almost Gorenstein rings. *J. Algebra* **188** (1997), *no.* 2, 418–442. (Ngô Viêt Trung) **98a:13033** 13H10 (13B15)

— (*with* Barucci, Valentina) Maximality properties for one-dimensional analytically irreducible local Gorenstein and Kunz rings. *Math. Scand.* **81** (1997), *no.* 1, 149–160 (1998). (Ralf Fröberg) **98m:13029** 13H10 (13B02)

Frochaux, Etienne Two relativistic boson models in the Schrödinger picture in three space-time dimensions. (English summary) *J. Math. Phys.* **37** (1996), *no.* 6, 2979–3000. (Claus Montonen) **98b:81069** 81R05 (81T10)

— Non-trivial representations of the special relativity group. (English summary) *Forum Math.* **9** (1997), *no.* 1, 75–102. (Summary) **98j:22032** 22E70 (81R05, 81T08)

Froeb, Luke (*with* Cooil, Bruce) A difference estimator for testing equality of variances for paired time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 285–290. 62M10

Froehlich, Jochen *see* **Fröhlich, Jochen**

Froeschlé, C. *see* **Froeschlé, Claude**

Froeschlé, Christiane Dynamical transport to planet-crossing orbits. The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 165–173. (*see* **98g:70003**) 70F15

Froeschlé, Claude (*with* Lega, Elena) On the measure of the structure around the last KAM torus before and after its break-up. (English summary) Chaos in gravitational N-body systems (La Plata, 1995). *Celestial Mech. Dynam. Astronom.* **64** (1996), *no.* 1-2, 21–31. (Summary) **98a:58136** 58F27

— (*with* Lega, Elena) Fast Lyapunov indicators. Comparison with other chaos indicators. Application to two- and four-dimensional maps. (English summary) *The dynamical behaviour of our planetary system (Ramsau*, 1996), 257–275, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 58F13 (70K50)

— (*with* Lega, Elena; Gonczi, Robert) Fast Lyapunov indicators. Application to asteroidal motion. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 41–62. 70F15 (70H05, 70K50)

— (*with* Contopoulos, G.; Voglis, N.; Efthymiopoulos, C.; Gonczi, Robert; Lega, Elena; Dvorak, Rudolf; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

— (*with* Lega, Elena) Global symplectic polynomial approximation of area-preserving maps. (English summary) *J. Differ. Equations Appl.* **3** (1997), *no.* 2, 169–184. (Summary) **98e:65111** 65Q05 (34C35, 58F05, 70H05)

Froese, Richard Asymptotic distribution of resonances in one dimension. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 251–272. (Hiroshi Isozaki) **98f:81339** 81U05 (34L25, 47E05)

Fröhlich, J. *see* **Fröhlich, Jürg**

Fröhlich, Jochen Parameter derivatives of the Jacobi polynomials and the Gaussian hypergeometric function. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 4, 253–266. (B. D. Agrawal) **98b:33006** 33C05 (33C45, 65M70)

— (*with* Brand, Rüdiger; Freeden, Willi) An adaptive hierarchical approximation method on the sphere using axisymmetric locally supported basis functions. (English and German summaries) *Computing* **57** (1996), *no.* 3, 187–212. (Menachem Dishon) **98a:86001** 86–08 (33C55, 65D15, 65D20, 86A30)

— (*with* Schneider, Kai) An adaptive wavelet-vaguelette algorithm for the solution of PDEs. (English summary) *J. Comput. Phys.* **130** (1997), *no.* 2, 174–190. (Summary) **98a:65197** 65T99 (65D15, 65M60, 65N30)

Fröhlich, Jürg (*with* Studer, Urban M.; Thiran, Emmanuel) Quantum theory of large systems of non-relativistic matter. *Géométries fluctuantes en mécanique statistique et en théorie des champs (Les Houches*, 1994), 771–912, *North-Holland, Amsterdam*, 1996. (From the introduction) **98h:81001** 81–02 (81V70)

— (*with* Chen, Thomas; Seifert, M.) Renormalization group methods: Landau-Fermi liquid and BCS superconductor. *Géométries fluctuantes en mécanique statistique et en théorie des champs (Les Houches*, 1994), 913–970, *North-Holland, Amsterdam*, 1996. (Detlef Lehmann) **98i:82023** 82B28 (82D55)

— (*with* Leupp, M.; Studer, Urban M.) A variational problem for a system of magnetic monopoles joined by Abrikosov vortices. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 2, 447–483. (David M. A. Stuart) **98h:58046** 58E15 (58Z05, 82D55)

— (*with* Datta, Nilanjana; Rey-Bellet, Luc; Fernández, Roberto) Low-temperature phase diagrams of quantum lattice systems. II. Convergent perturbation expansions and stability in systems with infinite degeneracy. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 752–820. (Bruno Nachtergaele) **98e:82006** 82B10 (82B20, 82B26)

— (*with* Rey-Bellet, Luc) Low-temperature phase diagrams of quantum lattice systems. III. Examples. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 821–849. (Bruno Nachtergaele) **98e:82007** 82B10 (82B20, 82B26)

— (*with* Bugliaro, L.; Fefferman, Charles L.; Graf, Gian Michele; Stubbe, J.) A Lieb-Thirring bound for a magnetic Pauli Hamiltonian. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 567–582. (Hiroshi Isozaki) **98i:81044** 81Q10

— (*with* Fefferman, Charles L.; Graf, Gian Michele) Stability of ultraviolet-cutoff quantum electrodynamics with non-relativistic matter. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 309–330. (Giorgio Cattapan) **98k:81325** 81V55 (81V10)

— (*with* Bach, Volker; Sigal, Israel M.) Mathematical theory of radiation. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 227–237. (H. Hogreve) **98i:81048** 81Q15 (47N50, 81T17, 81V10)

— (*with* Studer, Urban M.; Thiran, Emmanuel) A classification of quantum Hall fluids. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 821–897. (Fabio Bagarello) **98j:81382** 81V70 (82D50)

— *see also* **Advanced quantum field theory**, **98f:81004**

Fröhlich, Peter (*with* Baumgartner, Peter; Furbach, Ulrich; Nejdl, Wolfgang) Tableaux for diagnosis applications. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson*, 1997), 76–90, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 68T35 (03B35, 03B70, 68Q60)

— (*with* Nejdl, Wolfgang; Schroeder, Michael) Strategies in model-based diagnosis. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 81–105. (Summary) **98m:68262** 68T99

Frohman, Charles (*with* Kania-Bartoszyńska, Joanna) SO(3)-topological quantum field theory. (English summary) *Comm. Anal. Geom.* **4** (1996), *no.* 4, 589–679. (Ruth Lawrence) **98b:57028** 57N10 (33D90, 81R50)

— (*with* Meeks, William H., III) The ordering theorem for the ends of properly embedded minimal surfaces. *Topology* **36** (1997), *no.* 3, 605–617. (Jennifer Schultens) **98i:57025** 57M50 (57N05)

Froidevaux, Christine (*with* Chatalic, Philippe; Schwind, Camilla) Graded hypothesis theories. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 247–280. (Frans Voorbraak) **98d:68185** 68T27 (03B45, 03B70)

— *see also* **Symbolic and quantitative approaches to reasoning and uncertainty**, **98c:68020**

Froidure, V. Ranks of binary relations. (English summary) *Semigroup Forum* **54** (1997), *no.* 3, 381–401. (Boris M. Schein) **98h:04001** 04A05 (08A02, 20M35)

Frolov, Andrei N. (*with* Martikainen, A.; Steinebach, Josef) Erdős-Rényi-Shepp type laws in the non-i.i.d. case. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 127–151. (Zheng Yan Lin) **98f:60058** 60F15 (60F10)

Frolov, B. N. Generalized conformal invariance and gauge theory of gravity. (English summary) *Gravity, particles and space-time*, 113–144, *World Sci. Publishing, River Edge, NJ*, 1996. (Edson Stédile) **98k:83073** 83D05

— (*with* Babourova, O. V.) Pontryagin, Euler forms and Chern-Simons terms in Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 17, 1267–1274. (Charles A. Nelson) **98f:53068** 53C80 (83C99)

— (*with* Babourova, O. V.) The variational theory of the perfect dilaton-spin fluid in a Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 38, 2943–2950. (Summary) **98i:83064** 83D05

Frolov, Sergei Anatol'evich (*with* Arutyunov, Gleb E.; Medvedev, P. B.) Elliptic Ruijsenaars-Schneider model via the Poisson reduction of the affine Heisenberg double. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5051–5063. (Kazuhiro Hikami) **98j:81380** 81V70 (58B30, 81R50)

— (*with* Arutyunov, Gleb E.; Chekhov, L. O.) Quantum dynamical R-matrices for the elliptic Ruijsenaars-Schneider model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 182–217; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 536–562. (Andrey V. Tsiganov) **98j:81137** 81R50 (58F07, 82B23)

— The physical phase space of the lattice Yang-Mills theory and moduli spaces of flat connections on a Riemann surface. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 100–111; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1289–1298 (1998). (Răzvan Gelca) **98j:81236** 81T25 (58D27, 58Z05, 81T13)

— (*with* Arutyunov, Gleb E.) Quantum dynamical R-matrices and quantum Frobenius group. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 15–29. (Tomasz Brzeziński) **98m:81069** 81R50 (81V70, 82C23)

Frolov, V. P. (*with* Barrabès, C.) Creation of multiple de Sitter universes inside a Schwarzschild black hole. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 253–256. (Markku Lehto) **98a:83069** 83C57 (83C75)

— Quantum gravity and black hole entropy. The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 649–664. (Viqar Husain) **98b:83028** 83C45 (81T20, 81V17, 83C57)

— (*with* Hendy, S.; De Villiers, J. P.) Rigidly rotating strings in stationary axisymmetric spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1099–1114. (Mark D. Roberts) **98c:83095** 83E30 (81T30, 83C57)

— (*with* Fursaev, D. V.; Zelnikov, A. I.) Statistical origin of black hole entropy in induced gravity. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 339–352. (Guido Cognola) **98a:83079** 83C57 (83C47)

— (*with* Fursaev, D. V.; Zelnikov, A. I.) Black hole statistical mechanics and induced gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 192–196. (Summary) **98g:83060** 83C57 (81T20, 82B99)

— (*with* Fursaev, D. V.) Mechanism of the generation of black hole entropy in Sakharov's induced gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2212–2225. (Summary) **98h:83046** 83C57 (81T20, 83D05)

Frolov, Yu. N. (*with* Vitushkin, A. G.; Vladimirov, V. S.; Gonchar, A. A.; Napalkov, V. V., Jr.; Nikol'skiĭ, S. M.; Sedletskiĭ, A. M.; Ul'yanov, P. L.) On the eightieth anniversary of the birth of Alekseĭ Fedorovich Leont'ev (1917–1987). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 189–190; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 635–637. 01A70

Frolova, Elena Valer'evna (*with* Appell, Jürgen; Kalitvin, A. S.; Zabreĭko, Petr Petrovich) Partial integral operators on $C([a,b]\times[c,d])$. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 125–140. (Anton Schep) **98f:47037** 47B38 (45P05, 47G10, 47N20)

Fröman, Nanny (*with* Fröman, Per Olof) ★ Phase-integral method. Allowing nearlying transition points. With adjoined papers by A. Dzieciol, the authors, A. Hökback, S. Linnaeus, B. Lundborg and E. Walles. Springer Tracts in Natural Philosophy, 40. *Springer-Verlag, New York*, 1996. x+250 *pp. ISBN* 0-387-94520-2 (Philippe Kerdelhué) **98m:81033** 81Q20 (34E20, 35C99, 35Q40, 81Q05)

— (*with* Fröman, Per Olof) Stokes constant determined by a new application of the F-matrix method. (English summary) *Ann. Physics* **256** (1997), *no.* 1, 62–73. (Archibald D. MacGillivray) **98f:34082** 34E05 (34A20)

Fröman, Per Olof (*with* Fröman, Nanny) ★ Phase-integral method. Allowing nearlying transition points. With adjoined papers by A. Dzieciol, the authors, A. Hökback, S. Linnaeus, B. Lundborg and E. Walles. Springer Tracts in Natural Philosophy, 40. *Springer-Verlag, New York*, 1996. x+250 *pp. ISBN* 0-387-94520-2 (Philippe Kerdelhué) **98m:81033** 81Q20 (34E20, 35C99, 35Q40, 81Q05)

— (*with* Fröman, Nanny) Stokes constant determined by a new application of the F-matrix method. (English summary) *Ann. Physics* **256** (1997), *no.* 1, 62–73. (Archibald D. MacGillivray) **98f:34082** 34E05 (34A20)

Fromentin, Eddy (*with* Raynal, Michel) Shared global states in distributed computations. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 522–528. (Summary) **98k:68062** 68Q10

Fromion, V. (*with* Ferreres, G.) Computation of the robustness margin with the skewed μ tool. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 193–202. (Summary) **98k:93082** 93D09

Frommer, Andreas Asynchronous iterations for enclosing solutions. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 191–194. (*see* **98b:65005**) 65H10 (65G10, 65Y05)

— (*with* Schwandt, Hartmut; Szyld, Daniel B.) Asynchronous weighted additive Schwarz methods. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *June*, 48–61 (*electronic*). (Summary) **98c:65046** 65F10 (65Y05)

— (*with* Schwandt, Hartmut) A unified representation and theory of algebraic additive Schwarz and multisplitting methods. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 893–912. (John Todd) **98i:65020** 65F10 (65Y05)

Fronček, Dalibor Almost self-complementary factors of complete bipartite graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 317–327. (Summary) **98b:05078** 05C70

— Decompositions of complete multipartite graphs into disconnected selfcomplementary factors. (English summary) *Util. Math.* **53** (1998), 201–216. (Summary) **98m:05145** 05C70

Fronhöfer, Bertram Situational calculus, linear connection proofs and STRIPS-like planning: an experimental comparison. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 193–209, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 68T27 (03B35, 03B70)

— Plan generation with the linear connection method. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **8** (1997), *no.* 1, 3–22. 68T27 (03B70)

Fronsdal, Christian Quasi-Hopf deformations of quantum groups. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 117–134. (Tomasz Brzeziński) **98g:81076** 81R50 (16W30, 81T40, 81V70)

— Generalization and exact deformations of quantum groups. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 1, 91–149. (Jörg Feldvoss) **98c:16050** 16W30 (14A22, 17B37, 17B67, 81R50)

Frontini, Marco (*with* Tagliani, Aldo) Entropy-convergence, instability in Stieltjes and Hamburger moment problems. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 81–91, *Univ. Carlos III Madrid, Leganés*, 1997. (*see* **98b:33001**) 44A60 (94A12, 94A15)

— (*with* Gotusso, L.) Some results about boundary conditions for a discrete model in elasticity. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 93–100, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 73K12 (73D30, 73K05)

— (*with* Tagliani, Aldo) Entropy-convergence in Stieltjes and Hamburger moment problem. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 1, 39–51. (Summary) **98f:44003** 44A60

— (*with* Gotusso, L.) A discrete conservative model for the linear vibrating string and rod. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 53–65. (Summary) **98g:73024** 73K12 (73D30, 73K03, 73K05, 73V15)

— (*with* Gotusso, L.) Conservative linear models for the vibrating string and rod free to slide, at one end point, on a vertical guide. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 41–50. (Summary) **98m:73055** 73K03 (73K05, 73K12)

Fronzoni, L. (*with* Di Garbo, A.; Chillemi, S.) Ring wave solutions of a $(n+1)$-dimensional Sine-Gordon model. (English summary) *Chaos* **7** (1997), *no.* 4, 765–768. (Summary) **98k:35127** 35L70 (35B99, 35Q53)

Frosali, Giovanni (*with* Totaro, Silvia) A scaled nonlinear mathematical model for interaction of algae with light: existence and uniqueness results. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 27–48. (L. E. H. Trainor) **98m:92010** 92C05

Frosini, Patrizio Connections between size functions and critical points. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 7, 555–569. (Summary) **98c:58024** 58E05 (57R70)

— (*with* Landi, Claudia) Size functions and morphological transformations. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 1, 85–104. (Béla Uhrin) **98k:52033** 52B55 (68U10, 92B10)

Frost, Richard L. (*with* Larsen, Mark F.) Complexity-constrained trellis quantizers. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1134–1144. (Summary) **98e:94009** 94A29

Frostig, Esther (*with* Lehtonen, Tapani) Stochastic comparisons for fork-join queues with exponential processing times. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 487–497. (Summary) **98a:60135** 60K25

Frot, Jean-Louis (*with* Beauzamy, Bernard; Millour, Christian) Massively parallel computations on many-variable polynomials. (English summary) *Ann. Math. Artificial Intelligence* **16** (1996), *no.* 1-4, 251–283. (Summary) **98c:68078** 68Q22 (68Q40)

— Correspondance d'Andreotti-Norguet et $\mathscr{D}$-modules. (English and French summaries) [Andreotti-Norguet correspondence and $\mathscr{D}$-modules] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 361–364. (Andrea D'Agnolo) **98e:32010** 32C38 (32L25)

Frota, C. L. (*with* Lar'kin, N. A.) On local and global solvability of nonlinear mixed problems modelling vibrations of a string. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 101–108, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35L70

Frota-Mattos, Luis A. (*with* Blundo, Carlo; Stinson, Douglas R.) Trade-offs between communication and storage in unconditionally secure schemes for broadcast encryption and interactive key distribution. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 387–400, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Frougny, Christiane On the successor function in non-classical numeration systems. (English summary) *STACS 96* (*Grenoble*, 1996), 543–553, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68138** 68Q45 (11B85)

— On the sequentiality of the successor function. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 17–38. (Jeffrey O. Shallit) **98m:68145** 68Q45 (03D15, 11B37)

Frouzakis, Christos E. (*with* Gardini, Laura; Kevrekidis, Ioannis G.; Millerioux, Gilles; Mira, Christian) On some properties of invariant sets of two-dimensional noninvertible maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1167–1194. (Mikhail Zaks) **98m:58085** 58F12 (58F08)

Froyland, Gary Estimating physical invariant measures and space averages of dynamical systems indicators. (Thesis summary). *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 157–159. 58F11 (60J35)

— Computer-assisted bounds for the rate of decay of correlations. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 237–257. (Bernard Schmitt) **98i:58138** 58F11 (28D05)

Fruchard, Augustin (*with* Schäfke, Reinhard) On the Borel transform. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 9, 999–1004. (Jerome A. Adepoju) **98e:30044** 30E15 (30B10, 30E10)

— (*with* Schäfke, Reinhard) Exponentially small splitting of separatrices for difference equations with small step size. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 2, 193–238. (Alexander Tovbis) **98b:39003** 39A10 (65L05)

— Une résolution élémentaire d'un problème de scission de séparatrices. (French summary) [Elementary solution of a splitting of separatrices problem] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 37–47. (Ernest Fontich) **98f:34066** 34C35 (34A45, 34E10, 39A12)

Frumkin, Avital The irreducible characters of the Lie superalgebras of type $A(n,m)$ and filtrations of their Kac modules. (English summary) *Israel J. Math.* **96** (1996), *part A*,

267–279. (Hartmut Schlosser) **98b:17006** 17B10 (17B20)

Frumkin, M. A. ★ Systolic computations. (English summary) Translated and revised from the 1990 Russian original by the author. Mathematics and its Applications (Soviet Series), 83. *Kluwer Academic Publishers Group, Dordrecht*, 1992. xii+319 *pp. ISBN* 0-7923-1708-4 (Editors) **98f:68001** 68–02 (68Q22, 68Q25, 68Q35)

de Frutos, David (*with* Valero, Valentín; Cuartero, Fernando) Timed processes of timed Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 490–509, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68156** 68Q90 (68Q10)

de Frutos, J. (*with* Sanz-Serna, J. M.) Accuracy and conservation properties in numerical integration: the case of the Korteweg-de Vries equation. (English summary) *Numer. Math.* **75** (1997), *no.* 4, 421–445. (Erwin Schechter) **98a:65124** 65M12 (35Q53)

Fry, J. N. (*with* Ruamsuwan, Laddawan) Growth of nonlinear cosmological structure. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 40–54, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83F05

Fry, M. P. Effective actions in QED in 1 + 1, 2 + 1 and 3 + 1 dimensions. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1153–1160. (Summary) **98h:81124** 81V10

Frydman, Halina (*with* Hussain, Taukir) Statistical inference for switching Brownian motions. (English summary) *Sankhyā Ser. A* **57** (1995), *no.* 1, 11–28. (Uttara V. Naik-Nimbalkar) **98a:62110** 62M05 (60J60, 60J65)

Frydrych, Wacław (*with* Skupień, Zdzisław) Non-traceability of large connected claw-free graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 2, 75–86. (Cun-Quan Zhang) **98k:05105** 05C45 (05C38)

Fryer, Michael O. (*with* Cover, Alan S.; Reneke, James A.; Lenhart, Suzanne; Protopopescu, Vladimir) RKH space methods for low level monitoring and control of nonlinear systems. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 1, 77–96. (Summary) **98g:93042a** 93E03 (93C10, 93C95)

Fryntov, A. E. A uniqueness theorem connected with weighted polynomial approximation on a sequence. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 252–264. (Jia-Ding Cao) **98i:41047** 41A63 (30E10)

— (*with* Rossi, John; Weitsman, Allen) On the longest arc relation for δ-subharmonic functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 99–108. (Summary) **98e:31002** 31A05 (30D35)

Fu, Bin (*with* Beigel, Richard) Molecular computing, bounded nondeterminism, and efficient recursion. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 816–826, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68055** 68Q05 (68Q15)

Fu, Bin (*with* Zhang, Xiao Shui) Polynomial transform algorithms for $N \times N$ two-dimensional discrete Fourier transforms ($N = 2^t \cdot 3^s$) and their parallel algorithms. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 101–106. 65T20

Fu, Bor-Ruey (*with* Plambeck, Erica L.; Robinson, Stephen M.; Suri, Rajan) Sample-path optimization of convex stochastic performance functions. (English summary) Approximation and computation in stochastic programming. *Math. Programming* **75** (1996), *no.* 2, *Ser. B*, 137–176. (John Birge) **98f:90042** 90C15

Fu, Chin-Mei (*with* Billington, Elizabeth J.; Fu, Hung-Lin) 2-colouring $\{C_3, C_4\}$-designs. *Bull. Inst. Combin. Appl.* **20** (1997), 62–64. (From the text) **98d:05023** 05B05

— (*with* Fu, Hung-Lin; Rodger, C. A.) The minimum size of critical sets in Latin squares. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 333–337. 62K05

— (*with* Chen, Yung C.) Construction and enumeration of pandiagonal magic squares of order n from Step method. (English summary) *Ars Combin.* **48** (1998), 233–244. 05B15

Fu, Ching-Chun (*with* Wang, Hsiao-Fan) A generalization of fuzzy goal programming with preemptive structure. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 9, 819–828. (Xin Min Yang) **98i:90127** 90C70 (04A72)

Fu, David (*with* Heiligman, Mark) A characterization of zero-dimensional annihilators of tableaus. (English summary) *J. Algebra* **193** (1997), *no.* 2, 748–756. (P. L. N. Varma) **98f:13010** 13C20

— Local weak simultaneous resolution for high rational ranks. *J. Algebra* **194** (1997), *no.* 2, 614–630. (Alexandr V. Pukhlikov) **98m:13005** 13A18 (13H05, 14B05)

Fu, De-xun (*with* Ma, Yan-wen) A compact scheme and an upwind compact scheme for solving aerodynamic equations. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 20–29. 65N06 (65N30, 76M25, 76N99)

— (*with* Ma, Yan-wen) A high order accurate difference scheme for complex flow fields. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 1–15. (Summary) **98a:76060** 76M20

Fu, Dong Sheng A parallel iterative algorithm for solving systems of linear equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 119–125. 65F10 (65Y05)

Fu, Fang-Wei (*with* Shen, Shi Yi) On the expectation and variance of Hamming distance between two i.i.d random vectors. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 3, 243–250. 60E99

— (*with* Xia, Shu Tao; Yang, Yi Xian) The periodic distribution of generalized B-J codes and the structure of cyclic permutation codes. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 6, 664–668. 94B05

— (*with* Vinck, Adrianus J.; Shen, Shi Yi) On the constructions of constant-weight codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 328–333. (Summary) **98m:94062** 94B65

— (*with* Shen, Shi Yi) Hypothesis testing for arbitrarily varying source with exponential-type constraint. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 892–895. 62F03

— (*with* Xia, Shu Tao) Binary constant-weight codes for error detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1294–1299. (Summary) **98m:94057** 94B60

Fu, Guo Yao An algorithm for calculating optimal fuzzy equivalent matrices. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 40–47. 15A99 (04A72)

— Optimization methods for fuzzy clustering. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 301–309. 68T10 (04A72)

Fu, Hong-Chen (*with* Sasaki, Ryu) Hypergeometric states and their nonclassical properties. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2154–2166. (Le Man Kuang) **98f:81114** 81R30 (81V80)

— (*with* Sasaki, Ryu) Negative binomial and multinomial states: probability distributions and coherent states. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3968–3987. (Constantin Brif) **98i:81092** 81R30 (22E70, 81R05, 81V80)

— Pólya states of quantized radiation fields, their algebraic characterization and non-classical properties. (English summary) *J. Phys. A* **30** (1997), *no.* 5, L83–L89. (Summary) **98f:81394** 81V80 (81S05)

Fu, Hongguang (*with* Yang, Lu; Zeng, Zhenbing) A practical symbolic algorithm for the inverse kinematics of 6R manipulators with simple geometry. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 73–86, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 70–04 (68Q40, 70B15)

Fu, Hung-Lin (*with* Billington, Elizabeth J.; Fu, Chin-Mei) 2-colouring $\{C_3, C_4\}$-designs. *Bull. Inst. Combin. Appl.* **20** (1997), 62–64. (From the text) **98d:05023** 05B05

— (*with* Chiang, Nam-Po) On upper bounds for the pseudo-achromatic index. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 79–86. (Summary) **98f:05058** 05C15

— (*with* Fu, Chin-Mei; Rodger, C. A.) The minimum size of critical sets in Latin squares. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 333–337. 62K05

— (*with* Chen, Bor-Liang; Cheng, Chun-Kan; Huang, Kuo-Ching) A study of the total chromatic number of equibipartite graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 49–60. (Summary) **98i:05068** 05C15

Fu, J. *see* **Fu, Jun Yi**

Fu, James C. Distribution theory of runs and patterns associated with a sequence of multi-state trials. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 957–974. (A. N. Philippou) **98f:62031** 62E15

— (*with* Chen, Gui-Jing) Efficiency and superefficiency in one-parameter two-sided truncated distribution families. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1771–1774. 62F12

— (*with* Li, Lung-An) Generalized method of Pao-Zhuan Yin-Yu. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 321–329. 62F10 (62B05)

Fu, James Jianghai Pattern matching in directed graphs. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 64–77, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q20 (68Q25)

Fu, Ji Xiang Harmonicity of Riemannian maps and Gauss maps. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **23** (1996), *no.* 1, 15–22. (Guo Ying Jiang) **98c:58036** 58E20

Fu, Jian (*with* Gao, Xiao-Chun; Gao, Jun[2]; Wang, Lan[1]) The invariant-related unitary transformation method and the evolution of quantum scalar field in Robertson-Walker flat spacetime. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 3, 355–362. (Enric Verdaguer) **98j:81229** 81T20

Fu, Jianghai *see* **Fu, James Jianghai**

Fu, Joseph H. G. (*with* Boe, Brian D.) Characteristic cycles in Hermitian symmetric spaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 417–467. (Eric N. Sommers) **98j:14068** 14M15 (14F32, 22E47)

Fu, Jun Yi Simultaneous vector variational inequalities and vector implicit complementarity problem. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 141–151. (George Isac) **98c:49026** 49J40 (47H19, 47N10)

Fu, Jyun-Horng (*with* Miller, David F.) On the matrix method for generalized Poincaré normal form reduction. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 2-3, 125–144. (Ernest Fontich) **98f:58176** 58F36 (34C20)

— (*with* Miller, David F.) Optimal near identity transformation scheduling for generalized Poincaré normal form reduction. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 2-3, 145–158. (Ernest Fontich) **98h:58175** 58F36 (34C20)

Fu, Kai Xin (*with* Shu, Shi; Gao, Xie Ping) Asymptotic expansions for quintic spline interpolation on semi-infinite interval and the spline-on-spline approximation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 7–12. (Summary) **98j:41005** 41A15

Fu, Ke Xiang A high-speed iteration method for the best normal approximation by a quadratic curve. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 191–194. 65D05 (65H20)

Fu, Li Chen (*with* Lian, Kuang-Yow; Wang, Li Sheng[1]) Globally valid adaptive controllers of mechanical systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1149–1154. 93C85 (93C40)

— (*with* Lee, Fu-Ming; Fong, I-Kong) Stable on-line parameter identification with general knowledge on level of information noise: discrete-time case. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 83–91. (Summary) **98c:93106** 93E10

Fu, Li Ping (*with* Feng, Mang; Chen, Xiao Lin; Zhang, Qing Ying) The quantum solution of a time-dependent harmonic oscillator by the space-time transformation method and its application. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 3, 1–5. 81Q05

Fu, Limin Travelling waves for reaction diffusion equations. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 149–157. (Xinhua Ji) **98e:35093** 35K57 (35B40)

Fu, Ming Fu (*with* Huang, Mo Jia; Zhao, Xi Qian) A direct integral evaluation of the Cauchy mean rotation. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 1, 111–115. (Summary) **98d:73017** 73B99

Fu, Minyue (*with* Meinsma, Gjerrit; Shrivastava, Yash) A dual formulation of mixed μ and on the losslessness of (D, G) scaling. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1032–1036. (Summary) **98e:93038** 93B36

— The real structured singular value is hardly approximable. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1286–1288. (Summary) **98g:93016** 93B36 (65Y20, 93B40)

— (*with* Barabanov, Nikita E.) Improved upper bounds for the mixed structured singular value. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1447–1452. (Jacob Hammer) **98j:93029** 93B36 (93D09)

— (*with* Luo, Zhi-Quan) Computational complexity of a problem arising in fixed order output feedback design. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 209–215. (Summary) **98c:93045** 93B40 (65Y20, 93B51)

— (*with* Xie, Lin; Shishkin, S. L.) Piecewise Lyapunov functions for robust stability of linear time-varying systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 165–171. (Summary) **98g:93037** 93D09

— (*with* Nguang, Sing Kiong) Global quadratic stabilization of a class of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 6, 483–497. 93D15 (93C10)

Fu, Quan (*with* Chen, Gui-Jing) Superasymptotic efficiency and asymptotic efficiency of point estimates for a one-parameter family of two-sided truncated distributions. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 14, 1501–1504. 62F12

Fu, Ren Jay (*with* Chen, Min-Shin) An observer-based state feedback control of parametrically excited systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 119–125. (Summary) **98c:93027** 93B30 (93B52, 93C40)

Fu, Sheng Mao (*with* Zhang, Fa Qin) Existence and uniqueness of a global coexistence state in periodic predator-prey models with diffusion. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 64–68. 92D25 (35K50, 35Q80)

— (*with* Ma, Ru Yun; Zhang, Ji Hui) The method of lower and upper solutions for fourth-order two-point boundary value problems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 415–422. (Alberto Cabada) **98i:34037** 34B15 (34A45)

— (*with* Ma, Ru Yun) Existence of a global coexistence state for periodic competition diffusion systems. *Nonlinear Anal.* **28** (1997), *no.* 7, 1265–1271. (R. Sperb (Zbl 871.35051)) **98k:35193** 35Q80 (35B10, 35K55)

Fu, Shusheng On some theorems in fractional calculus for singular functions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 122–141. (K. C. Gupta) **98d:26003** 26A33 (26A30)

Fu, Siqi Geometry of Reinhardt domains of finite type in $\mathbf{C}^2$. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 407–431 (1997). (Gregor Herbort) **98i:32037** 32H10 (32A07)

— (*with* Wong, Bun) On strictly pseudoconvex domains with Kähler-Einstein Bergman metrics. *Math. Res. Lett.* **4** (1997), *no.* 5, 697–703. (Shanyu Ji) **98m:32022** 32F15 (32H15, 32L07)

— (*with* Wong, Bun) On boundary accumulation points of a smoothly bounded pseudo-convex domain in $\mathbf{C}^2$. *Math. Ann.* **310** (1998), *no.* 1, 183–196. (Eric Bedford) **98j:32012** 32F15 (32M05)

Fu, Tie Jun Decompositions of central closed quaternion matrices. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 2, 29–30. 15A23 (15A33)

Fu, Wan Tao (*with* Zhou, Kun Ping) The connectedness of solution sets of multiobjective optimization problems for quasiconvex mappings in infinite-dimensional spaces. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 137–145. (Summary) **98d:90101** 90C29 (90C31)

— (*with* Chen, Xiao Qing) Approximation families of cones and strictly efficient points. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 933–938. (Summary) **98m:90126** 90C29 (90C28)

— The strictly efficient points of a set in a normed linear space. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 324–329. (Summary) **98k:90100** 90C29 (90C48)

Fu, Xi Lin The asymptotic properties of second-order functional-differential equations with continuously distributed delays. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 349–360. (Qing Kai Kong) **98f:34101** 34K15 (34K20)

— Lagrange stability in terms of two measures for impulsive integro-differential systems. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2 (Atlanta, GA, 1995)*, 175–181, *Dynamic, Atlanta, GA*, 1996. (Summary) **98f:34109** 34K20 (34A37, 45J05, 45M10)

— (*with* Zhang, Li Qin) Oscillation criteria for a class of parabolic equations with delays. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 392–396. (Summary) **98d:35226** 35R10 (35B05, 35K55)

— (*with* Zhang, Li Qin) On boundedness of solutions of impulsive integro-differential systems with fixed moments of impulse effects. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 219–229. (Eduardo Liz) **98e:34128** 34K15 (34A37, 34K20, 45J05)

— (*with* Liu, Xinzhi) Oscillation criteria for impulsive hyperbolic systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 225–244. (Emil Ivanov Minchev) **98j:35179** 35R10 (35B05, 35L70)

— (*with* Zhang, Li Qin) Razumikhin-type theorems on boundedness in terms of two measures for functional-differential systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 589–598. (L. A. V. Carvalho) **98j:34150** 34K20

— (*with* Wang, Pei Guang; Yu, Yuan Hong) Oscillation criteria for a class of delay hyperbolic equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 105–111. (Summary) **98m:35218** 35R10 (35B05, 35L10)

Fu, Xiao Yong Asymptotic behavior of generalized anisotropic flows. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 6, 44–48. (Summary) **98m:58022** 58E10 (35K99, 53A04)

Fu, Xudong (*with* Urquhart, Alasdair) Simplified lower bounds for propositional proofs. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 523–544. (M. I. Dekhtyar) **98h:03071** 03F20 (68Q25)

Fu, Y. B. (*with* Devenish, B. J.) The nonlinear evolution of near-neutral and near-body wave modes in a pre-stressed incompressible elastic half-space. I. Upper branch near-neutral modes. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1431–1440. (Summary) **98m:73039a** 73D20 (73D40)

— (*with* Devenish, B. J.) The nonlinear evolution of near-neutral and near-body wave modes in a pre-stressed incompressible elastic half-space. II. Lower branch near-neutral modes. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1441–1455. (Summary) **98m:73039b** 73D20 (73D40)

Fu, Yi Hui (*with* Dai, Jian She; Liu, Xiao Ye) An LP model for management and decision making based on the theory of constraints. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 26–29. 90C08 (90C90)

— (*with* Zhang, Hui Ming; Dai, Jian She) Necessary and sufficient conditions for solvability of certain linear matrix inequalities and parametrization methods for their solution. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 48–51. 15A45

— (*with* Wang, Shu Ning; Dai, Jian She) Solving the inverse problem $Ax = b$ in classes of generalized positive definite matrices. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 57–59. 15A24

Fu, Yi Ping (*with* Zhou, Li[1]) Steady-state solutions for a class of systems with cross-diffusion and their stability. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 11, 101–103. 35K55 (35Q80, 92D40)

Fu, Yong Qiang (*with* Bu, Qing Ying) Orlicz-Pettis type theorem for compact operators. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 67–74. (Jan H. Fourie) **98g:46005** 46A32 (46A03, 46A35)

— (*with* Wu, Cong Xin) Generalized Morrey spaces, generalized Campanato spaces, and their applications. I. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 122–128. (Summary) **98c:46067** 46E35 (46N20)

Fu, Yu (*with* Liu, De Ming[1]) Qualitative analysis of a trimolecular model. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 301–307. 34C05 (92E99)

Fu, Yu Xi A proof theoretical approach to communication. (English summary) *Automata, languages and programming (Bologna, 1997)*, 325–335, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q10 (03B40, 03B70)

— Constructive sets in computable sets. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 5, 425–440. (Maria E. Maietti) **98m:03121** 03F50 (03B15, 03E70, 03F65)

— χ-calculus: a new model for concurrent computation. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 8, 7–11. (Summary) **98i:68081** 68Q10 (68Q60)

— Higher-order χ-processes. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 8, 40–43. 68Q10

— Categorical properties of logical frameworks. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 1, 1–47. (Bart Jacobs) **98g:03150** 03G30 (03B15, 03B40, 18C10, 68Q55)

Fu, Yun Shan Singular elliptic boundary value problems in a ball. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 58–66. (Zuchi Chen) **98h:35085** 35J70 (35B25)

Fu, Zhang (*with* Heidel, Jack) Non-chaotic behaviour in three-dimensional quadratic systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1289–1303. (Henryk Żołądek) **98f:34072** 34C99 (58F13)

Fu, Zi Hui Some notes on power convergence of homogeneous denumerable Markov chains. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 312–316. 60J05

Fuchino, Sakaé (*with* Koppelberg, Sabine; Shelah, Saharon) A game on partial orderings. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 141–148. (Carlos A. Di Prisco) **98a:03072** 03E05 (90D44)

Fuchs, Aimé (*with* Joffe, Anatole) Formule exacte de l'espérance du rapport de la somme des carrés par le carré de la somme. (English and French summaries) [Exact formula for the expectation of the ratio of the sum of squares by the square of the sum] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 907–909. (Summary) **98h:60023** 60E99 (60F05)

Fuchs, Alexander Almost regular Delaunay-triangulations. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 24, 4595–4610. (Summary) **98g:65019** 65D17 (65N30, 65N55)

Fuchs, Christopher A. (*with* Caves, Carlton M.) Bounds for accessible information in quantum mechanics. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 706–714, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (S. Gudder) **98j:81033** 81P15 (94A15)

— (*with* Gisin, Nicolas; Griffiths, Robert B.; Niu, Chi-Sheng; Peres, Asher) Optimal eavesdropping in quantum cryptography. I. Information bound and optimal strategy. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1163–1172. (V. Ya. Kreinovich) **98m:94034a** 94A60 (68P25, 68Q05, 81P99)

Fuchs, Dmitry (*with* Astashkevich, A.) Asymptotics for singular vectors in Verma modules over the Virasoro algebra. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 201–209. (Yu Ting Jia) **98e:17034** 17B68 (17B10)

Fuchs, Gérard Democratic acceptability of free trade: a dynamic approach. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 245–269. (*see* **98g:90010**) 90A15 (90A60)

Fuchs, Helmut (*with* Rädler, K.-H.; Rheinhardt, M.; Schüler, Martin) Dynamically consistent laminar dynamos. (English summary) *Magnetohydrodynamics* **32** (1996), *no.* 4, 413–417 (1997). 76W05 (76M25)

Fuchs, Jürgen (*with* Schellekens, Bert; Schweigert, Christoph) From Dynkin diagram symmetries to fixed point structures. (English summary) *Comm. Math. Phys.* **180** (1996), *no.* 1, 39–97. (Jürgen Schulze) **98i:17021** 17B40 (17B67, 81R10, 81T40)

— The singularity structure of the Yang-Mills configuration space. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 287–301, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Richard A. Corrado) **98e:58031** 58D27 (17B81, 53C07, 58B25, 81T13)

— (*with* Schweigert, Christoph) WZW fusion rings in the limit of infinite level. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 641–670. (Mark A. Walton) **98h:17027** 17B67 (81R10, 81T40)

— (*with* Ray, Urmie; Schweigert, Christoph) Some automorphisms of generalized Kac-Moody algebras. *J. Algebra* **191** (1997), *no.* 2, 518–540. (Yasmine B. Sanderson) **98g:17025** 17B67 (17B10, 17B81)

— (*with* Schweigert, Christoph) A classifying algebra for boundary conditions. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 251–259. (Mark A. Walton) **98m:81168** 81T40

Fuchs, László[1] (*with* Hofmann, Karl H.) Extensions of compact abelian groups by discrete ones and their duality theory. I. *J. Algebra* **196** (1997), *no.* 2, 578–594. (Karl-Hermann Neeb) **98i:22005** 22B05 (22C05)

— (*with* Lee, Sang Bum[1]) Primary decompositions of torsion modules over domains. *Mathematika* **44** (1997), *no.* 1, 88–99. (Paolo Zanardo) **98h:13010** 13C12 (13A15)

Fuchs, Martin[2] (*with* Duzaar, Frank) Existence of area minimizing tangent cones of integral currents with prescribed mean curvature. (English summary) *Acta Math. Sci. (English Ed.)* **15** (1995), *no.* 1, 95–102. (Jon T. Pitts) **98c:49078** 49Q15 (49Q20, 53A10, 53C65)

— On quasi-static non-Newtonian fluids with power-law. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 15, 1225–1232. (Alexandre A. Efremov) **98b:76004** 76A05 (35Q35, 76E99)

— (*with* Seregin, G. A.) Hölder continuity for weak extremals of some two-dimensional variational problems related to nonlinear elasticity. (English summary) *Adv. Math. Sci.*

Appl. **7** (1997), *no.* 1, 413–425. (Sophia Demoulini) **98i:49041** 49N60 (35Q72, 73C50, 73V25)

— A remark on variational integrals with nonstandard growth. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 383–392. (Summary) **98b:49005** 49J10 (90C48)

— (*with* Reuling, Jürgen) A modification of the blowup technique for variational integrals with subquadratic growth. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 484–498. (Maria do Rosário de Pinho) **98m:49002** 49J10 (49N60)

— (*with* Serëgin, G. A.) Some remarks on non-Newtonian fluids including nonconvex perturbations of the Bingham and Powell-Eyring model for viscoplastic fluids. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 405–433. (Michel Chipot) **98j:49013** 49J40 (49N60, 73E60, 73V25, 76A05, 76M30)

Fuchs, Norbert E. (*with* Vasconcelos, Wamberto W.; Aragão, Marcelo A. T.) Automatic bottom-up analysis and transformation of logic programs. (English summary) *Advances in artificial intelligence* (*Curitiba*, 1996), 191–200, *Lecture Notes in Comput. Sci.*, 1159, *Springer, Berlin*, 1996. (*see* **98h:68002**) 68N17

Fuchs, Stefan (*with* Fritzsche, Bernd; Kirstein, Bernd) On Arov-normalized J_{pq}-elementary factors. ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 129–156. (Mihály Bakonyi) **98d:47038** 47A57 (15A23, 30E05, 47A56)

Fuchs, Ulrich (*with* Alt, Helmut; Rote, Günter; Weber, Gerald) Matching convex shapes with respect to the symmetric difference. (English summary) *Algorithms—ESA '96* (*Barcelona*), 320–333, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68243** 68U05 (52B55)

Fuchs, Wolfgang H. (*with* Cai, Jin-Yi; Kozen, Dexter; Liu, Zi Cheng) Efficient average-case algorithms for the modular group. (English summary) *35th Annual Symposium on Foundations of Computer Science* (*Santa Fe, NM*, 1994), 143–152, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (20H10, 68Q15)

bottineau-Fuchs, Yves *see* **Bottineau-Fuchs, Yves**

Fuchs-Seliger, Susanne A further remark on Shephard's lemma. (English summary) *Econom. Lett.* **56** (1997), *no.* 3, 359–365. (Summary) **98k:90001** 90A07 (90A56)

Fuchssteiner, Benno A nonlinear N-particle model. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 205–213, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:81034** 81Q05

— (*with* Tsegel'nik, V. V.) Analytic properties of solutions of a nonlinear system of partial differential equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 208–213; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1354–1358 (1996). 35L10 (34A20, 34A34, 35B99)

— (*with* Ma, Wen Xiu) Binary nonlinearization of Lax pairs. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 217–224, *World Sci. Publishing, River Edge, NJ*, 1996. (Yun Bo Zeng) **98e:58099** 58F07 (35Q58)

— The interaction equation. (English summary) *Phys. A* **228** (1996), *no.* 1-4, 189–211. (Yuji Kodama) **98a:58143** 58F40 (58F35)

— (*with* Ivanov, S.; Wiwianka, W.) Algorithmic determination of infinite-dimensional symmetry groups for integrable systems in $1 + 1$ dimensions. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 91–100. (*see* **98b:35006**) 35A30 (35Q58, 68Q40)

— *see also* **Algorithms and software for symbolic analysis of nonlinear systems, 98b:35006**

Fucile, E. (*with* Denti, P.; Borghese, F.; Saija, R.; Sindoni, O. I.) Optical properties of a sphere in the vicinity of a plane surface. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 7, 1505–1514. (Summary) **98f:78005** 78A10 (78A45)

Fucito, Francesco (*with* Martellini, Maurizio; Zeni, Mauro) The *BF* formalism for QCD and quark confinement. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 259–284. (Massimo Di Pierro) **98g:81216** 81V05 (81T13, 81T16, 81T30)

— (*with* Martellini, Maurizio; Sorella, S. P.; Tanzini, A.; Vilar, L. C. Q.; Zeni, Mauro) Algebraic renormalization of the *BF* Yang-Mills theory. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 94–100. (Liviu Tătar) **98j:81345** 81T70 (81T13, 81T15, 81V05)

— (*with* Travaglini, Gabriele) Instanton calculus and nonperturbative relations in $N = 2$ supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 1099–1104. (Summary) **98b:81247** 81T60 (81T13)

— (*with* Bellisai, D.; Matone, Marco; Travaglini, Gabriele) Nonholomorphic terms in $N = 2$ supersymmetric Wilsonian actions and the renormalization group equation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5218–5232. (Summary) **98g:81199** 81T60 (81T13, 81T17)

— *see also* **General relativity and gravitational physics, 98i:83002**

Fueda, Kaoru The limiting normality of the test statistic for the two-sample problem induced by a convex sum distance. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 2, 337–347. (Summary) **98f:62132** 62G10

Fuentes, H. E. Total generalization of the cycloid. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 2, 243–247. (Hans Sachs) **98g:53018** 53A17

de Fuentes, Íñigo *see* **De Fuentes, Íñigo**

Fuentes, Miguel A. (*with* Cáceres, Manuel O.; Budde, Carlos E.) Stochastic escape processes from a non-symmetric potential normal form. II. The marginal case. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2287–2296. (Summary) **98f:82100** 82C31 (82–04)

velasco Fuentes, O. U. *see* **Velasco Fuentes, O. U.**

Fuentes-González, R. (*with* Burusco Juandeaburre, A.) Conceptual knowledge from L-fuzzy contexts. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 889–903. (R. Gylys) **98a:03083** 03E72 (03G10, 06B05)

— (*with* Burusco Juandeaburre, A.) Concept lattices associated with L-fuzzy W-contexts. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 321–327. (*see* **98g:00019**) 03E72

— (*with* Burusco Juandeaburre, A.) The embedding of the formal concept analysis into the L-fuzzy concept theory. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 13–22. 03E72

cartas-Fuentevilla, R. *see* **Cartas-Fuentevilla, R.**

Fueyo, Norberto (*with* Dopazo, César; Valiño, Luis) Statistical description of the turbulent mixing of scalar fields. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 25, 2975–3014. (Summary) **98g:76046** 76F99 (76M35)

Fugarolas, M. A. Cotype constants and inequalities between summing and integral norms of finite rank operators. (English summary) *Note Mat.* **14** (1994), *no.* 1, 45–49 (1997). (Hans-Olav Tylli) **98c:47026** 47B10 (46B28, 47A30, 47D50, 47G10)

— Entropy ideals and matrix operators of Besov-type. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 55–64. (Hermann König) **98c:47056** 47D50 (46B45, 46E35, 47B06)

Fugate, J. B. (*with* Eberhart, Carl) Universal maps on trees. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4235–4251. (J. J. Charatonik) **98m:54048** 54H25 (54F15)

Fugère, B. J. (*with* Tremblay, Richard) Commutativity of the fractional operator $Z^n D_z^n Z$ and a generalization of a Glaisher's result. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 4, 285–314. (E. R. Love) **98m:26003** 26A33 (33C05, 33C99, 34A25)

— (*with* Tremblay, Richard) A formula containing a large class of operational representations of polynomials. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 1, 63–76. (J. Michael Pearson) **98k:33017** 33C45 (33C20)

Fugleberg, T. (*with* Zhitnitskiĭ, A. R.) Large order behavior of quasiclassical Euclidean gravity in minisuperspace models. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 219–224. (Summary) **98m:83030** 83C45

Fuh, Cheng-Der Corrected diffusion approximations for ruin probabilities in a Markov random walk. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 695–712. (Gerold Alsmeyer) **98j:60032** 60F05 (60K15)

— (*with* Fan, Tsai-Hung) A Bayesian bootstrap for finite state Markov chains. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1005–1019. (Summary) **98k:62077** 62G09 (62M05)

Führer, C. *see* **Führer, Claus**

Führer, Christian (*with* Kanschat, G.) A posteriori error control in radiative transfer. (English and German summaries) *Computing* **58** (1997), *no.* 4, 317–334. (Carl T. Kelley) **98g:85001** 85A25 (45K05, 45L05, 65R20, 82C70, 85–08)

— (*with* Hebeker, F.-K.; Rannacher, R.) An adaptive finite element method for unsteady convection-dominated flows with stiff source terms. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 101–105, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65M60 (76M10, 76R99)

Führer, Claus (*with* Arévalo, Carmen; Söderlind, Gustaf) β-blocked multistep methods for Euler-Lagrange DAEs: linear analysis. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 8, 609–617. (Ian Gladwell) **98h:65028** 65L06 (34A09, 93B52)

Fuhrman, Marco Hypercontractivity of some nonsymmetric semigroups. Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 189–197 (1997). (Thierry Coulhon) **98k:47083** 47D07 (35K15)

Fuhrmann, Jürgen Outlines of a modular algebraic multilevel method. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 141–152, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65F10

— On numerical solution methods for nonlinear parabolic problems. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 170–180, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (*see* **98f:76003**) 65M06

Fuhrmann, Paul A. ★ A polynomial approach to linear algebra. Universitext. *Springer-Verlag, New York*, 1996. xiv+360 *pp. ISBN* 0-387-94643-8 (A. Böttcher) **98a:15001** 15-01 (12D10, 13B25, 26C10, 30E10, 47-01, 93-01)

— (*with* Hoffmann, Jörg W.) Factorization theory for stable, discrete-time inner functions. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 4, 383–400. (Mihail Voicu) **98i:93014** 93B15 (15A23, 47N70, 93C05)

— (*with* Helmke, Uwe) A homeomorphism between observable pairs and conditioned invariant subspaces. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 217–223. (Anna Maria Perdon) **98g:93009** 93B27 (93B28, 93C35)

— (*with* Helmke, Uwe) Tangent spaces of rational matrix functions. (English summary) *Linear Algebra Appl.* **271** (1998), 1–40. (Zbigniew Bartosiewicz) **98j:93023** 93B25 (53B99, 93B29, 93C05, 93C45)

— *see also* **Operators, systems, and linear algebra, 98k:93005**

Fuhrmann, Rainer (*with* Garcia, Arnaldo; Torres, Fernando) On maximal curves. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 29–51. (Gabriel D. Villa-Salvador) **98k:11077** 11G20 (11R58, 14G15)

Fuja, Thomas E. (*with* Al-Semari, Saud A.) I-Q TCM: reliable communication over the Rayleigh fading channel close to the cutoff rate. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 250–262. 94B12

Fuji, Zhang *see* **Zhang, Fu Ji**

Fujie, Tetsuya (*with* Kojima, Masakazu) Semidefinite programming relaxation for nonconvex quadratic programs. (English summary) *J. Global Optim.* **10** (1997), *no.* 4, 367–380. (Sven-Åke Gustafson) **98i:90061** 90C20

Fuji-Hara, Ryoh (*with* Miyamoto, Nobuko) Mutually M-intersecting varieties. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 125–130. (Summary) **98j:05037** 05B25

— (*with* Miyamoto, Nobuko) A construction of combinatorial arrays from non-linear functions. (English summary) *Util. Math.* **52** (1997), 183–192. (Summary) **98m:05024** 05B15

Fujihira, Hideyuki A norm for the fixed point problem. *Bull. Fac. Ed. Utsunomiya Univ. Sect. 2 No.* 47 (1997), 9–11. (Ljubomir Ćirić) **98m:47093** 47H10

Fujii, Akio On the zeros of the Epstein zeta functions. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 697–770. (Rainer Schulze-Pillot) **98e:11049** 11E45 (11M45)

— On the Berry conjecture. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 55–98. (Daniel A. Goldston) **98i:11066** 11M26

Fujii, Akira (*with* Sasaki, Ryu) Instabilities in integrable field theory on a half line. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 313–325, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81176** 81T10

— Stochastic model and equivalent ferromagnetic spin chain with alternation. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6661–6666. (Summary) **98k:82070** 82B31 (82B20)

— Toda lattice models with boundary. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 3, 507–510. (Summary) **98d:82009** 82B20 (58F07)

Fujii, Ataru (*with* Ohta, Masahito) Asymptotic behavior of blowup solutions of a parabolic equation with the p-Laplacian. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 136–150. (Summary) **98h:35122** 35K60 (35B40)

Fujii, Jun Ichi Graph entropy and codes. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 43–50. (Masatoshi Fujii) **98j:05071** 05C20 (05C50, 94A17)

— (*with* Seo, Yuki) Entropy and coding for graphs. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 63–77. (Boris D. Kudryashov) **98m:94020** 94A17 (05C50, 94A29)

Fujii, Kanji (*with* Ogawa, Naohisa; Miyazaki, Hitoshi; Chepilko, Nikola˘ i Mikhailovich; Okazaki, Takashi) Equivalence between Schwinger and Dirac schemes of quantization. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 2, 437–447. (Günter Braunss) **98c:81118** 81S99 (81S10)

— (*with* Ogawa, Naohisa; Uchiyama, Satoshi; Chepilko, Nikola˘ i Mikhailovich) Geometrically induced gauge structure on manifolds embedded in a higher-dimensional space. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5235–5277. (S. Timothy Swift) **98k:53101** 53C80 (81Q99)

Fujii, Kazuyuki (*with* Funahashi, Kunio) Multi-periodic coherent states and the WKB exactness. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 5987–6011. (Jiu Qing Liang) **98a:81068** 81R30 (81Q20, 81S40)

— (*with* Funahashi, Kunio) Multiperiodic coherent states and the Wentzel-Kramers-Brillouin exactness. II. Noncompact case and classical theories revisited. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2812–2831. (Gabriel Alvarez) **98h:81028** 81Q20 (81R30)

— (*with* Funahashi, Kunio) Extension of the Barut-Girardello coherent state and path integral. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4422–4434. (Constantin Brif) **98g:81063** 81R30 (81R05, 81S40)

Fujii, M. *see* **Fujii, Masatoshi**

Fujii, Mamoru (*with* Tada, Harumasa; Higuchi, Masahiro) A concurrency control algorithm using serialization graph testing with write deferring. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 10, 1995–2003. 68P15

— (*with* Higuchi, Masahiro; Kohara, Masaru; Nakaishi, Takaharu) A method for generating test cases for register operations in conformance testing of communication protocols. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1067–1076. 68Q10 (68Q60)

Fujii, Masatomo Analysis of Milne's device for the finite correction mode of the Adams PC methods. II. *Bull. Fukuoka Univ. Ed. III* **45** (1996), 17–26. (Introduction) **98a:65086a** 65L05

— Analysis of Milne's device for the finite correction mode of the Adams PC methods. II. Theory and applications of numerical calculation in science and technology (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 944 (1996), 21–29. (Introduction) **98a:65086b** 65L05

— (*with* Hayashi, Yuichi) Remarks on extended Milne's device for the Adams PC methods. *Bull. Fukuoka Univ. Ed. III* **46** (1997), 23–30. 65L05

Fujii, Masatoshi (*with* Jiang, Jian Fei; Kamei, Eizaburo) Applications of Furuta inequality based on a simple characterization of chaotic order. Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 98–105. (*see* **98e:00020**) 47A63

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) Complements to the Furuta inequality. IV. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 511–518. (Frank Hansen) **98i:47015** 47A63 (47B15)

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) A characterization of orders defined by $A^s \geq B^s$ via Furuta inequality. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 519–525. (Frank Hansen) **98g:47016** 47A63 (47B15)

— (*with* Furuta, Takayuki; Nakamoto, Ritsuo; Takahasi, Sin-Ei) Operator inequalities and covariance in noncommutative probability. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 317–320. (Steve Wright) **98j:46072** 46L50 (47A63)

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) The monotonicity of operator functions associated with the Furuta inequality. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 337–343. (Frank Hansen) **98j:47039** 47A63 (47B15)

— (*with* Nakamura, Masahiro) An application of operator means arising from a study on Wazan. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 385–386. (Summary) **98i:47016** 47A63 (47B15)

— (*with* Nakamoto, Ritsuo; Seo, Yuki) Covariance in Bernstein's inequality for operators. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 1–6. (Fumio Hiai) **98e:47014** 47A30 (47A63)

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) A geometrical structure in the Furuta inequality. II. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 37–46. (Frank Hansen) **98f:47020** 47A63 (47B15)

— (*with* Izumino, Saichi; Nakamoto, Ritsuo; Seo, Yuki) Operator inequalities related to Cauchy-Schwarz and Hölder-McCarthy inequalities. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 117–122. (Summary) **98j:47037** 47A63 (47B15)

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) Characterization of chaotic order and its application to Furuta inequality. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3655–3658. (Frank Hansen) **98b:47023** 47A63 (47B15)

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) Characterization of chaotic order and its applications to Furuta's type operator inequalities. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 339–349. (Summary) **98m:47020** 47A63 (47B15)

Fujii, Nobuo (*with* Belov, Sergei) Symmetry and sufficient condition of optimality in a domain optimization problem. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 45–56. (Pekka Neittaanmäki) **98i:49043** 49Q10 (49K20, 73K40)

Fujii, Yoshio (*with* Yamamoto, Sumiyasu; Hyodo, Yoshifumi; Yumiba, Hiromu) New light on fractional 2^{m} factorial designs. (English summary) Special issue on orthogonal arrays and affine designs, Part II. *J. Statist. Plann. Inference* **56** (1996), *no.* 2, 269–287. (K. Vijayan) **98g:62145** 62K15 (05B15)

Fujikawa, Kazuo (*with* Kubo, Harunobu; Oh, Choo-Hiap) A Schwinger term in q-deformed su(2) algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 6, 403–409. (A. U. Klimyk) **98e:81074** 81R50 (81R10)

— Path integral of the hydrogen atom, Jacobi's principle of least action and one-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 495–520. (Christian Grosche) **98c:81112** 81S40 (81T20)

— (*with* Okuyama, Kazumi) On a Lorentz covariant matrix regularization of membrane theories. (English summary) *Phys. Lett. B* **411** (1997), *no.* 3-4, 261–267. (Summary) **98h:81093** 81T30 (81T15)

— (*with* Okuyama, Kazumi) SO(9, 1) invariant matrix formulation of a supermembrane. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 175–198. (Summary) **98k:81211** 81T30

— (*with* Kubo, Harunobu) An extended q-deformed su(2) algebra and the Bloch electron problem. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 21–26. (Summary) **98k:81331** 81V70 (33D80, 81R50)

Fujikoshi, Yasunori (*with* Satoh, Kenichi) Estimation and model selection in an extended growth curve model. (English summary) *Hiroshima Math. J.* **26** (1996), *no.* 3, 635–647. (Dietrich von Rosen) **98d:62096** 62H12

— A method for improving the large-sample chi-squared approximations to some multivariate test statistics. (English summary) MSI-2000, Vol. III (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **17** (1997), *no.* 1-2, 15–29. (Yasuko Chikuse) **98m:62164** 62H10 (62E20)

— (*with* Shimizu, Ryoichi) Sharp error bounds for asymptotic expansions of the distribution functions for scale mixtures. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 285–297. 62E20

— (*with* Naito, Kanta; Murata, Sinya) Stability of multidimensional scaling with an error model. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 77–91. (Rudolf Mathar) **98j:62051** 62H99 (62H10)

— (*with* Otake, Masanori; Lee, SungHee) A heterogeneity test statistic of k canonical correlations and its application to prenatal exposure. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 99–115. 62H15 (62H20)

— (*with* Satoh, Kenichi; Kobayashi, Mika) Variable selection for the growth curve model. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 277–292. (Tonghui T. Wang) **98d:62100** 62H12

— An asymptotic expansion for the distribution of Hotelling's T^2-statistic under nonnormality. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 2, 187–193. (M. S. Srivastava) **98h:62091** 62H10 (62E10)

Fujimori, Masami On the solutions of Thue equations. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 56–58. (Jeffrey Lin Thunder) **98k:11026** 11D41 (11G30)

Fujimoto, Hirotaka Value-distribution-theoretic properties of the Gauss map of complete minimal surfaces. *Geometric complex analysis* (*Hayama*, 1995), 205–214, *World Sci. Publishing, River Edge, NJ*, 1996. (Min Ru) **98d:32030** 32H30 (53A10)

— Nevanlinna theory and minimal surfaces. *Geometry, V*, 95–151, 267–272, *Encyclopaedia Math. Sci.*, 90, *Springer, Berlin*, 1997. (Min Ru) **98h:53012** 53A10 (30D35, 32H20)

— *see also* **Geometric complex analysis, 98a:32001**

Fujimoto, Katsushige (*with* Murofushi, Toshiaki) Some characterizations of the systems represented by Choquet and multi-linear functionals through the use of Möbius inversion. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 5, 547–561. 28E10

— (*with* Murofushi, Toshiaki; Sugeno, Michio) Separated hierarchical decomposition of the Choquet integral. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 5, 563–585. 28E10

Fujimoto, Masafumi Equilibrium crystal shape of the Potts model at the first-order transition point. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3779–3793. (Summary) **98a:82015** 82B20 (81R50)

— Auxiliary vertices method for Kagomé-lattice eight-vertex model. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 363–388. (Summary) **98k:82035** 82B20

Fujimoto, Takao (*with* Fujimoto, Yoshihisa) Poincaré-Bendixson type theorems for n-dimensional spaces. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 109–113, *VSP, Utrecht*, 1997. (Roman Srzednicki) **98h:34079** 34C25 (34C05, 58F22)

— (*with* Fujimoto, Yoshihisa) A weak version of Poincaré-Bendixson type theorems for n-dimensional spaces. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 1–5. (Douglas S. Shafer) **98j:34072** 34C25

Fujimoto, Yoshihisa The Fibonacci partition on the connectedness locus. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 49–52, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F23 (28A50, 30C10)

— (*with* Fujimoto, Takao) Poincaré-Bendixson type theorems for n-dimensional spaces. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 109–113, *VSP, Utrecht*, 1997. (Roman Srzednicki) **98h:34079** 34C25 (34C05, 58F22)

— (*with* Fujimoto, Takao) A weak version of Poincaré-Bendixson type theorems for n-dimensional spaces. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 1–5. (Douglas S. Shafer) **98j:34072** 34C25

Fujimoto, Yukio (*with* Shintaku, Eiji) Probabilitistic estimation of membership function based on fuzzy data. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 803–815 (1996). 04A72

Fujimura, Kaoru 1:2 stationary mode interactions in perpendicular slots. (Japanese) Mathematics of thermal convection (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 970 (1996), 39–43. (*see* **98f:00025**) 76E15

Fujimura, Masayo (*with* Nishizawa, Kiyoko) Moduli spaces of maps with two critical points. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 1, 99–113. (Gregery T. Buzzard) **98i:58197** 58F23 (30D05, 58D19)

— Singular parts of moduli spaces for cubic polynomials and quadratic rational maps. Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 57–65. (*see* **98h:00039**) 14P05

Fujinaga, Makiko (*with* Kimura, Tatsuo; Kogiso, Takeyoshi) On functional equations of prehomogeneous zeta distributions over a local field of characteristic p. (English summary) Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 153–163. (Boris Datskovsky) **98g:11136** 11S40 (11M41)

— (*with* Kimura, Tatsuo; Kogiso, Takeyoshi) Fundamental theorem of prehomogeneous vector spaces of characteristic p. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 331–341. (Margaret M. Robinson) **98d:11152** 11S40 (11S80)

Fujioka, Hisaya (*with* Hara, Shinji) State covariance assignment for sampled-data feedback control systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 719–737. 93B55 (93C57)

Fujioka, Ryosuke (*with* Okamoto, Wataru; Tano, Shun'ichi; Inoue, Atsushi[3]) Constraints on natural language propositions involving fuzzy quantifiers by truth-qualification and inference method for the propositions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 409–432. 04A72 (68S05)

Fujisaka, Hisato (*with* Sato, Chikara) Computing the number, location, and stability of fixed points of Poincaré maps. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 303–311. (Alexander Alenitsyn) **98h:65033** 65L07 (34A45, 34C25, 65H17)

Fujisaki, Eiichiro (*with* Okamoto, Tatsuaki) Practical escrow cash systems. (English summary) *Security protocols* (*Cambridge*, 1996), 33–48, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (*see* **98e:94001**) 94A60

Fujisaki, H. (*with* Nakagawa, Kōichi; Sano, Shigemitsu) Heterotic-string thermofield dynamics. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **110** (1997), *no.* 2, 161–168. (Summary) **98j:81270** 81T30

Fujisawa, Hironori The maximum likelihood estimators in a multivariate normal distribution with AR(1) covariance structure for monotone data. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 423–428. (N. Giri) **98h:62099** 62H12

— Improvement on chi-squared approximation by monotone transformation. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 84–89. (Tõnu Kollo) **98d:62025** 62E20

— Likelihood ratio criterion for mean structure in the growth curve model with random effects. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 90–98. (Dietrich von Rosen) **98g:62112** 62H15 (62H10)

Fujisawa, Katsuki (*with* Kojima, Masakazu; Nakata, Kazuhide) Exploiting sparsity in primal–dual interior-point methods for semidefinite programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 235–253. (Yin Zhang) **98h:90052** 90C25 (65K05)

Fujishige, Satoru (*with* Ando, Kazutoshi; Nemoto, Toshio) The minimum-weight ideal problem for signed posets. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 4, 558–565. (Michael A. Trick) **98j:90084** 90C35 (06A07)

— (*with* Ando, Kazutoshi; Naitoh, Takeshi) Balanced bisubmodular systems and bidirected flows. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 437–447. (Daniel Turzík) **98k:05073** 05C20 (06A07, 90C35)

— A min-max theorem for bisubmodular polyhedra. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 294–308. (Ulrich Faigle) **98e:90126** 90C27 (05B35, 52B40)

Fujita, Etsuro (*with* Nomura, Takaaki) Spectral decompositions of Berezin transformations on $\mathbf{C}^n$ related to the natural $\mathrm{U}(n)$-action. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 877–888. (Miroslav Engliš) **98e:47048** 47B38 (22E45, 32M15, 46N50, 47G10, 47N50)

Fujita, Hiroshi[1] (*with* Kawarada, Hideo; Sasamoto, Akira) Analytical and numerical approaches to stationary flow problems with leak and slip boundary conditions. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 17–31, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Michael Fröhner) **98g:76021** 76D05 (65M60, 76D07, 76M10)

— (*with* Morimoto, Hiroko) A remark on the existence of the Navier-Stokes flow with non-vanishing outflow condition. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 53–61, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98i:35143** 35Q30 (76D05)

— (*with* Morimoto, Hiroko; Okamoto, Hisashi) Stability analysis of Navier-Stokes flows in annuli. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 11, 959–978. (Zhi Min Chen) **98f:76025** 76D05 (35Q30, 76E99)

— An autobiographical note about mathematical science. (Japanese) *Sūgaku* **49** (1997), *no.* 1, 89–96. 01A70

— (*with* Saito, Norikazu) Operator theory for the rate of convergence and numerical experiments for the domain decomposition method. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 206–215. (*see* **98j:65001**) 65N55 (35J25)

Fujita, Keiko (*with* Morimoto, Mitsuo) Analytic functionals and harmonic functionals. *Complex analysis, harmonic analysis and applications* (*Bordeaux*, 1995), 74–86, *Pitman Res. Notes Math. Ser.*, 347, *Longman, Harlow*, 1996. (F. Selig (Zbl 869.46021)) **98f:46040** 46F15

— (*with* Morimoto, Mitsuo) Analytic functionals on the complex sphere and eigenfunctions of the Laplacian on the Lie ball. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 287–305, *World Sci. Publishing, River Edge, NJ*, 1996. (Valentin Napalkov) **98m:46057** 46F15 (32A45)

— (*with* Morimoto, Mitsuo) Eigenfunctions of the Laplacian of exponential type. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 1–11. (*see* **98f:35006**) 35P05 (35J05)

Fujita, Ken-etsu μ-head form proofs with at most two formulas in the succedent. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 6, 1073–1082. (Summary) **98c:03114** 03F07

Fujita, Satoshi (*with* Yamashita, Masafumi) Maintaining a dynamic set of processors in a distributed system. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 106–112. (Summary) **98b:68046** 68Q10

— (*with* Farley, Arthur M.) Minimum-cost line broadcast in paths. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 255–268. (Summary) **98c:90036** 90B12 (68M10)

Fujita, T. *see* **Fujita, Takehisa**

Fujita, Takahiko (*with* Ito, Shunji; Keane, Michael S.; Ohtsuki, M.) On almost everywhere exponential convergence of the modified Jacobi-Perron algorithm: a corrected proof. *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1345–1352. (Roger Paysant-Le Roux) **98a:11105** 11K60

Fujita, Takehisa (*with* Sekiguchi, Y.; Yamamoto, K.) A new interpretation of Bethe ansatz solutions for massive Thirring model. (English summary) *Ann. Physics* **255** (1997), *no.* 2, 204–227. (Summary) **98c:81126** 81T10

Fujita, Toshiharu Re-examination of Markov policies for additive decision process. (English summary) *Bull. Inform. Cybernet.* **29** (1997), *no.* 1, 51–65. (Jean B. Lasserre) **98e:90208** 90C40

— (*with* Tsurusaki, Kazuyoshi) Optimizing the expectation of negative multiplicative functions. (Japanese. Japanese summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 160–172. (*see* **98h:90004**) 90C15

Fujita, Tsukasa Metabelian extensions of algebraic fields that have a given number knot. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 40–49. (Ken Yamamura) **98k:11166** 11R37 (11R20)

Fujito, Toshihiro (*with* Berman, Piotr) On approximation properties of the independent set problem for degree 3 graphs. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 449–460, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (68R10)

— A primal-dual approach to approximation of node-deletion problems for matroidal properties (extended abstract). (English summary) *Automata, languages and programming* (*Bologna*, 1997), 749–759, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 90C35 (05B35, 05C85, 68R10)

Fujitsu, A. (*with* Tsuda, N.; Yukawa, T.) 2D quantum gravity: three states of surfaces. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 583–605. (Summary) **98j:83026** 83C27 (81V17, 83C45)

Fujiwara, Akio Statistical estimation of pure states. (English summary) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 101–111. (*see* **98h:00037**) 81P05

Fujiwara, Daisuke The stationary phase method with remainder estimate as the dimension of the space goes to infinity. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 129–134, *World Sci. Publishing, River Edge, NJ*, 1996. (J. S. Joel) **98e:58167** 58G18 (58D30, 81S40)

— (*with* Kumano-go, Naoto; Taniguchi, Kazuo) A proof of estimates of Kumano-go-Taniguchi type for multiproduct of Fourier integral operators. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 459–470. (Jean-Marc Delort) **98m:47083** 47G30 (35S30, 58G15)

Fujiwara, Fumiyo (*with* Mimura, Fumitake; Nôno, Takayuki) An equivalent class of utility functions in a von Neumann growth model. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 318–324. (Alexander J. Zaslavski) **98h:90018** 90A10 (90A16)

— (*with* Ikeda, Toshiharu; Mimura, Fumitake) A determination of motions in the central force problem through conserved quantities. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 44 (1997), 23–32. (George Bozis) **98i:70003** 70F05 (70D05)

Fujiwara, Hidenori (*with* Arnal, Didier; Ludwig, Jean) Opérateurs d'entrelacement pour les groupes de Lie exponentiels. (French summary) [Intertwining operators for exponential Lie groups] *Amer. J. Math.* **118** (1996), *no.* 4, 839–878. (Chal Benson) **98b:22012** 22E25

Fujiwara, Koji (*with* Epstein, David B. A.) The second bounded cohomology of word-hyperbolic groups. *Topology* **36** (1997), *no.* 6, 1275–1289. (Thomas Delzant) **98k:20088** 20J05 (20F32)

okuno-Fujiwara, Masahiro *see* **Okuno-Fujiwara, Masahiro**

Fujiwara, Takanori (*with* Igarashi, Hiroshi; Takimoto, Yoshio) Quantum exchange algebra and locality in Liouville theory. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 78–86. (Kazuto Oshima) **98b:81096** 81R50 (58F07, 81T10, 81T40)

Fujiwara, Toru (*with* Desaki, Yoshihisa; Kasami, Tadao) The weight distributions of extended binary primitive BCH codes of length 128. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1364–1371. 94B15

— (*with* Yamamoto, Hiroshi[2]; Kasami, Tadao; Lin, Shu) A trellis-based recursive maximum-likelihood decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 714–729. (Summary) **98j:94026** 94B05 (94B12, 94B35)

Fujiwara, Tsuyoshi[2] Trivialization of para-abelian fibre bundles. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 217–221. (A. R. Shastri) **98j:14018** 14F05 (14F10)

Fujiyoshi, Akio (*with* Kurokawa, Kouichi; Kasai, Takumi) Multilevel tree transformation machines. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 214–220. (*see* **98a:68008**) 68Q68

Fuka, Jaroslav (*with* Jakubowski, Z. J.) On estimates of functionals in some classes of functions with positive real part. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 213–230. (Tom Carroll) **98b:30026** 30C80

— (*with* Jakubowski, Z. J.) On some properties of the class $\mathcal{P}(B, b, \alpha)$. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 197–220. (Johnny E. Brown) **98e:30011** 30C45

Fukaya, Kenji Morse homotopy and Chern-Simons perturbation theory. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 1, 37–90. (Dave Auckly) **98h:57048** 57R57 (57N10, 58D29, 58E05)

— Morse homotopy and its quantization. *Geometric topology* (*Athens, GA*, 1993), 409–440, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Nikolai N. Saveliev) **98i:57061** 57R57 (55S30, 58D29)

— Topological field theory and Morse theory [translation of Sūgaku **46** (1994), no. 4, 289–307]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 1, 19–39. (*see* **98f:00033**) 58E05 (57R57, 58D10)

Fuketa, Masao (*with* Aoe, Jun-ichi) A fast algorithm of retrieving common sentences. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 265–279. 68U15 (68Q20)

Fukś, Henryk (*with* Boccara, Nino; Zeng, Qi) Car accidents and number of stopped cars due to road blockage on a one-lane highway. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3329–3332. (Summary) **98f:90019** 90B12 (82C70)

— (*with* Boccara, Nino; Geurten, Servie) A new class of automata networks. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 145–154. (Summary) **98e:68186** 68Q80 (82C20)

Fuksshteiner, B. *see* **Fuchssteiner, Benno**

Fukuda, Hajime (*with* Ebihara, Yukiyoshi; Kurokiba, Masaki) On degenerate parabolic equations with quadratic convection. (English summary) *Fukuoka Univ. Sci. Rep.* **26** (1996), *no.* 2, 79–87. (Alexander L. Gladkov) **98a:35077** 35K65 (35K55, 35Q35)

Fukuda, Hiroshi (*with* Saito, Tomoko; Nakamura, Gisaku) Classification and computer generation of necktie patterns. (English summary) *Forma* **9** (1994), *no.* 1, 67–72. 00A69

— (*with* Muto, Nobuaki; Goto, Kikuko; Nakamura, Gisaku) Sections of hyper-cube in five dimensions. (English summary) *Forma* **12** (1997), *no.* 1, 15–33. (H. S. M. Coxeter)

98f:52009 52B11

Fukuda, Isamu (*with* Anada, Kouichi; Tsutsumi, Masayoshi) Local existence and uniqueness of viscosity solution for $u_t = u\Delta u - \gamma|\nabla u|^2 + f(t,u)$. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 55–68. (Summary) **98d:35115** 35K65 (35B05, 35D05, 35K55)

— Regional blow-up for nonlinear degenerate parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4433–4440. (*see* **98i:00032**) 35K55 (35B40, 35K05)

Fukuda, Komei (*with* Prodon, Alain) Double description method revisited. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 91–111, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90108** 90C27 (52B12)

— (*with* Deza, Antoine; Deza, Michel-Marie) On skeletons, diameters and volumes of metric polyhedra. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 112–128, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90107** 90C27 (52B12)

— (*with* Avis, David) Reverse search for enumeration. (English summary) First International Colloquium on Graphs and Optimization (GOI), 1992 (Grimentz). *Discrete Appl. Math.* **65** (1996), *no.* 1-3, 21–46. (Summary) **98a:05080** 05C30 (05A15)

— (*with* Liebling, Thomas M.; Margot, François) Analysis of backtrack algorithms for listing all vertices and all faces of a convex polyhedron. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 1–12. (Summary) **98b:68187** 68U05 (68Q25)

— (*with* Terlaky, Tamás) Criss-cross methods: a fresh view on pivot algorithms. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 369–395. (Shinji Mizuno) **98f:90043** 90C20

Fukuda, Nobuyuki[2] Semisimple Hopf algebras of dimension 12. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 43–54. (Saïd Benayadi) **98h:16060** 16W30

Fukuda, Ryoji Ornstein-Uhlenbeck semigroup and Fourier transform acting on positive finite measures on the Schwartz space. *J. Math. Kyoto Univ.* **35** (1995), *no.* 3, 387–402. (Vladimir I. Bogachev) **98j:28011** 28C20 (60H07)

— (*with* Satô, Hiroshi[1]) When does the local density theorem imply the global one? (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 185–188. (*see* **98e:00020**) 42B20 (28A75)

Fukuda, Shigetaka A base point free theorem of Reid type. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 621–625. (Summary) **98j:14004** 14C20

Fukuda, T. *see* **Fukuda, Takuo**

Fukuda, Takashi Greenberg's conjecture and relative unit groups for real quadratic fields. (English summary) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 62–77. (Shu-Leung Tang) **98j:11091** 11R23 (11R11, 11R27)

— Greenberg's conjecture and relative unit groups for real quadratic fields. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 23–39. (Cornelius Greither) **98c:11118** 11R23 (11R11)

— On the vanishing of Iwasawa invariants of certain cyclic extensions of $\mathbf{Q}$ with prime degree. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 6, 108–110. (Alexis Michel) **98i:11091** 11R23

— (*with* Komatsu, Keiichi; Ozaki, Manabu; Taya, Hisao) On Iwasawa λ_p-invariants of relative real cyclic extensions of degree p. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 475–480. (Masakazu Yamagishi) **98k:11153** 11R23

Fukuda, Takeshi (*with* Morimoto, Yasuhiko; Morishita, Shinichi; Tokuyama, Takeshi) Interval finding and its application to data mining. (English summary) *Algorithms and computation* (*Osaka*, 1996), 55–64, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68P15

— (*with* Morimoto, Yasuhiko; Morishita, Shinichi; Tokuyama, Takeshi) Implementation and evaluation of decision trees with range and region splitting. (English summary) *Constraints* **2** (1997), *no.* 3-4, 401–427. 68P15

Fukuda, Takuo *see* **Real analytic and algebraic singularities, 98i:32001**

Fukuhara, Makoto (*with* Kikuchi, Fumio) An iteration method for finite element analysis of magnetostatic problems. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 93–105, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Philip Huddleston) **98m:78008** 78–08 (65M60, 78A30)

Fukui, Masaharu (*with* Boukliev, Iliya; Kapralov, Stoyan; Maruta, Tatsuya) Optimal linear codes of dimension 4 over F_5. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 308–313. (Summary) **98m:94042** 94B05

Fukui, Seiichi p valently starlike functions and convex functions. (Japanese) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 23–28. (*see* **98d:30004**) 30C45

— On α-convex functions of order β. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 769–772. 30C45

Fukui, T. *see* **Fukui, Toshizumi**

Fukui, Takahiro (*with* Kawakami, Norio) SU(v) generalization of the twisted Haldane-Shastry model. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 3, 663–680. (Yu Kui Zhou) **98f:82047** 82B23 (82B20)

Fukui, Tetsuo A plotting method for algebraic surfaces that uses approximate algebra. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 22–30. (*see* **98h:00039**) 14Q10

Fukui, Toshizumi An algebraic formula for a topological invariant of bifurcation of a 1-parameter family of function-germs. *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 45–54, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Maria Aparecida Soares Ruas) **98h:58020** 58C27

— Seeking invariants for blow-analytic equivalence. (English summary) *Compositio Math.* **105** (1997), *no.* 1, 95–108. (Aleksandr G. Aleksandrov) **98c:32009** 32C05 (14P15, 32S45)

— *see also* **Real analytic and algebraic singularities, 98i:32001**

Fukuma, Masafumi (*with* Awata, Hidetoshi; Matsuo, Yutaka; Odake, Satoru) Representation theory of $W_{1+\infty}$ algebra. (English summary) *Group theoretical methods in physics* (*Toyonaka*, 1994), 335–338, *World Sci. Publishing, River Edge, NJ*, 1995. (Josep Herrero) **98c:81082** 81R10 (17B68, 81T40)

— (*with* Yahikozawa, Shigeaki) Combinatorics of solitons in noncritical string theory. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 316–320. (Summary) **98a:81167** 81T30 (58F07, 81R10)

— (*with* Yahikozawa, Shigeaki) Nonperturbative effects in noncritical strings with soliton backgrounds. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 97–106. (Summary) **98a:81168** 81T30

Fukuma, Yoshiaki On polarized 3-folds (X, L) with $g(L) = q(X) + 1$ and $h^0(L) \geq 4$. (English summary) *Ark. Mat.* **35** (1997), *no.* 2, 299–311. (Antonio Lanteri) **98k:14006** 14C20 (14J30, 14J40)

— A lower bound for the sectional genus of quasi-polarized surfaces. (English summary) *Geom. Dedicata* **64** (1997), *no.* 2, 229–251. (Antonio Lanteri) **98c:14007** 14C20 (14J25)

Fukumi, Toshio Dynamics of SU(n) chains. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 186–195. (*see* **98h:00038**) 82C20

Fukumoto, Yasuhide (*with* Miyajima, Mitsuharu) On a higher-order localized induction approximation. Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 68–77. (*see* **98e:76004**) 76C05

— Stationary configurations of a vortex filament embedded in background flows. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 63–68, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98i:76017** 76C05

— Stationary configurations of a vortex filament in background flows. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1205–1232. (Summary) **98d:76031** 76C05 (70H05)

Fukunishi, Y. (*with* Taniguchi, H.; Kobayashi, Ryoji) Stability of the boundary layer on a sphere rotating in still fluid. (English summary) *Acta Mech.* **129** (1998), *no.* 3-4, 243–253. 76E10 (76D10, 76U05)

Fukushima, Hiroshi On p-radical groups G and the nilpotency indices of $J(kG)$. II. *Osaka J. Math.* **33** (1996), *no.* 3, 637–648. (Jon F. Carlson) **98h:16036a** 16S34 (20C05)

— *see also* **Errata: "On p-radical groups G and the nilpotency indices of $J(kG)$. II", 98h:16036b**

Fukushima, Kazuhiro (*with* Yamada, Tomoji) On-off intermittency observed in a system of coupled sine-Gordon solitons. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 141–145. 35Q53

Fukushima, M. *see* **Fukushima, Masatoshi**

Fukushima, Masao F. (*with* Taji, Kouichi) A globally convergent Newton method for solving variational inequality problems with inequality constraints. (English summary) *Recent advances in nonsmooth optimization*, 405–417, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:90200** 90C33 (49J40)

— (*with* Pang, Jong-Shi) Minimizing and stationary sequences of merit functions for complementarity problems and variational inequalities. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 91–104, *SIAM, Philadelphia, PA*, 1997. (Jean-Pierre Crouzeix) **98c:90160** 90C33 (90C30)

— (*with* Sun, De Feng; Qi, Liqun) A computable generalized Hessian of the D-gap function and Newton-type methods for variational inequality problems. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 452–473, *SIAM, Philadelphia, PA*, 1997. (R. N. Kaul) **98c:90168** 90C33 (49J40)

— (*with* Yamashita, Nobuo; Taji, Kouichi) Unconstrained optimization reformulations of variational inequality problems. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 439–456. (Xian Zhi George Yuan) **98b:90150** 90C33 (49J40, 90A14)

— (*with* Kanzow, Christian; Yamashita, Nobuo) New NCP-functions and their properties. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 115–135. (Michael M. Kostreva) **98e:90193** 90C33

— (*with* Yamashita, Nobuo) Modified Newton methods for solving a semismooth reformulation of monotone complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 469–491. (Zun Quan Xia) **98c:90171** 90C33 (90C30)

— (*with* Yamashita, Nobuo) Equivalent unconstrained minimization and global error bounds for variational inequality problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 273–284. (Christiane Tammer) **98d:49013** 49J40 (90C33)

— Optimization approaches to variational inequality problems. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 245–262. (Summary) **98m:90156** 90C33 (49J40)

Fukushima, Masatoshi (*with* Tomisaki, Matsuyo) On decomposition of additive functionals of reflecting Brownian motions. *Itô's stochastic calculus and probability theory*, 51–61, *Springer, Tokyo*, 1996. (Zhen-Qing Chen) **98f:60152** 60J60 (31C25, 60J55)

— (*with* Tomisaki, Matsuyo) Construction and decomposition of reflecting diffusions on Lipschitz domains with Hölder cusps. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 4, 521–557. (Zhen-Qing Chen) **98d:60157** 60J60 (31C25, 60J55)

— *see also* **Probability theory and mathematical statistics, 98d:60004**

Fukushima, Nobuhisa An algebra arising from 2-state chiral Potts model and Sklyanin algebra. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6367–6374. (Dmitriĭ I. Gurevich) **98b:82025** 82B23 (81R50, 82B20)

Fukushima, Toshio A method solving Kepler's equation without transcendental function evaluations. (English summary) *Celestial Mech. Dynam. Astronom.* **66** (1996/97), *no.* 3, 309–319. 70–08 (65H10, 70F05)

Fukuyama, Katusi Riesz-Raikov sums and Weyl transform. *Monte Carlo Methods Appl.* **2** (1996), *no.* 4, 271–293. (F. Móricz) **98e:42022** 42C10 (60F15, 65C05)

Fukuyu, Akio Singularity in vorticity field. (English summary) Topological problems in fluid dynamics (Kyoto, 1991/1992). *Forma* **8** (1993), *no.* 1, 15–25. (*see* **98h:76004**) 76C05 (76M25)

— Research into singularities of vortex fields due to vortex filament approximations. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 233–242. (*see* **98e:76004**) 76C05

Fulachier, Louis *see* **IUTAM Symposium: Variable Density Low-speed Turbulent Flows, 98f:76002**

Fuller, Kent R. $*$-modules over ring extensions. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2839–2860. (Jan Trlifaj) **98e:16008** 16D90 (16S70)

— (*with* Burgess, W. D.) The Cartan determinant and generalizations of quasihereditary rings. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 23–32. (D. Zacharia) **98m:16010** 16E10 (16P20)

Fuller, Terry Distinguishing embedded curves in rational complex surfaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 305–310. (Paolo Lisca) **98c:57035** 57R40 (14J26)

Fuller, Wayne A. Estimated true values for errors-in-variables models. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling (Leuven, 1996)*, 51–57, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

Fulling, Stephen A. Kernel asymptotics of exotic second-order operators. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 63–76, *VSP, Utrecht*, 1993. (Summary) **98c:58168** 58G18 (35C20, 35G20, 35Q99, 58G11)

— Pseudodifferential operators, covariant quantization, the inescapable Van Vleck-Morette determinant, and the $R/6$ controversy. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 597–608. (Adolfo P. C. Malbouisson) **98m:58135** 58G15 (35S05, 46N50, 47G30, 58G40, 81S99)

— (*with* Chen, Goong; Zhou, Jianxin) Asymptotic equipartition of energy by nodal points of an eigenfunction. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5350–5360. (Peter N. Zhevandrov) **98j:81088** 81Q20 (34E20)

Ful'man, I. I. Crossed products of von Neumann algebras by equivalence relations and their subalgebras. (English summary) *Mem. Amer. Math. Soc.* **126** (1997), *no.* 602, x+107 *pp.* (Aldo J. Lazar) **98d:46073** 46L45 (46L10, 46L55, 47D25)

Fulmek, Markus (*with* Krattenthaler, Christian) A bijection between Proctor's and Sundaram's odd orthogonal tableaux. (English summary) *Discrete Math.* **161** (1996), *no.* 1-3, 101–120. (Ira Gessel) **98a:05152** 05E10 (05A15, 20G05)

— (*with* Krattenthaler, Christian) Lattice path proofs for determinantal formulas for symplectic and orthogonal characters. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 1, 3–50. (Angèle M. Hamel) **98b:05178** 05E15 (05E05)

— On pairs of lattice paths with a given number of intersections. *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 154–161. (Christian Krattenthaler) **98c:05005** 05A15 (05A10)

Fulong, Han (*with* Zhao, Ren; Wu, Yueqin) Hawking quantum thermal effect of non-static spherically symmetric space-time and non-static plane-symmetric space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 5, 701–708. (Summary) **98j:83046** 83C47 (81T20, 83C57)

Fülöp, T. Relativistic quantum mechanics on the SL(2, **R**) space-time. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 611–621. (Ivailo M. Mladenov) **98c:81035** 81Q05

Fülöp, Zoltán (*with* Dányi, Gábor) Compositions with superlinear deterministic top-down tree transformations. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 57–85. (Summary) **98k:68118** 68Q68 (68N20)

— *see also* **Automata, languages and programming, 98c:68007**

Fulton, Charles T. (*with* Wu, Limin) An accurate method for large least squares problems involving Kronecker products on the connection machine 5. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30

— On generating theorems and conjectures in spectral theory with computer assistance. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 285–299, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (J. B. Butler, Jr.) **98m:34049** 34B24 (34-04, 34L40, 65L15)

Fulton, William Schubert varieties in flag bundles for the classical groups. (English summary) *Proceedings of the Hirzebruch 65 Conference on Algebraic Geometry (Ramat Gan, 1993)*, 241–262, *Israel Math. Conf. Proc.*, 9, *Bar-Ilan Univ., Ramat Gan*, 1996. (Summary) **98b:14038** 14M15 (14C17, 14M12)

— Determinantal formulas for orthogonal and symplectic degeneracy loci. (English summary) *J. Differential Geom.* **43** (1996), *no.* 2, 276–290. (E. Akyıldız) **98d:14004** 14C17 (14M12, 14M15)

— (*with* Pandharipande, Rahul) Notes on stable maps and quantum cohomology. *Algebraic geometry—Santa Cruz* 1995, 45–96, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Alexandre I. Kabanov) **98m:14025** 14H10 (14E99, 14N10)

Fumita, N. (*with* Itoyama, Hiroshi; Oota, Takeshi) Motions of the string solutions in the *XXZ* spin chain under a varying twist. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 4, 801–838. (Yu Kui Zhou) **98e:82015** 82B20

Fumy, Walter *see* **Advances in cryptology—EUROCRYPT '97, 98i:94002**

Funabashi, Shoichi (*with* Hashimoto, Hideya) Hypersurfaces in a 6-dimensional sphere. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 23–42. (Luis Ugarte) **98d:53081** 53C40 (53C15)

Funabiki, Nobuo (*with* Takefuji, Yoshiyasu) Maximum clique problems. II. (English summary) *Neural computing for optimization and combinatorics*, 63–77, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68179**) 05C35 (68Q35, 68R10)

— (*with* Umetani, Shunji; Nishikawa, Seishi) A neural network parallel algorithm for minimum maximal matching problems. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 559–566. 68Q22 (68R10, 68T05)

Funahashi, Kunio (*with* Fujii, Kazuyuki) Multi-periodic coherent states and the WKB exactness. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 5987–6011. (Jiu Qing Liang) **98a:81068** 81R30 (81Q20, 81S40)

— (*with* Fujii, Kazuyuki) Multiperiodic coherent states and the Wentzel-Kramers-Brillouin exactness. II. Noncompact case and classical theories revisited. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2812–2831. (Gabriel Alvarez) **98h:81028** 81Q20 (81R30)

— (*with* Fujii, Kazuyuki) Extension of the Barut-Girardello coherent state and path integral. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4422–4434. (Constantin Brif) **98g:81063** 81R30 (81R05, 81S40)

Funahashi, Yasuyuki (*with* Ooba, Tatsushi) Two conditions concerning common quadratic Lyapunov functions for linear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 719–721. (Summary) **98a:93053** 93D05

Funaki, Tadahisa Equilibrium fluctuations for lattice gas. *Itô's stochastic calculus and probability theory*, 63–72, *Springer, Tokyo*, 1996. (Timo Seppäläinen) **98h:60145** 60K35 (60F05, 82C20, 82C22)

— (*with* Uchiyama, Kōhei; Yau, Horng-Tzer) Hydrodynamic limit for lattice gas reversible under Bernoulli measures. (English summary) *Nonlinear stochastic PDEs (Minneapolis, MN, 1994)*, 1–40, *IMA Vol. Math. Appl.*, 77, *Springer, New York*, 1996. (Pablo A. Ferrari) **98e:60158** 60K35 (60F05, 82B05)

— (*with* Spohn, Herbert) Motion by mean curvature from the Ginzburg-Landau $\nabla\varphi$ interface model. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 1–36. (Krystyna Twardowska) **98f:60206** 60K35 (35Q55, 58F11, 58F39, 60H10, 82C31)

— Probability models for phase separation and the equations of motion for interfaces. (Japanese) *Sūgaku* **50** (1998), *no.* 1, 68–85. 82C24 (35Q , 60F10, 60H15, 60K35, 82C31)

Funaki, Yukihiko (*with* Aarts, Harry; Hoede, Kees) A marginalistic value for monotonic set games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 97–111. (Anatolii F. Kleimenov) **98a:90147** 90D12

Funakoshi, Shota The functorial construction of the sheaf of small 2-microfunctions. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 1–13. (Andrea D'Agnolo) **98j:58104** 58G07

Funar, Louis TQFT and Whitehead's manifold. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 1, 13–30. (Justin D. Roberts) **98e:57026** 57N10 (57R57)

— TQFT for general Lie algebras and applications to open 3-manifolds. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 1, 121–181. (Stephen F. Sawin) **98f:57027** 57N10 (57M25, 57M30, 81T40)

Funaro, Daniele ★ Spectral elements for transport-dominated equations. Lecture Notes in Computational Science and Engineering, 1. *Springer-Verlag, Berlin*, 1997. x+212 *pp. ISBN* 3-540-62649-2 (I. Norman Katz) **98g:65115** 65N35 (65–02, 65M70, 76M10, 82C70)

— Improving the performances of implicit schemes for hyperbolic equations. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 385–394. 65M12

Funderlic, Robert E. (*with* Chu, Moody T.; Golub, Gene H.) On a variational formulation of the generalized singular value decomposition. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1082–1092. (Roy Mathias) **98h:15016** 15A18 (65F15)

Fundia, Andrés D. Derandomizing Chebyshev's inequality to find independent sets in uncrowded hypergraphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 2, 131–147. (Peter Mihók) **98m:05136** 05C65

Fundo, M. An existence result on a general type of hemivariational inequalities. (English summary) *Appl. Anal.* **65** (1997), *no.* 3-4, 373–394. (Summary) **98j:35073** 35J85 (47H19, 49J40)

Fung, Adrian K. (*with* Manry, Michael T.; Hsieh, Cheng-Hsiung; Dawson, Michael S.; Apollo, Steven J.) Cramer Rao maximum a posteriori bounds on neural network training error for non-Gaussian signals and parameters. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 3, 381–391. (Summary) **98c:94036** 94C99 (94A15)

Fung, Chun-Ip (*with* Wong, Ngai-Ying) Connections through the development of mathematical ideas: the case of solution to high degree polynomial equations in medieval Chinese mathematics. (English summary) *Hiroshima J. Math. Ed.* **6** (1998), 71–88. 01A25

Fung, Francis Y. C. *see* **Conway, John H., 98k:11035**

Fung, J. C. H. (*with* Vassilicos, J. C.) Two-particle dispersion in turbulentlike flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1677–1690. (Summary) **98k:76074** 76F99 (76M35)

Fung, Karen Y. (*with* Huang, Mei Ling) On moments and cumulants of the D compound Poisson distribution. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 357–361. 62E15

Fung, M. K. (*with* Su, S. Y.) Quantisation of two-dimensional symplectic manifolds of constant curvature. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 2, 131–138. (Dan Radu Grigore) **98g:58067** 58F06 (58D30, 58F05, 81S40)

Fung, P. C. W. (*with* Mak, M. K.; Harko, T.) New classes of interior solutions to Einstein-Maxwell equations in spherical symmetry. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 12, 1461–1464. (Maria Piedade Ramos) **98c:83022** 83C22

— (*with* Mak, M. K.; Harko, T.) Viscous fluid cosmological models in a Bianchi type I universe. (English summary) *Astrophys. Space Sci.* **249** (1997), *no.* 1, 43–71. (Summary) **98h:83012** 83C15 (83C55)

Fung, T. C. (*with* Fan, S. C.[2]; Sheng, Gang) A comprehensive unified set of single-step algorithms with controllable dissipation for dynamics. I. Formulation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 1-2, 87–98. (Summary) **98d:73059a** 73V05 (73K12)

— (*with* Fan, S. C.[2]; Sheng, Gang) A comprehensive unified set of single-step algorithms with controllable dissipation for dynamics. II. Algorithms and analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 1-2, 99–107. (Summary) **98d:73059b** 73V05 (73K12)

— Unconditionally stable higher-order Newmark methods by sub-stepping procedure. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 1-2, 61–84. (Summary) **98d:65116** 65M20 (65L99, 65Y05, 73V20)

— Complex-time-step Newmark methods with controllable numerical dissipation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 1, 65–93. 65M06 (65M60)

— Higher order time-step integration methods with complex time steps. (English summary) *J. Sound Vibration* **210** (1998), *no.* 1, 69–89. (Summary) **98k:65044** 65L99 (73V20)

— (*with* Fan, S. C.[2]; Sheng, Gang) Mixed time finite elements for vibration response analysis. (English summary) *J. Sound Vibration* **213** (1998), *no.* 3, 409–428. 73V05 (73K12)

Fung, Tze Ho (*with* Kowalski, Robert) The iff proof procedure for abductive logic programming. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 151–165. (Summary) **98d:68045** 68N17

Fung, Wing Kam (*with* Tang, M. K.) Case-deletion diagnostics for test statistics in multivariate regression. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 345–353. 62J20

— (*with* Tang, M. K.) Assessment of local influence in multivariate regression analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 821–837. (Wojciech Zieliński) **98f:62195** 62J05 (62F35)

— (*with* Kwan, C. W.) Further influence measures in factor analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1337–1353. (Summary) **98f:62175** 62H25

— (*with* Kwan, C. W.) A note on local influence based on normal curvature. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 839–843. 62F35 (62J20)

— (*with* Kwan, C. W.) Assessing local influence for specific restricted likelihood: application to factor analysis. (English summary) *Psychometrika* **63** (1998), *no.* 1, 35–46. 62H25

— (*with* Wei, Bo Cheng; Hu, Yue-Qing) Generalized leverage and its applications. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 25–37. (Summary) **98m:62084** 62F35

(62J05)

Funk, Jonathon (*with* Bunge, Marta C.) Spreads and the symmetric topos. (English summary) *J. Pure Appl. Algebra* **113** (1996), *no.* 1, 1–38. (Summary) **98f:18003** 18B25 (03G30, 18A32, 18C15, 54B30)

— (*with* Bunge, Marta C.) Constructive theory of the lower power locale. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 1, 69–83. (Summary) **98f:18004** 18B25

Funke, Michael (*with* Herrmann, Michael; Der, Ralf) Controlling low-dimensional chaos: determination and stabilization of unstable periodic orbits by Kohonen neural nets. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 489–499. (Summary) **98h:93013** 93C10 (58F13, 58F40, 93B52)

Funken, Stefan A. (*with* Carstensen, Carsten; Stephan, Ernst P.) A posteriori error estimates for *hp*-boundary element methods. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 233–253. 65N38 (45L05)

— (*with* Stephan, Ernst P.) Fast solvers for non-linear FEM-BEM equations. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 181–186, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (*see* **98f:76003**) 65M60

— (*with* Stephan, Ernst P.) The BPX preconditioner for the single layer potential operator. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 327–340. (Summary) **98m:65224** 65R20 (45L05, 73V10)

Furbach, Ulrich (*with* Baumgartner, Peter; Stolzenburg, Frieder) Model elimination, logic programming and computing answers. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 335–340, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68N17 (03B70)

— (*with* Baumgartner, Peter; Niemelä, Ilkka) Hyper tableaux. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 1–17, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98c:03028** 03B35 (68T15)

— (*with* Baumgartner, Peter; Fröhlich, Peter; Nejdl, Wolfgang) Tableaux for diagnosis applications. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 76–90, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 68T35 (03B35, 03B70, 68Q60)

Füredi, Zoltán (*with* Goemans, Michel X.; Kleitman, Daniel J.) On the maximum number of triangles in wheel-free graphs [MR 95g:05062]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 305–317, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C38

— The expected size of a random sphere-of-influence graph. (English summary) *Intuitive geometry* (*Budapest*, 1995), 319–326, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Zbigniew Palka) **98h:05165** 05C80

— (*with* Komjáth, Péter) Nonexistence of universal graphs without some trees. (English summary) *Combinatorica* **17** (1997), *no.* 2, 163–171. (Thomas Andreae) **98m:05052** 05C10 (05C05, 05C60)

— (*with* Komjáth, Péter) On the existence of countable universal graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 53–58. (John M. Harris) **98b:05097** 05C99

— On the double competition number. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 251–255. (Summary) **98k:05088** 05C35 (05C80)

Furi, Massimo (*with* Pera, Maria Patrizia) Remarks on global branches of harmonic solutions to periodic ODE's on manifolds. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 709–722. (Roman Srzednicki) **98m:58111** 58F22 (34C23, 34C25)

— (*with* Spadini, Marco) On the set of harmonic solutions of periodically perturbed autonomous differential equations on manifolds. *Nonlinear Anal.* **29** (1997), *no.* 8, 963–970. (Anna Capietto) **98f:34057** 34C25 (34C40, 58F22)

Furino, Steven (*with* Lee, Therese C. Y.) The existence of NRB$[v, k]$ where $k + 1$ is an even prime power. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 43–49. (D. V. Chopra) **98k:05019** 05B05

Furioli, Giulia (*with* Lemarié-Rieusset, Pierre Gilles; Terraneo, Elide) Sur l'unicité dans $L^3(\mathbf{R}^3)$ des solutions "mild" des équations de Navier-Stokes. (English and French summaries) [On the uniqueness in $L^3(\mathbf{R}^3)$ of mild solutions for the Navier-Stokes equations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1253–1256. (Summary) **98g:35159** 35Q30 (76D05)

Furlan, Paolo (*with* Khadzhiivanov, L. K.; Todorov, Ivan T.) A quantum gauge group approach to the 2D SU(n) WZNW model. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 23–32. (Satoru Saito) **98g:81192** 81T40 (81R10, 81R50)

— (*with* Ganchev, A. Ch.; Petkova, V. B.) $A_1^{(1)}$ admissible representations—fusion transformations and local correlators. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 3, 635–658. (Isabel P. Ennes) **98g:81057** 81R10 (17B81)

Furlani, Edward P. Quantization of massive vector fields on ultrastatic spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1665–1677. (Rainer Verch) **98e:81121** 81T20 (83C47)

— Evolution operators and scattering theory for massive scalar fields on curved spacetimes. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6065–6079. (Mathias Trucks) **98k:81182** 81T20 (83C47)

Furman, Alex On the multiplicative ergodic theorem for uniquely ergodic systems. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 797–815. (Oliver Knill) **98i:28018** 28D05

Furrer, Hansjörg (*with* Michna, Zbigniew; Weron, Aleksander) Stable Lévy motion approximation in collective risk theory. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 2, 97–114. (Hanspeter Schmidli) **98j:60048** 60F17 (60G99)

Furry, W. H. *see* **Khinchin, Aleksandr Yakovlevich**

Furs, A. N. (*with* Barkovskiĭ, L. M.) Maxwell's square roots from the metric tensors of wave surfaces and branches of solutions of the photon and phonon wave equations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4665–4675. (Summary) **98i:35189** 35Q60 (22E70, 78A10, 81V70, 81V80)

Fursa, D. V. (*with* Smirnov, Yu. F.; Tolstoĭ, V. N.) Dyson boson-fermion realization of Lie (super)algebras. *Symmetries in science, IX* (*Bregenz*, 1996), 117–137, *Plenum, New York*, 1997. (Anargyros Fellouris) **98m:81048** 81R05 (17B70, 17B81)

Fursa, R. A. Stability of a method for predicting time series using the Huber estimator. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1997**, *no.* 2, 58–61, 80. 62M20 (62F35)

Fursaev, D. V. (*with* De Nardo, Lara; Miele, Gennaro) Heat kernel coefficients and spectra of the vector Laplacians on spherical domains with conical singularities. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1059–1078. (Ivan G. Avramidi) **98i:58223** 58G11 (58G25, 58G26, 81T20)

— (*with* De Nardo, Lara; Miele, Gennaro) Finite-temperature effective potential for gauge models in de Sitter space. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3269–3286. (Summary) **98i:81167** 81T20 (81T16, 83C47)

— (*with* Frolov, V. P.; Zelnikov, A. I.) Statistical origin of black hole entropy in induced gravity. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 339–352. (Guido Cognola) **98a:83079** 83C57 (83C47)

— (*with* Frolov, V. P.; Zelnikov, A. I.) Black hole statistical mechanics and induced gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 192–196. (Summary) **98g:83060** 83C57 (81T20, 82B99)

— (*with* Frolov, V. P.) Mechanism of the generation of black hole entropy in Sakharov's induced gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2212–2225. (Summary) **98h:83046** 83C57 (81T20, 83D05)

Fursikov, Andrei V. (*with* Coron, Jean-Michel) Global exact controllability of the 2D Navier-Stokes equations on a manifold without boundary. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 4, 429–448. (Sergei A. Avdonin) **98k:93057** 93C20 (35Q30, 76D05, 93B05)

— (*with* Imanuvilov, Oleg Yu.) Local exact boundary controllability of the Navier-Stokes system. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 115–129, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Vilmos Komornik) **98k:93058** 93C20 (35Q30, 76D05, 93B05)

— (*with* Díaz Díaz, Jesús Ildefonso) Approximate controllability of the Stokes system on cylinders by external unidirectional forces. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 4, 353–375. (Sergey V. Nikitin) **98c:35128** 35Q30 (35B37, 76D07, 93C20)

Furstenberg, Harry (*with* Weiss, Benjamin) A mean ergodic theorem for $(1/N)\sum_{n=1}^{N} f(T^n x)g(T^{n^2}x)$. *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 193–227, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Idris Assani) **98e:28019** 28D05

— (*with* Bergelson, Vitaly; McCutcheon, Randall) IP-sets and polynomial recurrence. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 963–974. (Thomas Ward) **98c:28024** 28D15 (05D10)

Furta, S. D. (*with* Kliem, Wolfhard; Pommer, C.) On the buckling of an elastic rotating beam. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 307–324. (Jesús Hernández) **98c:73047** 73H10 (34K10, 35Q72, 47H15, 73H05)

Furtado, Cláudio (*with* Moraes, Fernando) Electrostatic self-force in (2 + 1)-dimensional cosmological gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3425–2432. (Summary) **98i:83048** 83C57

mota-Furtado, F. *see* **Mota-Furtado, F.**

Furter, J. E. Geometric path formulation for bifurcation problems. *J. Natur. Geom.* **12** (1997), *no.* 1, xii+100 *pp.* (Ali Lari-Lavassani) **98d:58032** 58E07 (58C27, 58E09)

— (*with* López-Gómez, Julián) Diffusion-mediated permanence problem for a heterogeneous Lotka-Volterra competition model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 281–336. (Virginia W. Noonburg) **98f:92008** 92D25 (35K57, 35Q80)

Furter, Jean-Philippe On the variety of automorphisms of the affine plane. (English summary) *J. Algebra* **195** (1997), *no.* 2, 604–623. (Gerd Müller) **98i:14017** 14E09

Furugyan, M. G. ★ Один алгоритм планирования вычислений в многопроцессорной системе с переменной структурой. (Russian. Russian summary) [An algorithm for planning computations in a multiprocessor system with variable structure] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1995. 15 *pp.* (Publisher's description) **98c:90048** 90B35 (68M20, 68Q10)

Furuichi, Emiko (*with* Maruyama, Osamu; Kuhara, Satoru; Miyano, Satoru) Learning conformation rules. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 28–35. (*see* **98k:68015**) 68T05

Furukata, Masahiko (*with* Asano, Kouhei) Reporting the crossing-free segments of a complete geometric graph. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 163–170. (Summary) **98f:68264** 68U05

Furukawa, Nagata Introducing a metric on the space of fuzzy continuous mappings and the completeness of the space. Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 125–127. (*see* **98g:90004**) 54A40 (04A72, 54E35)

— Convexity and local Lipschitz continuity of fuzzy-valued mappings. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 113–119. (Summary) **98i:26030** 26E50 (04A72)

Furukawa, Yasu (*with* Kikuchi, Yoshiyuki; Ito, Kenji) Rudolf Clausius' copy of Sadi Carnot's *Réflexions*: a new look at Clausius' access to Carnot's work. *Historia Sci.* (2) **6** (1996), *no.* 1, 31–36. 01A55 (80–03, 82–03)

Furumochi, Tetsuo Asymptotic behavior and periodic solutions of a differential equation with two time delays. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 21–30, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (George Seifert) **98h:34135** 34K25 (34K15)

— Almost periodic solutions of integral equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 845–852. (George Seifert) **98k:45011** 45M99 (34K15)

Furusaka, Shinichi (*with* Adachi, Taichi; Imai, Katsunobu; Morita, Kenichi) The firing squad synchronization problem in two-dimensional reversible cellular automata. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 228–232. (*see* **98a:68008**) 68Q80

Furusawa, Harushi Commutators and iterated commutators in Kleinian groups. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 172–181. (R. Michael Porter) **98k:30059** 30F40 (20H10)

Furusawa, Hitoshi An algebraic characterization of Cartesian products of fuzzy relations. (English summary) *Bull. Inform. Cybernet.* **29** (1997), *no.* 1, 105–115. (Summary) **98a:04006** 04A72

Furusawa, Masaaki (*with* Shalika, J. A.) On Fourier coefficients of Eisenstein series. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 81–98, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Solomon Friedberg) **98m:11042** 11F70 (11F30, 11F55, 11F66, 22E50, 22E55)

— (*with* Bump, Daniel; Friedberg, Solomon) Explicit formulas for the Waldspurger and Bessel models. (English summary) *Israel J. Math.* **102** (1997), 125–177. (David Ginzburg) **98k:22070** 22E50

Furushima, Mikio Non-projective compactifications of $\mathbf{C}^3$. I. *Kyushu J. Math.* **50** (1996), *no.* 1, 221–239. (G. K. Sankaran) **98f:14034** 14J45 (32J05, 32J17)

— On minimal compactifications of $\mathbf{C}^2$. (English summary) *Math. Nachr.* **186** (1997), 115–129. (De-Qi Zhang) **98e:32049** 32J05

— Non-projective compactifications of $\mathbf{C}^3$. II. New examples. *Kyushu J. Math.* **52** (1998), *no.* 1, 149–162. (G. K. Sankaran) **98m:14044** 14J45 (32J05, 32J17)

Furuta, Katsuhisa (*with* Zhang, Cishen; Zhang, Jingxin) Analysis of H_2 and H_∞ performance of discrete periodically time-varying controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 619–634. (Geir E. Dullerud) **98e:93045** 93B36 (93C80)

— (*with* Pan, Yaodong) Discrete-time VSS controller design. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 373–386. (Ülle Kotta) **98e:93064** 93C55 (93B15)

Furuta, Takayuki Applications of order preserving operator inequalities to a generalized relative operator entropy. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 65–76, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Gustavo Corach) **98f:47021** 47A63 (47B15)

— Equivalence relations among Reid, Löwner-Heinz and Heinz-Kato inequalities, and extensions of these inequalities. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 1–9. (Frank Hansen) **98f:47022** 47A63 (47B15)

— (*with* Yanagida, Masahiro) Further extensions of Aluthge transformation on *p*-hyponormal operators. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 122–125. (Hong W. Kim) **98j:47053** 47B20

— Parallelism related to the inequality "$A \geq B \geq 0$ ensures $(A^{r/2}A^pA^{r/2})^{(1+r)/(p+r)} \geq (A^{r/2}B^pA^{r/2})^{(1+r)/(p+r)}$ for $p \geq 1$ and $r \geq 0$". (English summary) *Math. Japon.* **45** (1997), *no.* 2, 203–209. (Frank Hansen) **98b:47024** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Nakamoto, Ritsuo; Takahasi, Sin-Ei) Operator inequalities and covariance in noncommutative probability. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 317–320. (Steve Wright) **98j:46072** 46L50 (47A63)

— Extensions of Hölder-McCarthy and Kantorovich inequalities and their applications. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 3, 38–41. (E. Thandapani) **98e:26020** 26D15

— (*with* Yamazaki, Takeaki; Yanagida, Masahiro) Operator functions implying generalized Furuta inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 123–130. (Summary) **98k:47035** 47A63 (47B15)

— (*with* Wang, Derming) A decreasing operator function associated with the Furuta inequality. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2427–2432. (Summary) **98j:47038** 47A63 (47B15)

Furuuchi, Kazuyuki (*with* Kunitomo, Hiroshi; Nakatsu, Toshio) Topological field theory and second-quantized five-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 144–160. (Summary) **98h:81120** 81T70 (58D29, 81T30)

Furuya, Kiyoko Mixed problem for wave equations with oblique boundary condition. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 69–74, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98i:35110** 35L05 (46N20)

Fuschi, P. (*with* Polizzotto, C.; Borino, G.) A thermodynamically consistent formulation of nonlocal and gradient plasticity. *Mech. Res. Comm.* **25** (1998), *no.* 1, 75–82. 73E05 (73B30)

Fusco, D. (*with* Manganaro, N.) A method for finding exact solutions to hyperbolic systems of first-order PDEs. (English summary) *IMA J. Appl. Math.* **57** (1996), *no.* 3, 223–242. (Hideo Yamagata) **98g:35138** 35L60 (35C05)

Fusco, Giorgio (*with* Alikakos, Nicholas D.; Kowalczyk, Michał) Finite-dimensional dynamics and interfaces intersecting the boundary: equilibria and quasi-invariant manifold. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1119–1155. (Jean-Michel Rakotoson) **98b:35077** 35K55 (35B35, 35Q99)

— (*with* Oliva, W. M.) Integrability of a system of N electrons subjected to Coulombian interactions. (English summary) *J. Differential Equations* **135** (1997), *no.* 1, 16–40. (Lev Lerman) **98c:70012** 70F10 (34A34, 58F07, 78A35)

— (*with* Verduyn Lunel, Sjoerd M.) Order structures and the heat equation. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 104–145. (Paolo Acquistapace) **98j:35075** 35K05 (35B99, 47D06, 47N20)

Fusco, Nicola (*with* Ambrosio, Luigi; Pallara, Diego) Partial regularity of free discontinuity sets. II. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 39–62. (Martin Fuchs) **98j:49051** 49N60 (35J15, 49J10)

— (*with* Ferone, Vincenzo) VMO solutions of the N-Laplacian with measure data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 365–370. (Summary) **98e:35068** 35J65 (35D05, 35R05)

— (*with* Acerbi, Emilio; Fonseca, Irene) Regularity results for equilibria in a variational model for fracture. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 889–902. (Pablo Pedregal) **98j:73100** 73V25 (49N60, 49Q20, 73M25)

Fusco Girard, M. WKB method for integrable but non-separable Hamiltonians. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7881–7891. (Gabriel Alvarez) **98d:81018** 81Q20 (34E20, 70H05)

Fuser, Alain L'algèbre des p-extensions du $U_q(\mathfrak{sl}_2\mathbf{C})$-module trivial. (English and French summaries) [The p-extensions of the trivial $U_q(\mathfrak{sl}_2\mathbf{C})$-module] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 7, 711–716. (Alejandro Tiraboschi) **98a:17017** 17B37 (17B55)

Fushchich, Vīl'gel'm Īlīich Galilei invariant nonlinear Schrödinger type equations and their exact solutions. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 214–222, *World Sci. Publishing, River Edge, NJ*, 1995. (Stanislav V. Spichak) **98e:35152** 35Q55 (35A30, 81Q05)

— (*with* Zhdanov, R. Z.) Symmetry and reduction of nonlinear Dirac equations. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 223–229, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81107** 81R20

— (*with* Lagno, Viktor Ivanovich) On new nonlinear equations that are invariant under the Poincaré group in two-dimensional space-time. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 60–65 (1997). (Summary) **98f:22025** 22E70 (35A30, 81R05)

— (*with* Nikitin, Anatolii) Higher symmetries and exact solutions of linear and nonlinear Schrödinger equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5944–5959. (Piotr G. Grinevich) **98j:35023** 35C05 (35A30, 35Q55, 58F37)

— (*with* Symenoh, Z. I.) High-order equations of motion in quantum mechanics and Galilean relativity. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L131–L135. (Stanislav V. Spichak) **98i:81039** 81Q05 (35Q40)

— (*with* Ma, Wen Xiu; Bullough, Robin; Caudrey, P. J.) Time-dependent symmetries of variable-coefficient evolution equations and graded Lie algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5141–5149. (I. S. Krasil'shchik) **98i:58119** 58F07 (17B70, 35A30, 35Q53, 58F35)

— (*with* Basarab-Horwath, Peter; Roman, Olena) On a new conformal symmetry for a complex scalar field. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 150–154. (Stanislav V. Spichak) **98e:35011** 35A30 (35L70, 58G35, 81R05)

— (*with* Basarab-Horwath, Peter; Barannik, L. F.) Solutions of the relativistic nonlinear wave equation by solutions of the nonlinear Schrödinger equation. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 353–374. (Woodford W. Zachary) **98m:35133** 35L70 (35Q55, 81R05)

— (*with* Lagno, Viktor Ivanovich) Reduction of self-dual Yang-Mills equations on subgroups of the extended Poincaré group. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 416–432; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 329–342. (Eugene K. Loginov) **98g:81130** 81T13 (53C80)

— Symmetry of equations of linear and nonlinear quantum mechanics. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 164–177; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 181–196. (Violeta V. Tretynyk) **98b:35201** 35Q40 (22E05, 34A34, 35A30, 81Q05)

— (*with* Serov, N. I.; Tulupova, L. A.) Conditional symmetry of the Navier-Stokes equations. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 806–813; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 901–909 (1998). (Alexander Yurjevich Chebotarev) **98j:35139** 35Q30 (35C05, 76D05)

— *see also* **Memorial Volume: Fushchich, Vīl'gel'm Īlīich**, **98h:00044** *and* **Obituary: Fushchich, Vīl'gel'm Īlīich**

Fuss, Dieter (*with* Birdsall, Charles K.) Clouds-in-clouds, clouds-in-cells physics for many-body plasma simulation [J. Comput. Phys. **3** (1969), no. 4, 494–511]. (English summary) With an introduction by A. Bruce Langdon. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 139–148. (*see* **98h:70003**) 76M25 (76W05)

Fussell, Donald S. (*with* Jain, Jawahar; Bitner, James; Abadir, Magdy S.; Abraham, Jacob A.) Indexed BDDs: algorithmic advances in techniques to represent and verify Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1230–1245. (Summary) **98j:94043** 94C10 (68Q05, 68Q60)

romero Fuster, Maria Carmen *see* **Romero Fuster, Maria Carmen**

Fuster-Parra, Pilar (*with* Ligęza, Antoni) Diagnostic knowledge representation and reasoning with use of and/or/not causal graphs. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 53–61. 93A30 (93C83)

Futák, Ján (*with* Haščák, Alexander) Asymptotic and integral equivalence of multivalued differential systems. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 21–30. (J. W. Macki) **98j:34088** 34C99 (34A60, 34D05)

Futakawa, Mayumi (*with* Yamada, Takeo) Heuristic and reduction algorithms for the knapsack sharing problem. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 10, 961–967. 90C27 (90C10)

Futamase, T. (*with* Hotta, M.; Itoh, Yousuke) Black holes and two-dimensional dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1129–1135. (Michael O. Katanaev) **98m:83044** 83C57 (81T40)

Futamura, Natsuhiko (*with* Futamura, Yoshihiko; Shirai, Chieko; Liu, Yongmei) *P*-segment tables: data structures for programming problems concerning segments. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 6, 1192–1203. (Itsuo Takanami) **98g:68025** 68P05 (68Q25)

Futamura, Yoshihiko (*with* Shirai, Chieko; Liu, Yongmei; Futamura, Natsuhiko) *P*-segment tables: data structures for programming problems concerning segments. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 6, 1192–1203. (Itsuo Takanami) **98g:68025** 68P05 (68Q25)

Futatsuya, Masao (*with* Takahasi, Koiti) Dependence between order statistics in samples from finite population and its application to ranked set sampling. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 49–70. (Summary) **98m:62156** 62G30 (62D05)

Futschik, Andreas (*with* Hudec, Marcus) Rotation invariant tests for discrete uniformity against peak shaped alternatives. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 431–457. 62G10 (62H11)

Fygenson, Mendel A new approach in modeling a categorical response. I. Binary case. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 322–332. (Friedrich Liese) **98a:62095** 62J12

Fyodorov, Yan V. *see* **Fedorov, Ya. V.**

Fyrillas, M. M. (*with* Szeri, A. J.) Control of ultra- and subharmonic resonances. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 131–159. (Summary) **98j:70023** 70K30 (76B10)

–G–

Gaafar, F. M. (*with* El-Sayed, Ahmed M. A.) Sturm-Liouville equation of fractional order. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 9–17. (K. S. Miller) **98e:34007** 34A12 (26A33, 34B05)

Gaál, István (*with* Pohst, Michael E.) Power integral bases in a parametric family of totally real cyclic quintics. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1689–1696. (Michel Olivier) **98a:11160** 11R80 (11D57, 11R27, 11Y40)

Gaal, Peter (*with* Golomb, Solomon W.) On the number of permutations of n objects with greatest cycle length k. *Adv. in Appl. Math.* **20** (1998), *no.* 1, 98–107. (D. P. Roselle) **98k:05003** 05A05

— (*with* No, Jong-Seon; Golomb, Solomon W.; Gong, Guang; Lee, Hwan-Keun) Binary pseudorandom sequences of period $2^n - 1$ with ideal autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 814–817. 94A55

Gabai, David Problems in foliations and laminations. *Geometric topology* (*Athens, GA*, 1993), 1–33, *AMS/IP Stud. Adv. Math.*, 2.2, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:57001**) 57–02

— (*with* Kazez, William H.) Homotopy, isotopy and genuine laminations of 3-manifolds. *Geometric topology* (*Athens, GA*, 1993), 123–138, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Allan Edmonds) **98k:57026** 57N10 (57R30, 57R52)

— (*with* Kazez, William H.) Order trees and laminations of the plane. *Math. Res. Lett.* **4** (1997), *no.* 4, 603–616. (Allan Edmonds) **98k:57024** 57N05 (57R30)

el-Gabali, Magdi A. *see* **El-Gabali, Magdi A.**

Gabasov, R. (*with* Balashevich, N. V.; Kirillova, F. M.) Stabilization of dynamical systems in the presence of delays in the feedback channel. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 31–39; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 1, 794–800. (Grigory M. Sklyar) **98b:93053** 93D15 (49K25)

— (*with* Kirillova, F. M.; Kostina, E. A.) Closable feedback with respect to state for optimization of uncertain control systems. Part I. Single loop. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 121–130; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 2, 1008–1015. (Summary) **98a:49056** 49N35 (93C42)

— (*with* Kostyukova, O. I.) Synthesis of optimal feedback for systems with internal constraints on the control. I. Optimal feedback and defining equations for an optimal controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 2, 18–26; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 165–172. (Florin Iacob) **98e:49089** 49N35 (49K15, 93B52)

— (*with* Kostyukova, O. I.) Synthesis of optimal feedback for systems with internal constraints on the control. II. An algorithm for the operation of an optimal controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 20–30. (Florin Iacob) **98e:49090** 49N35 (93B40, 93B52)

— (*with* Kirillova, F. M.; Prishchepova, S. V.) Optimal controller for discrete systems with indeterminate perturbations. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 227–239. (A. T. Barabanov) **98j:49048** 49N35 (93C55)

— (*with* Kirillova, F. M.; Kostyukova, O. I.) Real-time construction of a positional solution in a linear problem of hierarchical control. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 29–32. 49N35 (93A13)

Gabbai, P. (*with* Benkadda, S.; Zaslavskiĭ, G. M.) Passive particle dynamics in a flow exhibiting transition to turbulence. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2864–2870. (Summary) **98e:76051** 76F99 (76W05)

Gabbay, Dov M. Conditional implications and non-monotonic consequence. *Conditionals: from philosophy to computer science*, 337–359, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B60 (03B70, 68T27)

— ★ Labelled deductive systems. Vol. 1. Oxford Logic Guides, 33. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xiv+497 *pp. ISBN* 0-19-853833-2 (Jean-Yves Béziau) **98c:03003** 03–02 (03Bxx, 03F03)

— An overview of fibred semantics and the combination of logics. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 1–55, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Décio Krause) **98a:03012** 03B22 (03B45, 03B52, 03B70)

— (*with* Hodkinson, Ian) Temporal logic in the context of databases. *Logic and reality* (*Christchurch*, 1989), 69–87, *Oxford Univ. Press, New York*, 1996. (Neculai Curteanu) **98h:03024** 03B45 (03B70, 68P15, 68T30)

— (*with* Rodrigues, Odinaldo) A methodology for iterated theory change. (English summary) *Practical reasoning* (*Bonn*, 1996), 193–207, *Lecture Notes in Comput. Sci.*, 1085, *Springer, Berlin*, 1996. (Summary) **98b:68180** 68T27 (03B60, 03B70)

— (*with* D'Agostino, Marcello) Fibred tableaux for multi-implication logics. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 16–35, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03013** 03B35

— (*with* Finger, Marcelo; Kibble, Rodger; Kempson, Ruth) Parsing natural language using LDS: a prototype. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 647–671 (*electronic*). (Neculai Curteanu) **98m:03059** 03B65 (68Q52, 68S05, 68T27, 68T30, 92K20)

Gabber, Ofer A property of nonexcellent rings. *Manuscripta Math.* **91** (1996), *no.* 4, 543–546. (D.-M. Popescu) **98a:13036** 13J15 (13J10)

— A note on the unramified Brauer group and purity. *Manuscripta Math.* **95** (1998), *no.* 1, 107–115. (Timothy J. Ford) **98m:14018** 14F20 (13A20, 16H05)

Gabbrielli, Maurizio (*with* de Boer, Frank S.) Infinite computations in concurrent constraint programming. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98g:68038** 68Q10 (68Q55)

— (*with* Falaschi, Moreno; Marriott, Kim; Palamidessi, Catuscia) Constraint logic programming with dynamic scheduling: a semantics based on closure operators. (English summary) *Inform. and Comput.* **137** (1997), *no.* 1, 41–67. (Neculai Curteanu) **98h:68038** 68N17 (68Q10, 68Q55, 68T20)

— (*with* Falaschi, Moreno; Marriott, Kim; Palamidessi, Catuscia) Confluence in concurrent constraint programming. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 281–315. (Summary) **98h:68071** 68Q10 (68T20)

Gabdrakhmanov, S. R. (*with* Filippov, V. V.) On the absence of periodic solutions of the equation $z'(t) = z^2 + h(t)$. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 737–740, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 741–744 (1998). (Introduction) **98k:34071** 34C25

Gabdulkhaev, B. G. Methods for solving singular integral equations with positive operators. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 400–409, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 399–409. (Andreas Rathsfeld) **98m:45005** 45E05 (45L05, 47N20, 65F10, 65R20)

— (*with* Ermolaeva, L. B.) Lagrange interpolation polynomials in Sobolev spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 7–19; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 4–16. (G. S. Smirnov) **98i:41001** 41A05 (42A15)

Gabelli, Stefania (*with* Fontana, Marco) Prüfer domains with class group generated by the classes of the invertible maximal ideals. *Comm. Algebra* **25** (1997), *no.* 12, 3993–4008. (Jean-Luc Chabert) **98j:13017** 13F05 (13C20, 13F20)

— (*with* Houston, Evan) Coherentlike conditions in pullbacks. *Michigan Math. J.* **44** (1997), *no.* 1, 99–123. (J. W. Brewer) **98d:13019** 13E15

Gaberdiel, Matthias R. (*with* Fredenhagen, K.) Scattering theory for plektons in $2 + 1$ dimensions. (English and French summaries) New problems in the general theory of fields and particles, Part II (Paris, 1994). *Ann. Inst. H. Poincaré Phys. Théor.* **64** (1996), *no.* 4, 523–541. (Stephen J. Summers) **98b:81126** 81T05 (46L60, 81U99)

— Fusion of twisted representations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5183–5207. (Hai Sheng Li) **98k:81095** 81R10 (17B81)

— (*with* Bergman, Oren; Lifschytz, Gilad) Branes, orientifolds and the creation of elementary strings. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 194–215. (Summary) **98m:81129** 81T30 (83E30)

Gabeskiria, Ts. *see* **Reports: Seminar of I. Vekua Institute of Applied Mathematics, Enlarged Sessions, 98g:00015b**

Gabetta, E. (*with* Pareschi, L.) Boundedness of moments and trend to equilibrium for the non-cut-off Kac equation. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 285–298. (Jürgen Batt) **98j:82055** 82C40 (35Q99, 76P05)

pestano-Gabino, Celina *see* **Pestano-Gabino, Celina**

Gabor, D. Wiener and the art of communication. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 525–535, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **97j:00025**) 01A70

Gaboriau, Damien Générateurs indépendants pour les systèmes d'isométries de dimension un. (English and French summaries) [Independent generators for one-dimensional systems of isometries] *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 101–122. (Gilbert Levitt) **98e:20035** 20E08 (28D05, 54H05, 57M07, 58F03)

Gaborovič, S. A note on discriminability of lambda terms. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 189–191. (Mariangiola Dezani-Ciancaglini) **98b:03024** 03B40 (03B70, 68N15, 68Q55)

Gabr, M. E. (*with* Zayed, E. M. E.) Hearing the shape of multiply connected circular domains with mixed boundary conditions. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 59–80. (Yongzhi Xu) **98h:35184** 35P20 (35J25, 35R30)

Gabr, M. M. Robust estimation of bilinear time series models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 41–53. 62M10 (62F35)

Gabrel, V. (*with* Minoux, Michel) LP relaxations better than convexification for multicommodity network optimization problems with step increasing cost functions. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 123–145. (Prabir Das) **98i:90113** 90C35 (90C27)

Gabriel, Christian M. On involution sets induced by neardomains. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 253–258, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30

Gabriel, Cl. (*with* Spindel, Ph.) Massive spin-2 propagators on de Sitter space. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 622–638. (Michael Keyl) **98a:81139** 81T20 (83C47)

— (*with* Spindel, Ph.; Rooman, M.) Chiral supersymmetric pp-wave solutions of IIA supergravity. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 54–62. (Editors) **98h:83093** 83E50 (83E30)

Gabriel, Gottfried *see* **Frege, Gottlob, 98f:01043**

Gabriel, J.-P. (*with* Jeanprêtre, N.; Clarke, P. G. H.) Competitive exclusion between axons dependent on a single trophic substance: a mathematical analysis. (English summary) *Math. Biosci.* **135** (1996), *no.* 1, 23–54. (Steven Matthysse) **98b:92002** 92C20 (92C15, 92C45)

Gabriel, Peter ★ Matrizen, Geometrie, lineare Algebra. (German. German summary) [Matrices, geometry, linear algebra] Birkhäuser Advanced Texts: Basler Lehrbücher. [Birkhäuser Advanced Texts: Basel Textbooks] *Birkhäuser Verlag, Basel*, 1996. xii+634 *pp. ISBN* 3-7643-5376-7 (E. W. Ellers) **98j:51001** 51–01 (15–01)

— (*with* Roiter, Andrei V.) ★ Representations of finite-dimensional algebras. Translated from the Russian. With a chapter by B. Keller. Reprint of the 1992 English translation. *Springer-Verlag, Berlin*, 1997. iv+177 *pp. ISBN* 3-540-62990-4 (Editors) **98e:16014** 16G10 (16–02)

Gabriel, Richard Minimierung der Euklidischen Norm einer komplexen Matrix durch ebene Similaritäten. (English summary) [Minimizing the Euclidean norm of a complex matrix by plane similarities] *Linear Algebra Appl.* **252** (1997), 261–297. (Summary) **98a:15054** 15A60 (15A21)

Gabriel, Steven A. (*with* Moré, Jorge J.) Smoothing of mixed complementarity problems. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 105–116, *SIAM, Philadelphia, PA*, 1997. (Morgan A. Hanson) **98c:90161** 90C33 (65K05)

— (*with* Bernstein, David Howard) Solving the nonadditive traffic equilibrium problem. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 72–102, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90B10 (90C35)

Gabrieli, Elisabetta (*with* Karzel, Helmut) Reflection geometries over loops. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 61–65. (Horst Struve) **98f:51017a** 51F15 (20N05, 51J99)

— (*with* Karzel, Helmut) Point-reflection geometries, geometric K-loops and unitary geometries. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 66–72. (Horst Struve) **98f:51017b** 51F15 (20N05, 51J99)

— (*with* Karzel, Helmut) The reflection structures of generalized co-Minkowski spaces leading to K-loops. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 73–79. (Horst Struve) **98f:51017c** 51F15 (20N05, 51J99)

Gabrielli, D. (*with* Carfora, Mauro; Gionti, G.) Recent developments in 4D-simplicial quantum gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 111–126, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:83027** 83C27 (83C45)

— *see also* **Lebowitz, Joel L., 98a:82085**

Gabrielyan, S. S. On a characterization of the Cauchy distribution on groups by the equidistribution of a monomial and a linear statistic. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 410–415. (Summary) **98g:60015** 60B15

jaskold Gabszewicz, Jean *see* **Jaskold Gabszewicz, Jean**

Gabszewicz, Jean J. *see* **Jaskold Gabszewicz, Jean**

Gachechiladze, T. (*with* Criado, F.) Fuzzy random events and their corresponding conditional probability measures. (English summary) *Rev. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **89** (1995), *no.* 1-2, 79–98. (Summary) **98e:28025** 28E10 (04A72)

— (*with* Criado, F.) Entropy of fuzzy events. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 1, 99–106. (Summary) **98b:94006** 94A17 (04A72, 94D05)

Gacki, Henryk On the existence and asymptotic behavior of the random solutions of the random integral equation with advancing argument. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 1, 43–51. (B. G. Pachpatte) **98c:60072** 60H20 (45N05)

Gadam, Sudhasree (*with* Castro, Alfonso; Shivaji, Ratnasingham) Positive solution curves of semipositone problems with concave nonlinearities. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 921–934. (Summary) **98j:35059** 35J65 (34B15, 35B05)

Gadamer, Hans-Georg *see* **Cleary, John J., 98e:01005**

Gadasin, D. V. (*with* Gadasin, V. A.) The reliability of large-scale communication networks with an additive structure. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 160–173; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 2, 130–140. (Summary) **98a:90044** 90B12 (90B25)

Gadasin, V. A. (*with* Gadasin, D. V.) The reliability of large-scale communication networks with an additive structure. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 160–173; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 2, 130–140. (Summary) **98a:90044** 90B12 (90B25)

jacqmin-Gadda, H. *see* **Jacqmin-Gadda, H.**

Gadducci, Fabio (*with* Montanari, Ugo) Tiles, rewriting rules and CCS. (English summary) *First International Workshop on Rewriting Logic and its Applications* (*Pacific Grove, CA*, 1996), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (*see* **98g:68007**) 68Q42 (68Q10)

— (*with* Montanari, Ugo) Enriched categories as models of computation. (English summary) *Theoretical computer science* (*Ravello*, 1995), 20–42, *World Sci. Publishing, River Edge, NJ*, 1996. (Anna Labella) **98h:68154** 68Q55 (18D05, 68Q90)

Gade, R. On the quantum affine superalgebra $U_q(\hat{\mathfrak{gl}}(2|2))$ at level one. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 547–564. (Jun'ichi Shiraishi) **98j:17012** 17B37 (17B10, 81R50)

Gadea, Pedro M. (*with* Oubiña, José A.) Reductive homogeneous pseudo-Riemannian manifolds. (English summary) *Monatsh. Math.* **124** (1997), *no.* 1, 17–34. (José Carmelo González-Dávila) **98h:53081** 53C30 (53C50)

Gädeke, Nora *see* **Leibniz, Gottfried Wilhelm, 98d:01043**

Gadella, M. (*with* Bohm, Arno; Maxson, S.) Extending the stationary quantum mechanics of being to a nonstationary quantum theory of becoming and decaying. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 427–466. (M. J. Mączyński) **98k:81055** 81Q15 (47A70, 47N50, 81P15)

— Vector states for single and multiple-pole resonances. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2271–2294. (François Nicoleau) **98m:81208** 81U99 (47N50, 81Q99)

— Derivation of Gamow vectors for resonances in cut-off potentials. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 279–290. (Igor Yurievich Popov) **98k:81298** 81U20 (46N50, 47N50)

Gadidov, Anda An inequality for order statistics. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 1–4. (Summary) **98b:60035** 60E15 (62G30)

Gadomsky, O. N. (*with* Krutitsky, K. V.) Method of integro-differential equations in quantum optics. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, 343–364. (Kuppuswamy Porsezian) **98g:81230** 81V80 (45J05)

Gadyl'shin, Rustem R. On scattering by a cylindrical surface with a narrow crack. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1362–1370, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1358–1367 (1997). (Summary) **98i:35205** 35R30 (35C20, 35J05, 76Q05)

— Asymptotics of poles with small imaginary part for a complete electromagnetic analog of the Helmholtz resonator. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 307–320 (1998). (Summary) **98k:78024** 78A40

— Existence and asymptotics of poles with a small imaginary part for the Helmholtz resonator. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 1(313), 3–76; *translation in Russian Math. Surveys* **52** (1997), *no.* 1, 1–72. (M. S. Agranovich) **98j:35033** 35J05 (35B40, 35P05, 47F05)

Gadzhiev, F. A. Equilibrium with transferable costs in models with convex constraints. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 161–164. 90A14

Gadzhisalikhoglu, G. G. *see* **Hacısalihoğlu, H. Hilmi**

Gaeta, Federico On the symmetric powers $\mathbf{P}_n^{(g)}$ of a complex projective space $\mathbf{P}_n$. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 147–154, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Georgy Khristov Georgiev) **98g:14029** 14H45 (14J40)

Gaeta, Giuseppe (*with* Morando, Paola) Michel theory of symmetry breaking and gauge theories. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 149–170. (Kishore Marathe) **98j:58021** 58D19 (81R40, 81T13)

— (*with* Cicogna, G.) Lie-point symmetries and nonlinear dynamical systems. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 101–113. (P. G. L. Leach) **98g:34016** 34A25 (34A26, 34C20)

Gaetner, Wulf (*with* Xu, Yongsheng) Optimization and external reference; a comparison of three axiomatic systems. (English summary) *Econom. Lett.* **57** (1997), *no.* 1, 57–62. 90A08 (90A05)

Gaeva, Z. S. (*with* Shananin, A. A.) The Markov-Chebyshev moment problem and the investigation of Galerkin approximations in a problem of crystal aggregation. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 9, 35–54. (Summary) **98k:86001** 86–08 (44A60, 65M60, 86A10)

Gaffet, B. Expanding gas clouds of ellipsoidal shape: new exact solutions. (English summary) *J. Fluid Mech.* **325** (1996), 113–144. (Vladimir V. Shelukhin) **98a:76070** 76N15 (85A15)

Gaffney, Terence (*with* du Plessis, Andrew; Wilson, Leslie Charles) Map-germs determined by their discriminants. *Stratifications, singularities and differential equations, I* (*Marseille*, 1990; *Honolulu, HI*, 1990), 1–40, *Travaux en Cours*, 54, *Hermann, Paris*, 1997. (Claudio Martins Mendes) **98k:58026** 58C27 (58C25)

Gaflichuk, V. V. (*with* Lubashevskiĭ, I. A.) A mathematical model of an ideal hierarchically organized life support system of distributed living media. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 611–613. 92D40

— (*with* Lubashevskiĭ, I. A.; Klimontovich, Yu. L.) A model of a hierarchically organized market that functions perfectly. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 3–16. 90A60 (90A15)

Gaftoi N., Violeta (*with* Ovando Zúñiga, Gerardo; Peña, J. J.; López-Bonilla, J. L.; Morales, Jesús) The Lanczos spintensor, null tetrads, and conformal transformations. (English summary) *J. Moscow Phys. Soc.* **6** (1996), *no.* 3, 267–278. (Patrick Dolan) **98f:83018** 83C20 (83C60)

Gäfvert, Magnus (*with* Panteley, Elena; Ortega, Romeo) An adaptive friction compensator for global tracking in robot manipulators. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 307–313. 93C85 (70B15, 70Q05)

Gagarin, A. V. (*with* Zverovich, I. É.) Hereditary classes of line graphs. (English summary) *Ars Combin.* **48** (1998), 161–172. (Summary) **98m:05162** 05C75

Gaggia, A. Giorgio (*with* Blundo, Carlo; Stinson, Douglas R.) On the dealer's randomness required in secret sharing schemes. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 35–46, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* Blundo, Carlo; Stinson, Douglas R.) On the dealer's randomness required in secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 235–259. (James W. Snively, Jr.) **98e:94015** 94A60 (68P25)

Gagliardi, Carlo (*with* Casali, Maria Rita) A combinatorial proof of Rohlin theorem. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 297–310. (Sergej V. Matveev) **98m:57030** 57Q20 (57M15, 57N10)

Gagliardi, Daniel (*with* Lewinter, Marty) An infinite class of reach-preservable grapiis. (English summary) *Networks* **29** (1997), *no.* 4, 217–218. (Summary) **98a:05050** 05C05

Saglione, A. M. (*with* Myasnikov, A. G.; Remeslennikov, V. N.; Spellman, D.) Formal power series representations of free exponential groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 631–648. (Yu. N. Mukhin) **98g:20045** 20E99 (16U60)

Gagné, Jean-Raymond (*with* Plaice, John) A non-standard temporal deductive database system. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 649–664. (Summary) **98i:68066** 68P15 (03B45, 03B70, 68N17)

Gahinet, Pascal (*with* Scherer, Carsten W.; Chilali, Mahmoud) Multiobjective output-feedback control via LMI optimization. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 896–911. (Summary) **98e:93041** 93B36 (90C29)

— (*with* Laub, Alan J.) Numerical improvements for solving Riccati equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1303–1308. (Vladimir B. Larin) **98g:93021** 93B40 (65F30, 93C05)

— (*with* Nemirovskiĭ, A. S.) The projective method for solving linear matrix inequalities. (English summary) Semidefinite programming. *Math. Programming* **77** (1997), *no.* 2, *Ser. B*, 163–190. (Romesh Saigal) **98e:90091** 90C08 (65F30)

— (*with* Laub, Alan J.) Numerically reliable computation of optimal performance in singular H_∞ control. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1690–1710. (Anton A. Stoorvogel) **98e:93047** 93B40 (93B36)

Gähler, Franz (*with* Eick, Bettina; Nickel, Werner) Computing maximal subgroups and Wyckoff positions of space groups. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 467–474. (Vojtěch Kopský) **98g:20080** 20H15 (82D25)

Gähler, Werner (*with* Bayoumi, Fatma; Kandil, Ali; Nouh, Ali) On global fuzzy neighborhood structures. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 151–180. (Summary) **98m:54013** 54A40

Gai, Ru Dong (*with* Jing, Yuan Wei; Zhang, Si Ying) Stability of a class of nonlinear large scale composite systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 73–76. 93D05 (34D05)

Gai, S. L. (*with* Mallinson, S. G.; Mudford, N. R.) The interaction of a shock wave with a laminar boundary layer at a compression corner in high-enthalpy flows including real gas effects. (English summary) *J. Fluid Mech.* **342** (1997), 1–35. 76L05 (76N20)

Gaida, Ingo (*with* Behrndt, Klaus; Cardoso, Gabriel Lopes) Quantum $N = 2$ supersymmetric black holes in the S-T model. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 267–292. (Summary) **98m:83041** 83C57 (81T30, 83E30)

— (*with* Behrndt, Klaus) Subleading contributions from instanton corrections in $N = 2$ supersymmetric black hole entropy. (English summary) *Phys. Lett. B* **401** (1997), *no.* 3-4, 263–267. (Summary) **98a:83114** 83E30 (83C57)

Gaidaenko, V. I. (*with* Lifanov, I. K.) Mathematical modelling of a stationary flow around a flying vehicle with allowance for jets and air intakes. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 1, 33–51. (Summary) **98b:76040** 76G25 (76B99, 76C05, 76M25)

Galdidei, Yu. B. (*with* Christiansen, Peter L.; Rasmussen, K. Ø.; Johansson, Magnus; Bang, O.) On some NLS systems and their applications. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 215–233, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35175** 35Q55 (81V55, 82C10)

— (*with* Christiansen, Peter L.; Johansson, Magnus; Rasmussen, K. Ø.; Yakimenko, Irina I.) White noise and nonlinear damping in the two-dimensional model of energy transfer

in molecular systems. (English summary) *Progress in industrial mathematics at ECMI 96 (Lyngby, 1996)*, 208–216, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 81V55

— (*with* Flytzanis, Nikos; Neuper, Andreas; Mertens, Franz G.) Effect of non-local interactions on soliton dynamics in anharmonic chains: scale competition. (English summary) *Phys. D* **107** (1997), *no.* 1, 83–111. (Summary) **98d:35214** 35Q80 (35Q51, 92C40, 92D20)

Gaĭduk, A. R. Synthesis of robust control systems with delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 90–99; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 2, 73–81. (V. Kolmanovskiĭ) **98d:93080** 93D21 (93C30)

— Synthesis of control systems under uncertainty of plants. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 133–144; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 627–635. (Jacek Kabziński) **98g:93041** 93D21 (93B05, 93B07, 93C41)

Gaĭduk, S. I. (*with* Asadova, O. G.; Mamedov, N. M.; Mamedov, Yu. A.) Medzhid Lyatifovich Rasulov (on the eightieth anniversary of his birth). (Russian) *Differ. Uravn.* **32** (1996), *no.* 12, 1712; *translation in Differential Equations* **32** (1996), *no.* 12, 1707 (1997). 01A70

— The problem of shock-induced transverse oscillations of an elastoviscous beam with supported ends. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 9–14, 139. 73D30 (73D05, 73F15)

Gaĭdukevich, A. P. (*with* Gorbuzov, V. N.) The inverse problem for Jacobian systems with symmetry. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 86–89, 215. (Summary) **98h:35036** 35F20 (35A30, 35R30)

Gaĭer, B. *see* **Geyer, Bodo**

Gaier, Dieter Polynomial approximation of functions continuous on $[-1, 1]$ and analytic on $(-1, 1)$. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 315–328. (Krzysztof Reczek) **98a:41007** 41A10 (41A25)

— Polynomial approximation of conformal maps. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 27–40. (Yuri A. Farkov) **98j:30043** 30E10 (30C30, 41A10)

Gaĭko, V. A. Qualitative theory of two-dimensional polynomial dynamical systems: problems, approaches, conjectures. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1385–1394. (I. D. Iliev) **98k:34046** 34C05 (34C23)

Gailey, Paul C. (*with* Bowman, K. O.; Shenton, L. R.) Distribution of the ratio of gamma variates. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 1–19. 62E15

Gallit, M. V. (*with* Bereznyuk, S. L.) Generalizations of Selivanov's theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 506–518, i; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 436–446. (Andrzej Orlicki) **98a:03068** 03D45

Gaillard, Arlette (*with* Cochand, Maurice; Gröflin, Heinz) Optimum partitioning into intersections of ring families. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 81–91. (Mechthild Stoer) **98e:90125** 90C27 (52B20)

— Switchdec polyhedra. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 141–163. (Valentin E. Brimkov) **98f:05125** 05C75

Gaillard, Mary K. (*with* Binétruy, Pierre; Wu, Yi-Yen) Supersymmetry breaking and weakly vs. strongly coupled string theory. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 288–295. (Summary) **98k:81196** 81T30 (81R40, 81V22, 83E30)

— (*with* Jain, Vidyut; Saririan, Kamran) Supergravity coupled to chiral matter at one loop. II. Chiral and Yang-Mills matter. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 883–924. (Summary) **98j:83086** 83E15 (81T15, 81V17)

Gaines, J. G. Partitions with minimum entropy of regions in $\mathbf{R}^2$. *Inform. Process. Lett.* **63** (1997), *no.* 2, 69–73. (Introduction) **98i:68211** 68R05 (65Y05, 68U05)

— (*with* Lyons, T. J.) Variable step size control in the numerical solution of stochastic differential equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1455–1484. (Denis Talay) **98m:60089** 60H10 (65C20, 65U05)

Gaĭnov, A. T. On finite-dimensional special monocomposition algebras. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 2, 125–144, 244; *translation in Algebra and Logic* **35** (1996), *no.* 2, 67–79. (M. Stefănescu) **98d:17002** 17A25

Gainutdinov, R. Kh. (*with* Moutygoullina, A. A.) Generalized interaction operator and new class of models in nonrelativistic quantum scattering theory. *Phys. Atomic Nuclei* **60** (1997), *no.* 5, 841–847; *translated from Yadernaya Fiz.* **60** (1997), *no.* 5, 938–945 (*Russian*). (A. Ventura) **98f:81345** 81U20 (81V35)

Gaioli, Fabián H. (*with* Garcia-Alvarez, Edgardo T.; Guevara, Javier) Quantum Brownian motion. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2167–2207. (Summary) **98h:82039** 82C10 (82C31)

— (*with* Garcia-Alvarez, Edgardo T.) On the quantum electrodynamics of moving bodies. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2391–2407. (*see* **98h:00036**) 81V10

Gaĭrat, A. S. (*with* Hordijk, Arie; Malyshev, V. A.; Spieksma, Flos M.) Fluid approximations of Markov decision chains. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 129–150. (M. Iosifescu) **98c:90181** 90C40 (90B22)

Gaiser, Jürgen (*with* Bingham, Michael S.) An analogue on locally compact abelian groups of Kolmogorov's three series criterion. *Probability measures on groups and related structures, XI (Oberwolfach, 1994)*, 38–43, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **97d:60003**) 60B15 (22B99)

Gaĭshun, Ivan Vasil'evich Stability of discrete separable Volterra equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 739–746, 860; *translation in Differential Equations* **32** (1996), *no.* 6, 748–754 (1997). (Anatolij Semenovich Kalitvin) **98d:47160** 47H99 (39A70, 45G10, 47N20)

— (*with* Dymkov, M. P.) Linear-quadratic optimal control for 2-D systems in Hilbert space. (English summary) *J. Electrotech. Math.* **1996**, *no.* 1, 65–74. (T. Kaczorek) **98e:49083** 49N10 (93C30, 93C55)

— (*with* Azbelev, Nikolai Viktorovich; Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Koplatadze, R. G.; Rozov, Nikolaĭ Khristovich; Shemyakina, T. K.) Ivan Tarielovich Kiguradze (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 6–11; *translation in Differential Equations* **33** (1997), *no.* 1, 4–10. (Editors) **98k:01016** 01A70

— (*with* Andreev, A. F.; Gromak, V. I.; et al.) Nikolaĭ Pavlovich Erugin (on the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **33** (1997), *no.* 5, 579–582; *translation in Differential Equations* **33** (1997), *no.* 5, 583–586 (1998). 01A70

— Controllability of linear discrete systems in F-spaces. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 606–613, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 610–616 (1998). (Summary) **98m:93014** 93B05 (93B25, 93C05, 93C55)

— Controllability, stability and stabilizability problems for continuous-discrete 2-D systems. (English summary) *J. Electrotech. Math.* **1998**, *no.* 1, 1–6. (Hua Lin Tan) **98j:93009** 93B05 (47N70, 93C25, 93D15)

— *see also* **Izobov, N. A. et al., 98k:01031**

Gaĭsin, A. M. Dirichlet series with real coefficients that rarely change sign. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 287–294, i; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 245–252. (Shlomo Strelitz) **98b:30003** 30B50 (30D15)

— On a theorem of Pólya on entire functions with real Taylor coefficients. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 46–55, i; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 37–46. (Todor G. Genchev) **98d:30040** 30D15

cavazos-Gaither, Alma E. *see* **Cavazos-Gaither, Alma E.**

Gaither, Carl C. *see* **Statistically speaking, 98b:00010**

Gaitonde, Datta (*with* Young, Jeffrey L.; Shang, Joseph J. S.) Toward the construction of a fourth-order difference scheme for transient EM wave simulation: staggered grid approach. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1573–1580. 78–08

— (*with* Shang, Joseph J. S.) Optimized compact-difference-based finite-volume schemes for linear wave phenomena. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 617–643. (Summary) **98j:78005** 78–08 (78A40)

Gaitsgori, V. G. (*with* Pervozvanskiĭ, Anatoliĭ Arkad'evich) ★ Theory of suboptimal decisions. (English summary) Decomposition and aggregation. Translated from the 1979 Russian original. Revised by the authors. Mathematics and its Applications (Soviet Series), 12. *Kluwer Academic Publishers Group, Dordrecht*, 1988. xviii+384 *pp. ISBN* 90-277-2401-6 90–02 (49K40, 90C31, 93C70)

— (*with* Artstein, Zvi) Linear-quadratic tracking of coupled slow and fast targets. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 1–30. (G. A. Kurina) **98h:49038** 49N10 (34E15, 34H05, 49K15, 93C15)

— (*with* Artstein, Zvi) Tracking fast trajectories along a slow dynamics: a singular perturbations approach. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1487–1507. (Alexander J. Zaslavski) **98h:49027** 49K40 (49J15, 93C70)

— (*with* Altman, Eitan) Asymptotic optimization of a nonlinear hybrid system governed by a Markov decision process. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2070–2085. (O. L. V. Costa) **98j:90095** 90C40 (49J15, 93E20)

— (*with* Grammel, Götz) On the construction of asymptotically optimal controls for singularly perturbed systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 139–147. (Vladimir Veliov) **98e:49064** 49K40 (34E15, 34H05)

Gaitsgory, Dennis (*with* Bernstein, Joseph; Braverman, Alexander) The Cohen-Macaulay property of the category of $(\mathfrak{g}, K)$-modules. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 3, 303–314. (Eric N. Sommers) **98k:20073** 20G05 (13C14)

— (*with* Braverman, Alexander; Etingof, Pavel) Quantum integrable systems and differential Galois theory. (English summary) *Transform. Groups* **2** (1997), *no.* 1, 31–56. (Alexandru Buium) **98g:58070** 58F07 (12H05, 13N10)

Gaitsgory, V. *see* **Gaitsgori, V. G.**

Gaitsgory, Vladimir *see* **Gaitsgori, V. G.**

Gaĭvoronskiĭ, A. A. (*with* Morassutto, M.; Silani, S.; Stella, F.) Numerical techniques for solving estimation problems on robust Bayesian networks. (English summary) *Bayesian robustness (Rimini, 1995)*, 315–329, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F15 (62F35)

— (*with* Fantauzzi, Francesco; Messina, Enza) Decomposition methods for network optimization problems in the presence of uncertainty. (English summary) *Network optimization (Gainesville, FL, 1996)*, 234–248, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

Gajdosik, Johannes (*with* Drmota, Michael) The parity of the sum-of-digits-function of generalized Zeckendorf representations. *Fibonacci Quart.* **36** (1998), *no.* 1, 3–19. (Peter J. Grabner) **98m:11009** 11A63 (11B37)

Gajek, L. (*with* Kaluszka, Marek; Lenic, A.) The law of the iterated logarithm for L_p-norms of empirical processes. (English summary) *Statist. Probab. Lett.* **28** (1996), *no.* 2, 107–110. (M. Csörgő) **98a:60038** 60F25 (62G30)

Gajer, Paweł Geometry of Deligne cohomology. *Invent. Math.* **127** (1997), *no.* 1, 155–207. (Andrzej Kozlowski) **98f:14012** 14F10 (14F05, 19E20, 32C35)

— Intersection Lawson homology. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 4, 1527–1550. (Andrzej Kozlowski) **98g:14011** 14C25 (14F35, 55N33)

Gajewski, H. The drift-diffusion model as an evolution equation of special structure. *Mathematical problems in semiconductor physics (Rome, 1993)*, 132–142, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (Paul F. Zweifel) **98j:82062** 82C70 (35K99, 35Q99, 78A55)

Gajić, Ljiljana On common fixed point for compatible mappings of (A) type on metric and 2-metric spaces. (English summary) *Filomat No.* 10 (1996), 177–186. (Summary) **98c:54035** 54H25

— (*with* Nikolić-Despotović, Danica) On common fixed point for a compatible mappings on quasi-gauge spaces. (English summary) *Math. Montisnigri* **7** (1996), 13–17. 54H25

— On approximation of compact multivalued maps in topological vector spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 19–24. (Summary) **98d:47114** 47H04 (46G99)

— Existence of maximal elements. (English summary) *PRIM '96 (Budva)*, 87–90, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 47N10 (90A07)

— A topological degree of multivalued mappings of K-compact type. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 53–59. (*see* **98l:00027**) 47H11 (47H04)

Gajrat, A. S. *see* **Gaĭrat, A. S.**

Gakis, K. G. (*with* Sivazlian, B. D.) The filtered counting process and its applications to stochastic manufacturing systems. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 163–184. (Summary) **98i:90050** 90B50

Gál, Anna (*with* Beimel, Amos; Paterson, M. S.) Lower bounds for monotone span programs. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 1, 29–45. (Juraj Hromkovič) **98c:68086** 68Q25 (68Q15, 94A60, 94C10)

— A simple function that requires exponential size read-once branching programs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 1, 13–16. (Summary) **98a:68096** 68Q25 (68Q05)

Gal, Sorin G. Interpolation of fuzzy mappings. *Mathematica* **38(61)** (1996), *no.* 1-2, 61–65. (W. J. Kotzé) **98m:41004** 41A05 (04A72)

— Approximation of continuously Gâteux derivable functionals by Markov operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 111–119. (Ding-Xuan Zhou) **98m:41035** 41A35

— On the sufficient conditions of monogeneity for functions of complex-type variable. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 33–42. (T. Tonev) **98d:30060** 30G35

— On Jackson's and Timan's estimates in the approximation of random functions by random polynomials. *Approximation and optimization, Vol. II (Cluj-Napoca*, 1996), 101–106, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 60G99 (41A36)

— (*with* Villena Muñoz, Armando R.) Random condensation of singularities and applications. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 263–268. (Summary) **98k:46127** 46N30 (46A30, 60G99)

Gal, Tomas A historical sketch on sensitivity analysis and parametric programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 1.1–1.10, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **98g:90003**) 90–03 (01A60, 90C31)

— *see also* **Advances in sensitivity analysis and parametric programming. 98g:90003**

Galajinsky, A. V. *see* **Galazhinskiĭ, A. V.**

Galajinsky, Anton *see* **Galazhinskiĭ, A. V.**

Galakhov, E. I. On sufficient conditions for the existence of Feller semigroups. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 442–444; *translation in Math. Notes* **60** (1996), *no.* 3-4, 328–330 (1997). (Jörg-Uwe Löbus) **98b:60132** 60J35 (47D07)

— (*with* Skubachevskiĭ, A. L.) On a nonlocal spectral problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 25–32, 141; *translation in Differential Equations* **33** (1997), *no.* 1, 24–31. (Yuri Sil'chenko) **98k:34030** 34B15 (34L05, 47E05, 47N20)

Galaktionov, V. A. (*with* Peletier, Lambertus A.) Asymptotic behaviour near finite-time extinction for the fast diffusion equation. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 1, 83–98. (Summary) **98h:35102** 35K55 (35B40)

— (*with* Vazquez, Juan L.) Incomplete blow-up and singular interfaces for quasilinear heat equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1405–1452. (Georg S. Weiss) **98g:35121** 35K65 (35B05, 35R35)

— (*with* Hulshof, Josephus; Vazquez, Juan L.) Extinction and focusing behaviour of spherical and annular flames described by a free boundary problem. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 7, 563–608. (Lisa Santos) **98h:35238** 35R35 (35B40, 35K05, 80A25)

Galambos, Gábor (*with* Békési, József; Pferschy, Ulrich; Woeginger, Gerhard J.) Worst-case analysis for on-line data compression. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 288–300, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98b:68071** 68Q25 (68P99)

— (*with* Békési, József; Pferschy, Ulrich; Woeginger, Gerhard J.) Greedy algorithms for on-line data compression. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 274–289. (Summary) **98j:68020** 68P99

— (*with* Chandrasekaran, R.; Chen, Bo; Narayanan, P. R.; van Vliet, André; Woeginger, Gerhard J.) A note on: "An on-line scheduling heuristic with better worst case ratio than Graham's list scheduling" [SIAM J. Comput. **22** (1993), no. 2, 349–355; MR 94b:90031] by Galambos and Woeginger. *SIAM J. Comput.* **26** (1997), *no.* 3, 870–872. (Introduction) **98b:90064** 90B35

Galambos, Janos (*with* Simonelli, Italo) ★ Bonferroni-type inequalities with applications. (English summary) Probability and its Applications. *Springer-Verlag, New York*, 1996. x+269 *pp. ISBN* 0-387-94776-0 (E. Seneta) **98f:60028** 60E15 (60C05)

— (*with* Xu, Yuan[1]) Two sets of multivariate Bonferroni-type inequalities. (English summary) *Statistical theory and applications*, 29–36, *Springer, New York*, 1996. (E. Seneta) **98m:60022** 60E15 (60C05)

— Moments, binomial moments and combinatorics. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 275–284, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98b:60017** 60C05 (60E15)

Galambosi, Ágnes (*with* Blount, S.; Yakowitz, Sidney J.) Nonlinear and dynamic programming for epidemic intervention. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 123–136. (Summary) **98h:92041** 92D30 (92C60)

— (*with* Özelkan, Ertunga C.; Duckstein, Lucien; Bárdossy, András) A multi-objective fuzzy classification of large scale atmospheric circulation patterns for precipitation modeling. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 127–142. 86A10

Galanin, M. P. Determination of the constant in an embedding inequality that connects the norms of a vector function, its curl and its divergence. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1396–1401, 1439; *translation in Differential Equations* **31** (1995), *no.* 8, 1347–1353 (1996). (Luboš Pick) **98b:46041** 46E35

— A nonlinear quasimonotone finite element scheme for solving two-dimensional problems with transfer. A problem on a velocity skin layer. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 935–942, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 941–949 (1997). 65M60

Galanis, George N. Infinite jets and projective limits of bundles. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 161–166. (Liliana Maxim-Răileanu) **98g:58005** 58B25 (58A20)

— The bundle of 1-jets of the sections of a Frechet principal bundle. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 155–162, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Josef Janyška) **98i:58011** 58A20 (58B25)

— (*with* Vassiliou, Efstathios) A generalized frame bundle for certain Fréchet vector bundles and linear connections. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 1, 129–137. (Enrique Outerelo Domínguez) **98e:58020** 58B25

Galanis, S. (*with* Hadjidimos, Apostolos; Noutsos, D.) Optimal p-cyclic SOR for complex spectra. (English summary) *Linear Algebra Appl.* **263** (1997), 233–260. (P. Rochus) **98b:65032** 65F10

Galántai, A. A stability property of A-methods for solving ordinary differential equations. *Differential equations and its applications* (*Budapest*, 1991), 133–138, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 65L20

Galanti, B. (*with* Gibbon, J. D.; Heritage, M.) Vorticity alignment results for the three-dimensional Euler and Navier-Stokes equations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1675–1694. (Summary) **98j:76023** 76D05 (35Q30, 76F05)

Galassi, Mark (*with* Barrett, John W.; Miller, Warner A.; Sorkin, Rafael D.; Tuckey, Philip A.; Williams, Ruth M.) Parallelizable implicit evolution scheme for Regge calculus. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 815–839. (Francois Vanderseypen) **98a:83038** 83C27 (83–08)

Galavotti, Maria Carla (*with* Costantini, Domenico) Toward a logical basis for predictive statistical inference. (Italian) *The legacy of Rudolf Carnap* (*Italian*) (*Cesena*, 1992), 177–186, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Otávio Bueno) **98m:03051** 03B48

— Probabilism and beyond. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 253–265. (Lawrence Sklar) **98d:03034** 03B48 (60A05)

— Operationism, probability and quantum mechanics. (English summary) *Topics in the foundation of statistics*, 99–118, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:00009**) 81P05

Galaz-Fontes, Fernando Note on compact sets of compact operators on a reflexive and separable Banach space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 587–588. (P. P. Narayanaswami) **98d:47092** 47D15 (46B28, 47B07)

Galazhinskiĭ, A. V. (*with* Deriglazov, A. A.) A modified formulation for the Green-Schwarz superstring with irreducible constraints of the first kind. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 6, 3–6; *translation in Russian Phys. J.* **40** (1997), *no.* 6, 503–506. 81T30

— (*with* Deriglazov, A. A.) A linear realization for the new space-time superalgebras in 10 and 11 dimensions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1517–1529. (Bani Mitra Södermark) **98j:81116** 81R10 (17B81)

— (*with* Deriglazov, A. A.) A covariant action for the 11-dimensional superstring. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 38, 2993–3002. 81T30 (83E30)

Galbavý, Roman (*with* Hermann, Miki) Unification of infinite sets of terms schematized by primal grammars. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 111–158. (Aldo Ursini) **98d:68114** 68Q42 (03D05)

Galbiati, Giulia (*with* Morzenti, Angelo; Maffioli, Francesco) On the approximability of some maximum spanning tree problems. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 107–118. (Summary) **98f:68125** 68Q25 (05C85, 68R10)

Galbiati, Jolanda Laura A characterization of $\mathscr{R}$, $\mathscr{L}$, $\mathscr{J}$, $\mathscr{D}$, $\mathscr{H}$-trivial quasi-regular semigroups. *Matematiche (Catania)* **51** (1996), *suppl.*, 101–105 (1997). 20M17

— Some semilattices of semigroups each having one idempotent. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 206–214. (Mohan S. Putcha) **98d:20067** 20M10

Galbraith, John W. (*with* Zinde-Walsh, Victoria) On some simple, autoregression-based estimation and identification techniques for ARMA models. (English summary) *Biometrika* **84** (1997), *no.* 3, 685–696. 62M10

Gal'chuk, L. I. (*with* Novikov, Alexandre A.) On Wald's equation. Discrete time case. (English summary) *Séminaire de Probabilités, XXXI*, 126–135, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Summary) **98h:60058** 60G44

— (*with* Miroshnichenko, T. P.) Optimal stopping problem for continuous local martingales and some sharp inequalities. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 21–33. (Summary) **98g:60085** 60G40 (60G44)

Galdi, Giovanni Paolo (*with* Padula, Mariarosaria; Solonnikov, Vsevolod) Existence, uniqueness and asymptotic behaviour of solutions of steady-state Navier-Stokes equations in a plane aperture domain. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 961–995. (Ivan Straškraba) **98a:35106** 35Q30 (76D05)

— (*with* Sequeira, Adélia; Videman, Juha) Steady motions of a second-grade fluid in an exterior domain. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 977–995. (Toshiaki Hishida) **98j:35151** 35Q35 (76A05)

— (*with* Heywood, J. G.; Shibata, Yoshihiro) On the global existence and convergence to steady state of Navier-Stokes flow past an obstacle that is started from rest. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 4, 307–318. (Ivan Straškraba) **98j:35140** 35Q30 (76D05)

— (*with* Rajagopal, K. R.) Slow motion of a body in a fluid of second grade. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 1, 33–54. (Adélia Sequeira) **98i:76005** 76A05 (35Q35, 76D07)

— (*with* Novotny, Antonin; Padula, Mariarosaria) On the two-dimensional steady-state problem of a viscous gas in an exterior domain. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 65–100. (Long An Ying) **98c:35129** 35Q30 (76N10)

— *see also* **Nonlinear analysis and continuum mechanics. 98h:00030**

Gale, Ian (*with* Che, Yeon-Koo) Standard auctions with financially constrained bidders. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 1–21. (Summary) **98j:90023** 90A60 (90A09)

Galé, José E. (*with* Pytlik, Tadeusz) Functional calculus for infinitesimal generators of holomorphic semigroups. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 307–355. (Hassan Emamirad) **98k:47078** 47D06 (47A60)

Galeana-Sánchez, Hortensia A characterization of normal fraternally orientable perfect graphs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 221–225. (Summary) **98c:05060** 05C15

— (*with* Rajsbaum, Sergio) Cycle-pancyclism in tournaments. III. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 57–63. (Feng Tian) **98a:05074** 05C20 (05C38)

— (*with* Li, Xueliang) Kernels in a special class of digraphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 73–80. (Summary) **98f:05073** 05C20

Galeeva, R. F. Stability of the densities of invariant measures for piecewise affine expanding non-renormalizable maps. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 1, 137–144. (Bernard Schmitt) **98b:58100** 58F11 (28D05, 47B38)

— (*with* Martens, Marco; Tresser, Charles) Inducing, slopes, and conjugacy classes. (English summary) *Israel J. Math.* **99** (1997), 123–147. (Jérôme Buzzi) **98i:58080** 58F03 (54H20, 58F11)

Galeone, Luciano (*with* Garrappa, Roberto) Convergence analysis of time-point relaxation iterates for linear systems of differential equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 183–195. (Summary) **98c:65121** 65L06

Galeotti, Marcello Monodromic unbounded polycycles. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 83–93, *VSP, Utrecht*, 1994. (Sui Lin Cai) **98d:34050** 34C05 (58F21)

Galesi, Nicola (*with* Caporaso, Salvatore; Zito, Michele; Covino, Emanuele) Syntactic characterization in Lisp of the polynomial complexity classes and hierarchy. (English summary) *Algorithms and complexity (Rome, 1997)*, 61–73, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q15 (03D15)

— A syntactic characterization of bounded-rank decision trees in terms of decision lists. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 2, 149–158. (Summary) **98c:68158** 68Q99 (68T05)

Galesloot, Bob M. (*with* Goyal, Sanjeev) Costs of flexibility and equilibrium selection. (English summary) *J. Math. Econom.* **28** (1997), *no.* 3, 249–264. (Yeneng Sun) **98i:90134** 90D12 (90A14)

Galetti, D. (*with* Pimentel, B. M.; Lima, C. L.; Lunardi, J. T.) q-deformed fermionic Lipkin model at finite temperature. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 501–508. (Summary) **98j:82007** 82B10 (81R50, 81V70)

Galgani, Luigi Merging of classical mechanics into quantum mechanics. *Stochastic processes in astrophysics (Gainesville, FL, 1993)*, 196–203, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 81P05

Galhum, N. (*with* Dib, K. A.) Fuzzy ideals and fuzzy bi-ideals in fuzzy semigroups. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 103–111. 20M99 (04A72)

Gali, Jordi (*with* Zilibotti, Fabrizio) Endogenous growth and poverty traps in a Cournotian model. (English and French summaries) *Ann. Économ. Statist.* **1995,** *no.* 37-38, 197–213. 90A16 (90A50)

Galiano, Gonzalo (*with* Díaz Díaz, Jesús Ildefonso; Jüngel, Ansgar) Space localization and uniqueness of solutions of a quasilinear parabolic system arising in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 267–272. (J. W. Jerome) **98h:35099** 35K55 (35Q99, 76X05, 82D99)

— (*with* Díaz Díaz, Jesús Ildefonso) On the Boussinesq system with nonlinear thermal diffusion. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3255–3263. (*see* **98h:00034**) 35Q35 (76D99)

rodriguez-Galiano, Ma. Isabel *see* **Rodriguez-Galiano, Ma. Isabel**

Galias, Zbigniew Positive topological entropy of Chua's circuit: a computer assisted proof. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 331–349. (Helena E. Nusse) **98c:58108** 58F13

Galić, Radoslav The maximal number of U-k–seminets of the maximal degree. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 21–25. (Wiesław A. Dudek) **98h:51024** 51E30

Galicki, Krzysztof (*with* Salamon, Simon) Betti numbers of 3-Sasakian manifolds. (English summary) *Geom. Dedicata* **63** (1996), *no.* 1, 45–68. (Andrew Swann) **98e:53075** 53C25 (53C30)

— (*with* Boyer, Charles P.) The twistor space of a 3-Sasakian manifold. (English summary) *Internat. J. Math.* **8** (1997), *no.* 1, 31–60. (Henrik Pedersen) **98e:53072** 53C25 (32L25, 53C56)

Galiev, Sh. I. Multiple packings and coverings of a sphere. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 3, 148–160; *translation in Discrete Math. Appl.* **6** (1996), *no.* 4, 413–426. (Béla Uhrin) **98a:52030** 52C17

— Determination of approximate solutions of minimax problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1439–1448. (Summary) **98j:49010** 49J35 (49K35, 49M99, 52C15)

Galil, Zvi (*with* Alon, Noga; Yung, Moti) Efficient dynamic-resharing "verifiable secret sharing" against mobile adversary. (English summary) *Algorithms—ESA '95 (Corfu)*, 523–537, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Summary) **98m:94028** 94A60 (68P25)

— (*with* Ben-Amram, Amir M.) Lower bounds on algebraic random access machines (extended abstract). (English summary) *Automata, languages and programming (Szeged, 1995)*, 360–371, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q05 (68Q25)

— (*with* Ďuriš, Pavol) Sensing versus nonsensing automata. (English summary) *Automata, languages and programming (Szeged, 1995)*, 455–463, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Katsushi Inoue) **98j:68110** 68Q68 (68Q45)

— (*with* Margalit, Oded) All pairs shortest distances for graphs with small integer length edges. (English summary) *Inform. and Comput.* **134** (1997), *no.* 2, 103–139. (Peter Eades) **98j:68051** 68Q25 (05C85)

— (*with* Eppstein, David; Italiano, Giuseppe F.; Nissenzweig, Amnon) Sparsification—a technique for speeding up dynamic graph algorithms. (English summary) *J. ACM* **44** (1997), *no.* 5, 669–696. (Peter B. Gibbons) **98k:68039** 68P05 (68R10)

— (*with* Margalit, Oded) All pairs shortest paths for graphs with small integer length edges. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 243–254. (Summary) **98c:68165** 68R10 (68Q25)

— (*with* Alon, Noga; Margalit, Oded) On the exponent of the all pairs shortest path problem. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 255–262. (Editors) **98c:68160** 68R10 (68Q25)

— (*with* Ben-Amram, Amir M.) When can we sort in $o(n \log n)$ time? (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 345–370. (Friedhelm Meyer auf der Heide) **98m:68049** 68P10 (68Q05, 68Q25)

— (*with* Crochemore, Maxime; Gąsieniec, Leszek; Park, Kunsoo; Rytter, Wojciech) Constant-time randomized parallel string matching. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 950–960. (Summary) **98c:68079** 68Q22 (68Q25, 68R15)

— *see also* **Combinatorial pattern matching, 98d:68012**

Galilei, Galileo *see* **Stabile, Giorgio, 98c:01017**; **Rossi, Paolo², 98f:01021**; **Šolle, Zdenko**; **Segre, Michael** *and* **Fehér, Marta**

Galina, Esther (*with* Vargas, Jorge) SL(2, **R**)-module structure of the eigenspaces of the Casimir operator. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 169–189. (D. Miličić) **98e:22009** 22E46

— Compatibility between a geometric character formula and the induced character formula. (English summary) *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 45–56, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98k:22056** 22E46

Galinaitis, William S. (*with* Rogers, Robert C.) Compensation for hysteresis using bivariate Preisach models. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 538–547, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C10 (47H30)

Galindo, Alberto *see* **Mathematical models in plasma physics, 98h:00029**

moreno Galindo, Antonio *see* **Moreno Galindo, Antonio**

Galindo, Carlos *see* **Galindo Pastor, Carlos**

Galindo, Jorge (*with* Hernández, Salvador) On the completion of a MAP group. (English summary) *Papers on general topology and applications (Gorham, ME, 1995)*, 164–168, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Manuel Sanchis) **98i:22002** 22A05 (54D35, 54E15, 54H11)

Galindo, Pablo (*with* Lindström, Mikael) Gleason parts in uniform Fréchet algebras. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 326–330. (S. J. Sidney) **98k:46080** 46J05 (46E25)

— (*with* Maestre, M.; Rueda, P.) R-Schauder decompositions. Some applications. *Extracta Math.* **12** (1997), *no.* 3, 309–313. 46B20 (46B15, 46G20)

— (*with* Aron, Richard M.) Weakly compact multilinear mappings. (English summary) *Proc. Edinburgh Math. Soc. (2)* **40** (1997), *no.* 1, 181–192. (Jorge Mujica) **98e:46051** 46G20 (46B28)

— (*with* Aron, Richard M.; Lindström, Mikael) Compact homomorphisms between algebras of analytic functions. (English summary) *Studia Math.* **123** (1997), *no.* 3, 235–247. (Sarah H. Ferguson) **98h:46053** 46J15 (46E50, 46G20, 47B38)

zúñiga Galindo, W. A. *see* **Zúñiga Galindo, W. A.**

Galindo Pastor, Carlos (*with* Campillo, Antonio) On the graded algebra relative to a valuation. (English summary) *Manuscripta Math.* **92** (1997), *no.* 2, 173–189. (Adrian R. Wadsworth) **98a:13003** 13A02 (13A18, 13D02)

el Galiou, Mohamed *see* **El Galiou, Mohamed**

Galiulin, R. V. (*with* Khachaturov, V. R.) An algorithm for determining crystalline structures with a given chemical formula. (Russian) *Mathematical modeling of composite objects (Russian)*, 32–89, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

— (*with* Khachaturov, V. R.; Abgaryan, K. K.; Bakaev, A. V.; Kabanovich, V. I.) A system for predicting the properties of materials with a given chemical formula on a personal computer. (Russian) *Mathematical modeling of composite objects (Russian)*, 113–131, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

Galka, A. (*with* Telega, Józef Joachim; Tokarzewski, Stanisław) Nonlinear transport equation and macroscopic properties of microheterogeneous media. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 2, 293–319. (Jacob Rubinstein) **98m:73003** 73B27 (35J60, 82C70)

— (*with* Tokarzewski, Stanisław; Starushenko, G. A.) Rigorous bounds on the asymptotic expansions of effective transport coefficients of two-phase media. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 4, 647–663. (Summary) **98h:80003** 80A20 (73B27)

Galkin, O. E. Infinite-dimensional superanalogues of Mehler's formula. (Russian) *Mat. Zametki* **59** (1996), *no.* 6, 927–931; *translation in Math. Notes* **59** (1996), *no.* 5-6, 671–675. (J. S. Joel) **98g:81113** 81S99 (33C99, 35R15)

Galkin, V. A. Justification of approximate methods for systems of conservation laws. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 6, 55–59, 117; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 14–17 (1996). 35L65 (35A35)

Galkin, V. O. (*with* Vshivtsev, A. S.; Tatarintsev, A. V.; Faustov, R. N.) The spectral problem for the radial Schrödinger equation with power potentials of confining type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 397–412; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1530–1542 (1998). 81Q10 (34L40)

Galkin, V. Ya. The probability function of a generalized Poisson distribution and special polynomials. (English summary) Numerical methods in mathematical physics. *Comput. Math. Model.* **8** (1997), *no.* 2, 194–204. (*see* **98a:00011**) 62E15

Gałkowski, A. *see* **Nonlinear dynamics, chaotic and complex systems, 98e:58005**

Gałkowski, Krzysztof (*with* Rogers, Eric; Owens, David H.) Basic systems theory for discrete linear repetitive processes using 2D Roesser model interpretations. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 101–116. (T. Kaczorek) **98d:93002** 93A10 (93C10, 93C30)

le Gall, Jean-François *see* **Le Gall, Jean-François**

le Gall, Pascale *see* **Le Gall, Pascale**

le Gall, Pierre *see* **Le Gall, Pierre**

le Gall, Pierre-Yves *see* **Le Gall, Pierre-Yves**

Gallagher, Isabelle Existence globale pour des équations des fluides géostrophiques. (English and French summaries) [Global existence for geostrophic fluid equations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 623–626. (Summary) **98d:76158** 76U05 (35Q35, 86A10)

— The tridimensional Navier-Stokes equations with almost bidimensional data: stability, uniqueness, and life span. *Internat. Math. Res. Notices* **1997,** *no.* 18, 919–935. (Nicolas Lerner) **98m:76049** 76D05 (35Q30, 76E99)

Gallagher, Kerry Inverse thermal history modelling as a hydrocarbon exploration tool. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 479–497. 86A22

Gallagher, P. X. On the image of form. *Internat. Math. Res. Notices* **1996,** *no.* 18, 867–879. (F. Beukers) **98d:11096** 11K70 (11J99)

Gallagher, Richard Hugo *see* **Finite elements in fluids, 98j:76003** *and* **Zienkiewicz, Olgierd C., (98j:76003)**

Gallant, A. Ronald ★ An introduction to econometric theory. Measure-theoretic probability and statistics with applications to economics. *Princeton University Press, Princeton, NJ*, 1997. x+202 *pp. ISBN* 0-691-01645-3 (Mark Steel) **98m:62001** 62-01 (62P20, 90-01)

— (*with* Long, Jonathan R.) Estimating stochastic differential equations efficiently by minimum chi-squared. (English summary) *Biometrika* **84** (1997), *no.* 1, 125–141. (Shao Zhong Cheng) **98m:62222** 62M05

Gallant, Robert (*with* Colbourn, Charles J.) Tight 4-factor orthogonal main effect plans. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 101–110. (Summary) **98i:05031** 05B15

Gallardo, Léonard Chaînes de Markov à dérive stable et loi des grands nombres sur les hypergroupes. (English and French summaries) [Markov chains with stable drift and law of large numbers on hypergroups] *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 6, 701–723. (Mohamed Sifi) **98f:60007** 60B99 (43A05, 43A62, 60F15, 60J05)

— (*with* Trimèche, Khélifa) L'équation de Poisson et les noyaux de Green associés à un opérateur différentiel singulier sur $\mathbf{R}_+$. (English and French summaries) [The Poisson equation and the Green kernels associated with a singular differential operator on $\mathbf{R}_+$] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 259–264. (Summary) **98f:43011** 43A62 (31C99, 35A08, 35J05)

— Asymptotic drift of the convolution and moment functions on hypergroups. *Math. Z.* **224** (1997), *no.* 3, 427–444. (Mohamed Sifi) **98g:43009** 43A62 (60B99)

mares Gallardo, R. *see* **Mares Gallardo, R.**

benavides Gallardo, Raúl *see* **Benavides Gallardo, Raúl**

Gallas, Manuel V. (*with* Fernández-Pousa, Carlos R.; Hollowood, Timothy J.; Miramontes, J. Luis) Solitonic integrable perturbations of parafermionic theories. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 673–689. (Luigi Martina) **98k:81247** 81T40 (58F07, 81R10)

Gallavotti, Giovanni The development of perturbation theory in contemporary mechanics. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 649–665. (From the text) **98h:70019** 70H05 (34C29, 34C99, 58F30, 70K99)

— (*with* Benettin, G.; Carati, A.) A rigorous implementation of the Jeans-Landau-Teller approximation for adiabatic invariants. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 479–505. (Luigi Chierchia) **98d:58159** 58F30 (58F27, 70H05, 70K99, 81V55)

— (*with* Bonetto, F.; Garrido, Pedro L.) Chaotic principle: an experimental test. (English summary) *Phys. D* **105** (1997), *no.* 4, 226–252. (Nikolai Chernov) **98g:82027** 82C05 (58F13, 82-04, 82C70)

Gallay, Th. (*with* Raugel, G.) Stability of travelling waves for a damped hyperbolic equation. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 451–479. (Tie Hu Qin) **98g:35145** 35L70 (35B35)

balibrea Gallego, Francisco *see* **Balibrea Gallego, Francisco**

Gallego, Francisco Javier (*with* Purnaprajna, B. P.) Normal presentation on elliptic ruled surfaces. *J. Algebra* **186** (1996), *no.* 2, 597–625. (Marco Andreatta) **98c:14030** 14J26 (14C20, 14E25)

— (*with* Purnaprajna, B. P.) Higher syzygies of elliptic ruled surfaces. *J. Algebra* **186** (1996), *no.* 2, 626–659. (Marco Andreatta) **98c:14031** 14J26 (14C20, 14E25)

Gallego, Jean-Louis (*with* Farges, Jean-Loup; Henry, Jean-Jacques) Traffic queue estimation. (English summary) *Top* **5** (1997), *no.* 1, 81–93. 90B22 (90B20)

mayor Gallego, José A. *see* **Mayor Gallego, José A.**

álvarez-Gallegos, Jaime *see* **Álvarez-Gallegos, Jaime**

Galley, Clive N. (*with* Iliopoulos, Costas S.) On the lower bound for parallel string matching. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 155–162. (Summary) **98i:68115** 68Q22 (68Q25)

— A lower bound for the parallel complexity of periodicity on multi-dimensional arrays. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 165–176. (Summary) **98j:68052** 68Q25 (68Q22)

mas-Gallic, Sylvie *see* **Mas-Gallic, Sylvie**

Gallice, Gérard (*with* Cargo, Patricia) Roe matrices for ideal MHD and systematic construction of Roe matrices for systems of conservation laws. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 446–466. (Summary) **98h:76091** 76M20 (76N15, 76W05)

Gallier, Jean H. Kripke models and the (in)equational logic of the second-order λ-calculus. (English summary) *Ann. Pure Appl. Logic* **84** (1997), *no.* 3, 257–316. (Bart Jacobs) **98j:03018** 03B40

— Erratum to: "What's so special about Kruskal's theorem and the ordinal Γ_0? A survey of some results in proof theory" [Ann. Pure Appl. Logic **53** (1991), no. 3, 199–260; MR 93b:03096]. *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 275. (Editors) **98j:03075** 03Fxx (03F15, 03F35)

Galligani, Emanuele (*with* Zanni, Luca) Error analysis of elimination methods for equality constrained quadratic programming problems. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 107–112, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:90083** 90C20 (65K05)

— (*with* Ruggiero, V.) The two-stage arithmetic mean method. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 245–264. (David R. Kincaid) **98i:65021** 65F10 (65F50)

— (*with* Zanni, Luca) Error analysis in equality constrained quadratic optimization problems. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 595–611. (Wen Yu Sun) **98i:90065** 90C25 (65K05)

— (*with* Zanni, Luca) Error analysis of an algorithm for equality-constrained quadratic programming problems. (English and German summaries) *Computing* **58** (1997), *no.* 1, 47–67. (Sven-Åke Gustafson) **98a:90077** 90C20 (65F20, 65K05)

Galligo, André (*with* Emiris, Ioannis Z.; Lombardi, Henri) Numerical univariate polynomial GCD. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 323–343, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Maurice Mignotte) **98a:68105** 68Q40 (65D15, 65Y20)

— (*with* Emiris, Ioannis Z.; Lombardi, Henri) Certified approximate univariate GCDs. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 229–251. (Miodrag Petković) **98f:65135** 65Y20 (13P99, 15A18, 68Q40)

Gallis, Michael R. The emergence of classicality via decoherence: beyond the Caldeira-Leggett environment. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 107–112, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81P05

Gallivan, K. (*with* Grimme, E. J.; Van Dooren, Paul) A rational Lanczos algorithm for model reduction. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 33–63. (Summary) **98i:65028** 65F15 (65G05)

Gallo, Daniel M. The topology of real projective structures. (English summary) *Lipa's legacy* (*New York*, 1995), 253–260, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (William Goldman) **98m:32033** 32G15 (30F10)

— Deforming real projective structures. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 1, 3–14. (Hiroshige Shiga) **98a:32021** 32G15 (30F10)

Gallo, Giorgio (*with* Gentile, C.; Pretolani, D.; Rago, G.) Max Horn SAT and the minimum cut problem in directed hypergraphs. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 213–237. (D. de Werra) **98m:90116** 90C27 (90C35)

— *see also* **Network optimization: algorithms and applications. 98g:90009**

Gallot, L. (*with* Delduc, François) $N = 2$ KP and KdV hierarchies in extended superspace. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 395–410. (Alexander V. Shapovalov) **98k:58107** 58F07 (35Q53)

— (*with* Delduc, François; Ivanov, Evgenil Alekseevich[2]) New super KdV system with the $N = 4$ SCA as the Hamiltonian structure. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 122–132. (Summary) **98f:58099** 58F07 (35Q53)

Gallouët, Thierry Elliptic equations with measure data. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 113–122, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35J25 (35J65, 35R05)

— (*with* Boccardo, Lucio) Summability of the solutions of nonlinear elliptic equations with right-hand side measures. *J. Convex Anal.* **3** (1996), *no.* 2, 361–365. (David L. Finn) **98c:35050** 35J65 (35B45, 35D10)

— (*with* Boccardo, Lucio; Dall'Aglio, Andrea; Orsina, Luigi) Nonlinear parabolic equations with measure data. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 237–258. (Summary) **98c:35093** 35K60 (35R05)

Galloway, Gregory J. Some rigidity results for spatially closed spacetimes. *Mathematics of gravitation, Part I* (*Warsaw*, 1996), 21–34, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Paul E. Ehrlich) **98k:53085** 53C50

Galluccio, Anna (*with* Bertolazzi, Paola; De Simone, Caterina) A nice class for the vertex packing problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 3–19. (Gerard J. Chang) **98d:05118** 05C75 (05C70, 05C85)

— (*with* Loebl, Martin) Even directed cycles in H-free digraphs. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 26–41. (Brenda J. Latka) **98m:05109** 05C38 (05C20, 68R10)

Galluccio, Massimo (*with* Litterio, Marco; Occhionero, Franco) Graviton spectra in string cosmology. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 6, 970–973. (Summary) **98e:83130** 83F05 (83E30)

Galluccio, S. (*with* Caldarelli, G.; Marsili, Matteo; Zhang, Yi Cheng) Scaling in currency exhange. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 423–436. 90A09

Galmiche, Didier *see* **Automated reasoning with analytic tableaux and related methods. 98k:03004**

Galochkin, A. I. Lower bounds for linear forms of values of G-functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 23–29, 91. (Eugene M. Matveev) **98a:11089** 11J72 (11J82, 11J91)

— On the linear independence of the values of functions satisfying Mahler's functional equation. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 14–17, 72; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 14–17. (Eugene M. Matveev) **98k:11103** 11J72 (11J91)

Galois, Évariste ★ Écrits et mémoires mathématiques. (French) [Mathematical writings and memoirs] Édition critique intégrale des manuscrits et publications. [Integral critical edition of the manuscripts and publications] With a preface by Jean Dieudonné. Edited, with notes and commentary by Robert Bourgne and Jean-Pierre Azra. Reprint of the second (1976) edition. Les Grands Classiques Gauthier-Villars. [Gauthier-Villars Great Classics] *Éditions Jacques Gabay, Paris*, 1997. 606 *pp. ISBN* 2-87647-020-9 (Editors) **98g:01073** 01A75 (01A55)

— *see also* **Kharchenko, Vladislav K., 98a:16038** *and* **Knutsen, Henning. 98j:01036**

Galoppo, Annalisa Groups with dense normal-by-finite subgroups. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 45–48. (Summary) **98k:20050** 20F19 (20F50)

Galper, A. R. (*with* Miloh, T.) Motion stability of a deformable body in an ideal fluid with applications to the N spheres problem. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 119–130. (Summary) **98j:76014** 76B99 (73H10, 73K70, 76T05)

Galperin, E. A. Pareto analysis vis-à-vis balance space approach in multiobjective global optimization. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 533–545. (Emil Iwanow) **98e:90136** 90C29

— (*with* Kansa, E. J.; Makroglou, Athena; Nelson, S. A.) Mathematical programming methods in the numerical solution of Volterra integral and integro-differential equations with weakly-singular kernel. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1505–1513. (*see* **98i:00029**) 65R20 (45E05, 45L05)

— Dynamical equations with accelerations and higher order derivatives of motion in the right-hand sides are in agreement with Newton's laws. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 31–42. (Summary) **98b:70033** 70Q05 (34H05, 70D05)

Galperin, G. (*with* Boshernitzan, Michael; Krüger, Tyll; Troubetzkoy, Serge) Periodic billiard orbits are dense in rational polygons. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3523–3535. (Serge L. Tabachnikov) **98k:58179** 58F20

Galperin, Jana (*with* Krupnik, Naum) On the norms of singular integral operators along certain curves with intersections. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 10–16. (Summary) **98e:47072** 47G10 (45E05, 47A30)

Galtchouk, L. I. *see* **Gal'chuk, L. I.**

Galtchouk, Leonid I. *see* **Gal'chuk, L. I.**

Galton, Antony An investigation of "non-intermingling" principles in temporal logic. (English summary) *J. Logic Comput.* **6** (1996), *no.* 2, 271–294. (Summary) **98g:68155** 68T27 (03B45, 68Q60)

Gal'tsov, D. V. (*with* Letelier, P. S.) Interpolating black holes in dilaton-axion gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L9–L14. (Sergiu I. Vacaru) **98a:83080** 83C57 (83E30)

— (*with* Sharakin, S. A.) Matrix Ernst potentials for Einstein-Maxwell-dilaton-axion with multiple vector fields. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 250–257. (J. A. H. Samtleben) **98c:83106** 83E50 (83C22)

— (*with* Letelier, P. S.) Ehlers-Harrison transformations and black holes in dilaton-axion gravity with multiple vector fields. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3580–3592. (Alexander Yanovich Burinskiĭ) **98h:83047** 83C57 (81T20, 81V17, 83C15)

— (*with* Donets, E. E.; Zotov, M. Yu.) Internal structures of Einstein-Yang-Mills black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3459–3465. (Summary) **98e:83073** 83C57

— (*with* Donets, E. E.; Zotov, M. Yu.) On singularities in non-abelian black holes. *JETP Lett.* **65** (1997), *no.* 12, 895–901; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 855–860 (*Russian*). (Summary) **98g:83061** 83C57

Galue, Leda (*with* Kalla, Shyam L.; Kiryakova, Virginia S.) Single term approximations of hypergeometric functions. (English summary) *New frontiers in algebras, groups and geometries (Moneteroduni, 1995)*, 417–439, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **98k:33005** 33C05 (33–04, 33C20)

Galvanetto, Ugo Bifurcations and chaos in a four-dimensional mechanical system with dry friction. *J. Sound Vibration* **204** (1997), *no.* 4, 690–695. 70K50 (34C23)

— (*with* Knudsen, Carsten) Event maps in a stick-slip system. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 2, 90–115. 70K50 (58F13)

Galvão, C. A. P. (*with* Nutku, Y.) Hamiltonian structure of Dubrovin's equation of associativity in 2-d topological field theory. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6012–6017. (Summary) **98e:58093** 58F07 (17B81, 35Q40, 58D29, 81T40)

— (*with* Ferapontov, E. V.; Mokhov, O. I.; Nutku, Y.) Bi-Hamiltonian structure of equations of associativity in 2-d topological field theory. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 649–669. (Iskander A. Taimanov) **98g:58022** 58D29 (58F07, 81T40, 81T70)

Galves, A. (*with* Guiol, H.) Relaxation time of the one-dimensional symmetric zero range process with constant rate. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 323–332. (B. L. Granovskiy) **98m:60151** 60K35 (82C22)

— (*with* Schmitt, Bruno V.) Inequalities for hitting times in mixing dynamical systems. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 337–347. (David J. Aldous) **98i:60017** 60F05 (28D05, 60G10)

Galvin, W. P. (*with* Wanless, Ian M.) A bound for the total tardiness problem on a single machine. (English summary) *Australas. J. Combin.* **16** (1997), 155–163. 90B35

saldanha da Gama, Rogério Martins *see* **Saldanha da Gama, Rogério Martins**

Gama, Silvio Series expansions and transport coefficients in two-dimensional incompressible Navier-Stokes flow. (English summary) *First Meeting on Numerical Methods for Partial Differential Equations (Coimbra, 1995)*, 43–50, *Textos Mat. Sér. B*, 11, *Univ. Coimbra, Coimbra*, 1997. (*see* **98h:65003**) 65M55 (41A21, 76D05, 76M25)

Gamage, Jinadasa K. Generalized p-values and the multivariate Behrens-Fisher problem. (English summary) *Linear Algebra Appl.* **253** (1997), 369–377. (Truc Nguyen) **98e:62088** 62H15 (62F03)

Gamal', M. F. Weak generators of the algebra l^∞ and the commutant of a model operator. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 73–85, 214–215. (D. Sarason) **98i:47008** 47A45 (46J99)

Gamba, I. M. *see* **Martinez-Gamba, Irene**

martinez-Gamba, Irene *see* **Martínez-Gamba, Irene**

Gamba, Irene M. *see* **Martinez-Gamba, Irene**

Gambarelli, Gianfranco (*with* Piana, Paola) The Gulf War economic game. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 207–214. 90D40 (90A15)

Gambaudo, Jean-Marc (*with* Ghys, Étienne) Enlacements asymptotiques. [Asymptotic links] *Topology* **36** (1997), *no.* 6, 1355–1379. (V. M. Zakalyukin) **98f:57050** 57R25 (57R15, 57R30, 58F18)

— (*with* Catsigeras, Eleonora; Moreira, Fernando) Infinitely renormalizable diffeomorphisms of the disk at the boundary of chaos. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 297–304. (Helena E. Nusse) **98c:58107** 58F13

Gambin, Anna (*with* Chlebus, Bogdan S.; Indyk, Piotr) Shared-memory simulations on a faulty-memory DMM. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 586–597, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (68M15)

Gambini, Rodolfo (*with* Pullin, Jorge) ★ Loops, knots, gauge theories and quantum gravity. (English summary) With a foreword by Abhay Ashtekar. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1996. xvi+321 *pp. ISBN* 0-521-47332-2 (Hugo A. Morales-Técotl) **98g:83038** 83C45 (57M25, 81T13)

— (*with* Pullin, Jorge) Knot theory and the dynamics of quantum general relativity. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 11, L125–L128. (Louis H. Kauffman) **98g:83039** 83C45 (57M25)

— (*with* Pullin, Jorge) Rigorous solution of the quantum Einstein equations. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, R5935–R5938. (Louis H. Kauffman) **98g:83040** 83C45 (57M25)

— (*with* Aroca, Josep Maria; Fort, H.) Path integral for the loop representation of lattice gauge theories. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7751–7756. (José A. Zapata) **98b:81163** 81T25 (81S40, 81T13)

— (*with* Griego, Jorge; Pullin, Jorge) Chern-Simons states in spin-network quantum gravity. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 260–266. (Seth A. Major) **98i:83032** 83C45 (81V17, 83C27)

Gamboa, F. (*with* Gassiat, Elisabeth) Bayesian methods and maximum entropy for ill-posed inverse problems. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 328–350. (Summary) **98k:62002** 62A15

— (*with* Gzyl, Henryk) Solving Fredholm equations by maximum entropy on the mean. Application to superresolution. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 23–32. (Summary) **98c:45016** 45L05 (45B05, 65R20)

Gamboa, J. *see* **Gamboa, Jorge**

Gamboa, J. M. *see* **Real algebraic and analytic geometry, 98g:14002**

Gamboa, Jorge Quantum mechanics on multiply connected manifolds with applications to anyons in one and two dimensions. *Workshops on Particles and Fields and Phenomenology of Fundamental Interactions (Puebla, 1995)*, 317–338, *AIP Conf. Proc.*, 359, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Christian Grosche) **98j:81058** 81Q05 (81S40, 81V70)

— (*with* Rivelles, Victor O.; Zanelli, Jorge) Global anomalies and anyons in 1 + 1 dimensions. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 264–268. (Liviu Tătar) **98d:81109** 81T50 (81T40)

— (*with* Schmidt, Ivan; Vergara, Lautaro) Anomaly and condensate in the light-cone Schwinger model. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 111–118. 81T10

Gamboa de Buen, Berta (*with* Fetter, Helga) ★ The James forest. (English summary) With a foreword by Robert C. James and a prologue by Bernard Beauzamy. London Mathematical Society Lecture Note Series, 236. *Cambridge University Press, Cambridge*, 1997. xii+255 *pp. ISBN* 0-521-58760-3 (Y. Benyamini) **98k:46013** 46Bxx (01A65, 46–03)

— (*with* Fetter, Helga) Spreading sequences in JT. (English summary) *Studia Math.* **125** (1997), *no.* 1, 57–66. (Steven F. Bellenot) **98d:46009** 46B15 (46B20)

Gamboa Saravi, R. E. (*with* Falomir, H.; Santangelo, E. M.) Dirac operator on a disk with global boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 532–544. (Summary) **98g:35171** 35Q40 (81Q05)

Gambolati, Giuseppe (*with* Bergamaschi, Luca; Pini, Giorgio) Asymptotic convergence of conjugate gradient methods for the partial symmetric eigenproblem. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 2, 69–84. (Heike Faßbender) **98b:65040** 65F15 (15A18)

Gambosi, Giorgio (*with* Flammini, Michele; Nanni, Umberto; Tan, Richard B.) Multi-dimensional interval routing schemes. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 131–144, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68Q10)

— (*with* Postiglione, Alberto; Talamo, Maurizio) On-line maintenance of an approximate bin-packing solution. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 2, 151–166. (Summary) **98e:90127** 90C27 (68Q25, 90C10)

— (*with* Flammini, Michele) On devising Boolean routing schemes. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 171–198. (Sudhangshu B. Karmakar) **98i:68023** 68M10 (05C85)

Gamero, J. (*with* Padday, J. F.; Pétré, G.; Rusu, C. G.; Wozniak, G.) The shape, stability and breakage of pendant liquid bridges. (English summary) *J. Fluid Mech.* **352** (1997), 177–204. 76D45 (76E99)

Gamet, Catherine ★ Théorèmes de convergence en moyenne et entropie métrique en théorie ergodique. (French. French summary) [Theorems of convergence in the mean and metric entropy in ergodic theory] Thèse, Université Louis Pasteur (Strasbourg I), Strasbourg, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1996/31. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1996. vi+81 *pp.* (Summary) **98e:28024** 28D99 (60G15, 60G50)

— (*with* Schneider, Dominique) Théorèmes ergodiques multidimensionnels et suites aléatoires universellement représentatives en moyenne. (English and French summaries) [Multidimensional ergodic theorems and random sequences universally representative in the mean] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 269–282. (Karl Petersen) **98f:28021** 28D05 (28D15, 60G15)

Gámez, José L. (*with* Cañada, A.; Montero, J. A.) An optimal control problem for a nonlinear elliptic equation arising from population dynamics. *Calculus of variations, applications and computations (Pont-à-Mousson, 1994)*, 35–40, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (Srdjan Stojanovic) **98f:49007** 49J20 (35J60, 92D25)

— (*with* Montero, J. A.) Uniqueness of the optimal control for a Lotka-Volterra control problem with a large crowding effect. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 1–12 (*electronic*). (Anna Mercaldo) **98c:49008** 49J20 (35B37, 35J99)

— (*with* Ambrosetti, Antonio) Branches of positive solutions for some semilinear Schrödinger equations. *Math. Z.* **224** (1997), *no.* 3, 347–362. (Elaine Machtyngier) **98b:35037** 35J10 (35B05, 35Q55)

— Existence and bifurcation of positive solutions of a semilinear elliptic problem on $\mathbf{R}^N$. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 341–357. (Jie Yang) **98g:35069** 35J60 (35B32)

Gámiz-Pérez, M. Luz (*with* Pérez-Ocón, Rafael; Ruiz-Castro, J. Eloy) A study of different ageing classes via total time on test transform and Lorenz curves. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 241–248. 62N05

Gamkrelidze, N. G. On a local limit theorem in strong sense. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 79–83. (Summary) **98i:60018** 60F05

Gamkrelidze, R. V. (*with* Agrachev, A. A.) On orbits of groups of diffeomorphisms and flows. (Russian) *Trudy Mat. Inst. Steklov.* **209** (1995), *Osob. Gladkikh Otobrazh. s Dop. Strukt.*, 3–13. (A. Morimoto) **98b:58027** 58D05 (58F25)

— (*with* Agrachev, A. A.) Feedback-invariant optimal control theory and differential geometry. I. Regular extremals. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 3, 343–389. (José Basto Goncalves) **98m:49004** 49J15 (53C22, 58E25, 93B52)

— (*with* Arnol'd, Vladimir Igorevich; Bolibrukh, A. A.; Maslov, V. P.; Mishchenko, E. F.; Novikov, S. P.; Osipov, Yu. S.; Sinaĭ, Yakov Grigor'evich; Stepin, A. M.; Faddeev, L. D.) Dmitriĭ Viktorovich Anosov (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 193–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 437–445. (Editors) **98f:01055** 01A70

Gammerman, A. *see* **Computational learning and probabilistic reasoning, 98b:68007**

Gamov, I. V. (*with* Nikitin, Ya. Yu.) A new integral nonparametric criterion for testing the hypothesis of affine symmetry. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 77–93, 357–358. (Summary) **98i:62046** 62G10

Gamrowski, Bertrand (*with* Rachev, Svetlozar T.) Testing the validity of value-at-risk measures. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I (1995)*, 307–320, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **98h:90028** 90A46 (90A09)

Gan, F. F. Joint monitoring of process mean and variance. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4017–4024. (*see* **98i:00032**) 90B25

Gan, H. (*with* Chew, Weng Cho; Song, J. M.; Lu, C. C.; Wagner, Robert L.; Lin, Jiun-Hwa; Nasir, Muhammad Abdul) Fast algorithms for solving electromagnetic scattering problems. (English summary) *Wave propagation in complex media (Minneapolis, MN,*

1994), 1–22, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 78–08 (78A45)

Gan, Shao Bo The ergodic theory of a class of cellular automata. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 293–301. (Summary) **98i:58130** 58F08 (58F11, 68Q80)

Gan, Shi Xin (*with* Liang, Han Ying) Inequalities for Banach space-valued martingales and some characterizations of geometric properties of Banach spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 171–178. (Summary) **98e:60011** 60B11 (46B09, 60E15, 60G42)

— (*with* Liang, Han Ying) Inequalities for quasimartingales and geometric properties of Banach spaces. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 31–36. (Summary) **98e:60012** 60B11 (46B09, 60G48)

— (*with* Liang, Han Ying; Ren, Yao Feng) Type of Banach spaces and complete convergence for sums of sequences of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 449–456. (Summary) **98k:60009** 60B12 (46B09)

Gan, Xiao Qing A class of degenerate elliptic equations with Radon measures as data. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 63–70. (Summary) **98m:35074** 35J70 (35R05)

Ganapathy, L. (*with* Nair, K. P. K.) On capacitated stochastic chain problems in a network. *Networks* **31** (1998), *no.* 1, 19–27. (Summary) **98i:05102** 05C35 (68R10, 90C35)

Ganapol, B. D. (*with* McCormick, N. J.) Radiative transfer half-space problems by the source function method. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 507–532. (Paul F. Zweifel) **98k:85002** 85A25 (82C70)

el-Ganayni, W. A. *see* **El-Ganayni, W. A.**

Ganbold, G. (*with* Efimov, G. V.) Gaussian equivalent representation of functional integrals in quantum physics. *Phys. Particles Nuclei* **26** (1995), *no.* 2, 198–219; *reprinted in Fiz. Elementar. Chastits i Atom. Yadra* **26** (1995), *no.* 2, 459–511, 513–514 (*English and Russian summaries*). (Lewis H. Ryder) **98c:81111** 81S40 (81T10, 81V70, 82B44)

Ganchev, A. Ch. (*with* Furlan, Paolo; Petkova, V. B.) $A_1^{(1)}$ admissible representations—fusion transformations and local correlators. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 3, 635–658. (Isabel P. Ennes) **98g:81057** 81R10 (17B81)

Ganchev, Georgi (*with* Mihova, V.) On the Riemannian geometry of a developable hypersurface in the Euclidean space. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 17–20. (Chuan Yu Ma) **98g:53009** 53A07

— (*with* Apostolov, Vestislav; Ivanov, Stefan P.) Compact Hermitian surfaces of constant antiholomorphic sectional curvatures. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3705–3714. (Tedi C. Draghici) **98b:53065** 53C55 (53C21)

Gancheva, Parashkeva (*with* Konstantinov, Mikhail M.; Petkov, Petko Khr.; Angelova, Vera; Popchev, Ivan) Improved perturbation bounds for the matrix exponential. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 258–265, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (93B40)

Ganci, Salvatore Boundary diffraction wave theory for rectilinear apertures. (English and Italian summaries) *European J. Phys.* **18** (1997), *no.* 3, 229–236. (Summary) **98e:78021** 78A45

Ganczarski, A. (*with* Lenczowski, J.) On the convexity of the Goldenblat-Kopnov yield condition. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 3, 461–475. 73E05

Gandarias-Núñez, M. L. Nonclassical symmetries of a porous medium equation with absorption. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6081–6091. (Summary) **98g:35094** 35K55 (35A30, 35Q35, 76S05)

Gandel', Yu. V. (*with* Lifanov, I. K.; Polyanskaya, T. S.) On a justification of the method of discrete singularities in two-dimensional diffraction problems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1536–1541, 1605; *translation in Differential Equations* **31** (1995), *no.* 9, 1491–1497 (1996). (Michael V. Shapiro) **98b:35034** 35J05 (35C99, 65N99)

— (*with* Kravchenko, V. F.; Pustovoĭt, V. I.) Scattering of electromagnetic waves by a thin superconducting tape. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 462–464. (From the introduction) **98k:78035** 78A45 (78A55)

Gander, Walter (*with* Arbenz, Peter) Direct parallel algorithms for banded linear systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 119–122. (*see* **98b:65005**) 65F10 (65Y05)

— (*with* Strebel, Rolf; Sourlier, David) A comparison of orthogonal least squares fitting in coordinate metrology. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 249–258, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65D10 (65F20, 65Y15)

Gandhe, Milind (*with* Venkatesh, G.; Sanyal, Amitabha) Correcting type errors in the Curry system. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 347–358, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68025** 68N15 (03B40)

Gandhi, S. K. (*with* Hunt, P. J.) Numerical option pricing using conditioned diffusions. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 457–472, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (60J60)

Gandibleux, Xavier (*with* Mezdaoui, Nazik; Fréville, Arnaud) A tabu search procedure to solve multiobjective combinatorial optimization problems. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 291–300, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C27)

Gandini, Augusto State of the art in the heuristically based generalized perturbation theory. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Sci. Fis. Natur.* (5) **20** (1996), 73–105 (1997). 82D75 (81T15)

Gandolfi, Alberto (*with* Bertuzzi, Alessandro; Sinisgalli, Carmela; Iacoviello, Daniela) Steel's potential doubling time and its estimation in cell populations affected by nonuniform cell loss. (English summary) *Math. Biosci.* **143** (1997), *no.* 2, 61–89. 92C50 (92D25)

de Gandt, François *see* **De Gandt, François**

Ganesh, M. (*with* Wijesekera, Duminda; Srivastava, Jaideep; Nerode, Anil) Tableaux for functional dependencies and independencies. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 358–372, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:68052** 68P15 (03B35, 03B70)

Ganesh, Mahadevan A general convergence theory for nonlinear equations with application to integro-differential equations. (English summary) *Appl. Numer. Math.* **22** (1996), *no.* 4, 435–449. (Carsten Carstensen) **98d:65078** 65J15 (65H10, 65R20)

Gang, Li *see* **Li, Gang**[1]

Gangadhar, Nandyala D. (*with* Sharma, Vinod) Some algorithms for discrete time queues with finite capacity. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 281–305. (Summary) **98c:60133** 60K25

— (*with* Sharma, Vinod) Asymptotics for transient and stationary probabilities for finite and infinite buffer discrete time queues. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 1–22. (Summary) **98f:60196** 60K25

Gangadharan, A. (*with* Ravichandran, V.; Shanmugam, T. N.) Radii of convexity and strong starlikeness for some classes of analytic functions. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 301–313. (Frode Rønning) **98e:30012** 30C45

Gangai, Cristina (*with* Bertoni, Alberto; Campadelli, Paola; Posenato, Roberto) Approximability of the ground state problem for certain Ising spin glasses. (English summary) *J. Complexity* **13** (1997), *no.* 3, 326–339. (Summary) **98i:82070** 82D30 (68Q25)

Gangal, Anil D. (*with* Kolwankar, Kiran M.) Local fractional Fokker-Planck equation. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 214–217. (Summary) **98k:82130** 82C31

Gangaraj, S. K. (*with* Babuška, Ivo; Ihlenburg, Frank; Strouboulis, Theofanis) A posteriori error estimation for finite element solutions of Helmholtz' equation. I. The quality of local indicators and estimators. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3443–3462. (Zhangxin Chen) **98h:65043** 65M60 (76M10)

Gangarao, Hota V. S. (*with* Gera, Dinesh; Gautam, Mridul) Wave growth patterns in a non-linear dispersive system with instability and dissipation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 599–604. (Summary) **98b:35144** 35Q35 (76B15, 76E99)

Gangardt, D. (*with* Iomin, A.; Fishman, Shmuel) Nonlinear dynamics in periodic phase space. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4054–4062. (Summary) **98m:82037** 82C05 (58F40, 78A35)

Gangbo, Wilfrid (*with* McCann, Robert J.) The geometry of optimal transportation. *Acta Math.* **177** (1996), *no.* 2, 113–161. (Ludger Rüschendorf) **98e:49102** 49Q20 (28A99, 35Q99, 60B99, 65K10)

Ganghoffer, J. F. (*with* Brillard, A.) Models for contact and friction using a deductive approach. (English summary) *Contact mechanics, III* (*Madrid*, 1997), 23–32, *Comput. Mech., Southampton*, 1997. (*see* **98h:73001**) 73T05

Gangopadhyay, Ashis K. (*with* Disario, Robert; Dey, Dipak K.) A nonparametric approach to k-sample inference based on entropy. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 3, 237–252. (Summary) **98g:62084** 62G10 (62B10)

Gangopadhyay, Debashis Bogolubov transformations for quantum oscillators. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 417–420, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:81077** 81R50

— (*with* Chaudhuri, Ranjan N.; Paul, Samir K.) Van der Waerden's coloring theorem and classical spin systems. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 21-22, 923–928. (Summary) **98g:82009** 82B20 (05D10)

Gangopadhyay, S. *see* **Gangopadhyay, Sugata**

Gangopadhyay, Sreela (*with* Rao, B. V. Raja) Some finitely additive probability: random walks. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 643–657. (E.-A. Weiss, Jr.) **98m:60067** 60G40 (60A10, 60J15)

Gangopadhyay, Subrata (*with* Datta, Kanti B.) Decoupling of multivariable systems via orthogonal structure theorem. (English summary) *Control Theory Adv. Tech.* **10** (1995), *no.* 4, *part* 3, 1335–1358. (Abdelmoula El Bouhtouri) **98a:93025** 93B40 (93B55, 93C35)

Gangopadhyay, Sugata (*with* Sharma, Rajendra Kumar; Vetrivel, V.) On units in $\mathbf{Z}S_3$. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2285–2299. (Marian Deaconescu) **98e:16031** 16U60 (16S34, 20C05)

Ganguli, A. (*with* Akhtar, M. K.; Tarey, R. D.) Theory of high-frequency guided waves in a plasma-loaded waveguide. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 1178–1189. (Summary) **98m:76167** 76X05

Ganguli, G. Stability of an inhomogeneous transverse plasma flow. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1544–1551. (Summary) **98e:76039** 76E25 (76X05)

Ganguli, Suman (*with* Dror, Ron; Strichartz, Robert S.) A search for best constants in the Hardy-Littlewood maximal theorem. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 473–486. (Loukas Grafakos) **98b:42030** 42B25

Ganguly, Ashok (*with* Nimbhorkar, Sanjay) Common fixed point of mappings on probabilistic 2-metric space and its application. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 259–270. 54H25 (54E70)

— (*with* Bose, Ramendra Krishna; Chandel, Raghvendra Singh) Fixed point theorems for metrically inward set valued mappings in metric space. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 193–206. 54H25 (54C60)

— (*with* Wadhwa, Kamal) On random variational inequalities. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 315–321. (Ramendra Krishna Bose) **98d:47154** 47H19 (47H40, 49J40)

— (*with* Tapi, U. D.; Chandel, Raghvendra Singh) Correction: "On continuous and almost continuous multifunctions" [Math. Ed. (Siwan) **30** (1996), no. 3, 156–159]. *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 177–178. 54C60 (54C05, 54C08)

— (*with* Satya murty, V.) Fixed point theorems for mappings with limiting orbital diameters zero. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 1, 57–58. 54H25

Ganguly, D. K. (*with* Ray, Snigdha) Some properties of a set C_k in l_p-space. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 17–20. (Introduction) **98d:46007** 46A45

— (*with* Bandyopadhyay, D.) Fixed point theorems for multifunctions. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 77–86. 54H25 (54C60)

— (*with* Dutta, Chandana) Some results on subseries of divergent series. *J. Pure Math.* **12** (1995), 22–26. (Jozef Antoni) **98m:40001** 40A05

— (*with* Majumdar, Madhabendu) On some properties of the Cantor set. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 553–557. (From the introduction) **98i:04001** 04A20

— (*with* Majumdar, Madhabendu) Some results on sets of positive measure. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 277–281. (Summary) **98m:28002** 28A05

Ganguly, S. *see* **Ganguly, Sobhakar**

Ganguly, Snehasis (*with* Layton, Jeffrey B.; Balakrishna, C.; Kane, J. H.) A symmetric Galerkin multi-zone boundary element formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 2913–2931. 73V10

Ganguly, Sobhakar (*with* Bandyopadhyay, T.) Partially ordered topological spaces and semigroups. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 213–222. (Introduction) **98d:54060** 54F05 (06F30, 22A15)

Gani, Joseph Mark Modelling the spread of HIV in prisons. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 277–294, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (*see* **98e:60004**) 92C60

— (*with* Daley, Daryl J.) Some control methods for epidemics. (English summary) *Advances in the theory and practice of statistics*, 125–142, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 92C60

— *see also* **Conference: Applied Probability and Time Series Analysis, 98e:60004**

Ganief, Shahiem (*with* Moori, Jamshid) 2-generations of the smallest Fischer group Fi_{22}. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 2-3, 127–145. (N. K. Dickson) **98h:20025** 20D08

Ganikhodzhaev, N. N. (*with* Rozikov, U. A.) Description of periodic extreme Gibbs measures of some lattice models on a Cayley tree. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 109–117; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 480–486. (Nicolae Angelescu) **98k:82036** 82B20 (82B23)

Ganitanand Some mathematical lapses from Āryabhaṭa to Ramanujan. *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 31–47. (Victor J. Katz) **98e:01002** 01A05 (01A32)

Ganley, Joseph L. (*with* Cohoon, James P.) Improved computation of optimal rectilinear Steiner minimal trees. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 457–472. (Dieter Kratsch) **98j:68131** 68R10

— (*with* Heath, Lenwood S.) An experimental evaluation of local search heuristics for graph partitioning. (English summary) *Computing* **60** (1998), *no.* 2, 121–132. 90C35 (05C85)

Gannon, Frédéric (*with* Zenou, Yves) Segregation and labor discrimination in cities. (English and French summaries) *Ann. Économ. Statist.* **1997,** *no.* 45, 233–249. 90A50

Gannon, Terry (*with* Ruelle, P.; Walton, Mark A.) Automorphism modular invariants of current algebras. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 1, 121–156. (Jürgen Schulze) **98b:81226** 81T40 (17B67, 81R10)

— (*with* Walton, Mark A.) Galois relations on knot invariants. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 2, 185–194. (Summary) **98d:57012** 57M25 (11R32, 17B67)

— (*with* Cummins, C. J.) Modular equations and the genus zero property of moonshine functions. *Invent. Math.* **129** (1997), *no.* 3, 413–443. (Noriko Yui) **98k:11046** 11F22 (20D08)

— The level two and three modular invariants of SU(n). (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 3, 289–298. (Mark A. Walton) **98c:17021** 17B67 (11F22, 81R10, 81T40)

— $U(1)^m$ modular invariants, $N = 2$ minimal models, and the quantum Hall effect. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 3, 659–688. (Christoph Schweigert) **98c:81087** 81R10 (17B67, 81V70)

Ganor, Ori J. (*with* Sonnenschein, Jacob) The "dual" variables of Yang-Mills theory and local gauge-invariant variables. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 32, 5701–5728. (Summary) **98f:81199** 81T13

— (*with* Hanany, Amihay) Small E_8 instantons and tensionless non-critical strings. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 1, 122–138. (Daniel N. Kabat) **98c:81164** 81T30

— A test of the chiral E_8 current algebra on a 6D non-critical string. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 197–217. (Summary) **98g:81162** 81T30 (32J81)

— (*with* Morrison, David R.; Seiberg, Nathan) Branes, Calabi-Yau spaces, and toroidal compactification of the $N = 1$ six-dimensional E_8 theory. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 93–127. (Bruce Hunt) **98k:81205** 81T30 (32J81, 83E30)

— Six-dimensional tensionless strings in the large N limit. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 95–121. (Summary) **98i:81200** 81T30 (83E30)

— (*with* Ramgoolam, Sanjaye; Taylor, Washington, IV) Branes, fluxes and duality in M(atrix)-theory. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 191–204. (Angel Maria Uranga) **98e:81138** 81T30 (83E30)

— (*with* Gopakumar, Rajesh; Ramgoolam, Sanjaye) Higher loop effects in M(atrix) orbifolds. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 243–263. (Summary) **98j:81271** 81T30

Ganov, V. A. On an extension of Nudel′man's theory SCT. (Russian. Russian summary) *Vychisl. Sistemy No.* 152, *Teor. Vychisl. i Yazyki Spets.* (1995), 202–208, 219. (Constantin Milici) **98c:03100** 03E30

Ganova, R. V. On a certain nontraditional version of computations with oracles. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **5** (1995), *no.* 2, 38–47. (Summary) **98g:03112** 03D55 (03D10, 68Q05)

Ganster, Maximilian (*with* Dontchev, Julian) On covering spaces with semi-regular sets. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 229–245. (Summary) **98d:54040** 54D20 (54H05)

— (*with* Dontchev, Julian) A decomposition of irresoluteness. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 41–46. (From the text) **98k:54005** 54A40 (54C10)

— (*with* Arockia Rani, I.; Balachandran, Krishnan) Regular generalized locally closed sets and RGL-continuous functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 661–669. 54C99 (54A99)

— (*with* Arenas, Francisco G.; Dontchev, Julian) On λ-sets and the dual of generalized continuity. *Questions Answers Gen. Topology* **15** (1997), *no.* 1, 3–13. (From the introduction) **98c:54009** 54C05 (54C08, 54D10, 54H05)

— (*with* Kanibir, Alev) On pairwise S-closed spaces. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 129–136. (Summary) **98g:54067** 54E55 (54D20, 54G05)

— (*with* Kanibir, Alev) An answer to a question of Dorsett. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 33–36. (Summary) **98j:54003** 54A10 (54G05)

— (*with* Dontchev, Julian) Codense ideals, local $\mathcal{I}$-compactness and three questions of Rose and Hamlett. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 37–40. 54D30 (54A20, 54D45, 54H05)

Ganter, Frieda M. Properties of $-P \cdot P$ for Gorenstein surface singularities. *Math. Z.* **223** (1996), *no.* 3, 411–419. (From the introduction) **98e:14035** 14J17

Gantert, Nina (*with* Föllmer, Hans) Entropy minimization and Schrödinger processes in infinite dimensions. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 901–926. (Luis G. Gorostiza) **98a:60111** 60J60 (60F10, 60J45)

Gantes, Ch. (*with* Bolotin, V. V.; Grishko, A. A.; Kounadis, Anthony N.; Roberts, J. B.) Influence of initial conditions on the postcritical behavior of a nonlinear aeroelastic system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 63–81. 73K70 (58F40, 73H10)

Ganz, Jürg Factoring polynomials using binary representations of finite fields. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 147–153. (Stefan Dodunekov) **98e:11138** 11T06 (11Y16)

Ganzburg, Michael Limit relations in approximation theory and their applications. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX*, 1995), 223–232, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A65 (41A29, 46B20)

Ganzha, E. I. (*with* Tsarev, S. P.) An algebraic superposition formula and the completeness of Bäcklund transformations of $(2 + 1)$-dimensional integrable systems. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 197–198; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1200–1202. (J. Chrastina) **98b:58153** 58F37 (35Q58, 53A99)

— Higher conservation laws of nonhomogeneous systems of hydrodynamic type. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 1, 86–87; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 46–47. 35Q35 (35L65, 58F37)

Ganzinger, Harald (*with* Basin, David) Complexity analysis based on ordered resolution. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ*, 1996), 456–465, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98d:68180** 68T15 (03B35, 03D15)

— (*with* Meyer, Christoph; Weidenbach, Christoph) Soft typing for ordered resolution. (English summary) *Automated deduction—CADE-14 (Townsville*, 1997), 321–335, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68T15 (03B35)

— *see also* **Rewriting techniques and applications, 98h:68011**

Gao, Ai Jun (*with* Pasik-Duncan, Bożenna) Stochastic linear quadratic adaptive control for continuous-time first-order systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 149–154. (Ł. Stettner) **98g:93055** 93E20 (93C40, 93E12, 93E35)

Gao, Biao (*with* Du, Ding Zhu; Wu, Weili) A special case for subset interconnection designs. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 51–60. (Summary) **98e:05099** 05C85

— (*with* Fishburn, Peter C.; Hwang, Frank K.; Du, Ding Zhu) On 1-rate wide-sense nonblocking for 3-stage Clos networks. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 75–87. (Summary) **98f:05140** 05C90 (68M10)

— (*with* Hwang, Frank K.) Wide-sense nonblocking for multirate 3-stage Clos networks. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 171–182. (Summary) **98e:68008** 68M10

Gao, Canzhu (*with* Shi, Yu Ming[1]) Singular perturbations of a higher-order scalar nonlinear boundary value problem. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 167–179. (Summary) **98f:34030** 34B15 (34E15)

Gao, Ce Li Global solutions to initial-boundary value problems for pseudoparabolic equations and their asymptotic behavior. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 6, 10–12. 35K70 (35B40)

Gao, Chengyun (*with* Wang, Chang Yu; Shi, Zhen Jun) An algorithm for continuous type optimal location problem. (English summary) *Comput. Optim. Appl.* **7** (1997), *no.* 2, 239–253. (I. Norman Katz) **98a:90107** 90C30 (65K05)

Gao, Chunyi Fekete-Szegö problem for strongly Bazilevič functions. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 469–474. (Wolfram Koepf) **98g:30021** 30C45

Gao, Cun Chen (*with* Yue, Dong; Liu, Yong Qing) Output variable structure control of distributed parameter systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 244–248. 93B10 (93C05)

— (*with* Yue, Dong; Liu, Yong Qing) Robust control of a class of uncertain singularly perturbed systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 742–747. 93D09 (93C70)

— (*with* Zhang, Xin Zheng; Liu, Yong Qing) Structure and interconnected stabilization of the multi-groups multi-delays neutral linear time-invariant interconnected control systems with the time-delay input control. (English summary) *J. Biomath.* **12** (1997), *no.* 4, 289–299. 93C83 (34K35, 93D15)

— (*with* Liang, Jia Rong; Liu, Yong Qing) Almost periodic solutions to singular systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 325–328. 34C27 (34A09)

Gao, Dao-Neng (*with* Yan, Mu Lin) Intrinsic loop regularization and gauge invariance. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 241–248. (A. L. Rebenko) **98e:81115** 81T16 (81V10)

Gao, David Yang *see* **Gao, Yang**

Gao, Feng[4] Nonnegative solutions of a class of parametric integro-differential equations. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 4, 65–71. (Ming Zhu Yang) **98g:45012** 45K05 (82D75)

Gao, Fu Qing A law of the iterated logarithm for transient Brownian motion. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 3, 256–262. 60F15 (60J65)

— Large deviations of (r, p)-capacities for diffusion processes. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 6, 500–509. (Zhongmin Qian) **98j:60076** 60H07 (60F10)

Gao, Fu Shun A criterion for generalized diagonal dominance of matrices. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 4, 36–40. 15A57

Gao, Furong (*with* Tian, Yu-Chu) Extraction of delay information from chaotic time series based on information entropy. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 113–118. (Summary) **98e:58122** 58F13 (58F40)

Gao, Guo Cheng Asymptotic stability of the trivial solution to nonlinear and nonautonomous systems. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **15** (1996), *no.* 1, 100–104. (Jialin Hong) **98d:34078** 34D05

Gao, Guo Zhu (*with* Huang, Zhen Xun) Estimates of the number of zeros of solutions to some classes of second-order functional-differential equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 533–538. (Yi Zhong Lin) **98b:34090** 34K15

Gao, Guogang (*with* Wang, Yi Ju; Zhou, Hui Shan) Star chromatic numbers of some planar graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 33–42. (H. L. Abbott) **98k:05066** 05C15

Gao, H. B. Comments on D-brane and SO($2n$) enhanced symmetry in type II string. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 55–60. (Summary) **98b:81190** 81T30 (83E30)

Gao, Hai-xiao (*with* Li, Zi-Ping) Quantal global symmetry for a gauge-invariant system. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1071–1083. (Gheorghe Zet) **98d:81056** 81T13

Gao, Hang Optimality conditions for a class of distributed parameter system. *Chinese Sci. Bull.* **41** (1996), *no.* 18, 1501–1505. (P. K. C. Wang) **98c:49047** 49K20

— A class of control problems with coefficients of degenerate elliptic equations as control variables. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 1–5. (Summary) **98f:49024** 49K20 (35J70, 49J20)

— (*with* Yin, Jing Xue) Behavior of solutions to a degenerate diffusion problem. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 2, 188–195. (Ying Guo Lei) **98d:35121** 35K65 (35B30)

— A class of domain optimization problems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 545–552; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 373–382 (1998). (Qin Xu) **98j:49056** 49Q10 (35J15, 49J20)

Gao, Hang Shan (*with* Ma, Run Nian) On (g, f)-factorizations of graphs. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 4, 407–410; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 381–384 (*Chinese. English and Chinese summaries*). (Summary) **98b:05080** 05C70

Gao, Hong-jun (*with* Guo, Bo Ling) Finite-dimensional behavior for a generalized Ginzburg-Landau equation. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **5** (1995), *no.* 5, 599–610. (Woodford W. Zachary) **98d:35205a** 35Q55

— An explicit exact solution of a nonlinear Schrödinger equation for short ultraintense laser pulse in an underdense plasma. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 8, 561–564. (Summary) **98c:35151** 35Q55 (82D10)

— (*with* Guo, Bo Ling) Number of determining nodes for generalized Ginzburg-Landau equation. *Progr. Natur. Sci.* (*English Ed.*) **6** (1996), *no.* 1, 102–104. (Woodford W. Zachary) **98d:35205b** 35Q55

— (*with* Duan, Jinqiao; Bu, Charles; Taboada, Mario) On a coupled Kuramoto-Sivashinsky and Ginzburg-Landau-type model for the Marangoni convection. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2465–2474. (Summary) **98c:76037** 76E15 (35Q35, 76E30, 76R10)

— (*with* Guo, Bo Ling) On the number of determining nodes for the generalized Ginzburg-Landau equation. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 97–106. (Peter E. Zhidkov) **98e:35153** 35Q55 (35B32)

— (*with* Guo, Bo Ling; Yuan, Guang Wei) Finite energy solution for the hyperbolic type Ginzburg-Landau system. *Progr. Natur. Sci.* (*English Ed.*) **7** (1997), *no.* 4, 483–488. (Yuanming Wang) **98i:35176** 35Q55 (35L70, 82D55)

— (*with* Guo, Bo Ling) Remarks on the global attractors of semigroups having a Lyapunov functional. *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 1, 106–108. 47H20 (34D45, 35B40, 35L70)

— (*with* Duan, Jinqiao) A remark on the coupled Kuramoto-Sivashinsky and Ginzburg-Landau equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 83–90. (Summary) **98i:35150** 35Q35 (35Q55)

Gao, Hong-Ye[2] (*with* Bruce, Andrew G.) Understanding WaveShrink: variance and bias estimation. (English summary) *Biometrika* **83** (1996), *no.* 4, 727–745. (Li-Xing Zhu) **98c:62058** 62G05 (62G15)

— Choice of thresholds for wavelet shrinkage estimate of the spectrum. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 3, 231–251. (Hartmut Milbrodt) **98k:62165** 62M15 (62G05)

— (*with* Bruce, Andrew G.) WaveShrink with firm shrinkage. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 855–874. (Summary) **98m:62094** 62G05

Gao, Ji An application of elementary geometry in functional analysis. *College Math. J.* **28** (1997), *no.* 1, 39–43. (Wolfgang Lusky) **98a:46031** 46C05 (46B20, 52A21)

Gao, Ji Ti (*with* Hong, Shengyan; Liang, Hua) Berry-Esseen bounds of error variance estimation in partly linear models. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 477–490. (Li-Xing Zhu) **98g:62045** 62F12 (62J02)

— (*with* Liang, Hua) Some results on asymptotic efficiency in a generalized semiparametric regression model. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 213–220. 62G05 (62J02)

— (*with* Liang, Hua) Statistical inference in single-index and partially nonlinear models. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 493–517. (Summary) **98k:62054** 62G05 (62J02)

— Adaptive parametric test in a semiparametric regression model. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 787–800. (Zuzana Prášková) **98e:62073** 62G07 (62E20, 62J02, 65U05)

— (*with* Shi, Peide) M-type smoothing splines in nonparametric and semiparametric regression models. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1155–1169. (Summary) **98k:62055** 62G05

Gao, Jin Hua (*with* Shen, Yuan Sheng) A direct search method for variational principles and a variational principle for the least squares method. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 3, 266–273. 65K10 (65F30)

Gao, Jun[2] (*with* Gao, Xiao-Chun; Fu, Jian; Wang, Lan[1]) The invariant-related unitary transformation method and the evolution of quantum scalar field in Robertson-Walker flat spacetime. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 3, 355–362. (Enric Verdaguer) **98j:81229** 81T20

Gao, Jun Bin A class of abstract Newton interpolation methods. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 11, 99–100, 103. 41A63 (65D15)

Gao, Ke Lin (*with* Fang, Xi Ming; Feng, Mang; Shi, Lei[3]; Zhu, Xi Wen) Exact solutions to the Jaynes-Cummings model by the rotationless wave approximation in the coherent-state representation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2160–2165. 81V80

Gao, Lan (*with* Nakayama, Junichi; Tamura, Yasuhiko) Scattering of a plane wave from a periodic random surface: a probabilistic approach. (English summary) *Waves Random Media* **7** (1997), *no.* 1, 65–78. (Summary) **98b:78037** 78A45

Gao, Lan Chang (*with* Li, Rui Ming; Jiang, Zhao Lin) Domains of superior convergence of the USSOR method compared to the SOR and SSOR methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 149–155. 65F10

Gao, Lei (*with* Liu, Ji Ke) A successive approximation procedure for the generalized eigenvalue perturbation problem. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 11–15. 70–08 (70J10)

Gao, Li (*with* Wang, Hui[1]; Chen, Guo Hui) Primitive roots modulo n and their divisibility. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 29–33. (Ze-Li Dou) **98f:11003** 11A07 (11L05)

— (*with* Wang, Hui[1]; Hu, Zhi Xing) The distribution of the difference between the D. H. Lehmer number and its inverse in the primitive roots modulo q. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **26** (1996), *no.* 4, 281–284. (Wen-Bin Zhang) **98e:11111** 11N69 (11L05, 11N37)

— (*with* Wang, Hui[1]; Hu, Zhi Xing) The distribution of the D. H. Lehmer numbers among the primitive roots modulo q. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 2, 84–88. (Summary) **98i:11082** 11N69 (11L05, 11N37)

— (*with* Wang, Hui[1]; Hu, Zhi Xing) Divisibility of primitive roots and their inverses modulo N. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 429–436. (Zun Shan) **98k:11114** 11L05 (11A07)

— (*with* Wang, Hui[1]; Hu, Zhi Xing) The distribution of primitive roots modulo n and a generalization. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 3, 190–194. (Jie Wu) **98f:11103** 11N37

— (*with* Zhao, Zhen[4]; Wang, Hui[1]; Hu, Zhi Xing) A problem associated with Golomb's conjecture. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 104–108. (Ping Ding) **98k:11131** 11N56 (11A07)

Gao, Li Ping Localization and the minimum group congruence of a strongly π-inverse semigroup. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 193–198. 20M18

Gao, Li Qun (*with* Yan, Xing-Gang; Zhang, Si Ying) Structural holographic robust control for a class of uncertain nonlinear similar composite systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 654–659. 93C41 (93B36)

— (*with* Lu, Li Lei; Zhang, Si Ying) The design of robust controllers and observers for a class of linear composite systems with uncertainties. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 773–776. 93D09 (93B51, 93C41)

Gao, Ling Yun m component-admissible solutions of systems of differential equations in the complex domain. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 149–154. (Hong Xun Yi) **98f:34004** 34A20 (30D35)

— On a basic inequality of Hennekemper. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 133–136. (Summary) **98h:30047** 30D35

— Admissible algebroid solutions of a class of differential equations in the complex domain. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 272–277. (Hong Xun Yi) **98m:34011** 34A20 (30D35)

— The exactness of the Mokhon'ko inequality. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 44–49. (Summary) **98k:30003** 30A10

Gao, Liyan (*with* OuYang, Keyi) On a conjecture of Ringel. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 308–312, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:05059** 05C05

Gao, Long Chang An elastic oscillation model for goods in a shortage market. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 12, 1211–1218; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1131–1138 (*Chinese. English and Chinese summaries*). 90A60

Gao, Ming Chu Mild C-well-posedness of the complete second-order abstract Cauchy problem. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 2, 186–192. (Ti Jun Xiao) **98k:34094** 34G10 (47D06)

Gao, Ming Zhe (*with* Yang, Bi Cheng) An optimal constant in the Hardy-Hilbert inequality. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 2, 159–164. (Summary) **98h:26029** 26D15

— A supremum on Hilbert's inequality with weights. (English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 5–9. (Summary) **98j:26010** 26D15

— On Hilbert's inequality and its applications. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 316–323. (Summary) **98b:26014** 26D15

— (*with* Yang, Bi Cheng) On the extended Hilbert's inequality. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 751–759. (L. Losonczi) **98f:26015** 26D15

Gao, Pu Yun A new method for the construction of integrable Hamiltonian systems. *Appl. Math. Mech.* (*English Ed.*) **17** (1996), *no.* 10, 993–998; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 933–938 (*Chinese. English and Chinese summaries*). (Christine Médan) **98g:70012** 70H05

Gao, Qi Ren Uniqueness theorems for α-harmonic functions. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **35** (1996), *no.* 6, 825–829. (Shan Shuang Yang) **98g:31006** 31B25

Gao, Qing (*with* Li, Li-Kang) Interpolated boundary conditions in plate bending problems using C^1-curved finite elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 235–255. (Pekka Neittaanmäki) **98g:73038** 73V05 (73K10)

Gao, Qingshi (*with* Liu, Zhiyong) Sloping-and-shaking—multiway merging and sorting. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 225–234. (Summary) **98f:68057**

68P10

Gao, She Sheng (*with* Zhu, Yan Tang) Weak convergence of smooth randomly weighted estimates of empirical quantile point processes. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 146–150. 62G20 (60F05, 62G05)

Gao, Shi-An (*with* Chen, Te Wei; Chen, Zong-Xuan) A note concerning the complex oscillation and the growth of solutions for higher order homogeneous linear differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 109–117. (Summary) **98f:34005** 34A20 (30D35)

Gao, Shu Ping (*with* Li, Jun Min; Xing, Ke Yi) A robust multivariable adaptive pole placement algorithm. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 598–604. 93B55 (93B40)

— (*with* Li, Jun Min; Wan, Bai Wu; Xing, Ke Yi) A recursive algorithm for multivariable pole placement. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 260–265. 93B55 (93B40)

Gao, Shuhong (*with* Blake, Ian F.; Lambert, Robert J.) Construction and distribution problems for irreducible trinomials over finite fields. (English summary) *Applications of finite fields (Egham, 1994)*, 19–32, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Igor E. Shparlinski) **98a:11170** 11T06

— (*with* Panario, Daniel) Density of normal elements. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 141–150. (Joachim von zur Gathen) **98c:11137** 11T55

— (*with* Blake, Ian F.; Mullin, Ronald C.) Specific irreducible polynomials with linearly independent roots over finite fields. (English summary) *Linear Algebra Appl.* **253** (1997), 227–249. (Dirk Hachenberger) **98a:11171** 11T06

— (*with* von zur Gathen, Joachim; Panario, Daniel) Gauss periods: orders and cryptographical applications. (English summary) With microfiche supplement. *Math. Comp.* **67** (1998), *no.* 221, 343–352. (Igor E. Shparlinski) **98c:11134** 11T30 (11T71, 94A60)

Gao, Suo Gang (*with* Gao, You) Using a class of 1-dimensional nonisotropic subspaces in a pseudosymplectic geometry over a finite field to construct PBIB designs. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 29–35. (Ji Zhong) **98g:05029** 05B25 (05B30)

Gao, Taiping (*with* Li, Hao[1]; Wei, Bing[1]) Longest cycles in 2-connected claw-free graphs. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 176–182. (Akira Saito) **98d:05081** 05C38 (05C45)

Gao, Ting A new characterization of the prime radical for lattice-ordered rings. *Rings and radicals (Shijiazhuang, 1994)*, 170–177, *Pitman Res. Notes Math. Ser.*, 346, *Longman, Harlow*, 1996. (From the introduction) **98m:06025** 06F25 (16N80)

Gao, W. D. *see* **Errata: "Addition theorems and group rings"**

Gao, Wang Dong (*with* Jiang, Jia Hui; Zhang, Yong[2]) A center-line method for solving large-scale sparse systems of linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 92–98. 65F50

Gao, Wen Zhi Simplified steps for fast computation of products of block L-circulant Toeplitz matrices using FFT. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 431–436. 65F30 (65T20)

Gao, Wenfeng (*with* Mináč, Ján) Milnor's conjecture and Galois theory. I. (English summary) *Algebraic K-theory (Toronto, ON, 1996)*, 95–110, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Ido Efrat) **98h:12006** 12G05 (11E04)

Gao, Wenjie (*with* Wang, Jun Yu) Existence of positive solutions to a singular two-point boundary value problem. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 307–312. (Summary) **98e:34044** 34B15

— (*with* Yin, Jing Xue) Flows through nonhomogeneous porous media in an isolated environment. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 333–346. (Gaston E. Hernandez) **98k:76139** 76S05 (35K35)

Gao, Xiao-Chun (*with* Gao, Jun[2]; Fu, Jian; Wang, Lan[1]) The invariant-related unitary transformation method and the evolution of quantum scalar field in Robertson-Walker flat spacetime. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 3, 355–362. (Enric Verdaguer) **98j:81229** 81T20

Gao, Xie Ping (*with* Shu, Shi; Fu, Kai Xin) Asymptotic expansions for quintic spline interpolation on semi-infinite interval and the spline-on-spline approximation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 7–12. (Summary) **98j:41005** 41A15

Gao, Xin-Lin (*with* Atluri, Satya N.) An exact finite deformation elastoplastic solution for the outside-in free eversion problem of a tube of elastic linear-hardening material. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 259–275. (Summary) **98h:73047** 73E99 (73G20)

Gao, Xuedong (*with* Li, Zongyuan) Synthesis of optimal feedback controls for piecewise linear system. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 473–480. (F. M. Kirillova) **98k:49031** 49K15 (49N35, 93B51)

— (*with* Kirillova, F. M.) Optimization of control systems with a piecewise-linear output. (English summary) *Optimization* **42** (1997), *no.* 2, 109–123. (Summary) **98i:49025** 49K15 (49N05)

Gao, Y. T. *see* **Gao, Yi Tian**

Gao, Ya-Jun Extended double soliton solution families for the statically axisymmetric self-dual SU(2) gauge field equations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1843–1856. (Gheorghe Zet) **98i:81156** 81T13 (81U40)

Gao, Yan *see* **Gao, Yan[3]**

Gao, Yan[1] (*with* Chen, Wan Ji) Axisymmetric nonconforming element method and its convergence analysis. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 422–431. (Zhangxin Chen) **98b:65128** 65N30 (65N12)

Gao, Yan[3] Superrigidity for homomorphisms into isometry groups of CAT(−1) spaces. (English summary) *Transform. Groups* **2** (1997), *no.* 3, 289–323. (Raul Quiroga) **98h:53085** 53C35 (22E40)

Gao, Yang Contact problems and dual variational inequality of 2-D elastoplastic beam theory. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 10, 953–968; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 895–908 (*Chinese. English and Chinese summaries*). (J. T. Oden) **98e:73119** 73T05 (73E05, 73E20, 73K05, 73V25)

Gao, Yi Solving symmetric monotone linear variational inequalities by some modified Levitin-Polyak projection methods. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 150–158. 90C33 (49J40)

Gao, Yi Ming (*with* Wang, Dian Xuan; Yu, Hai Lan) Criteria for positive solutions of positive linear systems of equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 601–604. 15A06

Gao, Yi Tian (*with* Tian, Bo) Solutions of a variable-coefficient Kadomtsev-Petviashvili equation via computer algebra. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 125–130. (Summary) **98b:35004** 35–04 (35Q53)

— (*with* Tian, Bo) Extending the generalized tanh method to the generalized Hamiltonian equations: new soliton-like solutions. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 125–127. 35Q51 (35Q53)

— (*with* Tian, Bo) Extension of generalized tanh method and soliton-like solutions for a set of nonlinear evolution equations. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 10, 1651–1653. 35Q53

— (*with* Tian, Bo) Analytical solving of a deformed KdV equation. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 6, 603–606. (Summary) **98f:58115** 58F07 (35C99, 35Q53)

— (*with* Tian, Bo; Zhao, Keyi) Symbolic computation in engineering: application to a breaking soliton equation. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1081–1083. 35C05 (35Q51, 76B25)

— (*with* Tian, Bo) Hyperbolic secant-tangent method, coupled quantum-field equations and static solitons. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 5, 819–821. (Summary) **98j:81202** 81T10

— (*with* Tian, Bo) On an analytical method and soliton-typed solutions for certain variable-coefficient partial differential equations in nonlinear mechanics. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 137–140. 35Q53

Gao, Yin-Zhu A note concerning the Collins, Reed, Roscoe, Rudin metrization theorem. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 73–82. (From the introduction) **98b:54037a** 54E18 (54E20)

— Erratum to: "A note concerning the Collins, Reed, Roscoe, Rudin metrization theorem". *Topology Appl.* **76** (1997), *no.* 3, 283–284. (Editors) **98b:54037b** 54E18 (54E20)

Gao, Yong Xing Existence and uniqueness of solutions to two-point boundary value problems for nonlinear fourth-order ordinary differential equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 1, 5–9. (Hong Xiang Li) **98e:34035** 34B15

Gao, You (*with* Gao, Suo Gang) Using a class of 1-dimensional nonisotropic subspaces in a pseudosymplectic geometry over a finite field to construct PBIB designs. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 29–35. (Ji Zhong) **98g:05029** 05B25 (05B30)

Gao, Yuan Yuan (*with* Wang, Da Hai; Liu, Ming Hui) The four classes of cutting sets and the corresponding four classes of ensembles flous. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 1, 18–19. 04A72

Gao, Yuling (*with* Sun, Fengpo) Formulae for the general terms of the generalized Yang Hui's triangle. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 587–593. 05A10

Gao, Yun *see* **Gao, Yun[3]**

Gao, Yun[1] Involutive Lie algebras graded by finite root systems and compact forms of IM algebras. *Math. Z.* **223** (1996), *no.* 4, 651–672. (Yu Ting Jia) **98b:17026** 17B65 (17B70)

— (*with* Allison, Bruce N.; Berman, Stephen; Pianzola, Arturo) A characterization of affine Kac-Moody Lie algebras. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 671–688. (Mirko Primc) **98h:17026** 17B67

Gao, Yun[3] (*with* Aizicovici, Sergiu) Functional-differential equations with nonlocal initial conditions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 145–156. (Ludwik Byszewski) **98f:34117** 34K30 (34G20, 45N05, 47H15, 47N20)

Gao, Z. Y. *see* **Gao, Zi You**

Gao, Zhan Yang (*with* Zeng, Wen Qu) A study of the Kalikow problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 159–164. 60J15

Gao, Zhanhai (*with* Li, Sichun) Existence of multiple periodic solutions to a nonlinear integral equation from the theory of epidemics. (English summary) *J. Biomath.* **11** (1996), *no.* 2, 11–16. (H. A. DeKleine) **98c:45019c** 45M15 (45G10, 47H15, 47N20, 92D30)

— (*with* Zhang, Di[1]) Existence of periodic solutions to a class of nonlinear non-autonomous systems. (English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 2, 28–31. (Bo Hua Yu) **98c:34069** 34C25

Gao, Zhen Lin (*with* Yang, Yi Min[1]) A criterion for generalized positive definite matrices and an algorithm for converting matrices into meta-positive definite matrices. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 37–44. 65F30

Gao, Zheng (*with* Chen, Feng; Villasenor, John) Lattice vector quantization of generalized Gaussian sources. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 92–103. 94A34

Gao, Zhi min (*with* Wu, Yue xiang; Tanaka, Yoshio) Theory of g-metrizable spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 1–9. 54E35 (54A25)

— $\aleph$-spaces and g-metrizable spaces and CF family. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 153–159. (Summary) **98m:54032** 54E35

Gao, Zhicheng (*with* Rahman, Mizan) Enumeration of k-poles. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 55–66. (Edward A. Bender) **98k:05085** 05C30

— (*with* Yu, Xingxing) Tutte cycles in circuit graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 113–124. (Summary) **98i:05107** 05C38

Gao, Zi You A generalized gradient method for nonlinear constraints and its convergent properties. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 2, 140–144. (Marco Gaviano) **98a:90098** 90C30 (65K05)

— (*with* Wu, Fang) A superlinearly convergent feasible method for nonlinear programming with nonlinear inequality constraints. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 895–900. (Summary) **98m:65105** 65K05 (90C20, 90C30)

— (*with* He, Guo Ping; Diao, Bai Qing) An SQP algorithm with nonmonotone line search for general nonlinear constrained optimization problem. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 179–192. (Summary) **98c:90133** 90C30 (65K05)

— (*with* He, Guo Ping; Wu, Fang) Sequential systems of linear equations algorithm for nonlinear optimization problems with general constraints. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 371–397. (K. Schittkowski) **98k:90107** 90C30 (65K05)
— (*with* He, Guo Ping; Lai, Yanlian) New sequential quadratic programming algorithm with consistent subproblems. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 137–150. (José Mario Martínez) **98e:90159** 90C30 (65K05)
Gao, Zong Sheng (*with* Sun, Dao Chun) A fundamental inequality for quasiconformal mappings and its application. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 423–430. (Guo Chun Wen) **98f:30020** 30C62
— Sequences of filling circles and Borel directions of meromorphic functions. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 11–17. (Lo Yang) **98e:30033** 30D35
Gao, Zun Hai (*with* Tian, Chuan Jun; Xie, Chao Rong) Oscillation of solutions to first-order semilinear difference equations with delays. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 377–380. 39A11
Gapeev, P. V. Calculation of the upper and lower prices of European-type options. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 199–200; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 828–829. (From the text) **98f:90006** 90A09
Gaponov, S. A. (*with* Dëmin, V. S.) Conditions for the onset of self-induced oscillations in a pipe in the case of gas overflow at the pipe's entrance. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **35** (1994), *no.* 6, 31–39; *translation in J. Appl. Mech. Tech. Phys.* **35** (1994), *no.* 6, 837–843 (1995). (From the text) **98c:73055** 73K12 (73K70, 76E99)
Gaponov-Grekhov, A. V. (*with* Rabinovich, M. I.) Problems in current nonlinear dynamics. (Russian. Russian summary) *Vestnik Ross. Akad. Nauk* **67** (1997), *no.* 7, 608–614. 00A05 (00A69)
— *see also* **Afraimovich, V. S. et al., 98a:58108**
Gapski, P. B. (*with* Geromel, J. C.) Synthesis of positive real $\mathcal{H}_2$ controllers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 988–992. 93B50 (93B36)
— (*with* Geromel, J. C.) LMI approach to the real parametric robust stability problem with multipliers. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 599–610. 93D05 (93D15)
Garabedian, P. R. A comment about Runge's theorem. *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 4, 211–213. (From the text) **98c:30047** 30E10
Garaev, K. G. A remark on the Bellman principle of optimality. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 395–400. (Rolf Klötzler) **98m:49041** 49K15
Garaev, M. Z. On the Diophantine equation $x^3 + y^3 + z^3 = nxyz$. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 57–58; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 40–41. 11D25
Garagash, T. I. (*with* Pogrebkov, A. K.) Solution of the Cauchy problem for the Boiti-Leon-Pempinelli equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 2, 163–174; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 2, 1369–1378 (1997). (Summary) **98i:35164** 35Q53 (35L70)
Gărăjeu, M. (*with* Suquet, P.) Effective properties of porous ideally plastic or viscoplastic materials containing rigid particles. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 6, 873–902. (Summary) **98b:73003** 73B27 (73E05, 73K20)
Garandet, J. P. (*with* Alboussière, T.; Moreau, R.) Asymptotic flows in nonuniform magnetic fields. (English summary) *Magnetohydrodynamics* **32** (1996), *no.* 4, 359–366 (1997). (Summary) **98f:76078** 76W05
Garattini, R. Energy computation in wormhole background with the Wheeler-DeWitt operators. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 316–319. (*see* **98f:83002**) 83C45
Garay, Barnabas M. ω-limit sets in Banach spaces. *Differential equations and its applications (Budapest, 1991)*, 139–158, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 58F99 (46B20, 47H99)
— Hyperbolic structures in ODE's and their discretization with an appendix on differentiability properties of the inversion operator. (English summary) *Non-linear analysis and boundary value problems for ordinary differential equations (Udine)*, 149–173, *CISM Courses and Lectures*, 371, *Springer, Vienna*, 1996. (Michal Fečkan) **98e:34091** 34C35 (34A45, 34C99, 34D30, 47H15, 58C20, 58F15, 65L99)
— (*with* Hofbauer, Josef) Chain recurrence and discretisation. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 1, 63–71. (Elsayed Mohamed E. Zayed) **98a:34054** 34D45 (34A45, 34C35, 58F12)
— (*with* Kloeden, Peter E.) Discretization near compact invariant sets. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 2-3, 93–123. (Beverly Diamond) **98k:65038** 65L05 (34C35, 34D45, 55M25, 58F10)
— The discretized flow on domains of attraction: a structural stability result. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 77–90. (Peter E. Kloeden) **98m:34109** 34D45 (34A45, 65L05)
Garay, Jose (*with* Agud, L.; Catalán, O. R. G.) Two mathematical applications of Buckingham's Pi theorem. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 7–17. (I. Grattan-Guinness) **98c:00010** 00A73 (26B05)
Garay, Juan A. (*with* Gopal, Inder S.; Kutten, Shay; Mansour, Yishay; Yung, Moti) Efficient on-line call control algorithms. (English summary) *J. Algorithms* **23** (1997), *no.* 1, 180–194. (Summary) **98a:90045** 90B12 (68M10)
Garay, Luis J. (*with* González-Díaz, Pedro F.; Mena Marugán, Guillermo A.; Raya, José M.) Circular strings, wormholes, and minimum size. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7872–7877. (Summary) **98c:83096** 83E30 (81T20, 81T30)
— Spacetime foam as a quantum thermal bath. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 12, 2508–2511. (Summary) **98m:83031** 83C45
Garay, O. J. (*with* Arroyo, J.; Barros, Manuel) A characterisation of helices and Cornu spirals in real space forms. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 37–49. (Pascual Lucas Saorín) **98m:53070** 53C40 (53A04)
Garbaczewski, Piotr Lévy processes and relativistic quantum dynamics. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 75–86, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98f:60143** 60J30 (81S30)
— (*with* Kondrat, Grzegorz; Olkiewicz, Robert) Schrödinger's interpolating dynamics and Burgers' flows. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 29–41. (*see* **98k:58002**) 35R60 (35B99, 35Q53, 35Q55, 81P05)
— *see also* **Gillespie, Daniel T., 98a:81094**
Garber, David (*with* Tsaban, Boaz) On the rabbinical approximation of π. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 1, 75–84. (Summary) **98m:01004** 01A35 (01A17)
Garbey, Marc (*with* Kaper, Hans G.) Heterogeneous domain decomposition for singularly perturbed elliptic boundary value problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1513–1544. (Zheng Hui Xie) **98d:65158** 65N55 (35B25, 35J99)
— (*with* El Hamidi, A.) Using MAPLE for the analysis of bifurcation phenomena in gas combustion. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 249–262. (Summary) **98f:80005** 80A25 (76-04, 76N15, 80-04)
Garbiero, S. (*with* Abbena, E.; Salamon, Simon) Hermitian geometry on the Iwasawa manifold. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 231–249. (Massimiliano Pontecorvo) **98e:53121** 53C56 (53C15, 53C30)
di Garbo, A. *see* **Di Garbo, A.**
García, Alberto *see* **García Díaz, Alberto**
García, Alejandro L. (*with* Alder, Berni J.) Generation of the Chapman-Enskog distribution. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 66–70. 76P05 (76M35)
García, Alfredo (*with* Abellanas, Manuel; Tejel, F. Javier) Notes on sequences of realizable depths. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 121–130, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)
— (*with* Tejel, F. Javier) The two-convex-polygons TSP: a solvable case. (English summary) *Top* **5** (1997), *no.* 1, 105–126. (Summary) **98h:90059** 90C27
García, Alicia (*with* Sánchez, Cristián U.; Dal Lago, Walter; Hulett, Eduardo G.) On some properties which characterize symmetric and general R-spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 291–302. (Anna M. Fino) **98j:53061** 53C35 (53C30)
García, Angel *see* **Landscape paradigms in physics and biology, 98g:82002**
García, Antonio G. (*with* Álvarez-Nodarse, R.; Marcellán, Francisco) On the properties for modifications of classical orthogonal polynomials of discrete variables. (English summary) Proceedings of the International Conference on Orthogonality, Moment Problems and Continued Fractions (Delft, 1994). *J. Comput. Appl. Math.* **65** (1995), *no.* 1-3, 3–18. (T. S. Chihara) **98b:33018** 33C45
— The Paley-Wiener-Levinson theorem revisited. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 229–234. (Summary) **98g:42014** 42A38 (30D10, 30D20, 41A30)
— (*with* Zayed, Ahmed I.) Sampling theorem associated with a Dirac operator and the Hartley transform. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 587–598. (Hans-Jürgen Schmeisser) **98k:42009** 42A99 (34L10, 34L40, 94A12)
García, Arnaldo (*with* Stichtenoth, Henning; Thomas, Michael[2]) On towers and composita of towers of function fields over finite fields. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 257–274. (Martha Rzedowski-Calderón) **98e:11132** 11R58 (11G20)
— (*with* Fuhrmann, Rainer; Torres, Fernando) On maximal curves. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 29–51. (Gabriel D. Villa-Salvador) **98k:11077** 11G20 (11R58, 14G15)
— A note on relative dimensions of rings and conductors in function fields. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 67–74. (Summary) **98b:14032** 14H20
García, C. *see* **García, Christine**
bona García, Carles *see* **Bona García, Carles**
García, Christine (*with* Peyrat, C.) Large Cayley graphs on an abelian group. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 2, 125–133. (K. Chandrasekhara Rao) **98e:05055** 05C25
— (*with* Aguiló, F.; Fiol, M. A.) Triple loop networks with small transmission delay. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 3–16. (Summary) **98a:05072** 05C20 (05C90)
pérez-García, Cristina *see* **Pérez-García, Cristina**
García, Domingo (*with* Mujica, Jorge) Quasi-normable preduals of spaces of holomorphic functions. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 171–180. (Nguyễn Văn Khuê) **98e:46042** 46E50 (46G20)
hernández-García, E. *see* **Hernández-García, E.**
ferreira García, Eva *see* **Ferreira García, Eva**
fernández García, Francisco Ramón *see* **Fernández García, Francisco Ramón**
García, G. *see* **García Lomba, Guillermo**
García, Germain (*with* Tarbouriech, Sophie) Stabilization of linear discrete-time systems with saturating controls and norm-bounded time-varying uncertainty. *Control of uncertain systems with bounded inputs*, 75–96, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Andrzej Świerniak) **98i:93074** 93D15 (93C55)
— *see also* **Control of uncertain systems with bounded inputs, 98c:93008**
montero García, Gustavo *see* **Montero García, Gustavo**
lópez-García, Hortensia *see* **López-García, Hortensia**
García, I. *see* **García-Fernández, I.**
García, I. A. (*with* Chavarriga, Javier; Giné, Jaume) Integrability of centers perturbed by quasi-homogeneous polynomials. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 268–278. (Anna Cima) **98d:34048** 34C05
muñoz-García, J. *see* **Muñoz-García, J.**
martínez García, J. C. *see* **Martínez García, J. C.**
García, J. L. *see* **García Hernández, José Luis**
díaz-García, José A. *see* **Díaz-García, José A.**
lópez García, José Luis *see* **López García, José Luis**
rodríguez García, José Manuel *see* **Rodríguez García, José Manuel**
rubio García, Julio Jesús *see* **Rubio García, Julio Jesús**
García, Luis Application of the average method for plasma equilibrium studies. Mathematical models in plasma physics (Spanish) (Madrid, 1991/1992). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **30** (1995), 133–143. (*see* **98h:00029**) 76W05 (76X05)
García, M. *see* **García Román, Manuel D.**
García, Ma. I. *see* **García-Planas, Ma. I.**

reyes García, Marcelo *see* **Reyes García, Marcelo**
rueda García, María del Mar *see* **Rueda García, María del Mar**
lópez García, María Luz *see* **López García, María Luz**
cabrera García, Miguel *see* **Cabrera García, Miguel**
García, Nieves (*with* Méndez Alonso, Alfredo) Convergence of cumulative hazard rate estimators based on beta processes. (Spanish. English and Spanish summaries) *Estadist. Española* **37** (1995), *no.* 140, 473–495. 62G20 (62C10)
García, P. *see* **García-Calvés, Pere**
lópez-García, Pedro *see* **López-García, Pedro**
García, R. *see* **García, Ricardo**
García, R. A. *see* **García, Rafael A.**
obaya García, Rafael *see* **Obaya García, Rafael**
García, Rafael A. (*with* D'Attellis, Carlos E.) Trajectory tracking in nonlinear systems via nonlinear reduced-order observers. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 685–715. 93B52 (93C10)
— (*with* D'Attellis, Carlos E.; Mancilla Aguilar, J. L.) Nonlinear observers. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3891–3896. (*see* **98h:00034**) 93B07 (93C10)
García, René (*with* Renault, Éric) A note on hedging in ARCH and stochastic volatility option pricing models. (English summary) *Math. Finance* **8** (1998), *no.* 2, 153–161. (Summary) **98m:90019** 90A09
García, Ricardo *see* **Congress: Examples and Counterexamples in Banach Spaces, 98k:46001**
García, Ronaldo A. (*with* Sotomayor, Jorge) Lines of curvature on algebraic surfaces. (English and French summaries) *Bull. Sci. Math.* **120** (1996), *no.* 4, 367–395. (Peter Giblin) **98a:53007** 53A05 (14P05)
ramos García, Rubén *see* **Ramos García, Rubén**
ríos García, Sixto *see* **Ríos García, Sixto**
García, Sonia M. F. (*with* Jensen, Søren S.) The p version of mixed finite element methods for parabolic problems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 303–326. (Alexander Ostermann) **98d:65126** 65M60
pérez-García, Víctor M. *see* **Pérez-García, Víctor M.**
García Alcaine, Guillermo A state-specific proof of the Bell-Kochen-Specker theorem using only 5 propositions. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 133–136, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P10
— (*with* Cabello, Adán) Quantum mechanics and elements of reality inferred from joint measurements. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 725–732. (Summary) **98f:81027** 81P15
García-Alvarez, Edgardo T. (*with* Gaioli, Fabián H.; Guevara, Javier) Quantum Brownian motion. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2167–2207. (Summary) **98h:82039** 82C10 (82C31)
— (*with* Gaioli, Fabián H.) On the quantum electrodynamics of moving bodies. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2391–2407. (*see* **98h:00036**) 81V10
García Barreno, P. (*with* Ríos García, Sixto; Ríos-Insua, Sixto; Ríos-Insua, David; González-Pachón, Jacinto; Pacios, M. A.) Allais phenomena and completeness of preferences. (English summary) *Economic and environmental risk and uncertainty* (*Oslo*, 1994), 245–256, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A08 (90A46)
García Ben, M. (*with* Bianco, Ana M.; Martínez, E. J.; Yohai, Víctor J.) Robust procedures for regression models with ARIMA errors. (English summary) *COMPSTAT* 1996 (*Barcelona*), 27–38, *Physica, Heidelberg*, 1996. (*see* **98h:62001**) 62F35 (62M10)
García-Bermejo Ochoa, Juan Carlos *see* **Current perspectives in logic and philosophy of science, 98m:00014**
García-Calvés, Pere (*with* Dubois, Didier; Esteva, F.; Godo, Lluis; Prade, Henri) Similarity-based consequence relations. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 171–179, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B52 (68T27)
García-Colín, L. S. (*with* Sandoval-Villalbazo, Alfredo) Relativistic Navier-Stokes equations in the Meixner-Prigogine scheme. (English summary) *Phys. A* **240** (1997), *no.* 3-4, 480–490. (Summary) **98e:76116** 76Y05 (82C35)
García-Compeán, Hugo (*with* Plebański, Jerzy F.) On the Weyl-Wigner-Moyal description of SU(∞) Nahm equations. (English summary) *Phys. Lett. A* **234** (1997), *no.* 1, 5–12. (Ian A. B. Strachan) **98f:53069** 53C80 (53C07, 81S99)
— (*with* Plebański, Jerzy F.) The Lagrangian for a causal curve. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 4, 634–648. (George Bozis) **98k:70007** 70H35 (70F99)
García-Cortí, J. L. (*with* Fernández de la Nuez, Isabel; Pacheco Castelao, José Miguel) An analysis of morphogenesis in reaction-diffusion systems with a catalyst. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 11–18. (Summary) **98i:92011** 92C15 (35K57)
García-Cuerva, Jose (*with* Cifuentes, Patricio; Hernández, Eugenio; Soria, Fernando; Torrea Hernández, José Luis) Introduction [dedication to Miguel de Guzmán, on the occasion of his 60th birthday]. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, i–v. (Editors) **98k:01020** 01A70
García de Andrade, L. C. (*with* de Souza Lima, C. A., Jr.) On Cartan's differential geometry of torque stress in cylindrical solids. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 59–64. (Nicolae Boja) **98a:73016** 73B99 (53B21, 73B25, 73C99, 73S10)
— (*with* de Souza Lima, C. A., Jr.) Non-Riemannian geometry of macroscopic spin distributions. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1227–1230. 53B40 (53B50, 83D05)
— Space-time defects: torsion walls. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 27, 2005–2009. (Summary) **98f:83013** 83C15
— Spacetime defects: domain walls and torsion. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 372–379. (Alberto Saa Vazquez) **98m:83064** 83D05 (83C75)
— Non-Riemannian cosmic walls as boundaries of spinning matter with torsion. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1179–1184. 83D05
García de la Banda, María (*with* Hermenegildo, Manuel; Marriott, Kim) Independence in dynamically scheduled logic languages. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 47–61, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17
García de Polavieja, Gonzalo *see* **de Polavieja, Gonzalo García**
García Díaz, Alberto Stationary axisymmetric type D metrics with sources. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 130–133, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:83014** 83C20
— (*with* Kramer, Dietrich) Stationary cylindrically symmetric gravitational fields with differentially rotating perfect fluids. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 499–508. (Maciej Przanowski) **98a:83026** 83C15 (83C20)
Garciadiego, Alejandro R. History of mathematical ideas: an introductory research manual. (Spanish. English and Spanish summaries) *Mathesis* **12** (1996), *no.* 1, 3–113. (Summary) **98f:01004** 01A05 (00A35)
hernández-Garciadiego, Carlos *see* **Hernández-Garciadiego, Carlos**
García-Escudero, Juan Formal languages for quasicrystals. *Symmetries in science, IX* (*Bregenz*, 1996), 139–152, *Plenum, New York*, 1997. (Richard Kenyon) **98g:52030** 52C20
— Substitutional sequences for patterns with nine-fold symmetry. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 18, 795–800. (Richard Kenyon) **98h:52036** 52C20 (82D25)
— Quasicrystal tilings with nine-fold and fifteen-fold symmetries and their Bragg spectra. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 71–77. (Summary) **98k:82186** 82D25
García-Esteban, Mauricio (*with* Sira-Ramírez, Hebertt; Ortega, Romeo) Adaptive passivity-based control of average dc-to-dc power converter models. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 1, 63–80. 93C95 (93C40)
García Falset, Jesús Basis and fixed points for nonexpansive mappings. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 67–75. (Brailey Sims) **98j:47128** 47H10 (46B20)
— The fixed point property in Banach spaces with the NUS-property. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 532–542. (Tomás Domínguez Benavides) **98m:47094** 47H10 (46B20, 47H09)
— (*with* Sims, Brailey) Property (M) and the weak fixed point property. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2891–2896. (Claudio H. Morales) **98c:46022** 46B20 (47H06, 47H10, 47H15)
García-Fernández, I. (*with* Ortigosa, P. M.; Casado, L. G.; Herman, Gabor T.; Matej, S.) Multidimensional optimization in image reconstruction from projections. (English summary) *Developments in global optimization* (*Szeged*, 1995), 289–299, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C90 (65D15)
García-Ferreira, Salvador On free p-compact groups. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 68–77, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98k:22006** 22A05 (20K45, 54H11)
— Some generalizations of pseudocompactness. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 22–31, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54007** 54A20 (54C50, 54D80)
— (*with* Sanchis, Manuel; Tamariz-Mascarúa, A.) On C_0-compact subsets. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 139–160. (Summary) **98c:54012** 54C50 (54D35)
— (*with* Laflamme, Claude) The γ_p property and the reals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1791–1798. (Carlos A. Di Prisco) **98g:04002** 04A20 (03E05, 03E15, 03E35)
García Hernández, José Luis (*with* Simson, Daniel) On rings whose flat modules form a Grothendieck category. *Colloq. Math.* **73** (1997), *no.* 1, 115–141. (Blas Torrecillas Jover) **98a:16002** 16D40 (16L60, 18E15)
fernández García-Hierro, Manuel *see* **Fernández García-Hierro, Manuel**
García-Huidobro, Marta (*with* Manásevich, R. F.; Zanolin, Fabio) Strongly nonlinear second-order ODEs with rapidly growing terms. *J. Math. Anal. Appl.* **202** (1996), *no.* 1, 1–26. (Jinghuang Tian) **98b:34022** 34A34 (34C35)
— (*with* Yarur, Cecilia S.) Classification of positive singular solutions for a class of semilinear elliptic systems. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 383–402. (Isabella Birindelli) **98e:35061** 35J60 (34A34, 35B05)
— (*with* Ubilla, Pedro) Multiplicity of solutions for a class of nonlinear second-order equations. *Nonlinear Anal.* **28** (1997), *no.* 9, 1509–1520. (Tassilo Küpper) **98c:34032** 34B15
García-Jurado, Ignacio (*with* Casas, B.; Prada-Sánchez, J. M.) Bargaining with graph-restricted communication. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 25–41. (Summary) **98k:90151** 90D12 (90A60)
— (*with* Cao-Abad, R.; Febrero-Bande, M.; González-Manteiga, W.; Prada-Sánchez, J. M.) Saving computer time in constructing consistent bootstrap prediction intervals for autoregressive processes. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 961–978. (Summary) **98d:62155** 62M10 (62G09)
— (*with* Fiestras-Janeiro, M. Gloria) Perfectly almost strict equilibria for finite games in strategic form. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 269–276. (Summary) **98a:90142** 90D10 (90A14)
— (*with* Vázquez-Brage, M.; van den Nouweland, A.) Owen's coalitional value and aircraft landing fees. (English summary) *Math. Social Sci.* **34** (1997), *no.* 3, 273–286. 90D12 (90D80)
García-Ligero, M. J. (*with* Hermoso Carazo, Aurora; Linares Pérez, Josefa) Prediction and filtering algorithm for distributed parameter systems with multiplicative noise in the observations. (English summary) *Rebrape* **11** (1997), *no.* 1, 51–65. (Summary) **98m:62266** 62M20
García Lomba, Guillermo (*with* Durany, J.; Vázquez Cendón, C.) An elastohydrodynamic coupled problem between a piezoviscous Reynolds equation and a hinged plate model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 495–516. (Leonid K. Antanovskiĭ) **98d:76045** 76D08 (73K10, 73K70)

García-López, C. M. (*with* Ramos, J. I.) Nonstandard finite difference equations for ODEs and 1-D PDEs based on piecewise linearization. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 1, 11–36. (Summary) **98c:65147** 65M06 (39A12, 65L06)
— (*with* Ramos, J. I.) Short communication: comments on a recent paper dealing with the finite-analytic method. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 794–800. 76M25 (65L99, 65M99)
García López de Lacalle, Jesús (*with* Ramos Alonso, Pedro A.) Visibility and shortest paths in triangulated curved polygons. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 29–44, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05
— *see also* **Conference: Computational Geometry**, **98f:68272**
García-Margallo, J. (*with* Díaz Bejarano, José) Melnikov's method for non-linear oscillators with non-linear excitations. (English summary) *J. Sound Vibration* **212** (1998), *no.* 2, 311–319. 34C15 (70K40)
García Martín, Amable (*with* Castellón Serrano, Alberto; Martín González, Cándido) Strongly prime alternative triple systems with nonzero socle. (English summary) *J. Algebra* **192** (1997), *no.* 1, 277–293. (Antonio Fernández López) **98e:17005** 17A40 (17C50, 17D05)
García-Máynez, Adalberto Special uniformities. *Bol. Soc. Mat. Mexicana* (3) **1** (1995), *no.* 2, 109–117. (Thomas E. Gantner) **98a:54024** 54E15 (54D35)
— Pseudocharacters and uniform weights. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 165–173. (Summary) **98d:54011** 54A25 (54E15)
García-Mazario, Francisco (*with* Morales, Pedro) The support of a measure in ordered topological groups. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 179–221. (A. Revuz) **98h:06033** 06F15 (28A60, 28C10, 46L50)
García Nogales, Agustín (*with* Oyola, J. A.) Some remarks on sufficiency, invariance and conditional independence. (English summary) *Ann. Statist.* **24** (1996), *no.* 2, 906–909. (Summary) **98c:62006** 62B05 (62A05)
García-Palomares, Ubaldo M. (*with* Contreras, Xiomara) Least square solution of a linear system of equations in Hilbert space. An application to PDEs. (English summary) *Parametric optimization and related topics, IV (Enschede, 1995)*, 103–110, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Summary) **98a:65053** 65F25 (65J10, 65N12)
García-Pelayo, R. *see* **Complex systems and binary networks**, **98f:00022**
García Pérez, Pedro Luis (*with* Ruiz, José) Learning k-piecewise testable languages from positive data. (English summary) *Grammatical inference: learning syntax from sentences (Montpellier, 1996)*, 203–210, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (Summary) **98i:68161** 68Q45 (68T05)
García-Planas, Ma. I. (*with* Ferrer Llop, Josep; Puerta Sales, Fernando) Brunowsky local form of a holomorphic family of pairs of matrices. (English summary) *Linear Algebra Appl.* **253** (1997), 175–198. (Juan Miguel Gracia) **98a:93010** 93B10 (15A21, 15A54)
— (*with* Magret, Ma. D.) Deformation and stability of triples of matrices. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 159–192. (M. Voicu (Zbl 873.93040)) **98m:15019** 15A21
García-Prada, Oscar (*with* Biquard, Olivier) Parabolic vortex equations and instantons of infinite energy. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 3, 238–254. (Hans U. Boden) **98h:32033** 32G13 (14D20, 14H60, 32L07)
García-Río, Eduardo (*with* Vanhecke, Lieven; Vázquez-Abal, M. Elena) Harmonic connections. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 3-4, 583–607. (Maria Falcitelli) **98a:53038** 53C07 (53C05)
— (*with* Bonome, Agustín; Castro, Regina; Hervella, L. M.; Matsushita, Yasuo) Pseudo-Chern classes and opposite Chern classes of indefinite almost Hermitian manifolds. *Acta Math. Hungar.* **75** (1997), *no.* 4, 299–316. (Vicente Miquel) **98i:53037** 53C15 (53C50, 57R20)
— (*with* Vanhecke, Lieven; Vázquez-Abal, M. Elena) Tangent bundles of order r and harmonicity of induced maps. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 809–813. (A. Morimoto) **98m:58028** 58E20 (53C55)
— (*with* Kupeli, D. N.; Vázquez-Abal, M. Elena) On a problem of Osserman in Lorentzian geometry. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 85–100. (Hui Li Liu) **98a:53099** 53C50
— (*with* Bonome, Agustín; Castro, Regina; Hervella, L. M.) Curvature of indefinite almost contact manifolds. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 66–86. (Hideya Hashimoto) **98a:53044** 53C15
— (*with* Kupeli, D. N.) A characterization of the local structure of static stars. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 87–96. (A. K. Guts) **98a:53032** 53B30 (53C50, 83C99)
— (*with* Bonome, Agustín; Castro, Regina; Hervella, L. M.; Vázques-Lorenzo, R.) Nonsymmetric Osserman indefinite Kähler manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2763–2769. (Pascual Lucas Saorin) **98m:53088** 53C50 (53C55)
— (*with* Vázquez-Abal, M. Elena; Vázquez-Lorenzo, R.) Nonsymmetric Osserman pseudo-Riemannian manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2771–2778. (Pascual Lucas Saorin) **98m:53089** 53C50
García-Roig, J.-L. (*with* Salillas, J.) On a Pythagorean functional equation involving finite fields. *Results Math.* **33** (1998), *no.* 1-2, 89–95. (S. D. Cohen) **98m:11133** 11T06 (12E20)
García Román, Manuel D. (*with* Márquez Hernández, C. M.; Verschoren, A.) Structure sheaves and noncommutative topologies. (English summary) *J. Algebra* **194** (1997), *no.* 1, 224–244. (Blas Torrecillas Jover) **98g:16026** 16S60 (16S90)
García Rozas, J. R. (*with* Torrecillas Jover, Blas) Covers of modules over a fixed ring. (English summary) *J. Algebra* **197** (1997), *no.* 2, 479–491. (M. Teply) **98m:16008** 16D90 (16S90, 16W50, 18E15, 18E40)
García Rus, Eulalia (*with* Fernández López, Antonio[1]; Gómez Lozano, M.; Siles Molina, M.) Jordan canonical form for finite rank elements in Jordan algebras. (English summary) *Linear Algebra Appl.* **260** (1997), 151–167. (Armin Thedy) **98e:17040** 17C10
— (*with* Fernández López, Antonio[1]; Jaa, Omar) Towards a Goldie theory for Jordan pairs. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 79–90. (José A. Anquela) **98i:17041** 17C10 (17C20, 17C27)
García Sánchez, M. A. (*with* Vera López, Antonio) On the existence of abelian difference sets with $100 < k \leq 150$. (English summary) *J. Combin. Math. Combin. Comput.* **23** (1997), 97–112. (Surinder K. Sehgal) **98a:05029** 05B10
García-Soidan, Pilar H. Asymptotic expansions for statistics computed from spatial data. (English summary) *Test* **5** (1996), *no.* 1, 61–76. (Yasunori Fujikoshi) **98f:62162** 62H11 (62E20)
— (*with* Hall, Peter Gavin) On sample reuse methods for spatial data. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 273–281. (Summary) **98a:62054** 62G09 (62H11)
García-Valenzuela, A. The local spectral expansion method for the scattering of light from two-dimensional perfectly conducting surfaces. (English and Spanish summaries) *Rev. Mexicana Fis.* **43** (1997), *no.* 6, 906–915. (Summary) **98k:78036** 78A45
García-Vázquez, Juan Carlos Products of vector measures. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 25–41. (C. W. Swartz) **98c:28009** 28B05 (46G10)
García Zamora, Alexis Foliations in algebraic surfaces having a rational first integral. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 357–373. (M. G. Soares) **98m:32048** 32L30 (14J26)
Garcí-Jurado, I. *see* **García-Jurado, Ignacio**
Garcke, Harald (*with* Elliott, Charles M.) Existence results for diffusive surface motion laws. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 467–490. (Jing Xue Yin) **98h:58044** 58E12 (35K99, 82B24, 82B26)
Gardies, Jean-Louis L'analyse entre raisonnement et calcul. [Analysis between reasoning and calculus] *Raisonnement et calcul (Neuchâtel, 1994)*, 35–49, *Travaux Centre Rech. Sémiol.*, 63, *Univ. Neuchâtel, Neuchâtel*, 1995. (Detlef Laugwitz) **98e:00005** 00A30 (01A99, 03A05)
Gardiner, Judith D. A stabilized matrix sign function algorithm for solving algebraic Riccati equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1393–1411. (Petko Petkov) **98g:93019** 93B40 (65F30, 65Y05)
Gardiner, Stephen J. Uniform harmonic approximation with continuous extension to the boundary. (English summary) *J. Anal. Math.* **68** (1996), 95–106. (Antonio Bonilla-Ramirez) **98e:31004** 31B05
— (*with* Armitage, David H.; Haußmann, Werner; Rogge, Lothar) Characterization of best harmonic and superharmonic L^1-approximants. *J. Reine Angew. Math.* **478** (1996), 1–15. (Juan Carlos Fariña Gil) **98h:41023** 41A30 (31B05)
— Cluster sets of harmonic functions at the boundary of a half-space. *Bull. London Math. Soc.* **29** (1997), *no.* 2, 191–194. (Vladimir Eiderman) **98b:31006** 31B25
— Decomposition of approximable harmonic functions. *Math. Ann.* **308** (1997), *no.* 1, 175–185. (Antonio Bonilla-Ramirez) **98e:31005** 31B05
— Mergelyan pairs for harmonic functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2699–2703. (Antonio Bonilla-Ramirez) **98k:31004** 31B05
Gårding, Lars ★ Some points of analysis and their history. (English summary) University Lecture Series, 11. *American Mathematical Society, Providence, RI; Higher Education Press, Beijing*, 1997. viii+88 *pp. ISBN* 0-8218-0757-9 (Michael von Renteln) **98m:01023** 01A60 (01A72, 30–03, 42–03)
— ★ Mathematics and mathematicians. (English summary) Mathematics in Sweden before 1950. Translated from the 1994 Swedish original by the author. History of Mathematics, 13. *American Mathematical Society, Providence, RI; London Mathematical Society, London*, 1998. xiv+288 *pp. ISBN* 0-8218-0612-2 (Editors) **98j:01044** 01A72 (01A50, 01A55, 01A60, 01A73)
Gardini, Laura Homoclinic orbits of saddles in two-dimensional endomorphisms. (English summary) *Iteration theory (Batschuns, 1992)*, 81–99, *World Sci. Publishing, River Edge, NJ*, 1996. (Remo Badii) **98a:58109** 58F12 (34C35, 58F13)
— (*with* Cathala, J. C.; Mira, Christian) Contact bifurcations of absorbing areas and chaotic areas in two-dimensional endomorphisms. (English summary) *Iteration theory (Batschuns, 1992)*, 100–111, *World Sci. Publishing, River Edge, NJ*, 1996. (Remo Badii) **98a:58110** 58F12 (34C35, 58F13)
— (*with* Mira, Christian; Fournier-Prunaret, Daniele) Properties of invariant areas in two-dimensional endomorphisms. (English summary) *Iteration theory (Batschuns, 1992)*, 112–125, *World Sci. Publishing, River Edge, NJ*, 1996. (Remo Badii) **98a:58111** 58F12 (34C35, 58F13)
— (*with* Abraham, Ralph H.; Mira, Christian) ★ Chaos in discrete dynamical systems. (English summary) A visual introduction in 2 dimensions. With 1 companion CD-ROM by Abraham and Ronald J. Record. *Springer-Verlag, New York; TELOS. The Electronic Library of Science, Santa Clara, CA*, 1997. xxvi+246 *pp. ISBN* 0-387-94300-5 (Frederick R. Marotto) **98c:58103** 58F13 (58F14)
— (*with* Frouzakis, Christos E.; Kevrekidis, Ioannis G.; Millerioux, Gilles; Mira, Christian) On some properties of invariant sets of two-dimensional noninvertible maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1167–1194. (Mikhail Zaks) **98m:58085** 58F12 (58F08)
Gardner, B. J. (*with* Kelarev, A. V.) Invariant radicals. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 773–780. (E. Jespers) **98g:16032** 16W50 (16N80)
Gardner, G. A. (*with* Gardner, L. R. T.; Netter, E.) A new B-spline finite element method for the advection-diffusion equation. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 123–132, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 65M60 (41A15, 76M10)
— (*with* Gardner, L. R. T.; Ayoub, F. A.; Amein, N. K.) Approximations of solitary waves of the MRLW equation by B-spline finite elements. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 183–193. (Summary) **98h:76082** 76M10 (76B25)
— (*with* Gardner, L. R. T.; Dogan, A.) A Petrov-Galerkin finite element scheme for Burgers' equation. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 99–109. 65M60 (76M10)
— (*with* Zaki, S. I.; Gardner, L. R. T.) Numerical simulations of Klein-Gordon solitary-wave interactions. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 1027–1036. 65M60 (35Q53)
Gardner, L. Leslie A constructive characterization of Δ-Y graphs having splits but no good splits. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 161–193. (Summary) **98j:05114** 05C75
Gardner, L. R. T. (*with* Gardner, G. A.; Netter, E.) A new B-spline finite element method for the advection-diffusion equation. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 123–132, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 65M60 (41A15, 76M10)

— (*with* Gardner, G. A.; Ayoub, F. A.; Amein, N. K.) Approximations of solitary waves of the MRLW equation by *B*-spline finite elements. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 183–193. (Summary) **98h:76082** 76M10 (76B25)

— (*with* Gardner, G. A.; Dogan, A.) A Petrov-Galerkin finite element scheme for Burgers' equation. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 99–109. 65M60 (76M10)

— (*with* Zaki, S. I.; Gardner, G. A.) Numerical simulations of Klein-Gordon solitary-wave interactions. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 1027–1036. 65M60 (35Q53)

Gardner, Martin ★ The last recreations. (English summary) Hydras, eggs, and other mathematical mystifications. *Copernicus, New York*, 1997. x+392 *pp. ISBN* 0-387-94929-1 (E. J. Barbeau) **98d:00003** 00A08

— *see also* **Hargittai, István** *and* **Morris, S. Brent**

Gardner, Philippa A name-free account of action calculi. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Hasegawa, Masahito) Types and models for higher-order action calculi. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 583–603, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q10 (68N15)

Gardner, Robert *see* **Gardner, Robert Bentley**

Gardner, Robert B. *see* **Gardner, Robert Brown**

Gardner, Robert Bentley (*with* Govil, N. K.) Functions of exponential type not vanishing in a half-plane. (English summary) *Analysis* **17** (1997), *no.* 4, 395–402. (P. C. Fenton) **98m:30044** 30D15

— Optimal packings and coverings of the complete directed graph with 3-circuits and with transitive triples. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 161–170. (*see* **98h:05006**) 05C70 (05C20)

— (*with* Micale, Biagio; Pennisi, Mario; Calahan-Zijlstra, Rebecca) Cyclic and rotational hybrid triple systems. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 121–139. (Chung Je Cho) **98f:05027** 05B07 (05B05)

— (*with* Micale, Biagio; Pennisi, Mario; Calahan-Zijlstra, Rebecca) Cyclic and rotational hybrid triple systems. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 143–161. (Chung Je Cho) **98j:05028** 05B07 (05B05)

Gardner, Robert Brown (*with* Wilkens, George R.) The fundamental theorems of curves and hypersurfaces in centro-affine geometry. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 379–401. (Christine Scharlach) **98j:53016** 53A15

Gardner, Robert H. (*with* Hart, Deborah R.) A spatial model for the spread of invading organisms subject to competition. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 935–948. (Summary) **98h:92043** 92D30 (92D25)

sánchez-Garduño, Faustino *see* **Sánchez-Garduño, Faustino**

Garecki, Janusz Canonical superenergy tensors in general relativity. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 10, 2195–2206. (Roh Suan Tung) **98a:83050** 83C40

— A superenergetic analysis of the plane and plane-fronted gravitational waves. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 485–492. (Summary) **98k:83034** 83C35

Garel, Bernard (*with* Carbon, Michel; Tran, Lanh Tat) Frequency polygons for weakly dependent processes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 1–13. (M. P. Moklyachuk) **98h:62129** 62M09 (62G05)

Garel, E. Séparateurs dans les mots infinis engendrés par morphismes. (English and French summaries) [Separators in infinite words generated by morphisms] *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 81–113. (Valérie Berthé) **98g:68132** 68R15 (11B85, 20M05, 68Q45)

Garello, G. Local solvability for semilinear equations with multiple characteristics. Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 199–209 (1997). (You-Shi Lou) **98i:35003** 35A07 (35G20)

Garello, Roberto (*with* Trott, Mitchell D.; Benedetto, Sergio; Mondin, Marina) Rotational invariance of trellis codes. I. Encoders and precoders. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 751–765. (Felix Taubin) **98e:94038** 94B12

— (*with* Benedetto, Sergio; Mondin, Marina; Trott, Mitchell D.) Rotational invariance of trellis codes. II. Group codes and decoders. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 766–778. (Felix Taubin) **98e:94039** 94B12

Garey, L. E. (*with* Gladwin, C. J.) Unconditionally stable predictor-corrector methods for second order ordinary differential equations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 343–351. (Philip W. Sharp) **98a:65093** 65L06

— (*with* Gladwin, C. J.; Shaw, R. E.) An approximate solution for a system with a symmetric matrix. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 25–31. 65F15 (65L06)

— (*with* Shaw, R. E.) A fast method for solving second order boundary value Volterra integro-differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 1-2, 121–129. (Summary) **98m:65226** 65R20 (45L05)

— (*with* Shaw, R. E.) A shooting method for singular nonlinear second order Volterra integro-differential equations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 589–598. 65R20 (45L10, 65L05)

Garfinkel, R. S. (*with* Sundararaghavan, P. S.; Noon, C.; Smith, Donald Robert) Optimal use of hub facilities: a two-hub model with fixed arc costs. (English summary) *Top* **4** (1996), *no.* 2, 331–343. 90B20 (90C35)

Garfinkle, David Cosmic-string traveling waves. *Nonlinear problems in relativity and cosmology (Gainesville, FL, 1990)*, 68–75, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (Volker Perlick) **98k:83020** 83C20

— (*with* Harris, Steven G.) Ricci fall-off in static and stationary, globally hyperbolic, non-singular spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 139–151. (Robert J. Low) **98c:83075** 83C75 (53C50)

— (*with* Glass, E. N.; Krisch, Jean P.) Solution generating with perfect fluids. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 467–480. (Nora Bretón Báez) **98e:83027** 83C20 (83C15)

— Choptuik scaling and the scale invariance of Einstein's equation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, R3169–R3173. (Summary) **98g:83004** 83C05

Garg, Ashim (*with* Di Battista, Giuseppe; Liotta, Giuseppe; Tamassia, Roberto; Tassinari, Emanuele; Vargiu, Francesco) An experimental comparison of four graph drawing algorithms. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 303–325. (Summary) **98a:68181** 68U05 (05C85, 68R10)

Garg, G. L. (*with* Goel, Asha) Cluster points of sequences and continuous (perfect) maps. (English summary) *Res. Bull. Panjab Univ. Sci.* **45** (1995), *no.* 1-4, 45–47. 54C05

— (*with* Goel, Asha) When compact (countably compact) sets are closed. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 79–83. (Summary) **98m:54024** 54D15 (54D30)

Garg, H. Krishna (*with* Ko, C. C.) Fast algorithms for computing one- and two-dimensional convolution in integer polynomial rings. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 1, 121–139. (Summary) **98a:11186** 11Y16 (94A12)

— Analysis of the Chinese remainder theorem and cyclotomic polynomials-based algorithms for cyclic convolution. I. Rational number system. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 569–594. (Igor E. Shparlinski) **98h:11159** 11T71

— (*with* Mendis, F. V. C.) Analysis of the Chinese remainder theorem and cyclotomic polynomials-based algorithms for cyclic convolution. II. Complex rational number system. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 595–610. (Igor E. Shparlinski) **98h:11160** 11T71

Garg, Mridula (*with* Gupta, Mahesh Kumar) The distribution of products of two types of independent random variables, both associated with Fox's *H*-function. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 317–322. 62E15 (33C60)

— (*with* Gupta, Mahesh Kumar) Double convolution integral equations involving a general class of multivariable polynomials and the multivariable *H*-functions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 1, 27–33. (Summary) **98d:45003** 45E10 (33C60)

Garg, Naveen (*with* Hochbaum, Dorit S.) An $O(\log k)$-approximation algorithm for the k minimum spanning tree problem in the plane. (English summary) *Algorithmica* **18** (1997), *no.* 1, 111–121. (M. M. Syslo) **98h:90060** 90C27 (05C05, 05C85, 68Q25)

— (*with* Chaudhuri, Shiva P.; Ravi, R.) The p-neighbor k-center problem. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 131–134. (Summary) **98m:68201** 68R10

Garg, Ravindra On a fixed point theorem in a metric space with two metrics. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 134–137. 54H25

— Some common fixed point theorems in bimetric spaces. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 4, 241–246. 54H25 (54E40, 54E55)

Garg, Vijay Kumar (*with* Chase, Craig M.) Efficient detection of restricted classes of global predicates. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 303–317, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68Q25, 68Q60)

— (*with* Tomlinson, Alexander I.) Observation of software for distributed systems with RCL. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 195–209, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q60

— (*with* Mitchell, J. Roger) Detecting conjunctions of global predicates. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 295–302. 68Q10 (68Q60)

— (*with* Cofer, Darren D.) Idempotent structures in the supervisory control of discrete event systems. *Idempotency (Bristol, 1994)*, 262–281, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93C83 (93B51)

Gargano, Luisa (*with* Bermond, Jean-Claude; Rescigno, Adele A.; Vaccaro, Ugo) Fast gossiping by short messages. (English summary) *Automata, languages and programming (Szeged, 1995)*, 135–146, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68M10

— (*with* Rescigno, Adele A.; Vaccaro, Ugo) Communication complexity of gossiping by packets. (English summary) *Algorithm theory—SWAT '96 (Reykjavík, 1996)*, 234–245, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68M10 (68Q10)

— (*with* Bermond, Jean-Claude; Pérennes, Stéphane; Rescigno, Adele A.; Vaccaro, Ugo) Efficient collective communication in optical networks. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 574–585, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 90B12 (68M10)

— (*with* Hell, Pavol; Pérennes, Stéphane) Colouring paths in directed symmetric trees with applications to WDM routing. (English summary) *Automata, languages and programming (Bologna, 1997)*, 505–515, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (68M10, 90B12)

— (*with* Rescigno, Adele A.) Fast collective communication by packets in the postal model. (English summary) *Networks* **31** (1998), *no.* 2, 67–79. (Summary) **98m:68008** 68M10 (90B12)

Gargano, Michael L. (*with* Kennedy, John W.) Zigzag graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 15–31. (Summary) **98i:05137** 05C75

Gargett, T. D. (*with* McArthur, I. N.) A "Gaussian" approach to computing supersymmetric effective actions. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 525–540. (Ilya Shapiro) **98j:81219** 81T16 (58G26, 81T60)

Garibaldi, Ryan (*with* Tignol, Jean-Pierre; Wadsworth, Adrian R.) Galois cohomology of special orthogonal groups. (English summary) *Manuscripta Math.* **93** (1997), *no.* 2, 247–266. (Ramdorai Sujatha) **98k:11039** 11E72 (12G05)

Garibay Bonales, Fernando (*with* Vera Mendoza, Rigoberto) A formula to calculate the spectral radius of a compact linear operator. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 585–588. (Summary) **98d:47013** 47A10 (47A15, 47B07)

— (*with* Vera Mendoza, Rigoberto) Extending the formula to calculate the spectral radius of an operator. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 97–103. (Winfried Kaballo) **98m:47002** 47A10

Gariepy, R. F. (*with* Evans, Lawrence C.; Feldman, Mikhail) Fast/slow diffusion and collapsing sandpiles. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 166–209. (Maria Elena Schonbek) **98g:35093** 35K55 (35B40)

Garif'yanov, F. N. Transformations of biorthogonal systems, and some of their applications. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 6, 5–16; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 6, 3–13. (From the introduction) **98h:42034a** 42C20 (30E99)

— Transformations of biorthogonal systems, and some of their applications. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 8, 13–24; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 8, 11–22. (Editors) **98h:42034b** 42C20 (30E99)

— Absolutely representing systems of elliptic functions. (Russian) *Mat. Zametki* **59** (1996), *no.* 6, 932–936; *translation in Math. Notes* **59** (1996), *no.* 5-6, 676–680. (Vanja Hadzijski) **98h:30003** 30B50 (33E05)

Garille, Susan Garner (*with* Meier, John) Whitehead graphs and the Σ^1-invariants of infinite groups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 23–34. (Summary) **98m:57001** 57M07 (20F38, 57M15)

Garimella, Ramesh V. On continuity of derivations and epimorphisms on some vector-valued group algebras. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 209–215. (Volker Runde) **98j:46047** 46H40 (43A20, 46E40, 46J99)

— Zariski topology and separating ideals in commutative Banach algebras. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 311–317. (R. J. Loy) **98g:46074** 46J40 (46H40)

Garity, Dennis J. On finite products of Menger spaces and 2-homogeneity. (English summary) *Topology Proc.* **20** (1995), 111–122. (K. Kuperberg) **98d:54063** 54F35 (54B10, 54F15)

Garkavi, A. L. On the approximation of functions in two variables by sums of the form $\varphi(x) + \psi(y)$ in the spaces L_p $(1 \le p \le \infty)$. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 56–68, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 47–57. (Anatoly Kilbas) **98g:41035** 41A63 (26B40, 46E30)

Garlappi, Lorenzo Equilibrium with endogenous technological changes: theory and applications. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 53–79. 90A09

Garling, D. J. H. (*with* Finet, C.) Some nicely placed Hardy spaces. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 329–335. (Y. Benyamini) **98m:46032** 46E30 (46E15)

Garloff, J. (*with* Zettler, M.) Robustness analysis of polynomials with polynomial parameter dependency using Bernstein expansion. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 425–431. (Summary) **98m:93097** 93D09

hartonas-Garmhausen, Vasiliki *see* **Hartonas-Garmhausen, Vasiliki**

Garnaev, A. Yu. On a MIX game. *Game theory and applications*, 23–31, *Nova Sci. Publ., Commack, NY*, 1996. (Shigeo Muto) **98e:90223** 90D05 (90D40)

— (*with* Garnaeva, Galina Yu.) An infiltration game on a circumference. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 235–240. (Luisa Gargano) **98k:90139** 90D05 (05A99, 90D46)

— (*with* Garnaeva, Galina Yu.; Goutal, P.) On the infiltration game. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 215–221. (Summary) **98e:90205** 90D46 (90D26)

— (*with* Baston, Victor J.) A non-zero-sum war of attrition. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 197–211. (Jos Potters) **98e:90229** 90D12

— On a Ruckle problem in discrete games of ambush. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 4, 353–364. (Roy Gardner) **98d:90151** 90D46

Garnaeva, Galina Yu. (*with* Garnaev, A. Yu.) An infiltration game on a circumference. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 235–240. (Luisa Gargano) **98k:90139** 90D05 (05A99, 90D46)

— (*with* Garnaev, A. Yu.; Goutal, P.) On the infiltration game. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 215–221. (Summary) **98e:90205** 90D46 (90D26)

Garner, J. B. Existence results for a class of diffusion-reaction problems. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 111–118. (Siegfried Carl) **98m:35097** 35K57 (34B15)

Garner, S. T. (*with* Govindasamy, Balasubramanian) The equilibration of short baroclinic waves. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 24, 2850–2871. (Summary) **98j:86008** 86A10 (76E20, 76U05)

Garnica Vigil, Eugenio An action of the R-group on the Langlands subrepresentations. (English summary) *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 57–67, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Jeffrey Adams) **98k:22057** 22E46

Garnier, Elodie (*with* Métais, Olivier; Lesieur, Marcel) Synoptic and frontal-cyclone scale instabilities in baroclinic jet flows. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 8, 1316–1335. 86A10

Garnier, Josselin (*with* Fouque, Jean-Pierre) On waves in random media in the diffusion-approximation regime. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 31–48, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 35Q35 (35L05, 76Q05, 78A45)

Garnier, Laurent Cohérence sur $\mathscr{D}^\dagger$ et irrégularité des isocristaux surconvergents de rang 1. (English summary) [Coherence over $\mathscr{D}^\dagger$ and irregularity of overconvergent isocrystals of rank 1] *Forum Math.* **9** (1997), *no.* 5, 569–601. (Abdellah Mokrane) **98e:14018** 14F30

Garofalo, Nicola (*with* Capogna, Luca; Danielli, Donatella) Subelliptic mollifiers and a basic pointwise estimate of Poincaré type. *Math. Z.* **226** (1997), *no.* 1, 147–154. (From the introduction) **98i:35025** 35H05

Garoff, S. (*with* Chen, Qi Keith; Ramé, E.) The velocity field near moving contact lines. (English summary) *J. Fluid Mech.* **337** (1997), 49–66. 76–05 (76B45, 76D45)

Garon, André (*with* Page, Maryse; Farinas, Marie-Isabelle) Imposition of slip boundary conditions without the explicit computation of consistent normals. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 949–961. (Summary) **98i:76056** 76M10 (76M25)

Garoufalidis, Stavros Applications of quantum invariants in low-dimensional topology. (English summary) *Topology* **37** (1998), *no.* 1, 219–224. (Gretchen Wright) **98j:57027** 57N10

Garralda Guillem, Ana Isabel (*with* Capéraà, Philippe) Taux de résistance des tests de rang d'indépendance. (English and French summaries) [Resistance rates of rank tests of independence] *Canad. J. Statist.* **25** (1997), *no.* 1, 113–124. (Yves Lepage) **98m:62137** 62G10

Garrappa, Roberto (*with* Galeone, Luciano) Convergence analysis of time-point relaxation iterates for linear systems of differential equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 183–195. (Summary) **98c:65121** 65L06

Garrard, W. (*with* Tezduyar, T. E.; Kalro, V.) Parallel computational methods for 3D simulation of a parafoil with prescribed shape changes. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1349–1363. (*see* **98f:76004**) 76M25 (65M60, 65Y05, 76D05, 76G25)

Garratt, Rod (*with* Qin, Cheng-Zhong) On a market for coalitions with indivisible agents and lotteries. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 81–101. (Steven R. Williams) **98j:90108** 90D12

Garraway, B. M. (*with* Knight, P. L.) Quantum superpositions in dissipative environments: decoherence and deconstruction. *Quantum dynamics of simple systems* (*Stirling*, 1994), 199–238, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (*see* **98m:81003**) 81V80

Garrett, Paul ★ Buildings and classical groups. (English summary) *Chapman & Hall, London*, 1997. xii+373 *pp. ISBN* 0-412-06331-X (Herbert Abels) **98k:20081** 20G25 (20E42, 51E24)

espinosa Garrido, A. A. *see* **Espinosa Garrido, A. A.**

Garrido, E. (*with* Jensen, A. S.; Fedorov, D. V.) Three-body systems with square-well potentials in $L = 0$ states. (English summary) *Few-Body Systems* **22** (1997), *no.* 4, 193–236. (Summary) **98k:81293** 81U10

Garrido, I. (*with* Montalvo Durán, Francisco) Algebraic properties of the uniform closure of spaces of continuous functions. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 101–107, *Ann. New York Acad. Sci.*, **788**, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54025** 54C30 (46E25, 46J10, 54C35, 54C40)

— (*with* Montalvo Durán, Francisco) Some density results for uniformly continuous functions. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 131–137. (Summary) **98d:54031** 54C30 (54C35, 54E15)

Garrido, José Aguayo (*with* Khurana, Surjit Singh) Vector-valued uniformly continuous functions and uniform measures. *An. Univ. Bucureşti Mat.* **45** (1996), 17–23. 54C35 (54E15)

Garrido, Luis Approximations of the constant π. (Spanish. English and Spanish summaries) *Epsilon* **13** (1997), *no.* 3(39), 243–251. 11–03 (01A99, 11Y60)

Garrido, M. A. (*with* Márquez, Alberto) Two NP-hard problems of embeddings of graphs in surfaces. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 131–141, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 05C10 (05C85, 68Q25, 68R10)

Garrido, Oscar (*with* Dessmark, Anders; Lingas, Andrzej) A note on parallel complexity of maximum f-matching. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 107–109. (Summary) **98j:68043** 68Q22 (68Q25, 68R10, 90C27)

Garrido, Pedro L. Kolmogorov-Sinai entropy, Lyapunov exponents, and mean free time in billiard systems. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 807–824. (Nikolai Chernov) **98f:58124** 58F11 (58F15)

— (*with* Bonetto, F.; Gallavotti, Giovanni) Chaotic principle: an experimental test. (English summary) *Phys. D* **105** (1997), *no.* 4, 226–252. (Nikolai Chernov) **98g:82027** 82C05 (58F13, 82–04, 82C70)

— *see also* **Lectures: Computational Physics, 98h:00028**

Garriga, E. (*with* Fiol, M. A.; Yebra, J. L. A.) The alternating polynomials and their relation with the spectra and conditional diameters of graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 297–307. (Summary) **98c:05108** 05C50

— (*with* Fiol, M. A.; Yebra, J. L. A.) From regular boundary graphs to antipodal distance-regular graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 123–140. (Robert Beezer) **98m:05161** 05C75 (05C35, 05C50, 05E30)

Garriga, Jaume (*with* Vilenkin, Alexander) In defense of the "tunneling" wave function of the Universe. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2464–2468. (Summary) **98d:83032** 83C45

Garrigue, Jacques The transformation calculus. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 151–165, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68N15 (03B40, 03B70, 68Q55)

— (*with* Rémy, Didier) Extending ML with semi-explicit higher-order polymorphism. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 20–46, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15

Garrison, David J. (*with* Kappe, Luise-Charlotte) Metabelian groups with all cyclic subgroups subnormal of bounded defect. (English summary) *Infinite groups* 1994 (*Ravello*), 73–85, *de Gruyter, Berlin*, 1996. (H. Heineken) **98i:20033** 20F14 (20F45)

Garrison, John C. (*with* Chiao, Raymond Y.; Boyce, Jack) Superluminal (but causal) effects in quantum physics. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 400–416, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P05

Garrity, Thomas (*with* Mizner, Robert) Vector-valued forms and CR geometry. *CR-geometry and overdetermined systems* (*Osaka*, 1994), 110–121, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Elisabetta Barletta) **98k:32013** 32C16

Garroni, Adriana (*with* Casado-Díaz, Juan) A nonhomogeneous extra term for the limit of Dirichlet problems in perforated domains. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 81–94, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Yoshihito Tomita) **98j:35015** 35B25 (35B20, 35J60)

— (*with* Buttazzo, Giuseppe; Dal Maso, Gianni; Malusa, Annalisa) On the relaxed formulation of some shape optimization problems. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 1–24. (Francesco Ferro) **98e:49095** 49Q10 (49J45)

— (*with* Dal Maso, Gianni; Skrypnik, Igor V.) A capacitary method for the asymptotic analysis of Dirichlet problems for monotone operators. (English summary) *J. Anal. Math.* **71** (1997), 263–313. (Bernhard Kawohl) **98f:35045** 35J60 (31C45, 35B27)

Garside, Gerald R. (*with* Rhodes, Paul C.) Using maximum entropy to compute marginal probabilities in a causal binary tree need not take exponential time. (English summary)

Symbolic and quantitative approaches to reasoning and uncertainty (*Fribourg*, 1995), 352–363, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68Q25 (68T30)

Garstecki, Andrzej (*with* Glema, Adam) Pontriagin method versus nonlinear programming in applications to structural optimization. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1051–1058. (*see* **98b:49004**) 49Q15 (73K40)

Gartley, Michael G. (*with* Nelson, Charles A.) On the two q-analogue logarithmic functions: $\ln_q(w)$, $\ln\{e_q(z)\}$. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8099–8115. (Mizan Rahman) **98d:33007** 33D15

Gärtner, Bernd (*with* Welzl, Emo) Linear programming—randomization and abstract frameworks. (English summary) *STACS 96* (*Grenoble*, 1996), 669–687, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Uwe Zimmermann) **98d:90065** 90C05 (90C08, 90C60)

Gärtner, Stefan On partition limited 0L systems. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 230–236, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45

Gartside, P. M. (*with* Collins, P. J.) Mal'tsev spaces, retral spaces and rectifiable diagonals. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 95–103. (Summary) **98b:54050** 54H13 (54C15, 54D15, 54E35)

— Cardinal invariants of monotonically normal spaces. (English summary) *Topology Appl.* **77** (1997), *no.* 3, 303–314. (Gary Gruenhage) **98j:54004** 54A25 (54D65, 54E20, 54E35, 54F05)

— (*with* Moody, P. J.) Proto-metrisable spaces are elastic. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 49–62. (Summary) **98c:54024** 54E35 (54C10, 54E20)

— (*with* Moody, P. J.) Elastic spaces may snap under perfect maps. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 63–74. (C. R. Borges) **98f:54017** 54C10 (54E35)

— (*with* Reznichenko, E. A.; Sipacheva, Olga V.) Mal'tsev and retral spaces. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 115–129. (Summary) **98e:54034** 54H11 (22A05, 54D30, 54D70, 54E35)

Garuccio, Augusto (*with* De Caro, Liberato) Bell's inequality, trichotomic observables, and supplementary assumptions. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 1, 174–181. (Oliver Rudolph) **98b:81021** 81P15 (81P05)

Garulli, A. (*with* Chisci, L.; Zappa, Giovanni) Fast parallel LQ regulator design for adaptive control. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 395–413. (*see* **98e:93001**) 93B40 (65Y05, 93C40)

— (*with* Chisci, L.; Vicino, A.; Zappa, Giovanni) Block recursive parallelotopic bounding in set membership identification. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 15–22. 93B30 (93C41)

Garunkštis, R. (*with* Laurinčikas, Antanas) On the Lerch zeta function. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 423–434; *translation in Lithuanian Math. J.* **36** (1996), *no.* 4, 337–346 (1997). (Matti Jutila) **98c:11089** 11M35

— Explicit form of a limit distribution with a weight for the Lerch zeta function in the space of analytic functions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 309–326; *translation in Lithuanian Math. J.* **37** (1997), *no.* 3, 230–242 (1998). (Matti Jutila) **98k:11120** 11M35

Garuti, Marco A. Rigid geometry and Galois extensions of function fields in one variable. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 293–308. (Qing Liu) **98h:14029** 14G20 (11G20, 12F12, 14H30)

— Prolongement de revêtements galoisiens en géométrie rigide. (English summary) [Extension of Galois coverings in rigid geometry] *Compositio Math.* **104** (1996), *no.* 3, 305–331. (Summary) **98m:14023** 14G20 (14E20)

Garvan, F. G. (*with* Borwein, Jonathan M.) Approximations to π via the Dedekind eta function. *Organic mathematics* (*Burnaby, BC*, 1995), 89–115, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Bruce C. Berndt) **98j:11030** 11F20 (11Y60)

Garvan, P. L. Drawing and labelling graphs in three-dimensions. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 83–71. (*see* **98k:68012**) 68U05 (68R10)

Garvey, Gerald T. (*with* Gaston, Noel) A theory of the optimal cost barrier to corporate takeovers. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 657–675. 90A15 (90A60)

Garvey, S. D. (*with* Friswell, Michael I.; Penny, J. E. T.) The convergence of the iterated IRS method. (English summary) *J. Sound Vibration* **211** (1998), *no.* 1, 123–132. (Summary) **98m:73078** 73V05 (73K12)

Gary-Bobo, Robert J. (*with* Bensaid, Bernard) An exact formula for the lion's share: a model of preplay negotiation. (English summary) *Games Econom. Behav.* **14** (1996), *no.* 1, 44–89. (T. Parthasarathy) **98a:90139** 90D10

Garzó, V. (*with* Montanero, J. M.; Santos, Andrés) Distribution function for large velocities of a two-dimensional gas under shear flow. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1165–1181. 76M35 (76P05)

Garzon, Antonio R. (*with* Miranda, Jesus G.) Homotopy theory for (braided) CAT-groups. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 2, 99–139. (Richard John Steiner) **98c:55021** 55U35 (18D10)

Garzon, Max (*with* Bartlett, Ron) Bilinear cellular automata. (English summary) *Complex Systems* **9** (1995), *no.* 6, 455–476. (Karel Culik, II) **98c:68144** 68Q80

— (*with* Jagota, Arun Kumar; Botelho, Fernanda) Decoding independent sets from an analog Hopfield network. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 3, 263–276. (Răzvan Andonie) **98c:92002** 92B20

— (*with* Eberbach, Eugene) Dynamical implementation of nondeterministic automata and concurrent systems. (English summary) *Automata implementation* (*London, ON*, 1996), 35–49, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (Summary) **98k:68119** 68Q68 (58F08, 68Q10)

— (*with* Botelho, Fernanda) Erratum to: "Boolean neural nets are observable" [Theoret. Comput. Sci. **134** (1994), no. 1, 51–61; MR 95j:68119]. *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 257. (From the text) **98i:68209** 68Q80 (68Q10)

Gasanenko, V. A. Small deviations of solutions of stochastic differential equations in tube domains. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 638–650; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 708–723 (1998). (Summary) **98e:60093** 60H10 (60J60)

— Probability of the sojourn of a Wiener process in tube domains on a large time interval. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 912–917; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1023–1029 (1998). 60J65

Gasanov, A. I. Coefficient stability and existence of a quasisolution of an inverse parabolic problem. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 1–9. (Summary) **98k:35204** 35R30 (35K10)

— (*with* Shores, Thomas S.) Solution of an inverse coefficient problem for an ordinary differential equation. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 11–20. (Summary) **98k:34022** 34A55 (34B24, 65L99)

— Inverse coefficient problems for monotone potential operators. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1265–1278. (Dang Dinh Ang) **98m:35222** 35R30 (35J60)

Gasanov, È. É. A lower bound for the complexity of information networks for a partial ordering relation. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 108–122; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 585–598. (Summary) **98m:68053** 68P20

Gasanov, M. *see* **Hasanov, Mahir**

Gasapina, Umberto *see* **Porcu, Livio**

Gasarch, William Ian (*with* Fortnow, Lance; Freivalds, Rūsiņš; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank C.) Measure, category and learning theory. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 558–569, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68158** 68Q99 (03D20, 68T05)

— (*with* Glenn, James) Implementing WS1S via finite automata. (English summary) *Automata implementation* (*London, ON*, 1996), 50–63, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (Summary) **98k:68120** 68Q68 (03B25, 03D05, 03D15)

— (*with* Smith, Carl H.) A survey of inductive inference with an emphasis on queries. *Complexity, logic, and recursion theory*, 225–260, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Cristian Calude) **98d:03052** 03D20

— (*with* Velauthapillai, Mahendran) Asking questions versus verifiability. *Fund. Inform.* **30** (1997), *no.* 1, 1–9. (Sanjay Jain) **98j:68125** 68Q99 (03D25)

— (*with* Guimarães, Katia S.) Binary search and recursive graph problems. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 119–139. (Cristian Calude) **98m:03067** 03C15 (03D45, 05C85)

— (*with* Beigel, Richard; Li, Ming[1]; Zhang, Louxin) Addition in $\log_2 n + O(1)$ steps on average. A simple analysis. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 245–248. (Summary) **98m:68110** 68Q25 (68Q30)

Gasbarra, Dario (*with* Arjas, Elja) Bayesian inference of survival probabilities, under stochastic ordering constraints. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1101–1109. (Benjamin Epstein) **98c:62184** 62N05 (62F15)

— Bayesian inference for models based on point processes, by using Markov chain methods. (English summary) Dissertation, University of Oulu, Oulu, 1997. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 302 (1997), 97 *pp.* (Summary) **98m:62223** 62M05 (62F15)

Gasbarri, C. Some topics in Arakelov theory of arithmetic surfaces. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 309–323. (Rolf Berndt) **98f:14017** 14G40 (11G18)

Gasca, M. Spline functions and total positivity. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 125–139. (Dietrich Braess) **98b:41011** 41A15 (41–03)

Gascón, F. G. *see* **González-Gascón, Francisco**

gonzález-Gascón, Francisco *see* **González-Gascón, Francisco**

Gascuel, Olivier Concerning the NJ algorithm and its unweighted version, UNJ. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 149–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:92001** 92B10 (05C85, 62H30, 68T10)

Gåsemyr, J. (*with* Natvig, B.) An application of the MTP_2 property on bounds on system reliability. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 741–755. (Summary) **98j:62069** 62N05 (60E15, 60K10, 90B25)

Gasharov, Vesselin Incomparability graphs of $(3+1)$-free posets are s-positive. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 193–197. (Summary) **98k:05140** 05E05 (05C15)

— The Erdős-Gallai criterion and symmetric functions. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 287–294. (A. A. Chernyak) **98d:05141; EA 98m** 05C99 (05E05)

— Extremal properties of Hilbert functions. *Illinois J. Math.* **41** (1997), *no.* 4, 612–629. (Lê Tuân Hoa) **98m:13024** 13D40

— Symmetric functions and the theorem of the arithmetic and geometric means. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 91–95. (Summary) **98h:05176** 05E05

Gashenenko, I. N. The bifurcation set in the problem of the motion of a heavy gyroscope under Kovalevskaya's conditions. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 60–62. (A. Sumbatov) **98k:70002** 70E15 (58F07)

Gashkov, S. B. On the complexity of the approximate realization of some classical functions. (Russian. Russian summary) *Discrete analysis* (*Russian*), 14–33, 179, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Alexey R. Alimov) **98a:65201** 65Y20 (41A30, 68Q25)

— "The curse of dimensionality" for the complexity of the approximation of classes of functions satisfying the Lipschitz condition. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 40–49, 104. (Summary) **98j:41038** 41A99 (41A25, 41A50, 65Y20)

Gąsieniec, Leszek (*with* Chlebus, Bogdan S.; Pelc, Andrzej) Fast deterministic simulation of computations on faulty parallel machines. (English summary) *Algorithms—ESA '95* (*Corfu*), 89–101, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q10 (68M15, 68Q05)

— (*with* Breslauer, Dany) Efficient string matching on coded texts. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 27–40, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q22 (68Q25)

— (*with* Plandowski, Wojciech; Rytter, Wojciech) Constant-space string matching with smaller number of comparisons: sequential sampling. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 78–89, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q20 (68Q05)

— (*with* Chlebus, Bogdan S.; Czumaj, Artur; Kowaluk, Mirosław; Plandowski, Wojciech) Parallel alternating-direction access machine. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 267–278, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q05 (68Q10)

— (*with* Kranakis, Evangelos; Krizanc, Danny; Pelc, Andrzej) Minimizing congestion of layouts for ATM networks with faulty links. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 372–381, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68023** 68M10 (68M15, 90B12)

— (*with* Breslauer, Dany) Efficient string matching on packed texts. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 6, 521–544. (Wojciech Rytter) **98g:68057** 68Q22

— (*with* Das, Gautam; Fleischer, Rudolf; Gunopulos, Dimitris; Kärkkäinen, Juha) Episode matching. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 12–27, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68040** 68Q20

— (*with* Indyk, Piotr; Krysta, Piotr) External inverse pattern matching. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 90–101, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98k:68075** 68Q20 (68Q22, 68Q25)

— (*with* Jansson, Jesper; Lingas, Andrzej; Östlin, Anna) On the complexity of computing evolutionary trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 134–145, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68118** 68Q25 (92D10)

— (*with* Indyk, Piotr) Efficient parallel computing with memory faults. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 188–197, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q10 (68M15)

— (*with* Crochemore, Maxime; Galil, Zvi; Park, Kunsoo; Rytter, Wojciech) Constant-time randomized parallel string matching. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 950–960. (Summary) **98c:68079** 68Q22 (68Q25, 68R15)

Gasilov, V. A. (*with* Ol'khovskaya, O. G.) On the numerical solution of a system of Maxwell equations on unstructured difference grids. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 7, 1193–1197, 1270; *translation in Differential Equations* **31** (1995), *no.* 7, 1136–1140 (1996). (Summary) **98b:78002** 78–08 (78A25)

tutaj-Gasińska, Halszka *see* **Tutaj-Gasińska, Halszka**

Gasiński, Leszek On capacity and some [of] its applications. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 225–242. (Emil Popescu) **98h:31009** 31B35 (31B15, 35J99, 35Q60, 49Q20, 78A30)

Gasiorek, Michael Trade liberalisation and the distribution of welfare gains under imperfect competition. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997,** *no.* 47, 227–244. (*see* **98g:90010**) 90A15 (90A60)

Gaskell, P. H. (*with* Savage, M. D.; Wilson, Michael John) Stokes flow in a half-filled annulus between rotating coaxial cylinders. (English summary) *J. Fluid Mech.* **337** (1997), 263–282. (Summary) **98c:76026** 76D07 (76E99, 76U05)

Gaskin, Richard Fregean sense and Russellian propositions. *Philos. Stud.* **86** (1997), *no.* 2, 131–154. 03A05

Gaşpar, Dumitru (*with* Suciu, Nicolae) On the intertwinings of regular dilations. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 105–121. (Alfredo Octavio) **98c:47008** 47A20 (47A13)

— *see also* **Strătilă, Şerban, 98f:46047a**

Gaspar, F. J. (*with* Oosterlee, C. W.; Washio, Takumi; Wienands, R.) Multigrid line smoothers for higher order upwind discretizations of convection-dominated problems. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 274–307. (Summary) **98m:76110** 76M20 (76D05)

Gaspard, Pierre (*with* van Ede van der Pals, P.) Two-dimensional quantum spin Hamiltonians: spectral and dynamical complexities. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 483–490, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 82B20

— Entropy production in open volume-preserving systems. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1215–1240. (Nikolai Chernov) **98m:82069** 82C70 (58F40, 82C21)

— (*with* Gonchenko, S. V.; Turaev, D. V.; Nicolis, Grégoire) Complexity in the bifurcation structure of homoclinic loops to a saddle-focus. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 409–423. (Zhengrong Liu) **98b:58125** 58F14 (34C23, 34C37)

Gasparian, G. *see* **Gasparyan, G. S.**

Gasparian, V. (*with* Ruiz Gómez, José María; Ortuño, M.; Cuevas, E.) Traversal time as a function of the size of the wavepacket. (English summary) *J. Physique I* **7** (1997), *no.* 5, 653–661. (Summary) **98c:78016** 78A40

Gasparim, Elizabeth Holomorphic bundles on $\mathcal{O}(-k)$ are algebraic. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 3001–3009. (A. R. Shastri) **98f:14037** 14J60

Gasparyan, G. S. (*with* Markosyan, S. E.; Karapetyan, I. A.; Markosyan, A. S.) On essential components and critical sets of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 137–153. (Olivia M. Carducci) **98m:05167** 05C75

Gasper, George Elementary derivations of summation and transformation formulas for q-series. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 55–70, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Mizan Rahman) **98f:33030** 33D15 (33C05, 33D20, 33D65)

Gasperini, Maurizio Relic dilatons in string cosmology. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 181–192, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83F05 (81V25, 83E30)

— (*with* Buonanno, Alessandra; Ungarelli, Carlo) A class of non-singular gravi-dilaton backgrounds. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 25, 1883–1889. (Summary) **98g:83100** 83E30 (81T30)

— (*with* Maggiore, M.; Veneziano, Gabriele) Towards a non-singular pre-big-bang cosmology. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 315–328. (Piret Kuusk) **98d:83088** 83E30 (83C75, 83E15, 83F05)

— Tensor perturbations in high-curvature string backgrounds. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4815–4823. (Summary) **98e:83117** 83E30

Gasperoni, Franco (*with* Schwiegelshohn, Uwe) List scheduling in the presence of branches. A theoretical evaluation. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 347–363. (Summary) **98k:68063** 68Q10 (68N20)

Gasquet, Olivier (*with* Herzig, Andreas) From classical to normal modal logics. *Proof theory of modal logic (Hamburg, 1993)*, 293–311, *Appl. Log. Ser.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1996. (Katalin Bimbó) **98a:03023** 03B45

— Predicate modal logics do not mix very well. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 45–49. (Brian F. Chellas) **98m:03036** 03B45

Gasqui, Jacques (*with* Goldschmidt, Hubert) The infinitesimal spectral rigidity of the real Grassmannians of rank two. *CR-geometry and overdetermined systems (Osaka, 1994)*, 122–140, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Kazushige Ueno) **98i:58257** 58H15 (32G07, 53C35, 58G25)

Gass, Saul I. On the education of a multi-criteria researcher: a personal view. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 5–26, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90–02 (90C29)

— (*with* Joseph, Anito; Bryson, N. A.) A computational study of an objective hyperplane search heuristic for the general integer linear programming problem. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 63–76. 90C10

— *see also* **Encyclopedia: Operations research and management science, 98d:90001**

Gasse, Emmanuel A proof of a circle graph characterization. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 277–283. (Summary) **98g:05125** 05C75

Gasser, Ingenuin (*with* Markowich, Peter A.; Schmidt, D.; Unterreiter, Andreas) Macroscopic theory of charged quantum fluids. *Mathematical problems in semiconductor physics (Rome, 1993)*, 42–75, *Pitman Res. Notes Math. Ser.*, 340, *Longman, Harlow*, 1995. (Ioan Bâldea) **98i:82071** 82D50 (35Q99)

— (*with* Markowich, Peter A.; Ringhofer, Christian A.) Closure conditions for classical and quantum moment hierarchies in the small-temperature limit. (English summary) Proceedings of the Second International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems (Sanremo, 1994). *Transport Theory Statist. Phys.* **25** (1996), *no.* 3-5, 409–423. (Rossana Marra) **98c:82059** 82C40 (76Y05)

— (*with* Jüngel, Ansgar) The quantum hydrodynamic model for semiconductors in thermal equilibrium. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 45–59. (Summary) **98b:82093** 82D99 (35Q99, 76Y05)

Gasser, Markus (*with* Schuëller, Gerhart Iwo) Reliability-based optimization of structural systems. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 287–307. (*see* **98j:90004**) 90B25 (90C90)

Gasser, Theo Advances in nonparametric function estimation. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 173–184, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98m:62095** 62G05

— (*with* Wang, Kongming) Optimal rate for estimating local bandwidth in kernel estimators of regression functions. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 303–312. (Summary) **98k:62073** 62G05

— (*with* Fan, Jianqing; Gijbels, Irène; Brockmann, Michael; Engel, Joachim) Local polynomial regression: optimal kernels and asymptotic minimax efficiency. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 79–99. (Wolfgang Polonik) **98j:62030** 62G05 (62G20)

— (*with* Wang, Kongming) Alignment of curves by dynamic time warping. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1251–1276. (Wolfgang Polonik) **98e:62071** 62G05 (62H05)

Gassiat, Elisabeth (*with* Dacunha-Castelle, Didier) Testing in locally conic models, and application to mixture models. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 285–317 (*electronic*). (Tobias Rydén) **98h:62024** 62F05 (62F12)

— (*with* Gamboa, F.) Bayesian methods and maximum entropy for ill-posed inverse problems. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 328–350. (Summary) **98k:62002** 62A15

— (*with* Dacunha-Castelle, Didier) The estimation of the order of a mixture model. (English summary) *Bernoulli* **3** (1997), *no.* 3, 279–299. (Tobias Rydén) **98j:62019** 62F12

Gassko, Irene Common factor graphs of stapled sequences. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 163–173. (Summary) **98m:05146** 05C70

Gastaldi, F. (*with* Martins, J. A. C.; Monteiro Marques, Manuel D. P.) On some frictional contact problems with softening character: examples and analysis. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 57–70, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Anders Klarbring) **98f:73033** 73T05 (70F99)

Gastaldi, Tommaso Reconstructive estimation in a parametric random censorship model with incomplete data. (English summary) *Advances in statistical decision theory and applications*, 387–404, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62N05

van Gasteren, A. J. M. (*with* Feijen, W. H. J.) On a method for the formal design of multiprograms. (English summary) *Mathematical methods in program development (Marktoberdorf, 1996)*, 53–81, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (Summary) **98m:68171** 68Q60 (68Q10)

— (*with* van der Sommen, F. W.; Feijen, W. H. J.) Peterson's mutual exclusion algorithm revisited. (English summary) *Sci. Comput. Programming* **29** (1997), *no.* 3, 327–334. 68Q10

arés Gastesi, Pablo *see* **Arés Gastesi, Pablo**

Gastesi, Pablo Arés *see* **Arés Gastesi, Pablo**

Gastin, Paul (*with* Diekert, Volker) A domain for concurrent termination: a generalization of Mazurkiewicz traces (extended abstract). (English summary) *Automata, languages and programming (Szeged, 1995)*, 15–26, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q10 (68Q45)

— (*with* Bauget, Serge) On congruences and partial orders. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 434–443, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q10 (68Q45)

— (*with* Petit, Antoine) Infinite traces. *The book of traces*, 393–486, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q45 (03B70, 68Q10, 68R15)

— (*with* Droste, Manfred) Asynchronous cellular automata for pomsets without auto-concurrency. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 627–638, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q80)

— (*with* Diekert, Volker; Petit, Antoine) Recent developments in trace theory. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 373–385, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45 (68Q10)

— (*with* Bérard, Béatrice; Petit, Antoine) On the power of non-observable actions in timed automata. (English summary) *STACS 96 (Grenoble, 1996)*, 257–268, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q10 (68Q60, 68Q68)

— (*with* Droste, Manfred) On recognizable and rational formal power series in partially commuting variables. (English summary) *Automata, languages and programming (Bologna, 1997)*, 682–692, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68Q70)

— (*with* Diekert, Volker; Petit, Antoine) Removing ε-transitions in timed automata. (English summary) *STACS 97 (Lübeck)*, 583–594, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98i:68200** 68Q68 (68Q10)

Gastmans, R. (*with* Wu, Tai Tsun) Generalized gauge transformations: pure Yang-Mills case. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1203–1224. (Summary) **98j:81209** 81T13

Gaston, F. M. F. (*with* Kadlec, Jiří; Irwin, G. W.) A parallel fixed-point predictive controller. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 415–430. (*see* **98e:93001**) 93B40 (65Y05, 93C40)

— *see also* **Parallel algorithms for control**, **98e:93001**

Gaston, Noel (*with* Garvey, Gerald T.) A theory of the optimal cost barrier to corporate takeovers. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 657–675. 90A15 (90A60)

Gastwirth, Joseph L. (*with* Greenhouse, Samuel W.) The joint asymptotic distribution of the maximum likelihood and Mantel-Haenszel estimators of the common odds ratio in k 2×2 tables. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 264–273, *Springer, New York*, 1996. (Summary) **98b:62102** 62H17

— (*with* Podgor, Marvin J.) Efficiency robust rank tests for stratified data. (English summary) *Research developments in probability and statistics*, 371–379, *VSP, Utrecht*, 1996. (Summary) **98g:62089** 62G10 (62G20)

— (*with* Spruill, Nancy L.) Probability models for an employment problem. (English summary) *Statistical theory and applications*, 199–213, *Springer, New York*, 1996. (Summary) **98d:62091** 62G30

— (*with* Nayak, Tapan K.) The Peters-Belson approach to measures of economic and legal discrimination. (English summary) *Advances in the theory and practice of statistics*, 587–601, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:62199** 62J05 (62P20)

Gasull, Armengol (*with* Cima, Anna; van den Essen, Arno; Hubbers, Engelbert; Mañosas, Francesc) A polynomial counterexample to the Markus-Yamabe conjecture. (English summary) *Adv. Math.* **131** (1997), *no.* 2, 453–457. (Gary H. Meisters) **98k:34084** 34D05 (58F10)

— (*with* Prohens, R.) Effective computation of the first Lyapunov quantities for a planar differential equation. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 3, 243–250. (From the introduction) **98c:34044** 34C05 (34C23)

— (*with* Cima, Anna; Mañosas, Francesc) Limit cycles for vector fields with homogeneous components. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 3, 281–287. (Noel G. Lloyd) **98c:34042** 34C05 (58F21)

— (*with* Coll, Bartomeu; Prohens, R.) Differential equations defined by the sum of two quasi-homogeneous vector fields. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 212–231. (Natalia Borisovna Medvedeva) **98j:34041** 34C05 (34C25, 58F21)

— (*with* Guillamon i Grabolosa, Toni; Mañosa, Víctor; Mañosas, Francesc) The period function for Hamiltonian systems with homogeneous nonlinearities. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 237–260. (Lubomir Gavrilov) **98h:58154** 58F22 (34C25, 58F05, 70H05)

— (*with* Guillamon i Grabolosa, Toni; Mañosa, Víctor) An explicit expression of the first Liapunov and period constants with applications. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 190–212. (Summary) **98d:34051** 34C05

— (*with* Cima, Anna; Mañosas, Francesc) A polynomial class of Markus-Yamabe counterexamples. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 85–100. (Gary H. Meisters) **98h:34088** 34C35 (34D99, 58F12, 93D20)

— (*with* Kooij, Robert E.; Torregrosa, Joan) Limit cycles in the Holling-Tanner model. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 149–167. (Douglas S. Shafer) **98e:34071** 34C15 (34C05, 92D25)

— (*with* Cima, Anna; Mañosa, Víctor; Mañosas, Francesc) Algebraic properties of the Liapunov and period constants. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 471–501. (Carmen Chicone) **98k:34044** 34C05 (34C99)

Gát, Gy. On the almost everywhere convergence of Fejér means of functions on the group of 2-adic integers. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 88–96. (Sándor Fridli) **98m:42042** 42C10 (41A99)

Gat, Omri (*with* L'vov, Victor S.; Procaccia, Itamar) Perturbative and nonperturbative analysis of the third-order zero modes in the Kraichnan model for turbulent advection. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 406–416. (Summary) **98d:76089** 76F99

Gątarek, Dariusz Some remarks on the market model of interest rates. (English summary) *Control Cybernet.* **25** (1996), *no.* 6, 1233–1244. (Summary) **98e:90058** 90A60

— (*with* Goldys, Beniamin) On invariant measures for diffusions on Banach spaces. (English summary) *Potential Anal.* **7** (1997), *no.* 2, 539–553. (Ralf Manthey) **98k:60102** 60H15

Gatermann, K. (*with* Verschelde, J.; Cools, Ronald) Mixed-volume computation by dynamic lifting applied to polynomial system solving. (English summary) *Discrete Comput. Geom.* **16** (1996), *no.* 1, 69–112. (Summary) **98g:68171** 68U05 (52B55, 68Q40)

Gates, K. (*with* Gragg, William B.) Notes on *TQR* algorithms. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 195–203. (Summary) **98k:65017** 65F15

Gates, S. James, Jr. (*with* Dhanawittayapol, Rujikorn; Rana, Lubna) A canticle on (4, 0) supergravity-scalar multiplet systems for a "cognoscente". (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 264–272. (J. A. H. Samtleben) **98a:83121** 83E50 (81V17)

— Why auxiliary fields matter: the strange case of the 4D, $N = 1$ supersymmetric QCD effective action. II. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 145–184. (Victor O. Rivelles) **98b:81248** 81T60

— (*with* Kuzenko, Sergei M.; Sibiryakov, A. G.) Towards a unified theory of massless superfields of all superspins. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 343–353. (W. Cox) **98f:81322** 81T60

— (*with* Grisaru, M. T.; Knutt-Wehlau, Marcia E.; Roček, Martin; Solov'ev, O. A.) $N = 1$ supersymmetric extension of the QCD effective action. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 167–176. (Nguyen Anh Ky) **98f:81355** 81V05 (81T60)

— (*with* Rodgers, V. G. J.) Type-B/-O bosonic string σ-models. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 71–78. (Summary) **98f:81254** 81T30 (81T10)

— (*with* Kuzenko, Sergei M.; Sibiryakov, A. G.) $N = 2$ supersymmetry of higher superspin massless theories. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 59–68. (Summary) **98k:81263** 81T60 (81T30, 83E30)

Gateva-Ivanova, T. (*with* Belov, A. Ya.) Radicals of monomial algebras. (English summary) *First International Tainan-Moscow Algebra Workshop (Tainan, 1994)*, 159–169, *de Gruyter, Berlin*, 1996. (Richard Wiegandt) **98c:16021** 16N20 (16R10)

von zur Gathen, Joachim (*with* Karpinski, Marek; Shparlinski, I. E.) Counting curves and their projections. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 1, 64–99. (Joos Heintz) **98d:68111** 68Q40 (14Q05, 68Q15, 68Q25)

— (*with* Roche, James R.) Polynomials with two values. (English summary) *Combinatorica* **17** (1997), *no.* 3, 345–362. (Maurice Mignotte) **98k:11123** 11N32 (11B83)

— (*with* Gao, Shuhong; Panario, Daniel) Gauss periods: orders and cryptographical applications. (English summary) With microfiche supplement. *Math. Comp.* **67** (1998), *no.* 221, 343–352. (Igor E. Shparlinski) **98c:11134** 11T30 (11T71, 94A60)

Gather, Ursula Characterizing distributions by properties of order statistics—a partial review. (English summary) *Statistical theory and applications*, 89–103, *Springer, New York*, 1996. (Summary) **98c:62019** 62E10 (62G30)

— (*with* Köhne, Stephan; Pigeot, Iris) Asymptotically efficient noniterative estimators of a common parameter from independent samples. (English summary) *Statistics* **28** (1996), *no.* 3, 187–200. (Somnath Datta) **98a:62031** 62F12

— (*with* Pawlitschko, J.; Pigeot, Iris) A note on invariance of multiple tests. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 366–372. (Summary) **98k:62001** 62A05 (62H15)

di Gati, Leonardo *see* **Di Gati, Leonardo**

Gatica, Gabriel N. (*with* Barrenechea, Gabriel R.) On the coupling of boundary integral and finite element methods with nonlinear transmission conditions. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 181–210. 65N30 (65N55)

— Combination of mixed finite element and Dirichlet-to-Neumann methods in nonlinear plane elasticity. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 29–35. (Summary) **98g:73039** 73V05 (73C50, 73V25)

— (*with* Wendland, Wolfgang L.) Coupling of mixed finite elements and boundary elements for a hyperelastic interface problem. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2335–2356. (Gabriel J. Lord) **98i:65098** 65N30 (65N38, 73C50, 73V05)

— (*with* Mellado, Mario E.) On the numerical solution of linear exterior problems via the uncoupling method. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 2, 233–251. (Summary) **98m:65189** 65N30

— *see also* **Numerical methods in mechanics**, **98g:65009**

Gato-Rivera, Beatriz (*with* Rosado, Jose Ignacio) Chiral determinant formulae and subsingular vectors for the $N = 2$ superconformal algebras. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 447–478. (Zoltán Bajnok) **98m:81062** 81R10 (17B81, 81T40)

Gatsinzi, J.-B. The homotopy Lie algebra of classifying spaces. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 281–289. (Summary) **98g:55015** 55P62 (18G15, 55R35)

— LS category of classifying spaces and 2-cones. (English summary) *Manuscripta Math.* **94** (1997), *no.* 2, 243–252. (Yves Félix) **98h:55018** 55P62 (55M30)

Gatski, Thomas B. Modeling compressibility effects on turbulence. *New tools in turbulence modelling (Les Houches, 1996)*, 73–104, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (Summary) **98k:76064** 76Fxx (76N99)

— (*with* Speziale, Charles G.) Analysis and modelling of anisotropies in the dissipation rate of turbulence. (English summary) *J. Fluid Mech.* **344** (1997), 155–180. (Summary) **98h:76072** 76F99

Gatsonis, Constantine *see* **Case studies in Bayesian statistics**, **98g:62005**

Gatti, Stefania Continuous selections avoiding a multifunction with values in $\mathscr{P}(\mathbf{R}^n)$. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 389–394. (Summary) **98j:54035** 54C65 (54C60)

Gatto, Riccardo Saddlepoint approximations of marginal densities and confidence intervals for regression R-estimators. (English summary) *J. Nonparametr. Statist.* **7** (1997), *no.* 3, 239–253. (Summary) **98c:62026** 62E17 (62G09)

Gattringer, C. R. On the U(1)-problem of QED_3. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 273–278, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81V10

— (*with* Hip, I.; Lang, C. B.) Quantum fluctuations versus topology—a study in $U(1)_2$ lattice gauge theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 371–376. 81T25

Gatzouras, Dimitrios (*with* Peres, Yuval) The variational principle for Hausdorff dimension: a survey. *Ergodic theory of $\mathbf{Z}^d$ actions (Warwick, 1993–1994)*, 113–125, *London Math. Soc. Lecture Note Ser.*, 228, *Cambridge Univ. Press, Cambridge*, 1996. (Irene Hueter) **98b:28011** 28A78

— (*with* Peres, Yuval) Invariant measures of full dimension for some expanding maps. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 147–167. (Thomas Bogenschütz) **98c:58093** 58F11 (28A78, 58F15)

Gaubert, Stéphane (*with* Plus, Max) Methods and applications of (max, +) linear algebra. (English summary) *STACS 97 (Lübeck)*, 261–282, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98f:68205** 68Q99 (16Y60, 93C83)

— (*with* Mairesse, Jean) Task resource models and (max, +) automata. (English summary) *Idempotency (Bristol, 1994)*, 133–144, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **98j:68031** 68Q10 (68Q68)

fernández-Gaucherand, Emmanuel *see* **Fernández-Gaucherand, Emmanuel**

Gaudiano, Paolo Being in the right place at the right time: a commentary on M. Zangari and D. Censor's: "Spectral representations" [Synthese **112** (1997), no. 1, 97–123; MR 98k:00004. *Synthese* **112** (1997), *no.* 1, 125–134. (I. Grattan-Guinness) **98k:00005** 00A30 (00A71, 76Q05)

Gaudiello, A. (*with* Cardone, G.) Homogenization of elliptic equations with quadratic growth in periodically perforated domains: the case of unbounded solutions. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 51–72. (Summary) **98b:35018** 35B27 (35J65)

Gaudron, Isabelle Rate of convergence of the Swendsen-Wang dynamics in image segmentation problems: a theoretical and experimental study. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 259–284 (*electronic*). (Gheorghe Barbu) **98i:65008** 65C20 (82B80)

Gauduchon, Paul Topics in Riemannian twistor geometry. Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 15–35. (Massimiliano Pontecorvo) **98d:32036** 32L25 (32J20, 53C25)

— Hermitian connections and Dirac operators. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 257–288. (Liviu I. Nicolaescu) **98c:53034** 53C07 (58G03)

— (*with* Apostolov, Vestislav) The Riemannian Goldberg-Sachs theorem. (English summary) *Internat. J. Math.* **8** (1997), *no.* 4, 421–439. (Santiago R. Simanca) **98g:53080** 53C25 (53C55)

— (*with* Ivanov, Stefan P.) Einstein-Hermitian surfaces and Hermitian Einstein-Weyl structures in dimension 4. *Math. Z.* **226** (1997), *no.* 2, 317–326. (Henrik Pedersen) **98m:53063** 53C25

— *see also* **Colin de Verdière, Yves. 98e:58169**

verger-Gaugry, Jean-Louis *see* **Verger-Gaugry, Jean-Louis**

Gaujal, Bruno (*with* Jean-Marie, Alain) Computational issues in recursive stochastic systems. (English summary) *Idempotency (Bristol, 1994)*, 209–230, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 60K15 (93E03)

Gauker, Christopher Universal instantiation: a study of the role of context in logic. (English summary) *Erkenntnis* **46** (1997), *no.* 2, 185–214. (Jaime Nubiola) **98i:03008** 03A05 (03B65)

Gaukroger, Stephen Justification, truth, and the development of science. *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 1, 97–112. 00A30 (01A99)

Gaul, L. (*with* Wagner, Max Carl) A new hybrid symmetric boundary element method in elastodynamics. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 3–11, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73V10 (65N38, 73D30)

Gaultier, Maurice (*with* Lezaun Iturralde, Mikel) Un problème de convection-diffusion avec réaction chimique. (English and French summaries) [A problem of convection-diffusion with chemical reaction] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 159–164. (Anibal Rodriguez-Bernal) **98e:35085** 35K55 (35B40, 35Q30, 80A32)

álvarez-Gaumé, Luis *see* **Álvarez-Gaumé, Luis**

Gaunt, D. S. (*with* Yu, T. C.; Whittington, Stuart G.) Free energy of self-interacting uniform stars. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4607–4613. (Summary) **98k:82082** 82B41

Gauntlett, Jerome P. (*with* Harvey, Jeffrey A.) *S*-duality and the dyon spectrum in $N = 2$ super Yang-Mills theory. (English summary) *Nuclear Phys. B* **463** (1996), *no.* 2-3, 287–314. (Nguyen Anh Ky) **98a:81223** 81T60 (81T13)

— (*with* Gibbons, Gary W.; Papadopoulos, George J.; Townsend, Paul K.) Hyper-Kähler manifolds and multiply intersecting branes. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 133–162. (Krzysztof Galicki) **98k:81264** 81T60 (53C25, 53C80, 81T30, 83E30, 83E50)

— (*with* Tada, Tsukasa) Entropy of four-dimensional rotating BPS black hole dyons. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, R1707–R1710. (Summary) **98a:81169** 81T30 (83C57, 83E30)

— (*with* Gomis, Joaquim; Townsend, Paul K.) BPS bounds for worldvolume branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 3, 16 *pp.* (*electronic*). (Summary) **98m:81139** 81T30

— Duality and supersymmetric monopoles. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 137–148. (Summary) **98k:81265** 81T60 (58D27, 81–02, 81T13)

Gaur, A. K. (*with* Ahmad, Z. U.; Saifi, A. H.) Some new sequence spaces: their duals and matrix transformations. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 207–212. (Summary) **98c:46008** 46A45 (40J05)

— (*with* Ahmad, Z. U.; Chishti, T. A.) On some new sequence spaces of invariant means. *Acta Math. Hungar.* **75** (1997), *no.* 3, 209–214. (Enno Kolk) **98c:46035** 46B45 (40F05, 40G99)

— A characterization of B^*-algebras. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 483–486. (T. W. Palmer) **98g:46075** 46K05

— (*with* Ahmad, Z. U.) Cones in Banach algebras. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 221–226. (Summary) **98h:46048** 46H05 (46B40, 46K05)

— Pure states of the commutative Banach*-algebras. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 423–426. 46K05 (46J05)

— *-representations on Banach *-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1461–1466. (Robert S. Doran) **98j:46052** 46K10 (46L05)

Gaur, Madhukar (*with* Rai, Arisudan; Upadhyay, R. P.) Thermal conduction effect on the evolution of a weak MHD discontinuity. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 7–14. (Summary) **98k:76147** 76W05 (76L05, 76R99)

— (*with* Sharma, Rishi R.; Pandey, Bishun D.; Sharma, Pushpa) Asymptotic solution of a non-linear wave motion in an electron plasma. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1379–1388. (Summary) **98h:76142** 76X05 (76L05)

Gauss, Carl Friedrich *see* **Zormbala, Konstantina. 98a:01013**; **Brosche, Peter. 98c:01021**; **Montesinos-Amilibia, José María. 98g:01043**; **Folkerts, Menso. 98k:01025**; **Biermann, Kurt-R.**; **Brosche, Peter**; **Dohse, Fritz-Egbert** *and* **Nikiforovskiĭ, V. A.**

Gaussier, Hervé Characterization of convex domains with noncompact automorphism group. *Michigan Math. J.* **44** (1997), *no.* 2, 375–388. (John Bland) **98j:32040** 32M05 (32F15)

Gautam, Mridul (*with* Gera, Dinesh; Gangarao, Hota V. S.) Wave growth patterns in a non-linear dispersive system with instability and dissipation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 599–604. (Summary) **98b:35144** 35Q35 (76B15, 76E99)

Gautam, N. (*with* Kulkarni, V. G.) Admission control of multi-class traffic with service priorities in high-speed networks. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 79–97. 60K25

Gautam, Shiva Test for linear trend in $2 \times K$ ordered tables with open-ended categories. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 1163–1169. 62H17

Gautesen, A. K. (*with* Fishman, Louis; Sun, Zhiming) Uniform high-frequency approximations of the square root Helmholtz operator symbol. (English summary) *Wave Motion* **26** (1997), *no.* 2, 127–161. (Summary) **98d:65133** 65N06 (35P05, 73D25, 76Q05, 78A45)

Gauthier, Céline (*with* Poitevin, Michel; González, Patrick) Ex ante payments in self-enforcing risk-sharing contracts. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 106–144. 90A46 (90A43)

Gauthier, Claude Éléments de la mécanique quantique dans un hyperespace-temps multiconnexe. (French summary) [Elements of quantum mechanics in a multiconnected hyperspacetime] *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 391–395, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 81T20 (83C47)

Gauthier, Geneviève Multilevel bilinear systems of stochastic differential equations. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 1, 117–138. (Klaus Fleischmann) **98m:60090** 60H10 (60K35)

Gauthier, J. P. (*with* El-Alaoui, El-H. Ch.; Kupka, Ivan A. K.) Small sub-Riemannian balls on $\mathbf{R}^3$. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 3, 359–421. (Claudio Gorodski) **98a:53043b** 53C15 (49L05, 53C20)

— (*with* Xu, Cheng-Zhong; Bounabat, A.) An observer for infinite-dimensional skew-adjoint bilinear systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 31–50. (Henk Nijmeijer) **98k:93019** 93B07 (93B50, 93C25)

Gauthier, Paul M. (*with* Chen, Huaihui) On strongly normal functions. (English summary) *Canad. Math. Bull.* **39** (1996), *no.* 4, 408–419. (P. Lappan) **98a:30040** 30D45

— (*with* Bagby, Thomas; Woodworth, Jennifer) Tangential harmonic approximation on Riemannian manifolds. (English summary) *Harmonic analysis and number theory (Montreal, PQ, 1996)*, 58–72, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Stephen J. Gardiner) **98m:31009** 31C12 (41A30)

— (*with* Chen, Huaihui) Normal functions: L^p estimates. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 55–73. (Shamil Makhmutov) **98c:30042** 30D45 (30F35)

— *see also* **Tarkhanov, Nikolai N., 98j:35007**

Gautier, Antoine (*with* Granot, Daniel; Granot, Frieda) Qualitative sensitivity analysis. (English summary) *Advances in sensitivity analysis and parametric programming*, 8.1–8.53, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (H. T. Lau) **98g:90035** 90C35 (90B10, 90C31)

Gautreau, Ronald Schwarzschild radii in cosmology. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 281–285, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C75 (83C15, 83F05)

— (*with* Cohen, Jeffrey Marshal) Birth and death of a black hole. *Amer. J. Phys.* **65** (1997), *no.* 5, 444–446. (Introduction) **98b:83054** 83C57

Gautschi, Walter ★ Numerical analysis. (English summary) An introduction. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xiv+506 *pp. ISBN* 0-8176-3895-4 (Ian Gladwell) **98d:65001** 65–01

— On the computation of special Sobolev-type orthogonal polynomials. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 329–342. (Gradimir V. Milovanović) **98h:33004** 33C45 (65D20)

— Moments in quadrature problems. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 105–118. (Summary) **98j:41034** 41A55 (44A60, 65D32)

Gauvreau, Chantal A new proof of a theorem of Green, Happel and Zacharia. (English and French summaries) *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 83–89. (Peter Dräxler) **98h:16019** 16G20 (16E10)

Gauyacq, Ginette On quasi-Cayley graphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 1, 43–58. (Joseph B. Klerlein) **98h:05089** 05C25

Gava, E. (*with* Antoniadis, Ignatios; Ferrara, Sergio; Narain, K. S.; Taylor, T. R.) Duality symmetries in $N = 2$ heterotic superstring. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **45B,C** (1996), 177–187. (Miguel A. Vázquez-Mozo) **98a:81150** 81T30 (81–02, 83E30)

— (*with* Antoniadis, Ignatios; Narain, K. S.; Taylor, T. R.) Duality in superstring compactifications with magnetic field backgrounds. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 611–628. (Summary) **98k:81189** 81T30 (83E30)

Gavaldà, Ricard (*with* Balcázar, José L.; Díaz, Josep; Watanabe, Osamu[2]) Algorithms for learning finite automata from queries: a unified view. (English summary) *Advances in algorithms, languages, and complexity*, 53–72, *Kluwer Acad. Publ., Dordrecht*, 1997. (Nicolae Ţăndăreanu) **98f:68228** 68T05 (68Q45)

— (*with* Balcázar, José L.; Watanabe, Osamu[2]) Coding complexity: the computational complexity of succinct descriptions. (English summary) *Advances in algorithms, languages, and complexity*, 73–91, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98a:68063** 68Q15 (03D15, 68Q30)

— (*with* Balcázar, José L.; Hermo, Montserrat) Compressibility of infinite binary sequences. (English summary) *Complexity, logic, and recursion theory*, 75–91, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Marius Zimand) **98i:68130** 68Q30

Gavalec, Martin Partial order with duality and consistent choice problem. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 327–342. (Summary) **98d:06001** 06A06 (03D15, 68Q25)

— Computing matrix period in max-min algebra. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 63–70. (Summary) **98c:05109** 05C50

— Reaching matrix period is NP-complete. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 81–88. (Summary) **98j:04003** 04A72 (15A99,

68Q25)

Gavarini, Fabio Geometrical meaning of R-matrix action for quantum groups at roots of 1. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 95–117. (Dmitriĭ I. Gurevich) **98h:17013** 17B37 (16W30)

— (*with* Papi, Paolo) Representations of the Brauer algebra and Littlewood's restriction rules. (English summary) *J. Algebra* **194** (1997), *no.* 1, 275–298. (Andrew P. Mathas) **98g:20069** 20G05 (20C30)

Gaveau, Bernard (*with* Schulman, L. S.) Master equation based formulation of non-equilibrium statistical mechanics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 8, 3897–3932. (Summary) **98f:82080** 82C03 (82C35)

— (*with* Beals, Richard; Greiner, Peter C.) Subelliptic geometry and fundamental solutions. (English summary) *Partial differential equations and their applications (Toronto, ON, 1995)*, 1–7, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:35025** 35H05 (35A08, 58G11)

— (*with* Beals, Richard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. I. *Bull. Sci. Math.* **121** (1997), *no.* 1, 1–36. (Gerald B. Folland) **98b:35032a** 35H05 (32F40, 35A08, 35C20)

— (*with* Beals, Richard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. II. *Bull. Sci. Math.* **121** (1997), *no.* 2, 97–149. (Gerald B. Folland) **98b:35032b** 35H05 (32F40, 35A08, 35C20)

— (*with* Beals, Richard; Greiner, Peter C.) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. III. *Bull. Sci. Math.* **121** (1997), *no.* 3, 195–259. (Gerald B. Folland) **98b:35032c** 35H05 (32F40, 35A08, 35C20)

— (*with* Moreau, Michel; Tóth, János) Master equation and Fokker-Planck equation: comparison of entropy and of rate constants. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 2, 101–115. (Victor I. Stepanov) **98j:82049** 82C31

— (*with* Schulman, L. S.) A general framework for non-equilibrium phenomena: the master equation and its formal consequences. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 347–353. (Summary) **98d:82031** 82C05

— (*with* Beals, Richard; Greiner, Peter C.) Subelliptic geometry. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 25–39, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Chu Li Fu) **98m:35026** 35H05 (35A08, 58G99)

Gaver, D. P. (*with* Jacobs, Patricia A.) Attrition modeling in the presence of decoys: an operations-other-than-war motivation. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 507–514. 90B06

— (*with* Jacobs, Patricia A.) Testing or fault-finding for reliability growth: a missile destructive-test example. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 623–637. (Tim Bedford) **98g:90019** 90B25 (62L10, 62N05)

Gavilanes-Franco, Antonio (*with* Almendros-Jiménez, J. M.; Gil-Luezas, A.) Algebraic semantics for functional logic programming with polymorphic order-sorted types. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 299–313, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68035** 68N15 (68Q55)

— (*with* Leach Albert, Javier; Martín, P. J.; Nieva, S.) Reasoning with preorders and dynamic sorts using free variable tableaux. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 365–379, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98d:68182** 68T15 (03B35, 03B50)

Gavin, John (*with* Jennison, Christopher) A subpixel image restoration algorithm. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 2, 182–201. 62H99

Gavioli, Norberto (*with* Dalla Volta, Francesca) On the admissibility of some linear and projective groups in odd characteristic. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 245–254. (Oliver H. King) **98i:20050** 20G40

Gavlas, Heather Greatest common distance-preserving subgraphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 47–64. (Summary) **98i:05064** 05C12

— (*with* Chartrand, Gary; Schultz, Kelly; Winters, Steven J.) On strong digraphs with a prescribed ultracenter. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 83–94. (A. Vijayakumar) **98c:05053** 05C12 (05C20)

— (*with* Chartrand, Gary; Vandell, Robert C.; Harary, Frank) The forcing domination number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 161–174. (Summary) **98f:05083** 05C35

— (*with* Chartrand, Gary; Schultz, Michelle; Wall, Curtiss E.) Anticonnected digraphs. (English summary) *Util. Math.* **51** (1997), 41–54. (Summary) **98k:05078** 05C20 (05C40)

Gavrea, Ioan (*with* Ciupa, Alexandra) On a modified Favard-Szász operator. (English summary) *Research Seminar on Numerical and Statistical Calculus*, 39–44, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (*see* **98b:65007**) 41A35

— (*with* Ciupa, Alexandra) On a Favard-Szasz type operator. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 1, 39–46. (Radu Păltănea) **98b:41023** 41A35

— (*with* Raşa, Ion) On the rate of convergence of positive polynomial operators. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 255–258, *Transilvania, Cluj-Napoca*, 1997. (Francesco Altomare) **98m:41040** 41A36 (41A25)

— (*with* Gonska, Heinz H.; Kacsó, Daniela P.) On the variation-diminishing property. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 96–105. (Summary) **98i:41038** 41A36

Gavrikov, M. B. (*with* Lokutsievskiĭ, O. V.) ★ Начала численного анализа. (Russian. Russian summary) [Elements of numerical analysis] With a preface by V. M. Tikhomirov. *TOO "Yanus"*, *Moscow*, 1995. 581 *pp. ISBN* 5-88929-004-5 (W. Govaerts) **98f:65001** 65-01

Gavrilakis, S. *see* **Conference: Computational Fluid Dynamics, Three-dimensional Complex Flows, 98h:76002**

Gavril'chenko, O. P. (*with* Pokotilo, V. G.) Spectral conditions for the stability of difference inclusions. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 3, 4–7. (Summary) **98m:39041** 39A11

Gavrilov, G. P. Closed classes in many-valued logic that contain the class of polynomials. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 12–23. (Klaus Denecke) **98j:03033** 03B50

Gavrilov, Ljubomir Nedjalkov Isochronicity of plane polynomial Hamiltonian systems. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 433–448. (Mihai Tibăr) **98b:58143** 58F22 (32S05, 34C05, 34C25)

Gavrilov, N. N. An effective criterion for the stationary point $(0, 0)$ of focus and center type. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 9, 7–13. (A. P. Sadovskiĭ) **98i:34047** 34C05

Gavrilov, S. P. (*with* Gitman, D. M.; Odintsov, Sergei D.) Quantum scalar field in the FRW Universe with a constant electromagnetic background. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4837–4867. (Summary) **98f:81219** 81T20 (83C47)

Gavrilov, V. R. (*with* Melnikov, V. N.; Triay, Roland) Exact solutions in multi-dimensional cosmology with shear and bulk viscosity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2203–2218. (Michael L. Fil'chenkov) **98h:83081** 83E15

— (*with* Ivashchuk, V. D.; Kasper, U.; Melnikov, V. N.) Integrability of multicomponent models in multidimensional cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 599–612. (Oscar Sergio Zandron) **98b:83081** 83E15

Gavrilov, V. V. On Fourier transforms of functions from the Sobolev-Liouville class for the Schrödinger operator with a measurable and bounded potential. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 458–461, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 457–460. (Summary) **98m:34169** 34L40 (34L05, 47E05)

— On the connection between the generalized Fourier transforms corresponding to the one-dimensional Schrödinger operator and the order of integrability p, $1 \le p < 2$, of the expanded function. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 741–747, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 745–751 (1998). (Summary) **98m:34170** 34L40 (34L10)

Gavrilovich, Misha Cut elimination for the second order propositional logic with Hilbert's ε-symbol, extensionality, and full comprehension. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 113–118, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:03113** 03F05 (03B05)

— A lower bound for interpolation. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 321–326 (*electronic*). (Claude Sureson) **98d:03049** 03D15 (03B05, 68Q15)

Gavrilyuk, I. P. An algorithmic representation of fractional powers of positive operators. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 3-4, 293–305. (Alberto Guzman) **98b:47049** 47B65 (47A60, 47N20)

Găvruţă, P. On the Hyers-Ulam-Rassias stability of mappings. (English summary) *Recent progress in inequalities (Niš, 1996)*, 465–469, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:00021**) 39B72 (41A35, 47H99)

Gawarecki, Leszek Extension of a stochastic integral with respect to cylindrical martingales. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 103–111. (Summary) **98a:60073** 60H05 (60G44)

— Kinematics of stochastic motion in Hilbert space. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 503–526. (Constantin Syros) **98m:60072** 60G46 (60H05, 81P20)

Gawędzki, Krzysztof (*with* Falceto, Fernando) Elliptic Wess-Zumino-Witten model from elliptic Chern-Simons theory. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 2, 155–175. (V. A. Golubeva) **98d:81101** 81T40 (32G81)

— (*with* Bernard, Denis; Kupiainen, A.) Anomalous scaling in the N-point functions of a passive scalar. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 3, 2564–2572. (Summary) **98a:82070** 82C05 (82C31)

— (*with* Falceto, Fernando) Unitarity of the Knizhnik-Zamolodchikov-Bernard connection and the Bethe ansatz for the elliptic Hitchin systems. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 267–290. (Martin Schlichenmaier) **98e:81154** 81T40 (14H60, 32G13, 57R19, 58D27)

Gawel, Bolesław Some functional inequalities and their Baire category properties. (English summary) *Aequationes Math.* **52** (1996), *no.* 1-2, 55–71. (R. A. Rosenbaum) **98m:39084** 39B72 (39B12)

— (*with* Kimmel, Marek) The iterated Galton-Watson process. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 949–959. (Summary) **98a:60119** 60J80

kołowska-Gawiejnowicz, Mirosława *see* **Kołowska-Gawiejnowicz, Mirosława**

Gawlik, James A function which distinguishes the prime numbers. (English summary) *Math. Today (Southend-on-Sea)* **33** (1997), *no.* 1, 21. (Aleksander Grytczuk) **98c:11005** 11A41

Gawlista, R. (*with* Exner, Pavel; Šeba, P.; Tater, M.) Point interactions in a strip. (English summary) *Ann. Physics* **252** (1996), *no.* 1, 133–179. (Peter N. Zhevandrov) **98b:81036** 81Q10 (81–04)

Gay, David A. ★ Geometry by discovery. (English summary) *John Wiley & Sons, Inc., New York*, 1998. xiv+410 *pp. ISBN* 0-471-04177-7 (H. W. Guggenheimer) **98f:51001** 51-01 (52-01)

Gay, Roger[2] The stochastic growth equation: the growth of funds. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 2, 253–259. (Summary) **98m:90020** 90A09

Gay, Simon (*with* Abramsky, Samson; Nagarajan, Rajagopal) A type-theoretic approach to deadlock-freedom of asynchronous systems. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 295–320, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q10 (68Q60)

el Gayar, Sanaa M. *see* **El Gayar, Sanaa M.**

Gayrard, Véronique (*with* Bovier, Anton) An almost sure large deviation principle for the Hopfield model. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1444–1475. (Summary) **98g:60055** 60F10 (82B44, 82C32)

— (*with* Bovier, Anton; Picco, Pierre) Distribution of overlap profiles in the one-dimensional Kac-Hopfield model. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 323–379. (Barbara Gentz) **98k:82089** 82B44 (60K35)

— (*with* Bovier, Anton) An almost sure central limit theorem for the Hopfield model. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 151–173. (Barbara Gentz) **98j:60044** 60F15 (60K35, 82B44, 82C32)

— (*with* Bovier, Anton) The retrieval phase of the Hopfield model: a rigorous analysis of the overlap distribution. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 1, 61–98. (Boguslaw Zegarlinski) **98b:82041** 82B44 (60K35, 82C32)

Gazarik, M. (*with* Wardi, Y.) Optimal release times in a single server: an optimal control perspective. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 998–1002. 90B22 (93C83)

Gazeau, Jean Pierre Quasicrystals and their symmetries. *Symmetry and structural properties of condensed matter* (*Zajęczkowo*, 1994), 369–389, *World Sci. Publishing, River Edge, NJ*, 1995. (Richard Kenyon) **98m:52027** 52C07 (52C20, 82D25)

— On two analytic elementary systems in quantum mechanics. (English and French summaries) *Géométrie complexe* (*Paris*, 1992), 175–202, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Ivailo M. Mladenov) **98k:81137** 81S30

— (*with* Ali, S. Twareque; Karim, Mohammed Rezaul) Frames, the β-duality in Minkowski space and spin coherent states. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5529–5549. (J.-P. Antoine) **98c:81092** 81R30 (22E70)

— Pisot-cyclotomic integers for quasilattices. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 175–198, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (D. Boyd) **98c:11114** 11R06 (52C05)

Gazelle, David (*with* Snyders, Jakov) Reliability-based code-search algorithms for maximum-likelihood decoding of block codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 239–249. 94B05

Gazizov, R. K. (*with* Ibragimov, N. Kh.; Aksenov, A. V.; Baikov, V. A.; Chugunov, V. A.; Meshkov, A. G.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 2. Applications in engineering and physical sciences. Edited by Ibragimov. *CRC Press, Boca Raton, FL*, 1995. xx+546 *pp. ISBN* 0-8493-2864-0 (Juha Pohjanpelto) **98b:58175** 58G35 (00A05, 00A20, 00A79, 22E70, 34A34, 35A30, 58–02)

— (*with* Anderson, Robert Leonard; Baikov, V. A.; Hereman, Willy; Ibragimov, N. Kh.; Mahomed, F. M.; Meleshko, S. V.; Nucci, M. C.; Olver, Peter J.; Sheftel', M. B.; Turbiner, A. V.; Vorob'ev, E. M.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 3. New trends in theoretical developments and computational methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1996. xvi+536 *pp. ISBN* 0-8493-9419-8 (Juha Pohjanpelto) **98b:58176** 58G35 (00A20, 22E05, 34A34, 35–04, 35A30, 58–02)

— Representation of general invariants for approximate transformation groups. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 202–228. (Alexey V. Samokhin) **98j:35010** 35A30 (35Q99, 58G35)

— (*with* Baikov, V. A.; Ibragimov, N. Kh.; Kovalev, Vladimir F.) Water redistribution in irrigated soil profiles: invariant solutions of the governing equation. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 395–409. (Summary) **98c:76100** 76S05 (35Q35, 86A05)

Gazzola, Filippo Periodic motions in lattices of particles. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 183–190, *Dynamic, Atlanta, GA*, 1996. (Vittorio Coti Zelati) **98a:58129** 58F22 (34C25, 58E05, 70H05)

— (*with* Arioli, G.; Terracini, Susanna) Multibump periodic motions of an infinite lattice of particles. *Math. Z.* **223** (1996), *no.* 4, 627–642. (Vittorio Coti Zelati) **98d:58150** 58F22 (34C25, 58E05, 70H35)

— (*with* Ruf, Bernhard) Lower-order perturbations of critical growth nonlinearities in semilinear elliptic equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 4, 555–572. (Vicenţiu Rădulescu) **98d:35073** 35J65 (35B20)

— (*with* Pata, Vittorino) A uniform attractor for a non-autonomous generalized Navier-Stokes equation. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 435–449. (Athanase Cotsiolis) **98h:35187** 35Q30 (34G20, 35B40, 47H20, 76D05)

— A note on the evolution Navier-Stokes equations with a pressure-dependent viscosity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 760–773. (Cun-Zheng Wang) **98m:35156** 35Q30 (76D05)

G. Cabello, Julia Simplicial groups as models for n-types. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 1, 67–92. (Timothy Porter) **98f:18015** 18G55

Ge, Guang Ping (*with* Ma, Xue Feng) Models and data analysis for accelerated life testing with cyclic progressive stress. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 11–18. 62N05

— (*with* Wang, Wenyi) Exact failure probability formula for strict consecutive-k-out-of-n:F systems with homogeneous Markov dependence. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 1, 22–23, 26. 90B25

Ge, Hong Li (*with* Fang, Lu Ming) An unbiased iteration method based on ridge regression. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 4, 320–326. 62J07

Ge, Jun Another proposition related to Yu's conjecture. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 3, 9–14. (Kee Wai Lau) **98k:11138** 11P32 (11N36)

Ge, Liming Prime factors. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 23, 12762–12763. (Ken Dykema) **98d:46068** 46L10 (46L35)

— Applications of free entropy to finite von Neumann algebras. (English summary) *Amer. J. Math.* **119** (1997), *no.* 2, 467–485. (A. I. Danilenko) **98a:46074** 46L10

Ge, Mo-Lin Solitons in the theory of gravitational waves. *Soliton theory and its applications*, 363–391, 400, *Springer, Berlin*, 1995. (*see* **98j:58064**) 83C35 (58F07)

— (*with* Xue, Kang; Wang, Zhou-Fei; Zhang, Hong-biao) Transfer matrix and Yangian related to Chaplygin-Goryachev top. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 9, 641–643. (Summary) **98f:81349** 81U40 (17B37, 81R50)

— (*with* Shen, Yue-lin) Zamolodchikov-Faddeev algebra in two-component anyons. (English summary) *J. Phys. A* **29** (1996), *no.* 18, 6111–6115. (Summary) **98a:81245** 81T99 (81R10, 81V70, 82D55)

— (*with* Kuang, Le Man; Chen, Guanghong) An alternative approach to Jaynes-Cummings model with dissipation at finite temperature. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 139–148. (Summary) **98m:81225** 81V80

— (*with* Shen, Yue-lin) Mapping from 1/r Hubbard model to Gross-Neveu model and exclusion statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1495–1502. (Summary) **98f:82032** 82B20 (81T10)

— (*with* Wang, Zhou-Fei; Xue, Kang) The Haldane-Shastry model and RTT relations. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5023–5036. (Andrey V. Tsiganov) **98j:82015** 82B20 (81R50, 82B23)

— (*with* Wang, Zhou-Fei; Xue, Kang) New truncated q-GC gyrostat and its physical implication. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 41–47. (Andrei G. Bytsko) **98k:81110** 81R50 (82B23)

— (*with* Xue, Kang) The connection between the Riemann-Hilbert transformation and the Poisson bracket for Lax-pair systems. (English summary) *Phys. Lett. A* **238** (1998), *no.* 6, 344–348. (Summary) **98k:58110** 58F07

Ge, S. S. (*with* Zhu, Ge; Lee, Tong Heng) Tip tracking control of a single-link flexible robot: a backstepping approach. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 341–360. 93C85 (70B15, 70Q05)

Ge, Wei Gao Periodic solutions of the differential delay equation $\dot{x}(t) = -f(x(t-1))$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 155–156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 113–121. (George Seifert) **98f:34102** 34K15 (34C25)

— Oscillatory periodic solutions of differential-delay equations with multiple lags. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 444–447. (F. Vogl) **98g:34114** 34K15

— Two-point boundary value problems for third-order ordinary differential equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 265–272. (Xin-Zhi Liu) **98h:34038** 34B15

Ge, Zheng Ming (*with* Chen, Heng-Hui) Double degeneracy and chaos in a rate gyro with feedback control. (English summary) *J. Sound Vibration* **209** (1998), *no.* 5, 753–769. (Summary) **98m:70033** 70Q05 (58F40, 70E05, 70K50, 93B52)

Ge, Zhengyu (*with* Hakimi, S. Louis) Disjoint rooted spanning trees with small depths in Debruijn and Kautz graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 79–92. (Ákos Seress) **98h:05058** 05C05 (68M10, 68M15, 90B12)

Gea, H. C. (*with* Dong, Y. F.) A non-hypersingular boundary integral formulation for displacement gradients in linear elasticity. (English summary) *Acta Mech.* **129** (1998), *no.* 3-4, 187–205. 73C99 (73V10)

Geaisa, A. N. (*with* El-Ghaffar, F. S. Abd) Fuzzy β-separation axioms. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 59–69 (1994). 54A40 (54D10)

— (*with* Abd El-Ghaffar, F. S.) Weaker forms of fuzzy regularity. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 66 (1991), 71–84 (1994). 54A40 (54D15)

Geană, Dan (*with* Fishtik, Ilie; Gutman, Ivan M.; Nagypál, István) Joule-Thomson coefficient in systems with multiple chemical equilibria. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 365–384 (1997). (Giles Auchmuty) **98g:80002** 80A15 (80A30)

Geanău, M. Another example of adjoint polyfunctors. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 3-4, 27–35. (Summary) **98b:18004** 18A40

Geandier, F. (*with* Barlet, D.; Belgrade, R.) ★ Séminaire de Singularités. (French) [Seminar on Singularities] Papers from the seminar held at the Université Henri Poincaré (Nancy I), Vandoeuvre-les-Nancy. Institut Élie Cartan, 15. *Université de Nancy I, Institut Élie Cartan, Vandoeuvre-les-Nancy*, 1997. ii+174 *pp. ISBN* 2-903594-14-7 (Editors) **98g:32003** 32–06 (32Sxx)

Gęba, Kazimierz Degree for gradient equivariant maps and equivariant Conley index. *Topological nonlinear analysis, II* (*Frascati*, 1995), 247–272, *Progr. Nonlinear Differential Equations Appl.*, 27, *Birkhäuser Boston, Boston, MA*, 1997. (James F. Reineck) **98h:58024** 58C30 (47H11, 55M25, 57S15)

Gębarowski, Andrzej Warped product space-times with harmonic Weyl conformal curvature tensor. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 58–62. (Peter Bucken) **98c:53074** 53C50 (53C25)

— On conformally recurrent doubly warped products. *Tensor (N.S.)* **57** (1996), *no.* 2, 192–196. (Andrew Bucki) **98a:53054** 53C20 (53C25)

el-Gebeily, M. A. *see* **El-Gebeily, M. A.**

Gebel, J. (*with* Pethő, Attila; Zimmer, Horst Günter) Computing integral points on Mordell's elliptic curves. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 115–136. (B. M. M. de Weger) **98g:11146** 11Y50 (11D25, 11G05, 11J86)

— (*with* Pethő, Attila; Zimmer, Horst Günter) On Mordell's equation. (English summary) *Compositio Math.* **110** (1998), *no.* 3, 335–367. (Joseph H. Silverman) **98m:11049** 11G05 (11D25, 11G40, 14G25)

Gebellato, Silvia (*with* Bell, John L.) Precovers, modalities and universal closure operators in a topos. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 3, 289–299. (Wim Ruitenburg) **98c:03136** 03G30 (03B20, 03F55, 18B25)

richter-Gebert, Jürgen *see* **Richter-Gebert, Jürgen**

Gebert, R. W. (*with* Koepsell, K.; Nicolai, Hermann) The affine Sugawara generators at arbitrary level. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 119–141. (Hai Sheng Li) **98g:81058** 81R10 (17B67)

— (*with* Nicolai, Hermann) An affine string vertex operator construction at an arbitrary level. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4435–4450. (Hai Sheng Li) **98j:81117** 81R10 (17B69, 81T30)

— (*with* Bärwald, O.) Explicit determination of a 727-dimensional root space of the hyperbolic Lie algebra E_{10}. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2433–2446. (Duncan J. Melville) **98g:17024** 17B67 (17B69, 81R10)

— Beyond the Frenkel-Kac-Segal construction of affine Lie algebras. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 263–268. (Summary) **98c:17022** 17B67 (81T30)

Gebhardt, Jörg (*with* de Campos Ibáñez, Luis Miguel; Kruse, Rudolf) Axiomatic treatment of possibilistic independence. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 77–88, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98e:68232** 68T27 (03B48, 03B70, 68T30)

Gebuhrer, Marc-Olivier (*with* Schwartz, Alan Lee) Sidon sets and Riesz sets for some measure algebras on the disk. (English summary) *Colloq. Math.* **72** (1997), *no.* 2, 269–279. (Khélifa Trimèche) **98c:43011** 43A62

Geck, Meinolf On the average values of the irreducible characters of finite groups of Lie type on geometric unipotent classes. (English summary) *Doc. Math.* **1** (1996), *No.* 15, 293–317 (*electronic*). (Demetris I. Deriziotis) **98c:20084** 20G05 (20C33)

— (*with* Hiss, Gerhard; Malle, Gunter) Towards a classification of the irreducible representations in non-describing characteristic of a finite group of Lie type. *Math. Z.* **221** (1996), *no.* 3, 353–386. (Bhama Srinivasan) **98a:20017** 20C33

— (*with* Hiss, Gerhard) Modular representations of finite groups of Lie type in non-defining characteristic. *Finite reductive groups* (*Luminy*, 1994), 195–249, *Progr.*

Math., 141, *Birkhäuser Boston, Boston, MA*, 1997. (Peter Fleischmann) **98h:20016** 20C33 (20C20, 20C40)

— (*with* Rouquier, Raphaël) Centers and simple modules for Iwahori-Hecke algebras. *Finite reductive groups* (*Luminy*, 1994), 251–272, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Götz Pfeiffer) **98c:20013** 20C15

— (*with* Kim, Sungsoon) Bases for the Bruhat-Chevalley order on all finite Coxeter groups. *J. Algebra* **197** (1997), *no.* 1, 278–310. (Andrew P. Mathas) **98k:20066** 20F55 (06A07)

Gécseg, Ferenc (*with* Steinby, Magnus) Tree languages. *Handbook of formal languages, Vol.* 3, 1–68, *Springer, Berlin*, 1997. (Zdzisław Grodzki) **98m:68146** 68Q45 (03D05, 68Q68, 68Q70)

— *see also* **Automata, languages and programming**, **98c:68007**

Gedalin, M. Low-frequency nonlinear stationary waves and fast shocks: hydrodynamical description. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 127–132. (Summary) **98j:76151** 76X05

Gedeon, Tomáš Cyclic feedback systems. *Mem. Amer. Math. Soc.* **134** (1998), *no.* 637, *viii*+73 *pp.* (Bernhard Lani-Wayda) **98m:34095** 34C35 (34A26, 34C23, 34C37, 58F12, 58F13)

Gediri, Kh. An asymptotic formula for the sum of the number of divisors of Gaussian numbers. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 7–11, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 6–10. (Ognian Trifonov) **98j:11071** 11N37

Gee, Lauren (*with* Hilton, Joan F.) The size and power of the exact bivariate symmetry test. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 1, 53–69. 62G10

Gee, Steve *see* **van der Lubbe, Jan C. A., 98i:94005**

van Geel, Jan *see* **Van Geel, Jan**

Geelen, James F. (*with* Cunningham, William H.) The optimal path-matching problem. (English summary) *Combinatorica* **17** (1997), *no.* 3, 315–337. (Martin Kochol) **98m:05143** 05C70 (05B35, 68Q25, 90C27)

van der Geer, Gerard (*with* van der Vlugt, Marcel) How to construct curves over finite fields with many points. *Arithmetic geometry* (*Cortona*, 1994), 169–189, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Chao Ping Xing) **98h:11077** 11G20 (94B27)

Geer, James (*with* Banerjee, Nana Saheb) Exponentially accurate approximations to piece-wise smooth periodic functions. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 253–287. (Yong Ping Liu) **98m:41032** 41A30 (65D15)

— (*with* Homentcovschi, D.; Singler, T.) Uniform asymptotic solutions for small and large sessile drops. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 141–171. (Summary) **98m:76026** 76B45 (76D45)

van de Geer, Sara (*with* Wegkamp, Marten) Consistency for the least squares estimator in nonparametric regression. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2513–2523. (Ulrich Stadtmüller) **98f:62092** 62G05 (62J02)

— (*with* Mammen, Enno) Locally adaptive regression splines. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 387–413. (Alexander G. Kukush) **98d:62064** 62G05 (62G20, 62G30)

— (*with* Mammen, Enno) Penalized quasi-likelihood estimation in partial linear models. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1014–1035. (László Viharos) **98b:62070** 62G05 (62G20)

Geerts, Antonius Henricus Wilhelmus Infinite-horizon linear-quadratic control with end-point state penalty term: the discrete-time case. (English summary) *Linear Algebra Appl.* **259** (1997), 251–269. (Claudia Simionescu-Badea) **98i:49037** 49N10 (49K30, 93C57)

— (*with* Byers, Ralph; Mehrmann, Volker) Descriptor systems without controllability at infinity. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 462–479. (Sauro Longhi) **98d:93026** 93B11 (93B27)

Geerts, P. (*with* Vermeir, D.) Specificity by default. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 207–216, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B60, 03B70)

Geerts, Ton *see* **Geerts, Antonius Henricus Wilhelmus**

van der Geest, Robert (*with* Trentelman, Harry) The Kalman-Yakubovich-Popov lemma in a behavioural framework. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 283–290. (Summary) **98m:93107** 93D99 (93C05, 93C15)

Geetha, J. (*with* Avudainayagam, A.) A boundary-integral equation for two-dimensional oscillatory Stokes flow past an arbitrary body. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 251–258. 76D07 (76M15)

Geetha, K. G. (*with* Ramachandran Nair, V. K.) Characterizations of bivariate Weibull and Gumbel's bivariate exponential distributions. (English summary) *IAPQR Trans.* **22** (1997), *no.* 2, 135–139. 62E10 (62N05)

van Geffen, J. H. G. M. (*with* Vosbeek, P. W. C.; Meleshko, V. V.; van Heijst, G. J. F.) Collapse interactions of finite-sized two-dimensional vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3315–3322. 76C05 (76M20, 76M25)

— (*with* van Heijst, G. J. F.) Viscous evolution of 2D dipolar vortices. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 4, 191–213. (Summary) **98m:76061** 76D99 (76C05, 76M20)

Geffert, Viliam Bridging across the $\log(n)$ space frontier. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 50–65, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98d:68074** 68Q15

Gefter, S. L. Outer automorphism group of the ergodic equivalence relation generated by translations of dense subgroup of compact group on its homogeneous space. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 3, 517–538. (S. G. Dani) **98m:28040** 28D15 (22D40)

Gegelia, T. G. (*with* Chichinadze, Raphiel) Boundary value problems of mechanics of continuum media for a sphere. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **7** (1996), 1–222. (Vladimir Mityushev) **98a:73019** 73C02 (31B30, 35C05, 35Q72, 73B30, 76D05)

Gegenberg, Jack D. (*with* Kunstatter, Gabor) Exact quantum wave functionals for spherically symmetric black holes. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 134–139, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83051** 83C45 (81T20)

— (*with* Kunstatter, Gabor; Louis-Martinez, Domingo) Classical and quantum mechanics of black holes in generic 2-D dilaton gravity. (English summary) *Heat kernel techniques and quantum gravity* (*Winnipeg, MB*, 1994), 333–346, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Edward Teo) **98f:83067** 83C57 (81T40)

— A new 3-manifold invariant from supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, L105–L107. (Richard A. Corrado) **98g:57025** 57N10 (58G26, 81T60, 83E50)

— (*with* Kunstatter, Gabor) Solitons and black holes. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 274–280. (Summary) **98h:83048** 83C57 (81T20)

— (*with* Zaidi, H.) Back reaction of Hawking radiation on black hole geometry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1112–1117. 83C57

— *see also* **Conference: General Relativity and Relativistic Astrophysics, 98b:83001**

Gégout, Cédric Stable and convergent dynamics for discrete-time recurrent networks. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1663–1668. (*see* **98i:00029**) 68T05

Gegov, Alexander E. (*with* Frank, Paul M.) Decentralized fuzzy control of multivariable systems by active decomposition of control laws. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 781–798. 93C42 (93A14)

von Gehlen, G. Non-Hermitian tricriticality in the Blume-Capel model with imaginary field. (English summary) *Perspectives on solvable models*, 59–81, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82011** 82B20 (82B26)

Gehlen, Wolfgang An inequality for polynomials with sign changes. (English summary) *Analysis* **17** (1997), *no.* 1, 61–69. (Summary) **98c:41002** 41A10 (26D05, 41A50)

— On the sequence of errors in best polynomial approximation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 118–132. (D. J. Leeming) **98d:41008** 41A10

Gehlot, Kuldeep S. (*with* Banerji, P. K.; Saïgo, Megumi) Stieltjes transform of a class of generalized functions. (English summary) *J. Fract. Calc.* **12** (1997), 71–76. (Summary) **98h:46040** 46F12 (33C05)

Gehring, Frederick (*with* Martin, Gaven J.) Holomorphic motions, Schottky's theorem and an inequality for discrete groups. (English summary) *Computational methods and function theory* 1994 (*Penang*), 173–181, *Ser. Approx. Decompos.*, 5, *World Sci. Publishing, River Edge, NJ*, 1995. (S. B. Agard) **98c:30053** 30F40

— (*with* Martin, Gaven J.) Hyperbolic axes and elliptic fixed points in a Fuchsian group. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 303–309. (Summary) **98m:30062** 30F40

— (*with* Martin, Gaven J.) Geodesics in hyperbolic 3-folds. *Michigan Math. J.* **44** (1997), *no.* 2, 331–343. (Makoto Masumoto) **98d:30056** 30F40 (57M50)

— (*with* Maclachlan, C.; Martin, Gaven J.; Reid, Alan W.) Arithmeticity, discreteness and volume. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 9, 3611–3643. (Kerry N. Jones) **98d:57022** 57M50 (11F06, 20H15)

— (*with* Kra, Irwin; Osserman, Robert) The mathematics of Lars Valerian Ahlfors. Edited by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 233–242. (Editors) **98m:01027** 01A70

— *see also* **Quasiconformal mappings and analysis**, **98f:30001**; **Lehto, Olli**, **98k:01036**; **Duren, Peter**, (**98f:30001**); **Heinonen, Juha**, (**98f:30001**) *and* **Biography: Gehring, Frederick William**, (**98f:30001**)

Gehrk, Johannes E. (*with* Baruah, Sanjoy K.; Plaxton, C. Gregory; Stoica, Ion; Abdel-Wahab, Hussein; Jeffay, Kevin) Fair on-line scheduling of a dynamic set of tasks on a single resource. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 43–51. (Summary) **98h:68021** 68M20

Gehrke, Mai Uniquely representable posets. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 32–40, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (T. S. Blyth) **98e:06001** 06A06 (06B30, 06B35, 06D05, 06F30, 54F05)

— (*with* Walker, Carol L.; Walker, Elbert Abner) Stone algebra extensions with bounded dense sets. (English summary) *Algebra Universalis* **37** (1997), *no.* 1, 1–23. (H. A. Priestley) **98a:06018** 06D15 (06D05)

Gehrke, Thomas (*with* Rensink, Arend) Process creation and full sequential composition in a name-passing calculus. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q55, 68Q60)

Gehrlein, William V. (*with* Lepelley, Dominique) Condorcet's paradox under the maximal culture condition. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 85–89. 90A05 (60C05)

Geĭdarov, B. A. On a convolution-type integral equation of the first kind. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 41–44, 168, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 45E10

Geidmanis, Dainis (*with* Kaņeps, Jānis; Apsītis, Kalvis; Taimiņa, Daina; Calude, Elena) Tally languages accepted by alternating multitape finite automata. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 422–430, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q68 (68Q45)

— (*with* Kaņeps, Jānis; Freivalds, Rūsiņš) Tally languages accepted by Monte Carlo pushdown automata. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 187–195, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98i:68013**) 68Q68

Geiger, Dan (*with* Heckerman, David) A characterization of the Dirichlet distribution through global and local parameter independence. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1344–1369. (A. H. Khan) **98h:62013** 62E10 (60E05)

Geiger, Jochen (*with* Kersting, G.) Depth-first search of random trees, and Poisson point processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 111–126, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60120** 60J80 (60C05, 60G55)

Geiger, Roland (*with* Kreisselmeier, Gerhard) Disturbance compensation in continuous time by sampled data control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1566–1571. 93C57

Geiges, Hansjörg (*with* Gonzalo, Jesús) Topology and analysis of contact circles. *Contact and symplectic geometry* (*Cambridge*, 1994), 66–77, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Jih Hsin Chêng) **98a:53046** 53C15 (58D10)

— Symplectic couples on 4-manifolds. *Duke Math. J.* **85** (1996), *no.* 3, 701–711. (Paolo Lisca) **98a:53047** 53C15 (32J15, 53C25, 57R15, 58F05)

— Mannigfaltige Geometrien. [Manifold geometries] *Elem. Math.* **52** (1997), *no.* 3, 93–107. (Bruno Zimmermann) **98k:57002** 57–01 (57–02, 57–03, 57Mxx)

— (*with* Gonzalo, Jesús) Contact circles on 3-manifolds. (English summary) *J. Differential Geom.* **46** (1997), *no.* 2, 236–286. (Masaaki Ue) **98k:57043** 57R15 (53C15, 57M50, 58F05)

— Constructions of contact manifolds. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 455–464. (Rostislav Matveyev) **98f:53027** 53C15 (58F05)

— Normal contact structures on 3-manifolds. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 3, 415–422. (Masaaki Ue) **98h:53046** 53C15 (57M50, 57N10, 57R15)

— Applications of contact surgery. *Topology* **36** (1997), *no.* 6, 1193–1220. (Karl Friedrich Siburg) **98d:57044** 57R15 (53C15, 57R65)

van de Geijn, Robert (*with* Alpatov, Philip; Baker, Gregory R.; Edwards, Carter; Gunnels, John; Morrow, Greg; Overfelt, James; Wu, Yuan-Jye J.) PLAPACK: parallel linear algebra package. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

— (*with* Geng, P.; Oden, John Tinsley) A parallel multifrontal algorithm and its implementation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 289–301. (*see* **98f:73002**) 65F10 (65Y05)

Geller, V. A. (*with* Demidov, Valeriĭ Valer'evich) The spectrum of the three-dimensional Landau operator perturbed by a periodic point source. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 283–294; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 561–569. (Szymon Rabsztyn) **98k:81051** 81Q10 (47N50)

— First Chern class of lattice magneto-Bloch bundles. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 333–338. (Igor Yurievich Popov) **98f:81381** 81V70 (53C80, 57R22, 82D20)

— (*with* Popov, Andrei Vladimirovich) Hofstadter's butterfly for a periodic array of quantum dots. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 74–78, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 47B39 (39A12, 47N50, 81Q99)

— (*with* Senatorov, M. M.) Periodic potentials for which all the gaps are nonzero. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 67–70; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 52–54. (Boris M. Levitan) **98e:34148** 34L05 (34B24, 34L40, 47E05)

— (*with* Senatorov, M. M.) The structure of the spectrum of the Schrödinger operator with a magnetic field in a strip, and finite-gap potentials. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 5, 21–32; *translation in Sb. Math.* **188** (1997), *no.* 5, 657–669. (Mihai Pascu) **98i:34130** 34L40 (47E05, 81Q10)

— (*with* Popov, I. Yu.) Eigenvalues imbedded in the band spectrum for a periodic array of quantum dots. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 275–281. (Mihai Pascu) **98i:81045** 81Q10 (47N50)

Geim, A. K. (*with* Berry, M. V.) Of flying frogs and levitrons. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 307–313. (Summary) **98f:78031** 78A55

Geisel, T. (*with* Ketzmerick, R.; Kruse, Karsten; Kraut, S.) What determines the spreading of a wave packet? (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1959–1963. (Summary) **98g:81012** 81P05

Geiselmann, Willi Weakly self-dual normal bases in finite fields. (English summary) *Applications of finite fields* (*Egham*, 1994), 67–74, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Summary) **98m:11136** 11T30

— (*with* Ulmer, Felix) Constructing a third-order linear differential equation. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 3–6. (*see* **98e:00016**) 12H20 (34A30, 68Q40)

Geisler, Lyn, III (*with* Howland, James S.) Spectra of quasienergies. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 397–408. (Liu Yang) **98c:81053** 81Q10 (47N50)

Geisler, Robert (*with* Ehrig, Hartmut; Klar, Marcus; Padberg, Julia) Horizontal and vertical structuring techniques for statecharts. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 181–195, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)

Geiss, Stefan BMO_ψ-spaces and applications to extrapolation theory. (English summary) *Studia Math.* **122** (1997), *no.* 3, 235–274. (Javier Soria) **98a:46037** 46E30 (46M35)

Geisser, Seymour (*with* Johnson, Wesley O.) Interim analysis for normally distributed observables. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 263–279, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62F15 (62H17, 62L99)

— (*with* Lee, Jack C.) On the prediction of growth curves. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 77–103, *Springer, New York*, 1996. (Summary) **98b:62099** 62H12

— *see also* **Modelling and prediction**, **98a:62002**

Geist, Bruce (*with* McLaughlin, Joyce R.) Double eigenvalues for the uniform Timoshenko beam. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 129–134. (Summary) **98e:73075** 73K05 (35Q72, 73D30, 73K12)

— (*with* McLaughlin, Joyce R.) Eigenvalue formulas for the uniform Timoshenko beam: the free-free problem. *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 12–17 (*electronic*). (Vyacheslav N. Pivovarchik) **98m:34166** 34L20 (34L40, 35R30, 73D50, 73K05)

Geĭt, V. È. Embedding theorems for Boas classes. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 5, 29–33; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 5, 27–31. (J. Németh) **98g:42004** 42A10 (42A16)

— Characterization of a sequence of approximations by Zygmund means. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 6, 78–79; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 6, 74–75. (J. Németh) **98g:42005** 42A10 (41A30)

— On approximation properties of higher derivatives of periodic functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 10, 24–30; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 22–28 (1998). 42A10

Gekeler, Ernst-Ulrich On the Drinfeld discriminant function. (English summary) *Compositio Math.* **106** (1997), *no.* 2, 181–202. (David Goss) **98e:11071** 11G09

— On the cuspidal divisor class group of a Drinfeld modular curve. (English summary) *Doc. Math.* **2** (1997), 351–374 (*electronic*). (Yoshinori Hamahata) **98m:11057** 11G09 (11F11, 11G18)

Gekhtman, M. I. (*with* Stolin, Alexander) Orbits of the coadjoint representation and Yang-Baxter equation. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 207–223, *de Gruyter, Berlin*, 1996. (J. Feldvoss (Zbl 879.17006)) **98m:17022** 17B37 (22E60, 58F07)

Gekhtman, Moisei Meerovich (*with* Algunov, G. A.) On the maximum possible rate of growth of a system of eigenfunctions of the Sturm-Liouville operator with a continuous weight function on a finite segment. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 161–162; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 605–606. (P. A. Mishnayevskiy) **98h:34140** 34L15 (34B24, 34L40, 47E05)

Gelaki, Shlomo Quantum groups of dimension pq^2. (English summary) *Israel J. Math.* **102** (1997), 227–267. (E. J. Taft) **98j:16023** 16W30

Gelb, Anne (*with* Gottlieb, David) The resolution of the Gibbs phenomenon for "spliced" functions in one and two dimensions. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 35–58. (Summary) **98c:65206** 65T10 (42A16)

Gelbart, Stephen ★ Lectures on the Arthur-Selberg trace formula. (English summary) University Lecture Series, 9. *American Mathematical Society, Providence, RI*, 1996. x+99 *pp. ISBN* 0-8218-0571-1 (Jeff Hakim) **98d:22017** 22E55 (11F70, 11F72, 22E50)

— (*with* Rogawski, Jonathan D.; Soudry, David) Endoscopy, theta-liftings, and period integrals for the unitary group in three variables. *Ann. of Math.* (2) **145** (1997), *no.* 3, 419–476. (Jeff Hakim) **98m:11125** 11R39 (11F27, 11F67, 11F70, 22E50, 22E55)

Gelblum, E. A. (*with* Calderbank, A. R.) A forbidden rate region for generalized cross constellations. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 335–341. (Summary) **98j:94029** 94B12

Gelbrich, G. (*with* Giesche, K.) Fractal Escher salamanders and other animals. *Math. Intelligencer* **20** (1998), *no.* 2, 31–35. 00A69

Gelbrich, Matthias (*with* Rachev, Svetlozar T.) Discretization for stochastic differential equations, L^p Wasserstein metrics, and econometrical models. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 97–119, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98g:60105** 60H10 (60F17)

Gelca, Răzvan Topological quantum field theory with corners based on the Kauffman bracket. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 216–243. (Justin D. Roberts) **98k:57027** 57N10 (57M25)

— Topological Hilbert Nullstellensatz for Bergman spaces. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 191–195. (Daniel H. Luecking) **98e:32017** 32E25 (46E15, 47A15, 47B38)

Geldenhuys, G. (*with* Theron, W. F. D.) Domination by queens on a square beehive. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 213–220. (Summary) **98f:05120** 05C70

van Geldrop, Rik (*with* Backhouse, Roland; Bijsterveld, Marcel; van der Woude, Jaap) Categorical fixed point calculus. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 159–179, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:68124** 68Q55 (03G30, 06B99, 18B35, 68Q65)

Gelfand, Alan E. (*with* Sahu, S. K.; Carlin, Bradley P.) Efficient parametrizations for generalized linear mixed models. (English summary) *Bayesian statistics, 5* (*Alicante*, 1994), 165–180, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Summary) **98c:62047** 62F15 (60J10)

— (*with* Mukhopadhyay, Saurabh) Dirichlet process mixed generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 633–639. 62J12

Gel'fand, Izrail' Moiseevich (*with* Álvarez Paiva, Juan Carlos; Smirnov, Mikhail M.) Crofton densities, symplectic geometry and Hilbert's fourth problem. (English summary) *The Arnold-Gelfand mathematical seminars*, 77–92, *Birkhäuser Boston, Boston, MA*, 1997. (Eric Grinberg) **98a:52005** 52A22 (53C65, 58F05)

— (*with* Borovik, A. V.; Vince, Andrew; White, Neil) The lattice of flats and its underlying flag matroid polytope. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 17–26. (Volkmar Welker) **98j:05043** 05B35 (52B40)

— (*with* Graev, M. I.; Zyskin, M.) A problem of integral geometry on K^3 connected with harmonic analysis on the group SL(2, K), where K is an arbitrary continuous locally compact field. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 15–17. (R. G. Mukhometov) **98b:53070** 53C65 (22E30)

— (*with* Etingof, Pavel; Retakh, Vladimir) Factorization of differential operators, quasideterminants, and nonabelian Toda field equations. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 413–425. (Alexander V. Shapovalov) **98d:58081** 58F07 (35Q58)

— (*with* Borovik, A. V.; White, Neil) On exchange properties for Coxeter matroids and oriented matroids. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 59–72. (Laura M. Anderson) **98m:05037** 05B35

Gelfand, Jack (*with* Epstein, Susan L.; Lock, Esther) Learning game-specific spatially-oriented heuristics. (English summary) *Constraints* **3** (1998), *no.* 2-3, 239–253. 68T20 (68T05)

Gelfand, Sergei I. (*with* Kazhdan, David A.) Invariants of three-dimensional manifolds. *Geom. Funct. Anal.* **6** (1996), *no.* 2, 268–300. (V. Abramov (Zbl 870.57017)) **98g:57026** 57N10 (18D10)

— (*with* Fomin, S. V.; Postnikov, A. E.) Quantum Schubert polynomials. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 3, 565–596. (Gary P. Kennedy) **98d:14063** 14M15 (05E15, 14N10)

Gel'fgat, V. I. Commutation conditions for Toeplitz matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 11–14. (Summary) **98h:15031** 15A27 (15A57)

Gelfgat, Yu. M. (*with* Priede, Jānis) Mathematical model of the mean electromagnetic force induced by a rotating magnetic field in a finite-length cylindrical liquid column. *Magnetohydrodynamics* **32** (1996), *no.* 3, 249–256 (1997); *translated from Magnit. Gidrodinamika* **1996,** *no.* 3, 272–280 (*Russian*). (Summary) **98e:76107** 76W05 (76U05)

— (*with* Grants, I.; Priede, Jānis) MHD flow in a cylindrical vessel in rotating and steady magnetic fields. *Magnetohydrodynamics* **32** (1996), *no.* 3, 257–265 (1997); *translated from Magnit. Gidrodinamika* **1996,** *no.* 3, 281–290 (*Russian*). 76W05 (76U05)

Gelfond, Michael (*with* Baral, Chitta) Reasoning about effects of concurrent actions. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 85–117. (Neculai Curteanu) **98e:68230** 68T27 (03B70, 68N17, 68T30)

— (*with* Baral, Chitta; Provetti, Alessandro) Representing actions: laws, observations and hypotheses. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 201–243. (Summary) **98b:68176** 68T25 (03B70, 68T27)
— *see also* **Logic programming, nonmonotonic reasoning and reasoning about actions, 98b:68009**
Gel'fond, O. A. (*with* Khovanskiĭ, A. G.) Newton polyhedra and Grothendieck residues. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 298–300. (Alexandr M. Kytmanov) **98b:32004** 32A27 (14M25)
— Combinatorial coefficients and the mixed volume of polyhedra. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 77–79; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 207–208 (1997). (Yu. A. Shashkin) **98k:52028** 52B11 (52A39)
Gelfreich, V. G. Conjugation to a shift and the splitting of invariant manifolds. (English summary) *Appl. Math. (Warsaw)* **24** (1996), *no.* 2, 127–140. (Ana Nunes) **98b:58150** 58F36 (30D05, 34C37)
— (*with* Delshams, Amadeo; Jorba, Àngel; Seara, Tere M.) Exponentially small splitting of separatrices under fast quasiperiodic forcing. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 35–71. (Dmitry V. Treshchëv) **98j:34087** 34C99 (58F30, 70H05, 70K40)
— (*with* Delshams, Amadeo; Jorba, Àngel; Seara, Tere M.) Lower and upper bounds for the splitting of separatrices of the pendulum under a fast quasiperiodic forcing. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 1–10 (*electronic*). (Luigi Chierchia) **98a:58135** 58F27 (34C37)
— (*with* Fontich, Ernest) On analytical properties of normal forms. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 467–477. (A. D. Bruno) **98d:58161** 58F36 (34C20, 70H05)
— Melnikov method and exponentially small splitting of separatrices. (English summary) *Phys. D* **101** (1997), *no.* 3-4, 227–248. (Ernest Fontich) **98b:58147** 58F30 (34C37, 70H05)
Gelig, A. Kh. (*with* Barabanov, Nikita E.; Leonov, G. A.; Likhtarnikov, A. L.; Matveev, A. S.; Smirnova, V. B.; Fradkov, A. L.) The frequency theorem (the Yakubovich-Kalman lemma) in control theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 3–40; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1377–1407 (1997). (Summary) **98m:93002** 93–02 (49J15, 93C80, 93Dxx)
— Robust stability of nonlinear impulse systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 78–83; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1753–1758 (1997). (Summary) **98m:93092** 93D09 (93C57)
— (*with* Churilov, A. N.) Stability and oscillations in pulse-modulated systems: a review of mathematical approaches. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 287–320 (1997). (A. Halanay) **98f:34049** 34C15 (34D99, 34K10, 45M10, 93D10, 94A12)
Gelman, Andrew (*with* Meng, Xiao-Li; Stern, Hal S.) Posterior predictive assessment of model fitness via realized discrepancies. (English summary) With comments and a rejoinder by the authors. *Statist. Sinica* **6** (1996), *no.* 4, 733–807. (Mohan Delampady) **98b:62047** 62F15
— (*with* Roberts, Gareth O.; Gilks, Walter R.) Weak convergence and optimal scaling of random walk Metropolis algorithms. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 110–120. (Jean Diebolt) **98g:60049** 60F05 (60J10, 60J60, 65U05)
— (*with* Kass, Robert E.; Carlin, Bradley P.; Neal, Radford M.) Markov chain Monte Carlo in practice: a roundtable discussion. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 93–100. 62F15 (60J10, 62C05, 62E25)
Gel'man, B. D. (*with* Benkafadar, N. M.) On a local degree for a class of multi-valued vector fields in infinite-dimensional Banach spaces. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 381–396. (Jacobo Pejsachowicz) **98k:47118** 47H11 (47H15, 58C30)
— (*with* Benkafadar, N. M.) On the local degree for a class of multivalued fields. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 24–34; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 22–31. (Christian Fenske) **98k:47119** 47H11 (47H04, 55M25, 58C30)
Gelmini, G. B. (*with* Casas, J. A.) Conditions for viable Affleck-Dine baryogenesis—implications for string theories. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 36–44. 81V22 (81V17, 83E50)
Gelonch, Josep (*with* Johnson, Charles Royal; Rubió i Díaz, Pedro) An extension of Flanders theorem to several matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 181–200. (Summary) **98k:15012** 15A18 (15A21, 15A23)
Geluk, J. L. On the domain of attraction of $\exp(-\exp(-x))$. (English summary) *Statist. Probab. Lett.* **31** (1996), *no.* 2, 91–95. (Toshio Mori) **98d:60097** 60G70 (60F05)
— (*with* de Haan, Laurens; Resnick, Sidney I.; Stărică, Cătălin) Second-order regular variation, convolution and the central limit theorem. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 139–159. (Erich Haeusler) **98k:60081** 60G70 (60F05, 60F17)
Geman, Helyette (*with* Yor, Marc; Chesney, Marc; Jeanblanc-Picqué, Monique) Some combinations of Asian, Parisian and barrier options. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 61–87, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
— (*with* Yor, Marc) Stochastic time changes in catastrophe option pricing. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 3, 185–193. 62P05
— (*with* Elliott, Robert James; Korkie, Bob M.) Portfolio optimization and contingent claim pricing with differential information. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 185–203. (Summary) **98d:90034** 90A12 (60H99)
Gembarʹka, S. B. Tangential boundary values of the Poisson biharmonic integral in a disk. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 9, 1171–1176. (Summary) **98i:35040** 35J40 (30D50, 31A20)
Gemein, Bernd Singular braids and Markov's theorem. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 4, 441–454. (Summary) **98i:57008** 57M25
Gemelli, G. (*with* Bini, Donato) Scattering of spinning test particles by gravitational plane waves. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 165–171. (W. B. Bonnor) **98j:83031** 83C35 (83C10)
Gemes, Ken Inductive skepticism and the probability calculus. I. Popper and Jeffreys on induction and the probability of law-like universal generalizations. *Philos. Sci.* **64** (1997), *no.* 1, 113–130. (Frans Voorbraak) **98h:03032** 03B48
Gemignani, Luca Polynomial root computation by means of the LR algorithm. (English summary) *BIT* **37** (1997), *no.* 2, 333–345. (Iliya Makrelov) **98c:65081** 65H05 (65F15)
— Schur complements of Bezoutians and the inversion of block Hankel and block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **253** (1997), 39–59. (Gong Ning Chen) **98a:15048** 15A57 (15A09)
— A fast algorithm for generalized Hankel matrices arising in finite-moment problems. (English summary) *Linear Algebra Appl.* **267** (1997), 41–52. (Summary) **98f:65050** 65F30 (15A57)
— Chebyshev rational interpolation. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 91–110. (Ralitza Kovacheva) **98f:41013** 41A20
Gemmell, Peter (*with* Codenotti, Bruno; Simon, Janos) Average circuit depth and average communication complexity. (English summary) *Algorithms—ESA '95 (Corfu)*, 102–112, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q15
— (*with* Codenotti, Bruno; Ergün, Funda; Kumar, S. Ravi) Checking properties of polynomials (extended abstract). (English summary) *Automata, languages and programming (Bologna, 1997)*, 203–213, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60 (68Q40)
van Gemmeren, Martin ★ Totale Krümmung und totale Absolutkrümmung von Unterman-nigfaltigkeiten des $\mathbf{R}^m$. (German) [Total curvature and total absolute curvature of sub-manifolds in $\mathbf{R}^m$] Dissertation, Universität Stuttgart, Stuttgart, 1995. *Mathematisches Institut B der Universität Stuttgart, Stuttgart*, 1995. 91 *pp.* (Eberhard Teufel) **98k:53072** 53C40 (53A07, 53C42)
Gemmi, M. (*with* Todesco, Ezio) Stability and geometry of third-order resonances in four-dimensional symplectic mappings. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 3, 181–204. (Simos Ichtiaroglou) **98m:58120** 58F36 (70H05, 70K20)
Gen, Mitsuo (*with* Nakahara, Yozo) New relations of trapezoidal fuzzy numbers and its application to fuzzy linear programming problems. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 775–791 (1996). 04A72 (90C70)
— (*with* Jo, Jung Bok; Tsujimura, Yasuhiro; Yamazaki, Genji) Performance evaluation of network models based on fuzzy queuing system. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 393–408. 60K25 (04A72)
— (*with* Jo, Jung Bok; Yamazaki, Genji; Tsujimura, Yasuhiro) Performance of multiclass computer systems using fuzzy queueing model. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 879–894 (1997). (From the summary) **98f:90024** 90B22 (04A72, 68M20)
— (*with* Ida, Kenichi) Improvement of the two-phase approach to solving fuzzy multiple objective linear programming problems. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 105–114. 90C70 (90C08)
— (*with* Zhou, Gengui) An effective genetic algorithm approach to the quadratic minimum spanning tree problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 3, 229–237. (Summary) **98m:90122** 90C27
Gençay, Ramazan (*with* Dechert, W. Davis) The identification of spurious Lyapunov exponents in Jacobian algorithms. (English summary) *Stud. Nonlinear Dyn. Econom.* **1** (1996), *no.* 3, 145–154 (*electronic*). (Dave Furth) **98b:39018** 39B12
— (*with* Bask, Mikael) Testing chaotic dynamics via Lyapunov exponents. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 1–2. 58F13
Gençoğlu, Tuncay (*with* Özçelik, Salih; Işik, Mahmut) A paper on renewal function. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 1–3. 60K05
Gendreau, Michel (*with* Laporte, Gilbert; Potvin, Jean-Yves) Vehicle routing: modern heuristics. *Local search in combinatorial optimization*, 311–336, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C35 (05C90, 68T05)
— (*with* Sharaiha, Yazid M.; Laporte, Gilbert; Osman, Ibrahim H.) A tabu search algorithm for the capacitated shortest spanning tree problem. (English summary) *Networks* **29** (1997), *no.* 3, 161–171. (Summary) **98a:05142** 05C85
— (*with* Soriano, P.) Fondements et applications des méthodes de recherche avec tabous. (English and French summaries) [Fundamentals and applications of tabu search methods] *RAIRO Rech. Opér.* **31** (1997), *no.* 2, 133–159. (Summary) **98c:90116** 90C27 (90B40)
Genebashvili, I. Weak type weighted inequalities for iterated maximal functions and the weighted spaces $L(1+\log^+ L)^k$. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **112** (1997), 3–22. (Petr Gurka) **98m:42019** 42B25 (26D10, 46E30, 47B38)
Generalov, A. I. Relative homological algebra. Cohomology of categories, posets and coalgebras. *Handbook of algebra, Vol. 1*, 611–638, *North-Holland, Amsterdam*, 1996. (Daniel Simson) **98d:18005** 18G25 (06A09, 16D99, 18G50)
Genesereth, Michael R. McCarthy's idea. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 134–142, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T01
Genesio, R. (*with* Argenti, F.; De Angeli, A.; Del Re, E.; Pagni, P.; Tesi, Alberto) Secure communications based on discrete time chaotic systems. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika (Prague)* **33** (1997), *no.* 1, 41–50. (*see* **98g:93001**) 93C10 (93D21)
— (*with* Basso, Michele; Tesi, Alberto) A frequency method for predicting limit cycle bifurcations. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 339–360. 34C05 (34C23, 34H05, 70K10)
— (*with* Basso, Michele; Tesi, Alberto) Controller design for extending periodic dynamics of a chaotic CO_2 laser. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 287–297. (Summary) **98k:93076** 93C95 (58F13, 58F40, 78A60)
— (*with* Torrini, G.; Tesi, Alberto) On the computation of characteristic multipliers for predicting limit cycle bifurcations. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 121–133. (Summary) **98m:34061** 34C05 (34–04, 34C23)
Genest, C. (*with* Capéraà, Philippe; Fougères, A.-L.) A stochastic ordering based on a decomposition of Kendall's tau. (English summary) *Distributions with given marginals and moment problems (Prague, 1996)*, 81–86, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E15 (62G99)
Genevey, Karine Remarks on nonlinear membrane shell problems. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 2, 215–237. (Petr E. Tovstik) **98e:73088** 73K15 (73K10)
Geng, D. (*with* Tso, Kaising) On the absence of critical dimensions for the subelliptic Laplacian on the Heisenberg group. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 69–76, *de Gruyter, Berlin*, 1997. (Chu Li Fu) **98i:35029** 35H05 (22E30, 35D05, 35J70)

Geng, P. (*with* Oden, John Tinsley; van de Geijn, Robert) A parallel multifrontal algorithm and its implementation. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 289–301. (*see* **98f:73002**) 65F10 (65Y05)

Geng, Wen Xia (*with* Wang, Qi Ru) Oscillation of solutions to first-order neutral differential equations with coefficients that change sign and multiple deviations. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **11** (1996), *no.* 4, 14–17. (Guo Zhu Gao) **98d:34106** 34K15 (34K40)

Geng, Xianguo (*with* Wu, Yong Tang) New finite-dimensional integrable systems and explicit solutions of Hirota-Satsuma coupled Kortweg-de Vries equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3069–3080. (Summary) **98b:35157** 35Q53 (58F07)

Geng, Yi Quan (*with* Wang, Ji Zhong; Li, Shao Qiang) Limit circle criteria for nonlinear second-order differential equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 29–34. (Ju Rang Yan) **98i:34043** 34B20 (34C11)

Geng, Ze Xun A general boundary processing method for wavelet transforms. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 39–43, 53. 42C15 (65T99)

Geng, Zhi Yong (*with* Wang, En Ping) Robust stabilization for the diamond plant family. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 787–793. 93D09

— (*with* Wang, En Ping) Boundary testing of stability for the family of nonlinear parametrized real polynomials. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 11, 989–1001. (Takehiro Mori) **98i:93070** 93D09 (93C15)

Geniet, Dominique (*with* Schott, René; Thimonier, Loÿs) A Markovian concurrency measure. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 4, 295–304. (Wiesław Zielonka) **98c:68058** 68Q10 (68Q75)

Génieys, Stéphane (*with* Degond, Pierre; Jüngel, Ansgar) An existence and uniqueness result for the stationary energy-transport model in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 867–872. (Summary) **98f:82149** 82D99 (35Q99, 76X05)

— (*with* Degond, Pierre; Jüngel, Ansgar) An existence result for a strongly coupled parabolic system arising in nonequilibrium thermodynamics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 227–232. (Summary) **98e:35083** 35K55 (35D05, 35Q99, 80A20)

— (*with* Degond, Pierre; Jüngel, Ansgar) Symmetrization and entropy inequality for general diffusion equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 963–968. (Summary) **98k:35091** 35K55 (35B45, 82C70)

— (*with* Degond, Pierre; Jüngel, Ansgar) A system of parabolic equations in nonequilibrium thermodynamics including thermal and electrical effects. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 991–1015. (Vitaly A. Volpert) **98k:35092** 35K55 (35Q60, 78A25, 80A99)

Genin, Yves V. Euclid algorithm, orthogonal polynomials, and generalized Routh-Hurwitz algorithm. (English summary) *Linear Algebra Appl.* **246** (1996), 131–158. (Vanja Hadzijski) **98m:30004** 30C15 (65E05)

Genma, Masaki (*with* Mishima, Miwako; Jimbo, Masakazu) Cyclic resolvability of cyclic Steiner 2-designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 177–187. (Dieter Jungnickel) **98a:05018** 05B05

Gennaro, Rosario (*with* Jarecki, Stanisław; Krawczyk, Hugo; Rabin, Tal) Robust and efficient sharing of RSA functions. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 157–172, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

— (*with* Cramer, Ronald; Schoenmakers, Berry) A secure and optimally efficient multi-authority election scheme. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 103–118, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

di Gennaro, S. *see* **Di Gennaro, S.**

di Gennaro, Vincenzo *see* **Di Gennaro, Vincenzo**

de Gennes, P. G. (*with* Boutreux, T.; Raphaël, E.) Propagation of a pressure step in a granular material: the role of wall friction. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part B*, 5759–5773. (Paul W. Cleary) **98k:76006** 76A99 (35Q99, 73B99, 73D99, 76D33)

Genova, S. N. (*with* Belolipetskii, V. M.) Numerical modelling of hydrothermal processes in well-drained basins. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 319–334. 86A05 (76M25, 76V05)

Gensun, Fang *see* **Fang, Gen Sun**

Gent, Ian P. (*with* MacIntyre, Ewan; Prosser, Patrick; Walsh, Toby) Scaling effects in the CSP phase transition. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 70–87, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 68T20 (68Q25)

— (*with* Frank, Jeremy; Walsh, Toby) Asymptotic and finite size parameters for phase transitions: Hamiltonian circuit as a case study. *Inform. Process. Lett.* **65** (1998), *no.* 5, 241–245. 68Q25

Gente, Matthias (*with* Trogemann, Georg) Performance analysis of parallel programs based on directed acyclic graphs. (English summary) *Acta Inform.* **34** (1997), *no.* 6, 411–428. (Summary) **98f:68029** 68M20 (68Q10, 68Q22)

Genther, Karin (*with* Egly, Uwe) Structuring of computer-generated proofs by cut introduction. (English summary) *Computational logic and proof theory* (*Vienna*, 1997), 140–152, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98i:03021** 03B35 (68T15)

Gentile, C. (*with* Gallo, Giorgio; Pretolani, D.; Rago, G.) Max Horn SAT and the minimum cut problem in directed hypergraphs. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 213–237. (D. de Werra) **98m:90116** 90C27 (90C35)

Gentile, Guido (*with* Mastropietro, V.) Methods for the analysis of the Lindstedt series for KAM tori and renormalizability in classical mechanics. A review with some applications. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 3, 393–444. (Summary) **98f:58169** 58F27

— Large deviation rule for Anosov flows. (English summary) *Forum Math.* **10** (1998), *no.* 1, 89–118. (Thomas Bogenschütz) **98i:58180** 58F15

Gentili, Giorgio Free enthalpies, free energies and norms for dielectrics with fading memory. (English summary) *Contin. Mech. Thermodyn.* **8** (1996), *no.* 4, 201–214. (Summary) **98k:73059** 73R05 (73B30, 78A25)

— (*with* Fabrizio, M.; Reynolds, D. W.) Free energy and stability for heat conductors with linear memory. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 221–229. (Reinhard Racke) **98k:73011** 73B30

— (*with* Fabrizio, M.; Lazzari, B.) A nonlocal thermodynamic theory of superconductivity. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 345–362. (Summary) **98f:82139** 82D55

Gentilini, Paolo (*with* Forcheri, Paola; Molfino, Maria Teresa) Research in automated deduction as a basis for a probabilistic proof-theory. (English summary) *Logic and algebra* (*Pontignano*, 1994), 491–527, *Lecture Notes in Pure and Appl. Math.*, 180, *Dekker, New York*, 1996. (Summary) **98f:03050** 03F30 (03B35)

— (*with* Forcheri, Paola; Molfino, Maria Teresa) Informational logic for automated reasoning. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 354–372, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:68192** 68T30 (03B35, 68T15, 68T27)

Gentle, Ron Adjoints, torsion theory and purity. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 275–283. (M. Teply) **98k:16010** 16D90 (16D90, 18E10, 18E40)

Gentleman, R. (*with* Crowley, John J.; LeBlanc, Michael; Salmon, S.) Exploratory methods in survival analysis. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 55–77, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G05 (62P10)

Genton, Marc G. Highly robust variogram estimation. (English summary) *Math. Geol.* **30** (1998), *no.* 2, 213–221. (Summary) **98m:86012** 86A32

Gentosh, O. E. (*with* Gol'dberg, Anatoliĭ Asirovich; Moravetskaya, O. N.) Geometric criteria for the existence of strip and angular derivatives for some classes of conformal mappings. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 102–115. (Dmitri Valentinović Prokhorov) **98j:30004** 30C35 (30C20)

— (*with* Prikarpat-skiĭ, A. K.; Blackmore, D. L.) The finite-dimensional Moser type reduction of modified Boussinesq and super-Korteweg-de Vries Hamiltonian systems via the gradient-holonomic algorithm and dual moment maps. I. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 455–469. (Iskander A. Taimanov) **98j:58058** 58F07 (35Q53)

Gentz, Barbara On the central limit theorem for the overlap in the Hopfield model. (English summary) *Mathematical aspects of spin glasses and neural networks*, 115–149, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Dimitri Petritis) **98m:82059** 82C32 (60K35, 92B20)

van der Genugten, B. B. *see* **Van Der Genugten, B. B.**

Geogiev, Vladimir Weighted estimate for the wave equation. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 75–83, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98i:35125** 35L70 (35B45)

Georg, Kurt (*with* Allgower, Eugene L.) Numerical path following. *Handbook of numerical analysis, Vol. V*, 3–207, *Handb. Numer. Anal., V, North-Holland, Amsterdam*, 1997. (*see* **98i:65001**) 65Hxx

Georgatos, Konstantinos Ordering-based representations of rational inference. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 176–191, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T30 (03B70, 68T27)

— Knowledge on treelike spaces. (English summary) *Studia Logica* **59** (1997), *no.* 2, 271–301. (J. M. Plotkin) **98m:03037** 03B45 (03B25)

George, A. *see* **George, Amalanathan**

George, A. J. (*with* Chakrabarti, Aloknath) Diagonalizable generalized Abel integral operators. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 568–575. (Khélifa Trimèche) **98a:45007** 45E99 (45P05)

George, Alan (*with* Pothen, Alex) An analysis of spectral envelope reduction via quadratic assignment problems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 706–732. (Mu Sheng Wei) **98g:65029** 65F15 (65F50)

George, Amalanathan (*with* Veeramani, P.) On some results of analysis for fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 365–368. (Summary) **98e:54007** 54A40 (04A72)

George, Edward I. (*with* Kariya, Takeaki) Locally best invariant tests for multivariate normality in curved families with μ known. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 311–322, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15

George, John C. (*with* Clark, Lane H.; Porter, T. D.) On the number of 1-factors in the n-cube. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 67–69. (Summary) **98i:05127** 05C70

George, Paul Louis Automatic mesh generation and finite element computation. *Handbook of numerical analysis, Vol. IV*, 69–190, *Handb. Numer. Anal., IV, North-Holland, Amsterdam*, 1996. (*see* **98b:65001**) 65N30 (65M50, 65M60, 65N50)

— (*with* Borouchaki, Houman; Hecht, Frédéric; Laug, Patrick; Saltel, Eric) Delaunay mesh generation governed by metric specifications. I. Algorithms. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 61–83. (Pieter W. Hemker) **98c:65163** 65M55 (76M10)

— (*with* Borouchaki, Houman; Mohammadi, Bijan) Delaunay mesh generation governed by metric specifications. II. Applications. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 85–109. (Pieter W. Hemker) **98c:65164** 65M55 (76M10)

George, Thomas F. (*with* Um, Chung-In; Kim, In-Han; Yeon, Kyu-Hwang; Pandey, Lakshmi N.) Wavefunctions and minimum uncertainty states of the harmonic oscillator with an exponentially decaying mass. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2545–2556. (Luciano Canton) **98e:81031** 81Q05

— (*with* Yeon, Kyu-Hwang; Kim, Duk-Hyeon; Um, Chung-In; Pandey, Lakshmi N.) Relations of canonical and unitary transformations for a general time-dependent quadratic Hamiltonian system. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 6, 4023–4029. (Summary) **98e:81044** 81Q99

Georgeff, Michael P. (*with* Rao, Anand S.) The semantics of intention maintenance for rational agents. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 704–710,

Morgan Kaufmann, San Francisco, CA, 1995. (*see* **98c:68014**) 68T27

Georgelin, C. (*with* Barles, Guy; Souganidis, Panagiotis E.) Front propagation for reaction-diffusion equations arising in combustion theory. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 3, 277–292. (Alexander L. Gladkov) **98g:35102** 35K57 (35B40, 80A25)

Georgelin, Yvon (*with* Masson, Thierry; Wallet, Jean-Christophe) Modular groups, visibility diagram and quantum Hall effect. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5065–5075. (Summary) **98j:81383** 81V70 (11Z05, 82D55)

— (*with* Wallet, Jean-Christophe) Group $\Gamma(2)$ and the fractional quantum Hall effect. (English summary) *Phys. Lett. A* **224** (1997), *no.* 4-5, 303–308. (Péter Pál Lévay) **98b:81292** 81V70 (11F06, 20H10)

cioczek-Georges, R. *see* **Cioczek-Georges, R.**

Georgescu, Adelina (*with* Vamos, C.; Suciu, Nicolae) Balance equations for the vector fields defined on orientable manifolds. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 87–89. (Ryszard Mrugała) **98i:82036** 82C05 (58F40, 80A10)

Georgescu, E. (*with* Grünfeld, C. P.) On a class of kinetic equations for reacting gas mixtures. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 408–435. (Nicola Bellomo) **98k:82153** 82C40 (45K05, 76P05)

Georgescu, Georges (*with* Di Nola, Antonio) Projective limits of MV-spaces. (English summary) *Order* **13** (1996), *no.* 4, 391–398. (S. Comer) **98d:06015** 06D99 (03G20)

— (*with* Cavaccini, V.; Cella, C.) Pure ideals of MV-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 303–310. (C. S. Hoo) **98b:06013** 06B10

— (*with* Liguori, Fortuna; Martini, Giulia) Convergence in MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 41–52. (From the summary) **98g:03147** 03G25

— (*with* Filipoiu, A.; Lettieri, A.) Maximal MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 53–62. (Summary) **98c:03133** 03G25

Georgescu, Gianina About the index of pure grammars and languages. (English summary) *Mathematical linguistics and related topics*, 147–160, *Ed. Acad. Române, Bucharest*, 1995. (I. M. Havel) **98m:68164** 68Q50 (68Q45)

— The orthogonality of some complexity measures of context-free languages. (English summary) *Developments in language theory, II (Magdeburg*, 1995), 73–78, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45

— On the regularity of languages generated by parallel communicating grammar systems. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 3, 181–197. (Summary) **98c:68120** 68Q50 (68Q45)

— On the generative capacity of splicing grammar systems. (English summary) *New trends in formal languages*, 330–345, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98k:68108** 68Q50 (68Q45)

Georgescu, Horia (*with* Bălănescu, Tudor; Gheorghe, Marian) Grammar systems with counting derivation and dynamical priorities. (English summary) *New trends in formal languages*, 150–166, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68167** 68Q50 (68Q45)

Georgi, Howard (*with* Collins, Hael) A little large N group theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 152–160. (Martin Lavelle) **98c:81235** 81V05 (81R05)

Georgiacodis, M. (*with* Foundas, E.) On the construction of Eulerian permutations. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 89–96. (Summary) **98a:05005** 05A05

Georgiadis, Haralambos (*with* Charalambakis, Nicolas) Non-uniform straining of rate-sensitive materials with non-monotone yield stress. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 207–225. (Weimin Han) **98j:73043** 73E60 (35Q72, 73E05)

Georgiadis, Leonidas (*with* Guérin, Roch; Parekh, Abhay) Optimal multiplexing on a single link: delay and buffer requirements. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1518–1535. (A. T. Amin) **98k:68022** 68M10 (90B12, 90B35)

Georgiev, Krassimir (*with* Neytcheva, Maya G.; Axelsson, Owe) An application of the AMLI method for solving convection-diffusion problems with potential velocity field. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II (Nijmegen*, 1996), 197–210, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65N06 (65F10)

— Implementation of the additive overlapping domain decomposition method to 3-D elasticity problems. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 419–433. 65N30 (73V20)

— (*with* Brandt, Jørgen[2]; Christensen, Jesper Heke; Dimov, Ivan T.; Uria, I.; Zlatev, Z.) Treatment of large air pollution models. (English summary) *Numerical analysis and its applications (Rousse*, 1996), 66–77, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 86A10 (86–02)

Georgiev, Pando Gr. (*with* Zlateva, Nadia P.) Second-order subdifferentials of $C^{1,1}$ functions and optimality conditions. (English summary) *Set-Valued Anal.* **4** (1996), *no.* 2, 101–117. (Vladimir I. Sumin) **98i:49021** 49J52 (26E15, 46G05, 49K27, 90C48)

— (*with* Zlateva, Nadia P.) Generic Gateaux differentiability via smooth perturbations. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 421–428. (Summary) **98i:46039** 46G05 (46B20, 49J52)

— Submonotone mappings in Banach spaces and applications. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 1–35. (Gérard Lebourg) **98d:49021** 49J52 (47H05, 47N10, 49J45)

Georgiev, Peter *see* **Georgiev, Peter Raikov**

Georgiev, Peter G. (*with* Atanassov, Krassimir Todorov) On one generalization of the Fibonacci sequence. IV. Multiplicity roots of the characteristic equation. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 3–7. (Neville Robbins) **98a:11019** 11B39

— (*with* Atanassov, Krassimir Todorov) On one generalization of the Fibonacci sequence. V. Some examples. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 8–13. (Neville Robbins) **98a:11020** 11B39

— (*with* Atanassov, Krassimir Todorov) On one generalization of the Fibonacci sequence. VI. Some other examples. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 4, 14–17. (Neville Robbins) **98a:11021** 11B39

Georgiev, Peter Raikov (*with* Shannon, Anthony; Kim, Soon-Ki; Kim, Young Hyun; Sorsich, Joseph; Atanassov, Krassimir Todorov) A possibility for implementation of elements of the intuitionistic fuzzy logic in decision making in medicine. First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 40–43. (*see* **98e:03031**) 03E72

Georgiev, Vladimir Existence of global solutions to supercritical semilinear wave equations. *Serdica Math. J.* **22** (1996), *no.* 2, 125–164. (Herbert Koch) **98a:35090** 35L70 (46N20)

— Global solutions to the semilinear wave equation for large space dimensions. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 110–115. (*see* **98f:35003**) 35L70 (35B60)

— (*with* Milani, Albert) On the asymptotic behavior of semilinear wave equations with degenerate dissipation and source terms. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 53–68. (Summary) **98j:35123** 35L70 (35B40)

Georgieva, Adriana A. Theoretical problems of data structures modeling. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 143–151. (From the text) **98k:68047** 68P15

Georgievskiĭ, D. V. On shear hereditarily viscoplastic flows. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 1, 45–50, 104. (Summary) **98g:73017** 73E60 (76A10)

— Stability of the unsteady shear of a viscoplastic half-plane with a tangential discontinuity along the boundary. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 3, 65–72, 93. (Summary) **98a:73027** 73E60 (73E50, 73H99)

— Integral estimates for the stability of nonsteady deformation of three-dimensional bodies with complex rheology. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 196–198; *translation in Phys. Dokl.* **42** (1997), *no.* 9, 514–516. (Stan Chiriță) **98m:76011** 76A99 (76D99, 76E99)

Georgii, Hans-Otto Orbit coupling. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 253–268. (Uwe Rösler) **98m:60004** 60B05 (54H20)

Georgikopoulos, N. I. (*with* Apabhai, M. Z.; Hasnip, D.; Jamie, R. K. D.; Kim, M.; Wilmott, P.) A model for the value of a business, some optimization problems in its operating procedures and the valuation of its debt. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 273–285. 90A09

Georgiou, A. C. (*with* Tsantas, N.) Partial maintainability of a population model in a stochastic environment. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 183–189. 60J20

Georgiou, D. N. On X-θ-splitting and X-θ-jointly continuous topologies on function spaces. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **27** (1995), *no.* 1-2, 195–202 (1996). (Ivan L. Reilly) **98h:54020** 54C35

— (*with* Papadopoulos, B. K.) Ideals and its [their] applications. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 105–117. 54C10 (54D20)

— (*with* Papadopoulos, B. K.) A note on the finest splitting topology. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 137–144. (Summary) **98g:54028** 54C35

foufoula-Georgiou, Efi *see* **Foufoula-Georgiou, Efi**

Georgiou, Georgios C. (*with* Poullikkas, A.; Karageorghis, Andreas) Methods of fundamental solutions for harmonic and biharmonic boundary value problems. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 416–423. 65N30 (65N35)

— (*with* Poullikkas, A.; Karageorghis, Andreas) The method of fundamental solutions for Signorini problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 273–285. (Summary) **98m:65210** 65N38 (73V05, 76M10)

Georgiou, I. T. (*with* Bajaj, A. K.; Corless, Martin) Dynamics of singularly perturbed nonlinear systems with two degrees-of-freedom. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven*, 1996), 9–16, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K99 (34C15, 34E15)

— (*with* Schwartz, Ira B.) Slaving the in-plane motions of a nonlinear plate to its flexural motions: an invariant manifold approach. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 1, 175–182. (Summary) **98c:73056** 73K12 (34C15, 73K10)

— (*with* Bajaj, A. K.; Corless, Martin) Slow and fast invariant manifolds, and normal modes in a two degree-of-freedom structural dynamical system with multiple equilibrium states. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 275–300. (Summary) **98d:73046** 73K12 (70K99)

Georgiou, Tryphon T. (*with* Smith, Malcolm C.) Robustness analysis of nonlinear feedback systems: an input-output approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1200–1221. (Zoran Gajic) **98j:93027** 93B35 (93D09)

— (*with* Fialho, Ian J.) l_1 state-feedback control with a prescribed rate of exponential convergence. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1476–1481. 93B52 (93B36)

— (*with* Khammash, Mustafa H.; Megretskiĭ, A. V.) On a large-gain theorem. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 231–234. (Jacob Hammer) **98m:93101** 93D15

Geppert, U. (*with* Rieger, Heiko; Schreckenberg, Michael) A hierarchical model for ageing. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L393–L400. 82B44

Ger, Joanna (*with* Ger, Roman) On some curves in vector lattices. (English summary) *Math. Pannon.* **8** (1997), *no.* 1, 83–102. (Summary) **98a:46012** 46A40 (26A51, 46N10)

Ger, Roman Mazur's criterion for continuity of convex functionals. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 3, 263–268. (Nicole Brillouët-Belluot) **98b:39024** 39B52 (26B25, 39B72, 46A22)

— Iterative subsemigroups of the unit interval with a t-norm structure. (English summary) *Iteration theory (Batschuns*, 1992), 126–135, *World Sci. Publishing, River Edge, NJ*, 1996. (B. Choczewski) **98k:39009** 39B12

— (*with* Sikorska, Justyna) On the Cauchy equation on spheres. (English summary) *Ann. Math. Sil. No.* 11 (1997), 89–99. (Summary) **98m:39078** 39B52 (39B72)

— (*with* Ger, Joanna) On some curves in vector lattices. (English summary) *Math. Pannon.* **8** (1997), *no.* 1, 83–102. (Summary) **98a:46012** 46A40 (26A51, 46N10)

Gera, Dinesh (*with* Gautam, Mridul; Gangarao, Hota V. S.) Wave growth patterns in a non-linear dispersive system with instability and dissipation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 599–604. (Summary) **98b:35144** 35Q35 (76B15, 76E99)

Géradin, Michael G. (*with* Farhat, Charbel) On the general solution by a direct method of a large-scale singular system of linear equations: application to the analysis of floating structures. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 4, 675–696. 65F30 (73K99, 73V05)

Geramita, Anthony V. (*with* Shin, Yongsu; Pucci, Mario) Smooth points of $\mathrm{Gor}(T)$. *The Curves Seminar at Queen's, Vol. X (Kingston, ON, 1995)*, 256–297, *Queen's Papers in Pure and Appl. Math.*, 102, *Queen's Univ., Kingston, ON*, 1996. (Juan C. Migliore) **98a:13034** 13H10 (13D40, 14M07)

— (*with* Campbell, H. E. A.; Hughes, I. P.; Smith, G. G.; Wehlau, David L.) Hilbert functions of graded algebras. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 60–74, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Koji Nishida) **98d:13002** 13A02 (13D40)

— (*with* Schenck, Henry K.) Fat points, inverse systems and piecewise polynomial functions. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 98–116, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Yong Su Shin) **98e:13021** 13F20

— (*with* Shin, Yongsu) k-configurations in $\mathbf{P}^3$ all have extremal resolutions. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 117–130, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Juan C. Migliore) **98i:13021** 13D02 (13D40)

— (*with* Pucci, Mario; Shin, Yongsu) Smooth points of $\mathscr{G}or(T)$. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 209–241. (Juan C. Migliore) **98m:13031** 13H10 (14M05)

— *see also* **Seminar: Curves, 98c:13003**

Gérard, A. (*with* Guran, Ardéshir; Maze, Gerard; Ripoche, Jean; Überall, Herbert) New developments in the application of inverse scattering to target recognition and remote sensing. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 186–203, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (76Q05)

Gérard, C. (*with* Dereziński, J.) Long-range scattering in the position representation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3925–3942. (Hiroshi Isozaki) **98k:81288** 81U05 (35J10, 35P25, 47A40, 47F05, 47N50)

Gérard, J.-M. (*with* Mahara, I.) The attractor mechanism in the minimal tensor-scalar theory of gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 9, 631–637. (Edson Stédile) **98b:83075** 83D05

Gérard, Patrick Sur l'équation des ondes non linéaires avec exposant critique. [On the nonlinear wave equation with critical exponent] *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. XVIII*, 14 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 35L70 (35B99)

— (*with* Golse, François; Wennberg, Bernt) A compactness result for generalized Radon transforms. *Math. Res. Lett.* **3** (1996), *no.* 4, 491–497. (From the text) **98k:58222** 58G15 (44A12, 53C65)

— (*with* Meyer, Yves; Oru, Frédérique) Inégalités de Sobolev précisées. [Sharp Sobolev inequalities] *Séminaire sur les Équations aux Dérivées Partielles, 1996–1997, Exp. No.* IV, 11 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 46E35 (46M35)

— (*with* Burq, Nicolas) Condition nécessaire et suffisante pour la contrôlabilité exacte des ondes. (English and French summaries) [A necessary and sufficient condition for the exact controllability of the wave equation] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 749–752. (Summary) **98j:93052** 93C20 (35L05, 93B05)

— (*with* Markowich, Peter A.; Mauser, Norbert J.; Poupaud, Frédéric) Homogenization limits and Wigner transforms. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 4, 323–379. (Albert J. Milani) **98d:35020** 35B27 (35L99, 35Q40, 35S05)

Gerard, Patrick D. (*with* Schucany, William R.) Methodology for nonparametric regression from independent sources. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 3, 287–304. 62G05

Gérard, Raymond Sur l'existence de solutions holomorphes du problème de Cauchy pour des équations aux dérivées partielles non linéaires. (English summary) [Existence of holomorphic solutions of the Cauchy problem for nonlinear partial differential equations] *Géométrie complexe (Paris, 1992)*, 61–69, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Masatake Miyake) **98j:35006** 35A10 (35A20)

— (*with* Tahara, Hidetoshi) On the factorization of an equation of the form $F(x, y, \tau y) = 0$ where τ is a meromorphic vector field. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 151–167, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander I. Kheyfits) **98d:35005** 35A20 (32S65)

— (*with* Charrière, H.) Étude des équations de la forme $\tau y = F(x, y)$ où τ est un champ de vecteurs singulier à l'origine de $\mathbf{C}^n$ et $F(x, y)$ une fonction holomorphe à l'origine de $\mathbf{C}^n$. [Study of equations of the form $\tau y = F(x, y)$, where τ is a vector field singular at the origin in $\mathbf{C}^n$ and $F(x, y)$ a function holomorphic at the origin in $\mathbf{C}^n$] *Funkcial. Ekvac.* **39** (1996), *no.* 1, 19–37. (Donald A. Lutz) **98c:35005** 35A20 (35C10, 35F20)

— (*with* Tahara, Hidetoshi) A new version of the factorization of a differential equation of the form $F(x, y, \tau y) = 0$. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 9, 218–220. (Wolfgang Tutschke) **98b:35008** 35A20 (32B05)

Gérard, Yan Analyse locale des droites discrètes. Généralisation et application à la connexité des plans discrets. (English and French summaries) [Local analysis of the digital straight lines. Generalization and application to the connectivity of digital planes] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1419–1424. (Summary) **98b:68188** 68U05 (52B55)

Gerardi, Anna (*with* Ceci, Claudia; Mazliak, L.) Some results about stopping times of the marked tree space. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 578–590; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 3, 425–435 (1997). (Jochen Geiger) **98f:60167** 60J80 (60G40)

— (*with* Ceci, Claudia) Filtering of a branching process given its split times. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 565–574. (John Charles D'Souza) **98j:60118** 60J80 (93E11)

Gerards, A. M. H. Matching. *Network models*, 135–224, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 05C70 (68R10, 90B10, 90C27)

Gerasimenko, V. (*with* Borgioli, Giovanni; Lauro, Giuliana; Monaco, Roberto) Many particles dynamical system formulation for the discrete Enskog gas. (English summary) Proceedings of the Second International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems (Sanremo, 1994). *Transport Theory Statist. Phys.* **25** (1996), *no.* 3-5, 581–592. (Giuseppe Toscani) **98h:82056** 82C40

Gerasimov, A. A. (*with* Kharchev, S.; Morozov, A. Yu.; Ol'shanetskiĭ, M. A.; Marshakov, A. V.; Mironov, A. D.) Liouville type models in the group theory framework. I. Finite-dimensional algebras. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 14, 2523–2583. (Henrik Aratyn) **98e:81156** 81T40 (81–01, 81R05, 81T10)

Gerasimova, I. A. The dilemma of extensionality and intensionality and contexts with propositional attitudes. (Russian. Russian summary) *Logical investigations, No.* 2 (*Russian*), 53–67, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B65

— A semantic analysis of musical notation. (Russian. Russian summary) *Logical investigations, No.* 3 (*Russian*), 314–351, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B80

Gerbeau, J.-F. (*with* Le Bris, C.) Existence of solution for a density-dependent magneto-hydrodynamic equation. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 427–452. (R. M. Gundersen) **98d:35183** 35Q35 (76D05, 76W05)

— (*with* Le Bris, C.; Bercovier, M.) Spurious velocities in the steady flow of an incompressible fluid subjected to external forces. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 679–695. (Summary) **98h:76103** 76M25

Gerber, Hans U. (*with* Shiu, Elias S. W.) Actuarial bridges to dynamic hedging and option pricing. (English summary) *Insurance Math. Econom.* **18** (1996), *no.* 3, 183–218. (Jozef L. Teugels) **98d:62189** 62P05 (90A12)

— (*with* Shiu, Elias S. W.) The joint distribution of the time of ruin, the surplus immediately before ruin, and the deficit at ruin. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 2, 129–137. (Summary) **98m:62290** 62P05

Gerbessiotis, Alexandros V. A graph-theoretic result for a model of neural computation. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 257–262. (Summary) **98m:68205** 68R10 (05C85, 68T05)

Gerbeth, Gunter (*with* Priede, Jānis) Hydrothermal wave instability of thermocapillary-driven convection in a coplanar magnetic field. (English summary) *J. Fluid Mech.* **347** (1997), 141–169. (Summary) **98h:76045** 76E25 (76D45, 76E15, 76R05, 76W05)

Gerbrandy, Jelle (*with* Groeneveld, Willem) Reasoning about information change. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 2, 147–169. (Walter Alexandre Carnielli) **98h:68212** 68T27 (03B45, 03B70, 03E70)

Gerdes, K. (*with* Demkowicz, Leszek F.) Convergence of the infinite element methods for the Helmholtz equation in separable domains. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 11–42. (Summary) **98j:65077** 65N30 (65N12)

Gerdes, Paulus Examples of incorporation into mathematics education of themes belonging to the history of geometry in Africa. (English summary) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics (Blumenau, 1994)*, 213–221, *Edit. UNESP, São Paulo*, 199?. (*see* **98d:00018**) 01A13

— ★ Femmes et géométrie en Afrique Australe. (French. French summary) [Women and geometry in southern Africa] *Éditions L'Harmattan, Paris*, 1996. 219 *pp. ISBN* 2-7384-4496-2 (J. S. Joel) **98e:01004** 01A13 (01A07)

— Ethnomathematics and mathematics education. (English summary) *International handbook of mathematics education, Part* 1, 2, 909–943, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:00004**) 01A07 (00A35)

— ★ Ethnomathematik. (German. German summary) [Ethnomathematics] Dargestellt am Beispiel der sona Geometrie. [Illustrated by the example of sona geometry] With a preface by Harald Scheid and Erhard Scholz. *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1997. viii+433 *pp. ISBN* 3-8274-0201-8 (Bernd A. Schmeikal) **98j:01003** 01A07 (00A35, 01A13)

— ★ Lusona: récréations géométriques d'Afrique. (French. English and French summaries) [Lusona: geometrical recreations of Africa] Dual French-English text. With a preface by Aderemi Kuku. *Éditions L'Harmattan, Paris*, 1997. 128 *pp. ISBN* 2-7384-5168-3 (J. S. Joel) **98m:00006** 00A08 (01A07)

— On culture, geometrical thinking and mathematics education [Ed. Stud. Math. **19** (1988), no. 3, 137–162]. *Ethnomathematics*, 223–247, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 00A35 (01A07)

— Survey of current work on ethnomathematics. *Ethnomathematics*, 331–371, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A07

— On mirror curves and Lunda-designs. (English summary) *Comput. Graph.* **21** (1997), *no.* 3, 371–378. (Summary) **98k:01004** 01A13 (01A07, 05B99)

Gerdt, Vladimir (*with* Robuk, V. N.; Sevast'yanov, V. M.) Construction of finitely presented Lie algebras. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 11, 20–34; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 11, 1493–1505 (1997). (Serge M. Skryabin) **98b:17005** 17B05

— Gröbner bases and involutive methods for algebraic and differential equations. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 75–90. (Summary) **98d:35010** 35A30 (12H05, 13P10, 35–04)

— *see also* **Algorithms and software for symbolic analysis of nonlinear systems, 98b:35006**

Gergatsoulis, Manolis Unfold/fold transformations for disjunctive logic programs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 1, 23–29. (Summary) **98a:68025** 68N17

Gergel', V. P. A global optimization algorithm for multivariate functions with Lipschitzian first derivatives. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 257–281. (A. H. Žilinskas) **98c:90096** 90C26 (65K05, 90C30)

Gergó, L. (*with* Stoyan, G.) On a mathematical model of a radiating, viscous, heatconducting fluid. Remarks on a paper by J. Förste: "Stationary flow of an incompressible viscous fluid with radiation inference" [Z. Angew. Math. Mech. **57** (1977), no. 4, 265–267; MR **58** #32330]. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 367–375. (From the introduction) **98d:76053** 76D99 (35Q30, 80A20)

Gergov, Jordan Approximation algorithms for dynamic storage allocation. (English summary) *Algorithms—ESA '96 (Barcelona)*, 52–61, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q25 (68N25)

Gerhardt, Claus Closed Weingarten hypersurfaces in space forms. *Geometric analysis and the calculus of variations*, 71–97, *Internat. Press, Cambridge, MA*, 1996. (John Urbas) **98b:53045** 53C40 (35J60, 35K55, 53C42)

Gerisch, T. (*with* Rieckers, Alfred) Comparison of weakly inhomogeneous BCS- and Hubbard models. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 439–466. (Matthew

J. Donald) **98h:82008** 82B10 (82D55)

Gerko, A. I. On properties, asymptotic with respect to extension, of points of topological transformation semigroups. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995,** *no.* 2-3, 66–75, 114, 117. (Summary) **98g:54092** 54H15

— Distal N-fans extensions of minimal topological transformation semigroups. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 1, 12–16, 113, 116. (Summary) **98j:54065** 54H15

Gerla, Giangiacomo (*with* Biacino, Loredana) Connection structures: Grzegorczyk's and Whitehead's definitions of point. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 431–439. (Victor V. Pambuccian) **98b:03017** 03B30 (00A30, 51F99)

— Probability-like functionals and fuzzy logic. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 438–465. (Summary) **98g:03074** 03B52

Gerling, Jürgen (*with* Jürgens, Hartmut; Peitgen, Heinz-Otto) Bifurcation of homoclinic structures. I. Finite difference approximation and mechanisms for spurious solutions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 287–317. (Jörg M. Härterich) **98f:34068** 34C37 (34A45, 34C23, 58F14)

— (*with* Jürgens, Hartmut; Peitgen, Heinz-Otto) Bifurcation of homoclinic structures. II. The asymptotic fate of periodic points, collocation, and finite element approximation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 527–549. (Jörg M. Härterich) **98g:58123** 58F14 (34C23, 34C37)

péladan-Germa, Ariane *see* **Péladan-Germa, Ariane**

Germain, Emmanuel Amalgamated free product C^*-algebras and KK-theory. (English summary) *Free probability theory* (*Waterloo, ON,* 1995), 89–103, *Fields Inst. Commun.*, 12, *Amer. Math. Soc., Providence, RI,* 1997. (Mahmood Khoshkam) **98d:46065** 46L05 (19K35, 46L80)

— KK-theory of the full free product of unital C^*-algebras. (English summary) *J. Reine Angew. Math.* **485** (1997), 1–10. (Daniel Kucerovsky) **98c:46148** 46L80 (19K33, 19K35)

Germain, Marc (*with* Boucekkine, Raouf; Licandro, Omar) Replacement echoes in the vintage capital growth model. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 333–348. (Summary) **98d:90037** 90A16 (90A09)

Germán, Gabriel (*with* Antillón, Armando; Escalona, Joaquín; Torres, Manuel) Non-abelian Chern-Simons vortices. (English summary) *Workshops on Particles and Fields and Phenomenology of Fundamental Interactions* (*Puebla,* 1995), 479–482, *AIP Conf. Proc.*, 359, *Amer. Inst. Phys. Press, Woodbury, NY,* 1996. (Summary) **98f:81190** 81T13

German, O. V. A resolution principle for the problem of the minimal cover of a (0, 1)-matrix. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996,** *no.* 1, 135–146, 189; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 1, 111–119. (From the introduction) **98a:90119** 90C35 (05B40, 68Q25, 90C09)

German, Reinhard (*with* van Moorsel, Aad P. A.; Qureshi, Muhammad A.; Sanders, William H.) Expected impulse rewards in Markov regenerative stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka,* 1996), 172–191, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin,* 1996. (*see* **98d:68008**) 68Q90

Germán Badía, F. (*with* Adell, José A.; de la Cal, Jesús) On the iterates of some Bernstein-type operators. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 529–541. (Giuseppe Mastroianni) **98j:41021** 41A35 (39B12)

Germani, Alfredo (*with* Carravetta, Francesco; Raimondi, Massimo) Polynomial filtering of discrete-time stochastic linear systems with multiplicative state noise. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1106–1126. (Seihaku Higuchi) **98g:93045** 93E11

— (*with* Dalla Mora, Manuela; Manes, Costanzo) A state observer for nonlinear dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4485–4496. (*see* **98i:00032**) 93B07 (93C10)

Germano, Bruna (*with* Ricci, Paolo Emilio) On the connection between a class of Faber polynomials and multivariable Chebyshev polynomials. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 339–349. (Andrei Martínez Finkelshtein) **98k:30005** 30C10 (30C15, 33C55)

Germano, Massimo Averaging procedures for the large eddy simulation of variable density flows. (English summary) *IUTAM Symposium on Variable Density Low-speed Turbulent Flows* (*Marseille,* 1996), 101–108, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht,* 1997. (*see* **98f:76002**) 76F99 (76M25)

Germanov, O. S. Fields of second-order cones and connections generated by them. III. First integrals of geodesics. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 8, 25–33; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 8, 23–31. (V. Oproiu) **98c:53020** 53B20 (53B21)

Germinario, Anna On a Morse theory for light rays without nondegeneracy assumptions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 747–758. (Paolo Piccione) **98j:58028** 58E10 (53C22)

— Morse theory for light rays without nondegeneracy assumptions. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 173–206. (Paolo Piccione) **98i:58063** 58E10 (53C80, 58E05)

Germogenova, T. A. Regular components of asymptotic approximations to solutions of the transport equation in optically dense media. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 464–482. (Alexander Orlov) **98g:82046** 82C70 (78A10)

Germoni, Jérôme ★ Représentations indécomposables des superalgèbres de Lie spéciales linéaires. (French. French summary) [Indecomposable representations of linear special Lie superalgebras] Thèse, Université Louis Pasteur (Strasbourg I), Strasbourg, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1996/34. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg,* 1996. vi+64 *pp.* (Elena Poletaeva) **98d:17009** 17B10 (16G20)

— Représentations indécomposables des superalgèbres de Lie spéciales linéaires. (English and French summaries) [Indecomposable representations of special linear Lie superalgebras] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1221–1226. (Hedi Benamor) **98d:17010** 17B10

Gerner, Matthias (*with* Guitart, René) The locally free relatively filtered diagram as an inductive completion of a system of choice. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 59–73. (Colin McLarty) **98a:03102** 03G30

Gernet, Jacques *see* **Martzloff, Jean-Claude, 98a:01005**

Geroldinger, Alfred On the structure and arithmetic of finitely primary monoids. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 4, 677–695. (J. K. Luedeman) **98b:20102** 20M14

— (*with* Chapman, Scott T.) Krull domains and monoids, their sets of lengths, and associated combinatorial problems. *Factorization in integral domains* (*Iowa City, IA,* 1996), 73–112, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York,* 1997. (David F. Anderson) **98g:13017** 13F05 (13A05, 20M14)

— The catenary degree and tameness of factorizations in weakly Krull domains. *Factorization in integral domains* (*Iowa City, IA,* 1996), 113–153, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York,* 1997. (Muhammad Zafrullah) **98i:13037** 13F05 (20M14)

— (*with* Schneider, Rudolf) On minimal zero sequences with large cross number. *Ars Combin.* **46** (1997), 297–303. 20K01 (20D60)

— Chains of factorizations in weakly Krull domains. *Colloq. Math.* **72** (1997), *no.* 1, 53–81. (Jerzy Kaczorowski) **98g:13019** 13F05 (11R27, 13A05, 13G05)

— Chains of factorizations in orders of global fields. *Colloq. Math.* **72** (1997), *no.* 1, 83–102. (Jerzy Kaczorowski) **98f:11120** 11R27 (13F05, 20M14)

— Chains of factorizations and sets of lengths. *J. Algebra* **188** (1997), *no.* 1, 331–362. (Daniel D. Anderson) **98e:13019** 13F05 (13A05, 20M14)

Geromel, J. C. (*with* Gapski, P. B.) Synthesis of positive real $\mathscr{H}_2$ controllers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 988–992. 93B50 (93B36)

— (*with* de Souza, C. C.; Skelton, Robert E.) Static output feedback controllers: stability and convexity. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 120–125. (Summary) **98k:93095** 93D15

— (*with* Gapski, P. B.) LMI approach to the real parametric robust stability problem with multipliers. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 599–610. 93D05 (93D15)

Geronimo, Jeffrey S. (*with* Johnson, Russell Allen) Rotation number associated with difference equations satisfied by polynomials orthogonal on the unit circle. (English summary) *J. Differential Equations* **132** (1996), *no.* 1, 140–178. (Themistocles M. Rassias) **98a:39002** 39A10 (33C99)

— (*with* Donovan, George C.; Hardin, Douglas P.) Intertwining multiresolution analyses and the construction of piecewise-polynomial wavelets. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1791–1815. (Peter R. Massopust) **98c:42029** 42C15 (41A15)

— (*with* Deliu, Anca; Shonkwiler, R.) On the inverse fractal problem for two-dimensional attractors. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 1017–1062. (Remo Badii) **98c:58099** 58F12 (28A80, 58F13)

Gerow, Ken (*with* Holbrook, John) Statistical sampling and fractal distributions. *Math. Intelligencer* **18** (1996), *no.* 2, 12–22. (Christoph Bandt) **98b:62014** 62E10 (28–01)

Gerritse, Bart Varadhan's theorem for capacities. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 667–690. (Tommy Norberg) **98i:28005** 28A12 (28A25, 60F10)

Gerritse, Gerard Lattice-valued semicontinuous functions. (English summary) *Probability and lattices*, 93–125, *CWI Tract*, 110, *Math. Centrum, Centrum Wisk. Inform., Amsterdam,* 1997. (Summary) **98g:54019** 54C08 (06B35, 54C35)

Gerry, Christopher C. Cavity QED analog of spin. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2159–2171. (Summary) **98k:81337** 81V80 (81P05, 81R30)

Gersch, Will (*with* Kitagawa, Genshiro) ★ Smoothness priors analysis of time series. Lecture Notes in Statistics, 116. *Springer-Verlag, New York,* 1996. x+261 *pp. ISBN* 0-387-94819-8 (Peter M. Robinson) **98d:62161** 62M10

de Gersem, Peter *see* **De Gersem, Peter**

Gershenfeld, Neil A. (*with* Chuang, Isaac L.) Bulk spin-resonance quantum computation. (English summary) *Science* **275** (1997), *no.* 5298, 350–356. (V. Ya. Kreinovich) **98h:81013** 81P99 (68Q75)

Gershkovich, V. Singularity theory for Riemannian distance functions on non-positively curved surfaces. (English summary) *Geometry from the Pacific Rim* (*Singapore,* 1994), 117–147, *de Gruyter, Berlin,* 1997. (Anna Germinario) **98h:58036** 58E05 (53C20)

ben Gerson, Levi *see* **Goldstein, Bernard R., 98j:01011**

Gerst, Irving (*with* Blecksmith, Richard; Brillhart, John) A lattice proof of a modular identity. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1275–1287. (Richard P. Lewis) **98e:11123** 11P83 (11F11)

— (*with* Blecksmith, Richard; Brillhart, John) A constructive theory of triple and quintuple product identities of the second degree. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 797–814. (Heng Huat Chan) **98g:11047** 11F11 (11P81)

Gerstberger, R. (*with* Rentrop, P.) Feedforward neural nets as discretization schemes for ODEs and DAEs. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 117–128. (*see* **98d:65005**) 65L05 (34A05, 65Y05)

Gerstein, Larry J. ★ Introduction to mathematical structures and proofs. Corrected reprint of the 1996 edition. Textbooks in Mathematical Sciences. *Springer-Verlag, New York,* 1997. x+350 *pp. ISBN* 0-387-97997-2 00A05

Gerstel, O. (*with* Zaks, Shmuel) The bit complexity of distributed sorting. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 405–416. (Summary) **98f:68058** 68P10 (68Q25)

Gerstenhaber, Murray Quantized intersection cardinalities. (English summary) *Deformation theory and symplectic geometry* (*Ascona,* 1996), 85–102, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht,* 1997. (Mary Schaps) **98k:20021** 20C99

— (*with* Giaquinto, A.) Boundary solutions of the classical Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 337–353. (Henrik Johannesson) **98h:17014** 17B37 (81R50, 82B23)

bunse-Gerstner, Angelika *see* **Bunse-Gerstner, Angelika**

Gerten, Michael *see* **"Without shackles through the systems", 98h:00023**

Gertenbach, Jan D. Variational inequalities and the positivity of monotone mappings. (English summary) *Quaestiones Math.* **20** (1997), *no.* 2, 233–267. (Vesa Mustonen) **98i:47060** 47H19 (35J85, 47H05, 49J40)

Gertler, Janos J. (*with* Kunwer, Moid M.) Optimal residual decoupling for robust fault diagnosis. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 395–421. 93B30 (93E10)

Gertsch, Anne Nombres harmoniques généralisés. (English and French summaries) [Generalized harmonic numbers] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 1,

7–10. (Andrew Granville) **98a:11007** 11A07 (11B73)

Gertsenshtein, S. Ya. (*with* Popov, V. N.) The mechanics of three bodies with different charges. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 2, 190–192; *translation in Phys. Dokl.* **42** (1997), *no.* 3, 152–154. 78A35 (70F07)

Gertsenstein, M. E. Black holes, time arrow, and vacuum in quantum electrodynamics. (English summary) *Gravity, particles and space-time*, 385–390, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **97k:83002**) 83C57 (81V10)

Gerus, O. F. An estimate for the modulus of continuity of a Cauchy-type integral in a domain and on its boundary. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 10, 1321–1328; *translation in Ukrainian Math. J.* **48** (1996), *no.* 10, 1497–1506 (1997). (Eberhard Wagner) **98c:30049** 30E20 (41A17)

Gervais, Jean-Jacques (*with* Oukit, Abderrahmann; Pierre, Roger) Finite element analysis of the buckling and mode jumping of a rectangular plate. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 3, 161–185. (Summary) **98j:73047** 73H05 (73K10, 73V05)

— (*with* Fortin, A.; Jardak, M.; Pierre, Roger) Localization of Hopf bifurcations in fluid flow problems. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 11, 1185–1210. (Summary) **98a:76019** 76D05 (76E99, 76M10, 76M25)

Gervais, Jean-Loup Some quantum geometry aspects of the Liouville theory. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 65–78, *World Sci. Publishing, River Edge, NJ*, 1994. (Introduction) **98f:81177** 81T10 (81–02, 81R50)

— (*with* Cremmer, Eugène; Schnittger, Jens) Operator coproduct-realization of quantum group transformations in two-dimensional gravity. I. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 1, 147–177. (Jamal Zerouaoui) **98j:81146** 81R50 (17B37, 17B81, 81R10, 81T40)

— (*with* Roussel, Jean-François) Solving the strongly coupled 2D gravity. III. String susceptibility and topological N-point functions. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 245–269. (Satoru Saito) **98e:81157** 81T40 (17B68, 81–02, 81R50)

— (*with* Cremmer, Eugène; Schnittger, Jens) Hidden $U_q(\mathrm{sl}(2)) \otimes U_q(\mathrm{sl}(2))$ quantum group symmetry in two-dimensional gravity. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 609–643. (Isabel P. Ennes) **98j:81308** 81T40 (17B37, 81R50)

Gervasio, P. (*with* Ovchinnikov, E. È.; Quarteroni, Alfio) The spectral projection decomposition method for elliptic equations in two dimensions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1616–1639. (B. Kellogg) **98d:65159** 65N55 (65N35)

Gerver, M. L. (*with* Kudryavtseva, E. A.) On extremal properties of waveguides with a finite number of layers in the hodograph inversion problem. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 25–28. 73D50 (86A15)

— (*with* Kudryavtseva, E. A.) Universal sequence in the classical hodograph inversion problem. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 4, 3–56; *translation in Sb. Math.* **188** (1997), *no.* 4, 483–536. (Alexander S. Denisjuk) **98j:73039** 73D50 (28E99, 86A22)

Gervet, Carmen Interval propagation to reason about sets: definition and implementation of a practical language. (English summary) *Constraints* **1** (1997), *no.* 3, 191–244. (Summary) **98j:68010** 68N17 (03B70, 68T20)

Gervois, A. (*with* Limon Duparcmeur, Y.; Troadec, J. P.) Random close packings of regular polygons. (English summary) *J. Physique I* **7** (1997), *no.* 10, 1181–1189. (Summary) **98j:82028** 82B41 (52C15, 82–04, 82D25)

Gerwinski, Peter (*with* Braun, Petr A.; Haake, Fritz; Schomerus, Henning) Semiclassics of rotation and torsion. (English summary) *Z. Phys. B* **100** (1996), *no.* 1, 115–127. (Summary) **98a:81040** 81Q20

Geser, Alfons An improved general path order. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 6, 469–511. (Summary) **98f:68145** 68Q42

— (*with* Middeldorp, Aart; Ohlebusch, Enno; Zantema, Hans) Relative undecidability in term rewriting. (English summary) *Computer science logic* (*Utrecht*, 1996), 150–166, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98m:68136** 68Q42 (03D35)

— Omega-termination is undecidable for totally terminating term rewriting systems. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 4, 399–411. (Summary) **98a:68111** 68Q42 (03D35)

Geshev, P. I. (*with* Alekseenko, S. V.; Kuĭbin, P. A.) Flow of a fluid with a free surface over an inclinded cylinder. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 47–50; *translation in Phys. Dokl.* **42** (1997), *no.* 5, 269–272. 76D99

Gesheva, R. (*with* Stoilov, P.; Racheva, M.) BMOA estimate and radial growth of B_φ functions. (English summary) *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **1** (1995), 39–47. (Summary) **98b:30035** 30D50

Geshwind, Frank (*with* Katz, Nets Hawk) Pseudodifferential operators on SU(2). (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 193–205. (Gerald B. Folland) **98b:43016** 43A75 (22E30, 35S05, 47G30, 58G15)

Gessel, Ira M. (*with* Ree, Sangwook) Lattice paths and Faber polynomials. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 3–13, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Wayne M. Dymacek) **98b:05014** 05A15

— Generating functions and generalized Dedekind sums. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 11, *approx.* 17 *pp.* (*electronic*). (Bruce C. Berndt) **98f:11032** 11F20 (05A15)

— (*with* Weinstein, Jonathan; Wilf, Herbert S.) Lattice walks in $\mathbf{Z}^d$ and permutations with no long ascending subsequences. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 2, 11 *pp.* (*electronic*). (E. Keith Lloyd) **98j:05007** 05A15

Gëssel', M. *see* **Gössel, Michael**

Gessing, Ryszard S. (*with* Mahmoud, Montasser M.) Using sliding mode technique for decoupling linear multivariable systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 4, 15–19 (1997). 93B12 (93C05)

— Design of discrete-time controller by using continuous-time methods. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 1-2(42), 75–87. 93B51 (93C55)

Gessinger, A. (*with* Butzer, Paul L.) The approximate sampling theorem, Poisson's sum formula, a decomposition theorem for Parseval's equation and their interconnections. The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 143–160. (Peter A. McCoy) **98g:94005** 94A12 (42C15)

— (*with* Butzer, Paul L.) Connections between the approximation of semigroup and cosine operator functions. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 81–142. (Sen-Yen Shaw) **98j:47082** 47D06 (34G10, 47A35, 47D09)

Gessler, Dmitri On the Vinogradov $\mathscr{C}$-spectral sequence for determined systems of differential equations. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 303–324. (Valentin V. Lychagin) **98i:58215** 58G05 (35A27, 58H99)

Gessler, Nadine De la catégorie sémantique du nom à la définition collective de la classe. [From the semantical category of the noun to the collective definition of class] *Analyse catégorielle et logique*, 79–109, *Travaux Log.*, 10, *Univ. Neuchâtel, Neuchâtel*, 1996. (Roman Murawski) **98i:03037** 03B65

Gesualdo, A. (*with* Guarracino, F.; Mallardo, V.; Minutolo, V.; Nunziante, L.) Flaw identification in elastic solids: theory and experiments. (English summary) *Extracta Math.* **12** (1997), *no.* 1, 61–86. (From the text) **98j:73031** 73C99 (73–05)

Gesztesy, Fritz (*with* Weikard, R.) Lamé potentials and the stationary (m)KdV hierarchy. (English summary) *Math. Nachr.* **176** (1995), 73–91. (Emma Previato) **98a:58086** 58F07 (14H52, 34L05, 35Q53)

— (*with* Simon, Barry; Teschl, Gerald) Spectral deformations of one-dimensional Schrödinger operators. (English summary) *J. Anal. Math.* **70** (1996), 267–324. (Boris M. Levitan) **98m:34171** 34L40 (34A55, 34L05, 47E05)

— (*with* Holden, Helge) On trace formulas for Schrödinger-type operators. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 121–145, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Alexander A. Kiselev) **98m:34172** 34L40 (34A55, 35J10, 47A55, 47E05, 47F05, 81Q10)

— (*with* Simon, Barry) Inverse spectral analysis with partial information on the potential. I. The case of an a.c. component in the spectrum. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 66–71. (Summary) **98f:81347** 81U40 (34A55, 34L40, 47E05, 47N50)

— (*with* Sticka, W.) On a theorem of Picard. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1089–1099. (Emma Previato) **98m:34012** 34A20 (30D30, 33E05, 34L05, 35Q53, 58F07)

Gethner, Ellen (*with* Stark, H. M.) Periodic Gaussian moats. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 289–292. (Franz Lemmermeyer) **98m:11111** 11R04 (11Y40)

Getino, Juan (*with* González, Ana-Belén) The rotation of a non-rigid, non-symmetrical Earth. I. Free nutations. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 2, 139–149. (Summary) **98k:70003** 70E99 (86A99)

Getoor, R. K. (*with* Fitzsimmons, P. J.) Smooth measures and continuous additive functionals of right Markov processes. (English summary) *Itô's stochastic calculus and probability theory*, 31–49, *Springer, Tokyo*, 1996. (M. G. Shur) **98g:60137** 60J55 (60J40)

Gëtse, F. *see* **Götze, Friedrich**

Gettings, Michael (*with* Anderson, C. Anthony) Gödel's ontological proof revisited. *Gödel '96* (*Brno*, 1996), 167–172, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Charles F. Kielkopf) **98c:03039** 03B45

Getz, Neil H. (*with* Marsden, Jerrold E.) Dynamical methods for polar decomposition and inversion of matrices. (English summary) *Linear Algebra Appl.* **258** (1997), 311–343. (Mihail Voicu) **98i:15007** 15A09 (34C35)

Getzler, E. Intersection theory on $\overline{\mathcal{M}}_{1,4}$ and elliptic Gromov-Witten invariants. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 973–998. (Ralph Martin Kaufmann) **98f:14018** 14H10 (14C17, 14N10)

Geurten, Servie (*with* Boccara, Nino; Fukś, Henryk) A new class of automata networks. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 145–154. (Summary) **98e:68186** 68Q80 (82C20)

Geurts, Bernard (*with* Wasistho, B.; Kuerten, J. G. M.) Numerical simulation of separated boundary-layer flow. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 177–194. (Summary) **98h:76121** 76N20 (76D10, 76D15, 76M25)

— (*with* Vreman, Bert; Kuerten, Hans) Large-eddy simulation of the turbulent mixing layer. (English summary) *J. Fluid Mech.* **339** (1997), 357–390. (Summary) **98d:76093** 76F99 (76M25)

Geurts, Frédéric (*with* Flocchini, Paola; Santoro, Nicola) CA-like error propagation in fuzzy CA. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1673–1682. (*see* **98h:68006**) 68Q80 (04A72)

Geuvers, Herman (*with* Barthe, Gilles) Congruence types. (English summary) *Computer science logic* (*Paderborn*, 1995), 36–51, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q42 (03B15, 03B70)

— (*with* Stefanova, M.) A simple model construction for the calculus of constructions. (English summary) *Types for proofs and programs* (*Torino*, 1995), 249–264, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03008** 03B15 (03B40, 03B70, 68N15)

— Extending models of second order predicate logic to models of second order dependent type theory. (English summary) *Computer science logic* (*Utrecht*, 1996), 167–181, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (From the summary) **98k:03073** 03B70 (03B15, 03C85)

— (*with* Barbanera, Franco; Fernández, Maribel) Modularity of strong normalization in the algebraic-λ-cube. (English summary) *J. Funct. Programming* **7** (1997), *no.* 6, 613–660. (Summary) **98k:03032** 03B40 (68N15)

Geuvers, J. H. (*with* Nederpelt, R. P.) Twenty-five years of Automath research. *Selected papers on Automath*, 3–54, *Stud. Logic Found. Math.*, 133, *North-Holland, Amsterdam*, 1994. (*see* **98g:03038**) 03–02 (03B35, 03B40)

— *see also* **Selected papers on Automath, 98g:03038**

Gevers, M. (*with* De Bruyne, F.; Anderson, Brian D. O.) On plant and LQG controller continuity questions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 631–635. 93E20 (93B52)

Gevorgyan, O. V. (*with* Akopyan, A. A.; Sahakian, Artur A.) Bivariate Hermite interpolation and numerical curves. (English summary) *J. Approx. Theory* **85** (1996), *no.* 3, 297–317. (Summary) **98e:41042** 41A63 (65D15)

Gevorkian, Gegham *see* **Gevorkyan, Gegham**

Gevorkyan, Ashot S. (*with* Bogdanov, A. V.) New perturbation theory for the nonstationary anharmonic oscillator. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7413–7425.

(Summary) **98i:81049** 81Q15

Gevorkyan, Gegham Representation of measurable functions by absolutely convergent series of translates and dilates of one function. (English summary) *East J. Approx.* **2** (1996), *no.* 4, 439–458. (Kazaros Kazarian) **98b:42048** 42C15 (42C10)

— Majorant and uniqueness of series in the Franklin system. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 521–545, 639; *translation in Math. Notes* **59** (1996), *no.* 3-4, 373–391. (Weixing Zheng) **98h:42027** 42C10

Gewali, L. (*with* Venkatasubramanian, R.; Glasser, David) Algorithms for computing grazing area. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 193–211. (Rade Živaljević) **98j:52021** 52B55 (68U05)

Geweke, John F. Monte Carlo simulation and numerical integration. *Handbook of computational economics, Vol. I*, 731–800, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 65C05 (65D30)

— Bayesian inference for linear models subject to linear inequality constraints. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 248–263, *Springer, New York*, 1996. (*see* **98a:62002**) 62F15 (62J05)

— (*with* Keane, Michael P.; Runkle, David E.) Statistical inference in the multinomial multiperiod probit model. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 125–165. 62P20

Geyer, Axel (*with* Herold, Heinz) Slicing the Oppenheimer-Snyder collapse: harmonic versus maximal slicing. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1257–1268. (Summary) **98f:83084** 83C99 (83–08)

Geyer, Bodo (*with* Granda, L. N.; Odintsov, Sergei D.) Violation of chiral symmetry in curved space-time with a magnetic field. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 7, 43–47; *translation in Russian Phys. J.* **40** (1997), *no.* 7, 630–634 (1998). (Summary) **98f:81220** 81T20

— (*with* Mülsch, D.) Symmetry properties and renormalizability of massive gauge theories in Delbourgo-Jarvis gauge. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 253–257. (Summary) **98d:81052** 81T13 (81T15)

Geyer, H. B. (*with* Theron, A. N.; Scholtz, F. G.) Bosonization in $d = 2$ from finite chiral determinants with a Gauss decomposition. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6706–6709. (Summary) **98i:81158** 81T15

Geyer, W.-D. (*with* Jensen, C. U.) Prodihedral groups as Galois groups over number fields. *J. Number Theory* **60** (1996), *no.* 2, 332–372. (Jack Sonn) **98c:11119** 11R23 (11R20, 11R32)

Geyler, V. A. *see* **Geller, V. A.**

Geymonat, G. (*with* Loreti, Paola; Valente, Vanda) Spectral problems for thin shells and exact controllability. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 35–57, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Summary) **98j:73056** 73K15 (35P05, 35Q72, 73K50, 93B05)

Geys, Helena (*with* Molenberghs, Geert; Ryan, Louise M.) Pseudo-likelihood inference for clustered binary data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2743–2767. 62F99

Geysermans, P. (*with* Baras, F.) Stochastic description of a period-2 limit cycle. (English summary) *Europhys. Lett.* **40** (1997), *no.* 1, 1–6. (Summary) **98j:58072** 58F12 (58F13, 58F14, 58F40)

Gfrerrer, A. Dupinsche Zykliden im dreidimensionalen elliptischen Raum. [Dupin cyclides in three-dimensional elliptic space] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **204** (1995), 59–80 (1996). (Hellmuth Stachel) **98a:53025** 53A35

Ghaboussi, F. Quantum theory of the Hall effect. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 923–934. (Guillermo Zemba) **98c:81250** 81V70 (81T13)

Ghafarnejad, H. (*with* Salehi, Hadi) Hadamard renormalization, conformal anomaly, and cosmological event horizons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4633–4639. (Summary) **98g:81143** 81T20 (81T15, 83C47, 83C57)

abd el-Ghaffar, F. S. *see* **Abd El-Ghaffar, F. S.**

el-Ghaffar, F. S. Abd *see* **El-Ghaffar, F. S. Abd**

abdel-Ghaffar, Khaled A. S. *see* **Abdel-Ghaffar, Khaled A. S.**

Ghahramani, F. (*with* McClure, J. P.) The second dual algebra of the measure algebra of a compact group. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 2, 223–226. (George A. Willis) **98f:43001** 43A10 (43A22, 46H99, 46J99)

— (*with* McClure, J. P.; Meng, Mei) On asymmetry of topological centers of the second duals of Banach algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1765–1768. (John Duncan) **98g:46062** 46H05

Ghalieh, Khuloud Algebraic properties of some configurational propositions. *J. Geom.* **59** (1997), *no.* 1-2, 46–66. (Martin Funk) **98d:51004** 51A20 (20N05, 51A25, 51A30)

abdel-Ghaly, A. A. *see* **Abdel-Ghaly, A. A.**

Ghandehari, Mostafa (*with* Nestell, Merlynd K.) On a separable nonlinear Volterra integral equation with power nonlinearity. (English summary) *Libertas Math.* **17** (1997), 175–181. (Summary) **98i:45008** 45G10

Ghandi, K. (*with* Hagood, N. W.) A hybrid finite element model for phase transitions in nonlinear electro-mechanically coupled material. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 97–112, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73B30 (65N30, 73R05, 73V05)

Ghane, F. H. (*with* Honary, Bahman K.) A topologically mixing map with trivial rotation set. Erratum: "Degree one maps of the circle with non-trivial and non-persistent rotation sets" [Ann. Differential Equations **11** (1995), no. 4, 389–391; MR 97d:58070]. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 502–503. (Summary) **98c:58049** 58F03

ben Ghanem, Riadh *see* **Ben Ghanem, Riadh**

Ghani, Neil $\beta\eta$-equality for coproducts. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 171–185, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Di Cosmo, Roberto) On modular properties of higher order extensional lambda calculi. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 237–247, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 03B40 (03B70, 68N15, 68Q55)

— Eta-expansions in F^ω. (English summary) *Computer science logic* (*Utrecht*, 1996), 182–197, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98k:03037** 03B40

— Eta-expansions in dependent type theory—the calculus of constructions. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 164–180, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98i:68141** 68Q42 (03B70)

Ghanim, M. H. (*with* Tantawy, Osama A.; Selim, Fawzia M.) On lower separation axioms. (English summary) *Fuzzy Sets and Systems* **85** (1997), *no.* 3, 385–389. (Summary) **98a:54004** 54A40 (04A72, 54D10)

el Ghaoui, Laurent *see* **El Ghaoui, Laurent**

Ghaoui, Zahia (*with* Golse, François) Une classification des couches limites cinétiques par le théorème de l'indice. (English and French summaries) [A classification of kinetic boundary layers by the index theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 343–348. (Summary) **98g:35167** 35Q35 (47B35, 47N20, 76P05, 82C40)

Gharakhani, Adrin (*with* Ghoniem, Ahmed F.) Three-dimensional vortex simulation of time dependent incompressible internal viscous flows. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 75–95. (Summary) **98d:76127** 76M25 (76M15)

Gharib, M. *see* **Gharib, Morteza**

Gharib, Mohamed On the fourth moment of the maximum of partial sums of n-exchangeable random variables with applications. (English summary) *J. Math. Sci. (Calcutta)* **6** (1995), *no.* 1, 33–45. 60G09 (60E99, 60G50)

— Characterizations of the exponential distribution via mixing distributions. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 1, 30–42. 62E10

— (*with* Formanov, Sh. K.) A Shepp-Stone local limit theorem for homogeneous Markov chains. (English summary) *Kobe J. Math.* **14** (1997), *no.* 1, 1–9. (Summary) **98h:60097** 60J10 (60F05)

Gharib, Morteza (*with* Atsavapranee, P.) Structures in stratified plane mixing layers and the effects of cross-shear. (English summary) *J. Fluid Mech.* **342** (1997), 53–86. 76V05 (76E99)

— (*with* Willert, Christian E.) The interaction of spatially modulated vortex pairs with free surfaces. (English summary) *J. Fluid Mech.* **345** (1997), 227–250. 76C05 (76–05)

— (*with* Rambod, Edmond; Shariff, Karim) A universal time scale for vortex ring information. (English summary) *J. Fluid Mech.* **360** (1998), 121–140. 76–05 (76C05)

Ghattas, Omar (*with* Bark, Jai-Hyeong) Large-scale SQP methods for optimization of Navier-Stokes flows. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 247–270, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98d:49039** 49M27 (65K10, 76D05, 90C30)

Ghavimi, Ali R. (*with* Laub, Alan J.) An implicit deflation method for ill-conditioned Sylvester and Lyapunov equations. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1119–1141. 93B40 (93C05)

Ghazali, A. (*with* Lévy, Jean-Claude Serge; Mercier, Daniel; Perreau, M.) Medium-range order in self-similar figures with fivefold symmetry. (English summary) *Symmetry and structural properties of condensed matter* (*Zajęczkowo*, 1994), 417–432, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:52030** 52C20

Ghelardoni, Paolo Approximations of Sturm-Liouville eigenvalues using boundary value methods. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 3, 311–325. (Marco Marletta) **98a:65100** 65L10 (34A45, 34B24)

Gheondea, Aurelian (*with* Constantinescu, Tiberiu) Hermitian kernels with bounded structure. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 141–164. (J. Rovnyak) **98b:47012** 47A20 (47A57, 47A68, 47B50)

Gheorghe, Marian (*with* Bălănescu, Tudor) Contextual cooperating grammar systems. (English summary) *Mathematical linguistics and related topics*, 24–29, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q50 (68Q45)

— (*with* Bălănescu, Tudor; Georgescu, Horia) Grammar systems with counting derivation and dynamical priorities. (English summary) *New trends in formal languages*, 150–166, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68167** 68Q50 (68Q45)

Gheorghiciuc, I. (*with* Chekanu, G.) On the nilpotency of finitely determined nil algebras. *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 3, 119. 16N40

Gheorghiu, Călin Ioan (*with* Pop, S. I.) On the Chebyshev-tau approximation for some singularly perturbed two-point boundary value problems—numerical experiments. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 117–124. 65L10

— (*with* Tămăşan, Alexandru) On the existence and uniqueness of positive solutions of some mildly nonlinear elliptic boundary value problems. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 125–129. 35J65 (35B05)

— (*with* Petrila, Titus) On the motion of a drop due to a surface tension gradient. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 117–118, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 76D45

— (*with* Pop, Iuliu Sorin) A modified Chebyshev-Tau method for a hydrodynamic stability problem. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 119–126, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 76M25 (76E05)

— (*with* Pop, Iuliu Sorin) A Chebyshev-Galerkin method for fourth order problems. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 217–220, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 65L15 (65L60)

— (*with* Tămăşan, Alexandru) On the bifurcation of the null solutions of some boundary value problems. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 59–64. 35J65 (35B32, 58E07)

Gheorghiu, H. N. M. (*with* Rahnema, Farzad) Variational principles for steady-state neutron flux functionals. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 67–95. 82D75 (82C70)

Gheorghiu, L. E. (*with* Baltag, V. A.; Vulpe, Nicolae) The repartition of multiplicity between four infinite singular points of cubic differential system. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995,** *no.* 2-3, 76–88, 114, 117. (Sui Lin Cai) **98k:34040** 34C05

— Affine invariant conditions for repartition of multiplicity between 2 real and 2 imaginary infinite singular points of cubic differential system. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 1, 87–95, 115, 118. (Sui Lin Cai) **98k:34041** 34C05

— (*with* Vulpe, Nicolae) The repartition of multiplicity between three real ISP of cubic differential system. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 3, 109–118, 121, 125. (From the text) **98m:34054** 34C05

Gheorma, Ioan-Ludovic (*with* Graglia, Robert D.; Wilton, Donald R.; Peterson, Andrew F.) Higher order interpolatory vector bases on prism elements. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 3, 442–450. (Summary) **98k:78002** 78–08

Gherghe, Cătălin Quasi-connexion de Golab-Lyra. (French summary) [Golab-Lyra quasiconnections] *Demonstratio Math.* **30** (1997), *no.* 1, 1–6. (Andrew Bucki) **98g:53026** 53B15 (53C05)

el-Ghezawi, Omar M. E. *see* **El-Ghezawi, Omar M. E.**

Ghezelbash, A. M. A duality-like transformation in WZNW models inspired from dual Riemannian globally symmetric spaces. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 413–421; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 660–667. (Stanislav Z. Pakuliak) **98h:81110** 81T40 (58Z05, 81R10)

— (*with* Abolhassani, M. R.; Alishahiha, Mohsen) The moduli space and monodromies of the $N = 2$ supersymmetric Yang-Mills theory with any Lie gauge groups. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 279–295. (Summary) **98b:81242** 81T60 (14H45, 81T13)

— (*with* Karimipour, V.) Global conformal invariance in D dimensions and logarithmic correlation functions. (English summary) *Phys. Lett. B* **402** (1997), *no.* 3-4, 282–289. (Summary) **98e:81102** 81T10 (81T40)

Ghezzi, L. L. Immunization and max-min optimal control. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 701–711. (Summary) **98k:90011** 90A09 (49J35)

Ghidaglia, J.-M. (*with* Colin, Thierry) Un problème aux limites pour l'équation de Korteweg-de Vries sur un intervalle borné. (French summary) [A boundary value problem for the Korteweg-de Vries equation on a bounded interval] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. III*, 10 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 35Q53

— (*with* Alouges, François) Minimizing Oseen-Frank energy for nematic liquid crystals: algorithms and numerical results. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 4, 411–447. (Giandomenico Orlandi) **98k:58064** 58E20 (49Q20, 73C50, 73V25, 76A15, 76M30)

Ghiglino, Christian (*with* Tvede, Mich) Multiplicity of equilibria. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 1–15. (From the text) **98h:90020** 90A14 (90A08)

Ghil, Byung Moon On the convergence of fuzzy-number-valued functions. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 373–375. (Summary) **98c:26018** 26E50 (04A72)

Ghil, Michael (*with* Feliks, Yizhak) Stability of a front separating water masses with different stratifications. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 3-4, 165–204. 76E20 (76V05, 86A05)

Ghilani, Mustapha Estimation d'erreur pour une loi de conservation scalaire multidimensionelle approchée par un schéma implicite de volumes finis. (English and French summaries) [An error estimate for the approximate solution of a multidimensional scalar conservation law equation by an implicit finite volume scheme] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 343–348. (Claude Carasso) **98f:65086** 65M06 (35L65)

Ghilardi, M. (*with* Franzosi, Roberto; Guadagnini, E.) Modular transformations and one-polygon tessellation. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 42–45. (Francois Vanderseypen) **98m:83021** 83C27 (83C99)

Ghilardi, Silvio (*with* Meloni, Giancarlo) Constructive canonicity in non-classical logics. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 1, 1–32. (Leo Esakia) **98h:03025** 03B45 (03B55, 03E25, 06D20)

— (*with* Zawadowski, Marek) Model completions and r-Heyting categories. (English summary) *Ann. Pure Appl. Logic* **88** (1997), *no.* 1, 27–46. (Leo Esakia) **98m:03079** 03C65 (03B45, 03C10, 03G30, 06D20, 06E25)

— Unification through projectivity. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 733–752. (Summary) **98g:08009** 08B05 (03B35, 03C05, 06D05, 68T15)

Ghilezan, Silvia Generalized finiteness of developments in typed lambda calculi. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 4, 247–257. (Summary) **98a:03016** 03B40 (68N15, 68Q55)

— Some topological properties of the lambda calculus. (English summary) Symposium Dedicated to the Memory of Duro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 65–73. (Betti Venneri) **98b:03025** 03B40

Ghimire, R. P. (*with* Jain, Madhu) Machine repair queueing system with non-reliable service stations and heterogenous service discipline. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 105–116. 60K25 (60K10)

Ghinea, Ioan Some invariants of the group of transformations of conformal Hamilton connections. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 10–16. (László Kozma) **98g:53122** 53C60 (53B40)

Ghirardato, Paolo On independence for non-additive measures, with a Fubini theorem. (English summary) *J. Econom. Theory* **73** (1997), *no.* 2, 261–291. (Erwin Klein) **98h:28001** 28A12 (60A10, 90A05)

Ghirardi, Giancarlo Spontaneous wave packet reduction. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 506–523, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P15 (81P05)

— (*with* Grassi, Renata) Bohm's theory versus dynamical reduction. *Bohmian mechanics and quantum theory: an appraisal*, 353–377, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— Quantum dynamical reduction and reality: replacing probability densities with densities in real space. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 349–365. (S. Gudder) **98c:81007** 81P05 (81P15)

— Properties and events in a relativistic context: revisiting the dynamical reduction program. (English summary) *Found. Phys. Lett.* **9** (1996), *no.* 4, 313–355. (Oliver Rudolph) **98b:81022** 81P15 (81P05, 81P10)

Ghiselli Ricci, Roberto Sturm type theorems for general quasi-variational nonlinear problems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 1–22. (Robert Dalmasso) **98m:34036** 34B15 (34C10, 35J65)

Ghisi, M. Asymptotic behaviour for the Kirchhoff equation. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 293–312. (Takashi Narazaki) **98e:35162** 35Q72 (35B40, 35L70, 73D35, 73K05)

Ghitany, M. E. (*with* Zhou, Sean) Asymptotic results for exponential failure models with imperfect signalling and covariates. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 801–820. (A. M. Abouammoh) **98i:62079** 62N05

Ghiuş, Viorel Les types de circulations admissibles dans un graphe escalier non orienté. I. (Romanian summary) [Types of admissible circulations in a nonoriented step graph. I] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 1-2, 19–23. 05C20

— Les types de circulations admissibles dans un graphe escalier non orienté. II. (Romanian summary) [Types of admissible circulations in a nonoriented step graph. II] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 89–93. 05C20

— Les types de circulations admissibles dans un graphe escalier non orienté. III. (English and Romanian summaries) [Types of admissible circulations in a nonoriented step graph. III] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 55–58. 05C20

— Les types de circulations admissibles dans un graphe escalier non orienté. IV. (English and Romanian summaries) [Types of admissible circulations in a nonoriented step graph. IV] *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 39–55. 05C75

Ghoniem, Ahmed F. (*with* Gharakhani, Adrin) Three-dimensional vortex simulation of time dependent incompressible internal viscous flows. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 75–95. (Summary) **98d:76127** 76M25 (76M15)

Ghorbal, Sonia Homotopy monomorphisms and homotopy pushouts. (English summary) *Topology Appl.* **79** (1997), *no.* 2, 173–176. (Daniel Tanré) **98h:55019** 55P62

Ghorbel, Faouzi (*with* Saoudi, S.; Hillion, A.) Some statistical properties of the kernel-diffeomorphism estimator. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 1, 39–58. (Summary) **98d:62069** 62G05

khan Ghori, S. A. *see* **Khan Ghori, S. A.**

Ghoroku, Kazuo Field condensation and a possible phase in a noncritical string for $c > 1$. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2469–2481. (Sergey Nikolaevich Roshchupkin) **98j:81272** 81T30 (81T50)

— Solitonic $d - 5$ brane and vortex defects on the world-sheet. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 84–90. (Summary) **98m:81140** 81T30 (81T17)

Ghorpade, Sudhir R. Young multitableaux and higher-dimensional determinants. *Adv. Math.* **121** (1996), *no.* 2, 167–195. (Christian Krattenthaler) **98c:05164** 05E10 (05A15, 13C40, 13F50)

— Young bitableaux, lattice paths and Hilbert functions. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 1, 55–66. (Christian Krattenthaler) **98c:05165** 05E10 (05A15, 13C40, 13F50)

Ghosal, Ashitava (*with* Lankalapalli, Shrinivas) Chaos in robot control equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 707–720. 70Q05 (58F13, 58F40, 70B15, 93C85)

Ghosal, S. *see* **Ghosal, Subhashis**

Ghosal, Sayantan (*with* Bloch, Francis) Stable trading structures in bilateral oligopolies. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 368–384. (Summary) **98d:90044** 90A60

Ghosal, Subhashis (*with* Ghosh, Jayanta K.; Ramamoorthi, R. V.) Non-informative priors via sieves and packing numbers. (English summary) *Advances in statistical decision theory and applications*, 119–132, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Mohan Delampady) **98m:62069** 62F15 (62C10)

— (*with* Samanta, Tapas) Asymptotic expansions of posterior distributions in nonregular cases. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 181–197. (Ram C. Tiwari) **98m:62070** 62F15 (62E17)

— Normal approximation to the posterior distribution for generalized linear models with many covariates. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 332–348. (Alexander G. Kukush) **98m:62071** 62F15 (62J05, 62J12)

— (*with* Samanta, Tapas) Expansion of Bayes risk for entropy loss and reference prior in nonregular cases. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 129–140. (Adnan M. Awad) **98j:62026** 62F25 (62B10, 62F15, 94A17)

— Reference priors in multiparameter nonregular cases. (English summary) *Test* **6** (1997), *no.* 1, 159–186. (Christian P. Robert) **98j:62023** 62F15 (62A15, 62B10, 62F10)

Ghose, Aditya K. (*with* Padmanabhuni, Srinivas; Goebel, Randy) Default theories in incremental learning. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 185–193. (*see* **98k:68012**) 68T27 (68T05)

Ghose, Partha Relativistic quantum mechanics of spin-0 and spin-1 bosons. (English summary) *Found. Phys.* **26** (1996), *no.* 11, 1441–1455. (Jorge Goncalves Cardoso) **98b:81078** 81R20

Ghose, Suranjan (*with* Mandal, C. A.; Chakrabarti, P. P.) A probabilistic estimator for the vertex deletion problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 1–4. (Summary) **98k:05131** 05C85 (68R10)

Ghosh, A. *see* **Ghosh, Amalendu**

Ghosh, A. K. *see* **Ghosh, Ashis Kumar**

Ghosh, Amalendu (*with* Tarafdar, M.) On P-Sasakian manifold. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 147–150 (1997). 53C25

Ghosh, Amit[2] (*with* Maharana, Jnanadeva) S-duality and the entropy of black holes in heterotic string theory. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 39-40, 3103–3111. (Summary) **98i:83077** 83E30 (81T30, 83C57)

— (*with* Mitra, Parthasarathi) Quantum correction to the thermodynamical entropy of a black hole. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3568–3570. (Summary) **98e:83074** 83C57 (81T20)

— (*with* Mitra, Parthasarathi) Erratum: "Quantum correction to the thermodynamical entropy of a black hole" [Phys. Rev. D **56** (1997), no. 6, 3568–3570; MR 98e:83074]. *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1316. 83C57 (81T20)

Ghosh, Ashis Kumar (*with* Deshpande, S. M.; Kulkarni, P. S.) New developments in kinetic schemes. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 75–93. (Summary) **98k:76104** 76M25 (65M06, 76P05)

Ghosh, Ashish (*with* De, Susmita; Pal, Sankar Kumar) Genotypic and phenotypic assortative mating in genetic algorithm. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 209–226. 68T05 (90C27)

Ghosh, B. K. *see* **Ghosh, Bhaskar K.**

Ghosh, Bhaskar (*with* Muthukrishnan, S.) Dynamic load balancing by random matchings. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures

(Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 357–370. (Summary) **98e:68009** 68M10 (68M20)

Ghosh, Bhaskar K. (*with* Dobrić, V.) Some analogs of the Berry-Esséen bound for first-order Chebyshev-Edgeworth expansions. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 383–404. (Zhi-Dong Bai) **98f:60038** 60F05 (62E20)

Ghosh, Bijoy K. (*with* Wang, Hai Yan[2]) A new robust control for a class of uncertain discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1252–1254. (Summary) **98d:93037** 93B35 (93C55)

Ghosh, D. K. *see* **Ghosh, Dilip Kumar**

Ghosh, D. P. (*with* Acharyya, S. K.; Chattopadhyay, K. C.) On a class of subalgebras of $C(X)$ and the intersection of their free maximal ideals. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 2, 611–615. (Donald Plank) **98a:54012** 54C40 (46E25, 46J10)

Ghosh, Debashis (*with* Godbole, Anant P.) Palindromes in random letter generation: Poisson approximations, rates of growth, and Erdős-Rényi laws. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 99–115, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Lars Holst) **98h:60012** 60C05 (60F15)

Ghosh, Dilip Kumar (*with* Patel, A. H.; Bagui, Subhash C.; Hemasinha, Rohan) Construction of balanced ternary designs and proper balanced $(m+1)$-ary designs. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 257–264. 62K10 (05B05)

— (*with* Thannippara, Alex; Bagui, Subhash C.) Some Latin squares type $L_t(n)$ designs. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 117–121. 62K10

Ghosh, Gautam (*with* Lahiri, Abhijit; Kar, T. K.) Action-angle variables in quantum mechanics. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 239–243. (Summary) **98m:81087** 81S99

Ghosh, J. C. (*with* De, U. C.) On a type of contact manifold. *Note Mat.* **14** (1994), *no.* 2, 155–160 (1997). (Domingo Chinea) **98d:53040** 53C15

— (*with* De, U. C.) On generalized pseudo-Ricci symmetric Sasakian manifolds. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 131–136 (1997). 53C25

— (*with* De, U. C.; Barua, B.) On pseudo-symmetric and pseudo-Ricci symmetric contact manifolds. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 305–310. 53C15

Ghosh, Jayanta K. (*with* Ramamoorthi, R. V.) Consistency of Bayesian inference for survival analysis with or without censoring. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 95–103, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G20 (62F15)

— On the proportion above sample mean for symmetric stable laws. (English summary) *Statistical theory and applications*, 37–41, *Springer, New York*, 1996. (J. Steinebach) **98i:60019** 60F05 (60E07, 62G30)

— (*with* Joshi, Shrikant N.; Mukhopadhyay, Chiranjit) Asymptotics of a Bayesian approach to estimating change-point in a hazard rate. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 12, 3147–3166. (Barbara H. Szyszkowicz) **98f:62093** 62G05 (62N05)

— (*with* Ghosal, Subhashis; Ramamoorthi, R. V.) Non-informative priors via sieves and packing numbers. (English summary) *Advances in statistical decision theory and applications*, 119–132, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Mohan Delampady) **98m:62069** 62F15 (62C10)

— *see also* **Rao, Calyampudi Radhakrishna, 98c:01050**

Ghosh, M. *see* **Ghosh, Malay**

Ghosh, M. K. *see* **Ghosh, Mrinal Kanti**

Ghosh, M. L. (*with* Mandal, S. C.; Pal, S. C.) Diffraction of elastic waves by four rigid strips embedded in an infinite orthotropic medium. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 1, 47–60. 73D25 (73B40)

Ghosh, Mabhin (*with* De, Mallika; Das, Debasish; Sinha, Bhabani P.) An efficient sorting algorithm on the multi-mesh network. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 10, 1132–1137. 68Q22

Ghosh, Malay (*with* Yang, Ming-Chung) Inconsistent MLE's for multiple-choice questionnaire Rasch models. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 2, 31–40. 62P15

— (*with* Baskin, Robert M.) On the robustness of Bayes estimators of the variance ratio in balanced one-way ANOVA models with covariates. (English summary) *Statistical theory and applications*, 217–231, *Springer, New York*, 1996. (Christine Hildegard Müller) **98j:62024** 62F15 (62F35, 62J10)

— (*with* Kim, Dal Ho) Bayes estimation of the finite population mean under heavy-tailed priors. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 181–195. (Summary) **98b:62011** 62D05 (62F15)

— Some examples of nonidentifiable improper posteriors. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 111–118, vi. (Mohan Delampady) **98h:62034** 62F15

— (*with* Mukhopadhyay, Nitis; Sen, Pranab Kumar[1]) ★ Sequential estimation. (English summary) Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+480 *pp. ISBN* 0-471-81271-4 (M. Hušková) **98e:62116** 62L12

— (*with* Meeden, G.) ★ Bayesian methods for finite population sampling. (English summary) Monographs on Statistics and Applied Probability, 79. *Chapman & Hall, London*, 1997. x+289 *pp. ISBN* 0-412-98771-6 (Khursheed Alam) **98m:62021** 62D05 (62C10, 62C12, 62F15)

— (*with* Natarajan, Kannan; Stroud, T. W. F.; Carlin, Bradley P.) Generalized linear models for small-area estimation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 273–282. (Summary) **98m:62203** 62J12 (62F15)

Ghosh, Mrinal K. (*with* Basak, Gopal K.; Bisi, Arnab) Limit theorems for random degenerate diffusions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 211–222. (*see* **98i:00027**) 60F05 (60J60)

— (*with* Arapostathis, Aristotle; Marcus, Steven I.) Ergodic control of switching diffusions. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1952–1988. (Sergey V. Lototsky) **98j:93086** 93E20 (35J45, 60J60)

— (*with* Basak, Gopal K.; Bisi, Arnab) Controlled random degenerate diffusions under long-run average cost. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 121–140. (Summary) **98i:93086** 93E20 (49J55, 49L25, 60J10)

— (*with* Marcus, Steven I.) Stochastic differential games with multiple modes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 91–105. (E. N. Barron) **98m:93109** 93E10 (90D25)

Ghosh, Mrinal Kanti (*with* Debnath, Lokenath) Convergence of Ishikawa iterates of generalized nonexpansive mappings. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 517–520. (B. E. Rhoades) **98d:47136** 47H10

— (*with* Debnath, Lokenath) Convergence of Ishikawa iterates of quasi-nonexpansive mappings. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 96–103. (Charles Ejike Chidume) **98c:47065** 47H09 (47H10, 47H17)

Ghosh, Nilotpal (*with* Hager, William W.; Sarmah, Purandar) The application of eigenpair stability to block diagonalization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1255–1268. (Summary) **98a:65049** 65F15 (65F35)

Ghosh, Pijush Kanti Calogero-Sutherland type models in higher dimensions. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 203–207. (Kazuhiro Hikami) **98e:81205** 81V70

Ghosh, Ratna (*with* Sen, Siddhartha[2]; Datta, Kanti B.) Block bialternate sum with applications to computation of stability bounds. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 445–461. (Zoran Gajic) **98j:93064** 93D09 (93C70)

Ghosh, S. *see* **Ghosh, Subrata**

Ghosh, S. K. *see* **Ghosh, Subir Kumar**

Ghosh, Shamik (*with* Mukherjee, T. K.; Sen, Mridul Kanti) On left p-Euclidean semirings. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 101–106. (Udo Hebisch) **98d:16060** 16Y60

— Fuzzy k-ideals of semirings. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 103–108. 16Y60

Ghosh, Sibasish (*with* Kar, Guruprasad) Hardy's nonlocality for two spin-s particles. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 191–195. 81P10

Ghosh, Subir (*with* Banerjee, Narayan; Banerjee, Rabin) Non-abelian bosonisation in three-dimensional field theory. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 421–430. (Javier Borlaf González) **98b:81137** 81T13

— (*with* Lai, Chinglin) Measuring influence of observations in prediction and estimation for central composite designs. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 233–257. (Summary) **98k:62126** 62J10

Ghosh, Subir Kumar (*with* Dey, Tamal Krishna; Dillencourt, Michael B.; Cahill, Jason M.) Triangulating with high connectivity. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 39–56. (Summary) **98c:65214** 65Y25

— (*with* Saluja, Sanjeev) Optimal on-line algorithms for walking with minimum number of turns in unknown streets. (English summary) *Comput. Geom.* **8** (1997), *no.* 5, 241–266. (Ruth Silverman) **98j:68162** 68U05

— On recognizing and characterizing visibility graphs of simple polygons. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 2, 143–162. (Summary) **98g:68168** 68U05 (05C85, 52B55)

Ghosh, Subrata (*with* Mahanti, A.; Nau, D. S.; Pal, Asim Kumar; Kanal, L. N.) On the asymptotic performance of IDA*. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 161–193. (Florica Luban) **98i:68250** 68T20

Ghosh, Sujit K. (*with* Dey, Dipak K.; Lou, Kou-Ren) On local sensitivity measures in Bayesian analysis. (English summary) With a discussion by Isabella Verdinelli and rejoinder by the authors. *Bayesian robustness (Rimini, 1995)*, 21–39, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98i:62001** 62A15 (62F15)

Ghosh, Tulika (*with* Das, Gokulananda) Saturation theorems by matrix transformation. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 9–28. (Y. Sitaraman) **98i:41039** 41A40 (42A24)

Ghoshal, Debashis (*with* Förste, Stefan; Panda, Sudhakar) An orientifold of the solitonic fivebrane. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 46–52. (Summary) **98j:81268** 81T30

Ghoudi, K. (*with* McDonald, David R.) A nonparametric test for homogeneity: applications to parameter estimation. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 149–156, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G10 (62J02)

el-Ghoul, M. *see* **El-Ghoul, M.**

Ghoussoub, Nassif A note on the multiplicity of surfaces with prescribed constant mean curvature. *Partial differential equations and their applications (Toronto, ON, 1995)*, 135–144, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Gabriella Tarantello) **98j:58033** 58E12 (35J60, 53A10, 58E05)

Ghrist, Robert W. (*with* Holmes, Philip J.; Sullivan, Michael C.) ★ Knots and links in three-dimensional flows. Lecture Notes in Mathematics, 1654. *Springer-Verlag, Berlin*, 1997. x+208 *pp. ISBN* 3-540-62628-X (J. S. Birman) **98i:58199** 58F25 (57M25)

— Branched two-manifolds supporting all links. (English summary) *Topology* **36** (1997), *no.* 2, 423–448. (Dončo Dimovski) **98b:57009** 57M25 (58F05, 58F25)

Ghusayni, Badih Products and sums with applications. (English summary) *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 90–94. (Ognian Trifonov) **98g:11104** 11N05

— Entire functions of order one and infinite type. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 20–27. 30D15

Ghys, Étienne Feuilletages holomorphes de codimension un sur les espaces homogènes complexes. (English and French summaries) [Codimension-one holomorphic foliations on complex homogeneous spaces] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 493–519. (M. G. Soares) **98d:32037** 32L30 (57R30)

— Sur l'uniformisation des laminations paraboliques. [On the uniformization of parabolic laminations] *Integrable systems and foliations/Feuilletages et systèmes intégrables (Montpellier, 1995)*, 73–91, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Lee Mosher) **98e:57040** 57R30 (30F10, 53C12, 58F18)

— (*with* Cairns, Grant) The local linearization problem for smooth SL(n)-actions. (English and French summaries) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 133–171. (Michel Nguiffo B. Boyom) **98i:57067** 57S20 (57S25)

— (*with* Gambaudo, Jean-Marc) Enlacements asymptotiques. [Asymptotic links] *Topology* **36** (1997), *no.* 6, 1355–1379. (V. M. Zakalyukin) **98f:57050** 57R25 (57R15, 57R30, 58F18)

Ghysels, Eric (*with* Hall, Alastair; Lee, Hahn Shik) On periodic structures and testing for seasonal unit roots. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436,

1551–1559. (Zuzana Prášková) **98c:62169** 62M10 (62E20)
— Seasonal adjustment and other data transformations. (English summary) *J. Bus. Econom. Statist.* **15** (1997), *no.* 4, 410–418. 62M10 (62P20)
— (*with* Guay, Alain; Hall, Alastair) Predictive tests for structural change with unknown breakpoint. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 209–233. (Summary) **98m:62302** 62P20
Giacardi, Livia (*with* Roero, C. S.; Viola, C.) Lagrange's contributions to number theory. (Italian. English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 151–181. (H. Lausch) **98i:01012** 01A50 (11–03)
— (*with* Calleri, Paola) The letters of Giuseppe Battaglini to Jules Hoüel (1867–1878). The spread of non-Euclidean geometry in Italy. (Italian) *Riv. Stor. Sci.* (2) **3** (1995), *no.* 1, 125–206 (1996). (Umberto Bottazzini) **98k:01009** 01A55
Giaccio, Roberto (*with* Franciosa, Paolo Giulio; Frigioni, Daniele) Semi-dynamic shortest paths and breadth-first search in digraphs. (English summary) *STACS* 97 (*Lübeck*), 33–46, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68024** 68P05 (68R10)
Giachetta, Giovanni (*with* Mangiarotti, Luigi) Affine theories of gravitation with torsion. (English summary) *Gravity, particles and space-time*, 255–266, *World Sci. Publishing, River Edge, NJ*, 1996. (Hans P. Künzle) **98d:83075** 83D05
— (*with* Sardanashvili, G. A.) Energy-momentum superpotential in gravitation theory. (English summary) *Gravity, particles and space-time*, 471–506, *World Sci. Publishing, River Edge, NJ*, 1996. (Hans P. Künzle) **98d:83028** 83C40 (58E50)
— (*with* Mangiarotti, Luigi) Projective invariance and Einstein's equations. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 1, 5–18. (Geoffrey Prince) **98b:83076** 83D05 (83C05)
— (*with* Mangiarotti, Luigi) Dirac equation in metric-affine gravitation theories and superpotentials. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 1, 125–141. (Marco Modugno) **98g:83024** 83C40 (58E30, 70G50, 83D05)
— (*with* Giambó, R.; Mangiarotti, Luigi) Conservation laws in metric-affine gravitation theories: superpotentials. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 8, 1163–1174. (Alberto Saa Vazquez) **98h:83071** 83D05 (83C40)
Giachetti, Riccardo (*with* Bonechi, F.; Celeghini, Enrico; Tarlini, M.; Sorace, E.) Physical applications of inhomogeneous quantum groups. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1265–1272. (Marcelo R. Ubriaco) **98i:81100** 81R50 (17B37, 81V70)
— (*with* Bonechi, F.; Sorace, E.; Tarlini, M.) The $*$-product quantization of the Heisenberg group. *Quantum groups and their applications in physics* (*Varenna*, 1994), 581–593, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (From the introduction) **98a:58074** 58F06 (81R50, 81S10)
— (*with* Bonechi, F.; Del Olmo, Mariano A.; Sorace, E.; Tarlini, M.) Quantum homogeneous spaces and special functions with a dimensional deformation parameter. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7973–7982. (Jan Sobczyk) **98j:81140** 81R50 (33D80)
Giachetti, Ronald E. (*with* Young, Robert E.) Analysis of the error in the standard approximation used for multiplication of triangular and trapezoidal fuzzy numbers and the development of a new approximation. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 1–13. (Summary) **98h:04005** 04A72
— (*with* Young, Robert E.) A parametric representation of fuzzy numbers and their arithmetic operators. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 185–202. (Summary) **98h:04006** 04A72
Giachini, Luigi (*with* Babaoğlu, Özalp; Davoli, Renzo; Sabattini, Paolo) The inherent cost of strong-partial view-synchronous communication. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 72–86, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15)
Giacobazzi, Lorena Determinantal representation of a class of surfaces. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 167–178. (D.-M. Popescu) **98g:14062** 14M12 (14J25)
Giacobazzi, Roberto (*with* Ranzato, Francesco) Complementing logic program semantics. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 238–253, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17 (68N20, 68Q55)
— "Optimal" collecting semantics for analysis in a hierarchy of logic program semantics. (English summary) *STACS* 96 (*Grenoble*, 1996), 503–514, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68N17 (68Q55)
— (*with* Ranzato, Francesco) Refining and compressing abstract domains. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 771–781, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60 (68Q55)
Giacometti, A. (*with* Maritan, A.; Banavar, J. R.; Cieplak, M.; Colaiori, F.; Flammini, A.; Rinaldo, A.; Rodriguez-Iturbe, I.) Statistical mechanics of river networks. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 262–270, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 86A05 (82–02, 82B99)
Giacomin, Giambattista (*with* Lebowitz, Joel L.) Phase segregation dynamics in particle systems with long range interactions. I. Macroscopic limits. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 37–61. (Rossana Marra) **98m:82053** 82C24 (82C22)
Giacomini, Hector (*with* Neukirch, Sébastien) Number of limit cycles of the Liénard equation. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3809–3813. (Summary) **98f:34035** 34C05 (34A45)
— (*with* Chavarriga, Javier; Giné, Jaume) The null divergence factor. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 41–56. (Douglas S. Shafer) **98d:34049** 34C05 (34A05)
Giacomini, Robert (*with* Bomze, Immanuel M.; Pelillo, Marcello) Evolutionary approach to the maximum clique problem: empirical evidence on a larger scale. (English summary) *Developments in global optimization* (*Szeged*, 1995), 95–108, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C27 (90C35)
de Giacomo, Giuseppe *see* **De Giacomo, Giuseppe**
Giakoumakis, Vassilis (*with* Vanherpe, Jean-Marie) Bi-complement reducible graphs. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 4, 389–402. (L. W. Beineke) **98c:05138** 05C75
— (*with* Rusu, Irena) Weighted parameters in $(P_5, \overline{P}_5)$-free graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 255–261. (Summary) **98h:05167** 05C85
— (*with* Fouquet, Jean-Luc) On semi-P_4-sparse graphs. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 277–300. (Chinh T. Hoang) **98d:05053** 05C15 (05C35)
— (*with* Roussel, F.; Thuillier, H.) Scattering number and modular decomposition. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 321–342. (Chinh T. Hoang) **98d:05082** 05C38 (05C45)
— (*with* Vanherpe, Jean-Marie) On extended P_4-reducible and extended P_4-sparse graphs. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 269–286. (Chinh T. Hoang) **98d:05054** 05C15 (68Q25, 68R10)
Gialdini, Ilaria (*with* Micheletti, Alessandra) Geometrical interpretation of the mean content of n-interfaces in a Johnson-Mehl tessellation of $\mathbf{R}^d$. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 173–178. (George E. Martin) **98m:60015** 60D05 (52C22, 60G55, 62F99)
Giambanco, Giuseppe (*with* Di Gati, Leonardo) A cohesive interface model for the structural mechanics of block masonry. *Mech. Res. Comm.* **24** (1997), *no.* 5, 503–512. (From the text) **98h:73048** 73E99 (73K99)
Giambó, R. (*with* Giachetta, Giovanni; Mangiarotti, Luigi) Conservation laws in metric-affine gravitation theories: superpotentials. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 8, 1163–1174. (Alberto Saa Vazquez) **98h:83071** 83D05 (83C40)
Giambruno, Antonio (*with* Berele, Allan; Regev, Amitai) Involution codimensions and trace codimensions of matrices are asymptotically equal. (English summary) *Israel J. Math.* **96** (1996), *part A*, 49–62. (Andrej A. Zolotykh) **98h:16023** 16R20 (15A24, 16R30, 16W10)
— (*with* Bakhturin, Yu. A.; Zaĭtsev, M. V.) Symmetric identities in graded algebras. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 461–464. (Amitai Regev) **98j:16015** 16R10 (16W50)
— On permutations of class sums of alternating groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2327–2331. (Summary) **98c:20030** 20D06 (20C05)
Giammarresi, Dora Finite state recognizability for two-dimensional languages: a brief survey. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 299–308, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q68 (68Q45)
— (*with* Mantaci, Sabrina; Mignosi, Filippo; Restivo, Antonio) Congruences, automata and periodicities. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 125–135, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:68082** 68Q45 (68R15)
— (*with* Restivo, Antonio) Two-dimensional languages. *Handbook of formal languages, Vol.* 3, 215–267, *Springer, Berlin*, 1997. (Rani Siromoney) **98g:68083** 68Q45 (03D05)
di Gianantonio, Pietro *see* **Di Gianantonio, Pietro**
Gianazza, Ugo Meyer estimate for Dirichlet forms. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 1, 147–151 (1995). (Fabio Cipriani) **98e:31008** 31C25 (35J20)
— (*with* Vespri, Vincenzo) Generation of analytic semigroups by degenerate elliptic operators. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 3, 305–324. (Gabriele Grillo) **98d:47101** 47F05 (35J70, 47D06)
Giancarlo, Raffaele (*with* Grossi, Roberto) On the construction of classes of suffix trees for square matrices: algorithms and applications. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 111–122, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68P05 (68P20)
— (*with* Grossi, Roberto) Multi-dimensional pattern matching with dimensional wildcards. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 90–101, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q20 (68Q25)
— (*with* Grossi, Roberto) On the construction of classes of suffix trees for square matrices: algorithms and applications. (English summary) *Inform. and Comput.* **130** (1996), *no.* 2, 151–182. (Summary) **98i:68059** 68P05
— (*with* Grossi, Roberto) Multi-dimensional pattern matching with dimensional wildcards: data structures and optimal on-line search algorithms. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 223–265. (D. M. Campbell) **98i:68111** 68Q20 (68Q25)
Giancella, Gian Mario (*with* Čerin, Zvonko) Tameness and movability in proper shape theory. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 57–68, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54033** 54C56 (54F45)
dăng vũ Giang *see* **Đăng Vũ Giang**
Giang, D. V. *see* **Đăng Vũ Giang**
Giang, Dang Vu *see* **Đăng Vũ Giang**
Giani, Guido (*with* Straßburger, Klaus) Optimum partition procedures for separating good and bad treatments. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 291–298. (D. Y. Huang) **98g:62038** 62F07
Giannakis, Ioannis (*with* Evans, Mark) T-duality in arbitrary string backgrounds. (English summary) *Nuclear Phys. B* **472** (1996), *no.* 1-2, 139–162. (Masoud Alimohammadi) **98c:81163** 81T30 (81T40, 83E30)
— $O(d, d, \mathbf{Z})$ transformations as automorphisms of the operator algebra. (English summary) *Phys. Lett. B* **388** (1996), *no.* 3, 543–549. (Javier Borlaf González) **98b:81191** 81T30 (81T40)
— Symmetries of 2-D gravity. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 15–20. (Summary) **98c:81199** 81T40
— (*with* Bagger, Jonathan A.) Higgs mechanism in string theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2317–2322. (Summary) **98g:81149** 81T30
Giannakopoulos, P. K. (*with* Katsikas, Sokratis K.) Partitioning nonlinear filters for non-Gaussian initial conditions and correlated noises. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2397–2407. (*see* **98i:00030**) 94A12
Giannakoulias, Efstathios Applications of bases to vector measures. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 2, 207–219. (Summary) **98b:28018** 28B05 (46G10)
Giannessi, L. (*with* Dattoli, Giuseppe; Ottaviani, P. L.; Quattromini, M.; Torre, Amalia) Symmetric split disentanglement, symplectic integrators and evolution problems. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 4, 531–541. (Summary) **98h:65035** 65L99 (58F05, 70–08, 70H05)

— (*with* Dattoli, Giuseppe; Quattromini, M.; Torre, Amalia) Symmetric decomposition of exponential operators and evolution problems. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 129–142. 81V80 (70–08)

Gianni, P. (*with* Trager, B.) Square-free algorithms in positive characteristic. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 1–14. (A. Pethő) **98j:13024** 13P05 (12Y05)

Gianni, Roberto (*with* Andreucci, Daniele; Fasano, Antonio; Primicerio, M.; Ricci, Riccardo) Diffusion driven crystallization in polymers. *Free boundary problems, theory and applications* (*Zakopane*, 1995), 359–367, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 82D60 (35R35)

— (*with* Ricci, Riccardo) An elliptic-parabolic problem in Bingham fluid motion. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 247–261 (1997). (Renuka Ravindran) **98g:76001** 76A05 (35Q35)

— (*with* Chadam, John; Chen, Xinfu; Ricci, Riccardo) A reaction infiltration problem: classical solutions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 275–291. (Siegfried Carl) **98g:35103** 35K57 (35M10, 76S05)

Giannini, Massimo (*with* Cannarsa, Piermarco; Tessitore, Maria Elisabetta) Dynamic optimization and foward looking processes. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 49–66. (Laura Gardini) **98k:90161** 90D25 (49K45, 93E20)

Giannini, Paola (*with* Coppo, Mario; Damiani, Ferruccio) On strictness and totality. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 138–164, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (Summary) **98k:68030** 68N15 (03B70)

— (*with* Damiani, Ferruccio) An inference algorithm for strictness. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 129–146, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98g:68016** 68N15 (68N20)

Giannitrapani, R. (*with* Fabri, Elio) Combinatorial tools for Regge calculus. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 311–315, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C27

— Positive-operator-valued time observable in quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1575–1584. (S. Gudder) **98g:81010** 81P05 (81S05)

Giannoni, Fabio (*with* Masiello, Antonio; Piccione, Paolo) A variational theory for light rays on Lorentz manifolds. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1093–1098. (Anna Germinario) **98e:58048** 58E10

— (*with* Masiello, Antonio; Piccione, Paolo) A variational theory for light rays in stably causal Lorentzian manifolds: regularity and multiplicity results. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 375–415. (Maria Letizia Bertotti) **98e:58049** 58E10 (53C22, 53C50)

— (*with* Majer, Pietro) On the effect of the domain on the number of orthogonal geodesic chords. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 341–364. (Anna Germinario) **98k:58054** 58E10 (58E05)

— A timelike extension of Fermat's principle in general relativity. Comparisons with the lightlike case. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 759–766. (Paolo Piccione) **98j:58029** 58E10 (53C22)

Giannopoulos, Apostolos A. (*with* Milman, Vitali D.) How small can the intersection of a few rotations of a symmetric convex body be? (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 389–394. (Keith Ball) **98e:52003** 52A20

— (*with* Milman, Vitali D.) Low M^*-estimates on coordinate subspaces. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 457–484. (Wolfgang Lusky) **98f:46007** 46B07 (46B09, 52A21)

Giannotti, Cristina Maximin elliptic operators. (Italian. English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 169–185 (1997). (Summary) **98e:35069** 35J65 (34B15, 35J25)

Giannotti, Fosca (*with* Greco, Sergio; Saccà, Domenico; Zaniolo, Carlo) Programming with non-determinism in deductive databases. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 97–125. (Summary) **98a:68044** 68P15 (68N17)

Gianvittorio, R. (*with* Martin, I.; Restuccia, A.) BRST formulation of 4-monopoles. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 11, 2887–2898. (Bai-Ling Wang) **98b:81264** 81T70 (58D29)

— (*with* Martin, I.; Restuccia, A.) On the gauge invariant Lagrangian for Seiberg-Witten topological monopoles. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 1, 51–58. (Bai-Ling Wang) **98b:58030** 58D29 (53C07, 57R57, 81T70)

tran ngoc Giao *see* **Tran Ngoc Giao**

Giaquinta, Mariano (*with* Hildebrandt, Stefan) ★ Calculus of variations. I. The Lagrangian formalism. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 310. *Springer-Verlag, Berlin*, 1996. xxx+474 *pp. ISBN* 3-540-50625-X (T. Zolezzi) **98b:49002a** 49–02 (35F20, 49K10, 58E30, 70H25)

— (*with* Hildebrandt, Stefan) ★ Calculus of variations. II. The Hamiltonian formalism. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 311. *Springer-Verlag, Berlin*, 1996. xxx+652 *pp. ISBN* 3-540-57961-3 (T. Zolezzi) **98b:49002b** 49–02 (35F20, 49K10, 58E30, 70H25)

— Cartesian currents in the calculus of variations. *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. VIII*, 8 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 49Q20 (58E30)

— (*with* Modica, G.; Souček, Jiří) Composition of weak diffeomorphisms. *Math. Z.* **224** (1997), *no.* 3, 385–402. (L. Ambrosio (Zbl 874.49039)) **98m:49057** 49Q15 (26B05, 46G05, 49J52, 58C15)

— (*with* Modica, G.; Souček, Jiří) Some regularity properties of locally weakly invertible maps. *Nonlinear analysis and continuum mechanics* (*Ferrara*, 1992), 45–59, *Springer, New York*, 1998. (Martin Fuchs) **98m:49055** 49N60 (26B35)

Giaquinto, A. (*with* Gerstenhaber, Murray) Boundary solutions of the classical Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 337–353. (Henrik Johannesson) **98h:17014** 17B37 (81R50, 82B23)

osama el Giar, M. *see* **Osama El Giar, M.**

Giardina, Irene (*with* Rimini, Alberto) On the existence of inequivalent quasideterministic domains. (English summary) *Found. Phys.* **26** (1996), *no.* 8, 973–987. (Oliver Rudolph) **98f:81043** 81P99

— (*with* Cavagna, Andrea; Parisi, Giorgio) Structure of metastable states in spin glasses by means of a three replica potential. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4449–4466. 82D30

— (*with* Cavagna, Andrea; Parisi, Giorgio) An investigation of the hidden structure of states in a mean-field spin-glass model. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7021–7038. 82D30 (82B10)

— (*with* Cavagna, Andrea; Parisi, Giorgio) Corrigenda: "An investigation of the hidden structure of states in a mean-field spin-glass model" [J. Phys. A **30** (1997), no. 20, 7021–7038]. *J. Phys. A* **31** (1998), *no.* 13, 3115. 82D30 (82B10)

Giaretta, Pierdaniele Analysis and logical form in Russell: the 1913 paradigm. (English summary) *Dialectica* **51** (1997), *no.* 4, 273–293. 03A05 (01A60, 03–01)

Giaro, Krzysztof The complexity of consecutive Δ-coloring of bipartite graphs: 4 is easy, 5 is hard. (English summary) *Ars Combin.* **47** (1997), 287–298. (Summary) **98h:05168** 05C85 (05C15)

— (*with* Kubale, Marek) Consecutive edge-colorings of complete and incomplete Cartesian products of graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 143–149. (Summary) **98i:05074** 05C15

Giarré, L. (*with* Milanese, Mario) Model quality evaluation in H_2 identification. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 691–698. (Summary) **98d:93035** 93B30 (93B36)

Gibbens, R. J. (*with* Bean, N. G.; Zachary, S.) Dynamic and equilibrium behavior of controlled loss networks. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 873–885. (Summary) **98g:60160** 60K25 (60F15, 60J27, 60K30)

Gibbins, Daniel (*with* Chojnacki, Wojciech; Brooks, Michael J.) Can the sun's direction be estimated from an image prior to the computation of object shape? (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 2, 139–147. (Summary) **98a:68186** 68U10 (35R30)

Gibbon, J. D. Dimensions of attractors and small length scales in solutions of the two- and three-dimensional Navier-Stokes equations. (English summary) *Nonlinear instability analysis*, 1–41, *Adv. Fluid Mech.*, 12, *Comput. Mech., Southampton*, 1997. (Summary) **98g:76022** 76D05 (35B99, 35Q30, 47H20, 58F39, 76E15, 76E30)

— (*with* Galanti, B.; Heritage, M.) Vorticity alignment results for the three-dimensional Euler and Navier-Stokes equations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1675–1694. (Summary) **98j:76023** 76D05 (35Q30, 76F05)

— (*with* Heritage, M.) Angular dependence and growth of vorticity in the three-dimensional Euler equations. (English summary) *Phys. Fluids* **9** (1997), *no.* 4, 901–909. (Summary) **98b:76021** 76C99 (35Q05, 76F99, 76N10)

Gibbon, Paul (*with* Pfalzner, Susanne) ★ Many-body tree methods in physics. (English summary) *Cambridge University Press, Cambridge*, 1996. x+168 *pp. ISBN* 0-521-49564-4 (Sergei A. Nemnyugin) **98b:82078** 82C80 (82–01, 82–08)

Gibbons, Alan (*with* Amos, Martyn; Hodgson, David) Models of DNA computation. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 18–36, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68071** 68Q05 (92B99, 92D20)

— (*with* Díaz, Josep; Pantziou, Grammati E.; Serna, Maria J.; Spirakis, Paul G.; Toran, Jacobo) Parallel algorithms for the minimum cut and the minimum length tree layout problems. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 267–287. (Summary) **98e:68089** 68Q22 (68Q25, 68Q35)

Gibbons, Gary W. Collapsing shells and the isoperimetric inequality for black holes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2905–2915. (János Kánnár) **98j:83056** 83C57 (53C80)

— (*with* Rychenkova, P.; Goto, R.) Hyper-Kähler quotient construction of BPS monopole moduli spaces. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 581–599. (Andrew Swann) **98m:53064** 53C25 (53C07, 58D27, 81T13)

— (*with* Gauntlett, Jerome P.; Papadopoulos, George J.; Townsend, Paul K.) Hyper-Kähler manifolds and multiply intersecting branes. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 133–162. (Krzysztof Galicki) **98k:81264** 81T60 (53C25, 53C80, 81T30, 83E30, 83E50)

— The Sen conjecture for distinct fundamental monopoles. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 97–104. (Summary) **98j:58024** 58D27 (53C07, 81T13)

— (*with* Chamblin, Andrew) Nucleating black holes via nonorientable instantons. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 2177–2185. (Charles G. Torre) **98a:83076** 83C57 (83C45)

— (*with* Chamseddine, Ali H.; Ferrara, Sergio; Kallosh, Renata) Enhancement of supersymmetry near a 5D black hole horizon. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3647–3653. (Summary) **98d:83049** 83C57 (83E30)

Gibbons, Jeremy An initial-algebra approach to directed acyclic graphs. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 282–303, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q65 (68R10)

Gibbons, Luana E. (*with* Hearn, Donald W.; Pardalos, Panos M.; Ramana, Motakuri V.) Continuous characterizations of the maximum clique problem. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 754–768. (Horst W. Hamacher) **98h:90061** 90C27

Gibbons, Phillip B. (*with* Matias, Yossi; Ramachandran, Vijaya) Efficient low-contention parallel algorithms. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 417–442. (Wojciech Rytter) **98e:68090** 68Q22 (68Q05)

— (*with* Korach, Ephraim) Testing shared memories. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1209–1244. (Behrooz Parhami) **98g:68013** 68M15 (68M07, 68Q22, 68Q55)

— (*with* Calude, Cristian; Casti, John L.; Lipponen, Marjo) Unconventional models of computation: a conventional report. *Complexity* **3** (1998), *no.* 4, 8–11. 68Q05

Giberti, C. (*with* Bunimovich, Leonid A.; Franceschini, V.; Vernia, C.) On stability of structures and patterns in extended systems. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 412–418. (Volker Matthias Gundlach) **98d:58098** 58F10 (34D30)

Gibiansky, L. V. (*with* Cherkaev, A. V.) Design of composite plates of extremal rigidity. (English summary) *Topics in the mathematical modelling of composite materials*, 95–137, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73K40 (73K10, 73K20)

— (*with* Cherkaev, A. V.) Microstructures of composites of extremal rigidity and exact bounds on the associated energy density. (English summary) *Topics in the mathematical modelling of composite materials*, 273–317, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73B27 (73K20, 73S10)
— (*with* Torquato, S.) Thermal expansion of isotropic multiphase composites and polycrystals. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 7, 1223–1252. (Summary) **98d:73004** 73B27 (73B30, 73K20, 73V25)
Giblin, P. J. (*with* Bruce, J. W.; Tari, F.) Families of surfaces: height functions, Gauss maps and duals. *Real and complex singularities* (*São Carlos*, 1994), 148–178, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Maria Carmen Romero-Fuster) **98m:57037** 57R45 (58C27)
Giblin, R. A. (*with* Compton, D. J.; Radmore, P. M.) A stochastic model of the dynamics of an ensemble of spheres. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1717–1731. (Summary) **98f:76044** 76G25 (76M35, 82C40)
Gibson, C. G. (*with* Hobbs, C. A.; Marar, W. L.) On versal unfoldings of singularities for general two-dimensional spatial motions. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 221–242. (Paulo Ferreira da Silva Porto, Jr.) **98e:58027** 58C27 (70B15)
Gibson, Gavin J. (*with* Hassell Sweatman, Catherine Z. W.; Mulgrew, Bernard) A constructive algorithm for neural network design with application to channel equalization. *Applications of combinatorial mathematics* (*Oxford*, 1994), 79–93, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (*see* **98d:00014**) 92B20
Gibson, Glenn A. (*with* Kosheleva, Olga; Cabrera, Sergio D.; Kosheley, Misha) Fast implementations of fuzzy arithmetic operations using fast Fourier transform (FFT). (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 269–277. (Summary) **98g:04011** 04A72
Gibson, Richard G. (*with* Natkaniec, Tomasz) Darboux like functions. *Real Anal. Exchange* **22** (1996/97), *no.* 2, 492–533. (Jack B. Brown) **98h:26004** 26A15 (26A21, 54C30)
Gidas, Basilis Metropolis-type Monte Carlo simulation algorithms and simulated annealing. (English summary) *Topics in contemporary probability and its applications*, 159–232, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1995. (Dominique Lépingle) **98b:60128** 60J27 (65C05)
Giddings, Steven B. Scattering ripples from branes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6367–6373. (Summary) **98d:81082** 81T30
Giegerich, R. (*with* Kurtz, Stefan) From Ukkonen to McCreight and Weiner: a unifying view of linear-time suffix tree construction. (English summary) *Algorithmica* **19** (1997), *no.* 3, 331–353. (Summary) **98d:68083** 68Q20 (68U15)
Gielerak, R. Towards the rigorous theory of phase transitions in continuous systems. (English summary) The nature of crystalline states (Kudowa-Zdrój, 1995). *Phys. A* **232** (1996), *no.* 3-4, 608–615. (A. L. Rebenko) **98d:82023** 82B26 (82B21)
Gielis, G. (*with* Maes, Christian) Local analyticity and bounds on the truncated correlation functions in disordered systems. (English summary) *Markov Process. Related Fields* **1** (1995), *no.* 4, 459–472. (Rossana Marra) **98b:82043** 82B44 (60K35, 82B43)
de Gier, Jan (*with* Kondev, Jané; Nienhuis, Bernard) Operator spectrum and exact exponents of the fully packed loop model. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6489–6504. (Azer Kerimov) **98a:82021** 82B20 (82B27)
— (*with* Nienhuis, Bernard) The exact solution of an octagonal rectangle-triangle random tiling. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 415–437. (Aernout C. D. van Enter) **98j:82019** 82B23 (82B44, 82D25)
— (*with* Nienhuis, Bernard) Integrability of the square-triangle random tiling model. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3926–3933. (Andrey V. Tsiganov) **98f:82048** 82B23 (82B20)
Gierès, François Supersymétrie et mathématiques. (French summary) [Supersymmetry and mathematics] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 23, 47 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 8, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (Daniel Hernández Ruipérez) **98c:58004** 58A50 (58G10, 81Q60, 81T60)
— (*with* Delduc, François; Gourmelen, Stéphane) $d = 2$, $N = 2$ superconformal symmetries and models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1623–1649. (Hamid Kachkachi) **98g:81204** 81T60 (81T40)
Giering, Ulrich (*with* Arnold, Anton) An analysis of the Marshak conditions for matching Boltzmann and Euler equations. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 557–577. (Anne Nouri) **98d:76142** 76N15 (35Q35, 76M25, 76P05, 82C40)
Giesbrecht, Mark Probabilistic computation of the Smith normal form of a sparse integer matrix. (English summary) *Algorithmic number theory* (*Talence*, 1996), 173–186, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Marc Deléglise) **98c:11021** 11C20 (11Y16, 15A21, 15A36, 68Q25)
Giesche, K. (*with* Gelbrich, G.) Fractal Escher salamanders and other animals. *Math. Intelligencer* **20** (1998), *no.* 2, 31–35. 00A69
Gieseler, U. D. J. (*with* Kirk, J. G.) Comment on: "Diffusion through a slab" [J. Math. Phys. **36** (1995), no. 12, 6758–6773; MR 96j:82040] by G. D. Mahan. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2751–2754. (Summary) **98c:82060** 82C40 (76P05, 82C70)
Gieser, Peter W. (*with* Randles, Ronald H.) A nonparametric test of independence between two vectors. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 561–567. (Summary) **98h:62101** 62H15 (62G10)
Giesl, Jürgen (*with* Arts, Thomas) Termination of constructor systems. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 63–77, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68133** 68Q42
— (*with* Arts, Thomas) Proving innermost normalisation automatically. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 157–171, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68Q42
— Termination of nested and mutually recursive algorithms. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 1, 1–29. (Summary) **98e:68167** 68Q60 (68N15, 68T15)
Giga, Mi-Ho (*with* Giga, Yoshikazu) Consistency in evolutions by crystalline curvature. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 186–202, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Summary) **98f:82096** 82C24 (35K55, 73B30)
— (*with* Giga, Yoshikazu) Geometric evolution by nonsmooth interfacial energy. (English summary) *Nonlinear analysis and applications* (*Warsaw*, 1994), 125–140, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 7, *Gakkōtosho, Tokyo*, 1996. (Sophia Demoulini) **98k:58055** 58E10 (35K55)
Giga, Yoshikazu (*with* Giga, Mi-Ho) Consistency in evolutions by crystalline curvature. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 186–202, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Summary) **98f:82096** 82C24 (35K55, 73B30)
— (*with* Giga, Mi-Ho) Geometric evolution by nonsmooth interfacial energy. (English summary) *Nonlinear analysis and applications* (*Warsaw*, 1994), 125–140, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 7, *Gakkōtosho, Tokyo*, 1996. (Sophia Demoulini) **98k:58055** 58E10 (35K55)
— (*with* Dohmen, Claus; Mizoguchi, Noriko) Existence of selfsimilar shrinking curves for anisotropic curvature flow equations. *Calc. Var. Partial Differential Equations* **4** (1996), *no.* 2, 103–119. (Zhi Ren Jin) **98b:35050** 35J60 (34B15, 34C25, 58E99)
— (*with* Chen, Yun-Gang; Sato, Koh) On instant extinction for very fast diffusion equations. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 243–250. (Mikhail Lavrentiev, Jr.) **98a:35071** 35K60 (35B40)
— Surprising diffusion processes. (Japanese) *Sūgaku* **49** (1997), *no.* 2, 193–196. 35Q30 (35Q35, 76D05)
— A level set method for surface evolution equations [translation of Sūgaku **47** (1995), no. 4, 321–340]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 2, 217–241. (*see* **98j:00014**) 53A05
— *see also* **Nonlinear waves, 98h:00031**
Gigena, Salvador Ordinary differential equations in affine geometry. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 119–151 (1997). (Florentino García Santos) **98g:53015** 53A15 (34A34, 34C11)
Giglio, Maria Cecília M. T. (*with* Lucchesi, Cláudio Leonardo) On the connection between the undirected and the acyclic directed two disjoint paths problem. (English summary) *Ars Combin.* **47** (1997), 191–200. (Summary) **98a:05118** 05C38 (05C20)
Gijbels, Irène (*with* Fan, Jianqing; Gasser, Theo; Brockmann, Michael; Engel, Joachim) Local polynomial regression: optimal kernels and asymptotic minimax efficiency. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 79–99. (Wolfgang Polonik) **98j:62030** 62G05 (62G20)
— (*with* Fan, Jianqing; King, Martin) Local likelihood and local partial likelihood in hazard regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1661–1690. (J. A. Melamed) **98f:62090** 62G05
— (*with* Carroll, Raymond J.; Fan, Jianqing; Wand, M. P.) Generalized partially linear single-index models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 477–489. (Summary) **98f:62215** 62J12
van Gijzen, M. B. (*with* Vreugdenhil, C. B.; Oksuzoglu, H.) The finite element discretization for stream-function problems on multiply connected domains. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 30–46. (Summary) **98k:76088** 76M10 (86–08, 86A05)
Gikhman, Iosif Il'ich *see* **Skorokhod, Anatolii Vladimirovich, 98g:01070**
Gil, Amparo (*with* Segura, Javier) Evaluation of Legendre functions of argument greater than one. (English summary) *Comput. Phys. Comm.* **105** (1997), *no.* 2-3, 273–283. (Summary) **98j:65013** 65D20 (33C05, 78A30)
Gil, Àngel J. (*with* Torrens Torrell, Antoni; Verdú, Ventura) On Gentzen systems associated with the finite linear MV-algebras. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 473–500. (Summary) **98d:03015** 03B22 (03G20)
alegre Gil, Carmen *see* **Alegre Gil, Carmen**
sanches-Gil, J. *see* **Sanches-Gil, J.**
Gil, J. B. (*with* Schulze, Bert-Wolfgang; Seiler, J.) Holomorphic operator-valued symbols for edge-degenerate pseudo-differential operators. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 113–137, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (G. V. Rozenblyum) **98e:47076** 47G30 (35S05, 47B35, 47D25, 58G15)
gómez Gil, Javier *see* **Gómez Gil, Javier**
Gil, Joseph (*with* Itai, Alon) Packing trees. (English summary) *Algorithms—ESA '95* (*Corfu*), 113–127, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68N20 (68Q25)
— (*with* Meyer auf der Heide, Friedhelm; Wigderson, Avi) The tree model for hashing: lower and upper bounds. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 5, 936–955. (Summary) **98g:68028** 68P10 (68P05, 68Q10, 68Q22)
fariña Gil, Juan Carlos *see* **Fariña Gil, Juan Carlos**
Gil, María Angeles (*with* Corral Blanco, Norberto; López-García, Hortensia) The fuzzy hyperbolic inequality index of fuzzy random variables in finite populations. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 329–339. (*see* **98g:00019**) 60E99 (04A72, 28E10)
— (*with* López-Díaz, Miguel) Constructive definitions of fuzzy random variables. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 135–143. 60E99 (28B20, 28E10, 60D05)
— (*with* López-Díaz, Miguel) Approximating integrably bounded fuzzy random variables in terms of the "generalized" Hausdorff metric. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 279–291. 60E99 (04A72)
— (*with* López-García, Hortensia; Corral Blanco, Norberto; López, María Teresa) Estimating the fuzzy inequality associated with a fuzzy random variable in random samplings from finite populations. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 149–161. 62D05 (04A72)
Gil, Michael Freezing method for evolution equations. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 245–256. (Paolo Acquistapace) **98m:47059** 47D06 (34K20, 35B35, 47N20)
— On exponential stability of nonlinear nonautonomous evolution equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 371–386. (Minkyu Kwak) **98h:34110** 34G20 (34D99, 35K22)
— (*with* Ailon, Amit; Ahn, Byung-Ha) A study on the time-response functions of robot models incorporating actuator dynamics with applications to estimator design. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 99–115. (Sauro Longhi) **98m:70005** 70B15 (70Q05, 93C85)
— On exponential stability of nonlinear systems with delaying argument. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 755–764. (Shu Nian Zhang) **98m:34152** 34K20
Gil, Omar (*with* Aronson, D. G.; Vazquez, Juan L.) Limit behaviour of focusing solutions to nonlinear diffusions. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 307–332. (Summary) **98j:35082** 35K55 (35B40, 76S05)

Giladi, Eldar (*with* Keller, Joseph B.) Iterative solution of elliptic problems by approximate factorization. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 287–313. (Juhani Pitkäranta) **98k:65028** 65J10 (65F10, 65N22)

Gilain, Christian Un chantier en cours depuis le début du siècle: l'édition complète des œuvres d'Euler. [A project under construction since the beginning of the century: the complete edition of the works of Euler] *Gaz. Math. No.* 74 (1997), 58–64. 01A99

Gil-Alaña, L. A. (*with* Robinson, Peter M.) Testing of unit root and other nonstationary hypotheses in macroeconomic time series. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 241–268. 62M10 (62P20)

Gilardi, Gianni (*with* Colli, Pierluigi; Grasselli, Maurizio) Global smooth solution to the standard phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 453–486. (Nobuyuki Kenmochi) **98d:45007** 45K05 (35K55, 73B30, 80A20)

— (*with* Colli, Pierluigi; Grasselli, Maurizio) Well-posedness of the weak formulation for the phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 487–508. (Nobuyuki Kenmochi) **98d:45008** 45K05 (35K55, 73B30, 80A20)

— (*with* Fernandes, Paolo) Magnetostatic and electrostatic problems in inhomogeneous anisotropic media with irregular boundary and mixed boundary conditions. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 957–991. (Valentin V. Lychagin) **98h:78006** 78A30 (35Q60)

— (*with* Colli, Pierluigi; Grasselli, Maurizio) Weak solution to hyperbolic Stefan problems with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 1, 123–132. (Renuka Ravindran) **98g:35220** 35R35 (35L99, 80A22)

Gilat, David (*with* Helmers, Roelof) On strong laws for generalized L-statistics with dependent data. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 187–192. (Manfred Denker) **98g:62096** 62G30 (28D05, 60F15, 60G10, 62G20)

Gilbert, Andrew D. (*with* Soward, A. M.; Childress, S.) A fast dynamo of $\alpha\omega$-type. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 3-4, 279–314. (Summary) **98f:76082** 76W05 (85A30)

— (*with* Bassom, Andrew P.) Nonlinear equilibration of a dynamo in a smooth helical flow. (English summary) *J. Fluid Mech.* **343** (1997), 375–406. (Manuel Núñez Jiménez) **98f:76079** 76W05 (76E25, 76M25)

Gilbert, Bryan (*with* Myrvold, Wendy) Maximizing spanning trees in almost complete graphs. (English summary) *Networks* **30** (1997), *no.* 1, 23–30. (Summary) **98e:05065** 05C35 (05C05)

— (*with* Myrvold, Wendy) Maximizing spanning trees in almost complete graphs. (English summary) *Networks* **30** (1997), *no.* 2, 97–104. (Md. Fazlee Hossain) **98i:05050** 05C05 (05C35)

Gilbert, David Roger (*with* Brim, Luboš; Jacquet, Jean-Marie; Křetínský, Mojmír) A process algebra for synchronous concurrent constraint programming. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 165–178, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q10 (68N17, 68T20)

Gilbert, E. N. (*with* Coffman, Edward G., Jr.; Flatto, Leopold; Greenberg, A. G.) An approximate model of processor communication rings under heavy load. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 61–67. (Summary) **98h:68015** 68M10

— (*with* Hwang, Frank K.) Constrained arrangements of objects in a cycle. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 361–370. (Martin Klazar) **98j:05008** 05A15

Gilbert, J. E. (*with* Kunze, R. A.; Meaney, C.) Derived intertwining norms for reducible spherical principal series. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 2, 171–188. (Takeshi Kawazoe) **98d:22008** 22E46 (22E30, 43A85)

Gilbert, Jean Charles On the realization of the Wolfe conditions in reduced quasi-Newton methods for equality constrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 780–813. (Thomas F. Coleman) **98i:90090** 90C30

Gilbert, John R. (*with* Ng, Esmond G.; Peyton, Barry W.) Separators and structure prediction in sparse orthogonal factorization. (English summary) *Linear Algebra Appl.* **262** (1997), 83–97. (Summary) **98c:65077** 65F50 (15A23)

Gilbert, N. D. Cockcroft complexes and the plus construction. (English summary) *Groups—Korea '94* (*Pusan*), 119–125, *de Gruyter, Berlin*, 1995. (Kalathoor Varadarajan) **98i:57004** 57M20 (19D06, 55Q05, 57M10)

Gilbert, Robert P. (*with* Xu, Yongzhi) The coefficient problem for a shallow ocean with an unknown inhomogeneity and an elastic seabed. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 77–86. 35R30 (35Q99, 73D50, 76Q05, 86A05)

— (*with* Shi, Peter) Nonisothermal, non-Newtonian Hele-Shaw flows. II. Asymptotics and existence of weak solutions. *Nonlinear Anal.* **27** (1996), *no.* 5, 539–559. (Leonid K. Antanovskiĭ) **98i:76006** 76A05 (35B40, 35D05, 35Q35, 76D08)

— (*with* Li, Ming Zhong) A class of nonlinear Riemann-Hilbert problems for the second order elliptic system. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 105–129. (A. P. Soldatov) **98f:35042** 35J55 (30E25)

— (*with* Lin, Zhongyan; Buchanan, J. L.) Direct and inverse problems in ocean acoustics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1535–1546. (*see* **98i:00029**) 76Q05 (76M25)

— (*with* Buchanan, J. L.) Transmission loss in the far field over a one-layer seabed assuming the Biot sediment model. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 121–135. (Summary) **98c:76094** 76Q05 (73D99, 73K70, 73N20, 86A99)

— (*with* Lin, Zhongyan) Acoustic field in a shallow, stratified ocean with a poro-elastic seabed. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 677–688. (Summary) **98d:76149** 76Q05 (86A05)

Gilbert, Thérèse (*with* Rouche, N.) Y a-t-il vraiment autant de nombres pairs que de naturels? [Are there really as many even numbers as natural numbers?] *Méthodes et analyse non standard*, 99–139, *Cahiers Centre Logique*, 9, *Acad.-Bruylant, Louvain-la-Neuve*, 1996. (*see* **98h:03084**) 03A05 (03H05, 11U99)

Gilbert, W. J. (*with* Allouche, Jean-Paul; Cateland, E.; Peitgen, Heinz-Otto; Shallit, Jeffrey O.; Skordev, Gencho) Automatic maps in exotic numeration systems. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 3, 285–331. (Véronique Bruyère) **98a:68114** 68Q45 (11B85)

Gilboa, Itzhak (*with* Chopra, Sunil; Sastry, S. Trilochan) Algorithms and extended formulations for one and two facility network design. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 44–57, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90154** 90C35 (90B10)

— (*with* Schmeidler, David) Cumulative utility consumer theory. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 737–761. (Summary) **98f:90014** 90A40 (90A10)

— (*with* Ben-Porath, Elchanan; Schmeidler, David) On the measurement of inequality under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 194–204. (Summary) **98d:90029** 90A09 (90D10)

Gilchrist, John (*with* Kriegsmann, Gregory A.; Papageorgiou, Demetrios T.) Stability of a microwave heated fluid layer. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 73–89. 76E15 (76R05)

Gilchrist, Martin (*with* Shelah, Saharon) Identities on cardinals less than $\aleph_{\omega_1}$. *J. Symbolic Logic* **61** (1996), *no.* 3, 780–787. (Pierre Matet) **98a:03073** 03E05 (03E10, 03E35)

Gilding, Brian H. (*with* Li, Shuanhu) The parameter dependence of the coefficient in a model for constant-pressure steam injection in soil. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 593–612. (Summary) **98b:76070** 76S05

Giles, David E. A. (*with* Ohtani, Kazuhiro; Giles, Judith A.) The exact risk performance of a pre-test estimator in a heteroskedastic linear regression model under the balanced loss function. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 119–130. (Summary) **98k:62120** 62J05 (62C15)

Giles, J. R. (*with* Sciffer, Scott) Fréchet directional differentiability and Fréchet differentiability. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 489–497. (A. B. Németh) **98a:58020** 58C20 (46G05)

— Comparable differentiability characterisations of two classes of Banach spaces. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 263–272. (Marián Fabian) **98j:46012** 46B20 (46B22, 46G05)

— (*with* Moors, Warren B.) Generic continuity of minimal set-valued mappings. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 238–262. (A. B. Németh) **98k:46076** 46G99 (46B20, 58C20)

Giles, Judith A. (*with* Ohtani, Kazuhiro) The density function and the MSE dominance of the pre-test estimator in a heteroscedastic linear regression model with omitted variables. (English summary) *Statist. Papers* **37** (1996), *no.* 4, 323–342. (Christiaan Heij) **98b:62125** 62J05 (62J10)

— (*with* Ohtani, Kazuhiro; Giles, David E. A.) The exact risk performance of a pre-test estimator in a heteroskedastic linear regression model under the balanced loss function. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 119–130. (Summary) **98k:62120** 62J05 (62C15)

Giles, Michael B. On the stability and convergence of discretization of initial value p.d.e.s. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 563–576. (Bruno Scheurer) **98j:65061** 65M12 (65L05, 65L07)

— Stability analysis of numerical interface conditions in fluid-structure thermal analysis. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 4, 421–436. (Summary) **98c:73064** 73K70 (73V20, 76M25)

— (*with* Pierce, Niles A.) Preconditioned multigrid methods for compressible flow calculations on stretched meshes. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 425–445. (Summary) **98h:76096** 76M20

— Progress in applied numerical analysis for computational fluid dynamics. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 1–25, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76Mxx (65Mxx)

Giles, Roscoe (*with* Beazley, David M.; Lomdahl, Peter S.; Grønbech-Jensen, Niels; Tamayo, Pablo) Parallel algorithms for short-range molecular dynamics. (English summary) *Annual reviews of computational physics, III*, 119–175, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98b:82075**) 82C80

Gilewicz, Jacek (*with* Ivanov, Ivan Velichkov; Kovacheva, Ralitza K.) Rational functions of best uniform approximation and holomorphic continuation of functions. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 1, 1–9. (A. Bultheel) **98d:41018** 41A20 (30E10)

— (*with* Pindor, Maciej) Padé approximants and noise: a case of geometric series. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 199–214. 41A21 (65D30)

Gilezan, Koriolan Generalized pseudo-Boolean functional equations with general coefficients and n-variables. (English summary) *Zb. Rad. Prirod.-Mat. Fak. Ser. Mat.* **25** (1995), *no.* 1, 121–128. (Witold Jarczyk) **98b:39025** 39B52 (39B22)

— Taylor formula of Boolean and pseudo-Boolean function. (English summary) *Zb. Rad. Prirod.-Mat. Fak. Ser. Mat.* **25** (1995), *no.* 2, 141–149. (S. Rudeanu) **98a:90063** 90C09 (06E30)

Gilfeather, Frank L. (*with* Pop, Florin; Smith, Roger R.) Cohomology for operator algebras: the Mayer-Vietoris sequence. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 1–27. (G. V. Rozenblyum) **98k:46124** 46M20 (46L85, 47D25)

Gilkey, Peter B. ★ Invariance theory, the heat equation, and the Atiyah-Singer index theorem. Second edition. Studies in Advanced Mathematics. *CRC Press, Boca Raton, FL*, 1995. x+516 *pp. ISBN* 0-8493-7874-4 (Matthias Lesch) **98b:58156** 58Gxx (58G10, 58G11)

— (*with* Bokan, Neda; Simon, Udo) Local affine invariants of second order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995,** *no.* 5, 11–15; *translation in Russian Math.* (*Iz. VUZ*) **39** (1995), *no.* 5, 8–12. (Jürgen Eichhorn) **98a:53089** 53C42 (53A15, 53A55, 58G11)

— (*with* Leahy, John V.; Park, Jeong Hyeong) The spectral geometry of the Hopf fibration. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5645–5656. (J. Alfredo Jiménez) **98b:58167** 58G25

— (*with* Branson, Thomas P.; Vasilevich, D. V.) The asymptotics of the Laplacian on a manifold with boundary. II. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 39–67. (Sylvie Desjardins) **98j:58124** 58G18 (58G11, 58G25)

— (*with* Botvinnik, B. I.; Stolz, Stephan) The Gromov-Lawson-Rosenberg conjecture for groups with periodic cohomology. *J. Differential Geom.* **46** (1997), *no.* 3, 374–405. (Jonathan M. Rosenberg) **98i:58227** 58G12 (53C21, 55N15, 55N22, 57R40, 57R50)

— (*with* Nikčević, S.; Pohjanpelto, Juha) The local index formula for a Hermitian manifold. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 51–56. (Friedbert Prüfer) **98k:58211** 58G10 (32J27, 58G05, 58G11, 58G18)

— (*with* Bokan, Neda; Simon, Udo) Geometry on differential operators on Weyl manifolds. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2527–2536. (Uwe Semmelmann) **98m:58132** 58G11 (53C25)

— (*with* Leahy, John V.; Park, Jeong Hyeong) Eigenvalues of the form valued Laplacian for Riemannian submersions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1845–1850. (Kenro Furutani) **98m:58139** 58G25 (53C21)

Gilks, Walter R. (*with* Roberts, Gareth O.; Gelman, Andrew) Weak convergence and optimal scaling of random walk Metropolis algorithms. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 110–120. (Jean Dieboli) **98g:60049** 60F05 (60J10, 60J60, 65U05)

— (*with* Berzuini, Carlo; Best, Nicola G.; Larizza, Cristiana) Dynamic conditional independence models and Markov chain Monte Carlo methods. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1403–1412. 62F15 (60J10, 62E25, 65C05)

Gill, A. *see* **Gill, Avninder**

Gill, Amar Nath (*with* Singh, Harshinder) Ranking and subset selection procedures for populations with censored data: a review. *Analysis of censored data (Pune, 1994/1995)*, 219–230, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62F07

— (*with* Sharma, Suresh kumar; Misra, Neeraj) Simultaneous confidence bounds for the ratios of scale parameters. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 165–181. (K. K. Ferentinos) **98m:62079** 62F25

Gill, Avninder (*with* Bector, C. R.; Singh, Manohar) On solving a linear program with an infeasible optimal basic solution. (English summary) *Util. Math.* **51** (1997), 119–124. (Summary) **98i:90052** 90C05

Gill, Gurpreet K. (*with* Chhabra, R. K.) Non-linear Rayleigh-Taylor stability in magnetic fluids with heat and mass transfer. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 292–305. (John Adam) **98h:76044** 76E25

Gill, John The analogy between periodic continued fractions & geometric series. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 83–88. (Lisa Lorentzen) **98j:40001** 40A15

— Convergence of composition sequences of bilinear and other transformations $\{f_n\}$, $f_n \to z$. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 235–242. (Igor N. Blinov) **98c:40002** 40A30 (30D05)

Gill, P. M. (*with* Pearce, Charles E. M.; Pečarić, Josip E.) Hadamard's inequality for r-convex functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 461–470. (Ion Raşa) **98k:26032** 26D15 (26A51)

Gill, Philip E. (*with* Petzold, Linda R.; Rosen, J. Ben; Jay, Laurent O.; Park, Kihong) Numerical optimal control of parabolic PDEs using DASOPT. (English summary) *Large-scale optimization with applications, Part II (Minneapolis, MN, 1995)*, 271–299, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98f:49003** 49–04 (49M37, 65K10, 65L06)

Gill, Richard D. (*with* Baddeley, Adrian) Kaplan-Meier estimators of distance distributions for spatial point processes. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 263–292. (Winfried Stute) **98b:62054** 62G05 (60D05, 62H11)

Gill, Tepper L. (*with* Zachary, Woodford W.) A class of weighted-mean Banach spaces. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 105–117, *VSP, Utrecht*, 1993. (Summary) **98b:46051** 46F05 (46E10, 46E30)

— (*with* Zachary, Woodford W.; Lindesay, James) Proper-time classical electrodynamics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 6, 547–562. (Summary) **98m:78010** 78A02 (78A25)

— (*with* Zachary, Woodford W.) Proper-time formulation of classical electrodynamics. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 418–425. (Summary) **98m:78011** 78A02 (78A25)

Gillard, J. (*with* Boeckx, Eric; Vanhecke, Lieven) Semi-symmetric and semi-parallel geodesic spheres and tubes. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 8, 771–777. (Vicente Miquel) **98a:53051** 53C20 (53C21)

Gille, Catherine Formes d'enlacement des 3-variétés et U(1)-invariants de Murakami-Ohtsuki-Okada. (English and French summaries) [Linking pairings of 3-manifolds and Murakami-Ohtsuki-Okada's U(1)-invariants] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 415–418. (Summary) **98d:57013** 57M25 (57N10)

Gille, Philippe Examples of non-rational varieties of adjoint groups. *J. Algebra* **193** (1997), *no.* 2, 728–747. (Jean-Pierre Tignol) **98k:11038** 11E57 (11E81, 20G15)

Giller, Stefan (*with* Gonera, C.; Majewski, Michał) Deformation map for generalized κ-Poincaré and κ-Weyl algebras. (English summary) *Acta Phys. Polon. B* **27** (1996), *no.* 9, 2131–2135. (Marcelo R. Ubriaco) **98a:81079** 81R50 (16W30, 58B30)

— (*with* Brihaye, Yves; Kosiński, Piotr; Nuyts, Jean) Irreducible representations of an algebra underlying hidden symmetries of a class of quasi-exactly solvable systems of equations. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 201–226. (Allina A. Suzko) **98h:81038** 81R05 (58F19, 81Q05, 81U40)

— (*with* Brihaye, Yves; Kosiński, Piotr) Linear operators with invariant polynomial space and graded algebra. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 989–999. (Joris Van der Jeugt) **98b:81068** 81R05 (17A70, 22E70)

Gilleron, Rémi (*with* Denis, François; D'Halluin, Cyrille) PAC learning with simple examples. (English summary) *STACS 96 (Grenoble, 1996)*, 231–242, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68134** 68Q30 (68T05)

Gillespie, Daniel T. Comment on: "Why quantum dynamics can be formulated as a Markov process" [Phys. Rev. A (3) **51** (1995), no. 5, 3445–3453; MR 97a:81100] by P. Garbaczewski and R. Olkiewicz. (English summary) *Phys. Rev. A* (3) **53** (1996), *no.* 6, 4602–4604. (Gennady Berman) **98a:81094** 81S20

Gillespie, Thomas Alastair (*with* Berkson, Earl) Sur certains opérateurs à moyennes bornées et un analogue ergodique du théorème de Littlewood-Paley. (English and French summaries) [On mean-bounded operators and an ergodic Littlewood-Paley theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 1, 59–62. (Yu. A. Abramovich) **98d:42004** 42A45 (42B25, 47B38, 47B49, 47B65)

— Spectral decompositions in Banach spaces and the Hilbert transform. (English summary) *Linear operators (Warsaw, 1994)*, 105–118, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Jörg Eschmeier) **98f:47044** 47B40 (42A50, 44A15)

— (*with* Berkson, Earl; Doust, Ian) Properties of AC-operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 249–271. (Jörg Eschmeier) **98e:47054** 47B40 (46E30, 46M35, 47A60)

— (*with* Berkson, Earl) The q-variation of functions and spectral integration of Fourier multipliers. *Duke Math. J.* **88** (1997), *no.* 1, 103–132. (Nakhlé Asmar) **98k:43007** 43A25 (42A45, 47B38, 47B40)

— Boundedness criteria for Boolean algebras of projections. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 70–85. (W. Ricker) **98h:47048** 47B40 (47A60, 47C05)

— (*with* Berkson, Earl) Mean-boundedness and Littlewood-Paley for separation-preserving operators. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 3, 1169–1189. (Loukas Grafakos) **98b:42011; EA 98m** 42A45 (46E30, 47B38)

— (*with* Asmar, Nakhlé H.; Berkson, Earl) Note on norm convergence in the space of weak type multipliers. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 139–149. (G. I. Gaudry) **98m:43004** 43A22 (46E30)

Gillet, H. (*with* Soulé, Christophe) Descent, motives and K-theory. *J. Reine Angew. Math.* **478** (1996), 127–176. (Uwe Jannsen) **98d:14012** 14C35 (14F99, 19E08, 19E15)

— (*with* Bloch, Spencer J.; Soulé, Christophe) Algebraic cycles on degenerate fibers. *Arithmetic geometry (Cortona, 1994)*, 45–69, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Fumio Hazama) **98i:14011** 14C25 (14D07)

Gillett, Will (*with* Hanks, Liz; Cytron, Ron K.) An efficient algorithm for developing topologically valid matchings. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 144–161, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92009** 92D20 (05C90, 68Q20)

Gilli, Marco (*with* Biey, Mario; Bonani, Fabrizio; Maio, Ivan) Qualitative analysis of the dynamics of the time-delayed Chua's circuit. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 6, 486–500. 58F40 (58F13, 94C05)

Gilligan, Bruce On closed radical orbits in homogeneous complex manifolds. (English summary) *Bull. Austral. Math. Soc.* **54** (1996), *no.* 3, 363–368. (Dennis Snow) **98a:32045** 32M10

— (*with* Heinzner, Peter) Globalization of holomorphic actions on principal bundles. (English summary) *Math. Nachr.* **189** (1998), 145–156. (Summary) **98j:32041** 32M05

Gillio Berta Mauri, Anna (*with* Verardi, Libero) On finite groups with a reducible permutability-graph. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 275–291. (Alberto Delgado) **98b:20034** 20D99

Gillis, David (*with* Golubitsky, Martin) Patterns in square arrays of coupled cells. *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 487–509. (Michael Dellnitz) **98g:58158** 58F39 (34C23, 35A30, 58F14)

— (*with* Golubitsky, Martin) A formula for a symmetry detective. (English summary) *Phys. D* **107** (1997), *no.* 1, 23–29. (Peter Ashwin) **98h:58109** 58F12

Gillis, Peter Paul (*with* Vujanović, B. D.; Strauss, A. M.; Jones, S. E.) Polynomial conservation laws of the generalized Emden-Fowler equation. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 377–384. (Summary) **98e:34017** 34A34 (70H33)

Gillispie, Charles Coulston ★ Pierre-Simon Laplace. 1749–1827. (English summary) A life in exact science. With the collaboration of Robert Fox and Ivor Grattan-Guinness. *Princeton University Press, Princeton, NJ*, 1997. xii+323 *pp. ISBN* 0-691-01185-0 (R. L. Cooke) **98k:01026** 01A70 (01A50, 01A55)

— Eloge: Charles Scribner, Jr., 13 July 1921–11 November 1995. *Isis* **88** (1997), *no.* 2, 302–303. 01A70

Gillman, David S. (*with* Donald, John) Almost reconstruction of the 3-dimensional ball from $K_{pqrs} \times I$. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1335–1349. (John Bryant) **98h:57008** 57M20 (57M40, 57Q10)

Gillman, Leonard Rigor in calculus. *Notices Amer. Math. Soc.* **44** (1997), *no.* 8, 932–934. (R. S. Booth) **98g:26002** 26–01 (26A06)

Gillon, Brendan S. Contraposition and Lewis Carroll's barber shop paradox. (French summary) *Dialogue* **36** (1997), *no.* 2, 247–251. 03B65 (03B45)

Gil-Luezas, A. (*with* Almendros-Jiménez, J. M.; Gavilanes-Franco, Antonio) Algebraic semantics for functional logic programming with polymorphic order-sorted types. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 299–313, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68035** 68N15 (68Q55)

Gilman, A. F. The Diophantine equation $x^3 + y^3 + z^3 - 3xyz = p^r$. *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 468–472. (David Lee Hilliker) **98i:11015** 11D25

Gilman, Jane A discreteness condition for subgroups of PSL(2, **C**). (English summary) *Lipa's legacy (New York, 1995)*, 261–267, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Shigeyasu Kamiya) **98k:30060** 30F40

Gilman, Robert H. (*with* Bridson, Martin R.) Formal language theory and the geometry of 3-manifolds. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 525–555. (Lee Mosher) **98a:57024** 57N10 (20F32, 57M07, 57M50, 68Q45)

Gil'manov, A. N. (*with* Kulachkova, N. A.) Numerical investigation of two-dimensional gas flows with shocks by the TVD method on physically adaptive grids. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 97–106. 76M20

Gilmer, G. *see* **Ethnomathematics, 98b:01005**

Gilmer, Robert On complete integral closure and Archimedean valuation domains. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 377–380. (Vinod Kumar Grover) **98d:13005** 13B22 (13F30)

— An intersection condition for prime ideals. *Factorization in integral domains (Iowa City, IA, 1996)*, 327–331, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (C. P. L. Rhodes) **98h:13004** 13A15

Gilmore, Paul C. NaDSyL and some applications. (English summary) *Computational logic and proof theory (Vienna, 1997)*, 153–166, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98i:03074** 03F05 (03B15, 03B40)

Gilmore, Tara Lenore (*with* Edwards, William R., Jr.) Probabilistic context-free grammars, stack-based Markov sources, and probabilistic pushdown automata. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 97–119. (William R. Nico) **98k:68109** 68Q50 (68Q75)

Gilmour, Christopher (*with* Banaschewski, Bernhard) Pseudocompactness and the cozero part of a frame. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 577–587. (Summary) **98f:54028** 54D20 (54C50)

Gilmour, Robert F., Jr. (*with* Watanabe, Mari) Strategy for control of complex low-dimensional dynamics in cardiac tissue. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 73–87. (Summary) **98i:92018** 92C50 (93C95)

Gilotti, A. L. (*with* Tiberio, Umberto) Finite groups with self-centralizing p-elements. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 1, 193–203. (Gernot Stroth) **98b:20026** 20D15

Gilpin, Michael J. Klee's identity and Vandermonde's identity as bilinear forms. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 193–196. (*see* **98h:05003**) 05A19

— (*with* Shelton, Robert O.) Transitive closure algorithms for causal directed graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 23–32. (Summary) **98e:05100** 05C85 (05C20)

Gilsdorf, Thomas E. (*with* Kąkol, Jerzy) On some non-Archimedean closed graph theorems. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 153–158, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Dinamérico P. Pombo, Jr.) **98k:46128** 46S10 (46A30)

Gilson, Claire R. (*with* Willox, Ralph; Loris, Ignace) Binary Darboux transformations for constrained KP hierarchies. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 849–865. (Vladislav G. Dubrovsky) **98f:58120** 58F07 (35Q53)

Gilson, Jean-Louis (*with* Dombre, Thierry) Intermittency, chaos and singular fluctuations in the mixed Obukhov-Novikov shell model of turbulence. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 265–287. (Summary) **98k:76073** 76F99

Gimadi, É. Kh. (*with* Glebov, N. I.) The problem of rigging a hierarchical control and communications system. (Russian. Russian summary) *Models and methods of optimization (Russian)*, 53–62, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98e:94007** 94A13 (90B70, 90C90)

Gimbel, John (*with* Henning, Michael A.; Tuza, Zsolt) Switching distance graphs. (English summary) *Ars Combin.* **47** (1997), 109–119. (Summary) **98h:05071** 05C12

— (*with* Thomassen, Carsten) Coloring graphs with fixed genus and girth. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4555–4564. (Summary) **98i:05075** 05C15 (05C10)

Gimelfarb, A. Some additional results about polymorphisms in models of an additive quantitative trait under stabilizing selection. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 88–96. 92D15 (92D10)

Gimelshein, S. F. (*with* Ivanov, Mikhail Samuilovich) Computational hypersonic rarefied flows. (English summary) *Annual review of fluid mechanics, Vol. 30*, 469–505, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76K05 (76M25, 76P05)

— (*with* Ivanov, Mikhail Samuilovich; Markelov, G. N.) Statistical simulation of the transition between regular and Mach reflection in steady flows. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 113–125. (*see* **98i:76002**) 76M35 (76L05)

Giménez, Eduardo An application of co-inductive types in Coq: verification of the alternating bit protocol. (English summary) *Types for proofs and programs (Torino, 1995)*, 135–152, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (*see* **98d:03006**) 68Q60 (03B35, 68T15)

mallor Giménez, Fermín *see* **Mallor Giménez, Fermín**

Giménez, Fernando A lower bound for the radius of the smallest ball containing a manifold with curvature bounded from above. *Differential geometry and applications (Brno, 1995)*, 29–34, *Masaryk Univ., Brno*, 1996. (Vicente Miquel) **98b:53030** 53C21 (53C42)

— (*with* Miquel, Vicente) On nonimmersibility of compact hypersurfaces into a ball of a simply connected space form. (English summary) *Israel J. Math.* **94** (1996), 21–27. (Leslie Coghlan) **98e:53091** 53C40 (53C42)

— (*with* Carreras, Francisco J.; Miquel, Vicente) Immersions of compact Riemannian manifolds into a ball of a complex space form. *Math. Z.* **225** (1997), *no.* 1, 103–113. (Ildefonso Castro) **98g:53107** 53C42 (53C40)

— (*with* Carreras, Francisco J.; Miquel, Vicente) Bounded mean curvature isometric immersions of a compact Riemannian manifold with images contained in a tube. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 97–107. (Thomas Hasanis) **98m:53074** 53C42 (53C40)

Giménez, Philippe (*with* Campillo, Antonio) Graphes arithmétiques et syzygies. (English and French summaries) [Arithmetic graphs and syzygies] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 313–316. (Juan C. Migliore) **98a:13021** 13D02 (14M05)

floria Gimeno, Luis *see* **Floria Gimeno, Luis**

Gimigliano, A. (*with* Del Centina, A.) Corrigenda to: "Scrollar invariants and resolutions of certain d-gonal curves" [Ann. Univ. Ferrara Sez. VII (N.S.) **39** (1993), 187–201 (1995); MR 96g:14024]. *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1995), 147 (1997). (From the text) **98d:14042** 14H45

— (*with* Catalisano, M. V.; Ellia, Philippe) Fat points on rational normal curves. *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 75–89, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Martin Kreuzer) **98k:13016** 13D40 (14C99)

— (*with* Catalisano, M. V.) A construction for projectively normal curves in $\mathbf{P}^4$ and their graded Betti numbers. *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 90–97, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Alfio Ragusa) **98j:14044** 14H45 (13D40)

Gimon, Eric G. (*with* Johnson, Clifford V.) $K3$ orientifolds. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 715–745. (Fermin Aldabe) **98f:81255** 81T30 (14J28, 32J81)

— (*with* Johnson, Clifford V.) Multiple realisations of $\mathcal{N} = 1$ vacua in six dimensions. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 285–304. (Daniel N. Kabat) **98a:81170** 81T30 (14J32, 32J81)

muratore-Ginanneschi, Paolo *see* **Muratore-Ginanneschi, Paolo**

Ginanneschi, Paolo Muratore *see* **Muratore-Ginanneschi, Paolo**

Ginchev, I. (*with* Hoffmann, Armin) On the best approximation of set-valued functions. (English summary) *Recent advances in optimization (Trier, 1996)*, 61–74, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Longin Rybiński) **98h:41040** 41A65 (26E25, 41A52, 54C65)

Gindikin, Simon G. (*with* Barchini, L.; Wong, Hon-Wai) Determinant functions and the geometry of the flag manifold for $SU(p, q)$. (English summary) *J. Lie Theory* **6** (1996), *no.* 2, 191–206. (Roger Zierau) **98e:22006** 22E40 (32M10, 32M15)

— (*with* Wong, Hon-Wai) A holomorphic version of Borel-Weil-Bott theorem. (English summary) *Adv. Math.* **130** (1997), *no.* 1, 136–159. (Leticia Barchini) **98j:22020** 22E46 (32L10)

— Fubini-Study structures on Grassmannians. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 145–156. (Jacques Faraut) **98f:32035** 32M10 (32M15)

— Ramanujan the phenomenon: India's inspired mathematician. *Quantum* **8** (1998), *no.* 4, 4–9. 01A70 (01A60)

Ginè, E. *see* **Giné-Masdeu, Evarist**

Gine, Evarist *see* **Giné-Masdeu, Evarist**

Giné, Jaume (*with* Chavarriga, Javier; Garcia, I. A.) Integrability of centers perturbed by quasi-homogeneous polynomials. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 268–278. (Anna Cima) **98d:34048** 34C05

— (*with* Chavarriga, Javier; Giacomini, Hector) The null divergence factor. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 41–56. (Douglas S. Shafer) **98d:34049** 34C05 (34A05)

— (*with* Chavarriga, Javier) Integrability of a linear center perturbed by a fifth degree homogeneous polynomial. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 335–356. (Henryk Żołądek) **98k:34043** 34C05 (58F21)

— (*with* Chavarriga, Javier) Polynomial first integrals of systems in the plane with center type linear part. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 521–535. (Henryk Żołądek) **98i:34046** 34C05 (58F21)

— *see also* **Proceedings: Catalan Days on Applied Mathematics, 98m:00023**

Giné-Masdeu, Evarist (*with* Grimmett, Geoffrey; Saloff-Coste, Laurent) ★ Lectures on probability theory and statistics. Lectures from the 26th Summer School on Probability Theory held in Saint-Flour, August 19–September 4, 1996. Edited by P. Bernard. Lecture Notes in Mathematics, 1665. *Springer-Verlag, Berlin*, 1997. x+424 *pp. ISBN* 3-540-63190-9 (Editors) **98g:60003** 60–06

— Decoupling and limit theorems for U-statistics and U-processes. *Lectures on probability theory and statistics (Saint-Flour, 1996)*, 1–35, *Lecture Notes in Math.*, 1665, *Springer, Berlin*, 1997. (Miguel A. Arcones) **98k:60033** 60F05 (60B12, 60F15)

— (*with* Götze, Friedrich; Mason, David M.) When is the Student t-statistic asymptotically standard normal? (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1514–1531. (Erich Haeusler) **98j:60033** 60F05 (62E20)

Giner, V. B. (*with* Azarin, Vladimir) Limit sets of entire functions and the completeness of systems of exponentials. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 3–30. (V. A. Tkachenko) **98i:30001** 30B60

vernet Ginés, Juan *see* **Vernet Ginés, Juan**

Ginestar Peiró, Damián (*with* Peña Miralles, Juan; Jiménez Olivo, Pedro José; Verdú Martín, Gumersindo; Muñoz-Cobo González, José Luis) A fast Galerkin method to obtain the periodic solutions of a nonlinear oscillator. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 261–282. (Summary) **98g:34078** 34C25 (34A45, 34C15, 65L60)

Gingerich, Owen (*with* Voelkel, James R.) Tycho Brahe's Copernican campaign. *J. Hist. Astronom.* **29** (1998), *no.* 1, 1–34. 01A40

Gingold, H. (*with* Trutzer, V.) Removing small divisors in the method of characteristics. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 333–356. (Summary) **98k:35123** 35L65 (35L40, 35L80)

Giniatoulline, Andrei Elliptic systems in the sense of Petrovskiĭ and in the sense of Douglis and Nirenberg. (Spanish. English and Spanish summaries) *Lect. Mat.* **17** (1996), *no.* 1, 37–47. (Lisa Santos) **98f:35028** 35Jxx

Ginibre, Jean (*with* Velo, Giorgio) Le problème de Cauchy dans des espaces locaux pour l'équation de Ginzburg-Landau complexe. [The Cauchy problem in local spaces for the complex Ginzburg-Landau equation] *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. XII*, 20 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 35Q55

— Le problème de Cauchy pour des EDP semi-linéaires périodiques en variables d'espace (d'après Bourgain). (French summary) [The Cauchy problem for periodic semilinear PDE in space variables (after Bourgain)] Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 796, 4, 163–187. (John Albert) **98e:35154** 35Q55 (35B10, 35Q53)

— (*with* Velo, Giorgio) The Cauchy problem in local spaces for the complex Ginzburg-Landau equation. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 138–152, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Xian Guo Geng) **98i:35175** 35Q55

— (*with* Velo, Giorgio) The Cauchy problem in local spaces for the complex Ginzburg-Landau equation. II. Contraction methods. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 45–79. (Xian Guo Geng) **98i:35174** 35Q55

— (*with* Velo, Giorgio) Localized estimates and Cauchy problem for the logarithmic complex Ginzburg-Landau equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2475–2482. (Summary) **98a:35121** 35Q55

Ginisti, Jean-Pierre ★ La logique combinatoire. (French) [Combinatory logic] Que Sais-Je? [What Do I Know?], 3205. *Presses Universitaires de France, Paris*, 1997. 128 *pp. ISBN* 2-13-048010-1 (Chantal Berline) **98f:03012** 03B40

Ginocchio, M. On the Hopf algebra of functional graphs and differential algebras. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 119–140. (E. J. Taft) **98m:16042** 16W30 (12H05)

Ginsburg, Boris (*with* Ioffe, Alexandre D.) The maximum principle in optimal control of systems governed by semilinear equations. (English summary) *Nonsmooth analysis and geometric methods in deterministic optimal control (Minneapolis, MN, 1993)*, 81–110, *IMA Vol. Math. Appl.*, 78, *Springer, New York*, 1996. (B. Mordukhovich) **98f:49026** 49K27 (49J52)

Ginsburg, John A coloring problem on chordal rings. (English summary) *Ars Combin.* **45** (1997), 109–127. (A. G. Thomason) **98c:05061** 05C15 (05C55)

Ginsburgh, Victor (*with* Weber, Shlomo) On the efficiency of retaliation rules in international trade. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997,** *no.* 47, 51–63. (*see* **98g:90010**) 90A53 (90A60)

Gintis, Herbert A Markov model of production, trade, and money: theory and artificial life simulation. (English summary) *Comput. Math. Organ. Theory* **3** (1997), *no.* 1, 19–41. (Summary) **98k:90021** 90A15

Ginzbourg, I. (*with* d'Humières, D.) Local second-order boundary methods for lattice Boltzmann models. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 927–971. (Giuseppe Toscani) **98f:82108** 82C40

Ginzburg, A. I. (*with* Karapetyants, Nikolai K.) Lebesgue points and fractional integrals. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 163–166. (Anatoly Kilbas) **98f:26005**

26A33 (47G10)

Ginzburg, David (*with* Ash, Avner) Generalized modular symbols and relative Lie algebra cohomology. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 337–355. (Joachim Schwermer) **98g:11057** 11F67

— (*with* Rallis, Stephen; Soudry, David) Cubic correspondences arising from G_2. (English summary) *Amer. J. Math.* **119** (1997), *no.* 2, 251–335. (Gordan Savin) **98a:11066** 11F70 (11F27, 22E55)

— (*with* Rallis, Stephen; Soudry, David) A new construction of the inverse Shimura correspondence. *Internat. Math. Res. Notices* **1997**, *no.* 7, 349–357. (Henry H. Kim) **98a:11056** 11F32 (11F46, 22E55)

— (*with* Rallis, Stephen; Soudry, David) Self-dual automorphic GL_n modules and construction of a backward lifting from GL_n to classical groups. *Internat. Math. Res. Notices* **1997**, *no.* 14, 687–701. (Dihua Jiang) **98e:22013** 22E55

— (*with* Rallis, Stephen; Soudry, David) Periods, poles of L-functions and symplectic-orthogonal theta lifts. *J. Reine Angew. Math.* **487** (1997), 85–114. (Henry H. Kim) **98f:11046** 11F70 (11F67)

— (*with* Piatetski-Shapiro, Ilya; Rallis, Stephen) L functions for the orthogonal group. (English summary) *Mem. Amer. Math. Soc.* **128** (1997), *no.* 611, viii+218 *pp.* (Solomon Friedberg) **98m:11041** 11F70 (11F55, 11F66, 22E50, 22E55)

golenko-Ginzburg, Dimitri *see* **Golenko-Ginzburg, Dimitri**

Ginzburg, V. A. (*with* Chriss, Neil) ★ Representation theory and complex geometry. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1997. x+495 *pp. ISBN* 0-8176-3792-3 (William M. McGovern) **98i:22021** 22E47 (14F99, 19L47, 20G05, 22–02, 58F05)

— (*with* Kapranov, Mikhail; Vasserot, Eric) Residue construction of Hecke algebras. (English summary) *Adv. Math.* **128** (1997), *no.* 1, 1–19. (Andrew Pressley) **98k:20074** 20G05 (20C15)

Ginzburg, Viktor L. A smooth counterexample to the Hamiltonian Seifert conjecture in $\mathbf{R}^6$. *Internat. Math. Res. Notices* **1997**, *no.* 13, 641–650. (Hansjörg Geiges) **98i:58087** 58F05 (58F25)

— *see also* **Gliklikh, Yurii E., 98e:58001**

Ginzburg, Yu. P. On recovering a multiplicative integral from its modulus [MR 85k:47063]. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 185–193, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 47B50 (30D50, 30E20, 47A56)

Giona, Massimiliano Analytic expression for the structure factor and for the moment-generating function of fractal sets and multifractal measures. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4293–4312. 28A80

— (*with* Schwalm, W. A.; Schwalm, M. K.) Group-theoretic reduction of Laplacian dynamical problems on fractal lattices. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6741–6752. (Summary) **98f:82083** 82C05 (39A12)

Gionfriddo, Mario (*with* Milici, Salvatore; Tuza, Zsolt) Blocking sets in SQS($2v$) [MR 95e:05026]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 319–328, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05B30

— (*with* Harary, Frank; Tuza, Zsolt) The color cost of a caterpillar. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 125–130. (Summary) **98f:05060** 05C15

Gionti, G. (*with* Carfora, Mauro; Gabrielli, D.) Recent developments in 4D-simplicial quantum gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 111–126, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:83027** 83C27 (83C45)

Giordani, S. (*with* Bianco, L.; Dell'Olmo, Paolo) The traveling salesman problem with precedence constraints and binary costs. (English summary) *System modelling and optimization* (*Prague*, 1995), 543–550, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C27

— (*with* Bianco, L.; Dell'Olmo, Paolo) An optimal algorithm to find the jump number of partially ordered sets. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 197–210. (Summary) **98b:90162** 90C39 (65K10)

Giordano, Carla *see* **Ismail, Mourad E. H., 98f:33006**

Giordano, Laura (*with* Baldoni, Matteo; Martelli, Alberto) Translating a modal language with embedded implication into Horn clause logic. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 19–33, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:03031** 03B70 (68N17)

— (*with* Baldoni, Matteo; Martelli, Alberto; Patti, Viviana) An abductive proof procedure for reasoning about actions in modal logic programming. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 132–150, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **98i:68045** 68N17 (68T27, 68T30)

Giordano, Thierry (*with* de la Harpe, Pierre) Moyennabilité des groupes dénombrables et actions sur les espaces de Cantor. (English and French summaries) [Amenability of countable groups and actions on Cantor sets] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1255–1258. (Summary) **98c:54032** 54H15 (43A07)

Giorgashvili, L. Solution of the basic boundary value problems of stationary thermoelastic oscillations for domains bounded by spherical surfaces. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 421–438. (Summary) **98f:73007** 73B30 (35Q72, 73C02)

Giorgi, C. (*with* Lazzari, B.) On the stability for linear viscoelastic solids. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 659–675. (Kenneth B. Hannsgen) **98h:73050** 73F15 (45K05, 73H10)

de Giorgi, Ennio *see* **De Giorgi, Ennio**

Giorgi, Giovanni Maria Encounters with the Italian statistical school: a conversation with Carlo Benedetti. (English and Italian summaries) *Metron* **54** (1996), *no.* 3-4, 3–23 (1997). 01A72

Giorgilli, Antonio (*with* Morbidelli, Alessandro) On the role of high order resonances in normal forms and in separatrix splitting. (English summary) *Phys. D* **102** (1997), *no.* 3-4, 195–207. (Vassili G. Gelfreich) **98c:58157** 58F36 (34C20, 34C37, 70H05)

— (*with* Morbidelli, Alessandro) Invariant KAM tori and global stability for Hamiltonian systems. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 102–134. (Luigi Chierchia) **98h:58167** 58F27 (34C30, 58F30, 70H05)

— (*with* Locatelli, Ugo) Kolmogorov theorem and classical perturbation theory. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 220–261. (Luigi Chierchia) **98i:58203** 58F30 (34C50, 58F27, 70H05, 70K99)

Giorno, V. (*with* Di Crescenzo, Antonio; Nobile, A. G.; Ricciardi, L. M.) On first-passage-time and transition densities for strongly symmetric diffusion processes. *Nagoya Math. J.* **145** (1997), 143–161. (Götz Kersting) **98f:60151** 60J60

de Giosa, Marcello *see* **De Giosa, Marcello**

Giovagnoli, Alessandra (*with* Eaton, Morris L.; Sebastiani, Paola) A predictive approach to the Bayesian design problem with application to normal regression models. (English summary) *Biometrika* **83** (1996), *no.* 1, 111–125. (S. Mejza) **98c:62142** 62K05 (62C10, 62F15, 62J02)

Giovanbattista, N. (*with* Bellini, Mauricio; Deza, R.) Exact travelling annular waves in generalized reaction-diffusion equations. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 200–206. 35K57 (81U30)

Giovanis, A. N. (*with* Skiadas, C. H.) A stochastic Bass innovation diffusion model for studying the growth of electricity consumption in Greece. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 2, 85–101. 62M09 (90B30)

Giovannetti, Vittorio (*with* Grigolini, Paolo; Tesi, Giovacchino; Vitali, David) Wave-function collapse and objective randomness. (English summary) *Phys. Lett. A* **224** (1996), *no.* 1-2, 31–38. (A. Barchielli) **98c:81020** 81P15 (81V80)

de Giovanni, Antonio *see* **De Giovanni, Antonio**

de Giovanni, Francesco (*with* Franciosi, Silvana) Groups satisfying the minimal condition on certain non-normal subgroups. *Groups—Korea '94* (*Pusan*), 107–118, *de Gruyter, Berlin*, 1995. (Howard Smith) **98g:20043** 20E15 (20F24)

— (*with* Franciosi, Silvana) On products of nilpotent groups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 489–506 (1996). (Ma. Jesús Iranzo) **98g:20054** 20F19

— (*with* Franciosi, Silvana) Groups satisfying the minimal condition on non-subnormal subgroups. *Infinite groups* 1994 (*Ravello*), 63–72, *de Gruyter, Berlin*, 1996. (B. Amberg) **98h:20040** 20E15

— (*with* Franciosi, Silvana) Triple factorizations by locally supersolvable groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 439–449, v; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 380–388. (J. Wiegold) **98g:20055** 20F19

— (*with* Franciosi, Silvana; Sysak, Yaroslav P.) On ascending and subnormal subgroups of infinite factorizable groups. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 6, 842–848; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 943–949 (1998). (L. A. Kurdachenko) **98i:20023** 20E07

— *see also* **Infinite groups, 98e:20004**

Giovannitti, Anthony J. Rank one quotients of vector groups. *Comm. Algebra* **25** (1997), *no.* 3, 709–714. (David M. Arnold) **98b:20086** 20K20 (20K15)

Giovannozzi, M. Stability domain of planar symplectic maps using invariant manifolds. (English summary) *Phys. Rev. E* (3) **53** (1996), *no.* 6, *part B*, 6403–6412. (Summary) **98g:58132** 58F15 (58F10)

Giovine, M. P. (*with* Casolaro, F.; D'Aniello, C.) Asymptotic inequalities for $\lg\Gamma(x)$. *Atti Sem. Mat. Fis. Univ. Modena* **44** (1996), *no.* 2, 303–312. (Andrea Laforgia) **98c:33002** 33B15 (33C90, 78A60)

Giovine, Pasquale (*with* Capriz, Gianfranco) On microstructural inertia. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 211–216. (Gérard A. Maugin) **98a:73001** 73A05 (73B25, 73S10)

Giraitis, Liudas (*with* Leipus, Remigijus; Surgailis, Donatas) The change-point problem for dependent observations. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 3, 297–310. (Vladimir Zaiats) **98g:62062** 62G05 (60F05, 62G10, 62M10)

— (*with* Robinson, Peter M.; Samarov, Alexander) Rate optimal semiparametric estimation of the memory parameter of the Gaussian time series with long-range dependence. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 49–60. (Francesco Battaglia) **98f:62250a** 62M10

— (*with* Taqqu, Murad S.) Limit theorems for bivariate Appell polynomials. I. Central limit theorems. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 359–381. (Claudia Klüppelberg) **98g:60039** 60F05 (62M10)

— *see also* **Errata: "Rate optimal semiparametric estimation of the memory parameter of the Gaussian time series with long-range dependence", 98f:62250b**

Giraldo, Francis X. Lagrange-Galerkin methods on spherical geodesic grids. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 197–213. (Summary) **98d:86001** 86-08 (76M10)

Girard, Jean-Yves On denotational completeness (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 6 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03F50

— Coherent Banach spaces: a continuous denotational semantics (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 7 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B70

— Proof-nets: the parallel syntax for proof-theory. (English summary) *Logic and algebra* (*Pontignano*, 1994), 97–124, *Lecture Notes in Pure and Appl. Math.*, 180, *Dekker, New York*, 1996. (Gerard R. Renardel de Lavalette) **98g:03135** 03F50

— *see also* **Linear logic 96, 98f:68009**

fusco Girard, M. *see* **Fusco Girard, M.**

Girardello, Luciano (*with* Giveon, Amit; Porrati, Massimo; Zaffaroni, Alberto[1]) S-duality in $N = 4$ Yang-Mills theories with general gauge groups. (English summary) *Nuclear Phys. B* **448** (1995), *no.* 1-2, 127–165. (Summary) **98a:81224** 81T60 (81T13)

— (*with* Porrati, Massimo; Zaffaroni, Alberto[1]) Heterotic type II string duality and the H monopole problem. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 23, 4255–4272. (Summary) **98a:81171** 81T30

— (*with* Fré, Pietro; Pesando, Igor; Trigiante, Mario) Spontaneous $N = 2 \to N = 1$ local supersymmetry breaking with surviving compact gauge groups. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 231–248. (C. Gauthier) **98j:81269** 81T30 (53C80, 81R40, 83E30, 83E50)

Girardi, Antonella (*with* Bartocci, Umberto) Discrete semidynamical systems and finite Boolean nets. (Italian. English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 293–308. (Summary) **98h:54054** 54H20 (54B30)

Girardi, G. (*with* Binétruy, Pierre; Pillon, F.; Grimm, Richard) The 3-form multiplet in supergravity. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 175–199. (W. Cox) **98c:81213** 81T60 (83E50)

Girardi, M. *see* **Girardi, Mario**

Girardi, Maria (*with* Johnson, William B.) Universal non-completely-continuous operators. (English summary) *Israel J. Math.* **99** (1997), 207–219. (G. M. Ustinov)

98i:46010 46B20 (47B99)

— (*with* Sweldens, Wim) A new class of unbalanced Haar wavelets that form an unconditional basis for L_p on general measure spaces. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 457–474. (I. Ya. Novikov) **98m:42049** 42C15 (42C10)

Girardi, Mario (*with* Matzeu, Michele) Periodic solutions of second order autonomous systems: existence and multiplicity for the prescribed period problem. *Variational methods in nonlinear analysis* (*Erice*, 1992), 83–90, *Gordon and Breach, Basel*, 1995. (Miguel Ramos) **98g:34075** 34C25 (58E05, 58F22)

— (*with* Matzeu, Michele) On periodic solutions of a class of second order nonautonomous systems with nonhomogeneous potentials indefinite in sign. (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 193–210. (Summary) **98h:34083** 34C25 (58E05)

Girardin, Valerie Methods of realization of moment problems with entropy maximization. *Distributions with given marginals and moment problems* (*Prague*, 1996), 21–26, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60G10

— Méthodes de réalisation de produit scalaire et de problème de moments avec maximisation d'entropie. (English summary) [Methods for scalar product and moment problem realization with entropy maximization] *Studia Math.* **124** (1997), *no.* 3, 199–213. (Valeri Kaliaguine) **98h:47020** 47A57 (44A60, 46E20, 49J10)

Giraud, Luc *see* **Direct methods, linear algebra in optimization, iterative methods, 98f:65005**

Giraud, Xavier (*with* Boutillon, Emmanuel; Belfiore, Jean Claude) Algebraic tools to build modulation schemes for fading channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 938–952. (Felix Taubin) **98i:94013** 94A40

Giraud-Héraud, Eric (*with* Réquillart, Vincent) Concurrence potentielle avec différenciation verticale des produits: l'exemple du marché du sucre industriel dans l'Union Européenne. (English and French summaries) [Potential competition with vertical product differentiation: the case of the industrial sugar market in the European Union] *Ann. Économ. Statist.* **1996,** *no.* 43, 73–99. 90A60 (90A70)

Giraudon, Gérard (*with* Volden, Espen; Berthod, Marc) Information in Markov random fields and image redundancy. (English summary) *Information theory and applications, II* (*Luc Delage, PQ*, 1995), 250–268, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94A15 (68U10)

Girault, Claude (*with* Benalycherif, Mohamed-Lyes) Behavioural and structural composition rules preserving liveness by synchronization for colored FIFO nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 73–92, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (Summary) **98e:68189** 68Q90

Girault, V. (*with* Glowinski, Roland; Lopez, H.) Error analysis of a finite element realization of a fictitious domain/domain decomposition method for elliptic problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 35–56. (Weimin Han) **98c:65195** 65N55 (65N30)

— (*with* Amrouche, Chérif; Giroire, J.) Dirichlet and Neumann exterior problems for the n-dimensional Laplace operator: an approach in weighted Sobolev spaces. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 1, 55–81. (Giovanna Citti) **98c:35034** 35J25 (35J05)

Girault-Beauquier, Danièle (*with* Burago, D. Yu.; Slissenko, A. O.) On the complexity of finite memory policies for Markov decision processes. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 191–200, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q25 (90C40)

Gire, S. (*with* Dulucq, S.; West, Julian) Permutations with forbidden subsequences and nonseparable planar maps. (English summary) Proceedings of the 5th Conference on Formal Power Series and Algebraic Combinatorics (Florence, 1993). *Discrete Math.* **153** (1996), *no.* 1-3, 85–103. (W. G. Brown) **98a:05081** 05C30 (05A05, 05C10, 68P10, 68Q20, 68R05)

Girela, Daniel Mean Lipschitz spaces and bounded mean oscillation. *Illinois J. Math.* **41** (1997), *no.* 2, 214–230. (V. V. Peller) **98h:46019** 46E15 (30D45, 30D55)

Giresunlu, İ. Müfit (*with* Özdemir, Erhan) A proposal on utilization of game theory to find weights for multiple objective linear programming problems. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 1–8 (1997). 90C29 (90D10)

Giri, D. (*with* Kundu, K.; Ray, Koushik) A study of one-dimensional correlated disordered systems using the invariant measure method. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5699–5717. (Dimitri Petritis) **98a:82088** 82C44 (82C32)

Giri, Fouad (*with* Ikhouane, Fayçal; Rabeh, Abderrahman) Transient performance analysis in robust nonlinear adaptive control. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 21–31. (Summary) **98e:93063** 93C40 (93C10)

Giri, R. D. (*with* Bujade, V. G.; Wazalwar, A. K.) A commutativity result for a semisimple ring. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 175–177 (1996). 16U80

— (*with* Bujade, V. G.) Commutativity aspect in semisimple ring. (English summary) *Math. Today* (*Ahmedabad*) **14** (1996), 71–72. 16U80

— (*with* Tiwari, Shraddha) On the commutativity of s-unital rings and periodic rings. (English summary) *New Zealand J. Math.* **25** (1996), *no.* 2, 165–172. (Howard E. Bell) **98a:16037** 16U80

— (*with* Wazalwar, A. K.) On some local properties of semigroups. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 1–11 (1997). 20M99

— (*with* Wazalwar, A. K.) On some local properties of semigroups. (English summary) *Math. Today* (*Ahmedabad*) **15** (1997), 25–32. 20M99

Giri, R. R. (*with* Das, N. C.; Lahiri, Abhijit) Eigenvalue approach to generalized thermoelasticity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1573–1594. (Summary) **98m:73008** 73B30

Giri, Sunil Kumar (*with* Singh, Manoranjan Kumar; Singh, Shyam Krishna) Boolean-like algebra. (English summary) *Math. Ed.* (*Siwan*) **29** (1995), *no.* 4, 215–221. (V. V. Gorlov) **98f:03055** 03G20 (03B50, 03G25, 06D30, 06D99)

— (*with* Singh, Manoranjan Kumar) A note on fuzzy groups. (English summary) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 50–53. 20N25

Girina, V. I. (*with* Adzhemyan, L. Ts.; Borisenok, S. V.) The renormalization group and the operator expansion methods in the theory of developed turbulence: asymptotics of the triple simultaneous correlation function. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 450–461; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1556–1565 (1996). (Summary) **98m:76091** 76F99 (81T17)

Girish, Muckai K. (*with* Hu, Jian-Qiang) Higher order approximations for tandem queueing networks. (English summary) *Queueing Systems Theory Appl.* **22** (1996), *no.* 3-4, 249–276. (L. A. Grinshpan) **98f:60190** 60K25

— (*with* Hu, Jian-Qiang) An interpolation approximation for the $GI/G/1$ queue based on multipoint Padé approximation. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 269–284. 60K25 (41A21, 90B22)

Girko, Vyacheslav L. (*with* Slyusarenko, B. I.) G_S-estimates for solutions of systems of linear equations whose coefficients have unlike variances. (English summary) *Theory Probab. Math. Statist. No.* 49 (1994), 59–68 (1995). (Summary) **98a:60024** 60F05 (62H12)

— Limit theorems for permanents. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 29–38. (Summary) **98d:60067** 60F99

— ★ Theory of linear algebraic equations with random coefficients. *Allerton Press, Inc., New York*, 1996. xxiv+320 *pp. ISBN* 0-89864-078-4 (Alexei Khorunzhy) **98b:60114** 60H25 (15–02, 15A52, 62H99)

— Random matrices. *Handbook of algebra, Vol.* 1, 27–78, *North-Holland, Amsterdam*, 1996. (From the introduction) **98m:60052** 60F99 (15A52, 62H10, 82B41)

— (*with* Gupta, Arjun K.) Canonical equation for the resolvent of empirical covariance matrices pencil. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 41–60, *VSP, Utrecht*, 1996. (Yutaka Kano) **98i:62051** 62H05 (62F12)

— Strong law for the eigenvalues of empirical covariance matrices. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 61–92, *VSP, Utrecht*, 1996. (V. I. Serdobol'skiĭ) **98h:60037** 60F15 (62E20, 62H10)

— (*with* Gupta, Arjun K.) Multivariate elliptically contoured linear models and some aspects of the theory of random matrices. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 327–386, *VSP, Utrecht*, 1996. (Raúl Pedro Mentz) **98k:62093** 62H10

— Strong law for the singular values and eigenvectors of random matrices. I. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 1, 81–104. (Tõnu Kollo) **98e:60048** 60F15 (15A52, 62H99)

— Strong circular law. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 173–196. (Alexei Khorunzhy) **98m:15044** 15A52 (60F99)

— A refinement of the central limit theorem for random determinants. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 63–73; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 121–129 (1998). (V. I. Serdobol'skiĭ) **98k:60034** 60F05

— (*with* Dias, Ronaldo) Numerical and Monte Carlo verification of V-distribution. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 201–212. 65C05 (65U05)

— *see also* **Multidimensional statistical analysis and theory of random matrices, 98b:62002**

Girlich, Eberhard (*with* Kovalëv, M. M.; Zaporozhets, A. A.) A polynomial algorithm for resource allocation problems with polymatroid constraints. (English summary) *Optimization* **37** (1996), *no.* 1, 73–86. (Summary) **98k:90062** 90C10 (90C25)

— (*with* Emelichev, V. A.; Yanushkevich, O. A.) Lexicographic optima of a multicriterial problem. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 2, 3–14, 115. (Summary) **98i:90084** 90C29 (90C27)

Girnyk, M. A. Approximation of functions subharmonic in a disk by the logarithm of the modulus of an analytic function. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1188–1192 (1996). (Antonio Bonilla-Ramirez) **98a:31001** 31A05

Giroire, J. (*with* Amrouche, Chérif; Girault, V.) Dirichlet and Neumann exterior problems for the n-dimensional Laplace operator: an approach in weighted Sobolev spaces. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 1, 55–81. (Giovanna Citti) **98c:35034** 35J25 (35J05)

Girolami, Florida (*with* Bouchiba, Samir; Kabbaj, Salah-Eddine) The dimension of tensor products of AF-rings. *Commutative ring theory* (*Fès*, 1995), 141–153, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (David F. Anderson) **98b:13009** 13C15 (13A15)

Girón, Francisco J. The idea of interchangeability of de Finetti as justification of Bayesian inference. (Spanish) *Current perspectives in logic and philosophy of science* (*Spanish*), 427–434, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 03B48 (62A15)

— History of probability theory: from Pascal to Laplace. (Spanish) *History of mathematics in the XIXth century, Part* 2 (*Spanish*) (*Madrid*, 1993), 113–133, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (I. Grattan-Guinness) **98g:01041** 01A55 (60–03)

— (*with* Kadane, Joseph B.; Moreno, Elías) Independence issues in imprecise data models: a Bayesian approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1149–1153. (Summary) **98a:62005** 62A15 (62F15)

Girotti, H. O. Poincaré invariance of a quantized duality symmetric theory. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5136–5139. (Seth A. Major) **98a:81112** 81T10

— (*with* Gomes, Marcelo O. C.; Rivelles, Victor O.; da Silva, A. J.) Duality symmetry in the Schwarz-Sen model. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6615–6618. (Summary) **98h:81094** 81T30

Giroux, E. (*with* Thomas, C. B.; Eliashberg, Yakov M.) 3-dimensional contact geometry. *Contact and symplectic geometry* (*Cambridge*, 1994), 48–65, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Hansjörg Geiges) **98b:53026** 53C15 (57R30, 58F05)

Girstmair, Kurt Some linear relations between values of trigonometric functions at $k\pi/n$. *Acta Arith.* **81** (1997), *no.* 4, 387–398. (Franz Lemmermeyer) **98h:11133** 11R18

— On quadratic relations between roots of polynomials. *J. Algebra* **188** (1997), *no.* 2, 692–700. 12F10

— Digit variance and Dedekind sums. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 197–205. (Marvin I. Knopp) **98h:11014** 11A63 (11A07, 11F20)

Gîrţu, Valentin (*with* Ciubotariu, Corneliu; Ursu, Dodu) A Finsler space-time with the same geodesic structure as the Riemannian space-time. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 3-4, 81–89. 83D05 (53B40, 53B50)

Gisclon, Marguerite (*with* Serre, Denis) Conditions aux limites pour un système strictement hyperbolique fournies par le schéma de Godunov. (English and French summaries) [Boundary conditions for a strictly hyperbolic system given by the Godunov scheme] *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 359–380. (Summary) **98c:65152** 65M12 (35L65)

Gisin, Nicolas The quantum state diffusion model of open systems. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 524–533, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P20
— Relevant and irrelevant nonlinear Schrödinger equations. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 109–124, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:81027** 81P99 (81Q05)
— (*with* Rigo, Marco) Unravellings of the master equation and the emergence of a classical world. (English summary) *Quantum Semiclass. Optics* **8** (1996), *no.* 1, 255–268. (From the introduction) **98k:82112** 82C10 (81S20)
— (*with* Brun, Todd A.; Rigo, Marco) From quantum to classical: the quantum state diffusion model. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 141–150, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81S25
— (*with* Cirac, J. I.) Coherent eavesdropping strategies for the four state quantum cryptography protocol. (English summary) *Phys. Lett. A* **229** (1997), *no.* 1, 1–7. (Summary) **98c:81026** 81P99 (94A60)
— (*with* Brun, Todd A.; O'Mahony, P. F.; Rigo, Marco) From quantum trajectories to classical orbits. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 267–272. (Summary) **98e:81005** 81P05 (81Q50, 81S25)
— (*with* Huttner, Bruno) Erratum: "Quantum cloning, eavesdropping and Bell's inequality" [Phys. Lett. A **228** (1997), no. 1-2, 13–21]. *Phys. Lett. A* **232** (1997), *no.* 6, 463. 81P99
— (*with* Fuchs, Christopher A.; Griffiths, Robert B.; Niu, Chi-Sheng; Peres, Asher) Optimal eavesdropping in quantum cryptography. I. Information bound and optimal strategy. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1163–1172. (V. Ya. Kreinovich) **98m:94034a** 94A60 (68P25, 68Q05, 81P99)
Gisolfi, Antonio (*with* Cavaliere, Luisa; Di Lascio, Luigi) The algebraic properties of the linguistic truth-values. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 805–827. (Summary) **98g:03072** 03B52
Gitik, Moti (*with* Mitchell, William John) Indiscernible sequences for extenders, and the singular cardinal hypothesis. (English summary) *Ann. Pure Appl. Logic* **82** (1996), *no.* 3, 273–316. (Pierre Matet) **98a:03080** 03E50 (03E10, 03E35, 03E45, 03E55)
— Some results on the nonstationary ideal. II. (English summary) *Israel J. Math.* **99** (1997), 175–188. (A. Kanamori) **98i:03063** 03E05 (03E35)
Gitik, Rita On the combination theorem for negatively curved groups. (English summary) *Internat. J. Algebra Comput.* **6** (1996), *no.* 6, 751–760. (Nadia Benakli) **98b:20058a** 20F32 (20E06)
— On the combination theorem for negatively curved groups. (English summary) Corrected reprint of "On the combination theorem for negatively curved groups" [Internat. J. Algebra Comput. **6** (1996), no. 6, 751–760; MR 98b:20058a]. *Internat. J. Algebra Comput.* **7** (1997), *no.* 2, 267–276. (Nadia Benakli) **98b:20058b** 20F32 (20E06)
— Graphs and separability properties of groups. (English summary) *J. Algebra* **188** (1997), *no.* 1, 125–143. (R. B. J. T. Allenby) **98e:20033** 20E05 (20E06, 20E26, 20F10)
— On quasiconvex subgroups of negatively curved groups. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 2, 155–169. (Eric M. Freden) **98h:20057** 20F32 (20E06, 20E25)
— (*with* Mitra, Mahan; Rips, Eliyahu; Sageev, Michah) Widths of subgroups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 321–329. (Athanase Papadopoulos) **98e:20048** 20F32 (57M07)
— *see also* **Errata: "On the combination theorem for negatively curved groups"**, **98b:20058c**
Gitler, Isidoro (*with* Colin de Verdière, Yves; Vertigan, Dirk) Réseaux électriques planaires. II. [Planar electrical networks. II] *Comment. Math. Helv.* **71** (1996), *no.* 1, 144–167. (Martin Škoviera) **98a:05054** 05C10 (05C90, 94C99)
— (*with* Calvillo Vives, Gilberto; Martínez-Bernal, José) Intercalate matrices. I. Recognition of dyadic type. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 57–67. (Sergey Yuzvinsky) **98d:11029** 11C20 (05B99)
Gitman, D. M. Pseudoclassical theory of a relativistic spinning particle. (English summary) *Topics in statistical and theoretical physics*, 83–104, *Amer. Math. Soc. Transl. Ser.* 2, 177, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **98j:81197** 81S99 (81S40)
— (*with* Gonçalves, A. E.) Pseudoclassical description of massive Dirac particles in odd dimensions. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2427–2438. (Jorge Goncalves Cardoso) **98e:81056** 81R20 (20C35)
— (*with* Gavrilov, S. P.; Odintsov, Sergei D.) Quantum scalar field in the FRW Universe with a constant electromagnetic background. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4837–4867. (Summary) **98f:81219** 81T20 (83C47)
— (*with* Gonçalves, A. E.) Pseudoclassical model for Weyl particle in 10 dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2167–2170. (Gheorghe Zet) **98i:81201** 81T30
— (*with* Shelepin, A. L.) Poincaré group and relativistic wave equations in 2 + 1 dimensions. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6093–6121. (Jorge Goncalves Cardoso) **98k:81099** 81R20 (81R05)
— (*with* Zlatev, Stoyan I.) Semiclassical form of the relativistic particle propagator. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 32, 2435–2443. (Summary) **98i:81053** 81Q20 (81V10)
— Path integrals and pseudoclassical description for spinning particles in arbitrary dimensions. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 490–512. (Ilya Shapiro) **98b:81121** 81S40 (81T60, 81T99)
— Quantization of spinning particles in odd dimensions. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 231–234. (*see* **98f:83002**) 81S99
— (*with* Zlatev, Stoyan I.) Spin factor in the path integral representation for the Dirac propagator in external fields. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7701–7714. (Ilya Shapiro) **98c:81113** 81S40
— (*with* Gonçalves, A. E.; Tyutin, I. V.) Pseudoclassical supergauge model for a (2 + 1) Dirac particle. *Phys. Atomic Nuclei* **60** (1997), *no.* 4, 665–668; *translated from Yadernaya Fiz.* **60** (1997), *no.* 4, 748–752 (*Russian*). (Summary) **98c:81216** 81T60 (81T13)
Gitman, M. B. (*with* Trusov, P. V.; Fedoseev, S. A.) On the stochastic optimization problems of plastic metal-working processes. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci.* (*New York*) **84** (1997), *no.* 3, 1109–1112. (*see* **98b:60002**) 90C90 (90C15)
Gittenberger, Bernhard On the number of predecessors in constrained random mappings. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 29–34. (Summary) **98i:60008** 60C05 (05A16)
Gitterman, Moshe (*with* Weiss, George H.) An overall view of stochastic resonance. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 911–916. (*see* **98f:58005**) 70K40 (70L05)
Gittler, Ph. (*with* Kluwick, A.) Viscous-inviscid interaction on a slender axisymmetric trailing tip flow. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 963–982. (Summary) **98c:76027** 76D10 (76D15)
Giuffrida, S. (*with* Maggioni, R.; Ragusa, A.) Resolutions of generic points lying on a smooth quadric. (English summary) *Manuscripta Math.* **91** (1996), *no.* 4, 421–444. (Martin Kreuzer) **98d:13011** 13D02 (13D40, 14C99, 14M05)
Giuli, Eraldo (*with* Hušek, Miroslav) A counterpart of compactness. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 605–621. (Summary) **98g:54017** 54B30 (18B30, 54D30)
Giuliano Antonini, Rita The role of the tail distribution in the asymptotic behaviour of stationary Gaussian processes. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 287–295. (Simeon M. Berman) **98k:60055** 60G10 (60G15, 60G17)
Giulini, Domenico The group of large diffeomorphisms in classical and quantum gravity. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 333–336. (Jorge A. Pullin) **98a:83081** 83C57 (57R57)
— A Euclidean Bianchi model based on S^3/D_8^*. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 2-3, 149–159. (Introduction) **98g:53084** 53C25 (53C80, 83C20)
— The group of large diffeomorphisms in general relativity. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 303–315, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Darryl McCullough) **98d:58019** 58D17 (57M60, 57R50, 58D05, 83C99)
— Determination and reduction of large diffeomorphisms. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 342–345. (Viqar Husain) **98k:83037** 83C45 (58Z05)
— Consistently implementing the field self-energy in Newtonian gravity. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 165–170. (Summary) **98e:83100** 83D05
Giulini, Saverio (*with* Mauceri, Giancarlo; Meda, Stefano) L^p multipliers on noncompact symmetric spaces. *J. Reine Angew. Math.* **482** (1997), 151–175. (Tomasz Przebinda) **98g:43006** 43A22 (22E30, 43A85)
Giunchiglia, Enrico (*with* Kartha, G. Neelakantan; Lifschitz, Vladimir) Representing action: indeterminacy and ramifications. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 409–438. (Olga M. Kosheleva) **98m:68256** 68T30 (68T25)
Giunchiglia, Fausto (*with* Pecchiari, Paolo; Talcott, Carolyn L.) Reasoning theories: towards an architecture for open mechanized reasoning systems. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 157–174, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68168** 68T15 (03B35, 68T27)
— (*with* Traverso, Paolo) Program tactics and logic tactics. (English summary) Artificial intelligence and mathematics, V (Fort Lauderdale, FL, 1994). *Ann. Math. Artificial Intelligence* **17** (1996), *no.* 3-4, 235–259. (Summary) **98g:68152** 68T15 (03B35)
— (*with* Roveri, Marco; Sebastiani, Roberto) A new method for testing decision procedures in modal logics. *Automated deduction—CADE-14* (*Townsville*, 1997), 264–267, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 03B45 (03B35)
— (*with* Cimatti, A.; Weyhrauch, Richard W.) A many-sorted natural deduction. (English summary) *Comput. Intelligence* **14** (1998), *no.* 1, 134–149. (Summary) **98k:03027** 03B35 (68T15)
Giunta, Giulio (*with* Murli, Almerico; Schmid, Giovanni) Error analysis of Rjabov algorithm for inverting Laplace transforms. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 207–219. (A. J. Rodrigues) **98f:65126** 65R10 (65R30)
Giuntini, R. Axiomatizing quantum MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 23–39. (Summary) **98c:03134** 03G25 (03G12, 81P10)
Giurgiutiu, Victor *see* **Stancu-Minasian, I. M.**, **98k:90120**
di Giuseppe, G. *see* **Di Giuseppe, G.**
Giusti, Marc (*with* Heintz, Joos; Morais, Jose Enrique; Pardo, Luis Miguel) When polynomial equation systems can be "solved" fast? (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 205–231, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98a:68106** 68Q40 (68Q25)
— (*with* Heintz, Joos; Morais, Jose Enrique; Pardo, Luis Miguel) Le rôle des structures de données dans les problèmes d'élimination. (English and French summaries) [The relevance of data structures for elimination problems] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1223–1228. (Summary) **98j:68068** 68Q40
— (*with* Bank, B.; Heintz, Joos; Mbakop, G. M.) Polar varieties, real equation solving, and data structures: the hypersurface case. (English summary) *J. Complexity* **13** (1997), *no.* 1, 5–27. (Alexander I. Barvinok) **98h:68123** 68Q40 (14P10, 14Q10, 68Q25)
Giusto, Stefano (*with* Becchi, Carlo M.; Imbimbo, Camilo) Gauge dependence in topological gauge theories. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 342–348. (Bai-Ling Wang) **98c:81221** 81T70 (58D29, 81T13)
Givan, Robert (*with* McAllester, David A.; Witty, Carl; Kozen, Dexter) Tarskian set constraints. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 138–147, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 03B35 (03B70, 03D15)
— (*with* Dean, Thomas) Model minimization in Markov decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 106–111, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C40 (68T20)
Givant, Steven (*with* Andréka, Hajnal; Németi, István) Decision problems for equational theories of relation algebras. (English summary) *Mem. Amer. Math. Soc.* **126** (1997), *no.* 604, xiv+126 *pp.* (Manuel Abad) **98e:03039** 03G15 (03B25, 03D35)
Giveon, Amit (*with* Girardello, Luciano; Porrati, Massimo; Zaffaroni, Alberto[1]) *S*-duality in $N = 4$ Yang-Mills theories with general gauge groups. (English summary) *Nuclear Phys. B* **448** (1995), *no.* 1-2, 127–165. (Summary) **98a:81224** 81T60 (81T13)
— (*with* Roček, Martin) Effective actions and gauge field stability. (English summary) *Phys. Lett. B* **363** (1995), *no.* 3, 173–179. (Summary) **98a:81225** 81T60 (81T13)
— (*with* Elitzur, Shmuel; Kutasov, David; Rabinovici, Eliezer; Schwimmer, A.) Brane dynamics and $N = 1$ supersymmetric gauge theory. (English summary) *Nuclear Phys.*

B **505** (1997), *no.* 1-2, 202–250. (Summary) **98k:81262** 81T60 (81T13, 81T30)
— (*with* Elitzur, Shmuel; Kutasov, David) Branes and $N = 1$ duality in string theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 269–274. (Introduction) **98f:81251** 81T30 (83E30)
Givi, P. (*with* Colucci, P. J.; Jaberi, F. A.; Pope, Stephen B.) Filtered density function for large eddy simulation of turbulent reacting flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 499–515. 76F99 (76M35)
Givoli, Dan (*with* Flaherty, Joseph E.; Shephard, Mark S.) Parallel adaptive finite element analysis of viscous flows based on a combined compressible-incompressible formulation. *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 8, 880–906. (From the introduction) **98k:76089** 76M10
— (*with* Patlashenko, Igor) Finite element schemes for non-linear problems in infinite domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 2, 341–360. (Summary) **98m:65190** 65N30 (73V05, 76M10, 80–08)
Gjerde, Jon The pressure equation in anisotropic medium. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 1-2, 47–69. (Tu Sheng Zhang) **98a:60084** 60H15 (60G20)
Gjerstad, Steven (*with* Dickhaut, John) Price formation in double auctions. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 1–29. 90A12 (90A60)
Gjesdal, Thor Smoothing analysis of multicolour pattern schemes. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 345–350. 65N55 (65F10)
Gjessing, Håkon K. (*with* Paulsen, Jostein) Optimal choice of dividend barriers for a risk process with stochastic return on investments. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 3, 215–223. (Summary) **98i:62084** 62P05
van Glabbeek, Rob J. (*with* Weijland, W. Peter) Branching time and abstraction in bisimulation semantics. (English summary) *J. ACM* **43** (1996), *no.* 3, 555–600. (Dirk Janssens) **98a:68055** 68Q10 (68Q55, 68Q60)
— Axiomatizing flat iteration. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 228–242, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68082** 68Q10 (68Q55, 68Q60)
— (*with* Vaandrager, Frits W.) The difference between splitting in n and $n + 1$. (English summary) *Inform. and Comput.* **136** (1997), *no.* 2, 109–142. (Annabelle McIver) **98f:68080** 68Q10
Glachant, Jérôme Sur la convergence des mesures de persistance relativement à la fréquence d'échantillonnage. (English and French summaries) [Convergence of measures of persistence with respect to sampling frequency] *Ann. Économ. Statist.* **1994,** *no.* 35, 107–142. 62P20 (62M10)
— Croissance et structure du système productif dans une économie log-linéaire. (English and French summaries) [Growth and structure of the productive system in a linear logarithmic economy] *Ann. Économ. Statist.* **1995,** *no.* 39, 33–66. 90A11 (90A58)
Gladdines, Helma F_σ-absorbing sequences in hyperspaces of compact sets. (English summary) *Bull. Polish Acad. Sci. Math.* **40** (1992), *no.* 3, 175–184. (Summary) **98g:54013** 54B20 (54F65, 57N20)
Gladikowski, Jens (*with* Hellmund, Meik) Static solitons with nonzero Hopf number. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5194–5199. (Bernd J. Schroers) **98i:81146** 81T10 (57R99)
Gladkiĭ, A. A. (*with* Emelichev, V. A.; Yanushkevich, O. A.) On multicriterial problems of determining lexicographic optima. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996,** *no.* 3, 82–86, 132. (E. G. Gol'shteĭn) **98e:90135** 90C29 (90C27)
— On complexity of minimizing weighted number of late jobs in unit time open shops. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 197–201. (M. M. Sysło) **98h:90039** 90B35 (65Y25, 68Q25)
Gladkīvs'ka, O. V. An example of a complete orthonormal system in a Hilbert space of generalized functions. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 5, 725–728; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 812–815 (1998). 46F05 (46E99)
Gladkov, A. L. The Cauchy problem for a filtration equation with convection at infinity. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 6, 27–30, 123. 35K55 (76S05)
— Uniqueness of the solution of the Cauchy problem for some quasilinear pseudoparabolic equations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 356–362, 478; *translation in Math. Notes* **60** (1996), *no.* 3-4, 264–268 (1997). (Georgy A. Sviridyuk) **98d:35122** 35K70 (35K55)
Gladky, A. A. *see* **Gladkiĭ, A. A.**
Gladman, Brett (*with* Quinn, D. Dane; Nicholson, Phil; Rand, Richard) Relaxation oscillations in tidally evolving satellites. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 2, 111–130. 70M20 (70K05)
Gladun, V. P. Hypothetical modeling: methodology and application. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 1, 10–20, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 7–15. 68T05
Gladwell, G. M. L. (*with* Lebedev, L. P.) On spatial effects of modelling in linear viscoelasticity. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 241–250. (Summary) **98j:73045** 73F15
— Total positivity and the QR algorithm. (English summary) *Linear Algebra Appl.* **271** (1998), 257–272. (Thomas L. Markham) **98j:15027** 15A48
Gladwell, I. (*with* Kraut, G. L.) Cost of stable algorithms for bordered almost block diagonal systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 151–154. (*see* **98b:65005**) 65L10 (65F05)
— (*with* Bouas-Dockery, K.; Brankin, R. W.) A Fortran 90 separable Hamiltonian system solver. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 207–217. (*see* **98g:65010**) 65–04 (34A45, 65L05)
Gladwin, C. J. (*with* Garey, L. E.) Unconditionally stable predictor-corrector methods for second order ordinary differential equations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 343–351. (Philip W. Sharp) **98a:65093** 65L06
— (*with* Garey, L. E.; Shaw, R. E.) An approximate solution for a system with a symmetric matrix. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 25–31. 65F15 (65L06)
Gladyshev, A. I. (*with* Dement'ev, V. T.; Erzin, A. I.) Models and problems of the optimal synthesis of homogeneous hierarchical systems. (Russian. Russian summary) *Models and methods of optimization (Russian)*, 63–76, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98a:93003** 93A13 (49N55)
Gladyshev, M. T. Some problems in fluid mechanics. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 1, 68–74, 141. (Murad Brutyan) **98m:76027** 76B99
Glaeske, Hans-Jürgen (*with* Kilbas, A. A.; Saĭgo, Megumi; Shlapakov, S. A.) $L_{\nu,\gamma}$-theory of integral transformations with the H-function in the kernel. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 10–15, 123. (Summary) **98m:44008** 44A20
Glagoleva, R. Ya. A sufficient condition for the existence of a "dead zone" in solutions of degenerate semi-linear parabolic equations and inequalities. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 824–831, 958; *translation in Math. Notes* **60** (1996), *no.* 5-6, 622–628 (1997). (Summary) **98m:35111** 35K65 (35B99, 35R45)
Glaister, Ian (*with* Shallit, Jeffrey O.) Polynomial automaticity, context-free languages, and fixed points of morphisms (extended abstract). (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 382–393, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q45
Glaister, P. The efficient prediction of shallow water flows. I. Theory. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 12, 129–143. (I. Christie) **98d:76118** 76M20 (65M06, 76B10)
— The efficient prediction of shallow water flows. II. Application. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 115–141. (I. Christie) **98f:76012** 76B15 (65N99, 76M25)
— An analysis of a Jacobi iteration. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 2, 195–214. 65F10
Glanc, Barbara (*with* Jakubowicz, Antoni; Kleczewska, Halina) The generalized Reissner-Nordström space-time. *Demonstratio Math.* **30** (1997), *no.* 3, 635–639. (Jaume J. Carot) **98j:83017** 83C15 (83C20)
Glaria, Jaime (*with* Molina, Leonardo) A laboratory plant for feedback theories. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2085–2087. 93B52
Glasa, Ján (*with* Podhájecký, Gerard) On planar affine transform determination. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 259–274. (Marshall Walker) **98i:68271** 68U10 (51N10, 65Y25)
Glasauer, Stefan Integral geometry of spherically convex bodies. *Diss. Summ. Math.* **1** (1996), *no.* 1-2, 219–226. (W. J. Firey) **98a:52013** 52A55 (52A22)
— (*with* Gruber, Peter Manfred) Asymptotic estimates for best and stepwise approximation of convex bodies. III. (English summary) *Forum Math.* **9** (1997), *no.* 4, 383–404. (Marek Lassak) **98i:52008** 52A27 (52B60)
— A generalization of intersection formulae of integral geometry. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 101–121. (Jan Rataj) **98k:52012** 52A22
Glasby, S. P. (*with* Howlett, R. B.) Writing representations over minimal fields. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1703–1711. (V. A. Belonogov) **98c:20019** 20C20
Glasgow, Janice (*with* Leherte, Laurence; Baxter, Kim; Steeg, Evan; Fortier, Suzanne) Analysis of three-dimensional protein images. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 125–159 (*electronic*). 92C40 (92D20)
Glashow, Sheldon Lee (*with* Mittag, Laurence) Three rods on a ring and the triangular billiard. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 937–941. (Gregory Galperin) **98j:70015** 70F99 (58F11, 70F35)
Glasner, Eli (*with* Blanchard, François; Host, B.) A variation on the variational principle and applications to entropy pairs. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 29–43. (Manfred Denker) **98k:54073** 54H20 (28D05)
— A simple characterization of the set of μ-entropy pairs and applications. (English summary) *Israel J. Math.* **102** (1997), 13–27. (François Blanchard) **98k:54076** 54H20 (28D20, 54C70, 58F11)
— (*with* Mentzen, M.; Siemaszko, A.) A natural family of factors for minimal flows. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 19–42, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:54070** 54H20
— (*with* Akin, Ethan) Topological ergodic decomposition and homogeneous flows. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 43–52, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:54067** 54H20
Glass, A. M. W. (*with* Cohen, Stephen D.) Free groups from fields. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 309–319. (James K. Deveney) **98c:12003** 12F05 (20E05)
— (*with* Bennett, Curtis D.; Blass, Josef; Meronk, David B.; Steiner, Ray P.) Linear forms in the logarithms of three positive rational numbers. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 97–136. (Yann Bugeaud) **98g:11085** 11J86
Glass, Amy Jocelyn Product cycles and market penetration. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 865–891. 90A16 (90A60)
Glass, Celia A. (*with* Anderson, Edward J.; Potts, Chris N.) Machine scheduling. *Local search in combinatorial optimization*, 361–414, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90B35 (68M20, 90C27)
— (*with* Anily, Shoshana; Hassin, Refael) The scheduling of maintenance service. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 27–42. 90B35 (90B05)
Glass, E. N. Taub numbers. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 120–124, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C40
— Angular momentum and Killing potentials. (English summary) *J. Math. Phys.* **37** (1996), *no.* 1, 421–429. (Brian Edgar) **98a:83051** 83C40 (83C60)
— (*with* Naber, M. G.) Taub numbers at future null infinity. III. The Bondi mass. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1899–1909. (Richard Hansen) **98e:83040** 83C30
— (*with* Garfinkle, David; Krisch, Jean P.) Solution generating with perfect fluids. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 467–480. (Nora Bretón Báez) **98e:83027** 83C20 (83C15)
Glass, Julie Rank 24 holomorphic vertex operator algebras. *Comm. Algebra* **24** (1996), *no.* 5, 1857–1896. (Alex Jay Feingold) **98a:17046** 17B69 (81R10)
— On an explicit isomorphism of standard level-one modules for $\hat{D}_{4n}$. *J. Algebra* **189** (1997), *no.* 2, 187–225. (Hai Sheng Li) **98c:17026** 17B69 (17B67)

Glass, Kathryn (*with* Renton, Michael; Judd, Kevin; Mees, Alistair I.) Creating and targeting periodic orbits. (English summary) With comments by Y. Cohen and E. Kostelich. *Control and chaos* (*Honolulu, HI*, 1995), 183–196, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98a:58118** 58F13 (58F22)

— Equilibrium configurations for a system of N particles in the plane. (English summary) *Phys. Lett. A* **235** (1997), *no.* 6, 591–596. (Summary) **98e:70004** 70F10

— *see also* **Kostelich, Eric J., 98b:58116**

Glaß, Thomas (*with* Stroetmann, Karl) A declarative semantics for the PROLOG cut operator. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 255–271, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68050** 68N17 (68Q55)

— (*with* Strahm, Thomas) Systems of explicit mathematics with nonconstructive μ-operator and join. (English summary) *Ann. Pure Appl. Logic* **82** (1996), *no.* 2, 193–219. (Harold Schellinx) **98a:03095** 03F50

— (*with* Rathjen, Michael; Schlüter, Andreas) On the proof-theoretic strength of monotone induction in explicit mathematics. (English summary) *Ann. Pure Appl. Logic* **85** (1997), *no.* 1, 1–46. (Mariko Yasugi) **98e:03035** 03F50 (03D60, 03D70, 03F25, 03F35)

Glasser, David (*with* Gewali, L.; Venkatasubramanian, R.) Algorithms for computing grazing area. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 193–211. (Rade Živaljević) **98j:52021** 52B55 (68U05)

Glasser, M. Lawrence (*with* Cadilhe, António M. R.; Privman, Vladimir) Exact solutions of low-dimensional reaction-diffusion systems. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 109–114. (Paul Krapivsky) **98c:82044** 82C20 (92E20)

Glässer, Uwe (*with* Del Castillo, Giuseppe; Đurđanović, Igor) An evolving algebra abstract machine. (English summary) *Computer science logic* (*Paderborn*, 1995), 191–214, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98b:68034** 68Q05 (68Q60)

Glasserman, Paul (*with* Wang, Yashan) Counterexamples in importance sampling for large deviations probabilities. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 731–746. (Summary) **98b:60053** 60F10 (60J15, 62F12, 65C05)

— (*with* Boyle, Phelim P.; Broadie, Mark) Monte Carlo methods for security pricing. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1267–1321. (*see* **98c:90003**) 90A12 (65C05)

— (*with* Broadie, Mark) Pricing American-style securities using simulation. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1323–1352. (*see* **98c:90003**) 90A12 (65C05)

— (*with* Liu, Tai-Wen) Corrected diffusion approximations for a multistage production-inventory system. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 186–201. (E. S. Boylan) **98e:90044** 90A16 (60J60, 90B20)

— *see also* **Stochastic networks, 98b:60006**

Glassey, Robert (*with* Schaeffer, Jack) The "two and one-half-dimensional" relativistic Vlasov Maxwell system. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 257–284. (Summary) **98f:35143** 35Q60 (76X05, 76Y05, 82D10)

Glauberman, George Large abelian subgroups of finite p-groups. *J. Algebra* **196** (1997), *no.* 1, 301–338. (Andreas Caranti) **98h:20029** 20D15 (20F40, 20J06)

Glauert, John (*with* Khasidashvili, Zurab) Discrete normalization and standardization in deterministic residual structures. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 135–149, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68116** 68Q42 (68Q55)

— (*with* Khasidashvili, Zurab) The geometry of orthogonal reduction spaces. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 649–659, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q42

Glavan, V. A. Nilpotent linear extensions of minimal transformation groups. (Russian. English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992**, *no.* 2, 31–37. (Valery Covachev) **98k:58192** 58F25 (34C35, 54H20)

Glaz, Joseph (*with* Kenyon, James R.) Probability approximations and inequalities for sequential tests. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 99–106, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62142** 62L10 (62N05)

— (*with* Chen, Jie[6]) Approximations and inequalities for the distribution of a scan statistic for 0-1 Bernoulli trials. (English summary) *Advances in the theory and practice of statistics*, 285–298, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98m:60011** 60C05 (60E15)

Glazatov, S. N. On periodic transonic flows of a viscous gas. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 69–77, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 58–65. (Peter A. Vel′misov) **98e:76058** 76H05 (35Q35, 76N15)

Glazebrook, James F. (*with* Sundararaman, Duraiswami) On deformations of self-dual vector bundles over quaternionic manifolds. (English summary) *CR-geometry and overdetermined systems* (*Osaka*, 1994), 141–157, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Paolo Piccinni) **98m:53065** 53C25 (32L07, 53C56)

Glazebrook, K. D. (*with* Boys, R. J.; McCrone, C. M.) A Bayesian model for the optimal ordering of a collection of screens. (English summary) *Biometrika* **83** (1996), *no.* 2, 472–476. (Summary) **98g:62139** 62K05 (62F15)

Glazek, K. (*with* Denecke, K.) M-solid varieties and Q-free clones. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 515–524. (Joel Berman) **98h:08005** 08B20 (08A40)

Glazkov, Yu. V. (*with* Sakharov, V. I.; Talipov, R. F.) Solutions of problems on the supersonic flow of a viscous gas around blunt bodies on the basis of complete and simplified Navier-Stokes equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1996**, *no.* 2, 62–69, 105. 76K05 (76M25)

Glazman, I. M. *see* **New results in operator theory and its applications, 98e:00028** *and* **Lyubich, Yu. I., 98i:01032**

Glazman, Roman E. Scale-dependent ocean wave turbulence. *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 97–114, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (*see* **98e:00022**) 86A05 (76F99)

Glazos, Michael P. (*with* Żak, Stanislaw H.) Practical stabilization of nonlinear/uncertain dynamic systems with bounded controllers. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 153–171. 93D15

Glazyrina, Irina Edgeworth's conjecture in atomless economies with a non-separable commodity space. (English summary) *J. Math. Econom.* **27** (1997), *no.* 1, 79–90. (Farhad Veli Hüsseinov) **98a:90027** 90A14

Glebov, N. I. (*with* Gimadi, E. Kh.) The problem of rigging a hierarchical control and communications system. (Russian. Russian summary) *Models and methods of optimization* (*Russian*), 53–62, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98e:94007** 94A13 (90B70, 90C90)

— (*with* Shchukin, A. G.) On the complexity of some generalizations of Johnson's two-machine problem. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 1, 80–90, 93–94. (Yuri Nazarovich Sotskov) **98d:90060** 90B35

Glebskiĭ, L. Yu. (*with* Belyakov, L. A.; Lerman, L. M.) Abundance of stable stationary localized solutions to the generalized 1D Swift-Hohenberg equation. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 253–266. (Luigi Martina) **98i:35171** 35Q55 (58F39)

Gledzer, E. On the Taylor hypothesis corrections for measured energy spectra of turbulence. (English summary) *Phys. D* **104** (1997), *no.* 2, 163–183. (J. C. Vassilicos) **98e:76044** 76F05

Gleichgewicht, Boleslaw *see* **Fichtenholz, G. M.**

Gleiser, Marcelo (*with* Müller, Hans-Reinhard) How to count kinks. From the continuum to the lattice and back. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 69–75. 81T25

Gleiser, Reinaldo J. Mass correction and gravitational energy radiation in black-hole perturbation theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1911–1916. (Summary) **98b:83055** 83C57

Glema, Adam (*with* Garstecki, Andrzej) Pontriagin method versus nonlinear programming in applications to structural optimization. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1051–1058. (*see* **98b:49004**) 49Q15 (73K40)

Glendinning, Paul (*with* Hall, Toby) Zeros of the kneading invariant and topological entropy for Lorenz maps. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 999–1014. (Lluís Alsedà) **98e:58118** 58F13 (54H20, 58F11)

— Differential equations with bifocal homoclinic orbits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 27–37. (Alan R. Champneys) **98h:34091** 34C37 (34C23, 58F14, 58F36)

— Inaccessible attractors of weakly dissipative systems. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 507–522. (Arnd Scheel) **98b:58148** 58F30 (58F12, 58F14)

Glendinning, R. H. Determining the order of an ARMA model from outlier contaminated data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 13–40. 62M10

Glenn, James (*with* Gasarch, William Ian) Implementing WS1S via finite automata. (English summary) *Automata implementation* (*London, ON*, 1996), 50–63, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (Summary) **98k:68120** 68Q68 (03B25, 03D05, 03D15)

Glenn, Paul G. Identification of certain structures as split opfibrations over Δ^{op}. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 265–284. (S. B. Niefield) **98h:18004** 18C10 (18C20, 18D30, 18F10, 18G30)

Gleser, Leon Jay Some new approaches to estimation in linear and nonlinear errors-in-variables regression models. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 69–76, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

Glewwe, Paul A test of the normality assumption in the ordered probit model. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 1–19. 62F03 (62P20)

Glezke, Kh.-Yu. *see* **Glaeske, Hans-Jürgen**

Glick, John (*with* Rosen, J. Ben; Park, Haesun) Total least norm for linear and nonlinear structured problems. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 203–214, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

Gliklikh, Yurii E. ★ Ordinary and stochastic differential geometry as a tool for mathematical physics. (English summary) With an appendix by the author and T. J. Zastawniak. Mathematics and its Applications, 374. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xvi+189 *pp. ISBN* 0-7923-4154-6 (Elton Pei Hsu) **98k:58246** 58G32 (58-02, 60H10, 81P20, 82C31)

— ★ Global analysis in mathematical physics. Geometric and stochastic methods. Translated from the 1989 Russian original and with Appendix F by Viktor L. Ginzburg. Applied Mathematical Sciences, 122. *Springer-Verlag, New York*, 1997. xvi+213 *pp. ISBN* 0-387-94867-8 (Ming Liao) **98e:58001** 58-02 (53C80, 58D05, 58G32, 58Z05, 76C05, 76D99)

kowalski-Glikman, Jerzy *see* **Kowalski-Glikman, Jerzy**

Glimm, James (*with* Boston, Brian; Grove, John W.; Holmes, Richard L.; Zhang, Qiang[1]) Multiscale structure for hyperbolic waves. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 1–9, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65

— (*with* Kranzer, H. C.; Tan, De Chun; Tangerman, F. M.) Wave fronts for Hamilton-Jacobi equations: the general theory for Riemann solutions in $\mathbb{R}^n$. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 647–677. (Paola Loreti) **98i:35020** 35F20 (35A30, 35L65)

— (*with* Song, Yu[2]; Chui, W. K.; Lindquist, W. Brent; Tangerman, F. M.) Applications of front tracking to the simulation of resin transfer molding. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 47–60. (Summary) **98c:76114** 76T05 (73K20, 76A99, 76M25)

— (*with* Chui, W. K.; Tangerman, F. M.; Jardine, A. P.; Madsen, J. S.; Donnellan, T. M.; Leek, R.) Process modeling in resin transfer molding as a method to enhance product quality. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 714–727. (Summary) **98j:76141** 76T05 (73K20, 76S05)

— (*with* Asvestas, J. S.; Bielefeld, B.; Deng, Yue-Fan; Simanca, Santiago R.; Tangerman, F. M.) Electromagnetic scattering from large cavities: iterative methods. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 37–47. 65R20 (45B05, 78A45)

Glinos, Nikolaos Designing an algorithm for the series solution of nth order linear ODE's with polynomial coefficients. (English summary) *Innovation in mathematics* (*Rovaniemi*, 1997), 161–168, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 34-04 (34A30, 65L06)

Glitzky, Annegret (*with* Hünlich, Rolf) Electro-reaction-diffusion systems for heterostructures. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 305–313, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 78A35 (35K57, 35R35)

— (*with* Hünlich, Rolf) Global estimates and asymptotics for electro-reaction-diffusion systems in heterostructures. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 205–226. 35K57 (35B40, 35Q80, 78A35)

— (*with* Gröger, Konrad; Hünlich, Rolf) Discrete-time methods for equations modelling transport of foreign-atoms in semiconductors. *Nonlinear Anal.* **28** (1997), *no.* 3, 463–487. (Elias Tuma) **98b:35090** 35K57 (35Q99, 82C70, 82D99)

— (*with* Hünlich, Rolf) Energetic estimates and asymptotics for electro-reaction-diffusion systems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 823–832. (Ioannis G. Stratis) **98k:35099** 35K57 (35B40, 65M12, 78A35)

Gliviak, F. (*with* Kyš, P.) Graphs related to diameter and center. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 1, 21–32. (David Burns) **98g:05053** 05C12 (05C38)

Glizer, V. Y. Optimal planar interception with fixed end conditions: approximate solutions. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 1–25. (Summary) **98b:90194** 90D26 (49J15, 49N55)

Globerman, Noa (*with* Harel, David) Complexity results for two-way and multi-pebble automata and their logics. (English summary) ICALP '94 (Jerusalem, 1994). *Theoret. Comput. Sci.* **169** (1996), *no.* 2, 161–184. (Summary) **98j:68111** 68Q68 (03B70, 03D15, 68Q60)

Globevnik, Josip Partial indices of analytic discs attached to Lagrangian submanifolds of $\mathbf{C}^N$. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1307–1326. (Yong-Geun Oh) **98a:32019** 32F25

— (*with* Quinto, Eric Todd) Morera theorems via microlocal analysis. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 1, 19–30. (E. R. Love) **98c:30004** 30B40 (35A27, 35S30, 44A12, 46F12)

Glöckle, W. *see* **Glöckle, Walter**

Glöckle, W. G. (*with* Metzler, Ralf; Nonnenmacher, T. F.; West, Bruce J.) "Fractional tuning" of the Riccati equation. (English summary) *Fractals* **5** (1997), *no.* 4, 597–601. 70D99 (34A34)

Glöckle, Walter (*with* Hüber, Dirk; Witała, H.; Nogga, A.; Kamada, H.) A new look into the partial-wave decomposition of three-nucleon forces. (English summary) *Few-Body Systems* **22** (1997), *no.* 3, 107–134. (A. Ventura) **98k:81319** 81V35 (81–08)

mcGloin Knoll, C. *see* **McGloin Knoll, C.**

Glomm, Gerhard (*with* Ravikumar, Balasubrahmanian) Opting out of publicly provided services: a majority voting result. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 187–199. (Summary) **98m:90040** 90A28

Gloor, Oliver (*with* Amrhein, Beatrice; Küchlin, Wolfgang) On the walk. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 179–202. (Ralf Fröberg) **98i:13050** 13P10 (68Q40)

Glorennec, Pierre-Yves *see* **Safavi, A. A., 98e:93030**

Glotov, V. A. (*with* Anokhin, A. M.; Pavel'ev, V. V.; Cherkashin, A. M.) On methods for the determination of criteria importance coefficients. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 3–35. 90C29 (90A05)

Glotzer, Sharon C. Computer simulations of spinodal decomposition in polymer blends. (English summary) *Annual reviews of computational physics, II*, 1–46, *Annual Rev. Comput. Phys., II, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:82001**) 82C80 (82D60)

Glover, B. M. (*with* Rubinov, Aleksandr M.) Characterizations of optimality for homogeneous programming problems with applications. (English summary) *Recent advances in nonsmooth optimization*, 351–380, *World Sci. Publishing, River Edge, NJ*, 1995. (Doug Ward) **98e:49045** 49J52 (90C48)

— (*with* Craven, B. D.) An approach to vector subdifferentials. (English summary) *Optimization* **38** (1996), *no.* 3, 237–251. (Massimo Pappalardo) **98k:49025** 49J52 (90C34)

— (*with* Rubinov, Aleksandr M.) On generalized quasiconvex conjugation. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 199–216, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Juan-Enrique Martínez-Legaz) **98e:90123** 90C26 (26B25, 49N15)

— (*with* Xu, Hui Fu) New version of the Newton method for nonsmooth equations. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 395–415. (Mihai Turinici) **98e:65048** 65H10 (90C30)

Glover, Fred (*with* Løkketangen, Arne) Surrogate constraint analysis—new heuristics and learning schemes for satisfiability problems. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 537–572, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C10 (90C35, 90C90)

— (*with* Sherali, Hanif D.; Lee, Youngho) Generating cuts from surrogate constraint analysis for zero-one and multiple choice programming. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 151–172. (Summary) **98e:90095** 90C09 (90C29)

— (*with* Pesch, Erwin) TSP ejection chains. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 165–181. (*see* **98b:00021**) 90C35

— (*with* Babaev, Dzh. A.; Ryan, Jennifer) A new knapsack solution approach by integer equivalent aggregation and consistency determination. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 43–50. (Ming Fang Ni) **98j:90040** 90C10 (90C27)

— (*with* Rangaswamy, Balasubramanian; Jain, Anant Singh) Tabu search candidate list strategies in scheduling. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 215–233, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27 (90B35)

Glover, H. H. (*with* Yang, T. Y.) A Hamilton cycle in the Cayley graph of the $\langle 2, p, 3\rangle$ presentation of $\mathrm{PSL}_2(p)$. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 149–163. (Dave Witte) **98b:05047** 05C25 (05C45)

Glover, Joseph (*with* Rao, Murali) Condenser potentials. (English summary) Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 125–131. (Hrvoje Šikić) **98e:60124** 60J45 (31C15)

Glover, Keith Progress in applied robust control. *Trends in control* (*Rome*, 1995), 141–150, *Springer, Berlin*, 1995. (Henk Nijmeijer) **98d:93001** 93–02 (93B36, 93C41)

— (*with* Cantoni, M. W.) H_∞ sampled-data synthesis and related numerical issues. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2233–2241. 93B36 (93C57)

Głowacki, Paweł The Weyl asymptotic formula by the method of Tulovskiĭ and Shubin. (English summary) *Studia Math.* **127** (1998), *no.* 2, 169–190. (Vladimir Tulovsky) **98k:47100** 47G30 (35P20, 35S05, 47F05)

Glower, Jacob S. Adaptation rates for repetitive control schemes. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 533–547. (Summary) **98d:93075** 93D15 (93C40)

Glowinski, Roland (*with* Pan, Tsorng-Whay; Periaux, Jacques) A Lagrange multiplier/fictitious domain method for the numerical simulation of incompressible viscous flow around moving rigid bodies. I. Case where the rigid body motions are known a priori. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 361–369. (Summary) **98a:76052** 76M10 (76D05, 76M25, 76Z05)

— (*with* Maury, Bertrand) Fluid-particle flow: a symmetric formulation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1079–1084. (Summary) **98c:76082** 76M25 (76M10, 76T05)

— (*with* Dean, Edward J.) A wave equation approach to the numerical solution of the Navier-Stokes equations for incompressible viscous flow. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 783–791. (Summary) **98j:76021** 76D05 (65N40, 76M25)

— (*with* Girault, V.; Lopez, H.) Error analysis of a finite element realization of a fictitious domain/domain decomposition method for elliptic problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 35–56. (Weimin Han) **98c:65195** 65N55 (65N30)

— (*with* Bamberger, Alain; Tran, Quang Huy) A domain decomposition method for the acoustic wave equation with discontinuous coefficients and grid change. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 603–639. (Dennis C. Jespersen) **98c:65161** 65M55 (35L05, 46N40, 65M12)

— (*with* Pan, Tsorng-Whay; Periaux, Jacques) Domain embedding methods for incompressible viscous flow around moving rigid bodies. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 1–17. (Summary) **98j:76107** 76M25 (65M60)

Gluck, David Characters and random walks on finite classical groups. *Adv. Math.* **129** (1997), *no.* 1, 46–72. (P. P. Pálfy) **98g:20027** 20C33 (20P05, 60B15, 60J15)

Gluck, Herman (*with* Pan, Liu-Hua) Embedding and knotting of positive curvature surfaces in 3-space. (English summary) *Topology* **37** (1998), *no.* 4, 851–873. (Vagn Lundsgaard Hansen) **98m:57008** 57M25 (53A05)

Glück, Robert (*with* Klimov, Andrei V.) A regeneration scheme for generating extensions. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 127–134. (Summary) **98a:68020** 68N05 (68N15)

Gluckman, Bruce J. (*with* Ding, Mingzhou; Ding, E-Jiang; Ditto, William L.; In, Visarath; Peng, Jian-Hua; Spano, Mark L.; Yang, Weiming) Control and synchronization of chaos in high-dimensional systems: review of some recent results. (English summary) *Chaos* **7** (1997), *no.* 4, 644–652. 58F13 (58F40)

— (*with* So, Paul; Ott, Edward; Sauer, Timothy D.; Grebogi, Celso; Schiff, Steven J.) Extracting unstable periodic orbits from chaotic time series data. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part A*, 5398–5417. (Hans-Peter Herzel) **98b:58123** 58F13 (58F40, 92C20)

Glukhov, M. M. (*with* Babash, A. V.; Shankin, G. P.) On transformations of a set of words in a finite alphabet that do not propagate distortions. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 3–19. (Summary) **98j:68137** 68R15 (68Q45)

Glumineau, A. (*with* Plestan, F.) Linearization by generalized input-output injection. (English summary) *Systems Control Lett.* **31** (1997), *no.* 2, 115–128. (Ülle Kotta) **98e:93018** 93B18

Glumov, V. M. (*with* Krutova, I. N.) Synthesis of an automated algorithm for the control of the iterative process of tuning the parameters of a dynamical system. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 5, 12–27; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 722–734. 93B40 (93B51)

Glushak, A. V. Stabilization of the solution of the Dirichlet problem for an elliptic equation in a Banach space. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 510–514, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 513–517. (Summary) **98k:34095** 34G10 (34D99, 35J99, 35R20, 47D09, 47N20)

— The Bessel operator function. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 587–589. (Valentina Ivanivna Gorbachuk) **98d:34092** 34G10 (35L99, 47D06, 47D09, 47N20)

Glushko, G. S. (*with* Ambartsumyan, E. N.; Kryukov, I. A.) Determination of turbulent transfer coefficients in plane incompressible flows. *Fluid Dynam.* **32** (1997), *no.* 3, 387–393; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 3, 83–92 (*Russian. Russian summary*). (Summary) **98h:76062** 76F99 (76M35)

Glushkov, E. V. (*with* Nikitin, Yu. G.) Energy propagation in a system of joint elastic half-strips of different thickness. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 248–254; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 239–244. 73D99

Glushtsov, A. I. The methods of integral equations and discrete sources in shielding problems. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996,** *no.* 1, 61–66, 81. (Summary) **98b:78023** 78A40

Glüsing-Lüerssen, Heide A behavioral approach to delay-differential systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 480–499. (Xiao Yun Lu) **98j:93022** 93B25 (93A99, 93B05)

Gluzman, S. (*with* Yukalov, V. I.) Algebraic self-similar renormalization in the theory of critical phenomena. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3983–3999. (Roberto Fernández) **98i:82022** 82B27 (82B28, 82B41)

— (*with* Yukalov, V. I.) Self-similar bootstrap of divergent series. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6552–6565. (Summary) **98f:82004** 82B05 (41A58)

— (*with* Yukalov, V. I.) Resummation methods for analyzing time series. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 2-3, 61–74. 90A19

— (*with* Yukalov, V. I.) Renormalization group analysis of October market crashes. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 2-3, 75–84. 90A60 (82B28)

Glynn, David G. A general theory of cone-representations. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 789–800. (T. G. Ostrom) **98k:51016** 51E20
— On cone representations of translation planes. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 1, 33–41. (M. J. Kallaher) **98c:51011** 51E15 (05B25)
Glynn, Peter W. (*with* Torres, Marcelo) Nonparametric estimation of tail probabilities for the single-server queue. (English summary) *Stochastic networks* (*New York*, 1995), 109–138, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98d:62058** 62G05 (62M09)
— (*with* Meyn, Sean P.) A Liapounov bound for solutions of the Poisson equation. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 916–931. (John P. Lehoczky) **98b:60123** 60J10 (90B22)
— (*with* Ensor, Katherine Bennett) Stochastic optimization via grid search. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 89–100, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:60039** 60F05 (60E07, 65K99, 90C15, 93E10, 93E30)
— (*with* Calvin, James M.) Average case behavior of random search for the maximum. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 632–642. (Summary) **98c:60102** 60J65
Gmira, B. (*with* El Kacimi Alaoui, Aziz) Stabilité du caractère kählérien transverse. (French summary) [Stability of the transverse Kähler character] *Israel J. Math.* **101** (1997), 323–347. (Syoji Tsuboi) **98m:32031** 32G05 (32L30, 58G05)
Gmür, Thomas ★ Dynamique des structures. (French. French summary) [Structural dynamics] Analyse modale numérique. [Numerical modal analysis] *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1997. xii+570 *pp. ISBN* 2-88074-333-8 (J. T. Oden) **98m:73054** 73Kxx (73Vxx)
Gnanambal, Y. (*with* Balachandran, Krishnan; Sundaram, Palaniappan) On generalized locally semi-closed sets and GLSC-continuous functions. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 189–200. 54C10
— (*with* Balachandran, Krishnan) β-locally closed sets and β-LC-continuous functions. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 35–44. (Summary) **98j:54018** 54C08
Gnanaseelan, C. (*with* Srivastava, P. D.) The α-, β-, γ-duals of some generalised difference sequence spaces. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 111–120. (Summary) **98k:46011** 46A45
Gnativ, Yu. M. The stressed state of a cylindrical shell with a circular neck loaded by internal pressure. (English summary) *J. Math. Sci.* **81** (1996), *no.* 6, 3076–3079. (Petr E. Tovstik) **98a:73044** 73K15
Gnedbaye, Allahtan Victor Opérades des algèbres $(k+1)$-aires. [Operads of $(k+1)$-ary algebras] *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 83–113, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (Kathryn P. Hess) **98a:17003** 17A42 (17A30, 18D10, 18G60)
— Suite spectrale d'une extension d'algèbres de Leibniz. (English and French summaries) [Spectral sequence of a Leibniz algebra extension] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1327–1332. (Teimuraz Pirashvili) **98d:17003** 17A30 (17B56)
Gnedenko, Boris Vladimirovich On the past and the future. (English summary) *Theory Probab. Math. Statist. No.* 49 (1994), 1–15 (1995). (U. Krengel) **98d:01034** 01A60 (01A70)
— *see also* **Khinchin, Aleksandr Yakovlevich**, **98c:11008**; **Sukhov, Yu. M.**; **Kendall, David** *and* **Vere-Jones, David**
Gnedin, A. V. On the full information best-choice problem. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 678–687. (S. M. Samuels) **98a:60053** 60G40 (62L15)
— Das Spiel Googol. [The game of Googol] *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1996,** *no.* 3, 16 *pp.* (P. Neumann) **98b:90187** 90D15 (60G40)
— The representation of composition structures. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1437–1450. (David J. Aldous) **98g:60019** 60C05 (60G09)
Gneiting, Tilmann On the Bernstein-Hausdorff-Widder conditions for completely monotone functions. (English summary) *Exposition. Math.* **16** (1998), *no.* 2, 181–183. 26A48
Gnélécoumbaga, S. (*with* Panasenko, G. P.) Nonstationary contact problems between a perforated medium and a highly conductive homogeneous one. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 191–202, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Fu Ru Jiang) **98i:35015** 35B27 (34E10, 73B27)
Gnesi, Stefania (*with* Fantechi, Alessandro; Latella, Diego) Towards automatic temporal logic verification of value passing process algebra using abstract interpretation. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 563–578, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q55)
Gnilka, Stanisław On continuity in extended topologies. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 99–108. (Summary) **98i:54002** 54A05 (54C10, 54D10)
— On extended topologies—sequential operators and Heine criteria. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 21–33. 54A05 (54D10)
Goard, J. M. (*with* Broadbridge, P.) Steady unsaturated flow in two-dimensional scale-heterogeneous porous media. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 45–54. (Summary) **98i:76085** 76S05
Göb, Rainer Tests of significance for the average square deviation from target in a finite lot. (English summary) *Metrika* **45** (1997), *no.* 2, 131–169. (Chandra M. Gulati) **98m:62289** 62N10 (62F03)
Gobbino, Massimo (*with* Sardella, Mirko) On the connectedness of attractors for dynamical systems. (English summary) *J. Differential Equations* **133** (1997), *no.* 1, 1–14. (Joan Carles Tatjer) **98e:58113** 58F12 (34C35, 34D45, 54H20)
— Finite difference approximation of the Mumford-Shah functional. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 2, 197–228. (Françoise Dibos) **98m:49031** 49J45 (49M25, 65K10)
Göbel, Manfred Symideal Gröbner bases. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 48–62, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68132** 68Q40 (68Q42)
— On the number of special permutation-invariant orbits and terms. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 505–509. 13A50
Göbel, Rüdiger (*with* Dugas, Manfred) Applications of abelian groups and model theory to algebraic structures. *Infinite groups* 1994 (*Ravello*), 41–62, *de Gruyter, Berlin*, 1996. (Fred Richman) **98m:20030** 20E22 (12F05)
— (*with* Droste, Manfred) The automorphism groups of generalized McLain groups. *Ordered groups and infinite permutation groups*, 97–120, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (Manfred Dugas) **98j:20039** 20F28
— (*with* Dugas, Manfred) Classification of modules with two distinguished pure submodules and bounded quotients. (English summary) *Results Math.* **30** (1996), *no.* 3-4, 264–275. (Luigi Salce) **98a:13018** 13C13 (16G20, 20K20)
— (*with* Droste, Manfred) The automorphism groups of Hahn groups. *Ordered algebraic structures* (*Curaçao*, 1995), 183–215, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. Dugald Macpherson) **98f:20023** 20F60 (06F15, 20F28)
— (*with* Dugas, Manfred; May, Warren Lee^2) Free modules with two distinguished submodules. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3473–3481. (Serge N. Tronin) **98h:13009** 13C10 (13C13)
— (*with* Dugas, Manfred) Automorphism groups of fields. II. *Comm. Algebra* **25** (1997), *no.* 12, 3777–3785. (Chr. U. Jensen) **98j:12005** 12F12 (12F20)
— (*with* Dugas, Manfred) Endomorphism rings of B_2-groups of infinite rank. (English summary) *Israel J. Math.* **101** (1997), 141–156. (C. Vinsonhaler) **98k:20090** 20K20 (20K30)
Goberna, Miguel A. (*with* López, Marco Antonio) A review of semi-infinite linear inequality systems. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 127–137, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98m:90167** 90C34
— (*with* López, Marco Antonio; Todorov, M. I.) Stability theory for linear inequality systems. II. Upper semicontinuity of the solution set mapping. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1138–1151. (Pierre Loridan) **98m:90152** 90C31 (15A39, 90C08, 90C34)
— (*with* Anderson, Edward J.; López, Marco Antonio) Locally polyhedral linear inequality systems. (English summary) *Linear Algebra Appl.* **270** (1998), 231–253. (Romesh Saigal) **98k:90054** 90C05 (90C25)
Oberstein, Simon M. On i-correspondences and $\mathscr{E}i$-isomorphisms of inverse semigroups. *Transformation semigroups* (*Colchester*, 1993), 18–29, *Univ. Essex, Colchester*, 199?. (*see* **98b:20003**) 20M18
Gobron, Thierry (*with* Collet, Pierre; Dunlop, François; Foster, Damien P.) Product measures and dynamics for solid-on-solid interfaces. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 509–536. (Barbara Gentz) **98k:82122** 82C22 (60K35, 82C20, 82C24)
— (*with* Collet, Pierre; Dunlop, François; Fritz, J.) Langevin dynamics of a semi-infinite interface. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 261–274. (Filippo Cesi) **98m:82050** 82C24 (60K35, 82C31)
Gochet, Willy (*with* Maes, Francine) Euclidean regression: convergence and computational aspects. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 192–202, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65D10 (62J05)
Gochev, I. G. (*with* Korutcheva, E. R.) On the non-linear excitations in an $S = 1/2$ Heisenberg ferromagnetic chain. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 94–96. (Summary) **98k:82037** 82B20
Gockenbach, Mark S. (*with* Symes, William W.) Duality for inverse problems in wave propagation. (English summary) *Large-scale optimization with applications, Part I* (*Minneapolis, MN*, 1995), 37–61, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98f:73020** 73D50 (35R30, 86A15, 90C90)
— (*with* Kearsley, Anthony J.; Symes, William W.) An infeasible point method for minimizing the Lennard-Jones potential. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 3, 273–286. (J. Mockus) **98e:90156** 90C30 (65K05)
— (*with* Cox, Steven J.) Recovering planar Lamé moduli from a single-traction experiment. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 297–306. (Summary) **98e:73026** 73C02 (73P20, 73V15)
Goda, Hiroshi Genus one knots with unknotting tunnels and unknotting operations. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 677–686. (C. Kearton) **98h:57016** 57M25
— Bridge index for theta curves in the 3-sphere. (English summary) *Topology Appl.* **79** (1997), *no.* 3, 177–196. (Zhenghan Wang) **98f:57004** 57M15
Godambe, V. P. (*with* Vijayan, Kaipillil) Optimal estimation for response-dependent retrospective sampling. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1724–1734. (Jagdish Saran) **98k:62007** 62D05 (62J99)
— (*with* Thompson, M. E.) Optimal estimation in a causal framework. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 21–46, ii–iii. (Summary) **98g:62011** 62A99
Godart-Wendling, B. De l'influence du "principe de dualité" sur le traitement algébrique des phrases. [Influence of the duality principle on the algebraic treatment of sentences] *Logique et Anal. (N.S.)* **39** (1996), *no.* 155-156, 389–409. 03B20 (03–03)
Godau, Michael (*with* Alt, Helmut; Whitesides, Sue) Universal 3-dimensional visibility representations for graphs. (English summary) *Comput. Geom.* **9** (1998), *no.* 1-2, 111–125. (Summary) **98j:68159** 68U05 (05C85, 68R10)
Godbold, Richard D. (*with* Slater, Peter J.) All cycles are edge-magic. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 93–97. (Summary) **98k:05162** 05C78
Godbole, Anant P. (*with* Ghosh, Debashis) Palindromes in random letter generation: Poisson approximations, rates of growth, and Erdős-Rényi laws. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 99–115, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Lars Holst) **98h:60012** 60C05 (60F15)
— (*with* Papastavridis, Stavros G.; Weishaar, Robert S.) Formulae and recursions for the joint distribution of success runs of several lengths. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 141–153. (A. N. Philippou) **98d:60020** 60C05 (60E05, 62E15)
— (*with* Barbour, A. D.; Qian, Jinghua) Imperfections in random tournaments. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 1–15. (David A. Grable) **98d:05128** 05C80 (05C20)
— (*with* Lamorte, Ben; Sandquist, Erik Jonathan) Threshold functions for the bipartite Turán property. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 18, 14 *pp.* (*electronic*). (Lyuben R. Mutafchiev) **98f:05086** 05C35 (60C05)

Goddard, A. J. H. (*with* Xu, Xiao; Pain, C. C.; de Oliveira, C. R. E.; Umpleby, A. P.) An automatic mesh coarsening technique for Delaunay triangulations. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 59–63. 65N30 (65D15)

Goddard, B. (*with* Mollin, R. A.; Coupland, S.) Polynomials of quadratic type producing strings of primes. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 214–220. (Franz Lemmermeyer) **98a:11138** 11R09

Goddard, Joe D. (*with* Ledniczky, K.) On the spectral representation of stretch and rotation. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 255–259. (Summary) **98k:73017** 73B99

Goddard, Leonard *see* **Sylvan, Richard, 98i:01025**

Goddard, T. (*with* Duffus, D.) The complexity of the fixed point property. (English summary) *Order* **13** (1996), *no.* 3, 209–218. (Christoph Meinel) **98h:06006** 06A07 (03D15, 04A05, 68Q25)

Goddard, Wayne (*with* Beineke, Lowell W.; Lipman, Marc J.) Graphs with maximum edge-integrity. (English summary) *Ars Combin.* **46** (1997), 119–127. (Summary) **98d:05071** 05C35

— (*with* Henning, Michael A.) Generalised domination and independence in graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 161–171. (*see* **98h:05002**) 05C70 (05C35)

— (*with* Plummer, Michael D.; Swart, Henda C.) Maximum and minimum toughness of graphs of small genus. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 329–339. (Summary) **98b:05056** 05C35 (05C10)

Goddu, André The logic of Copernicus's arguments and his education in logic at Cracow. (English summary) *Early Sci. Med.* **1** (1996), *no.* 1, 28–68. (Summary) **98j:01013** 01A40 (03–03)

Goddyn, Luis (*with* Ellingham, M. N.) List edge colourings of some 1-factorable multigraphs. (English summary) *Combinatorica* **16** (1996), *no.* 3, 343–352. (Bradley W. Jackson) **98a:05068** 05C15 (05C70)

Godeferd, F. S. (*with* Cambon, Claude; Mansour, N. N.) Energy transfer in rotating turbulence. (English summary) *J. Fluid Mech.* **337** (1997), 303–332. (Summary) **98c:76050** 76F99 (76U05)

Godefroid, Patrice (*with* Long, David E.) Symbolic protocol verfication with queue BDDs. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 198–206, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60

— On the costs and benefits of using partial-order methods for the verification of concurrent systems (invited paper). (English summary) *Partial order methods in verification (Princeton, NJ, 1996)*, 289–303, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 29, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98a:68007**) 68Q60 (03B70)

Gödel, Kurt *see* **Dawson, John W., Jr., 98a:01017**; **Kushner, B. A., 98b:03004**; **Meyer, Robert K., 98b:03079**; **Stöltzner, Michael, 98f:01050**; **Wang, Hao[1], 98i:01034** *and* **Tieszen, Richard**

Godet, J.-L. (*with* Jaulin, L.; Walter, Eric; Elliasmine, A.; Le Duff, Y.) Light scattering data analysis via set inversion. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7733–7738. 78A45

Godfrey, Leslie G. Hausman tests for autocorrelation in the presence of lagged dependent variables. Some further results. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 197–207. (Summary) **98m:62303** 62P20

Godfroid, Ph. (*with* Eeckhoudt, Louis; Gollier, Christian) Willingness to pay, the risk premium and risk aversion. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 355–360. 90A46

Godhavn, John-Morten (*with* Egeland, Olav) A Lyapunov approach to exponential stabilization of nonholonomic systems in power form. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1028–1032. (Summary) **98f:93015** 93D21 (70F25, 70Q05)

Godin, Oleg A. On small-amplitude waves in a nonhomogeneous moving medium. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 3, 322–325; *translation in Phys. Dokl.* **41** (1996), *no.* 11, 521–524. (From the text) **98a:76068** 76N10

— The reciprocity principle for waves on the background of a flow of a nonhomogeneous compressible fluid. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 614–617; *translation in Phys. Dokl.* **41** (1996), *no.* 12, 569–573. (Sergeĭ Grudskiĭ) **98h:76115** 76N10 (76Q05)

— A conservation law for the quasi-energy of waves in an inhomogeneous moving compressible fluid. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 751–755; *translation in Phys. Dokl.* **41** (1996), *no.* 12, 580–584. (Sergeĭ Grudskiĭ) **98h:76116** 76N10 (76Q05)

— Reciprocity and energy theorems for waves in a compressible inhomogeneous moving fluid. (English summary) *Wave Motion* **25** (1997), *no.* 2, 143–167. (Summary) **98c:76087** 76N10 (76Q05)

Godin, Yuri A. (*with* Figotin, Alexander) The computation of spectra of some 2D photonic crystals. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 585–598. (Summary) **98h:82067** 82D25

Godlewski, Edwige (*with* Raviart, Pierre-Arnaud) ★ Numerical approximation of hyperbolic systems of conservation laws. (English summary) Applied Mathematical Sciences, 118. *Springer-Verlag, New York*, 1996. viii+509 *pp. ISBN* 0-387-94529-6 (Rolf Jeltsch) **98d:65109** 65M06 (35A35, 35L65, 65–02, 76–02, 76Mxx, 76N10)

— (*with* Coquel, Frédéric; El Amine, Khalid; Perthame, Benoît; Rascle, Paul) Une méthode numérique décentrée pour la résolution d'écoulements diphasiques. (English and French summaries) [A numerical method using upwind schemes for the solution of two-phase flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 717–723. (Summary) **98c:76078** 76M25 (65M06, 76N99, 76T05)

— (*with* Coquel, Frédéric; El Amine, Khalid; Perthame, Benoît; Rascle, Paul) A numerical method using upwind schemes for the resolution of two-phase flows. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 272–288. (Summary) **98h:76092** 76M20 (76N10, 76T05)

Godo, Lluis (*with* Dubois, Didier; Esteva, F.; Garcia-Calvés, Pere; Prade, Henri) Similarity-based consequence relations. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 171–179, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B52 (68T27)

— (*with* López de Màntaras, R.) From intervals to fuzzy truth-values: adding flexibility to reasoning under uncertainty. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 251–260. (Summary) **98b:68183** 68T30 (03B52, 03B70)

— (*with* Hájek, Petr[1]) Deductive systems of fuzzy logic. (English summary) Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 35–66. (Summary) **98f:03022** 03B52

Godoy, E. (*with* Marcellán, Francisco; Salto, L.; Zarzo, A.) Perturbations of discrete semiclassical functionals by Dirac masses. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 19–46. (Summary) **98f:33015** 33C45 (39A10)

— (*with* Zarzo, A.; Area, I.; Ronveaux, André) Results for some inversion problems for classical continuous and discrete orthogonal polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 3, L35–L40. (Pascal Maroni) **98g:33014** 33C45

Godoy, Luis A. (*with* Mirasso, Anibal E.) Regular and critical states in elastic nonlinear systems with displacement constraints. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 4, 441–457. (Alain Curnier) **98k:73024** 73C50 (73H05, 73T05)

— (*with* Banchio, Enrique G.) Sensitivity of critical states in structural instability via singular perturbations. (Spanish. English and Spanish summaries) MECOM'96 (Spanish) (Tucumán, 1996). *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 4, 467–486. (*see* **98k:73002**) 73H05

Godoy, T. (*with* Saal, L.; Urciuolo, M.) On some singular integral operators close to the Hilbert transform. *Colloq. Math.* **72** (1997), *no.* 1, 9–17. (C. Carton-Lebrun) **98a:42012** 42B20

— (*with* Lami Dozo, E.; Paczka, S.) The periodic parabolic eigenvalue problem with L^∞ weight. (English summary) *Math. Scand.* **81** (1997), *no.* 1, 20–34 (1998). (Gary M. Lieberman) **98m:35080** 35K20 (35B10, 47F05)

Godrèche, C. (*with* Luck, J. M.) Non-equilibrium dynamics of a simple stochastic model. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6245–6272. 82D30

Godsil, Chris D. (*with* Chan, Ada) Symmetry and eigenvectors. (English summary) *Graph symmetry (Montreal, PQ, 1996)*, 75–106, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Norbert Seifter) **98i:05092** 05C25 (05C50)

Godula, Janusz (*with* Starkov, Viktor V.) Linearly invariant families of functions that are analytic in a polydisk. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 2 (1995), 11–18. (A. Yu. Rashkovskiĭ) **98c:32002** 32A17 (30D45, 32A30)

— (*with* Starkov, Viktor V.) Linearly invariant families of holomorphic functions in the unit polydisc. (English summary) *Generalizations of complex analysis and their applications in physics (Warsaw/Rynia, 1994)*, 115–127, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Richard M. Timoney) **98j:32001** 32A17 (30C45)

— (*with* Starkov, Viktor V.) On Bloch functions and univalence of the integral of $(h')^\lambda$. (English summary) *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 31–37, *de Gruyter, Berlin*, 1996. (Stephen M. Zemyan) **98c:30043** 30D45

— Generalized Hankel operators on the Bergman space on the unit ball. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 343–350. (Summary) **98j:47060** 47B35 (32A37)

Godunov, S. K. (*with* Romenskiĭ, E. I.) Thermodynamical foundations for special evolution differential equations of continuous media. (English summary) *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 25–35, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (*see* **98d:00025**) 35Q72 (73C02, 73R05, 76N10)

— (*with* Sadkane, Miloud) Elliptic dichotomy of a matrix spectrum. (English summary) *Linear Algebra Appl.* **248** (1996), 205–232. (Summary) **98g:15017** 15A22

— (*with* Lavrent'ev, Mikhail Mikhaĭlovich; Beresnev, V. L.; Borovkov, A. A.; Ershov, Yu. L.; Kutateladze, Semën Samsonovich; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

Goebbels, St. J. The sharpness of a pointwise error bound in connection with linear finite elements. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 541–553. (Hans-Peter Helfrich) **98h:65051** 65N30 (41A25, 65N15)

Goebel, Manfred Linear second order ordinary differential equations with nonsmooth coefficients. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 609–631. (Johnny Henderson) **98e:34030** 34B05 (34B27)

— (*with* Sachweh, Frank) The autonomous Nemytskij operator in Hölder spaces. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 513–519. (*see* **98i:00027**) 47H30

Goebel, Randy (*with* Ghose, Aditya K.; Padmanabhuni, Srinivas) Default theories in incremental learning. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 185–193. (*see* **98k:68012**) 68T27 (68T05)

Goedbloed, J. P. (*with* Lifschitz, Alexander E.) Stationary symmetric magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **4** (1997), *no.* 10, 3544–3564. (Manuel Núñez Jiménez) **98i:76101** 76W05 (35Q35, 76E25, 76E30, 76L05)

Goedde, C. G. (*with* Lin, Chih-Yu; Lichter, Seth) Scaling of the recurrence time in the cubic Fermi-Pasta-Ulam lattice. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 367–374. (Summary) **98d:82035** 82C20

Goedecker, S. Fast radix 2, 3, 4, and 5 kernels for fast Fourier transformations on computers with overlapping multiply-add instructions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1605–1611. 65T20

Goel, Asha (*with* Garg, G. L.) Cluster points of sequences and continuous (perfect) maps. (English summary) *Res. Bull. Panjab Univ. Sci.* **45** (1995), *no.* 1-4, 45–47. 54C05

— (*with* Garg, G. L.) When compact (countably compact) sets are closed. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 79–83. (Summary) **98m:54024** 54D15 (54D30)

Goel, Vivek (*with* Arora, Virendra) Baudhāyana's contribution to Vedic geometry. (English summary) *Gaṇita-Bhāratī* **18** (1996), *no.* 1-4, 9–13. (Takao Hayashi) **98e:01009** 01A32

Goeleven, Daniel Noncoercive hemivariational inequality approach to constrained problems for star-shaped admissible sets. (English summary) *J. Global Optim.* **9** (1996), *no.* 2, 121–140. (P. D. Panagiotopoulos) **98g:47059** 47H19 (49J40)

— (*with* Stavroulakis, Georgios E.) Models of singular variational inequalities and complementarity problems arising in FEM and BEM unilateral contact problems. (English summary) *Recent advances in optimization (Trier, 1996)*, 336–347, *Lecture*

Notes in Econom. and Math. Systems, 452, *Springer, Berlin*, 1997. (*see* **98c:90005**) 73V25 (47H19, 65K10, 73T05, 73V10)

— (*with* Panagiotopoulos, P. D.) On a class of noncoercive hemivariational inequalities arising in nonlinear elasticity. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 1–37. (Summary) **98m:73033** 73C50 (47H19, 49J40, 73V25)

— (*with* Adly, Samir; Motreanu, Dumitru) Periodic and homoclinic solutions for a class of unilateral problems. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 579–590. (Vittorio Coti Zelati) **98i:58193** 58F22 (34C25, 34C37, 35F20, 49J52, 58E05)

— (*with* Stavroulakis, Georgios E.; Salmon, G.; Panagiotopoulos, P. D.) Solvability theory and projection methods for a class of singular variational inequalities: elastostatic unilateral contact applications. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 263–293. (Summary) **98i:49012** 49J40 (73T05, 73V25)

— (*with* Motreanu, Dumitru; Panagiotopoulos, P. D.) Multiple solutions for a class of hemivariational inequalities involving periodic energy functionals. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 547–568. (Meir Shillor) **98f:47071** 47H19 (49J40, 58E35, 73V25)

— (*with* Motreanu, Dumitru; Panagiotopoulos, P. D.) Multiple solutions for a class of eigenvalue problems in hemivariational inequalities. *Nonlinear Anal.* **29** (1997), *no.* 1, 9–26. (Meir Shillor) **98f:47072** 47H19 (47H12, 49J40, 58E35, 73T05, 73V25)

— (*with* Panagiotopoulos, P. D.; Lebeau, C.; Plotnikova, Galina) Inequality forms of d'Alembert's principle in mechanics of systems with holonomic unilateral constraints. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 483–501. (Manuel D. P. Monteiro Marques) **98j:70014** 70F20 (49J40, 70H30, 70Q05)

Goeman, H. J. M. (*with* Kok, Joost N.; Sere, K.; Udink, R. T.) Coordination in the ImpUNITY framework. (English summary) *Sci. Comput. Programming* **31** (1998), *no.* 2-3, 313–334. 68Q60 (68N15)

Goemans, Michel X. (*with* Williamson, David P.) Primal-dual approximation algorithms for feedback problems in planar graphs. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 147–161, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90156** 90C35 (05C85)

— A supermodular relaxation for scheduling with release dates. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 288–300, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Anna Rycerz) **98d:90093** 90C27 (90B35)

— (*with* Füredi, Zoltán; Kleitman, Daniel J.) On the maximum number of triangles in wheel-free graphs [MR 95g:05062]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 305–317, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C38

— Semidefinite programming in combinatorial optimization. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 143–161. (D. de Werra) **98g:90028** 90C27 (90–02)

Goenner, Hubert (*with* Castagnetti, Giuseppe) Albert Einstein as pacifist and Democrat during World War I. (English summary) *Sci. Context* **9** (1996), *no.* 4, 325–386. 01A70

Goepp, N. (*with* Koch, B.-P.; Bruhn, B.) Hopf bifurcations in balance equations of glow discharges. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 2118–2129. 76X05 (76E25, 82D10)

Goerdt, Andreas A threshold for unsatisfiability. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 469–486. (M. I. Dekhtyar) **98i:03012** 03B05 (03B25, 03B35, 03D15, 03D35, 68Q25, 68R10)

Goeree, Jacob K. (*with* Anderson, Simon P.; Ramer, Roald) Location, location, location. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 102–127. (Summary) **98h:90026** 90A40 (90D35)

Goeters, H. Patrick (*with* Vinsonhaler, Charles; Wickless, William) A generalization of quasi-pure injective torsion-free abelian groups of finite rank. *Houston J. Math.* **22** (1996), *no.* 3, 473–484. (Huberta Lausch) **98a:20062** 20K15

— (*with* Maxson, Carl J.) Maximal submodules of finitely generated modules. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 77–84 (1997). (T. Albu) **98d:13022** 13F05

— (*with* Albrecht, Ulrich F.; Faticoni, Theodore G.; Wickless, William) Subalgebras of rational matrix algebras. *Acta Math. Hungar.* **74** (1997), *no.* 1-2, 1–6. (R. Göbel) **98a:20063** 20K30 (20K15)

— (*with* Ullery, William) Completely decomposable groups with prescribed invariants. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 69–80. (C. Vinsonhaler) **98g:20088** 20K15

— (*with* Keef, Patrick) When must pure extensions of countable abelian groups necessarily split? (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1321–1329. (P. L. Sperry) **98j:20082** 20K40 (20K35)

Goetschel, Roy, Jr. *see* **Novak, Ladislav A., 98c:05042**

Goetz, Abraham *see* **Fichtenholz, G. M.**

Goetze, Edward R. (*with* Spatzier, Ralf J.) On Livšic's theorem, superrigidity, and Anosov actions of semisimple Lie groups. *Duke Math. J.* **88** (1997), *no.* 1, 1–27. (Nantian Qian) **98d:58134** 58F15 (22E40, 57S20)

Goetze, Thomas Euler products associated to metaplectic automorphic forms on the 3-fold cover of GSp(4). *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 975–1011. (David Ginzburg) **98e:11061** 11F55 (11F60)

le Goff, Jean-Pierre *see* **Le Goff, Jean-Pierre**

Gogatishvili, A. S. Weighted inequalities for one-sided maximal function in Orlicz classes. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 201–205, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 42B25

— (*with* Kokilashvili, V. M.) Criteria of strong type two-weighted inequalities for fractional maximal functions. (English summary) *Georgian Math. J.* **3** (1996), *no.* 5, 423–446. (Francisco Javier Martín-Reyes) **98m:42020** 42B25 (42B20)

— Two-weight mixed inequalities in Orlicz classes for fractional maximal functions defined on homogeneous type spaces. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **112** (1997), 23–56. (Da Chun Yang) **98m:42021** 42B25 (26D10, 46E30)

Gogberashvili, M. Ya. (*with* Barnaveli, A. T.) Gravitationally repulsive bubbles with "non-Minkowski asymptotics". (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 346–352; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1491–1496 (1998). 83C99

Gogić, Goran Kurepa's hypothesis on the left factorial (Serbian). (Serbo-Croatian. Serbo-Croatian summary) *Zb. Rad. Mat. Inst. Beograd. (N.S.)* **5(13)** (1993), *Rachunarstvo. Broj* 2, 41–45. 11B65 (68Q22)

— (*with* Kautz, Henry; Papadimitriou, Christos H.; Selman, Bart) The comparative linguistics of knowledge representation. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 862–869, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30

Gogilidze, S. A. (*with* Chitaiai, N. P.; Surovtsev, Yu. S.) The Ostrogradsky method for local symmetries of systems with first and second class constraints. IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 143–146. (Sergiu I. Vacaru) **98d:58055** 58F05

— (*with* Chitaia, N. P.; Surovtsev, Yu. S.) Dynamical systems with first- and second-class constraints. I. Separation of constraints into first and second classes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1135–1141. (John I. LaChapelle) **98e:70011** 70H33 (58F05, 70F99, 70G35)

— (*with* Chitaia, N. P.; Surovtsev, Yu. S.) Dynamical systems with first- and second-class constraints. II. Local-symmetry transformations. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1142–1155. (John I. LaChapelle) **98e:70012** 70H33 (58F05, 70F99, 70G35)

Gogishvili, G. P. On an unimprovable estimate for singular series of positive quadratic forms. (Russian. English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **109** (1995), 41–51. (Vladimir G. Zhuravlev) **98b:11036** 11E45 (11E25)

Goglev, V. V. (*with* Yanchevskiĭ, V. I.) Two-primary torsion of Brauer groups of local elliptic curves with additive reduction. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 59–63, 132. (Takeshi Ooe) **98i:11038** 11G07 (13A20, 14G20, 14H52)

Goglione, R. (*with* Fierro, F.; Paolini, M.) Finite element minimization of curvature functionals with anisotropy. (English summary) *Calcolo* **31** (1994), *no.* 3-4, 191–210 (1996). (Viorel Arnautu) **98c:65185** 65N30 (58E12, 65K10)

— (*with* Paolini, M.) Numerical simulations of crystalline motion by mean curvature with Allen-Cahn relaxation. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 203–216, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 82C24

Gogny, Daniel *see* **Bouche, Daniel et al., 98m:78002**

Gogny, Patricia *see* **Bouche, Daniel et al., 98m:78002**

Gogodze, I. (*with* Chinchaladze, S.) Generalized controls in a problem of the synthesis of optical media. (Russian. English and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 3–13 (1994). (Introduction) **98b:78024** 78A40 (49J20, 49N55)

Goguen, Healfdene Typed operational semantics. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 186–200, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B15 (03B70, 68Q42)

Goguen, Joseph (*with* Barros, José) Semantics of non-terminating rewrite systems using minimal coverings. (English summary) *Computer science logic* (*Paderborn*, 1995), 16–35, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q42 (68Q05)

Goh, C. J. (*with* Redfern, D. A.) Feedback control of state constrained optimal control problems. (English summary) *System modelling and optimization* (*Prague*, 1995), 442–449, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 49N35 (49K15)

— (*with* Dragomir, Sever Silvestru) Some bounds on entropy measures in information theory. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 23–28. (Leandro Pardo) **98h:94007** 94A17 (62B10, 94A15)

— (*with* Yang, Xiao Qi) A sufficient and necessary condition for nonconvex constrained optimization. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 9–12. (Summary) **98d:90110** 90C30 (49M37)

— (*with* Chen, Guang Ya; Yang, Xiao Qi) On gap functions and duality of variational inequality problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 658–673. (Paolo Cubiotti) **98f:49012** 49J40 (90C33)

— (*with* Yang, Xiao Qi) On vector variational inequalities: application to vector equilibria. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 431–443. (Muhammad Aslam Noor) **98m:49029** 49J40 (90C29)

— (*with* Yang, Xiao Qi) Analytic efficient solution set for bi-criteria quadratic network programs. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4309–4316. (*see* **98i:00032**) 90C35

— (*with* Edwards, N. J.) Approximate output feedback optimal control of higher-order dynamical systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 2, 123–137. (Summary) **98a:93028** 93B52 (49N35)

Goh, Jin G. (*with* Marić, Svetislav V.) The capacities of frequency-hopped code-division multiple-access channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1204–1211. (Summary) **98m:94012** 94A14

Goh, K. L. (*with* Pooi, A. H.) Adjustment of prediction intervals in nonlinear regression. (English summary) *Biometrical J.* **39** (1997), *no.* 6, 719–731. 62J02

Goh, Keat-Choon (*with* Wu, Fen) Duality and basis functions for robust $\mathcal{H}_2$-performance analysis. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1949–1959. (Long Wang) **98i:93023** 93B36 (93A25, 93C05, 93C41)

Goh, Mark (*with* Mustafa, Adli) Characteristics of the efficient solutions of bicriteria and tricriteria network flow problems. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 131–139, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C35)

— (*with* Mustafa, Adli) Finding integer efficient solutions for bicriteria and tricriteria network flow problems using DINAS. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 2, 139–157. 90B10

Goh, Seung-Cheol (*with* Park, Sang-Joon; Lee, Sang Jin) On the security of the Gollmann cascades. (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 148–156, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98a:94028** 94A60

Goh, T. N. (*with* Ong, H. L.; Ang, B. W.; Deng, C. C.) A vehicle routing and scheduling problem with time windows and stochastic demand constraints. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 1–17. (Summary) **98e:90081** 90B35

Goh, W. M. Y. Plancherel-Rotach asymptotics for the Charlier polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 151–168. (Timothy S. Norfolk) **98m:33019** 33C45 (41A60)

el-Gohary, A. I. *see* **El-Gohary, A. I.**

Gohberg, Israel (*with* Goldberg, Seymour; Krupnik, Naum) Traces and determinants of linear operators. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 2, 136–187. (A. Pietsch) **98d:47004** 47A05 (47B10, 47D30)

— (*with* Alpay, Daniel) A relationship between the Nehari and the Carathéodory-Toeplitz extension problems. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 249–272. (Hendrik S. V. de Snoo) **98c:47017** 47A57 (34L05)

— (*with* Bart, H.; Kaashoek, M. A.) Wiener-Hopf equations and linear systems. (English summary) *Proceedings of the Norbert Wiener Centenary Congress, 1994* (*East Lansing, MI, 1994*), 115–128, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:47026** 47B35 (45E10, 47G10, 47N70, 93B28)

— (*with* Alpay, Daniel) State space method for inverse spectral problems. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 1–16, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Sergei Treil) **98d:34113** 34L05 (34A55, 34L25, 47A57, 47B35, 93B28)

— (*with* Ėidel′man, Yu. S.) Inversion formulas and linear complexity algorithm for diagonal plus semiseparable matrices. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 4, 69–79. (Frank Uhlig) **98b:65029** 65F05 (65Y20)

— (*with* Goldberg, Seymour; Krupnik, Naum) Hilbert-Carleman and regularized determinants for linear operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 1, 10–47. (A. Pietsch) **98d:47005** 47A05 (47B10, 47D30)

— (*with* Ball, Joseph A.; Kaashoek, M. A.) Nudelman interpolation and the band method. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 253–284. (Hugo Jan Woerdeman) **98b:47020** 47A57 (15A48, 30E05, 42A70)

— (*with* Foias, C.; Frazho, A. E.; Kaashoek, M. A.) A time-variant version of the commutant lifting theorem and nonstationary interpolation problems. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 158–190. (Dmitriy S. Kalyuzhniy) **98f:47008** 47A20 (30E05, 47A57)

— (*with* Foias, C.; Frazho, A. E.; Kaashoek, M. A.) Errata: "Discrete time-variant interpolation as classical interpolation with an operator argument" [Integral Equations Operator Theory **26** (1996), no. 4, 371–403; MR 97k:47012]. *Integral Equations Operator Theory* **28** (1997), *no.* 4, 500. 47A57 (30E05, 47A20)

— (*with* Foias, C.; Frazho, A. E.; Kaashoek, M. A.) Parameterization of all solutions of the three chains completion problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 455–490. (Mark A. Nudel′man) **98k:47031** 47A57 (30E05, 47A20, 93B28, 93C50)

— (*with* Olshevsky, Vadim) The fast generalized Parker-Traub algorithm for inversion of Vandermonde and related matrices. (English summary) *J. Complexity* **13** (1997), *no.* 2, 208–234. (Heike Faßbender) **98f:65034** 65F05 (15A09)

— (*with* Landau, Henry J.) Prediction for two processes and the Nehari problem. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 43–62. (A. Bultheel) **98b:42016** 42A70 (60G25, 62M10, 94A12)

— (*with* Foias, C.; Frazho, A. E.; Kaashoek, M. A.) The maximum principle for the three chains completion problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 67–82. (Joseph A. Ball) **98m:47006** 47A20 (47A57)

— (*with* Kaashoek, M. A.; van Schagen, F.) Operator blocks and quadruples of subspaces: classification and the eigenvalue completion problem. (English summary) *Linear Algebra Appl.* **269** (1998), 65–89. (Hugo Jan Woerdeman) **98j:15001** 15A03 (15A18, 47A20)

— *see also* **New results in operator theory and its applications, 98e:00028**

Gohm, Rolf A spectral classification of operators related to polynomial boundedness. (English summary) *J. Operator Theory* **36** (1996), *no.* 2, 249–281. (George Popescu) **98a:47017** 47A60 (46B07, 47A11, 47A35, 47A65)

Göhmann, Frank (*with* Murakami, Shuichi) Yangian symmetry and quantum inverse scattering method for the one-dimensional Hubbard model. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 216–226. (Deng Feng Wang) **98f:82141** 82D55 (81U40, 82B10)

Gohout, Wolfgang (*with* Kuhnert, Ingo) NBUFR closure under the formation of coherent systems. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 243–248. 62N05

Goĭ, T. P. (*with* Ptashnik, Bogdan Iosipovich) A problem with nonlocal conditions for weakly nonlinear hyperbolic equations. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 186–195; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 204–215. (From the text) **98i:35132** 35L75

Goian, I. *see* **Goyan, I. M.**

Goirand, Eric (*with* Wickerhauser, Mladen Victor; Farge, Marie) Theoretical dimension and the complexity of simulated turbulence. (English summary) *Multiscale wavelet methods for partial differential equations*, 473–492, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98h:76074** 76F99 (35Q35, 76M25)

Gökdere, Levent U. (*with* Simaan, M. A.; Brice, Charles W.) Global asymptotic stability of indirect field-oriented speed control of current-fed induction motors. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 133–135. 93D05 (93C95)

Gokh, Dzh. *see* **Gough, John Edward**

Gokhale, D. V. (*with* Rahman, Mezbahur; Ullah, Aman) A note on combining parametric and non-parametric regression. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 519–529. (Summary) **98k:62121** 62J05 (62G05)

— (*with* Rahman, Mezbahur; Beaver, Robert J.) A note on estimating the combining constant in semiparametric density estimation. (English summary) *Rebrape* **11** (1997), *no.* 1, 37–50. 62G05

Gokhman, Dmitry Functions in a Hardy field not ultimately C^∞. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 1, 1–6. (Summary) **98e:26024** 26E10 (12J99)

Göktaş, Ünal (*with* Hereman, Willy) Symbolic computation of conserved densities for systems of nonlinear evolution equations. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 5, 591–621. (Summary) **98g:35001** 35–04 (35A25, 35Q53)

— (*with* Hereman, Willy; Erdmann, Grant) Computation of conserved densities for systems of nonlinear differential-difference equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 30–38. (Summary) **98h:35205** 35Q53 (35Q55)

Gokulchandra Singh, Ch. (*with* Singh, N. Ibotombi) Slowly rotating cosmological universe filled with viscous fluid. (English summary) *Astrophys. Space Sci.* **253** (1997), *no.* 2, 189–194. 83F05 (83C15)

Golan, Amos (*with* Judge, George; Perloff, Jeffrey) Estimation and inference with censored and ordered multinomial response data. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 23–51. (Summary) **98b:62196** 62P20 (62J05)

Golan, Jonathan S. (*with* Mateescu, Alexandru; Vaida, Dragoş) Semirings and parallel composition of processes. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 3, 199–217. (Ryszard Janicki) **98f:68081** 68Q10 (06F25, 16Y60)

Golasiński, Marek (*with* Gonçalves, Daciberg Lima) Equivariant weak n-equivalences. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 2, 265–276. (Steven R. Costenoble) **98a:55011** 55P91 (55N25, 55N91, 55Q91, 55U35)

— Componentwise injective models of functors to DGAs. *Colloq. Math.* **73** (1997), *no.* 1, 83–92. (Kathryn P. Hess) **98b:55012** 55P91 (16D90, 18G05, 55N91, 55P62)

— (*with* Arkowitz, Martin) Homotopy coalgebras and k-fold suspensions. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 209–220. (Summary) **98h:55013** 55P40 (18C15, 55P15, 55P45)

Golberg, M. A. (*with* Chen, Ching Shyang) ★ Discrete projection methods for integral equations. (English summary) *Computational Mechanics Publications, Southampton*, 1997. xiv+425 *pp. ISBN* 1-85312-440-0 (A. Böttcher) **98c:45002** 45–02 (31–01, 42–01, 45Lxx, 47G10, 47N20, 65–02, 65R20)

— (*with* Chen, Ching Shyang; Bowman, Harold; Power, H.) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **21** (1998), *no.* 2, 141–148. (Summary) **98m:65209** 65N38 (73V10)

Golchin, Akbar (*with* Renshaw, James) Periodic monoids over which all flat cyclic right acts satisfy condition (P). *Semigroup Forum* **54** (1997), *no.* 2, 261–263. (T. S. Blyth) **98a:20075** 20M30

Golda, Zdzisław A. (*with* Litterio, Marco; Sokołowski, Leszek M.; Amendola, Luca; Dyrek, Andrzej) Pure geometrical evolution of the multidimensional universe. (English summary) *Ann. Physics* **248** (1996), *no.* 2, 246–285. (Summary) **98c:83089** 83E15 (53C80)

Goldbart, Paul M. (*with* Roos, Christian; Zippelius, Annette) Random networks of crosslinked manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1967–1977. (Summary) **98d:82026** 82B41 (82D60)

Gol′dberg, Anatolii Asirovich (*with* Gentosh, O. E.; Moravetskaya, O. N.) Geometric criteria for the existence of strip and angular derivatives for some classes of conformal mappings. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 102–115. (Dmitri Valentinović Prokhorov) **98j:30004** 30C35 (30C20)

— B. Ya. Levin—the creator of the theory of entire functions of completely regular growth. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 186–192. 01A70 (30–03)

— (*with* Levin, Boris Yakovlevich; Ostrovskiĭ, Iosif Vladimirovich) Entire and meromorphic functions [MR 93a:30031]. *Complex analysis, I*, 1–193, 254–261, *Encyclopaedia Math. Sci.*, 85, *Springer, Berlin*, 1997. (*see* **98d:30002**) 30D20 (30D30, 30D35)

Goldberg, Andrew V. (*with* Karzanov, A. V.) Maximum skew-symmetric flows. (English summary) *Algorithms—ESA '95* (*Corfu*), 155–170, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Ştefan Ţigan) **98h:90103** 90C35 (05C85)

— (*with* Silverstein, Craig) Implementations of Dijkstra's algorithm based on multi-level buckets. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 292–327, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

— (*with* Cherkasskiĭ, B. V.) On implementing the push-relabel method for the maximum flow problem. (English summary) *Algorithmica* **19** (1997), *no.* 4, 390–410. 68Q25 (68R05)

— (*with* Kennedy, James Robert, Jr.) Global price updates help. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 551–572. (András Faragó) **98j:90091** 90C35 (68R10, 90C08)

Goldberg, Benjamin (*with* Chuang, Tyng-Ruey) A syntactic method for finding least fixed points of higher-order functions over finite domains. (English summary) *J. Funct. Programming* **7** (1997), *no.* 4, 357–394. (Summary) **98h:68026** 68N15 (68Q55)

Goldberg, David (*with* Herb, Rebecca A.) Some results on the admissible representations of non-connected reductive p-adic groups. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 97–146. (Marko Tadić) **98b:22033** 22E50

— R-groups and elliptic representations for similitude groups. *Math. Ann.* **307** (1997), *no.* 4, 569–588. (David Manderscheid) **98i:22024** 22E50 (22E35)

Gol′dberg, E. I. (*with* Novikov, Ya. A.) Ensuring the complete testability of programmable logic arrays. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 179–188; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1522–1529 (1997). 94C12

Goldberg, J. (*with* Berger, Thomas Karl; Dashen, Roger F.) Uniform high frequency approximation to scattering from infinite strip. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2308–2331. (I. Kay) **98e:78005** 78A45 (81V99)

Goldberg, Leslie Ann (*with* Goldberg, Paul W.; Phillips, Cynthia A.; Sweedyk, Elizabeth; Warnow, Tandy J.) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 111–136. (Michael A. Steel) **98c:92001** 92B10 (05C05, 68Q25, 92D15)

— (*with* Cryan, Mary; Phillips, Cynthia A.) Approximation algorithms for the fixed-topology phylogenetic number problem. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 130–149, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:92010** 92D15 (68Q25)

— (*with* Jerrum, Mark; Leighton, Frank Thomson; Rao, Satish B.) Doubly logarithmic communication algorithms for optical-communicating parallel computers. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1100–1119. (Summary) **98h:68102** 68Q22 (68R05)

Goldberg, Lisa (*with* Tresser, Charles) Rotation orbits and the Farey tree. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 1011–1029. (V. Jimenez Lopez (Zbl 862.58016)) **98m:58035** 58F03 (11B57)

Goldberg, Paul W. (*with* Goldberg, Leslie Ann; Phillips, Cynthia A.; Sweedyk, Elizabeth; Warnow, Tandy J.) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 111–136. (Michael A. Steel) **98c:92001** 92B10 (05C05, 68Q25, 92D15)

Goldberg, Robert R. (*with* Shapiro, Jacob; Waxman, Jerry) Approximation algorithm for the optimal partition problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 197–210. (Summary) **98i:05009** 05A18

Goldberg, Samuel Irving Spectral rigidity of compact Riemannian manifolds. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 53–59. (Xingwang Xu) **98e:58170** 58G25 (53C15, 53C55)

Goldberg, Seymour (*with* Gohberg, Israel; Krupnik, Naum) Traces and determinants of linear operators. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 2, 136–187. (A. Pietsch) **98d:47004** 47A05 (47B10, 47D30)

— (*with* Gohberg, Israel; Krupnik, Naum) Hilbert-Carleman and regularized determinants for linear operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 1, 10–47. (A. Pietsch) **98d:47005** 47A05 (47B10, 47D30)

Goldberg, U. C. (*with* Batten, Paul; Leschziner, M. A.) Average-state Jacobians and implicit methods for compressible viscous and turbulent flows. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 38–78. (Summary) **98k:76095** 76M20 (76F99, 76N10)

Goldberg, Vladislav V. (*with* Akivis, Maks A.) ★ Conformal differential geometry and its generalizations. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1996. xiv+383 *pp. ISBN* 0-471-14958-6 (G. R. Jensen) **98a:53023** 53A30 (53A60, 53B25, 53B30)

— (*with* Akivis, Maks A.) On a normalization of a Grassmann manifold. (English summary) *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 69–76, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (V. Oproiu) **98f:53031** 53C20

Golden, Bruce L. (*with* Chao, I-Ming; Wasil, Edward A.) A new algorithm for the site-dependent vehicle routing problem. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 301–312, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C35 (90C08)

Golden, Kenneth M. Percolation models for porous media. *Homogenization and porous media*, 27–43, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05

— Critical behavior of transport in percolation-controlled smart composites. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 571–581, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 82D20 (82D30)

— Critical behavior of transport in lattice and continuum percolation models. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 20, 3935–3938. (Summary) **98c:82050** 82C27 (82C20, 82C43)

— The interaction of microwaves with sea ice. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 75–94, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:86004** 86A05 (73N20, 78A45)

Golden, Richard M. ★ Mathematical methods for neural network analysis and design. (English summary) A Bradford Book. *MIT Press, Cambridge, MA*, 1996. xvi+419 *pp. ISBN* 0-262-07174-6 (Philippe De Wilde) **98k:92003** 92B20 (62F03, 62P10, 68T05, 92J40)

Goldenshluger, Alexander (*with* Nemirovskiĭ, A. S.) Adaptive de-noising of signals satisfying differential inequalities. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 872–889. (Summary) **98a:94002** 94A12

Gol'denveizer, A. L. Internal and edge computations of thin elastic bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **59** (1995), *no.* 6, 1019–1032; *translation in J. Appl. Math. Mech.* **59** (1995), *no.* 6, 973–985 (1996). (Summary) **98b:73023** 73K10 (73C02, 73K15)

Goldfarb, Boris Novikov conjectures for arithmetic groups with large actions at infinity. (English summary) *K-Theory* **11** (1997), *no.* 4, 319–372. (Charles Weibel) **98h:19008** 19L47 (22E40, 55N05, 57R20)

Goldfarb, Donald (*with* Jin, Zhi Ying; Orlin, James B.) Polynomial-time highest-gain augmenting path algorithms for the generalized circulation problem. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 793–802. (José F. Fontanari) **98j:90051** 90C27

— (*with* Chen, Wei[4]) On strongly polynomial dual simplex algorithms for the maximum flow problem. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 159–168. (Giovanni Andreatta) **98m:90172** 90C35

Goldfarb, Warren In memoriam: George Stephen Boolos (1940-1996). *Bull. Symbolic Logic* **2** (1996), *no.* 4, 444–447. 01A70 (03–03)

Goldfeld, Dorian Quasicharacters of congruence groups. *Algebraic analysis, geometry, and number theory (Baltimore, MD, 1988)*, 99–113, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (K.-B. Gundlach (Zbl 766.11025)) **98k:11043** 11F11 (11G05, 11G18)

— (*with* Lieman, Daniel) Effective bounds on the size of the Tate-Shafarevich group. *Math. Res. Lett.* **3** (1996), *no.* 3, 309–318. (M. Ram Murty) **98b:11069** 11G40 (11G05)

Goldie, Charles M. (*with* Resnick, Sidney I.) Ordered independent scattering. (English summary) *Comm. Statist. Stochastic Models* **12** (1996), *no.* 4, 523–528. (Thomas Mikosch) **98c:62095** 62G30

Goldin, Gerald A. Diffeomorphism group representations and quantum nonlinearity: gauge transformations and measurement. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 125–139, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:22019** 22E65 (81R10)

— (*with* Malomed, Boris A.; Stenflo, Lennart) Modulational stability of plane waves for a class of nonlinear Schrödinger equations. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 200–204, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:81036** 81Q05

— Quantum vortex configurations. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2341–2355. (Wojciech Lisiecki) **98g:81099** 81S10 (58F06)

— (*with* Doebner, H.-D.) Introducing nonlinear gauge transformations in a family of nonlinear Schrödinger equations. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 5, 3764–3771. (Woodford W. Zachary) **98a:81028** 81Q05 (81R10)

Gol'din, V. Ya. (*with* Samarskiĭ, A. A.; Chetverushkin, B. N.; Tishkin, V. F.; Levanov, E. I.; Rozhdestvenskiĭ, B. L.) Nikolaĭ Nikolaevich Kalitkin (on the occasion of his sixtieth birthday). (Russian) *Mat. Model.* **7** (1995), *no.* 11, 126–127. 01A70

— (*with* Anistratov, D. Yu.; Aristova, E. N.) A nonlinear method for solving problems of radiation transfer in a medium. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 12, 3–28. (Summary) **98d:85003** 85A25

— (*with* Samarskiĭ, A. A.; Rozhdestvenskiĭ, B. L.; Kalitkin, Nikolaĭ Nikolaevich) Sobol' Il'ya Meerovich (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **8** (1996), *no.* 12, 125–127. 01A70

— (*with* Aristova, E. N.; Kolpakov, A. V.) A procedure for computing radiative transfer in a body of revolution. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 91–108. (Summary) **98j:85002** 85A25

Goldman, Jay R. (*with* Kauffman, Louis H.) Rational tangles. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 300–332. (Summary) **98c:57005** 57M25

— ★ The queen of mathematics. (English summary) A historically motivated guide to number theory. *A K Peters, Ltd., Wellesley, MA*, 1998. xxiv+525 *pp. ISBN* 1-56881-006-7 (M. Ram Murty) **98i:11001** 11-01 (11-03)

Gol'dman, N. L. ★ Inverse Stefan problems. (English summary) Mathematics and its Applications, 412. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+250 *pp. ISBN* 0-7923-4588-6 (Li Shang Jiang) **98h:35239** 35R35 (35K05, 80A22, 80A23)

Goldman, Ronald (*with* Habib, A. W.; Lyche, Tom) A recursive algorithm for Hermite interpolation over a triangular grid. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 95–118. (Summary) **98i:41006** 41A10 (65D05)

— (*with* Othman, W. A. M.) The dual basis functions for the generalized Ball basis of odd degree. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 571–582. (Summary) **98b:65021** 65D17

— (*with* Wang, Wenping; Joe, Barry) Rational quadratic parameterizations of quadrics. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 599–619. (Michael Kallay) **98j:68167** 68U07 (51N35)

— (*with* Sederberg, Thomas W.; Du, Hang K.) Implicitizing rational curves by the method of moving algebraic curves. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 153–175. (K. Kiyek) **98g:14072** 14Q05 (14H45)

— (*with* Lodha, Suresh K.) A unified approach to evaluation algorithms for multivariate polynomials. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1521–1553. (Heinz H. Gonska) **98a:65021** 65D17 (65Y25, 68Q25, 68U07)

Goldman, Sally A. (*with* Mathias, H. David) Teaching a smarter learner. (English summary) Sixth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1993). *J. Comput. System Sci.* **52** (1996), *no.* 2, 255–267. (John Shawe-Taylor) **98g:68142** 68T05 (68Q25, 68T27)

Goldmann, Mikael On the power of a threshold gate at the top. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 287–293. (Summary) **98e:68076** 68Q15 (68Q25, 94C10)

Goldner, Gavrilă Divided differences, Fréchet derivatives, (o)-convexity. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 259–264, *Transilvania, Cluj-Napoca*, 1997. (Introduction) **98h:65024** 65J15 (26B25, 47H17)

Goldreich, Oded (*with* Ostrovsky, Rafail) Software protection and simulation on oblivious RAMs. (English summary) *J. ACM* **43** (1996), *no.* 3, 431–473. (William R. Nico) **98j:68023** 68Q05 (68N20, 68P25, 68Q10)

— Probabilistic proof systems—a survey. (English summary) *STACS 97 (Lübeck)*, 595–611, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q15 (68P25)

— (*with* Ron, Dana) On universal learning algorithms. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 131–136. (Summary) **98e:68077** 68Q15 (68T05)

— (*with* Meyer, Bernd[1]) Computational indistinguishability: algorithms vs. circuits. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 215–218. (Summary) **98h:68086** 68Q15 (68Q05)

Goldschmidt, Hubert (*with* DeTurck, Dennis) Aspects of prescribing Ricci curvature. *CR-geometry and overdetermined systems (Osaka, 1994)*, 60–84, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Kazushige Ueno) **98i:53053** 53C21

— (*with* Gasqui, Jacques) The infinitesimal spectral rigidity of the real Grassmannians of rank two. *CR-geometry and overdetermined systems (Osaka, 1994)*, 122–140, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Kazushige Ueno) **98i:58257** 58H15 (32G07, 53C35, 58G25)

Goldschmidt, Olivier (*with* Hochbaum, Dorit S.) k-edge subgraph problems. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 159–169. (Kathryn Fraughnaugh) **98c:05089** 05C35 (05C85, 68R10)

Goldshtein, A. (*with* Shuster, K.; Vainshtein, P.; Fichman, Mati; Gutfinger, Chaim) Particle motion in resonance tubes. (English summary) *J. Fluid Mech.* **360** (1998), 1–20. 76Q05 (76L05, 76T05)

Gol'dshtein, R. V. (*with* Zhitnikov, Yu. V.) A numerical-analytic method for distinguishing and computing the evolution of regions with lowered concentration of diffusate. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 1, 43–45; *translation in Phys. Dokl.* **40** (1995), *no.* 9, 473–475. (From the text) **98b:80004** 80A22

— (*with* Konovalov, Michail) Numerical analytical method for solving the 3D-elasticity problem on an interface crack of an arbitrary form in the multi-layered plate. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt, 1996)*, 40–48, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (*see* **98e:35001**) 73M25 (73C35, 73V20, 73V35)

— (*with* Kuznetsov, Sergei Vladimirovich[2]) Energy of singular actions in an elastic anisotropic body. (Russian. Russian s ımmary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 674–678; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 653–657. 73C99 (73B40)

Goldshtein, Yu. B. (*with* Anisimov, D. N.) The thin-walled rod of an open cross-section as an element of a 3D-structure. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 925–934. (Summary) **98j:73050** 73K05 (73V05)

Goldshtik, M. (*with* Hussain, Fazle; Yao, R. J.) The vortex liquid piston engine and some other vortex technologies. (English summary) Recent advances in mechanical engineering (Bangalore, 1995). *Sādhanā* **22** (1997), *no.* 3, 323–367. (Summary) **98m:76035** 76C05 (76–05, 76D99, 76T05, 76U05)

Goldsman, D. M. (*with* Hayter, A. J.; Kastner, T. M.) A sequential multinomial selection procedure with elimination. (English summary) *Advances in statistical decision theory and applications*, 265–275, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62L10 (62F07)

Goldsmith, Andrea J. (*with* Varaiya, Pravin P.) Capacity of fading channels with channel side information. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1986–1992. 94A40

Goldsmith, Brendan (*with* Davies, B. L.; Dirl, R.) Canonical subgroup matrices for free abelian groups of finite rank: application to intersection and union subgroups. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3573–3583. (Vojtěch Kopský) **98g:20078** 20H15 (82D25)

— (*with* Files, Steve T.) Transitive and fully transitive groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1605–1610. (Mark Lane) **98g:20087** 20K10 (20K25, 20K30)

Goldsmith, Judy (*with* Bloch, S. A.; Buss, Jonathan F.) Sharply bounded alternation and quasilinear time. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 187–214. (Summary) **98m:68084** 68Q15

Goldstein, Bernard R. The physical astronomy of Levi ben Gerson. (English summary) *Perspect. Sci.* **5** (1997), *no.* 1, 1–30. (José Luis Mancha) **98j:01011** 01A35

— Abraham Zacut and the medieval Hebrew astronomical tradition. *J. Hist. Astronom.* **29** (1998), *no.* 2, 177–186. 01A35

Goldstein, Catherine La théorie des nombres dans les Notes aux Comptes Rendus de l'Académie des Sciences (1870–1914): un premier examen. (English summary) [Number theory in the Notes aux Comptes Rendus de l'Académie des Sciences (1870–1914): an initial examination] *Riv. Stor. Sci.* (2) **2** (1994), *no.* 2, 137–160 (1995). (Summary) **98c:01024** 01A55 (01A60, 11–03)

Goldstein, Gisèle Ruiz Nonlinear parabolic equations, Favard classes, and regularity. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 253–263, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Nobuyuki Kenmochi) **98d:35110** 35K60 (47H20, 47N20)

— (*with* Goldstein, Jerome A.) Smoothing for nonlinear parabolic equations with nonlinear boundary conditions. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 422–443. (Ioannis G. Stratis) **98i:35103** 35K60 (35B45)

Goldstein, Jerome A. (*with* Favini, Angelo; Romanelli, Silvia) An analytic semigroup associated to a degenerate evolution equation. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 85–100, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Irina V. Mel′nikova) **98a:47038** 47D06 (35K99, 47N20)

— (*with* Lin, Chin-Yuan; Wang, Kunyang[2]) Degenerate nonlinear parabolic problems: the influence of probability theory. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 101–111, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (*see* **97i:00019**) 35K65 (35K55, 60J60)

— (*with* Goldstein, Gisèle Ruiz) Smoothing for nonlinear parabolic equations with nonlinear boundary conditions. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 422–443. (Ioannis G. Stratis) **98i:35103** 35K60 (35B45)

— (*with* Lightbourne, James H., III; Sandefur, James T., Jr.) The amount of non-uniqueness for factored equations with Euler-Poisson-Darboux factors. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1449–1457. (Summary) **98h:35186** 35Q05 (35L80)

Goldstein, Joel (*with* Gupta, Sat N.; Yu, Chang) Fitting a fractional ARIMA model to time series data. (English summary) *J. Inform. Optim. Sci.* **17** (1996), *no.* 3, 467–483. (Raúl Pedro Mentz) **98f:62251** 62M10

— (*with* Gupta, Sat N.; Yu, Chang) Time domain estimation of long range dependence. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 493–498. 62M10

Goldstein, Larry Mark (*with* Gordon, Louis) Asymptotics for the maximum of half-normal plots. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2250–2265. (Jan Beirlant) **98c:60053** 60G70 (62K15)

Goldstein, M. E. (*with* Wu, Xuesong; Leib, S. J.) On the nonlinear evolution of a pair of oblique Tollmien-Schlichting waves in boundary layers. (English summary) *J. Fluid Mech.* **340** (1997), 361–394. (Summary) **98d:76070** 76E30 (76D10)

Goldstein, Robert *see* **Gol′dshtein, R. V.**

Goldstein, Sheldon (*with* Dürr, Detlef; Zanghì, Nino) Bohmian mechanics as the foundation of quantum mechanics. (English summary) *Bohmian mechanics and quantum theory: an appraisal*, 21–44, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— Quantum philosophy: the flight from reason in science. *The flight from science and reason* (*New York*, 1995), 119–125, *Ann. New York Acad. Sci.*, 775, *New York Acad. Sci., New York*, 1996. (*see* **98i:00013**) 00A79 (00A30)

— (*with* Daumer, Martin; Dürr, Detlef; Zanghì, Nino) Naive realism about operators. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 379–397. (Dennis Dieks) **98e:81006** 81P05 (03B30)

— Bohmian mechanics and the quantum revolution: essay review of *The undivided universe* [Routledge, London, 1995; MR 96i:81008] by D. Bohm and B. J. Hiley, and *Speakable and unspeakable in quantum mechanics* [Cambridge Univ. Press, Cambridge, 1987; MR 89k:81005] by J. S. Bell. *Synthese* **107** (1996), *no.* 1, 145–165. 81P05

— (*with* Daumer, Martin; Dürr, Detlef; Zanghì, Nino) On the quantum probability flux through surfaces. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 967–977. (Paul Busch) **98i:81026** 81P20 (81S20)

— (*with* Teufel, Stefan; Berndl, Karin; Dürr, Detlef; Zanghì, Nino) Locality and causality in hidden-variables models of quantum theory. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1217–1227. (S. Gudder) **98j:81030** 81P10 (81P15)

— *see also* **Bohmian mechanics and quantum theory: an appraisal, 98i:81003**

Goldstern, Martin Interpolation of monotone functions in lattices. (English summary) *Algebra Universalis* **36** (1996), *no.* 1, 108–121. (Ralph Freese) **98a:06011** 06B05 (08A40)

— (*with* Shelah, Saharon) A partial order where all monotone maps are definable. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 255–265. (Péter Komjáth) **98c:03080** 03C30 (03C50, 03E35, 06A06)

Goldstine, Jonathan (*with* Leung, Hing; Wotschke, Detlef) Measuring nondeterminism in pushdown automata. (English summary) *STACS 97* (*Lübeck*), 295–306, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68108** 68Q68

Goldstine, Susan W. (*with* Call, Gregory S.) Canonical heights on projective space. *J. Number Theory* **63** (1997), *no.* 2, 211–243. (Dan Abramovich) **98c:11060** 11G35 (14G25)

Goldszmidt, Moisés (*with* Boutilier, Craig) On the revision of conditional belief sets. (English summary) *Conditionals: from philosophy to computer science*, 267–300, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 68T27 (03B45)

— (*with* Boutilier, Craig) The frame problem and Bayesian network action representations. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 69–83, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T20 (68T30)

Goldsztein, Guillermo H. (*with* Broner, Fernando; Strogatz, Steven H.) Dynamical hysteresis without static hysteresis: scaling laws and asymptotic expansions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1163–1187. (Vladimir Chernorutskiĭ) **98k:34072** 34C25 (34C99, 34E05, 34H05, 82C20)

Goldwasser, John L. (*with* Klostermeyer, William F.) Maximization versions of "lights out" games in grids and graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 99–111. (Summary) **98j:05119** 05C85 (05C99)

— Triangular blocks of zeros in (0, 1) matrices with small permanents. (English summary) *Linear Algebra Appl.* **252** (1997), 367–374. (Norbert Seifter) **98a:15010** 15A15

— (*with* Klostermeyer, William F.; Trapp, George) Characterizing switch-setting problems. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 121–135. (Summary) **98k:15005** 15A09 (68Q25)

Goldwasser, Shafi *see* **IEEE Symposium: Foundations of Computer Science, 98h:68008** *and* **Symposium: Foundations of Computer Science, 98i:68017**

Goldwurm, Massimiliano (*with* Bertoni, Alberto; Mauri, Giancarlo; Sabadini, Nicoletta) Counting techniques for inclusion, equivalence and membership problems. *The book of traces*, 131–163, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q45 (68Q10, 68R15)

Goldys, Beniamin (*with* Chojnowska-Michalik, Anna) On regularity properties of nonsymmetric Ornstein-Uhlenbeck semigroup in L^p spaces. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 183–209. (Nataliya Y. Goncharuk) **98f:60121** 60H15

— (*with* Da Prato, Giuseppe; Zabczyk, Jerzy) Ornstein-Uhlenbeck semigroups in open sets of Hilbert spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 433–438. (Summary) **98c:60057** 60H10 (47D07, 47N30, 60J35)

— (*with* Gątarek, Dariusz) On invariant measures for diffusions on Banach spaces. (English summary) *Potential Anal.* **7** (1997), *no.* 2, 539–553. (Ralf Manthey) **98k:60102** 60H15

Golec, Janusz Averaging Euler-type difference scheme. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 751–758. (Eckhard Platen) **98h:60083** 60H10 (65C05)

Golemac, A. (*with* Cigić, V.) On the group A_5 as an automorphism group on triplanes of order 16. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 173–177. (Summary) **98k:20006** 20B25 (05B05, 05B25)

Golenko-Ginzburg, Dimitri (*with* Gonik, Aharon) Job-shop resource scheduling via simulating random operations. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 427–440. 90B35

Goles Ch., Eric (*with* Cosnard, Michel) A characterization of the existence of energies for neural networks. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 570–580, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68173** 68T05

— (*with* Matamala, Martín) Symmetric discrete universal neural networks. (English summary) Universal machines and computations (Paris, 1995). *Theoret. Comput. Sci.* **168** (1996), *no.* 2, 405–416. (Summary) **98g:68143** 68T05 (68Q05)

— (*with* Matamala, Martín) Dynamic behavior of cyclic automata networks. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 2, 161–184. (Summary) **98d:68154** 68Q80 (05C85)

— (*with* Rapaport, Iván) Complexity of tile rotation problems. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 129–159. (Italo José Dejter) **98k:68085** 68Q25

— *see also* **Latin American Theoretical INformatics, 98c:68015**

Golfand, Yu. A. On some general problems concerning the structure of the quantum field theory. *Nova J. Theor. Phys.* **5** (1996), *no.* 1, 98 *pp.* 81–01 (81–03, 81Txx)

Golić, Jovan Dj. (*with* O'Connor, Luke) Embedding and probabilistic correlation attacks on clock-controlled shift registers. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 230–243, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A55 (94A60)

— (*with* O'Connor, Luke) A combinatorial pattern matching problem with applications to cryptography. (English summary) Nineteenth Australasian Computer Science Conference (Melbourne, 1996). *Austral. Comput. Sci. Comm.* **18** (1996), *no.* 1, 473–478. (*see* **98k:68006**) 68R05 (68P25, 94A60)

— Linear statistical weakness of alleged RC4 keystream generator. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 226–238, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60 (94A55)

— (*with* Salmasizadeh, M.; Simpson, L.; Dawson, Edward Pyle) Fast correlation attacks on nonlinear filter generators. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 37–42. 94A60

— On matroid characterization of ideal secret sharing schemes. (English summary) *J. Cryptology* **11** (1998), *no.* 2, 75–86. (Summary) **98m:94035** 94A60

Golightly, W. L. (*with* Haynsworth, W. H.; Sarvate, Dinesh G.) A family of connected quasi-strongly regular graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 89–95. (*see* **98h:05003**) 05C75

Golin, Mordecai J. (*with* Rote, Günter) A dynamic programming algorithm for constructing optimal prefix-free codes for unequal letter costs. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 256–267, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68099** 68Q25 (94B99)

— (*with* Young, Neal E.) Prefix codes: equiprobable words, unequal letter costs. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1281–1292. (Summary) **98j:68053** 68Q25 (68P99)

Golinelli, O. (*with* Di Francesco, P.; Guitter, E.) Meanders. *The mathematical beauty of physics* (*Saclay*, 1996), 12–50, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Sergei K. Lando) **98j:82027** 82B41 (05A15)

— (*with* Bowick, Mark J.; Guitter, E.; Mori, Shintaro) Geometrical folding transitions of the triangular lattice in the face-centred cubic lattice. (English summary) *Nuclear Phys.*

B **495** (1997), *no.* 3, 583–607. (Summary) **98g:82023** 82B99 (82B20, 82B26)

Golinskiĭ, L. B. (*with* Mikhailova, Irina V.) Hilbert spaces of entire functions as a J theory subject [Preprint No. 28-80, Inst. Low Temp. Phys. Engrg., Khar′kov, 1980]. (English summary) Edited by V. P. Potapov. Translated from the Russian. *Topics in interpolation theory* (*Leipzig*, 1994), 205–251, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (J. Rovnyak) **98m:46031** 46E22 (30D20, 47A70, 47B50)

von Golitschek, Manfred Interpolation by continuous function spaces. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 83–88, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (R. Franke) **98k:41037** 41A35 (41A63)

Gollan, Holger W. (*with* Michler, Gerhard O.) Construction of a 45,694-dimensional simple module of Lyons' sporadic group over GF(2). (English summary) *Linear Algebra Appl.* **256** (1997), 185–197. (Jürgen Müller) **98e:20018** 20C34 (20B40, 20C20, 20C40, 20D08)

Gollier, Christian (*with* Eeckhoudt, Louis; Godfroid, Ph.) Willingness to pay, the risk premium and risk aversion. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 355–360. 90A46

— (*with* Schneider, Thierry; Schieber, Caroline; Eeckhoudt, Louis) Economics of radiation protection: equity considerations. (English summary) *Theory and Decision* **43** (1997), *no.* 3, 241–251. 90A30

Gollmann, D. (*with* Chen, Liqun; Mitchell, Chris J.) Key escrow in mutually mistrusting domains. (English summary) *Security protocols* (*Cambridge*, 1996), 139–153, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94015** 94A60

Gollub, J. P. (*with* Williams, Benjamin S.; Marteau, D.) Mixing of a passive scalar in magnetically forced two-dimensional turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2061–2080. (From the summary) **98d:76003** 76–05 (76F99, 76W05)

Golod, E. S. Noncommutative complete intersections and the homology of the Shafarevich complex. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 201–202; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 830–831. 16E40

— *see also* **Algebraic geometry**, **98b:00040**

Golodets, Valentin Ya. (*with* Oleksenko, V. M.; Sansuc, Jean-Jacques) Simplicity of A. van Daele algebra for finite-dimensional C^*-Hopf algebras. (English summary) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 416–423. (Andrzej Sitarz) **98k:46122** 46L89 (46L05, 81R50)

— (*with* Bezuglyĭ, S. I.) Dynamical entropy for Bogoliubov actions of free abelian groups on the CAR-algebra. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 757–782. (Aldo J. Lazar) **98h:46075** 46L55 (81T05)

Golomb, Solomon W. (*with* Moreno, Oscar) On periodicity properties of Costas arrays and a conjecture on permutation polynomials. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2252–2253. (Summary) **98b:05020** 05B15 (94A99)

— The use of combinatorial structures in communication signal design. *Applications of combinatorial mathematics* (*Oxford*, 1994), 59–78, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Ivan Landgev) **98m:94005** 94A12 (05B10, 05B20)

— (*with* Moreno, Oscar; Corrada, Carlos J.) Extended sonar sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1999–2005. 94A12

— (*with* Song, Hong-Yeop) A conjecture on the existence of cyclic Hadamard difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 39–41. (Summary) **98b:05015** 05B10

— (*with* Gaal, Peter) On the number of permutations of n objects with greatest cycle length k. *Adv. in Appl. Math.* **20** (1998), *no.* 1, 98–107. (D. P. Roselle) **98k:05003** 05A05

— (*with* No, Jong-Seon; Gong, Guang; Lee, Hwan-Keun; Gaal, Peter) Binary pseudorandom sequences of period $2^n - 1$ with ideal autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 814–817. 94A55

Golovan, A. A. (*with* Bobrik, G. I.; Matasov, A. I.) The Kalman filter in the guaranteed approach to the solution of the topographic attachment problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 10, 34–47; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1581–1591 (1998). (Summary) **98k:93125** 93E24 (70Q05, 93C95, 93E11, 93E20)

Golovan′, S. V. On unconditional and absolute convergence of series in systems of wavelets. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 89–92. (I. Ya. Novikov) **98k:42043** 42C15

Golovanov, K. A. Quasiconformality coefficients of strips with fixed parts of dihedral wedges. (Russian) *Analysis and discrete mathematics* (*Russian*), 37–45, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (P. Caraman) **98h:30035** 30C65

— (*with* Sychev, A. V.) Two modular inequalities. (Russian) *Group and metric properties of mappings* (*Russian*), 121–125, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (B. Crstici) **98f:30022** 30C65 (30C75)

Golovanov, Mikhail I. Finite bases of admissible rules for the logic $S5_2C$. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 119–129, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:03043** 03B45

— Bimodal propositional logic $S5_2C_n$. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 3, 118–125. 03B45

— (*with* Alekseev, Pavel A.) Poly-modal logic $S5_nC$. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 1–9. (Peter Köhler) **98i:03024** 03B45

Golovaty, Dmitry On a Γ-limit of a family of anisotropic singular perturbations. (English summary) *Manuscripta Math.* **92** (1997), *no.* 4, 515–524. (Alexander A. Kovalevsky) **98d:49017** 49J45 (49J10)

— The volume-preserving motion by mean curvature as an asymptotic limit of reaction-diffusion equations. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 243–298. (Zi Qian Yan) **98c:35087** 35K57 (35B25, 35Q55)

Golovin, A. A. (*with* Nepomnyashchiĭ, A. A.; Pismen, L. M.) Nonlinear evolution and secondary instabilities of Marangoni convection in a liquid-gas system with deformable interface. (English summary) *J. Fluid Mech.* **341** (1997), 317–341. (Summary) **98b:76036** 76E30 (76E15)

Golovin, S. V. On an invariant solution of equations of gas dynamics. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 1, 3–10; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 1, 1–7. (From the text) **98c:76089** 76N15 (35Q35)

Golovina, S. G. (*with* Nikitina, E. V.) Numerical analysis of methods for determining the spectral amplitude of an acoustic field. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 20–23, 50–51. 76Q05 (76M25)

Golovko, M. F. (*with* Sokolovs′ka, T. G.) Analytic solution of the Ornstein-Zernike equation in the mean spherical approximation of nematically ordered systems. (Ukrainian. English, Russian and Ukrainian summaries) *Ukrain. Fiz. Zh.* **41** (1996), *no.* 10, 933–939. (Summary) **98a:82072** 82C05 (82D30)

— (*with* Vakarin, Eduard; Duda, Yurko) Continuum percolation of the four-bonding-site associating fluids. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1333–1352. (Summary) **98i:82029** 82B43

Golse, François Incompressible hydrodynamic limits of the Boltzmann equation: a survey of mathematical results. *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 1–31, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (Editors) **98j:82056** 82C40 (82–02)

— (*with* Gérard, Patrick; Wennberg, Bernt) A compactness result for generalized Radon transforms. *Math. Res. Lett.* **3** (1996), *no.* 4, 491–497. (From the text) **98k:58222** 58G15 (44A12, 53C65)

— (*with* Lochak, Pierre) Sur l'approximation rationnelle simultanée des vecteurs de Bruno. (English and French summaries) [Simultaneous rational approximation of Bryuno vectors] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1047–1052. (W. W. Adams) **98e:11084** 11J13

— (*with* Ghaoui, Zahia) Une classification des couches limites cinétiques par le théorème de l'indice. (English and French summaries) [A classification of kinetic boundary layers by the index theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 343–348. (Summary) **98g:35167** 35Q35 (47B35, 47N20, 76P05, 82C40)

— (*with* Dumas, H. Scott) The averaging method for perturbations of mixing flows. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1339–1358. (James A. Murdock) **98k:34079** 34C29 (58F11, 58F30)

— (*with* Bardos, Claude; Dumas, Laurent) Diffusion approximation for billiards with totally accommodating scatterers. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 351–375. (Nikolai Chernov) **98b:82063** 82C40 (58F13, 58F40, 82C05)

— (*with* Dumas, H. Scott; Dumas, Laurent) Remarks on the notion of mean free path for a periodic array of spherical obstacles. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 943–950. (Nikolai Chernov) **98f:82107** 82C40

— (*with* Bardos, Claude; Colonna, Jean-François) Diffusion approximation and hyperbolic automorphisms of the torus. (English summary) *Phys. D* **104** (1997), *no.* 1, 32–60. (Nikolai Chernov) **98h:82053** 82C40 (58F15)

— (*with* Bourgain, Jean; Wennberg, Bernt) On the distribution of free path lengths for the periodic Lorentz gas. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 491–508. (Nikolai Chernov) **98k:82146** 82C40 (58F40)

Golterman, Maarten F. L. (*with* Shamir, Yigal) A gauge-fixing action for lattice gauge theories. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 148–155. (Summary) **98c:81150** 81T25 (81T13)

Goltser, Ya. M. On the stability of differential equations systems with the spectrum on the imaginary axis. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 47–63 (1998). (Sergiy V. Yanchuk) **98k:34089** 34D20

— Some bifurcation problems of stability. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1461–1467. (Miklós Farkas) **98m:34080** 34C23 (34C30, 34D35)

Goltz, Hans-Joachim Reducing domains for search in CLP(FD) and its application to job-shop scheduling. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 549–562, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 90B35 (68T20)

Goltz, Ursula (*with* Wehrheim, Heike) Causal testing. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 394–406, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q10 (68Q55)

Golub, A. P. Some properties of biorthogonal polynomials and their application to Padé approximations. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1070–1078 (1996). (Michael A. Bennett) **98c:41019** 41A21

— (*with* Bakan, A. G.; Craven, Thomas; Csordas, George) Weakly increasing zero-diminishing sequences. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 547–570. (P. L. Walker) **98k:26025** 26C10 (30D15)

Golub, Gene H. (*with* von Matt, Urs) Generalized cross-validation for large scale problems. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 139–148, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Chandrasekaran, Shivkumar; Gu, Ming; Sayed, Ali H.) Efficient algorithms for least squares type problems with bounded uncertainties. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 171–180, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* von Matt, Urs) Generalized cross-validation for large-scale problems. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 1, 1–34. (Girdhar G. Agarwal) **98j:62052** 62J05

— (*with* Chu, Moody T.; Funderlic, Robert E.) On a variational formulation of the generalized singular value decomposition. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1082–1092. (Roy Mathias) **98h:15016** 15A18 (65F15)

— (*with* Fierro, Ricardo D.; Hansen, Per Christian; O'Leary, Dianne P.) Regularization by truncated total least squares. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1223–1241. (Frederick N. Fritsch) **98d:65051** 65F20 (65F30)

— *see also* **Bellman, Richard**, **98a:01021**

Golubchik, I. Z. (*with* Sokolov, Vladimir V.) On integrable systems generated by the constant solution of the Yang-Baxter equation. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 68–71; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 275–277 (1997). (Dmitriĭ I. Gurevich) **98g:58076** 58F07 (35Q58)

— (*with* Sokolov, Vladimir V.) On some generalizations of the factorization method. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 339–350; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 267–276. (Summary) **98i:58115** 58F07 (34A34, 35Q99)

— (*with* Sokolov, Vladimir V.) Integrable equations on Z-graded Lie algebras. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 375–383; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1097–1103 (1998). (Iskander A. Taimanov) **98k:58111** 58F07 (35Q58)

Golubev, Alexander On the global stability of maximally nonholonomic two-plane fields in four dimensions. *Internat. Math. Res. Notices* **1997,** *no.* 11, 523–529. (Jesús Muciño-Raymundo) **98g:57043** 57R25 (58A30)

Golubev, G. A. Factorization of the matrix spectral density and the solution of the problem of the linear filtering of multidimensional stationary random processes. *J. Comput. Systems Sci. Internat.* **32** (1994), *no.* 4, 76–81; *translated from Izv. Ross. Akad. Nauk Tekhn. Kibernet.* **1993,** *no.* 2, 67–71 (*Russian. Russian summary*). 93E11

Golubev, G. K. (*with* Levit, B. Ya.) Asymptotically efficient estimation for analytic distributions. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 357–368. (M. Hušková) **98b:62062** 62G05 (62C10, 62G20)

— (*with* Levit, B. Ya.) Distribution function estimation: adaptive smoothing. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 383–403. (Theo Gasser) **98j:62031** 62G05

Golubev, Yuri K. (*with* Levit, B. Ya.; Tsybakov, A. B.) Asymptotically efficient estimation of analytic functions in Gaussian noise. (English summary) *Bernoulli* **2** (1996), *no.* 2, 167–181. (Ewaryst Rafajłowicz) **98b:62063** 62G05 (62J05)

Golubeva, E. P. On the representation of large numbers by binary quadratic forms. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **226** (1996), *Anal. Teor. Chisel i Teor. Funktsii.* 13, 60–64, 236; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 1, 951–954. (Vladimir G. Zhuravlev) **98a:11044** 11E16 (11E25)

Golubeva, V. A. (*with* Leksin, V. P.) Quantum problems with symmetries and generalized Knizhnik-Zamolodchikov equations. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 19–73, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Kazuhiro Hikami) **98j:81149** 81R50 (17B37, 32G34, 33D80, 81V70, 82B20)

— (*with* Leksin, V. P.) Quadratic relations in the cohomology of generalized colored braids, and Dunkl identities. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 2, 73–76; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 2, 131–134. (J. S. Joel) **98c:32051** 32S55 (32S40)

— (*with* Leksin, V. P.) On the Veselov-Felder restoration formula in the theory of Calogero-Sutherland operators. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **106** (1996), *no.* 1, 62–75; *translation in Theoret. and Math. Phys.* **106** (1996), *no.* 1, 50–60. (J. S. Joel) **98c:58068** 58F07 (32S40, 81R50)

— (*with* Leksin, V. P.) Nonabelian statistics for Calogero-Sutherland systems of particles. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 241–259. (Kazuhiro Hikami) **98d:81133** 81V70 (32G34, 39A10)

Golubiatnikov, Alexander N. *see* **Golubyatnikov, A. N.**

Golubitsky, Martin (*with* Field, Michael) ★ Symmetry in chaos. (English summary) A search for pattern in mathematics, art and nature. Corrected reprint of the 1992 original. *Oxford University Press, Oxford*, 1995. xii+218 *pp. ISBN* 0-19-853688-7 (Michael Dellnitz) **98a:58117** 58F13 (58F12)

— (*with* Gillis, David) Patterns in square arrays of coupled cells. *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 487–509. (Michael Dellnitz) **98g:58158** 58F39 (34C23, 35A30, 58F14)

— (*with* LeBlanc, Victor G.; Melbourne, Ian) Meandering of the spiral tip: an alternative approach. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 6, 557–586. (Arnd Scheel) **98k:58168** 58F14 (34C23, 35K57, 58F39)

— (*with* Gillis, David) A formula for a symmetry detective. (English summary) *Phys. D* **107** (1997), *no.* 1, 23–29. (Peter Ashwin) **98h:58109** 58F12

Golubkin, V. N. (*with* Emelin, D. S.) Computation of the maximum hypersonic quality and the optimal shapes of wings of small span with laminar and turbulent boundary layers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1237–1245. 76K05

Golubov, B. I. On the boundedeness of the Hardy and the Hardy-Littlewood operators in the spaces $\mathrm{Re}H^1$ and BMO. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 7, 93–106; *translation in Sb. Math.* **188** (1997), *no.* 7, 1041–1054. (Bi Yun Yao) **98m:42016** 42B20 (47G10)

Golubovich, L. R. Identification of curved lines on the basis of the criterion of minimal arc length. (Russian) *Analysis and discrete mathematics* (*Russian*), 45–53, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (*see* **98b:00016**) 65Y25 (65B10)

Golubyatnikov, A. N. On an optimal formulation of the Lagrange gas dynamic problem. (Russian. Russian summary) Chebyshev Lectures—1994 (Russian). *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 6, 59–61, 117–118. (*see* **98i:00023**) 76N15

— (*with* Eglit, Margarita E.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part I. (English summary) Theory and problems. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+270 *pp. ISBN* 981-02-2962-3 (Gérard A. Maugin) **98f:73001a** 73–01 (76–01, 78–01, 80–01)

— (*with* Eglit, Margarita E.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part II. (English summary) Answers and solutions. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+253 *pp. ISBN* 981-02-2963-1 (Gérard A. Maugin) **98f:73001b** 73–01 (76–01, 78–01, 80–01)

— (*with* Kalugin, A. G.) On the stability of incompressible continuous media with high affine symmetry. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 2, 59–62, 105. 73B40 (73D15)

— Uniform expansion of a gravitating gas. *Fluid Dynam.* **32** (1997), *no.* 6, 887–891 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 6, 158–163 (*Russian. Russian summary*). 85A15 (76N15)

— Affine symmetry of continua. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 6, 56–59, 81. 73B10

Golubyatnikov, V. P. Determination of the dimension of a model source of wave radiation from kinematic data. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 45–51, 169, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 35R30

— An inverse problem for the Hamilton-Jacobi equation on a closed manifold. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 276–279, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 235–238. (Valentin V. Lychagin) **98h:58207** 58G99 (35R30)

Goluzin, Gennadiĭ Mikhaĭlovich *see* **Anniversary: Birth of Goluzin, Gennadiĭ Mikhaĭlovich**

Goluzina, E. G. On the set of values of a system of functionals in the class of typically real functions. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **226** (1996), *Anal. Teor. Chisel i Teor. Funktsii.* 13, 69–79, 237; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 1, 958–966. (Peter Boyadjiev) **98c:30032** 30C99

Goman, M. G. (*with* Matyukhin, V. I.; Pyatnitskiĭ, E. S.) Control of the orientation of a rigid body moving in an aerodynamic medium. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 751–755; *translation in Phys. Dokl.* **42** (1997), *no.* 4, 223–227. (From the text) **98g:70022** 70Q05 (70E15, 70K20, 93C85)

Gomatam, Jagannathan (*with* McFarlane, Isobel) Discrete dynamics of quaternionic maps: generalisation of the Mandelbrot set. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 383–390, *Dynamic, Atlanta, GA*, 1996. (Summary) **98c:39008** 39B12 (39A10, 39A12, 58F23)

— (*with* Reynolds, David) Stochastic modelling of genetic algorithms. (English summary) *Artificial Intelligence* **82** (1996), *no.* 1-2, 303–330. (R. Shonkwiler) **98a:68158** 68T05 (60J20, 62E25)

— (*with* Amdjadi, Faridon) Oscillating waves arising from O(2) symmetry. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 379–388. (Summary) **98e:58124** 58F14 (58F40)

— (*with* Amdjadi, Faridon) Reaction-diffusion equations on a sphere: meandering of spiral waves. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3913–3919. 35K57 (65M06, 92C30)

Gombani, Andrea (*with* Björk, Tomas) The reduction of multiplicity in systems modeling. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 23–32, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Summary) **98m:93024** 93B15 (93A30)

Gomberoff, Andrés (*with* Hojman, Sergio A.) Non-standard construction of Hamiltonian structures. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5077–5084. (Jeffrey K. Lawson) **98i:70011** 70G50 (58F05, 70H05)

— (*with* Deser, S.; Henneaux, Marc; Teitelboim, C.) Duality, self-duality, sources and charge quantization in abelian N-form theories. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 80–86. (Summary) **98c:81129** 81T13

— (*with* Bañados, Máximo) Black hole entropy in the Chern-Simons formulation of $(2+1)$-dimensional gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6162–6167. (Sergiu I. Vacaru) **98e:83066** 83C57 (81T20, 81T40)

Gomes, Gracinda M. S. (*with* Howie, John M.) A P-theorem for inverse semigroups with zero. *Portugal. Math.* **53** (1996), *no.* 3, 257–278. (Karl Byleen) **98b:20107** 20M18

— (*with* Szendrei, Mária B.) Idempotent pure extensions by inverse semigroups via quivers. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 15–38. (Summary) **98k:20104** 20M17 (20M18)

— *see also* **Semigroups, automata and languages, 98f:00029**

Gomes, J. F. (*with* Batista, E.; Lautenschleguer, I. J.) Non-abelian Sugawara construction and the q-deformed $N=2$ superconformal algebra. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6281–6293. (Jun'ichi Shiraishi) **98m:81070** 81R50 (17B37)

— (*with* Aratyn, H.; Ferreira, L. A.; Zimerman, A. H.) Constrained KP models as integrable matrix hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1559–1576. (Carlos R. Fernández-Pousa) **98e:58090** 58F07

Gomes, João Extreme value theory for a thermal energy storage model. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 1, 25–31. (Summary) **98f:60098** 60G70 (60F05, 60K30)

— (*with* Oliveira, Orlando) Limit laws for a sequence between the maximum and the sum of independent exponentials. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 25–32. (Summary) **98f:60040** 60F05

Gomes, Jonas de Miranda (*with* Velho, Luiz; Terzopoulos, Demetri) Implicit manifolds, triangulations and dynamics. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 103–120. (*see* **98g:65008**) 65D17

Gomes, M. *see* **Gomes, Marcelo O. C.**

Gomes, M. Gabriela M. (*with* Stewart, Ian N.) Symmetry of generic bifurcations in cubic domains. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 147–171. (Ian Melbourne) **98g:58124** 58F14 (34C23, 34C35, 58E09)

Gomes, Marcelo O. C. (*with* Malbouisson, J. M. C.; da Silva, A. J.) Relativistic corrections to the Aharonov-Bohm scattering. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 373–382. 81Q99 (81V10)

— (*with* Girotti, H. O.; Rivelles, Victor O.; da Silva, A. J.) Duality symmetry in the Schwarz-Sen model. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6615–6618. (Summary) **98h:81094** 81T30

Gomes, Sônia M. (*with* Cortina, Elsa; Moroz, Irene M.) Characterization of biorthogonal spline wavelets by means of derivatives and primitives. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 125–132, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (41A15)

— (*with* Cunha, Cristina) A shock indicator for adaptive schemes for conservation laws. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 2, 205–214. 65M55 (65M06)

Gomes-Ruggiero, Márcia A. (*with* Martínez, José Mario; Santos, Sandra Augusta) Solving nonsmooth equations by means of quasi-Newton methods with globalization. (English summary) *Recent advances in nonsmooth optimization*, 121–140, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:90009**) 90C30 (65K05)

— (*with* Friedlander, Ana; Kozakevich, Daniel N.; Martínez, José Mario; Santos, Sandra Augusta) Solving nonlinear systems of equations by means of quasi-Newton methods with a nonmonotone strategy. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 25–51. (Summary) **98g:65048** 65H10

Gomes Teixeira, Francisco ★ Traité des courbes spéciales remarquables planes et gauches. Tome I. (French) [Treatise on notable special plane and space curves. Vol. I] Translated from the Spanish, revised and augmented. Reprint of the 1908 translation. *Éditions Jacques Gabay, Paris*, 1995. xii+401 *pp. ISBN* 2-87647-162-0 (Bernard Rouxel) **98h:01034a** 01A75 (14H99, 53A04)

— ★ Traité des courbes spéciales remarquables planes et gauches. Tome II. (French) [Treatise on notable special plane and space curves. Vol. II] Translated from the Spanish, revised and augmented. Reprint of the 1909 translation. *Éditions Jacques Gabay, Paris*, 1995. iv+492 *pp. ISBN* 2-87647-162-0 (Bernard Rouxel) **98h:01034b** 01A75 (14H99, 53A04)

— ★ Traité des courbes spéciales remarquables planes et gauches. Tome III. (French) [Treatise on notable special plane and space curves. Vol. III] Reprint of the 1915 original. *Éditions Jacques Gabay, Paris*, 1995. viii+424 *pp. ISBN* 2-87647-162-0 (Bernard Rouxel) **98h:01034c** 01A75 (14H99, 53A04)

Gómez, Alfredo (*with* Aragón, J. L.; Caballero, O.; Dávila, F.) The applications of Clifford algebras to crystallography using Mathematica. (English summary) *Clifford algebras with numeric and symbolic computations*, 251–266, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (52C22, 82–04, 82D25)

Gómez, César (*with* Sierra, Germán) A graph generalization of quantum groups. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 3–12, *World Sci. Publishing, River Edge, NJ*, 1994. (Tomasz Brzeziński) **98i:81104** 81R50 (16W30, 17B37, 82B23)

— (*with* López, Esperanza) A note on the string analog of $N = 2$ super-symmetric Yang-Mills. (English summary) *Phys. Lett. B* **356** (1995), *no.* 4, 487–491. (Summary) **98b:81249** 81T60 (14J32, 32J81, 81T30)

— (*with* Hernández, Rafael) M and F theory instantons, $N = 1$ supersymmetry and fractional topological charge. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5141–5149. 81T60

— (*with* Hernández, Rafael; López, Esperanza) $K3$ fibrations and softly broken $N = 4$ supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 109–133. (Angel Maria Uranga) **98k:81266** 81T60 (14J28, 14J32, 32J81, 81R40, 81T13, 81T30)

— (*with* Hernández, Rafael) M-theory, torons and confinement. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 172–176. (*see* **98j:81004**) 81T30

Gómez, E. *see* **Gómez Sánchez-Manzano, Eusebio**

Gómez, Francisco *see* **Gómez Martín, Francisco**

Gómez, Guillermo I. (*with* Goodwin, Graham C.; Feuer, Arie) A state-space technique for the evaluation of diagonalizing compensators. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 173–177. 93B51 (93C05)

Gómez, I. (*with* Franco, J. M.; Rández, L.) SDIRK methods for stiff ODEs with oscillating solutions. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 197–209. (Xin Yuan Wu) **98i:65053** 65L05 (65L20)

Gómez, J. *see* **Gómez Pérez, Javier**

Gómez, J. R. *see* **Gómez Martín, José Ramón**

sánchez-Gómez, José Luis *see* **Sánchez-Gómez, José Luis**

ruiz Gómez, José María *see* **Ruiz Gómez, José María**

lópez-Gómez, Juan *see* **López-Gómez, Juan**

lópez-Gómez, Julián *see* **López-Gómez, Julián**

olmos Gomez, M. *see* **Olmos Gomez, M.**

ruiz-Gomez, Marcos *see* **Ruiz-Gomez, Marcos**

osuna-Gómez, R. *see* **Osuna-Gómez, R.**

Gómez, Roberto (*with* Laguna-Castillo, Pablo; Papadopoulos, Philippos O.; Winicour, Jeffrey) Cauchy-characteristic evolution of Einstein-Klein-Gordon systems. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 4719–4727. (Francis Cagnac) **98f:83008** 83C05 (58G16)

— (*with* Lehner, Luis R.; Papadopoulos, Philippos O.; Winicour, Jeffrey) The eth formalism in numerical relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 977–990. (R. Beig) **98e:83006** 83–08 (83C25, 83C30)

— (*with* Bishop, Nigel T.; Holvorcem, Paulo R.; Matzner, Richard A.; Papadopoulos, Philippos O.; Winicour, Jeffrey) Cauchy-characteristic evolution and waveforms. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 140–167. (Summary) **98e:76084** 76M25 (76Q05)

— (*with* Bishop, Nigel T.; Lehner, Luis R.; Maharaj, Manoj; Winicour, Jeffrey) High-powered gravitational news. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6298–6309. (Richard Hansen) **98j:83028** 83C30 (83–04)

— (*with* Marsa, R. L.; Winicour, Jeffrey) Black hole excision with matching. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6310–6319. (Richard Hansen) **98j:83057** 83C57 (83–04)

Gomez, Rodrigo P. A finiteness theorem of harmonic maps from compact Lie groups to $O_{18}(H)$. Harmonic maps between groups. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 325–335. (John C. Wood) **98d:58043** 58E20

Gómez, S. *see* **Gómez López, Susana**

Gómez, T. (*with* Caballero, Rafael E.; González, Mercedes; Rey, Lourdes; Ruiz, Francisco) An algorithmic package for the resolution of dynamic multiobjective problems. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 265–273, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

Gomez-Calderon, Javier The radical factors of $f(x) - f(y)$ over finite fields. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 799–802. (S. D. Cohen) **98m:11134** 11T06

Gómez-Corral, A. (*with* Artalejo, J. R.) Steady state solution of a single-server queue with linear repeated requests. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 223–233. (Linn I. Sennott) **98a:60131** 60K25 (90B22)

— (*with* Artalejo, J. R.) Generalized birth and death processes with applications to queues with repeated attempts and negative arrivals. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 5–14. 60J25 (60K25, 90B22)

Gómez-Fernández, M. (*with* Ezquerro Marín, Luis Miguel) Finite groups in which all p-subnormal subgroups form a lattice. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 1, 1–6. (Francesco de Giovanni) **98b:20030** 20D35 (20D30)

Gómez Gil, Javier (*with* Azagra, Daniel; Jaramillo, J. A.) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 487–495. (Joe Thrash) **98h:58016** 58C15 (46G05)

Gómez López, Susana ★ Le passioni degli atomi. (Italian) [The passions of atoms] Montanari e Rossetti: una polemica tra galileiani. [Montanari and Rossetti: a debate between Galileians] Biblioteca di Nuncius: Studi e Testi [Nuncius Library: Studies and Texts], XXIII. *Leo S. Olschki Editore, Florence*, 1997. 240 *pp. ISBN* 88-222-4469-9 (William R. Shea) **98e:01013** 01A45

— (*with* Barrón R., Carlos; Romero, David) Lower energy icosahedral atomic clusters with incomplete core. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 25–28. 81V55

Gómez Lozano, M. (*with* Fernández López, Antonio[1]; García Rus, Eulalia; Siles Molina, M.) Jordan canonical form for finite rank elements in Jordan algebras. (English summary) *Linear Algebra Appl.* **260** (1997), 151–167. (Armin Thedy) **98e:17040** 17C10

Gómez Martín, Francisco (*with* Díaz, J. Miguel; Hurtado, Ferrán) Location of polygonal facilities with restricted number of vertices. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 239–250, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (90B80)

Gómez Martín, José Ramón (*with* Jiménez-Merchán, A.; Khakimdjanov, Y.) On the variety of nilpotent Lie algebra laws of dimension 11. (English summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 2, 137–142. (From the introduction) **98k:17010** 17B30

— (*with* Jiménez-Merchán, A.; Khakimdjanov, Y.) Classifying filiform Lie algebras with Mathematica. (English summary) *Innovation in mathematics* (*Rovaniemi*, 1997), 169–176, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 17B30

Gómez-Mont, Xavier (*with* Ortiz-Bobadilla, Laura) Order and chaos in dynamical systems. (English summary) *Dynamics of nonlinear and disordered systems*, 1–24, *World Sci. Ser. Nonlinear Sci. Ser. B Spec. Theme Issues Proc.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Frederick R. Marotto) **98h:58114** 58F13

Gómez-Nicola, A. (*with* Dobado, A.; Maroto, A. L.; Peláez, J. R.) ★ Effective Lagrangians for the standard model. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xii+315 *pp. ISBN* 3-540-62570-4 (Massimo Di Pierro) **98k:81313** 81V22 (81–02, 81T50, 81V05, 81V15, 81V17)

Gómez Pardo, José L. (*with* Guil Asensio, Pedro A.) Indecomposable decompositions of finitely presented pure-injective modules. *J. Algebra* **192** (1997), *no.* 1, 200–208. (Daniel Simson) **98d:16003** 16D50 (16E50, 16L30)

— (*with* Guil Asensio, Pedro A.) Embeddings in free modules and Artinian rings. *J. Algebra* **198** (1997), *no.* 2, 608–617. (W. K. Nicholson) **98k:16027** 16L60 (16D40, 16P20)

— (*with* Guil Asensio, Pedro A.) Essential embedding of cyclic modules in projectives. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4343–4353. (V. A. Artamonov) **98b:16016** 16L60 (16D40)

Gómez Pérez, Javier (*with* Domínguez, Jesús M.; Mulero Díaz, Ma. Ángeles) Intermediate algebras between $C^*(X)$ and $C(X)$ as rings of fractions of $C^*(X)$. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 115–130. (Summary) **98c:54011** 54C40

Gómez Pin, Victor Quantum physics and the problem of the ontological priority between continuous quantity and discrete quantity. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 151–158, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (00A30, 00A79)

Gómez Sánchez-Manzano, Eusebio (*with* Gómez Villegas, Miguel A.; Marín, J. M.) A multivariate generalization of the power exponential family of distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 589–600. (Summary) **98m:62031** 62E15 (62H10)

Gómez Torrecillas, José (*with* Torrecillas Jover, Blas) Graded FTF rings. *Anneaux et modules* (*Colmar*, 1991), 85–96, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (*see* **98h:13002**) 16W50 (16S90)

— (*with* Jara, Pascual; Merino, L.) Locally finite representations of algebras. *Comm. Algebra* **24** (1996), *no.* 14, 4581–4601. (From the introduction) **98c:16029** 16S30 (17B30)

— (*with* Castaño Iglesias, F.; Năstăsescu, C.) Separable functors in coalgebras. Applications. *Tsukuba J. Math.* **21** (1997), *no.* 2, 329–344. (E. J. Taft) **98h:16058** 16W30

Gómez-Vilar, José M. (*with* Solé, Ricard V.) On cellular automata models for quantum systems. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8169–8171. (Dimitri Petritis) **98j:82042** 82C20 (81P99)

Gómez Villegas, Miguel A. The problem of inverse probability: Bayes and Laplace. (Spanish) *Current perspectives in logic and philosophy of science* (*Spanish*), 385–396, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 01A50 (60–03)

— (*with* Gómez Sánchez-Manzano, Eusebio; Marín, J. M.) A multivariate generalization of the power exponential family of distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 589–600. (Summary) **98m:62031** 62E15 (62H10)

Gomi, Hiroshi (*with* Oyamaguchi, Michio; Ohta, Yoshikatsu) On the Church-Rosser property of non-E-overlapping and weight-preserving TRS's. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaiseki kenkyūsho Kōkyūroku No.* 950 (1996), 167–173. (Dirk Janssens) **98f:68146** 68Q42

Gomilko, A. M. (*with* Meleshko, V. V.) Infinite systems for a biharmonic problem in a rectangle. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2139–2160. (Summary) **98j:73103** 73V99 (35C99, 73K10, 76D99, 76M99)

Gomis, Joaquim (*with* Kamimura, Kiyoshi; Pons, Josep M.; Zamora, F.) One-loop anomalies and Wess-Zumino terms for general gauge theories. (English summary) *Nuclear Phys. B* **458** (1996), *no.* 1-2, 387–402. (Summary) **98a:81207** 81T50 (81T15)

— (*with* Weinberg, Steven) Are nonrenormalizable gauge theories renormalizable? (English summary) *Nuclear Phys. B* **469** (1996), *no.* 3, 473–487. (Kostas Skenderis) **98b:81265** 81T70 (81T15)

— (*with* Kamimura, Kiyoshi; Kuriki, Rie) Nambu-Goldstone fields, anomalies and WZ terms. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 465–485. (Liviu Tătar) **98e:81163** 81T50 (81T13)

— (*with* Gauntlett, Jerome P.; Townsend, Paul K.) BPS bounds for worldvolume branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 3, 16 *pp.* (*electronic*). (Summary) **98m:81139** 81T30

— (*with* Brandt, Friedemann; Simón, Joan) The rigid symmetries of bosonic D-strings. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 148–156. (Summary) **98m:81133** 81T30

segura Gomis, S. *see* **Segura Gomis, S.**

Gomolińska, Anna On semantics for the nonmonotonic modal formalization of the logic of acceptance and rejection. (English summary) To the memory of Prof. Helena Rasiowa.

Fund. Inform. **28** (1996), *no.* 3-4, 303–313. (Frans Voorbraak) **98i:68252** 68T27 (03B45, 03B60, 03B70)

— A nonmonotonic modal formalization of the logic of acceptance and rejection. (English summary) *Studia Logica* **58** (1997), *no.* 1, 113–127. (G. Mirkowska) **98a:03039** 03B60 (03B45, 03B70, 68T27)

Gomory, R. E. *see* **Mandelbrot, Benoît B., 98i:90019**

Gompa, Raghu R. (*with* Gompa, Vijaya L.) On the measurability of convergence set. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 78–80. (From the text) **98m:28009** 28A20

Gompa, Vijaya L. (*with* Gompa, Raghu R.) On the measurability of convergence set. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 78–80. (From the text) **98m:28009** 28A20

Gompf, Robert E. Spin^c-structures and homotopy equivalences. (English summary) *Geom. Topol.* **1** (1997), 41–50 (*electronic*). (John B. Etnyre) **98i:57048** 57R15 (57N13, 57P10, 57R19)

Gompper, G. (*with* Goos, J.) Structure, topology and phase behaviour of amphiphilic systems. (English summary) *Annual reviews of computational physics, II*, 101–136, *Annual Rev. Comput. Phys., II, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:82001**) 82B80 (82B20)

Gomyo, Satoshi Realization of the exceptional simple graded Lie algebras of the second kind. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 4, 431–464. (Oleg Smirnov) **98a:17053** 17B70 (17B20)

Gon, Yasuro Gamma factors of Selberg zeta functions and the functional equation of the Ruelle zeta function. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 183–189. (Shin-ya Koyama) **98i:11070** 11M36

— Gamma factors of Selberg zeta functions and functional equation of Ruelle zeta functions. *Math. Ann.* **308** (1997), *no.* 2, 251–278. (Werner Hoffmann) **98h:11109** 11M36 (11F72)

Gonçalves, A. E. (*with* Gitman, D. M.) Pseudoclassical description of massive Dirac particles in odd dimensions. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2427–2438. (Jorge Goncalves Cardoso) **98e:81056** 81R20 (20C35)

— (*with* Gitman, D. M.) Pseudoclassical model for Weyl particle in 10 dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2167–2170. (Gheorghe Zet) **98i:81201** 81T30

— (*with* Gitman, D. M.; Tyutin, I. V.) Pseudoclassical supergauge model for a $(2+1)$ Dirac particle. *Phys. Atomic Nuclei* **60** (1997), *no.* 4, 665–668; *translated from Yadernaya Fiz.* **60** (1997), *no.* 4, 748–752 (*Russian*). (Summary) **98e:81216** 81T60 (81T13)

Gonçalves, Daciberg Lima (*with* Golasiński, Marek) Equivariant weak n-equivalences. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 2, 265–276. (Steven R. Costenoble) **98a:55011** 55P91 (55N25, 55N91, 55Q91, 55U35)

— (*with* Raphael, Deborah) The structure of $\mathrm{Ext}(G, \mathbf{Z})$ with G an abelian p-group and an application to co-Moore spaces. *Comm. Algebra* **25** (1997), *no.* 9, 2903–2917. (William J. Wickless) **98e:20102** 20K35

— (*with* de Oliveira, Edson) The Lefschetz coincidence number for maps among compact surfaces. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 147–166. 55M20

— (*with* Jezierski, Jerzy) Lefschetz coincidence formula on non-orientable manifolds. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 1–23. (Summary) **98m:55002** 55M20 (57S99)

— Coincidence Reidemeister classes on nilmanifolds and nilpotent fibrations. (English summary) *Topology Appl.* **83** (1998), *no.* 3, 169–186. (R. E. Stong) **98m:55003** 55M20

basto Gonçalves, J. *see* **Basto Gonçalves, J.**

Gonçalves, J. R. (*with* Poulter, J.; Blackman, J. A.) Bond and site defects in fully frustrated two-dimensional Ising systems. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2947–2962. (Summary) **98d:82030** 82B44 (82B20)

Gonçalves, J. Z. (*with* Mandel, Arnaldo) A commutativity theorem for division rings and an extension of a result of Faith. (English summary) *Results Math.* **30** (1996), *no.* 3-4, 302–309. (Carl Faith) **98e:16032** 16U80 (13A18, 16K40, 16R20)

Gonçalves, José Valdo Abreu (*with* Alves, C. O.; Maia, L. A.) On quasilinear elliptic equations in $\mathbf{R}^N$. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 407–415. (Summary) **98h:35058** 35J60

Gonçalves, Sérgio M. C. V. (*with* Moss, Ian G.) Black hole formation from massive scalar fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2607–2615. (Paul A. Blaga) **98h:83049** 83C57 (81T20)

— (*with* Moss, Ian G.) Scalar curvature fluctuations on the four-sphere. (English summary) *Phys. Lett. B* **401** (1997), *no.* 3-4, 254–257. (Seth A. Major) **98c:83033** 83C45

Gonchar, A. A. (*with* Rakhmanov, E. A.; Sorokin, Vladimir N.) On Hermite-Padé approximants for systems of functions of Markov type. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 5, 33–58; *translation in Sb. Math.* **188** (1997), *no.* 5, 671–696. (V. M. Krasnopol′sky) **98h:41017** 41A21

— (*with* Vitushkin, A. G.; Samokhin, M. V.; Ul′yanov, P. L.) Semen Yakovlevich Khavinson (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 187–188; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 631–633. 01A70

— (*with* Vitushkin, A. G.; Vladimirov, V. S.; Napalkov, V. V., Jr.; Nikol′skiĭ, S. M.; Sedletskiĭ, A. M.; Ul′yanov, P. L.; Frolov, Yu. N.) On the eightieth anniversary of the birth of Alekseĭ Fedorovich Leont′ev (1917–1987). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 189–190; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 635–637. 01A70

— *see also* **Complex analysis, 98d:30002**

Goncharenko, M. The asymptotic behaviour of the third boundary-value problem solutions in domains with fine-grained boundaries. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 203–213, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98g:35018** 35B27 (35J65, 35K60)

— (*with* Khruslov, Evgeniĭ Yakovlevich) Homogenization of electrostatic problems in domains with nets. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 215–223, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98f:78010** 78A30 (35B27, 73B27)

Goncharov, A. B. Deninger's conjecture of L-functions of elliptic curves at $s = 3$. Algebraic geometry, 4. *J. Math. Sci.* **81** (1996), *no.* 3, 2631–2656. (Jan Nekovář) **98c:19002** 19F27 (11G40, 14G10, 19E08)

Goncharov, E. N. A mathematical model and method for solving a two-level standardization problem. (Russian. Russian summary) *Models and methods of optimization (Russian)*, 77–90, 149, *Trudy Inst. Mat.*, 28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **98e:90128** 90C27 (90B25)

Goncharov, Sergei S. (*with* Purmakhdian, M.) Iterated extensions of models of countable theories and their applications. (Russian. Russian summary) *Algebra i Logika* **34** (1995), *no.* 6, 623–645, 728; *translation in Algebra and Logic* **34** (1995), *no.* 6, 346–358 (1996). (O. V. Belegradek) **98i:03045** 03C30 (03C15)

— ★ Счетные булевы алгебры и разрешимость. (Russian. Russian summary) [Countable Boolean algebras and decidability] Сибирская Школа Алгебры и Логики. [Siberian School of Algebra and Logic] *Nauchnaya Kniga (NII MIOONGU), Novosibirsk*, 1996. xii+362 *pp. ISBN* 5-88119-004-1 (Martin Weese) **98h:03044a** 03C57 (03B25, 03C60, 03C65, 03G05, 06E05)

— (*with* Badaev, S. A.) On computable minimal enumerations. (English summary) *Algebra (Krasnoyarsk*, 1993), 21–33, *de Gruyter, Berlin*, 1996. (Andrzej Orlicki) **98b:03061** 03D45 (03D25)

— ★ Countable Boolean algebras and decidability. Siberian School of Algebra and Logic. *Consultants Bureau, New York*, 1997. xiv+318 *pp. ISBN* 0-306-11061-X (Martin Weese) **98h:03044b** 03C57 (03B25, 03C60, 03C65, 03G05, 06E05)

— (*with* Khusainov, B. M.) On the spectrum of the degrees of decidable relations. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 301–303. (Andrzej Orlicki) **98b:03062** 03D45

Goncharov, V. I. (*with* Belikhmaĭer, M. Ya.) Synthesis of correcting devices for automatic control systems on the basis of uniform approximation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 3–11; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 715–721. 93B50 (93C80)

Goncharov, V. P. (*with* Pavlov, V. I.) Vortex structures generated by a coastal current in harbour-like basins at large Reynolds numbers. (English summary) *J. Fluid Mech.* **351** (1997), 201–221. 76C05 (86A05)

Goncharov, Yu. P. Parametrization of $\mathrm{U}(N)$-monopoles on black holes by the moduli space of holomorphic vector bundles over two-sphere and black hole entropy. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3347–3363. (Summary) **98m:83045** 83C57 (32L81)

— (*with* Firsova, N. E.) Hawking radiation for twisted complex scalar fields on the Reissner-Nordström black holes and Dirac monopoles. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 371–389. (Summary) **98a:83082** 83C57 (83C47)

— Dirac monopoles on Kerr black holes. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 32–40. (Summary) **98a:83083** 83C57 (81T20)

Goncharuk, N. Yu. Fractional step method for a class of quasilinear stochastic differential equations of parabolic type. (English summary) *Stochastic analysis and applications (Powys*, 1995), 221–235, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael A. Kouritzin) **98j:35086** 35K55 (35C99, 35R60, 60H15)

Gonchenko, S. V. Moduli of Ω-conjugacy of two-dimensional diffeomorphisms with a structurally unstable heteroclinic contour. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 9, 3–24; *translation in Sb. Math.* **187** (1996), *no.* 9, 1261–1281. (B. V. Loginov) **98b:58094** 58F10

— (*with* Shil′nikov, L. P.; Sten′kin, O. V.; Turaev, D. V.) Bifurcations of systems with structurally unstable homoclinic orbits and moduli of Ω-equivalence. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 111–142. (Jörg M. Härterich) **98i:58172** 58F14 (34C23, 34C37)

— (*with* Shil′nikov, L. P.; Turaev, D. V.) Quasiattractors and homoclinic tangencies. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 195–227. (Stephen Schecter) **98m:58086** 58F12 (34C23, 34C37, 34D45)

— (*with* Turaev, D. V.; Gaspard, Pierre; Nicolis, Grégoire) Complexity in the bifurcation structure of homoclinic loops to a saddle-focus. (English summary) *Nonlinearity* **10** (1997), *no.* 2, 409–423. (Zhengrong Liu) **98b:58125** 58F14 (34C23, 34C37)

Gonciulea, Constantin Infinite Coxeter groups virtually surject onto $\mathbf{Z}$. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 257–265. (Robert B. Howlett) **98d:20045** 20F55

Gonciulea, N. (*with* Lakshmibai, Venkatramani) Degenerations of flag and Schubert varieties to toric varieties. (English summary) *Transform. Groups* **1** (1996), *no.* 3, 215–248. (E. Akyıldız) **98a:14065** 14M15 (14M25)

Gonczi, Robert (*with* Froeschlé, Claude; Lega, Elena) Fast Lyapunov indicators. Application to asteroidal motion. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 41–62. 70F15 (70H05, 70K50)

— (*with* Contopoulos, G.; Voglis, N.; Efthymiopoulos, C.; Froeschlé, Claude; Lega, Elena; Dvorak, Rudolf; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

dechamps-Gondim, Myriam *see* **Dechamps-Gondim, Myriam**

Gondran, Michel (*with* Minoux, Michel) Valeurs propres et fonctions propres d'endomorphismes à diagonale dominante en analyse Min-Max. (English and French summaries) [Eigenvalues and eigenfunctions of diagonally dominant endomorphisms in Min-Max analysis] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1287–1290. (Summary) **98j:90052** 90C27

Gondzio, Jacek (*with* Terlaky, Tamás) A computational view of interior point methods. *Advances in linear and integer programming*, 103–144, *Oxford Lecture Ser. Math. Appl.*, 4, *Oxford Univ. Press, New York*, 1996. (*see* **98j:90002**) 90C05 (90–02)

— Another simplex-type method for large scale linear programming. (English summary) *Control Cybernet.* **25** (1996), *no.* 4, 739–760. (Christian Zillober) **98a:90062** 90C06

Gönen, Mithat (*with* Westfall, Peter H.) Asymptotic properties of ANOVA Bayes factors. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 12, 3101–3123. (Summary) **98g:62136** 62J10 (62F15)

Gonera, C. (*with* Giller, Stefan; Majewski, Michał) Deformation map for generalized κ-Poincaré and κ-Weyl algebras. (English summary) *Acta Phys. Polon. B* **27** (1996), *no.* 9, 2131–2135. (Marcelo R. Ubriaco) **98a:81079** 81R50 (16W30, 58B30)

Gong, C. *see* **Cao, Yong-Yan**

Gong, Chang-De (*with* Ma, Yu-qiang; Wang, Zi Dan; Sheng, Li; Zhu, Jian-Xin) First-order transition in a quantum Ising model with p-spin interactions and a random field. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 419–422. 82B20 (82B44)

Gong, Dai Hua (*with* Chen, Rong Qiu; Zhu, Jing Ping) A network algorithm for settlement of debt between enterprises. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 10, 45–47. 05C90

Gong, Di (*with* Liu, Jin Ming[1]) Group-theoretic analysis of the glueball wave function in lattice gauge theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 5, 29–34. 81T25

Gong, Fu Zhou (*with* Ma, Zhi-Ming) Invariance of Malliavin fields on Itô's Wiener space and on abstract Wiener space. (English summary) *J. Funct. Anal.* **138** (1996), *no.* 2, 449–476. (Shi Zan Fang) **98a:60076** 60H07 (46G12)

— (*with* Liu, Qing Rong) C-semigroups and C_0-semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 78–80. (Shu Chun Gao) **98b:47054** 47D06 (47D03)

Gong, G. *see* **Gong, Guihua**

Gong, Guang A new class of nonlinear PN sequences over GF(q^n). (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1007–1012. (Summary) **98d:94019** 94A55 (94A60)

— (*with* No, Jong-Seon; Golomb, Solomon W.; Lee, Hwan-Keun; Gaal, Peter) Binary pseudorandom sequences of period $2^n - 1$ with ideal autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 814–817. 94A55

Gong, Guang Lu Remarks on conditionally killed diffusion processes on Riemannian manifolds and their hypermixing. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 3, 311–316. (Ming Liao) **98a:58173** 58G32 (60J60)

— (*with* Fang, Haitao; Qian, Minping) Disconvergence of Cauchy annealing. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 9, 945–954. (Laurent Miclo) **98b:60126** 60J25 (60F10, 60J75, 65C05)

— (*with* Fang, Haitao) Einstein relations of velocities of diffusions along Schwartz's 2-forms. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 13–21. (Ming Liao) **98i:58248** 58G32 (60J60)

— (*with* Qian, Minping) Entropy production of stationary diffusions on non-compact Riemannian manifolds. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 926–931. (Ming Liao) **98k:58247** 58G32 (60J60)

— (*with* Fang, Haitao; Qian, Minping) Annealing of iterative stochastic schemes. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1886–1907. (Dominique Lépingle) **98h:93028** 93E35 (60J05)

Gong, Guifu (*with* Zhang, Shunyan) Harmonic typically-real mappings. (English and Chinese summaries) *Adv. in Math. (China)* **24** (1995), *no.* 6, 550–555. (Shamil Makhmutov) **98b:30033** 30D45 (30C45)

Gong, Guihua (*with* Elliott, George A.) On the classification of C^*-algebras of real rank zero. II. (English summary) *Ann. of Math.* (2) **144** (1996), *no.* 3, 497–610. (Summary) **98j:46055** 46L05 (19K56, 46L80)

— (*with* Elliott, George A.; Lin, Hua Xin; Pasnicu, Cornel) Abelian C^*-subalgebras of C^*-algebras of real rank zero and inductive limit C^*-algebras. (English summary) *Duke Math. J.* **85** (1996), *no.* 3, 511–554. (George Popescu) **98a:46076** 46L35 (46L45, 46L80)

— (*with* Elliott, George A.; Jiang, Xinhui; Su, Hongbing) A classification of simple limits of dimension drop C^*-algebras. *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 125–143, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Hua Xin Lin) **98a:46067** 46L05

— (*with* Dadarlat, M.) A classification result for approximately homogeneous C^*-algebras of real rank zero. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 4, 646–711. (Terry A. Loring) **98j:46062** 46L05 (19K14, 46L35, 46L80)

— On inductive limits of matrix algebras over higher-dimensional spaces. I, II. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 41–55, 56–100. (Terry A. Loring) **98j:46061** 46L05 (19K14, 46L35, 46L80)

Gong, Huai Yun (*with* Xiang, Shu Huang; You, Zhao-yong) Some properties of spaces of operators on locally bounded and locally convex probabilistic normed spaces. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 6, 118–120. 47S50 (47D15)

Gong, L. *see* **Gong, Lianger**

Gong, Li Qiang The problem of multisample sphericity testing. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 3, 225–232. 62H15 (62E20)

— The scale parameter testing problem for a growth curve model in the complex case. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 27–31. 62H15

— The problem of testing parameters in complex growth curve models. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 3, 7–11. 62H15

Gong, Lianger (*with* Wong, Yau Shu; Chang, Qian-Shun) An initial-boundary value problem of a nonlinear Klein-Gordon equation. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 1, 77–93. (P. Rochus) **98a:65120** 65M06

— (*with* Lee, B. H. K.; Wong, Yau Shu) Effects of structural nonlinearities in aeroelasticity. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2699–2709. (*see* **98i:00031**) 73K70

— (*with* Wong, Yau Shu; Lee, B. H. K.) Dynamics of a coupled system of Duffing's equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 99–119. (Summary) **98j:34104** 34D45 (34C15, 34C23)

Gong, Lin Guo (*with* Matsuo, Hirofumi) Control policy for a manufacturing system with random yield and rework. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 149–175. (George Yin) **98f:93006** 93B30 (93E20)

Gong, Liu Tang (*with* Fei, Pu Sheng) Penalty function methods for parabolic control problems with state constraints. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 170–175. (Hong Xing Zhou) **98j:49040** 49M05 (49K20, 93C20)

— (*with* Fei, Pu Sheng) Optimal control of nonsmooth system governed by quasi-linear elliptic equations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 339–346. (Fredi Tröltzsch) **98e:49010** 49J20 (35B37, 35J60, 49K20)

Gong, Ming Lun (*with* Qin, Kai Huai; Wu, Bian; Tang, Ze Sheng) An improved algorithm for triangulation with minimum weights. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 4, 53–58. 68U05 (68T05)

Gong, Ming-Peng Semigroups defined by generalized Schur functions. (English summary) *Linear Algebra Appl.* **257** (1997), 65–75. (T. Tamura) **98c:20112** 20M15

Gong, Pei Shan (*with* Wei, Bin) A new method to count the index numbers of singular points of ordinary differential equations. (Chinese) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 3, 97–98. 34C05

Gong, Qing Li A family of methods for estimating the failure time of a product. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 3, 217–221. 90B25

Gong, Ren-Shan The q-deformed coherent-state method of normally ordering q-boson operators. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 1, 111–116. (Summary) **98f:81129** 81R50 (81R30)

— A completeness relation for the circle representation and its application. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 297–302. (Constantin Brif) **98j:81127** 81R30 (81V80)

Gong, Sheng (*with* Yu, Qihuang; Guo, Xin) Schwarzian derivative of holomorphic mappings. *Singularities and complex geometry (Beijing, 1994)*, 317–323, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Shanyu Ji) **98h:32038** 32H02 (32A30)

— (*with* Yu, Qihuang; Na, Jisheng) Schwarzian derivative in Kähler manifolds. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 1, 30–36. (Fangyang Zheng) **98g:32016** 32C17 (53C55)

Gong, Wei-Bo (*with* Nananukul, Soracha) Rational interpolation for rare event probabilities. (English summary) *Stochastic networks (New York, 1995)*, 139–168, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60122** 60K25

Gong, Xianghong Divergence of the normalization for real Lagrangian surfaces near complex tangents. (English summary) *Pacific J. Math.* **176** (1996), *no.* 2, 311–324. (Summary) **98e:32028** 32F25

— Unimodular invariants of totally real tori in $\mathbb{C}^n$. (English summary) *Amer. J. Math.* **119** (1997), *no.* 1, 19–54. (Summary) **98f:32017** 32F25

Gong, Xiaofeng (*with* Chen, Hua; Li, Fuli) Controlling and synchronization of spatio-temporal patterns of a globally coupled chaotic map. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 217–224. 93C10 (58F13)

Gong, Xiaoqing (*with* Fang, Dao Yuan) Multidimensional Goursat problem for semilinear hyperbolic equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 1, 125. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 1, 43–50. (Sergio Spagnolo) **98e:35116** 35L70

Gong, Y. (*with* Fan, M. K. H.) Eigenvalue multiplicity estimate in semidefinite programming. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 55–72. (Alexander Shapiro) **98e:90154** 90C30 (65K05)

Gong, Yao Huan (*with* Tang, Xiang Hong; Gong, Yu) Edge detection of images using the M-band wavelet transform. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 2, 117–120. 68U10

Gong, Ye (*with* Zhang, Peng Yun; Li, Guo Bing) The effect of radiation on the helical instability of electric arcs in an axial magnetic field. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 8, 1525–1534. 76W05 (76E25, 78A99)

Gong, Yu (*with* Tang, Xiang Hong; Gong, Yao Huan) Edge detection of images using the M-band wavelet transform. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 2, 117–120. 68U10

Gong, Zhao Ren The distribution of a sum of normal random variables and the linear closure of a set of normal random variables. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 12–14. 62H10

Gong, Zhimin (*with* Ren, Fuyao) A random dynamical system formed by infinitely many functions. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 4, 387–392. (Hartje Kriete) **98k:30032** 30D05 (58F23)

— (*with* Ren, Fuyao) On the Fatou and Julia conjecture for the random dynamical system. (English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 2, 23–27. (Hartje Kriete) **98k:30031** 30D05 (58F23)

— (*with* Ren, Fuyao) On interior points of the Julia set $J(R)$ for random dynamical system R. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 503–512. (Gwyneth M. Stallard) **98m:30041** 30D05

Gong, Zhiming (*with* Aldeen, Mohammad) Comments on: "Equivalence of characterizations of fixed models" [Systems Control Lett. **22** (1994), no. 1, 61–69]. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 255–257. 93A14

Gonik, Aharon (*with* Golenko-Ginzburg, Dimitri) Job-shop resource scheduling via simulating random operations. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 427–440. 90B35

von der Gönna, U. (*with* Kramer, Dietrich) Pure and gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 215–223. (János Kánnár) **98m:83022** 83C30 (83C15)

Gonnet, Gaston H. (*with* Benner, Steven A.) Probabilistic ancestral sequences and multiple alignments. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 380–391, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98i:92020** 92D10 (68Q20)

— (*with* Corless, Robert M.; Hare, D. E. G.; Jeffrey, D. J.; Knuth, Donald E.) On the Lambert W function. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 329–359. (Summary) **98j:33015** 33E20

— (*with* Baeza-Yates, Ricardo A.) Fast text searching for regular expressions or automaton searching on tries. (English summary) *J. ACM* **43** (1996), *no.* 6, 915–936. (E. M. Reingold) **98b:68070** 68Q25 (68P05)

rosales-Gonsales, È. *see* **Rosales-Gonsales, È.**

Gonska, Heinz H. (*with* Kacsó, Daniela P.) Simultaneous approximation by $(0, \cdots, R-2, R)$ interpolators. (English summary) *Calcolo* **32** (1995), *no.* 3-4, 177–191 (1997). (Juan José Torrens) **98i:41021** 41A28 (41A05)

— (*with* Zhou, Ding Xuan) Using wavelets for Szász-type operators. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 131–145. 42C15 (41A35)

— (*with* Kovacheva, Ralitza K.) An extension of Montel's theorems to some rational approximating sequences. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 73–86. (Tord H. Ganelius) **98m:30056** 30E10 (30D45)

— (*with* Prasad, Jagdish; Varma, A. K.) On the order of convergence of interpolatory processes. (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 3-4, 253–265. (Walter Schempp) **98a:41026** 41A25

— (*with* Gavrea, Ioan; Kacsó, Daniela P.) On the variation-diminishing property. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 96–105. (Summary) **98i:41038** 41A36

Gonsor, Dan (*with* Neamtu, Marian) Null spaces of differential operators, polar forms, and splines. (English summary) *J. Approx. Theory* **86** (1996), *no.* 1, 81–107. (H. P. Dikshit) **98h:41007** 41A15

Gonthier, Georges (*with* Fournet, Cédric; Lévy, Jean-Jacques; Maranget, Luc; Rémy, Didier) A calculus of mobile agents. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 406–421, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10

Gontineac, M. Partially derivation operators of second order on a class of multivalued functions. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 75–82. 26B05

Gonzaga, Clovis C. (*with* Lara, Hugo J.) A note on properties of condition numbers. (English summary) *Linear Algebra Appl.* **261** (1997), 269–273. (Summary) **98c:15020** 15A12

— The largest step path following algorithm for monotone linear complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 2, *Ser. A*, 309–332. (K. G. Murty) **98a:90115** 90C33

Gonzales, R. A. (*with* Eisert, J.; Koltracht, I.; Neumann, Michael; Rawitscher, G.) Integral equation method for the continuous spectrum radial Schrödinger equation. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 134–149. (V. I. Yukalov) **98i:81040** 81Q05 (81–04)

González, Adriana M. (*with* Tarzia, Domingo Alberto) Determination of thermal coefficients in semi-infinite materials with mushy zone in phase-change process. *Fifth Seminar on Free Boundary Value Problems and their Applications, Vol. 2 (Spanish) (Rosario, 1994)*, 27–48, *Cuadern. Inst. Mat. Beppo Levi*, 26, *Univ. Nac. Rosario, Rosario*, 1995. (Vitaly A. Volpert) **98g:80007** 80A22

González, Ana-Belén (*with* Martín Ordóñez, Pablo) A note concerning Gauss-Jackson method. *Extracta Math.* **11** (1996), *no.* 2, 255–260. (Alan L. Andrew) **98a:65108** 65L99

— (*with* Getino, Juan) The rotation of a non-rigid, non-symmetrical Earth. I. Free nutations. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 2, 139–149. (Summary) **98k:70003** 70E99 (86A99)

Gonzalez, Antonio *see* **González Muñoz, Antonio**

González, Benito J. *see* **González Rodríguez, Benito**

salvador González, Bonifacio *see* **Salvador González, Bonifacio**

González, Camino *see* **González Fernández, Camino**

martín González, Cándido *see* **Martín González, Cándido**

palacios González, Federico *see* **Palacios González, Federico**

pérez-González, Fernando[1] *see* **Pérez-González, Fernando[1]**

pérez-González, Fernando[2] *see* **Pérez-González, Fernando[2]**

González, Graciela Adriana Dynamical behaviour arising in the adaptive control of the generalized logistic map. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1485–1488. 93C40 (58F13)

González, J. A. *see* **González, Josep-Abel**

borlaf González, Javier *see* **Borlaf González, Javier**

bustamante González, Jorge *see* **Bustamante González, Jorge**

González, Jorge A. Dynamics of solitons in perturbed Klein-Gordon equations. (English and Spanish summaries) *Acta Cient. Venezolana* **47** (1996), *no.* 4, 211–213. 35Q53 (35L70)

muñoz-cobo González, José Luis *see* **Muñoz-Cobo González, José Luis**

González, Josep *see* **González Rovira, Josep**

González, Josep-Abel (*with* Fort, Joaquim; Llebot, Josep E.) Information-theoretical derivation of a nonequilibrium extension of Wien's displacement law. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 193–200. 82C03

González, León (*with* Marín, Angel) Algorithmic estimate for aggregated powerset relations. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 223–229. (Summary) **98a:04007** 04A72

— (*with* Marín, Angel) On certain metric transformations used in similarity-based control. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 417–429. 93C42 (04A72)

bernal-González, Luis *see* **Bernal-González, Luis**

González, M. *see* **González, Mercedes**

hortalá-González, M. Teresa *see* **Hortalá-González, M. Teresa**

González, Manuel (*with* Bermúdez, Teresa; Martinón, Antonio) Properties and applications of the local functional calculus. *Extracta Math.* **11** (1996), *no.* 2, 375–380. (Catalin Badea) **98a:47016** 47A60 (47A11)

— (*with* Gutiérrez del Alamo, Joaquín M.) Schauder type theorems for differentiable and holomorphic mappings. (English summary) *Monatsh. Math.* **122** (1996), *no.* 4, 325–343. (Richard M. Aron) **98e:46054** 46G20 (46E50)

— (*with* Castillo, Jesús M. F.; Sánchez Fernández, Fernando) Oscillation of weakly null and Banach-Saks sequences. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 685–695. (L. Gehér) **98k:54025** 54C30 (46B99)

— (*with* Martínez-Abejón, Antonio) Quotients of L_1 by reflexive subspaces. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 139–143. (*see* **98k:46001**) 46B20 (47A53)

González, María J. An estimate on the distortion of the logarithmic capacity. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1429–1431. (Joachim A. Hempel) **98j:30019** 30C85 (30F35)

González, Mercedes (*with* Caballero, Rafael E.; Gómez, T.; Rey, Lourdes; Ruiz, Francisco) An algorithmic package for the resolution of dynamic multiobjective problems. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 265–273, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

González, Oscar Time integration and discrete Hamiltonian systems. (English summary) *J. Nonlinear Sci.* **6** (1996), *no.* 5, 449–467. (Vassili G. Gelfreich) **98d:58059** 58F05 (65L99)

González, Patrick (*with* Gauthier, Céline; Poitevin, Michel) Ex ante payments in self-enforcing risk-sharing contracts. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 106–144. 90A46 (90A43)

trujillo-González, R. *see* **Trujillo-González, R.**

González, Ramon *see* **González Calvet, Ramon**

González, Roberto L. V. (*with* Di Marco, Silvia C.) A numerical procedure for minimizing the maximum cost. (English summary) *System modelling and optimization (Prague, 1995)*, 285–291, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 49K35 (90D25)

— (*with* Di Marco, Silvia C.) A finite state stochastic minimax optimal control problem with infinite horizon. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 134–141, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 93E20 (90C40)

— (*with* Aragone, L. S.) Fast computational procedure for solving multi-item single-machine lot scheduling optimization problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 491–515. (Jan Węglarz) **98b:90061** 90B35 (65K10, 90B30)

González, Santos (*with* Bernad, J.; Martínez López, Consuelo) On nilpotency of the barideal of a Bernstein algebra. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2967–2985. (Mary Lynn Reed) **98h:17038** 17D92 (92D15)

albis González, Víctor Samuel *see* **Albis González, Víctor Samuel**

González-Aguilera, Víctor (*with* Rodríguez, Rubí E.) On principally polarized abelian varieties and Riemann surfaces associated to prisms and pyramids. (English summary) *Lipa's legacy (New York, 1995)*, 269–284, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Steven H. Weintraub) **98i:14030** 14H15 (32G15)

Gonzalez-Avilés, Cristian D. On the conjecture of Birch and Swinnerton-Dyer. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 4181–4200. (Eric Liverance) **98c:11062** 11G40 (11G05)

González-Barrios, José M. The volume of the smallest parallelepiped including m random points. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 2, 139–145. (Summary) **98f:60017** 60D05

— (*with* Trejo Valdivia, Belem) An extension on Stetchkin's condition. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 51–55. (Jau-Shyong Shiue) **98c:11019** 11B83

González Caballero, Juan L. (*with* Valderrama Bonnet, Mariano J.) A procedure of clustering using the SVD of a matrix. Comparisons with the biplot and with the Q-factor model. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 1, 39–68. 62H25 (62H30)

González Calvet, Ramon (*with* Homs, Josep; Solsona, Jordi) Estimating the error made in determining the place from which a photograph was taken. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 51–71. 51N15

González-Casanova, Pedro A Hilbertian approach to quasi-interpolation methods. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 257–274. (*see* **98g:65008**) 65D05 (41A10)

González-Concepción, Concepción (*with* Pestano-Gabino, Celina) Matrix Padé approximation of rational functions. (English summary) *Numer. Algorithms* **15** (1997), *no.* 2, 167–192. (Marcel G. de Bruin) **98i:41016** 41A21 (41A20)

González-Dávila, J. C. (*with* Vanhecke, Lieven) Anti-holomorphic reflections. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 53–63. (María Elena Vázquez-Abal) **98h:53047** 53C15 (53C55)

— (*with* González-Dávila, M. C.; Vanhecke, Lieven) Classification of Killing-transversally symmetric spaces. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 321–347. (David Blair) **98a:53072** 53C35 (53C30)

— (*with* González-Dávila, M. C.; Vanhecke, Lieven) Invariant submanifolds in flow geometry. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 290–314. (J. Alfredo Jiménez) **98i:53076** 53C40 (53C20)

— (*with* Vanhecke, Lieven) Normal flows and harmonic manifolds. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 105–113. (Jürgen Berndt) **98j:53054** 53C25

González-Dávila, M. C. (*with* González-Dávila, J. C.; Vanhecke, Lieven) Classification of Killing-transversally symmetric spaces. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 321–347. (David Blair) **98a:53072** 53C35 (53C30)

— (*with* González-Dávila, J. C.; Vanhecke, Lieven) Invariant submanifolds in flow geometry. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 290–314. (J. Alfredo Jiménez) **98i:53076** 53C40 (53C20)

González-Díaz, Pedro F. On the black-hole kink. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 1, 57–68. (Gil De Oliveira-Neto) **98c:83059** 83C57 (83E05)

— (*with* Garay, Luis J.; Mena Marugán, Guillermo A.; Raya, José M.) Circular strings, wormholes, and minimum size. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7872–7877. (Summary) **98c:83096** 83E30 (81T20, 81T30)

González Felipe, R. (*with* Chaichian, M.; Louis-Martinez, Domingo) Spinning relativistic particle in an external electromagnetic field. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 188–192. (Summary) **98k:78011** 78A25

González Fernández, Camino (*with* Juan, Jesús) Obtaining the confounding pattern for 2^{k-p} experiments. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2769–2777. 62K15

González Fragoso, Antonio Ratio estimation for the offspring means of a bisexual Galton-Watson branching process. (English summary) *Estadística* **47** (1995), *no.* 148-149, 17–36. (T. J. Sweeting) **98d:62146** 62M05 (60J80, 62F12)

González-Gascón, Francisco Divergence-free vectorfields and integration via quadratures. (English summary) *Phys. Lett. A* **225** (1997), *no.* 4-6, 269–273. (Geoffrey Prince) **98f:58015** 58A30 (58F25)

González-López, Artemio (*with* Finkel, Federico; Kamran, Niky; Olver, Peter J.; Rodríguez, Miguel Angel[2]) Lie algebras of differential operators and partial integrability. (English summary) *Differential geometry and its applications (Santiago de Compostela, 1995)*, 29–53, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Zoya I. Symenoh) **98c:58180** 58G35 (17B99)

— (*with* Finkel, Federico; Rodríguez, Miguel Angel[2]) Orthogonal polynomials and quasi-exactly solvable potentials on the line. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 73–80, *Univ. Carlos III Madrid, Leganés*, 1997. (Tuncay Aktosun) **98k:81041** 81Q05 (33C80)

— (*with* Finkel, Federico; Rodríguez, Miguel Angel[2]) Quasi-exactly solvable spin 1/2 Schrödinger operators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2795–2811. (Piotr Kosiński) **98c:81033** 81Q05 (34A30, 34L40, 81U05)

— (*with* Hernández Heredero, R.; Mari Beffa, Gloria) Invariant differential equations and the Adler-Gel'fand-Dikii bracket. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5720–5738. (Paolo Casati) **98j:58053** 58F07

— (*with* Finkel, Federico; Rodríguez, Miguel Angel[2]) Quasi-exactly solvable Lie superalgebras of differential operators. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6879–6892. (Janusz Grabowski) **98m:17031** 17B66 (35A30, 81R10)

González-López, M. J. (*with* Recio, Tomas) On the reality of inverse kinematic ideals. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 183–196, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Summary) **98g:70006** 70B15 (13P99)

— (*with* Recio, Tomas; Santos, Francisco) Parametrization of semialgebraic sets. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 353–362. (Zbigniew Szafraniec) **98a:14073** 14P10 (68Q40)

González-Manteiga, W. (*with* Cao-Abad, R.; Febrero-Bande, M.; Prada-Sánchez, J. M.; García-Jurado, Ignacio) Saving computer time in constructing consistent bootstrap prediction intervals for autoregressive processes. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 961–978. (Summary) **98d:62155** 62M10 (62G09)

González-Miranda, J. M. Predictability in the Lorenz low-order general atmospheric circulation model. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 347–354. 86A10

González-Moreno, J. Carlos (*with* Hortalá-González, M. Teresa; Rodríguez-Artalejo, Mario) A higher order rewriting logic for functional logic programming. (English summary) *Logic programming (Leuven, 1997)*, 153–167, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68031** 68N15 (03B70, 68N17, 68Q42)

González Muñoz, Antonio (*with* Perez, Raul) Completeness and consistency conditions for learning fuzzy rules. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 37–51. (Summary) **98k:68145** 68T05

González-Pachón, Jacinto (*with* Rodríguez-Galiano, Ma. Isabel) A multi-criteria decision making problem associated to preference modelling. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 170–177, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90A05)

— (*with* Ríos García, Sixto; Ríos-Insua, Sixto; Ríos-Insua, David; Pacios, M. A.; García Barreno, P.) Allais phenomena and completeness of preferences. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 245–256, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A08 (90A46)

González-Pinto, S. (*with* González-Vera, P.; Casasús Latorre, Luis) Uniform schemes for singularly perturbed scalar initial value problems. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 95–103, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65L20 (34B15, 34E15)

— (*with* Pérez Rodríguez, S.; Montijano, Juan I.) On the numerical solution of stiff IVPs by Lobatto IIIA Runge-Kutta methods. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 129–148. (Summary) **98e:65056** 65L06

González Rodríguez, Benito (*with* Negrin, Emilio R.) The link between the kernel method and the method of adjoints for the generalized index ${}_2F_1$-transform. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 691–694. (Summary) **98c:44004** 44A15 (46F12)

— (*with* Negrin, Emilio R.) Mehler-Fock transforms of generalized functions via the method of adjoints. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3243–3253. (Gopi Ahuja) **98c:44005** 44A15 (46F12)

González Rodríguez, J. M. Popular arithmetic: calculation without numbers. (Spanish. Spanish summary) *Epsilon No.* 25 (1993), 77–92. (Summary) **98g:01012** 01A15

González Rodríguez, Ramón ★ La sucesión exacta $\mathrm{Pic}(\mathscr{C}) \to \mathrm{Pic}(\mathscr{D}) \to K_1A(F) \to \mathrm{Br}(\mathscr{C}) \to \mathrm{Br}(\mathscr{D})$ en categorías cerradas. Aplicación a la teoría de invariantes relativos de haces de módulos. (Spanish) [The exact sequence $\mathrm{Pic}(\mathscr{C}) \to \mathrm{Pic}(\mathscr{D}) \to K_1A(F) \to \mathrm{Br}(\mathscr{C}) \to \mathrm{Br}(\mathscr{D})$ in closed categories. Application to the theory of relative invariants of sheaves of modules] Álxebra [Algebra], 60. *Universidad de Santiago de Compostela, Departamento de Álgebra, Santiago de Compostela*, 199?. 170 *pp. ISBN* 84-920864-0-8 (From the introduction) **98d:18002** 18D10 (16E20, 18F25, 19A99, 19B99)

— (*with* Villanueva Novoa, E.) Extension, restriction and Picard-Brauer exact sequences for torsion theories. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 309–320. (Summary) **98k:18007** 18E40 (18D15)

González Rovira, Josep (*with* Bayer, Pilar) On the Hasse-Witt invariants of modular curves. (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 57–76. (Noriko Yui) **98b:11074** 11G10 (11G18, 14G35)

— Hasse-Witt matrices for the Fermat curves of prime degree. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 2, 149–163. (Noriko Yui) **98b:11064** 11G20 (14G15)

González-Tovar, Enrique (*with* Romero-Rochín, Victor) Comments on some aspects of Boltzmann H theorem using reversible molecular dynamics. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 735–749. 82C35 (82–04)

González-Vega, Laureano (*with* Trujillo, Guadalupe) Using symmetric functions to describe the solution set of a zero-dimensional ideal. *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 232–247, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the introduction) **98g:68071** 68Q40 (13P99)

— Implicitization of parametric curves and surfaces by using multidimensional Newton formulae. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 137–151. (Eugenii Shustin) **98c:14045** 14Q05 (13P99, 14Q10)

— (*with* Lombardi, Henri) Smooth parametrizations for several cases of the Positivstellensatz. *Math. Z.* **225** (1997), *no.* 3, 427–451. (Thomas C. Craven) **98d:14072** 14P10 (12D15)

— (*with* Lombardi, Henri; Mahé, Louis) Virtual roots of real polynomials. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 147–166. (Alain Jacquemard) **98k:14077** 14P05 (14Q05)

Gonzalez-Velasco, Miguel (*with* Molina Fernández, Manuel; Barrantes Lopez, Manuel) Parametric inference in multivariate Markov models with dependence on covariates. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 133–143. 62J12 (62M99)

— (*with* Molina Fernández, Manuel) On the L^2-convergence of a superadditive bisexual Galton-Watson branching process. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 575–582. (Fima Klebaner) **98i:60084** 60J80

— (*with* Molina Fernández, Manuel) Some theoretical results on the progeny of a bisexual Galton-Watson branching process. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 15–24. 60J80

González-Vera, P. (*with* González-Pinto, S.; Casasús Latorre, Luis) Uniform schemes for singularly perturbed scalar initial value problems. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 95–103, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65L20 (34B15, 34E15)

— (*with* Santos-León, J. C.; Njåstad, Olav) Some results about numerical quadrature on the unit circle. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 297–328. (D. S. Lubinsky) **98f:41028** 41A55 (41A21, 65D32)

— (*with* Santos-León, J. C.) Properties of certain piecewise polynomial product integration rules. (English summary) *Appl. Numer. Math.* **21** (1996), *no.* 3, 241–264. (Hans Strauss) **98a:65029** 65D32

— (*with* Camacho Machín, M.) Padé-type approximation to Chebyshev series. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 465–478. (Olav Njåstad) **98g:41016** 41A21 (65D15)

— (*with* Bultheel, Adhemar; Hendriksen, E.; Njåstad, Olav) A Favard theorem for rational functions with poles on the unit circle. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 21–37. (Yuri A. Farkov) **98c:42022** 42C05 (30C10)

— (*with* Bultheel, Adhemar; Hendriksen, E.; Njåstad, Olav) Orthogonal rational functions and nested disks. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 344–371. (Boris Petrovich Osilenker) **98e:44004** 44A60 (30E05)

— (*with* Bultheel, Adhemar; Díaz-Mendoza, C.; Orive Rodríguez, Ramón A.) Quadrature on the half-line and two-point Padé approximants to Stieltjes functions. II. Convergence. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 53–76. (Summary) **98a:41023** 41A21 (30E05, 42C05)

— (*with* Camacho Machín, M.) Rational functions associated with double infinite sequences of complex numbers. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 37–51. (Valeri Kaliaguine) **98m:41029** 41A21 (30E05)

— (*with* Bultheel, Adhemar; Díaz-Mendoza, C.; Orive Rodríguez, Ramón A.) Quadrature on the half line and two-point Padé approximants to Stieltjes functions. III. The unbounded case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 95–117. (Summary) **98j:41033** 41A55 (30E05, 42C05, 65D32)

Gonzalez Vieli, Francisco Javier Dirichlet problem and hyperbolic series. (English summary) *J. Ramanujan Math. Soc.* **11** (1996), *no.* 2, 207–211. (Summary) **98b:33002** 33B10

Gonzalo, Jesús (*with* Geiges, Hansjörg) Topology and analysis of contact circles. *Contact and symplectic geometry (Cambridge, 1994)*, 66–77, *Publ. Newton Inst., 8, Cambridge Univ. Press, Cambridge*, 1996. (Jih Hsin Cheng) **98a:53046** 53C15 (58D10)

— (*with* Geiges, Hansjörg) Contact circles on 3-manifolds. (English summary) *J. Differential Geom.* **46** (1997), *no.* 2, 236–286. (Masaaki Ue) **98k:57043** 57R15 (53C15, 57M50, 58F05)

Gonzalo, Raquel Multilinear forms, subsymmetric polynomials, and spreading models on Banach spaces. (English summary) *J. Math. Anal. Appl.* **202** (1996), *no.* 2, 379–397. (Ignacio Zalduendo) **98a:46054** 46G20 (46B20)

— (*with* Maleev, R. P.) Smooth functions in Orlicz function spaces. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 136–145. (Ting Fu Wang) **98g:46046** 46E50 (46B20, 46E30)

— (*with* Jaramillo, J. A.) Separating polynomials on Banach spaces. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 145–164. (Ignacio Zalduendo) **98m:46062** 46G20 (46B20)

Goo, Yoon Hoe (*with* Choi, Sung Kyu; Koo, Nam Jip) Asymptotic equivalence between two linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 44–52. (Josef Diblík) **98g:34084** 34D05 (34C99)

— (*with* Choi, Sung Kyu; Koo, Nam Jip) Lipschitz and exponential asymptotic stability for nonlinear functional-differential systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 397–410. (T. A. Burton) **98m:34151** 34K20

ollivier-Gooch, Carl *see* **Ollivier-Gooch, Carl**

Good, Chris Dowker spaces, anti-Dowker spaces, products and manifolds. (English summary) *Topology Proc.* **20** (1995), 123–143. (Summary) **98d:54041** 54D20 (54A35, 54B10, 54D15)

— Bijective preimages of ω_1. (English summary) *Topology Appl.* **75** (1997), *no.* 2, 125–142. (V. J. Mancuso) **98a:54016** 54C99 (54A10, 54D15, 54D20, 54G20)

— (*with* Tree, Ian J.; Watson, W. Stephen) On Stone's theorem and the axiom of choice. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1211–1218. (Andreas Blass) **98f:03044** 03E25 (03E35, 54D20, 54E35)

Good, I. J. The roughness of visitations in a Markov chain, a review with extensions. (English summary) *Advances in the theory and practice of statistics*, 67–87, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98k:60118** 60J10 (62G10, 65C10)

— The self-consistency of the kinematics of special relativity. II. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 2, 327–333. (Abraham A. Ungar) **98j:83001** 83A05

— The self-consistency of the kinematics of special relativity. III. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 454–465. (Abraham A. Ungar) **98j:83002** 83A05

Goodaire, Edgar G. (*with* Jespers, Eric; Polcino Milies, César) ★ Alternative loop rings. North-Holland Mathematics Studies, 184. *North-Holland Publishing Co., Amsterdam*, 1996. xvi+387 *pp. ISBN* 0-444-82438-3 (Orin Chein) **98e:17041** 17D05

— (*with* Polcino Milies, César) Central idempotents in alternative loop algebras. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 207–214. (Stanley Orlando Juriaans) **98i:17043** 17D05 (20N05)

— (*with* Polcino Milies, César) Nilpotent Moufang unit loops. (English summary) *J. Algebra* **190** (1997), *no.* 1, 88–99. (Jean-Pierre Soublin) **98c:20119** 20N05 (17D05)

Goodall, C. R. (*with* Mardia, Kanti V.; Kent, John T.; Little, John Andrew) Kriging and splines with derivative information. (English summary) *Biometrika* **83** (1996), *no.* 1, 207–221. (Girdhar G. Agarwal) **98d:65017** 65D10 (65D07)

Goodall, Sarah (*with* Brightwell, Graham) The number of partial orders of fixed width. (English summary) *Order* **13** (1996), *no.* 4, 315–337. (Miklós Bóna) **98d:06004** 06A07 (05A16)

Goode, Stephen W. (*with* Agnew, Alfonso F.) Separable solutions of the perfect fluid Einstein field equations admitting an orthogonally transitive abelian G_2 symmetry group.

(English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 396–400, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C20

— (*with* Bullock, Scott) Stiff matter G_2 cosmologies. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 249–252, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:83014** 83C15 (83C20)

Goodearl, K. R. C^*-algebras of real rank zero whose K_0's are not Riesz groups. (English summary) *Canad. Math. Bull.* **39** (1996), *no.* 4, 429–437. (Summary) **98b:46071** 46L05 (19K14, 46L80)

— K_0 of multiplier algebras of C^*-algebras with real rank zero. (English summary) *K-Theory* **10** (1996), *no.* 5, 419–489. (Summary) **98e:46086** 46L80 (19K14, 46L05)

— (*with* Eklof, Paul C.; Trlifaj, Jan) Dually slender modules and steady rings. (English summary) *Forum Math.* **9** (1997), *no.* 1, 61–74. (Riccardo Colpi) **98a:16001** 16D40 (03C60, 16D90, 16E50)

— (*with* Ara, Pere; O'Meara, K. C.; Pardo, E.) Diagonalization of matrices over regular rings. (English summary) *Linear Algebra Appl.* **265** (1997), 147–163. (Enric Ventura Capell) **98i:16013** 16E50 (15A33, 16D70)

— (*with* Arkhangel'skiĭ, A. V.; Zimmermann-Huisgen, Birge) Kiiti Morita (1915–1995). *Notices Amer. Math. Soc.* **44** (1997), *no.* 6, 680–684. (Editors) **98f:01054** 01A70

Goodey, Paul (*with* Schneider, Rolf; Weil, Wolfgang) Projection functions of convex bodies. (English summary) *Intuitive geometry (Budapest, 1995)*, 23–53, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (P. McMullen) **98k:52020** 52A39 (52–02)

— (*with* Fallert, Hermann; Weil, Wolfgang) Spherical projections and centrally symmetric sets. *Adv. Math.* **129** (1997), *no.* 2, 301–322. (Marek Lassak) **98j:52005** 52A20 (52A21, 52A39)

— Radon transforms of projection functions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 159–168. (Carla Peri) **98k:52013** 52A22 (44A12, 52A20, 52A39)

Goodings, D. A. (*with* Tong, Pei Qing) Application of Bogomolny's transfer operator to a circular harmonic oscillator plus $1/r^2$ potential. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4065–4073. (Summary) **98f:81071** 81Q20 (43A07)

Goodman, A. W. *see* **Grinshpan, A. Z.**

Goodman, Albert J. Groups without large core-free subgroups. *Proceedings of the First Jamaican Conference on Group Theory and its Applications (Kingston, 1996)*, 48–51, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20E07

— (*with* Babai, László; Kantor, William M.; Luks, E. M.; Pálfy, P. P.) Short presentations for finite groups. (English summary) *J. Algebra* **194** (1997), *no.* 1, 79–112. (Colin M. Campbell) **98h:20044** 20F05 (20D08)

— (*with* Babai, László; Pyber, László) Groups without faithful transitive permutation representations of small degree. (English summary) *J. Algebra* **195** (1997), *no.* 1, 1–29. (Harold N. Ward) **98g:20005** 20B05 (20F50)

Goodman, E. D. (*with* Ligun, A. A.; Shumeiko, A. A.; Radzevich, S. P.) Asymptotically optimal disposition of tangent points for approximation of smooth convex surfaces by polygonal functions. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 533–546. 65D17 (41A63)

Goodman, I. R. (*with* Kramer, G. F.) Extension of relational and conditional event algebra to random sets with applications to data fusion. (English summary) *Random sets (Minneapolis, MN, 1996)*, 209–242, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 03B52 (52A22, 60A99, 60D05)

Goodman, Tim N. T. (*with* Micchelli, Charles A.; Rodriguez, Giuseppe; Seatzu, Sebastiano) On the Cholesky factorization of the Gram matrix of locally supported functions. (English summary) *BIT* **35** (1995), *no.* 2, 233–257. (Guo Rong Wang) **98a:15029** 15A23 (41A15, 65D07)

— (*with* Sharma, Ambikeshwar) A property of Hermite-Padé interpolation on the roots of unity. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 31–41. (H. Wallin) **98g:41017** 41A21 (30E05, 30E10)

— (*with* Micchelli, Charles A.; Rodriguez, Giuseppe; Seatzu, Sebastiano) Spectral factorization of Laurent polynomials. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 429–454. (Vasily A. Chernecky) **98e:65117** 65T99 (12D05, 15A23)

Goodman-Strauss, Chaim On composite twisted unknots. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4429–4463. (Katura Miyazaki) **98b:57010a** 57M25

— (*with* Berleant, Daniel) Bounding the results of arithmetic operations on random variables of unknown dependency using intervals. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 147–165. 65U05

Goodrich, John W. Accurate finite difference algorithms. *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 43–61, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (65M06)

Goodrich, Michael T. (*with* Callahan, Paul; Ramaiyer, Kumar) Topology B-trees and their applications. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 381–392, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05

— (*with* Nodine, M. H.; Vitter, Jeffrey Scott) Blocking for external graph searching. (English summary) *Algorithmica* **16** (1996), *no.* 2, 181–214. (Summary) **98b:68026** 68P10 (68R10)

— (*with* Das, Gautam) On the complexity of optimization problems for 3-dimensional convex polyhedra and decision trees. (English summary) *Comput. Geom.* **8** (1997), *no.* 3, 123–137. (Ali Ridha Mahjoub) **98k:90135** 90C60 (68Q25)

— (*with* Ramos, Edgar A.) Bounded-independence derandomization of geometric partitioning with applications to parallel fixed-dimensional linear programming. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 397–420. (Summary) **98j:90036** 90C05 (68Q25)

Goodson, Geoffrey R. The structure of ergodic transformations conjugate to their inverses. (English summary) *Ergodic theory of $\mathbf{Z}^d$ actions (Warwick, 1993–1994)*, 369–385, *London Math. Soc. Lecture Note Ser.*, 228, *Cambridge Univ. Press, Cambridge*, 1996. (Mahendra G. Nadkarni) **98g:28021** 28D05

— The inverse-similarity problem for real orthogonal matrices. *Amer. Math. Monthly* **104** (1997), *no.* 3, 223–230. (V. V. Sergeichuk) **98a:15049** 15A57 (47B15)

Goodwin, Graham C. (*with* Lee, Sang Jeong; Hong, Seok-Min) Loop transfer recovery for linear systems with delays in the state and the output. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1099–1118. 93E11 (93B52, 93C30)

— (*with* Mayne, D. Q.; Feuer, Arie) Duality of hybrid optimal regulator and hybrid optimal filter. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1465–1471. 93B52 (93E11)

— (*with* Seron, María Marta) Fundamental design tradeoffs in filtering, prediction, and smoothing. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1240–1251. (Summary) **98d:93093** 93E11

— (*with* Feuer, Arie; Gómez, Guillermo I.) A state-space technique for the evaluation of diagonalizing compensators. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 173–177. 93B51 (93C05)

Goodwin, James M. (*with* Rosen, Bruce E.) Optimizing neural networks using very fast simulated reannealing. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 383–391. 90C90 (82C32, 90C27)

de Gooijer, Jan G. *see* **De Gooijer, Jan G.**

van Gool, L. J. *see* **Van Gool, L. J.**

Gooransarab, Haedeh (*with* Fernández, Luis) ★ Solutions manual for *Techniques of problem solving*. With assistance from Steven G. Krantz. *American Mathematical Society, Providence, RI*, 1997. viii+188 *pp. ISBN* 0-8218-0628-9 (W. T. Whitley) **98b:00003** 00–01 (00A05, 00A07)

Goos, J. (*with* Gompper, G.) Structure, topology and phase behaviour of amphiphilic systems. (English summary) *Annual reviews of computational physics, II*, 101–136, *Annual Rev. Comput. Phys., II, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:82001**) 82B80 (82B20)

Goovaerts, M. J. (*with* Dhaene, J.) Actuarial applications of financial models. (English summary) Mathematics of finance, Part II. *CWI Quarterly* **10** (1997), *no.* 1, 55–64. (Summary) **98e:90027** 90A09

— (*with* Dhaene, J.) On the dependency of risks in the individual life model. (English summary) *Insurance Math. Econom.* **19** (1997), *no.* 3, 243–253. (Summary) **98d:62188** 62P05

— (*with* De Vylder, F.; Marceau, E.) The solution of Schmitter's simple problem: numerical illustration. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 1, 43–58. 62P05

— (*with* De Vylder, F.; Marceau, E.) The bi-atomic uniform minimal solution of Schmitter's problem. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 1, 59–78. (Summary) **98c:62196** 62P05

— (*with* De Schepper, A.; Kaas, R.) A recursive scheme for perpetuities with random positive interest rates. I. Analytical results. (English summary) *Scand. Actuar. J.* **1997**, *no.* 1, 1–10. (Jan Beirlant) **98e:62146** 62P05

— *see also* **Congress: Computational and Applied Mathematics**, **98d:65005** *and* **Zwiesler, Hans J.**, **98m:62293**

Gopakumar, Rajesh (*with* Mukhi, Sunil) Orbifold and orientifold compactifications of F-theory and M-theory to six and four dimensions. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 260–284. (Summary) **98b:81192** 81T30 (83E30)

— BPS states in matrix strings. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 609–620. (Summary) **98k:81212** 81T30 (81T60)

— (*with* Ganor, Ori J.; Ramgoolam, Sanjaye) Higher loop effects in M(atrix) orbifolds. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 243–263. (Summary) **98j:81271** 81T30

— (*with* Ramgoolam, Sanjaye) Scattering of zero-branes off elementary strings in matrix theory. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 177–190. (Summary) **98k:81213** 81T30 (83E30)

Gopal, Inder S. (*with* Garay, Juan A.; Kutten, Shay; Mansour, Yishay; Yung, Moti) Efficient on-line call control algorithms. (English summary) *J. Algorithms* **23** (1997), *no.* 1, 180–194. (Summary) **98a:90045** 90B12 (68M10)

Gopalakrishnamoorthy, G. (*with* Chandrasekhara Rao, K.) Some commutativity theorems for certain semi-prime rings. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 1–5. 16U80

Gopalsamy, K. (*with* He, Xue-Zhong) Oscillations and convergence in an almost periodic competition system. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 3, 247–266. (Krystyna Twardowska) **98m:92028** 92D40 (34K15, 34K20, 92D25)

— (*with* Liu, Pingzhou) On a model of competition in periodic environments. (English summary) *Appl. Math. Comput.* **82** (1997), *no.* 2-3, 207–238. (Wan Biao Ma) **98f:39011** 39A11 (92D25)

— (*with* Liu, Pingzhou) Dynamics of a logistic map with eventually fading memory. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 1–10. (Sui Sun Cheng) **98g:39004** 39A10 (39A11, 92D25, 92D40)

— (*with* He, Xue-Zhong) Persistence, attractivity, and delay in facultative mutualism. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 154–173. (Summary) **98j:92018** 92D40 (34K15, 34K20)

Gopengauz, I. E. Pointwise estimates of the trigonometric interpolation. *Acta Math. Hungar.* **76** (1997), *no.* 3, 189–211. (Jia-Ding Cao) **98m:41005** 41A05 (41A10, 42A10)

Gopinath, Arvind (*with* Chen, Shing B.; Koch, Donald L.) Lubrication flows between spherical particles colliding in a compressible non-continuum gas. (English summary) *J. Fluid Mech.* **344** (1997), 245–269. 76D08 (76N10, 76T05)

Goppa, V. D. Representations of groups and an algebraic theory of information. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **59** (1995), *no.* 6, 25–50; *translation in Izv. Math.* **59** (1995), *no.* 6, 1123–1147. (Alexander Kleshchev) **98h:20013** 20C30

Góra, Paweł (*with* Boyarsky, Abraham; Lou, Y. S.) Lyapunov exponents for higher-dimensional random maps. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 209–218. (Volker Matthias Gundlach) **98h:58103** 58F11 (28D20)

— (*with* Boyarsky, Abraham) A lattice spacetime for the slit experiments of quantum mechanics. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 263–269. (Summary) **98j:81034** 81P15

— (*with* Boyarsky, Abraham) A new approach to controlling chaotic systems. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 1–15. (Remo Badii) **98i:58157** 58F13 (58F11)

Gorain, Ganesh C. Exponential energy decay estimate for the solutions of internally damped wave equation in a bounded domain. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 510–520. (Summary) **98i:35111** 35L05 (35B35)

Gorbachuk, M. L. (*with* Gorbachuk, V. I.) Behavior of the extended spectral measure of a selfadjoint operator at infinity. (Ukrainian. English and Ukrainian summaries) *Ukrain.*

Mat. Zh. **49** (1997), *no.* 4, 510–516; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 561–568 (1998). (Yu. M. Arlins'kiĭ) **98j:47057** 47B25 (47A10)

— (*with* Luchka, A. Yu.; Mitropol'skiĭ, Yuriĭ Alekseevich; Samoĭlenko, A. M.) Bogdan Īosipovich Ptashnik (on the occasion of his sixtieth birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1155–1156. 01A70

Gorbachuk, T. V. (*with* Perestyuk, N. A.) On the existence of discontinuous limit cycles for a system of differential equations with impulse perturbation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1127–1134; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1266–1275 (1998). (Summary) **98h:34018** 34A37 (34C05)

Gorbachuk, V. I. (*with* Gorbachuk, M. L.) Behavior of the extended spectral measure of a selfadjoint operator at infinity. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 4, 510–516; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 561–568 (1998). (Yu. M. Arlins'kiĭ) **98j:47057** 47B25 (47A10)

Gorban', A. N. (*with* Rossiev, D. A.) ★ Нейронные сети на персональном компьютере. (Russian. Russian summary) [Neural networks on a personal computer] "*Nauka*" *Sibirskaya Izdatel'skaya Firma Rossiĭskoĭ Akademii Nauk, Novosibirsk*, 1996. 276 *pp. ISBN* 5-02-031196-0 (Yu. I. Petunin) **98m:92003** 92B20 (68T05, 94B20)

— Approximation of continuous functions of several variables by an arbitrary nonlinear continuous function of one variable, linear functions, and their superpositions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 45–49. 41A63 (26B40, 41A30)

Gorbar, E. V. Heat kernel expansion for operators containing a root of the Laplace operator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1692–1699. (Summary) **98f:58183** 58G11 (35C99, 58G18)

Gorbatenko, M. V. Bispinors generated by the field of Dirac matrices in Riemannian space. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 32–40; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 374–380. (J. S. Joel) **98g:53023** 53A50 (53C80, 81R25)

— Solution by the Einstein-Infeld-Hoffmann method of the problem of the motion of colored particles and gauge field dynamics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 451–462; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1120–1128 (1996). (Summary) **98i:83011** 83C10 (81T13)

Gorbatsevich, V. V. The Seifert fibration for a plesiocompact homogeneous space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 301–313, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 258–267. (Krzysztof Pawalowski) **98a:57047** 57S25 (57S15, 57S20)

Gorbounov, Vassily *see* **Gorbunov, V. G.**

Gorbunov, A. L. (*with* Burenkov, Viktor I.) Sharp estimates for the minimal norm of extension operators for Sobolev spaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 1, 3–44; *translation in Izv. Math.* **61** (1997), *no.* 1, 1–43. (P. Szeptycki) **98b:46039** 46E35 (47B38)

Gorbunov, I. V. (*with* Kuzenko, Sergei M.; Lyakhovich, S. L.) On the minimal model of anyons. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 23, 4199–4215. (Bernd J. Schroers) **98h:81069** 81S99 (81V70)

— (*with* Kuzenko, Sergei M.; Lyakhovich, S. L.) $N = 1$, $D = 3$ superanyons, osp(2|2), and the deformed Heisenberg algebra. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3744–3755. (Summary) **98g:81100** 81S10 (81V70)

Gorbunov, V. G. (*with* Siegel, Stephen F.; Symonds, Peter) The cohomology of the Morava stabilizer group S_2 at the prime 3. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 933–941. (Hans-Werner Henn) **98g:55009** 55P42 (20E18, 20J05, 55Q10)

Gorbuzov, V. N. (*with* Gaidukevich, A. P.) The inverse problem for Jacobian systems with symmetry. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 86–89, 215. (Summary) **98h:35036** 35F20 (35A30, 35R30)

Gorchakov, A. E. (*with* Bolotov, A. E.; Bocharov, V. A.) A proof search algorithm for a classical natural deduction calculus. (Russian) *Logical investigations, No.* 3 (*Russian*), 181–186, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B35

Gorchakov, A. Yu. (*with* Kotkin, G. G.) Necessary and sufficient convergence conditions for a class of nonlinear programming methods. *J. Comput. Systems Sci. Internat.* **34** (1996), *no.* 4, 132–144; *translated from Izv. Ross. Akad. Nauk Teor. Sistemy Upravlen.* **1995**, *no.* 1, 118–130 (*Russian. Russian summary*). (Summary) **98e:90157** 90C30 (65K05)

Gordaliza, A. (*with* Cuesta-Albertos, J. A.; Matrán, C.) Trimmed k-means: an attempt to robustify quantizers. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 553–576. (Issa Fakhre-Zakeri) **98a:62083** 62H30 (62F15, 62F35)

Gordeev, L. Cut free formalization of logic with finitely many variables. I. *Computer science logic* (*Kazimierz*, 1994), 136–150, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03B35 (03F05)

Gordeev, N. L. (*with* Ellers, Erich W.) Gauss decomposition with prescribed semisimple part in Chevalley groups. III. Finite twisted groups. *Comm. Algebra* **24** (1996), *no.* 14, 4447–4475. (Toshiaki Shoji) **98a:20048** 20G40 (20E32)

— Freedom in conjugacy classes of simple algebraic groups and identities with constants. (English summary) *Algebra i Analiz* **9** (1997), *no.* 4, 63–78; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 4, 709–723. (A. R. Rajan) **98m:20056** 20G15

— (*with* Ellers, Erich W.) On the conjectures of J. Thompson and O. Ore. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3657–3671. (R. W. Carter) **98k:20022** 20D06 (20F12)

etayo Gordejuela, Fernando *see* **Etayo Gordejuela, Fernando**

Gordevskiĭ, V. D. An approximate bimodal solution of the Boltzmann equation for hard spheres. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 168–176. (Summary) **98j:82057** 82C40

— A criterion for the smallness of the residual for a bimodal solution of the Boltzmann equation. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 46–58. (Summary) **98g:76064** 76P05 (45K05, 82C40)

Gordeyev, A. N. (*with* Chhajlany, S. C.) One-dimensional hydrogen atom: a singular potential in quantum mechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6893–6909. (Arlen Anderson) **98k:81042** 81Q05

Gordeziani, D. (*with* Grigalashvili, Z.) Non-local problems in time for some equations of mathematical physics. (Russian and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 108–114 (1994). (Summary) **98a:35050** 35K10 (35D05, 35J10, 35L10)

— (*with* Gordeziani, N.) On the investigation of one problem in the linear theory of the elastic mixtures. (Russian and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 115–122 (1994). (D. Ieşan) **98c:73026** 73C15 (35Q72, 73B27)

Gordeziani, N. (*with* Gordeziani, D.) On the investigation of one problem in the linear theory of the elastic mixtures. (Russian and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 115–122 (1994). (D. Ieşan) **98c:73026** 73C15 (35Q72, 73B27)

Gordienko, Evgueni I. (*with* Montes-De-Oca, Raúl; Minjárez-Sosa, Adolfo) Approximation of average cost optimal policies for general Markov decision processes with unbounded costs. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 245–263. (Douglas John White) **98g:90039** 90C40 (60J99)

— "Super-overtaking" optimal policies for Markov control processes. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 59–64. (Summary) **98e:93109** 93E20 (90C40)

— (*with* Salem, Francisco S.) Robustness inequality for Markov control processes with unbounded costs. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 125–130. (Summary) **98k:93121** 93E20 (90C40)

Gordin, M. I. A criterion, based on homoclinic sums, for the vanishing of a spectral density. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 94–110, 358. (Si Ming Zhu) **98h:28010** 28D05 (58F11)

Gordins'kiĭ, L. D. (*with* Shtogrin, S. V.) A dynamic problem in the theory of shells with unilateral constraints. (Ukrainian. Ukrainian summary) *Problems with free boundaries and nonlocal problems for nonlinear parabolic equations* (*Russian*), 17–22, *Nats. Akad. Nauk Ukrainy, Inst. Mat., Kiev*, 1996. (Summary) **98a:73045** 73K15 (35Q72)

Gordoa, P. R. (*with* Estévez, P. G.) Generalized singular manifold method for a dispersive long wave equation in $2 + 1$ dimensions. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 303–307, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q53

— (*with* Estévez, P. G.) Darboux transformations via Painlevé analysis. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 939–957. (Bo Ling Guo) **98h:35204** 35Q53 (35A30, 58F37)

Gordon, A. Ya. (*with* Jitomirskaya, Svetlana Ya.; Last, Y.; Simon, Barry) Duality and singular continuous spectrum in the almost Mathieu equation. *Acta Math.* **178** (1997), *no.* 2, 169–183. (Michael P. Lamoureux) **98f:47041** 47B39 (39A70, 47A10)

— Instability of dense point spectrum under finite rank perturbations. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 583–595. (Alexei V. Rybkin) **98k:47026** 47A55 (47A10, 47B25)

Gordon, Allan D. Hierarchical classification. *Clustering and classification*, 65–121, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:62115**) 62H30

Gordon, Andrew D. (*with* Crole, Roy L.) A sound metalogical semantics for input/output effects. (English summary) *Computer science logic* (*Kazimierz*, 1994), 339–353, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68158** 68Q55 (68N15)

— Bisimilarity as a theory of functional programming. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68155** 68Q55 (68N15)

— (*with* Melham, Tom) Five axioms of alpha-conversion. (English summary) *Theorem proving in higher order logics* (*Turku*, 1996), 173–190, *Lecture Notes in Comput. Sci.*, 1125, *Springer, Berlin*, 1996. (*see* **98c:68024**) 68N15 (03B15, 03B35, 03B40)

Gordon, C. McA. Combinatorial methods in Dehn surgery. *Lectures at KNOTS '96* (*Tokyo*), 263–290, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (Dave Auckly) **98m:57020** 57N10 (57M25)

— Boundary slopes of punctured tori in 3-manifolds. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1713–1790. (Kimihiko Motegi) **98h:57032** 57N10

Gordon, Carolyn S. (*with* Mao, Yiping; Schueth, Dorothee) Symplectic rigidity of geodesic flows on two-step nilmanifolds. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 4, 417–427. (Maura B. Mast) **98g:53077** 53C22 (58F17, 58G25)

Gordon, E. I. ★ Nonstandard methods in commutative harmonic analysis. (English summary) Translated from the Russian manuscript by H. H. McFaden. Translations of Mathematical Monographs, 164. *American Mathematical Society, Providence, RI*, 1997. xiv+166 *pp. ISBN* 0-8218-0419-7 (Vladimir Pestov) **98f:03056** 03H05 (22B05, 22E35, 28E05, 43-02, 47S20)

— (*with* Vershik, A. M.) Groups that are locally embeddable in the class of finite groups. (Russian) *Algebra i Analiz* **9** (1997), *no.* 1, 71–97; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 1, 49–67. (L. A. Kurdachenko) **98f:20025** 20F99

Gordon, Gary Hyperplane arrangements, hypercubes and mixed graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 65–72. (Summary) **98j:05038** 05B25 (05C20)

— A β invariant for greedoids and antimatroids. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 13, 13 *pp.* (*electronic*). (Talmage J. Reid) **98a:05044** 05B35

Gordon, Hugh ★ Discrete probability. (English summary) Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xii+266 *pp. ISBN* 0-387-98227-2 (A. N. Philippou) **98k:60002** 60-01

Gordon, Louis (*with* Bell, Charles; Pollak, Moshe) An efficient nonparametric detection scheme and its application to surveillance of a Bernoulli process with unknown baseline. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 7–27, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62L10 (62N10)

— (*with* Goldstein, Larry Mark) Asymptotics for the maximum of half-normal plots. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2250–2265. (Jan Beirlant) **98c:60053** 60G70 (62K15)

Gordon, R. *see* **Gordon, Robert**

Gordon, R. L. (*with* Forbes, G. W.; Butler, D. J.; Asatryan, A. A.) Algebraic corrections for paraxial wave fields. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3300–3315. (Summary) **98k:78033** 78A45

Gordon, Robert (*with* Power, Anthony John) Enrichment through variation. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 2, 167–185. (R. H. Street) **98i:18004** 18D05 (18D10, 18D15, 18D20)

Gordon, Russell A. The use of tagged partitions in elementary real analysis. *Amer. Math. Monthly* **105** (1998), *no.* 2, 107–117. (R. G. Bartle) **98k:26001** 26–01

Gordon, Steve (*with* Abrahamson, Karl; Cai, Liming) A grammar characterization of logarithmic-space computation. (English summary) *New trends in formal languages*, 247–255, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68166** 68Q50 (68Q05)

Gordon, V. S. (*with* Potapneva, Elena; Werner, Frank) Single machine scheduling with deadlines, release and due dates. (English summary) *Optimization* **42** (1997), *no.* 3, 219–244. (Summary) **98k:90045** 90B35

Goré, Rajeev (*with* Beckert, Bernhard) Free variable tableaux for propositional modal logics. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 91–106, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03032** 03B45 (03B35)

— Cut-free display calculi for relation algebras. (English summary) *Computer science logic (Utrecht, 1996)*, 198–210, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98k:03121** 03G15 (03F05)

— (*with* Heinle, Wolfgang; Heuerding, Alain) Relations between propositional normal modal logics: an overview. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 649–658. (George F. Schumm) **98m:03038** 03B45 (03B35)

Gore, Vivek (*with* Jerrum, Mark; Kannan, Sampath; Sweedyk, Z.; Mahaney, Stephen R.) A quasi-polynomial-time algorithm for sampling words from a context-free language. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 59–74. (Peter Kirschenhofer) **98b:68075** 68Q25 (68Q45)

Górecki, Henryk Overshoots in linear control systems. (English summary) *Arch. Control Sci.* **5** (1996), *no.* 3-4(41), 217–243. (Summary) **98b:93026** 93B52 (93C05)

Goreinov, S. A. (*with* Tyrtyshnikov, E. E.; Erëmin, A. Yu.) Matrix-free iterative solution strategies for large dense linear systems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 4, 273–294. (Summary) **98c:65047** 65F10

Gorelic, Isaac The G_δ-topology and incompactness of ω^α. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 613–616. (Ljubiša Kočinac) **98a:54020** 54D20 (54A25)

Gorelik, Maria The prime spectrum of a quantum analogue of the ring of regular functions on the open Bruhat cell translate. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 577–582. (Darin R. Stephenson) **98h:16044** 16S60 (16W30)

Gorelik, V. A. (*with* Pulicheva, E. A.) Extremal problems with implicitly given objective functions and constraints. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 30–46, 93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 90C30 (90D65)

— (*with* Govorov, A. N.) On a dynamic multicriterial model of conversion. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 47–59, 93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 90A11 (90C29)

— (*with* Larina, O. V.) The covering method for cooperative games with an interval characteristic function. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 51–60, 87, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (Summary) **98b:90181** 90D12

— (*with* Govorov, A. N.) Multistep decision-making procedures under conditions of uncertainty and multicriteriality. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 30–41, 94, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1997. (*see* **98b:93008**) 90C29 (90A30)

— (*with* Pulicheva, E. A.) A modified Lagrange function in extremal problems with implicitly given objective functions and constraints. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 42–60, 95, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1997. (*see* **98b:93008**) 90C30 (49N15)

Gorelov, M. A. (*with* Kononenko, A. F.) ★ Информационные аспекты принятия решений в условиях конфликта. (Russian. Russian summary) [Informational aspects of decision-making under conflict conditions] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 43 *pp.* (Publisher's description) **98b:90007** 90A05 (90D10, 93A13)

— (*with* Promakhina, I. M.; Shevchenko, V. V.) ★ Задача оценки производственных возможностей экономических подсистем. (Russian. Russian summary) [The problem of estimating the productive capacities of economic subsystems] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1995. 32 *pp.* (Summary) **98i:90017** 90A11 (90C39, 90C90)

Gorelov, V. A. On the change of a finite number of elements in a system of root functions of a differential operator without loss of the basis property. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 33–38, 141; *translation in Differential Equations* **33** (1997), *no.* 1, 32–37. (Summary) **98i:34125** 34L10 (47E05)

Gorel'skiĭ, V. A. (*with* Zelepugin, S. A.; Smolin, A. Yu.) Investigation of the discretization effect in computing three-dimensional high impact problems by the finite element method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 742–750. 73M25 (65M60, 73V20)

Goren, Eyal Z. (*with* de Shalit, E.) On special values of theta functions of genus two. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 3, 775–799. (Andrea Mori) **98g:11071** 11G15 (11F46, 11R16)

— On certain reduction problems concerning abelian surfaces. *Manuscripta Math.* **94** (1997), *no.* 1, 33–43. (Juan-Carlos Naranjo) **98m:14048** 14K15 (14K22)

Goren, Gilad (*with* Eckmann, Jean-Pierre; Procaccia, Itamar) Scenario for the onset of space-time chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4106–4134. (Summary) **98k:58157** 58F13 (35B99, 35Q55, 58F40, 82C03)

Gorenflo, Norbert (*with* Werner, Matthias) Solution of a finite convolution equation with a Hankel kernel by matrix factorization. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 434–451. (R. V. Duduchava) **98c:45004** 45E10 (30E25, 34B30)

Gorenflo, Rudolf (*with* Luchko, Yurii F.; Srivastava, Hari M.) Operational method for solving integral equations with Gauss's hypergeometric function as a kernel. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 179–200. (Elias Deeba) **98m:45003** 45D05 (33C90, 44A40)

— (*with* Luchko, Yurii F.) Operational method for solving generalized Abel integral equation of second kind. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 47–58. (Summary) **98f:45002** 45E10 (44A40)

— (*with* Đặng Đình Áng; Le, Vy Khoi) Regularization of a nonlinear integral equation of gravimetry. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 101–116. (Summary) **98c:45015** 45L05 (45G10, 47H15, 65R30)

Gorenstein, Daniel (*with* Lyons, Richard; Solomon, Ronald M.) ★ The classification of the finite simple groups. Number 3. Part I. Chapter A. (English summary) Almost simple K-groups. Mathematical Surveys and Monographs, 40.3. *American Mathematical Society, Providence, RI*, 1998. xvi+419 *pp. ISBN* 0-8218-0391-3 (Gary M. Seitz) **98j:20011** 20D05 (20–02)

Goresky, Mark (*with* Klapper, Andrew) Feedback registers based on ramified extensions of the 2-adic numbers (extended abstract). (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 215–222, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A55 (94A60)

— (*with* Klapper, Andrew) Arithmetic crosscorrelations of feedback with carry shift register sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1342–1345. (Shojiro Sakata) **98j:94010** 94A55 (94A60, 94B40)

— (*with* Klapper, Andrew) Feedback shift registers, 2-adic span, and combiners with memory. (English summary) *J. Cryptology* **10** (1997), *no.* 2, 111–147. (Shojiro Sakata) **98f:94012** 94A55 (94A60)

Gorevchuk, O. V. A boundary value problem for a class of nonlinear degenerate parabolic equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1222–1239, *i*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1057–1073. (Summary) **98k:35106** 35K60

Gorez, R. (*with* Ismail, Osman; Bandyopadhyay, B.) Discrete interval system reduction using Padé approximation to allow retention of dominant poles. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1075–1078. 93B60

Gorgaini, Daniela The simple subalgebras of $\mathrm{Mat}(n, \mathbf{F}_q)$. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 267–272 (1997). 16K20

Görges, Christiane (*with* Ratschek, Helmut) ε-intervals in nonsmooth optimization. (English summary) *Recent advances in optimization (Trier, 1996)*, 75–89, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:49038** 49J52 (65G10, 90C30)

Gorgo, Yu. N. (*with* Burdyuk, V. Ya.) On a group choice problem with constraints. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 131–136, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 105–108. (Fouad T. Aleskerov) **98i:90009** 90A07

Gori, L. *see* **Gori Nicolò-Amati, Laura**

Gori, Laura *see* **Gori Nicolò-Amati, Laura**

Gori, Roberta (*with* Fages, François) A hierarchy of semantics for normal constraint logic programs. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 77–91, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17 (68Q55, 68T20)

— (*with* Levi, Giorgio) Finite failure is and-compositional. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 753–776. (Summary) **98j:68011** 68N17 (68Q55, 68T15)

Goria, Mohammed N. (*with* Flury, Bernhard) Common canonical variates in k independent groups. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1735–1742. (Summary) **98k:62103** 62H20

Goriely, Alain (*with* Tabor, Michael) Nonlinear dynamics of filaments. I. Dynamical instabilities. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 20–44. (J. E. Marsden) **98j:73071a** 73K99 (73C99, 73H10, 73K05)

— (*with* Tabor, Michael) Nonlinear dynamics of filaments. II. Nonlinear analysis. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 45–61. (J. E. Marsden) **98j:73071b** 73K99 (73C99, 73H10, 73K05)

Gorin, Evgeniĭ A. Estimation of a partial involution in a Banach algebra. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 117–118 (1998). (Summary) **98j:46051** 46K05 (46H05)

Gorin, V. V. (*with* Dargeĭko, M. M.; Zafiridi, A. G.) Minimax estimation of the parameters of motion from a sample of independent measurements of the coordinates of a system with bounded velocity and acceleration. (Russian. Russian summary) *Kibernet. i Vychisl. Tekhn. No.* 99 (1993), 65–72. (Summary) **98a:93077** 93E11 (93E35)

Gorinevskiĭ, D. M. An approach to parametric nonlinear least square optimization and application to task-level learning control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 912–927. (Daizhan Cheng) **98i:93034** 93B40 (90C20, 93C10, 93E24)

Gori Nicolò-Amati, Laura A review of some numerical methods for the solution of Cauchy singular integral equations. (Italian summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 373–391 (1997). (Gennady S. Mishuris) **98e:65112** 65R20 (45E05, 45L05)

— On the numerical solution of Cauchy singular integral equations. I. A survey of methods with computational aspects. (English summary) *Advanced mathematical tools in metrology, II (Oxford, 1995)*, 56–69, *Ser. Adv. Math. Appl. Sci.*, 40, *World Sci. Publishing, River Edge, NJ*, 1996. (Ilya V. Boikov) **98e:65113a** 65R20 (45E05, 45L05)

— (*with* Santi, Elisabetta) On the numerical solution of Cauchy singular integral equations. II. A projector-splines method for solution. *Advanced mathematical tools in metrology, II (Oxford, 1995)*, 70–80, *Ser. Adv. Math. Appl. Sci.*, 40, *World Sci. Publishing, River Edge, NJ*, 1996. (Ilya V. Boikov) **98e:65113b** 65R20 (45E05, 45L05)

— (*with* Pitolli, Francesca) Multiresolution analysis based on certain compactly supported refinable functions. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 81–90, *Transilvania, Cluj-Napoca*, 1997. (Steen Pedersen) **98m:42050** 42C15 (42A38)

Gorinov, A. G. On the cohomology of double complexes. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 54–56; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 40–41. (Abd El-Sattar Dabbour) **98k:18009** 18G35 (55N35, 55N45)

Goritskiĭ, A. Yu. (*with* Chepyzhov, Vladimir V.) Global integral manifolds with exponential tracking for nonautonomous equations. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 9–28 (1998). (Anibal Rodriguez-Bernal) **98k:34099** 34G20 (34C30, 34D45, 35K57, 58F39)

Gor'kavyĭ, V. A. Reconstruction of a three-dimensional submanifold of a five-dimensional Euclidean space from a degenerate two-dimensional Grassmann image. (Russian.

English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 25–41. (Valery Marenich) **98m:53009** 53A07

— Reconstruction of a submanifold of a Euclidean space from the Grassmannian image that degenerates into a line. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 5, 681–691, 797; *translation in Math. Notes* **59** (1996), *no.* 5-6, 490–497. (A. Morimoto) **98e:53006** 53A07

Górkiewicz, Maciej Strong screening: new approach to pattern recognition. (English summary) *Systems Sci.* **23** (1997), *no.* 3, 55–60. 68T10

Gorkin, Pamela (*with* Mortini, Raymond) Alling's conjecture on closed prime ideals in H^∞. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 185–190. (A. A. Borichev) **98d:46053** 46J15 (30H05, 46J20)

Gorla, R. S. R. (*with* Hassanien, I. A.; Bakier, A. Y.) Natural convection boundary layer flow of a micropolar fluid. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 751–755. 76R10 (76A99, 76D10)

Gorlov, S. I. A linear problem on the motion of a vibration source near the interface of two media. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 2, 68–72; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 2, 228–232. 76C05

Gorman, A. D. The time-dependent Schrödinger equation at turning points. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 33–38. 35J10 (81Q20)

— (*with* Millard, C. A.) A model for substrate concentrations in tissue surrounding single capillaries. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 1–7. 92C35 (76Z05)

— (*with* Salathe, E. P.) Modeling oxygen concentration in skeletal muscle. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 91–102. 92C30

Gorman, Bryan M. (*with* Rikvold, Per Arne) Recent results on the decay of metastable phases. (English summary) *Annual reviews of computational physics, I*, 149–191, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82095** 82C80 (82–02, 82C26)

Górnicki, Jarosław Fixed points of Lipschitzian semigroups in metric spaces with uniformly normal structure. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 41–48. (Mo Tak Kiang) **98k:47110** 47H10 (47H09, 47H20, 54H25)

— Fixed points of asymptotically regular semigroups in Banach spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 89–118. (Tomás Domínguez Benavides) **98f:47064** 47H10 (47H20)

— Fixed points of Lipschitzian semigroups in Banach spaces. (English summary) *Studia Math.* **126** (1997), *no.* 2, 101–113. (Tomás Domínguez Benavides) **98i:47054** 47H10 (47H09, 47H20)

Górniewicz, Lech (*with* Andres, Jan; Lewicka, Marta) Partially dissipative periodic processes. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 109–118, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Roman Srzednicki) **98d:47129** 47H10 (34A60, 34C25, 47H11, 47N20, 55M25)

— (*with* Nistri, Paolo) An invariance problem for control systems with deterministic uncertainty. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 193–205, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Corneliu Ursescu) **98c:49062** 49L20 (49K24, 93B05, 93B52)

Gorobei, N. N. (*with* Luk'yanenko, A. S.) Operator representation of gravitational constraints in the case of a closed universe. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 503–507; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1603–1606 (1996). (Jan Novotný) **98m:83008** 83C05 (83C45)

Gorodetskiĭ, A. S. Hierarchy of attractors for diffeomorphisms that satisfy axiom A. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 1, 84–86; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 44–45. 58F15

Gorodkin, J. Orbits of Boolean functions. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 269–275. (Summary) **98b:68149** 68R05 (06E30, 68T05, 90C10)

Gorodnīĭ, M. F. Stationary solutions of a nonlinear two-dimensional stochastic difference equation in a Banach space. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 39–45. (Summary) **98a:60088** 60H25 (39A99, 47N20, 60G60)

Gorodski, Claudio (*with* Falbel, Elisha; Rumin, Michel) Holonomy of sub-Riemannian manifolds. (English summary) *Internat. J. Math.* **8** (1997), *no.* 3, 317–344. (Fernand Pelletier) **98e:53032** 53C05

Gorokhov, Alexei (*with* Loubaton, Philippe) Subspace-based techniques for blind separation of convolutive mixtures with temporally correlated sources. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 9, 813–820. (A. Bultheel) **98f:94003** 94A12

Gorokhov, V. G. (*with* Alekseeva, I. Yu.; Aronson, O. V.; Rozin, V. M.) ★ Философия техники: история и современность. (Russian. Russian summary) [Philosophy of technology: history and current state] *Rossĭĭskaya Akademiya Nauk, Institut Filosofii, Moscow*, 1997. 284 *pp. ISBN* 5-201-01931-5 (Publisher's description) **98h:00005** 00A30 (00A69)

Gorokhova, S. G. Intrinsic characterization of the space $c_0(A)$ in the class of Banach lattices. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 445–448; *translation in Math. Notes* **60** (1996), *no.* 3-4, 330–332 (1997). (Ioan Mircea Popovici) **98b:46024** 46B45

Gorostiza, Luis G. (*with* Bojdecki, Tomasz) A nuclear space of distributions on Wiener space and application to weak convergence. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 12–25, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (David Nualart) **98a:60046** 60G20 (46F05, 46F25, 60H07)

— (*with* Bojdecki, Tomasz) Self-intersection local time for Gaussian $\mathscr{S}'$-processes, and application to fluctuation limits of branching particle systems. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 49–55, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Summary) **98d:60071** 60G15 (60G20, 60J55, 60J80)

— (*with* Bojdecki, Tomasz; Nualart, David) Time-localization of random distributions on Wiener space. (English summary) *Potential Anal.* **6** (1997), *no.* 2, 183–205. (Author's review (D.N.)) **98g:60082** 60G20 (46N30, 60J35)

Górowski, Jan (*with* Zajtz, Andrzej) On a class of linear differential operators of first order with singular point. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 129–140. (Summary) **98g:35032** 35C15 (35A25, 58F15, 58F39)

— (*with* Zajtz, Andrzej) Analytic solvability of some singular differential operators. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 183–187. (Summary) **98g:35006** 35A20 (35F05)

Gorre, Anne Evolutions of tubes under operability constraints. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 1–22. (Giovanni Colombo) **98i:34086** 34G20 (34A60, 34H05, 49J52)

Gorrieri, Roberto (*with* Corradini, Flavio; Roccetti, Marco) Performance preorder: ordering processes with respect to speed. (English summary) *Mathematical foundations of computer science 1995* (*Prague*), 444–453, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q60 (68Q10, 68Q55)

— (*with* Chen, Xiao Jun^2; Corradini, Flavio) A study on the specification and verification of performance properties (extended abstract). (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 306–320, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q60

— (*with* Bernardo, Marco) Extended Markovian process algebra. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 315–330, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10 (68Q60)

— (*with* Busi, Nadia; Zavattaro, Gianluigi) On the Turing equivalence of Linda coordination primitives. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q05)

— (*with* Corradini, Flavio; Roccetti, Marco) Performance preorder and competitive equivalence. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 805–835. (Summary) **98i:68080** 68Q10 (68Q55, 68Q60)

— (*with* Busi, Nadia; Zavattaro, Gianluigi) A process algebraic view of Linda coordination primitives. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 167–199. (Summary) **98m:68065** 68Q10 (68Q55)

— *see also* **Automata, languages and programming, 98k:68002** *and* **Theoretical aspects of coordination languages, 98k:68014**

Gorringe, V. M. (*with* Leach, P. G. L.) Conservation laws for the monopole oscillator problem. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 71–83. (Gerard Thompson) **98h:70020** 70H33 (58F05, 70D05)

Gorshkov, A. S. (*with* Ermakova, O. N.; Marchenko, V. F.) Coupled wave method in the theory of a diatomic anharmonic lattice. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 1007–1014. (Summary) **98c:82012** 82B20 (70K99, 81V70)

Górska, Renata *see* **Proceedings: Conference on Engineering Computer Graphics and Descriptive Geometry, 98m:51020**

Górski, Jarosław (*with* Walukiewicz, H.; Bielewicz, E.) Simulation of nonhomogeneous random fields for structural applications. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 491–498. (*see* **98b:73001**) 73K35 (73V30)

Gorskiĭ, A. S. Integrable many body systems in the field theories. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 437–460; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 681–700. (Alexander V. Shapovalov) **98i:58116** 58F07 (81V70)

— (*with* Marshakov, A. V.; Orlov, A. Yu.; Rubtsov, Vladimir) On third Poisson structure of KdV equation. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 461–466; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 701–705. (Efthymia Meletlidou) **98g:58077** 58F07 (35Q53, 58F39, 81T40)

Gorskiĭ, N. D. (*with* Aleksandrov, Viktor Vasil'evich) ★ Image representation and processing. (English summary) A recursive approach. Translated from the 1985 Russian original. Revised by the authors. Mathematics and its Applications, 261. *Kluwer Academic Publishers, Dordrecht*, 1993. viii+191 *pp. ISBN* 0-7923-2136-7 (Henk J. A. M. Heijmans) **98m:68283** 68U10 (94A12)

Gorsky, A. *see* **Gorskiĭ, A. S.**

Gorsky, N. D. *see* **Gorskiĭ, N. D.**

Görtz, Peter (*with* Scherer, Rudolf) Hamiltonian systems and symplectic integrators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1887–1892. (Meng Zhao Qin) **98j:65049** 65L06 (58F05, 65L05, 70–08, 70H05)

Gorunovich, V. V. Phase transition in an exactly solvable model of interacting bosons. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 196–205; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 216–226. (Nicolae Angelescu) **98k:82061** 82B26 (82B10)

Goryainov, V. V. Evolution families of analytic functions and time-inhomogeneous Markov branching processes. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 6, 729–731. (B. Choczewski) **98a:60120** 60J80 (30C35, 47N30, 60J25)

— (*with* Polkovnikov, A. A.) On limit probability distributions for subcritical branching processes. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 417–425; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 352–359 (1997). (Summary) **98c:60109** 60J80 (60F05)

Goryainova, E. R. Sign estimates in the moving average model with infinite variance. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 11, 29–38; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1554–1562 (1997). 62M10 (62G99)

Goryunov, V. (*with* Chmutov, S.) Kauffman bracket of plane curves. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 83–103. (Serge L. Tabachnikov) **98c:57003** 57M25 (53C15)

Görz, Günther *see* **KI-96: Advances in artificial intelligence, 98d:68016**

Goshko, B. M. A logico-algebraic model of an information retrieval system with an interface component. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 2, 19–23, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 168–170. 68P20

Gosman, David (*with* Muzaferija, Samir) Finite-volume CFD procedure and adaptive error control strategy for grids of arbitrary topology. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 766–787. 76M25

Gosper, R. Wm., Jr. $\int_{1/4}^{m/6} \ln \Gamma(z)dz$. (English summary) *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 71–76, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Andreas Guthmann) **98m:33004** 33B15 (11M06, 11Y60)

Goss, Larry D. Presentation of visualization problems using an expanded coded plan technique. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 179–184. 00A69 (68U05)

Gossard, David C. (*with* Shimada, Kenji) Automatic triangular mesh generation of trimmed parametric surfaces for finite element analysis. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 199–222. 65Y25 (41A63, 65M50, 65N50)

Gössel, Michael (*with* Sogomonyan, E. S.) Construction of code-disjoint self-parity combinational circuits for self-testing and functional diagnosis. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 155–165; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1660–1667 (1997). 94C12

Gosselin, Pierre ★ Espace de Wiener et théorie bidimensionnelle des champs. (French. French summary) [Wiener space and two-dimensional field theory] Thèse, Université Louis Pasteur (Strasbourg I), Strasbourg, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Prepublication of the Institute of Advanced Mathematical Research], 1996/33. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1996. 140 *pp.* (Summary) **98g:60078** 60G15 (17B68, 60G20, 60H05, 60J35)

— (*with* Wurzbacher, Tilmann) An Itô type isometry for loops in $\mathbf{R}^d$ via the Brownian bridge. (English summary) *Séminaire de Probabilités, XXXI*, 225–231, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Summary) **98g:60079** 60G15 (60H05, 60J65)

Gossez, Jean-Pierre (*with* Moussaoui, Mimoun) A note on nonresonance between consecutive eigenvalues for a semilinear elliptic problem. *Nonlinear partial differential equations (Fès*, 1994), 155–166, *Pitman Res. Notes Math. Ser.*, 343, *Longman, Harlow*, 1996. (A. Kufner (Zbl 865.35049)) **98g:35077** 35J65 (35B99)

— Some remarks on the antimaximum principle. *Topological and variational methods for nonlinear boundary value problems (Cholin*, 1995), 30–34, *Pitman Res. Notes Math. Ser.*, 365, *Longman, Harlow*, 1997. (*see* **98e:00023**) 35J65 (35B50)

— (*with* Anane, Aomar; Chakrone, Omar) Spectre d'ordre supérieur et problèmes de non-résonance. (English and French summaries) [Higher-order spectrum and problems of nonresonance] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 33–36. (Summary) **98d:35163** 35P05 (35J60)

— (*with* Marcos, A.) On the first curve in the Fučik spectrum of a mixed problem. *Reaction diffusion systems (Trieste*, 1995), 157–162, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Norman Dancer) **98k:35070** 35J65 (35P30)

de Gosson, Maurice ★ Maslov classes, metaplectic representation and Lagrangian quantization. (English summary) Mathematical Research, 95. *Akademie-Verlag, Berlin*, 1997. 186 *pp. ISBN* 3-05-501714-5 (Charles-Michel Marle) **98k:58097** 58F06 (81S10)

— On half-form quantization of Lagrangian manifolds and quantum mechanics in phase space. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 4, 301–322. (Wojciech Lisiecki) **98f:58091** 58F06 (58F05, 81S10)

Gostiaux, Bernard ★ Exercices de mathématiques spéciales. Tome 1. (French) [Exercises of special mathematics. Vol. 1] Algèbre. [Algebra] MP, MP*, nouveaux programmes. [MP, MP*, new programs] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1997. xii+248 *pp. ISBN* 2-13-048727-0 (Editors) **98k:00001a** 00A07

— ★ Exercices de mathématiques spéciales. Tome 2. (French) [Exercises of special mathematics. Vol. 2] Topologie, analyse. [Topology, analysis] MP, MP*, nouveaux programmes. [MP, MP*, new programs] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1997. vi+305 *pp. ISBN* 2-13-048728-9 (Editors) **98k:00001b** 00A07

— ★ Exercices de mathématiques spéciales. Tome 3. (French) [Exercises of special mathematics. Vol. 3] Géométrie, géométrie différentielle. [Geometry, differential geometry] MP, MP*, nouveaux programmes. [MP, MP*, new programs] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1997. vi+325 *pp. ISBN* 2-13-048729-7 (Editors) **98k:00001c** 00A07

Goswami, Jaideva C. (*with* Nevels, Robert D.; Tehrani, Hooman) Semi-orthogonal versus orthogonal wavelet basis sets for solving integral equations. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 9, 1332–1339. (Summary) **98i:78001** 78–08 (65R20)

Goswami, Pranita (*with* Dutta, Papia; Baruah, Hemanta K.) The Latin square design using fuzzy data. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 767–779. 62K10 (04A72)

Goswami, Sauraj (*with* Moura, José M. F.) Gauss-Markov random fields (GMrf) with continuous indices. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1560–1573. (Summary) **98k:60079** 60G60

Gosz, J. (*with* Liu, Wing Kam; Hao, Wei; Chen, Yijung; Jun, Sukky) Multiresolution reproducing kernel particle methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 4, 295–309. (Summary) **98f:65132** 65T99 (65D15)

Gotay, Mark J. (*with* Demaret, Jacques) Some remarks on singularities in quantum cosmology. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 227–230. (Introduction) **98k:83062** 83C75 (83C45)

— (*with* Grundling, Hendrik B.) On quantizing T^*S^1. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 107–123. (Ivailo M. Mladenov) **98m:58043** 58F06 (81S10)

Göthe-Lundgren, Maud (*with* Engevall, Stefan; Värbrand, Peter) A strong lower bound for the node weighted Steiner tree problem. (English summary) *Networks* **31** (1998), *no.* 1, 11–17. (Summary) **98i:05049** 05C05 (68R10, 90C35)

Gotlib, V. Yu. (*with* Belishev, M. I.; Ivanov, Sergei Alekseevich) The BC method in multidimensional spectral inverse problem: theory and numerical illustrations. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 307–327 (*electronic*). (Sergei A. Avdonin) **98k:93056** 93C20 (35P05, 35R30, 47F05)

Goto, Eiichi (*with* Matsueda, Hideaki; Loe, K. F.) Entropy production and transfer, and information erasure and losses. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 76–88. (*see* **98h:00037**) 82C10

Goto, Fumihiro Achieving semiparametric efficiency bounds in left-censored duration models. *Econometrica* **64** (1996), *no.* 2, 439–442. (Summary) **98b:62197** 62P20 (62G05)

Goto, Kikuko (*with* Fukuda, Hiroshi; Muto, Nobuaki; Nakamura, Gisaku) Sections of hyper-cube in five dimensions. (English summary) *Forma* **12** (1997), *no.* 1, 15–33. (H. S. M. Coxeter) **98f:52009** 52B11

Goto, Makoto (*with* Weidman, P. D.; Fridberg, A.) On the instability of inviscid, rigidly rotating immiscible fluids in zero gravity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 921–950. (Summary) **98j:76036** 76E05 (76U05)

Goto, R. (*with* Gibbons, Gary W.; Rychenkova, P.) Hyper-Kähler quotient construction of BPS monopole moduli spaces. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 581–599. (Andrew Swann) **98m:53064** 53C25 (53C07, 58D27, 81T13)

Goto, Shiro (*with* Nakamura, Yukio[1]; Nishida, Koji) Cohen-Macaulay graded rings associated to ideals. (English summary) *Amer. J. Math.* **118** (1996), *no.* 6, 1197–1213. (Ian M. Aberbach) **98a:13008** 13A30 (13B22, 13H10)

— (*with* Nakamura, Yukio[1]; Nishida, Koji) On the Gorensteinness in graded rings associated to certain ideals of analytic deviation one. *Japan. J. Math. (N.S.)* **23** (1997), *no.* 2, 303–318. (Ngô Viêt Trung) **98i:13044** 13H10 (13A30)

Goto, Susumu (*with* Kida, Shigeo) A Lagrangian direct-interaction approximation for homogeneous isotropic turbulence. (English summary) *J. Fluid Mech.* **345** (1997), 307–345. (Summary) **98g:76041** 76F05 (76M35)

Goto, Tatsuo Dimension and ε-translations. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 803–808. (Leonard R. Rubin) **98c:54029** 54F45 (55M10)

— Metric dimension of the intersections of a point set with hyperplanes. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 161–169. (Richard P. Millspaugh) **98k:55001** 55M10 (54F45)

Goto, Yasuhiro The Artin invariant of supersingular weighted Delsarte $K3$ surfaces. *J. Math. Kyoto Univ.* **36** (1996), *no.* 2, 359–363. (Ulf Persson) **98f:14029** 14J28 (14G15)

— Arithmetic of weighted diagonal surfaces over finite fields. (English summary) *J. Number Theory* **59** (1996), *no.* 1, 37–81. (Takeshi Ooe) **98a:11077** 11G25 (11G40, 14G15)

Gotoh, Kayoko (*with* Yanagihara, Niro) Iteration of the function $c\exp[az + b/z]$. (English summary) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 120–131. (Summary) **98j:30025** 30D05 (58F23)

Gotoh, Tohru Compact minimal CR-submanifolds with the least nullity in a complex projective space. *Osaka J. Math.* **34** (1997), *no.* 1, 175–197. (José Carmelo González-Dávila) **98d:53080** 53C40 (53C15, 53C42)

Gotoh, Toshiyuki Structures and probability distribution functions in homogeneous turbulences. (English summary) Topological problems in fluid dynamics (Kyoto, 1991/1992). *Forma* **8** (1993), *no.* 1, 133–145. (*see* **98h:76004**) 76F05 (76M35)

— (*with* Yajima, Masashi) Instability of vortex rings. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 24–34. (*see* **98e:76004**) 76C05 (76E99)

— (*with* Takahashi, Hirofumi) Small scale statistics in 2-dimensional turbulence. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 163–172. (*see* **98e:76004**) 76F05 (76M35)

— Energy spectrum in the inertial and dissipation ranges of two-dimensional steady turbulence. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2984–2991. 76F99

Gotoh, Yasuhiro On a localization theorem for BMO_φ on general domains. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 3, 231–247. (Petr Gurka) **98e:46037** 46E30 (46E35)

Gottardi, Piero (*with* Detemple, Jérôme B.) Aggregation, efficiency and mutual fund separation in incomplete markets. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 443–455. (Summary) **98i:90013** 90A09

Gottcheiner, Alain (*with* Bouzette, Sabine; Buekenhout, Francis; Dony, Edmond) A theory of nets for polyhedra and polytopes related to incidence geometries. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 115–136. (P. McMullen) **98a:52016** 52B11 (51M20)

Gottesman, Daniel Class of quantum error-correcting codes saturating the quantum Hamming bound. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1862–1868. (Summary) **98c:94033** 94B99

Gottesman, Stephen T. *see* **Three-dimensional systems, 98b:70018**

Göttfert, Rainer (*with* Niederreiter, Harald) A general lower bound for the linear complexity of the product of shift-register sequences. (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 223–229, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A55

Gottlieb, Christian Length and dimension modulo a Serre category. *Comm. Algebra* **25** (1997), *no.* 5, 1553–1561. (Kwangil Koh) **98b:13010** 13C15

Gottlieb, David (*with* Carpenter, Mark H.) Spectral methods on arbitrary grids. (English summary) *J. Comput. Phys.* **129** (1996), *no.* 1, 74–86. (Summary) **98f:65115** 65N35 (65M70)

— (*with* Gelb, Anne) The resolution of the Gibbs phenomenon for "spliced" functions in one and two dimensions. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 35–58. (Summary) **98c:65206** 65T10 (42A16)

— (*with* Abarbanel, Saul) A mathematical analysis of the PML method. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 357–363. (Baldev K. Sachdeva) **98k:78001** 78–08 (78A25)

— (*with* Shu, Chi-Wang) On the Gibbs phenomenon and its resolution. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 644–668. (L. Leindler) **98m:42002** 42A15 (41A25)

Gottlieb, H. P. W. Exact mimicry of nonlinear oscillatory potential motion: nonuniqueness of isodynamical tracks. (English summary) *J. Sound Vibration* **204** (1997), *no.* 3, 519–532. (Summary) **98j:70004** 70D05

Gottlieb, Ioan (*with* Dariescu, Ciprian) Up to the second order spin contributions of the electrostatic field: Reissner-Nordstrom solution representing U_4-spacetime. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 35–45. (Yu. N. Obukhov) **98k:83072** 83D05 (53C80)

— (*with* Dariescu, Ciprian) Tetradic formulation of the variational principle in U_4-theory and the complete set of the field equations. I. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 46–58. (Victor Tapia) **98h:83070a** 83D05 (53C80)

— (*with* Dariescu, Ciprian) Tetradic formulation of the variational principle in U_4-theory and the complete set of the field equations. II. (English summary) In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 59–65. (Victor Tapia) **98h:83070b** 83D05 (53C80)

— (*with* Dariescu, Marina-Aura; Dariescu, Ciprian) Gauge theory on $S^2 \times \mathbf{R} \times \mathbf{R}$ manifold. I. The case of a "uniform" field. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 3-4, 227–232. (Summary) **98a:81115** 81T13

— (*with* Dariescu, Ciprian; Dariescu, Marina-Aura) SO(3, 1)-gauge formulation of the invariance properties and conservation laws in U_4-field theory. *Tensor (N.S.)* **57** (1996),

no. 2, 204–211. (Alberto Saa Vazquez) **98e:83099** 83D05 (83C40)

Gottlieb, Johannes (*with* Romanov, V. G.) An inverse problem for the linearized Maxwell-Bloch system for layered media. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 1, 85–100. (Giovanni Crosta) **98c:82074** 82D40 (35Q60, 35R30)

— (*with* Romanov, V. G.; Kabanikhin, S. I.; Martakov, S. V.) An inverse problem for special dispersive media arising from ground penetrating radar. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 175–192. (Tom Roberts) **98c:78015** 78A40 (35R30, 86A22)

Gottlieb, Oded (*with* Yarin, A. L.; Roisman, I. V.) Chaotic rotation of triaxial ellipsoids in simple shear flow. (English summary) *J. Fluid Mech.* **340** (1997), 83–100. (Summary) **98d:76080** 76F20

— (*with* Sammarco, Paolo; Tran, Hoang H.; Mei, Chiang C.) Subharmonic resonance of Venice gates in waves. II. Sinusoidally modulated incident waves. (English summary) *J. Fluid Mech.* **349** (1997), 327–359. (Summary) **98k:86008** 86A05 (76B15)

Gottlieb, Sigal (*with* Shu, Chi-Wang) Total variation diminishing Runge-Kutta schemes. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 73–85. (Summary) **98c:65122** 65L06 (65M99)

Gottlob, Georg (*with* Eiter, Thomas; Leone, Nicola) Complexity results for abductive logic programming. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 1–14, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q25, 68Q55)

— (*with* Leone, Nicola; Veith, Helmut) Second order logic and the weak exponential hierarchies. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 66–81, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98g:03097** 03C85 (03C13, 03D15, 68P15, 68Q15)

— (*with* Dix, Jürgen; Marek, Victor W.) Reducing disjunctive to non-disjunctive semantics by shift-operations. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 87–100. (M. I. Dekhtyar) **98b:68013** 68N17 (03D15, 68Q25)

— (*with* Eiter, Thomas) The complexity of nested counterfactuals and iterated knowledge base revisions. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 497–512. (Summary) **98e:68240** 68T30 (68Q25)

— (*with* Eiter, Thomas) The complexity class Θ_2^p: recent results and applications in AI and modal logic. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 1–18, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q15 (03B45, 03D15, 68T27)

— (*with* Eiter, Thomas; Leone, Nicola) On the indiscernibility of individuals in logic programming. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 805–824. (Summary) **98j:68008** 68N17

— (*with* Eiter, Thomas) Expressiveness of stable model semantics for disjunctive logic programs with functions. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 167–178. (Summary) **98d:68043** 68N17 (68Q55)

— (*with* Dawar, Anuj; Hella, Lauri) Capturing relativized complexity classes without order. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 109–122. (Christine Charretton) **98m:68087** 68Q15 (03C13, 03C80, 03D15)

— *see also* **Computational logic and proof theory**, **98h:03004** *and* **Database theory**, **98k:68007**

schmidt-Göttsch, Karsten *see* **Schmidt-Göttsch, Karsten**

Gottschalk, Hanno (*with* Albeverio, Sergio; Wu, Jiang Lun) Euclidean random fields, pseudodifferential operators, and Wightman functions. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 20–37, *World Sci. Publishing, River Edge, NJ*, 1996. (A. L. Rebenko) **98f:81169** 81T08 (35S05, 47G30, 47N50, 60G60)

— (*with* Albeverio, Sergio; Wu, Jiang Lun) Convoluted generalized white noise, Schwinger functions and their analytic continuation to Wightman functions. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 6, 763–817. (Giovanni Morchio) **98a:81109** 81T08 (46N50, 47N50, 60G20)

— (*with* Albeverio, Sergio; Wu, Jiang Lun) Models of local relativistic quantum fields with indefinite metric (in all dimensions). (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 509–531. (Lech Jakóbczyk) **98j:81198** 81T05 (81T08)

— (*with* Albeverio, Sergio; Wu, Jiang Lun) Nontrivial scattering amplitudes for some local relativistic quantum field models with indefinite metric. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 243–248. (Summary) **98f:81171** 81T10 (81U20)

Gotusso, L. (*with* Frontini, Marco) Some results about boundary conditions for a discrete model in elasticity. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 93–100, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 73K12 (73D30, 73K05)

— (*with* Frontini, Marco) A discrete conservative model for the linear vibrating string and rod. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 53–65. (Summary) **98g:73024** 73K12 (73D30, 73K03, 73K05, 73V15)

— (*with* Frontini, Marco) Conservative linear models for the vibrating string and rod free to slide, at one end point, on a vertical guide. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 41–50. (Summary) **98m:73055** 73K03 (73K05, 73K12)

Götz, Marco (*with* Kelber, Kristina; Schwarz, Wolfgang Johannes) Discrete-time chaotic encryption systems. I. Statistical design approach. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 963–970. (*see* **98g:93002**) 94B50 (94A60)

Götze, Friedrich (*with* Prokhorov, Yu. V.; Ul′yanov, Vladimir Vasil′evich) A stochastic analogue of the Vinogradov mean value theorem. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 62–82, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98j:11063** 11L07 (11K99, 60F99)

— (*with* Künsch, Hans R.) Second-order correctness of the blockwise bootstrap for stationary observations. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1914–1933. (Somnath Datta) **98a:62114** 62M10 (62G09, 62G15)

— (*with* Bentkus, Vidmantas) On the lattice point problem for ellipsoids. *Acta Arith.* **80** (1997), *no.* 2, 101–125. (Werner Georg Nowak) **98h:11120** 11P21

— (*with* Giné-Masdeu, Evarist; Mason, David M.) When is the Student t-statistic asymptotically standard normal? (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1514–1531. (Erich Haeusler) **98j:60033** 60F05 (62E20)

— (*with* Bentkus, Vidmantas; van Zwet, Willem R.) An Edgeworth expansion for symmetric statistics. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 851–896. (Summary) **98k:62017** 62E20

— (*with* Bentkus, Vidmantas; Tikhomirov, A. N.) Berry-Esseen bounds for statistics of weakly dependent samples. (English summary) *Bernoulli* **3** (1997), *no.* 3, 329–349. (Lothar Heinrich) **98m:60023** 60F05 (62E20, 62G20, 62G30)

— (*with* Bickel, Peter J.; van Zwet, Willem R.) Resampling fewer than n observations: gains, losses, and remedies for losses. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 1–31. (Erich Haeusler) **98g:62079** 62G09 (62G05, 62G15, 62G20)

— (*with* Prokhorov, Yu. V.; Ul′yanov, Vladimir Vasil′evich) On the smooth behavior of probability distributions under polynomial mappings. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 51–62; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 28–38 (1998). (Alexander Ulanovskiĭ) **98f:60018** 60E05 (60E10)

Gotzmann, Gerd ★ Der algebraische Teil der ersten Chowgruppe eines Hilbertschemas von Raumkurven. (German) [The algebraic part of the first Chow group of a Hilbert scheme of space curves] Schriftenreihe des Mathematischen Instituts der Universität Münster, 3. Serie [Series of the Mathematical Institute of the University of Münster, 3rd Series], 19. *Universität Münster, Mathematisches Institut, Münster*, 1997. iv+164 *pp.* (Vasile Brînzănescu) **98i:14007** 14C05 (14C22)

Goubet, Olivier Approximate inertial manifolds for a weakly damped nonlinear Schrödinger equation. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 503–530. (Peter E. Zhidkov) **98h:35214** 35Q55 (34G20, 47H20)

Goubet-Bartholoméüs, A. (*with* Dambrine, M.; Richard, Jean-Pierre) Stability of perturbed systems with time-varying delays. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 155–163. (L. A. V. Carvalho) **98a:34132** 34K20 (93D05)

Gouda, Mohamed G. The triumph and tribulation of system stabilization. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 1–18, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68T05)

— (*with* Arora, Anish) Load balancing: an exercise in constrained convergence. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 183–197, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15, 68M20, 68T05)

— (*with* Varghese, George; Arora, Anish) Self-stabilization by tree correction. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 3, 32 *pp.* (*electronic*). (Neville G. F. Sancho) **98i:68030** 68M10

Gouda, Norio Magnetic flows of Anosov type. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 2, 165–183. (Gerhard Knieper) **98e:58129** 58F15 (53C22, 58F17, 78A35)

Gouda, Y. Gh. On the dihedral cohomology of Banach algebras. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 25–30. (Michael C. White) **98j:46084** 46M20 (16E40, 46H25, 46L05)

Goudail, François (*with* Kotyński, Rafał; Réfrégier, Philippe) Comparison of the performance of linear and nonlinear filters in the presence of nonergodic noise. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 9, 2162–2167. 94A12

— (*with* Réfrégier, Philippe) Decision theory approach to nonlinear joint-transform correlation. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 1, 61–67. 78A10

Goudjo, Aurélien Régularité de la solution du système de Lamé dans un ouvert axisymétrique de $\mathbf{R}^3$. [Regularity of the solution of the Lamé system in an axisymmetric domain in $\mathbf{R}^3$] *Afrika Mat.* (3) **7** (1997), 21–33. (Samia Lyaghfouri-Challal) **98h:73020** 73C02 (35Q72)

Goudjo, Côme Formulation variationnelle des problèmes aux limites elliptiques. [Variational formulation of elliptical boundary value problems] *Problèmes variationnels en mathématiques appliquées (Kinshasa, 1995)*, 1–18, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (Editors) **98i:35036** 35J20 (35A15, 35J25)

Goudon, Thierry Sur l'équation de Boltzmann homogène et sa relation avec l'équation de Landau-Fokker-Planck: influence des collisions rasantes. (English and French summaries) [On the homogeneous Boltzmann equation and its connection to the Landau-Fokker-Planck equation: influence of grazing collisions] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 265–270. (Vitor R. Vieira) **98b:82069** 82C40 (35Q99, 45K05)

— Existence of solutions of transport equations with nonlinear boundary conditions. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 557–574. (B. Kellogg) **98e:35168** 35Q99 (76P05, 82B40)

— On Boltzmann equations and Fokker-Planck asymptotics: influence of grazing collisions. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 751–776. (Yan Guo) **98k:82152** 82C40 (82C31)

Gouesbet, G. (*with* Letellier, C.; Rulkov, Nikolai F.) Topological analysis of chaos in equivariant electronic circuits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2531–2555. (Andrew C. Fowler) **98i:58159** 58F13 (58F40)

— (*with* Le Sceller, L.; Letellier, C.; Brown, Reggie; Buchler, J. Robert; Kolláth, Z.) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis (Gainesville, FL, 1995)*, 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

— (*with* Letellier, C.) Topological structure of chaotic systems. *Nonlinear signal and image analysis (Gainesville, FL, 1995)*, 51–77, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F14)

— (*with* Ren, K. F.; Gréhan, G.) Scattering of a Gaussian beam by an infinite cylinder in the framework of generalized Lorenz-Mie theory: formulation and numerical results. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 11, 3014–3025. (Summary) **98k:78042** 78A45

— (*with* Gréhan, G.; Ren, K. F.) Rigorous justification of the cylindrical localized approximation to speed up computations in the generalized Lorenz-Mie theory for cylinders. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 2, 511–523. (Summary) **98k:78037** 78A45 (78–08)

Gouet, Raúl Strong convergence of proportions in a multicolor Pólya urn. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 426–435. (Anant P. Godbole) **98f:60065** 60F17 (60K99)

Gough, John Edward The interacting-free quantum stochastic limit of quantum field theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 867–881. (Roland Speicher) **98b:81118** 81S25 (46L50, 46L60)

— Causal structure of quantum stochastic measures. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 218–233; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 563–575. (Kalyanapuram R. Parthasarathy) **98j:81182** 81S25

Goujon, Philippe Les racines logico-philosophiques de la grille d'interprétation informationnelle des phénomènes et êtres naturels. [The Logico-philosophical roots of the informational interpretation of natural phenomena and entities] *Rev. Questions Sci.* **167** (1996), *no.* 3, 267–292. (Hourya Sinaceur) **98i:01022** 01A60 (00A30)

el Goul, Jawher *see* **El Goul, Jawher**

Gould, G. G. *see* **Neretin, Yu. A., 98b:22003**

Gould, H. W. (*with* Srivastava, Hari M.) Some combinatorial identities associated with the Vandermonde convolution. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 97–102. (James B. Haglund) **98d:05016** 05A19 (33D20)

— (*with* Shonhiwa, Temba) Functions of GCD's and LCM's. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 11–35. (Armel Mercier) **98j:11001** 11A25 (11N56)

Gould, Mark D. (*with* Bracken, Anthony J.; Zhang, Yao-Zhong; Delius, Gustav W.) Infinite families of gauge-equivalent R-matrices and gradations of quantized affine algebras. (English summary) *Perspectives on solvable models*, 231–243, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 17B37 (17B67, 81R50)

— (*with* Delius, Gustav W.; Hüffmann, Andreas; Zhang, Yao-Zhong) Quantum Lie algebras associated to $U_q(\mathrm{gl}_n)$ and $U_q(\mathrm{sl}_n)$. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5611–5617. (Mariano A. del Olmo) **98b:81095** 81R50 (17B37)

— (*with* Hibberd, Katrina E.; Links, Jon R.) Algebraic Bethe ansatz for the anisotropic supersymmetric U model. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8053–8065. (Deng Feng Wang) **98e:82025** 82B23 (81R50)

— (*with* Stoilova, N. I.) Casimir invariants and characteristic identities for $\mathrm{gl}(\infty)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4783–4793. (Zhi Xue Zhang) **98h:17005** 17B10 (17B65)

— (*with* Links, Jon R.) Eigenvalues of Casimir invariants for unitary irreps of $U_q(\mathrm{gl}(m|n))$. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1613–1627. (Nicolás Andruskiewitsch) **98e:81075** 81R50 (16W30, 17B37)

— (*with* Links, Jon R.; Zhang, Yao-Zhong; Tsohantjis, Ioannis) Twisted quantum affine superalgebra $U_q[\mathrm{sl}(2|2)^{(2)}]$, $U_q[\mathrm{osp}(2|2)]$ invariant R-matrices and a new integrable electronic model. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4313–4325. (Jun'ichi Shiraishi) **98j:81150** 81R50 (17B37, 17B81, 82D20)

Gould, Matthew (*with* Adams, M. E.) Endomorphism monoids of pseudocomplemented semilattices. (English summary) *Acta Sci. Math. (Szeged)* **61** (1995), *no.* 1-4, 3–21. (From the introduction) **98a:06007** 06A12 (20M20)

Gould, Nicholas Ian Mark (*with* Conn, Andrew R.; Toint, Philippe L.) On the number of inner iterations per outer iteration of a globally convergent algorithm for optimization with general nonlinear inequality constraints and simple bounds. (English summary) Computational issues in high performance software for nonlinear optimization (Capri, 1995). *Comput. Optim. Appl.* **7** (1997), *no.* 1, 41–69. (Summary) **98c:90131** 90C30 (65K05)

— (*with* Daydé, Michel J.; L'Excellent, Jean-Yves) Element-by-element preconditioners for large partially separable optimization problems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1767–1787. (K. Schittkowski) **98j:90070** 90C30

— (*with* Scott, Jennifer A.) Sparse approximate-inverse preconditioners using norm-minimization techniques. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 605–625 (*electronic*). 65F50 (65F35)

— *see also* **Direct methods, linear algebra in optimization, iterative methods, 98f:65005**

Gould, Ronald J. (*with* Faudree, Ralph J.) Characterizing forbidden pairs for Hamiltonian properties. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 45–60. (Zdeněk Ryjáček) **98j:05094** 05C45

Gould, Victoria (*with* Easdown, David) Cancellative orders. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 185–195. (B. Pondělíček) **98h:20105** 20M17

Goulden, I. P. (*with* West, Julian) Raney paths and a combinatorial relationship between rooted nonseparable planar maps and two-stack-sortable permutations. (English summary) *J. Combin. Theory Ser. A* **75** (1996), *no.* 2, 220–242. (W. G. Brown) **98a:05082** 05C30 (05A05, 05C10, 68P10, 68Q20, 68R05)

— (*with* Kulkarni, D. M.) Multivariable Lagrange inversion, Gessel-Viennot cancellation, and the matrix tree theorem. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 295–308. (Miklós Bóna) **98j:05009** 05A15

Goulding, Robert Henry Savile and the Tychonic world-system. *J. Warburg Courtauld Inst.* **58** (1995), 152–179. (José Luis Mancha) **98a:01008** 01A40

Gouliaev, V. I. (*with* Zavrazhina, T. V.) Universal similarities of transition to chaos of satellite oscillation in elliptic orbit. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 215–226. (Summary) **98d:70027** 70M20 (70K50)

Gouljashki, Vassil G. (*with* Vasil'ev, Vasil S.; Kirilov, Leonid M.) An interactive algorithm of the multiple objective nonlinear integer programming. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 8–14. 90C29 (90C10)

Gourdeau, Frédéric Amenability and the second dual of a Banach algebra. (English summary) *Studia Math.* **125** (1997), *no.* 1, 75–81. (R. J. Loy) **98g:46065** 46H20 (43A20, 46H40)

Gourdin, Daniel (*with* Mechab, M.) Problème de Goursat non linéaire dans les espaces de Gevrey pour les équations de Kirchhoff généralisées. (English and French summaries) [Nonlinear Goursat problem in Gevrey spaces for generalized Kirchhoff equations] *J. Math. Pures Appl.* (9) **75** (1996), *no.* 6, 569–593. (Todor V. Gramchev) **98g:35041** 35G30 (35A99, 35L35)

— (*with* Ngnosse, Severin; Takeuchi, Jiro) Problème de Cauchy pour certaines équations du type de Schrödinger. (English and French summaries) [Cauchy problem for certain equations of Schrödinger type] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1111–1116. (Nicolai N. Tarkhanov) **98d:35030** 35G10 (35A05, 35J10)

Gourdon, Xavier (*with* Flajolet, Philippe; Panario, Daniel) Random polynomials and polynomial factorization. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 232–243, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68123** 68Q40

— (*with* Flajolet, Philippe; Martínez, Conrado) Patterns in random binary search trees. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 223–244. (Robert P. Dobrow) **98m:68042** 68P05 (68R10)

Gouriéroux, Christian (*with* Clement, Emmanuelle; Monfort, Alain) Linear factor models and the term structure of interest rates. (English and French summaries) *Ann. Économ. Statist.* **1995,** *no.* 40, 37–65. 90A20 (62P20)

— ★ ARCH models and financial applications. (English summary) Springer Series in Statistics. *Springer-Verlag, New York*, 1997. x+228 *pp. ISBN* 0-387-94876-7 (Alastair R. Hall) **98e:62003** 62–02 (62M10, 62P20, 90A09)

— (*with* Scaillet, O.) Unemployment insurance and mortgages. (English and French summaries) *Insurance Math. Econom.* **20** (1997), *no.* 3, 173–195. 62P05

— (*with* Visser, Michael) A count data model with unobserved heterogeneity. (English summary) *J. Econometrics* **79** (1997), *no.* 2, 247–268. (Summary) **98d:62195** 62P20

— (*with* Breitung, Jörg) Rank tests for unit roots. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 7–27. (Summary) **98k:62185** 62P20 (62G10, 62M10)

Gourinchas, Pierre-Olivier Federal transfers, decentralization and the labor market. (English and French summaries) *Ann. Économ. Statist.* **1997,** *no.* 45, 251–274. 90A50 (90A70)

Gourley, S. A. (*with* Byrne, H. M.) The role of growth factors in avascular tumour growth. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 35–55. 92C30 (93C50)

— (*with* Bartuccelli, M. V.) A population model with time-dependent delay. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 13–30. (Summary) **98j:92005** 92C15 (35K57)

Gourmelen, Stéphane (*with* Delduc, François; Gierès, François) $d = 2$, $N = 2$ superconformal symmetries and models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1623–1649. (Hamid Kachkachi) **98g:81204** 81T60 (81T40)

Gout, Christian (*with* Apprato, Dominique) Approximation de surfaces à partir de morceaux de surface. (English and French summaries) [Approximation of surfaces from surface patches] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 445–448. (Summary) **98c:65020** 65D17

Goutal, P. (*with* Garnaev, A. Yu.; Garnaeva, Galina Yu.) On the infiltration game. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 215–221. (Summary) **98c:90205** 90D46 (90D26)

Goutis, Constantinos (*with* Casella, George; Wells, Martin T.) Assessing evidence in multiple hypotheses. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1268–1277. (Ram Shanmugam) **98f:62042** 62F03

— Nonparametric estimation of a mixing density via the kernel method. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1445–1450. 62G05

— (*with* Hobert, James P.; Robert, Christian P.) Connectedness conditions for the convergence of the Gibbs sampler. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 235–240. (Salvatore Ingrassia) **98i:60064** 60J10 (62E25)

— Second-derivative functional regression with applications to near infra-red spectroscopy. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 103–114. 62G05

Goutsias, John Morphological analysis of random sets. An introduction. (English summary) *Random sets (Minneapolis, MN*, 1996), 3–26, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (60K35, 68U10)

— (*with* Sivakumar, Krishnamoorthy) On estimating granulometric discrete size distributions of random sets. (English summary) *Random sets (Minneapolis, MN*, 1996), 47–71, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (60K35, 68U10, 82B31)

— (*with* Potamianos, Gerasimos) Stochastic approximation algorithms for partition function estimation of Gibbs random fields. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1948–1965. 62L20 (60G60, 62M40)

— *see also* **Random sets, 98g:60005**

Gouvêa, Fernando Q. ★ p-adic numbers. (English summary) An introduction. Second edition. Universitext. *Springer-Verlag, Berlin*, 1997. vi+298 *pp. ISBN* 3-540-62911-4 (Editors) **98h:11155** 11S80 (11-01, 12J25)

Gouveia, M. C. Regular Hankel matrices over integral domains. (English summary) *Linear Algebra Appl.* **255** (1997), 335–347. (K. P. S. Bhaskara Rao) **98c:15070** 15A57 (15A23, 15A33)

Gouveia, Wences P. (*with* Scales, John A.) Resolution of seismic waveform inversion: Bayes versus Occam. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 323–349. (Summary) **98a:86013** 86A15 (73D50, 86A22)

Gouweleeuw, Frank N. A general approach to computing loss probabilities in finite-buffer queues. (English summary) *Ten years LNMB*, 131–134, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90B22 (60K25)

— The loss probability in an overloaded queue using the dual queue. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 101–106. 60K25 (90B22)

Gouy, Xavier Une extension du théorème de Hyland et Wadsworth à une classe abstraite de modèles du λ-calcul pur. (English and French summaries) [An extension of the Hyland and Wadsworth theorem to an abstract class of models for pure λ-calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 5, 419–422. (Summary) **98g:03042** 03B40

— (*with* Bastonero, Olivier) Stabilité forte et incomplétude de la classe des modèles stables du λ-calcul pur. (English and French summaries) [Strong stability and incompleteness of the class of stable models of pure λ-calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **322** (1996), *no.* 10, 905–908. (A. S. Kuzichev) **98b:03020** 03B40

Govaerts, J. Finite Euler hierarchies and integrable universal equations. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1313–1324. (Iskander A. Taimanov) **98e:58094** 58F07

Govaerts, W. (*with* Spence, Alastair) Detection of Hopf points by counting sectors in the complex plane. (English summary) *Numer. Math.* **75** (1996), *no.* 1, 43–58. (Raffaella Pavani) **98a:65074** 65H17 (58F14)

— Defining functions for manifolds of matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 49–68. (George W. Reddien) **98j:65038** 65H17 (58F14)

— (*with* Sijnave, B.) Rank-deficient matrices as a computational tool. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 6, 443–458. (Summary) **98g:65038** 65F30 (15A03)

— (*with* Guckenheimer, John; Khibnik, A.) Defining functions for multiple Hopf bifurcations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1269–1288. (George W. Reddien) **98e:65049** 65H17 (34C23, 58F14, 65L15)

Gove, David (*with* Berg, Kenneth; Haddad, Kamel N.) Enveloping semigroups and mappings onto the two-shift. (English summary) *Proc. Amer. Math. Soc.* **126** (1998),

no. 3, 899–905. (Beverly Diamond) **98e:54037** 54H20 (58F03, 58F08)

Govedarica, Vidan (*with* Jovanović, Milan V.) Functions with quasiconvex derivatives. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 471–473, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:00021**) 26A51 (26D10, 90C26)

Govender, M. (*with* Maharaj, S. D.; Maartens, Roy) A causal model of radiating stellar collapse. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 323–330. 83C15

Governatori, Guido (*with* Artosi, Alberto; Benassi, Paola; Rotolo, Antonino) Labelled proofs for quantified modal logic. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 70–86, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:03024** 03B45 (68T27)

Govil, N. K. (*with* Datt, B.) Some inequalities for polynomials satisfying $p(z) \equiv z^n p(1/z)$. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 2, 40–44. (Dimitar Kolev Dimitrov) **98h:30002** 30A10 (30C10)

— (*with* Gardner, Robert Bentley) Functions of exponential type not vanishing in a half-plane. (English summary) *Analysis* **17** (1997), *no.* 4, 395–402. (P. C. Fenton) **98m:30044** 30D15

— On maximum modulus of polynomials satisfying $p(z) \equiv z^n p(1/z)$. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 111–115. (Summary) **98e:41007** 41A10

Govin, M. (*with* Jauslin, H. R.; Cibils, M.) Convergence of iterative methods in perturbation theory. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 151–159, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Dario Bambusi) **98f:58173** 58F30 (34C50, 34D10, 34L40)

— (*with* Jauslin, H. R.; Cibils, M.) Convergence of KAM iterations for counterterm problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 419–427. 58F27

Govindan, Srihari A subgame property of stable equilibria. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 991–999. (Summary) **98m:90188** 90D06

— (*with* Wilson, Robert B.) Uniqueness of the index for Nash equilibria of two-player games. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 541–549. (Summary) **98i:90129** 90D05

Govindarajan, Rama (*with* Narasimha, R.) A low-order theory for stability of non-parallel boundary layer flows. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2537–2549. (Summary) **98j:76051** 76E99 (76D10)

Govindarajan, Suresh Higher-dimensional uniformisation and W-geometry. (English summary) *Nuclear Phys. B* **457** (1995), *no.* 1-2, 357–374. (Summary) **98d:81027** 81R10 (58F07, 81T40)

— Covariantising the Beltrami equation in W-gravity. (English summary) *Lett. Math. Phys.* **37** (1996), *no.* 4, 375–383. (Summary) **98i:32031** 32G81 (32G34, 81R10, 81T40)

— Note on M(atrix) theory in seven dimensions with eight supercharges. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5276–5278. (Summary) **98i:81202** 81T30

Govindarajan, T. R. (*with* Chakraborty, Biswajit) Hamiltonian formulation of quantum Hall skyrmions with Hopf term. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 9, 619–630. (Guillermo Zemba) **98c:81125** 81T10 (81V70, 82D40, 82D55)

Govindarajulu, Z. (*with* Clemmens, Ann) Locally most powerful rank tests for random effects in two-way experiments. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 427–437, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62G10 (62K10)

— Certain sequential adaptive design problems. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 197–212, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05, 62L12)

— (*with* Lai, Tze Leung) A multivariate Chernoff-Savage theorem with applications to rank statistics from multivariate populations. (English summary) *Research developments in probability and statistics*, 125–140, *VSP, Utrecht*, 1996. (Edgar Brunner) **98i:62052** 62H10 (62G10, 62G20)

— (*with* Clemmens, Ann) Locally most powerful rank tests for random effects in two-way experiments. II. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 369–382. 62G10 (62K10)

— (*with* Rahman, M. Mahibbur) Nonparametric estimation of the ratio of variance components. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 507–519, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Jagdish Saran) **98k:62069** 62G05 (62J05)

— (*with* Rahman, M. Mahibbur) Asymptotic considerations of Shapiro-Wilk W test for normality. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 197–210. (Summary) **98e:62078** 62G10

— A class of asymptotically distribution-free tests for equality of marginals in multivariate populations. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 92–111. (M. Hušková) **98m:62026** 62E10 (62G10, 62G30)

— (*with* Dmitrienko, A. A.) On the "demon" problem of Youden. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 65–72. (H. L. Harter) **98h:62087** 62G30 (62G20)

Govindasamy, Balasubramanian (*with* Garner, S. T.) The equilibration of short baroclinic waves. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 24, 2850–2871. (Summary) **98j:86008** 86A10 (76E20, 76U05)

Govinder, K. S. (*with* Flessas, George; Leach, P. G. L.) Characterisation of the algebraic properties of first integrals of scalar ordinary differential equations of maximal symmetry. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 349–374. (Maria Clara Nucci) **98h:34014** 34A30 (58F35)

— (*with* Leach, P. G. L.) A group-theoretic approach to a class of second-order ordinary differential equations not possessing Lie point symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2055–2068. (L. M. Berkovich) **98h:34002** 34A05 (17B30, 34A25, 35A30)

Govorov, A. N. (*with* Gorelik, V. A.) On a dynamic multicriterial model of conversion. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 47–59, 93, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 90A11 (90C29)

— (*with* Gorelik, V. A.) Multistep decision-making procedures under conditions of uncertainty and multicriteriality. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 30–41, 94, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1997. (*see* **98b:93008**) 90C29 (90A30)

Govorov, V. E. On Poincaré series for codes. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2161–2173. (Peter Dräxler) **98c:16011** 16E99 (94B25)

Govorov, V. M. (*with* Barnovska, M.) An integral estimate for a generalized solution, in the class L_2, of the first boundary value problem for the heat equation. (Russian. English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 231–238. (N. L. Vulchanov) **98m:35078** 35K05 (35B45)

Goverukha, V. B. (*with* Loboda, V. V.) On the boundary integral equations approach to a semi-infinite strip investigation. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 105–115. 73C02 (73B40)

Gow, Rod Contraction of exterior powers in characteristic 2 and the spin module. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 283–295. (Martin W. Liebeck) **98d:20015** 20C33

Gowda, M. Seetharama (*with* Sznajder, Roman) On the pseudo-Lipschitzian behavior of the inverse of a piecewise affine function. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 117–131, *SIAM, Philadelphia, PA*, 1997. (Adam B. Levy) **98b:90144** 90C33 (90C31)

— (*with* Jones, Cristen) On the connectedness of solution sets in linear complementarity problems. (English summary) *Linear Algebra Appl.* **272** (1998), 33–44. (Stefan Scholtes) **98m:90157** 90C33

— (*with* Sznajder, Roman) Nondegeneracy concepts for zeros of piecewise smooth functions. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 221–238. (Stefan Scholtes) **98m:90166** 90C33 (49J52, 90C31)

Gower, Rebecca A. H. (*with* Cooper, Joan; Donovan, Diane) Critical sets in direct products of back circulant Latin squares. (English summary) *Utilitas Math.* **50** (1996), 127–162. (G. H. J. Van Rees) **98a:05030** 05B15

— Defining sets for the Steiner triple systems from affine spaces. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 155–175. (Tamás Szönyi) **98h:51007** 51E10 (05B07)

Gowers, W. T. Lower bounds of tower type for Szemerédi's uniformity lemma. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 322–337. (Yuri Bilu) **98a:11015** 11B25 (05C35)

— (*with* Maurey, Bernard) Banach spaces with small spaces of operators. *Math. Ann.* **307** (1997), *no.* 4, 543–568. (G. J. O. Jameson) **98g:46018** 46B20 (46B15, 46B28, 47A53)

GowriSankaran, Kohur (*with* Singman, David) A generalized Littlewood theorem for Weinstein potentials on a halfspace. *Illinois J. Math.* **41** (1997), *no.* 4, 630–647. (Noriaki Suzuki) **98m:31007** 31B25

Goy, F. (*with* Selleri, Franco) Time on rotating platform. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 1, 17–29. (Abraham A. Ungar) **98b:83006** 83A05

— A derivation of three-dimensional inertial transformations. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 329–346. (Mary L. Boas) **98h:83004** 83A05

Goyal, A. N. (*with* Pathan, M. A.; Shahwan, M. J. S.) Lie-theoretic generating functions of multivariable generalized Bessel functions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 249–254. (Summary) **98m:33011** 33C10 (33C80)

Goyal, Anil (*with* Agrawal, R. D.) An expansion formula for I-function of two variables involving generalized Legendre's associated function. (English summary) *J. Maulana Azad College Tech.* **29** (1996), 11–19. (Summary) **98f:33028** 33C90 (33C60)

— (*with* Agrawal, R. D.) On integration with respect to their parameters. (English summary) *J. Maulana Azad College Tech.* **29** (1996), 177–185. (Summary) **98f:33029** 33C90 (33C60)

Goyal, Sanjeev (*with* Janssen, Maarten C. W.) Non-exclusive conventions and social coordination. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 34–57. (Summary) **98f:90004** 90A08

— (*with* Galesloot, Bob M.) Costs of flexibility and equilibrium selection. (English summary) *J. Math. Econom.* **28** (1997), *no.* 3, 249–264. (Yeneng Sun) **98i:90134** 90D12 (90A14)

Goyan, I. M. (*with* Marin, V.) Prime and primary ideals in near-rings. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 1, 117–121, 133, 135. 16Y30

— (*with* Marin, V.) Ideals in regular near-rings. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 27–33, 105, 109. 16Y30

Goyon, Olivier (*with* Poullet, Pascal) Preconditioned Newton methods using incremental unknowns methods for the resolution of a steady-state Navier-Stokes-like problem. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 289–311. (Summary) **98d:65134** 65N06 (76D05, 76M25)

— Theoretical study of a finite difference scheme applied to steady-state Navier-Stokes-like equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 71–75. (Summary) **98k:65048** 65M06 (76D05, 76M20)

Gõz, Manfred F. Bifurcation with symmetry in multi-phase flows. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 55–66, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **98m:76146** 76T05 (76E99)

Gozalo, Pedro L. Nonparametric bootstrap analysis with applications to demographic effects in demand functions. (English summary) *J. Econometrics* **81** (1997), *no.* 2, 357–393. (Summary) **98m:62128** 62G09 (62P20)

Góźdź, Stanisław (*with* Smarzewski, R.) A four-vertex type theorem. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 77–79. (Tibor Bisztriczky) **98i:53004** 53A04 (51L15)

— On Jordan plane curves which are isoptics of an oval. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 127–130 (1997). (Hans Sachs) **98m:51022** 51N20 (53A04)

Goze, Michel *see* **Rings and modules, 98h:13002** *and* **Algebra laws and algebraic varieties, 98h:17001**

Gozzi, Ennio Can we look at the quantisation rules as constraints? (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 223–226. (*see* **98f:83002**) 81S10

Gozzi, Fausto (*with* Rouy, Elisabeth) Regular solutions of second-order stationary Hamilton-Jacobi equations. (English summary) *J. Differential Equations* **130** (1996), *no.* 1, 201–234. (Summary) **98f:49030** 49L25 (35R15, 47D06)

— Strong solutions for Kolmogorov equation in Hilbert spaces. (English summary) *Partial differential equation methods in control and shape analysis* (*Pisa*), 163–187, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Hans Engler) **98d:35231** 35R15 (35K99, 46G05, 47N20)

— (*with* Tessitore, Maria Elisabetta) Sufficient conditions for Dirichlet boundary control problems of parabolic type. (English summary) *Partial differential equation methods in*

control and shape analysis (*Pisa*), 189–204, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Summary) **98c:49048** 49K20 (34G20, 35K99, 47D06)

de Graaf, Maurits (*with* Schrijver, Alexander) Making curves minimally crossing by Reidemeister moves. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 1, 134–156. (Lorenzo Traldi) **98a:57005** 57M15 (05C10)

— (*with* Schrijver, Alexander) Decomposition of graphs on surfaces. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 1, 157–165. (Lorenzo Traldi) **98a:57006** 57M15 (05C10)

van der Graaf, W. A. (*with* Krauskopf, Bernd; Lenstra, Daan) Bifurcations of relaxation oscillations in an optically injected diode laser. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 5, 797–809. (Summary) **98j:78031** 78A60 (34C23)

de Graaf, Willem A. (*with* Ivanyos, Gábor; Rónyai, Lajos) Computing Cartan subalgebras of Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 339–349. (Andrej A. Zolotykh) **98m:17001** 17–04 (17B05)

— ★ Algorithms for finite-dimensional Lie algebras. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Technische Universiteit Eindhoven, Eindhoven*, 1997. vi+113 *pp.* (Andrej A. Zolotykh) **98b:17001** 17–04 (17–08, 17B05, 17B20)

— Calculating the structure of a semisimple Lie algebra. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 319–329. (Floyd L. Williams) **98e:17002** 17–08 (17B05, 17B20)

— An algorithm for the decomposition of semisimple Lie algebras. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 117–122. (*see* **98e:00016**) 17B20 (17–08)

Grabarski, Adam Collocation method for the Sturm-Liouville eigenvalue problem. *Demonstratio Math.* **31** (1998), *no.* 1, 111–119. 65L60 (65L15)

Grabczewski, Krzysztof (*with* Paulson, Lawrence C.) Mechanizing set theory. Cardinal arithmetic and the axiom of choice. (English summary) *J. Automat. Reason.* **17** (1996), *no.* 3, 291–323. (Summary) **98b:03019** 03B35 (68T15)

Gräbe, Hans-Gert Triangular systems and factorized Gröbner bases. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 248–261, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98g:68072** 68Q40 (13P10)

— Minimal primary decomposition and factorized Gröbner bases. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 265–278. (Daniel Lazard) **98k:13031** 13P10 (68Q40)

Grabec, Igor (*with* Sachse, Wolfgang) ★ Synergetics of measurement, prediction and control. (English summary) Springer Series in Synergetics, 68. *Springer-Verlag, Berlin*, 1997. xx+458 *pp. ISBN* 3-540-57048-9 (L. I. Rozonoèr) **98f:92001** 92B20 (00A69, 92J99, 93E20)

Gräber, A. (*with* Bürckert, Hans-Jürgen; Laux, Armin) Terminological reasoning with knowledge and belief. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 29–64, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Summary) **98f:68254** 68T30 (03B45, 03B70, 68T25)

Grabiec, Artur The generalized Hyers-Ulam stability of a class of functional equations. (English summary) *Publ. Math. Debrecen* **48** (1996), *no.* 3-4, 217–235. (B. Choczewski) **98a:39027** 39B72

— The stability of a generalized quadratic functional equation. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 81–91. (Summary) **98m:39079** 39B52

Grabiner, Judith V. Was Newton's calculus a dead end? The continental influence of Maclaurin's treatise of fluxions. *Amer. Math. Monthly* **104** (1997), *no.* 5, 393–410. (Niccolò Guicciardini) **98d:01015** 01A45 (01A50, 26–03)

Grabisch, Michel (*with* Nguyen, Hung Trung; Walker, Elbert Abner) ★ Fundamentals of uncertainty calculi with applications to fuzzy inference. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 30. *Kluwer Academic Publishers, Dordrecht*, 1995. xii+346 *pp. ISBN* 0-7923-3175-3 (Milan Mareš) **98g:03123** 03E72 (03B52, 68T30, 90A05, 90C70)

— *k*-order additive discrete fuzzy measures and their representation. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 167–189. (Summary) **98h:28014** 28E10

— Alternative representations of discrete fuzzy measures for decision making. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 5, 587–607. 28E10 (90A05)

— Fuzzy measures and integrals for decision making and pattern recognition. Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 7–34. (*see* **98e:04004**) 28E10 (04A72)

Grable, David A. On random greedy triangle packing. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 11, 19 *pp.* (*electronic*). (J. Spencer) **98a:05131** 05C80 (05C70)

— (*with* Panconesi, Alessandro) Nearly optimal distributed edge coloring in $O(\log\log n)$ rounds. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 385–405. (Kevin Lawrence McAvaney) **98m:05178** 05C85 (68Q25)

Grabner, E. M. Preimages of spaces having a base of countable order. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 78–85, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54022** 54C10 (54E99)

Grabner, Peter J. (*with* Thuswaldner, Jörg M.) Analytic continuation of a class of Dirichlet series. (English summary) *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 281–287. (Bruce C. Berndt) **98a:11119** 11M41 (41A60)

— (*with* Woess, Wolfgang) Functional iterations and periodic oscillations for simple random walk on the Sierpiński graph. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 127–138. (Ben Hambly) **98h:60104** 60J15

— (*with* Prodinger, Helmut) An asymptotic study of a recursion occurring in the analysis of an algorithm on broadcast communication. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 89–93. (Summary) **98i:68024** 68M10 (68Q25)

guillamon i Grabolosa, Toni *see* **Guillamon i Grabolosa, Toni**

Grabowski, Jens-Uwe (*with* Grell, Juliana; Zlatina, Lubov) Space models of molecules based on interatomic distances and point symmetry group. (English summary) *Match No.* 34 (1996), 123–155. (V. I. Bykov) **98b:92027** 92E10 (65D15)

— (*with* Pöschel, Reinhard) Rigid relational systems: a general approach. *Period. Math. Hungar.* **32** (1996), *no.* 1-2, 35–44. (Jan Chvalina) **98a:08001** 08A02 (08A35)

Grabowski, M. P. (*with* Mathieu, Pierre[1]) The structure of conserved charges in open spin chains. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7635–7650. (Andrey V. Tsiganov) **98a:82016** 82B20

Grace, S. R. (*with* Lalli, B. S.) Stability of *n*-dimensional inhomogeneous delay differential equations. *Advances in nonlinear dynamics*, 85–92, *Stability Control Theory Methods Appl., 5, Gordon and Breach, Amsterdam*, 1997. (P. Ch. Tsamatos) **98f:34114** 34K20

— Asymptotic behavior for neutral delay differential equations. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 1–9. (Jarosław Morchało) **98h:34136** 34K25 (34K40)

Gracey, J. A. (*with* Broadhurst, D. J.; Kreimer, D.) Beyond the triangle and uniqueness relations: non-zeta counterterms at large N from positive knots. (English summary) *Z. Phys. C* **75** (1997), *no.* 3, 559–574. (Răzvan Gelca) **98k:81178** 81T18 (57M25, 81Q30, 81T15)

Grachev, S. I. On nonstationary radiative transfer in a spectral line in stellar atmospheres. (English summary) *Astrophysics* **37** (1994), *no.* 3, 243–246 (1995). (Summary) **98a:85002** 85A25

clavero Gracia, Carmelo *see* **Clavero Gracia, Carmelo**

Gracia, L. (*with* Doblaré, M.) On non-linear transformations for the integration of weakly-singular and Cauchy principal value integrals. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3325–3358. 73V10

Gràcia, Xavier (*with* Pons, Josep M.) Noether (and gauge) transformations for higher order singular Lagrangians. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 65–79. (Manuel de León) **98b:70023** 70H33 (58F05, 70H35, 70H40)

Gracia-Bondía, José M. (*with* Martín, C. P.; Várilly, Joseph C.) The standard model as a noncommutative geometry: the low-energy regime. (English summary) *Phys. Rep.* **294** (1998), *no.* 6, 363–406. (Gennaro Miele) **98k:81315** 81V22 (46L60, 46L87, 58B30, 81T13)

Graczyk, Jacek (*with* Świątek, Grzegorz) Box mappings and polynomial dynamics. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 53–59, *World Sci. Publishing, River Edge, NJ*, 1995. (From the text) **98g:58044** 58F03

— (*with* Świątek, Grzegorz) Induced expansion for quadratic polynomials. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **29** (1996), *no.* 4, 399–482. (Feliks Przytycki) **98d:58152** 58F23 (58F03, 58F15)

Graczyk, Piotr (*with* Loeb, Jean Jacques) Spherical analysis and central limit theorems on symmetric spaces. (English summary) *Probability measures on groups and related structures, XI* (*Oberwolfach*, 1994), 146–166, *World Sci. Publishing, River Edge, NJ*, 1995. (Jacques Faraut) **98b:43017** 43A85 (43A05, 43A90, 60B15)

Graczyńska, Ewa On some operators on pseudovarieties. II. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 197–202, *Hölder-Pichler-Tempsky, Vienna*, 1995. (V. N. Salii) **98m:08015** 08B15 (08C15)

— (*with* Chajda, Ivan) Jónsson's lemma for regular and nilpotent shifts of pseudovarieties. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 2, 85–93. (Sheila Oates-Williams) **98g:08013** 08C15 (08B15)

— G. Birkhoff's theorems for regular varieties. (English summary) *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 4, 210–219. 08B05

Grad, J. R. (*with* Morris, K. A.) Solving the linear quadratic optimal control problem for infinite-dimensional systems. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 9, 99–119. (Summary) **98e:49084** 49N10 (49M25, 93B40)

el Gradechi, Amine M. *see* **El Gradechi, Amine M.**

Grädel, Erich (*with* Meer, Klaus) Descriptive complexity theory over the real numbers. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 381–403, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Robert E. Byerly) **98c:03086** 03D15 (03C13, 68Q05, 68Q15)

— (*with* McColm, Gregory L.) Hierarchies in transitive closure logic, stratified Datalog and infinitary logic. (English summary) *Ann. Pure Appl. Logic* **77** (1996), *no.* 2, 169–199. (Summary) **98f:03038** 03C75 (03C13, 03D15, 68P15, 68Q15)

— (*with* Compton, Kevin J.) Logical definability of counting functions. (English summary) Ninth Annual Structure in Complexity Theory Conference (Amsterdam, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 2, *part* 2, 283–297. (Christine Charretton) **98a:68066** 68Q15 (03C13, 03D15)

— (*with* Otto, Martin; Rosen, Eric) Undecidability results on two-variable logics. (English summary) *STACS* 97 (*Lübeck*), 249–260, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 03D35 (03B20)

— (*with* Kolaitis, Phokion G.; Vardi, Moshe Y.) On the decision problem for two-variable first-order logic. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 1, 53–69. (M. Tetruashvili) **98d:03018** 03B25 (03D15, 68Q15, 68Q25)

Gradshtein, I. S. *see* **Fikioris, George**

Grady, Michael (*with* Newman, Morris) The geometry of an interchange: minimal matrices and circulants. (English summary) *Linear Algebra Appl.* **262** (1997), 11–25. (Jorma Kaarlo Merikoski) **98e:15009** 15A15 (15A36)

Graef, John R. (*with* Jaroš, Jaroslav; Miciano, A.; Spikes, P. W.; Thandapani, E.) Oscillation and nonoscillation results for general nonlinear difference equations. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 199–206, *Dynamic, Atlanta, GA*, 1996. (Ulrich Krause) **98a:39003** 39A10 (39A11)

— (*with* Karsai, János) Asymptotic properties of nonoscillatory solutions of impulsively damped nonlinear oscillator equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 151–165. (Zvi Artstein) **98b:34025** 34A37 (34C99, 34D05)

— (*with* Qian, Chuanxi; Spikes, P. W.) Stability in a population model. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 119–132. (Summary) **98m:92022** 92D25 (39A10)

— *see also* **Differential equations and computational simulations, 98g:00021**

Graev, M. I. Integral geometry on the space L^n, where L is a matrix ring. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 71–74; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 277–280 (1997). (R. G. Mukhometov) **98b:53071** 53C65

— (*with* Gel'fand, Izrail' Moiseevich; Zyskin, M.) A problem of integral geometry on K^3 connected with harmonic analysis on the group SL(2, K), where K is an arbitrary continuous locally compact field. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 15–17. (R. G. Mukhometov) **98b:53070** 53C65 (22E30)

Graf, Claudia (*with* Paukowitsch, Peter) Möglichst dichte Packungen aus kongruenten Drehzylindern mit paarweise windschiefen Achsen. (German summary) [Maximum density packings with congruent cylinders of rotation with pairwise skew axes] *Elem. Math.* **52** (1997), *no.* 2, 71–83. (R. Blind) **98g:52028** 52C17

Graf, Gian Michele (*with* Solovej, Jan Philip) A correlation estimate with applications to quantum systems with Coulomb interactions. (English summary) *The state of matter* (*Copenhagen*, 1992), 142–166, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 81V55 (81V70, 82D20)

— An electrostatic inequality with applications to the constitution of matter. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1996), *Exp. No. XI*, 7 *pp.*, *École Polytech., Palaiseau*, 1996. (Giorgio Cattapan) **98a:81281** 81V70 (78A30, 81V55, 82B40)

— *N*-body quantum systems: a tutorial. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 1–17, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (*see* **98f:81008**) 81U10 (47N50, 81–02)

— (*with* Bugliaro, L.; Fefferman, Charles L.; Fröhlich, Jürg; Stubbe, J.) A Lieb-Thirring bound for a magnetic Pauli Hamiltonian. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 567–582. (Hiroshi Isozaki) **98i:81044** 81Q10

— (*with* Fefferman, Charles L.; Fröhlich, Jürg) Stability of ultraviolet-cutoff quantum electrodynamics with non-relativistic matter. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 309–330. (Giorgio Cattapan) **98k:81325** 81V55 (81V10)

— Stability of matter through an electrostatic inequality. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 72–79. (Mary Beth Ruskai) **98j:81378** 81V55 (81Q05)

— *see also* **Mathematical results in quantum mechanics**, **98g:81004**

Graf, Siegfried (*with* Luschgy, H.) The quantization of the Cantor distribution. (English summary) *Math. Nachr.* **183** (1997), 113–133. (Norbert Patzschke) **98b:28012** 28A80

Graf, Thorsten (*with* Kamakoti, V.) Sparse dominance queries for many points in optimal time and space. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 6, 287–291. (Summary) **98k:68165** 68U05

Grafakos, Loukas Linear truncations of the Hilbert transform. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 413–427. (Gary Sampson) **98c:42012** 42B20

— (*with* Montgomery-Smith, Stephen J.) Best constants for uncentred maximal functions. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 1, 60–64. (Charles N. Moore) **98b:42031** 42B25

— Best bounds for the Hilbert transform on $L^p(\mathbf{R}^1)$. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 4, 469–471. (Kenneth F. Andersen) **98m:42008** 42A50 (44A15)

— (*with* Li, Xinwei; Yang, Dachun) Bilinear operators on Herz-type Hardy spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1249–1275. (Oscar Blasco) **98e:42016** 42B20 (47B99)

Graff, Grzegorz (*with* Dzedzej, Zdzisław) Fixed point index for G-equivariant multivalued maps. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 179–195. (From the introduction) **98j:55003** 55M20 (54C60, 54H25)

Graffi, S. (*with* Borsari, I.; Degli Esposti, M.; Unguendoli, F.) Deterministic spin models with a glassy phase transition. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L155–L159. (Azer Kerimov) **98k:82029** 82B20 (82B26)

Gragert, P. K. H. (*with* van Bemmelen, T.; Kersten, P. H. M.) Symmetries and conservation laws of the system: $u_x = vw_x$, $v_y = ww_y$, $uv + w_{xx} + w_{yy} = 0$. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 79–99. (Juha Pohjanpelto) **98b:35113** 35L65 (35A30, 58G37)

— (*with* Kersten, P. H. M.) Differential geometric computations and computer algebra. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 11–24. (I. S. Krasil'shchik) **98d:58001** 58–04 (35–04, 58F07, 68Q40)

Gragg, Robert F. One-way propagation in weakly nonuniform media. (English summary) *Wave Motion* **27** (1998), *no.* 2, 95–115. (Summary) **98k:35017** 35C99 (35J05, 35Q72, 73D15, 73D25, 76Q05, 78A40)

Gragg, William B. (*with* Gates, K.) Notes on *TQR* algorithms. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 195–203. (Summary) **98k:65017** 65F15

— *see also* **Special Issue: Gragg, William B.**

Graglia, Robert D. (*with* Wilton, Donald R.; Peterson, Andrew F.; Gheorma, Ioan-Ludovic) Higher order interpolatory vector bases on prism elements. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 3, 442–450. (Summary) **98k:78002** 78–08

Graham, C. *see* **Graham, Carl**

Graham, C. R. *see* **Eastwood, Michael G.**, **98j:32037**

Graham, Carl A statistical physics approach to large networks. *Probabilistic models for nonlinear partial differential equations* (*Montecatini Terme*, 1995), 127–147, *Lecture Notes in Math.*, 1627, *Springer, Berlin*, 1996. (Sylvie Méléard) **98c:60139** 60K35 (90B10)

— (*with* Méléard, Sylvie) Convergence rate on path space for stochastic particle approximations to the Boltzmann equation. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 291–294. (*see* **98b:65005**) 82C40 (82C31)

— (*with* Méléard, Sylvie) Stochastic particle approximations for generalized Boltzmann models and convergence estimates. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 115–132. (Rossana Marra) **98k:60181** 60K35 (60F17, 65C05, 76P05, 82C80)

— (*with* Méléard, Sylvie) An upper bound of large deviations for a generalized star-shaped loss network. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 199–223. (Tim Zajic) **98m:60039** 60F10 (60F17, 60K35, 68M10, 90B15)

Graham, Ian On the Bloch constant for convex maps of the unit ball in $\mathbf{C}^n$. *Geometric complex analysis* (*Hayama*, 1995), 215–218, *World Sci. Publishing, River Edge, NJ*, 1996. (T. J. Suffridge) **98e:32040** 32H02 (30C25)

Graham, Ivan G. (*with* Elschner, Johannes) Quadrature methods for Symm's integral equation on polygons. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 643–664. (Summary) **98h:45013** 45L05 (47G30, 65R20)

Graham, N. (*with* Harary, Frank) Some small sized spanning subgraphs of a hypercube. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 51–57. (Summary) **98g:05126** 05C75

Graham, Ronald L. (*with* Lubachevsky, B. D.) Dense packings of $3k(k+1)+1$ equal disks in a circle for $k = 1, 2, 3, 4$, and 5. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 303–312, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:52028** 52C15 (05B40)

— (*with* Rödl, Vojtěch; Ruciński, Andrzej) On Schur properties of random subsets of integers. (English summary) *J. Number Theory* **61** (1996), *no.* 2, 388–408. (Colin J. H. McDiarmid) **98c:05013** 05A18 (11K99)

— (*with* Buhler, Joe; Eisenbud, David; Wright, Colin Douglas) Juggling drops and descents [MR 96a:05016]. *Organic mathematics* (*Burnaby, BC*, 1995), 133–154, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 05A99 (70B99, 70D99)

— (*with* Lubachevsky, B. D.) Curved hexagonal packings of equal disks in a circle. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 2, 179–194. (Summary) **98f:52021** 52C15 (05B40)

— (*with* Wan, Peng-Jun; Du, Ding Zhu) The Steiner ratio for the dual normed plane. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 261–275. (Zhibo Chen) **98h:05062** 05C05

— (*with* Chung, Fan R. K.) Random walks on generating sets for finite groups. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 7, *approx.* 14 *pp.* (*electronic*). (Martin V. Hildebrand) **98c:60087** 60J15 (20P05, 60B15)

Graham, W. R. The effect of mean flow on the radiation efficiency of rectangular plates. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 111–137. 76Q05

Graham, William A. (*with* Edidin, Dan) Characteristic classes and quadric bundles. *Duke Math. J.* **78** (1995), *no.* 2, 277–299. (Gary P. Kennedy) **98a:14004** 14C15 (57R20)

— (*with* Edidin, Dan) Characteristic classes in the Chow ring. *J. Algebraic Geom.* **6** (1997), *no.* 3, 431–443. (Burt Totaro) **98m:14007** 14C25 (14C10, 14L30)

— The class of the diagonal in flag bundles. *J. Differential Geom.* **45** (1997), *no.* 3, 471–487. (Eric N. Sommers) **98j:14070** 14M15 (17B99)

— (*with* Edidin, Dan) Algebraic cuts. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 677–685. (Yi Hu) **98j:14063** 14L30

Grahne, Gösta (*with* Mendelzon, Alberto O.; Révész, Péter Z.) Knowledgebase transformations. (English summary) 11th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Diego, CA, 1992). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 1, 98–112. (Summary) **98d:68057** 68P15 (68T30)

Gramaglia, H. (*with* Vaggione, Diego) (Finitely) subdirectly irreducibles and Birkhoff-like sheaf representation for certain varieties of lattice ordered structures. (English summary) *Algebra Universalis* **38** (1997), *no.* 1, 56–91. (Jennifer P. Hyndman) **98m:08018** 08B26 (06D15, 06D30)

Gramain, F. Équations aux différences en plusieurs variables. [Multivariate difference equations] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 5, 7 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (*see* **98c:00016**) 39A10

Gramatovici, Radu (*with* Atanasiu, Adrian) Learning from examples. (English summary) *Mathematical linguistics and related topics*, 10–23, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45 (68T05)

Gramchev, Todor (*with* Popivanov, Petʳr R.; Yoshino, Masafumi) Critical Gevrey index for hypoellipticity of parabolic operators and Newton polygons. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 103–131. (Vladimir Tulovsky) **98c:35029** 35H05 (35K25)

— (*with* Dickinson, Detta; Yoshino, Masafumi) First order pseudodifferential operators on the torus: normal forms, Diophantine phenomena and global hypoellipticity. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 51–64 (1997). (Elmar Schrohe) **98k:58221** 58G15 (11J25, 35H05, 35S05, 47G30)

— (*with* Cadeddu, Lucio) Delta waves for the Burgers' equation. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 6, 15–20. (Guenther Hoermann) **98d:35188** 35Q53 (35D05)

— (*with* Biagioni, Hebe A.) On the 2D Navier-Stokes equation with singular initial data and forcing term. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 1–20. (Maria Specovius-Neugebauer) **98b:35132** 35Q30 (76D05)

— (*with* Biagioni, Hebe A.; Cadeddu, Lucio) Parabolic equations with conservative nonlinear term and singular initial data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2489–2496. (Alexander L. Gladkov) **98k:35110** 35K65 (35K55, 35Q53)

Gramlich, Bernhard On proving termination by innermost termination. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 93–107, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98h:68130** 68Q42

— (*with* Wirth, Claus-Peter) Confluence of terminating conditional rewrite systems revisited. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 245–259, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68142** 68Q42

— On termination and confluence properties of disjoint and constructor-sharing conditional rewrite systems. (English summary) Fourth International Conference on Algebraic and Logic Programming (Madrid, 1994). *Theoret. Comput. Sci.* **165** (1996), *no.* 1, 97–131. (Summary) **98a:68112** 68Q42

Grammatico, Cataldo A result on strong unique continuation for the Laplace operator. *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1475–1491. (Norbert Weck) **98j:35034** 35J05 (35B60, 35R45)

Grammaticos, B. (*with* Nijhoff, F.; Satsuma, J.; Kajiwara, Kenji; Ramani, A.) A study of the alternate discrete Painlevé II equation. (English summary) *Inverse Problems* **12** (1996), *no.* 5, 697–716. (Alexei Zhedanov) **98e:39020** 39A12 (35Q58, 58F37)

— (*with* Tamizhmani, K. M.; Ramani, A.) Singularity confinement analysis of integro-differential equations of Benjamin-Ono type. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 1017–1022. (From the text) **98c:35147** 35Q53 (45K05)

— (*with* Ohta, Yasuhiro; Ramani, A.; Satsuma, J.; Tamizhmani, K. M.) A Miura of the Painlevé I equation and its discrete analogs. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 179–186. (Themistocles M. Rassias) **98f:58179** 58F37 (39A12, 58F07)

— (*with* Ohta, Yasuhiro; Ramani, A.; Takahashi, Daisuke; Tamizhmani, K. M.) Cellular automata and ultra-discrete Painlevé equations. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 53–58. (Summary) **98a:82076** 82C20 (39A12)

— (*with* Papageorgiou, V.; Ramani, A.) Discrete dressing transformations and Painlevé equations. (English summary) *Phys. Lett. A* **235** (1997), *no.* 5, 475–479. (F. Pempinelli) **98m:39045** 39A12 (35Q53, 58F07, 58F37)

— (*with* Hirota, Ryogo; Iwao, Masataka; Ramani, A.; Takahashi, Daisuke; Ohta, Yasuhiro) From integrability to chaos in a Lotka-Volterra cellular automaton. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 39–44. (Summary) **98i:58131** 58F08

— (*with* Lafortune, Stéphane; Ramani, A.) Constructing integrable third-order systems: the Gambier approach. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 287–298. (Summary) **98m:34020** 34A34 (34A25, 58F07)

Grammatikakis, Miltos D. (*with* Hwang, Frank K.; Yao, Yi-Ching) A d-move local permutation routing for the d-cube. (English summary) *Discrete Appl. Math.* **72** (1997), *no.* 3, 199–207. (Summary) **98a:68011** 68M10 (90B35)

Grammatikopoulos, Myron K. (*with* Terziyan, Stepan A.) On the periodic solutions of nonlinear neutral differential equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 197–205. (Wantong Li) **98g:34115** 34K15 (34K40)

Grammel, Götz Averaging of singularly perturbed systems. *Nonlinear Anal.* **28** (1997), *no.* 11, 1851–1865. (Iordan I. Slavov) **98a:49012** 49J24 (34C29, 34E15, 34H05)

— (*with* Gaitsgori, V. G.) On the construction of asymptotically optimal controls for singularly perturbed systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 139–147. (Vladimir Veliov) **98e:49064** 49K40 (34E15, 34H05)

Granados, A. (*with* Fernández-Pérez, José L.) On geodesic curvature and conformal mapping. *Algebra i Analiz* **9** (1997), *no.* 3, 220–244; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 615–637. (D. H. Hamilton) **98k:30010** 30C35

agüero Granados, M. A. *see* **Agüero Granados, M. A.**

Granat, J. (*with* Kręglewski, T.; Paczyński, J.; Stachurski, Andrzej; Wierzbicki, A. P.) A modular system of software tools for multicriteria model analysis. (English summary) *System modelling and optimization (Prague, 1995)*, 363–370, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C29 (90A05)

Granboulan, Louis Construction d'une extension régulière de $\mathbf{Q}(T)$ de groupe de Galois M_{24}. (English and French summaries) [Construction of a regular extension of $\mathbf{Q}(T)$ of Galois group M_{24}] *Experiment. Math.* **5** (1996), *no.* 1, 3–14. (Núria Vila) **98c:12006** 12F12 (12Y05)

Grancharova, E. I. (*with* Donkov, A. A.; Donkov, A. D.) The exact solution of the Cauchy problem for two generalized Fokker-Planck equations—algebraic approach. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 165–170. (Summary) **98c:82054** 82C31 (35C05, 35Q99, 35S99)

Granche, Pierre *see* **Structural topology in art, 98h:00018**

Grand, D. (*with* Fallon, B.; Lesieur, Marcel; Delcayre, F.) Large-eddy simulations of stable-stratification effects upon a backstep flow. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 625–644. 76M25 (76F99, 76V05)

Granda, L. N. (*with* Geyer, Bodo; Odintsov, Sergei D.) Violation of chiral symmetry in curved space-time with a magnetic field. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 7, 43–47; *translation in Russian Phys. J.* **40** (1997), *no.* 7, 630–634 (1998). (Summary) **98f:81220** 81T20

— (*with* Odintsov, Sergei D.) Exact renormalization group for O(4) gauged supergravity. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 206–212. (Summary) **98g:83115** 83E50 (81T17)

Grandcolas, Michel Diameters of complete sets of conjugate algebraic integers of small degree. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 821–831. (Duncan A. Buell) **98g:11145** 11Y40 (11R09)

Grande, R. (*with* Bruno, Giordano) A compactness criterion in B^q_{ap} spaces. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 95–121. (Nguyễn Hồng Thái) **98g:46047** 46E99 (34L05, 46N20, 47E05)

— (*with* Bruno, Giordano) Compact embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 157–173. (J. Horváth) **98h:46030** 46E35 (42A75)

Grande, Zbigniew On equi-derivatives. (English summary) *Real Anal. Exchange* **21** (1995/96), *no.* 2, 637–647. (Tapan Kumar Dutta) **98e:26003** 26A24 (26B15, 28A35, 54C30)

— On almost continuous additive functions. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 203–211. (D. K. Dutta) **98a:26005** 26A15

— On functions of two variables equicontinuous in one variable. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 760–765. (Zygfryd Kominek) **98f:26009** 26B05 (54C08, 54C30)

— On strong quasi-continuity points. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 17–21. (Titu Bânzaru) **98i:26003** 26A15 (54C08, 54C30)

— On some lattices containing s.q.c. functions. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 23–27. (Jozef Doboš) **98i:26004** 26A15 (54C08, 54C30)

de Grande-De Kimpe, Nicole *see* **De Grande-De Kimpe, Nicole**

Grandis, Marco Cubical homotopical algebra and cochain algebras. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 147–186. (Manuel Bullejos Lorenzo) **98d:18006** 18G99 (18C15, 55U35)

— Simplicial homotopical algebra and satellites. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 75–97. (Pilar C. Carrasco) **98f:18014** 18G50 (18G55, 55U10, 55U35)

— Categorically algebraic foundations for homotopical algebra. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 4, 363–413. (Timothy Porter) **98m:55017** 55U35 (18D05, 18G55, 55R05)

— Weak subobjects and weak limits in categories and homotopy categories. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 301–326. (Summary) **98j:18001** 18A30 (55U15)

Grandison, Chris Behaviour of exponential splines as tensions increase without bound. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 289–307. (Zygmunt Wronicz) **98c:41010** 41A15 (65D07)

Grandits, Peter On a conjecture of Kazamaki. *Séminaire de Probabilités, XXX*, 357–360, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Introduction) **98k:60072** 60G44

Grandjean, Etienne (*with* Olive, Frédéric) Monadic logical definability of NP-complete problems. (English summary) *Computer science logic (Kazimierz, 1994)*, 190–204, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:68098** 68Q15 (03B15, 03D15, 68Q45)

— Sorting, linear time and the satisfiability problem. (English summary) *Ann. Math. Artificial Intelligence* **16** (1996), *no.* 1-4, 183–236. (William R. Nico) **98d:68075** 68Q15 (03B05, 03D15, 68Q05, 68Q25)

— (*with* Kleine Büning, Hans) SAT-problems and reductions with respect to the number of variables. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 457–471. (M. I. Dekhtyar) **98j:68054** 68Q25 (03B05, 03D15, 68Q15)

r.-Grandjeán L.-Valcárcel, Alfredo *see* **R.-Grandjeán L.-Valcárcel, Alfredo**

Granger, Clive W. J. (*with* Ding, Zhuanxin) Some properties of absolute return: an alternative measure of risk. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 40, 67–91. 90A46 (62M10, 62P20)

— (*with* Hyung, Namwon; Jeon, Yongil) Fractional stochastic unit root processes. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II (1995)*, 190–204, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M10

— (*with* Lin, Jin-Lung) Conjugate processes. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 378–388, *Springer, New York*, 1996. (*see* **98a:62002**) 62M10

— (*with* Swanson, Norman R.) Impulse response functions based on a causal approach to residual orthogonalization in vector autoregressions. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 357–367. (A. L. Nagar) **98f:62272** 62M10

— (*with* Swanson, Norman R.) An introduction to stochastic unit-root processes. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 35–62. 62P20

— (*with* Inoue, Tomoo; Morin, Norman) Nonlinear stochastic trends. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 65–92. (Summary) **98m:62304** 62P20

Granger, Gilles Gaston Style and objectivity in the physical sciences. (Portuguese. English and French summaries) Translated from the French by Victoria R. Ruben. *Cad. Hist. Filos. Ciênc.* (3) **5** (1995), *Special Issue*, 17–34. (Summary) **98m:00021** 00A79 (00A35)

Granger, Michel (*with* Assi, A.; Castro-Jiménez, F. J.) How to calculate the slopes of a $\mathscr{D}$-module. *Compositio Math.* **104** (1996), *no.* 2, 107–123. (Nobuyuki Tose) **98i:32010** 32C38

Granik, A. (*with* Ross, M. F.) On a new basis for a generalized Clifford algebra and its application to quantum mechanics. (English summary) *Clifford algebras with numeric and symbolic computations*, 101–110, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (81R25)

— Why quantum mechanics indeed? (English summary) *Found. Phys.* **27** (1997), *no.* 4, 511–532. (Oliver Rudolph) **98c:81008** 81P05 (81S99)

Granirer, Edmond E. Day points for quotients of the Fourier algebra $A(G)$, extreme nonergodicity of their duals and extreme non-Arens regularity. *Illinois J. Math.* **40** (1996), *no.* 3, 402–419. (C. Chou) **98c:43005** 43A30 (22D25, 42A45, 43A07)

— A survey on some functional analytic properties of the Fourier algebra $A(G)$ of a locally compact group. *Southeast Asian Bull. Math.* **20** (1996), *no.* 2, 1–12. (Brian E. Forrest) **98g:43007** 43A30 (22D25, 46J99)

Grannell, M. J. (*with* Griggs, T. S.; Mathon, Rudolf) Steiner systems $S(5, 6, v)$ with $v = 72$ and 84. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 357–359, S1–S9. (Summary) **98c:05020** 05B05

Grañó, Núria (*with* Llona, Albert; Suau, Francesc) Projective geometry: the photograph problem. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 73–83. 51N15

Granot, Daniel (*with* Gautier, Antoine; Granot, Frieda) Qualitative sensitivity analysis. (English summary) *Advances in sensitivity analysis and parametric programming*, 8.1–8.53, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (H. T. Lau) **98g:90035** 90C35 (90B10, 90C31)

— (*with* Maschler, Michael) The reactive bargaining set: structure, dynamics, and extension to NTU games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 75–95. (Kensaku Kikuta) **98b:90182** 90D12

— (*with* Granot, Frieda; Zhu, Weiping R.) The reactive bargaining set of some flow games and of superadditive simple games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 207–214. (Kensaku Kikuta) **98e:90230** 90D12

Granot, Frieda (*with* Penn, Michal) Polynomial algorithms for (integral) maximum two-flows in vertex\edge-capacitated planar graphs. (English summary) *Discrete Appl. Math.* **70** (1996), *no.* 3, 267–283. (Gary MacGillivray) **98a:05135** 05C85 (90B10)

— (*with* Gautier, Antoine; Granot, Daniel) Qualitative sensitivity analysis. (English summary) *Advances in sensitivity analysis and parametric programming*, 8.1–8.53, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (H. T. Lau) **98g:90035** 90C35 (90B10, 90C31)

— (*with* Granot, Daniel; Zhu, Weiping R.) The reactive bargaining set of some flow games and of superadditive simple games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 207–214. (Kensaku Kikuta) **98e:90230** 90D12

Granovskii, Ya. I. Hidden symmetry of diffraction problems. (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 390–395, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:78024** 78A45

Granovsky, Boris L. (*with* Zeifman, Alexander I.) The decay function of nonhomogeneous birth-death processes, with application to mean-field models. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 105–120. (Mu Fa Chen) **98j:60121** 60J80

Grant, Alex J. (*with* Schlegel, Christian) Collision-type multiple-user communications. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1725–1736. (Summary) **98f:94011** 94A40 (94A13)

Grant, David R. Sequences of fields with many solutions to the unit equation. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 1017–1029. (Joseph H. Silverman) **98f:11121** 11R27 (11G05, 11R18)

Grant, Hardy What is modern about "modern" mathematics? [MR 96h:00008]. (Czech) Translated from the English by Jiří Fiala. *Pokroky Mat. Fyz. Astronom.* **41** (1996), *no.* 3, 134–140. (Editors) **98c:00005** 00A30 (01A99)

Grant, J. R. (*with* Marshall, J. S.) A Lagrangian vorticity collocation method for viscous, axisymmetric flows with and without swirl. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 302–330. (Summary) **98i:76068** 76M25

Grant, John (*with* Fernández, José Alberto; Minker, Jack) Model-theoretic approach to view updates in deductive databases. (English summary) *J. Automat. Reason.* **17** (1996), *no.* 2, 171–197. (M. I. Dekhtyar) **98d:68056** 68P15 (03B70, 68N17)

Grant, Simon (*with* Eichberger, Jürgen) Dynamically consistent preferences, quadratic beliefs, and choice under uncertainty. (English summary) *Economic and environmental risk and uncertainty* (*Oslo*, 1994), 195–205, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A08 (90A43)

Grantcharov, G. (*with* Apostolov, Vestislav; Davidov, J.; Mushkarov, Oleg K.) Geometry of Hermitian surfaces. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 94–104, *World Sci. Publishing, River Edge, NJ*, 1997. (Massimiliano Pontecorvo) **98j:53079** 53C55 (32L07)

Grant-Duff, Zully N. (*with* Harrison, Peter G.) Parallelism via homomorphisms. (English summary) *Parallel Process. Lett.* **6** (1996), *no.* 2, 279–295. (Dorothy Bollman) **98a:68056** 68Q10 (68Q22)

Grants, I. (*with* Priede, Jānis; Gelfgat, Yu. M.) MHD flow in a cylindrical vessel in rotating and steady magnetic fields. *Magnetohydrodynamics* **32** (1996), *no.* 3, 257–265 (1997); *translated from Magnit. Gidrodinamika* **1996,** *no.* 3, 281–290 (*Russian*). 76W05 (76U05)

Granville, Andrew (*with* Sun, Zhi Wei[1]) Values of Bernoulli polynomials. (English summary) *Pacific J. Math.* **172** (1996), *no.* 1, 117–137. (L. Skula) **98b:11018** 11B68

— Correction to: "Zaphod Beeblebrox's brain and the fifty-ninth row of Pascal's triangle" [Amer. Math. Monthly **99** (1992), no. 4, 318–331; MR 93a:05008]. *Amer. Math. Monthly* **104** (1997), *no.* 9, 848–851. (J. Cofman) **98i:05003** 05A10

Grappone, Arturo Graziano Temporal, modal, psychoanalytical functors in the bivalent logic. (English summary) *Metalogicon* **1** (1988), *no.* 2, 41–57. 92J10 (03B60, 03B80)

— Psychoanalysis and Gödel's proof: is the self-representation the common base of the formal number theory undecidability and of the Freud-Matte Blanco's unconscious laws? *Metalogicon* **2** (1989), *no.* 1, 33–59. 03A05

— On D'Amelio's logical ratio and rules: consequences in psychiatry. *Metalogicon* **2** (1989), *no.* 2, 73–93. 92J10 (03B60, 03B80)

— Bi-logic nature of the numeric calcule. *Metalogicon* **3** (1990), *no.* 1, 1–24. 03G05 (94A17)

— Modal sentence logic formulas as abbreviations of standard sentence logic formulas. *Metalogicon* **3** (1990), *no.* 2, 83–100. 03B45

— On the time logic. *Metalogicon* **4** (1991), *no.* 1, 43–68. 03B45

— On polyadic connectives: a new language. (English summary) *Metalogicon* **7** (1994), *no.* 1, 1–14. (Jerzy Kotas) **98g:03015** 03B05

— Sentence calculus and fractals. *Metalogicon* **8** (1995), *no.* 1, 1–10. (Introduction) **98i:03013** 03B05

Grapsa, T. N. (*with* Vrahatis, M. N.; Ragos, O.; Zafiropoulos, F. A.) Locating and computing zeros of Airy functions. (English summary) *Z. Angew. Math. Mech.* **76** (1996), *no.* 7, 419–422. (F. W. J. Olver) **98b:33011** 33C10 (65D20)

Gras, Georges Principalisation d'idéaux par extensions absolument abéliennes. (English summary) [Principalization of ideals by absolutely abelian extensions] *J. Number Theory* **62** (1997), *no.* 2, 403–421. (Jean-François Jaulent) **98j:11087** 11R20

— (*with* Jeannin, Stéphane) Critère effectif de puissance p-ième dans un corps de nombres galoisien. (English summary) [Effective pth-power criterion in a Galois number field] *J. Number Theory* **63** (1997), *no.* 2, 339–356. (Alan Candiotti) **98m:11119** 11R32 (11R27)

— (*with* Cortella, Anne) Interprétation et calcul du groupe de défaut d'un principe de Hasse. (French summary) [Interpretation and computation of the defect group of a Hasse principle] *Math. Nachr.* **188** (1997), 109–140. (Jean-François Jaulent) **98m:11026** 11E39 (11R37)

Graser, Thomas Operator multipliers generating strongly continuous semigroups. (English summary) *Semigroup Forum* **55** (1997), *no.* 1, 68–79. (Eugenio Sinestrari) **98f:47050** 47D06 (46M35, 47B38)

Grassberger, Peter (*with* Sutter, Peter; Schäfer, Lothar) Field-theoretic and Monte Carlo analysis of the Domb-Joyce model. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7039–7056. 82B80 (82–04, 82B20)

— (*with* Schneider, Peter[2]) Studying attractor symmetries by means of cross-correlation sums. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 749–762. (Peter Ashwin) **98h:58108** 58F11 (34D45, 58F12)

— (*with* Torcini, Alessandro; Frauenkron, Helge) A novel integration scheme for partial differential equations: an application to the complex Ginzburg-Landau equation. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 605–610. (*see* **98b:00025**) 65M06

— *see also* **From statistical physics to statistical inference and back, 98b:82002**

Grasse, Kevin A. (*with* Bar-on, Jonathan R.) Global optimization of a quadratic functional with quadratic equality constraints. II. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 547–556. (Summary) **98c:90084** 90C20 (65K05)

— (*with* Bar-on, Jonathan R.) Regularity properties of the phase for multivariable systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1366–1386. (Summary) **98f:93009** 93C35 (93D05)

Grasselli, Luigi Standard presentations for 3-manifold groups. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **129** (1995), *no.* 1-2, 23–37 (1996). (Wolfgang H. Heil) **98a:57025** 57N10 (57M07)

— Coloured knots and permutations representing 3-manifolds. (English summary) *Math. Pannon.* **7** (1996), *no.* 2, 177–183. (Joanna Kania-Bartoszynska) **98g:57010** 57M25 (57M12, 57N10)

— (*with* Piccarreta, Salvina) Crystallizations of generalized Neuwirth manifolds. (English summary) *Forum Math.* **9** (1997), *no.* 6, 669–685. (Wilbur Whitten) **98k:57028** 57N10 (57M05, 57Q15, 57Q25)

Grasselli, Maurizio Identifying relaxation kernels of linearly viscoelastic bodies. (English summary) 2nd International Symposium "Inverse Problems in Engineering Sciences" (Osaka, 1994). *J. Inverse Ill-Posed Probl.* **4** (1996), *no.* 5, 391–407. (Hans Engler) **98b:73018** 73F15 (35R30, 49J45, 73F05)

— (*with* Colli, Pierluigi; Gilardi, Gianni) Global smooth solution to the standard phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 453–486. (Nobuyuki Kenmochi) **98d:45007** 45K05 (35K55, 73B30, 80A20)

— (*with* Colli, Pierluigi; Gilardi, Gianni) Well-posedness of the weak formulation for the phase-field model with memory. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 487–508. (Nobuyuki Kenmochi) **98d:45008** 45K05 (35K55, 73B30, 80A20)

— (*with* Colli, Pierluigi; Gilardi, Gianni) Weak solution to hyperbolic Stefan problems with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 1, 123–132. (Renuka Ravindran) **98g:35220** 35R35 (35L99, 80A22)

— An inverse problem in population dynamics. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 311–323. (Brian D. Sleeman) **98h:92034** 92D25 (35K99, 35R30)

Grasselli, O. M. (*with* Jetto, Leopoldo; Longhi, Sauro) Ripple-free dead-beat tracking for multirate sampled-data systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1437–1455. 93C57 (93B52)

Grassi, Renata (*with* Ghirardi, Giancarlo) Bohm's theory versus dynamical reduction. *Bohmian mechanics and quantum theory: an appraisal*, 353–377, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Grassin, Magali (*with* Serre, Denis) Existence de solutions globales et régulières aux équations d'Euler pour un gaz parfait isentropique. (English and French summaries) [Global smooth solutions to Euler equations for an isentropic perfect gas] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 721–726. (Hermano Frid) **98h:35188** 35Q30 (76N10, 76N15)

Grassini, R. (*with* Barone, Fiorella; Mendella, Giovanna) A generalized Lagrange equation in implicit form for non-conservative mechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1575–1590. (Manuel de León) **98g:58054** 58F05 (34A09, 70H35)

Grassl, M. (*with* Beth, Thomas; Pellizzari, T.) Codes for the quantum erasure channel. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 33–38. (Summary) **98f:81044** 81P99 (94B60)

Grassmann, H. *see* **Grassmann, Hubert**

Grassmann, Hermann Günther *see* **Tokmakidis, Anastassios E., 98m:01019**

Grassmann, Hubert (*with* Greuel, Gert-Martin; Martin, Bernd; Neumann, W.; Pfister, Gerhard; Pohl, W.; Schönemann, H.; Siebert, Thomas) On an implementation of standard bases and syzygies in SINGULAR. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 235–249. (Summary) **98i:13051** 13P10 (13D02)

Grasso, F. (*with* Manna, Marcelo; Meola, C.; Pascarelli, A.) On the relation between the entropy balance and the numerical solutions of systems of conservation laws. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 825–845. (Summary) **98h:76120** 76N15 (35L65, 76M25)

Gratie, Liliana (*with* Pascali, Dan) Recession methods for noncoercive variational inequalities. *Libertas Math.* **17** (1997), 155–164. (Mihail Yu. Kokurin) **98j:47153** 47H19 (49J40)

Grattan-Guinness, Ivor Numbers, magnitudes, ratios, and proportions in Euclid's *Elements*: how did he handle them? (English, Dutch and Greek summaries) *Historia Math.* **23** (1996), *no.* 4, 355–375. (B. Artmann) **98b:01007a** 01A20 (00A35, 01A55)

— General histories of mathematics? of use? to whom? *II Portuguese-Brazilian Conference on the History of Mathematics & II National Seminar on the History of Mathematics* (*Portuguese*) (*São Paulo*, 1997), 15–23, *UNESP, Rio Claro*, 1997. (*see* **98g:01010**) 01A05

— A retreat from holisms: Carnap's logical course, 1921–43. Essay review of: *El programma de Carnap: ciencia, lenguje, filosofia (The Carnap program: science, language, philosophy)* [de Bronce, Barcelona, 1996] edited by R. Cirera, A. Ibarra and T. Mormann. (English summary) *Ann. of Sci.* **54** (1997), *no.* 4, 407–421. (Perry Smith) **98f:01044** 01A60 (03–03, 03A05)

— Living together and living apart. On the interactions between mathematics and logics from the French Revolution to the First World War. (Spanish. English and Spanish summaries) Translated from the English. Revised by the author. *Theoria* (*San Sebastián*) (2) **12** (1997), *no.* 28, 13–37. (Joseph W. Dauben) **98h:01012** 01A55 (00A30, 03–03)

— *see also* **Errata: "Numbers, magnitudes, ratios, and proportions in Euclid's *Elements*: how did he handle them?", 98b:01007b; Encyclopedia: History and philosophy of the mathematical sciences, 98g:01003; Boole, George, 98h:01033; Gillispie, Charles Coulston, 98k:01026** *and* **Katz, Victor J.**

Gratus, J. A natural basis of states for the noncommutative sphere and its Moyal bracket. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4283–4300. (Florian Scheck) **98k:17027** 17B65 (33C90, 58B30, 81S10)

Grätzer, George (*with* Lakser, H.; Schmidt, E. T.) Isotone maps as maps of congruences. I. Abstract maps. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 105–135. (James W. Lea, Jr.) **98d:06011** 06B10 (06D05, 08A30)

— (*with* Schmidt, E. T.; Wang, Da Bin) A short proof of a theorem of Birkhoff. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 253–255. (Summary) **98a:20035** 20F29 (06A06, 06D05)

— (*with* Wang, Da Bin) A lower bound for congruence representations. (English summary) *Order* **14** (1997), *no.* 1, 67–74. (N. Prabhakara Rao) **98k:06008** 06B10 (06D05)

— (*with* Rival, Ivan; Zaguia, Nejib) A correction to: "Small representations of finite distributive lattices as congruence lattices" [Proc. Amer. Math. Soc. **123** (1995), no. 7, 1959–1961; MR 95k:06017b]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2509–2510. (Editors) **98k:06009** 06B10 (06B05)

— *see also* **Zhang, Yong[1], 98h:06017**

Graudenz, Dirk The quantum gauge principle. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 217–226, *Springer, Berlin*, 1997. (*see* **98b:81013**) 81T13 (53C80)

Grauer, Rainer (*with* Friedel, Holger; Marliani, Christiane) Center manifold approach to controlling chaos. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 45–52. 58F13 (93C10)

— An energy estimate for a perturbed Hasegawa-Mima equation. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 659–666. 35Q55 (35B45)

Grauert, Hans (*with* Dethloff, Gerd-E.) Seminormal complex spaces. (Russian) *Complex analysis. Several variables*, 7 (*Russian*), 237–283, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1996. (*see* **98f:32001**) 32C15 (32C20)

— Theory of q-convexity and q-concavity. (Russian) *Complex analysis. Several variables*, 7 (*Russian*), 331–363, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1996. (*see* **98f:32001**) 32F10

— (*with* Remmert, Reinhold) Extension of analytic objects. (Russian) *Complex analysis. Several variables*, 7 (*Russian*), 449–461, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1996. (*see* **98f:32001**) 32D15 (32C35)

— Discrete geometry. *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1996**, *no.* 6, 20 *pp.* (Francois Vanderseypen) **98b:81027** 81P99 (00A30, 00A79)
— Die Axiome der Elementargeometrie und die griechischen Theoreme. (German summary) [The axioms of elementary geometry and the Greek theorems] *Math. Semesterber.* **44** (1997), *no.* 1, 19–36. 01A20 (51–03)
Graur, I. A. (*with* Chetverushkin, B. N.) On the justification of kinetically consistent schemes with correction. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 11, 111–118. 76M20
Gravel, Pierre Insufficiency of the CJD condition for gravitational instantons. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 401–405, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C20
Graversen, S. E. (*with* Peškir, G.) On Wald-type optimal stopping for Brownian motion. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 66–73. (H.-J. Engelbert) **98i:60039** 60G40 (60J65)
— (*with* Peškir, G.) On Doob's maximal inequality for Brownian motion. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 111–125. (Peter Imkeller) **98h:60120** 60J65 (60G40, 60G44, 60J25)
— (*with* Peškir, G.) Extremal problems in the maximal inequalities of Khintchine. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 169–177. (Stephen Montgomery-Smith) **98j:60025** 60E15 (42C10, 60J65)
Graves, Lee Paul (*with* Yavneh, Irad; Shchepetkin, A. F.; McWilliams, James C.) Multigrid solution of rotating, stably stratified flows: the balance equations and their turbulent dynamics. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 245–262. 76M25 (76U05, 76V05, 86A10)
Graves, Paul R. Reference and imperfective paradox. *Philos. Stud.* **88** (1997), *no.* 1, 81–101. 03A05 (03B65)
Graves, Stephen C. (*with* Zhang, Hongtao) Cyclic scheduling in a stochastic environment. (English summary) *Oper. Res.* **45** (1997), *no.* 6, 894–903. (Summary) **98k:90050** 90B35
Graves, Todd L. (*with* Lai, Tze Leung) Asymptotically efficient adaptive choice of control laws in controlled Markov chains. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 715–743. (Summary) **98i:93092** 93E35 (90C40, 93E20)
Gravesen, Jens Adaptive subdivision and the length and energy of Bézier curves. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 13–31. (Bert Jüttler) **98b:65019** 65D17
Graves-Morris, P. R. (*with* Beckermann, B.) The compass (star) identity for vector-valued rational interpolants. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 279–294. (John G. Stalker) **98c:41018** 41A20 (41A21, 41A63, 65D15)
— (*with* Roberts, D. E.) Problems and progress in vector Padé approximation. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 173–200. (Summary) **98a:41024** 41A21 (30E10, 65D15)
— A "look-around Lanczos" algorithm for solving a system of linear equations. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 247–274. (David R. Kincaid and Bahareh Momken) **98m:65042** 65F10 (65B05, 65F50)
Gravier, Sylvain (*with* Mollard, Michel) On domination numbers of Cartesian product of paths. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 247–250. (Summary) **98h:05100** 05C35
Gravner, Janko (*with* Fisch, Robert) One-dimensional deterministic Greenberg-Hastings models. (English summary) *Complex Systems* **9** (1995), *no.* 5, 329–348. (B. M. Gurevich) **98c:68147** 68Q80 (28D99, 60K35)
— (*with* Griffeath, David) First passage times for threshold growth dynamics on $\mathbf{Z}^2$. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 1752–1778. (Ronald Meester) **98c:60140** 60K35
— Percolation times in two-dimensional models for excitable media. (English summary) *Electron. J. Probab.* **1** (1996), *no.* 12, *approx.* 19 *pp.* (*electronic*). (Rahul Roy) **98c:60141** 60K35 (90C27)
— (*with* Griffeath, David) Multitype threshold growth: convergence to Poisson-Voronoï tessellations. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 615–647. (Dimitri Petritis) **98h:60146** 60K35
— (*with* Griffeath, David) Nucleation parameters for discrete threshold growth on $\mathbf{Z}^2$. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 207–220. (Summary) **98g:60180** 60K35
— (*with* McDonald, Elaine) Bootstrap percolation in a polluted environment. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 915–927. (Aernout C. D. van Enter) **98h:82027** 82B43 (60K35, 82C05, 82C20)
Grawe, Markus Asymptotic growth of Hermite series and an application to the theory of the Riemann zeta function. *Results Math.* **31** (1997), *no.* 1-2, 105–114. (Don Redmond) **98c:11088** 11M26 (33C45)
Gray, Alfred A property of a hypothetical complex structure on the six sphere. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 251–255. (Luis Ugarte) **98e:53123** 53C56 (53C15)
— (*with* Cordero, Luis A.; Fernández, Marisa; Ugarte, Luis) A general description of the terms in the Frölicher spectral sequence. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 75–84. (Sorin Dragomir) **98m:53092** 53C56 (32C10, 55T99)
Gray, Alistair (*with* Thomson, Peter J.) Design of moving-average trend filters using fidelity and smoothness criteria. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 205–219, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M20 (93E11)
Gray, B. F. (*with* Sexton, M. J.; Forbes, Lawrence K.) A study of the dynamics of a continuously stirred tank reactor with feedback control of the temperature. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 2, 89–107. (Summary) **98d:80016** 80A32 (93C95)
— (*with* Weber, R. O.; Mercer, G. N.; Sidhu, H. S.) Combustion waves for gases (Le = 1) and solids (Le $\to \infty$). (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 1105–1118. (Summary) **98a:80007** 80A25 (58F13, 58F40)
Gray, Brenton D. Smallest defining sets of designs associated with PG(d, 2). (English summary) *Australas. J. Combin.* **16** (1997), 87–98. (Esther R. Lamken) **98f:05022** 05B05 (05B30)
— (*with* Hamilton, Nicholas; O'Keefe, Christine M.) On the size of a smallest defining set of PG(2, q). (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 91–94. (Summary) **98d:05036** 05B25
— The maximum number of trades of volume four in a symmetric design. (English summary) *Util. Math.* **52** (1997), 193–203. (Summary) **98i:05041** 05B30
— (*with* Ramsay, Colin) On a conjecture of Mahmoodian and Soltankhah regarding the existence of (v, k, t) trades. (English summary) *Ars Combin.* **48** (1998), 191–194. (Summary) **98m:05035** 05B30
Gray, Darren G. D. The structure of some permutation modules for the symmetric group of infinite degree. (English summary) *J. Algebra* **193** (1997), *no.* 1, 122–143. (H. Dugald Macpherson) **98e:20006** 20B30 (20C32)
Gray, H. L. (*with* Wang, Suojin; Woodward, Wayne A.; Wiechecki, Stephen; Sain, Stephan R.) A new test for outlier detection from a multivariate mixture distribution. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 3, 285–299. 62H15
Gray, J. Brian (*with* Barrett, Bruce E.) Leverage, residual, and interaction diagnostics for subsets of cases in least squares regression. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 1, 39–52. 62J05
Gray, James W., III On the Clark-Jacob version of SPLICE/AS. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 251–254. (Summary) **98c:94015** 94A60
Gray, Jeremy J. Enriques and the popularisation of mathematics. *Math. Intelligencer* **18** (1996), *no.* 4, 51–54. (From the text) **98a:01018** 01A70
— (*with* Bottazzini, Umberto) Complex function theory from Zurich (1897) to Zurich (1932). Studies in the history of modern mathematics, II. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 44 (1996), 85–111. (Heinrich Begehr) **98d:01028** 01A60 (01A55, 30–03)
— Reply to: "Is mathematical logic a part of mathematics?" [Historia Math. **24** (1997), no. 2, 210–212] by G. H. Moore. *Historia Math.* **24** (1997), *no.* 4, 454–456. 01A60 (00A30, 03–03)
— König, Hadamard and Kürschák, and abstract algebra. *Math. Intelligencer* **19** (1997), *no.* 2, 61–64. (Karl-Heinz Schlote) **98j:01031** 01A60 (01A55)
— Riemann's lecture courses on complex function theory. *Math. Intelligencer* **19** (1997), *no.* 4, 58–62. 01A55
— *see also* **Poincaré, Henri**, **98m:01018**
Gray, John ★ Mastering Mathematica. (English summary) Programming methods and applications. Second edition. With 1 CD-ROM (Macintosh, MS-DOS, NeXT and UNIX). *Academic Press, Inc., San Diego, CA*, 1998. *xxii*+629 *pp. ISBN* 0-12-296105-6 00A99 (00–01, 68Q40)
Gray, L. J. (*with* Paulino, Glaucio H.) Symmetric Galerkin boundary integral formulation for interface and multi-zone problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 3085–3101. 73V10
Gray, Lawrence (*with* Fristedt, Bert) ★ A modern approach to probability theory. (English summary) Probability and its Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xx+756 *pp. ISBN* 0-8176-3807-5 (N. H. Bingham) **98e:60002** 60–01
Gray, S. I. B. A mathematics treasure in California. *Math. Intelligencer* **20** (1998), *no.* 2, 41–46. 01A99
Gray, William J. (*with* Wang, P. Patrick; Scott, Meckinley) An extension of the multiple vacation queue model. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 213–227. 60K25
— (*with* Wang, P. Patrick; Scott, Meckinley) On the number of customers lost in a finite state-dependent queue. (English summary) *Opsearch* **34** (1997), *no.* 4, 259–276. 60K25 (90B22)
— (*with* Wang, P. Patrick; Scott, Meckinley) Single counter queueing models involving multiple servers. (English summary) *Opsearch* **34** (1997), *no.* 4, 283–296. 60K25 (90B22)
Grayson, Matthew (*with* Hamilton, Richard S.) The formation of singularities in the harmonic map heat flow. *Comm. Anal. Geom.* **4** (1996), *no.* 4, 525–546. (Joseph F. Grotowski) **98g:58034** 58E20 (35K55, 58G11)
Graziadio, Christine (*with* Yürekli, Osman) A theorem on the Laplace transform and its applications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 616–621. 44A10
Graziano, Elvira (*with* De Martino, Salvatore; De Siena, Silvio; Vitiello, Giuseppe) Vacuum structure and jump Markovian processes. (English summary) *Field theory and collective phenomena (Perugia, 1992)*, 358–365, *World Sci. Publishing, River Edge, NJ*, 1995. (Cheng Xun Wu) **98d:81044** 81T10 (82C31)
— (*with* Blasone, M.; Pashaev, O. K.; Vitiello, Giuseppe) Dissipation and topologically massive gauge theories in the pseudo-Euclidean plane. (English summary) *Ann. Physics* **252** (1996), *no.* 1, 115–132. (Summary) **98f:81192** 81T13 (81V70)
Graziano, L. (*with* Iannece, D.; Romano, Antonio) Continua with an interface and ferromagnetic crystals. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 8, 769–782. (Victor A. L'vov) **98j:82067** 82D20 (78A30, 82B24)
— (*with* Iannece, D.; Lista, V.) Branching in ferromagnetic crystals. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 107–114. 82D40
— (*with* Romano, Antonio) Micromagnetics and numerical analysis. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 649–662. (Summary) **98f:82134** 82D40 (65N30)
Grazzini, Fulvio (*with* Errokh, Mohamed) Sur la cohomologie modulo 2 des groupes de Coxeter à trois générateurs. (English and French summaries) [On the modulo 2 cohomology of three-generator Coxeter groups] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 741–745. (J. R. J. Groves) **98h:20094** 20J06 (20F55)
Greated, C. A. (*with* Buick, J. M.; Easson, W. J.) Investigation of a lattice gas model for surface gravity waves. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2585–2597. (Summary) **98d:76012** 76B15 (76M25)
— (*with* Buick, J. M.; Easson, W. J.) Numerical simulation of internal gravity waves using a lattice gas model. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 6, 657–676. (Summary) **98m:76042** 76C10 (76M25, 76V05)
Greaves, George Some Diophantine equations with almost all solutions trivial. *Mathematika* **44** (1997), *no.* 1, 14–36. (R. C. Baker) **98h:11035** 11D41 (11N36)
Grebenev, Vladimir N. Interfacial phenomenon for one-dimensional equation of forward-backward parabolic type. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 379–394. (Yun Bo Zeng) **98a:35062** 35K55 (35B10, 35Q53)
— Heat propagation in a plane impulse-free turbulent wake. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 878–886. (Georgy A. Sviridyuk) **98h:76068** 76F99 (76D25, 80A20)
Grebenikov, E. A. On generators of new iterative methods for nonlinear equations with a small parameter. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997),

no. 5, 559–565. (O. B. Lykova) **98h:34024** 34A45 (34C99, 34E05)

Grebenshchikov, B. G. (*with* Rozhkov, V. I.) On the asymptotic properties of the solution of a quasilinear system with delay. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1286–1288, 1296; *translation in Differential Equations* **32** (1996), *no.* 9, 1288–1291 (1997). (Summary) **98h:34125** 34K15 (34K25)

— (*with* Rozhkov, V. I.) On the existence of almost periodic solutions of a system of neutral type with delay. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1331–1334, 1437; *translation in Differential Equations* **32** (1996), *no.* 10, 1327–1330 (1997). (Summary) **98h:34124** 34K15 (34C27)

— On the stability of a class of quasilinear systems with constant delay. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 280–285, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 239–243. (Alexander I. Domoshnitsky) **98m:34153** 34K20

Grebenyuk, E. A. (*with* Kuznetsov, I. V.) Application of sequential analysis methods for predicting abrupt changes in random time series. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 65–75; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1752–1760 (1998). 62M10 (62L10)

Grébert, B. (*with* Guillot, Jean-Claude; Klopp, Frédéric) On the spectrum of odd order self-adjoint ordinary differential operators on the real line with quasi-periodic coefficients. *J. Differential Equations* **135** (1997), *no.* 1, 41–65. (Boris M. Levitan) **98e:34149** 34L05 (47E05)

— (*with* Kappeler, T.; Mityagin, B.) Gap estimates of the spectrum of the Zakharov-Shabat system. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 95–97. 35Q55 (34L05)

Grebogi, Celso (*with* Barreto, Ernest; Casas, Fernando; Kostelich, Eric J.) Control of chaos: impact oscillators and targeting. (English summary) *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 17–26, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K50 (58F13)

— (*with* Fernández Sanjuán, Miguel Angel; Kennedy, Judy A.; Yorke, James A.) Indecomposable continua in dynamical systems with noise: fluid flow past an array of cylinders. (English summary) *Chaos* **7** (1997), *no.* 1, 125–138. (Summary) **98a:76027** 76D99 (58F40, 76F20)

— (*with* Feudel, Ulrike) Multistability and the control of complexity. (English summary) *Chaos* **7** (1997), *no.* 4, 597–604. (Summary) **98i:58156** 58F13

— (*with* Lai, Ying-Cheng) Controlling chaos in high dimensions. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 971–975. (*see* **98g:93002**) 93B55 (93C10)

— (*with* Lai, Ying-Cheng; Hayes, Scott) Control and applications of chaos. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 1115–1146. (B. V. Loginov) **98m:58091** 58F13 (58F12, 93C10)

— (*with* Jacobs, Joeri; Ott, Edward) Computing the measure of nonattracting chaotic sets. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 1–11. (Remo Badii) **98g:58102** 58F11 (58F12, 58F13)

— (*with* So, Paul; Ott, Edward; Sauer, Timothy D.; Gluckman, Bruce J.; Schiff, Steven J.) Extracting unstable periodic orbits from chaotic time series data. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part A*, 5398–5417. (Hans-Peter Herzel) **98b:58123** 58F13 (58F40, 92C20)

— (*with* Lai, Ying-Cheng) Controlling chaotic dynamical systems. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 307–312. (Summary) **98k:93053** 93C10 (34H05, 58F13)

— (*with* Feudel, Ulrike; Poon, Leon; Yorke, James A.) Dynamical properties of a simple mechanical system with a large number of coexisting periodic attractors. (English summary) Applications of chaos (Inowlodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 171–180. (Summary) **98m:70030** 70K50

Grebot, Guy The characterization of third order ordinary differential equations admitting a transitive fiber-preserving point symmetry group. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 364–388. (Ian M. Anderson) **98g:34024** 34A34 (34C20, 58F36)

Grecchi, Vincenzo (*with* Caliceti, E.; Maioli, M.) Perturbation theory, Borel summability, and asymptotics. (English summary) *Algebra i Analiz* **8** (1996), *no.* 1, 145–159; *reprinted in St. Petersburg Math. J.* **8** (1997), *no.* 1, 111–122. (H. Hogreve) **98a:81039** 81Q15 (34E10, 40G10, 47N20)

— (*with* Sacchetti, Andrea) Lifetime of the Wannier-Stark resonances and perturbation theory. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 359–378. (Alain Joye) **98g:81037** 81Q15 (81V10)

Grecea, Valentin The extension of Grishin's lemma to excessive measures. (English summary) *Potential Anal.* **7** (1997), *no.* 3, 681–687. (Mohamed Hmissi) **98m:31015** 31D05 (60J35, 60J45)

Grechka, G. Yu. Modified procedures of iterative prox-regularization. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 914–924. (R. Tichatschke) **98k:90071** 90C25 (65K05, 90C30)

Grecksch, W. (*with* Wadewitz, A.) Approximation of solutions of stochastic differential equations by discontinuous Galerkin methods. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 4, 901–916. (Eckhard Platen) **98c:60059** 60H10 (65L99, 65U05)

Greco, Andrés (*with* Cabra, Daniel C.; Dobry, Ariel; Rossini, Gerardo L.) On the path integral representation for spin systems. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2699–2704. (Summary) **98j:82005** 82B10

Greco, Antonio Logarithmic convexity of the blow-up solutions of the equation $\Delta u = u^p$. (Italian. Italian summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 211–215 (1997). (*see* **98c:35002**) 35J60 (35B40)

— (*with* Bandle, Catherine; Porru, Giovanni) Large solutions of quasilinear elliptic equations: existence and qualitative properties. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 227–252. (H. J. Kuiper) **98i:35056** 35J65 (35B40)

Greco, Antonio M. (*with* Choquet-Bruhat, Yvonne) Interaction of gravitational and fluid waves. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 111–123. (Norbert Noutchegueme) **98g:83023** 83C35 (83C55)

— *see also* **Proceedings: Conference on Waves and Stability in Continuous Media**, **98b:00028** *and* **98b:00029**

Greco, L. (*with* Moscariello, Gioconda) An embedding theorem in Lorentz-Zygmund spaces. (English summary) *Potential Anal.* **5** (1996), *no.* 6, 581–590. (J. Musielak) **98a:46043** 46E35

Greco, Sergio (*with* Buccafurri, Francesco; Saccà, Domenico) The expressive power of unique total stable model semantics. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 849–859, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68031** 68N17

— (*with* Giannotti, Fosca; Saccà, Domenico; Zaniolo, Carlo) Programming with non-determinism in deductive databases. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 97–125. (Summary) **98a:68044** 68P15 (68N17)

— (*with* Saccà, Domenico) "Possible is certain" is desirable and can be expressive. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 147–168. (Minoru Ito) **98c:68035** 68N17 (68P15)

Grecu, D. (*with* Cârstea, A. S.) On a class of rational and mixed soliton-rational solutions of the Toda lattice. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 1, 29–36. (Jorge P. Zubelli) **98d:58079** 58F07 (35Q53)

Grecu, E. Sur certaines variétés totalement géodésiques. (English, French and Romanian summaries) [On certain totally geodesic manifolds] *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **56/57** (1994/95), *no.* 1-4, 19–22. 53C20 (53C22)

Gredeskul, Sergei A. (*with* Zusman, Masha; Avishai, Yshai; Azbel, Mark Ya.) Electron in two-dimensional system with point scatterers and magnetic field. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 95–142, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98j:81354** 81U05

Greechie, Richard (*with* Gudder, Stanley) Effect algebra counterexamples. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 317–325. (Sylvia Pulmannová) **98m:81009** 81P10 (03G12)

Greed, G. T. (*with* Zhang, Keke) An asymptotic theory for convection driven inertial waves in a rotating annulus. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 75–101. (Summary) **98h:76131** 76U05 (85A30, 86A99)

Green, Barry Geometric families of constant reductions and the Skolem property. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1379–1393. (Martha Rzedowski-Calderón) **98k:11084** 11G30 (11R58, 12J10, 14G25)

leedham-Green, C. R. *see* **Leedham-Green, C. R.**

Green, David J. ★ Constructing projective resolutions for p-groups. Vorlesungen aus dem Fachbereich Mathematik der Universität GH Essen [Lecture Notes in Mathematics at the University of Essen], 24. *Universität Essen, Fachbereich Mathematik, Essen*, 1997. iv+55 *pp.* (David Benson) **98h:20095** 20J06 (16G10, 20D15)

— Chern classes and the extraspecial p-group of order p^5 and exponent p. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 181–196. (Phạm Anh Minh) **98m:20068** 20J06 (20D15)

Green, David, Jr. (*with* Dimitrov, Boyan) Stochastic optimization problems under incomplete information on distribution functions. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 93–110. 90B25 (90C15)

Green, David R. (*with* Batanero, Carmen; Serrano, Luis Romero) Randomness, its meanings and educational implications. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 1, 113–123. 01A99 (00A35)

Green, David W. (*with* Evans, James W.; Johnson, Richard A.) Goodness-of-fit tests for two-parameter and three-parameter Weibull distributions. (English summary) *Advances in the theory and practice of statistics*, 159–178, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62G10

Green, Edward L.[1] Introduction to Koszul algebras. (English summary) *Representation theory and algebraic geometry* (*Waltham, MA*, 1995), 45–62, *London Math. Soc. Lecture Note Ser.*, 238, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:16002**) 16E99

— (*with* Carlson, Jon F.; Schneider, Gerhard J. A.) Computing Ext algebras for finite groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 317–325. (D. F. Holt) **98k:20086** 20J05 (20–04)

— (*with* Marcos, Eduardo do Nascimento) Graded rings of local finite representation type. (English summary) *Quaestiones Math.* **20** (1997), *no.* 2, 215–232. (Wolfgang Rump) **98i:16016** 16G60 (16W50)

Green, J. J. Banach algebras of topologically bounded index. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 51–62. (R. J. Loy) **98j:46046** 46H05 (46J45)

Green, James A. Quantum groups, Hall algebras and quantized shuffles. *Finite reductive groups* (*Luminy*, 1994), 273–290, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Shlomo Gelaki) **98h:16061** 16W30

Green, Jerry (*with* Laffont, Jean-Jacques) Nonverifiability, costly renegotiation and efficiency. (English and French summaries) *Ann. Économ. Statist.* **1994**, *no.* 36, 81–95. (Summary) **98c:90029** 90A43 (90D12)

Green, M. R. (*with* Crighton, D. G.) Instability properties of interacting jets. (English summary) *J. Fluid Mech.* **350** (1997), 331–349. (Summary) **98j:76052** 76E99 (76B10, 76J20)

Green, Michael B. World-volumes and string target spaces. (English summary) *STU*-dualities and non-perturbative phenomena in superstrings and supergravity (Geneva, 1995). *Fortschr. Phys.* **44** (1996), *no.* 6-7, 551–563. (Summary) **98a:81172** 81T30 (81–02)

— (*with* Lambert, N. D.; Papadopoulos, George J.; Townsend, Paul K.) Dyonic p-branes from self-dual $(p+1)$-branes. (English summary) *Phys. Lett. B* **384** (1996), *no.* 1-4, 86–92. (Summary) **98f:81256** 81T30 (83E30)

— (*with* Baulieu, Laurent; Rabinovici, Eliezer) A unifying topological action for heterotic and type II superstring theories. (English summary) *Phys. Lett. B* **386** (1996), *no.* 1-4, 91–98. (Summary) **98i:81189** 81T30

— (*with* Harvey, Jeffrey A.; Moore, Gregory W.) 1-brane inflow and anomalous couplings on D-branes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 47–52. (Summary) **98b:81193** 81T30

— (*with* Baulieu, Laurent; Rabinovici, Eliezer) Superstrings from theories with $N > 1$ world-sheet supersymmetry. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 119–134. (Tsou Sheung Tsun) **98j:81251** 81T30 (83E30)

— (*with* Gutperle, Michael) Configurations of two D-instantons. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 69–78. (Hitoshi Nishino) **98c:81165** 81T30 (81T13, 81T60, 83E30)

— (*with* Vanhove, Pierre) D-instantons, strings and M-theory. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 122–134. (Summary) **98j:81273** 81T30

— (*with* Gutperle, Michael; Vanhove, Pierre) One loop in eleven dimensions. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 177–184. (Summary) **98g:83103** 83E30 (81T30)

Green, Michael L. Planar stochastic integration relative to quasimartingales. *Real and stochastic analysis*, 65–157, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Yu. S. Mishura) **98i:60047** 60H05 (60G44, 60G60)

Green, Peter J. (*with* Richardson, Sylvia) On Bayesian analysis of mixtures with an unknown number of components. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 731–792. 62F15

— (*with* Richardson, Sylvia) Corrigendum: "On Bayesian analysis of mixtures with an unknown number of components" [J. Roy. Statist. Soc. Ser. B **59** (1997), no. 4, 731–792]. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 661. 62F15

Green, R. M. (*with* Fan, C. Kenneth) Monomials and Temperley-Lieb algebras. (English summary) *J. Algebra* **190** (1997), *no.* 2, 498–517. (Robert Bédard) **98a:20037** 20F55 (20G05)

— Hyperoctahedral Schur algebras. (English summary) *J. Algebra* **192** (1997), *no.* 1, 418–438. (Stuart Martin) **98b:20014** 20C20 (20C30, 20G05)

— Positivity properties for q-Schur algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 401–414. (Stuart Martin) **98g:17018** 17B37 (17B10, 20G05)

cuninghame-Green, Raymond A. *see* **Cuninghame-Green, Raymond A.**

Greenbaum, Anne ★ Iterative methods for solving linear systems. Frontiers in Applied Mathematics, 17. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1997. xiv+220 *pp. ISBN* 0-89871-396-X (R. P. Tewarson) **98j:65023** 65F10 (65–02, 65F50)

— Estimating the attainable accuracy of recursively computed residual methods. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 535–551. (Heike Faßbender) **98c:65048** 65F10 (65F15)

Greenberg, A. G. (*with* Coffman, Edward G., Jr.; Flatto, Leopold; Gilbert, E. N.) An approximate model of processor communication rings under heavy load. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 61–67. (Summary) **98h:68015** 68M10

Greenberg, Harvey J. Consistency, redundancy, and implied equalities in linear systems. (English summary) *Ann. Math. Artificial Intelligence* **17** (1996), *no.* 1-2, 37–83. (D. Klatte) **98c:90074** 90C08 (65F35)

— An annotated bibliography for post-solution analysis in mixed integer programming and combinatorial optimization. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 97–147, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90–00 (00A15, 90C11, 90C27)

— *see also* **Advances in sensitivity analysis and parametric programming**, **98g:90003**

Greenberg, Irwin Markov chain approximation methods in a class of level-crossing problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 153–158. 90B22 (90B25)

Greenberg, James M. (*with* Le Roux, Alain-Yves; Baraille, Rémy; Noussair, A.) Analysis and approximation of conservation laws with source terms. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1980–2007. (Stanisław Burys) **98k:65049** 65M06 (35L65)

Greenberg, Joseph Situation approach to cooperation. *Cooperation: game-theoretic approaches (Stony Brook, NY, 1994)*, 143–166, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12

Greenberg, O. W. (*with* Corley, S. R.) Bound states in Galilean-invariant quantum field theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 571–581. (C. A. Hurst) **98b:81270** 81T99 (81U99)

— Spin-statistics, spin-locality, and TCP: three distinct theorems. (English summary) *Phys. Lett. B* **416** (1998), *no.* 1-2, 144–149. (Stephen J. Summers) **98k:81121** 81S05 (81T05)

Greenberg, Ralph The structure of Selmer groups. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11125–11128. (Fernando Rodriguez Villegas) **98m:11123** 11R34 (11G10, 11R23)

Greenberg, William (*with* Yao, Aixiang) Kinetic equations for Enskog gases with piecewise constant intermolecular potentials. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 139–152. (Carlo Cercignani) **98j:82058** 82C40 (76P05)

Greenberg, William R. (*with* Klein, Abraham; Li, Ching-Teh) Invariant tori and Heisenberg matrix mechanics: a new window on the quantum-classical correspondence. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 281–293, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q20

Greenberger, Daniel M. *see* **Fundamental problems in quantum theory**, **98f:81006**

Greene, Brian R. String theory on Calabi-Yau manifolds. (English summary) *Fields, strings and duality (Boulder, CO, 1996)*, 543–726, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruce Hunt) **98i:81203** 81T30 (14J32, 32G81, 32J81, 83E30)

— Constructing mirror manifolds. (English summary) *Mirror symmetry, II*, 29–69, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Anatoly Libgober) **98g:32034** 32G81 (14J32, 32G20, 32J81, 81T30, 81T40)

— (*with* Chiang, Ti-Ming; Distler, Jacques) Some features of (0, 2) moduli space. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 590–616. (Michael A. I. Flohr) **98m:32036** 32G81 (14J32, 32G13, 32J81, 81T30)

— (*with* Kanter, Yakov) Small volumes in compactified string theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 127–145. (Angel Maria Uranga) **98h:81095** 81T30 (32J81, 83E30)

— (*with* Douglas, Michael R.; Morrison, David R.) Orbifold resolution by D-branes. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 84–106. (Angel Maria Uranga) **98k:81206** 81T30 (83E30)

— *see also* **Fields, strings and duality**, **98f:81005**

Greene, Curtis (*with* Fomin, S. V.; Reiner, Victor; Shimozono, Mark) Balanced labellings and Schubert polynomials. (English summary) *European J. Combin.* **18** (1997), *no.* 4, 373–389. (Witold Kraśkiewicz) **98j:05130** 05E10 (05E05, 05E15)

Greene, John Principal ideal domains are almost Euclidean. *Amer. Math. Monthly* **104** (1997), *no.* 2, 154–156. (From the text) **98c:13028** 13F10 (13F07)

Greene, John M. (*with* del-Castillo-Negrete, D.; Morrison, P. J.) Renormalization and transition to chaos in area preserving nontwist maps. (English summary) *Phys. D* **100** (1997), *no.* 3-4, 311–329. (Summary) **98g:58150** 58F27 (58F13)

— (*with* Boratav, Oluş N.) Evidence for the development of singularities in Euler flow. (English summary) *Phys. D* **107** (1997), *no.* 1, 57–68. 35Q30 (76C05)

— (*with* Miller, Robert L.[2]; Chu, M. S.; Lin-Liu, Y. R.; Waltz, R. E.) Noncircular, finite aspect ratio, local equilibrium model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 973–978. 76X05

Greene, Robert E. (*with* Krantz, Steven G.) ★ Function theory of one complex variable. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+496 *pp. ISBN* 0-471-80468-1 (D. Mitrović) **98d:30001** 30–01 (30C20, 30D55)

— A genealogy of noncompact manifolds of nonnegative curvature: history and logic. (English summary) *Comparison geometry (Berkeley, CA, 1993–94)*, 99–134, *Math. Sci. Res. Inst. Publ.*, 30, *Cambridge Univ. Press, Cambridge*, 1997. (Luis Guijarro) **98g:53069** 53C21 (53C20, 53C23)

Greengard, Leslie (*with* Rokhlin, Vladimir V.) A fast algorithm for particle simulations [MR 88k:82007]. (English summary) With an introduction by John A. Board, Jr. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 279–292. (*see* **98h:70003**) 65–04 (70–08, 76M25, 78–08, 82–08)

— (*with* Cheng, Hongwei[2]) On the numerical evaluation of electrostatic fields in dense random dispersions of cylinders. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 629–639. (Summary) **98i:78008** 78A25 (78–08)

— (*with* Cheng, Hongwei[1]) A method of images for the evaluation of electrostatic fields in systems of closely spaced conducting cylinders. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 122–141 (*electronic*). (Summary) **98m:78018** 78A30 (65R20, 78–08)

Greenhalgh, Andrew S. A model for random random-walks on finite groups. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 49–56. (Martin V. Hildebrand) **98a:60007** 60B15 (60J15)

Greenhalgh, David The effect of heterogeneity in sharing rates and choice of shooting gallery on the spread of HIV amongst sharing injecting drug users. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 115–122, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 92C60

Greenhouse, Joel (*with* Wasserman, Larry) A practical, robust method for Bayesian model selection: a case study in the analysis of clinical trials. (English summary) With a discussion by M. J. Bayarri and a rejoinder by the authors. *Bayesian robustness (Rimini, 1995)*, 41–62, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:62007**) 62F15 (62F35)

Greenhouse, Samuel W. (*with* Gastwirth, Joseph L.) The joint asymptotic distribution of the maximum likelihood and Mantel-Haenszel estimators of the common odds ratio in k 2 × 2 tables. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 264–273, *Springer, New York*, 1996. (Summary) **98b:62102** 62H17

Greenhow, Martin (*with* Moyo, Simiso) Water entry and exit of horizontal circular cylinders. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 551–563. (Summary) **98a:76003** 76B10 (76M25)

Greenlees, J. P. C. (*with* Benson, David John) Commutative algebra for cohomology rings of virtual duality groups. (English summary) *J. Algebra* **192** (1997), *no.* 2, 678–700. (Ian J. Leary) **98d:20057** 20J05 (20G10, 55M05)

— (*with* Benson, David John) Commutative algebra for cohomology rings of classifying spaces of compact Lie groups. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 41–53. (Mark Hovey) **98j:57054** 57T10 (13H10, 14B15, 55N10)

— (*with* Sadofsky, Hal) Tate cohomology of theories with one-dimensional coefficient ring. (English summary) *Topology* **37** (1998), *no.* 2, 279–292. (Edgar H. Brown, Jr.) **98k:55003** 55N15 (55N20, 55P42, 55Q40)

Greenman, Chris Fractal properties of spacing distributions. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 915–926. (Jens Bolte) **98g:11093** 11K55 (11K50, 11Z05, 28A80, 81Q10)

— Is the level spacing distribution of the infinite-dimensional harmonic oscillator that of a Poisson process? (English summary) *J. Phys. A* **30** (1997), *no.* 3, 927–936. (Jens Bolte) **98g:11094** 11K55 (11Z05, 81Q10)

Greenshtein, Eitan (*with* Torgersen, Erik) Statistical information and expected number of observations for sequential experiments. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 229–240. (Dieter Mussmann) **98f:62012** 62B15 (62L99)

— (*with* David, Israel; Mehrez, Abraham) A dynamic-programming approach to continuous-review obsolescent inventory problems. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 757–774. (Summary) **98m:90053** 90B05 (90B35)

Greensite, J. (*with* Carlini, Alberto) A worldline approach to quantum gravity. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 267–271, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C45 (81V17)

Greenspan, Donald Completely conservative, covariant numerical solution of systems of ordinary differential equations with applications. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 63–87 (1997). (Summary) **98b:70014** 70F10 (34A99, 65M06, 70–08)

— ★ Particle modeling. (English summary) Modeling and Simulation in Science, Engineering, & Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+274 *pp. ISBN* 0-8176-3985-3 (Benedict J. Leimkuhler) **98m:70019** 70F10 (65C20, 70–08, 76M25)

— (*with* Korlie, M. S.) Particle simulation of carbon dioxide bubbles in water. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 23–37. (Summary) **98j:76110** 76M25 (76D99)

— A molecular mechanics-type approach to turbulence. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 85–96. 76F99 (76M35)

Greenwood, G. W. Chaotic behavior in evolution strategies. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 343–350. (Summary) **98i:90074** 90C27 (58F13, 58F40)

Greenwood, James Anthony Adhesion of elastic spheres. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1277–1297. (Summary) **98e:73120** 73T05

Greenwood, Priscilla E. (*with* Sun, Jiaming) Equivalences of the large deviation principle for Gibbs measures and critical balance in the Ising model. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 149–164. (Christian Maes) **98b:60054** 60F10 (60G60, 60K35, 82B20)

— (*with* Wefelmeyer, W.) Maximum likelihood estimator and Kullback-Leibler information in misspecified Markov chain models. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 169–178; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 1, 103–111 (1998). (Paul I. Nelson) **98k:62032** 62F12 (62M05)

Greferath, Marcus Cyclic codes over finite rings. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 273–277. 94B05
Greffet, Jean-Jacques (*with* Carminati, Rémi; Nieto-Vesperinas, Manuel) Reciprocity of evanescent electromagnetic waves. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 3, 706–712. (Summary) **98k:78031** 78A45
patuzzo Grego, P. *see* **Patuzzo Grego, P.**
Grégoire, G. (*with* Antoniadis, Anestis; Vial, P.) Random design wavelet curve smoothing. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 225–232. (Summary) **98k:62045** 62G05
Grégoire, Jean-Charles *see* **Spin verification system, 98f:68182**
brémond-Grégoire, Patrice *see* **Brémond-Grégoire, Patrice**
Gregoire, Timothy G. *see* **Modelling longitudinal and spatially correlated data, 98h:62003**
Gregori, Andrea (*with* Kiritsis, Elias; Kounnas, Costas; Obers, N. A.; Petropoulos, P. M.; Pioline, B.) R^2 corrections and non-perturbative dualities of $N = 4$ string ground states. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 423–476. (Summary) **98j:81274** 81T30 (83E30)
Gregori, Giovanni Generalized solutions for a class of non-uniformly elliptic equations in divergence form. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 581–617. (Michelangelo Franciosi) **98e:35048** 35J25 (35D10)
Gregori, V. (*with* Ferrer, Jesús) Topological linearly ordered spaces determined by Pervin's quasi-uniformity. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 16–21, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54058** 54E55 (54E35, 57N17)
— (*with* Alegre Gil, Carmen; Ferrer, Jesús) Quasi-uniformities on real vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 929–937. 46A16 (54E15)
Gregory, Allan W. (*with* Head, Allen C.; Raynauld, Jacques) Measuring world business cycles. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 677–701. 90A16 (90A60)
Gregory, John[1] (*with* Agrawal, Om Prakash; Pericak-Spector, Kathleen) A Bliss-type multiplier rule for constrained variational problems with time delay. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 702–711. (Mei-Qin Chen) **98g:49023** 49M29 (49M37)
— (*with* Banerjee, Dean) New general analytic and numerical methods in constrained optimization with applications to optimal consumption. (English summary) *Util. Math.* **52** (1997), 123–128. 90A16 (90C90)
Gregory, John A. (*with* Qu, Rui Bin) Nonuniform corner cutting. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 763–772. (Introduction) **98m:65025** 65D17 (68U07)
Gregory, R. Douglas (*with* Gu, Chonghua; Wan, Frederic Y. M.) The cantilever strip plate under torsion, bending or flexure at infinity. (English summary) *J. Elasticity* **43** (1996), *no.* 2, 109–136. (Ognyan Kounchev) **98a:73040** 73K10 (73C99)
— (*with* Milac, Thomas I.; Wan, Frederic Y. M.) The axisymmetric deformation of a thin, or moderately thick, elastic spherical cap. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 1, 67–94. (From the summary) **98j:73057** 73K15 (73C02)
Gregory, Ruth (*with* Laflamme, Raymond) A classical instability for black strings and p-branes. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 190–194, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83118** 83E30 (83C75)
— (*with* Harvey, Jeffrey A.; Moore, Gregory W.) Unwinding strings and T-duality of Kaluza-Klein and H-monopoles. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 283–297. (Paulo Moniz) **98k:81214** 81T30 (83E30)
— (*with* Santos, Caroline) Cosmology in Brans-Dicke theory with a scalar potential. (English summary) *Ann. Physics* **258** (1997), *no.* 1, 111–134. (Manoel F. Borges) **98g:83088** 83D05 (83F05)
— (*with* Anderson, Malcolm R.; Bonjour, Filipe; Stewart, John Malcolm) Effective action and motion of a cosmic string. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8014–8028. (Summary) **98i:83089** 83F05 (81V17, 83E30)
— (*with* Achúcarro, Ana) Selection rules for splitting strings. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1972–1975. (Summary) **98h:83084** 83E30 (81T30, 83C57, 83F05)
— (*with* Dando, Owen) Global monopoles in dilaton gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 985–995. (Summary) **98m:81211** 81V17 (83C99)
Greguš, M. *see* **Greguš, Michal**
Greguš, M., Jr. (*with* Greguš, Michal) On a perturbed nonlinear third order differential equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 121–126. (James M. D'Archangelo) **98h:34070** 34C10 (34C15)
Greguš, Michal (*with* Greguš, M., Jr.) On a perturbed nonlinear third order differential equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 121–126. (James M. D'Archangelo) **98h:34070** 34C10 (34C15)
— *see also* **Šeda, Valter, 98f:01087**
Gréhan, G. (*with* Ren, K. F.; Gouesbet, G.) Scattering of a Gaussian beam by an infinite cylinder in the framework of generalized Lorenz-Mie theory: formulation and numerical results. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 11, 3014–3025. (Summary) **98k:78042** 78A45
— (*with* Gouesbet, G.; Ren, K. F.) Rigorous justification of the cylindrical localized approximation to speed up computations in the generalized Lorenz-Mie theory for cylinders. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 2, 511–523. (Summary) **98k:78037** 78A45 (78–08)
de Greiff, Alexis *see* **De Greiff, Alexis**
Greig, Malcolm (*with* Abel, Julian) Resolvable balanced incomplete block designs with block size 8. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 123–140. (Chester J. Salwach) **98d:05026** 05B05
Greilsheimer, Deborah L. (*with* Adams, Colin C.; Brennan, Bevin M.; Woo, Alexander K.) Stick numbers and composition of knots and links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 149–161. (Thang T. Q. Le) **98h:57010** 57M25
Greimann, Dirk Die Idee hinter Tarskis Definition von Wahrheit. (English summary) [The idea behind Tarski's definition of truth] *J. Gen. Philos. Sci.* **28** (1997), *no.* 1, 121–158. (Roman Murawski) **98i:03009** 03A05
Greiner, John Weak polymorphism can be sound. (English summary) *J. Funct. Programming* **6** (1996), *no.* 1, 111–141. (Summary) **98c:68031** 68N15 (68Q55)
Greiner, Peter C. (*with* Beals, Richard; Gaveau, Bernard) Subelliptic geometry and fundamental solutions. (English summary) *Partial differential equations and their applications (Toronto, ON, 1995)*, 1–7, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:35025** 35H05 (35A08, 58G11)
— (*with* Beals, Richard; Gaveau, Bernard) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. I. *Bull. Sci. Math.* **121** (1997), *no.* 1, 1–36. (Gerald B. Folland) **98b:35032a** 35H05 (32F40, 35A08, 35C20)
— (*with* Beals, Richard; Gaveau, Bernard) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. II. *Bull. Sci. Math.* **121** (1997), *no.* 2, 97–149. (Gerald B. Folland) **98b:35032b** 35H05 (32F40, 35A08, 35C20)
— (*with* Beals, Richard; Gaveau, Bernard) Complex Hamiltonian mechanics and parametrices for subelliptic Laplacians. III. *Bull. Sci. Math.* **121** (1997), *no.* 3, 195–259. (Gerald B. Folland) **98b:35032c** 35H05 (32F40, 35A08, 35C20)
— (*with* Beals, Richard; Gaveau, Bernard) Subelliptic geometry. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 25–39, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Chu Li Fu) **98m:35026** 35H05 (35A08, 58G99)
— *see also* **Partial differential equations and their applications, 98e:35003**
Greiner, Richard On a theorem of Andrievskii and Ruscheweyh. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 83–90, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (From the introduction) **98m:30025** 30C55
Greiner, Russell The complexity of theory revision. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1162–1168, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68Q25 (03B45, 03B60, 03B70, 68T27)
— (*with* Schuurmans, Dale) Practical PAC learning. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1169–1175, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T05 (68Q99)
— (*with* Grove, Adam J.; Kogan, A. Yu.) Knowing what doesn't matter: exploiting the omission of irrelevant data. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 345–380. (Summary) **98k:68146** 68T05
Greiner, Walter ★ Relativistic quantum mechanics. (English summary) Wave equations. Translated from the second German (1987) edition. With a foreword by D. A. Bromley. Second edition. *Springer-Verlag, Berlin*, 1997. xx+424 *pp. ISBN* 3-540-61621-7 (Editors) **98i:81001** 81-01 (35–01)
— Lawrence C. Biedenharn: 1922–1996. *Found. Phys.* **27** (1997), *no.* 7, 965–967. 01A70 (81–03)
— (*with* Ludu, Andrei) Quasi-continuous symmetries of non-Lie type. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1123–1138. (Violeta V. Tretynyk) **98j:81161** 81R50 (81S05)
Greither, Cornelius On normal integral bases in ray class fields over imaginary quadratic fields. *Acta Arith.* **78** (1997), *no.* 4, 315–329. (Eugenio Jesús Gómez Ayala) **98e:11130** 11R33 (11R27, 11R37)
Greitzer, S. L. (*with* Coxeter, Harold Scott MacDonald) ★ Redécouvrons la géométrie. (French) [Geometry revisited] Translated from the English by R. Marchand. Reprint of the 1971 French translation. *Éditions Jacques Gabay, Paris*, 1997. x+211 *pp. ISBN* 2-87647-134-5 (O. Giering) **98c:51002** 51-01
gaponov-Grekhov, A. V. *see* **Gaponov-Grekhov, A. V.**
Grell, J. C. (*with* Farrell, E. J.) On circuit polynomials and determinants of matrices. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 139–146. (Summary) **98i:05117** 05C50
Grell, Juliana (*with* Grabowski, Jens-Uwe; Zlatina, Lubov) Space models of molecules based on interatomic distances and point symmetry group. (English summary) *Match No.* 34 (1996), 123–155. (V. I. Bykov) **98b:92027** 92E10 (65D15)
Grellier, Sandrine (*with* Fornaess, John Erik) Exploding orbits of Hamiltonian and contact structures. *Complex analysis and geometry (Trento, 1993)*, 155–171, *Lecture Notes in Pure and Appl. Math.*, 173, *Dekker, New York*, 1996. (A. Klic (Zbl 852.58072)) **98g:32043** 32H99 (58F05)
— (*with* Bonami, Aline; Chang, Der-Chen) Commutation properties and Lipschitz estimates for the Bergman and Szegö projections. *Math. Z.* **223** (1996), *no.* 2, 275–302. (Gregor Herbort) **98a:32033** 32H10 (47B38)
Gremm, Martin Coulomb branch of $N = 1$ supersymmetric $SU(N_c) \times SU(N_c)$ gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2537–2542. (Summary) **98k:81267** 81T60 (14H45, 81T13)
Grenander, Ulf ★ Elements of pattern theory. (English summary) Johns Hopkins Studies in the Mathematical Sciences. *Johns Hopkins University Press, Baltimore, MD*, 1996. xiv+226 *pp. ISBN* 0-8018-5188-2 (Igor Rivin) **98e:68256** 68U10 (92C15)
Grenfell, B. T. (*with* Keeling, M. J.) Effect of variability in infection period on the persistence and spatial spread of infectious diseases. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 207–226. 92C60 (92D30)
Grenier, Emmanuel Oscillations in quasineutral plasmas. (English summary) *Comm. Partial Differential Equations* **21** (1996), *no.* 3-4, 363–394. (Gershon Wolansky) **98g:82033** 82C22 (35Q99, 76X05, 82D10)
— (*with* Di Lisio, R.; Pulvirenti, Mario) On the regularization of the pressure field in compressible Euler equations. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 227–238. (Denis Serre) **98h:76114** 76N10 (35L65, 35Q30)
— (*with* Masmoudi, N.) Ekman layers of rotating fluids, the case of well prepared initial data. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 953–975. (Yuri N. Skiba) **98f:76076** 76U05 (35Q35, 76D05, 76D15, 86A10)
— Pseudo-differential energy estimates of singular perturbations. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 9, 821–865. (Peter R. Popivanov) **98g:35014** 35B25 (35L60, 35S10, 76U05, 76X05)
— Oscillatory perturbations of the Navier-Stokes equations. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 6, 477–498. (Marek Capiński) **98h:35189** 35Q30 (35B25, 76D05)
— Boundary layers for parabolic regularizations of totally characteristic quasilinear parabolic equations. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 965–990. (Lumin Jiang) **98m:35085** 35K55 (35B25, 35C20)
— (*with* Di Lisio, R.; Pulvirenti, Mario) The convergence of the SPH method. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 95–102. (Summary) **98i:76063** 76M25 (76N10)

— (*with* Guès, Olivier) Boundary layers for viscous perturbations of noncharacteristic quasilinear hyperbolic problems. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 110–146. (Michael Renardy) **98j:35026** 35C20 (35B25, 35L60)

— Semiclassical limit of the nonlinear Schrödinger equation in small time. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 523–530. (Nakao Hayashi) **98d:35204** 35Q55

Grenier, Jean-Pierre Parties maigres de la droite hyperfinie. [Meager sets of the hyperfinite line] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 4, 9 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 03H05 (26E35)

— Complétion d'une classe de demi-treillis topologiques, applications. (French summary) [Extension of a class of topological semilattices, applications] *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 4, 411–422. (Marcel Erné) **98h:06012** 06A12 (03H05, 06F30, 28A12, 54H12, 54J05)

— Un exemple de turbulence. [An example of turbulence] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 2, 8 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 10, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1997. (From the text) **98d:34075** 34C99 (03H05, 34A34, 76F99)

Grenov, A. I. (*with* Tuzikov, A. V.; Margolin, G. L.) Convex set symmetry measurement via Minkowski addition. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 1, 53–68. (Béla Uhrin) **98a:52004** 52A10 (68U10)

Gresbrand, Anke Rational *B*-splines with prescribed poles. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 151–158. (S. Dubuc) **98b:65013** 65D07

Gresho, P. M. (*with* Minev, P. D.) A remark on pressure correction schemes for transient viscous incompressible flow. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 335–346. 76M25

Gresik, Thomas A. (*with* Bond, Eric W.) Competition between asymmetrically informed principals. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 227–240. (Summary) **98c:90190** 90D10 (90A08)

Gretsky, Neil E. (*with* Ostroy, Joseph M.; Zame, William R.) An application of measure theory to perfect competition. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 113–121, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Introduction) **98a:90038** 90A53 (28B05)

Greuel, Bernd Über Summen zahlentheoretischer Funktionen. [On sums of number-theoretic functions] *Arch. Math.* (*Basel*) **67** (1996), *no.* 5, 383–394. (Adolf Hildebrand) **98c:11095** 11N37

— Two results on arithmetical functions. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 80–86. (Wolfgang Schwarz) **98g:11106** 11N37

Greuel, Gert-Martin (*with* Grassmann, Hubert; Martin, Bernd; Neumann, W.; Pfister, Gerhard; Pohl, W.; Schönemann, H.; Siebert, Thomas) On an implementation of standard bases and syzygies in SINGULAR. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 235–249. (Summary) **98i:13051** 13P10 (13D02)

— Description of SINGULAR: a computer algebra system for singularity theory, algebraic geometry and commutative algebra. (English summary) *Euromath Bull.* **2** (1996), *no.* 1, 161–172. (Francisco Jesús Castro-Jiménez) **98d:13001** 13–04 (13P10, 14–04, 68Q40)

— (*with* Lossen, Christoph) Equianalytic and equisingular families of curves on surfaces. (English summary) *Manuscripta Math.* **91** (1996), *no.* 3, 323–342. (Summary) **98g:14023** 14H10 (14D15)

— (*with* Drozd, Yu. A.) Semicontinuity for representations of one-dimensional Cohen-Macaulay rings. *Math. Ann.* **306** (1996), *no.* 2, 371–389. (Yuji Yoshino) **98a:16019** 16G50 (13C14, 14B12)

— (*with* Lossen, Christoph; Shustin, E. I.) New asymptotics in the geometry of equisingular families of curves. *Internat. Math. Res. Notices* **1997**, *no.* 13, 595–611. (Luca Chiantini) **98g:14039** 14J29 (14H10)

— (*with* Lossen, Christoph; Shustin, E. I.) Geometry of families of nodal curves on the blown-up projective plane. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 251–274. (Allen Tannenbaum) **98j:14034** 14H10 (14H20)

Greven, Andreas (*with* Bramson, Maury; Cox, J. T.) Invariant measures of critical spatial branching processes in high dimensions. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 56–70. (Luis G. Gorostiza) **98a:60148** 60K35 (60J80)

— (*with* Baillon, J.-B.; Clément, Philippe; den Hollander, Frank) On the attracting orbit of a nonlinear transformation arising from renormalization of hierarchically interacting diffusions. II. The non-compact case. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 236–298. (Jean Vaillancourt) **98g:60177** 60K35 (47H99, 47N30)

Grever, W. (*with* Blaschke-Kaltenbacher, Barbara; Engl, Heinz W.; Klibanov, Michael V.) An application of Tikhonov regularization to phase retrieval. (English summary) *Nonlinear World* **3** (1996), *no.* 4, 771–786. (Hans-Jürgen Reinhardt) **98d:65080** 65J20 (42A38, 65T20)

Grey, D. R. (*with* Biggins, J. D.) A note on the growth of random trees. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 339–342. (Summary) **98j:60116** 60J80

Gribanov, V. (*with* Bellucci, S.; Ivanov, Evgeniĭ Alekseevich[2]; Krivonos, S.; Pashnev, A.) Non-linear realizations of superconformal and W-algebras as embeddings of strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 477–501. (Summary) **98j:81115** 81R10 (81T30, 81T40)

Gribkovskaya, I. V. (*with* Kalinin, A. I.) Asymptotic behavior of the solution of the time optimality problem for a linear singularly perturbed system that contains parameters of variable orders of smallness at the derivatives. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1275–1284, 1436; *translation in Differential Equations* **31** (1995), *no.* 8, 1219–1228 (1996). (Iordan I. Slavov) **98a:49040** 49K40 (34E15)

— (*with* Kalinin, A. I.) Asymptotic optimization of linear dynamical systems containing parameters of different orders of smallness multiplying the derivatives. (Russian. English and Russian summaries) *Vestn. Belorus. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 3, 52–55, 81. 49K40 (49M05)

Gribomont, E. Pascal Preprocessing for invariant validation. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 256–270, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q60 (68Q10, 68T15)

Griebel, Michael (*with* Knapek, S.) A multigrid-homogenization method. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 187–202, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98g:65120** 65N55 (73B27)

— (*with* Starke, Gerhard) Multilevel preconditioning based on discrete symmetrization for convection-diffusion equations. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 165–183. (Summary) **98e:65039** 65F35 (65N55, 76M25, 76Rxx)

Griebl, Martin (*with* Collard, Jean-François) Array dataflow analysis for explicitly parallel programs. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 2, 117–131. 68Q10 (68N15, 68N20)

Grieco, M. (*with* Andreatta, A.; Zucchetti, B.) Models of real algebraic surfaces equipped with a real part and whose Hessian has no real points. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 2, 257–268 (1995). (A. Tognoli) **98a:14071** 14P05

Grieder, Ralph The infinite order of the symplectic classes in the cohomology of the stable mapping class group. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 257–269, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Darren D. Long) **98m:20067** 20J05 (55R40, 57M07, 57M60)

Griego, Jorge The Kauffman bracket and the Jones polynomial in quantum gravity. (English summary) *Nuclear Phys. B* **467** (1996), *no.* 1-2, 332–352. (Stephen F. Sawin) **98a:83057** 83C45 (57M25)

— Is the third coefficient of the Jones knot polynomial a quantum state of gravity? (English summary) *Phys. Rev. D* (3) **53** (1996), *no.* 12, 6966–6978. (Stephen F. Sawin) **98a:83058** 83C45 (57M25)

— (*with* Gambini, Rodolfo; Pullin, Jorge) Chern-Simons states in spin-network quantum gravity. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 260–266. (Seth A. Major) **98i:83032** 83C45 (81V17, 83C27)

van de Griend, Pieter Inuit knots. *History and science of knots*, 107–132, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (01A07, 57–03, 57M25)

— Knots at sea. *History and science of knots*, 135–148, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (57–03, 57M25)

— A history of topological knot theory. *History and science of knots*, 205–260, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A60 (01A55, 57–03, 57M25)

— On the true love knot. *History and science of knots*, 397–417, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (57–03, 57M25)

— *see also* **History and science of knots, 98e:01003**

Grier, David Alan Gertrude Blanch of the Mathematical Tables Project. (English summary) *IEEE Ann. Hist. Comput.* **19** (1997), *no.* 4, 18–27. (Summary) **98f:01065** 01A70 (68–03)

Gries, David (*with* Aaron, Eric) Formal justification of underspecification for S5. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 115–121. (Summary) **98i:68184** 68Q60 (03B45)

— (*with* Reingold, Edward M.; Urban, Kenneth J.) K-M-P string matching revisited. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 217–223. (Summary) **98h:68099** 68Q20 (68Q25)

Griese, Birgit (*with* Stoppel, Hannes) ★ Übungsbuch zur linearen Algebra. (German. German summary) [Exercise book for linear algebra] Aufgaben und Lösungen. [Problems and solutions] Vieweg Studium: Grundkurs Mathematik [Vieweg Studies: Basic Mathematics Course], 88. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. $x+270$ *pp.* *ISBN* 3-528-07288-1 15–01 (00A07)

Griesemer, M. Exponential bounds for continuum eigenfunctions of N-body Schrödinger operators. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 854–857. (Mihai Pascu) **98j:81080** 81Q10 (35J10, 35P05, 47F05, 47N50, 81U10)

Grieser, Gunter Reflecting inductive inference machines and its improvement by therapy. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 325–336, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68238** 68T05 (68Q99)

Grießhammer, Harald (*with* Lehmann, Dirk; Seeger, M.) Introduction to supersymmetry and exact nonperturbative results in SUSY-QCD. *Lectures on QCD*, 217–271, *Lecture Notes in Phys.*, 481, *Springer, Berlin*, 1997. (*see* **98k:81306**) 81T60 (81–02, 81V05)

— *see also* **Lectures on QCD, 98k:81306**; **Negele, J. W.**, (**98k:81306**) *and* **Jackiw, Roman**, (**98k:81306**)

Griewank, Andreas (*with* Corliss, George F.; Henneberger, P.; Kirlinger, G.; Potra, Florian A.; Stetter, H. J.) High-order stiff ODE solvers via automatic differentiation and rational prediction. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 114–125, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L05

— (*with* Restrepo, Juan Mario; Leaf, Gary K.) Circumventing storage limitations in variational data assimilation studies. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1586–1605 (*electronic*). 86A05 (86–08, 86A10, 86A22)

Griffeath, David (*with* Gravner, Janko) First passage times for threshold growth dynamics on $\mathbf{Z}^2$. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 1752–1778. (Ronald Meester) **98c:60140** 60K35

— (*with* Gravner, Janko) Multitype threshold growth: convergence to Poisson-Voronoĭ tessellations. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 615–647. (Dimitri Petritis) **98h:60146** 60K35

— (*with* Gravner, Janko) Nucleation parameters for discrete threshold growth on $\mathbf{Z}^2$. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 207–220. (Summary) **98g:60180** 60K35

Griffin, P. S. A note on random sums with nonrandom centering. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 333–348. (Tomasz J. Kozubowski) **98g:60040** 60F05 (60G50)

Griffioen, W. O. D. (*with* Bosscher, D. J. B.) Regularity for a large class of context-free processes is decidable. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 182–193, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68079** 68Q10 (68Q60)

Griffith, William S. Some redundancy results for continuum structure functions. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 49–57. (Summary) **98c:62190** 62N05

— A note on the characterization of the Barlow and Wu continuum structure functions. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 65–67. (Summary) **98m:90066**

90B25

Griffiths, D. V. (*with* Smith, I. M.) ★ Programming the finite element method. (English summary) Third edition. *John Wiley & Sons, Ltd., Chichester*, 1998. xii+534 *pp. ISBN* 0-471-96543-X (From the preface) **98m:65003** 65-01 (65-04, 65N30, 73V05)

Griffiths, David *see* **Griffiths, David Mark**

Griffiths, David F. The "no boundary condition" outflow boundary condition. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 4, 393–411. (Gert Lube) **98c:76065** 76M10 (65M60)

— (*with* Aves, Mark A.; Higham, Desmond J.) Does error control suppress spuriosity? (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 756–778. (T. E. Simos) **98b:65074** 65L05 (65L06, 65L20)

Griffiths, David Mark Length inequalities for systems of geodesic loops on a surface of genus two. I. (English summary) *Bull. London Math. Soc.* **28** (1996), *no.* 5, 505–508. (Summary) **98g:57022** 57N05 (57M60)

Griffiths, H. Brian (*with* Oldknow, Adrian J.) Triangles and trilinear coordinates. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 501–509. 51M16

Griffiths, Jerry B. (*with* Alekseev, G. A.) Gravitational waves with distinct wavefronts. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2869–2880. (Brian Edgar) **98j:83030** 83C35 (83C15, 83C22)

— (*with* Micciché, S.) The Weber-Wheeler-Bonnor pulse and phase shifts in gravitational soliton interactions. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 37–42. (Summary) **98d:83068** 83C99

— (*with* Podolský, Jiří) Impulsive gravitational waves generated by null particles in de Sitter and anti-de Sitter backgrounds. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4756–4767. (Maria Piedade Ramos) **98i:83026** 83C35

Griffiths, Robert B. (*with* Fuchs, Christopher A.; Gisin, Nicolas; Niu, Chi-Sheng; Peres, Asher) Optimal eavesdropping in quantum cryptography. I. Information bound and optimal strategy. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1163–1172. (V. Ya. Kreinovich) **98m:94034a** 94A60 (68P25, 68Q05, 81P99)

— (*with* Niu, Chi-Sheng) Optimal eavesdropping in quantum cryptography. II. A quantum circuit. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 2, 1173–1176. (V. Ya. Kreinovich) **98m:94034b** 94A60 (68P25, 68Q05, 81P99)

Griffiths, Ross W. (*with* Fink, Jonathan H.) Solidifying Bingham extrusions: a model for the growth of silicic lava domes. (English summary) *J. Fluid Mech.* **347** (1997), 13–36. 86A60 (76A05)

Grifone, Joseph (*with* Mehdi, Mohamad) Existence of conservation laws and characterization of recursion operators for completely integrable systems. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4609–4633. (Juha Pohjanpelto) **98h:58205** 58G35 (35A30, 35L65, 58F07)

Griga, V. (*with* Agop, Marcel; Zet, Gheorghe; Neacsu, C.) Post-Newtonian approximation of the Lagrangian metric $g_{il}(x, y) = h_{il}(x) + \alpha(1 - 1/n^2)y_i y_l$. (English summary) *Progr. Math. (Varanasi)* **27** (1993), *no.* 1-2, 1–8 (1996). 83C25 (83B05)

Grigalashvili, Z. (*with* Gordeziani, D.) Non-local problems in time for some equations of mathematical physics. (Russian and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua No.* 22 (1993), 108–114 (1994). (Summary) **98a:35050** 35K10 (35D05, 35J10, 35L10)

Grigelionis, B. On Hellinger transforms for solutions of martingale problems. (English summary) *Stochastic processes*, 107–116, *Springer, New York*, 1993. (R. Sh. Liptser) **98a:60101** 60J25 (60G42, 62M99)

— On the asymptotic behaviour of mixed Poisson processes. (Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 435–440; *reprinted in Lithuanian Math. J.* **36** (1996), *no.* 4, 347–351 (1997). (Jia Gang Wang) **98j:60045** 60F15 (60G44, 60J75)

Griggs, Jerrold R. Concentrating subset sums at k points. (English summary) *Bull. Inst. Combin. Appl.* **20** (1997), 65–74. (Summary) **98a:05006** 05A05

— (*with* Ouyang, Jianxin) (0, 1)-matrices with no half-half submatrix of ones. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 751–761. (N. J. Pullman) **98h:05043** 05B20

— (*with* Anstee, Richard; Sali, Attila) Small forbidden configurations. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 97–118. (Gautami Bhowmik) **98i:05035** 05B20 (05A05)

Griggs, T. S. (*with* Franek, F.; Rosa, Alexander) Large sets of mutually almost disjoint Steiner triple systems not from Steiner quadruple systems. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 59–67. (Luc Teirlinck) **98h:05030** 05B07

— (*with* Wilson, B. J.) Distance-regular graphs, MH-colourings and MLD-colourings. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 131–135. (Summary) **98f:05151** 05E30 (05C15)

— (*with* Grannell, M. J.; Mathon, Rudolf) Steiner systems $S(5, 6, v)$ with $v = 72$ and 84. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 357–359, S1–S9. (Summary) **98c:05020** 05B05

Grignani, G. (*with* Paniak, Lori D.; Semenoff, Gordon W.; Sodano, P.) Loop correlators and theta states in two-dimensional Yang-Mills theory. (English summary) *Ann. Physics* **260** (1997), *no.* 2, 275–310. (Edwin Langmann) **98i:81233** 81T40 (81T10, 81T13)

— (*with* Sodano, P.; Semenoff, Gordon W.; Tirkkonen, O.) Z-symmetry and Polyakov loops in hot abelian gauge theories. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1205–1214. (Summary) **98h:81125** 81V10

— (*with* Semenoff, Gordon W.; Sodano, P.; Tirkkonen, O.) G/G models as the strong coupling limit of topologically massive gauge theory. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 360–384. (Summary) **98f:81300** 81T40 (81T10)

Grigolini, Paolo Anomalous diffusion, spontaneous localizations and the correspondence principle. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 101–119, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Gian Carlo Ghirardi) **98f:81045** 81P99 (82B03)

— (*with* Giovannetti, Vittorio; Tesi, Giovacchino; Vitali, David) Wave-function collapse and objective randomness. (English summary) *Phys. Lett. A* **224** (1996), *no.* 1-2, 31–38. (A. Barchielli) **98c:81020** 81P15 (81V80)

Grigolyuk, È. I. (*with* Lopanitsyn, E. A.) Finite deflections and snapping of thin elastic shallow panels. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 865–876; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 851–861. 73H05 (73K10)

Grigorchuk, Rostislav Bounded cohomology of group constructions. (Russian) *Mat. Zametki* **59** (1996), *no.* 4, 546–550; *translation in Math. Notes* **59** (1996), *no.* 3-4, 392–394. (Vitaly A. Roman′kov) **98f:20037** 20J05 (20E06)

— Weight functions on groups, and criteria for the amenability of Beurling algebras. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 370–382, 479; *translation in Math. Notes* **60** (1996), *no.* 3-4, 274–282 (1997). (A. G. Myasnikov) **98a:43003** 43A20 (43A07, 46J99)

— On a problem of M. Day on nonelementary amenable groups in the class of finitely presented groups. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 774–775; *translation in Math. Notes* **60** (1996), *no.* 5-6, 580–582 (1997). 43A07

— (*with* Nagnibeda, Tatiana) Complete growth functions of hyperbolic groups. (English summary) *Invent. Math.* **130** (1997), *no.* 1, 159–188. (Stephen P. Humphries) **98i:20038** 20F34 (20F32, 57M07)

— (*with* de la Harpe, Pierre) On problems related to growth, entropy, and spectrum in group theory. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 1, 51–89. (Susan Hermiller) **98d:20039** 20F32 (20–02)

Grigore, D. R. On an order reduction theorem in the Lagrangian formalism. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 12, 1439–1447. (Miguel C. Muñoz-Lecanda) **98a:58058** 58E30 (49S05, 58A20, 70H35)

Grigore, O. (*with* Grigore, Ov.) Robust nonlinear control using neural networks. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **40** (1995), *no.* 3, 367–390. 93C83 (93C41)

Grigore, Ov. (*with* Grigore, O.) Robust nonlinear control using neural networks. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **40** (1995), *no.* 3, 367–390. 93C83 (93C41)

Grigorenko, N. L. (*with* Popovich, M.) On a differential game of two pursuers and one evader. (Russian. Russian summary) *Mathematical modeling and optimal control* (*Russian*), 70–73, *Izdat. Nizhegorod. Gos. Univ., Nizhnil Novgorod*, 1994. (*see* **98b:49003**) 90D26

— (*with* Kiselev, Yu. N.; Lagunova, N. V.; Silin, D. B.; Trin′ko, N. G.) Solution methods for two-player differential games. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 2. *Comput. Math. Model.* **8** (1997), *no.* 1, 34–48. (Patrick Saint-Pierre) **98d:90146** 90D25 (93B03)

Grigor′ev, D. Yu. Testing the shift-equivalence of polynomials using quantum machines. (English summary) Algebraic geometry, 5. *J. Math. Sci.* **82** (1996), *no.* 1, 3184–3193. (Alessandro Logar) **98a:13037** 13P10

— (*with* Karpinski, Marek; Vorob′ev, N. N., Jr.) Lower bound on testing membership to a polyhedron by algebraic decision and computation trees. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 2, 191–215. (Alexander I. Barvinok) **98c:68090** 68Q25 (14P10, 14Q15, 52B55, 68Q40)

— Testing shift-equivalence of polynomials by deterministic, probabilistic and quantum machines. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 217–228. (Summary) **98b:68090** 68Q40 (13P99, 68Q05, 81P99)

Grigor′ev, F. N. (*with* Borisov, V. G.; Gul′ko, F. B.; Kuznetsov, N. A.) On control systems that are unsynchronized with respect to measurements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 98–111; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1146–1156. (Summary) **98m:93056** 93C15

Grigor′ev, M. M. (*with* Fafurin, A. V.) A boundary element method for steady viscous fluid flow using penalty function formulation. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 8, 907–929. (Summary) **98h:76088** 76M15

Grigor′ev, V. I. (*with* Denisova, I. P.) Some new relations of tensor algebra. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 2, 3–8. (Summary) **98j:15034** 15A72 (53A45)

— (*with* Denisova, I. P.) Some new relations for the electromagnetic field tensor in pseudo-Riemannian space-time. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 5, 15–17. 83C50

Grigor′eva, M. L. (*with* Ostrovskiĭ, E. I.) Calculation of the integrals of discontinuous functions by the method of dependent experiments. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 12, 28–38; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 12, 1661–1670 (1997). (Summary) **98f:65009** 65C05 (65D30)

Grigoriadis, Karolos M. (*with* Skelton, Robert E.) Minimum-energy covariance controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 569–578. (Constantin Vârsan) **98d:93051** 93B52 (93E20)

— (*with* Skelton, Robert E.; Iwasaki, Tetsuya) ★ A unified algebraic approach to linear control design. (English summary) The Taylor & Francis Systems and Control Book Series. *Taylor & Francis, Ltd., London*, 1998. xviii+285 *pp. ISBN* 0-7484-0592-5 (Petko Petkov) **98m:93003** 93–02 (93B25, 93C05)

Grigoriadis, Michael D. (*with* Villavicencio, Jorge) Approximate structured optimization by cyclic block-coordinate descent. (English summary) *Applied mathematics and parallel computing*, 359–371, *Physica, Heidelberg*, 1996. (From the summary) **98e:90094** 90C08 (90C30)

— (*with* Villavicencio, Jorge) Approximate Lagrangian decomposition with a modified Karmarkar logarithmic potential. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 471–485, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)

— *see also* **Network optimization: algorithms and applications, 98g:90009**

Grigorian, Edward K. *see* **Grigoryan, È. Kh.**

Grigorieff, R. D. (*with* Sloan, I. H.) High-order spline Petrov-Galerkin methods with quadrature. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 15–18. (*see* **98b:65005**) 65L60

Grigoriev, D. *see* **Grigor′ev, D. Yu.**

Grigoriev, M. M. *see* **Grigor′ev, M. M.**

Grigoriev, R. O. (*with* Cross, M. C.) Dynamics of coupled maps with a conservation law. (English summary) *Chaos* **7** (1997), *no.* 2, 311–330. 58F13

— (*with* Schuster, H. G.) Solvable model for spatiotemporal chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 388–396. 58F13

Grigorjeva, Svetlana V. (*with* Taras′ev, A. M.; Ushakov, Vladimir N.; Uspenskiĭ, A. A.) Constructions of nonsmooth analysis in numerical methods for solving Hamilton-Jacobi equations. *Game theory and applications, II*, 115–131, *Nova Sci. Publ., Commack, NY*, 1996. (Patrick Saint-Pierre) **98a:49046** 49L25 (49J52, 65K10, 90D25)

Grigor'yan, A. *see* **Grigor'yan, Alexander**

Grigoryan, A. K. (*with* Baron, Yu. L.; Kutanov, A. T.; Yuditskiĭ, S. A.) A formalized description of the structure and behavior of hierarchical systems with inclusion. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 6, 209–218; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 1058–1065. 93A13

Grigor'yan, Alexander (*with* Chung, Fan R. K.; Yau, Shing-Tung) Eigenvalues and diameters for manifolds and graphs. *Tsing Hua lectures on geometry & analysis* (*Hsinchu,* 1990–1991), 79–105, *Internat. Press, Cambridge, MA,* 1997. (Robert Brooks) **98h:58206** 58G99

— (*with* Coulhon, Thierry) On-diagonal lower bounds for heat kernels and Markov chains. *Duke Math. J.* **89** (1997), *no.* 1, 133–199. (Gilles Carron) **98e:58159** 58G11 (35K05, 47D07, 60J15)

— Gaussian upper bounds for the heat kernel on arbitrary manifolds. *J. Differential Geom.* **45** (1997), *no.* 1, 33–52. (Alberto G. Setti) **98g:58167** 58G11 (35B45, 35K05)

Grigoryan, È. Kh. On the limit equilibrium of a stamp with a rounded base on the boundary of an elastic semiplane. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 629–635. (From the summary) **98e:73121** 73T05

Grigoryan, G. V. (*with* Grigoryan, R. P.; Tyutin, I. V.) Pseudoclassical theories of Majorana, Weyl, and Majorana-Weyl particles. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 3, 389–401; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 3, 703–713. (Gheorghe Zet) **98i:81085** 81R20

Grigoryan, R. P. (*with* Grigoryan, G. V.; Tyutin, I. V.) Pseudoclassical theories of Majorana, Weyl, and Majorana-Weyl particles. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 3, 389–401; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 3, 703–713. (Gheorghe Zet) **98i:81085** 81R20

Grigoryan, S. S. (*with* Buchin, V. A.; Shaposhnikova, G. A.) Mathematical modeling of the development of mechanical instability in collapsing systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1039–1045; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 1017–1023. 73M25

— (*with* Khaĭretdinov, È. F.) Solution to the equations of the flow of a thin layer of heavy viscous fluid on a curvilinear surface. (Russian. Russian summary) Pafnutiĭ L′vovich Chebyshev (on the 175th anniversary of his birth) (Russian). *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 6, 32–36, 110. (*see* **98f:00032**) 76D99

— Leonid Ivanovich Sedov (on the occasion of his ninetieth birthday). (Russian) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 899–902; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 863–873 (1998). 01A70

Grigull, Ulrich Sechzig Jahre Kepler-Kommission. [Sixty years of the Kepler Commission] *Bayer. Akad. Wiss. Math.-Natur. Kl. Sitzungsber.* **1996,** 1–39. (William R. Shea) **98m:01006** 01A45 (01A40, 01A70)

Griguolo, L. (*with* Seminara, D.) Non-minimal couplings in two-dimensional gravity: a quantum investigation. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 400–432. (Summary) **98f:81301** 81T40

— (*with* Deser, S.; Seminara, D.) Gauge invariance, finite temperature, and parity anomaly in $D = 3$. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1976–1979. (Summary) **98g:81195** 81T50 (58G26, 81V05, 81V10)

Grillakis, M. G. (*with* Alexander, James Crew; Jones, C. K. R. T.; Sandstede, Björn) Stability of pulses on optical fibers with phase-sensitive amplifiers. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 175–192. (Peter L. Christiansen) **98h:35212** 35Q55 (78A60)

Grillet, Pierre Antoine Computing finite commutative semigroups. (English summary) *Semigroup Forum* **53** (1996), *no.* 2, 140–154. (Grigori I. Žitomirskiĭ) **98g:20091** 20M14

— Commutative semigroups with zero cohomology. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 463–469. 20M50

— Cocycles in commutative semigroup cohomology. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3427–3462. (J. K. Luedeman) **98j:20098** 20M50

Grillo, Gabriele Lower bounds for the Dirichlet heat kernel. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 203–211. (Fabio Cipriani) **98k:60124** 60J35 (35K05, 47D07, 58G11)

Grillot, Philippe (*with* Bidaut-Véron, Marie-Françoise) Estimations a priori pour les singularités isolées d'un système elliptique hamiltonien. (English and French summaries) [A priori estimates for the isolated singularities of a Hamiltonian elliptic system] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 617–622. (Summary) **98h:35059** 35J60

Grim, Patrick (*with* St. Denis, Paul) Fractal images of formal systems. (English summary) *J. Philos. Logic* **26** (1997), *no.* 2, 181–222. (Summary) **98k:03023** 03B22 (03A05, 03B10, 03B50, 68Q70)

— The undecidability of the spatialized prisoner's dilemma. (English summary) *Theory and Decision* **42** (1997), *no.* 1, 53–80. (Summary) **98b:90173** 90D05 (03D35, 90A05)

— *see also* **Sylvan, Richard, 98m:03006**

Grima, C. I. (*with* Dana Jiménez, Juan C.; Márquez, Alberto) Convex hull in nonflat surfaces. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid,* 1997), 251–263, *Univ. Politec. Madrid, Madrid,* 1997. (*see* **98f:68272**) 52B55 (68U05)

— (*with* Cobos, F. J.; Dana Jiménez, Juan C.; Márquez, Alberto) Width of a convex set in the sphere. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid,* 1997), 265–275, *Univ. Politec. Madrid, Madrid,* 1997. (*see* **98f:68272**) 52B55 (68U05)

— (*with* Cobos, F. J.; Dana Jiménez, Juan C.; Márquez, Alberto) Diameter of a set in a cylinder. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid,* 1997), 277–286, *Univ. Politec. Madrid, Madrid,* 1997. (*see* **98f:68272**) 68U05

Grimaldi, Antonio (*with* Como, Mario) Existence of potential wells in stability analysis of nonlinear elastic beams and shells. (English summary) *Trends in applications of mathematics to mechanics (Lisbon,* 1994), 14–24, *Pitman Monogr. Surveys Pure Appl. Math.,* 77, *Longman, Harlow,* 1995. (Summary) **98e:73071** 73H10 (73C50, 73K05, 73K15, 73V25)

— (*with* Como, Mario) On stability and equilibrium path evolution of continuous elastic structures. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 147–156. (Zhong-Hua Yang) **98i:73027** 73H99 (73B99, 73C99)

Grimaldi, Ralph P. (*with* Moser, Joseph G.) The Catalan numbers and a tennis ball problem. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 65–71. (*see* **98h:05004**) 05A10

Grimaldi, Renata Sur la croissance des variétés riemanniennes. [On the growth of Riemannian manifolds] Proceedings of the Second International Workshop on Differential Geometry and its Applications (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **3** (1995), *no.* 2, 47–53. (Andrea Sambusetti) **98e:53056** 53C20 (53C23)

— (*with* Pansu, Pierre) Sur le degré de différentiabilité de la fonction croissance en dimension deux. (Italian summary) [Degree of differentiability of a growth function in dimension two] *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 25–38. (Ronaldo Alves Garcia) **98i:53046** 53C20

— *see also* **Proceedings: Workshop on Differential Geometry and Topology, 98h:53003**

Grimm, L. J. (*with* Hall, L. M.) Self adjoint differential equations and Karamata functions. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv,* 1992), 77–87, *VSP, Utrecht,* 1993. (Hussain S. Nur) **98e:34065** 34C11 (34D05, 34K15)

Grimm, Richard (*with* Binétruy, Pierre; Pillon, F.; Girardi, G.) The 3-form multiplet in supergravity. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 175–199. (W. Cox) **98c:81213** 81T60 (83E50)

Grimm, S. (*with* Patera, Jiří) Decomposition of tensor products of the fundamental representations of E_8. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ,* 1994), 329–355, *CRM Proc. Lecture Notes,* 11, *Amer. Math. Soc., Providence, RI,* 1997. (Summary) **98g:17004** 17B10

Grimm, Uwe (*with* Baake, Michael; Baxter, Rodney James) A critical Ising model on the labyrinth. (English summary) *Perspectives on solvable models,* 131–152, *World Sci. Publishing, River Edge, NJ,* 1994. (*see* **98b:82003**) 82B20 (82B23, 82B27)

— (*with* Hermisson, Joachim; Baake, Michael) Aperiodic Ising quantum chains. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7315–7335. (Summary) **98k:82064** 82B27 (82B20)

— *see also* **Perspectives on solvable models, 98b:82003**

Grimm, Wermer (*with* Markl, A.) Adjoint estimation from a direct multiple shooting method. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 2, 263–283. (O. V. Vasil′ev) **98e:49071** 49M05 (49K15)

Grimme, E. J. (*with* Sorensen, Danny C.; Van Dooren, Paul) Model reduction of state space systems via an implicitly restarted Lanczos method. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 1–31. (Summary) **98i:65027** 65F15 (65G05)

— (*with* Gallivan, K.; Van Dooren, Paul) A rational Lanczos algorithm for model reduction. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 33–63. (Summary) **98i:65028** 65F15 (65G05)

Grimmett, Geoffrey (*with* Giné-Masdeu, Evarist; Saloff-Coste, Laurent) ★ Lectures on probability theory and statistics. Lectures from the 26th Summer School on Probability Theory held in Saint-Flour, August 19–September 4, 1996. Edited by P. Bernard. Lecture Notes in Mathematics, 1665. *Springer-Verlag, Berlin,* 1997. x+424 *pp. ISBN* 3-540-63190-9 (Editors) **98g:60003** 60-06

— Large deviations in the random sieve. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 519–530. (Ognian Trifonov) **98a:11125** 11N25 (11K65, 11N36)

Grimshaw, Roger H. J. (*with* Pelinovsky, Dmitry E.) Nonlocal models for envelope waves in a stratified fluid. (English summary) *Stud. Appl. Math.* **97** (1996), *no.* 4, 369–391. (Summary) **98i:76096** 76V05 (76C10)

— The influence of an external force on a solitary wave. (English summary) *Differential equations (Bandung,* 1996), 89–101, *Kluwer Acad. Publ., Dordrecht,* 1997. (*see* **98k:00012**) 35Q53

— (*with* Pelinovsky, Dmitry E.) Asymptotic methods in soliton stability theory. (English summary) *Nonlinear instability analysis,* 245–312, *Adv. Fluid Mech.,* 12, *Comput. Mech., Southampton,* 1997. (D. ter Haar) **98i:35161** 35Q51 (35B40, 76B25, 76E30)

— (*with* Reznik, G. M.; Sriskandarajah, K.) On basic mechanisms governing two-layer vortices on a β-plane. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 1-2, 1–42. (Summary) **98h:76018** 76C05 (76C20, 86A05, 86A10)

— (*with* Barnes, Belinda) Analytical and numerical studies of the Bonhoeffer van der Pol system. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 427–453. (Alan R. Hausrath) **98d:34047** 34C05 (34C23, 34C25)

— (*with* Pelinovsky, Dmitry E.) Instability analysis of internal solitary waves in a nearly uniformly stratified fluid. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3343–3352. (Vladan D. Djordjević) **98i:76022** 76C10 (76E20, 76E30, 76V05)

— (*with* Derzho, O. G.) Solitary waves with a vortex core in a shallow layer of stratified fluid. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3378–3385. (Summary) **98i:76095** 76V05 (76C05)

— (*with* Pelinovskiĭ, E. N.; Bezen, Alexandre) Hysteresis phenomena in the interaction of a damped solitary wave with an external force. (English summary) *Wave Motion* **26** (1997), *no.* 3, 253–274. (Summary) **98h:35206** 35Q53 (76B15, 76B25)

— (*with* Akylas, T. R.; Dias, Frédéric) The effect of the induced mean flow on solitary waves in deep water. (English summary) *J. Fluid Mech.* **355** (1998), 317–328. (Summary) **98k:76008** 76B15 (76B25)

— (*with* He, Jianming; Malomed, Boris A.) Nonlinear analysis of instability produced by linear mode coupling. (English summary) *Phys. D* **113** (1998), *no.* 1, 26–42. (Summary) **98m:76075** 76E30 (76C99)

Grimus, W. (*with* Rebelo, M. N.) Automorphisms in gauge theories and the definition of CP and P. (English summary) *Phys. Rep.* **281** (1997), *no.* 4, 239–308. (From the text) **98k:81085** 81R05 (81–02, 81T13, 81V05, 81V10, 81V22)

Grin′, A. A. (*with* Bulgakov, V. I.) On a bifurcation of a non-rough focus of a third-order autonomous system. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1703, 1727; *translation in Differential Equations* **32** (1996), *no.* 12, 1697–1698 (1997). (Summary) **98j:34040** 34C05 (34C23)

Grinč, Martin A nonchaotic map with an infinite set $\Omega(f) \setminus \omega(f)$. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 239–245. (Kamel N. Haddad) **98m:58087** 58F12 (26A18, 58F03)

Grindrod, Peter (*with* Crompton, Stephen) A geometric approach to fingering instabilities for reaction fronts in fully coupled geochemical systems. (English summary) *IMA J.*

Appl. Math. **57** (1996), *no.* 1, 29–40. (Summary) **98b:86017** 86A60 (92E20)

Grines, V. Z. Structural stability and asymptotic behavior of invariant manifolds of A-diffeomorphisms of surfaces. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 1, 91–110. (Lorenzo J. Díaz) **98b:58095** 58F10

— On the topological classification of structurally stable diffeomorphisms of surfaces with one-dimensional attractors and repellers. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 4, 57–94; *translation in Sb. Math.* **188** (1997), *no.* 4, 537–569. (S. Yu. Pilyugin) **98g:58092** 58F10 (58F12, 58F15)

Grinevich, P. G. (*with* Novikov, S. P.) String equation. II. Physical solution. (Russian) *Algebra i Analiz* **6** (1994), *no.* 3, 118–140; *translation in St. Petersburg Math. J.* **6** (1995), *no.* 3, 553–574. (Summary) **98b:58071** 58F07 (35Q58, 81T30)

— (*with* Schmidt, Martin U.) Periodic preserving deformations of the finite-gap solutions of the soliton equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 124–130, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:58072** 58F07 (14K20, 35Q51)

— Nonsingularity of the direct scattering transform for the KP II equation with a real exponentially decaying-at-infinity potential. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 59–73. (Eugen Belokolos) **98m:35181** 35Q53 (58F07)

Grinfeld, Michael (*with* Freitas, Pedro; Knight, P. A.) Stability of finite-dimensional systems with indefinite damping. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 437–448. (Summary) **98d:34084** 34D99 (15A18, 35L20)

Griniv, R. O. (*with* Mel′nik, Taras Anatol′evich) On a singular Rayleigh functional. (Russian) *Mat. Zametki* **60** (1996), *no.* 1, 130–134; *translation in Math. Notes* **60** (1996), *no.* 1-2, 97–100 (1997). (Jan Bochenek) **98c:47016** 47A56 (47A10, 47A75, 49R05)

— On the spectrum of an operator pencil that arises in the problem of oscillations of a semi-infinite rod with internal friction. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 1, 19–23, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 15–18. (Summary) **98h:34147** 34L40 (34B05, 35P05, 35Q72, 47A56, 47E05, 73D30)

Grinnell, Raymond J. A duality theorem for multipliers of Lorentz spaces. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 61–68. (Summary) **98f:43006** 43A22 (43A15)

— Convolution mapping properties of Lorentz-improving measures. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 69–85. (Summary) **98d:43001** 43A05 (43A15)

— A note on certain intertwining operators. (English summary) *Caribbean J. Math. Comput. Sci.* **5** (1995), *no.* 1-2, 33–41. (Summary) **98k:43005** 43A22 (22B10)

— A characterization of Lorentz-improving measures. (English summary) *Proyecciones* **14** (1995), *no.* 1, 43–50. (Colin C. Graham) **98b:43002** 43A05 (43A46)

— Lorentz-improving measures on hypergroups. (English summary) *New Zealand J. Math.* **25** (1996), *no.* 2, 173–178. (Richard C. Vrem) **98b:43003** 43A05 (43A15, 43A62)

— An eigenspace characterization of Lorentz-improving measures on compact groups. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 127–138. (Colin C. Graham) **98i:43001** 43A05 (43A15, 43A46)

Grinshpan, A. Z. On the Goodman conjecture and related functions of several complex variables. (English summary) *Algebra i Analiz* **9** (1997), *no.* 3, 198–204; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 595–600. (T. J. Suffridge) **98k:30016** 30C45 (32A05, 32A30)

— (*with* Pommerenke, Christian) The Grunsky norm and some coefficient estimates for bounded functions. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 6, 705–712. (W. C. Royster) **98k:30024** 30C50

— A. W. Goodman: research mathematician and educator. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 1–26. 01A70

— (*with* Pommerenke, Christian) The Grunsky operator and coefficient differences. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 113–127. (Summary) **98m:30022** 30C50 (30C55, 30C75)

Grinshpun, Vadim (*with* Boutet de Monvel-Berthier, Anne-Marie) Exponential localization for multi-dimensional Schrödinger operator with random point potential. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 425–451. (Alexei Khorunzhy) **98g:81029** 81Q10 (35J10, 35R60, 47B80, 47N50)

Grinstead, Charles M. On medians of lattice distributions and a game with two dice. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 273–294. (Summary) **98d:60021** 60C05 (60J15)

Grinstein, Geoffrey (*with* Muñoz, M. A.) The statistical mechanics of absorbing states. *Fourth Granada Lectures in Computational Physics* (1996), 223–270, *Lecture Notes in Phys.*, 493, *Springer, Berlin*, 1997. (*see* **98h:00028**) 82C43 (82C31)

Gripenberg, G. (*with* Cockburn, Bernardo; Londen, S.-O.) On convergence to entropy solutions of a single conservation law. (English summary) *J. Differential Equations* **128** (1996), *no.* 1, 206–251. (Summary) **98c:35107** 35L65 (45K05)

— (*with* Londen, S.-O.; Prüss, Jan) On a fractional partial differential equation with dominating linear part. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1427–1448. (Hana Petzeltová) **98g:45013** 45K05 (35D05, 35K55)

Grippo, L. (*with* Di Pillo, G.; Lucidi, S.) Smooth transformation of the generalized minimax problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 1–24. (V. F. Dem′yanov) **98i:90088** 90C30 (49K35)

— (*with* Lucidi, S.) A globally convergent version of the Polak-Ribière conjugate gradient method. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser. A*, 375–391. (Vera V. Kovačević-Vujčić) **98k:90080** 90C26

Grisaru, M. T. (*with* Santambrogio, A.; Zanon, Daniela) Quantizing $N = 2$ matter-supergravity systems. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 174–190. (Ilya Shapiro) **98b:81285** 81V22 (81T15, 81V17, 83E50)

— (*with* Anselmi, Damiano; Johansen, Andrei) A critical behaviour of anomalous currents, electric-magnetic universality and CFT_4. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 221–248. (Antonio González-Arroyo) **98i:81242** 81T60 (81T40)

— (*with* Van Proeyen, Antoine; Zanon, Daniela) Quantization of the complex linear superfield. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 345–362. (Liviu Tătar) **98j:81332** 81T60 (81T70)

— (*with* Gates, S. James, Jr.; Knutt-Wehlau, Marcia E.; Roček, Martin; Solov′ev, O. A.) $N = 1$ supersymmetric extension of the QCD effective action. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 167–176. (Nguyen Anh Ky) **98f:81355** 81V05 (81T60)

— (*with* De Giovanni, Antonio; Roček, Martin; von Unge, Rikard; Zanon, Daniela) $N = 2$ super Yang-Mills low-energy effective action at two loops. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 251–256. 81T60

Grisel, Guillaume Length of the powers of a rational fraction. (English summary) *J. Number Theory* **62** (1997), *no.* 2, 322–337. (Edward B. Burger) **98a:11088** 11J70 (11J61)

Grishagin, Vladimir A. (*with* Sergeev, Yaroslav D.; Strongin, R. G.) Parallel characteristical algorithms for solving problems of global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 185–206. (Summary) **98a:90099** 90C30 (65K05, 65Y05)

Grishechkin, S. A. (*with* Mitov, K. V.; Yanev, N. M.) Limit theorems for regenerative processes. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 6, 29–32. (Sophia Kalpazidou) **98m:60141** 60K05 (60F05)

— (*with* Mitov, K. V.; Yanev, N. M.) Two-stage renewal processes. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 13–16. 60K05

Grishin, A. F. Continuity and asymptotic continuity of subharmonic functions. I. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 193–215. 31A05

— Continuity and asymptotic continuity of subharmonic functions. II. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 177–193. 31A05

Grishko, A. A. (*with* Bolotin, V. V.; Kounadis, Anthony N.; Gantes, Ch.; Roberts, J. B.) Influence of initial conditions on the postcritical behavior of a nonlinear aeroelastic system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 63–81. 73K70 (58F40, 73H10)

Grishukhin, V. P. (*with* Deza, Michel-Marie) Bounds on the covering radius of a lattice. (English summary) *Mathematika* **43** (1996), *no.* 1, 159–164. (Christine Bachoc) **98b:11074** 11H31 (52C07)

— (*with* Deza, Michel-Marie) Lattice points of cut cones [MR 95i:52017]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 193–216, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 52C07

— (*with* Chepoĭ, V. D.; Deza, Michel-Marie) Clin d'oeil on L_1-embeddable planar graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 3–19. (Hiroshi Maehara) **98j:05057** 05C10

— (*with* Deza, Michel-Marie) The skeleton of the 120-cell is not 5-gonal. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 205–210. (Béla Uhrin) **98d:52013** 52B05 (05C75)

— Regular two-graphs from the even unimodular lattice $E_8 \oplus E_8$. (English summary) *European J. Combin.* **18** (1997), *no.* 4, 391–407. (J. J. Seidel) **98f:05152** 05E30

Grist, Eric P. M. (*with* Gurney, William S. C.) Seasonal synchronicity and stage-specific life cycles: Topp's beetles revisited. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 1–25. 92D40

Gristina, G. (*with* Agnetis, A.; Rossi, Francesca) An exact algorithm for the batch sequencing problem in a two-machine flow shop with limited buffer. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 141–164. (Summary) **98j:90030** 90B35

Grisvard, Pierre *see* **Dedicated to the memory of Pierre Grisvard**

Gritsenko, S. A. On the zeros of functions of a special form that are connected with Hecke L-functions of imaginary quadratic fields. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 1, 45–68; *translation in Izv. Math.* **61** (1997), *no.* 1, 45–68. (Matti Jutila) **98b:11117** 11R42 (11M41)

Gritsenko, V. A. (*with* Nikulin, Vyacheslav Valentinovich) Igusa modular forms and "the simplest" Lorentzian Kac-Moody algebras. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 11, 27–66; *translation in Sb. Math.* **187** (1996), *no.* 11, 1601–1641. (I. Dolgachev) **98a:11059** 11F46 (11F22, 14J28, 17B67)

— (*with* Nikulin, Vyacheslav Valentinovich) Siegel automorphic form corrections of some Lorentzian Kac-Moody Lie algebras. (English summary) *Amer. J. Math.* **119** (1997), *no.* 1, 181–224. (Summary) **98g:11056** 11F46 (11F22, 17B67)

Gritsenko, V. I. (*with* Dvorina, M. M.; Strizhak, A. E.; Strizhak, P. E.) Violation of symmetry under Turing bifurcation—exact solutions. (Russian. Russian summary) *Kibernet. i Vychisl. Tekhn. No.* 99 (1993), 113–116. (Ladislav Andrey) **98b:35091** 35K57 (22E65, 22E70, 35A25, 35B32, 92B05, 92D25)

Gritsenko, Valeri A. *see* **Gritsenko, V. A.**

Grits′ko, E. G. A variant of the coboundary element method for studying heat-conduction problems in bodies of complicated shape. (English summary) *J. Math. Sci.* (*New York*) **88** (1998), *no.* 3, 407–412. 80–08

Gritsun, A. S. (*with* Dymnikov, V. P.) On the structure of the attractors of the finite-dimensional approximations of the barotropic vorticity equation on a rotating sphere. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 1, 13–32. (Yuri N. Skiba) **98e:76036** 76E20 (34D45, 34G10, 35B40, 65L06, 76M25, 76U05, 86A10)

Gritzmann, Peter (*with* Burger, Thomas; Klee, Victor) Polytope projection and projection polytopes. *Amer. Math. Monthly* **103** (1996), *no.* 9, 742–755. (Gerard Sierksma) **98i:52013** 52B11

— (*with* Brieden, A.) On Helly's theorem: algorithms and extensions. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 393–410. (Jürgen Eckhoff) **98h:52012** 52A35 (52B55, 68Q25)

— *see also* **Recent advances in optimization, 98c:90005**

Gritzner, Thomas F. (*with* von Oheimb, David) RALL: machine-supported proofs for relation algebra. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 380–394, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 03B35 (03G15, 68T15)

Grmek, Mirko D. La méthodologie de Boscovich. (English and French summaries) [The methodology of Boscovich] *Rev. Histoire Sci.* **49** (1996), *no.* 4, 379–400. (Luigi Pepe) **98i:01013** 01A50

Grobbelaar-van Dalsen, Marié The operator theoretical treatment of partial differential equations: recent developments with applications. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 105–114, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 35A25 (34G20, 35Q30, 47H20, 47N20)

Grobe, Rudolf (*with* Becker, Eberhard; Niermann, Michael) Radicals of binomial ideals. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 41–79. (Rafael H. Villarreal) **98k:13029** 13P10 (13A10, 13F20)

Grobler, J. J. (*with* Reinecke, C. J.) On principal T-bands in a Banach lattice. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 444–465. (Gerard Buskes) **98g:47030** 47B65 (46B40, 47B60)

Grobler, P. J. P. (*with* Cockayne, E. J.; Hedetniemi, Stephen T.; McRae, Alice A.) What makes an irredundant set maximal? (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 213–223. (Summary) **98e:05063** 05C35

cirino Groccia, Maria Cristina *see* **Cirino Groccia, Maria Cristina**

Gröchenig, Karlheinz (*with* Razafinjatovo, Haja N.) On Landau's necessary density conditions for sampling and interpolation of band-limited functions. (English summary) *J. London Math. Soc.* (2) **54** (1996), *no.* 3, 557–565. (Summary) **98m:42029** 42B99 (30E05, 42A65, 94A99)

— An uncertainty principle related to the Poisson summation formula. (English summary) *Studia Math.* **121** (1996), *no.* 1, 87–104. (John F. Price) **98a:42007** 42A99 (81S30)

— (*with* Feichtinger, Hans G.) Gabor frames and time-frequency analysis of distributions. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 464–495. (Ole Christensen) **98k:42041** 42C15 (46E99)

— Aspects of Gabor analysis on locally compact abelian groups. (English summary) *Gabor analysis and algorithms*, 211–231, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **98h:42001**) 43A45 (42C15)

— (*with* Ron, Amos) Tight compactly supported wavelet frames of arbitrarily high smoothness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1101–1107. (Eugenio Hernández) **98f:42030** 42C15 (42C30)

Grochowski, Bogusław ★ Geometria wykreślna. (Polish. Polish summary) [Descriptive geometry] Z perspektywą stosowaną. [From the standpoint of applications] Third edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 332 *pp. ISBN* 83-01-12363-X 51N05

Grodzki, Zdzisław (*with* Mycka, Jerzy) Two-dimensional Markov-like algorithms. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 51–64. (Summary) **98d:03053** 03D20

— The controlled $(n, \overrightarrow{k})$-nets of shift-registers. *Demonstratio Math.* **29** (1996), *no.* 1, 129–141. (From the introduction) **98e:94013** 94A55 (94A60)

müller-Groeling, Axel *see* **Müller-Groeling, Axel**

Groemer, H. On the girth of convex bodies. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 75–81. (G. D. Chakerian) **98d:52001** 52A10 (52A15)

— On the determination of convex bodies by translates of their projections. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 265–279. (Uwe Schnell) **98h:52007** 52A22 (52A20)

Groeneboom, Piet Nonparametric estimators for interval censoring problems. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 105–128, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G05 (60F15, 62E20, 62G20)

— (*with* Dobrushin, Roland L.; Ledoux, M.) ★ Lectures on probability theory and statistics. Lectures from the 24th Saint-Flour Summer School held July 7–23, 1994. Edited by P. Bernard. Lecture Notes in Mathematics, 1648. *Springer-Verlag, Berlin*, 1996. viii+300 *pp. ISBN* 3-540-62055-9 (Editors) **98g:60002** 60–06 (62–06)

Groenen, Patrick J. F. (*with* Borg, Ingwer) ★ Modern multidimensional scaling. (English summary) Theory and applications. Springer Series in Statistics. *Springer-Verlag, New York*, 1997. xviii+471 *pp. ISBN* 0-387-94845-7 (Rudolf Mathar) **98e:62092** 62H99 (62H30, 62P15)

— (*with* de Leeuw, Jan) Inverse multidimensional scaling. (English summary) *J. Classification* **14** (1997), *no.* 1, 3–21. (Summary) **98d:62110** 62H30

— (*with* Heiser, Willem J.) Cluster differences scaling with a within-clusters loss component and a fuzzy successive approximation strategy to avoid local minima. (English summary) *Psychometrika* **62** (1997), *no.* 1, 63–83. (C. Hayashi) **98e:62149** 62P15 (62H30)

Groeneveld, Richard A. The relative efficiency of several statistics measuring skewness. (English summary) *Statistical theory and applications*, 43–53, *Springer, New York*, 1996. (Summary) **98c:62023** 62E15 (62G05)

Groeneveld, Willem (*with* Gerbrandy, Jelle) Reasoning about information change. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 2, 147–169. (Walter Alexandre Carnielli) **98h:68212** 68T27 (03B45, 03B70, 03E70)

— (*with* van der Does, Jaap; Veltman, Frank) An update on "might". (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 4, 361–380. (Frans Voorbraak) **98k:68153** 68T27 (03B48, 03B60)

Groenewald, G. J. (*with* Petersen, Mark Adam) Symmetric spectral factorisation of self-adjoint rational matrix functions. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 95–107. (L. Rodman) **98g:15022** 15A30 (15A23)

— (*with* Petersen, Mark Adam; Zucker, Y.) Left versus right canonical Wiener-Hopf factorization and realization. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 466–491. (I. Spitkovsky) **98h:47025** 47A68 (15A23, 47N70)

Groenewald, Nico J. (*with* Booth, Geoffrey L.) Special radicals of Ω-groups. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 211–218, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16N80 (16Y99)

— Superprime near-rings. *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 259–267, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30

— (*with* Olivier, W. A.) On regularities in near-rings. *Acta Math. Hungar.* **74** (1997), *no.* 3, 177–190. (G. Alan Cannon) **98a:16049** 16Y30

— (*with* Birkenmeier, Gary F.; Heatherly, Henry E.) Minimal and maximal ideals in rings with involution. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 217–225. (Geoffrey L. Booth) **98i:16031** 16W10

van Groesen, E. (*with* Cahyono, E.; Soewono, E.; Subarinah, S.) Genus-two solutions to the Kadomtsev-Petviashvili equation. (English summary) *Differential equations (Bandung, 1996)*, 233–243, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98k:35163** 35Q53

— (*with* Ijzerman, W. L.) Model manifolds for analysing data of wave splitting. (English summary) *Differential equations (Bandung, 1996)*, 257–268, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 65R10 (65R30, 94A12)

— *see also* **Differential equations, 98k:00012**

Groetsch, C. W. Aristotle's fall. *Amer. Math. Monthly* **105** (1998), *no.* 6, 544–547. 70D05 (70–03)

Gröf, J. Approximation durch Linearkombinationen von modifizierten Szász-Operatoren. [Approximation through linear combination of modified Szász operators] *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 185–195. (D. K. Ugulava) **98g:41028** 41A35 (41A25)

Gröflin, Heinz (*with* Cochand, Maurice; Gaillard, Arlette) Optimum partitioning into intersections of ring families. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 81–91. (Mechthild Stoer) **98e:90125** 90C27 (52B20)

Gröger, Detlef Eine Bemerkung zur Anordnungsfähigkeit von Fastkörpern. (English summary) [A remark on the orderability of nearfields] *J. Geom.* **61** (1998), *no.* 1-2, 53–55. 12K05

Gröger, Konrad (*with* Pankov, A. A.) Meyers type regularity for bounded and almost periodic solutions to nonlinear second order parabolic equations with mixed boundary conditions. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 46–64. (Mikhail P. Vishnevskii) **98j:35103** 35K60 (35B15)

— (*with* Glitzky, Annegret; Hünlich, Rolf) Discrete-time methods for equations modelling transport of foreign-atoms in semiconductors. *Nonlinear Anal.* **28** (1997), *no.* 3, 463–487. (Elias Tuma) **98b:35090** 35K57 (35Q99, 82C70, 82D99)

Grohe, Martin Existential least fixed-point logic and its relatives. (English summary) *J. Logic Comput.* **7** (1997), *no.* 2, 205–228. (Gianfranco Mascari) **98i:03061** 03D70 (03C13, 03C80)

Groisser, David The L^2 metric in gauge theory: an introduction and some applications. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 317–329, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Antony Maciocia) **98h:58028** 58D27 (53C07)

Grolmusz, Vince On set systems with restricted intersections modulo a composite number (extended abstract). (English summary) *Computing and combinatorics (Shanghai, 1997)*, 82–90, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R05 (05D05)

— On the power of circuits with gates of low L_1 norms. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 117–128. (Christoph Meinel) **98i:68103** 68Q15 (68Q25)

Gromadzki, Grzegorz On a Harnack-Natanzon theorem for the family of real forms of Riemann surfaces. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 253–269. (David Singerman) **98k:14082** 14P25 (20F38, 20H15, 30F10)

Gromak, V. I. (*with* Tsegel'nik, V. V.) On the properties of Bäcklund transformations of Painlevé equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1018–1023, 1148; *translation in Differential Equations* **32** (1996), *no.* 8, 1024–1029 (1997). (Andrei A. Kapaev) **98m:34017** 34A25 (34A34)

— (*with* Andreev, A. F.; Galshun, Ivan Vasil'evich; et al.) Nikolaĭ Pavlovich Erugin (on the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **33** (1997), *no.* 5, 579–582; *translation in Differential Equations* **33** (1997), *no.* 5, 583–586 (1998). 01A70

— On a general representation of solutions of the Painlevé equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 614–617, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 617–620 (1998). (Summary) **98k:34009** 34A25 (34A34)

Gromb, Denis (*with* Ponssard, Jean-Pierre; Sevy, David) Selection in dynamic entry games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 62–84. (Summary) **98k:90173** 90D40 (90A16)

Gromoll, Detlef (*with* Dajczer, Marcos) Real Kaehler submanifolds in low codimension. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 389–395. (Luis M. Hervella) **98m:53077** 53C42 (53C55)

Gromov, E. M. (*with* Tyutin, V. V.) Stationary waves described by the generalized Korteweg-de Vries-Burgers equation. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **40** (1997), *no.* 10, 1241–1248; *translation in Radiophys. and Quantum Electronics* **40** (1997), *no.* 10, 835–840 (1998). 35Q53

Gromov, Mikhael L. Geometric reflections on the Novikov conjecture. (English summary) *Novikov conjectures, index theorems and rigidity, Vol. 1 (Oberwolfach, 1993)*, 164–173, *London Math. Soc. Lecture Note Ser.*, 226, *Cambridge Univ. Press, Cambridge*, 1995. (Mattias Dahl) **98e:53062** 53C21 (57R99, 58G12)

— Positive curvature, macroscopic dimension, spectral gaps and higher signatures. (English summary) *Functional analysis on the eve of the 21st century, Vol. II (New Brunswick, NJ, 1993)*, 1–213, *Progr. Math.*, 132, *Birkhäuser Boston, Boston, MA*, 1996. (Christopher W. Stark) **98d:53052** 53C21 (53C20, 57R20)

— (*with* Eliashberg, Yakov M.) Lagrangian intersections and the stable Morse theory. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 289–326. (Joa Weber) **98d:58057** 58F05 (58E05)

— (*with* Khenkin, G. M.; Shubin, Mikhail) L^2 holomorphic functions on pseudo-convex coverings. *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 81–94, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Nicolae Anghel) **98m:32028** 32F30 (32F20, 46H25, 46M20)

Gromov, N. A. (*with* Moskalyuk, S. S.) Irreducible representations of Cayley-Klein unitary algebras. (English summary) *New frontiers in algebras, groups and geometries (Moneroduni, 1995)*, 107–137, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Guang Yu Shen) **98m:17012** 17B15

— (*with* Moskalyuk, S. S.) Symplectic groups in Cayley-Klein spaces. (English summary) *Hadronic J.* **19** (1996), *no.* 4, 385–398. (Summary) **98j:20067** 20G99 (17B99, 51N30)

— (*with* Moskalyuk, S. S.) Classification of transitions between groups in Cayley-Klein spaces and kinematic groups. (English summary) *Hadronic J.* **19** (1996), *no.* 4, 407–435. (Summary) **98j:20068** 20G99 (17B99, 51N30)

— (*with* Kostyakov, I. V.; Kuratov, V. V.) Quantum orthogonal Cayley-Klein groups in Cartesian basis. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 33–41. (Mariano A. del Olmo) **98k:81111** 81R50 (17B37)

— (*with* Kostyakov, I. V.; Kuratov, V. V.) The quantum symplectic Cayley-Klein groups. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 177–182. (Nicolás Andruskiewitsch) **98b:81097** 81R50 (16W30, 17B37)

— (*with* Kostyakov, I. V.; Kuratov, V. V.) Contractions of integrable equations. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 183–188. (Valery V. Obukhov) **98b:58073** 58F07 (17B68)

Gromyak, M. (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Khoma, G. P.) ★ Asymptotic methods for investigating quasiwave equations of hyperbolic type. (English summary) Translated from the 1991 Russian original by Andrei Khruzin and revised by the authors. Mathematics and its Applications, 402. *Kluwer Academic Publishers Group, Dordrecht,*

1997. x+206 pp. *ISBN* 0-7923-4529-0 (Valery Covachev) **98g:35131** 35L10 (35B40, 35C20, 35Gxx, 35L70)

Gronau, Detlef *see* **Contributions to the theory of functional equations, 98d:39001**

Gronau, H.-D. O. F. (*with* Mullin, Ronald C.; Rosa, Alexander) Orthogonal double covers of complete graphs by trees. *Graphs Combin.* **13** (1997), *no.* 3, 251–262. (Stanislav Jendrol') **98h:05148** 05C70 (05C05, 05C10)

müller-Gronbach, Thomas *see* **Müller-Gronbach, Thomas**

Grønbæk, Niels Morita equivalence for self-induced Banach algebras. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 109–140. (Michael Frank) **98c:46090** 46H05 (16D90, 46H25)

— (*with* Willis, George A.) Embedding nilpotent finite-dimensional Banach algebras into amenable Banach algebras. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 99–107. (A. G. Myasnikov) **98a:46059** 46J10 (46H20)

Grønbech-Jensen, Niels (*with* Beazley, David M.; Lomdahl, Peter S.; Giles, Roscoe; Tamayo, Pablo) Parallel algorithms for short-range molecular dynamics. (English summary) *Annual reviews of computational physics, III*, 119–175, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98b:82075**) 82C80

— (*with* Sánchez, Angel; Bishop, Alan R.; Cai, David) On some conjectures about surface smoothing. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 339–343, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65D17

Grondin, F. Note on a vanishing well-poised ${}_{p+1}F_p(\pm 1)$. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 1, 77–84. (Summary) **98b:33016** 33C20 (33D20)

Gronewold, Anja (*with* Fleischhack, Hans) Computing Petri net languages by reductions. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 253–262, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q90 (68Q45)

Grönfors, Tapio (*with* Tian, Jilei; Juhola, Martti) AR parameter estimation by a feedback neural network. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 1, 17–24. 62M10

Grønn, Erik *see* **Economic and environmental risk and uncertainty, 98d:90007**

Gronwald, Frank Metric-affine gauge theory of gravity. I. Fundamental structure and field equations. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 263–303. (Yu. N. Obukhov) **98k:83074** 83D05

— BRST antifield treatment of metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 961–970. (Summary) **98j:83082** 83D05 (81T70)

de Groot, E. H. (*with* Dalitz, Ch.) Exact solution of a boundary value problem in semiconductor kinetic theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4629–4643. (Yan Guo) **98i:82054** 82C40 (82D10)

de Groot, Marko (*with* de Berg, Mark; Overmars, Mark H.) New results on binary space partitions in the plane. (English summary) *Comput. Geom.* **8** (1997), *no.* 6, 317–333. (Rade Živaljević) **98j:52019** 52B55 (68U05)

Groote, Jan Friso (*with* Bol, Roland) The meaning of negative premises in transition system specifications. (English summary) *J. ACM* **43** (1996), *no.* 5, 863–914. (Gheorghe Ştefănescu) **98e:68059** 68Q10 (68Q55)

— (*with* Fredlund, Lars-åke; Korver, Henri) Formal verification of a leader election protocol in process algebra. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 459–486. (Summary) **98e:68166** 68Q60 (68Q10)

de Groote, Philippe A simple calculus of exception handling. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 201–215, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:68032** 68N15 (03B40, 68Q42, 68Q55)

— An algebraic correctness criterion for intuitionistic proof-nets. *Logical foundations of computer science* (*Yaroslavl*, 1997), 130–140, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 03F50

— *see also* **Typed lambda calculi and applications, 98f:68017**

Grootendorst, A. W. *see* **de Witt, Jan, 98m:01008**

Grootendorst, Rob *see* **Logic and argumentation, 98f:03006**

Gropp, Harald Blocking set free configurations and their relations to digraphs and hypergraphs. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 359–370. (Summary) **98k:05034** 05B30 (05C20, 05C65)

— Configurations and their realization. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 137–151. (Summary) **98f:51005** 51A20 (05B25)

Gropp, William D. (*with* Cai, X.-C.; Keyes, D. E.; Tidriri, Moulay D.) Parallel implicit methods for aerodynamics. (English summary) *Domain decomposition methods in scientific and engineering computing* (*University Park, PA*, 1993), 465–470, *Contemp. Math.*, 180, *Amer. Math. Soc., Providence, RI*, 1994. (*see* **95i:65008**) 76M25 (76G25)

— (*with* Smith, Barry F.; Bjørstad, Petter E.) ★ Domain decomposition. (English summary) Parallel multilevel methods for elliptic partial differential equations. *Cambridge University Press, Cambridge*, 1996. xii+224 pp. *ISBN* 0-521-49589-X (Lutz Tobiska) **98g:65003** 65-01 (65M55, 65N55)

— (*with* Moré, Jorge J.) Optimization environments and the NEOS server. *Approximation theory and optimization* (*Cambridge*, 1996), 167–182, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98i:00037**) 90-04 (90C30)

Groppi, Maria A variational formulation of the oblique dipole layer model for cardiac potentials. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 159–168 (1997). (B. Kellogg) **98i:92015** 92C50 (65H10, 65N30, 92C10, 92C30)

Grorud, Axel (*with* Pontier, Monique) Comment détecter le délit d'initiés? (English and French summaries) [How to detect insider trading?] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1137–1142. (Summary) **98a:90017** 90A09 (60G99, 62F03, 90A60)

Grosche, Christian Conditionally solvable path integral problems. (English summary) *J. Phys. A* **28** (1995), *no.* 20, 5889–5902. (Takashi Ichinose) **98b:81122a** 81S40

— Conditionally solvable path integral problems. II. Natanzon potentials. (English summary) *J. Phys. A* **29** (1996), *no.* 2, 365–383. (Takashi Ichinose) **98b:81122b** 81S40

— (*with* Pogosyan, G. S.; Sisakyan, A. N.) On the interbasis expansion for the Kaluza-Klein monopole system. (English summary) *Ann. Physik* (8) **6** (1997), *no.* 2, 144–161. (Summary) **98a:81140** 81T20

— (*with* Karayan, Kh. H.; Pogosyan, G. S.; Sisakyan, A. N.) Quantum motion on the three-dimensional sphere: the ellipso-cylindrical bases. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1629–1657. (Summary) **98j:81059** 81Q05 (33C90)

Grosche, G. *see* **Handbook: Mathematics, 98a:00002**

Grošek, Otokar (*with* Satko, Ladislav; Schein, Boris M.) Professor Štefan Schwarz (1914–1996). *Semigroup Forum* **56** (1998), *no.* 2, 152–157. (Editors) **98k:01027** 01A70

Grosh, Karl (*with* Pinsky, Peter M.) Galerkin generalized least squares finite element methods for time-harmonic structural acoustics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 299–318. (Summary) **98m:76104** 76M10 (73K70, 76Q05)

Grosholz, Emily Descartes' *Geometry* and the classical tradition. *Revolution and continuity*, 183–196, *Stud. Philos. Hist. Philos.*, 24, *Cathol. Univ. Am. Press, Washington, DC*, 1991. (William R. Shea) **98b:01014** 01A45

Grosjean, C. C. Solving the general quintic equation by means of elementary algebraic techniques. (English summary) *Med. Konink. Acad. Wetensch. België* **57** (1995), *no.* 4, 1–137. (Gerhard Kowol) **98m:12001** 12E12

Gross, Benedict H. (*with* Wallach, Nolan R.) On quaternionic discrete series representations, and their continuations. (English summary) *J. Reine Angew. Math.* **481** (1996), 73–123. (D. Miličić) **98f:22022** 22E46

— (*with* Savin, Gordan) The dual pair $\mathrm{PGL}_3 \times G_2$. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 376–384. (Dihua Jiang) **98j:22012** 22E35 (11F70)

— On the motive of a reductive group. *Invent. Math.* **130** (1997), *no.* 2, 287–313. (Dipendra Prasad) **98m:20060** 20G35 (11G09, 11G40, 14F99, 20G30)

Gross, Christian Operators on differential forms for Lie transformation groups. (English summary) *J. Lie Theory* **6** (1996), *no.* 1, 1–17. (Akira Asada) **98j:58003** 58A10 (22E15, 53B05)

— Cohomology and connections on fiber bundles and applications to field theories. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6375–6394. (Noriaki Ano) **98e:53033** 53C05 (53C80)

— Cohomology and connection on S^1-bundles. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 123–132. (Akira Asada) **98k:53102** 53C80 (53C07, 57R22, 58A12, 81T13)

— A generalization of the exterior product of differential forms combining Hom-valued forms. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 587–602. (Fernando Etayo Gordejuela) **98k:58006** 58A10 (15A75, 53C05)

— Equivariant cohomology of the skyrmion bundle. The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 87–96. (Ion V. Vancea) **98j:53082** 53C80 (58A12, 81V05)

Gross, D. *see* **Gross, Dietmar**

Gross, Daniel (*with* Boesch, Francis T.; Suffel, Charles) Bounds for the k-node operating component reliability model. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 33–41. (*see* **98h:05002**) 68M15

Gross, Dietmar (*with* Schmidt, I.) The equilibrium shape of an elastically inhomogeneous inclusion. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 9, 1521–1549. (Alexander G. Kolpakov) **98j:73077** 73S10 (73B27, 73C99, 73V25)

Gross, Donald (*with* Harris, Carl M.) ★ Fundamentals of queueing theory. (English summary) Third edition. Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+439 pp. *ISBN* 0-471-17083-6 (Publisher's description) **98m:60144** 60K25 (68M20, 68U20, 90B22)

Gross, J. *see* **Groß, Jürgen**

Gross, J. L. (*with* Chen, Jianer) Algebraic specification of interconnection network relationships by permutation voltage graph mappings. (English summary) *Math. Systems Theory* **29** (1996), *no.* 5, 451–470. (Koduvayur R. Parthasarathy) **98a:05055** 05C10 (68M10, 68R10)

Gross, John (*with* Kaiser, Dan) Two simple algorithms for generating a subset of data consistent with WARP and other binary relations. (English summary) *J. Bus. Econom. Statist.* **14** (1996), *no.* 2, 251–255. 62P20

Groß, Jürgen Some remarks on the Löwner partial ordering of Hermitian matrices. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 191–195. (Summary) **98c:15071** 15A57 (15A18)

— (*with* Trenkler, Götz) Restrictions and projections in linear regression. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 465–468. (Summary) **98c:62125** 62J05

— Special generalized inverse matrices connected with the theory of unified least squares. (English summary) *Linear Algebra Appl.* **264** (1997), 325–327. 62J05 (15A09)

— (*with* Troschke, Sven-Oliver) Some remarks on partial orderings of nonnegative definite matrices. (English summary) *Linear Algebra Appl.* **264** (1997), 457–461. (Gregory Taylor) **98i:15024** 15A48 (62J05)

— (*with* Trenkler, Götz) Generalized and hypergeneralized projectors. (English summary) *Linear Algebra Appl.* **264** (1997), 463–474. (R. Kala) **98h:15004** 15A09 (15A24, 15A57)

— On semi-star-related matrices. (English summary) *Linear Algebra Appl.* **264** (1997), 495–503. (Jacques Dubois) **98h:15044** 15A57 (15A48)

— Some remarks on partial orderings of Hermitian matrices. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 53–60. (Gong Ning Chen) **98c:15072** 15A57

— A note on a partial ordering in the set of Hermitian matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 887–892. (Shu An Hu) **98i:15027** 15A57

— A note on equality of MINQUE and simple estimator in the general Gauss-Markov model. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 335–339. (Summary) **98j:62053** 62J05

— (*with* Liski, Erkki P.; Trenkler, Götz) Estimation from transformed data under the linear regression model. (English summary) *Statistics* **29** (1997), *no.* 3, 205–219. (Summary) **98g:62130** 62J05

— Schur's inequality reconsidered. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 629–630. 15A45

— More on concavity of a matrix function. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 365–368 (*electronic*). (Summary) **98m:15010** 15A09 (15A45, 62J12)

Gross, Kenneth I. (*with* Richards, Donald St. P.) Total positivity, harmonic analysis and random walks on Weyl chambers. (English summary) *Representation theory and harmonic analysis* (*Cincinnati, OH*, 1994), 153–161, *Contemp. Math.*, 191, *Amer. Math. Soc., Providence, RI*, 1995. (J. M. C. Joshi) **98a:33003** 33C80 (22E30, 22E46, 43A75, 60J15)

— (*with* Ding, Hongming; Richards, Donald St. P.) Ramanujan's master theorem for symmetric cones. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 447–490. (Jacques Faraut) **98b:43019** 43A90 (17C50, 33C50)

Gross, Leonard (*with* Malliavin, Paul) Hall's transform and the Segal-Bargmann map. (English summary) *Itô's stochastic calculus and probability theory*, 73–116, *Springer, Tokyo*, 1996. (Gerald B. Folland) **98j:22010** 22E30 (58G32, 60H30, 60J65)

Gross, Mark The deformation space of Calabi-Yau n-folds with canonical singularities can be obstructed. *Mirror symmetry, II*, 401–411, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Yujiro Kawamata) **98a:14054** 14J32 (14B12, 14J10)

— Primitive Calabi-Yau threefolds. *J. Differential Geom.* **45** (1997), *no.* 2, 288–318. (Dimitrios I. Dais) **98i:14038** 14J32 (14E30, 14J30)

— Deforming Calabi-Yau threefolds. *Math. Ann.* **308** (1997), *no.* 2, 187–220. (Dimitrios I. Dais) **98i:14039** 14J32 (14E05, 14J30)

— Elliptic three-folds. II. Multiple fibres. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 9, 3409–3468. (From the introduction) **98i:14036** 14J30

Gross, Paul R. *see* **Flight from science and reason, 98i:00013**

Gross, Peter M. (*with* Chen, Yu[7]; Ramakrishna, Viswanath; Rabitz, Herschel; Mease, Kenneth D.; Singh, Harjinder) Control of classical regime molecular objectives—applications of tracking and variations on the theme. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1617–1633. 93C95 (93C83)

Gross, Shulamith T. (*with* Lai, Tze Leung) Nonparametric estimation and regression analysis with left-truncated and right-censored data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1166–1180. (Keh-Wei Chen) **98d:62059** 62G05

Grosse, Harald (*with* Kummer, W.; Prešnajder, P.; Schwarz, D. J.) Non-linear gauge symmetry in R^2-gravity in two dimensions. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1325–1329. (Summary) **98c:83081** 83D05

— (*with* Maderner, Walter; Reitberger, Christian) Can anomalies melt? (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 313–327, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98j:81319** 81T50 (46L60, 58B30, 81T25)

— Introduction to integrable models of statistical physics. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 107–123, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Andrey V. Tsiganov) **98j:82012** 82B20 (82–02, 82B23)

— (*with* Klimčik, Ctirad; Prešnajder, P.) The finite gauge model on the truncated sphere. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 279–283, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81T13 (58B30)

— (*with* Langmann, Edwin; Raschhofer, Ernst) The Luttinger-Schwinger model. (English summary) *Ann. Physics* **253** (1997), *no.* 2, 310–331. (Summary) **98g:81124** 81T10 (81V70)

— (*with* Klimčik, Ctirad; Prešnajder, P.) Field theory on a supersymmetric lattice. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 155–175. (Gianpiero Mangano) **98j:81237** 81T25 (58B30, 81T60)

— *see also* **Low-dimensional models in statistical physics and quantum field theory, 98e:81002**

Große-Brauckmann, Karsten Stable constant mean curvature surfaces minimize area. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 527–534. (Fei-Tsen Liang) **98e:53007** 53A10 (49Q05, 49Q25, 58E12)

— (*with* Polthier, Konrad) Compact constant mean curvature surfaces with low genus. (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 13–32. (Fei-Tsen Liang) **98i:53012** 53A10 (49Q05)

— Gyroids of constant mean curvature. (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 33–50. (Fei-Tsen Liang) **98i:53013** 53A10 (49Q05)

Grosse-Erdmann, Karl-Goswin (*with* Díaz Alcaide, Juan Carlos) On non-distinguished matrix domains. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 285–290. (Summary) **98h:46005** 46A45

Grosser, Michael Quasi-multipliers of the algebra of approximable operators and its duals. (English summary) *Studia Math.* **124** (1997), *no.* 3, 291–300. (Sandy Grabiner) **98k:46029** 46B28 (46H25, 47D30)

Grossi, Massimo Existence and multiplicity results of an elliptic equation in unbounded domains. *Variational methods in nonlinear analysis* (*Erice*, 1992), 91–101, *Gordon and Breach, Basel*, 1995. (Xin Kang Guo) **98c:35056** 35J65

— (*with* Dall'Aglio, Andrea) A perturbation theorem for the equation $-\Delta u + \lambda u = u^p$ in unbounded domains. *Nonlinear Anal.* **28** (1997), *no.* 11, 1867–1877. (Yoshihito Tomita) **98a:35029** 35J60 (35B20)

Grossi, Roberto (*with* Giancarlo, Raffaele) On the construction of classes of suffix trees for square matrices: algorithms and applications. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 111–122, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68P05 (68P20)

— (*with* Giancarlo, Raffaele) Multi-dimensional pattern matching with dimensional wildcards. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 90–101, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q20 (68Q25)

— (*with* Giancarlo, Raffaele) On the construction of classes of suffix trees for square matrices: algorithms and applications. (English summary) *Inform. and Comput.* **130** (1996), *no.* 2, 151–182. (Summary) **98i:68059** 68P05

— (*with* Ferragina, Paolo; Montangero, Manuela) A note on updating suffix tree labels. (English summary) *Algorithms and complexity* (*Rome*, 1997), 181–192, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68P05 (68Q20)

— (*with* Giancarlo, Raffaele) Multi-dimensional pattern matching with dimensional wildcards: data structures and optimal on-line search algorithms. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 223–265. (D. M. Campbell) **98i:68111** 68Q20 (68Q25)

Grössing, Gerhard An experiment to decide between the causal and the Copenhagen interpretations of quantum mechanics. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 438–444, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P05

Grössing, Helmuth *see* **Šolle, Zdenko**

Grossinho, Maria do Rosário (*with* Ma, To Fu) Nontrivial solutions for a fourth order O.D.E. with singular boundary conditions. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 123–130, *VSP, Utrecht*, 1997. (L. E. Bobisud) **98e:34036** 34B15 (58E05)

— (*with* Omari, Pierpaolo) A multiplicity result for a class of quasilinear elliptic and parabolic problems. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 08, 1–16 (*electronic*). (Zuchi Chen) **98c:35057** 35J65 (35B32, 35K60)

Grossman, George W. Fractal construction by orthogonal projection using the Fibonacci sequence. *Fibonacci Quart.* **35** (1997), *no.* 3, 206–224. (A. N. Philippou) **98h:11022** 11B39

Grossman, Jerrold W. (*with* Dunbar, Jean E.; Hattingh, Johannes H.; Hedetniemi, Stephen T.; McRae, Alice A.) On weakly connected domination in graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 261–269. (Summary) **98b:05055** 05C35

— Spanning star trees in regular graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 353–358. (Renu Laskar) **98m:05044** 05C05

Grossmann, Ch. (*with* Al-Musallam, Fadhel; Al-Zanaidi, M. A.) A grid generator for problems on unbounded intervals with rationally decaying solutions. (English and German summaries) *Computing* **58** (1997), *no.* 2, 157–171. (Henning Esser) **98a:65097** 65L10

— (*with* Adams, Ernst Wilhelm; Baumann, Katrin) Comparison of direct to shooting enclosures for an inverse-monotone boundary value problem with locally steep solution. (English summary) *Computing* **59** (1997), *no.* 1, 63–83. (Summary) **98g:65068** 65L10 (34B15, 34E15)

— Smoothing of elliptic differential inclusions and its iterative treatment. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 93–105. (Summary) **98b:35062** 35J65 (35R70, 65N99)

Großmann, Frank (*with* Rost, Jan-Michael; Schleich, Wolfgang P.) Spacetime structures in simple quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 9, L277–L283. (Jens Marklof) **98f:81055** 81Q05

Grossmann, Ignacio E. (*with* Kravanja, Zdravko) Mixed-integer nonlinear programming: a survey of algorithms and applications. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 73–100, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98f:90040** 90C11 (90C90)

Grossmann, Siegfried (*with* Nicodemus, Rolf; Holthaus, Martin) Improved variational principle for bounds on energy dissipation in turbulent shear flow. (English summary) *Phys. D* **101** (1997), *no.* 1-2, 178–190. (Introduction) **98d:76076** 76F10 (76M30)

— (*with* Nicodemus, Rolf; Holthaus, Martin) Variational bound on energy dissipation in plane Couette flow. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6774–6786. (Summary) **98k:76078** 76F99

Grosu, Corina A generalized Legendre transformation connected with dispersive media. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 164–167. (Mihai Anastasiei) **98i:53029** 53B40 (78A10)

Grosu, Marta Rheonomic Lagrange spaces. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 223–228. (László Kozma) **98f:53020** 53B40

— Time dependent nonlinear connections. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 168–173. (Tadashi Aikou) **98j:53021** 53B15 (53B40)

Grot, Norbert (*with* Rovelli, Carlo) Moduli-space structure of knots with intersections. (English summary) *J. Math. Phys.* **37** (1996), *no.* 6, 3014–3021. (Jonathan A. Poritz) **98f:57010** 57M25 (57M30, 58D10)

— (*with* Rovelli, Carlo; Tate, Ranjeet S.) Time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 6, 4676–4690. (Michael B. Mensky) **98e:81017** 81P15

— (*with* Rovelli, Carlo) Weave states in loop quantum gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 1039–1048. (José A. Zapata) **98i:83033** 83C45 (81V17)

Grote, Marcus J. (*with* Keller, Joseph B.) Nonreflecting boundary conditions for time-dependent scattering. (English summary) *J. Comput. Phys.* **127** (1996), *no.* 1, 52–65. (Summary) **98e:76062** 76M10 (65M06, 65M60, 76M20)

— (*with* Majda, Andrew J.) Model dynamics and vertical collapse in decaying strongly stratified flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2932–2940. (Summary) **98g:76049** 76F99 (76M25, 76V05)

— (*with* Majda, Andrew J.) Crude closure dynamics through large scale statistical theories. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3431–3442. (Summary) **98i:76045** 76F99 (76M35)

— (*with* Huckle, Thomas K.) Parallel preconditioning with sparse approximate inverses. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 838–853. (Zahari Zlatev) **98f:65033** 65Fxx (65Y05)

Grotendiek, Torsten (*with* Löwe, Matthias) Optimal running times for systems of random walks involving several particles. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 293–313. (Summary) **98d:60138** 60J15 (60K35)

Groth, W. (*with* Doebner, H.-D.) Quantum Borel kinematics on three-dimensional manifolds and knot groups. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L503–L506. (Răzvan Gelca) **98m:57003** 57M12 (57M25, 81S10)

Grothendieck, Alexander Résumé de la théorie métrique des produits tensoriels topologiques. [Summary of the metric theory of topological tensor products] Reprint of Bol. Soc. Mat. São Paulo **8** (1953), 1–79 [MR **20** #1194]. *Resenhas* **2** (1996), *no.* 4, 401–480. (Editors) **98e:46091** 46M05 (01A75, 46Axx)

— *see also* **Geometric Galois actions, 98e:14003**

Grothey, Andreas (*with* Fletcher, Roger; Leyffer, Sven) Computing sparse Hessian and Jacobian approximations with optimal hereditary properties. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 37–52, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98e:90155** 90C30 (65F50)

Grotowski, Joseph F. Boundary value problems for energy minimizing harmonic maps. Variational problems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 951 (1996), 155–160. (Martin Fuchs) **98b:58044** 58E20

Grötschel, Martin (*with* Monma, C. L.; Stoer, Mechthild) Design of survivable networks. *Network models*, 617–672, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90B12 (68M15, 94C12, 94C15)

— Der Weg der Mathematik in die Informationsgesellschaft. I. (German summary) [The path of mathematics into an information society. I] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3,

48–57. 00A99
— Der Weg der Mathematik in die Informationsgesellschaft. II. (German summary) [The path of mathematics into an information society. II] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 43–48. 00A99

Grotta Ragazzo, Clodoaldo On the stability of double homoclinic loops. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 251–272. (Boris Buffoni) **98g:34080** 34C37 (34D99, 58F22, 70H05, 70K20)
— Irregular dynamics and homoclinic orbits to Hamiltonian saddle centers. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 2, 105–147. (Lev Lerman) **98d:58151** 58F22 (34C37, 58F05, 70H05)
— Stability of homoclinic orbits and diffusion in phase space. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 183–189. (Efthymia Meletlidou) **98e:58106** 58F10 (34C37, 58F13, 70H05)
— (*with* Pakdaman, K.; Malta, C. P.; Viber, J.-F.) Delay-induced transient oscillations in a two-neuron network. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 45–54. (*see* **98d:00026**) 92B20 (34K15, 92C20)

Grötzsch, Herbert Camillo *see* **Kühnau, Reiner**, **98h:01026** *and* **Tietz, Horst**, **98h:01027**

Grousouzakou, E. (*with* Contopoulos, G.) Regular and irregular periodic orbits. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 33–56. (Summary) **98h:70012** 70F15 (34C23, 34C25, 58F22, 70K50)

Iatiri-Grouz, Chiraz *see* **Latiri-Grouz, Chiraz**

Grove, Adam J. (*with* Bacchus, Fahiem; Halpern, Joseph Y.; Koller, Daphne) From statistical knowledge bases to degrees of belief. (English summary) *Artificial Intelligence* **87** (1996), *no.* 1-2, 75–143. (Jerzy W. Grzymała-Busse) **98g:68159** 68T30
— (*with* Halpern, Joseph Y.; Koller, Daphne) Asymptotic conditional probabilities: the non-unary case. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 1, 250–276. (Summary) **98g:03108** 03D35 (03B48, 03C13)
— (*with* Bacchus, Fahiem; Boutilier, Craig) Structured solution methods for non-Markovian decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 112–117, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C39
— (*with* Greiner, Russell; Kogan, A. Yu.) Knowing what doesn't matter: exploiting the omission of irrelevant data. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 345–380. (Summary) **98k:68146** 68T05

Grove, E. A. (*with* Ladas, G.; Kocic, V. L.; Levins, R.) Oscillation and stability in a genotype selection model with several delays. Difference equations: theory and applications (San Francisco, CA, 1995). *J. Differ. Equations Appl.* **2** (1996), *no.* 2, 205–217. (Sui Yang Chen) **98a:39016** 39A11 (92D40, 92F05)
— (*with* Ladas, G.; Zhang, Shu Nian) On a nonlinear equation with piecewise constant argument. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 1, 67–79. (V. Šeda) **98a:34076** 34K15 (34K20)
— (*with* Kent, C. M.; Ladas, G.) Boundedness and persistence of the nonautonomous Lyness and max equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 241–258. (Summary) **98m:39013** 39A10

Grove, Edward F. (*with* Barve, Rakesh D.; Vitter, Jeffrey Scott) Simple randomized mergesort on parallel disks. (English summary) *Parallel Comput.* **23** (1997), *no.* 4-5, 601–631. (Summary) **98d:68054** 68P10 (68Q22)

Grove, John W. (*with* Boston, Brian; Glimm, James; Holmes, Richard L.; Zhang, Qiang[1]) Multiscale structure for hyperbolic waves. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 1–9, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65

Grove, Karsten (*with* Wilhelm, Frederick) Metric constraints on exotic spheres via Alexandrov geometry. *J. Reine Angew. Math.* **487** (1997), 201–217. (Zhongmin Shen) **98d:53060** 53C23 (53C20)

Grove, Larry C. ★ Groups and characters. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. x+212 *pp. ISBN* 0-471-16340-6 (Roderick Gow) **98e:20012** 20C15 (20–01, 20D99)

Groves, J. R. J. Minimal length normal forms for some soluble groups. (English summary) *J. Pure Appl. Algebra* **114** (1996), *no.* 1, 51–58. (Martin Edjvet) **98b:20044** 20F05 (20E06)
— An algorithm for computing homology groups. *J. Algebra* **194** (1997), *no.* 2, 331–361. (D. F. Holt) **98g:20082** 20J05 (20–04, 20F05)

Groves, Mark D. (*with* Toland, John F.) On variational formulations for steady water waves. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 3, 203–226. (Hisashi Okamoto) **98j:76010** 76B15 (35Q35, 58F05, 58F40, 76M30)
— (*with* Champneys, Alan R.) A global investigation of solitary-wave solutions to a two-parameter model for water waves. (English summary) *J. Fluid Mech.* **342** (1997), 199–229. (Boris Buffoni) **98f:76015** 76B25 (34C37, 35Q35, 76B15)
— On the existence of trapped modes in channels of arbitrary cross-section. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 6, 521–545. (Nikolay G. Kuznetsov) **98c:76012** 76B15 (35Q35, 47N20)
— Solitary-wave solutions to a class of fifth-order model equations. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 341–353. (Summary) **98k:35167** 35Q53 (34C37)

Groves, S. E. (*with* Zocher, M. A.; Allen, D. H.) A three-dimensional finite element formulation for thermoviscoelastic orthotropic media. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 12, 2267–2288. (Summary) **98a:73058** 73V05 (73B30, 73B40, 73F25)

Groza, Ghiocel On a class of integral functions in valued fields. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 7–14. (Joachim Schmid) **98d:12005** 12J10 (13B25)

Groza, V. A. (*with* Kachurik, I. I.; Klimyk, A. U.) *q*-deformed Euclidean algebras and their representations. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 467–475; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 706–712. (Michèle Irac-Astaud) **98h:17015** 17B37 (17B10, 81R50)

Grozin, A. G. ★ Using REDUCE in high energy physics. *Cambridge University Press, Cambridge*, 1997. xiv+384 *pp. ISBN* 0-521-56002-0 (T. C. Mohan) **98j:81002** 81–04

Grozovskiĭ, T. M. Bifurcations of "apple" and "half-apple" polycycles in generic two-parameter families. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 458–469, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 459–470. (Sergei Yu. Yakovenko) **98b:58126** 58F14 (34C05, 34C23, 58F21)

Gruais, Isabelle (*with* Dauge, Monique) Asymptotics of arbitrary order for a thin elastic clamped plate. I. Optimal error estimates. (English summary) *Asymptotic Anal.* **13** (1996), *no.* 2, 167–197. (Tomasz Lewiński) **98b:73022** 73K10 (35C20, 73C99, 73V99)

Grubb, Anthea Multilinear maps as linear maps on a set of vectors of rank one. (English summary) *J. Natur. Geom.* **12** (1997), *no.* 2, 141–150. (C. S. Sharma) **98h:15053** 15A69 (15A04)

Grubb, D. J. (*with* Moore, Charles N.) A variant of Hörmander's condition for singular integrals. *Colloq. Math.* **73** (1997), *no.* 2, 165–172. (Shan Zhen Lu) **98h:42015** 42B20 (45P05, 47B38, 47G10)
— Signed quasi-measures. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 3, 1081–1089. (Finn F. Knudsen) **98c:28012** 28C05

Grubb, Gerd Parametrized pseudodifferential operators and geometric invariants. (English summary) *Microlocal analysis and spectral theory* (*Lucca*, 1996), 115–164, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Matthias Lesch) **98j:58115** 58G15 (35S05, 47G30, 58G11, 58G26)
— Pseudodifferential boundary problems and applications. *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 3, 110–121. (William Margulies) **98j:35197** 35S15 (47G30, 58G15, 58G20)

Grubbström, Robert W. Multi-level, multi-period production-inventory systems applying transform and input-output methodology. *SOR '97 Proceedings* (*Preddvor*), 13–25, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90B05 (90A15)

Grübel, Rudolf Orthogonalization of multivariate location estimators: the orthomedian. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1457–1473. (Hannu Oja) **98d:62097** 62H12 (62F35, 62G05, 62G20)

Gruber, Bruno *see* **Symmetries in science**, **98e:81003**

Gruber, Christian (*with* Macris, Nicolas; Messager, Alain; Ueltschi, Daniel) Ground states and flux configurations of the two-dimensional Falicov-Kimball model. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 57–108. (Summary) **98a:82017** 82B20 (82B41)
— (*with* Piguet, C.-A.; Wang, Deng Feng) Off-diagonal long-range order and Meissner effect for lattice systems. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1363–1369. (Summary) **98i:82018** 82B20

Gruber, Jochen Modular representation theory of finite groups of Lie type. *Darstellungstheoretage Jena* 1996, 55–66, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Donald L. White) **98a:20018** 20C33 (20C20, 20G40)

Gruber, Josef (*with* Tangyan, A. S.) Constructing quadratic and polynomial objective functions. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 166–194, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90A05 (90C30)
— *see also* **Constructing scalar-valued objective functions**, **98d:90006**

Gruber, Peter Manfred Basic problems and recent progress in convex geometry. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 22–33, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (P. McMullen) **98j:52001** 52–02
— Stability of Blaschke's characterization of ellipsoids and Radon norms. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 411–427. (P. R. Goodey) **98d:52005** 52A20 (52A10, 52A40)
— (*with* Glasauer, Stefan) Asymptotic estimates for best and stepwise approximation of convex bodies. III. (English summary) *Forum Math.* **9** (1997), *no.* 4, 383–404. (Marek Lassak) **98i:52008** 52A27 (52B60)
— Comparisons of best and random approximation of convex bodies by polytopes. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 189–216. (Marek Lassak) **98m:52008** 52A27 (41A99)

Grubišić, Vanda (*with* Smolarkiewicz, Piotr K.) The effect of critical levels on 3D orographic flows: linear regime. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 15, 1943–1960. (Summary) **98g:86006** 86A10 (76C15, 76V05, 86–04)

Grudnitskiĭ, V. G. Generalized characteristics and a sufficient stability condition for Euler equations with discontinuous solutions. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 12, 121–125. (Summary) **98k:76097** 76M20 (76N10)

Grudskiĭ, S. M. (*with* Böttcher, Albrecht; Silbermann, Bernd) Norms of inverses, spectra, and pseudospectra of large truncated Wiener-Hopf operators and Toeplitz matrices. (English summary) *New York J. Math.* **3** (1997), 1–31 (*electronic*). (Estelle L. Basor) **98d:47057** 47B35 (47A75)

Grudzień, Zofia (*with* Szynal, Dominik) Characterizations of distributions in terms of record values with random index. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 125–134. (J. Panaretos) **98k:62010** 62E10
— (*with* Szynal, Dominik) Characterizations of uniform and exponential distributions via moments of the kth record values randomly indexed. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 3, 307–314. (Moshe Shaked) **98e:62022** 62E10 (60E99)

Grudziński, K. (*with* Wybourne, Brian G.) Computing properties of the non-compact groups Mp($2n$) and Sp($2n$, **R**) using SCHUR. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 469–483, *World Sci. Publishing, River Edge, NJ*, 1995. (A. U. Klimyk) **98m:81049** 81R05 (22–04, 22E46)
— (*with* Wybourne, Brian G.) Symplectic models of n-particle systems. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 251–266. (A. Ventura) **98d:81134** 81V70 (81R05)

Grue, John (*with* Friis, Helmer André; Palm, Enok; Rusås, Per Olav) A method for computing unsteady fully nonlinear interfacial waves. (English summary) *J. Fluid Mech.* **351** (1997), 223–252. (Summary) **98i:76021** 76C10 (76M25, 86–08, 86A05)
— (*with* Øksendal, Bernt) A stochastic oscillator with time-dependent damping. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 113–131. (Tu Sheng Zhang) **98f:60123** 60H15 (60G20)

Gruenberg, K. W. (*with* Weiss, Alfred R.) Galois invariants for S-units. (English summary) *Amer. J. Math.* **119** (1997), *no.* 5, 953–983. (Nigel Byott) **98j:11103** 11R33 (20C10)

Gruenhage, Gary $\mathbf{R}^3$ can be the union of fewer than 2^{ω}-many disjoint arcs. *Papers on general topology and applications (Brookville, NY, 1990)*, 86–88, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (*see* **98f:54003**) 54A35 (03E35, 54B15, 54F15)

— (*with* Ma, Daniel K.) Baireness of $C_k(X)$ for locally compact X. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 131–139. (Robert A. McCoy) **98f:54018** 54C35 (54E52)

Gruet, J.-C. (*with* Shi, Zhan) On the Spitzer and Chung laws of the iterated logarithm for Brownian motion. *Séminaire de Probabilités, XXIX*, 237–247, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Davar Khoshnevisan) **98j:60046** 60F15 (60J65)

— Semi-groupe du mouvement brownien hyperbolique. (French summary) [Semigroup of hyperbolic Brownian motion] *Stochastics Stochastics Rep.* **56** (1996), *no.* 1-2, 53–61. (Elton Pei Hsu) **98b:60135** 60J60 (58G32)

Grujić, Ljubomir T. (*with* Perruquetti, W.; Richard, Jean-Pierre; Borne, P.) On practical stability with the settling time via vector norms. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 173–189. 93D09

— New approach to asymptotic stability: time-varying nonlinear systems. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 347–366. (Dirk Aeyels and Joan Peuteman) **98c:34082** 34D20 (34A34, 93D05)

— Physical continuity and uniqueness principle. Exponential natural tracking control. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 2, 143–169. 93C83 (93D15)

Grulović, Milan Z. A word on the joint embedding property. (English summary) *Mat. Vesnik* **47** (1995), *no.* 1-2, 39–47. (G. Cherlin) **98i:03047** 03C52 (03C25, 03C62)

— (*with* Bosnjak, Ivica) On one absorption law in groupoid theory. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 389–395. 20N02

— (*with* Kurilić, Miloš S.) L_{γ}-Horn sentences and reduced products. (English summary) *Publ. Math. Debrecen* **48** (1996), *no.* 1-2, 175–190. (Summary) **98g:03086** 03C40 (03C65, 03C85, 54B10, 54B15)

— (*with* Kurilić, Miloš S.) On separatedness of reduced ideal-products. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 921–927. 54B10 (54D10)

Grumbach, Stéphane (*with* Su, Jianwen) First-order definability over constraint databases (extended abstract). (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 121–136, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 68P15 (03B70)

— (*with* Lacroix, Zoé; Lindell, Steven) Generalized implicit definitions on finite structures. (English summary) *Computer science logic (Paderborn, 1995)*, 252–265, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98f:03035** 03C13 (03D15, 68P15, 68Q15)

— (*with* Lacroix, Zoé) On non-determinism in machines and languages. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 169–213. (Christine Charretton) **98f:68099** 68Q15 (03D15, 68P15)

Grumberg, Orna (*with* Fix, Limor) Verification of temporal properties. (English summary) *J. Logic Comput.* **6** (1996), *no.* 3, 343–361. (G. Mirkowska) **98i:68188** 68Q60 (03B35, 03B45)

Grunau, Hans-Christoph On a conjecture of P. Pucci and J. Serrin. (English summary) *Analysis* **16** (1996), *no.* 4, 399–403. (Yoshihito Tomita) **98a:35038** 35J65 (35J40)

— (*with* Sweers, Guido) Positivity for equations involving polyharmonic operators with Dirichlet boundary conditions. *Math. Ann.* **307** (1997), *no.* 4, 589–626. (Ya. A. Roĭtberg) **98g:35058** 35J40 (35B50)

— Uniqueness of small solutions to the Dirichlet problem for the higher-dimensional H-system. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 801–815. (Elvira Mascolo) **98k:35054** 35J60

— (*with* Sweers, Guido) The maximum principle and positive principal eigenfunctions for polyharmonic equations. *Reaction diffusion systems (Trieste, 1995)*, 163–182, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Jan Bochenek) **98h:35050** 35J40 (35B20, 35B50, 47F05)

Grünbaum, Branko Isogonal prismatoids. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 13–52. (Ren Ding) **98g:52020** 52B15 (52B70)

— (*with* Shephard, G. C.) Ceva, Menelaus, and selftransversality. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 179–192. (Summary) **98d:51012** 51M04

— Still more rhombic hexecontahedra. *Geombinatorics* **6** (1997), *no.* 4, 140–142. (R. Blind) **98f:52008** 52B10

— On quadrangles derived from quadrangles. *Geombinatorics* **7** (1997), *no.* 1, 5–8. (Maria Scafati Tallini) **98e:51024** 51M04

— On quadrangles derived from quadrangles. II. *Geombinatorics* **7** (1997), *no.* 2, 41–46. (Maria Scafati Tallini) **98k:51032** 51M04

Grünbaum, F. Alberto (*with* Haine, Luc) A theorem of Bochner, revisited. *Algebraic aspects of integrable systems*, 143–172, *Progr. Nonlinear Differential Equations Appl.*, 26, *Birkhäuser Boston, Boston, MA*, 1997. (Jorge P. Zubelli) **98f:58103** 58F07 (17B68, 33C45, 39A70)

— (*with* Haine, Luc) Some functions that generalize the Askey-Wilson polynomials. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 173–202. (Alexei Zhedanov) **98h:33008** 33D45 (58F19)

— (*with* Haine, Luc) Bispectral Darboux transformations: an extension of the Krall polynomials. *Internat. Math. Res. Notices* **1997**, *no.* 8, 359–392. (Jorge P. Zubelli) **98k:58200** 58F37 (33C45, 42C15)

Grund, Birgit (*with* Polzehl, Jörg) Bias corrected bootstrap bandwidth selection. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 2, 97–126. (Summary) **98g:62063** 62G05 (62G09)

Grund, R. (*with* Benecke, Ch.; Hohberger, R.; Kerber, Adalbert; Laue, Reinhard; Wieland, Thomas) Chemical isomerism, a challenge for algebraic combinatorics and for computer science. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 4–20, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the summary) **98a:92009** 92E10

Gründer, B. (*with* Franke, Jürgen) General Kriging for spatial-temporal processes with random ARX-regression parameters. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II (1995)*, 177–189, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M30

Grundhöfer, Theo Commutativity of finite groups according to Wedderburn and Witt. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 425–426. 20D60

Grundland, Alfred M. (*with* Martina, Luigi; Rideau, Guy) Partial differential equations with differential constraints. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 135–154, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:35008** 35A30 (35Q58, 58G35)

Grundling, Hendrik B. A group algebra for inductive limit groups. Continuity problems of the canonical commutation relations. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 2, 107–145. (Antoni Wawrzynczyk) **98k:22026** 22D15 (22D25, 43A10, 46L05, 46L60, 81S05)

— (*with* Gotay, Mark J.) On quantizing T^*S^1. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 107–123. (Ivailo M. Mladenov) **98m:58043** 58F06 (81S10)

Grundman, H. G. Hilbert modular varieties of Galois quartic fields. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 47–58. (K.-B. Gundlach) **98c:11040** 11F41 (11R42, 14G35)

Grundmann, H. *see* **Transform methods in solid mechanics, 98h:73004**

Grundy, J. *see* **Theorem proving in higher order logics, 98c:68024**

Grundy, R. E. (*with* McLaughlin, Raymond) Global blow-up of separable solutions of the vorticity equation. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 287–307. (Summary) **98m:76062** 76D99 (35Q35, 76W05)

Grüne, Lars An adaptive grid scheme for the discrete Hamilton-Jacobi-Bellman equation. (English summary) *Numer. Math.* **75** (1997), *no.* 3, 319–337. (Svetozar D. Margenov) **98b:65136** 65N50 (49L25, 49M25)

Grunenfelder, Luzius (*with* Košir, Tomaž) Koszul cohomology for finite families of comodule maps and applications. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 459–479. (Stefaan Caenepeel) **98a:16041** 16W30 (15A99)

— (*with* Guralnick, Robert M.; Košir, Tomaž; Radjavi, Heydar) Permutability of characters on algebras. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 63–70. (George F. Seelinger) **98c:16037** 16S50 (15A27, 15A30)

— (*with* Košir, Tomaž) Geometric aspects of multiparameter spectral theory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2525–2546. (J. Čižmár) **98h:13032** 13H15 (14M12, 15A54)

Grüner, J. (*with* Zoller, K.) Computing partial expectations from tables. (English summary) *Computing* **59** (1997), *no.* 3, 277–284. 65U05 (65C20)

Grüner, Thomas (*with* Laue, Reinhard; Meringer, Markus) Algorithms for group actions applied to graph generation. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 113–122, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:05136** 05C85 (05C25, 68R10)

Grunewald, Fritz (*with* Huntebrinker, Wolfgang) A numerical study of eigenvalues of the hyperbolic Laplacian for polyhedra with one cusp. (English summary) *Experiment. Math.* **5** (1996), *no.* 1, 57–80. (Christopher M. Judge) **98f:11052a** 11F72 (11Y35, 35P99, 58G25, 65N25)

— (*with* Elstrodt, J.; Mennicke, Jens L.) ★ Groups acting on hyperbolic space. (English summary) Harmonic analysis and number theory. Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. xvi+524 *pp. ISBN* 3-540-62745-6 (Stefan Kühnlein) **98g:11058** 11F72 (11F12, 11M36, 22E40, 57M50, 57S30)

Grünfeld, C. P. (*with* Georgescu, E.) On a class of kinetic equations for reacting gas mixtures. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 408–435. (Nicola Bellomo) **98k:82153** 82C40 (45K05, 76P05)

Grunskiĭ, I. S. (*with* Kurganskiĭ, A. N.) Indistinguishability of finite automata with restricted behavior. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 5, 58–72, 188; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 5, 655–663 (1997). (A. D. Korshunov) **98c:68140** 68Q68

Grunwald, Gary K. (*with* Hamza, Kais; Hyndman, Rob J.) Some properties and generalizations of non-negative Bayesian time series models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 615–626. (Bert M. Steece) **98g:62164** 62M10

Grunwald, Malte Sherrington-Kirkpatrick spin-glass dynamics. II. The discrete setting. *Mathematical aspects of spin glasses and neural networks*, 355–382, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **98i:82002**) 82D30 (82C31)

Grushevskiĭ, S. P. On the distribution of the values of Cauchy-type integrals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 4, 24–30; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 4, 22–28. (D. M. Israfilov) **98a:30045** 30E20

Gruska, Damas P. Bounded concurrency. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 198–209, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q10

Gruska, Jozef (*with* Monti, Angelo; Napoli, Margerita; Parente, Domenico) Succinctness of descriptions of SBTA-languages. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 251–271. (Kai Salomaa) **98m:68190** 68Q80 (68Q68)

Gruson, Caroline Finitude de l'homologie de certains modules de dimension finie sur une super algèbre de Lie. (English summary) [Finiteness of the homology of certain finite-dimensional modules over a Lie superalgebra] *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 2, 531–553. (Elena Poletaeva) **98b:17024** 17B55 (17B56)

Grüter, Michael A remark on isolated singularities at the free boundary of harmonic maps. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 173–178. (Martin Fuchs) **98b:58045** 58E20 (35R35, 49N60)

Gruyitch, Lyubomir T. *see* **Grujić, Ljubomir T.**

Gryazin, Yu. A. (*with* Chernyĭ, S. G.; Sharov, S. V.; Shashkin, P. A.) On a method for the numerical solution of three-dimensional problems of the dynamics of an uncompressible fluid. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 478–483; *translation in Phys. Dokl.* **42** (1997), *no.* 4, 201–207. 76M25

Grygarová, L. A calculation of all separating hyperplanes of two convex polytopes. (English summary) *Optimization* **41** (1997), *no.* 1, 57–69. (Summary) **98f:90047** 90C25 (52B12)

Gryn′, V. I. Transformation of an Abel-type integral equation with nonsmooth data to an integral equation of the second kind. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 1, 85–106. (Cornelis van der Mee) **98a:45006** 45E10 (45B05)

— Exact solutions of the equation of stationary radiation transfer in one-dimensional plane and spherical geometries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 841–861. (Summary) **98h:85004** 85A25 (45K05)

— Correction to: "Transformation of an Abel-type integral equation with nonsmooth data to an integral equation of the second kind" [Zh. Vychisl. Mat. Mat. Fiz. **37** (1997), no.

1, 85–106; MR 98a:45006]. (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 1024. 45E10 (45B05)

Grypeos, M. E. (*with* Liolios, T. E.) The Jacobi eigenfunctions and the quantum mechanical hypervirial theorems method for bound-state problems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, L325–L330. (Summary) **98c:81039** 81Q05

Grytczuk, Aleksander Note on a Pythagorean ring. (English summary) *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 83–89. (Summary) **98c:11022** 11D09

Grytczuk, Jarosław Infinite self-similar words. (English summary) *Discrete Math.* **161** (1996), *no.* 1-3, 133–141. (Véronique Bruyère) **98a:68154** 68R15

Grząślewicz, Ryszard Geometric properties of Banach spaces. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 417–419, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 46B20

— Smoothness in $\mathscr{L}(C(X), C(Y))$. (English summary) 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 25–28. (Summary) **98k:46030** 46B28 (46E15, 47D20)

— On positive operator-valued continuous maps. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 499–505. (Rajappa K. Asthagiri) **98b:46048** 46E40 (46B28, 47A56, 47D20)

— (*with* Hadid, Samir B.) Denting point in the space of operator-valued continuous maps. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 289–294. (K. Floret) **98b:46049** 46E40 (46B20, 47D20)

— Extreme continuous function property. *Acta Math. Hungar.* **74** (1997), *no.* 1-2, 93–99. (W. W. Breckner) **98b:46099** 46N10 (46A99)

— (*with* Scherwentke, Przemysław) On strongly extreme and denting contractions in $\mathscr{L}(C(X), C(Y))$. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 2, 155–160. (Nina M. Roy) **98e:47065** 47D20 (46B20, 46E15, 47B38)

— Each operator in $\mathscr{L}(l^p, l^r)$ $(1 \le r < p < \infty)$ is compact. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 539–541. (Introduction) **98k:47050** 47B37 (46E40, 47B07)

Grzech, Magdalena On automorphisms of Boolean algebras embedded in $P(\omega)$/fin. (English summary) *Fund. Math.* **150** (1996), *no.* 2, 127–147. (Judith Roitman) **98c:03105** 03E50 (03E05, 04A05, 04A30, 06E05)

Grzegorczyk, I. (*with* Brambila-Paz, L.; Newstead, P. E.) Geography of Brill-Noether loci for small slopes. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 4, 645–669. (Tohru Nakashima) **98k:14011** 14D20 (14H60)

Grzeszczuk, Piotr (*with* Puczyłowski, Edmund R.) A radical of lattices and its applications to rings and modules. *Contributions to general algebra, 9 (Linz, 1994)*, 203–212, *Hölder-Pichler-Tempsky, Vienna*, 1995. (From the introduction) **98m:06009** 06B05 (16N80)

— (*with* Bergen, Jeffrey) Invariants of skew derivations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3481–3488. (Miguel Ferrero) **98b:16031** 16W20 (16W25)

Grzybowski, Jerzy A note on summands of compact convex sets. (English summary) *Mathematika* **43** (1996), *no.* 2, 286–294 (1997). (Diethard Pallaschke) **98c:52002** 52A07 (46A55)

— (*with* Urbański, R.) Minimal pairs of bounded closed convex sets. (English summary) *Studia Math.* **126** (1997), *no.* 1, 95–99. (Diethard Pallaschke) **98k:52003** 52A07

Gschnitzer, Oswald Generators of the unoriented bordism ring which are fibered over products of projective spaces $\mathbf{RP}(2^r - 1)$. (English summary) *Manuscripta Math.* **91** (1996), *no.* 2, 235–245. (J. M. Boardman) **98a:57042** 57R75

Gu, Ben Yuan (*with* Cong, Wen Xiang; Chen, Nan Xian) A recursive method for phase retrieval in Fourier transform systems. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 24, 2614–2618. 65T99

Gu, Caixing (*with* Zheng, Dechao) The semi-commutator of Toeplitz operators on the bidisc. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 173–193. (D. Sarason) **98g:47022** 47B35 (46E22)

Gu, Chang Yao (*with* Huang, Hai Jun) Properties and parameter calibration of Fisk's stochastic traffic assignment model. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 376–380. 90B15 (90C15)

Gu, Chao Hao Bäcklund transformations and Darboux transformations. *Soliton theory and its applications*, 122–151, 393–395, *Springer, Berlin*, 1995. (*see* **98j:58064**) 58F37 (35Q53)

— Celebration of the ninety-fifth birthday of the dedicated teacher Bu Qing Su. (Chinese) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 241–244. 01A70

— *see also* **Soliton theory and its applications, 98j:58064**

Gu, Chong Penalized likelihood hazard estimation: a general procedure. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 861–876. (Keh-Wei Chen) **98b:62064** 62G05 (62N05)

Gu, Chonghua (*with* Gregory, R. Douglas; Wan, Frederic Y. M.) The cantilever strip plate under torsion, bending or flexure at infinity. (English summary) *J. Elasticity* **43** (1996), *no.* 2, 109–136. (Ognyan Kounchev) **98a:73040** 73K10 (73C99)

Gu, Chuan Qing (*with* Zhu, Gong-qin) Approximation and interpolation of vector valued continued fractions. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 1–7. 41A58

— (*with* Chen, Zhi Bing) Matrix-valued rational interpolants and their error formula. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 73–77. (Ying Guang Shi) **98f:41014** 41A20 (65D15)

— A matrix-valued osculatory rational interpolant. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 135–141. 41A20 (65D15)

— Bivariate Thiele-type matrix-valued rational interpolants. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 71–82. (Summary) **98d:65019** 65D15 (41A20)

— Multivariate generalized inverse vector-valued rational interpolants. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 137–146. (Antonio Bonilla-Ramirez) **98j:41036** 41A63 (65D05)

— An error formula for bivariate Thile type vector-valued rational interpolants. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 562–564. 41A20 (65D05)

— Two dual expansions for generalized bivariate Thiele-type matrix valued interpolating continued fractions. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 87–90. 41A20

— Generalized inverse vector valued osculatory rational interpolation and its error formula. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 209–213. 41A20 (65D05)

— (*with* Pan, Bao Zhen) A dual expansion for bivariate matrix continued fraction approximations. III. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 2, 119–124. 41A29 (41A63)

Gu, Da-Wei (*with* Samar, Raza; Postlethwaite, Ian) Model reduction with balanced realizations. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 33–64. 93B15

— (*with* Konstantinov, Mikhail M.; Petkov, Petko Khr.; Postlethwaite, Ian) Perturbation analysis of orthogonal canonical forms. (English summary) *Linear Algebra Appl.* **251** (1997), 267–291. (Juan Miguel Gracia) **98c:93020** 93B10 (15A21, 93C05)

— (*with* Konstantinov, Mikhail M.; Petkov, Petko Khr.; Postlethwaite, Ian) Nonlocal sensitivity analysis of the eigensystem of a matrix with distinct eigenvalues. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 367–382. (Yun Zou) **98h:15017** 15A18 (65F15, 93C05)

— (*with* Saif, Abdul-Wahid A.; Postlethwaite, Ian) Strong stabilization of MIMO systems via $\mathscr{H}_\infty$ optimization. (English summary) *Systems Control Lett.* **32** (1997), *no.* 2, 111–120. (Gianna Stefani) **98k:93099** 93D15 (93B36)

— *see also* **Robust control applications, 98k:93006**

Gu, Dao Xiu (*with* Li, Xiao Yan[1]) The limit cycles of a class of Kolmogorov systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 2, 34–39. (Rong Liang Wang) **98h:34057** 34C05 (34D40, 92D40)

Gu, De Ren (*with* Yun, Zhong Ke; Yang, Shao Guo) Fast and efficient image data compression using fractals. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 2, 113–116. 68U10

Gu, Dun-he (*with* Yu, Yi-Sheng) A note on a lower bound for the smallest singular value. (English summary) *Linear Algebra Appl.* **253** (1997), 25–38. (Ching-Tsuan Pan) **98b:15019** 15A42 (65F35)

Gu, Fu Wen An approximation method for a class of constrained probabilistic programs and its convergence. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 4, 399–405. 90C15 (90C70)

Gu, Guang Ze (*with* Cheng, Jin Fa; Chu, Yu Ming) Teichmüller extremal mappings of an angular region. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 5, 10–14, 19. (Summary) **98i:30056** 30F30

— The N-condition for homeomorphism of integrable dilations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 5, 20–26. (Yun Ping Jiang) **98b:30024** 30C65

— (*with* Yi, Yi Xun; Chen, Shu Guang) A minimization problem on Ω with a critical Sobolev exponent. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 1, 18–23. (Summary) **98c:49038** 49J45 (35B99, 35J60)

Gu, Guiding Alternate Broyden's method for solving linear least squares problem with multiple right-hand sides. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 3, 196–201. 65F30

Gu, Guo-qing (*with* Wang, Bing Hong[1]; Hui, Pak-ming) Dynamical evolution of highway traffic flow: from microscopic to macroscopic. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 3, 202–205. (Summary) **98c:90039** 90B20

Gu, Hai Ming (*with* Zhong, Bao Dong; Liu, Hai Xing) The characteristics/finite element method for incompressible fluid displacement problems in porous media. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **11** (1996), *no.* 4, 1–7. (Jian-Ping Zhu) **98d:76102** 76M10 (65M60, 76S05)

— A characteristic-difference method for problems of two-phase compressible miscible flow in porous media. (Chinese. English summary) *Math. Numer. Sin.* **18** (1996), *no.* 1, 79–87. (Jian-Ping Zhu) **98j:76096** 76M20 (76S05, 76T05)

Gu, Jifa (*with* Chao, Xiuli; Hu, Pingxian) Queueing network modeling and analysis in the design and evaluation of seaport systems. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 237–252. (Summary) **98e:60148** 60K25 (90B22)

Gu, Jin Sheng (*with* Hu, Xian Cheng) The properties of a class of special systems of differential-algebraic equations and their applications. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 28–36. (Summary) **98g:34006** 34A09 (35K99, 65L06)

— (*with* Hu, Xian Cheng) An overlapping domain decomposition method for nonselfadjoint elliptic problems discretized by Crouzeix-Raviart elements. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 282–290; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 4, 34–42. 65N30

— (*with* Hu, Xian Cheng) Extension theorems for plate elements with applications. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1375–1388. (Włodzimierz Proskurowski) **98a:65164** 65N30 (65N55, 73K10)

— (*with* Hu, Xian Cheng) An iterative substructuring method with nonconforming elements. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 1, 77–89. (Larisa V. Maslovskaya) **98k:65067** 65N30 (65F10)

Gu, Jun (*with* Du, Bin[2]; Pardalos, Panos M.) Multispace search for protein folding. (English summary) *Large-scale optimization with applications, Part III (Minneapolis, MN, 1995)*, 47–67, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92C40)

— (*with* Purdom, Paul Walton, Jr.; Franco, John V.; Wah, Benjamin W.) Algorithms for the satisfiability (SAT) problem: a survey. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 19–151, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:90084** 90C27 (03B05, 03D15, 03F20, 68Q25, 68T15, 90C90)

— Multispace search for satisfiability and NP-hard problems. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 407–517, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:90085** 90C27 (03B05, 03D15, 65K10, 68Q25, 68T15, 92D15)

— The Multi-SAT algorithm. (English summary) *Topics in semidefinite and interior-point methods (Toronto, ON, 1996)*, 109–126, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98j:90005**) 90–04 (68Q25, 90C30)

— *see also* **Satisfiability problem: theory and applications, 98i:68016**

Gu, Keqin The algorithms for studying the trade-offs between H_∞ attenuation and uncertainty tolerance. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 823–836. (Summary) **98j:93030** 93B36 (93B40, 93B52)

Gu, Ming (*with* Chandrasekaran, Shivkumar; Golub, Gene H.; Sayed, Ali H.) Efficient algorithms for least squares type problems with bounded uncertainties. (English

summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 171–180, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Bai, Zhaojun; Demmel, James W.) An inverse free parallel spectral divide and conquer algorithm for nonsymmetric eigenproblems. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 279–308. (Guo Rong Wang) **98d:65043** 65F15

Gu, Ming Gao² (*with* Bilias, Yannis; Ying, Zhiliang) Towards a general asymptotic theory for Cox model with staggered entry. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 662–682. (Jan Beirlant) **98e:62082** 62G20 (62E20, 62J12, 62N05)

— (*with* Lai, Tze Leung) Repeated significance testing with censored rank statistics in interim analysis of clinical trials. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 411–428. 62G10 (62L10)

Gu, Pei Another solution of Yang-Baxter equation on set and "metahomomorphisms on groups". *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1852–1855. 20F36 (16W30)

— Another solution of the Yang-Baxter equation on a set and "subhomomorphisms of groups". (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 15, 1602–1606. 17B37

Gu, Qian-Ping (*with* Peng, Shietung) k-pairwise cluster fault tolerant routing in hypercubes. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 1042–1049. (Summary) **98g:68009** 68M10

— (*with* Peng, Shietung) Node-to-set disjoint paths problem in star graphs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 201–207. (Summary) **98d:68164** 68R10 (05C38)

Gu, Rong Bao (*with* Mai, Jie Hua) Some classes of local structures of C^0 flows on closed surfaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 1, 8–14. (Bei Ye Feng) **98c:58100** 58F12 (54H20, 58F25)

Gu, S. (*with* Armstrong, Ronald D.; Lei, Lei) An efficient algorithm for a class of two-resource allocation problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 114–120. (Summary) **98m:90111** 90C27 (90C35)

Gu, Shengshi (*with* Holden, Arun V.; Zhang, Henggui) A solitary solution and its stability in a 1-D FHN equation. (English summary) *J. Shanghai Jiaotong Univ.* (*Engl. Ed.*) **1** (1996), *no.* 2, 17–20. 92C20 (35Q80)

— (*with* Holden, Arun V.; Zhang, Henggui) The analysis of the geometric structure of the delayed time used in the embedding process in predicting chaotic time series. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 23–26. (Hans-Peter Herzel) **98g:58115** 58F13 (58F40)

Gu, Simao Pointwise approximation for functions of bounded variation on infinite interval by positive linear operators. (English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 23–28. (Octavian Agratini) **98d:41038** 41A36

Gu, Tong Xiang Asynchronous relaxed iterative methods for solving linear systems of equations. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 8, 801–806; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 747–751 (*Chinese. English and Chinese summaries*). (Jan Zítko) **98m:65043** 65F10 (65B05)

Gu, Xiangjun (*with* Schuster, Eugene F.) On the conditional and unconditional distributions of the number of runs in a sample from a multisymbol alphabet. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 423–442. (Anant P. Godbole) **98f:62032** 62E15

Gu, Xing Yuan (*with* Zhang, Guo Shan; Chai, Tian-You) Reduced-order observer design and parameterizations for generalized dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 584–588. 93B07 (93B11)

Gu, Yan (*with* Wang, Jiao) Time evolution of coarse-grained entropy in classical and quantum motions of strongly chaotic systems. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 208–216. (Summary) **98c:81070** 81Q50 (58F13)

Gu, Yong Geng (*with* Shi, Xiaoding; Chen, Jing²) Symmetry and monotonicity for systems of semilinear elliptic equations in a half space. *Chinese Sci. Bull.* **41** (1996), *no.* 21, 1776–1780. (Jianfu Yang) **98c:35064** 35J65 (35B05)

— Necessary and sufficient conditions of extinction and blow-up on some parabolic equations. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 189–198, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:35086** 35K55 (35B30, 35B40)

— (*with* Wu, Zai De) Global existence and decay estimates for solutions of degenerate parabolic equations. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 1, 87–101. (Song Mu Zheng) **98a:35072** 35K60 (35B40)

— (*with* Dai, Qiuyi) A short note on quenching phenomena for semilinear parabolic equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 240–250. (I. Łojczyk-Królikiewicz) **98g:35112** 35K60 (35B40)

— (*with* Li, Cai Zhong; Wang, Jinghua; Xiao, Ling) The academic career and accomplishments of Professor Ding Xiaxi. *J. Partial Differential Equations* **10** (1997), *no.* 4, 289–298. (Editors) **98k:01028** 01A70

— (*with* Bai, Fengtu; Miao, Changxing) Fractional order evolution equation interpolating both heat and wave equation. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 160–167. (Sergiu Aizicovici) **98g:35039** 35G05 (34K30, 45K05, 47N20)

— (*with* Dai, Qiuyi) Quenching phenomena for systems of semilinear parabolic equations. I. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 361–371. (Qing Fang) **98m:35102** 35K60 (35B05, 35B35)

Gu, Zheng Yu (*with* Li, Cai Heng) A nonabelian CI-group. (English summary) *Australas. J. Combin.* **17** (1998), 229–233. (Summary) **98m:05084** 05C25

Gu, Zhi-Yu (*with* Qian, Shang-Wu) On the semiclassical propagator for any one-dimensional admissible potential. (English summary) *Ann. Physics* **250** (1996), *no.* 2, 420–432. (Summary) **98i:81056** 81Q20

— (*with* Qian, Shang-Wu; Huang, Bowen) Supersymmetric quantum mechanics of effective screened potential. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 602–607. 81Q60

— (*with* Qian, Shang-Wu; Miao, Chunhui; Xie, Guo-Qiang) Separation of variables treatment of the time-dependent Coulomb potential and time-dependent Hulthén potential. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 328–332. (Summary) **98j:81073** 81Q05

— (*with* Qian, Shang-Wu; Xie, Guo-Qiang) Aharonov-Bohm scattering on two parallel flux lines of the same magnitude by the method of path integration. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1273–1285. (Wolfgang Tomé) **98e:81096** 81S40

— (*with* Qian, Shang-Wu; Xie, Guo-Qiang) The multi-parameter deformations of the shape invariant potentials with parameters related by translation. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 27–32. 81Q60 (81Q05)

Gu, Zhiming A large-scale estimate of the number of periodic small oscillations of nonlinear systems. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 3, 301–308. (Addolorata Salvatore) **98m:34087** 34C25 (58E05, 58F22)

Gu, Zhong Bi (*with* Wang, Zhen Xue; Hu, Li Li) Adaptive control by fuzzy neural networks. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 71–76. 93C40 (93C83)

Gu, Zhu Quan A trace formula for Zakharov-Shabat eigenvalue problems containing higher powers of the spectral parameter. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 294–300. (Luen-Chau Li) **98f:34124** 34L25 (15A18, 34A55, 35Q99)

Guadagni, G. (*with* Cesi, F.; Martinelli, Fabio; Schonmann, Roberto H.) On the two-dimensional stochastic Ising model in the phase coexistence region near the critical point. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 1-2, 55–102. (Bálint Tóth) **98a:82014** 82B20 (82B26)

Guadagnini, E. Surgery and topological invariants of punctured Riemann surfaces. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 350–365, *World Sci. Publishing, River Edge, NJ*, 1994. (Sergei K. Lando) **98f:57028** 57N10 (58D29, 81Q30)

— Surgery on three-manifolds and quantum field theory. (English summary) *Field theory and collective phenomena* (*Perugia*, 1992), 487–569, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98j:57048** 57R57 (57N10, 81T30)

— (*with* Franzosi, Roberto; Ghilardi, M.) Modular transformations and one-polygon tessellation. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 42–45. (Francois Vanderseypen) **98m:83021** 83C27 (83C99)

Guadalupe, I. V. (*with* Marenich, V. B.) Some inequalities for immersed surfaces. (English summary) *Portugal. Math.* **54** (1997), *no.* 2, 139–145. (Fabio Podestà) **98e:53105** 53C42

Gual Arnau, Ximo On the definition of total absolute curvatures in integral geometry. *Acta Math. Hungar.* **76** (1997), *no.* 3, 249–256. (Jiazu Zhou) **98i:53102** 53C65 (52A22)

— (*with* Naveira, A. M.) The volume of geodesic balls and tubes about totally geodesic submanifolds in compact symmetric spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 101–113. (Lieven Vanhecke) **98b:53040** 53C35

Gualtieri, L. (*with* Ferrari, V.) On the perturbations of a nonrotating star excited by a massive source. I. The matching conditions at the surface of the star. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 323–339. (Summary) **98f:83025** 83C25

Gualtieri, Maria Italia (*with* Costabile, Francesco; Serra, Stefano) Asymptotic expansions for some classical operators and their use in approximation theory. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 67–74, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 41A35 (41A55)

Guan, Bo Mean curvature motion of nonparametric hypersurfaces with contact angle condition. (English summary) *Elliptic and parabolic methods in geometry* (*Minneapolis, MN*, 1994), 47–56, *A K Peters, Wellesley, MA*, 1996. (Emmanuel Hebey) **98a:58045** 58E15 (53A07)

Guan, Dah-Jyh Routing a vehicle of capacity greater than one. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 41–57. (Summary) **98j:68055** 68Q25 (05C85)

Guan, Daniel *see* **Guan, Zhuang Dan**

Guan, Daniel Zhuang-Dan *see* **Guan, Zhuang Dan**

Guan, Hui (*with* Torii, Tatsuo) An interactive method for designing smooth convex curves by using a cubic B-spline formulation. II. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1176–1179. 65D17 (65Y25, 68U05)

Guan, Ji Wen (*with* Guan, Z.; Bell, David Andrew) Bayesian probability on Boolean algebras and applications to decision theory. (English summary) *Inform. Sci.* **97** (1997), *no.* 3-4, 267–292. (Jerzy W. Grzymała-Busse) **98g:68161** 68T30 (60A99)

Guan, Pengfei (*with* Li, Yan Yan) $C^{1,1}$ estimates for solutions of a problem of Alexandrov. *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 789–811. (David L. Finn) **98d:53053** 53C21 (53A07)

— C^2 a priori estimates for degenerate Monge-Ampère equations. *Duke Math. J.* **86** (1997), *no.* 2, 323–346. (Nikolaĭ Kutev) **98d:35074** 35J65 (35B45, 35J70)

Guan, Ping (*with* Fan, Jishan) Some remarks on stationary thermistor problem. (English summary) *J. Southeast Univ.* (*English Ed.*) **12** (1996), *no.* 2, 93–96. (G. Albinus) **98e:35087** 35K55 (35J65, 35Q99, 80A20)

— (*with* Fan, Jishan) Global existence, uniqueness and asymptotic behavior of the solutions of the thermistor problem. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 156–167. (Jianzhong Su) **98h:35133** 35K65 (35Q99)

— (*with* Wang, Yuan Ming[1]) Some problems on semiconductor equations. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 583–587, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35Q99 (76X05)

Guan, S. *see* **Guan, Shanguchuan**

Guan, Shan (*with* Wang, Bing Hong[1]; He, Da-Ren; Ji, Xi-ping; Sun, Jian-gang; Qu, Shi-Xian) Escaping from strange sets in discontinuous circle map. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 249–252. (Frederick R. Marotto) **98d:58124** 58F13

Guan, Shanguchuan (*with* Fang, Shu Cherng) Linear programming with stochastic elements: an on-line approach. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 61–82. (C. Bergthaller) **98h:90049** 90C15 (90C08)

Guan, Xi-Wen (*with* Tong, Dian-Min; Zhou, Huan-Qiang) Lax pair formulation for the one-dimensional Heisenberg XYZ open chain. (English summary) *J. Phys. Soc. Japan* **65** (1996), *no.* 9, 2807–2810. (Gunter Schütz) **98a:82033** 82B23 (58F07, 82B20)

— (*with* Han, Wei Dong) A qs-analogue of the supersymmetric oscillator. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1996), *no.* 2, 77–80. (Summary) **98a:81086** 81S05 (81R50)

— (*with* Tong, Dian-Min; Zhou, Huan-Qiang) The qs-Hermite polynomial and the representations of Heisenberg and quantum Heisenberg algebra. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 173–178. (Summary) **98j:81151** 81R50 (17B37, 33D45, 33D80)

— (*with* Wang, Mei-Shan; Yang, Shan-De) Lax pair formulation for one-dimensional Hubbard open chain with chemical potential. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4161–4169. (Azer Kerimov) **98m:82021** 82B23 (82B20)

— (*with* Wang, Mei-Shan; Yang, Shan-De) Lax pair and boundary K-matrices for the one-dimensional Hubbard model. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 3, 685–693. (Murray T. Batchelor) **98a:82018** 82B20 (82B23)

Guan, Xin Ping (*with* Yang, Jun; Liu, Wenyuan) Oscillation and asymptotic behavior of second order nonlinear neutral difference equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 94–106. (Summary) **98m:39037** 39A10

— (*with* Yang, Jun) Oscillation for systems of nonlinear neutral type parabolic partial functional-differential equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 251–252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 165–178. (Ludwik Byszewski) **98g:35203** 35R10 (34K15, 35B05, 35K55)

— (*with* Yang, Jun; Li, Wan-Tong) Oscillation criteria for a class of nonlinear neutral hyperbolic partial differential equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 29–36. (Summary) **98k:35202** 35R10 (35B05, 35L10)

— (*with* Yang, Jun; Liu, Shu Tang[2]; Cheng, Ying Jie) Oscillation of solutions to boundary value problems for a class of neutral parabolic equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 13–18. (Summary) **98d:35230** 35R10 (35B05, 35K10)

Guan, Ying Nan (*with* Kong, Qing Hai) A-optimal orthogonal block designs with parameter estimation for additive mixture models. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 3, 342–345. 62K05

Guan, Z. (*with* Guan, Ji Wen; Bell, David Andrew) Bayesian probability on Boolean algebras and applications to decision theory. (English summary) *Inform. Sci.* **97** (1997), *no.* 3-4, 267–292. (Jerzy W. Grzymała-Busse) **98g:68161** 68T30 (60A99)

Guan, Zhengyuan (*with* Kartsatos, Athanassios G.) Ranges of generalized pseudo-monotone perturbations of maximal monotone operators in reflexive Banach spaces. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 107–123, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Vesa Mustonen) **98c:47062** 47H05 (47H11, 47H17)

— (*with* Elgindi, M. B. M.) On the global solvability of a class of fourth-order nonlinear boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 257–262. (L. E. Bobisud) **98c:34031** 34B15 (73H05, 73K05)

Guan, Zhi Hong (*with* Wen, Xiang Cai; Liu, Yong Qing) Stability of linear measure large scale systems with impulsive effect. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 413–421. (Yuri V. Rogovchenko) **98c:34014** 34A37 (34D05)

— (*with* Yuan, Fu Shun) Stability of measure interval impulsive systems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 109–116. (Jun Jie Wei) **98k:34018** 34A37 (34D99)

Guan, Zhicheng (*with* Wang, Xu-Jia) Critical exponent in a Stefan problem with kinetic condition. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 5, 525–532. (Summary) **98k:35212** 35R35 (35K05, 80A22)

Guan, Zhuang Dan Examples of compact holomorphic symplectic manifolds which admit no Kähler structure. *Geometry and analysis on complex manifolds*, 63–74, *World Sci. Publishing, River Edge, NJ*, 1994. (Chal Benson) **98h:53109** 53C56 (32J27, 53C15)

— A splitting theorem for compact complex homogeneous spaces with a symplectic structure. (English summary) *Geom. Dedicata* **63** (1996), *no.* 2, 217–225. (Chal Benson) **98a:53105** 53C56 (53C15, 53C30, 57T15)

— Classification of compact complex homogeneous spaces with invariant volumes. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 90–92 (*electronic*). (McKenzie Y. Wang) **98i:32056** 32M10 (53C30)

— Toward a classification of almost homogeneous manifolds. I. Linearization of the singular extremal rays. *Internat. J. Math.* **8** (1997), *no.* 8, 999–1014. (Michel Brion) **98i:14037** 14J30 (14E35, 14L30, 32J17, 32M12)

Guanghui, Zhou *see* **Zhou, Guang Hui**

Guardabassi, Guido O. (*with* Savaresi, Sergio M.) Approximate feedback linearization of discrete-time non-linear systems using virtual input direct design. (English summary) *Systems Control Lett.* **32** (1997), *no.* 2, 63–74. (Summary) **98j:93040** 93B51 (93B18, 93B52, 93B55, 93C55)

durán Guardeño, Antonio J. *see* **Durán Guardeño, Antonio J.**

Guardiola, R. (*with* Fernández, Francisco M.) An improved algorithm to determine the density of resonance states using the stabilization method. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3101–3105. (Summary) **98a:81248** 81U05 (81Q10)

— (*with* Fernández, Francisco M.) The Riccati-Padé method for coupled-channel equations. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5825–5833. (Summary) **98g:81024** 81Q05 (34L40)

— (*with* Fernández, Francisco M.) The strong coupling expansion for anharmonic oscillators. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7187–7192. 81Q15 (81–08)

Guarguaglini, F. R. (*with* Claudi, S.) Asymptotic behaviour for the heat equation with weak convection and absorption. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 49–63. (Lumin Jiang) **98m:35084** 35K55 (35B40)

Guarini, Guarino *see* **Docci, Mario et al.**, **(98b:01001)**

Guarino, Cosimo (*with* Brogi, Antonio) Pruning the search space of logic programs. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 35–49, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17

Guarneri, Italo Singular continuous spectra and discrete wave packet dynamics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 5195–5206. (H. Hogreve) **98g:81030** 81Q10 (28A80, 47N50, 81V70)

— (*with* Artuso, Roberto; Casati, Giulio) Numerical study on ergodic properties of triangular billiards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6384–6390. (Roberto Markarian) **98g:58096** 58F11 (82C05)

Guarracino, F. (*with* Gesualdo, A.; Mallardo, V.; Minutolo, V.; Nunziante, L.) Flaw identification in elastic solids: theory and experiments. (English summary) *Extracta Math.* **12** (1997), *no.* 1, 61–86. (From the text) **98j:73031** 73C99 (73–05)

Guarracino, Luis (*with* Santos, Juan Enrique) Numerical modelling of Maxwell's equations with applications to magnetotellurics. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 329–345, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98b:00035**) 78A55 (78–04)

Guarrera, Silvia (*with* Logar, Alessandro; Mezzetti, Emilia) An algorithm for computing minimal curves. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 4, 285–296. (Juan C. Migliore) **98a:14046** 14H50 (14M06)

Guaschi, J. (*with* Alsedà, Lluís; Los, Jérôme E.; Mañosas, Francesc; Mumbrú, P.) Patterns of tree maps. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 1–11, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98k:58078** 58F03 (58F08)

Guay, Alain (*with* Ghysels, Eric; Hall, Alastair) Predictive tests for structural change with unknown breakpoint. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 209–233. (Summary) **98m:62302** 62P20

Guba, V. S. (*with* Sapir, Mark V.) The Dehn function and a regular set of normal forms for R. Thompson's group F. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 315–328. (Stephen G. Brick) **98d:20040** 20F32 (57M07)

— (*with* Sapir, Mark V.) Diagram groups. (English summary) *Mem. Amer. Math. Soc.* **130** (1997), *no.* 620, viii+117 *pp.* (Thomas Delzant) **98f:20013** 20F05 (57M07)

Gubar', A. Yu. (*with* Arsen'ev, S. A.; Shelkovnikov, N. K.) On nonlinear waves described by fifth-order evolution equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 46–48. 35Q35 (76B15)

Gubarev, F. V. (*with* Chernodub, M. N.; Polikarpov, M. I.) Aharonov-Bohm effect in lattice abelian Higgs theory. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 379–384. 81T25 (81T13)

Gubler, Walter Heights of subvarieties over M-fields. *Arithmetic geometry* (*Cortona*, 1994), 190–227, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Jörg Jahnel) **98k:14032** 14G40 (14G25, 32H30)

Gubreev, G. M. (*with* Pivovarchik, V. N.) Spectral analysis of the Regge problem with parameters. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 70–74; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 54–57. (L. V. Kritskov) **98g:34134** 34L40 (34A55, 34B24, 34L10, 47E05, 81U05)

Gubser, Steven S. (*with* Callan, Curtis G., Jr.; Klebanov, Igor R.; Tseytlin, Arkady A.) Absorption of fixed scalars and the D-brane approach to black holes. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 65–94. (Paulo Moniz) **98e:83068** 83C57 (81T30, 83E30)

— (*with* Klebanov, Igor R.; Tseytlin, Arkady A.) String theory and classical absorption by three-branes. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 217–240. (Summary) **98g:81163** 81T30 (83E30)

— (*with* Klebanov, Igor R.) Absorption by branes and Schwinger terms in the world volume theory. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 41–48. 81T30

Guccione, Jorge A. (*with* Guccione, Juan J.) Hochschild and cyclic homology of Ore extensions and some examples of quantum algebras. (English summary) *K-Theory* **12** (1997), *no.* 3, 259–276. (Teimuraz Pirashvili) **98i:16012** 16E40 (16S36)

Guccione, Juan J. (*with* Guccione, Jorge A.) Hochschild and cyclic homology of Ore extensions and some examples of quantum algebras. (English summary) *K-Theory* **12** (1997), *no.* 3, 259–276. (Teimuraz Pirashvili) **98i:16012** 16E40 (16S36)

van Gucht, Dirk *see* **Van Gucht, Dirk**

Guckenheimer, John (*with* Myers, Mark) Computing Hopf bifurcations. II. Three examples from neurophysiology. (English summary) *SIAM J. Sci. Comput.* **17** (1996), *no.* 6, 1275–1301. (Gerd Pönisch) **98g:65054** 65H17 (34C23, 58F14, 92C20)

— (*with* Myers, Mark; Sturmfels, Bernd) Computing Hopf bifurcations. I. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 1–21. (Gerd Pönisch) **98g:65053** 65H17 (34C23, 58F14, 92C20)

— (*with* Govaerts, W.; Khibnik, A.) Defining functions for multiple Hopf bifurcations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1269–1288. (George W. Reddien) **98e:65049** 65H17 (34C23, 58F14, 65L15)

Guddat, Jürgen (*with* Guerra, Francisco; Nowack, Dieter) On the role of the Mangasarian-Fromovitz constraint qualification for penalty-, exact penalty-, and Lagrange multiplier methods. (English summary) *Mathematical programming with data perturbations*, 159–183, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Hubertus Th. Jongen) **98i:90096** 90C31 (90C30)

Gudder, Stanley Examples, problems, and results in effect algebras. (English summary) Quantum physics at the Einstein Meets Magritte Conference (Brussels, 1995). *Internat. J. Theoret. Phys.* **35** (1996), *no.* 11, 2365–2376. (Summary) **98a:81009** 81P10

— (*with* Greechie, Richard) Effect algebra counterexamples. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 317–325. (Sylvia Pulmannová) **98m:81009** 81P10 (03G12)

— Effect test spaces and effect algebras. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 287–304. (D. J. Foulis) **98h:81009** 81P10 (03G12)

— Chain tensor products and interval effect algebras. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1085–1098. (D. J. Foulis) **98k:81010** 81P10 (03G12, 08A55)

— Sharp and unsharp quantum effects. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 169–187. (M. J. Mączyński) **98k:81011** 81P05 (47N50, 60A05, 81P10)

wolff von Gudenberg, Jürgen *see* **Wolff von Gudenberg, Jürgen**

Güder, Faruk (*with* Zydiak, James L.; Chaudhry, Sohail S.) An extended algorithm for capacitated multiple item ordering with quantity discounts. (English summary) *Opsearch* **33** (1996), *no.* 1, 20–29. 90B35 (90B22)

Gudermann, Christoph *see* **Robertson, John S.**

Gudes, Ehud (*with* Meisels, Amnon; Ell-sana, Jihad) Decomposing and solving timetabling constraint networks. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 486–505. 68T20

Gudkov, V. V. Explicit form of wave solutions of some partial differential equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 514–517, 574; *translation in Differential Equations* **32** (1996), *no.* 4, 515–518. (L. M. Berkovich) **98e:35027** 35C05 (35K57, 35L70, 35Q55)

— Exact solutions of traveling wave type of some evolution equations. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 439–441. 35C05 (35Q53)

— A family of exact travelling wave solutions to nonlinear evolution and wave equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4794–4803. (David Guratic) **98j:35172** 35Q58 (35B99, 35C05)

— Real and complex wave solutions of nonlinear evolution equations. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 79–84. 35C99 (35Q99)

— On the correspondence of hypercomplex solutions to special unitary groups. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 29–33; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1231–1234 (1998). (Summary) **98j:81060** 81Q05 (81R05)

— New forms of wave solutions of the general nonlinear Klein-Gordon equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 599–604. (Summary) **98a:35116** 35Q53 (35L70)

Gudmundsson, Joachim (*with* Levcopoulos, Christos) Approximation algorithms for covering polygons with squares and similar problems (extended abstract). (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 27–41, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98i:68013**) 68U05

Gudmundsson, Sigmundur (*with* Wood, John C.) Harmonic morphisms between almost Hermitian manifolds. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 185–197. (Caio J. C. Negreiros) **98i:58069** 58E20 (53C15)

— Harmonic morphisms as sphere bundles over compact Riemann surfaces. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 935–942. (Anne-Joëlle Vanderwinden) **98k:58067** 58E20

— On the existence of harmonic morphisms from symmetric spaces of rank one. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 421–433. (John C. Wood) **98f:58063** 58E20

Gudmundsson, Thorkell (*with* Kenney, Charles; Laub, Alan J.) Small-sample statistical estimates for the sensitivity of eigenvalue problems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 868–886. (Dao Sheng Zheng) **98m:65052** 65F15 (15A12, 65F30, 65F35)

Gudoshnikova, E. V. Approximation of continuous functions by generalized Szász-Mirakyan operators. (Russian) *Mat. Zametki* **60** (1996), *no.* 1, 134–136; *translation in Math. Notes* **60** (1996), *no.* 1-2, 101–103 (1997). (Weixing Zheng) **98c:41033** 41A35

Guedda, M. (*with* Hilhorst, Danielle; Peletier, M. A.) Disappearing interfaces in nonlinear diffusion. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 695–710. (Qing Fang) **98j:35094** 35K57 (35B40, 35K65)

— (*with* Kirane, Mokhtar) A Lyapunov function for a reaction-diffusion system. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 95–97. 35K57

— (*with* Kirane, Mokhtar; Tatar, N.) Asymptotic behavior of solutions to a diffusive Volterra equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 91–102. (Summary) **98b:35097** 35K60 (35B40, 45K05)

— (*with* Kirane, Mokhtar) Errata to: "A Lyapunov function for a reaction-diffusion system" [Appl. Math. Lett. **10** (1997), no. 3, 95–97]. *Appl. Math. Lett.* **11** (1998), *no.* 2, 131. 35K57

Guédénon, Thomas Algèbre homologique dans la catégorie $\mathrm{Mod}_{(R\#U(\mathfrak{g}))}$. (English and French summaries) [Homological algebra in the category $\mathrm{Mod}_{(R\#U(\mathfrak{g}))}$] *J. Algebra* **197** (1997), *no.* 2, 584–614. (Philippe Revoy) **98k:16013** 16E30 (16W25, 17B35)

Guedes de Oliveira, Antônio (*with* Cordovil, Raul; Las Vergnas, Michel) A generalized Desargues configuration and the pure braid group. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 105–113. (Hiroaki Terao) **98b:52015** 52B30 (20F36)

Guedes de Oliviera, Antônio (*with* Bokowski, Jürgen; Thiemann, Ulrich; Veloso da Costa, Antônio) On the cube problem of Las Vergnas. (English summary) *Geom. Dedicata* **63** (1996), *no.* 1, 25–43. (Ilda P. F. da Silva) **98e:52013** 52B40 (05B35, 52B15)

Guegan, Dominique Nonparametric estimation in chaotic deterministic system. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 60–63, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F13 (58F40, 62G05)

— (*with* Ngatchou Wandji, Joseph) Power of the Lagrange multiplier test for certain subdiagonal bilinear models. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 3, 201–212. (Raúl Pedro Mentz) **98c:62170** 62M10

— (*with* Delecroix, M.; Léorat, G.) Determinating Lyapunov exponents in deterministic dynamical systems. (English summary) *Comput. Statist.* **12** (1997), *no.* 1, 93–107. (Michèle Basseville) **98d:62157** 62M10 (58F11)

Guénard, François (*with* Faure, Claude-Alain) Upper and lower approximations of Perron integrable functions. *Real Anal. Exchange* **22** (1996/97), *no.* 2, 626–637. (Cheng-Ming Lee) **98m:26005** 26A39

Guendelman, E. I. Magnetic condensation, nontrivial gauge dynamics and confinement in a 6-D model. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 42–46. (Summary) **98j:83087** 83E15 (81T13)

— (*with* Kaganovich, A. B.) Gravitational theory without the cosmological constant problem. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5970–5980. (Summary) **98c:83011** 83C05 (83C99, 83D05, 83E15)

— (*with* Kaganovich, A. B.) Gravitational theory without the cosmological constant problem, symmetries of space-filling branes, and higher dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3548–3554. (Summary) **98e:83108** 83E15 (83E30)

Guénette, Robert (*with* Fortin, Michel; Pierre, Roger) Numerical analysis of the modified EVSS method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 79–95. (Summary) **98c:65167** 65M60 (73V05, 76M10)

Guénoche, Alain Order distance associated with a hierarchy. (English and French summaries) *J. Classification* **14** (1997), *no.* 1, 101–115. (Summary) **98d:62108** 62H30

Guenther, Oliver (*with* Hogg, Tad; Huberman, Bernardo A.) Controls for unstable structures. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 754–763, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K50, 90A16)

Guenther, R. B. (*with* Lee, John Walter) Heat conduction with radiating boundary conditions. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 119–124. (Summary) **98m:34037** 34B15 (35K05)

Guentner, Erik (*with* Higson, Nigel) A note on Toeplitz operators. (English summary) *Internat. J. Math.* **7** (1996), *no.* 4, 501–513. (Raúl E. Curto) **98k:47044** 47B35 (19K33, 19K56, 46L99, 47A53, 58G10)

Guerberoff, G. R. (*with* Raggio, G. A.) On the free energy of the Hopfield model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 333–361. (Pierre Picco) **98j:82051** 82C32 (82C05)

Guerin, Charles-Antoine (*with* Holschneider, Matthias) On equivalent definitions of the correlation dimension for a probability measure. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 707–720. (Norbert Patzschke) **98b:28016** 28A99 (28A80, 42B10)

— (*with* Holschneider, Matthias; Saillard, M.) Electromagnetic scattering from multi-scale rough surfaces. (English summary) *Waves Random Media* **7** (1997), *no.* 3, 331–349. (Summary) **98f:78021** 78A45 (78–04)

Guerin, F. The retarded-advanced propagators. (English summary) *Thermal field theories and their applications* (*Dalian*, 1995), 111–118, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:81244** 81T99

Guérin, Rahma (*with* Le Marec, C.; Haldenwang, P.) Pattern study in the 2-D solutal convection above a Bridgman-type solidification front. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3149–3161. 76E15 (80A22)

Guérin, Roch (*with* Georgiadis, Leonidas; Parekh, Abhay) Optimal multiplexing on a single link: delay and buffer requirements. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1518–1535. (A. T. Amin) **98k:68022** 68M10 (90B12, 90B35)

Guérin, S. (*with* Monti, F.; Dupont, J.-M.; Jauslin, H. R.) On the relation between cavity-dressed states, Floquet states, RWA and semiclassical models. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7193–7215. (Allan I. Solomon) **98m:81224** 81V80

Guermond, Jean-Luc (*with* Firdaouss, Mouaouia; Le Quéré, Patrick) Nonlinear corrections to Darcy's law at low Reynolds numbers. (English summary) *J. Fluid Mech.* **343** (1997), 331–350. (Sam D. Howison) **98k:76133** 76S05

— (*with* Quartapelle, L.) On sensitive vector Poisson and Stokes problems. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 681–698. (José Luiz Boldrini) **98i:35151** 35Q35 (35B20, 76D07)

— (*with* Quartapelle, L.) Uncoupled ω-ψ formulation for plane flows in multiply connected domains. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 731–767. (Vitoriano Ruas) **98j:76024** 76D05 (65M55, 76M10)

Guerra, F. *see* **Guerra, Francisco**

Guerra, Francesco (*with* Talevi, Mauro) On the thermodynamic limit in random resistors networks. (English summary) *J. Phys. A* **29** (1996), *no.* 22, 7287–7299. (Aernout C. D. van Enter) **98c:82063** 82C44 (82C31)

Guerra, Francisco (*with* Jiménez Pozo, Miguel A.) A semi-infinite programming approach to a mixed approximation problem. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 135–143, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (R. Tichatschke) **98c:90173** 90C34 (41A30)

— (*with* Guddat, Jürgen; Nowack, Dieter) On the role of the Mangasarian-Fromovitz constraint qualification for penalty-, exact penalty-, and Lagrange multiplier methods. (English summary) *Mathematical programming with data perturbations*, 159–183, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Hubertus Th. Jongen) **98i:90096** 90C31 (90C30)

Guerra, José Antonio (*with* Nishimoto, Katsuyuki; de Guerra, Marjna Suárez) N-fractional calculus operator N^* method to an expanded Gauss type nonhomogeneous ordinary differential equation. I. (English summary) *J. Fract. Calc.* **10** (1996), 25–32. 34A25 (34A20)

Guerra, Leucio (*with* Choffrut, Christian) Generalized rational relations and their logical definability. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 138–149, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 03D05 (03B15, 20M05, 68Q45)

Guerra, Lucio Linear subvarieties of Cayley-Chow varieties. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **10** (1996), *no.* 3, 623–631. (Rafael Hernandez) **98b:14003** 14C05 (14N10)

— A universal property of the Cayley-Chow space of algebraic cycles. *Rend. Sem. Mat. Univ. Padova* **95** (1996), 127–142. (Fyodor L. Zak) **98f:14002** 14C05

de Guerra, Marjna Suárez (*with* Nishimoto, Katsuyuki; Guerra, José Antonio) N-fractional calculus operator N^* method to an expanded Gauss type nonhomogeneous ordinary differential equation. I. (English summary) *J. Fract. Calc.* **10** (1996), 25–32. 34A25 (34A20)

Jimenez Guerra, Pedro *see* **Jimenez Guerra, Pedro**

Guerra, Rudy (*with* Polansky, Alan M.; Schucany, William R.) Smoothed bootstrap confidence intervals with discrete data. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 2, 163–176. 62G09

Guerraoui, Rachid Revisiting the relationship between non-blocking atomic commitment and consensus. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 87–100, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15)

Guerre-Delabriere, Sylvie (*with* Alber, Yakov) Principle of weakly contractive maps in Hilbert spaces. (English summary) *New results in operator theory and its applications*, 7–22, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Tomás Dominguez Benavides) **98j:47126** 47H10 (47H09)

— (*with* Alber, Yakov; Zelenko, Leonid) The principle of weakly contractive mappings in metric spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 45–68. (Summary) **98j:54078** 54H25 (35J65, 47H10, 54E40)

guil Guerrero, F. *see* **Guil Guerrero, F.**

Guerrero, Julio (*with* Aldaya, Víctor; Calixto, Manuel) Algebraic versus topologic anomalies. (English summary) *Differential geometry and applications* (*Brno*, 1995), 495–502, *Masaryk Univ., Brno*, 1996. (Summary) **98f:81149** 81S10 (22E40, 58F06, 81T50)

— (*with* Aldaya, Víctor; Calixto, Manuel) Algebraic quantization, good operators and fractional quantum numbers. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 2, 399–424. (Nicolaas P. Landsman) **98a:81090** 81S10 (58F06, 81R99)

— (*with* Aldaya, Víctor; Bisquert, J.; Navarro-Salas, J.) Group-theoretical construction of the quantum relativistic harmonic oscillator. (English summary) *Rep. Math. Phys.* **37** (1996), *no.* 3, 387–418. (Summary) **98a:81022** 81Q05 (81R05)

— (*with* Aldaya, Víctor; Marmo, Giuseppe) Higher-order differential operators on a Lie group and quantization. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 3–11. (Ivailo M. Mladenov) **98h:81056** 81S10 (22E70, 58F06, 81R05, 81R10)

Guerrero G., A. Berenice Subgroups of the Galileo group and measurable families of curves. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 1–13. (Eric Y. Leung) **98f:22006** 22E15

Guerri, Luciano (*with* Colli Franzone, Piero; Pennacchio, Micol; Taccardi, Bruno) Spread of excitation in 3-D models of the anisotropic cardiac tissue. II. Effects of fiber architecture and ventricular geometry. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 131–171. 92C30 (92C50)

Guerrier, Béatrice (*with* Liu, Jun[4]) A comparative study of domain embedding methods for regularized solutions of inverse Stefan problems. (English summary) *Internat. J.*

Numer. Methods Engrg. **40** (1997), *no.* 19, 3579–3600. (Summary) **98f:80003** 80A22 (65M30, 65M55, 80–08)

Guerrieri, Anna (*with* Rossi, M. E.) Hilbert coefficients of Hilbert filtrations. *J. Algebra* **199** (1998), *no.* 1, 40–61. (Ralf Fröberg) **98i:13027** 13D40

Guerriero, Francesca (*with* Beraldi, P.; Musmanno, R.) Efficient parallel algorithms for the minimum cost flow problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 501–530. (Summary) **98i:90110** 90C35 (65Y05)

— (*with* Beraldi, P.) A parallel asynchronous implementation of the ε-relaxation method for the linear minimum cost flow problem. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1021–1044. (Summary) **98e:90203** 90C35 (65Y05)

Guerriero, Franco Uniform modules over Goldie prime serial rings. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 119–127, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Hua-Ping Yu) **98k:16031** 16P60 (16D80)

Guerriero, Gabriele On the stability of the solutions of a nonlinear integral evolution problem in particle transport theory. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 299–306. (Hans Babovsky) **98j:45007** 45K05 (82C70)

Guerrini, Carla (*with* Piraccini, Manuela) Parallel wavelet-Galerkin methods using adapted wavelet packet bases. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 133–142. *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15

Guerrini, S. (*with* Martini, Simone; Masini, Andrea) Coherence for sharing proof nets. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 215–229, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 03F50 (68Q42)

— (*with* Martini, Simone; Masini, Andrea) Proof nets, garbage, and computations. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 181–195, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98g:03128** 03F05 (03F50)

Guertin, François (*with* Potvin, Jean-Yves) A genetic algorithm for the clustered traveling salesman problem with a prespecified order on the clusters. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 287–299, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27

Guerzhoy, Pavel On Ramanujan congruences between special values of Hecke and Dirichlet L-functions. *Acta Arith.* **81** (1997), *no.* 1, 11–23. (B. Ramakrishnan) **98e:11059** 11F33 (11F67)

— A note on quadratic congruences. (English summary) *Manuscripta Math.* **94** (1997), *no.* 1, 89–94. (Ken Ono) **98g:11052** 11F33 (11F30, 11F37)

Guès, Olivier Viscous boundary layers and high frequency oscillations. *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 61–77, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Michael Renardy) **98j:35025** 35C20 (35B25, 35L60)

— (*with* Grenier, Emmanuel) Boundary layers for viscous perturbations of noncharacteristic quasilinear hyperbolic problems. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 110–146. (Michael Renardy) **98j:35026** 35C20 (35B25, 35L60)

Guesmia, Aissa Stabilisation frontière d'un système d'élasticité. (English and French summaries) [Boundary stabilization of an elasticity system] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1355–1360. (Summary) **98d:93055** 93C20 (35Q72, 73C99, 73K50, 93D15)

— On linear elasticity systems with variable coefficients. *Kyushu J. Math.* **52** (1998), *no.* 1, 227–248. (Kenneth B. Hannsgen) **98m:73019** 73C02 (35Q72, 73K50, 93B05, 93B07, 93C20)

Guessab, A. (*with* Rahman, Qazi I.) Quadrature formulae and polynomial inequalities. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 255–282. (Walter Gautschi) **98g:41033** 41A55 (26D05, 41A17)

Guest, Martin A. (*with* Kozlowski, Andrzej[2]; Yamaguchi, Kohhei) Homological stability of oriented configuration spaces. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 809–814. (Don Shimamoto) **98h:55012** 55P35 (55S15)

— (*with* Ohnita, Yoshihiro) Actions of loop groups, deformations of harmonic maps, and their applications [MR 96b:58023]. *Selected papers on harmonic analysis, groups, and invariants*, 33–50, *Amer. Math. Soc. Transl. Ser.* 2, 183, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:00025**) 58E20 (22E67, 53C07)

Guevara, Javier (*with* Gaioli, Fabián H.; Garcia-Alvarez, Edgardo T.) Quantum Brownian motion. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2167–2207. (Summary) **98h:82039** 82C10 (82C31)

Guez, Allon (*with* Ahmad, Ziauddin) Auto-tuning of parameters in estimation and adaptive control of robots with weaker PE conditions. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1726–1730. 93C85

Gugat, M. Parametric disjunctive programming: one-sided differentiability of the value function. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 2, 285–310. (Johannes Jahn) **98d:90117** 90C31 (49N15, 90C10, 90C29)

Gugel, Yu. V. (*with* Popov, I. Yu.; Popova, S. L.) Hydrotron: creep and slip. (English summary) *Fluid Dynam. Res.* **18** (1996), *no.* 4, 199–210. (Adélia Sequeira) **98f:76027** 76D07 (47B25, 47N20)

Guglielmi, Alessandra (*with* Betrò, Bruno) Numerical robust Bayesian analysis under generalized moment conditions. (English summary) With a discussion by Elías Moreno and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 3–20, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98m:62066** 62F15 (62F35)

Guglielmi, Nicola (*with* Bellen, Alfredo; Torelli, L.) Asymptotic stability properties of Θ-methods for the pantograph equation. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 279–293. (Summary) **98f:34093** 34K05 (34A45, 65L07)

— On the asymptotic stability properties of Runge-Kutta methods for delay differential equations. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 467–485. (Philip W. Sharp) **98f:65081** 65L20 (65L06)

Guha, N. (*with* De, U. C.; Konar, Arabinda) On generalised projective 2-recurrent Riemannian manifold. (English summary) *J. Nat. Acad. Math. India* **9** (1991), *no.* 1, 1–4. 53C15

Guha, Partha Volume-preserving integrable systems and Nambu-Poisson manifolds. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, L37–L43. (Raúl Ibáñez) **98c:58056** 58F05 (58F07, 70G99, 70H05)

— Local ADHM construction and holomorphic local vector bundles on the twistor space. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 20–36. (Sergey Merkulov) **98m:32047** 32L25 (32G13, 53C07, 81R25)

— Adler-Kostant-Symes construction, bi-Hamiltonian manifolds, and KdV equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5167–5182. (Paolo Casati) **98j:58054** 58F07

Guha, Sudipto (*with* Khuller, Samir) Approximation algorithms for connected dominating sets. (English summary) *Algorithms—ESA '96* (*Barcelona*), 179–193, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98g:68125** 68R10 (05C85, 68Q25)

— (*with* Khuller, Samir) Connected facility location problems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 179–190, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:68206** 68R10 (05C85, 90B80)

— (*with* Khuller, Samir) Approximation algorithms for connected dominating sets. (English summary) *Algorithmica* **20** (1998), *no.* 4, 374–387. (Summary) **98m:68207** 68R10 (68Q25)

Guha, Sumanta (*with* Folwell, Nathan; Suzuki, Ichiro[1]) A practical algorithm for integer sorting on a mesh-connected computer. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 265–278. 68P10 (68Q22)

Guhr, Thomas Supergroups and their representations in random matrix theory. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 318–329, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:82020** 82B41 (81Q50)

— Comment on: "The Itzykson-Zuber integral for $U(m|n)$" [J. Math. Phys. **36** (1995), no. 6, 3085–3093; MR 97f:58018] by J. Alfaro, R. Medina and L. F. Urrutia. With a reply by Alfaro, Medina and Urrutia. *J. Math. Phys.* **37** (1996), *no.* 6, 3099–3101. (From the text) **98f:58039** 58C50 (22E30, 81R05)

— (*with* Wettig, Tilo) An Itzykson-Zuber-like integral and diffusion for complex ordinary and supermatrices. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6395–6413. (Jacobus Verbaarschot) **98f:22014** 22E30 (81T40, 81V05, 82B44)

— (*with* Henseler, Michael; Wirzba, Andreas) Quantization of hyperbolic N-sphere scattering systems in three dimensions. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 286–319. (Jiu Qing Liang) **98j:81094** 81Q50 (81Q20, 81U20)

— (*with* Müller-Groeling, Axel) Spectral correlations in the crossover between GUE and Poisson regularity: on the identification of scales. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1870–1887. (Jacobus Verbaarschot) **98k:82075** 82B41 (82B31)

Gui, Changfeng Existence of multi-bump solutions for nonlinear Schrödinger equations via variational method. *Comm. Partial Differential Equations* **21** (1996), *no.* 5-6, 787–820. (Charles Bu) **98a:35122** 35Q55

— (*with* Alama, Stanley; Bronsard, Lia) Stationary layered solutions in $\mathbf{R}^2$ for an Allen-Cahn system with multiple well potential. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 359–390. (Summary) **98c:35042** 35J60 (35B40, 35K57, 35Q99)

Guiaş, Flavius Stochastic approximation of the solution of a coagulation-fragmentation equation with diffusion. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 127–134, *Transilvania, Cluj-Napoca*, 1997. (Neal Madras) **98j:60115** 60J75 (35K99, 45K05, 60K35, 82C22)

— A Monte Carlo approach to the Smoluchowski equations. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 313–326. 60J75 (65C05, 82C80)

Guiaşu, Silviu On the formalism of stochastic logic. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 227–234, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98d:03035** 03B48 (68T27)

— Minimum deviations from maximum entropy condition. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 79–90. 60E99 (81Q05, 81V45)

Guibas, Leonidas J. (*with* Bern, Marshall; Eppstein, David; Hershberger, J. E.; Suri, Subhash; Wolter, Jan) The centroid of points with approximate weights. (English summary) *Algorithms—ESA '95* (*Corfu*), 460–472, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Basch, Julien; Ramkumar, G. D. S.) Reporting red-blue intersections between two sets of connected line segments. (English summary) *Algorithms—ESA '96* (*Barcelona*), 302–319, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98e:68245** 68U05

— (*with* Overmars, Mark H.; Robert, Jean-Marc) The exact fitting problem in higher dimensions. (English summary) *Comput. Geom.* **6** (1996), *no.* 4, 215–230. (Summary) **98c:52020** 52B55 (65D10, 68U05)

— (*with* Bose, Prosenjit; Lubiw, Anna; Overmars, Mark H.; Souvaine, Diane; Urrutia, Jorge) The floodlight problem. (English summary) Workshop on Computational Geometry (Raleigh, NC, 1993). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 1-2, 153–163. (Rade Živaljević) **98c:52018** 52B55 (68U05)

— (*with* Motwani, Rajeev; Raghavan, Prabhakar) The robot localization problem. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1120–1138. (Summary) **98d:68200** 68U05 (52B55, 65Y25)

— *see also* **ACM Symposium: Computational Geometry**

Guibert, O. (*with* Dulucq, S.) Stack words, standard tableaux and Baxter permutations. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 91–106. (Angèle M. Hamel) **98a:05009** 05A15 (05E10)

Guibert, R. (*with* Barraco, D.; Dominguez, Eduardo; Hamity, V.) Conservation laws and symmetry properties of a class of higher order theories of gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 629–642. (Summary) **98m:83060** 83D05 (83C40)

Guichal, Edgardo (*with* Paolini, Graciela) Characterization of the moment space of a sequence of exponentials. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 43–54. (Antonio J. Durán) **98j:44004** 44A60 (47A57)

Guichardet, Alain Sur une algèbre Q-symétrique. (English summary) [On a Q-symmetric algebra] Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 123–135. (Thierry Dana-Picard) **98a:16036** 16S80

— *see also* **Dixmier, Jacques**

Guida, Giovanni (*with* Baroni, Pietro; Mussi, Silvano) Modeling uncertain relational knowledge: the AV-quantified production rules approach. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 18–27, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B70)

Guida, Pier Luigi (*with* Caprara, Alberto; Fischetti, Matteo; Toth, Paolo; Vigo, Daniele) Algorithms for railway crew management. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 125–141. (Summary) **98e:90221** 90C90 (90B35)

Guidetti, Davide The parabolic mixed Cauchy-Dirichlet problem in spaces of functions which are Hölder continuous with respect to space variables. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 3, 161–168. (Paolo Acquistapace) **98g:35089** 35K35 (35B65)

Guido, Daniele (*with* Longo, Roberto) The conformal spin and statistics theorem. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 1, 11–35. (Gerald Hofmann) **98c:81121** 81T05 (46N50, 81R05, 81T40)

Guido, Y. (*with* Zolésio, Jean-Paul) Shape Hessian for a nondifferentiable variational free boundary problem. (English summary) *Partial differential equation methods in control and shape analysis* (*Pisa*), 205–213, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Summary) **98e:49098** 49Q15 (35Q35, 82D10)

Guidon, Thomas (*with* Hassler, Urs; Nazarova, L. A.; Roiter, Andrei V.) Dyadic sets S: a dichotomy for indecomposable S-matrices. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1205–1210. (Summary) **98d:16017** 16G10

Guidone Peroli, G. (*with* Virga, Epifanio G.) Arrays of nematic point defects evolving towards neutral equilibria. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1819–1824. (Summary) **98f:76009** 76A15 (82D30)

Guidotti, Patrick Diffusion in glassy polymers: a free boundary value problem. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 675–693. (Vladimir Grebenev) **98j:35189** 35R35 (35K55, 35Q99, 76R50)

podio-Guidugli, Paolo *see* **Podio-Guidugli, Paolo**

Guiduli, Barry The structure of trivalent graphs with minimal eigenvalue gap. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 321–329. (D. Cvetković) **98g:05095** 05C50

— (*with* Király, Zoltán) On intersecting hypergraphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 139–151. (Summary) **98m:05137** 05C65

Guieu, Laurent Nombre de rotation, structures géométriques sur un cercle et groupe de Bott-Virasoro. (English and French summaries) [Rotation number, geometric structures on a circle and Bott-Virasoro group] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 4, 971–1009. (Christoph Schweigert) **98b:22037** 22E65 (17B68, 58D05)

Guiggiani, Massimo (*with* Bonnet, Marc) Tangential derivative of singular boundary integrals with respect to the position of collocation points. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1255–1275. (Summary) **98m:73087** 73V10 (45E05, 45L05)

Guijarro, David (*with* Lavín, Víctor; Raghavan, Vijay K.) Learning monotone term decision lists. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 16–26, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68193** 68T05 (68Q99)

— (*with* Castro, Jorge; Lavín, Víctor) Learning nearly monotone k-term DNF. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 162–170, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68139** 68T05 (03B05, 68Q99)

Guijarro, Luis (*with* Petersen, Peter, V) Rigidity in non-negative curvature. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 5, 595–603. (Zhongmin Shen) **98i:53047** 53C20

— Improving the metric in an open manifold with nonnegative curvature. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1541–1545. (Wilderich Tuschmann) **98j:53042** 53C21 (53C20)

Guil, Francisco (*with* Mañas, Manuel) The Darboux system: finite-rank constraints and Darboux transformations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5968–5975. (F. Pempinelli) **98k:58201** 58F37 (35Q58, 58F07)

Guil, N. (*with* Argüello, F.; López-Gómez, Juan; Amor, M.; Zapata, E. L.) A probabilistic model for best-first search B & B algorithms. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 49–60, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65Y05 (65Y25)

mateos Guilarte, Juan *see* **Mateos Guilarte, Juan**

Guilarte, Juan Mateos *see* **Mateos Guilarte, Juan**

Guil Asensio, Pedro A. (*with* Gómez Pardo, José L.) Indecomposable decompositions of finitely presented pure-injective modules. *J. Algebra* **192** (1997), *no.* 1, 200–208. (Daniel Simson) **98d:16003** 16D50 (16E50, 16L30)

— (*with* Gómez Pardo, José L.) Embeddings in free modules and Artinian rings. *J. Algebra* **198** (1997), *no.* 2, 608–617. (W. K. Nicholson) **98k:16027** 16L60 (16D40, 16P20)

— (*with* Gómez Pardo, José L.) Essential embedding of cyclic modules in projectives. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4343–4353. (V. A. Artamonov) **98b:16016** 16L60 (16D40)

Guilbault, Craig R. (*with* Ancel, Fredric D.; Davis, Michael Walter) CAT(0) reflection manifolds. *Geometric topology* (*Athens, GA*, 1993), 441–445, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (R. J. Daverman) **98i:57068** 57S30 (57Q99)

— (*with* Ancel, Fredric D.) Interiors of compact contractible n-manifolds are hyperbolic ($n \geq 5$). (English summary) *J. Differential Geom.* **45** (1997), *no.* 1, 1–32. (Tadeusz Januszkiewicz) **98i:53050** 53C21 (53C20, 57Q99)

diaz-Guilera, Albert *see* **Diaz-Guilera, Albert**

Guil Guerrero, F. (*with* Alvarez, Gabriel) Representation of the Hubbard model in the Clifford algebra. (English summary) *Nuclear Phys. B* **458** (1996), *no.* 3, 609–622. (Summary) **98a:82019** 82B20 (15A66)

Guillamon, A. *see* **Guillamon i Grabolosa, Toni**

Guillamon, Antoni *see* **Guillamon i Grabolosa, Toni**

Guillamón, Antonio (*with* Ruiz Gómez, José Maria) Nonparametric recursive estimator for mean residual life and vitality function under dependence conditions. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 1997–2011. (Patricia B. Cerrito) **98a:62050** 62G05

Guillamon i Grabolosa, Toni (*with* Gasull, Armengol; Mañosa, Víctor; Mañosas, Francesc) The period function for Hamiltonian systems with homogeneous nonlinearities. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 237–260. (Lubomir Gavrilov) **98h:58154** 58F22 (34C25, 58F05, 70H05)

— (*with* Gasull, Armengol; Mañosa, Víctor) An explicit expression of the first Liapunov and period constants with applications. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 190–212. (Summary) **98d:34051** 34C05

Guillard, H. On nonlinear H_∞ control under sampled measurements. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 880–885. (Summary) **98d:93040** 93B36 (93C57)

Guillaume, D. (*with* Morain, F.) Building pseudoprimes with a large number of prime factors. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 263–277. (Samuel S. Wagstaff, Jr.) **98d:11011** 11A51 (11Y11, 11Y55)

Guillaume, Patrick (*with* Pintelon, Rik; Vandersteen, Gerd; Rolain, Yves) Analyses, development and applications of TLS algorithms in frequency domain system identification. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 341–358, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 93B40 (93B30)

Guillaume, Philippe (*with* Masmoudi, Mohamed) Sensitivity computation and automatic differentiation. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 831–865. (Summary) **98c:49077** 49Q10 (65D25, 73K40)

— Nested multivariate Padé approximants. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 149–158. (Pierre Hillion) **98m:65020** 65D15 (41A21, 65B99)

— (*with* Masmoudi, Mohamed) Solution to the time-harmonic Maxwell's equations in a waveguide: use of higher-order derivatives for solving the discrete problem. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1306–1330. (Maïtine Bergounioux) **98h:78016** 78A50 (35Q60, 65N99, 78–08)

Guille-Biel, Claire Sparse Schrödinger operators. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 3, 315–341. (Jean-Michel Ghez) **98e:47053** 47B39 (39A70, 47B80, 47N50, 81Q10)

garraida Guillem, Ana Isabel *see* **Garralda Guillem, Ana Isabel**

Guillemin, Fabrice M. (*with* Dupuis, Alain; Sericola, Bruno) Asymptotic results for the superposition of a large number of data connections on an ATM link. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 121–150. (Summary) **98f:60189** 60K25

— (*with* Mazumdar, Ravi R.) On pathwise analysis and existence of empirical distributions for $G/G/1$ queues. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 1, 55–67. (Muhammad El-Taha) **98g:60166** 60K25 (60K30, 68M20, 90B22)

Guillemin, Victor (*with* Lerman, Eugene; Sternberg, Shlomo) ★ Symplectic fibrations and multiplicity diagrams. (English summary) *Cambridge University Press, Cambridge*, 1996. xiv+222 *pp. ISBN* 0-521-44323-7 (Alejandro Uribe) **98d:58074** 58F06 (17B99, 22E45, 58F05, 81S10)

— (*with* Canas da Silva, A.) On the Kostant multiplicity formula for group actions with non-isolated fixed points. *Adv. Math.* **123** (1996), *no.* 1, 1–15. (Eugene Lerman) **98a:58151** 58G10 (22E60, 58F05)

— Paley-Wiener on manifolds. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 85–91, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Harald Upmeier) **98j:58107** 58G11

— Riemann-Roch for toric orbifolds. *J. Differential Geom.* **45** (1997), *no.* 1, 53–73. (Michel Brion) **98a:58075** 58F06 (52B20, 58F05)

— (*with* Okikiolu, K.) Spectral asymptotics of Toeplitz operators on Zoll manifolds. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 496–516. (Friedbert Prüfer) **98h:58189** 58G15 (47B35, 47G30, 58G18)

Guillopé, Laurent (*with* Zworski, Maciej) Scattering asymptotics for Riemann surfaces. *Ann. of Math.* (2) **145** (1997), *no.* 3, 597–660. (Peter A. Perry) **98g:58181** 58G25 (11M36, 35P20, 35P25)

Guillot, Jean-Claude (*with* Ralston, James) Inverse scattering at fixed energy for stratified media. *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. XV*, 7 *pp., École Polytech., Palaiseau*, 1997. (*see* **98f:35004**) 35R30 (35L05, 35P25)

— (*with* Grébert, B.; Klopp, Frédéric) On the spectrum of odd order self-adjoint ordinary differential operators on the real line with quasi-periodic coefficients. *J. Differential Equations* **135** (1997), *no.* 1, 41–65. (Boris M. Levitan) **98e:34149** 34L05 (47E05)

le Guillou, J. C. *see* **Le Guillou, J. C.**

decomps-Guilloux, Annette *see* **Decomps-Guilloux, Annette**

Guilmineau, E. (*with* Piquet, J.; Queutey, P.) Unsteady two-dimensional turbulent viscous flow past aerofoils. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 3, 315–366. 76M25 (76D05, 76D99, 76F99)

Guim, Ihnsouk (*with* Burkhardt, Theodore W.) Star-triangle approach to boundary behavior in the two-dimensional Ising model. (English summary) *Phys. A* **251** (1998), *no.* 1-2, 12–26. (Summary) **98m:82013** 82B20 (82B26)

Guimarães, Katia S. (*with* Dehne, Frank) Exact and approximate computational geometry solutions of an unrestricted point set stereo matching problem. (English summary) *Theoretical computer science* (*Ravello*, 1995), 192–200, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:68187** 68U10 (68U05)

— (*with* Dehne, Frank) Exact and approximate computational geometry solutions of an unrestricted point set stereo matching problem. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 107–114. (Summary) **98h:68222** 68U05

— (*with* Gasarch, William Ian) Binary search and recursive graph problems. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 119–139. (Cristian Calude) **98m:03067** 03C15 (03D45, 05C85)

Guimarães, M. E. X. Semiclassical effects induced by Aharonov-Bohm interaction between a cosmic string and a scalar field. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 281–284. (Summary) **98b:83044** 83C47 (81T20, 83F05)

Guiñez, Jorge (*with* Rueda, Angel D.) The Lewowicz number of linear diffeomorphisms on the torus. (English summary) *Rev. Colombiana Mat.* **30** (1996), *no.* 1, 65–69. (Romeo F. Thomas) **98g:58133** 58F15

Guiñez, Víctor (*with* Gutiérrez, Carlos) Positive quadratic differential forms: linearization, finite determinacy and versal unfolding. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 661–690. (Robert Roussarie) **98h:58021** 58C27 (58A10)

— Rank two codimension 1 singularities of positive quadratic differential forms. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 631–654. (Ronaldo Alves Garcia) **98f:58144** 58F14 (57R30, 58F18)

grattan-Guinness, Ivor *see* **Grattan-Guinness, Ivor**

Guinot, Marc ★ Arithmétique pour amateurs (par un autodidacte). Livre I. (French. French summary) [Arithmetic for amateurs (by an autodidact). Book I] Pythagore, Euclide et toute la clique. [Pythagoras, Euclid and the rest of the gang] *Aléas, Lyon*, 1992. x+180 *pp. ISBN* 2-908016-21-4 (E. J. Barbeau) **98a:11001** 11-01 (00A05, 01A20, 11-03, 11A05)

— ★ Arithmétique pour amateurs (par un autodidacte). Livre II. (French. French summary) [Arithmetic for amateurs (by an autodidact). Book II] Les "resveries" de Fermat. [Fermat's "resveries"] *Aléas, Lyon*, 1993. viii+268 *pp. ISBN* 2-908016-27-3 (E. J. Barbeau) **98a:11002** 11-01 (00A05, 01A45, 11-03, 11A07)

— ★ Arithmétique pour amateurs (par un autodidacte). Livre III. (French. French summary) [Arithmetic for amateurs (by an autodidact). Book III] "Ce diable d'homme" d'Euler. [Euler, "that devil of a man"] *Aléas, Lyon*, 1994. iv+426 *pp. ISBN* 2-908016-39-7 (E. J. Barbeau) **98a:11003** 11-01 (00A05, 01A50, 11-03, 11A07, 11E25, 40-03)

Guiol, H. Un résultat pour le processus d'exclusion à longue portée. (English and French summaries) [A result for the long-range exclusion process] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 4, 387–405. (Ellen Saada) **98m:60152** 60K35 (82C22)

— (*with* Galves, A.) Relaxation time of the one-dimensional symmetric zero range process with constant rate. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 323–332. (B. L. Granovskiy) **98m:60151** 60K35 (82C22)

Guionnet, Alice (*with* Zegarlinski, Bogusław) Decay to equilibrium in random spin systems on a lattice. II. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 899–904. (Francis Comets) **98h:82046** 82C21 (60K35, 82C44)

— (*with* Ben Arous, Gérard) Large deviations for Wigner's law and Voiculescu's non-commutative entropy. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 517–542. (Alexei Khorunzhy) **98i:15026** 15A52 (46L50, 60F10)

— (*with* Ben Arous, Gérard) Langevin dynamics for Sherrington-Kirkpatrick spin glasses. *Mathematical aspects of spin glasses and neural networks*, 323–353, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **98i:82002**) 82D30 (82C31)

Guiotto, Paolo Non-differentiability of heat semigroups in infinite-dimensional Hilbert spaces. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 232–236. (Ryszard Rudnicki) **98f:35154** 35R15 (35K05, 47D07)

arnoux-Guisse, F. *see* **Arnoux-Guisse, F.**

Guitart, Pere (*with* Basart, Josep M.) Graphs applied to the solution of games. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 17–25. 05C99

Guitart, René (*with* Gerner, Matthias) The locally free relatively filtered diagram as an inductive completion of a system of choice. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 59–73. (Colin McLarty) **98a:03102** 03G30

Guitter, E. (*with* Di Francesco, P.; Golinelli, O.) Meanders. *The mathematical beauty of physics (Saclay*, 1996), 12–50, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Sergei K. Lando) **98j:82027** 82B41 (05A15)

— (*with* Bowick, Mark J.; Golinelli, O.; Mori, Shintaro) Geometrical folding transitions of the triangular lattice in the face-centred cubic lattice. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 3, 583–607. (Summary) **98g:82023** 82B99 (82B20, 82B26)

Guivarch, R. (*with* Spiteri, P.; Boisson, H. C.; Miellou, J. C.) Schwarz alternating parallel algorithm applied to incompressible flow computation in vorticity stream function formulation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 205–225. (Summary) **98j:76108** 76M25 (65M55, 65Y05, 76D05)

Guivarc'h, Yves A spectral gap property for transfer operators. (English summary) *Harmonic functions on trees and buildings (New York*, 1995), 129–131, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 60B15 (22E30, 60J50)

Guizzi, Valentina A classification of unitary highest weight modules of the quantum analogue of the symmetric pair (A_n, A_{n-1}). (English summary) *J. Algebra* **192** (1997), *no.* 1, 102–129. (Stefano Capparelli) **98d:17023** 17B37 (17B10)

Guj, G. (*with* Camussi, R.) Orthonormal wavelet decomposition of turbulent flows: intermittency and coherent structures. (English summary) *J. Fluid Mech.* **348** (1997), 177–199. 76F99 (76M25)

Gujarathi, C. C. (*with* Pravender) Construction of binary and non-binary variance balanced designs. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 1, 47–55, *iii.* 62K10 (05B05)

Gukov, S. Supersymmetric spin glass. *JETP Lett.* **65** (1997), *no.* 8, 694–700; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 8, 657–662 (*Russian. Russian summary*). (Summary) **98d:81063** 81T15 (81T60, 82D30)

— (*with* Klebanov, Igor R.; Polyakov, A. M.) Dynamics of $(n, 1)$ strings. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 64–70. (Summary) **98m:81141** 81T30

Gül, Erdal The Hessian tensor on a hypersurface in Euclidean space and Otsuki's lemma. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 375–380. (Maria Helena Noronha) **98i:53077** 53C40

Gulati, T. R. (*with* Husain, I.; Ahmed, Aquil) Multiobjective symmetric duality with invexity. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 25–36. (Phan Quốc Khánh) **98d:90102** 90C29 (49N15)

— (*with* Husain, I.; Ahmed, Aquil) Symmetric duality for multiobjective variational problems. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 22–38. (Gert Wanka) **98e:90137** 90C29 (49N15)

— (*with* Husain, I.; Ahmad, Izhar) Symmetric duality for nondifferentiable minimax mixed integer programming problems. (English summary) *Optimization* **39** (1997), *no.* 1, 69–84. (Klaus Hofstedt) **98j:90042** 90C10 (49N15)

— (*with* Husain, I.; Ahmed, Aquil) Symmetric duality with invexity in static and continuous fractional programming. (English summary) *Optimization* **40** (1997), *no.* 1, 41–56. (Chanchal Singh) **98h:90090** 90C32 (49N15)

Gul'chak, A. M. (*with* Ambrosovskiĭ, V. M.; Barabanov, A. E.; Miroshnikov, A. N.) Synthesis of tracking systems by the uniform-frequency optimization method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 3–13; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 519–527. 93C80 (93B51)

Gülcü, A. (*with* Aydın, Bünyamin) The rotation sets for the homeomorphism H_m class. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 69–76. 58F11

Güler, Osman Barrier functions in interior point methods. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 860–885. (Tamás Terlaky) **98a:90078** 90C25 (68Q25, 90C60)

— Hyperbolic polynomials and interior point methods for convex programming. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 350–377. (Summary) **98d:90084** 90C25

— On the self-concordance of the universal barrier function. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 295–303. (G. Di Pillo) **98k:90072** 90C25 (52A41, 90C60)

Güler, Y. (*with* Muslih, S.) The Feynman path integral quantization of constrained systems. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 1, 97–107. (Takashi Miura) **98k:81142** 81S40

Guletskiĭ, V. I. (*with* Yanchevskiĭ, V. I.) Ramification and reciprocity laws in Brauer groups of function fields of numerical curves of genus one. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 5, 210–228; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 5, 863–877. (Genady Lazarevich Margolin) **98a:13007** 13A20 (14H25, 14H52)

— Invariants of simple algebras over function fields of principal homogeneous spaces of numerical elliptic curves. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 64–68, 132. (Takeshi Ooe) **98k:11092** 11G45 (11G05, 14G25)

Gulibarhaer, Maimaiti Sobolev spaces and their applications. (Chinese. Chinese summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 1, 24–26. (Seng-Kee Chua) **98f:46031** 46E35

Guliev, A. P. (*with* Abbasov, A. M.; Aliev, Fikret Akhmadalioglu) Calculation algorithm of optimization problem two-point boundary conditions. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman*, 1995), 441–446, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 49M30 (34H05)

Guliev, V. S. (*with* Lizorkin, P. I.) Spaces of Banach-valued analytic and periodic functions. (Russian) In honor of the ninetieth birthday of Academician S. M. Nikol'skiĭ (Russian). *Trudy Mat. Inst. Steklov.* **210** (1995), *Teor. Funktsiĭ i Differ. Uravn.*, 101–119. (S. Cobzaş) **98c:46069** 46E40 (46E15)

— (*with* Mustafaev, R. Ch.) Integral operators of potential type in spaces of homogeneous type. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 730–732. 42B20 (47G10)

Gulisashvili, A. Rearrangements of functions on a locally compact abelian group and integrability of the Fourier transform. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 62–115. (Nakhlé Asmar) **98m:43007** 43A25

Guljaš, Boris (*with* Crnjac, Miljenko; Miller, Harry I.) A positive answer to a question about the Cantor set. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 213–224. (Marek Balcerzak) **98c:28001** 28A05

Gul'ko, F. B. (*with* Borisov, V. G.; Grigor'ev, F. N.; Kuznetsov, N. A.) On control systems that are unsynchronized with respect to measurements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 98–111; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1146–1156. (Summary) **98m:93056** 93C15

Gull, Stephen (*with* Doran, Chris; Lasenby, Anthony) Linear algebra. *Clifford (geometric) algebras (Banff, AB*, 1995), 65–82, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66

— (*with* Doran, Chris; Lasenby, Anthony) Dynamics. *Clifford (geometric) algebras (Banff, AB*, 1995), 83–94, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 70E15 (73C99)

— (*with* Doran, Chris; Lasenby, Anthony) Electromagnetism. *Clifford (geometric) algebras (Banff, AB*, 1995), 95–110, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 78A25

— (*with* Doran, Chris; Lasenby, Anthony) Electron physics. I. *Clifford (geometric) algebras (Banff, AB*, 1995), 111–127, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Doran, Chris; Lasenby, Anthony) Electron physics. II. *Clifford (geometric) algebras (Banff, AB*, 1995), 129–145, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Lasenby, Anthony; Doran, Chris) STA and the interpretation of quantum mechanics. *Clifford (geometric) algebras (Banff, AB*, 1995), 147–169, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81P99

— (*with* Lasenby, Anthony; Doran, Chris) Gravity. I. Introduction. *Clifford (geometric) algebras (Banff, AB*, 1995), 171–184, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60

— (*with* Doran, Chris; Lasenby, Anthony) Gravity. II. Field equations. *Clifford (geometric) algebras (Banff, AB*, 1995), 185–195, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C05 (83C60)

— (*with* Lasenby, Anthony; Doran, Chris) Gravity. III. First applications. *Clifford (geometric) algebras (Banff, AB*, 1995), 197–210, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60 (83C10)

— (*with* Doran, Chris; Lasenby, Anthony) Gravity. IV. The "intrinsic" method. *Clifford (geometric) algebras (Banff, AB*, 1995), 211–222, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C15 (83C60)

— (*with* Lasenby, Anthony; Doran, Chris) Gravity. V. Further applications. *Clifford (geometric) algebras (Banff, AB*, 1995), 223–235, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C57 (83F05)

— (*with* Doran, Chris; Lasenby, Anthony) Physics of rotating cylindrical strings. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6021–6031. (A. D. Popova) **98a:83106** 83D05 (81V17)

Gulliksen, Tor (*with* Aslaksen, Helmer; Chan, Shih-Ping) Invariants of S_4 and the shape of sets of vectors. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 53–57. (Kenneth A. Brown) **98g:13004** 13A50 (20C30)

— (*with* Hole, A.) On the number of linearly separable subsets of finite sets in $\mathbf{R}^n$. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 463–472. (Stelian S. Dumitrascu) **98k:52019** 52A37 (52C99, 65Y25, 68U05)

Gulliver, T. Aaron (*with* Bhargava, Vijay K.) Some best rate $1/p$ quasi-cyclic codes over GF(5). (English summary) *Information theory and applications, II (Lac Delage, PQ*, 1995), 28–40, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94B05

— (*with* Bhargava, Vijay K.) New optimal binary linear codes of dimensions 9 and 10. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 314–316. (Summary)

98k:94011 94B05
— (*with* Esmaeili, Morteza; Secord, Norman P.) Quasi-cyclic structure of Reed-Muller codes and their smallest regular trellis diagram. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1040–1052. (Summary) **98e:94030** 94B05 (94B12)
— (*with* Östergård, Patric R. J.) Improved bounds for ternary linear codes of dimension 7. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1377–1381. 94B05
— Improvements to the bounds on optimal ternary linear codes of dimension 6. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1632–1638. 94B65
— (*with* Daskalov, Rumen N.) New good quasi-cyclic ternary and quaternary linear codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1647–1650. 94B05
— (*with* Dougherty, Steven T.; Harada, Masaaki) Extremal binary self-dual codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2036–2047. (Summary) **98i:94044** 94B60
— (*with* Harada, Masaaki) The existence of a formally self-dual even [70, 35, 14] code. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 95–98. 94B05
— (*with* Maltais, P.) Pascal matrices and Stirling numbers. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 7–11. 05A10
— (*with* Harada, Masaaki) Classification of extremal double circulant self-dual codes of lengths 64 to 72. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 257–269. (Summary) **98i:94045** 94B60
— *see also* **Information theory and applications, 98g:94002**

Gumb, Raymond D. (*with* Lambert, Karel) Definitions in nonstrict positive free logic. (English summary) *Modern Logic* **7** (1997), *no.* 1, 25–55. (Guo-Qiang Zhang) **98c:03073** 03B70 (03B60, 68N15)

Gumel, A. B. (*with* Ang, W. T.; Twizell, E. H.) Efficient parallel algorithm for the two-dimensional diffusion equation subject to specification of mass. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 153–163. (Summary) **98d:65117** 65M20 (65Y05)
— (*with* Twizell, E. H.; Arigu, M. A.) Parallel L_0-stable methods for the multi-dimensional diffusion equation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 13–25. (Summary) **98c:65158** 65M20 (65Y05)

Gumnerov, Krastu On two algorithms for obtaining transcendent numbers. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 2, 104–116. (Eugene M. Matveev) **98k:11104** 11J81

Gumpertz, Marcia L. (*with* Clarke, G. P. Y.) Two-stage nonlinear mixed model analysis using expected value transformations. (English summary) *South African Statist. J.* **30** (1996), *no.* 2, 91–117. (Summary) **98g:62123** 62J02

Gümral, Hasan Lagrangian description, symplectic structure, and invariants of 3D fluid flow. (English summary) *Phys. Lett. A* **232** (1997), *no.* 6, 417–424. (Yu. E. Gliklikh) **98i:76003** 76A02 (58D05, 58F05)

Günalay, Yavuz (*with* Gupta, Diwakar) Recent advances in the analysis of polling systems. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 339–360, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98a:60136** 60K25

Günaltılı, İ. (*with* Olgun, Ş.; Özgür, İ.) A note on finite hyperbolic planes obtained from projective planes. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 77–84. (T. G. Ostrom) **98h:51004** 51A45 (51E26)

Gunawan, Erry (*with* Tang, Li Zhong[2]; Soh, Cheong-Boon) A note on the q-ary image of a q^m-ary repeated-root cyclic code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 732–737. (Summary) **98c:94029** 94B15

Gunawardena, Athula (*with* Moorhouse, G. Eric) The non-existence of ovoids in $O_9(q)$. (English summary) *European J. Combin.* **18** (1997), *no.* 2, 171–173. (Christine M. O'Keefe) **98d:51008** 51E20 (51A50)
— On two-graphs of ovoids in $O_{2n+1}(q)$. (English summary) *European J. Combin.* **18** (1997), *no.* 8, 857–858. (Summary) **98k:05032** 05B25 (05C99)

Gunawardena, Jeremy *see* **Idempotency, 98i:00020**

Günaydin, Murat (*with* Bina, Behzad) Real forms of non-linear superconformal and quasi-superconformal algebras and their unified realization. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 713–740. (Isabel P. Ennes) **98m:81058** 81R10 (81T40)
— Seven sphere and the exceptional nonlinear superconformal algebras. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 70–75. (Summary) **98f:81097** 81R10 (17B68, 17B81, 53C80)

Gundar, A. On some data-flow machine-orientated solution of twin summatory equations with Legendre's associated functions in the kernel. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 84–87, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 33C90 (65Q05)

Gundersen, Elisabeth (*with* Andreassen, Erik; Hinrichsen, Einar L.; Langtangen, Hans Petter) A mathematical model for the melt spinning of polymer fibers. (English summary) *Numerical methods and software tools in industrial mathematics*, 195–212, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:82078** 82D60
— (*with* Langtangen, Hans Petter) Finite element methods for two-phase flow in heterogeneous porous media. (English summary) *Numerical methods and software tools in industrial mathematics*, 213–234, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:76067** 76M10 (65N30, 76M20, 76S05)

Gundersen, Gary G. (*with* Czubiak, Thomas P.) Meromorphic functions that share pairs of values. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 35–46. (Summary) **98d:30044** 30D35
— (*with* Steinbart, Enid M.; Wang, Shupei) The possible orders of solutions of linear differential equations with polynomial coefficients. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1225–1247. (Ilpo Laine) **98h:34006** 34A20

Gunderson, Brenda K. (*with* Muirhead, Robb J.) On estimating the dimensionality in canonical correlation analysis. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 121–136. (Summary) **98c:62108** 62H12 (62H20)

Gunderson, D. S. (*with* Deuber, Walter A.; Hindman, Neil; Strauss, Dona) Independent finite sums for K_m-free graphs. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 171–198. (Tomasz J. Łuczak) **98d:05140** 05C99
— (*with* Deuber, Walter A.; Erdős, Paul[1]; Kostochka, A. V.; Meyer, Anja G.) Intersection statements for systems of sets. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 118–132. (H. L. Abbott) **98f:05144** 05D05

Gündeş, A. N. Simultaneous stabilization of multiplicatively perturbed plants. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 149–158. (Summary) **98a:93062** 93D15

Gundlach, Carsten (*with* Pullin, Jorge) Ill-posedness of a double-null free-evolution scheme for black hole spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 991–997. (Viqar Husain) **98a:83003** 83–08 (83C57)
— Echoing and scaling in Einstein-Yang-Mills critical collapse. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6002–6013. (Summary) **98e:83075** 83C57
— Pseudospectral apparent horizon finders: an efficient new algorithm. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 863–875. (Summary) **98k:83006** 83C05 (83–08)

Gundlach, Volker Matthias Chaos in random dynamical systems. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 1–15, *Cambridge Univ. Press, Cambridge*, 1997. (Thomas Bogenschütz) **98k:58141** 58F11 (28D20, 58F03, 58F13)
— (*with* Latushkin, Yu. D.) Essential spectral radius of Ruelle's operator on smooth Hölder spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 889–894. (Thomas Bogenschütz) **98k:58178** 58F19 (58F11)

Gungormez, M. (*with* Karadayi, H. R.) An explicit construction of Casimir operators and eigenvalues. I. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5976–5990. (Stephen Slebarski) **98m:17014** 17B20
— (*with* Karadayi, H. R.) An explicit construction of Casimir operators and eigenvalues. II. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5991–6007. (Stephen Slebarski) **98m:17015** 17B10 (17B20)

Gunji, Yukio-Pegio (*with* Toyoda, Shin'ichi) Dynamically changing interface as a model of measurement in complex systems. (English summary) *Phys. D* **101** (1997), *no.* 1-2, 27–54. (Summary) **98m:58072** 58F08 (58F40, 68Q80)

Gunnels, John (*with* Alpatov, Philip; Baker, Gregory R.; Edwards, Carter; Morrow, Greg; Overfelt, James; van de Geijn, Robert; Wu, Yuan-Jye J.) PLAPACK: parallel linear algebra package. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

Gunopulos, Dimitris (*with* Dobkin, David P.; Maass, Wolfgang) Computing the maximum bichromatic discrepancy, with applications to computer graphics and machine learning. (English summary) Seventh Annual Workshop on Computational Learning Theory (COLT) (New Brunswick, NJ, 1994). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 1, 453–470. (Rani Siromoney) **98b:68159** 68T05 (68U05)
— (*with* Das, Gautam; Fleischer, Rudolf; Gąsieniec, Leszek; Kärkkäinen, Juha) Episode matching. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 12–27, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68040** 68Q20

Gunsjö, Anna ★ Faktoranalys av ordinala variabler. (Swedish. English summary) [Factor analysis of ordinal variables] Dissertation, Uppsala University, Uppsala, 1994. Acta Universitatis Upsaliensis. Studia Statistica Upsaliensia, 2. *Uppsala Universitet, Acta Universitatis Upsaliensis, Uppsala*, 1994. 160 *pp. ISBN* 91-554-3228-X (Summary) **98g:62119** 62H25

Gunter, Carl A. (*with* Ngair, Teow-Hin; Subramanian, Devika) The common order-theoretic structure of version spaces and ATMSs. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 357–407. (Summary) **98f:68255** 68T30 (06A06)

Gunter, Elsa L. *see* **Theorem proving in higher order logics, 98i:68018**

Günther, Bernd (*with* Mdzinarishvili, L.) Continuous Alexander-Spanier cohomology classifies principal bundles with abelian structure group. (English summary) *Fund. Math.* **153** (1997), *no.* 2, 145–156. (Summary) **98c:55010** 55N35

Günther, H.-O. *see* **Production and logistics, 98e:90009**

Günther, M. *see* **Günther, Michael M.**

Günther, Matthias (*with* Prokert, Georg) Existence results for the quasistationary motion of a free capillary liquid drop. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 311–348. (Alberto Valli) **98g:35224** 35R35 (35Q35, 76D07, 76D45)

Günther, Michael M. (*with* Hoschek, M.) ROW methods adapted to electric circuit simulation packages. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 159–170. (Summary) **98e:65057** 65L06 (94C05)

Günther, U. (*with* Zhuk, A. I.) Gravitational excitons from extra dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6391–6402. (Summary) **98j:83088** 83E15

Gunzburger, Max D. (*with* Cao, Yanzhao; Turner, James C., Jr.) The controllability of systems governed by parabolic differential equations. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 174–189. (Sergei A. Ivanov) **98j:93053** 93C20 (35K20, 93B05)
— (*with* Hou, LiSheng; Ravindran, S. S.) Analysis and approximation of optimal control problems for a simplified Ginzburg-Landau model of superconductivity. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 243–268. (Claudia Simionescu-Badea) **98k:49009** 49J20 (35Q55, 49M99, 82D55)
— (*with* Deang, Jennifer; Du, Qiang; Peterson, Janet) Vortices in superconductors: modelling and computer simulations. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1957–1968. (Summary) **98k:82203** 82D55
— (*with* Cao, Yanzhao) Least-squares finite element approximations to solutions of interface problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 393–405 (*electronic*). (Summary) **98m:65186** 65N30

Günzel, Harald The crease structure of the Karush-Kuhn-Tucker set in parametric optimization. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 783–792. (Jürgen Guddat) **98a:90110** 90C31
— (*with* Stavroulakis, Georgios E.) Optimal structural design in nonsmooth mechanics. (English summary) *Multilevel optimization: algorithms and applications*, 91–115, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 73K40 (73K50, 73V05, 90C90)

Gunzig, Edgard *see* **Proceedings: Workshop on Cosmology and Time Asymmetry, 98h:00036**

Guo, B. L. *see* **Guo, Bo Ling**

Guo, B. Q. *see* **Guo, Ben Qi**

Guo, Bai Chang Uniqueness of solutions to Cauchy problems for higher-order KdV equations and systems. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 98–102. (Summary) **98g:35179** 35Q53
— Oscillation of a class of neutral functional-differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 513–522. (Binggen

Zhang) **98b:34091** 34K15 (34K40)

Guo, Bao Zhu (*with* Luo, Zheng-Hua) Initial-boundary value problem and exponential decay for a flexible-beam vibration with gain adaptive direct strain feedback control. *Nonlinear Anal.* **27** (1996), *no.* 3, 353–365. (Fu Ru Jiang) **98e:35022** 35B37 (35Q72, 73K05, 73K50, 93C40)

— (*with* Wu, Guo Fu) The optimal control of age-dependent population dynamics based on parity progression. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 334–344. (C. P. Ortlieb) **98i:92030** 92D25 (49K20, 49N55)

— (*with* Yung, Siu Pang) Asymptotic behavior of the eigenfrequency of a one-dimensional linear thermoelastic system. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 406–421. (Akira Tsutsumi) **98j:35132** 35P20 (35Q72, 73B30, 73C02)

— The characterization of the exponential stability of a family of C_0-semigroups by infinitesimal generators. (English summary) *Semigroup Forum* **56** (1998), *no.* 1, 78–83. (Vũ Quốc Phóng) **98k:47079** 47D06

Guo, Ben Qi (*with* Babuška, Ivo) Approximation properties of the *h-p* version of the finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **133** (1996), *no.* 3-4, 319–346. (From the introduction) **98k:73063** 73V05 (65M60, 65N30)

— (*with* Cao, Weiming) A preconditioner for the *h-p* version of the finite element method in two dimensions. (English summary) *Numer. Math.* **75** (1996), *no.* 1, 59–77. (Mark Ainsworth) **98a:65060** 65F35 (65N30, 65N55)

— (*with* Cao, Weiming) An iterative and parallel solver based on domain decomposition for the *h-p* version of the finite element method. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 71–85. (Svetozar D. Margenov) **98f:65036** 65F10 (65N55)

— (*with* Babuška, Ivo) Regularity of the solutions for elliptic problems on nonsmooth domains in $\mathbf{R}^3$. II. Regularity in neighbourhoods of edges. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 3, 517–545. (Giuseppe Di Fazio) **98g:35042** 35Jxx (35B65)

— (*with* Cao, Weiming) Additive Schwarz methods for the *h-p* version of the finite element method in two dimensions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1267–1288. (Larisa V. Maslovskaya) **98f:65107** 65N30 (65F30)

Guo, Ben-yu Painlevé analysis of nonlinear reaction-diffusion. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 45–53, *VSP, Utrecht*, 1994. (Shuichi Jimbo) **98i:35092** 35K57 (34A25, 34A34, 35Q99)

— Chebyshev spectral-finite element approximation for two-dimensional flow. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 33–45, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 76M25 (65M60, 76C99, 76M10)

— Numerical study of nonlinear waves. *Soliton theory and its applications*, 337–362, 398–400, *Springer, Berlin*, 1995. (*see* **98j:58064**) 65M12 (35Q51)

— (*with* Li, Xun) Spectral methods for solving nonlinear Klein-Gordon equation. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 110–134, *World Sci. Publishing, River Edge, NJ*, 1996. (Hong Yuan Fu) **98b:65106** 65M12 (35L70, 35Q53, 65M70)

— (*with* He, Song-nian) Chebyshev spectral-finite element method for incompressible fluid flow. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 491. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 377–398. (D. M. Sloan) **98b:76052** 76M25 (76D99, 76M10)

— (*with* Li, Jian^3) Fourier-Chebyshev spectral method for the 3D incompressible Navier-Stokes equations. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 107–118. (Timothy Nigel Phillips) **98d:76130** 76M25 (65M70, 65N35, 76D05)

— (*with* Ma, He-Ping; Hou, Jing-Yu) Chebyshev pseudospectral-hybrid finite element method for two-dimensional vorticity equation. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 7, 873–905. (Max D. Gunzburger) **98h:76083** 76M10 (65N30, 76M25)

— (*with* Chen, Zhi-Xiong) Analytic solutions of Belousov-Zhabotinskii reaction. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 199–211, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Vitaly A. Volpert) **98f:80007** 80A32 (35A25, 35Q99)

— (*with* Cao, Weiming) A pseudospectral method for vorticity equations on spherical surface. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 176–187. (Yuri N. Skiba) **98f:76059** 76M25 (65M70, 76C05, 86-08, 86A10)

— (*with* He, Song-nian) Chebyshev spectral-finite element method for three-dimensional unsteady Navier-Stokes equation. (English summary) *Appl. Math. Comput.* **82** (1997), *no.* 2-3, 97–127. (Summary) **98i:76053** 76M10 (65N30, 76M25)

— (*with* Li, Xun) A Legendre pseudospectral method for solving nonlinear Klein-Gordon equation. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 105–126. (E. G. D'yakonov) **98g:65095** 65M70 (65M12)

— (*with* Li, Jian^3) Fourier-Chebyshev pseudospectral method for three-dimensional Navier-Stokes equations. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 329–356. (Timothy Nigel Phillips) **98j:76111** 76M25 (65M60, 76D05)

Guo, Bo Ling Soliton theory and modern physics. *Soliton theory and its applications*, 1–68, 392, *Springer, Berlin*, 1995. (*see* **98j:58064**) 35Q51 (76B25, 81Q05, 82B05)

— (*with* Gao, Hong-jun) Finite-dimensional behavior for a generalized Ginzburg-Landau equation. (English summary) *Progr. Natur. Sci. (English Ed.)* **5** (1995), *no.* 5, 599–610. (Woodford W. Zachary) **98d:35205a** 35Q55

— (*with* Yuan, Guang Wei) On the suitable weak solutions to the Boussinesq equations in a bounded domain. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 157. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 205–216. (Vladimir V. Shelukhin) **98d:35184** 35Q35 (35D05, 35K99, 76D05)

— (*with* Wang, Youde) Global attractors for the initial value problems of Cohn-Hilliard [Cahn-Hilliard] equations on compact manifolds. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 159. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 314–325. (Jing Xue Yin) **98f:35151** 35Q99 (35B40, 35K55, 58F39, 82B26)

— (*with* Yuan, Guang Wei) Initial-boundary value problems for Boussinesq equations with L^p data. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 595–606. (Linghai Zhang) **98b:35098** 35K60 (35Q53, 47N20, 76D99)

— (*with* Chen, Yun Mei) Two-dimensional Landau-Lifshitz equation. (English summary) *J. Partial Differential Equations* **9** (1996), *no.* 4, 313–322. (Summary) **98i:35172** 35Q55 (58E50)

— (*with* Yuan, Guang Wei) The Cauchy problem for the massive Yang-Mills-Higgs equation in Minkowski space. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 1, 36–45. (R. Glassey) **98b:35118** 35L70 (35L15, 81T13)

— (*with* Gao, Hong-jun) Number of determining nodes for generalized Ginzburg-Landau equation. *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 1, 102–104. (Woodford W. Zachary) **98d:35205b** 35Q55

— (*with* Wang, Bi Xiang) The global solution and its long time behavior for a class of generalized LS type equations. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 5, 533–546. (Piotr Biler) **98d:35206** 35Q55 (35B40)

— (*with* Wang, Youde) Generalized Landau-Lifshitz systems and harmonic maps. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 12, 1242–1257. (Caio J. C. Negreiros) **98g:58035** 58E20

— (*with* Dai, Zheng De) Inertial fractal sets for dissipative Zakharov system. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 279–288. (Remo Badii) **98f:58130** 58F12 (34G20, 35Q55, 47H20, 58F39)

— (*with* Wang, Bi Xiang) Global existence of the solution for the Landau-Lifshitz equation of the ferromagnetic spin chain. *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 429–436. (Summary) **98k:82038** 82B20

— (*with* Wu, Yong-Hui) Remarks on the nonlinear Schrödinger equations in plasma. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1875–1877. 35Q55 (76X05)

— (*with* Chang, Qian-Shun) Convergence of a conservative difference scheme for the Zakharov equations in two dimensions. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 219–232. (Anne Nouri) **98k:65051** 65M12 (65M06, 76X05)

— (*with* Li, Yongsheng) Attractor for dissipative Klein-Gordon-Schrödinger equations in $\mathbf{R}^3$. (English summary) *J. Differential Equations* **136** (1997), *no.* 2, 356–377. (Piotr Biler) **98c:35152** 35Q55 (34D45, 34G20, 35B40, 47H20, 81Q05)

— (*with* Su, Feng Qiu) Global weak solution for the Landau-Lifshitz-Maxwell equation in three space dimensions. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 326–346. (Ioannis G. Stratis) **98e:35159** 35Q60 (35D05, 78A25)

— (*with* Wang, Bi Xiang) Attractors for the Davey-Stewartson systems on $\mathbf{R}^2$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2524–2534. (From the text) **98b:35195** 35Q55 (34D45, 34G20, 47H20, 58F39)

— (*with* Gao, Hong-jun) On the number of determining nodes for the generalized Ginzburg-Landau equation. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 97–106. (Peter E. Zhidkov) **98e:35153** 35Q55 (35B32)

— (*with* Yang, Ling'e) The global solution and asymptotic behaviours for one class of system of nonlinear evolution equations. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 232–246. (Elaine Machtyngier) **98h:35215** 35Q55

— (*with* Chen, Feng-Xin) Finite-dimensional behavior of global attractors for weakly damped and forced KdV equations coupling with nonlinear Schrödinger equations. *Nonlinear Anal.* **29** (1997), *no.* 5, 569–584. (Woodford W. Zachary) **98h:35216b** 35Q55 (34G20, 35B40, 35Q53, 47H20, 58F39)

— (*with* Yang, Ling'e) Initial-boundary value problem for the Davey-Stewartson systems. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 3, 272–279. (Xian Guo Geng) **98i:35187** 35Q55 (35B40, 35B60)

— (*with* Gao, Hong-jun; Yuan, Guang Wei) Finite energy solution for the hyperbolic type Ginzburg-Landau system. *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 4, 483–488. (Yuanming Wang) **98i:35176** 35Q55 (35L70, 82D55)

— (*with* Gao, Hong-jun) Remarks on the global attractors of semigroups having a Lyapunov functional. *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 106–108. 47H20 (34D45, 35B40, 35L70)

Guo, Caimei (*with* Wu, Cong Xin; Zhang, Deli) Generalized fuzzy integrals with respect to fuzzy number fuzzy measures. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 925–933. 28E10 (04A72, 26E50)

— (*with* Zhang, Deli; Wu, Cong Xin) Generalized fuzzy integrals of fuzzy-valued functions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 123–128. 28E10

Guo, Chun-Hua (*with* Lancaster, Peter) Analysis and modification of Newton's method for algebraic Riccati equations. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1089–1105. (Vladimir B. Larin) **98j:93036** 93B40 (15A24, 65F30)

Guo, Cui Hua (*with* Quan, Hong Shun) A mathematical model for a class of biochemical reactions. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 1, 17–21. (Summary) **98d:34052** 34C05 (34C23, 92C40)

Guo, Dajun (*with* Lakshmikantham, V.; Liu, Xinzhi) ★ Nonlinear integral equations in abstract spaces. (English summary) Mathematics and its Applications, 373. *Kluwer Academic Publishers Group, Dordrecht*, 1996. viii+341 *pp. ISBN* 0-7923-4144-9 (J. Švejda) **98a:45001** 45–02 (34K30, 45Gxx, 45J05, 45N05, 47H30, 47N20)

— Existence and uniqueness of solutions of impulsive integro-differential equations in Banach spaces. *Advances in nonlinear dynamics*, 245–251, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Juan J. Nieto) **98k:34128** 34K30 (34A37, 34K10, 45J05, 45N05)

— Terminal value problems of impulsive integro-differential equations in Banach spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 1, 71–78. (Juan J. Nieto) **98e:34144** 34K30 (45J05, 47N20)

— (*with* Liu, Xinzhi) Periodic boundary value problems for a class of second-order impulsive integro-differential equations in Banach spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 284–302. (Eduardo Liz) **98h:45009** 45J05 (34A37, 34K10, 34K30, 45N05)

— Minimal nonnegative solutions for impulsive integro-differential equations on unbounded domains in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 1–18. (Eduardo Liz) **98m:45011** 45J05 (34A37, 34K30, 45N05)

Guo, Daniel X. Numerical solution of the generalized Stokes problem for the flow in a channel. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 3, 237–256. (Tomás Chacón Rebollo) **98e:76087** 76M25 (65N12, 76D07)

Guo, Fu Kui A class of Hamiltonian operators generated by Hamiltonian pairs. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **15** (1996), *no.* 4, 88–91. (Xian Guo Geng) **98g:58057** 58F05 (58F07)

— A ninth-order KdV equation and its 2-soliton solutions. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 1, 108–110. 35Q53

Guo, Fu Xing (*with* Guo, Jun Liang) A criterion for choosing the parameter of a generalized shrunken least squares estimator. (Chinese. English and Chinese summaries)

J. Fuzhou Univ. Nat. Sci. Ed. **25** (1997), *no.* 3, 1–7. 62J05

Guo, Guang-Can (*with* Zhang, Xiao-yu) Quantum cryptography using coherent state. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 277–280. (Summary) **98c:81029** 81P99 (81R30)

— (*with* Zheng, Shi-Biao) Generation of superpositions of squeezed coherent states. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 4, 273–276. (Summary) **98e:81211** 81V80 (81R30)

— (*with* Zheng, Shi-Biao) Preparation of superpositions of coherent states of a field via the Raman interaction. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 6, L45–L48. (Le Man Kuang) **98j:81395** 81V80 (81R30)

Guo, Guang Quan G-transitive spaces and graded primitive rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 2, 259–262. 16W50

Guo, Guang-Yuan Yang-Mills fields on cylindrical manifolds and holomorphic bundles. I, II. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 3, 737–775, 777–788. (Xiao Wei Peng) **98a:32040** 32L07 (32G13, 53C07)

Guo, Guoxiao (*with* Wang, You Yi[2]; Hill, David J.) Robust decentralized nonlinear controller design for multimachine power systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1725–1733. 93D09 (93A14)

Guo, Haitao Classification of spin models with at most 10 vertices. *Kyushu J. Math.* **51** (1997), *no.* 1, 15–34. (E. J. Janse van Rensburg) **98h:82019** 82B23 (05E30, 82B20)

Guo, Han-Ying (*with* Ding, Hao-Gang; Li, Jian-Ming; Wu, Ke[1]) Gauge theory on discrete groups and the standard model. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 79–92, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81367** 81V22 (58B30)

— (*with* Wang, Lu-Yu; Cai, Yu; Fei, Shao-Ming) Solutions of the Yang-Baxter equation and Temperley-Lieb algebraic structure. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 451–456. (Summary) **98f:82059** 82B23 (20C99)

Guo, Hua Guang Some commutativity theorems for semiprime rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 423–426. 16U80

Guo, Hui The uniqueness problem for geodesics in infinite-dimensional Teichmüller spaces. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 10, 1029–1033. 32G15 (30F60)

Guo, J. M. *see* **Guo, Jing Ming**

Guo, Jia-Chyu (*with* Guo, Tong-Yi) Optimal 2-D separable-denominator approximants for 2-D transfer functions. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 2, 213–221. 93B30 (93C80)

Guo, Jian Lin (*with* Liu, You Wen) The general solution of second order effects in elastic half-space acted upon by a non-uniform shear load. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 4, 365–380; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 341–355 (*Chinese. English and Chinese summaries*). (Summary) **98e:73068** 73G05 (73C50)

Guo, Jiandong On a generalization of a result of Waldspurger. (English summary) *Canad. J. Math.* **48** (1996), *no.* 1, 105–142. (Joe Repka) **98f:11047** 11F70 (11F67, 22E50)

— Uniqueness of generalized Waldspurger model for $GL(2n)$. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 273–289. (Henry H. Kim) **98m:11043** 11F70 (11F67, 22E50)

Guo, Jiang Gui (*with* Wang, Wei Xi) A realization of the quantum group $SU_q(3)$ by means of a three-dimensional isotropic harmonic oscillator. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 5, 641–645. (Summary) **98m:81073** 81R50

Guo, Jin Bao A class of new mean value formulas for the derivative of the Hurwitz zeta-function. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 549–553. (Qi Yao) **98c:11090** 11M35

Guo, Jing Mei Handlebody decomposition of Lipschitz manifolds. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 1, 95–98. (Dan Yan Gan) **98c:57037** 57R65 (57N15, 57Q99)

Guo, Jing Ming (*with* Farrell, E. J.) On the matching polynomials of graphs with cutsets, and applications. (English summary) *J. Math. Sci.* (*Calcutta*) **5** (1994), *no.* 2, 33–44. (Summary) **98b:05077** 05C70

— (*with* Guo, Zhi Yi) Circuit uniqueness of classes of basic graphs with cyclomatic number 3. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 22–26. 05C38

Guo, Jong-Shenq (*with* Sun, I-Man) Remarks on a singular diffusion equation. *Nonlinear Anal.* **27** (1996), *no.* 10, 1109–1115. (V. N. Grebenev (Zbl 864.35060)) **98k:35111** 35K65 (35K55)

— Quenching problem in nonhomogeneous media. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1065–1074. (Siegfried Carl) **98m:35104** 35K60 (35B99, 35K57)

— (*with* Hu, Bei) The profile near quenching time for the solution of a singular semilinear heat equation. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 437–456. (Siegfried Carl) **98i:35087** 35K55 (35B35, 35B40)

Guo, Jun Feng (*with* Wang, Jia Song) A new method for data compression. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 203–211. 94A29 (28A80, 42C15)

Guo, Jun Liang (*with* Guo, Fu Xing) A criterion for choosing the parameter of a generalized shrunken least squares estimator. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 1–7. 62J05

Guo, Jun Yi Some path properties of Brownian motion and super-Brownian motion on the Sierpinski gasket. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 2, 143–150. (Summary) **98e:60136** 60J65 (60G17, 60G57)

— Stopping lines and their relations. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 171–174. (Summary) **98i:60040** 60G40

— (*with* Xing, Yong Li) Two-parameter stationary random fields. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 119–122. 60G60 (60G10)

Guo, Kun Yu The Fredholm index formula for Toeplitz operators on strongly pseudoconvex domains and related problems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 3, 347–352. (Li Zhong Peng) **98c:47033** 47B35 (47A53)

— The Earl theorem on the maximal ideal space of H^∞. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 4, 393–396. (Rudolf Rupp) **98c:46105** 46J20 (30D50, 30D55, 46J15)

Guo, Lei[1] (*with* Feng, Chun Bo; Xin, Xin) Design of reduced order controllers for singular H_∞ control problems on the basis of inequalities for linear matrices. (Chinese. English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 709–716. (Summary) **98c:93037** 93B36 (93C05)

— (*with* Xin, Xin; Feng, Chun Bo) The positive real control problem for generalized linear plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 577–583. 93C05 (93B52)

— (*with* Xin, Xin; Feng, Chun Bo) The design of strictly proper H^∞ controllers for general generatized plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 668–672. 93B36

— (*with* Xin, Xin; Feng, Chun Bo) Reduced-order output feedback controllers for the robust H^∞ performance problem. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 517–522. (Takehiro Mori) **98d:93041** 93B36 (93B11)

— (*with* Ljung, Lennart; Wang, Guan-Jun) Necessary and sufficient conditions for stability of LMS. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 761–770. (Summary) **98d:93099** 93E15 (93C40)

— (*with* Ljung, Lennart) The role of model validation for assessing the size of the unmodeled dynamics. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1230–1239. (Maria Letizia Corradini) **98g:93012** 93B30 (93A30)

— On critical stability of discrete-time adaptive nonlinear control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1488–1499. (Summary) **98j:93084** 93E15 (93C40, 93C55, 93D05)

Guo, Li Hui A finite dimensionality property for the planar Navier-Stokes equations. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 2, 147–151. (Long An Ying) **98f:35117** 35Q30 (34G20, 47H20, 76D05)

Guo, Lin (*with* Chen, Guo Wei[1]) Limit cycles of cubic van der Pol equation with one finite critical point. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 125–139. (Henryk Żołądek) **98f:34036** 34C05

Guo, Maozheng (*with* Qian, Min; Wang, Zheng Dong[1]) The entropy production and circulation of diffusion processes on manifolds. *Chinese Sci. Bull.* **42** (1997), *no.* 12, 982–985. (Ming Liao) **98k:58248** 58G32 (60J60)

Guo, Ming (*with* Xu, Lu; Hu, Chang-Yu; Yu, Shi-Mei) Study on structure-activity relationship of organic compounds—applications of a new highly discriminating topological index. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 185–197. (*see* **98b:92001**) 92E10

Guo, Peifang (*with* Wang, Shu) Nonnegative solutions of the elliptic boundary value problem with nonlinearity that changes sign. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 307–309. 35J65

Guo, Qing Yi (*with* Li, Huan Yin) Asymptotic stability for a class of neutral large-scale delay differential systems. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 6–12. (Summary) **98f:34115** 34K20 (34K40)

Guo, Qingpu (*with* Wen, Xiang Cai; Qiu, Shui Sheng) Lyapunov-like exponential stability and unstability of differential-algebraic equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 170–179. (Anthony N. Michel) **98d:34002** 34A09 (34D20)

Guo, Rui Hai (*with* Yuan, Xiao Feng; Liu, Shi Ze; Ke, Yi Hua) Qualitative analysis of a mathematical model of the ecology of a population of three species of microbes in an anaerobic digestion process. (Chinese) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 373–376. 92D40 (34C99)

Guo, Ruizhi Some remarks on orthogonal multiplication. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 7–10. (Daniel B. Shapiro) **98b:15028** 15A63 (58E20)

— Brouwer degrees of the gradient maps of isoparametric functions. *Chinese Sci. Bull.* **41** (1996), *no.* 21, 1770–1775. (Caio J. C. Negreiros) **98c:58037** 58E20

Guo, Shanliang (*with* Zhu, Yinghao) Rings with right restricted minimum condition. (English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 3, 263–268. (Syed Tariq Rizvi) **98h:16032** 16P70 (16P40)

Guo, Shao Wen (*with* Piao, Zhong Xuan) Persistence and periodic orbits for a class of nonautonomous systems with stocking type II functional response. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 1–6. (Summary) **98i:92046** 92D40 (34C25)

Guo, Shou Yuan The quantum behavior of Dirac particles in $(1 + 1)$-dimensional space-time. (Chinese. Chinese summary) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 57–61. 81T20 (83C47)

Guo, Shu Guang Metric averaging of a simple parameter family of point sets on a sphere in hyperbolic space. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **15** (1997), *no.* 2, 23–26. 52A40

— Metric averaging in spherical spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 441–446. (Summary) **98h:51028** 51K99

Guo, Shu Yan (*with* Huang, Quan Sheng; Han, Zeng Jin) Perturbation analysis of discrete event dynamical systems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 31–36. 58F30

Guo, Shun Sheng (*with* Yang, Ge) A strong converse inequality for simultaneous approximation by Baskakov-Durrmeyer type operators. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 553–562; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 383–394 (1998). (Shun Sheng Guo) **98j:41026** 41A36 (41A28)

Guo, T. (*with* Chew, Y. T.; Luo, S. C.; Su, M. D.) A new numerical simulation method of high Reynolds number flow around a cylinder. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 357–366. 76M25

Guo, Tian De (*with* Wu, Shi Quan[1]) An application of wavelet analysis to a sampling theorem. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 13–18. 42C15

Guo, Tie Xin Radon-Nikodým property of conjugate Banach spaces and w^*-equivalence theorems of w^*-μ-measurable functions. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 10, 1034–1041. (Marián Fabian) **98e:46014** 46B22 (28B05)

— Random dual spaces. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 2, 167–170. (Jin Xuan Fang) **98h:46086** 46S50

— A criterion for a random normed module to be random reflexive. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 4, 499–502. 46S50 (46B10, 46H25)

Guo, Tong-Yi (*with* Guo, Jia-Chyu) Optimal 2-D separable-denominator approximants for 2-D transfer functions. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20**

(1997), *no.* 2, 213–221. 93B30 (93C80)
— (*with* Lin, Bo-Win; Hwan, Chyi) A new method for factoring matrix polynomials relative to the unit circle. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 1, 87–92. 65F30 (15A23, 93B40)
Guo, Wei Ping A local section theorem and minimax problems. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 175–178. 49K35
— Implicit complementarity problems in Banach spaces. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 335–339. 90C33 (47H10, 90C48)
Guo, Wei Qi Some notes on right duals of left C-rpp semigroups. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 13, 1375–1378. 20M99
— (*with* Ren, Xue Ming; Shum, Kar Ping) Congruences on nil extensions of completely regular semigroups. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 1, 26–28. 20M17
Guo, Weiming (*with* Oruç, A. Yavuz) Regular sparse crossbar concentrators. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 363–368. (Summary) **98m:68208** 68R10 (68M10)
Guo, Wen Bin Finite groups with given normalizers of Sylow subgroups. II. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 4, 509–513. (Summary) **98h:20026** 20D10 (20D20)
— Injectors of finite groups. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 145–148. (Wujie Shi) **98e:20027** 20D10
— Local formations in which every subformation of type $\mathscr{N}_p$ has a complement. *Chinese Sci. Bull.* **42** (1997), *no.* 5, 364–368. (Alexander N. Skiba) **98h:20027** 20D10
Guo, Wuwen Eigenvalues of nonnegative matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 261–270. (Marc Artzrouni) **98h:15039** 15A48 (15A18)
Guo, Xian Ping Average reward criteria for Markov decision programming with countably many states. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 539–546. (H. T. Lau) **98b:90164** 90C40
Guo, Xian-Zhong (*with* Hu, Ning[3]; Katz, I. Norman) Multi-p preconditioners. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1676–1697. (Jin Xi Zhao) **98i:65038** 65F35 (65N30)
Guo, Xiao Jiang The structure of type σ semigroups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 4–9. (Summary) **98e:20062** 20M10
— The structure of PI-strong rpp semigroups. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 18, 1647–1650. (Fang Li) **98b:20099** 20M10
— Abundant semigroups whose idempotents satisfy permutation identities. (English summary) *Semigroup Forum* **54** (1997), *no.* 3, 317–326. (Katherine Johnston) **98b:20108** 20M30
Guo, Xiaofeng (*with* Zhao, Biao; Cyvin, Sven J.; Brunvoll, J.; Cyvin, B. N.) Enumeration of concealed non-Kekuléan helicenes with $h = 14$. (English summary) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 1, 1–12. (Fu Ji Zhang) **98h:92052** 92E10 (05C90)
Guo, Xin (*with* Yu, Qihuang; Gong, Sheng) Schwarzian derivative of holomorphic mappings. *Singularities and complex geometry (Beijing, 1994)*, 317–323, *AMS/IP Stud. Adv. Math., 5, Amer. Math. Soc., Providence, RI*, 1997. (Shanyu Ji) **98h:32038** 32H02 (32A30)
Guo, Xin Wei Eigenoperators of measure-preserving transformations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 1, 10–13. 28D05
Guo, Xing Ming Degenerate parabolic equation and unilateral constraint systems. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 10, 987–992; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 927–932 (*Chinese. English and Chinese summaries*). (P. D. Panagiotopoulos) **98h:47084** 47H19 (35K65, 35K85, 47N20, 49J40)
— The existence of solutions in nonlinear elastodynamics. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 3, 243–249; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 223–229 (*Chinese*). (D. G. Natroshvili) **98e:73037** 73C50 (73D35)
— Nonautonomous degenerate multivalued second-order differential systems in finite-dimensional spaces. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 2, 223–225. 34A60
Guo, Xue Peng A class of set-valued processes with finite variation and their dual projections. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 401–406. 60G99 (28B20)
Guo, Y. Q. *see* **Guo, Yu Qi**
Guo, Ya Jun (*with* Zheng, Li Hui; Pan, De Hui) A new global optimization algorithm based upon gradient search. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 343–348. 90C30 (65K05)
Guo, Yan Stable magnetic equilibria in collisionless plasmas. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 9, 891–933. (R. Glassey) **98g:76080** 76X05 (35Q99, 76E25, 82D10)
— (*with* de Almeida, Luis Manuel Lopes Neves; Bethuel, Fabrice) A remark on the instability of symmetric vortices with large coupling constant. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1295–1300. (Spyridon Kamvissis) **98g:35184** 35Q55 (82D55)
Guo, Yike (*with* Chakravarty, Manuel M. T.; Köhler, Martin; Lock, Hendrik C. R.) GOFFIN: higher-order functions meet concurrent constraints. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 157–199. (*see* **98k:68005**) 68N15 (68Q10, 68T20)
Guo, Ying Qiao (*with* Shakourzadeh, Hossein) Comparaison de différents algorithmes de plasticité dans l'analyse non linéaire des structures de poutres 3D. (English and French summaries) [Comparison of different plasticity algorithms in the nonlinear analysis of three-dimensional beam structures] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 135–164. (Summary) **98d:73061** 73V05 (65N30, 73E05, 73G20, 73K05)
Guo, Yong (*with* Liu, Wing Kam; Tang, Sing; Belytschko, Ted) A multiple-quadrature eight-node hexahedral finite element for large deformation elastoplastic analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 1-2, 69–132. (Summary) **98k:73065** 73V05 (73E99, 73G20)
Guo, Yong Dong (*with* Le, Mao Hua) Solutions of two classes of linear recurrences. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 204–207. 11B37
— (*with* Le, Mao Hua) The Diophantine equation $x^2 + 2^m = y^n$. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 12, 1255–1257. 11D61
Guo, Yongxin (*with* Mei, Feng Xiang) Connections on phase space of autonomous mechanical systems with constraints. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 213–220. (Frans Cantrijn) **98k:58088** 58F05 (34A26, 70F25, 70G35)
Guo, Yu Lin The inclusion degree method of knowledge acquisition in a relational database. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 123–126. 68P15 (94A15)
Guo, Yu Qi (*with* Shum, Kar Ping; Ren, Xue Ming) On quasi left groups. (English summary) *Groups—Korea '94 (Pusan)*, 285–288, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20M99
— (*with* Sen, Mridul Kanti; Yang, Haixuan) Characterizations of some kinds of regular semigroups by inverses of elements. (English summary) *Filomat No.* 10 (1996), 99–105. 20M17
Guo, Yubao Spanning local tournaments in locally semicomplete digraphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 119–125. (Summary) **98i:05088** 05C20
— (*with* Volkmann, Lutz) Bypaths in tournaments. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 127–135. (Summary) **98i:05089** 05C20
— (*with* Bang-Jensen, Jørgen; Gutin, Gregory; Volkmann, Lutz) A classification of locally semicomplete digraphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 101–114. (Summary) **98a:05121** 05C75 (05C20)
— Path-connectivity in local tournaments. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 353–372. (Ke Min Zhang) **98c:05074** 05C20 (05C38, 05C40)
Guo, Yucui (*with* Fan, Tianyou) Mathematical methods for a class of mixed boundary-value problems of planar pentagonal quasicrystal and some solutions. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 990–1003. (Summary) **98k:82185** 82D25
Guo, Zhao Li (*with* Wang, Neng Chao) Parallel LL^T-QR algorithms for solving eigenvalue problems of real tridiagonal symmetric matrices. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 1–6. 65F15
Guo, Zhen Conformal deformations preserving the Gauss map in Minkowski space. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 2, 30–35. (Cun-Jin Sun) **98d:53009** 53A07 (53A40)
— (*with* Cabrerizo, José L.; Fernández, Luis M.; Fernandez Andrés, Manuel) On ξ-conformally flat contact metric manifolds. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 725–734. (José A. Oubiña) **98e:53042** 53C15 (53C25)
Guo, Zhen Hua (*with* Deng, Yin Bin) The structure of radial solutions of the equation $-\Delta u + u = Q(|x|)|u|^{p-1}u$. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 3, 263–268. (Summary) **98k:35055** 35J60 (34A34, 35B05)
Guo, Zhi (*with* Zhu, Ji Hong) Robust circular pole placement via dynamic output feedback for perturbed linear systems. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 4, 489–494. (Long Wang) **98a:93023** 93B36 (93B55)
— (*with* Zhu, Ji Hong) Constrained variance H_∞ robust state filtering for continuous time-varying uncertain systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 389–392. 93E11 (93B36)
— (*with* Wang, Zi Dong) Design of variance-constrained fault-tolerant controllers for discrete-time stochastic systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 921–924. 93E20 (93C55)
— (*with* Wang, Zi Dong; Unbehauen, H.) Robust H_2/H_∞-state estimation for discrete-time systems with error variance constraints. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1431–1435. 93E10 (93B36)
— (*with* Li, Luo Wen; Wang, Zi Dong) A unified algebraic description of state observers based on regional pole assignment. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 1, 28–32. 93B55 (93B07)
Guo, Zhi Yi (*with* Chao, Chong-Yun; Li, Nian Zu) On q-graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 9–16. (Summary) **98g:05119** 05C75
— On T-chromatic uniqueness of graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 45–51. (Summary) **98h:05075** 05C15
— (*with* Whitehead, Earl Glen, Jr.) Chromaticity of a family of K_4 homeomorphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 53–58. (Summary) **98g:05059** 05C15
— (*with* Guo, Jing Ming) Circuit uniqueness of classes of basic graphs with cyclomatic number 3. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 22–26. 05C38
Guo, Zhong (*with* Wu, Hao) The Schur complement and partitioned reduced order criterion of a partially negative matrix. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **22** (1995), *no.* 6, 1–8. (Jia-yu Shao) **98g:15033** 15A48
— (*with* Jiang, Ming Hui) The properties of paw form matrices and their inverse eigenvalue problems. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 4, 18–23. 15A57 (15A18)
Guo, Zong Ming Existence of positive radially symmetric solutions to a class of systems of quasilinear elliptic equations on annular domains. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 573–582. (Jann-Long Chern) **98h:35075** 35J65 (34A34, 34B15, 35B05)
— Existence of positive radial solutions for a class of quasilinear elliptic systems in annular domains. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 337–350. (Alexandra Kurepa) **98c:35058** 35J65 (35B05, 35B30)
— On the existence of positive solutions for a class of semilinear elliptic systems. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 193–212. (Long-Yi Tsai) **98m:35061** 35J65 (34A34, 35B05)
Guo-min, Yin *see* **Yin, Guo-min**
Gupal, A. M. (*with* Sergienko, I. V.; Pashko, S. V.) On the complexity of pattern-recognition problems. (Russian. English and Ukrainian summaries)

Kibernet. Sistem. Anal. **1996**, *no.* 4, 70–88, 187; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 4, 519–533 (1997). (From the text) **98b:62111** 62H30 (68T10)

— (*with* Pashko, S. V.; Sergienko, I. V.) The question of complexity and undecidability in mathematical theories. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 3–6, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 307–309 (1998). 03A05

Gupta, A. *see* **Gupta, Anupama**

Gupta, A. K. *see* **Gupta, Arjun K.**

Gupta, Anshu (*with* Iyer, Sai; Prasanna, A. R.) Behaviour of the centrifugal force and of ellipticity for a slowly rotating fluid configuration with different equations of state. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, L143–L150. (Summary) **98f:83057** 83C55

Gupta, Anupama (*with* Komal, B. S.) Composite integral operators in $L^2(\mu)$. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 92–99, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (James T. Campbell) **98m:47042** 47B38 (47B15, 47G10)

Gupta, Arjun K. (*with* Varga, Tamás) A cancellation property for the product of random variables. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 35–36. 60E05 (62E10)

— (*with* Girko, Vyacheslav L.) Canonical equation for the resolvent of empirical covariance matrices pencil. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 41–60, *VSP, Utrecht*, 1996. (Yutaka Kano) **98i:62051** 62H05 (62F12)

— (*with* Girko, Vyacheslav L.) Multivariate elliptically contoured linear models and some aspects of the theory of random matrices. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 327–386, *VSP, Utrecht*, 1996. (Raúl Pedro Mentz) **98k:62093** 62H10

— (*with* Nguyen, Truc T.; Wang, Yining) A characterization of certain discrete exponential families. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 573–576. (Sumitra Purkayastha) **98m:62028** 62E10

— (*with* Saleh, A. K. Md. Ehsanes) Estimation of multinomial probabilities under a model constraint. (English summary) *J. Multivariate Anal.* **58** (1996), *no.* 2, 151–161. (Sotiris Loukas) **98e:62087** 62H12 (62H17, 62J10)

— (*with* Varga, Tamás) Characterization of matrix variate elliptically contoured distributions. (English summary) *Advances in the theory and practice of statistics*, 455–467, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Michael James Prentice) **98j:62040** 62H05

— (*with* Wesołowski, Jacek) Uniform mixtures via posterior means. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 171–180. (Olcay Akman) **98h:62035** 62F15

— (*with* Kabe, D. G.) An n-variate characterization of the gamma and the complex Wishart densities. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 119–122. (Summary) **98g:62022** 62E10 (62H05)

— (*with* Kabe, D. G.) Elliptically contoured model and factorization of Wilks' Λ. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 805–811. 62H12

— (*with* Chen, Jie[3]) Testing and locating variance changepoints with application to stock prices. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 739–747. (Summary) **98f:62040** 62F03

— (*with* Song, Danhong) Characterization of p-generalized normality. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 61–71. (Ramesh C. Gupta) **98g:62100** 62H05 (62E10)

— (*with* Song, Danhong) L_p-norm spherical distribution. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 241–260. (Ram Shanmugam) **98h:62092** 62H10

— (*with* Song, Danhong) Properties of generalized Liouville distributions. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 337–348. (Summary) **98h:62017** 62E15

— (*with* Kabe, D. G.) Linear restrictions and two step multivariate least squares with applications. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 413–416. 62J05 (62H12)

— (*with* Kabe, D. G.) Moments of ratios of quadratic forms. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 69–71. 62H10 (62H20)

— *see also* **Multidimensional statistical analysis and theory of random matrices, 98b:62002**

Gupta, Arvind (*with* Kaller, Damon; Shermer, Thomas C.) Regular-factors in the complements of partial k-trees. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 403–414, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98e:68203** 68R10 (05C70, 05C85, 68Q25)

— (*with* Kaller, Damon; Mahajan, Sanjeev; Shermer, Thomas C.) Vertex partitioning problems on partial k-trees. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 161–172, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68126** 68R10 (05C05, 05C85, 68Q25)

— (*with* Nishimura, Naomi) Characterizing the complexity of subgraph isomorphism for graphs of bounded path-width. (English summary) *STACS 96* (*Grenoble*, 1996), 453–464, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q25 (05C85, 68R10)

— (*with* Anandani, P.) Use of generalized Legendre associated functions and the multivariable H-function in solution of equation related to heat conduction. (English summary) *Ultra Sci. Phys. Sci.* **8** (1996), *no.* 2, 189–192. (S. Bhargava) **98g:33019** 33C60 (33C90)

— (*with* Anandani, P.) Infinite series involving multivariable H-function. (English summary) *Ultra Sci. Phys. Sci.* **8** (1996), *no.* 2, 204–207. 33C60

— (*with* Impagliazzo, Russell) Bounding the size of planar intertwines. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 337–358. (Arthur T. White) **98g:05046** 05C10

das Gupta, Asok *see* **Das Gupta, Asok**

Gupta, C. K. *see* **Gupta, Chander Kanta**

Gupta, Chaitan P. A nonlocal multipoint boundary-value problem at resonance. *Advances in nonlinear dynamics*, 253–259, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (From the introduction) **98g:34034** 34B10 (34B15, 47H15, 47N20)

— (*with* Trofimchuk, S. I.) A sharper condition for the solvability of a three-point second order boundary value problem. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 586–597. (Józef Banaś) **98a:34019** 34B10 (34B15, 47N20)

— A generalized multi-point boundary value problem for second order ordinary differential equations. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 133–146. (Summary) **98i:34031** 34B10 (34B15, 47H15, 47N20)

Gupta, Chander Kanta (*with* Romanovskiĭ, N. S.) Normal automorphisms of a pro-p-group that is free in the variety $\mathcal{N}_2\mathcal{A}$. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 249–267, 371; *translation in Algebra and Logic* **35** (1996), *no.* 3, 139–148. (A. I. Budkin) **98c:20052** 20E18 (20E10)

— (*with* Timoshenko, E. I.) Automorphic and endomorphic reducibility and primitive endomorphisms of free metabelian groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 10, 3057–3070. (Vitaly A. Roman'kov) **98g:20052** 20F10 (20E36, 20F16)

— (*with* Drensky, Vesselin) New automorphisms of generic matrix algebras and polynomial algebras. (English summary) *J. Algebra* **194** (1997), *no.* 2, 408–414. (E. Formanek) **98h:16033** 16R30

Gupta, Devidas (*with* Malloy, Brian; McRae, Alice A.) The complexity of scheduling for data cache optimization. (English summary) *Inform. Sci.* **100** (1997), *no.* 1-4, 27–48. (Summary) **98a:68034** 68N20 (68N25, 68Q25)

Gupta, Diwakar (*with* Günalay, Yavuz) Recent advances in the analysis of polling systems. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 339–360, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98a:60136** 60K25

Gupta, Gopal (*with* Harary, Frank) Dynamic graph models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 79–87. (Summary) **98b:05092** 05C90 (68R10)

Gupta, Gupteshwar (*with* Sharma, Birendra Kumar; Dhagat, V. B.) An extension of Delbosco's result. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 367–370. 54H25

Gupta, Himanshu (*with* Wenger, Rephael) Constructing piecewise linear homeomorphisms of simple polygons. (English summary) *J. Algorithms* **22** (1997), *no.* 1, 142–157. (Hans-Dietrich Hecker) **98b:68189** 68U05 (52B55)

Gupta, Jai P. (*with* Javed, M.) A class of estimators of finite population correlation coefficient in stratified sampling. (English summary) *Aligarh J. Statist.* **14** (1994), 53–61. 62D05

— (*with* Mahajan, P. K.) Optimum stratification for scrambled response. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 131–136. 62D05

Gupta, Jatinder N. D. (*with* Ho, Johnny C.; van der Veen, Jack A. A.) Single machine hierarchical scheduling with customer orders and multiple job classes. (English summary) *Ann. Oper. Res.* **70** (1997), 127–143. (S. Csibi) **98f:90029** 90B35 (60K25, 68M20)

— (*with* Strusevich, V. A.; Zwaneveld, C. M.) Two-stage no-wait scheduling models with setup and removal times separated. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1025–1031. (Yuri Nazarovich Sotskov) **98j:90032** 90B35

Gupta, K. C. (*with* Singh, Tajinder Pal) Fuzzy G-congruences on a groupoid. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 211–222. 20N02 (04A72, 08A30)

Gupta, M. K. (*with* Lal, Sunder) Generalizations of compactness modulo an ideal. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 157–170. 54D20

Gupta, Madan M. *see* **Tong, Shao Cheng et al., 98d:93062**

Gupta, Mahesh Kumar (*with* Garg, Mridula) The distribution of products of two types of independent random variables, both associated with Fox's H-function. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 317–322. 62E15 (33C60)

— (*with* Garg, Mridula) Double convolution integral equations involving a general class of multivariable polynomials and the multivariable H-functions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 1, 27–33. (Summary) **98d:45003** 45E10 (33C60)

Gupta, Manisha (*with* Chaurasia, V. B. L.) A theorem concerning a product of two general classes of polynomials and the multivariable H-function. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 271–276. (Summary) **98c:33016** 33C60

Gupta, Meenu (*with* Vinocha, O. P.) Average distortion per letter in Poisson sources with additive noise. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 4, 279–284. (Syed N. U. A. Kirmani) **98e:94011** 94A34 (94A29)

— (*with* Vinocha, O. P.) Rate distortion for discrete memoryless three sources. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 4, 202–212. (Boris D. Kudryashov) **98f:94010** 94A34 (94A29)

Gupta, Murli M. (*with* Altas, Irfan; Dym, Jonathan; Manohar, Ram P.) Multigrid solution of automatically generated high-order discretizations for the biharmonic equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1575–1585 (*electronic*). 65N55 (65N06, 76D07, 76M20)

Gupta, N. *see* **Gupta, Ram Naresh**

Gupta, N. D. (*with* Sharma, C. K.) Some results involving the I-function of two variables. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 2, 207–214. 33C60

Gupta, Narain On the solution of the dimension subgroup problem. (English summary) *Groups—Korea '94* (*Pusan*), 127–133, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20C10 (16S34)

Gupta, Neelima (*with* Sen, Sandeep) Optimal, output-sensitive algorithms for constructing planar hulls in parallel. (English summary) *Comput. Geom.* **8** (1997), *no.* 3, 151–166. (Summary) **98f:68265** 68U05 (52B55)

Gupta, Neelmani (*with* Saxena, Ram Kishore) Some characterizations of the $\overline{H}$-transform for distributions. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 79–86 (1996). 46F12 (44A15)

Gupta, O. P. (*with* Saxena, Ram Kishore; Sethi, P. L.) Appell functions of matrix arguments. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 371–380. (A. N. Srivastava) **98i:33018** 33C70 (33B15, 33C99)

Gupta, Omprakash K. A heuristic for constructing activity-on-arrow pert networks with minimal dummy activities. (English summary) *Opsearch* **33** (1996), *no.* 2, 115–125. 68Q20

Gupta, Prosenjit (*with* Janardan, Ravi; Majhi, Jayanth; Woo, Tony) Efficient geometric algorithms for workpiece orientation in 4- and 5-axis NC-machining. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 171–182, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05 (68Q25, 90C27)

— (*with* Janardan, Ravi; Smid, Michiel) A technique for adding range restrictions to generalized searching problems. (English summary) *Inform. Process. Lett.* **64** (1997),

no. 5, 263–269. (Summary) **98h:68225** 68U05
— (*with* Janardan, Ravi; Smid, Michiel; Dasgupta, Bhaskar) The rectangle enclosure and point-dominance problems revisited. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 437–455. (Summary) **98f:68266** 68U05 (94C30)
Gupta, Pushpa L. (*with* Gupta, Ramesh C.; L'vin, S. Ya.) Analysis of failure time data by Burr distribution. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 2013–2024. (Prafulchandra N. Jani) **98d:62182** 62N05 (62F10)
— (*with* Gupta, Ramesh C.) On the multivariate normal hazard. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 64–73. 62H10
Gupta, R. *see* **Gupta, Ritu**
Gupta, R. C. *see* **Gupta, Radha Charan**
Gupta, R. N. (*with* Nagpaul, S. R.) Applications of Boolean algebra to switching circuits. *Applied abstract algebra* (*Delhi*, 1995), 38–69, *Univ. Delhi, Delhi*, 1996. (*see* **98b:00017**) 94C10
Gupta, R. P. *see* **Gupta, Rajendra P.**
Gupta, Radha Charan The last combinatorial problem in Bhāskara's *Līlāvatī*. *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 14–20. (P. Rajagopal) **98g:01021** 01A32
— A glimpse of doctoral work in progress or recently completed (in the area of history of mathematics). *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 81–86. 01–00 (00A15)
— On the approximation: $\pi = 3\frac{1}{8}$. *Ganita-Bhāratī* **19** (1997), *no.* 1-4, 91–96. 01A05
— *see also* **Hayashi, Takao**, **98f:01066**
Gupta, Rajendra P. (*with* Roy, Dilip) Bivariate extension of Lomax and finite range distributions through characterization approach. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 1, 22–33. (Ramesh C. Gupta) **98d:62093** 62H05 (62E10)
— (*with* Sankaran, P. G.) Bivariate equilibrium distribution and its applications to reliability. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 385–394. (Summary) **98m:62032** 62E15 (62N05)
Gupta, Rajiv (*with* Ramsay, Keith) Indivisible points on families of elliptic curves. (English summary) *J. Number Theory* **63** (1997), *no.* 2, 357–372. (Andrew Bremner) **98c:11050** 11G05 (14H52)
Gupta, Ram Naresh (*with* Bose, Subir Kumar) Deformation of the unitary group SU(3) and Gell-Mann–Okubo mass relation for mesons and baryons. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1507–1515. 81V22 (81R50)
Gupta, Ramesh C. (*with* Gupta, Pushpa L.; L'vin, S. Ya.) Analysis of failure time data by Burr distribution. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 2013–2024. (Prafulchandra N. Jani) **98d:62182** 62N05 (62F10)
— (*with* Gupta, Pushpa L.) On the multivariate normal hazard. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 64–73. 62H10
Gupta, Rameshwar D. (*with* Long, Tianyong) Alternative linear classification rules under order restrictions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 559–575. 62H30
Gupta, Ritu (*with* Sen, Kanwar) Transient solution of $M/M/1$ queues with batch arrival: a new approach. (English and Italian summaries) *Statistica* (*Bologna*) **56** (1996), *no.* 3, 333–343 (1997). (Summary) **98e:60154** 60K25
Gupta, S. *see* **Gupta, Sanjay**
Gupta, S. C. *see* **Gupta, Sushil Chandra**
Gupta, S. K. *see* **Gupta, Sanjiv Kumar**
Gupta, Sandeep Robust stability analysis using LMIs: beyond small gain and passivity. (English summary) Linear matrix inequalities in control theory and applications. *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 9-10, 953–968. (Norihiko Adachi) **98e:93073** 93D09 (93B36)
Gupta, Sandipan (*with* Chakraborty, Monotosh) Stochastic linear programming and decision: a fuzzy approach. (English summary) *Opsearch* **34** (1997), *no.* 3, 167–179. 90C70 (90C08)
Gupta, Sanjay Alternating time versus deterministic time: a separation. (English summary) *Math. Systems Theory* **29** (1996), *no.* 6, 661–672. (Lane Hemaspaandra) **98e:68078** 68Q15 (03D15)
Gupta, Sanjiv Kumar (*with* Dooley, Anthony H.) On norms of trigonometric polynomials on SU(2). (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 491–505. (G. I. Gaudry) **98b:43015** 43A75 (22C05, 22E30, 43A17)
Gupta, Sat N. (*with* Goldstein, Joel; Yu, Chang) Fitting a fractional ARIMA model to time series data. (English summary) *J. Inform. Optim. Sci.* **17** (1996), *no.* 3, 467–483. (Raúl Pedro Mentz) **98f:62251** 62M10
— (*with* Goldstein, Joel; Yu, Chang) Time domain estimation of long range dependence. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 493–498. 62M10
Gupta, Shalini (*with* Kaushal, R. S.; Parashar, D.; Mishra, S. C.) Construction of exact invariants for classical dynamical systems in three dimensions. (English summary) *Ann. Physics* **259** (1997), *no.* 2, 233–252. (Mircea Crasmareanu) **98i:70012** 70H05 (34A26, 58F05)
dutta Gupta, Shamita *see* **Dutta Gupta, Shamita**
Gupta, Shanti S. (*with* Miescke, Klaus J.) Bayesian look-ahead sampling allocations for selecting the best Bernoulli population. (English summary) *Research developments in probability and statistics*, 353–369, *VSP, Utrecht*, 1996. (Summary) **98d:62029** 62F07
— (*with* Liang, TaChen) Selecting good normal regression models: an empirical Bayes approach. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 335–352, xvii. (Thomas J. Santner) **98m:62047** 62F07 (62C12)
— (*with* Leu, Lii-Yuh; Liang, TaChen) Simultaneous selection for homogeneous multinomial populations based on entropy function: an empirical Bayes approach. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 2, 145–157. (Thomas J. Santner) **98c:62033** 62F07 (62C12)
— (*with* Miescke, Klaus J.) Bayesian look ahead one-stage sampling allocations for selection of the best population. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 2, 229–244. (B. R. Handa) **98e:62035** 62F07 (62F15)
— *see also* **Bibliography: Gupta, Shanti S., 98f:01094**
das Gupta, Somesh *see* **Das Gupta, Somesh**
sen Gupta, Srabani *see* **Sen Gupta, Srabani**
Gupta, Sudhir (*with* Das, Ashish D.) Optimal block designs for triallel cross experiments. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1767–1777. (Summary) **98b:62136** 62K05
— (*with* Bansal, Naveen K.) On the natural selection rule in general linear models. (English summary) *Metrika* **46** (1997), *no.* 1, 59–69. (Summary) **98k:62113** 62J05
Gupta, Sunil (*with* Komal, B. S.; Raj, Kuldip) On operators of weighted substitution on the generalized spaces of entire functions. (English summary) *Math. Today* (*Ahmedabad*) **15** (1997), 3–10. (John N. McDonald) **98j:47070** 47B38 (46E15)
Gupta, Surendra M. (*with* Karaesmen, Fikri) Duality relations for queues with arrival and service control. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 529–538. (Summary) **98a:90048** 90B22
Gupta, Sushil Chandra Analytical solution of a non-smooth freezing front. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 2, 123–136. (Summary) **98m:80005** 80A22
Gupta, Swapna (*with* Dube, P. P.) Origin of certain generating functions of $L_n^m(x)$ from the view point of Lie algebra. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 2, 135–140. 33C80 (33C45)
Gupta, U. C. (*with* Chaudhry, M. L.) Queue-length and waiting-time distributions of discrete-time $GI^X/Geom/1$ queueing systems with early and late arrivals. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 307–324. (Summary) **98c:60117** 60K25
Gupta, V. *see* **Gupta, Vineet**
Gupta, V. H. (*with* Bhatnagar, Shalabh) An optimal fuel-injection policy for performance enhancement in internal combustion engines. (English summary) *Sādhanā* **22** (1997), *no.* 4, 545–552. 93C95
Gupta, V. K. *see* **Gupta, Virendra K.**
Gupta, Vandana (*with* Gupta, Virendra K.; Jat, K. L.; Lakhwara, Monika) Approximation of a function by partial sums of its Fourier-Laguerre series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 2, 103–109. 42C10
Gupta, Vijay Global simultaneous approximation by modified beta operators. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 421–424, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 41A28 (41A35)
— Simultaneous approximation by Szász-Durrmeyer operators. *Math. Student* **64** (1995), *no.* 1-4, 27–36 (1996). 41A30 (41A36)
— Rate of convergence by Baskakov-Beta operators. *Mathematica* **37(60)** (1995), *no.* 1-2, 109–117. (V. A. Baskakov) **98m:41036** 41A35
— (*with* Pych-Taberska, Paulina) On the rate of pointwise convergence of modified Baskakov type operators. (English summary) *Funct. Approx. Comment. Math.* **24** (1996), 59–67. (Yu. A. Brudnyĭ) **98c:41021** 41A25 (41A35)
— (*with* Srivastava, G. S.) An estimate of the rate of convergence of modified Baskakov operators for functions of bounded variation. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 237–247. (D. D. Stancu) **98c:41034** 41A35 (41A25)
— (*with* Kumar, Devendra) Rate of convergence of modified Baskakov operators. *Demonstratio Math.* **30** (1997), *no.* 2, 339–346. (Ding-Xuan Zhou) **98f:41020** 41A35
— (*with* Srivastava, G. S.) On simultaneous approximation by combinations of Baskakov-Szász type operators. (English summary) *Fasc. Math. No.* 27 (1997), 29–41. (Joseph M. Lamberti) **98i:41020** 41A28 (41A25)
Gupta, Vijay K. (*with* Waymire, Ed) A survey of cascades with applications from geosciences. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 115–127, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (*see* **98e:00022**) 60J80 (60J85, 60K05, 86A05)
Gupta, Vineet (*with* Jagadeesan, Radha; Saraswat, Vijay) Models for concurrent constraint programming. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 66–83, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10
— (*with* Jagadeesan, Radha; Saraswat, Vijay) Truly concurrent constraint programming. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 373–388, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10
— (*with* Saraswat, Vijay; Jagadeesan, Radha) Timed default concurrent constraint programming. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 475–520. (Neculai Curteanu) **98d:68069** 68Q10 (68Q55, 68Q60, 68T27)
— (*with* Jagadeesan, Radha; Saraswat, Vijay) Probabilistic concurrent constraint programming. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 243–257, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)
— (*with* Caines, Peter E.; Shen, Gang) The hierarchical control of *ST*-finite-state machines. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 185–192. (Summary) **98k:93071** 93C83 (68Q68, 93A13, 93B05)
— (*with* Jagadeesan, Radha; Saraswat, Vijay) Computing with continuous change. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 3–49. (Summary) **98m:68035** 68N17 (68T30)
Gupta, Virendra K. (*with* Gupta, Vandana; Jat, K. L.; Lakhwara, Monika) Approximation of a function by partial sums of its Fourier-Laguerre series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 2, 103–109. 42C10
Guralnick, Robert M. (*with* Wiegand, Roger) Genus class groups and separable base change. *Factorization in integral domains* (*Iowa City, IA*, 1996), 333–347, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Jeremy Haefner) **98h:13014** 13C20
— (*with* Wan, Daqing) Bounds for fixed point free elements in a transitive group and applications to curves over finite fields. (English summary) *Israel J. Math.* **101** (1997), 255–287. (Helmut Völklein) **98j:12002** 12E10 (20B05, 20B20)
— (*with* Müller, Peter[†]) Exceptional polynomials of affine type. (English summary) *J. Algebra* **194** (1997), *no.* 2, 429–454. (S. D. Cohen) **98i:12006** 12F20 (11T06, 20G40)
— (*with* Liebeck, Martin W.; Macpherson, Dugald; Seitz, Gary M.) Modules for algebraic groups with finitely many orbits on subspaces. *J. Algebra* **196** (1997), *no.* 1, 211–250. (Jorge A. Vargas) **98j:20058** 20G05 (14L30)
— (*with* Estes, Dennis R.) A stable range for quadratic forms over commutative rings. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 255–280. (Adrian R. Wadsworth) **98m:11029** 11E88 (13F99)
— (*with* Grunenfelder, Luzius; Košir, Tomaž; Radjavi, Heydar) Permutability of characters on algebras. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 63–70. (George F. Seelinger) **98c:16037** 16S50 (15A27, 15A30)
Guralnik, Z. (*with* Ramgoolam, Sanjaye) Torons and D-brane bound states. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 241–252. (Summary) **98i:81204** 81T30

(81T13)

Guran, Ardéshir (*with* Gérard, A.; Maze, Gerard; Ripoche, Jean; Überall, Herbert) New developments in the application of inverse scattering to target recognition and remote sensing. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 186–203, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (76Q05)

— *see also* **Wave motion, intelligent structures and nonlinear mechanics, 98d:70002** *and* **Uncertainty modeling in finite element, fatigue and stability of systems, 98h:73005**

Gurarie, D. (*with* Klyatskin, V. I.) Equilibrium states for quasigeostrophic flows with random topography. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 466–480. (Summary) **98b:86005** 86A05

— (*with* Klyatskin, V. I.) Random topography in geophysical models. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 149–169, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98f:86003** 86A10 (76C20, 76V05, 86A05)

Gurarie, Victor (*with* Flohr, Michael A. I.; Nayak, Chetan) The Haldane-Rezayi quantum Hall state and conformal field theory. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 3, 513–538. (Guillermo Zemba) **98f:81382** 81V70 (81T40)

— (*with* Nayak, Chetan) A plasma analogy and Berry matrices for non-abelian quantum Hall states. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 685–694. (Guillermo Zemba) **98h:81136** 81V70

Gurbatov, S. N. (*with* Simdyankin, S. I.; Aurell, Erik; Frisch, Uriel; Tóth, Gábor[2]) On the decay of Burgers turbulence. (English summary) *J. Fluid Mech.* **344** (1997), 339–374. (W. A. Woyczyński) **98k:76075** 76F99 (60H15, 76D99, 76M35)

Gürçay, Haşmet Groups of positive composition operators on $C_0(X, \mathbf{C}^n)$. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1295–1302. (Farhad Jafari) **98m:47043** 47B38 (47D03)

Gurchenkov, S. A. On the finite basis property of varieties of l-groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 268–287, 371; *translation in Algebra and Logic* **35** (1996), *no.* 3, 149–159. (N. Ya. Medvedev) **98d:06020** 06F15 (08B05, 08B26, 20E10)

Gureev, V. A. (*with* Redkovskiĭ, N. N.) On the numerical solution of nonlinear equations. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 590–592. (Boro Döring) **98m:65097** 65H10 (47H17, 65H20)

Gürel, Ayla (*with* Pastravanu, Octavian C.; Lewis, Frank L.) A system-theoretic approach for discrete-event control of manufacturing systems. *Idempotency* (*Bristol*, 1994), 242–261, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93C83 (93E03)

Gürel, T. Burak (*with* Adler, V. È.; Gürses, M.; Khabibullin, I. T.) Boundary conditions for integrable equations. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3505–3513. (Summary) **98b:35150** 35Q53 (58F07)

— (*with* Khabibullin, I. T.) Boundary conditions for two-dimensional integrable chains. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 68–72. (Summary) **98h:82013** 82B20 (58F07)

Gurevich, B. M. Finite approximations of infinite nonnegative matrices and the convergence of equilibrium distributions. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 6, 732–735. (E. Seneta) **98h:60098** 60J10 (15A48)

— Stably recurrent nonnegative matrices. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 3(309), 195–196; *translation in Russian Math. Surveys* **51** (1996), *no.* 3, 551–552. 15A48

Gurevich, D. I. (*with* Rubtsov, Vladimir) Quantization of Poisson pencils and generalized Lie algebras. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 476–488; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 713–722. (Andrey V. Tsiganov) **98i:58117** 58F07 (17B35)

— (*with* Pyatov, P. N.; Saponov, P. A.) Hecke symmetries and characteristic relations on reflection equation algebras. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 255–264. (Władysław Marcinek) **98g:81078** 81R50 (16W30, 17B37)

Gurevich, E. (*with* Shapiro, Boris) Orbital magnetism in two-dimensional integrable systems. (English summary) *J. Physique I* **7** (1997), *no.* 6, 807–820. (Summary) **98e:82044** 82D40

Gurevich, Yuri (*with* Huggins, James K.) The railroad crossing problem: an experiment with instantaneous actions and immediate reactions. (English summary) *Computer science logic* (*Paderborn*, 1995), 266–290, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:68134** 68Q60 (68Q05, 68Q10)

— (*with* Voronkov, Andrei) Monadic simultaneous rigid E-unification and related problems. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 154–165, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98k:03024** 03B25 (03C05, 03D35, 03D40)

— (*with* Huggins, James K.) Equivalence is in the eye of the beholder. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 353–380. (Ryszard Janicki) **98e:68169** 68Q60 (68Q05, 68Q10)

Gurgel, Maria Angela C. M. (*with* Wakabayashi, Yoshiko) Adjacency of vertices of the complete pre-order polytope. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 163–172. (Stanislav Jendrol') **98f:52010** 52B12 (52A20)

Gürgöze, M. On the frequency equations of combined systems. (English summary) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 538–539. 70J05 (73K05)

Guričan, Jaroslav Strengthening of the triangle inequality. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 211–216. (Summary) **98k:54049** 54E35

Gurin, A. M. Properties of mutually arranged balls in three-dimensional space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 10, 9–12; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 10, 7–10 (1997). (Béla Uhrin) **98d:52027** 52C17 (05B40)

Gurin, L. G. ★ Методы и модели совместного использования вероятностных методов и экспертного оценивания в прогнозировании. (Russian. Russian summary) [Methods and models for the simultaneous use of probability methods and expert estimation in prediction] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 64 *pp.* (Publisher's description) **98a:93073** 93E10 (93A30)

Gurjar, R. V. (*with* Zhang, De-Qi) Normal algebraic surfaces with trivial bicanonical divisor. (English summary) *J. Algebra* **186** (1996), *no.* 3, 970–989. (I. Dolgachev) **98c:14012** 14E20 (14E15, 14J28)

— A hyperplane section theorem for Milnor numbers. *Math. Ann.* **309** (1997), *no.* 2, 341–357. (Eugenii Shustin) **98h:14005** 14B05

— A new proof of Suzuki's formula. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 237–242. (Jean D'Almeida) **98h:14054** 14J99 (14F45)

Gurka, Petr (*with* Edmunds, David E.; Opic, Bohumír) On embeddings of logarithmic Bessel potential spaces. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 116–150. (W. P. Ziemer) **98f:46030** 46E35 (46E30)

— (*with* Edmunds, David E.; Opic, Bohumír) Norms of embeddings of logarithmic Bessel potential spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2417–2425. (W. P. Ziemer) **98j:46026** 46E35 (46E30)

Gürkan, Gül (*with* Özge, A. Yonca; Robinson, Stephen M.) Sample-path solutions for simulation optimization problems and stochastic variational inequalities. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 169–188, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C15 (90C33)

Gurla, H. (*with* Bhagavathi, D.; Bokka, V.; Olariu, Stephan; Schwing, J. L.) Time-optimal tree computations on sparse meshes. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 201–220. (Summary) **98d:68025** 68M10

Gurland, John *see* **Cheng, Ching-Shui**

Gürlebeck, Klaus (*with* Sprößig, Wolfgang) Clifford-analysis and elliptic boundary value problems. (English summary) *Clifford algebras and spinor structures*, 325–334, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Michael V. Shapiro) **98h:30068** 30G35 (30E25, 35Jxx)

— (*with* Kähler, Uwe; Ryan, John; Sprößig, Wolfgang) Clifford analysis over unbounded domains. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 2, 216–239. (Bernd A. Schmeikal) **98h:30069** 30G35 (35C99, 35J45)

— (*with* Sprößig, Wolfgang) On the treatment of fluid problems by methods of Clifford analysis. (English summary) IMACS-COST Conference on Computational Fluid Dynamics, Three-dimensional Complex Flows (Lausanne, 1995). *Math. Comput. Simulation* **44** (1997), *no.* 4, 401–413. (Michael V. Shapiro) **98k:76114** 76M99 (30G35, 65N06)

— (*with* Kähler, Uwe) On a boundary value problem of the biharmonic equation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 10, 867–883. (Michael V. Shapiro) **98f:35037** 35J40 (30G35, 35C99)

Gürler, Ülkü Bivariate estimation with right-truncated data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1152–1165. (Mir Masoom Ali) **98a:62044** 62G05

— On testing independence with right truncated data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3201–3206. (*see* **98i:00031**) 62G10

— (*with* Parlar, Mahmut) An inventory problem with two randomly available suppliers. (English summary) *Oper. Res.* **45** (1997), *no.* 6, 904–918. 90B05

Gurney, William S. C. (*with* Grist, Eric P. M.) Seasonal synchronicity and stage-specific life cycles: Topp's beetles revisited. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 1–25. 92D40

Gurov, Dilian (*with* Berezin, S.; Kapron, B. M.) A modal μ-calculus and a proof system for value passing processes. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68165** 68Q60 (03B45, 03B70, 68Q10)

Gürses, M. (*with* Adler, V. È.; Gürel, T. Burak; Khabibullin, I. T.) Boundary conditions for integrable equations. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3505–3513. (Summary) **98b:35150** 35Q53 (58F07)

Gursky, Matthew J. Uniqueness of the functional determinant. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 655–665. (Santiago R. Simanca) **98k:58058** 58E11 (58G26)

Gursul, Ismet (*with* Menke, Matthew) Unsteady nature of leading edge vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2960–2966. 76C05 (76-05)

Gurtin, Morton E. Generalized Ginzburg-Landau and Cahn-Hilliard equations based on a microforce balance. (English summary) *Phys. D* **92** (1996), *no.* 3-4, 178–192. (Stanislaus Maier-Paape) **98m:73009** 73B30 (35K55)

— Dynamical theories of electromagnetism and superconductivity based on gauge invariance and energy. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 1, 49–97. (Tatiana Allen) **98i:78009** 78A25 (82D55)

— (*with* Shvartsman, M. M.) Configurational forces and the dynamics of planar cracks in three-dimensional bodies. (English summary) *J. Elasticity* **48** (1997), *no.* 2, 167–191. (Summary) **98k:73057** 73M25 (73B30)

Guruprasad, Krishnamurthi (*with* Huebschmann, J.; Jeffrey, Lisa C.; Weinstein, Alan D.) Group systems, groupoids, and moduli spaces of parabolic bundles. *Duke Math. J.* **89** (1997), *no.* 2, 377–412. (William Goldman) **98e:58034** 58D29 (14D20, 58F05)

Gurvich, T. L. Branching processes with interaction and immigration. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1995), 52–57. (Kosto V. Mitov) **98a:60121** 60J80

Gurvich, Vladimir A. (*with* Vasin, A. A.) On the existence of the coalition set core. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 4, 375–381. (Frank Thuijsman) **98g:90046** 90D12 (90D06)

— (*with* Khachiyan, Leonid) On the frequency of the most frequently occurring variable in dual monotone DNFs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 245–248. (Summary) **98b:06020** 06E30

— Dual cores and influence functions. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 18–22. (Milan Mareš) **98c:90195** 90D12 (90A05)

— (*with* Apartsin, Alexander; Ferapontova, E.) A circular graph—counterexample to the Duchet kernel conjecture. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 229–231. (Summary) **98f:05122** 05C75

— (*with* Boros, Endre) A corrected version of the Duchet kernel conjecture. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 231–233. (Summary) **98g:05065** 05C20

Gurvits, Leonid Linear algebraic proofs of VC-dimension based inequalities. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 238–250, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68144** 68T05

— (*with* Donahue, M. J.; Darken, C.; Sontag, Eduardo D.) Rates of convex approximation in non-Hilbert spaces. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 187–220. (D. Leviatan) **98c:41051** 41A65 (41A45, 46N40)

— (*with* Rodman, Leiba) Positivity and strict contractivity of functions of operators. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 17–27. (T. Ando) **98e:47023** 47A60 (47A30, 47A56, 47B99, 60J10)

— (*with* Koiran, Pascal) Approximation and learning of convex superpositions. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 161–170. (Peter Auer) **98m:68228** 68T05 (41A30, 68Q99)

Gur'yankina, O. A. Comparative analysis of numerical methods of a high order of accuracy for solving Itô stochastic differential equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 2, 17–21, 47; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997,** *no.* 2, 24–30. 60H10 (65U05)

Gur'yanov, N. G. Doubly periodic solution of the problem of determining the stress-strain state of a layered spherical shell. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997,** *no.* 1, 75–79; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 1, 72–76. 73K15

Gurycz, Jerzy (*with* Drużkowski, Ludwik M.) An elementary proof of the tameness of polynomial automorphisms of k^2. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 251–260. (Summary) **98d:14018** 14E09

Gurzadyan, V. G. (*with* Melkonyan, A.; Oganessyan, K.) On the properties of Konishi-Kaneko map. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 309–311. (Summary) **98h:85001** 85A05 (58F40)

Gusak, A. A. (*with* Tyshkevich, Regina; Yurchuk, N. I.) On the history of the development of mathematics at Belarus State University. (Russian. Russian summary) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996,** *no.* 3, 10–17, 80. 01A73

Gusak, D. V. The joint distribution of a process defined by the sum of a random number of summands and its extrema. II. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 46–50. (Summary) **98a:60072** 60G70

— The joint distribution of a process defined by the sum of a random number of summands and its extrema. I. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 43–54. (Summary) **98a:60060** 60G50 (60G70, 60K10)

Gusakov, V. A. (*with* Burenkov, Viktor I.) Exact constants in an inequality for the modulus of the derivative, and best approximations of a differentiation functional at a point of a segment. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 295–296. 41A35 (41A17)

Gusarov, G. (*with* Uchaikin, V. V.) Lévy flight applied to random media problems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2453–2464. (Yu. P. Virchenko) **98f:82116** 82C44 (60K35)

Gusarov, M. N. On the behavior of invariants of finite degree under interdependent transformations of a link. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **231** (1995), *Issled. po Topol.* 8, 141–147, 324 (1996). (Sergey S. Anisov) **98i:57009** 57M25

Guseinov, Gusein Sh. (*with* Tuncay, H.) On the inverse scattering problem for a discrete one-dimensional Schrödinger equation. (English and Turkish summaries) *Comm. Fac. Sci. Univ. Ankara Ser. A_1 Math. Statist.* **44** (1995), *no.* 1-2, 95–102 (1996). (Vladislav G. Dubrovsky) **98b:39004** 39A10 (34A55, 34L25, 39A12, 81U40)

— (*with* Kurpınar, Emine) The boundedness of solutions of second-order difference equations. (English summary) *Indian J. Math.* **37** (1995), *no.* 2, 113–122 (1996). (From the introduction) **98f:39003** 39A10 (39A12)

— (*with* Koçak, Zeynep Fidan) On the spectral theory of first-order difference equations with periodic coefficients fractional-linear in the spectral parameter. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 299–311. (Steen Pedersen) **98f:47042** 47B39 (39A70)

— (*with* Terziler, Mehmet) The eigenvalue problem for a matrix of a special form and its applications. (English summary) *Linear Algebra Appl.* **259** (1997), 329–346. (Summary) **98c:34026** 34B05 (15A18, 34A30)

Gusein-Zade, S. M. (*with* Ebeling, Wolfgang) Coxeter-Dynkin diagrams of fat points in $\mathbf{C}^2$ and of their stabilizations. *Math. Ann.* **306** (1996), *no.* 3, 487–512. (Jan Stevens) **98b:32033** 32S30

— (*with* Natanzon, S. M.) The Arf-invariant and the Arnold invariants of plane curves. *The Arnold-Gelfand mathematical seminars*, 267–280, *Birkhäuser Boston, Boston, MA*, 1997. (Dušan Repovš) **98f:57011** 57M25 (55S99)

— (*with* Luengo, Ignacio; Melle-Hernández, A.) Partial resolutions and the zeta-function of a singularity. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 244–256. (Jan Stevens) **98j:32043** 32S25 (14B05)

— On the existence of deformations without critical points (the Teissier problem for functions of two variables). (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 74–77; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 58–60. (Aleksandr G. Aleksandrov) **98f:32038** 32S30 (32S45)

Gusev, D. E. Bounded turnpikes in a nonstationary problem of continuous optimization. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1628–1633, 1772 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1589–1594 (1996). (Wiesław Kotarski) **98a:49033** 49K15

Gusev, E. L. On a priori restriction of an admissible set of materials in problems of the optimal design of nonhomogeneous structures from a discrete set of materials under wave actions. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 3, 329–331; *translation in Phys. Dokl.* **41** (1996), *no.* 7, 325–327. (From the text) **98k:73052** 73K20 (49K99, 49Q10, 73D99, 73K40)

Gušev, Marjan (*with* Evans, David J.) A regular folding procedure. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 229–242. 68Q22

Gusev, S. V. Minimax control of a linear plant with discrete time under moment restrictions on the disturbances. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 453–455. 49K35 (93E20)

Gusev, Yu. V. (*with* Barvinskiĭ, A. O.; Vilkoviskiĭ, G. A.; Zhytnikov, V. V.) Covariant nonlocal effective action. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 147–152, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83059** 83C47 (58G11, 81T20)

— (*with* Barvinskiĭ, A. O.; Vilkoviskiĭ, G. A.; Zhytnikov, V. V.) Covariant curvature expansion and trace anomaly in four dimensions. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB, 1994)*, 163–187, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Ivan G. Avramidi) **98a:81204** 81T50 (58G11, 81T16, 81T20)

— (*with* Barvinskiĭ, A. O.) Heat kernel and loop currents by the generating-function method. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB, 1994)*, 189–202, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Ivan G. Avramidi) **98a:81137** 81T20 (58G11, 58G18)

— (*with* Zelnikov, A. I.) Finite temperature non-local effective action for scalar fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, L13–L19. (Summary) **98k:81172** 81T16 (58G26, 81T20)

Gusevskiĭ, N. A. (*with* Bianconi, Ricardo; Klimenko, E. Ya.) Schottky type groups and Kleinian groups acting on S^3 with the limit set a wild Cantor set. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **26** (1995), *no.* 1, 1–45. (From the introduction) **98c:57039** 57S30 (30F40, 57M60)

— (*with* Klimenko, E. Ya.) False Schottky groups that act on a three-dimensional sphere. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 554–567, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 478–489. (Leonid Potyagailo) **98b:57024** 57M60 (57S30)

Gusfield, Dan (*with* Wang, Lusheng) Improved approximation algorithms for tree alignment. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 255–273. (Summary) **98m:68124** 68Q25 (05C85, 92D15)

— (*with* Naor, Dalit; Martel, Charles U.) A fast algorithm for optimally increasing the edge connectivity. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1139–1165. (Summary) **98h:68183** 68R10 (05C40, 05C85, 68Q25)

Gushchenko, O. I. (*with* Rebetskiĭ, Yu. L.) State equations and singularities of the evolution of the deformation anisotropy of layered rock mass in the process of fold formation (mathematical modeling). (Russian. Russian summary) *Fiz. Zemli* **1995,** *no.* 8, 13–31. 86A60 (73N20)

Gushchin, A. K. (*with* Mikhaĭlov, V. P.) On the unique solvability of nonlocal problems for an elliptic equation. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 7–8. (M. Yu. Vasil'chik) **98e:35049** 35J25

Gushchin, Alexander A. On an information-type inequality for the Hellinger process. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 83–109, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60069** 60G44 (60G30, 62J05)

Gushchin, S. G. A conditional limit theorem with a random number of summands. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 131–138. (Zdzisław Rychlik) **98m:60025** 60F05

Gushchin, V. A. (*with* Matyushin, P. V.) Numerical modeling of three-dimensional separated flows around a sphere. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1122–1137. (Summary) **98e:76076** 76M20 (76D15)

Gushel', R. Z. On certain problems in teaching a course in the history of mathematics in a pedagogical institute. (Russian) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997,** *no.* 2, 169–170. 01A80

Gusić, Ivica Convex functions on lattice ordered groups. (English summary) *Ann. Math. Sil. No.* 11 (1997), 7–20. (Zygfryd Kominek) **98m:26010** 26A51 (06F15, 52A41)

— Note on equality of L-functions of elliptic curves. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 137–141. (Fernando Rodriguez Villegas) **98k:11090** 11G40 (11G05)

— Note on [a] certain inequality. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 687–692. (Summary) **98k:26033** 26D15 (06F15)

— A topology on lattice ordered groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2593–2597. (Gerard Buskes) **98k:06017** 06F15 (22A99, 54H11)

von Gussich, Alexander (*with* Cederwall, Martin; Sundell, Per) Deformations in closed string theory: canonical formulation and regularization. (English summary) *Nuclear Phys. B* **464** (1996), *no.* 1-2, 117–134. (Masoud Alimohammadi) **98c:81158** 81T30 (81T40)

— (*with* Sundell, Per) Finite deformations of conformal field theories using analytically regularized connections. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 445–466. (Carlos R. Fernández-Pousa) **98f:81302** 81T40 (81R10)

— (*with* Cederwall, Martin; Nilsson, Bengt E. W.; Westerberg, Anders) The Dirichlet super-three-brane in ten-dimensional type IIB supergravity. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 163–178. (Daniel N. Kabat) **98f:81238b** 81T30 (83E30, 83E50)

— (*with* Cederwall, Martin; Nilsson, Bengt E. W.; Sundell, Per; Westerberg, Anders) The Dirichlet super-p-branes in ten-dimensional type IIA and IIB supergravity. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 179–201. (Daniel N. Kabat) **98f:81238c** 81T30 (83E30, 83E50)

— (*with* Cederwall, Martin; Miković, Aleksandar; Nilsson, Bengt E. W.; Westerberg, Anders) On the Dirac-Born-Infeld action for D-branes. (English summary) *Phys. Lett. B* **390** (1997), *no.* 1-4, 148–152. (Summary) **98c:81159** 81T30 (83E30)

Gustafson, Karl E. (*with* Rao, Duggirala K. M.) ★ Numerical range. (English summary) The field of values of linear operators and matrices. Universitext. *Springer-Verlag, New York*, 1997. xiv+189 *pp. ISBN* 0-387-94835-X (From the preface) **98b:47008** 47A12 (15A60, 47A10, 65J15)

— Operator trigonometry of iterative methods. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 4, 333–347. (Summary) **98b:65033** 65F10

Gustafson, Paul Aspects of Bayesian robustness in hierarchical models. (English summary) With a discussion by Sudip Bose and a rejoinder by the author. *Bayesian robustness (Rimini, 1995)*, 63–80, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62068** 62F15 (62F35)

Gustafson, Philip E. (*with* Cooper, S. Clement) Extremal properties of strong quadrature weights and maximal mass results for truncated strong moment problems. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 197–208. (Summary) **98c:41044** 41A55 (44A60)

Gustafson, Robert A. (*with* Krattenthaler, Christian) Determinant evaluations and U(n) extensions of Heine's ${}_2\varphi_1$-transformations. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 83–89, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Mizan Rahman) **98d:33009** 33D20 (33C20, 33C70, 33D45, 33D80)

Gustafson, Stephen Stability of vortex solutions of the Ginzburg-Landau heat equation. (English summary) *Partial differential equations and their applications (Toronto, ON, 1995)*, 159–165, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:35003**) 35Q55 (35K55)

— Symmetric solutions of the Ginzburg-Landau equation in all dimensions. *Internat. Math. Res. Notices* **1997**, *no.* 16, 807–816. (Yisong Yang) **98k:35176** 35Q55 (35A30, 81Q05)

Gustafson, Sven-Åke Calculating bounds for a class of Laplace integrals. (English summary) *Parametric optimization and related topics, IV (Enschede, 1995)*, 145–159, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (A. H. Žilinskas) **98a:65030** 65D32 (90C34)

— Constructing accurate linear approximations to a class of exponential interpolation problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3737–3747. (*see* **98h:00034**) 65D15 (41A30)

Gustafson, William H. The representation ring of a group of prime order. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2681–2686. (Alexander Zimmermann) **98h:20010** 20C10 (16S34, 19A31)

Gustafsson, Björn (*with* Khavinson, Dmitry) On annihilators of harmonic vector fields. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 90–108, 215. (Arturo Presa Sagué) **98f:58010; EA 98m** 58A12 (31B05)

Gustafsson, Fredrik (*with* Ninness, Brett) A unifying construction of orthonormal bases for system identification. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 515–521. (Summary) **98b:93020** 93B30 (93B40)

Gustafsson, Ivar An incomplete factorization preconditioning method based on modification of element matrices. (English summary) *BIT* **36** (1996), *no.* 1, 86–100. (Summary) **98i:65037** 65F35 (65F10)

Gustafsson, Rolf T. (*with* Hössjer, Ola G.; Öberg, Tommy) Adaptive detection of known signals in additive noise by means of kernel density estimators. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1192–1204. (Summary) **98c:94005** 94A13 (94A12)

Gustedt, Jens (*with* Fiorio, Christophe) Memory management for union-find algorithms. (English summary) *STACS 97 (Lübeck)*, 67–79, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68P10 (68P05)

Gusynin, V. P. Heat kernel technique for nonminimal operators. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB, 1994)*, 65–86, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Ivan G. Avramidi) **98a:58154** 58G11 (58G18)

Gut, Allan (*with* Schwabe, Rainer) Some properties of multiple decisions following a sequential test. (English summary) *Sequential Anal.* **15** (1996), *no.* 4, 299–310. (Mayer Alvo) **98c:62155** 62L10 (62H15)

— (*with* Klesov, O. I.; Steinebach, Josef) Equivalences in strong limit theorems for renewal counting processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 381–394. (Andrew Rosalsky) **98m:60043** 60F15 (60K05)

Gutan, Cornélia On the very thin hyperstructures. (English summary) *New frontiers in hyperstructures (Molise, 1995)*, 125–138, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (S. Comer) **98i:20065** 20N20

— Un théorème de Shirshov et l'indice de permutabilité pour les semigroupes. [A theorem of Shirshov and the permutability index for semigroups] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 19, 15 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 8, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (Franco Migliorini) **98i:20058** 20M10

— Sur les semi-groupes dont les congruences à gauche forment une chaîne. (French summary) [Semigroups whose left congruences form a chain] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 21, 16 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (*see* **98a:00009**) 20M10

— Plongements d'un hypergroupe dans un hypergroupe ayant un élément de plus. (French summary) [Embeddings of a hypergroup in a hypergroup with an extra element] *Riv. Mat. Pura Appl. No.* 18 (1996), 85–92. 20N20

— Extensions des semigroupes associées à certains semihypergroupes très fins. (English summary) [Semigroup extensions associated with some very thin semihypergroups] *Algebraic hyperstructures and applications (Prague, 1996)*, 43–52, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20M99 (20N20)

— Éléments amplificateurs dans les semigroupes. [Expanding elements in semigroups] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 21, 14 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 10, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1997. (Franco Migliorini) **98i:20059** 20M10

— Les semi-hypergroupes commutatifs très fins. (English and French summaries) [Very thin commutative hypergroups] *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 427–440. (M. Stefănescu) **98m:20085** 20N20

Gutan, Marin (*with* Freni, Domenico; Sureau, Y.) Sur le groupe des scalaires d'un hypergroupe. (French summary) [The group of scalars of a hypergroup] *New frontiers in hyperstructures (Molise, 1995)*, 103–124, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (M. Stefănescu) **98h:20121** 20N20

— Cogroupes: résultats et problèmes ouverts. [Cogroups: results and open problems] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 4, 13 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 8, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (S. Comer) **98i:20066** 20N20

— Sur la transitivité de la relation β dans les quasi-hypergroupes finis. (English summary) [Transitivity of the relation β in finite quasihypergroups] *Algebraic hyperstructures and applications (Prague, 1996)*, 53–59, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N25

— Sur les diviseurs de zéro dans les anneaux de groupes. [Zero divisors in group rings] *Séminaire d'Analyse*, 1994–1995 (*Aubière*), Exp. No. 11, 8 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 10, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1997. (*see* **98c:00016**) 16S34

Gutenbaum, Jakub Methods for optimal control of multistage processes. (English summary) *Arch. Control Sci.* **5** (1996), *no.* 3-4(41), 173–183. (Vasile Drăgan) **98e:49075** 49M30 (49J15, 49L20)

Gutenschwager, Kai (*with* Voß, Stefan) A chunking based genetic algorithm for the Steiner tree problem in graphs. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 335–355, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C35 (05C05, 68T99)

Gutev, Valentin G. Factorizations of set-valued mappings with separable range. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 809–814. (J. J. Charatonik) **98b:54028** 54C60 (54C65, 54F45)

Gutfinger, Chaim (*with* Goldshtein, A.; Shuster, K.; Vainshtein, P.; Fichman, Mati) Particle motion in resonance tubes. (English summary) *J. Fluid Mech.* **360** (1998), 1–20. 76Q05 (76L05, 76T05)

— (*with* Broday, David; Fichman, Mati; Shapiro, Michael) Motion of spheroidal particles in vertical shear flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 86–100. 76T05 (76E99)

Guthmann, Andreas New integral representations for the square of the Riemann zeta-function. *Acta Arith.* **82** (1997), *no.* 4, 309–330. (Alessandro Languasco) **98k:11116** 11M06

— Die Riemann-Siegel-Integralformel für die Mellintransformation von Spitzenformen. (English summary) [The Riemann-Siegel integral formula for the Mellin transform of cusp forms] *Arch. Math. (Basel)* **69** (1997), *no.* 5, 391–402. (Stefan Breulmann) **98i:11034** 11F66 (11M41)

Gutiérrez, Amauri (*with* Estrada, Ernesto; Rodríguez, Lissette) Matrix algebraic manipulation of molecular graphs. I. Distance and vertex-adjacency matrices. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 145–156. (N. Trinajstić) **98g:05093** 05C50 (05C90, 92E10)

Gutiérrez, Carlos (*with* Guíñez, Víctor) Positive quadratic differential forms: linearization, finite determinacy and versal unfolding. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 661–690. (Robert Roussarie) **98h:58021** 58C27 (58A10)

— (*with* Sánchez-Bringas, Federico) Planar vector field versions of Carathéodory's and Loewner's conjectures. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 169–179. (Ronaldo Alves Garcia) **98i:53007** 53A05 (34C05, 58F21)

— (*with* Sánchez-Bringas, Federico) On a Carathéodory's conjecture on umbilics: representing ovaloids. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 213–219. (Vladislav Goldberg) **98i:53091** 53C45

— (*with* Sánchez-Bringas, Federico) On a Loewner umbilic-index conjecture for surfaces immersed in $\mathbf{R}^4$. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 127–136. (Ronaldo Alves Garcia) **98k:53007** 53A07 (34C99)

Gutiérrez, Cristian E. (*with* Segovia, Carlos; Torrea Hernández, José Luis) On higher Riesz transforms for Gaussian measures. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 6, 583–596. (B. Muckenhoupt) **98m:42017** 42B20 (35J99, 42B25, 42C10)

— (*with* Caffarelli, Luis A.) Properties of the solutions of the linearized Monge-Ampère equation. (English summary) *Amer. J. Math.* **119** (1997), *no.* 2, 423–465. (Summary) **98e:35060** 35J60 (35B05)

Gutierrez, Genaro J. (*with* Chiang, Chi) Optimal control policies for a periodic review inventory system with emergency orders. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 187–204. 90B05

Gutiérrez, J. *see* **Gutiérrez García, J.**

Gutiérrez, J. M. *see* **Gutiérrez Llorente, José Manuel**

Gutiérrez, Joaquín M. *see* **Gutiérrez del Alamo, Joaquín M.**

Gutiérrez, José M. *see* **Gutiérrez, José Manuel**

Gutiérrez, José Manuel (*with* Hernández Verón, Miguel A.; Salanova, M. A.) Resolution of quadratic equations in Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 1-2, 113–121. (Summary) **98j:47150** 47H17 (65J15)

— (*with* Hernández Verón, Miguel A.) Third-order iterative methods for operators with bounded second derivative. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 171–183. (R. Kodnár) **98k:65030** 65J15 (47H17)

Gutierrez, Mauricio (*with* Arkowitz, Martin) Comultiplications on free groups and wedges of circles. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1663–1680. (Ross Geoghegan) **98i:55010** 55P45 (20E05)

Gutiérrez, R. *see* **Gutiérrez Jáimez, Ramón**

Gutierrez, Roberto G. (*with* Wang, Naisyin; Lin, Xihong; Carroll, Raymond J.) Bias analysis and SIMEX approach in generalized linear mixed measurement error models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 249–261. 62J12

— (*with* Wand, M. P.) Exact risk approaches to smoothing parameter selection. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 4, 337–354. (Summary) **98m:62120** 62G05

Gutiérrez del Alamo, Joaquín M. (*with* González, Manuel) Schauder type theorems for differentiable and holomorphic mappings. (English summary) *Monatsh. Math.* **122** (1996), *no.* 4, 325–343. (Richard M. Aron) **98e:46054** 46G20 (46E50)

— (*with* Llavona, José G.) Polynomially continuous operators. (English summary) *Israel J. Math.* **102** (1997), 179–187. (Ignacio Zalduendo) **98k:46073** 46G20

Gutierrez Fernandez, J. Carlos The Bernstein problem in dimension 6. (English summary) *J. Algebra* **185** (1996), *no.* 2, 420–439. (Ivar Heuch) **98b:92010** 92D10 (17D92)

Gutiérrez García, J. (*with* Cammaroto, Filippo[1]; Nordo, G.; De Prada Vicente, María Angeles) Introduction to H-closed spaces. Principal contributions to weak forms of compactness. Open problems. (Spanish. English summary) *Math. Notae* **38** (1995/96), 47–77 (1997). 54D25 (54C10, 54D10)

Gutiérrez Jáimez, Ramón (*with* Díaz-García, José A.) Proof of the conjectures of H. Uhlig on the singular multivariate beta and the Jacobian of a certain matrix transformation. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2018–2023. (Summary) **98k:62092** 62H10

— (*with* Rodríguez Avi, José) Family of Pearson discrete distributions generated by the univariate hypergeometric function ${}_3F_2(\alpha_1, \alpha_2, \alpha_3; \gamma_1, \gamma_2; \lambda)$. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 2, 115–125. 62E15

— (*with* Ricciardi, L. M.; Román Román, P.; Torres Ruiz, F.) First-passage-time densities for time-non-homogeneous diffusion processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 623–631. (Summary) **98i:60071** 60J60 (60J65)

Gutiérrez Llorente, José Manuel (*with* Castillo, Enrique; Hadi, Ali S.) Parametric structure of probabilities in Bayesian networks. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 89–98, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30
— (*with* Iglesias, Andres) Synchronizing chaotic systems with positive conditional Lyapunov exponents by using convex combinations of the drive and response systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 174–180. 58F13
Gutiérrez-Peña, E. Moments for the canonical parameter of an exponential family under a conjugate distribution. (English summary) *Biometrika* **84** (1997), *no.* 3, 727–732. 62F15
— (*with* Smith, A. F. M.) Exponential and Bayesian conjugate families: review and extensions. (English summary) With discussion and a reply by the authors. *Test* **6** (1997), *no.* 1, 1–90. (Summary) **98d:62047** 62F15
Gutin, Gregory (*with* Bang-Jensen, Jørgen; Yeo, Anders James) On k-strong and k-cyclic digraphs. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 1–11. (David M. Berman) **98d:05063** 05C20
— (*with* Bang-Jensen, Jørgen; Yeo, Anders James) Hamiltonian cycles avoiding prescribed arcs in tournaments. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 255–261. (Stanislav Jendrol') **98h:05125** 05C45 (05C20)
— (*with* Bang-Jensen, Jørgen) Paths and cycles in extended and decomposable digraphs. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 5–19. (Feng Tian) **98a:05073** 05C20 (05C38)
— (*with* Bang-Jensen, Jørgen) Alternating cycles and paths in edge-coloured multigraphs: a survey. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 39–60. (R. C. Entringer) **98d:05080** 05C38 (05C15)
— (*with* Bang-Jensen, Jørgen; Guo, Yubao; Volkmann, Lutz) A classification of locally semicomplete digraphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 101–114. (Summary) **98a:05121** 05C75 (05C20)
— (*with* Yeo, Anders James) Hamiltonian paths and cycles in hypertournaments. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 277–286. (Erol Barbut) **98e:05072** 05C45 (05C20, 05C65)
— (*with* Bang-Jensen, Jørgen; Yeo, Anders James) Properly coloured Hamiltonian paths in edge-coloured complete graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 247–250. (Summary) **98k:05103** 05C45 (05C15)
Gutjahr, Walter J. (*with* Wöber, Ch. E.) An improved algorithm for finding minimum-risk 3-state-device networks. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 59–72. 68M10 (68R10)
— (*with* Hitz, Martin; Mueck, T. A.) Task assignment in Cayley interconnection topologies. (English summary) *Parallel Comput.* **23** (1997), *no.* 10, 1429–1460. (Summary) **98i:68025** 68M10 (68R10)
Gutkin, Eugene (*with* Troubetzkoy, Serge) Directional flows and strong recurrence for polygonal billiards. *International Conference on Dynamical Systems (Montevideo, 1995)*, 21–45, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (Serge L. Tabachnikov) **98h:58104** 58F11 (58F22)
— Two applications of calculus to triangular billiards. *Amer. Math. Monthly* **104** (1997), *no.* 7, 618–622. (Roberto Markarian) **98e:51025** 51M04 (58F99)
— (*with* Haydn, Nicolai) Topological entropy of polygon exchange transformations and polygonal billiards. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 849–867. (Serge E. Troubetzkoy) **98d:58102** 58F11
Gutlyanskiĭ, V. Ya. (*with* Ryazanov, V. I.) On asymptotic symmetry under quasiconformal mappings. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 446–448. (L. A. Aksent'ev) **98c:30023** 30C62
— (*with* Ryazanov, V. I.) Asymptotic homogeneity under quasiconformal mappings. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 1, 10–12. (D. M. Israfilov) **98i:30027** 30C62
Gutman, Ivan M. Two distance-based graph invariants and their relation in the case of unicyclic graphs. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 21 (1996), 19–29. (E. Keith Lloyd) **98a:05063** 05C12
— (*with* Fishtik, Ilie; Geană, Dan; Nagypál, István) Joule-Thomson coefficient in systems with multiple chemical equilibria. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 365–384 (1997). (Giles Auchmuty) **98g:80002** 80A15 (80A30)
— On independent vertices and edges of belt graphs. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **59(73)** (1996), 11–17. (Zhibo Chen) **98a:05144** 05C99
— (*with* Klavžar, Sandi) Wiener number of vertex-weighted graphs and a chemical application. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 73–81. (Summary) **98g:05146** 05C90 (92E10)
— (*with* Bodroža, Olga; Cyvin, Sven J.) Fibonacci numbers and algebraic structure count of some non-benzenoid conjugated polymers. *Fibonacci Quart.* **35** (1997), *no.* 1, 75–83. (Rong Qin Sheng) **98b:05072** 05C70 (05A15, 05C90, 11B39, 92E10)
— (*with* Popović, Ljiljana; Khadikar, Padmakar V.; Karmarkar, Sneha; Joshi, Shoba; Mandloi, Manorama) Relations between Wiener and Szeged indices of monocyclic molecules. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 91–103. (Rong Si Chen) **98i:92048** 92E10 (05C90)
— (*with* Khadikar, Padmakar V.; Khaddar, Tripti) Wiener and Szeged indices of benzenoid hydrocarbons containing a linear polyacene fragment. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 105–116. (E. Keith Lloyd) **98j:92022** 92E10 (05C90)
— (*with* Dobrynin, A. A.) Szeged index of some polycyclic bipartite graphs with circuits of different size. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 117–128. (Haruo Hosoya) **98i:05151** 05C90 (92E10)
— (*with* Diudea, Mircea V.; Minailiuc, Ovidiu M.; Katona, Gabriel) Szeged matrices and related numbers. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 129–143. (Haruo Hosoya) **98i:05152** 05C90 (05C50, 92E10)
— (*with* Dobrynin, A. A.) Congruence relations for the Szeged index of hexagonal chains. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 106–113. (Summary) **98h:05070** 05C12 (05C90)
— *see also* **Fifty years of the Wiener index**, **98b:92001**
Gutman, Semion (*with* Kortsarts, Y.; Brailovsky, I.; Sivashinsky, G. I.) On the stability of stretched flames. (English summary) *Combust. Theory Model.* **1** (1997), *no.* 2, 143–156. (Summary) **98b:80011** 80A25
Gutowitz, Howard (*with* Domain, Christophe) The topological skeleton of cellular automaton dynamics. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 155–168. (Summary) **98e:68187** 68Q80 (82C20)
Gutperle, Michael (*with* Green, Michael B.) Configurations of two D-instantons. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 69–78. (Hitoshi Nishino) **98c:81165** 81T30 (81T13, 81T60, 83E30)
— (*with* Green, Michael B.; Vanhove, Pierre) One loop in eleven dimensions. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 177–184. (Summary) **98g:83103** 83E30 (81T30)
Gut-shabash, E. Sh. (*with* Varzugin, G. G.; Lipovskiĭ, V. D.) A boundary value problem for a two-dimensional stationary Heisenberg magnet with nontrivial background. II. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 513–529; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1166–1177 (1996). (Summary) **98k:82051** 82B20 (35Q60, 82C31)
Gutt, Simone (*with* Rawnsley, J. H.) Deformation quantization and Mp^c structures. (English summary) *Deformation theory and symplectic geometry (Ascona, 1996)*, 103–115, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Akira Yoshioka) **98j:58045** 58F06 (81S10)
— (*with* Bieliavsky, P.; Cahen, M.) A class of homogeneous symplectic manifolds. (English summary) *Geometry and nature (Madeira, 1995)*, 241–255, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Raúl Ibáñez) **98c:53039** 53C15 (53C30, 53C35)
— On some second Hochschild cohomology spaces for algebras of functions on a manifold. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 157–162. (Markus J. Pflaum) **98e:58086** 58F06 (16E40, 16S60, 81S10)
— *see also* **Deformation theory and symplectic geometry**, **98e:58003**
Güttler, Stefan (*with* Hansen, Kai T.) Symbolic dynamics for hydrogen in a magnetic field. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3421–3440. (Alexandre N. Carvalho) **98k:81060** 81Q20 (58F03, 70H05)
Guttman, Irwin (*with* Papandonatos, George D.) A Bayesian approach to a reliability problem: theory, analysis and interesting numerics. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 143–158. 62N05
Guttmann, Anthony J. (*with* Swierczak, Ewa) Self-avoiding walks and polygons on non-Euclidean lattices. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7485–7500. (Wei-Shih Yang) **98a:82058** 82B41
— (*with* Bousquet-Mélou, Mireille) Enumeration of three-dimensional convex polygons. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 27–53. (Darko Veljan) **98j:05004** 05A15 (05C30, 52B55)
— (*with* Owczarek, A. L.; Rechnitzer, A.; Brak, R.) On the hulls of directed percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6679–6691. 82B43 (82–04, 82–08)
— (*with* Jensen, Iwan; Enting, Ian G.) The Potts model on Kagomé and honeycomb lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8067–8083. (Summary) **98m:82014** 82B20 (82B27)
— (*with* Bousquet-Mélou, Mireille) Three-dimensional self-avoiding convex polygons. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, R6323–R6326. (E. J. Janse van Rensburg) **98k:82071** 82B41 (05A15)
Guttmann-Beck, Nili (*with* Hassin, Refael) Approximation algorithms for min-max tree partition. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 266–286. (Summary) **98d:68165** 68R10 (05C85, 68Q25)
Gutzwiller, Martin C. Physics and arithmetic chaos in the Fourier transform. (English summary) *The mathematical beauty of physics (Saclay, 1996)*, 258–280, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Jens Marklof) **98k:81062** 81Q50 (58F13)
— Resource letter ICQM-1: the interplay between classical and quantum mechanics. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 4, 304–324. (Summary) **98k:81043** 81Q05 (81–03, 81Q50)
Guu, Sy-Ming On some coupled quasi-fixed points theorems. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 444–450. (S. N. Askhabov) **98c:47069** 47H10 (47H07, 47H09)
— (*with* Zhang, A. X.) Properties of the multiple lot-sizing problem with rigid demands and general yield distributions. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 55–65. (Summary) **98c:90179** 90C39 (90B85, 90C15)
Guven, J. (*with* Capovilla, R.) Geometry of composite relativistic extended objects. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 273–275. (Summary) **98h:83087** 83E30 (81T30)
Güven, R. (*with* Yörük, E.) Stringy Robinson-Trautman solutions. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6413–6423. (Nora Bretón Báez) **98a:83027** 83C15 (81T30, 83E30)
Guvernyuk, S. V. Dynamical invariants in problems of the steady flow of an ideal gas around bodies. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 478–481; *translation in Phys. Dokl.* **41** (1996), *no.* 8, 361–364. (From the text) **98a:76071** 76N15 (76J20)
Guy, Reed A. (*with* Deltete, Robert J.) Hartle-Hawking cosmology and unconditional probabilities. *Analysis (Oxford)* **57** (1997), *no.* 4, 304–315. 83F05
Guy, Richard K. (*with* Conway, John H.) ★ The book of numbers. (English summary) *Copernicus, New York*, 1996. x+310 *pp. ISBN* 0-387-97993-X (F. J. Papp) **98g:00004** 00A08
— What is a game? (English summary) *Games of no chance (Berkeley, CA, 1994)*, 43–60, *Math. Sci. Res. Inst. Publ.*, 29, *Cambridge Univ. Press, Cambridge*, 1996. (A. Pultr) **98a:90167** 90D46 (05A99, 90D05)
— (*with* Bremner, Andrew) Two more representation problems. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 1–17. (Michel Olivier) **98d:11037** 11D25 (11Y50)
— Eric Charles Milner: 1928-05-17 to 1997-07-20. *Bull. Inst. Combin. Appl.* **22** (1998), 10. 01A70
le Guyadec, Y. *see* **Le Guyadec, Y.**
Guysinsky, Moisey (*with* Yaskolko, Serge) Coincidence of various dimensions associated with metrics and measures on metric spaces. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 591–603. (Remo Badii) **98g:58101** 58F11 (28A80, 28D05)

Guz', A. N. (*with* Guz', I. A.) Stability of the interface of two bodies under compression along cracks located on the interface. Exact solutions. I. The case of unequal roots. (English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 3, 28–35; *reprinted in Internat. Appl. Mech.* **33** (1997), *no.* 3, 194–200. 73M25 (73V35)

— (*with* Guz', I. A.) Stability of the interface of two bodies under compression along cracks located on the interface. Exact solutions. II. The case of equal roots. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 4, 28–34; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 4, 281–286. 73M25 (73V35)

— (*with* Bagno, A. M.) Elastic waves in prestressed bodies that interact with a fluid (a survey). (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 6, 3–39; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 6, 435–465. 73D15 (73K70)

Guz', I. A. (*with* Guz', A. N.) Stability of the interface of two bodies under compression along cracks located on the interface. Exact solutions. I. The case of unequal roots. (English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 3, 28–35; *reprinted in Internat. Appl. Mech.* **33** (1997), *no.* 3, 194–200. 73M25 (73V35)

— (*with* Guz', A. N.) Stability of the interface of two bodies under compression along cracks located on the interface. Exact solutions. II. The case of equal roots. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 4, 28–34; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 4, 281–286. 73M25 (73V35)

Guz, S. A. (*with* Sviridov, M. V.) Brownian motion with "green" noise in a periodic potential. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 43–49. 82C31

Guzenko, P. Yu. (*with* Fradkov, A. L.) Gradient control of Hénon map dynamics. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 701–705. (Summary) **98b:58113** 58F13

Guzev, M. A. Application of the Yang-Mills gauge formalism for describing structures in a continuum. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 336–338; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 389–391. 73S10 (73B99, 81T13)

— The influence of the defect structure of a medium on the geometry of a free surface. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 473–475; *translation in Phys. Dokl.* **42** (1997), *no.* 8, 430–432. 73S10 (73B99)

Guzhev, D. S. (*with* Kalitkin, Nikolaĭ Nikolaevich) The Burgers equation is a test for numerical methods. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 4, 99–127. 65M12 (65M06)

Guzmán, Enrique Brans-Dicke quantum cosmology. (English summary) *Astrophys. Space Sci.* **253** (1997), *no.* 1, 7–12. 83D05 (83C45)

de Guzmán, Inma P. (*with* Enciso, Manuel; Rossi, Carlos) Temporal reasoning over linear discrete time. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 303–319, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (*see* **98c:68016**) 68T15 (03B35, 03B45)

de Guzmán, Miguel *see* **Proceedings: Conference dedicated to Professor Miguel de Guzmán**, **98i:00025** *and* **Cifuentes, Patricio et al., 98k:01020**

Guzmán, Octavio (*with* Múnera, Héctor A.) New explicit nonperiodic solutions of the homogeneous wave equation. *Found. Phys. Lett.* **10** (1997), *no.* 1, 31–41. (Vladimir P. Burskiĭ) **98c:35019** 35C05 (35L05)

— (*with* Múnera, Héctor A.) A symmetric formulation of Maxwell's equations. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 28, 2089–2101. (Summary) **98h:78004** 78A25

Guzmán Arenas, Adolfo *see* **Workshop: Pattern Recognition**

Guzmán-Partida, Martha Hardy spaces of conjugate temperatures. (English summary) *Studia Math.* **122** (1997), *no.* 2, 153–165. (Bui Huy Qui) **98h:42022** 42B30 (42A50, 46E15)

Guzzo, Henrique, Jr. On normal and composition series for baric algebras. (English summary) *Nova J. Math. Game Theory Algebra* **4** (1996), *no.* 1, 25–38. (Moussa Ouattara) **98d:17039** 17D92

— (*with* Costa, Roberto C. F.) A class of exceptional Bernstein algebras associated to graphs. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2129–2139. (Mary Lynn Reed) **98d:17038** 17D92 (05C99)

— (*with* Vicente, P.) Train algebras of rank n which are Bernstein or power-associative algebras. (English summary) *Nova J. Math. Game Theory Algebra* **6** (1997), *no.* 2-3, 103–112. (Moussa Ouattara) **98g:17033** 17D92

Guzzo, Massimiliano (*with* Morbidelli, Alessandro) The Nekhoroshev theorem and the asteroid belt dynamical system. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 107–136. (Summary) **98h:70015** 70F15 (58F27, 70H05)

— (*with* Morbidelli, Alessandro) Construction of a Nekhoroshev like result for the asteroid belt dynamical system. (English summary) *Celestial Mech. Dynam. Astronom.* **66** (1996/97), *no.* 3, 255–292. (Mikhail B. Sevryuk) **98i:70006** 70F15 (58F10, 58F27, 58F30, 70H05)

Gvazava, M. V. (*with* Shostak, A. P.) A note on locally $\mathscr{E}_\tau$-compact spaces. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 228–240, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54051** 54D30 (54C55, 54D45)

Gvozdić, Dejan M. (*with* Ričanin, Bratislav D.) The analytic approach in the modelling of one-dimensional electron concentration distribution in some two-valley semiconductor electron devices. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2997–3017. 82D99 (82–04)

Gvozdjak, Pavol On the Oberwolfach problem for complete multigraphs. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 61–69. (Brian Alspach) **98d:05112** 05C70 (05C38)

— (*with* Archdeacon, Dan; Širáň, Jozef) Constructing and forbidding automorphisms in lifted maps. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 113–129. (Roman Nedela) **98k:05050** 05C10 (57M10)

Gvozdjak, Peter (*with* Rovan, Branislav) Time-bounded parallel rewriting. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 79–87, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:68075** 68Q42

al-Gwaiz, M. A. *see* **Al-Gwaiz, M. A.**

Gwanyama, Philip Wagala Equivalence of two definitions of a Poisson process; and some modifications of Kolmogorov-Smirnov test for the exponential distribution. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 545–551. 60G55 (62G10)

Gwét, Henri Normalized conditional possibility distributions and informational connection between fuzzy variables. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 2, 177–198. (Summary) **98c:03056** 03B48 (03E72, 60E99, 62B10, 62H99)

Gwinn, Allan W. Two-dimensional long waves in turbulent flow over a sloping bottom. (English summary) *J. Fluid Mech.* **341** (1997), 195–223. (Summary) **98a:76007** 76B15 (76F99, 76M20, 86A05)

Gwinner, Joachim A note on pseudomonotone functions, regularization, and relaxed coerciveness. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4217–4227. (*see* **98i:00032**) 49J45 (47H19)

— (*with* Carstensen, Carsten) FEM and BEM coupling for a nonlinear transmission problem with Signorini contact. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1845–1864. (Summary) **98i:73051** 73T05 (65N30, 73C50, 73V05, 73V10)

Gyachyauskas, Ė. The Sylvester problem and random chords. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 327–330; *translation in Lithuanian Math. J.* **37** (1997), *no.* 3, 243–245 (1998). (Jan Rataj) **98j:52007** 52A22 (52A10, 60D05)

— Fragments on the Blaschke problem. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 331–333; *translation in Lithuanian Math. J.* **37** (1997), *no.* 3, 246–248 (1998). (V. K. Oganyan) **98k:52014** 52A22 (53C65)

Gyárfás, András Reflections on a problem of Erdős and Hajnal. (English summary) *The mathematics of Paul Erdős, II*, 93–98, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (E. Olaru) **98a:05086** 05C35

— (*with* Erdős, Paul[1]; Kohayakawa, Yoshiharu) The size of the largest bipartite subgraphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 267–271. (Summary) **98j:05084** 05C35

— Fruit salad. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 8, 8 *pp.* (*electronic*). (W. G. Brown) **98a:05087** 05C35 (05C12, 05C15, 05C38, 05C55)

— (*with* Chen, Guantao; Erdős, Paul[1]; Schelp, R. H.) A class of edge critical 4-chromatic graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 139–146. (Summary) **98c:05057** 05C15

— (*with* Jagota, Arun Kumar; Schelp, R. H.) Monochromatic path covers in nearly complete graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 129–144. (Gerard J. Chang) **98h:05149** 05C70 (05C15, 05C38)

— Generalized split graphs and Ramsey numbers. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 255–261. (Summary) **98h:05137** 05C55

Gyarmati, István *see* **Verhás, J., 98m:76001**

Gyenizse, Pál (*with* Vágvölgyi, Sándor) Linear generalized semi-monadic rewrite systems effectively preserve recognizability. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 87–122. (Summary) **98j:68074** 68Q42 (68Q68)

Gyftopoulos, Elias P. (*with* Çubukçu, Erol) Entropy: thermodynamic definition and quantum expression. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 3851–3858. (Giovanni Morchio) **98d:82001** 82B03 (80A05, 82C03)

Gyimóthy, Tibor (*with* Horváth, Tamás) Learning semantic functions of attribute grammars. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 3, 287–302. (Summary) **98f:68164** 68Q50 (68N20, 68S05, 68T05)

Gyires, B. Elementary proof for a van der Waerden's conjecture and related theorems. (English summary) *Comput. Math. Appl.* **31** (1996), *no.* 10, 7–21. (G. P. Egorychev) **98b:15005** 15A15

Gyllenberg, Mats (*with* Hanski, Ilkka; Lindström, Torsten) A predator-prey model with optimal suppression of reproduction in the prey. (English summary) *Math. Biosci.* **134** (1996), *no.* 2, 119–152. (From the introduction) **98h:92035** 92D25

— (*with* Koski, Timo; Verlaan, Martin) Classification of binary vectors by stochastic complexity. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 47–72. (Summary) **98k:62108** 62H30

Gyoja, Akihiko Split Z-forms of irreducible prehomogeneous vector spaces. Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 208–253. (From the introduction) **98k:20075** 20G05 (20G15)

— Recent development of the theory of prehomogeneous vector spaces [translation of Sūgaku **47** (1995), no. 3, 209–223; MR 97f:20052]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 1, 105–122. (*see* **98f:00033**) 20G05 (11M41, 14M17, 35A27, 46F15)

Gyöngy, István Stochastic partial differential equations on manifolds. II. Nonlinear filtering. (English summary) *Potential Anal.* **6** (1997), *no.* 1, 39–56. (Ya. I. Bilopol'ska) **98h:60091** 60H15 (35R30, 35R60, 58G32)

— (*with* Nualart, David) Implicit scheme for stochastic parabolic partial differential equations driven by space-time white noise. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 725–757. (Ralf Manthey) **98m:60097** 60H15 (35K60, 35R60, 65M06)

Györfi, László (*with* Walk, Harro) On the strong universal consistency of a series type regression estimate. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 332–342. (Ulrich Stadtmüller) **98b:62065** 62G05 (62G20, 62L20)

— (*with* Beirlant, Jan; Dudewicz, E. J.; van der Meulen, Edward C.) Nonparametric entropy estimation: an overview. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 17–39. (Summary) **98d:62006** 62B10 (62G05)

— (*with* Walk, Harro) On the strong universal consistency of a recursive regression estimate by Pál Révész. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 177–183. (J. Steinebach) **98e:62051** 62G05 (62G20)

— (*with* Morvai, Gusztáv; Yakowitz, Sidney J.) Limits to consistent on-line forecasting for ergodic time series. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 886–892. (Summary) **98i:62072** 62M10

Győri, Ervin Quantitative extremal graphs on cliques and cycles. (Hungarian. English summary) *Mat. Lapok (N.S.)* **3** (1993), *no.* 4, 43–63 (1995). (Summary) **98b:05057** 05C35 (05C38)

— Coverings of arbitrary rectilinear regions by rectangles. (English summary) *Intuitive geometry (Budapest, 1995)*, 339–345, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Konrad J. Swanepoel) **98e:52016** 52C10 (52C15)

— C_6-free bipartite graphs and product representation of squares. Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 371–375. (Cun-Quan Zhang) **98a:05092** 05C38 (05C75)

Győri, I. (*with* Pituk, Michal) Asymptotic formulae for the solutions of a linear delay difference equation. (English summary) *J. Math. Anal. Appl.* **195** (1995), *no.* 2, 376–392. (Summary) **98a:39004** 39A10

— (*with* Bereketoglu, H.) On the boundedness of the solutions of a third-order nonlinear differential equation. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 263–270. (Olusola Akinyele) **98g:34064** 34C11 (34B15)

— (*with* Bereketoglu, H.) Global asymptotic stability in a nonautonomous Lotka-Volterra type system with infinite delay. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 279–291. (Yang Kuang) **98b:34097** 34K20 (45J05)

Győrvári, J. Lakunäre Interpolation mit Spline-Funktionen. II. Die Fälle (0; 2; 3) mit Funktionswerte in Grundpunkte. [Lacunary interpolation with spline functions. II. The cases (0; 2; 3) with function values in basic points] *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 197–205. (From the introduction) **98d:41011** 41A15

Győry, K. Applications of unit equations. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 62–78. (Yann Bugeaud) **98f:11027** 11D61 (11D75)

— (*with* Sárközy, András) On prime factors of integers of the form $(ab + 1)(bc + 1)(ca + 1)$. *Acta Arith.* **79** (1997), *no.* 2, 163–171. (T. N. Shorey) **98b:11030** 11D57

— (*with* Everest, G. R.) Counting solutions of decomposable form equations. *Acta Arith.* **79** (1997), *no.* 2, 173–191. (Paul M. Voutier) **98e:11037** 11D57 (11D72)

— On the Diophantine equation $\binom{n}{k} = x^l$. *Acta Arith.* **80** (1997), *no.* 3, 289–295. (Michael A. Bennett) **98f:11028** 11D61

— (*with* Evertse, J.-H.) The number of families of solutions of decomposable form equations. *Acta Arith.* **80** (1997), *no.* 4, 367–394. (Paul M. Voutier) **98e:11038** 11D57 (11D72)

— (*with* Ádám, András; Sárközy, András) The life and mathematics of Paul Erdős (1913–1996). *Math. Japon.* **46** (1997), *no.* 3, 517–526. 01A70

— Bounds for the solutions of decomposable form equations. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 1–31. (Paul M. Voutier) **98k:11027** 11D57 (11D72)

Gysin, Marc New D-optimal designs via cyclotomy and generalised cyclotomy. (English summary) *Australas. J. Combin.* **15** (1997), 247–255. (Summary) **98a:05039** 05B30 (05B10)

Gyssens, Marc (*with* Jeavons, Peter; Cohen, David A.) A unifying framework for tractable constraints. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 276–291, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68107** 68Q25 (90C27)

— (*with* Tuijn, Chris) CGOOD, a categorical graph-oriented object data model. (English summary) *Theoret. Comput. Sci.* **160** (1996), *no.* 1-2, 217–239. (Summary) **98f:68067** 68P15

— (*with* Van den Bussche, Jan; Van Gucht, Dirk; Andries, Marc) On the completeness of object-creating database transformation languages. (English summary) *J. ACM* **44** (1997), *no.* 2, 272–319. (Lawrence V. Saxton) **98h:68056** 68P15

Gyuris, Viktor Associativity does not imply undecidability without the axiom of modal distribution. (English summary) *Arrow logic and multi-modal logic*, 101–107, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1996. (*see* **98b:03036**) 03B45 (03D35)

— A short proof of representability of fork algebras. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 211–220. (Manuel Abad) **98m:03127** 03G15

Gzyl, Henryk (*with* Palacios, José Luis) The Weierstrass approximation theorem and large deviations. *Amer. Math. Monthly* **104** (1997), *no.* 7, 651–653. (F. Móricz) **98h:41001** 41A05 (60E15)

— (*with* Gamboa, F.) Solving Fredholm equations by maximum entropy on the mean. Application to superresolution. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 23–32. (Summary) **98c:45016** 45L05 (45B05, 65R20)

— (*with* Moreno, F.) Maxentropic analysis of linear programming problems. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 107–116. (From the text) **98h:90043** 90C05 (90B06)

–H–

nguyen minh Ha *see* **Nguyen Minh Ha**

Ha, Albert Y. Stock-rationing policy for a make-to-stock production system with two priority classes and backordering. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 457–472. (Summary) **98e:93110** 93E20 (90A11, 90B22)

Ha, Dzung M. (*with* Akcoglu, Mustafa A.; Jones, Roger L.) Sweeping out properties of operator sequences. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 3–23. (Joseph Max Rosenblatt) **98b:28031** 28D99 (47A35, 60F99)

Ha, In-Joong (*with* Chu, Sang-Hoon) Control of hybrid step motors via a simplified linearization technique. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1143–1167. 93B18 (93C30)

— (*with* Han, Seok-Hee; Kim, Young-Hoon) Iterative identification of state-dependent disturbance torque for high-precision velocity control of servo motors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 724–729. 93B30

Ha, Jun-Hong (*with* Nakagiri, Shin-ichi) Quadratic optimal control problems for nonlinear damped second order systems in Hilbert spaces. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2261–2272. (*see* **98i:00030**) 49K20 (49N10)

Ha, Ki Sik (*with* Chen, Yu Qing; Cho, Yeol Je) The fixed point index for accretive mappings with k-set contraction perturbations in cones. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 237–245. (Yi Hong Du) **98f:47062** 47H09 (47H10, 47H17)

— (*with* Cho, Yeol Je; Zhang, Shi Sheng) Common fixed point theorems for compatible mappings of type (A) in non-Archimedean Menger PM-spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 169–179. 54H25 (47H10, 54E70)

Ha, Minghu (*with* Wang, Xizhao) Some notes on the regularity of fuzzy measures on metric spaces. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 385–387. (Summary) **98g:28032** 28E10 (04A72, 54A40)

— (*with* Cheng, Lixin; Wang, Xizhao) Notes on Riesz's theorem on fuzzy measure space. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 361–363. 28E10 (04A72)

— (*with* Wang, Xizhao) Note on maxmin μ/E estimation. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 71–75. 62F10 (04A72)

— (*with* Wang, Xizhao; Wu, Cong Xin) Fundamental convergence of sequences of measurable functions on fuzzy measure space. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 77–81. 28E10

Ha, Rhan (*with* Lee, Chang-Gun; Hahn, Joosun; Seo, Yang-Min; Min, Sang Lyul; Hong, Seongsoo; Park, Chang Yun; Lee, Minsuk; Kim, Chong Sang) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Ha, Sang Jung (*with* Kim, Ann Chi) On a group presentation and 3-dimensional manifolds. *International Mathematics Conference '94 (Kaohsiung, 1994)*, 83–86, *World Sci. Publishing, River Edge, NJ*, 1996. (Carlo Petronio) **98b:57029** 57N10 (57M05)

Ha, Soonhoi (*with* Kim, Jin-Soo[2]; Jhon, Chu Shik) Relaxed barrier synchronization for the BSP model of computation on message-passing architectures. *Inform. Process. Lett.* **66** (1998), *no.* 5, 247–253. 68Q22 (68M10)

Ha, Sung Nam (*with* Hong, Bum Il; Lee, Gyou Bong) A stability analysis for Hamilton-Jacobi equations. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 515–523. (Paola Loreti) **98b:35029** 35F20 (35B35)

— (*with* Hong, Bum Il; Choi, Jeongwhan) An error of the method of vanishing viscosity of the first-order Hamilton-Jacobi equations. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 43–49. (Meng Zhao Qin) **98a:35015** 35F20 (35D05, 65M15)

Ha, Truong Xuan Duc *see* **Trương Xuân Đức Hà**

Haab, François Sur la H-rigidité des surfaces complètes de $\mathbf{R}^3$. [H-rigidity of complete surfaces in $\mathbf{R}^3$] *Bull. London Math. Soc.* **29** (1997), *no.* 4, 483–485. (Karsten Grosse-Brauckmann) **98c:53004** 53A05

Haack, Susan ★ Deviant logic, fuzzy logic. Beyond the formalism. Revised edition of *Deviant logic* [Cambridge Univ. Press, Cambridge, 1974]. *University of Chicago Press, Chicago, IL*, 1996. xxvi+291 *pp. ISBN* 0-226-31133-3; 0-226-31134-1 (James Franklin) **98c:03012** 03A05 (03B52, 03B60)

Haacke, E. Mark (*with* Boada, Fernando; Liang, Zhi-Pei) Improved parametric reconstruction using variable projection optimization. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 19–27. (Summary) **98m:44003** 44A12 (65R10, 92C55)

Haag, Günter (*with* Hołyst, Janusz A.; Hagel, Tilo) Destructive role of competition and noise for control of microeconomical chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1489–1505. 90A16 (58F13)

Haag, Rudolf ★ Local quantum physics. (English summary) Fields, particles, algebras. Second edition. Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1996. xvi+390 *pp. ISBN* 3-540-61451-6; 3-540-61049-9 (Alan D. Sokal) **98b:81001** 81-01 (46L60, 46N50, 81T05)

— An evolutionary picture for quantum physics. (English summary) *Comm. Math. Phys.* **180** (1996), *no.* 3, 733–743. (Claus Montonen) **98i:81009** 81P05

— *see also* **Landsman, N. P.**

Haagensen, Peter E. (*with* Johnson, Kenneth A.; Lam, Chi-Sing) Gauge invariant geometric variables for Yang-Mills theory. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 273–292. (Summary) **98b:81141** 81T13 (53C80)

— (*with* Damgaard, Poul H.) Constraints on beta functions from duality. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4681–4686. 82B28 (82B20)

— (*with* Olsen, Kasper) T-duality and two-loop renormalization flows. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 326–342. (Summary) **98k:81175** 81T17 (81T10, 81T30)

Haager, Gernot Two-component dust in spherically symmetric motion. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2219–2230. (Alicia M. Sintes) **98e:83014** 83C15 (83C20)

Haagerup, Uffe Orthogonal maximal abelian $*$-subalgebras of the $n \times n$ matrices and cyclic n-roots. *Operator algebras and quantum field theory (Rome, 1996)*, 296–322, *Internat. Press, Cambridge, MA*, 199?. (Robert S. Doran) **98k:46087** 46L05

— On Voiculescu's R- and S-transforms for free non-commuting random variables. *Free probability theory (Waterloo, ON, 1995)*, 127–148, *Fields Inst. Commun.*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Andrzej Łuczak) **98c:46137** 46L50

Haak, Guido (*with* Dorfmeister, Josef) Meromorphic potentials and smooth surfaces of constant mean curvature. *Math. Z.* **224** (1997), *no.* 4, 603–640. (Karsten Grosse-Brauckmann) **98c:53009** 53A10

— On a theorem by do Carmo and Dajczer. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1547–1548. (Karsten Grosse-Brauckmann) **98j:53011** 53A10

Haake, Fritz (*with* Braun, Petr A.; Gerwinski, Peter; Schomerus, Henning) Semiclassics of rotation and torsion. (English summary) *Z. Phys. B* **100** (1996), *no.* 1, 115–127. (Summary) **98a:81040** 81Q20

Haaland, Perry D. *see* **Hamada, Michael S.**

Haalman, E. (*with* Afek, Yehuda; Cohen, M.) The bit complexity of the predecessor problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 109–112. (Summary) **98e:68095** 68Q25 (68M10)

de Haan, Laurens (*with* Peng, Liang) Rates of convergence for bivariate extremes. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 2, 195–230. (Edgar Kaufmann) **98g:60097** 60G70 (60F99)

— (*with* Geluk, J. L.; Resnick, Sidney I.; Stărică, Cătălin) Second-order regular variation, convolution and the central limit theorem. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 139–159. (Erich Haeusler) **98k:60081** 60G70 (60F05, 60F17)

— (*with* Einmahl, John H. J.; Sinha, Ashoke Kumar) Estimating the spectral measure of an extreme value distribution. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 143–171. (Winfried Stute) **98m:60076** 60G70 (62G30)

— (*with* Peng, Liang) Comparison of tail index estimators. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 60–70. (Summary) **98m:62096** 62G05

de Haas, Erik Categorical graphs (extended abstract). (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 263–272, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68P15 (68Q55)

Haas, Martin (*with* Rieger, Wolfgang; Rucker, Wolfgang; Lehner, Günther) Inverse 3D acoustic and electromagnetic obstacle scattering by iterative adaptation. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 204–215, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 76Q05 (78A45)

Haas, Ruth (*with* Albertson, Michael O.) The edge chromatic difference sequence of a cubic graph. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 1–8. (David M. Berman) **98k:05061** 05C15 (05C70)

Haas, Werner C. (*with* Weinhofer, Jürgen K.) H_∞-control using polynomial matrices and interval arithmetic. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 229–237. (*see* **98m:65009**) 93D09 (93B40)

Haba, Z. Quantum open systems as random classical dynamical systems. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 121–134, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Robert Alicki) **98i:82009** 82B10 (81S25)

— Environmental recording of the angular momentum in quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1585–1600. (A. Barchielli) **98j:81035** 81P15 (81P20, 81V80, 82B31)

Habashi, Wagdi G. (*with* Dutto, Laura C.; Fortin, Michel) An algebraic multilevel parallelizable preconditioner for large-scale CFD problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 303–318. (*see* **98f:73002**) 76M25

— (*with* Fortin, Michel; Dompierre, J.; Vallet, M.-G.; Bourgault, Y.) Anisotropic mesh adaptation: a step towards a mesh-independent and user-independent CFD. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 99–117, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98k:65055** 65M50 (76M25)

Habashy, Tarek M. (*with* Rhebergen, Jan B.; van den Berg, Peter M.) Iterative reconstruction of images from incomplete spectral data. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 829–842. (Summary) **98a:65193** 65R30

Habbal, Abderrahmane Some basics in optimal control of domains. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 917–933. (Sergei Pavlovich Ohezin) **98i:49045** 49Q10 (49K20)

Habeb, Jebrel (*with* Hajja, Mowaffaq) A note on semi-principal ideal rings. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 195–206. (T. W. Hungerford) **98h:13025** 13F10

Habegger, N. Link homotopy in simply connected 3-manifolds. *Geometric topology (Athens, GA, 1993)*, 118–122, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Ying Qing Wu) **98h:57017** 57M25 (57N10)

— (*with* Kaiser, Uwe) Link homotopy in the 2-metastable range. *Topology* **37** (1998), *no.* 1, 75–94. (Laurence R. Taylor) **98h:57050** 57Q45 (55Q52)

Habel, Annegret (*with* Plump, Detlef) Unification, rewriting, and narrowing on term graphs. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)

— (*with* Heckel, Reiko; Taentzer, Gabriele) Graph grammars with negative application conditions. (English summary) Graph transformations (Noordwijkerhout, 1993). *Fund. Inform.* **26** (1996), *no.* 3-4, 287–313. (K. G. Subramanian) **98f:68165** 68Q50 (68R10)

— (*with* Plump, Detlef) Term graph narrowing. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 649–676. (Klaus Madlener) **98c:68106** 68Q42 (03B70, 68Q40)

Haberman, Richard ★ Mathematical models. (English summary) Mechanical vibrations, population dynamics, and traffic flow. An introduction to applied mathematics. Reprint of the 1977 original. Classics in Applied Mathematics, 21. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. xviii+402 *pp. ISBN* 0-89871-408-7 (Editors) **98m:00019** 00A69 (00A71, 34-01, 70-01, 90-01)

Habermann, K. Basic properties of symplectic Dirac operators. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 629–652. (Uwe Semmelmann) **98h:58181** 58G03 (58F05, 58F06)

— Harmonic symplectic spinors on Riemann surfaces. (English summary) *Manuscripta Math.* **94** (1997), *no.* 4, 465–484. (Liviu I. Nicolaescu) **98j:58105** 58G10 (58G25)

Habermann, Lutz (*with* Jost, Jürgen) Convergence of eigenvalues and Green functions under surgery type degeneration of Riemannian manifolds. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 2, 137–158. (Alberto G. Setti) **98f:58194** 58G25 (53C20)

Habermehl, Peter (*with* Bouajjani, Ahmed) Constrained properties, semilinear systems, and Petri nets. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 481–497, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68185** 68Q60 (68Q10, 68Q45, 68Q68, 68Q90)

— On the complexity of the linear-time μ-calculus for Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 102–116, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98k:68125** 68Q90 (68Q60)

Haberzettl, U. On estimating linear functionals of the covariance function of a stationary process. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 759–782. (Summary) **98f:62252** 62M10

Habets, Luc C. G. J. M. Computational aspects of systems over rings—reachability and stabilizability. (English summary) SMC 50 jubilee (Amsterdam, 1996). *CWI Quarterly* **9** (1996), *no.* 1-2, 85–95. (Summary) **98h:93007** 93B25 (93B03, 93C15, 93D99)

Habets, Patrick (*with* De Coster, Colette) Upper and lower solutions in the theory of ODE boundary value problems: classical and recent results. *Non-linear analysis and boundary value problems for ordinary differential equations* (*Udine*), 1–78, *CISM Courses and Lectures*, 371, *Springer, Vienna*, 1996. (Marlène Frigon) **98e:34034** 34B15 (34–02, 34–03, 47H15, 47N20)

— (*with* Omari, Pierpaolo) Existence and localization of solutions of second order elliptic problems using lower and upper solutions in the reversed order. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 25–56. (Tadeusz Pruszko) **98m:35062** 35J65 (34B15, 47H15, 47N20)

— (*with* De Coster, Colette) Existence and multiplicity results for a Dirichlet problem with two parameters. *Advances in nonlinear dynamics*, 237–244, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (*see* **98e:34002**) 34B15

— (*with* Serra, Enrico; Tarallo, Massimo) Multiplicity results for boundary value problems with potentials oscillating around resonance. *J. Differential Equations* **138** (1997), *no.* 1, 133–156. (Yong Qing Li) **98i:35060** 35J65 (35B32, 58E05)

— (*with* Sanchez, Luis) A two-point problem with nonlinearity depending only on the derivative. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1205–1211. (Gianni Arioli) **98e:34037** 34B15 (47H11, 47N20)

Habib, A. W. (*with* Goldman, Ronald; Lyche, Tom) A recursive algorithm for Hermite interpolation over a triangular grid. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 95–118. (Summary) **98i:41006** 41A10 (65D05)

Habib, Michel (*with* Nourine, Lhouari) Tree structure for distributive lattices and its applications. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 391–405. (Summary) **98b:68007** 68N15 (06D99, 68P05, 68Q25, 68T30)

Habib, Salman Quantum diffusion. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 113–118, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 82C31 (82C10)

— (*with* Saxena, Avadh) Statistical mechanics of kinks for quasi-exactly-solvable potentials. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 338–350. (Summary) **98k:82114** 82C10 (82–04, 82C26)

— (*with* Khare, Avinash; Saxena, Avadh) Exact thermodynamics of the double sinh-Gordon theory in 1 + 1 dimensions. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 20, 3797–3801. (Summary) **98j:81203** 81T10

Habibullah, Mohamed A mixture of triple-stuttering-Poisson distribution. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 29–33. 62E15

— (*with* Ahsanullah, Mohammad) On the entropies and the mutual information of some bivariate continuous distributions used in reliability. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 1–5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62E15 (62B10, 62N05)

— (*with* Ahsanullah, Mohammad) Test of independence of a class of bivariate distributions based on mutual information. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2803–2816. 62F03

Habibullin, I. *see* **Khabibullin, I. T.**

Habibullin, I. T. *see* **Khabibullin, I. T.**

Habibullin, Ismagil *see* **Khabibullin, I. T.**

Habot, Simon (*with* Siminovitch, David J.) An NMR rotation operator disentanglement strategy for establishing properties of the Euler-Rodrigues parameters. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2577–2584. (Summary) **98f:81093** 81R05 (22E70)

Habra, Naji (*with* Le Charlier, Baudouin) Unified relational framework for programming paradigm combination. *Frontiers of combining systems* (*Munich*, 1996), 357–375, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the introduction) **98b:68021** 68N99 (03B70, 68Q55)

Habsieger, Laurent A new lower bound for the football pool problem for 7 matches. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 481–484. (Simon N. Litsyn) **98b:94025** 94B75 (05B40, 11T71)

— Sur un problème de Newman. (English and French summaries) [On a problem of Newman] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 765–769. (Maurice Mignotte) **98c:26009** 26D05

Hać, Aleksander[2] Repetitive control of bilinear systems with application to semi-active isolation of vibration. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1265–1296. 93C20 (93B52)

Haché, Gaétan Computation in algebraic function fields for effective construction of algebraic-geometric codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 262–278, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98c:94030** 94B27

el Hachem, Saeb *see* **El Hachem, Saeb**

Hachem, Saeb El *see* **El Hachem, Saeb**

Hachemane, Mahmoud (*with* Benbitour, Mohamed Abdelwahab; Smida, Abdallah) Interaction in the geometro-differential conception of extended particles and the Galilei semigroup of trajectories. (English summary) *Found. Phys.* **27** (1997), *no.* 4, 579–594. (J.-P. Antoine) **98j:81170** 81R99 (81S99)

Hachenberger, Dirk Groups admitting a Kantor family and a factorized normal subgroup. (English summary) Special issue dedicated to Hanfried Lenz. *Des. Codes Cryptogr.* **8** (1996), *no.* 1-2, 135–143. (Summary) **98c:20042** 20D99

Hachino, Tomohiro (*with* Takata, Hitoshi) Identification of nonlinear systems using a model with the automatic choosing function—determination of the model structure by the genetic algorithm. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 3, 127–135. 93B30

Hacınlıyan, Avadis (*with* Birol, İnanç) Determining zero Lyapunov exponents in continuous time dynamical systems. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 131–135. (Eric Cornelis) **98j:34098** 34D08 (34D20, 93D05)

— (*with* Birol, İnanç) Some algebraic properties of continuous time dynamical systems. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 137–142. (Eric Cornelis) **98j:34099** 34D08 (34D45)

— (*with* Birol, İnanç) Signs and approximate magnitudes of Lyapunov exponents in continuous time dynamical systems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4594–4605. (Bei Ye Feng) **98g:58091** 58F10 (34C35, 34D08)

— (*with* Birol, İnanç; Perdahçi, N. Ziya) Simulating a dynamical system in the presence of a $1/f$ noise. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 265–271. 58F13 (58F40)

Hacısalihoğlu, H. Hilmi (*with* Amirov, A. Kh.) On the interrelations between metric and curvature in Riemannian space. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 3, 295–296. (Vladislav Goldberg) **98b:53005** 53A07

— (*with* Amirov, A. Kh.) On the problem of the determination of a Riemannian metric. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 297–298. 53C20 (35J60)

— (*with* Turgut, Aysel) On the distribution parameter of timelike ruled surfaces in the Minkowski 3-space. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 321–328. (Serguey M. Pokas') **98e:53016** 53A40 (53B30)

Hack, Michael Transformation of uniformly distributed particle ensembles. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 87–113. (Summary) **98m:11082** 11K36 (11K45)

Hackborn, W. W. (*with* Yuster, Thomas) On invariant manifolds attached to oscillating boundaries in Stokes flows. (English summary) *Chaos* **7** (1997), *no.* 4, 769–776. (Summary) **98k:76032** 76D07 (58F40, 76F20)

— (*with* Ulucakli, M. E.; Yuster, Thomas) A theoretical and experimental study of hyperbolic and degenerate mixing regions in a chaotic Stokes flow. (English summary) *J. Fluid Mech.* **346** (1997), 23–48. (Summary) **98d:76040** 76D07 (76–05, 76F20)

Hackbusch, Wolfgang ★ Theorie und Numerik elliptischer Differentialgleichungen. (German) [Theory and numerical treatment of elliptic differential equations] Second edition. Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1996. ii+278 *pp. ISBN* 3-519-12074-7 (Editors) **98j:35002** 35–01 (65–01)

— ★ Integralgleichungen. (German) [Integral equations] Theorie und Numerik. [Theory and numerical treatment] Second edition. Leitfäden der Angewandten Mathematik und Mechanik [Guides to Applied Mathematics and Mechanics], 68. Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1997. 379 *pp. ISBN* 3-519-12370-3 (From the preface) **98m:45001** 45–01 (45Lxx, 65R20)

— On the feedback vertex set problem for a planar graph. (English and German summaries) *Computing* **58** (1997), *no.* 2, 129–155. (Summary) **98c:05149** 05C85 (68R10)

— (*with* Probst, Thomas) Downwind Gauss-Seidel smoothing for convection dominated problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 2, 85–102. (Zhong Xiong Pan) **98b:65034** 65F10 (65M99, 76M25)

— *see also* **Handbook: Mathematics, 98a:00002**

Hackenbruch, Gregor (*with* von Oppen, Felix) Quantum corrections to the conductivity and periodic orbits: integrable systems. (English summary) *Ann. Physik* (8) **5** (1996), *no.* 8, 696–709. (Summary) **98j:82063** 82C99 (81Q20, 82D99)

Hackl, K. A wavelet based elastoplastic beam model. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 175–178. (*see* **98b:65005**) 73V20 (73E99, 73K05)

Hacon, Christopher D. Examples of spanned and ample vector bundles with small numerical invariants. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 9, 1025–1029. (Jarosław A. Wiśniewski) **98c:14036** 14J60

Hacyan, Shahen Generation of squeezed states in rotating frames and Penning traps. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 454–457, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:81064** 81R30 (81V80)

— Test of Bell's inequalities with harmonic oscillators. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 4, R2429–R2494. (Emilio Santos) **98j:81011** 81P05

— Bell's inequality violation with four entangled fermions. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, R2489–R2490. (Summary) **98i:81019** 81P15 (81P05)

— Evolution and entanglement of Fock states. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 4, 519–526. (Summary) **98j:81061** 81Q05

Hadamard, Jacques ★ The mathematician's mind. (English summary) The psychology of invention in the mathematical field. Reprint of the 1945 original. With a preface by P. N. Johnson-Laird. Princeton Science Library. *Princeton University Press, Princeton, NJ*, 1996. xxii+143 *pp. ISBN* 0-691-02931-8 (J. S. Joel) **98j:00011** 00A35 (00A30, 01A75)

— *see also* **Gray, Jeremy J., 98j:01031** *and* **Maz'ya, Vladimir G., 98m:01031**

movshovitz-Hadar, Nitsa *see* **Movshovitz-Hadar, Nitsa**

Hadas, Ofer Indices of nillity [nility] and absolute nillity [nility] of matrix rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1485–1497. (P. M. Cohn) **98c:16022** 16N40 (16S50)

el Haddad, E. *see* **El Haddad, E.**

Haddad, Kamel N. (*with* Johnson, Aimee S. A.) Auslander systems. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 2161–2170. (Summary) **98a:54034** 54H20 (54H15)

— (*with* Berg, Kenneth; Gove, David) Enveloping semigroups and mappings onto the two-shift. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 899–905. (Beverly Diamond) **98e:54037** 54H20 (58F03, 58F08)

Haddad, Labib (*with* Escassut, Alain; Sarmant-Durix, Marie-Claude) Characterial functions. (English summary) *p-adic functional analysis* (*Nijmegen*, 1996), 131–141, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Bertin Diarra) **98g:12012** 12J27 (22A99, 46S10)

Haddad, Lucien (*with* Colbourn, Charles J.; Linek, Václav) Balanced Steiner triple systems. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 292–302. (Lucien Bénéteau) **98m:05018** 05B07 (05B05)

— (*with* Bruen, Aiden A.; Wehlau, David L.) Caps and colouring Steiner triple systems. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 51–55. (Summary) **98k:05022** 05B07 (51E10)

Haddad, Michel (*with* Mikesh, Ĭ.; Radulovich, Zh.) Geodesic and holomorphically projective mappings of m-pseudo- and m-quasisymmetric Riemannian spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 10, 30–35; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 10, 28–32 (1997). (V. Oproiu) **98c:53021** 53B20

Haddad, Serge (*with* Ilié, J. M.; Taghelit, M.; Zouari, B.) Symbolic reachability graph and partial symmetries. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 238–257, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90

— (*with* Moreaux, Patrice) Asynchronous composition of high level Petri nets: a quantitative approach. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 192–211, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q90

— (*with* Moreaux, Patrice; Chiola, Giovanni) Efficient handling of phase-type distributions in generalized stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 175–194, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

— (*with* Chiola, Giovanni; Dutheillet, C.; Franceschinis, G.) A symbolic reachability graph for coloured Petri nets. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no* 1-2, 39–65. (Wolfgang Reisig) **98c:68152** 68Q90

Haddad, T. F. (*with* Khasawneh, M. A.) A fast robust LMS algorithm utilizing the dynamics of a damped pendulum. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 563–577. 93B40 (93D15)

Haddad, Wassim M. (*with* Kapila, Vikram) Discrete-time extensions of mixed-μ bounds to monotonic and odd monotonic nonlinearities. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 423–441. 93D15 (93C10)

— (*with* Collins, Emmanuel G., Jr.; Watson, Layne T.; Sadhukhan, Debashis) Probability-one homotopy algorithms for robust controller synthesis with fixed-structure multipliers. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 2, 165–185. (H. A. Nour Eldin) **98a:93024** 93B40 (93D09)

— (*with* Kapila, Vikram) Fixed-architecture controller synthesis for systems with input-output time-varying nonlincarities. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 7, 675–710. (Alexander M. Kovalev) **98h:93011** 93B50 (93D15)

— (*with* Kapila, Vikram; Chellaboina, Vijaya-Sekhar) Guaranteed domains of attraction for multivariable Lur'e systems via open Lyapunov surfaces. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 935–949. (Xiao Liang He) **98i:93071** 93D10 (93D05)

— (*with* Chellaboina, Vijaya-Sekhar) Robust nonlinear-nonquadratic feedback control via parameter-dependent Lyapunov functions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3725–3736. (*see* **98h:00034**) 93B36 (93D09)

— (*with* Kapila, Vikram) Robust stabilization for continuous-time systems with slowly time-varying uncertain real parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 987–992. 93D09 (93C60)

— (*with* Kapila, Vikram; Erwin, Richard S.; Bernstein, Dennis S.) Robust controller synthesis via shifted parameter-dependent quadratic cost bounds. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1003–1007. 93B51

— (*with* Chellaboina, Vijaya-Sekhar) Nonlinear fixed-order dynamic compensation for passive systems. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 349–365. (*see* **98k:93004**) 93B52 (70K99, 70Q05, 93C85, 93D15)

Haddawy, Peter (*with* Ngo, Liem) Answering queries from context-sensitive probabilistic knowledge bases. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 147–177. (Jerzy W. Grzymała-Busse) **98g:68165** 68T30

Haddi, A. (*with* Ben Messouda, F.) The first braided homology group. *Commutative ring theory* (*Fès*, 1995), 97–104, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Pilar C. Carrasco) **98b:13014** 13D03 (16E30, 17B55, 18D10)

Haddock, John R. (*with* Zhao, Jia Xiang) Instability for autonomous and periodic functional-differential equations with finite delay. *Funkcial. Ekvac.* **39** (1996), *no.* 3, 553–570. (Tibor Krisztin) **98b:34098** 34K20

— The "evolution" of invariance principles à la Liapunov's direct method. *Advances in nonlinear dynamics*, 261–272, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Tibor Krisztin) **98i:34075** 34D20 (34K20)

Haddou, M. (*with* Auslender, A.; Cominetti, R.) Asymptotic analysis for penalty and barrier methods in convex and linear programming. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 43–62. (S.-C. Fang) **98e:90112** 90C25 (90C05)

Hadeler, K. P. Travelling fronts in random walk systems. (English summary) *Forma* **10** (1995), *no.* 3, 223–233. (Ya. Ĭ. Bīlopol's'ka) **98m:35098** 35K57 (92D10)

— (*with* Lu, Zhiqi; Zhang, Peiqu) Global stability of competition models in the chemostat. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 8–15. (Summary) **98k:92016** 92D40 (34D99)

— (*with* van den Driessche, P.) Backward bifurcation in epidemic control. (English summary) *Math. Biosci.* **146** (1997), *no.* 1, 15–35. (Summary) **98j:92009** 92C60 (34C23)

Hader, M. A. (*with* Jog, M. A.) Continuum plasma flow past a sphere. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 902–909. 76X05

Hadi, Ali S. (*with* Castillo, Enrique; Gutiérrez Llorente, José Manuel) Parametric structure of probabilities in Bayesian networks. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 89–98, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30

— (*with* Luceño, Alberto) Maximum trimmed likelihood estimators: a unified approach, examples, and algorithms. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 3, 251–272. 62F10

Hadid, Samir B. (*with* Grząślewicz, Ryszard) Denting point in the space of operator-valued continuous maps. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 2, 289–294. (K. Floret) **98b:46049** 46E40 (46B20, 47D20)

Hadizadeh, M. (*with* Maleknejad, K.) A note on a nonlinear problem in cell membrane theory. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3947–3950. (*see* **98h:00034**) 92C05 (34B15)

— (*with* Maleknejad, K.) Numerical study of nonlinear Volterra integro-differential equations by Adomian's method. (English summary) *J. Sci. Islam. Repub. Iran* **9** (1998), *no.* 1, 51–58. 65R20

Hadjicostas, Petros Copositive matrices and Simpson's paradox. (English summary) *Linear Algebra Appl.* **264** (1997), 475–488. (Summary) **98k:15026** 15A48 (62H17)

Hadjidemetriou, John D. (*with* Lemaitre, Anne) Asteroid motion near the 2 : 1 resonance: a symplectic mapping approach. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 277–290, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70F15 (58F40, 70H05)

Hadjidimos, Apostolos (*with* Noutsos, D.; Tzoumas, M.) Exact SOR convergence regions for a general class of p-cyclic matrices. (English summary) *BIT* **35** (1995), *no.* 4, 469–487. (Summary) **98e:65020** 65F10

— (*with* Galanis, S.; Noutsos, D.) Optimal p-cyclic SOR for complex spectra. (English summary) *Linear Algebra Appl.* **263** (1997), 233–260. (P. Rochus) **98b:65032** 65F10

— (*with* Avdelas, George) Optimal 2-cyclic MSOR for "bowtie" spectra and the "continuous" Manteuffel algorithm. (English summary) *Linear Algebra Appl.* **265** (1997), 29–54. (Summary) **98c:65040** 65F10 (15A06)

Hadjigeorgiou, R. I. Boundaries in inductive limit topological algebras. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 115–126. (José E. Galé) **98c:46096** 46H35 (46A13, 46J40, 46M40)

Hadjihassan, S. (*with* Pronzato, Luc; Walter, Eric; Vuchkov, I.) Robust design for quality improvement by ellipsoidal bounding. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 127–138, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98a:90008**) 62N10 (90B30)

Hadjiivanov, Ludmil K. *see* **Khadzhiivanov, L. K.**

Hadjinicolaou, A. (*with* Vajravelu, K.) Nonlinear hydromagnetic convection at a continuous moving surface. *Nonlinear Anal.* **31** (1998), *no.* 7, 867–882. 76W05 (76D10, 76R10)

Hadjinicolaou, M. (*with* Charalambopoulos, A.; Dassios, George) An analytic solution for low-frequency scattering by two soft spheres. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 370–386 (*electronic*). (Summary) **98m:35020** 35C99 (35J05, 35P25, 76Q05)

Hadjisavvas, N. (*with* Schaible, S.) Quasimonotone variational inequalities in Banach spaces. (English summary) *J. Optim. Theory Appl.* **90** (1996), *no.* 1, 95–111. (Summary) **98c:49027** 49J40 (47H19, 47N10, 90C33, 90C48)

— (*with* Bianchi, Monica; Schaible, S.) Vector equilibrium problems with generalized monotone bifunctions. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 527–542. (Valentin V. Gorokhovik) **98a:90086** 90C29 (46N10, 47N10, 90C48)

— (*with* Daniilidis, A.; Schaible, S.) Connectedness of the efficient set for three-objective quasiconcave maximization problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 517–524. (Phan Quốc Khánh) **98d:90098** 90C29 (90C31)

Hadley, Mark J. The logic of quantum mechanics derived from classical general relativity. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 1, 43–60. (Oliver Rudolph) **98c:81012** 81P10 (83C99)

ben-Hador, Ronen *see* **Ben-Hador, Ronen**

el Hadrami, Mohamed Ould *see* **El Hadrami, Mohamed Ould**

Ha-Duong, Tuong (*with* Alves, Carlos J. S.) On inverse scattering by screens. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1161–1176. (Yongzhi Xu) **98i:35202** 35R30 (35J05, 76M25, 76Q05)

Hadwin, Don (*with* Conway, John B.) Stable invariant subspaces for operators on Hilbert space. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 49–61. (Victor S. Shul'man) **98e:47010** 47A15 (47B15, 47B37)

— Compressions, graphs, and hyperreflexivity. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 1–23. (David R. Larson) **98j:47099** 47D25

— Noncommutative Arzela-Ascoli theorems. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 43–66. (Douglas R. Farenick) **98m:46089** 46L85 (46L05, 47D25)

— (*with* Kerr, Jeanne Wald) Local multiplications on algebras. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 3, 231–239. (W. K. Nicholson) **98b:16006** 16D99 (46L05)

— Maximal nests in the Calkin algebra. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1109–1113. (David R. Larson) **98j:47100** 47D25

Hadžić, Olga ★ Fixed point theory in probabilistic metric spaces. *University of Novi Sad, Institute of Mathematics, Novi Sad*, 1995. iv+129 *pp. ISBN* 86-81125-38-9 (Jarosław Górnicki) **98h:54057** 54H25 (47H04, 47H10, 54E70)

— A theorem on coincidence point for a family of mappings. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 1–9. (Summary) **98d:54077** 54H25 (54C60)

elezović-Hadžić, Sunčica *see* **Elezović-Hadžić, Sunčica**

Haeberer, Armando M. (*with* Baum, Gabriel A.; Frias, Marcelo F.; Martínez López, Pablo E.) From specifications to programs: a fork-algebraic approach to bridge the gap. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 180–191, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q65 (03B70, 68Q60)

— (*with* Frias, Marcelo F.; Veloso, Paulo A. S.) A finite axiomatization for fork algebras. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 311–319 (*electronic*). (S. Comer) **98d:03065** 03G15 (03B70, 68Q65)

— (*with* Frias, Marcelo F.; Baum, Gabriel A.) Representability and program construction within fork algebras. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 227–257. (Summary) **98m:68180** 68Q65 (03G15)

— *see also* **Workshop: Relational Methods in Computer Science, 98k:68018**

Haeberly, Jean-Pierre A. (*with* Dacorogna, Bernard) On convexity properties of homogeneous functions of degree one. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 5, 947–956. (Harold Parks) **98a:49005** 49J10 (26B25, 49J45, 49K10)

— (*with* Alizadeh, Farid; Overton, Michael L.) Complementarity and nondegeneracy in semidefinite programming. (English summary) Semidefinite programming. *Math. Programming* **77** (1997), *no.* 2, *Ser. B*, 111–128. (Alexander Shapiro) **98h:90072** 90C30 (90C33)

Haefliger, André (*with* Cavalier, Vincent) Réalisations feuilletées de quelques pseudogroupes. (French summary) [Foliated realizations of some pseudogroups] *Integrable systems and foliations/Feuilletages et systèmes intégrables* (*Montpellier*, 1995), 33–48, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98g:58190** 58H05 (32L30, 57R30)

Haefner, Jeremy (*with* Abrams, Gene) Picard groups and infinite matrix rings. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2737–2752. (J. Jirásko) **98j:16017** 16S50

Haemers, Willem H. Disconnected vertex sets and equidistant code pairs. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 7, 10 *pp.* (*electronic*). (Alexander M. Barg) **98d:05153** 05E30 (94B99)

— (*with* van Dam, Edwin R.) A characterization of distance-regular graphs with diameter three. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 299–303. (Dmitri Fon-Der-Flaass) **98d:05152** 05E30 (05C12)

— (*with* van Dam, Edwin R.) Graphs with constant μ and $\overline{\mu}$. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 293–307. (Robert Beezer) **98j:05112** 05C75 (05C50, 05E30)

van Haeringen, H. Inequalities for real powers of completely monotonic functions. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 102–113. (Harkrishan Vasudeva) **98h:26019** 26D07 (26A48)

Haesbroeck, Gentiane (*with* Croux, Christophe) An easy way to increase the finite-sample efficiency of the resampled minimum volume ellipsoid estimator. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 2, 125–141. (Summary) **98c:62107** 62H12

von Haeseler, F. (*with* Allouche, Jean-Paul; Peitgen, Heinz-Otto; Petersen, Antje; Skordev, Gencho) Automaticity of double sequences generated by one-dimensional linear cellular automata. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 195–209. (Katsushi Inoue) **98j:68116** 68Q80

Haessig, David (*with* Friedland, Bernard) Separate-bias estimation with reduced-order Kalman filters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 983–987. 93E11

Hafner, Christian M. ★ Nonlinear time series analysis with applications to foreign exchange rate volatility. Contributions to Economics. *Physica-Verlag, Heidelberg*, 1998. xx+222 *pp. ISBN* 3-7908-1041-X 62M10 (62P20, 90A09)

— Estimating high-frequency foreign exchange rate volatility with nonparametric ARCH models. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 247–269. 62M10 (62G05, 62P20)

Häfner, Hartmut (*with* Schönauer, W.; Weiss, Rüdiger) LINSOL, a parallel iterative linear solver package of generalized CG-type for sparse matrices. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04 (65F50)

Haga, Wayne (*with* Robins, Sinai) On Kruskal's principle. *Organic mathematics* (*Burnaby, BC*, 1995), 407–412, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:00004** 00A08

Hagan, P. S. (*with* Klosek-Dygas, M. M.) Colored noise and a characteristic level crossing problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 931–953. (Summary) **98k:82129** 82C31 (60G15)

Hagander, P. (*with* Hansson, Anders) Existence of minimum upcrossing controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 871–879. (Arie Leizarowitz) **98d:93101** 93E20 (49J55)

Hagberg, A. (*with* Meron, E.; Rubinstein, I.; Zal'tsman, B. B.) Order parameter equations for front transitions: planar and circular fronts. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4450–4457. (Summary) **98a:35068** 35K57 (80A22, 80A32)

— (*with* Meron, E.) Propagation failure in excitable media. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 299–303. (Summary) **98m:92011** 92C05 (35Q80)

Hagedorn, Peter (*with* Botz, Martin) Elastic plates in multibody systems: a treatment using existing rigid body codes. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 4, 351–359. 73K12 (70–08, 73K10, 73V20)

Hagel, Tilo (*with* Hołyst, Janusz A.; Haag, Günter) Destructive role of competition and noise for control of microeconomical chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1489–1505. 90A16 (58F13)

Hagelaar, J. F. L. (*with* van Sonsbeek, J. Th. M.; van Beek, Paul; Urlings, H. A. P.; Bijker, P. G. H.) Mixed integer programming for strategic decision support in the slaughter by-product chain. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 159–168. (*see* **98e:90009**) 90C90 (90B70)

Hagen, C. R. (*with* Park, DaeKil) Relativistic Aharonov-Bohm-Coulomb problem. (English summary) *Ann. Physics* **251** (1996), *no.* 1, 45–63. (Summary) **98g:81045** 81Q99 (81R99)

Hagen, Hans (*with* Brill, Manfred; Rodrian, Khans-Kristian; D'yachin, V.; Klimenko, S. V.) The use of the streamball technique for visualizing flows. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 63–73; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 266–269. 76M25 (76–04)

— (*with* Brill, Manfred; Rodrian, Khans-Kristian; Veimer, Khenrik; D'yachin, V.; Klimenko, S. V.) Implicit methods for the visualization of a fluid flow. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 74–79; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 270–271. 76M25 (76–04)

Hagen, R. (*with* Silbermann, Bernd; Roch, Steffen) C^*-algebra techniques—a powerful tool in numerical analysis. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 214–218, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65R20 (46L99, 46N40, 47G30, 47N40)

Hager, Anthony W. (*with* Martinez, Jorge[2]) The laterally σ-complete reflection of an Archimedean lattice-ordered group. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 217–236, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. J. Bernau) **98b:06025** 06F15

— (*with* Kizanis, Ann) Certain extensions and factorizations of α-complete homomorphisms in Archimedean lattice-ordered groups. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 239–258. (R. H. Redfield) **98b:06027** 06F20 (18A20, 46A40, 54G05)

Hager, William W. (*with* Ghosh, Nilotpal; Sarmah, Purandar) The application of eigenpair stability to block diagonalization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1255–1268. (Summary) **98a:65049** 65F15 (65F35)

— *see also* **Network optimization, 98e:90007**

Hagerup, Torben (*with* Bodlaender, Hans L.) Parallel algorithms with optimal speedup for bounded treewidth. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 268–279, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98e:68196** 68R10 (68Q22)

— Dynamic algorithms for graphs of bounded treewidth. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 292–302, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98k:68136** 68R10 (05C85, 68Q20)

— (*with* Diks, Krzysztof) More general parallel tree contraction: register allocation and broadcasting in a tree. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 126–140, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98h:68045** 68N20 (68M10)

— (*with* Albers, Susanne) Improved parallel integer sorting without concurrent writing. (English summary) *Inform. and Comput.* **136** (1997), *no.* 1, 25–51. (Wojciech Rytter) **98g:68056** 68Q22 (68P10)

— (*with* Dietzfelbinger, Martin; Katajainen, Jyrki; Penttonen, Martti) A reliable randomized algorithm for the closest-pair problem. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 19–51. (Summary) **98h:68223** 68U05 (68P10, 68Q25)

Haggard, P. W. Discovering relationships and patterns by exploring pentagonal and generalized pentagonal numbers. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 883–891. (H. L. Abbott) **98j:11012** 11B83 (05A10)

Haggerty, M. R. (*with* Meredith, D. C.; Baranger, M.; Lauritzen, B.; Provost, Daniel; de Aguiar, Marcus A. M.) Periodic orbits of nonscaling Hamiltonian systems from quantum mechanics. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 491–496, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

Häggkvist, Roland (*with* Johansson, Anders) (1, 2)-factorizations of general Eulerian nearly regular graphs [MR 95f:05091]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 329–337, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70 (05B07, 05C38)

— (*with* Janssen, Jeannette) New bounds on the list-chromatic index of the complete graph and other simple graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 295–313. (Sheshayya A. Choudum) **98i:05076** 05C15 (05C20, 05C70)

Häggström, Olle (*with* Peres, Yuval; Steif, Jeffrey E.) Dynamical percolation. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 4, 497–528. (H. Kesten) **98m:60153** 60K35 (82C43)

— Infinite clusters in dependent automorphism invariant percolation on trees. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1423–1436. (Yu Zhang) **98f:60207** 60K35

— Ergodicity of the hard-core model on $\mathbf{Z}^2$ with parity-dependent activities. *Ark. Mat.* **35** (1997), *no.* 1, 171–184. (Barbara Gentz) **98d:60190** 60K35 (82B20, 82B26, 82B43)

— (*with* Jonasson, Johan) Rates of convergence for lamplighter processes. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 227–249. (Vadim A. Kaimanovich) **98j:60097** 60J05 (60J15)

moøtazer-Haghighi, Ali A. *see* **Moøtazer-Haghighi, Ali A.**

Haghighi, M. (*with* Miller, John D.) Computation of Hilbert sequence for composite quadratic extensions using different type of primes in **Q**. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 43–46. (Charles J. Parry) **98a:11140** 11R16 (11R27)

Hagis, Peter, Jr. (*with* Cohen, Graeme L.) Every odd perfect number has a prime factor which exceeds 10^6. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1323–1330. (Aleksander Grytczuk) **98k:11002** 11A25 (11Y70)

Hagiwara, Kaoru (*with* Cho, Gi-Chol) String unification scale and the hyper-charge Kac-Moody level in the non-supersymmetric standard model. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 199–205. 81V22 (17B81)

Hagler, James N. (*with* Ball, Richard N.) The Gleason cover of a flow. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 13–33, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (L. Janos) **98g:54095** 54H20

— (*with* Ball, Richard N.) Actions on Archimedean lattice-ordered groups with strong unit. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 81–121, *Kluwer Acad. Publ., Dordrecht*, 1997. (Michael Darnel) **98f:06016** 06F20

Haglund, James Rook theory and hypergeometric series. (English summary) *Adv. in Appl. Math.* **17** (1996), *no.* 4, 408–459. (Summary) **98k:33010** 33C20 (05A15, 33D45)

Hagmeijer, R. (*with* Clément, Philippe; Sweers, Guido) On a Dirichlet problem related to the invertibility of mappings arising in 2D grid generation. *Calculus of variations, applications and computations* (*Pont-à-Mousson*, 1994), 67–83, *Pitman Res. Notes Math. Ser.*, 326, *Longman Sci. Tech., Harlow*, 1995. (From the introduction) **98f:65118** 65N50 (35J25)

Hagood, N. W. (*with* Ghandi, K.) A hybrid finite element model for phase transitions in nonlinear electro-mechanically coupled material. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 97–112, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 73B30 (65N30, 73R05, 73V05)

Hagstrom, Thomas On high-order radiation boundary conditions. (English summary) *Computational wave propagation* (*Minneapolis, MN*, 1994/1995), 1–21, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Summary) **98h:35141** 35L05 (65R20, 76M25, 76N10)

— (*with* Hariharan, S. I.) Progressive wave expansions and open boundary problems. (English summary) *Computational wave propagation* (*Minneapolis, MN*, 1994/1995), 23–43, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Summary) **98g:65098** 65M99 (35C20, 76M25, 76N10)

Hah, Jen M. (*with* Yuang, Maria C.) A delay and loss versatile scheduling discipline in ATM switches. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 93–106. 90B35

Hahm, Joon-Ho Consumption adjustment to real interest rates: intertemporal substitution revisited. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 293–320. 90A09 (90A40)

Hahn, Alexander J. Two historical applications of calculus. *College Math. J.* **29** (1998), *no.* 2, 93–103. 01A45 (01A50)

Hahn, Geňa (*with* Laviolette, François; Širáň, Jozef) Edge-ends in countable graphs. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 225–244. (M. E. Watkins) **98h:05113** 05C38

— *see also* **Graph symmetry, 98d:05002**

Hahn, Hans ★ Gesammelte Abhandlungen/Collected works. Band 3/Vol. 3. (German) With comments by Heinz Bauer, Jean-Pierre Kahane, Ludger Kaup and Christian Thiel. Edited and with a preface by L. Schmetterer and K. Sigmund. *Springer-Verlag, Vienna*, 1997. xiv+581 *pp. ISBN* 3-211-82781-1 (F. Smithies) **98h:01035** 01A75 (01A60)

Hahn, Jinyong A note on the efficient semiparametric estimation of some exponential panel models. (English summary) *Econometric Theory* **13** (1997), *no.* 4, 583–588. (Kajal Lahiri) **98m:62097** 62G05 (62P20)

— Bayesian bootstrap of the quantile regression estimator: a large sample study. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 795–808. 62G09

— Efficient estimation of panel data models with sequential moment restrictions. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 1–21. (Kajal Lahiri) **98k:62189** 62P20

— On the role of the propensity score in efficient semiparametric estimation of average treatment effects. (English summary) *Econometrica* **66** (1998), *no.* 2, 315–331. (Summary) **98k:62190** 62P20 (62G05)

Hahn, Joosun (*with* Lee, Chang-Gun; Seo, Yang-Min; Min, Sang Lyul; Ha, Rhan; Hong, Seongsoo; Park, Chang Yun; Lee, Minsuk; Kim, Chong Sang) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Hahn, K. T. (*with* Youssfi, E. H.) The Bloch space of M-harmonic functions on bounded symmetric domains. (English summary) *Monatsh. Math.* **123** (1997), *no.* 3, 229–243. (Ke He Zhu) **98a:32006** 32A37 (32M15, 46E15)

Hahn, Marjorie (*with* Miao, Weiwen) Existence of maximum likelihood estimates for multi-dimensional exponential families. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 371–386. (Masafumi Akahira) **98m:62060** 62F10 (62H12)

Hahn, Sang-Geun (*with* Kim, Dong Geon; Kim, Yong Soo) A decoding algorithm for the 1st order Reed-Muller codes. (English summary) *Util. Math.* **51** (1997), 9–20. (Summary) **98j:94033** 94B35

Hahn, Tomas (*with* Markus, Mario; Kusch, Ingo) A novel quantification of cellular automata. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1635–1642. (*see* **98h:68006**) 68Q80 (58F08)

Hahn, Udo (*with* Schnattinger, Klemens) A terminological qualification calculus for preferential reasoning under uncertainty. (English summary) *KI-96: Advances in artificial intelligence (Dresden)*, 349–362, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (Summary) **98f:68251** 68T27 (03B60, 03B70, 68T30)

Hähner, Peter On the continuous dependence of the exterior Dirichlet problem on the boundary. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 8, 707–716. (M. Yu. Vasil′chik) **98e:35050** 35J25 (35B30)

— A uniqueness theorem for an inverse scattering problem in an exterior domain. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1118–1128 (*electronic*). (Summary) **98m:35223** 35R30 (35J05)

Hähnle, Reiner (*with* Beckert, Bernhard) Deduction by combining semantic tableaux and integer programming. (English summary) *Computer science logic (Paderborn, 1995)*, 52–63, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03029** 03B35 (68T15, 90C10)

— (*with* Klingenbeck, Stefan) A-ordered tableaux. (English summary) *J. Logic Comput.* **6** (1996), *no.* 6, 819–833. (Summary) **98e:03015** 03B35 (68Q60, 68T15)

— (*with* Pape, Christian) Ordered tableaux: extensions and applications. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 173–187, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03020** 03B35 (03B10)

— (*with* Pape, Christian) Restart tableaux with selection function. (English summary) *Computational logic and proof theory (Vienna, 1997)*, 219–232, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:03016** 03B35

Ha Huy Bang A remark on differential operators of infinite order. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 2, 289–294. (Summary) **98c:46077** 46F10 (35R50)

— The existence of a point spectral radius of pseudodifferential operators. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 6, 740–742. (Vladimir B. Vasilyev) **98k:47101** 47G30 (35S05)

— Nonconvex cases of the Paley-Wiener-Schwartz theorem. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 165–168. (Qing Yi Chen) **98j:46037** 46F12 (35E20)

— On embedding theorems for Sobolev-Orlicz spaces of infinite order. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 3, 316–319. (J. Musielak) **98j:46027** 46E35

— Spectrum of functions in Orlicz spaces. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 341–349. (J. Musielak) **98g:46053** 46F12 (42A38, 46E30)

— On the separability of Sobolev-Orlicz spaces of infinite order. (Russian) *Mat. Zametki* **61** (1997), *no.* 1, 141–143; *translation in Math. Notes* **61** (1997), *no.* 1-2, 118–120. 46E35 (46E30)

Ha Huy Khoai Hyperbolic surfaces in $\mathbf{P}^3(\mathbf{C})$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3527–3532. (Junjiro Noguchi) **98e:32046** 32H20

— Recent work on hyperbolic spaces. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 1–13. (Min Ru) **98e:32047** 32H20 (32H30)

Ha Huy Vui (*with* Cassou-Noguès, Pierrette) Théorème de Kuiper-Kuo-Bochnak-Lojasiewicz à l'infini. (English and French summaries) [The Kuiper-Kuo-Bochnak-Łojasiewicz theorem at infinity] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 387–406. (Mihai Tibăr) **98g:32061** 32S20

bui xuan Hai *see* **Bui Xuan Hai**

Hai, Bui Xuan *see* **Bui Xuan Hai**

Hai, D. D. *see* **Dang Dinh Hai**

Hai, Nguyen Thanh *see* **Nguyễn Thanh Hải**

Hai, Phung Ho Koszul property and Poincaré series of matrix bialgebras of type A_n. (English summary) *J. Algebra* **192** (1997), *no.* 2, 734–748. (Alexander E. Polishchuk) **98g:16006** 16E30 (16W30, 16W50)

Hai, Wenhua (*with* Duan, Yi Wu; Zhu, Xi Wen; Luo, Xueli; Shi, Lei[3]) Stable orbits embedded in a chaotic attractor for a trapped ion interacting with a laser field. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2991–2996. 81V80 (58F40)

Haidar, Nassar H. S. Recursive pseudo-inversion of the Laplace transform on the real line. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 213–220. (Summary) **98c:65202** 65R10 (44A10)

— A nonlinear method for a severely ill-posed generalized moment problem. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 323–335. (Summary) **98j:44005** 44A60 (45G10, 45J05, 45L05)

Haider, Mansoor A. (*with* Holmes, Mark H.) Analytic approximations to the deformation of a thin compressible elastic layer by a rigid flat indenter. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 1–32. (Ranjit S. Dhaliwal) **98j:73081** 73T05

Haidvogel, Dale B. (*with* Levin, Julia G.; Iskandarani, Mohamed) A spectral filtering procedure for eddy-resolving simulations with a spectral element ocean model. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 130–154. (Summary) **98h:86001** 86A05 (76M20, 86-08)

Hailat, Mohammad Q. On the classification of Witt rootsystems. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 61–71. (Saeid Azam) **98e:17011** 17B20

Haile, Darrell E. (*with* Knus, Max-Albert; Rost, Markus; Tignol, Jean-Pierre) Algebras of odd degree with involution, trace forms and dihedral extensions. (English summary) *Israel J. Math.* **96** (1996),, *part B*, 299–340. (From the introduction) **98h:16024** 16K20 (16W10)

— (*with* Tignol, Jean-Pierre) Algebras with involution that become hyperbolic under a given extension. *J. Algebra* **199** (1998), *no.* 1, 94–115. (Patrick J. Morandi) **98k:16048** 16W10 (11E39)

Haile, Dawit (*with* Clark, Lane H.) Remarks on the size of critical edge-chromatic graphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 287–293. (Summary) **98a:05066** 05C15 (05C35)

Hailperin, Theodore ★ Sentential probability logic. (English summary) Origins, development, current status, and technical applications. *Lehigh University Press, Bethlehem, PA; Associated University Presses, London*, 1996. 304 *pp. ISBN* 0-934223-45-9 (Frans Voorbraak) **98c:03057** 03B48 (03-03, 60A05)

Haily, Abdelfattah A non-semiprime associative algebra with zero weak radical. *Extracta Math.* **12** (1997), *no.* 1, 53–60. (R. F. Rossa) **98j:16012** 16N80 (17C17)

ibn al-Hā'im *see* **Ibn al-Hā'im**

ben-Haim, Yakov *see* **Ben-Haim, Yakov**

Haiman, George (*with* Lifshits, M. A.) First passage probability for Markov chain. (English summary) *Research developments in probability and statistics*, 27–32, *VSP, Utrecht*, 1996. (Xiang Qun Yang) **98m:60103** 60J05 (60J10, 60J35, 60J75)

— (*with* Nevzorov, V. B.) Stochastic ordering of the number of records. (English summary) *Statistical theory and applications*, 105–116, *Springer, New York*, 1996. (W. Dziubdziela) **98g:60098** 60G70

Haiman, Mark (*with* Billey, Sara C.) Schubert polynomials for the classical groups. *J. Amer. Math. Soc.* **8** (1995), *no.* 2, 443–482. (From the introduction) **98e:05109** 05E15 (14M15)

Haine, Luc (*with* Grünbaum, F. Alberto) A theorem of Bochner, revisited. *Algebraic aspects of integrable systems*, 143–172, *Progr. Nonlinear Differential Equations Appl.*, 26, *Birkhäuser Boston, Boston, MA*, 1997. (Jorge P. Zubelli) **98f:58103** 58F07 (17B68, 33C45, 39A70)

— (*with* Grünbaum, F. Alberto) Some functions that generalize the Askey-Wilson polynomials. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 173–202. (Alexei Zhedanov) **98h:33008** 33D45 (58F19)

— (*with* Grünbaum, F. Alberto) Bispectral Darboux transformations: an extension of the Krall polynomials. *Internat. Math. Res. Notices* **1997**, *no.* 8, 359–392. (Jorge P. Zubelli) **98k:58200** 58F37 (33C45, 42C15)

Hainzl, Josef On the number of limit cycles in perturbations of a two-dimensional nonlinear differential system. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 254–274. (Lubomir Gavrilov) **98c:34045** 34C05 (58F21)

Hairer, E. (*with* Wanner, G.) ★ Analysis by its history. (English summary) Undergraduate Texts in Mathematics. Readings in Mathematics. *Springer-Verlag, New York*, 1996. x+374 *pp. ISBN* 0-387-94551-2 (Thomas Archibald) **98g:01008** 01A05 (26-01, 26-03)

— (*with* Wanner, G.) On a generalization of a theorem of von Neumann. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 95–98. (*see* **98b:65005**) 65L06

— (*with* Lubich, Christian) The life-span of backward error analysis for numerical integrators. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 441–462. (Bolesław Kacewicz) **98g:65074** 65L70 (58F14, 65L05, 70-08, 70H05)

Haizhong, Li *see* **Li, Hai Zhong**

Hajac, Piotr M. Strong connections on quantum principal bundles. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 579–617. (Tomasz Brzeziński) **98e:58022** 58B30 (17B37, 81R50)

Hajduk, Bogusław The index of the Dirac operator and scalar curvature: geometric topology or topological geometry? (Polish) *Wiadom. Mat.* **32** (1996), 1–14. (Józef Dodziuk) **98c:58162** 58G10 (53C21)

Hájek, Alan "Mises redux"—redux: fifteen arguments against finite frequentism. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 209–227. (Peter Milne) **98k:03057** 03B48

— (*with* Byrne, Alex) David Hume, David Lewis, and decision theory. (English summary) *Mind* **106** (1997), *no.* 423, 411–428. 03B45

— *see also* **van Fraassen, Bas C., 98m:03052**

Hajek, Bruce Balanced loads in infinite networks. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 1, 48–75. (Pablo A. Ferrari) **98f:60202** 60K30 (60C05, 60K35)

— (*with* Alanyali, Murat) Analysis of simple algorithms for dynamic load balancing. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 840–871. (Leonardo Pasini) **98k:90034** 90B15 (68M20, 68Q25, 90B80)

Hajek, Darrell W. (*with* DiCristina, Gladys) Strongly zeroed distance spaces. *Rev. Integr. Temas Mat.* **13** (1995), *no.* 2, 63–66. 54E99

Hájek, Petr[1] (*with* Fabian, Marián J.; Zizler, Václav) A note on lattice renormings. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 263–272. (Y.

Benyamini) **98e:46008** 46B20 (46B26)
— Fuzzy logic and arithmetical hierarchy. II. (English summary) *Studia Logica* **58** (1997), *no.* 1, 129–141. (Summary) **98j:03038** 03B52 (03D35)
— (*with* Švejda, David) A strong completeness theorem for finitely axiomatized fuzzy theories. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 213–219. (Summary) **98j:03034** 03B50 (03B52)
— (*with* Godo, Lluis) Deductive systems of fuzzy logic. (English summary) Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 35–66. (Summary) **98f:03022** 03B52
— *see also* **Mathematical foundations of computer science, 98d:68019**
Haj-Hariri, H. (*with* Homsy, G. M.) Three-dimensional instability of viscoelastic elliptic vortices. (English summary) *J. Fluid Mech.* **353** (1997), 357–381. (Summary) **98j:76053** 76E99 (76A10)
Hájíček, P. Time evolution of observable properties of reparametrization-invariant systems. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 115–124. (Viqar Husain) **98i:83034** 83C45
— (*with* Bičák, Jiří) Gauge-invariant Hamiltonian formalism for spherically symmetric gravitating shells. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4706–4719. (Jörg Frauendiener) **98k:83053** 83C57 (83C55)
Hajir, Farshid (*with* Rodríguez Villegas, Fernando) Explicit elliptic units. I. *Duke Math. J.* **90** (1997), *no.* 3, 495–521. (Werner Bley) **98k:11075** 11G16 (11R27)
— On the growth of p-class groups in p-class field towers. *J. Algebra* **188** (1997), *no.* 1, 256–271. (Marcus du Sautoy) **98a:11151** 11R37 (20E18)
Hajja, Mowaffaq (*with* Habeb, Jebrel) A note on semi-principal ideal rings. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **22** (1997), *no.* 2, 195–206. (T. W. Hungerford) **98h:13025** 13F10
— (*with* Kang, Ming-chang) Twisted actions of symmetric groups. (English summary) *J. Algebra* **188** (1997), *no.* 2, 626–647. (Frank D. Grosshans) **98b:13003** 13A50 (12F20)
el Hajji, M. *see* **El Hajji, M.**
Hajłasz, Piotr A counterexample to the L^p-Hodge decomposition. (English summary) *Singularities and differential equations (Warsaw, 1993)*, 79–83, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (H. Triebel) **98d:35033** 35J05
— (*with* Martio, Olli) Traces of Sobolev functions on fractal type sets and characterization of extension domains. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 1, 221–246. (W. P. Ziemer) **98d:46034** 46E35 (28A80)
Hajnal, András (*with* Erdős, Paul[1]; Simonovits, M.; Sós, V. T.; Szemerédi, Endre) Turán-Ramsey theorems and K_p-independence numbers [MR 96b:05078]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 253–281, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C35 (05C55)
— Paul Erdős' set theory. *The mathematics of Paul Erdős, II*, 352–393, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Marion Scheepers) **98b:01031** 01A70 (01A99, 04-03, 04A10, 04A20)
Hajnal, Péter (*with* Broere, Izak; Mihók, Peter) Partition problems and kernels of graphs. *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 311–313. 05C70
Hajri, S. (*with* Vanheeghe, P.; Borne, P.) Output tracking via robust sliding mode controller. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 221–229, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93D15 (93B12)
Hajto, Z. (*with* Cabello Pardos, A. B.) Stratifications adapted to finite families of differential 1-forms (Pfaffian geometry. I). (English summary) *Rev. Mat. Univ. Complut. Madrid* **8** (1995), *no.* 2, 269–292. (Wiesław Pawłucki) **98a:32008** 32B20 (58A35)
Hakala, Ismo ★ On word equations and the morphism equivalence problem for loop languages. Dissertation, University of Oulu, Oulu, 1997. *University of Oulu, Oulu*, 1997. 64 *pp. ISBN* 952-90-9428-0 (From the introduction) **98i:68152** 68Q45 (20M05, 68R15)
— (*with* Kortelainen, Juha) On the system of word equations $x_1^i x_2^i \cdots x_m^i = y_1^i y_2^i \cdots y_n^i$ ($i = 1, 2, \cdots$) in a free monoid. (English summary) *Acta Inform.* **34** (1997), *no.* 3, 217–230. (Summary) **98f:68222** 68R15 (20M05, 68Q45)
— (*with* Kortelainen, Juha) Polynomial size test sets for commutative languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 291–304. (Summary) **98f:68154** 68Q45
Haken, Hermann Visions of synergetics. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 759–792. (*see* **98f:58007**) 00A69 (58F40, 94A99)
Hakim, Vincent (*with* Derrida, Bernard; Pasquier, Vincent) Exact exponent for the number of persistent spins in the zero-temperature dynamics of the one-dimensional Potts model. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 5-6, 763–797. (Miroslav Kolesik) **98b:82013** 82B20
— (*with* Chabanol, Marie-Line; Rappel, Wouter-Jan) Collective chaos and noise in the globally coupled complex Ginzburg-Landau equation. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 273–293. (Summary) **98c:35149** 35Q55 (58F13, 58F39)
Hakim-Hashemi, Mehdi (*with* Kahn, Donald W.) A generalization of the Atiyah-Hirzebruch spectral sequence. (English summary) *K-Theory* **11** (1997), *no.* 3, 241–257. (Richard John Steiner) **98b:55019** 55T25 (55N20)
Hakimi, S. Louis (*with* Schmeichel, Edward F.; Young, Neal E.) Orienting graphs to optimize reachability. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 229–235. (Summary) **98i:68125** 68Q25 (05C20, 68R10)
— (*with* Schmeichel, Edward F.) Locating replicas of a database on a network. (English summary) *Networks* **30** (1997), *no.* 1, 31–36. (Summary) **98e:68046** 68P15 (68M10, 90B15)
— (*with* Ge, Zhengyu) Disjoint rooted spanning trees with small depths in Debruijn and Kautz graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 79–92. (Ákos Seress) **98h:05058** 05C05 (68M10, 68M15, 90B12)
Hakioğlu, T. Interaction of two-level atomic system with a single-mode radiation field. (English summary) *Quantum optics and the spectroscopy of solids (Ankara, 1995)*, 121–138, *Fund. Theories Phys.*, 83, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:81400**) 81V80
— *see also* **Quantum optics and the spectroscopy of solids, 98f:81400**
Hakobyan, T. (*with* Avakyan, Avetis K.; Sedrakyan, A. G.) A family of affine quantum group invariant integrable extensions of the Hubbard Hamiltonian. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 633–652. (Ya. P. Pugay) **98g:82014** 82B23 (81R50, 82B20, 82D55)
Hakopian, Hakop A. *see* **Akopyan, A. A.**
Hakopian, Yu. R. (*with* Axelsson, Owe) Algebraic multilevel preconditioners for perturbed finite element matrices. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 1–22. (S. Galanis) **98e:65093** 65N30 (65F35)
— (*with* Axelsson, Owe; Kuznetsov, Yurii Alekseevich[1]) Multilevel preconditioning for perturbed finite element matrices. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 1, 125–149. (Svetozar D. Margenov) **98a:65159** 65N30 (65F35)
Hakula, Harri ★ High-order finite element tools for shell problems. (English summary) Dissertation, Helsinki University of Technology, Espoo, 1997. Helsinki University of Technology, Institute of Mathematics, Research Reports, A376. *Helsinki University of Technology, Institute of Mathematics, Espoo*, 1997. 153 *pp. ISBN* 951-22-3426-2 65N30 (73K15, 73V05)
Hakvoort, Richard G. (*with* Van den Hof, Paul M. J.) Identification of probabilistic system uncertainty regions by explicit evaluation of bias and variance errors. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1516–1528. (S. M. Pandit) **98k:93115** 93E12 (93E10)
Halanay, A. *see* **Halanay, Aristide**
Halanay, Andrei (*with* Safta, Carmen A.) Periodic motions for loaded two control edges hydraulic copying systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 367–374. 93C55 (34C25)
Halanay, Aristide (*with* Drăgan, Vasile; Stoica, Adrian) On robustness with respect to multiplicative perturbations. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 3, 363–377. (Summary) **98e:93093** 93D21 (93D09)
— (*with* Drăgan, Vasile; Stoica, Adrian) An LMI solution to a disturbance attenuation problem with state feedback for stochastic systems. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 4, 513–519. 93E15 (93D15)
— (*with* Rasvan, Vl.) Stability radii for some propagation models. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part I. *IMA J. Math. Control Inform.* **14** (1997), *no.* 1, 95–107. (Hartmut Logemann) **98g:93034** 93D09 (93C20, 93D05)
— (*with* Drăgan, Vasile; Stoica, Adrian) Well-conditioned computation for H^∞ controller near the optimum. (English summary) *Numer. Algorithms* **15** (1997), *no.* 2, 193–206. (Jacob Hammer) **98i:93022** 93B36
Halanay, Elena Normal surfaces of degrees 8 in $\mathbf{P}^n$. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1995), 131–145 (1997). (Takao Fujita) **98a:14048** 14J25 (14C20)
Håland, Inger Johanne (*with* Bergelson, Vitaly) Sets of recurrence and generalized polynomials. *Convergence in ergodic theory and probability (Columbus, OH, 1993)*, 91–110, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Thomas Ward) **98g:28026** 28D15 (05D10)
Halas, N. J. (*with* Sarkar, Dipankar) General vector basis function solution of Maxwell's equations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part B*, 1102–1112. (W. E. Williams) **98m:78017** 78A25 (35Q60)
Halaš, Radomír Annihilators and ideals in distributive and modular ordered sets. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 31–37. (Gerhard Behrendt) **98d:06002** 06A06
— (*with* Chajda, Ivan) Finite basis of ideal terms in ideal determined varieties. (English summary) *Algebra Universalis* **37** (1997), *no.* 2, 243–252. (Aldo Ursini) **98d:08013** 08B99 (08A99)
— (*with* Chajda, Ivan; Machala, František) Congruences and ideals in ternary rings. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 163–172. (Aldo Ursini) **98m:08002** 08A30 (17A40)
Halasz, M. A. (*with* Jackson, A. D.; Verbaarschot, J. J. M.) Yang-Lee zeros of a random matrix model for QCD at finite density. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 293–297. (Summary) **98b:81277** 81V05 (81T25)
— (*with* Jackson, A. D.; Verbaarschot, J. J. M.) Fermion determinants in matrix models of QCD at nonzero chemical potential. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5140–5152. (Summary) **98g:81217** 81V05 (82B41)
Halbach, Volker Tarskian and Kripkean truth. (English summary) *J. Philos. Logic* **26** (1997), *no.* 1, 69–80. (Summary) **98d:03010** 03A05
Halbeisen, Lorenz (*with* Hungerbühler, Norbert) Optimal bounds for the length of rational Collatz cycles. *Acta Arith.* **78** (1997), *no.* 3, 227–239. (J. C. Lagarias) **98g:11025** 11B83 (58F08)
— (*with* Hungerbühler, Norbert) Packings in complete graphs. (English summary) *Ars Combin.* **48** (1998), 97–110. (Summary) **98m:05147** 05C70
— On shattering, splitting and reaping partitions. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 123–134. (Marion Scheepers) **98k:03102** 03E05 (03C25, 03E35, 04A20, 05A18)
Hald, Ole H. (*with* Chorin, Alexandre Joel) Analysis of Kosterlitz-Thouless transition models. (English summary) *Phys. D* **99** (1997), *no.* 4, 442–470. (Summary) **98a:82079** 82C26 (76F99, 82C28)
Haldar, Achintya *see* **Uncertainty modeling in finite element, fatigue and stability of systems, 98k:73005**
Haldar, K. (*with* Datta, Barun Kumar) Laplace transform evaluations by Ramanujan's integral formula. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 123–128. 65R10
Haldar, S. An "all pairs shortest paths" distributed algorithm using $2n^2$ messages. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 20–36. (Summary) **98a:68057** 68Q10 (68M10)
Haldenwang, P. (*with* Le Marec, C.; Guérin, Rahma) Pattern study in the 2-D solutal convection above a Bridgman-type solidification front. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3149–3161. 76E15 (80A22)
Haider, A. (*with* Majumdar, A. A. K.) A recursive algorithm for the bottleneck Reve's puzzle. (English summary) Optimization theory in mathematical models (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 947 (1996), 150–161. (Summary) **98a:90128** 90C39 (05A99, 90C27)
Haldrup, Niels (*with* Boswijk, H. Peter; Franses, Philip Hans) Multiple unit roots in periodic autoregression. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 167–193. (Alastair R. Hall) **98i:62069** 62M10

— (*with* Hylleberg, S.) Near-integration and deterministic trends. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 77–101. (Summary) **98e:62129** 62M10

— (*with* Salmon, Mark) Representations of $I(2)$ cointegrated systems using the Smith-McMillan form. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 303–325. 62M10 (62P20)

Hale, Bob Absolute necessities. *Metaphysics*, 1996, 93–117, *Philos. Perspect.*, 10, *Blackwell, Cambridge, MA*, 1996. (George F. Schumm) **98f:03017** 03B45 (03A05)

Hale, Jack K. (*with* Chen, Xu-Yan; Tan, Bin) Invariant foliations for C^1 semigroups in Banach spaces. *J. Differential Equations* **139** (1997), *no.* 2, 283–318. (P. W. Bates) **98m:47109** 47H20 (34C35, 58F18)

— Diffusive coupling, dissipation, and synchronization. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 1–52. (Alexandre N. Carvalho) **98h:34092** 34C99 (34D35, 34D45, 34K15, 35K57, 58F32)

— (*with* Afraimovich, V. S.; Chow, Shui-nee) Synchronization in lattices of coupled oscillators. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 442–451. (Peter Ashwin) **98g:34063** 34C11 (34C15, 34D45, 70K20)

— Attracting manifolds for evolutionary equations. Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 55–72. (Daniel Ševčovič) **98i:34087** 34G20 (34C30, 34D45, 34K25, 35K22, 47H20, 58F12, 58F39)

— Dynamics of numerical approximations. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 5–15. (Arnaud Debussche) **98k:47126** 47H17 (34C20, 47N20)

Halenbeck, D. J. *see* **Hallenbeck, David J.**

Hales, T. C. Sphere packings. II. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 2, 135–149. (Uwe Schnell) **98h:52033** 52C17

Halevi, Shai (*with* Micali, Silvio) Practical and provably-secure commitment schemes from collision-free hashing. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 201–215, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98g:94027** 94A60

— (*with* Ben-Dor, A.; Schuster, Assaf) Potential function analysis of greedy hot-potato routing. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 41–61. (Summary) **98m:68006** 68M10 (68Q10)

Haliassos, Michael (*with* Bertaut, Carol C.) Precautionary portfolio behavior from a life-cycle perspective. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1511–1542. (*see* **98c:90003**) 90A09 (90A12)

Halická, M. (*with* Hamala, Milan) Duality of transformation functions in the interior point methods. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 229–245. (Shu Zhong Zhang) **98e:90158** 90C30 (49N15)

Halikias, G. D. The structured H_2-optimization problem. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1223–1232. (Summary) **98m:93040** 93B40 (93B36)

— (*with* Bryant, G. F.) Optimal loop-shaping for systems with large parameter uncertainty via linear programming. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 557–568. 93C41 (90C05)

— (*with* Jaimoukha, Imad M.; Wilson, D. A.) A numerical solution to the matrix $\mathscr{H}_2/\mathscr{H}_\infty$ optimal control problem. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 7, 711–726. (M. M. Konstantinov) **98i:93024** 93B36 (93B40)

Haliloglu, Engin Generalizations of coefficient estimates for certain classes of analytic functions. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 6, 116–121. (Jan Szynal) **98i:30008** 30C45 (30C50)

Haliman The application background of direct and inverse matrix eigenvalue problems. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 4, 26–35. 34A55 (15A18)

Halin, Rudolf Minimization problems for infinite n-connected graphs [MR 94m:05101]. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993), 355–374, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C35 (05C40)

— A note on k-connected rayless graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 257–260. (Summary) **98m:05163** 05C75

Halkias, C. C. (*with* Papaodysseus, C.; Koukoutsis, E.; Stavrakakis, G.) Exact analysis of the finite precision error generation and propagation in the FAEST and the fast transversal algorithms: a general methodology for developing robust RLS schemes. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 29–41. 65G05

Hall, Alastair (*with* Ghysels, Eric; Lee, Hahn Shik) On periodic structures and testing for seasonal unit roots. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1551–1559. (Zuzana Prášková) **98c:62169** 62M10 (62E20)

— (*with* Ghysels, Eric; Guay, Alain) Predictive tests for structural change with unknown breakpoint. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 209–233. (Summary) **98m:62302** 62P20

Hall, Brian C. Phase space bounds for quantum mechanics on a compact Lie group. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 233–250. (Gerald B. Folland) **98g:81108** 81S30 (22E30, 22E70, 58G11)

— The inverse Segal-Bargmann transform for compact Lie groups. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 1, 98–116. (A. H. Dooley) **98e:22004** 22E30 (22E46, 43A77)

— Erratum: "Phase space bounds for quantum mechanics on a compact Lie group" [Comm. Math. Phys. **184** (1997), no. 1, 233–250; MR 98g:81108]. *Comm. Math. Phys.* **191** (1998), *no.* 3, 735. 81S30 (22E30, 22E70, 58G11)

Hall, Charles A. (*with* Ye, Xiu) A discrete divergence-free basis for finite element methods. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 365–380 (1998). 65M60

Hall, Dennis G. (*with* Casperson, Lee W.; Tovar, Anthony A.) Sinusoidal-Gaussian beams in complex optical systems. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3341–3348. 78A10 (78A40)

Hall, Frank J. (*with* Eschenbach, Carolyn A.; Johnson, Charles Royal; Li, Zhongshan) The graphs of the unambiguous entries in the product of two $(+,-)$ sign pattern matrices. (English summary) *Linear Algebra Appl.* **260** (1997), 95–118. (Koduvayur R. Parthasarathy) **98e:05075** 05C50

Hall, G. R. (*with* Walsh, J. A.; Elenbogen, B.) Computer protocol and torus maps. (English summary) *Dynam. Stability Systems* **11** (1996), *no.* 3, 239–263. (Eric Cornelis) **98e:68017** 68M20 (58F12, 58F40, 68M10)

Hall, Graham S. Projective symmetry in space-times. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB*, 1995), 253–257, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Jörg Frauendiener) **98g:53126** 53C80 (83C99)

— (*with* Capocci, M. S.; Beig, Robert) Zeros of conformal vector fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, L49–L52. (J. S. Joel) **98m:53030** 53B30

— (*with* Roy, I. M.) Some remarks on special conformal and special projective symmetries in general relativity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 7, 827–835. (János Kánnár) **98d:83015** 83C20 (53C80)

Hall, L. M. (*with* Grimm, L. J.) Self adjoint differential equations and Karamata functions. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv*, 1992), 77–87, *VSP, Utrecht*, 1993. (Hussain S. Nur) **98e:34065** 34C11 (34D05, 34K15)

Hall, Lawrence O. Confirmation and denial as plausible modes of fuzzy inference. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 307–309. (Summary) **98a:03035** 03B52

Hall, Leslie A. (*with* Schulz, Andreas S.; Shmoys, David B.; Wein, Joel) Scheduling to minimize average completion time: off-line and on-line approximation algorithms. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 513–544. (Edward J. Anderson) **98d:90058** 90B35 (90C05, 90C27)

— (*with* Strusevich, V. A.) An open shop scheduling problem with a non-bottleneck machine. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 11–18. (Summary) **98e:90082** 90B35 (90C27)

Hall, M. (*with* Pianskool, S.) Injectivity for cancellative semimodules. *Southeast Asian Bull. Math.* **20** (1996), *no.* 4, 85–93. (C. J. Maxson) **98c:16064** 16Y60

Hall, Ned Correcting the guide to objective chance. *Mind* **103** (1994), *no.* 412, 505–517. (Philip L. Quinn) **98m:00009** 00A30 (03B30)

Hall, Nicholas G. (*with* Posner, Marc E.; Potts, Chris N.) Preemptive scheduling with finite capacity input buffers. (English summary) *Ann. Oper. Res.* **70** (1997), 399–413. (Summary) **98b:90066** 90B35

Hall, Peter Gavin (*with* Chan, Grace; Constantine, A. G.) Stochastic fractal models for multi-processed surfaces. (English summary) *Research developments in probability and statistics*, 329–341, *VSP, Utrecht*, 1996. (Summary) **98d:62178** 62M40

— (*with* LePage, Raoul) On bootstrap estimation of the distribution of the Studentized mean. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 403–421. (Summary) **98k:62078** 62G09

— (*with* Polzehl, Jörg) On the dimension of the boundary of clumps in a multi-type Boolean model. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1521–1535. (Salvatore Ingrassia) **98b:62095** 62H11 (60G55, 62M30, 62M40)

— (*with* McKay, Ian; Turlach, Berwin A.) Performance of wavelet methods for functions with many discontinuities. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2462–2476. (Theo Gasser) **98d:62060** 62G05 (62G20)

— (*with* Beran, Rudolf; Feuerverger, Andrey) On nonparametric estimation of intercept and slope distributions in random coefficient regression. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2569–2592. (Ewaryst Rafajłowicz) **98b:62055** 62G05 (62J05)

— (*with* Feuerverger, Andrey) On distribution-free inference for record-value data with trend. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2655–2678. (Syed N. U. A. Kirmani) **98b:62061** 62G05 (60G70)

— (*with* Horowitz, Joel L.) Bootstrap critical values for tests based on generalized-method-of-moments estimators. (English summary) *Econometrica* **64** (1996), *no.* 4, 891–916. (Thomas Mikosch) **98c:62084** 62G09 (62G10)

— (*with* Fisher, Nicholas I.; Jing, Bing-Yi; Wood, Andrew T. A.) Improved pivotal methods for constructing confidence regions with directional data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1062–1070. (Hung Trung Nguyen) **98f:62121** 62G09 (62G15)

— (*with* Cowling, Ann; Phillips, Michael J.) Bootstrap confidence regions for the intensity of a Poisson point process. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1516–1524. (Somnath Datta) **98b:62150** 62M09 (62G09)

— (*with* Wood, Andrew T. A.) Approximations to distributions of statistics used for testing hypotheses about the number of modes of a population. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 299–317. (James E. Stafford) **98e:62052** 62G05 (60G15)

— (*with* Davies, Steve) On Ling's scaling law. (English summary) *Advances in the theory and practice of statistics*, 57–66, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62G05 (28A80, 60G17, 60G60)

— (*with* Raimondo, Marc) Approximating a line thrown at random onto a grid. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 648–665. (Ilya S. Molchanov) **98m:62150** 62G20 (60D05, 60G35)

— (*with* Marron, J. S.; Neumann, Michael H.; Titterington, D. M.) Curve estimation when the design density is low. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 756–770. (M. Hušková) **98b:62066** 62G05 (62G20)

— (*with* Weissman, Ishay) On the estimation of extreme tail probabilities. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1311–1326. (László Viharos) **98h:62050** 62G05 (60G70, 62G09)

— (*with* Koul, Hira L.; Turlach, Berwin A.) Note on convergence rates of semiparametric estimators of dependence index. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1725–1739. (Arup Bose) **98f:62253** 62M10 (62G05)

— (*with* Turlach, Berwin A.) Interpolation methods for nonlinear wavelet regression with irregularly spaced design. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1912–1925. (M. Hušková) **98k:62056** 62G05 (62G30)

— (*with* Garcia-Soidan, Pilar H.) On sample reuse methods for spatial data. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 273–281. (Summary) **98a:62054** 62G09 (62H11)

— (*with* Turlach, Berwin A.) Interpolation methods for adapting to sparse design in nonparametric regression. (English summary) With a comment by Stephen Portnoy and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 466–477. (Summary) **98d:62061** 62G05 (62G07)

— (*with* Huber-Carol, Catherine; Speckman, Paul L.) Covariate-matched one-sided tests for the difference between functional means. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1074–1083. (Summary) **98h:62080** 62G10

— (*with* Nussbaum, Michael; Stern, Steven E.) On the estimation of a support curve of indeterminate sharpness. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2,

204–232. (László Viharos) **98h:62051** 62G05 (62H05, 62H10)
— (*with* Brown, Bruce Maxwell; Young, G. Alastair) On the effect of inliers on the spatial median. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 88–104. 62H05
— (*with* Nason, Guy P.) On choosing a non-integer resolution level when using wavelet methods. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 5–11. 62G05
— (*with* Padmanabhan, A. R.) Adaptive inference for the two-sample scale problem. (English summary) *Technometrics* **39** (1997), *no.* 4, 412–422. 62G09 (62G15)
Hall, Philip[2] (*with* Blackaby, Nicholas D.) The nonlinear evolution of the inviscid secondary instability of streamwise vortex structures. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **352** (1995), *no.* 1700, 483–502. (Corneliu Berbente) **98a:76024** 76D10 (76E30)
— (*with* Blackaby, Nicholas D.; Dando, Andrew) The nonlinear evolution of inviscid Görtler vortices in three-dimensional boundary layers. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 975–1016. (James P. Denier) **98d:76068** 76E30 (76D10)
— (*with* Papageorgiou, Demetrios T.) On the modulational instability of $O(1)$ amplitude waves in supersonic boundary layers. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 929–958. (Summary) **98e:76041** 76E30 (76J20, 76N20)
Hall, Richard L. (*with* Saad, Nasser) Bounds on Schrödinger eigenvalues for polynomial potentials in N dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4909–4913. (Federico Finkel) **98j:81062** 81Q05
— (*with* Saad, Nasser) Eigenvalue bounds for a class of singular potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 963–967. 81Q05
— (*with* Saad, Nasser) Eigenvalue comparisons for quantum systems in a box. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 107–112. (Summary) **98k:81044** 81Q05
Hall, Richard R. ★ Sets of multiples. (English summary) Cambridge Tracts in Mathematics, 118. *Cambridge University Press, Cambridge*, 1996. xvi+264 *pp. ISBN* 0-521-40424-X (G. Greaves) **98d:11012** 11B05
Hall, T. E. (*with* Auinger, Karl) Representations of semigroups by transformations and the congruence lattice of an eventually regular semigroup. (English summary) *Internat. J. Algebra Comput.* **6** (1996), *no.* 6, 655–685. (Francis Pastijn) **98a:20071** 20M20 (20M17)
— (*with* Auinger, Karl; Reilly, Norman R.; Zhang, Shu Hua[1]) Congruences on the lattice of pseudovarieties of finite semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 433–455. (Katherine Johnston) **98h:20100** 20M07 (08A30, 08B15, 08C15)
— (*with* Kublanovskii, S. I.; Margolis, Stuart W.; Sapir, Mark V.; Trotter, Peter G.) Algorithmic problems for finite groups and finite 0-simple semigroups. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 75–96. (Mária B. Szendrei) **98h:20101** 20M07 (03B25, 03D35, 20F10)
Hall, Toby (*with* Glendinning, Paul) Zeros of the kneading invariant and topological entropy for Lorenz maps. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 999–1014. (Lluís Alsedà) **98e:58118** 58F13 (54H20, 58F11)
Hallam, T. G. (*with* Ramachandramurthi, Siddharthan; Nichols, J. A.) Parallel simulation of individual-based, physiologically structured population models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 55–70. 92D25
Hallamaa, Olli (*with* Knuuttila, Simo) Roger Roseth and medieval deontic logic. *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 75–87. (Mary J. Sirridge) **98j:01012** 01A35 (03–03, 03B45)
Halldórsson, Magnús M. (*with* Chandra, Barun) Facility dispersion and remote subgraphs. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 53–65, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98d:68097** 68Q25 (05C85, 90C35)
— (*with* Tanaka, Keisuke) Approximation and special cases of common subtrees and editing distance. (English summary) *Algorithms and computation (Osaka, 1996)*, 75–84, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68P05 (68Q25)
— Approximating k-set cover and complementary graph coloring. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 118–131, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90157** 90C35
— (*with* Radhakrishnan, Jaikumar) Greed is good: approximating independent sets in sparse and bounded-degree graphs. (English summary) *Algorithmica* **18** (1997), *no.* 1, 145–163. (Anna Rycerz) **98a:90120** 90C35 (05C85, 68Q25, 68R10)
— Parallel and on-line graph coloring. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 265–280. (Klaus Jansen) **98d:05055** 05C15 (05C85, 68Q10, 68R10)
— (*with* Lau, Hoong Chuin) Low-degree graph partitioning via local search with applications to constraint satisfaction, max cut, and coloring. (English summary) *J. Graph Algorithms Appl.* **1** (1997), *no.* 3, 13 *pp.* (*electronic*). (Summary) **98i:68219** 68R10 (05C85, 68Q25)
Hallenbeck, David J. (*with* Samotij, K.) The growth of derivatives of multipliers of Cauchy transforms of logarithmic potentials. (English summary) *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **2** (1996), 21–28. (T. H. MacGregor) **98a:30046** 30E20 (30H05)
— (*with* Samotij, K.) The growth of derivatives of multipliers of fractional Cauchy transforms. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 583–594. (T. H. MacGregor) **98m:30054** 30D50 (30E20)
Haller, G. (*with* Stépán, Gábor) Micro-chaos in digital control. (English summary) *J. Nonlinear Sci.* **6** (1996), *no.* 5, 415–448. (A. Ya. Narmanov) **98b:93045** 93C62 (58F13, 58F40)
— Universal homoclinic bifurcations and chaos near double resonances. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1011–1051. (Dmitry V. Treshchëv) **98c:58119** 58F14 (34C23, 34C37, 58F13)
Haller, H. H. Mixed extensions of games and the Saint Petersburg paradox. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 163–171, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A46 (90D10)
— (*with* Holden, Steinar) Ratification requirement and bargaining power. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 825–851. 90A60 (90D10)
Haller, Kurt (*with* Lim-Lombridas, Edwin) Erratum: "Maxwell-Chern-Simons theory in covariant and Coulomb gauges" [Ann. Physics **246** (1996), no. 1, 1–48; MR 97d:81121]. *Ann. Physics* **257** (1997), *no.* 2, 205–206. 81T10 (81V10)
— S-matrix elements for gauge theories with and without implemented constraints. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 305–313. (Igor Yurievich Popov) **98g:81214** 81U20 (47N50, 81T13)
— (*with* Lim-Lombridas, Edwin) Gauss's law, gauge-invariant states, and spin & statistics in abelian Chern-Simons theories. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1053–1062. (Summary) **98j:81210** 81T13 (81V10)
— (*with* Belloni, Mario; Chen, Lusheng) Gauss's law, gauge invariance, and long-range forces in QCD. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 316–322. (Summary) **98f:81353** 81V05
Haller, Rainis (*with* Oja, Eve) Geometric characterizations of positions of Banach spaces in their biduals. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 3, 227–233. (M. I. Kadets) **98j:46009** 46B10
Haller, Rudolf Carnap and Reichenbach in the Vienna Circle. (Spanish) *Current perspectives in logic and philosophy of science (Spanish)*, 3–19, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 01A60 (03–03, 03A05)
Hallin, Marc (*with* El Matouat, Abdelaziz) Order selection, stochastic complexity and Kullback-Leibler information. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 291–299, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62162** 62M10 (62B10)
— (*with* Seoh, Munsup) Is 131,000 a large sample size? A study on the finite-sample behavior of Edgeworth expansions. (English summary) *Research developments in probability and statistics*, 141–161, *VSP, Utrecht*, 1996. (Gutti J. Babu) **98f:62036** 62E20
— (*with* Vermandele, Catherine) An elementary proof of asymptotic normality for serial rank statistics. (English summary) *Research developments in probability and statistics*, 163–191, *VSP, Utrecht*, 1996. (Edgar Brunner) **98m:62151** 62G20 (62E20)
— (*with* Tran, Lanh Tat) Kernel density estimation for linear processes: asymptotic normality and optimal bandwidth derivation. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 429–449. (Patricia B. Cerrito) **98e:62053** 62G05 (62G20)
— (*with* Seoh, Munsup) When does Edgeworth beat Berry and Esséen? Numerical evaluations of Edgeworth expansions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 19–38. (Summary) **98i:62011** 62E20 (60F05)
Halliwell, J. J. A review of the decoherent histories approach to quantum mechanics. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 726–740, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81P05 (81–02)
— The decoherent histories approach to quantum mechanics. (English summary) *Gravitation and cosmology (Pune, 1995)*, 183–197, *Astrophys. Space Sci. Lib.*, 211, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. Gudder) **98g:81011** 81P05
— Effective theories of coupled classical and quantum variables from decoherent histories: a new approach to the back reaction problem. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2337–2348. (Summary) **98j:83040** 83C45 (81P99, 82C10, 83C47)
Halmos, Paul R. Applied mathematics is bad mathematics [see MR 82j:00019]. (Finnish) *In the forest of symbols (Finnish)*, 37–54, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 00A30
Halperin, A. H. *see* **Khinchin, Aleksandr Yakovlevich**
Halperin, Dan (*with* Yap, Chee-Keng) Combinatorial complexity of translating a box in polyhedral 3-space. (English summary) *Comput. Geom.* **9** (1998), *no.* 3, 181–196. (Summary) **98k:52034** 52B55 (68U05)
Halperin, Eran (*with* Alon, Noga) Bipartite subgraphs of integer weighted graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 19–29. (András Gyárfás) **98m:05094** 05C35
Halperin, Shay (*with* Zwick, Uri) An optimal randomised logarithmic time connectivity algorithm for the EREW PRAM. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 395–416. (Václav Koubek) **98e:68091** 68Q22 (05C40, 05C85, 68Q25, 68R10)
Halpern, Joseph Y. (*with* Koller, Daphne) Representation dependence in probabilistic inference. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 1853–1860, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30 (03B70)
— A counterexample to theorems of Cox and Fine. (English summary) *Proceedings of the Thirteenth National Conference on Artificial Intelligence and the Eighth Innovative Applications of Artificial Intelligence Conference, Vol. 1, 2 (Portland, OR, 1996)*, 1313–1319, *AAAI Press, Menlo Park, CA*, 1996. (Angelo Gilio) **98b:68181** 68T27 (60A05, 68T30)
— (*with* Bacchus, Fahiem; Grove, Adam J.; Koller, Daphne) From statistical knowledge bases to degrees of belief. (English summary) *Artificial Intelligence* **87** (1996), *no.* 1-2, 75–143. (Jerzy W. Grzymała-Busse) **98g:68159** 68T30
— (*with* Grove, Adam J.; Koller, Daphne) Asymptotic conditional probabilities: the non-unary case. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 1, 250–276. (Summary) **98g:03108** 03D35 (03B48, 03C13)
— (*with* Friedman, Nir) Modeling belief in dynamic systems. I. Foundations. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 257–316. (David Makinson) **98j:68149** 68T27 (03B45, 03B60, 03B70, 68T30)
— A theory of knowledge and ignorance for many agents. (English summary) *J. Logic Comput.* **7** (1997), *no.* 1, 79–108. (Frans Voorbraak) **98b:03029** 03B45 (68T27)
— (*with* Brafman, Ronen I.; Shoham, Yoav) On the knowledge requirements of tasks. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 317–349. (Summary) **98m:68248** 68T27
— (*with* Fagin, Ronald) Corrigendum: "Reasoning about knowledge and probability" [J. Assoc. Comput. Mach. **41** (1994), no. 2, 340–367; MR 96h:68192]. *J. ACM* **45** (1998), *no.* 1, 214. 68T27 (03B45, 03B48)
Halpern, Leopold On the cosmic limits of physical laws. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 263–268. (Mark D. Roberts) **98h:83072** 83D05 (83C57)
— On the cosmic limits of physical laws [MR 98h:83072]. (English summary) *Modern mathematical models of time and their applications to physics and cosmology (Tucson, AZ, 1996)*, 263–268, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 83F05
Halpern, M. B. (*with* de Boer, Jan) Unified Einstein-Virasoro master equation in the general nonlinear sigma model. (English summary) *Internat. J. Modern Phys. A* **12**

(1997), *no.* 8, 1551–1605. (Yao Zhong Zhang) **98c:81197** 81T40 (81R10)

Halter-Koch, Franz Finitely generated monoids, finitely primary monoids, and factorization properties of integral domains. *Factorization in integral domains (Iowa City, IA, 1996)*, 31–72, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (David F. Anderson) **98h:13003** 13A05 (13F05, 20M14)

— Generalized integral closures. *Factorization in integral domains (Iowa City, IA, 1996)*, 349–358, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (David F. Anderson) **98e:13014** 13B99 (13A15, 13A18, 13G05)

— Valuation methods, defining systems, and approximation theorems. *Semigroup Forum* **55** (1997), *no.* 1, 33–56. (Jiří Močkoř) **98g:20092** 20M14

Haluška, Ján On integration in complete bornological locally convex spaces. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 205–219. (D. Butković) **98h:46044** 46G10 (06F20, 28B05, 46A17)

Halverson, Tom (*with* Leduc, Robert; Ram, Arun) Iwahori-Hecke algebras of type *A*, bitraces and symmetric functions. *Internat. Math. Res. Notices* **1997**, *no.* 9, 401–416. (Götz Pfeiffer) **98c:20014** 20C15 (05E10)

Halyo, Edi (*with* Kol, Barak; Rajaraman, Arvind; Susskind, Leonard) Counting Schwarzschild and charged black holes. (English summary) *Phys. Lett. B* **401** (1997), *no.* 1-2, 15–20. (Summary) **98b:83056** 83C57 (81T20, 81T30, 83E30)

Ham, Fredric M. (*with* McDowall, Thomas M.) Robust learning in a partial least-squares neural network. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2903–2914. (*see* **98i:00031**) 93E35

Ham, Kie H. (*with* Mullen, Gary L.) Distribution of irreducible polynomials of small degrees over finite fields. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 337–341. (S. D. Cohen) **98c:11131** 11T06

Ham, Yoon Mee An existence of solutions for an infinite diffusion constant. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 631–638. (Vladimir Grebenev) **98h:35240** 35R35 (35K57, 35R10)

— The limiting problem in a double free boundary problem. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 131–137, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35R35 (35K10, 35R10)

— A globality of a Hopf bifurcation in a free boundary problem. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 395–405. (Vladimir Grebenev) **98f:35161** 35R35 (35B32, 35K99, 35R10, 58F14, 58F39)

Hama, Masaki (*with* Imahashi, T.) Periodic β-expansions for certain classes of Pisot numbers. (English summary) *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 103–116. (Christopher Smyth) **98m:11113** 11R06 (11A63)

Hamabata, Hiromitsu Damping of nonlinear hydromagnetic waves: exact three-dimensional solutions of the nonideal magnetohydrodynamic equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 219–222. 76W05

Hamacher, Horst W. (*with* Ehrgott, Matthias; Freitag, Jörg; Maffioli, Francesco) Heuristics for the K-cardinality tree and subgraph problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 87–114. (Sergeĭ L. Bezrukov) **98g:05076** 05C35

— (*with* Schöbel, Anita) A note on center problems with forbidden polyhedra. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 4, 165–169. (Summary) **98m:90078** 90B80 (90C20)

Hamachi, Kentaro Quantum smoothening of "classical anomaly". (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 257–267. (Markus J. Pflaum) **98f:81153** 81S10 (58F06, 81T50)

Hamad, H. Effect of viscosity on the shock wave profile in dusty gases. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 97–105. 76L05 (76T05)

Hamada, Hidetaka Proper holomorphic self mappings of some Reinhardt domains in $\mathbf{C}^n$. (English summary) *Geometric complex analysis (Hayama, 1995)*, 219–234, *World Sci. Publishing, River Edge, NJ*, 1996. (Mario Landucci) **98h:32047** 32H35 (32A07)

— A Schwarz lemma on complex ellipsoids. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 269–275. (Marek Jarnicki) **98j:32024** 32H15 (32D05)

— Holomorphic mappings into bounded complete Reinhardt domains of holomorphy which are Kobayashi isometries at one point. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 289–297. (Ian Graham) **98g:32037** 32H15 (32H02)

Hamada, Ken-ji (*with* Ishikawa, Hiroshi[2]) Non-linear structures in the non-critical NSR string. (English summary) *Comm. Math. Phys.* **176** (1996), *no.* 2, 401–420. (Josep Herrero) **98a:81173** 81T30 (17B81, 81R10, 81T40)

— Vertex operators for super Yang-Mills and multi D-branes in the Green-Schwarz superstring. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 511–524. (Summary) **98j:81275** 81T30

— Supersymmetric Wilson loops in a type-IIB matrix model. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, R7503–R7506. 81T30

Hamada, Michael S. (*with* Balakrishnan, Narayanaswamy) Analyzing unreplicated factorial experiments: a review with some new proposals. (English summary) With comments by Claudio Benski, Perry D. Haaland, Russell V. Lenth and a rejoinder by the authors. *Statist. Sinica* **8** (1998), *no.* 1, 1–41. 62K15

Hamada, Mohamed (*with* Ida, Tetsuo) Deterministic and non-deterministic lazy conditional narrowing and their implementations. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 656–663. (Summary) **98m:68137** 68Q42

Hamada, Noboru (*with* Watamori, Yoko) The nonexistence of [71, 5, 46; 3]-codes. (English summary) *J. Statist. Plann. Inference* **52** (1996), *no.* 3, 379–394. (Damaraju Raghavarao) **98a:94042** 94B25 (05B25)

— (*with* Helleseth, Tor) The uniqueness of [87, 5, 57; 3]-codes and the nonexistence of [258, 6, 171; 3]-codes. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 105–127. (Vera Pless) **98b:05023** 05B25 (62K15)

— (*with* Helleseth, Tor) A characterization of some $\{3v_2 + v_3, 3v_1 + v_2; 3, 3\}$-minihypers and some [15, 4, 9; 3]-codes with $B_2 = 0$. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 129–146. (Vera Pless) **98b:05024** 05B25 (62K15)

— (*with* Maekawa, Tomoko) A characterization of some $\{3v_1 + v_3, 3v_0 + v_2; 3, 3\}$-minihypers and its applications to error-correcting codes. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 147–169. (Vera Pless) **98b:05025** 05B25 (62K15)

— (*with* Helleseth, Tor) A characterization of $\{3v_1 + v_4, 3v_0 + v_3; 4, 3\}$-minihypers and projective ternary [78, 5, 51] codes. (English summary) *Math. Japon.* **43** (1996), *no.* 2, 253–266. (Raymond Hill) **98c:94021** 94B05 (51E22)

— A necessary and sufficient condition for the existence of some ternary $[n, k, d]$ codes meeting the Griesmer bound. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 1, 41–56. (Raymond Hill) **98e:94031** 94B05

Hamada, Takeshi (*with* Hirayama, Minoru; Zhang, Hui-Min) Induced gauge structure of quantum mechanics on S^D. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 4, 679–689. (Michael S. Marinov) **98m:81084** 81S99 (81T13)

Hamada, Tatsuyoshi On real hypersurfaces of a complex projective space with recurrent second fundamental tensor. *J. Ramanujan Math. Soc.* **11** (1996), *no.* 2, 103–107. (Makoto Kimura) **98b:53046** 53C40

Hamada, Toshihiko On the existence and nonexistence of global solutions of semilinear parabolic equations with slowly decaying initial data. *Tsukuba J. Math.* **21** (1997), *no.* 2, 505–514. (Song Mu Zheng) **98h:35123** 35K60 (35B60)

Hamaguchi, Kiyoharu (*with* Yajima, Shuzo) A subclass of first-order tense logics with equality and their decision problem for validity. (Japanese. Japanese summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 193–199. (*see* **98a:68008**) 03B45 (03B25)

Hamahata, Yoshinori Modular 3-folds obtained from quaternion unitary groups of degree 2. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 385–401. (Rolf Berndt) **98k:11057** 11F55 (14G35, 32N10)

Hamala, Milan (*with* Halická, M.) Duality of transformation functions in the interior point methods. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 229–245. (Shu Zhong Zhang) **98e:90158** 90C30 (49N15)

Hämäläinen, Heikki O. (*with* Östergård, Patric R. J.) A new table of binary/ternary mixed covering codes. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 2, 151–178. (Wende Chen) **98c:94031** 94B60

— (*with* Bluskov, Iliya) New upper bounds on the minimum size of covering designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 21–41. (Barbu C. Kestenband) **98k:05016** 05B05

Hämäläinen, J. (*with* Saranen, J.) A collocation method for the single layer heat equation of the first kind. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 88–92, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65M70

Hämäläinen, R. P. (*with* Raivio, T.; Ehtamo, H.) Aircraft trajectory optimization using nonlinear programming. (English summary) *System modelling and optimization (Prague, 1995)*, 435–441, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 49N55 (49M37)

Hamam, Yskander (*with* Al-Ani, Tarik) Parameters identification of a time-varying stochastic dynamic systems using Viterbi algorithm. (English summary) *System modelling and optimization (Prague, 1995)*, 567–573, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93E03 (93E12)

— (*with* Çela, A.; Nielsen, J. R.; Christensen, L. T.) Nonlinear approach to the control of multimachine power systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4301–4308. (*see* **98i:00032**) 93C95 (93B12)

Hamamoto, Shinji Massless limits of massive tensor fields. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 3, 639–651. (Ion V. Vancea) **98e:83052** 83C45

— Gauge theory of massive tensor field. II. Covariant expressions. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 1, 141–152. (Summary) **98b:81142** 81T13

— Massless limits of massive tensor fields. II. Infrared regularization of the Fierz-Pauli model. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 2, 327–338. (Ion V. Vancea) **98e:83053** 83C45

Hamana, Yuji The fluctuation result for the multiple point range of two-dimensional recurrent random walks. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 598–639. (Jean Bertoin) **98f:60136** 60J15 (60F05)

Hamanaka, Hiroaki Homotopy-commutativity in rotation groups. *J. Math. Kyoto Univ.* **36** (1996), *no.* 3, 519–537. (Carles Casacuberta) **98g:55011** 55P45 (55S10)

— Homology ring mod 2 of free loop groups of exceptional Lie groups. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 669–686. (N. J. Kuhn) **98f:57061** 57T10 (22E67, 55P35)

— Adjoint action on homology mod 2 of E_8 on its loop space. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 779–787. (N. J. Kuhn) **98f:57062** 57T10 (22E67, 55P35)

— (*with* Hara, Shin-ichiro; Kono, Akira[1]) Adjoint actions on the modulo 5 homology groups of E_8 and ΩE_8. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 169–176. (Hideaki Ōshima) **98e:57053** 57T10 (55S05, 57T25)

— (*with* Hara, Shin-ichiro) The mod 3 homology of the space of loops on the exceptional Lie groups and the adjoint action. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 441–453. (Donald M. Davis) **98m:57047** 57T10 (55P35)

— Involution and anti involution on Hopf spaces. *J. Math. Soc. Japan* **49** (1997), *no.* 1, 69–80. (V. P. Snaith) **98b:55011** 55P45 (55P91)

Hamann, Bernd (*with* Farin, Gerald) Current trends in geometric modeling and selected computational applications. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 1–15. (Summary) **98f:65023** 65D17 (65Y25)

— (*with* Tsai, Po-Yu) Decomposing trimmed surfaces using the Voronoĭ diagram and a scan line algorithm. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 327–344. (*see* **98g:00021**) 65N06 (65N30)

Hamann, Günther *see* **Šolle, Zdenko**

Hamano, Masahiro (*with* Okada, Mitsuhiro) A relationship among Gentzen's proof-reduction, Kirby-Paris' hydra game and Buchholz's hydra game. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 1, 103–120. (G. E. Mints) **98d:03058** 03F05 (03F15, 03F30)

— (*with* Okada, Mitsuhiro) A hierarchy of the fragments of the system of inductive definition (preliminary report). Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 169–181. (*see* **98f:03001**) 03F15 (03F35)

Hamano, Takafumi (*with* Takagi, Naofumi; Yajima, Shuzo; Preparata, Franco P.) $O(n)$-depth modular exponentiation circuit algorithm. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 6, 701–704. (Summary) **98e:94017** 94A60 (68M07, 68Q25)

Hamatake, Akiko (*with* Suzuki, Takashi[1]) On the family of singular solutions to certain nonlinear elliptic boundary value problems. (Japanese) Structure of functional equations

and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 138–146. (*see* **98h:00040**) 35J65

Hamatto, Darwish M. (*with* Choudhury, S. Roy) Nonstandard finite difference schemes for nonlinear partial differential equations. (English summary) *J. Egyptian Math. Soc.* **3** (1995), 49–63. (M. S. Rangachari) **98c:65143** 65M06

Hamba, Fujihiro (*with* Blaisdell, Gregory A.) Towards modeling inhomogeneous compressible turbulence using a two-scale statistical theory. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2749–2768. (Summary) **98g:76040** 76Fxx (76M35)

Hamber, Herbert W. (*with* Williams, Ruth M.) Gauge invariance in simplicial gravity. (English summary) *Nuclear Phys. B* **487** (1997), *no.* 1-2, 345–408. (Annalisa Marzuoli) **98f:83030** 83C27 (83C45)

Hambleton, Ian (*with* Teichner, Peter) A non-extended Hermitian form over $\mathbf{Z}[\mathbf{Z}]$. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 435–442. (Terry Lawson) **98i:57049** 57R19 (11E39, 57N13, 57R67)

Hambleton, Ronald K. *see* **Handbook: Modern item response theory**, **98h:62155**

Hambli, Noureddine More on four-dimensional extremal black holes. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 5129–5134. (Edward Teo) **98f:83068** 83C57 (81T30, 83E30)

— (*with* Sharp, R. T.) On character generators. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 415–419, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Timo Neuvonen) **98k:22083** 22E70 (17B10, 81R05)

— Remarks on Dirichlet branes at angles. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2369–2377. (Summary) **98g:81164** 81T30

Hamblin, C. L. (*with* Staines, P. J.) An extraordinarily simple theory of the syllogism. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 81. 03A05

Hambly, B. M. (*with* D'Souza, J. C.) On the survival probability of a branching process in a random environment. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 38–55. (Dean H. Fearn) **98d:60162** 60J80

— (*with* Barlow, Martin T.) Transition density estimates for Brownian motion on scale irregular Sierpinski gaskets. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 5, 531–557. (Zoran Vondraček) **98k:60137** 60J65

— Brownian motion on a random recursive Sierpinski gasket. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1059–1102. (Zoran Vondraček) **98i:60072** 60J60 (60J25, 60J65)

Hambrusch, Susanne E. (*with* Tu, Hung-Yi) Edge weight reduction problems in directed acyclic graphs. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 66–93. (Summary) **98a:68147** 68R10 (05C20, 05C85, 68Q25)

Hamburg, Peter (*with* Călugăreanu, Grigore) ★ Exercises in basic ring theory. (English summary) Kluwer Texts in the Mathematical Sciences, 20. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xiv*+198 *pp. ISBN* 0-7923-4918-0 (From the preface) **98m:13001** 13–01 (00A07)

Hamburger, Christoph Partial regularity for minimizers of variational integrals with discontinuous integrands. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **13** (1996), *no.* 3, 255–282. (Elvira Mascolo) **98f:49039** 49N60 (49J10)

— A new partial regularity proof for solutions of nonlinear elliptic systems. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 11–31. (Dao Qing Dai) **98m:35055** 35J60 (35D10)

Hamburger, Peter (*with* Chilakamarri, Kiran B.; Pippert, Raymond E.) Venn diagrams and planar graphs. (English summary) *Geom. Dedicata* **62** (1996), *no.* 1, 73–91. (Aleksandar Jurišić) **98h:05064** 05C10

— (*with* Erdös, Paul[1]; Pippert, Raymond E.; Weakley, William D.) Hypercube subgraphs with minimal detours. (English summary) *J. Graph Theory* **23** (1996), *no.* 2, 119–128. (Summary) **98g:05052** 05C12 (05C35)

Hamdache, Kamel (*with* Frenod, E.) Homogenisation of transport kinetic equations with oscillating potentials. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1247–1275. (Carlo Cercignani) **98b:82068** 82C40 (35B27, 35Q99, 45K05, 76P05)

— (*with* Sanchez-Palencia, Évariste) Homogénéisation d'un problème modèle en théorie des coques membranaires. (English and French summaries) [Homogenization of a model problem in the theory of thin membrane shells] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 683–688. (Dan Poliševski) **98k:73049** 73K15 (35B27, 35J99, 73B27, 73D30)

Hamdan, D. (*with* Courbage, Maurice) Decay of correlations and mixing properties in a dynamical system with zero K-S entropy. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 87–103. (Nathaniel F. G. Martin) **98k:28022** 28D05 (28D20, 47A35, 60G10)

Hamdan, M. H. Natural coordinate system approach to coupled n-phase fluid flow in curved domains. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 297–304. (Summary) **98c:76111** 76T05

— (*with* Ford, R. A.; Abu Rabia, R.) Numerical simulation of gas-particulate flow through curvilinear porous channels. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 267–284. 76S05 (76M20, 76T05)

— A note on computational uncertainty. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 285–291. 65G99 (65Y99)

Hamdaoui, Moncef (*with* Ramanathan, Parameswaran) Evaluating dynamic failure probability for streams with (m,k)-firm deadlines. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1325–1337. 68M20

Hamdi, Abdel (*with* Mahey, P.; Dussault, J. P.) A new decomposition method in nonconvex programming via a separable augmented Lagrangian. (English summary) *Recent advances in optimization (Trier, 1996)*, 90–104, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:90121** 90C26

Hamdy, H. I. Performance of fixed width confidence intervals under type II errors: the exponential case. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 259–269. (Summary) **98m:62080** 62F25

Hamel, A. M. Pfaffians and determinants for Schur Q-functions. (English summary) *J. Combin. Theory Ser. A* **75** (1996), *no.* 2, 328–340. (Bernard Leclerc) **98c:05161** 05E05 (05E10, 15A15)

— Determinantal forms for symplectic and orthogonal Schur functions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 263–282. (Hiro-Fumi Yamada) **98e:05107** 05E10 (20G05)

— (*with* Jarvis, P. D.; Yung, C. M.) Symmetric functions, tableaux decompositions and the fermion-boson correspondence. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 149–159. (Summary) **98m:05194** 05E05 (05E10, 17B10)

— (*with* Steel, Michael A.) The length of a leaf coloration on a random binary tree. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 359–372. (J. W. Moon) **98f:05043** 05C05 (05A15)

Hamel, Andreas Suboptimal solutions of control problems for distributed parameter systems. (English summary) *Recent advances in optimization (Trier, 1996)*, 105–118, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Tsvetomir Tsachev) **98e:49011** 49J20 (49M05)

Hamel, François Reaction-diffusion problems in cylinders with no invariance by translation. I. Small perturbations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 4, 457–498. (Alexander L. Gladkov) **98i:35093** 35K57 (35B20)

— Reaction-diffusion problems in cylinders with no invariance by translation. II. Monotone perturbations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 555–596. (Alexander L. Gladkov) **98i:35094** 35K57 (35B20)

van Hamel, Joost Real algebraic cycles on complex projective varieties. *Math. Z.* **225** (1997), *no.* 2, 177–198. (Frédéric Mangolte) **98i:14012** 14C25 (14C22, 14P25)

Hamenstädt, Ursula Harmonic measures for compact negatively curved manifolds. *Acta Math.* **178** (1997), *no.* 1, 39–107. (Edoh Amiran) **98h:58147** 58F18 (58G32, 60J65)

— Cocycles, Hausdorff measures and cross ratios. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1061–1081. (Boris Hasselblatt) **98h:58141** 58F17 (58F11, 58F15)

Hamers, Herbert Generalized sequencing games. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 97–108. (Summary) **98k:90152** 90D12 (90B35)

— (*with* Slikker, Marco) The PEGS-rule for probabilistic sequencing situations. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 109–119. (Summary) **98h:90040** 90B35

— (*with* Suijs, Jeroen; Tijs, Stef) On consistency of reward allocation rules in sequencing situations. (English summary) *Ten years LNMB*, 223–232, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90D12 (90D46)

— (*with* Curiel, Imma; Tijs, Stef; Potters, Jos A. M.) Restricted component additive games. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 213–220. (Summary) **98c:90045** 90B35 (90D12, 90D46)

Hamhalter, Jan The Nikodým boundedness theorem. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 179–181. (Summary) **98e:46083** 46L50 (46L10, 81P10)

abdel-Hamid, A-Rehim A-Rehim *see* **Abdel-Hamid, A-Rehim A-Rehim**

abdel-Hamid, B. A. *see* **Abdel-Hamid, B. A.**

Hamid, Issam A. (*with* Khendek, Ferhat) A dynamic extension for the specifications of distributed systems. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1425–1440. (Summary) **98d:68140** 68Q60 (68Q10)

el Hamidi, A. *see* **El Hamidi, A.**

Hamidoune, Yahya Ould (*with* Lladó, A. S.; Serra, Oriol) Small cutsets in quasiminimal Cayley graphs. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 131–142. (T. T. Raghunathan) **98h:05084** 05C20 (05C25)

— (*with* Las Vergnas, Michel) Directed switching games. II. The Arborescence Game. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 395–402. (Summary) **98a:05145** 05C99

— Subsets with small sums in abelian groups. I. The Vosper property. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 541–556. (Miklós Bóna) **98d:05144** 05D05 (20K99)

— Adding distinct congruence classes. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 81–87. (Summary) **98j:20025** 20D60

Hamilton, D. H. Rectifiable Julia curves. *J. London Math. Soc.* (2) **54** (1996), *no.* 3, 530–540. (I. N. Baker (Zbl 877.30014)) **98j:30022** 30D05 (30D30)

Hamilton, G. M. (*with* Ramsay, Colin; Roberts, Ian T.; Rogers, Douglas G.) Uniform perfect systems of sets of iterated differences of size 4. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 133–150. (Siu Lun Ma) **98e:05022** 05B30 (05B10)

— (*with* Hilton, A. J. W.; Hind, H. R. F.) Graphs of order at most 10 which are critical with respect to the total chromatic number. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 97–113. (Mark C. Ginn) **98d:05056** 05C15

Hamilton, James[1] ★ Aharonov-Bohm and other cyclic phenomena. (English summary) Springer Tracts in Modern Physics, 139. *Springer-Verlag, Berlin*, 1997. x+183 *pp. ISBN* 3-540-62647-6 (Piotr Kosiński) **98k:81147** 81S99 (81P99)

Hamilton, Jonathan H. (*with* Slutsky, Steven M.) Decentralizing taxation and public expenditure within a federation. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 45, 199–218. 90A70

Hamilton, Kenneth G. (*with* Dyadkin, Iosif G.) A study of 64-bit multipliers for Lehmer pseudorandom number generators. (English summary) *Comput. Phys. Comm.* **103** (1997), *no.* 2-3, 103–130. (Summary) **98f:65013** 65C10

Hamilton, Nicholas (*with* Gray, Brenton D.; O'Keefe, Christine M.) On the size of a smallest defining set of PG$(2,q)$. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 91–94. (Summary) **98d:05036** 05B25

Hamilton, Richard S. (*with* Grayson, Matthew) The formation of singularities in the harmonic map heat flow. *Comm. Anal. Geom.* **4** (1996), *no.* 4, 525–546. (Joseph F. Grotowski) **98g:58034** 58E20 (35K55, 58G11)

— (*with* Daskalopoulos, Panagiota) The free boundary for the n-dimensional porous medium equation. *Internat. Math. Res. Notices* **1997**, *no.* 17, 817–831. (Elena Comparini) **98m:35227** 35R35 (35K55, 76S05)

— (*with* Chow, Bennett) Constrained and linear Harnack inequalities for parabolic equations. *Invent. Math.* **129** (1997), *no.* 2, 213–238. (John Urbas) **98i:53051** 53C21 (35B45, 35K55, 58G11, 58G30)

Hamilton, Scott A. (*with* Truong, Young K.) Local linear estimation in partly linear models. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 1–19. (Alexander G. Kukush) **98g:62064** 62G05 (62G20)

Hamilton-Jester, Crista Lee (*with* Li, Chi-Kwong) Extreme vectors of doubly nonnegative matrices. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1371–1383.

(Raphael Loewy) **98h:15040** 15A48

Hamina, M. On the numerical solution of a non-linear heat conduction problem. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 93–98, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 65M60

Hamity, V. (*with* Barraco, D.; Dominguez, Eduardo; Guibert, R.) Conservation laws and symmetry properties of a class of higher order theories of gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 629–642. (Summary) **98m:83060** 83D05 (83C40)

Hamkins, Joel David Canonical seeds and Prikry trees. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 373–396. (Douglas R. Burke) **98i:03070** 03E40 (03E05, 03E55)

Hamlett, T. R. (*with* Janković, Dragan) On weaker forms of paracompactness, countable compactness, and Lindelöfness. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 41–49, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54042** 54D20 (54D10)

— (*with* Rose, David Alon; Janković, Dragan) Paracompactness with respect to an ideal. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 433–442. (Summary) **98d:54043** 54D20

— (*with* Janković, Dragan; Konstandilaki, Ch.) On some properties weaker than S-closed. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 297–304. (Summary) **98h:54032** 54D20 (54G05)

Hamm, Andreas Uncertain dynamical systems defined by pseudomeasures. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3081–3109. (Ofer Zeitouni) **98d:58103** 58F11

Hamm, Helmut A. (*with* Mihalache, Nicolae) Deformation retracts of Stein spaces. *Math. Ann.* **308** (1997), *no.* 2, 333–345. (Vasily A. Chernecky) **98k:32020** 32E10 (14P20, 32B20)

al-Hammadi, A. S. A. *see* **Al-Hammadi, A. S. A.**

Hammar, Mikael (*with* Nilsson, Bengt J.) Concerning the time bounds of existing shortest watchman route algorithms. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 210–221, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **98k:68166** 68U05

Hammarling, S. (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Henry, Greg; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04

Hammas, A. M. Symmetric generating set of the groups A_{2n+1} and S_{2n+1} using S_n and an element of order two. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 139–144. (Summary) **98j:20035** 20F05 (20B30)

van Hamme, L. Some conjectures concerning partial sums of generalized hypergeometric series. *p-adic functional analysis (Nijmegen, 1996)*, 223–236, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Anne Schilling) **98k:33011** 33C20 (11S80)

Hammel, Mark (*with* Prusinkiewicz, Przemyslaw; Hanan, Jim; Měch, Radomir) Visual models of plant development. (English summary) *Handbook of formal languages, Vol. 3*, 535–597, *Springer, Berlin*, 1997. (Summary) **98i:92012** 92C15 (68Q45, 68Q50)

Hammer, Peter L. (*with* Fishburn, Peter C.) Bipartite dimensions and bipartite degrees of graphs. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 127–148. (R. Balakrishnan) **98i:05129** 05C70

— (*with* Kelmans, Alexander K.) On universal threshold graphs [MR 95h:05131]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 375–392, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C75

— (*with* Crama, Yves; Ekin, Oya) Variable and term removal from Boolean formulae. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 3, 217–230. (Bai Ying Shen) **98h:68120** 68Q35 (03B05, 03D15)

— (*with* Ekin, Oya; Peled, Uri N.) Horn functions and submodular Boolean functions. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 257–270. (N. Prabhakara Rao) **98e:06006** 06E30 (03D15, 03G05, 68Q99, 94C10)

Hammer, S. T. (*with* McCoy, Robert A.) Spaces of densely continuous forms. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 247–266. (Summary) **98h:54021** 54C35 (54C60)

Hammer, V. B. (*with* Bendsøe, Martin Philip; Lipton, Robert P.; Pedersen, P. Terndrup) Minimum compliance design of laminated plates. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 45–56, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98h:73063** 73K40 (73K10, 73K20)

Hämmerle, J. (*with* Uhl, A.) Fractal image compression on MIMD architectures. I. Basic algorithms. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 3-4, 187–204. 68U10 (65Y05)

Hammerton, P. W. (*with* Kerschen, E. J.) Boundary-layer receptivity for a parabolic leading edge. II. The small-Strouhal-number limit. (English summary) *J. Fluid Mech.* **353** (1997), 205–220. (Summary) **98k:76117** 76N20 (76D10)

Hammett, G. W. (*with* Snyder, P. B.; Dorland, W.) Landau fluid models of collisionless magnetohydrodynamics. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3974–3985. (Summary) **98j:82066** 82D10 (76W05, 85A30)

Hammett, Kelly D. (*with* Reigelsperger, William C.; Banda, Siva S.) Robust control law design for lateral-directional modes of an F-16/MATV using μ-synthesis and dynamic inversion. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 8, 777–795. 93C95 (93B36, 93B51)

Hamming, Richard Wesley *see* **Obituary: Hamming, Richard Wesley**

Hammond, D. A. (*with* Redekopp, L. G.) Local and global instability properties of separation bubbles. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 145–164. 76E99 (76D15)

Hammond, J. K. (*with* Moshrefi-Torbati, M.) Physical and geometrical interpretation of fractional operators. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1077–1086. 26A33 (00A79)

Hammond, Kevin (*with* Trinder, P. W.; Loidl, H.-W.; Peyton Jones, S. L.) Algorithm + strategy = parallelism. (English summary) *J. Funct. Programming* **8** (1998), *no.* 1, 23–60. 68Q10 (68N05)

Hammond, Richard T. Torsion power. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 727–731. (Summary) **98b:83077** 83D05

Hammou, A. B. (*with* Lagraa, M.) The BRST operator of quantum symmetries: the quantum analogs of Donaldson invariants. *J. Math. Phys.* **38** (1997), *no.* 9, 4462–4473. (Tomasz Brzeziński) **98k:58016** 58B30 (17B37, 57R57, 58D29, 81R50)

Hammoudi, Lakhdar ★ Nil-algèbres non-nilpotentes et groupes périodiques infinis. (French. French summary) [Nonnilpotent nil algebras and infinite periodic groups] Dissertation, Université de Haute-Alsace, Mulhouse, 1996. Prépublication de l'Institut de Recherche Mathématique Avancée [Preprublication of the Institute of Advanced Mathematical Research], 1996/8. *Université Louis Pasteur, Département de Mathématique, Institut de Recherche Mathématique Avancée, Strasbourg*, 1996. ii+58 *pp.* (G. Krause) **98j:16010** 16N40 (16S15, 17B99, 20E26, 20F05, 20F45)

Hammouri, H. (*with* Busawon, K.; Farza, M.) A simple observer for a class of nonlinear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 27–31. 93B07 (93C10)

— (*with* Bounit, H.) Stabilization of infinite-dimensional semilinear systems with dissipative drift. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 225–242. (Hong Xing Zhou) **98k:93093** 93D15 (47N70, 93C25)

— (*with* Farza, M.; Busawon, K.) Simple nonlinear observers for on-line estimation of kinetic rates in bioreactors. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 301–318. 93C95 (93C15)

— (*with* Besançon, Gildas; Benamor, S.) State equivalence of discrete-time nonlinear control systems to state affine form up to input/output injection. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 1–10. (Summary) **98k:93021** 93B17 (93B07, 93C10)

Hamner, William M. *see* **Animal groups in three dimensions, 98m:92035**

Hamori, Shigeyuki (*with* Tokihisa, Akira) Testing for a unit root in the presence of a variance shift. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 245–253. 62M10 (62P20)

Hampel, Frank On the philosophical foundations of statistics: bridges to Huber's work, and recent results. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 185–196, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98m:62011** 62A99 (62F35)

Hamurkaroğlu, C. (*with* Özmen, İ.) A new goodness of fit test statistic used in Poisson regression analysis. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 207–222. 62G10 (62J12)

Hamza, E. A. (*with* Eltayeb, I. A.) Compositional convection in the presence of rotation. (English summary) *J. Fluid Mech.* **354** (1998), 277–299. 76R99 (76U05, 80A22)

Hamza, Kais (*with* Grunwald, Gary K.; Hyndman, Rob J.) Some properties and generalizations of non-negative Bayesian time series models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 615–626. (Bert M. Steece) **98g:62164** 62M10

Han, Bae-Kewi (*with* Yang, Gou-Sheng) A note on Hua's inequality for complex numbers. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 1, 99–102. (Editors) **98b:30002** 30A10

Han, Bin[2] On dual wavelet tight frames. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 4, 380–413. (I. Ya. Novikov) **98h:42031** 42C15

Han, Bo Chang (*with* Fei, He Liang; Chen, Di[1]) Shrinkage estimation for the shape parameter of the Weibull distribution. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 27–36. 62N05

— (*with* Fei, He Liang) Shrinkage estimation for the scale parameter of a Weibull distribution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 283–290. 62F10

Han, Botang The reconstruction of q-trees. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 1, 1–8. (Summary) **98b:05068** 05C60 (05C05)

Han, Chi-Geun (*with* Park, Jong Yeoul) Solving the survivable network design problem with search space smoothing. (English summary) *Network optimization (Gainesville, FL, 1996)*, 397–406, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

Han, Chien-Pai (*with* Chiou, Paul) Conditional interval estimation of the exponential scale parameter following rejection of a preliminary test. (English summary) *J. Statist. Res.* **28** (1994), *no.* 1-2, 65–72. (Summary) **98b:62051** 62F25

— (*with* Lakshminarayan, Choudur K.) On estimating the mean in a bivariate normal distribution with equal or unequal variances. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 2, 155–170. 62H12

Han, Chong-Kyu (*with* Yoo, Jae-Nyun) Symmetry of isometric embeddings of Riemannian manifolds and local scalar invariants. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 125–139. (Eberhard Teufel) **98d:53019** 53A55 (58A20, 58G35)

Han, Chong Zhao (*with* Wang, Xiao; Wan, Bai Wu) A modified bidiagonalization least squares algorithm for identification of nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 629–637. 93E12 (93E24)

— (*with* Cao, Jianfu) Stability of nonlinear closed-loop control system based on generalized frequency response functions. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 794–802. 93D15 (93D05)

— (*with* Wang, Xiao; Wan, Bai Wu) New orthogonalized least squares algorithms for NARMAX model identification. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 9, 11–17. 93E12 (65F30)

Han, Chunming (*with* Willett, Peter; Chen, Biao; Abraham, Douglas A.) A detection optimal min-max test for transient signals. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 866–869. 94A13

Han, Daesoo (*with* Kim, Young Suh) Lorentz boosts as squeeze transformations and coherence problems. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 458–461, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81V05 (81R05)

Han, Dan Fu A new method for the simultaneous determination of polynomial zeros. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 241–244, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65H05

— (*with* Wang, Xing Hua) Variable transformation on numerical integrals. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1683–1686. 65D30

— (*with* Wang, Xing Hua) A general method to generate parallel iterations for finding all zeros of polynomial simultaneously. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1849–1852. 65H05 (65Y05)

— (*with* Wang, Xing Hua) On fixed points and Julia sets for iterations of two families. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 219–224. (Fuyao Ren) **98j:30024** 30D05 (58F23)

Han, Deguang Wandering vectors for irrational rotation unitary systems. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 309–320. (Xing De Dai) **98k:47089** 47D25 (46L55)

Han, Dong Subcritical asymptotic behavior in the modified Lushnikov process of polymerization. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 412–420. (Summary) **98a:82103** 82D60

— (*with* Han, Lixing) Convergence analysis of the self-dual optimally conditioned SSVM method of Oren-Spedicato. (English summary) *Optimization* **37** (1996), *no.* 2, 153–169. (Summary) **98k:90108** 90C30

Han, Dong Hwan (*with* Choi, Doo Il) $G/M/1$ queues with delayed vacations. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 1–11. 60K25

Han, Gil-Jun An unfolding of degenerate equilibria with linear part $x' = y$, $y' = 0$. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 61–69. (Patrick Bonckaert) **98j:34063** 34C23 (58F14)

Han, Guo-Niu Une démonstration "vérificative" d'un résultat de Foata-Zeilberger sur les relations bipartitionnaires. (English and French summaries) [A "verifying" proof of a result of Foata and Zeilberger on bipartite relations] *J. Comput. Appl. Math.* **68** (1996), *no.* 1-2, 159–162. (Jozef Širáň) **98b:05006** 05A15 (05C20, 33D15)

— (*with* Foata, Dominique C.) Calcul basique des permutations signées. I. Longueur et nombre d'inversions. (English and French summaries) [Basic calculus of signed permutations. I. Length and number of inversions] *Adv. in Appl. Math.* **18** (1997), *no.* 4, 489–509. (Jozef Širáň) **98c:05001a** 05A05 (33D10)

— (*with* Foata, Dominique C.) Calcul basique des permutations signées. II. Analogues finis des fonctions de Bessel. (English and French summaries) [Basic calculus of signed permutations. II. Finite analogues of Bessel functions] The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 9, *approx.* 25 *pp.* (*electronic*). (Jozef Širáň) **98c:05001b** 05A05 (33D10)

Han, Hou De (*with* Bao, Wei Zhu) The artificial boundary conditions for incompressible viscous flow in channels. (English summary) *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 47–57, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 76M25 (35Q30, 76D05)

— (*with* Bao, Wei Zhu; Wang, Tao) Numerical simulation for the problem of infinite elastic foundation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 369–385. (Summary) **98e:73131** 73V05 (73C02)

— (*with* Bao, Wei Zhu) Local artificial boundary conditions for the incompressible viscous flow in a slip channel. (English summary) *J. Comput. Math.* **15** (1997), *no.* 4, 335–344. (Summary) **98h:76101** 76M25 (76D05)

— (*with* Bao, Wei Zhu) The artificial boundary conditions for incompressible materials on an unbounded domain. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 347–363. (Summary) **98f:73037** 73V05 (65N30, 73C02)

— (*with* Wu, Xiao Nan) A finite-element method for Laplace- and Helmholtz-type boundary value problems with singularities. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1037–1050. (Summary) **98a:65167** 65N30

Han, Hyo Keun (*with* Park, Jong Yeoul) Convergence theorem of functional integrodifferential equations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 185–217. (Mary E. Parrott) **98g:45009** 45J05 (34K30)

— (*with* Park, Jong Yeoul; Jeong, Jae Ug) Asymptotic behavior of solutions of fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 361–364. (Osmo Kaleva) **98j:34125** 34G20 (04A72, 34A12, 45G10)

— (*with* Park, Jong Yeoul) Controllability of nonlinear functional integro-differential systems in Banach space. *Nihonkai Math. J.* **8** (1997), *no.* 1, 47–53. (Sergei A. Avdonin) **98f:93002** 93B05 (34K35, 93C25)

— (*with* Park, Jong Yeoul; Lee, Mi Jin) Null controllability of the integrodifferential equations in Banach space. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 11–21. (*see* **98g:00027**) 93B05 (34K35, 93C25)

Han, J. *see* **Han, Ji Ye**

Han, Jeong-Hye (*with* Cho, Joong-Jae; Jo, See-Heyon) Bootstrapping unified process capability index. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 543–554. 62G09 (62N10)

Han, Ji Ye (*with* Sun, De Feng) Superlinear convergence of approximate Newton methods for LC^1 optimization problems without strict complementarity. (English summary) *Recent advances in nonsmooth optimization*, 141–158, *World Sci. Publishing, River Edge, NJ*, 1995. (Phan Quốc Khánh) **98d:90111** 90C30 (65K05)

— (*with* Sun, De Feng) On a conjecture in Moreau-Yosida approximation of a nonsmooth convex function. *Chinese Sci. Bull.* **42** (1997), *no.* 17, 1423–1426. (Alberto Seeger) **98j:49027** 49J52

— (*with* Liu, Guanghui) Global convergence analysis of a new nonmonotone BFGS algorithm on convex objective functions. (English summary) *Comput. Optim. Appl.* **7** (1997), *no.* 3, 277–289. (Vincenţiu Dumitru) **98c:90092** 90C25

— (*with* Sun, De Feng) Newton and quasi-Newton methods for normal maps with polyhedral sets. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 659–676. (Stefan Scholtes) **98e:90194** 90C33 (65H10)

— (*with* Sun, De Feng) Moreau-Yosida approximation of nonsmooth convex functions. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 11, 1140–1142. 49J52 (90C30)

— (*with* Qi, Hou Duo) Exceptional family and existence theorems in linear complementarity problems. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 170–176. 90C33

— (*with* Du, Dong Lei; Chen, Bo) An improved heuristic for one-machine scheduling with delays constraints. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 680–686. (Summary) **98k:90044** 90B35 (68M20)

— (*with* Sun, De Feng) Newton and quasi-Newton methods for a class of nonsmooth equations and related problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 463–480. (Roxin Zhang) **98b:65052** 65H10 (49J52, 90C30)

— (*with* Liu, Guo Shan) Optimality conditions for nonconvex bilevel programming problems. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 183–192. (Stephan Dempe) **98c:90100** 90C26 (90C29, 90D65)

Han, Jie (*with* Zhou, Yu Cheng; Liu, Xiao Ping[2]) An analysis of the properties of strongly coupled symmetric composite singular systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 44–47. 93C05 (93B25)

Han, Jie Min (*with* Wang, Shu Zhong; Pan, Zhuang Yuan) A slack iteration method for solving strongly monotone operator equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 18–20. 47H17 (65J15)

Han, Jin Fang (*with* Yang, Wei Guo[1]) Convergence of the Cesàro means of nonhomogeneous Markov chains. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 57–62. 60J10 (60F05)

Han, Jincang (*with* Lü, Xin Zhong; Zhang, Zhong Fu) Kirkman schoolgirl problem with colouring of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 275–277, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98c:05001**) 05C15 (05B05)

Han, Jingqing (*with* Wang, Wei[9]; Huang, Yi[2]) A synthesis method for two-order uncertain systems: auto-stable region approach. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 152–159. (Valery I. Korobov) **98c:93076** 93D05 (93B51, 93C41)

Han, Juncheol Regular action in a ring with a finite number of orbits. *Comm. Algebra* **25** (1997), *no.* 7, 2227–2236. (James Osterburg) **98g:16031** 16U60 (16P10)

— Half-transitive group actions in a left Artinian ring. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 297–303. (William H. Gustafson) **98j:16022** 16W20 (16P20)

Han, K. *see* **Han, Keeun**

Han, K. W. *see* **Han, Kuang Wei**

Han, Keeun (*with* Sekharan, Chandra N.; Sridhar, Radhakrishnan) Unified all-pairs shortest path algorithms in the chordal hierarchy. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 1, 59–71. (Summary) **98d:05133** 05C85

Han, Kuang Wei (*with* Tseng, W. T.) The integration method for generating Lyapunov functions. *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 231–236, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 1997. (*see* **98b:00023**) 34A99 (34D99)

Han, Kyoung Ho (*with* Shin, Hyun Jong) Grassmann manifold bosonization of QCD in two dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3988–3996. (Kazuto Oshima) **98i:81234** 81T40 (81T10)

Han, Lixing (*with* Han, Dong) Convergence analysis of the self-dual optimally conditioned SSVM method of Oren-Spedicato. (English summary) *Optimization* **37** (1996), *no.* 2, 153–169. (Summary) **98k:90108** 90C30

Han, M. C. (*with* Chen, Ye-Hwa) Decentralized control design: uncertain systems with strong interconnections. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1363–1385. 93A14

Han, Mao An The uniqueness of a class of limit cycles bifurcating from a heteroclinic loop. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 246–252. (Xue Min Li) **98h:34054** 34C05 (34C23, 34C37)

— Bifurcation of limit cycles and the cusp of order n. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 64–75. (Robert Roussarie) **98i:34048** 34C05 (34C23, 34C25, 58F14, 58F21)

— Periodic perturbation of planar systems with a semistable limit cycle. *Chinese Sci. Bull.* **42** (1997), *no.* 4, 265–270. (Henryk Żołądek) **98f:34037** 34C05 (34C25, 34C29, 34C30)

— (*with* Wang, Cheng Guo) Two problems on the stability of generalized Liénard equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 273–278. (Summary) **98h:34093** 34D05 (34C15)

— (*with* Li, Liang Ying; Tang, Lin Wei) Stability criteria for a class of periodic linear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 1–4. (Shen Qi Zhao) **98g:34087** 34D20 (34A30)

Han, Ping (*with* Lou, Sen-yue) New exact solutions of the Kaup-Kupershmidt equation related to a nonlocal symmetry. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1249–1253. 35Q53 (35C05)

Han, Qiao Ming (*with* Sheng, Song Bai) Convergence of conic model algorithms for nonlinear least squares problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 77–86. 65F20 (90C20)

Han, Qing *see* **Han, Qing[2]**

Han, Qing[1] Deforming convex hypersurfaces by curvature functions. (English summary) *Analysis* **17** (1997), *no.* 2-3, 113–127. (John Urbas) **98j:53005** 53A07 (35K55)

Han, Qing[2] The Poincaré series of a class of diagonal forms. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 2, 124–127. (Xianke Zhang) **98h:11041** 11D88 (11A07, 11C08)

Han, Rongsheng (*with* Yang, Jinlong; Lan, Hui Bin; Wang, Ke Lin) Exact travelling kink-like wave solutions to some nonlinear equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 319–321. 35Q53

— (*with* Yang, Jinlong; Li, Tongzhong; Wang, Ke Lin) Solitary wave solutions of nonlinear equations. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 359–363. (Summary) **98m:35176** 35Q51

Han, Sang-Eon (*with* Sohn, Kyu-Hyun) On the localization of the locally nilpotent space[s] and conditions (T^*) and (T^{**}). *Honam Math. J.* **19** (1997), *no.* 1, 117–123. 55P60

— On the direct limit of the locally nilpotent direct system. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 139–144. 55P99

— On the space satisfying condition (T^{**}). (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 123–131. 55P60

Han, Seok-Hee (*with* Kim, Young-Hoon; Ha, In-Joong) Iterative identification of state-dependent disturbance torque for high-precision velocity control of servo motors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 724–729. 93B30

Han, Shao-cen (*with* Chao, Chong-Yun) On the classification and toughness of generalized permutation star-graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 431–452. (Samuel Stueckle) **98i:05134** 05C75 (05C40)

Han, Sheng Lian (*with* Jiang, Ping; Jiang, Shi Qin) Analytic solutions for compensated MIMO fuzzy systems. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 2, 218–223. 93C42 (04A72)

Han, Sheng-Rian (*with* Sekiguchi, Takashi[1]) Decision-making of person perception by the observed quantities: problem of person perception and personnel choice by the extended

fuzzy relation equation. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 857–869 (1996). 90C70 (04A72, 90A05)

Han, Sun-hyuk (*with* Oh, Jae-pil) Asymptotic behaviors of stochastic differential equations based on semimartingales with spatial parameters. *Kyushu J. Math.* **51** (1997), *no.* 1, 77–88. (Bohdan Maslowski) **98j:60080** 60H10

Han, Sunan (*with* Hong, Dawei; Leung, Joseph Y.-T.) Probabilistic analysis of a bin covering algorithm. (English summary) *Oper. Res. Lett.* **18** (1996), *no.* 4, 193–199. (Béla Vizvári) **98c:90109** 90C27 (90B35)

Han, Taisook (*with* Kim, Seong-Pyo) Fault-tolerant wormhole routing in mesh with overlapped solid fault regions. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 1937–1962. 68M10 (68M15)

Han, Te Sun (*with* Kato, Akiko; Nagaoka, Hiroshi) Huffman coding with an infinite alphabet. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 977–984. (Andrea Sgarro) **98c:94010** 94A29 (94A17, 94A24)

— (*with* Hoshi, Mamoru) Interval algorithm for random number generation. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 599–611. (Robert F. Tichy) **98e:65004** 65C10

— (*with* Ahlswede, Rudolf; Kobayashi, Kingo) Universal coding of integers and unbounded search trees. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 669–682. (Summary) **98b:94015** 94B05

— (*with* Verdú, Sergio) The role of the asymptotic equipartition property in noiseless source coding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 847–857. (Andrea Sgarro) **98g:94015** 94A29 (94A15)

Han, Ting Wu The undetermined coefficients method for computing conserved densities of the KdV equation. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **15** (1996), *no.* 4, 92–96. (Xian Guo Geng) **98d:35189** 35Q53 (35C99)

— Rational solitary wave solutions of some classical nonlinear evolution equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 436–439. 35Q53

Han, Wan Zhi (*with* Chen, Su Huan; Liang, Ping) A new method of sensitivity analysis of static responses for finite element systems. (English summary) *Finite Elem. Anal. Des.* **29** (1998), *no.* 3-4, 187–203. 73V05

Han, Wei Dong (*with* Guan, Xi-Wen) A qs-analogue of the supersymmetric oscillator. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1996), *no.* 2, 77–80. (Summary) **98a:81086** 81S05 (81R50)

Han, Weimin (*with* Huang, Hong Ci; Zhou, Jinshi) Extrapolation of numerical solutions for elliptic problems on corner domains. (English summary) *Appl. Math. Comput.* **83** (1997), *no.* 1, 53–67. (Luciano Biasini) **98f:65122** 65N99

— (*with* Cheng, Xiao Liang; Huang, Hong Ci) Finite element methods for Timoshenko beam, circular arch and Reissner-Mindlin plate problems. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 215–234. (Pekka Neittaanmäki) **98a:73053** 73V05 (65N30, 73K05, 73K10)

— (*with* Cheng, Xiao Liang; Huang, Hong Ci) Analysis of some mixed elements for the Stokes problem. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 19–35. (Summary) **98j:65076** 65N30 (76D07, 76M10)

— (*with* Huang, Hong Ci) Quantitative justification of linearization in nonlinear Hencky material problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 325–341. (Mircea Sofonea) **98f:73013** 73C50 (73G05, 73V25)

— (*with* Jensen, Søren S.; Reddy, B. Dayanand) Numerical approximations of problems in plasticity: error analysis and solution algorithms. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 191–204. (Summary) **98b:73045** 73V25 (73E50)

— (*with* Reddy, B. Dayanand; Schroeder, Gregory C.) Qualitative and numerical analysis of quasi-static problems in elastoplasticity. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 143–177. (Carsten Carstensen) **98a:73029** 73E99 (65N30, 73V05)

Han, Xiao You (*with* Zhang, Shan Jun) The initial-boundary value problem for the equation of a relativistic string in a curved space-time. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **12** (1995), *no.* 4, 46–52. (Enric Verdaguer) **98b:81161** 81T20 (35Q75, 81T30)

Han, Y.-S. *see* **Han, Yong Sheng[1]**

Han, Yenjo (*with* Hemaspaandra, Lane A.) Pseudorandom generators and the frequency of simplicity. (English summary) *J. Cryptology* **9** (1996), *no.* 4, 251–261. (Robert M. Baer) **98a:94021** 94A60 (65C10)

Han, Yijie (*with* Shen, Xiaojun) Conservative algorithms for parallel and sequential integer sorting. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 324–333, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98c:68081** 68Q22 (68P10, 68Q25)

— (*with* Pan, Victor Y.; Reif, John H.) Efficient parallel algorithms for computing all pair shortest paths in directed graphs. (English summary) *Algorithmica* **17** (1997), *no.* 4, 399–415. (Summary) **98g:68127** 68R10 (05C85, 68Q22)

Han, Yong In (*with* Kim, Taejeong) Randomized fusion rules can be optimal in distributed Neyman-Pearson detectors. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1281–1288. (Robert M. Gray) **98h:94013** 94A29 (94A13)

Han, Yong Qian (*with* Yuan, Guang Wei; Zhou, Yu Lin) Difference schemes with nonuniform meshes for fully nonlinear pseudoparabolic systems. (Chinese. English summary) *Math. Numer. Sin.* **18** (1996), *no.* 4, 426–434; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 1, 72–84. (Wei Zhong Dai) **98a:65115** 65M06 (65M55)

Han, Yong Sheng[1] (*with* Meyer, Yves) A characterization of Hilbert spaces and the vector-valued Littlewood-Paley theorem. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 2, 228–234. (Oscar Blasco) **98c:46070** 46E40 (42B20, 42B25, 46C15)

Han, You Fa Incompressible boundary incompressible surfaces of knot complements. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995,** *no.* 2, 21–23. (Ying Qing Wu) **98c:57006** 57M25

— Linear skein theory and Kauffman polynomials of links. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997,** *no.* 2, 13–16. 57M25

— Incompressible, pairwise incompressible surfaces in alternating knot complements. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 459–462. 57M25 (57M15, 57N10)

— The invariant $\theta_2(M_L)$ of 3-manifolds. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 4, 411–414. 57N10

Han, Yuliang A class of cubic system with one seventh order singularity. II. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 422–431. (Noel G. Lloyd) **98d:34053** 34C05

Han, Yunghsiang S. (*with* Hartmann, Carlos R. P.) The zero-guards algorithm for general minimum-distance decoding problems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1655–1658. 94B35

— (*with* Hartmann, Carlos R. P.; Mehrotra, Kishan G.) Decoding linear block codes using a priority-first search: performance analysis and suboptimal version. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1233–1246. (Summary) **98m:94044** 94B05 (94B35)

Han, Yunrui (*with* Zhang, Meirong) On the applications of Leray-Schauder continuation theorem to boundary value problems of semilinear differential equations. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 189–207. (Anna Capietto) **98i:34042** 34B15 (34B10, 47H15, 47N20)

Han, Zeng Jin (*with* Tang, Qian-Yu; Chen, Han-Fu) Convergence rates of perturbation-analysis–Robbins-Monro–single-run algorithms for single server queues. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1442–1447. (J. Teghem, Jr.) **98m:90063** 90B22 (60K25, 62L20)

— (*with* Guo, Shu Yan; Huang, Quan Sheng) Perturbation analysis of discrete event dynamical systems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 31–36. 58F30

Han, Zhen (*with* Shen, Long Jun) A family of difference schemes with four near-conserved quantities for the KdV equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 129–140. (Summary) **98m:65141** 65M06

Han, Zheng-Chao Remarks on the geometric behavior of harmonic maps between surfaces. (English summary) *Elliptic and parabolic methods in geometry* (*Minneapolis, MN*, 1994), 57–66, *A K Peters, Wellesley, MA*, 1996. (Yuan-Jen Chiang) **98a:58048** 58E20

Han, Zheng Zhi (*with* Tong, Song Lin[2]; Zhang, Zhong Jun) On design of H_∞ optimal controls for uncertain nonlinear systems. (English summary) *System modelling and optimization* (*Prague*, 1995), 107–114, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93B36 (93C10)

— (*with* Chen, Peng Nian; Zhang, Zhong Jun) Dynamic output feedback stabilization of uncertain systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 62–66, 74. 93D21

— (*with* Chen, Peng Nian; Zhang, Zhong Jun) Dynamic output feedback stabilization of affine nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 338–344. 93D15

— (*with* Chen, Guanrong) Dynamic right coprime factorization for nonlinear systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3113–3120. (*see* **98i:00031**) 93B25 (93B17)

Han, Zhi Gang (*with* Qin, Bin) Global linearization of nonlinear NARMAX models by ARMAX models. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 332–337. 62M10

— (*with* Qin, Bin; Yang, Yan Mei) Parameter estimation for a class of nonlinear systems with input perturbation. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 768–774. 93E99

— (*with* Wang, Ling; Tong, Jiaqiang) The analysis of variation properties for control law without model. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 3, 18–22. 93A30 (92C15)

Han, Zhi Qing An improvement on the Ahmad-Lazer-Paul theorem. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 512–518. (Summary) **98d:35075** 35J65

Han, Zuhong Local solvability of analytic pseudodifferential complexes in top degree. *Duke Math. J.* **87** (1997), *no.* 1, 1–28. (Jorge Hounie) **98c:35004** 35A07 (35N10, 35S05, 47G30, 58G15)

Hanada, Akira (*with* Araki, Yoshiaki; Takefuji, Yoshiyasu; Tsuchiya, Kazuhiro) Missionaries and cannibals problems. *Neural computing for optimization and combinatorics*, 161–176, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68179**) 05A99

Hanafy, I. M. *HC*-continuous functions. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 183–187. (Summary) **98j:54021** 54C10 (54A40)

— A class of strong forms of fuzzy complete continuity. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 349–353. (Summary) **98f:54008** 54A40 (04A72)

— δ-compactness in fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 277–284. 54A40 (04A72)

— (*with* Nasef, Arafa A.) Fuzzy super irresolute functions. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 319–326. 54A40

Hanagal, David D. UMPU tests for testing symmetry and stress-passing in some bivariate exponential models. (English summary) *Statistics* **28** (1996), *no.* 3, 227–239. (Summary) **98b:62027** 62F03

— Tests for bivariate exponentiality against BHNBUE alternatives. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1239–1252. (Summary) **98g:62036** 62F03 (62N05)

— Inference procedures in some bivariate exponential models under hybrid random censoring. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 167–189. 62N05

— Note on estimation of reliability under bivariate Pareto stress-strength model. (English summary) *Statist. Papers* **38** (1997), *no.* 4, 453–459. 62N05

— Testing whether the survival function is multivariate new better than used. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 203–211. 62N05

Hanaki, Akihide (*with* Okuyama, Tetsuro) Groups with some combinatorial properties. *Osaka J. Math.* **34** (1997), *no.* 2, 337–356. (Andrew Woldar) **98m:05200** 05E30 (20D99)

— Self-dual groups of order p^5 (p an odd prime). *Osaka J. Math.* **34** (1997), *no.* 2, 357–361. 20C15 (20D15)

Hanan, Jim (*with* Prusinkiewicz, Przemyslaw; Hammel, Mark; Měch, Radomír) Visual models of plant development. (English summary) *Handbook of formal languages, Vol.* 3, 535–597, *Springer, Berlin*, 1997. (Summary) **98i:92012** 92C15 (68Q45, 68Q50)

Hanany, Amihay (*with* Ganor, Ori J.) Small E_8 instantons and tensionless non-critical strings. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 1, 122–138. (Daniel N. Kabat) **98c:81164** 81T30

— (*with* Klebanov, Igor R.) On tensionless strings in $3+1$ dimensions. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 105–118. (Miguel A. Vázquez-Mozo) **98c:81166**

81T30 (83E30)
— (*with* Chalmers, Gordon) Three-dimensional gauge theories and monopoles. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 223–244. (C. Gauthier) **98g:81154** 81T30 (53C80, 58D27, 81T13)
— (*with* Distler, Jacques) (0, 2) non-critical strings in six dimensions. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 75–90. (Gerardo Marcelo Aldazabal) **98d:81080** 81T30 (83E30)
— (*with* Witten, Edward) Type IIB superstrings, BPS monopoles, and three-dimensional gauge dynamics. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 152–190. (Clifford V. Johnson) **98h:81096** 81T30 (81T13, 81T60)
Hanazaki, Hideshi Nonlinear wave motion in rotating flows and breaking waves. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 230–241. (*see* **98g:76052**) 76U05 (76B15)
— (*with* Miyazaki, Takeshi; Hirahara, Kazuki) The quasi-three-dimensional instability of an elliptical vortex subject to a strain field in a rotating stratified fluid. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 5, 359–380. (Summary) **98h:76017** 76C05 (76E20, 76V05, 86A10)
Hanazawa, Masazumi (*with* Narushima, Hiroshi) A more efficient algorithm for MPR problems in phylogeny. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 231–238. (Summary) **98m:92016** 92D15 (92B10)
Hanchin, G. D. (*with* Drakunov, Sergeĭ V.; Su, Wu Chung; Özgüner, Ümit) Nonlinear control of a rodless pneumatic servoactuator, or Sliding modes versus Coulomb friction. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1401–1408. 93C95 (93C85)
Hančl, Jaroslav Something about Lindemann's theorem. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 23–27. (Michael A. Bennett) **98f:11073** 11J81 (11J85)
— Irrationality of quick convergent series. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 275–282. (Tapani Matala-Aho) **98b:11082** 11J72
Handa, B. R. (*with* Mohanty, Sri Gopal) Extensions of Bonferroni type inequalities. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 153–166. (J. Glaz) **98e:60028** 60E15 (60C05)
Handel, Michael The forcing partial order on the three times punctured disk. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 593–610. (Martin Scharlemann) **98i:57026** 57M60 (54H20, 58F03, 58F20)
— (*with* Bestvina, Mladen; Feighn, M.) Laminations, trees, and irreducible automorphisms of free groups. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 215–244. (S. Andreadakis) **98c:20045** 20E05 (05C25, 20F28, 57M07)
— (*with* Bestvina, Mladen; Feighn, M.) Erratum to: "Laminations, trees, and irreducible automorphisms of free groups" [Geom. Funct. Anal. **7** (1997), no. 2, 215–244; MR 98c:20045]. *Geom. Funct. Anal.* **7** (1997), *no.* 6, 1143. (From the text) **98k:20034** 20E05 (05C25, 20F28, 57M07)
Handelman, David (*with* Boyle, Mike) Orbit equivalence, flow equivalence and ordered cohomology. (English summary) *Israel J. Math.* **95** (1996), 169–210. (A. I. Danilenko) **98a:46082** 46L55 (46L85, 54H20, 55M10)
Handjani, Shirin J. (*with* Jungreis, Douglas) Rate of convergence for shuffling cards by transpositions. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 983–993. (Ursula Porod) **98a:60095** 60J10 (60C05)
— Survival of threshold contact processes. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 737–746. (Cláudia M. Peixoto) **98m:60154** 60K35 (82B26, 82C22)
Handler, R. A. (*with* Webber, G. A.; Sirovich, L.) Erratum: "The Karhunen-Lóeve decomposition of minimal channel flow" [Phys. Fluids **9** (1997), no. 4, 1054–1066; MR 97m:76074]. *Phys. Fluids* **9** (1997), *no.* 8, 2461. 76F99 (76M25)
Handley, W. G. Deterministic summation modulo $\mathscr{B}_n$, the semigroup of binary relations on $\{0, 1, \cdots, n-1\}$. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 135–174. (Summary) **98b:03056** 03D15 (68Q05, 68Q15)
Handlovičová, A. Error estimates of a fully discrete linear approximation scheme for Stefan problem. *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 1, 65–85. (N. L. Vulchanov) **98c:65156** 65M15 (80A22)
Handrock-Meyer, S. Identifiability of distributed parameters for a class of quasilinear differential equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 1, 19–28. (Dang Dinh Ang) **98b:35220** 35R30 (35K55)
Handschuh, R. F. (*with* Litvin, F. L.; Wang, Anngwo) Computerized generation and simulation of meshing and contact of spiral bevel gears with improved geometry. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 35–64. 70–08 (70B99)
Handy, Carlos R. (*with* Murenzi, Romain) Continuous wavelet transform analysis of quantum systems with rational potentials. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4709–4729. (Summary) **98j:81063** 81Q05 (42C15)
Hane, Christopher A. (*with* Barnhart, Cynthia; Vance, Pamela H.) Integer multicommodity flow problems. (English summary) *Network optimization (Gainesville, FL, 1996)*, 17–31, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C10)
Hanen, C. (*with* Munier, Alix) Using duplication for scheduling unitary tasks on m processors with unit communication delays. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 119–127. (Summary) **98a:68019** 68M20
— (*with* Munier, Alix) Performance of Coffman-Graham schedules in the presence of unit communication delays. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 93–108. (Summary) **98h:68022** 68M20
klein Haneveld, W. K. *see* **Klein Haneveld, W. K.**
Hang, Chang-Chieh (*with* Bi, Qiang; Wang, Qing Guo) Relay-based estimation of multiple points on process frequency response. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1753–1757. 93C80 (93E10)
Hang, Weihua (*with* Ding, Jiu) New perturbation results for equality-constrained least squares problems. (English summary) *Linear Algebra Appl.* **272** (1998), 181–192. (Mu Sheng Wei) **98m:65063** 65F20 (65F30)
Hangan, Theodor On Beltrami's theorem and generalized Heisenberg groups. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 107–114. (Aristide Sanini) **98g:53027** 53B20 (53C20)
Hanges, Nicholas (*with* Francsics, Gábor) Analytic singularities. (English summary) *Multidimensional complex analysis and partial differential equations (São Carlos, 1995)*, 69–78, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Harold P. Boas) **98i:32036** 32H10 (32A25, 35A20)
— (*with* Francsics, Gábor) Asymptotic behavior of the Bergman kernel and hypergeometric functions. (English summary) *Multidimensional complex analysis and partial differential equations (São Carlos, 1995)*, 79–92, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Harold P. Boas) **98h:32040** 32H10 (32A07, 33C65, 46E22)
— (*with* Jacobowitz, Howard) The Euclidean elliptic complex. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 753–770. (A. Alexandrou Himonas) **98m:58129** 58G05
— (*with* Himonas, A. Alexandrou) Non-analytic hypoellipticity in the presence of symplecticity. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 405–409. (Maria Mascarello) **98d:35031** 35H05
Hanich, L. (*with* Louaked, M.; Nguyen, K. D.) An efficient finite difference technique for computing incompressible viscous flows. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 9, 1057–1082. (Summary) **98j:76098** 76M20
Hanif, Muhammad (*with* Samiuddin, M.; Kattan, A. K. A.; Khan, Israr) Lower bound to mean square error of estimator in unequal probability sampling. (English summary) *Applied statistical science, II (Malang, 1996)*, 99–112, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62D05
Hanin, Leonid G. (*with* Dyn'kin, Evsey) Spectral synthesis of ideals in Zygmund algebras: the asymptotic Cauchy problem approach. *Michigan Math. J.* **43** (1996), *no.* 3, 539–557. (Krishnan Parthasarathy) **98d:46055** 46J20 (46J10)
— (*with* Rachev, Svetlozar T.; Tsodikov, A. D.; Yakovlev, A. Yu.) A stochastic model of carcinogenesis and tumor size at detection. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 607–628. (Summary) **98g:92003** 92C50 (60E05, 62P10, 92C30)
— Duality for general Lipschitz classes and applications. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 1, 134–156. (Takahide Kurokawa) **98d:46025** 46E15 (46E35)
Hanjo, Takeshi An estimate of a Dirichlet series of Kloosterman type. *Kyushu J. Math.* **50** (1996), *no.* 1, 153–170. (Pavel Guerzhoy) **98e:11062** 11F66 (11M41)
Hanke, M. *see* **Hanke, Michael**
Hanke, Martin A regularizing Levenberg-Marquardt scheme, with applications to inverse groundwater filtration problems. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 79–95. (Zhangxin Chen) **98d:86012** 86A22 (65J20, 76S05, 86–08)
— Superlinear convergence rates for the Lanczos method applied to elliptic operators. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 487–499. (Timothy Nigel Phillips) **98m:65182** 65N25 (65F15)
Hanke, Michael (*with* März, Roswitha) On asymptotics in case of DAE's. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 99–102. (*see* **98b:65005**) 65L08 (34A09, 34D05)
Hanke, S. (*with* Ottmann, Thomas; Soisalon-Soininen, Eljas) Relaxed balanced red-black trees. (English summary) *Algorithms and complexity (Rome, 1997)*, 193–204, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68P05
Hankel, M. (*with* Karasözen, B.; Rentrop, P.; Schmitt, U.) A molecular dynamics model for symplectic integrators. (English summary) *Math. Model. Systems* **3** (1997), *no.* 4, 286–296. (Summary) **98h:70001** 70–08 (70H05, 82C80)
Hankin, Chris (*with* Le Métayer, Daniel; Sands, David) Refining multiset transformers. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 233–258. (Summary) **98m:68070** 68Q10
— *see also* **Theoretical aspects of coordination languages**, **98k:68014**
Hanks, Liz (*with* Cytron, Ron K.; Gillett, Will) An efficient algorithm for developing topologically valid matchings. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 144–161, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92009** 92D20 (05C90, 68Q20)
Hanlon, Phil Otter's method and the homology of homeomorphically irreducible k-trees. (English summary) *J. Combin. Theory Ser. A* **74** (1996), *no.* 2, 301–320. (Summary) **98g:05155** 05E25 (17B01)
— A proof of Hozo's conjecture on the homology of a class of nilpotent Lie algebras. (English summary) *J. Algebra* **190** (1997), *no.* 2, 435–460. (Volkmar Welker) **98c:17020** 17B56 (06A06)
Hann, Kathy Normals in a Minkowski plane. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 355–364. (P. R. Goodey) **98b:52009** 52A38 (52A39, 52A40)
Hanna, Azmi On the quotient theorem for topological spaces. (English summary) *J. Math. Sci. (Calcutta)* **4** (1993), *no.* 2, 39–42. 54B15
Hanna, Gila (*with* Jahnke, Hans Niels) Proof and proving. (English summary) *International handbook of mathematics education, Part* 1, 2, 877–908, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (Detlef Laugwitz) **98f:00012** 00A35
Hanna, L. A.-M. (*with* Singh, Surjeet) Separable group-ring extensions. *Portugal. Math.* **53** (1996), *no.* 2, 157–165. (Ram Niwas Gupta) **98g:16023** 16S34 (16H05)
— (*with* Khalifa, M. E.; Hassan, S. S.) On representations of Lie algebras for quantized Hamiltonians. (English summary) *Linear Algebra Appl.* **266** (1997), 69–79. (Chon Hu Cheng) **98i:17009** 17B10 (15A69, 17B20)
Hannabuss, Keith ★ An introduction to quantum theory. (English summary) Oxford Graduate Texts in Mathematics, 1. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1997. xiv+380 *pp. ISBN* 0-19-853794-8 (S. Gudder) **98g:81001** 81-01
— (*with* Bowes, D.) Weyl quantization and star products. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 4, 319–348. (Mohsen Masmoudi) **98d:58073** 58F06
— Sound and symmetry. *Math. Intelligencer* **19** (1997), *no.* 4, 16–20. 00A69
Hannan, Edward J. *see* **Conference: Applied Probability and Time Series Analysis**, **98f:62003** *and* **Robinson, Peter M.**, **98g:01069**
Hannay, J. H. Bounds on fields from fast rotating sources, and others. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1953, 2351–2354. (Summary) **98b:78008** 78A25
Hannenhalli, Sridhar Polynomial-time algorithm for computing translocation distance between genomes. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 162–176, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92010** 92D20 (68Q20)
— Polynomial-time algorithm for computing translocation distance between genomes. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 137–151. (Michael A. Steel)

98d:92011 92D20 (92D15)

— (*with* Agarwala, Richa; Batzoglou, Serafim; Dančík, Vlado; Decatur, Scott E.; Farach-Colton, Martin; Skiena, Steven S.) Local rules for protein folding on a triangular lattice and generalized hydrophobicity in the HP model. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 390–399, *ACM, New York*, 1997. (James L. Cornette) **98d:92002** 92C40 (92D20)

Hannibal, Ludger Relativistic spin on the Poincaré group. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 43–56. (Summary) **98j:81370** 81V22 (81R05, 81R20)

Hannigan, Paddy (*with* Farahmand, Kambiz) On the expected number of zero crossings of a random algebraic polynomial. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1219–1224. (*see* **98i:00028**) 60G99

Hanoch, G. (*with* Falcovitz, J.; Alfandary, G.) A two-dimensional conservation laws scheme for compressible flows with moving boundaries. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 83–102. (Summary) **98j:76106** 76M25 (65M06, 76L05, 76N10)

Hanouzet, B. (*with* Natalini, Roberto) Systems of quasilinear hyperbolic equations with quadratic coupling. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 509–513, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L60

— (*with* Barucq, H.) Asymptotic behavior of solutions to Maxwell's system in bounded domains with absorbing Silver-Müller's condition on the exterior boundary. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 1, 25–40. (Olivier Lafitte) **98k:78010** 78A25 (35B40, 35Q60, 78A45)

Hansbo, Jonas Reproducing kernels and contractive divisors in Bergman spaces. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Linein. Oper. i Teor. Funktsii.* 24, 174–198, 217. (Summary) **98h:46024** 46E22 (30C40)

Hansel, Georges (*with* Bruyère, Véronique) Bertrand numeration systems and recognizability. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 17–43. (Jeffrey O. Shallit) **98i:68149** 68Q45 (03D05, 11A67, 11B85)

Hansell, Roger W. (*with* Burke, Dennis K.) Perfect maps and relatively discrete collections. (English summary) *Papers on general topology and applications (Amsterdam, 1994)*, 54–56, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54085** 54H05 (54C10)

Hansen, Alex (*with* Piasecki, Jarosław; Hauge, E. H.) Magnetotransport in the 2D Lorentz model: linear and nonlinear effects of a weak electric field. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 795–809. (Summary) **98c:82062** 82C40

— (*with* Auradou, Harold; Bideau, Daniel; Måløy, Knut Jørgen) Motion of a ball dropped onto a one-dimensional self-affine surface. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4915–4924. (Summary) **98k:82177** 82C99

— (*with* Bobylev, A. V.; Maaø, Frank A.; Hauge, E. H.) There is more to be learned from the Lorentz model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1205–1228. (Summary) **98g:82037** 82C40

Hansen, B. G. Stability and self-decomposability of semi-group valued random variables. (English summary) *Statist. Neerlandica* **50** (1996), *no.* 2, 295–305. (Gyula Pap) **98d:60013** 60B15

Hansen, Bruce E. Inference in TAR models. (English summary) *Stud. Nonlinear Dyn. Econom.* **2** (1997), *no.* 1, 1–14 (*electronic*). 62M10 (62E20, 62P20)

Hansen, Eldon R. Preconditioning linearized equations. (English and German summaries) *Computing* **58** (1997), *no.* 2, 187–196. (Eugene Allgower) **98j:65034** 65H05 (65G10)

Hansen, Frank Characterizations of operator convex functions of several variables. Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 22–28. (*see* **98h:47004**) 47A63

Hansen, Guillermo Leonardo (*with* Bair, J.) The infinite shadow of a convex set. (English summary) *Bull. Soc. Roy. Sci. Liège* **65** (1996), *no.* 6, 407–416. (Béla Uhrin) **98c:52005** 52A20

Hansen, Kai T. (*with* Güttler, Stefan) Symbolic dynamics for hydrogen in a magnetic field. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3421–3440. (Alexandre N. Carvalho) **98k:81060** 81Q20 (58F03, 70H05)

Hansen, Lars K. (*with* Xu, Guanghan) A hyperplane-based algorithm for the digital co-channel communications problem. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1536–1548. 94A12

Hansen, Lars Peter (*with* Anderson, Evan W.; McGrattan, Ellen R.; Sargent, Thomas J.) Mechanics of forming and estimating dynamic linear economies. *Handbook of computational economics, Vol. I*, 171–252, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A16 (65F10)

Hansen, Mogens L. (*with* Kadison, Richard V.) Banach algebras with unitary norms. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 535–552. (T. W. Palmer) **98g:46080** 46L05 (46H20, 46K05)

Hansen, Olaf On the solution of a special kind of singular integral equation. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 4, 391–412. (Baldev K. Sachdeva) **98e:45002** 45E05 (45L05, 65R20)

— A global existence theorem for two coupled semilinear diffusion equations from climate modeling. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 541–564. (Ying Guo Lei) **98h:35103** 35K55 (35Q80)

Hansen, P. *see* **Hansen, Pierre**

Hansen, Per Christian (*with* O'Leary, Dianne P.) Regularization algorithms based on total least squares. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling (Leuven, 1996)*, 127–137, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

— (*with* Ostromsky, Tz.; Sameh, Ahmed; Zlatev, Z.) Solving sparse linear least-squares problems on some supercomputers by using large dense blocks. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 535–558. (*see* **98f:65005**) 65F50 (65F35)

— (*with* Fierro, Ricardo D.) Low-rank revealing UTV decompositions. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 37–55. (A. Bultheel) **98d:65031** 65F05 (65F30)

— (*with* Fierro, Ricardo D.; Golub, Gene H.; O'Leary, Dianne P.) Regularization by truncated total least squares. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1223–1241. (Frederick N. Fritsch) **98d:65051** 65F20 (65F30)

Hansen, Pierre (*with* Douanya Nguetsé, Guy-Blaise; Jaumard, Brigitte) Probabilistic satisfiability and decomposition. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 151–161, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B48, 03B70, 68T27)

— (*with* Roberts, Fred S.) An impossibility result in axiomatic location theory. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 1, 195–208. (Summary) **98a:90056** 90B80 (05C90, 90C27)

— (*with* de Werra, Dominique) Nesticity. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 225–232, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:05144** 05C65

— (*with* Mladenović, Nenad) Variable neighborhood search. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1097–1100. (Summary) **98h:90063** 90C27

— (*with* Zhang, Fu Ji; Zheng, Maolin) Perfect matchings and ears in elementary bipartite graphs. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 131–138. (Douglas J. Klein) **98m:05148** 05C70 (05C90)

— (*with* Audet, Charles; Jaumard, Brigitte; Savard, Gilles) Links between linear bilevel and mixed 0-1 programming problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 273–300. (Guntram Scheithauer) **98c:90076** 90C09 (65Y20, 90C11)

— (*with* Kuplinsky, Julio; de Werra, Dominique) Mixed graph colorings. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 1, 145–160. (Sheshayya A. Choudum) **98e:05038** 05C15 (90B35)

— (*with* Jaumard, Brigitte) Cluster analysis and mathematical programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 191–215. (András Faragó) **98g:90043** 90C90 (90C39)

— (*with* Audet, Charles; Jaumard, Brigitte; Savard, Gilles) On the linear maxmin and related programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 181–208, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C10 (90C27, 90D05)

— (*with* Jaumard, Brigitte; Mladenović, Nenad) Minimum sum of squares clustering in a low-dimensional space. (English and French summaries) *J. Classification* **15** (1998), *no.* 1, 37–55. 62H30

Hansen, Scott W. (*with* Weiss, George) New results on the operator Carleson measure criterion. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 1. *IMA J. Math. Control Inform.* **14** (1997), *no.* 1, 3–32. (Summary) **98c:93064** 93C25 (47D06, 47N70)

— (*with* Zhang, Bing-Yu) Boundary control of a linear thermoelastic beam. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 182–205. (Kenneth B. Hannsgen) **98b:73029** 73K50 (73B30, 73K05, 73T05, 93B05, 93C20)

— A dynamical model for multilayered plates with independent shear deformations. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 601–621. (Juan M. Viaño Rey) **98m:73059** 73K10 (35Q72, 73C02)

Hansen, Søren Have ★ Rational points on curves over finite fields. Lecture Notes Series, 64. *Aarhus Universitet, Matematisk Institut, Aarhus*, 1995. 82 *pp.* (Marc Perret) **98k:11078** 11G20 (14G15)

Hansen, Thorkild B. Formulation of spherical near-field scanning in the time domain. (English summary) *Computational wave propagation (Minneapolis, MN, 1994/1995)*, 45–74, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (*see* **98g:65007**) 78A45 (76M25, 76Q05, 78–08)

— (*with* Norris, Andrew N.) Wavefield representation using compact and directionally localized sources. (English summary) *Computational wave propagation (Minneapolis, MN, 1994/1995)*, 179–196, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Summary) **98g:35047** 35J05 (35C10, 76Q05, 78A40)

— (*with* Norris, Andrew N.) Exact complex source representations of time-harmonic radiation. (English summary) *Wave Motion* **25** (1997), *no.* 2, 127–141. (Summary) **98c:73038** 73D25 (35J05, 76Q05, 78A45)

— (*with* Norris, Andrew N.) Exact complex source representations of transient radiation. (English summary) *Wave Motion* **26** (1997), *no.* 2, 101–115. (Summary) **98i:78014** 78A45

Hansen, Vagn Lundsgaard The dawn of non-Euclidean geometry. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 3–23. (Cyril W. L. Garner) **98h:51001** 51-03 (01A55, 51M10)

stoltenberg-Hansen, Viggo *see* **Stoltenberg-Hansen, Viggo**

Hansen, Wolfhard (*with* Netuka, Ivan) Successive averages and harmonic functions. *J. Anal. Math.* **71** (1997), 159–171. (Sirkka-Liisa Eriksson-Bique) **98h:31006** 31B05

Hanski, Ilkka (*with* Gyllenberg, Mats; Lindström, Torsten) A predator-prey model with optimal suppression of reproduction in the prey. (English summary) *Math. Biosci.* **134** (1996), *no.* 2, 119–152. (From the introduction) **98h:92035** 92D25

Hanson, David Lee (*with* Li, Gang) A note on the empirical distribution of dependent random variables. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 337–340. (Summary) **98e:60049** 60F15

Hanson, Floyd B. (*with* Abu-Saris, Raghib M.) Computational suboptimal filter for a class of Wiener-Poisson driven stochastic processes. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 279–292. (Zoran Gajic) **98e:93100** 93E11

— (*with* Tuckwell, Henry C.) Population growth with randomly distributed jumps. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 169–187. 92D25

Hanson, James D. Fast kinematic dynamos. *Stochastic processes in astrophysics (Gainesville, FL, 1993)*, 170–174, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 76W05

Hanson, James E. (*with* Crutchfield, James P.) Computational mechanics of cellular automata: an example. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 169–189. (Dimitri Petritis) **98k:82117** 82C20 (68Q80)

Hanson, John M. (*with* Dukeman, Gregory A.) Optimization of many-burn orbital transfers. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 1, 1–40. 70Q05 (70M20)

Hanson, Mark T. (*with* Wang, Yang[1]) Concentrated ring loadings in a full space or half space: solutions for transverse isotropy and isotropy. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 11, 1379–1418. (Summary) **98b:73007** 73C02 (73B40, 73B50)

— (*with* Puja, Igusti W.) The evaluation of certain infinite integrals involving products of Bessel functions: a correlation of formula. (English summary) *Quart. Appl. Math.* **55**

(1997), *no.* 3, 505–524. (N. Hayek Calil) **98i:33005** 33C10 (31B10, 33C75, 73C35)

Hanson, Morgan A. (*with* Khan, Zulfiqar Ali) On ratio invexity in mathematical programming. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 330–336. (Alberto Cambini) **98a:90113** 90C32 (90C26)

Hanßmann, Heinz Equivariant perturbations of the Euler top. (English summary) *Nonlinear dynamical systems and chaos* (*Groningen*, 1995), 227–252, *Progr. Nonlinear Differential Equations Appl.*, 19, *Birkhäuser, Basel*, 1996. (Mikhail B. Sevryuk) **98c:58149** 58F30 (58F27, 70E15, 70E20, 70H33)

— The quasi-periodic centre-saddle bifurcation. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 305–370. (Ugo C. Bessi) **98m:58099** 58F14 (34C23, 58F05, 58F27, 70E15, 70H05)

Hansson, Anders (*with* Hagander, P.) Existence of minimum upcrossing controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 871–879. (Arie Leizarowitz) **98d:93101** 93E20 (49J55)

Hansson, Sven Ove The emperor's new clothes: some recurring problems in the formal analysis of counterfactuals. (English summary) *Conditionals: from philosophy to computer science*, 13–31, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B45

Hanus, Michael (*with* Prehofer, Christian) Higher-order narrowing with definitional trees. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 138–152, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68N15 (68N17, 68Q42)

— (*with* Antoy, Sergio; Echahed, Rachid) Parallel evaluation strategies for functional logic languages. (English summary) *Logic programming* (*Leuven*, 1997), 138–152, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68030** 68N15 (68N17)

— *see also* **Algebraic and logic programming**, **98c:68005**

Hanusse, Nicolas (*with* El Marraki, Mohamed; Zipperer, Jörg; Zvonkin, Alexander) Cacti, braids and complex polynomials. (English and French summaries) *Sém. Lothar. Combin.* **37** (1996), *Art.* B37b, 36 *pp.* (*electronic*). (Volkmar Welker) **98j:57003** 57M12 (05C25, 20F36)

Han Vinck, A. J. *see* **Vinck, Adrianus J.**

Hanyga, Andrzej Oscillatory integrals and asymptotic diffraction theory. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 307–331. (Stanisław Janeczko) **98h:58022** 58C27 (58G18, 78A45)

— Canonical functions of asymptotic diffraction theory associated with symplectic singularities. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 57–71, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (J. S. Joel) **98i:58032** 58C27 (58G18)

Hao, Bailin *see* **STATPHYS**, **98a:82002**

Hao, Chun (*with* Sun, Chang You; Mu, Wei Chun; Ma, Ai Qun) Supercoherent states. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 66–70, 57. 81R30

Hao, Cuixia (*with* Wang, Bao Xiang; Wang, Ting Fu) On the WM property of Orlicz sequence spaces endowed with the Orlicz norm. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 1–13. (Anna H. Kamińska) **98f:46015** 46B45 (46E30)

Hao, Dun Yuan On a conjecture of H. W. Hethcote. III. The characteristic equation for the model $S^{\beta SI}E^{\omega}I^{q(t)}S$. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **27** (1996), *no.* 3, 311–316. (Summary) **98b:92021** 92D30 (34K15)

Hao, Ke Gang Open nets—a model for interactive and concurrent systems. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 6, 461–466. 68Q90 (68Q10)

Hao, Ruibing (*with* Wu, Jianping) A formal approach to protocol interoperability testing. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 79–90. 68Q10 (68Q55)

Hao, Wei (*with* Liu, Wing Kam; Chen, Yijung; Jun, Sukky; Gosz, J.) Multiresolution reproducing kernel particle methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 4, 295–309. (Summary) **98f:65132** 65T99 (65D15)

— (*with* Liu, Wing Kam; Jun, Sukky; Sihling, Dirk Thomas; Chen, Yijung) Multiresolution reproducing kernel particle method for computational fluid dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 12, 1391–1415. (Summary) **98d:76131** 76M25

Hao, Xiu Mei (*with* Yang, Zi Xu) On the structure of NF-rings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 427–431. 16P10

— A necessary and sufficient condition for the existence of noncommutative rings of order n. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 97–99. 16P10

Hao, Yong (*with* Li, Xuezhi) The nonlinear transport equation with delayed neutrons. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 153–165. (Nicola Bellomo) **98k:82207** 82D75 (45K05)

Hao, Zhi Feng The IBN property of rings of Morita contexts. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 7, 680–683. 16D90

— (*with* Chen, Huan Yin) Stable structures over semigroup rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 138–143. 16S36 (16D40)

— (*with* Lu, Kewei) Finite groups with only s-quasinormal and self-normalizing subgroups. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 9–12. 20E07

Haouari, Mohamed (*with* M'Hallah, Rym) Heuristic algorithms for the two-stage hybrid flowshop problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 1, 43–53. 90B35 (90C27)

— (*with* Dejax, P.) Plus court chemin avec dépendance horaire: résolution et application aux problèmes de tournées. (English and French summaries) [Time-dependent shortest path: solution and application to routing problems] *RAIRO Rech. Opér.* **31** (1997), *no.* 2, 117–131. (Summary) **98c:90175** 90C35 (90B10)

Haouchine, M. (*with* Mebarki, N.; Belaloui, N.) No-ghost theorem for an open para-bosonic string. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 1997–2006. (Sergey Nikolaevich Roshchupkin) **98m:81153** 81T30

— (*with* Mebarki, N.; Belaloui, N.) New critical dimensions for para-bosonic strings and para-superstrings. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 2007–2015. (Sergey Nikolaevich Roshchupkin) **98m:81154** 81T30

— (*with* Mebarki, N.; Belaloui, N.) Open parabosonic string BRST transformations and the critical dimension. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 2017–2026. (Sergey Nikolaevich Roshchupkin) **98m:81155** 81T30 (81T70)

— (*with* Mebarki, N.; Belaloui, N.) Modified Virasoro and super-Virasoro algebra. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 2, 173–181. (Bani Mitra Södermark) **98f:81101** 81R10 (17B68, 81T30)

el Haouzi, Abdallah *see* **El Haouzi, Abdallah**

Happacher, Max (*with* Pukelsheim, Friedrich) Rounding probabilities: unbiased multipliers. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 373–382. (Summary) **98b:60018** 60C05 (62P25)

Happel, Dieter Perpendicular categories to exceptional modules. (English summary) Representation theory of groups, algebras, and orders (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **4** (1996), *no.* 2, 66–75. (Sheila Brenner) **98b:16010** 16G10 (16G20, 16G60)

— (*with* Reiten, Idun) An introduction to quasitilted algebras. Representation theory of groups, algebras, and orders (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **4** (1996), *no.* 2, 137–149. (Rainer Nörenberg) **98g:16009** 16G10 (16G20, 16G70)

— (*with* Hartlieb, Silke; Kerner, Otto; Unger, Luise) On perpendicular categories of stones over quiver algebras. *Comment. Math. Helv.* **71** (1996), *no.* 3, 463–474. (D. Zacharia) **98b:16013** 16G70 (16G20)

— The trace of the Coxeter matrix and Hochschild cohomology. (English summary) *Linear Algebra Appl.* **258** (1997), 169–177. (Claude Cibils) **98d:16009** 16E40 (16E10)

Happel, Robert (*with* Hecht, Robert; Schuster, Peter Karl; Stadler, Peter F.) Autocatalytic networks with intermediates. I. Irreversible reactions. (English summary) *Math. Biosci.* **140** (1997), *no.* 1, 33–74. (Yoram Schiffmann) **98b:92029** 92E20 (34C25, 34E15, 92C40)

Haq, M. Safiul (*with* Kibria, B. M. Golam) Predictive inference for linear and multivariate linear models with MA(1) error processes. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 331–353. (Luis Firinguetti) **98d:62159** 62M10 (62F25, 62J05, 62M20)

— (*with* Thabane, L.) On Bayesian prediction for the compound model using conjugate prior. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 159–172. 62F15

Haque, Md. Atiqul (*with* Singh, Manoranjan Kumar) Foundational crisis in mathematics in the later part of 19th century. *Math. Ed. (Siwan)* **32** (1998), *no.* 1, 52–56. 01A55 (00A30)

Haque, Md. Emdadul (*with* Shamsuddin, M. D.; Hossain, M. Q.) The confounded 8^n factorial design using the rotation-conversion method of pseudofactors. (English summary) *J. Stat. Stud.* **16** (1996), 9–15. 62K15 (05B05)

— (*with* Shamsuddin, M. D.; Hoque, Zahirul) Regular fractions in $2^m \times 4^n$ factorials. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **21** (1997), *no.* 1, 47–52. 05B05

Hara, Hiroaki (*with* Isihara, Akira) Fundamental aspects of statistical mechanics. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 65–77. 82B03 (82C03)

Hara, Keisuke (*with* Takahashi, Yōichirō) Lagrangian for pinned diffusion process. *Itô's stochastic calculus and probability theory*, 117–128, *Springer, Tokyo*, 1996. (Ming Liao) **98h:58199** 58G32 (60J60)

Hara, Nobuo A characterization of rational singularities in terms of injectivity of Frobenius maps. Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 138–144. (Karen E. Smith) **98m:13008** 13A35 (14B05)

Fuji-Hara, Ryoh *see* **Fuji-Hara, Ryoh**

Hara, S. *see* **Hara, Shinji**

Hara, Shin-ichiro (*with* Hamanaka, Hiroaki; Kono, Akira[1]) Adjoint actions on the modulo 5 homology groups of E_8 and ΩE_8. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 169–176. (Hideaki Ōshima) **98e:57053** 57T10 (55S05, 57T25)

— (*with* Hamanaka, Hiroaki) The mod 3 homology of the space of loops on the exceptional Lie groups and the adjoint action. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 441–453. (Donald M. Davis) **98m:57047** 57T10 (55P35)

Hara, Shinji (*with* Fujioka, Hisaya) State covariance assignment for sampled-data feedback control systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 719–737. 93B55 (93C57)

— (*with* Iwasaki, Tetsuya; Rotea, Mario A.) Computational complexity reduction in scaled $\mathcal{H}_\infty$ synthesis. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1325–1332. (Summary) **98e:93037** 93B36 (93B40)

— (*with* Kimura, Tetsuya; Tomisaka, Toshihiro) H^∞ control with minor feedback and its application to a pressure control system. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 6, 331–337. 93B36 (93C95)

— (*with* Yamada, Yuji) Global optimization for $\mathcal{H}_\infty$ control with constant diagonal scaling. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 191–203. (Summary) **98i:93031** 93B36 (65Y25, 90C90)

Hara, Tadayuki (*with* Sugie, Jitsuro) When all trajectories of a periodically forced Liénard system rotate around the origin? (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 64–67, *World Sci. Publishing, River Edge, NJ*, 1995. (Noel G. Lloyd) **98g:34067** 34C15 (34C10, 70K40)

— (*with* Miyazaki, Rinko; Morii, Takayasu) Asymptotic stability condition for linear differential-difference equations with N delays. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 493–505. (Summary) **98j:34151** 34K20

— The asymptotic stability and star shaped periodic solutions for delay differential system. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4555–4563. (*see* **98i:00032**) 34K20 (34K15)

— (*with* Murakami, Kouichi) Hopf bifurcation for a delayed equation of van der Pol type. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 114–122. (*see* **98h:00040**) 34C23 (34K15)

Hara, Tamio (*with* Koshikawa, Hiroaki) Equivariant SK group of manifolds with boundary. *Kyushu J. Math.* **49** (1995), *no.* 2, 455–461. (Introduction) **98e:57033** 57N99

— (*with* Koshikawa, Hiroaki) Cutting and pasting of G manifolds with boundary. *Kyushu J. Math.* **51** (1997), *no.* 1, 165–178. (R. E. Stong) **98a:57044** 57S17 (57R85)

Harada, K. *see* **Harada, Koichiro**

Harada, Ken-Ichi (*with* Hinamoto, Takao; Doi, Akimitsu) Design of multidimensional separable-denominator digital filters in the spatial domain. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 273–293. (A. Bultheel) **98d:94005** 94A12 (93E11)

Harada, Kenichi (*with* Takimoto, Munehiro) Effective partial redundancy elimination based on extended value graph. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 11, 2237–2250. 68N20

Harada, Koichiro (*with* Miyamoto, Masahiko; Yamada, Hiromichi) A generalization of Kac-Moody algebras. *Groups, difference sets, and the Monster* (*Columbus, OH, 1993*), 377–408, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (*see* **97b:20001**) 17B67

Harada, Masaaki (*with* Kimura, Hiroshi[1]) On extremal self-dual codes. *Math. J. Okayama Univ.* **37** (1995), 1–14 (1996). (Ivan Landgev) **98b:94019** 94B05 (11T71, 94B65)

— Weighing matrices and self-dual codes. (English summary) *Ars Combin.* **47** (1997), 65–73. (Summary) **98g:94033** 94B05

— (*with* Dougherty, Steven T.; Gulliver, T. Aaron) Extremal binary self-dual codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2036–2047. (Summary) **98i:94044** 94B60

— (*with* Gulliver, T. Aaron) The existence of a formally self-dual even [70, 35, 14] code. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 95–98. 94B05

— (*with* Gulliver, T. Aaron) Classification of extremal double circulant self-dual codes of lengths 64 to 72. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 257–269. (Summary) **98i:94045** 94B60

— New 5-designs constructed from the lifted Golay code over Z_4. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 225–229. (Summary) **98k:05018** 05B05 (94B25)

Harada, Masunori (*with* Li, Bishan; Li, Lei; Niki, Hiroshi; Tsatsomeros, Michael J.) An iterative criterion for H-matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 179–190. (Ronald L. Smith) **98m:15040** 15A48 (15A57)

Harada, Takashi (*with* Yamashita, Masafumi) A quorum reassignment algorithm for improving the utility of distributed mutually exclusive systems. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 236–243. (*see* **98k:68015**) 68Q10

Harada, Tatsunori The dynamics of nearly abelian polynomial semigroups at infinity. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 3, 36–37. (A. Hinkkanen) **98f:58162** 58F23 (30D05)

— (*with* Taniguchi, Masahiko) On Teichmüller spaces of complex dynamics by entire functions. (Japanese) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 16–20. (*see* **98h:58002**) 58F23 (30F60)

Haraguchi, Yoshihiro (*with* Ellner, Stephen P.; Sasaki, Akira; Matsuda, Hirotsugu) Speed of invasion in lattice population models: pair-edge approximation. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 469–484. 92D25 (82C20)

o'Hara Hines, R. J. *see* **O'Hara Hines, R. J.**

Haruki, A. Quadratisation de certaines structures de Poisson. (English and French summaries) [Quadratization of certain Poisson structures] *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 384–394. (Raúl Ibáñez) **98k:58089** 58F05 (58H15)

Harandi, Mehdi (*with* Tinelli, Cesare) A new correctness proof of the Nelson-Oppen combination procedure. (English summary) *Frontiers of combining systems* (*Munich, 1996*), 103–119, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Jean-Yves Béziau) **98b:03016** 03B22 (03C05, 03C40, 68T15)

Harano, Toshiyuki (*with* Sato, Masatoshi) Multi-instanton calculus versus exact results in $N = 2$ supersymmetric QCD. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 167–195. (Edward Teo) **98e:81169** 81T60 (81V05)

Harari, David Flèches de spécialisations en cohomologie étale et applications arithmétiques. (English and French summaries) [Specialization arrows in étale cohomology and arithmetical applications] *Bull. Soc. Math. France* **125** (1997), *no.* 2, 143–166. (Claus Scheiderer) **98j:14028** 14G25 (11G35, 14G05)

— (*with* Leichtnam, Eric) Extension du phénomène de brisure spontanée de symétrie de Bost-Connes au cas des corps globaux quelconques. [Extension of Bost-Connes spontaneous symmetry breaking to the case of arbitrary global fields] *Selecta Math. (N.S.)* **3** (1997), *no.* 2, 205–243. (Alain Valette) **98h:11147** 11R37 (11R32, 11R42, 46L55)

Harari, Diego D. (*with* Frieman, Joshua A.; Surpi, Gabriela C.) Large scale structure, gravitational waves and gravitational lenses. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato, 1994*), 361–365, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83048** 83C35

Harari, Isaac (*with* Barbone, Paul E.; Montgomery, Joshua M.) Finite element formulations for exterior problems: application to hybrid methods, non-reflecting boundary conditions, and infinite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 15, 2791–2805. (Summary) **98e:76063** 76M10 (76Q05)

Harary, Frank (*with* Weng, Fuliang) The order and size of an Eulerian graph. *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 97–102 (1997). (From the text) **98g:05087** 05C45

— (*with* Raghavachari, Balaji) The e-mail gossip number and the connected domination number. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 15–17. 05C35

— (*with* Graham, N.) Some small sized spanning subgraphs of a hypercube. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 51–57. (Summary) **98g:05126** 05C75

— (*with* Gionfriddo, Mario; Tuza, Zsolt) The color cost of a caterpillar. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 125–130. (Summary) **98f:05060** 05C15

— (*with* Nikolopoulos, Stavros D.) On complete systems of invariants for small graphs. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 35–46. (Summary) **98e:05081** 05C60 (68R10)

— (*with* Morgana, Aurora; Simeone, Bruno) Filling the missing names of towns in a map: a graph-theoretic approach. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 121–127. (Summary) **98e:05104** 05C99

— (*with* Chartrand, Gary; Gavlas, Heather; Vandell, Robert C.) The forcing domination number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 161–174. (Summary) **98f:05083** 05C35

— (*with* Gupta, Gopal) Dynamic graph models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 79–87. (Summary) **98b:05092** 05C90 (68R10)

— (*with* Campbell, Connie Maude; DeLaVina, Ermelinda) The maximum induced circumference of a graph. *Panamer. Math. J.* **7** (1997), *no.* 2, 37–39. (David Burns) **98b:05061** 05C38 (05C35)

— (*with* Haynes, Teresa W.; Slater, Peter J.) Efficient and excess domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 83–95. (Summary) **98j:05108** 05C70

— *see also* **Graph theory in computer science, chemistry, and other fields, 98f:05002**

Harase, T. Extended formal power series and G-functions. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 90–92. (*see* **98c:11001**) 13F25 (11T99)

Haraux, Alain A remark on parabolic equations. (English and French summaries) *Portugal. Math.* **54** (1997), *no.* 3, 311–316. (Summary) **98g:35086** 35K10 (35B05, 35K55)

Harayama, Takahisa (*with* Tasaki, Shuichi; Shudo, Akira) Interior Dirichlet eigenvalue problem, exterior Neumann scattering problem, and boundary element method for quantum billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, R13–R16. (Summary) **98e:81040** 81Q50 (65N38, 82C10)

Harbane, Rabah (*with* Padró, Carles) Spanners of de Bruijn and Kautz graphs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 231–236. (Summary) **98c:68166** 68R10 (05C35, 68M10)

— (*with* Padró, Carles) Spanners of underlying graphs of iterated line digraphs. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 237–244. (Summary) **98c:68167** 68R10 (05C35, 68M10)

Harborth, Heiko Crossing regular cycle drawings. *Abh. Braunschweig. Wiss. Ges.* **46** (1995), 65–69 (1996). (From the text) **98k:05052** 05C10

— (*with* Benczúr, András; Jørgensen, Leif K.) Cube graph Ramsey numbers. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 151–157 (1997). (Stanisław P. Radziszowski) **98i:05120** 05C55

— (*with* Thürmann, Christian) Numbers of edges without crossings in rectilinear drawings of the complete graph. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **119** (1996), 79–83. (R. Bruce Richter) **98a:05056** 05C10

— (*with* Thürmann, Christian) Smallest nonmeshy trees in triangular and hexagonal lattices. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 97–105. (*see* **98h:05003**) 05C05 (05C10)

— (*with* Stark, Peter) Independent knights on triangular honeycombs. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 157–161. (*see* **98h:05005**) 05A15

— (*with* Maasberg, Silke) Rado numbers for $a(x + y) = bz$. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 356–363. (Summary) **98g:05148** 05D05

— (*with* Stark, Peter) Kings on triangular honeycombs. *Geombinatorics* **7** (1998), *no.* 4, 117–122. 05B45

Harbourne, Brian Birational morphisms of rational surfaces. (English summary) *J. Algebra* **190** (1997), *no.* 1, 145–162. (M. Kh. Gizatullin) **98a:14023** 14E05 (14C20, 14M20)

Harche, Farid (*with* Baxter, Laurence A.; Yechiali, Uri) Note: minimizing the variability of the waiting times in a globally gated elevator polling system. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 6, 605–611. (Summary) **98e:60147** 60K25 (90B22)

Harcos, Gergely Waring's problem with small prime factors. *Acta Arith.* **80** (1997), *no.* 2, 165–185. (Author's review (Zbl 871.11066)) **98m:11102** 11P05 (11P55)

Harder, G. Wittvektoren. [Witt vectors] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 1, 18–48. (Henri Gaudier) **98e:13025** 13K05 (01A60, 12F10, 14F30, 14L17)

Hardesty, Von *see* **Anderson, John D., Jr., 98j:76001**

Hardie, K. A. (*with* Baues, Hans-Joachim; Kamps, K. H.) The self-equivalence groups in certain coherent homotopy categories. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 213–228. (A. H. Copeland, Jr.) **98g:55016** 55Q05 (55P10)

Hardin, Douglas P. (*with* Donovan, George C.; Geronimo, Jeffrey S.) Intertwining multiresolution analyses and the construction of piecewise-polynomial wavelets. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1791–1815. (Peter R. Massopust) **98c:42029** 42C15 (41A15)

Hardin, Ronald H. (*with* Conway, John H.; Sloane, Neil J. A.) Packing lines, planes, etc.: packings in Grassmannian spaces. (English summary) *Experiment. Math.* **5** (1996), *no.* 2, 139–159. (Igor Rivin) **98a:52029** 52C17 (65Y25)

— *see also* **Editors' note on: "Packing lines, planes, etc.: packings in Grassmannian spaces", 98f:52025**

Hardin, Thérèse (*with* Curien, Pierre-Louis; Lévy, Jean-Jacques) Confluence properties of weak and strong calculi of explicit substitutions. (English summary) *J. ACM* **43** (1996), *no.* 2, 362–397. (Hirofumi Yokouchi) **98b:68094** 68Q42 (03B40, 68N15, 68Q55)

Harding, John Free central extensions. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 665–686. (Summary) **98d:06009** 06B05 (06E15)

— (*with* Janowitz, Melvin F.) A bundle representation for continuous geometries. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 2, 282–293. (F. D. Veldkamp) **98g:06016** 06C20

— (*with* Marinacci, Massimo; Nguyen, Nhu T.; Wang, Tonghui) Local Radon-Nikodym derivatives of set functions. *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 379–394. (Beloslav Riečan) **98m:28047** 28E10

Härdle, Wolfgang (*with* Chen, Rong; Linton, Oliver B.; Severance-Lossin, E.) Nonparametric estimation of additive separable regression models. (English summary) *Statistical theory and computational aspects of smoothing* (*Semmering, 1994*), 247–265, *Contrib. Statist., Physica, Heidelberg*, 1996. (Summary) **98f:62083** 62G05

— (*with* Linton, Oliver B.) Estimation of additive regression models with known links. (English summary) *Biometrika* **83** (1996), *no.* 3, 529–540. (Ulrich Stadtmüller) **98c:62068** 62G05 (62G20, 62J12)

— (*with* Korostelëv, A. P.) Search for significant variables in nonparametric additive regression. (English summary) *Biometrika* **83** (1996), *no.* 3, 541–549. (Ewaryst Rafajłowicz) **98d:62062** 62G05

— (*with* Horowitz, Joel L.) Direct semiparametric estimation of single-index models with discrete covariates. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1632–1640. (Wolfgang Polonik) **98e:62054** 62G05

— (*with* Spokoĭnyĭ, V. G.; Sperlich, S.) Semiparametric single index versus fixed link function modelling. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 212–243. (Jagdish Saran) **98g:62085** 62G10 (62G20, 62H40, 62P20)

— (*with* Tsybakov, A. B.) Local polynomial estimators of the volatility function in nonparametric autoregression. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 223–242. (Summary) **98m:62305** 62P20 (62G05, 62M10)

— *see also* **Statistical theory and computational aspects of smoothing, 98e:62011**

Hardouin, Cécile (*with* Comte, Fabienne) Régression sur le log périodogramme régularisé pour des processus gaussiens à densité spectrale bornée. (English and French summaries) [Log-regularized periodogram regression for Gaussian processes under the assumption of bounded spectral density] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1203–1206. (Summary) **98h:62145** 62M15

Hardt, Robert M. Singularities of harmonic maps. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **34** (1997), *no.* 1, 15–34. (Martin Fuchs) **98b:58046** 58E20

— (*with* Lin, Fang Hua; Wang, Changyou) Singularities of p-energy minimizing maps. *Comm. Pure Appl. Math.* **50** (1997), *no.* 5, 399–447. (Martin Fuchs) **98b:58047** 58E20

— (*with* Wolf, Michael[1]) Harmonic extensions of quasiconformal maps to hyperbolic space. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 155–163. (Kiyoko Nishizawa) **98i:30032** 30C65 (30C70, 30F45)

Hardwick, Janis P. A modified bandit as an approach to ethical allocation in clinical trials. (English summary) *Adaptive designs (South Hadley, MA, 1992)*, 65–87, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62F15, 62L10, 62L12)

— (*with* Stout, Quentin F.) Exact computational analyses for adaptive designs. (English summary) *Adaptive designs (South Hadley, MA, 1992)*, 223–237, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62A15, 62K05, 62L10, 62N05)

Hardy, Godfrey Harold *see* **Love, E. R.**

Hardy, James Three problems for the singularity theory of truth. (English summary) *J. Philos. Logic* **26** (1997), *no.* 5, 501–520. (Summary) **98f:03002** 03A05

Hardy, K. (*with* Chávez-Ross, A.; Franks, S.; Mason, H. D.; Stark, Jaroslav) Modelling the control of ovulation and polycystic ovary syndrome. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 95–118. 92C30 (92C50)

Hardy, Kenneth (*with* Williams, Kenneth S.) ★ The green book of mathematical problems. Corrected reprint of the 1985 original. *Dover Publications, Inc., Mineola, NY*, 1997. x+173 *pp. ISBN* 0-486-69573-5 00A07

Hardy, Lucien Contextuality in Bohmian mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 67–76, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

— A bigger contradiction between quantum theory and locality for two particles without inequalities. (English summary) *New developments on fundamental problems in quantum physics (Oviedo, 1996)*, 163–170, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05

— (*with* Boschi, D.; Branca, S.; De Martini, F.) Ladder proof of nonlocality without inequalities: theoretical and experimental results. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 15, 2755–2758. 81P05

Hare, D. E. G. (*with* Corless, Robert M.; Gonnet, Gaston H.; Jeffrey, D. J.; Knuth, Donald E.) On the Lambert W function. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 329–359. (Summary) **98j:33015** 33E20

Hare, Donovan R. (*with* Abbott, H. L.; Zhou, Bing) Color-critical graphs and hypergraphs with few edges and no short cycles. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 3–11. (*see* **98i:05001**) 05C15 (05C35)

Hare, Kathryn E. (*with* Cabrelli, Carlos A.; Molter, Ursula M.) Sums of Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1299–1313. (Irene Hueter) **98k:28009** 28A80 (28A78)

Harel, David (*with* Hirst, Tirza) More about recursive structures: descriptive complexity and zero-one laws. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 334–347, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q15 (03B70, 03D15, 03D45)

— (*with* Globerman, Noa) Complexity results for two-way and multi-pebble automata and their logics. (English summary) ICALP '94 (Jerusalem, 1994). *Theoret. Comput. Sci.* **169** (1996), *no.* 2, 161–184. (Summary) **98j:68111** 68Q68 (03B70, 03D15, 68Q60)

— (*with* Singerman, Eli) Computation paths logic: an expressive, yet elementary, process logic (abridged version). (English summary) *Automata, languages and programming (Bologna, 1997)*, 408–418, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

— (*with* Kupferman, Orna; Vardi, Moshe Y.) On the complexity of verifying concurrent transition systems. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 258–272, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68189** 68Q60 (68Q10, 68Q25)

— (*with* Sardas, M.) An algorithm for straight-line drawing of planar graphs. (English summary) *Algorithmica* **20** (1998), *no.* 2, 119–135. (Summary) **98i:68265** 68U05 (05C10, 05C85, 68Q35, 68R10)

Harfield, N. (*with* Bowler, J. R.) A geometrical theory for eddy-current non-destructive evaluation. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1121–1152. (Summary) **98e:78008** 78A55 (78A45)

Hargittai, István A great communicator of mathematics and other games: a conversation with Martin Gardner. *Math. Intelligencer* **19** (1997), *no.* 4, 36–40. 01A70

chandra Hari, K. *see* **Chandra Hari, K.**

Hari, Vjeran (*with* Drmač, Zlatko) On scaled almost-diagonal Hermitian matrix pairs. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1000–1012. (Jaroslav Zemánek) **98m:65053** 65F15 (15A57)

Hariharan, Parameswaran (*with* Ramachandran, Hema; Suresh, K. A.; Samuel, Joseph) The Pancharatnan phase as a strictly geometric phase: a demonstration using pure projections. (English summary) *J. Modern Opt.* **44** (1997), *no.* 4, 707–713. (Summary) **98c:81021** 81P15 (78A10, 81Q99)

Hariharan, Ramesh (*with* Kapoor, Sanjiv; Kumar, Vijay[3]) Faster enumeration of all spanning trees of a directed graph. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 428–439, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C05, 05C20, 05C85)

— Optimal parallel suffix tree construction. (English summary) 26th Annual ACM Symposium on the Theory of Computing (STOC '94) (Montreal, PQ, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 1, 44–69. (Summary) **98f:68116** 68Q22

— (*with* Cole, Richard J.) Tighter upper bounds on the exact complexity of string matching. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 803–856. (Maxime Crochemore) **98m:68116** 68Q25 (68R15, 68U15)

Hariharan, Rema (*with* Moustafa, Magdi S.; Stidham, Shaler, Jr.) Scheduling in a multi-class series of queues with deterministic service times. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 83–99 (1997). (Muhammad El-Taha) **98k:60162** 60K25 (68M20, 90B22)

Hariharan, S. I. (*with* Hagstrom, Thomas) Progressive wave expansions and open boundary problems. (English summary) *Computational wave propagation (Minneapolis, MN, 1994/1995)*, 23–43, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Summary) **98g:65098** 65M99 (35C20, 76M25, 76N10)

Harima, Tadahito Artin graded rings with the weak Stanley property. (Japanese) Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 51–61. (*see* **98e:13002**) 13E10 (13A02)

Harinath, K. S. Some results on idempotent-existence in semigroups. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 179–183. (J. L. Chrislock) **98h:20109** 20M19 (20M14)

— (*with* Sooryanarayana, B.) On the Cayley graph of an abelian group. (English summary) *Graph theory and its applications (Tirunelveli, 1996)*, 197–202, *Tata McGraw-Hill, New Delhi*, 1997. (Summary) **98h:05092** 05C25

Häring-Oldenburg, Reinhard Global quantum gauge symmetry via reconstruction theorems. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8041–8052. (Stephen J. Summers) **98d:81041** 81T05 (16W30, 17B37, 46L60, 81R50)

— Reconstruction of weak quasi Hopf algebras. (English summary) *J. Algebra* **194** (1997), *no.* 1, 14–35. (Mitsuhiro Takeuchi) **98h:16062** 16W30 (18D10)

— Tensor categories of Coxeter type B and QFT on the half plane. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5371–5382. (Shlomo Gelaki) **98k:18006** 18D10 (16W30, 20F36, 57M25, 81T40)

— Morphisms from $U_r(\mathrm{sl}_2)$ to the rotation algebra $\mathscr{A}_\theta$. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 135–136. 17B37

sree Hari Rao, V. *see* **Sree Hari Rao, V.**

Hariri, A. M. A. (*with* Potts, Chris N.) Single machine scheduling with batch set-up times to minimize maximum lateness. (English summary) *Ann. Oper. Res.* **70** (1997), 75–92. (Frank Werner) **98e:90075** 90B35

haj-Hariri, H. *see* **Haj-Hariri, H.**

Harish-Chandra *see* **Helgason, Sigurdur**

Haritonidis, Joseph H. (*with* Breuer, Kenneth S.; Cohen, Jacob) The late stages of transition induced by a low-amplitude wavepacket in a laminar boundary layer. (English summary) *J. Fluid Mech.* **340** (1997), 395–411. 76E05 (76-05, 76D10, 76F99)

Haritsa, Jayant R. (*with* Baruah, Sanjoy K.) Scheduling for overload in real-time systems. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 1034–1039. 68M20

Harizanov, Valentina S. Effectively and noneffectively nowhere simple sets. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 2, 241–248. (Marius Zimand) **98f:03042** 03D25 (03D10)

Harju, Tero (*with* Ehrenfeucht, Andrzej; Rozenberg, Grzegorz) Theory of 2-structures. *Automata, languages and programming (Szeged, 1995)*, 1–14, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68R10

— (*with* Karhumäki, Juhani; Plandowski, Wojciech) Compactness of systems of equations in semigroups. (English summary) *Automata, languages and programming (Szeged, 1995)*, 444–454, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Wit Foryś) **98e:20069** 20M99 (68Q45)

— (*with* Karhumäki, Juhani) Morphisms. *Handbook of formal languages, Vol. 1*, 439–510, *Springer, Berlin*, 1997. (G. J. Lallement) **98k:68102** 68Q45 (03D05, 20M05, 20M35)

— (*with* Karhumäki, Juhani; Plandowski, Wojciech) Compactness of systems of equations in semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 457–470. (G. J. Lallement) **98g:20090** 20M05 (03C05, 08B05, 20M07)

— (*with* Ehrenfeucht, Andrzej; Rozenberg, Grzegorz) Invariants of inversive 2-structures on groups of labels. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 4, 303–327. (Summary) **98g:20089** 20M05 (05C25)

— (*with* Ilie, Lucian) Languages obtained from infinite words. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 445–455. (Summary) **98m:68147** 68Q45 (03B25, 03D05)

— (*with* Choffrut, Christian; Karhumäki, Juhani) A note on decidability questions on presentations of word semigroups. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 83–92. (G. J. Lallement) **98h:20097** 20M05 (20M35, 68Q70)

Harkema, R. (*with* de Boer, P. M. C.) A new approach to maximum likelihood estimation of sum-constrained linear models in case of undersized samples. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 72–89. (Summary) **98k:62026** 62F10

Harker, Patrick T. (*with* Chen, Bintong) Smooth approximations to nonlinear complementarity problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 403–420. (Michael M. Kostreva) **98e:90192** 90C33

Harko, T. (*with* Mak, M. K.; Fung, P. C. W.) New classes of interior solutions to Einstein-Maxwell equations in spherical symmetry. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 12, 1461–1464. (Maria Piedade Ramos) **98c:83022** 83C22

— (*with* Mak, M. K.; Fung, P. C. W.) Viscous fluid cosmological models in a Bianchi type I universe. (English summary) *Astrophys. Space Sci.* **249** (1997), *no.* 1, 43–71. (Summary) **98h:83012** 83C15 (83C55)

Harland, James (*with* Lutovac, Tatjana) Contributions to strategies and heuristics for automatic theorem proving in mathematics. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 46–55. (*see* **98k:68012**) 68T15

Harlander, Jens Embeddings into efficient groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 317–324. (John G. Ratcliffe) **98c:20059** 20F05 (20J05)

Harlow, Siobán D. (*with* Lin, Xihong; Raz, Jonathan) Linear mixed models with heterogeneous within-cluster variances. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 910–923. 62J05

Harman, C. J. (*with* Robinson, Neville I.) Higher order geometric difference operators. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 265–274. (Summary) **98c:65030** 65D25

Harman, Glyn (*with* Baker, R. C.) The sequence x/n and its subsequences. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 795–814. (S. W. Graham) **98d:11109** 11N25 (11L07, 11L20)

— Metrical theorems on prime values of the integer parts of real sequences. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 3, 481–496. (R. C. Baker) **98h:11100** 11K31 (11K55)

Harmancı, Abdullah (*with* Özcan, Ayşe Çiğdem) Characterization of some rings by functor $Z^*(\cdot)$. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 325–331. 16D70

— (*with* Smith, Patrick F.; Tercan, A.; Tiras, Y.) The Bass-Papp theorem and some related results. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 33–39. (Mamoru Kutami) **98h:16005** 16D50 (16D70)

Harmanec, David (*with* Klir, George J.; Wang, Zhenyuan) Constructing fuzzy measures in expert systems. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 251–264. 28E10

— A note on uncertainty, Dempster rule of combination, and conflict. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 1-2, 63–72. 04A72 (68T30)

Harmat, Veronika (*with* Náray-Szabó, Gábor) The molecular transform as a tool for quantification of molecular similarity. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 29–40. (*see* **98b:92001**) 92E10

Harminc, Matúš On a characterization of graphs by average labellings. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 133–136. 05C75 (05C78)

— (*with* Soták, Roman) Palindromic numbers in arithmetic progressions. *Fibonacci Quart.* **36** (1998), *no.* 3, 259–262. 11B25

Harms, Benjamin (*with* Casadio, Roberto) Space-time singularities and the axion in the Poincaré coset models $\mathrm{ISO}(2,1)/H$. (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 243–247. (Carlos R. Fernández-Pousa) **98f:81298** 81T40 (81T20, 81T30)

— (*with* Casadio, Roberto; Leblanc, Y.; Cox, P. H.) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4948–4961. (Summary) **98e:83069** 83C57

— (*with* Casadio, Roberto; Leblanc, Y.) Statistical mechanics of Kerr-Newman dilaton black holes and the bootstrap condition. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1309–1312. 83C57

Harmsen, Betty Jean The (2, 2) focal discrete variational problem. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 167–183. (Abdurrahman Karamancioglu) **98e:39003** 39A10

Harmsze, Frederique (*with* de Boer, Jan; Tjin, Tjark) Non-linear finite W-symmetries and applications in elementary systems. (English summary) *Phys. Rep.* **272** (1996), *no.* 4, 139–214. (Liviu Tătar) **98b:58068** 58F07 (17B68, 58F35, 81R10)

Harmuth, Thomas (*with* Brandt, Stephan; Brinkmann, Gunnar) All Ramsey numbers $r(K_3, G)$ for connected graphs of order 9. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 7, 20 *pp.* (*electronic*). (C. C. Rousseau) **98m:05126** 05C55

Harnad, John (*with* Adams, M. R.; Hurtubise, Jacques) Darboux coordinates on coadjoint orbits of Lie algebras. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 41–57. (Alexander V. Shapovalov) **98g:58069** 58F07 (17B99, 22E60)

— *see also* **Bispectral problem, 98k:00011**

Harne, Sanjay (*with* Parihar, Champa Lal) Some generalized Fibonacci polynomials. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 2, 251–253. (Neville Robbins) **98g:11014** 11B39

Harnik, Nili (*with* Lindzen, Richard S.) The effect of basic-state potential vorticity gradients on the growth of baroclinic waves and the height of the tropopause. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 3, 344–360. (Summary) **98k:86012** 86A10 (76C15)

Haroske, Dorothee Entropy numbers in weighted function spaces and applications. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 207–214, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 47B06 (46E35)

— Some logarithmic function spaces, entropy numbers, applications to spectral theory. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **373** (1998), 59 *pp.* (Georgi E. Karadzhov) **98m:46046** 46E35 (35Pxx, 47B06, 47G30)

sam-Haroud, D. *see* **Sam-Haroud, D.**

Haroutunian, Samvel On geometry of $(n+s)$-multiply integral, depending on n parameters, $s = \frac{1}{2}n(n+1)$. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 179–186. (Maïdo Rahula) **98d:53103** 53C65

— On some classes of differential geometric structures on submanifolds of codimension two in pseudo-Euclidean space $E^{n+1}_{2(n+1)}$. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 163–170, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Yi Bing Shen) **98i:53023** 53B05 (53B25)

de la Harpe, Pierre (*with* Giordano, Thierry) Moyennabilité des groupes dénombrables et actions sur les espaces de Cantor. (English and French summaries) [Amenability of countable groups and actions on Cantor sets] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1255–1258. (Summary) **98c:54032** 54H15 (43A07)

— (*with* Bacher, Roland; Venkov, Boris B.) Séries de croissance et séries d'Ehrhart associées aux réseaux de racines. (English and French summaries) [Growth series and Ehrhart series for root lattices] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1137–1142. (Summary) **98k:52029** 52B20 (05A10)

— (*with* Bartholdi, Laurent; Cantat, Serge; Ceccherini-Silberstein, Tullio G.) Estimates for simple random walks on fundamental groups of surfaces. (English summary) *Colloq. Math.* **72** (1997), *no.* 1, 173–193. (Alain Valette) **98d:60133a** 60J15 (20F05, 31A05, 60B15)

— (*with* Grigorchuk, Rostislav) On problems related to growth, entropy, and spectrum in group theory. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 1, 51–89. (Susan Hermiller) **98d:20039** 20F32 (20–02)

— (*with* Burger, Marc) Constructing irreducible representations of discrete groups. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 3, 223–235. (Michel Coornaert) **98k:22022** 22D10 (20F32, 20G15, 22D30)

Harper, John F. Bubbles rising in line: why is the first approximation so bad? (English summary) *J. Fluid Mech.* **351** (1997), 289–300. (Stephen K. Wilson) **98k:76141** 76T05 (76D15, 76D25)

Harper, Lawrence H. (*with* Lapidus, Michel L.; Rumbos, Adolfo J.) Dedication [to Victor L. Shapiro]. *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), ix–x, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98c:00018**) 01A70

— A reminiscence and survey of solutions to a JPL coding problem. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 181–196, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:94002** 94A12 (43A99, 94A40)

— *see also* **Harmonic analysis and nonlinear differential equations, 98c:00018**

Harper, Robert (*with* Birkedal, Lars) Relational interpretations of recursive types in an operational setting (summary). (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 458–490, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15

— (*with* Pfenning, Frank) A module system for a programming language based on the LF logical framework. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 5–31. 68N17 (03B70, 68Q60, 68T15)

Harper, William *see* **van Fraassen, Bas C., 98m:03052**

baba Harra, M. *see* **Baba Harra, M.**

Harrell, Evans M., II *see* **Thirring, Walter, 98g:70002** *and* **Advances in differential equations and mathematical physics, 98i:00016**

Harrell, Marvin (*with* Thompson, Kenneth) Half-life, bone lengths, Euler's formula, and constructivism: ways to integrate mathematics and science. *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 160–166. 00A30 (00A69)

Harrington, Leo (*with* Soare, Robert I.) Dynamic properties of computably enumerable sets. (English summary) *Computability, enumerability, unsolvability*, 105–121, *London Math. Soc. Lecture Note Ser.*, 224, *Cambridge Univ. Press, Cambridge*, 1996. (Steffen Lempp) **98c:03089** 03D25

Harriott, Tina A. (*with* Dunn, Kenneth A.; Williams, Jeffrey George) Matching conditions for the 1 + 1 de Sitter kinked spacetime. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 233–236, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83010** 83C15

— (*with* Dunn, Kenneth A.; Williams, Jeffrey George) Energy conditions for a spherically symmetric kink space-time. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6470–6474. (Nora Bretón Báez) **98k:83019** 83C20 (83C15)

Harris, A. B. (*with* Micheletti, C.; Yeomans, J. M.) A complete devil's staircase in the Falicov-Kimball model. (English summary) *J. Phys. A* **30** (1997), *no.* 21, L711–L717. 82B26

Harris, Ann Marie (*with* Powell, James A.; Cangelosi, James S.) Games to teach mathematical modelling. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 87–95 (*electronic*). 00A71

Harris, B. J. The form of the spectral functions associated with Sturm-Liouville problems with continuous spectrum. *Mathematika* **44** (1997), *no.* 1, 149–161. (Stephen L. Clark) **98j:34171** 34L40 (34B24, 47E05)

Harris, Carl M. (*with* Brill, Percy H.) $M/G/1$ queues with Markov-generated server vacations. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 491–521. (Summary) **98a:60132** 60K25

— (*with* Gross, Donald) ★ Fundamentals of queueing theory. (English summary) Third edition. Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+439 *pp. ISBN* 0-471-17083-6 (Publisher's description) **98m:60144** 60K25 (68M20, 68U20, 90B22)

— *see also* **Encyclopedia: Operations research and management science, 98d:90001**

Harris, David Principal components analysis of cointegrated time series. (English summary) *Econometric Theory* **13** (1997), *no.* 4, 529–557. (Zuzana Prášková) **98m:62244** 62M10 (62H12, 62H15, 62H25)

Harris, Desmond J. On the approximation numbers of Hardy-type operators. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 215–220, *Prometheus, Prague*, 1996. (From the summary) **98j:47111** 47G10 (47B06, 47B38)

— (*with* Edmunds, David E.; Evans, William Desmond) Two-sided estimates of the approximation numbers of certain Volterra integral operators. (English summary) *Studia Math.* **124** (1997), *no.* 1, 59–80. (Hermann König) **98d:47106** 47G10 (45D05, 45P05, 47B06)

Harris, Frederick C., Jr. (*with* Tadjiev, Umid) Parallel computation of the minimal crossing number of a graph. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68R10 (68Q22)

Harris, John G. Modeling scanned acoustic imaging of defects at solid interfaces. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 237–257, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 73D50 (76Q05)

Harris, Lawrence A. A Bernstein-Markov theorem for normed spaces. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 476–486. (Z. Ditzian) **98e:41018** 41A17 (46B20)

— Holomorphic mappings of domains in operator spaces. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3493–3503. (Introduction) **98k:46074** 46G20 (46L05, 47D99, 58B12)

Harris, Martin Guy (*with* Ambjørn, Jan) Correlation functions in the multiple Ising model coupled to gravity. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 3, 575–601. (Summary) **98f:81303** 81T40 (81T10, 81T15, 82B20)

Harris, Michael Supercuspidal representations in the cohomology of Drinfel'd upper half spaces; elaboration of Carayol's program. *Invent. Math.* **129** (1997), *no.* 1, 75–119. (Ernst-Wilhelm Zink) **98i:11100** 11S37 (11F70, 11F72, 11G18, 22E50, 22E55)

— L-functions and periods of polarized regular motives. *J. Reine Angew. Math.* **483** (1997), 75–161. (Alexey A. Panchishkin) **98b:11070** 11G40 (11F67, 11G09, 11G18)

Harris, Richard John (*with* Stojanovski, Toni; Kocarev, Ljupčo; Parlitz, Ulrich) Sporadic driving of dynamical systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4035–4048. (Summary) **98c:58152** 58F30 (34C35, 34D05, 58F40, 70K20)

Harris, S. C. (*with* Williams, David) Large deviations and martingales for a typed branching diffusion. I. (English summary) Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 133–154. (Alexander Schied) **98c:60110** 60J80 (60F15)

Harris, Simon D. (*with* Fordy, Allan P.) Hamiltonian flows on stationary manifolds. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 212–238. (Carlo Morosi) **98m:58054** 58F07 (35Q53)

Harris, Steven G. (*with* Garfinkle, David) Ricci fall-off in static and stationary, globally hyperbolic, non-singular spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 139–151. (Robert J. Low) **98c:83075** 83C75 (53C50)

Harrison, F. E. (*with* Wan, K. K.) Macroscopic quantum systems as measuring devices: dc SQUIDs and superselection rules. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4731–4755. 81P99

Harrison, J. *see* **Harrison, John**

Harrison, J. Michael (*with* Williams, Ruth J.) A multiclass closed queueing network with unconventional heavy traffic behavior. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 1, 1–47. (W. Szczotka) **98b:60159** 60K25 (60J70)

— (*with* Van Mieghem, Jan A.) Dynamic control of Brownian networks: state space collapse and equivalent workload formulations. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 747–771. (Summary) **98b:60160** 60K25 (60J70, 90B15)

Harrison, Jeff (*with* West, Mike) ★ Bayesian forecasting and dynamic models. (English summary) Second edition. Springer Series in Statistics. *Springer-Verlag, New York*, 1997. xiv+680 *pp. ISBN* 0-387-94725-6 (From the preface) **98m:62268** 62M20 (62F15, 90A20)

Harrison, John Verifying the accuracy of polynomial approximations in HOL. (English summary) *Theorem proving in higher order logics (Murray Hill, NJ*, 1997), 137–152, *Lecture Notes in Comput. Sci.*, 1275, *Springer, Berlin*, 1997. (*see* **98i:68018**) 68T15 (65D20, 68Q40)

— *see also* **Theorem proving in higher order logics, 98c:68024**

Harrison, Jonathan The trouble with Tarski. *Philos. Quart.* **48** (1998), *no.* 190, 1–22. 03A05

Harrison, Peter G. (*with* Grant-Duff, Zully N.) Parallelism via homomorphisms. (English summary) *Parallel Process. Lett.* **6** (1996), *no.* 2, 279–295. (Dorothy Bollman) **98a:68056** 68Q10 (68Q22)

Hart, A. G. (*with* Pollett, P. K.) Direct analytical methods for determining quasistationary distributions for continuous-time Markov chains. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 116–126, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Xiang Qun Yang) **98m:60114** 60J27 (60J10, 60J25, 60J35, 60J80)

Hart, Bradd T. *see* **Algebraic model theory, 98e:03026**

Hart, Deborah R. (*with* Gardner, Robert H.) A spatial model for the spread of invading organisms subject to competition. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 935–948. (Summary) **98h:92043** 92D30 (92D25)

Hart, Jeffrey D. (*with* Lombard, F.) The analysis of change-point data with dependent errors. (English summary) *Change-point problems (South Hadley, MA*, 1992), 194–209, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G20 (62M10, 62M15)

— (*with* Yi, Seongbaek) One-sided cross-validation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 620–631. 62G05

Hart, Joan (*with* Kunen, Kenneth) Locally constant functions. (English summary) *Fund. Math.* **150** (1996), *no.* 1, 67–96. (S. J. Sidney) **98b:46028** 46E10 (54C10, 54C40)

Hart, Klaas Pieter (*with* Dow, Alan) A new subcontinuum of $\beta\mathbf{R} \setminus \mathbf{R}$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 6, 1861–1871. (Michel Smith) **98b:54033** 54D40 (04A30, 54D35, 54F15, 54G05)

— *see also* **Papers on general topology and applications, 98f:54005**

Hart, Sergiu Classical cooperative theory. I. Core-like concepts. *Cooperation: game-theoretic approaches (Stony Brook, NY*, 1994), 35–42, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12

— Classical cooperative theory. II. Value-like concepts. *Cooperation: game-theoretic approaches (Stony Brook, NY*, 1994), 43–49, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12

— (*with* Weiss, Benjamin) Significance levels for multiple tests. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 43–48. (Summary) **98g:62086** 62G10 (62G30)

— *see also* **Cooperation: game-theoretic approaches, 98g:90005**

Hart, W. D. *see* **Philosophy of mathematics, 98g:03014**

Hart, William Eugene A theoretical comparison of evolutionary algorithms and simulated annealing. (English summary) *Evolutionary programming, V (San Diego, CA*, 1996), 147–154, *Complex Adapt. Systems, MIT Press, Cambridge, MA*, 1996. (*see* **98g:90007**) 90C27 (90C30)

Harte, Robin (*with* Lee, Woo Young) A note on the punctured neighbourhood theorem. *Glasgow Math. J.* **39** (1997), *no.* 3, 269–273. (R. W. Cross) **98k:47022** 47A53

— On criss-cross commutativity. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 303–309. (Volker Wrobel) **98e:47004** 47A10 (47A13)

— (*with* Lee, Woo Young) Another note on Weyl's theorem. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 2115–2124. (Wacław Szymański) **98j:47024** 47A53 (47A10)

— (*with* Hernández-Garciadiego, Carlos) On the Taylor spectrum of left-right multipliers. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 397–404. (Catalin Badea) **98e:46057** 46H05 (47A13, 47B48)

Härtel, Carlos (*with* Kleiser, Leonhard; Michaud, M.; Stein, C. F.) A direct numerical simulation approach to the study of intrusion fronts. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 103–120. (Summary) **98i:86007** 86A10 (76M25, 86–08, 86A05)

— (*with* Kleiser, Leonhard) Analysis and modelling of subgrid-scale motions in near-wall turbulence. (English summary) *J. Fluid Mech.* **356** (1998), 327–352. 76F99

Harten, Ami High resolution schemes for hyperbolic conservation laws [MR 84g:65115]. (English summary) With an introduction by Peter Lax. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 259–278. (*see* **98h:70003**) 65M06 (76M20)

— (*with* Bihari, Barna L.) Multiresolution schemes for the numerical solution of 2-D conservation laws. I. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 2, 315–354. (Claude Carasso) **98f:65092** 65M12 (35L65)

Harten, Friedrich (*with* Meyerthole, Andreas; Schmitz, Norbert) ★ Prophetentheorie. (German) [Prophet theory] Prophetenungleichungen, Prophetenregionen, Spiele gegen einen Propheten. [Prophet inequalities, prophet regions, games against a prophet] Teubner Skripten zur Mathematischen Stochastik. [Teubner Texts on Mathematical Stochastics] *B. G. Teubner, Stuttgart*, 1997. viii+210 *pp. ISBN* 3-519-02737-2 (Manfred Kraft) **98h:60056** 60G40 (60G48, 90D15)

Härterich, Jörg Attractors of viscous balance laws: uniform estimates for the dimension. *J. Differential Equations* **142** (1998), *no.* 1, 188–211. (Piotr Biler) **98j:35104** 35K60 (34G20, 35B40, 47H20, 58F39)

— Cascades of reversible homoclinic orbits to a saddle-focus equilibrium. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 187–200. (Boris Buffoni) **98m:34096** 34C37 (34C23, 58F14)

Hartfiel, D. J. Similitudes and the l_1-norm. (English summary) *Linear Algebra Appl.* **245** (1996), 305–319. (E. Seneta) **98c:15066** 15A51

— Eigenvector sets for intervals of matrices. (English summary) *Linear Algebra Appl.* **262** (1997), 1–10. (F. Szidarovszky) **98c:15029** 15A18 (65G10)

— (*with* Meyer, Carl D.) On the structure of stochastic matrices with a subdominant eigenvalue near 1. (English summary) *Linear Algebra Appl.* **272** (1998), 193–203. (Jacques Dubois) **98k:15032** 15A51 (15A18)

Hartl, Johann (*with* Aumann, Günter) Einige Bemerkungen über Quadriken in affinen Räumen. (German summary) [Some remarks on quadrics in affine spaces] *Math. Semesterber.* **42** (1995), *no.* 1, 63–70. (Vladislav Goldberg) **98m:51021** 51N10

— Zur Jordan-Normalform durch den Faktorraum. (English summary) [An approach to the Jordan normal form via the factor space] *Arch. Math. (Basel)* **69** (1997), *no.* 3, 192–195. (Carl Riehm) **98g:15013** 15A21

Hartl, Manfred (*with* Baues, Hans-Joachim) On the homotopy category of Moore spaces and the cohomology of the category of abelian groups. (English summary) *Fund. Math.* **150** (1996), *no.* 3, 265–289. (J. Aguadé) **98a:55009** 55P15 (18G99, 55P10)

— A universal coefficient decomposition for subgroups induced by submodules of group algebras. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 47–53. (Stanley Orlando Juriaans) **98i:20005** 20C07

— (*with* Dekimpe, Karel) Affine structures on 4-step nilpotent Lie algebras. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 1, 19–37. (Duncan J. Melville) **98g:17010** 17B30 (17B35)

Hartle, James B. Spacetime quantum mechanics and the quantum mechanics of spacetime. *Gravitation et quantifications (Les Houches*, 1992), 285–480, *North-Holland, Amsterdam*, 1995. (Michael Keyl) **98g:81144** 81T20 (81P05, 81P15, 81V17, 83C47)

— Generalized quantum mechanics of spacetime. *Quantum classical correspondence (Philadelphia, PA*, 1994), 141–145, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 83C45 (81T20)

— (*with* Miller, Warner A.; Williams, Ruth M.) Signature of the simplicial supermetric. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2137–2155. (Annalisa Marzuoli) **98g:83020** 83C27 (83C45)

— (*with* Perjés, Zoltán) Solutions of the Regge equations on some triangulations of $\mathbf{CP}^2$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2577–2586. (Francois Vanderseypen) **98a:83040** 83C27 (83C45)

— *see also* **Kent, Adrian, 98j:83042**

Hartley, Brian Locally finite groups whose Sylow subgroups are Chernikov. *Infinite groups* 1994 (*Ravello*), 87–101, *de Gruyter, Berlin*, 1996. (Zhi Rang Zhang) **98m:20046** 20F50

— (*with* Belyaev, V. V.) Centralizers of finite nilpotent subgroups in locally finite groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 389–410, 497; *translation in Algebra and Logic* **35** (1996), *no.* 4, 217–228. (O. Yu. Dashkova) **98e:20040** 20F05

— (*with* Zalesskiĭ, Aleksandr E.) Confined subgroups of simple locally finite groups and ideals of their group rings. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 210–230. (Donald S. Passman) **98c:16031** 16S34 (20F50)

— (*with* Kuzucuoğlu, Mahmut) Non-simplicity of locally finite barely transitive groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 483–490. (Howard Smith) **98h:20068** 20F50 (20B07)

Hartley, David (*with* Tucker, Robin W.; Tuckey, Philip A.) Involution, constraints and exterior differential systems. (English summary) *Constraint theory and quantization methods (Montepulciano*, 1993), 18–26, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:58011** 58A15 (70F99, 70H35)

— Overview of computer algebra in relativity. (English summary) *Relativity and scientific computing*, 173–191, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–04

— Causal structure and integrability in moving frames with Reduce. (English summary) *Relativity and scientific computing*, 270–284, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–04

— Involution analysis for nonlinear exterior differential systems. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 51–62. (Irl Bivens) **98e:58012** 58A15 (35A30, 58–04)

Hartley, Joanna K. (*with* Bargiela, Andrzej) Parallel state estimation with confidence limit analysis. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 155–167. (Summary) **98g:65136** 65U05 (65D10, 65Y05)

Hartley, Michael Ian Combinatorially regular Euler polytopes. (Thesis summary). *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 173–174. 52B12 (20F55)

Hartley, Roger (*with* Jones, Peter Watts; Lewis, A. M.) Some designs for multicriteria bandits. (English summary) *Adaptive designs (South Hadley, MA*, 1992), 88–94, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62L15)

Hartlieb, Silke (*with* Happel, Dieter; Kerner, Otto; Unger, Luise) On perpendicular categories of stones over quiver algebras. *Comment. Math. Helv.* **71** (1996), *no.* 3, 463–474. (D. Zacharia) **98b:16013** 16G70 (16G20)

Hartmanis, Juris On the computing paradigm and computational complexity. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 82–92, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Robert M. Baer) **98g:68047** 68Q15 (68Q25, 68Q30)

Hartmann, Carlos R. P. (*with* Han, Yunghsiang S.) The zero-guards algorithm for general minimum-distance decoding problems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1655–1658. 94B35

— (*with* Han, Yunghsiang S.; Mehrotra, Kishan G.) Decoding linear block codes using a priority-first search: performance analysis and suboptimal version. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1233–1246. (Summary) **98m:94044** 94B05 (94B35)

Hartmann, Dennis L. (*with* Zuercher, Peter) Response of baroclinic life cycles to barotropic shear. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 3, 297–313. (Summary) **98k:86013** 86A10 (76C15)

Hartmann, Georg *see* **Lamprey, John P.**

Hartmann, Peter[2] Efficient subgraph matching within cellular hypergraphs. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 309–318, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q42 (68R10)

Hartmann, Silvio (*with* Bandemer, Hans) A fuzzy approach to stability of fuzzy controllers. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 161–172. (From the summary) **98m:93068** 93C42 (93D99)

Hartmann, Sönke (*with* Sprecher, Arno; Drexl, Andreas) An exact algorithm for project scheduling with multiple modes. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 195–203. (Summary) **98c:90054** 90B35

Hartmann, Stefan (*with* Lührs, Georg; Haupt, Peter) On the numerical treatment of finite deformations in elastoviscoplasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **144** (1997), *no.* 1-2, 1–21. 73V05 (73E60, 73G20)

Hartmann, Wolfgang M. (*with* Hartwig, Robert E.) Computing the Moore-Penrose inverse for the covariance matrix in constrained nonlinear estimation. (English summary) *SIAM J. Optim.* **6** (1996), *no.* 3, 727–747. (Summary) **98i:65031** 65F20 (65F10, 65U05)

Hartnell, B. L. On the local structure of well-covered graphs without 4-cycles. *Ars Combin.* **45** (1997), 77–86. (László Pyber) **98g:05127** 05C75

— (*with* Whitehead, C. A.) On k-packings of graphs. (English summary) *Ars Combin.* **47** (1997), 97–108. (Summary) **98h:05150** 05C70

— (*with* Rall, Douglas F.) On graphs in which every minimal total dominating set is minimum. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 109–117. (Summary) **98i:05130** 05C70 (05C35)

— (*with* Jørgensen, Leif K.; Vestergaard, P. D.; Whitehead, C. A.) Edge stability of the k-domination number of trees. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 31–40. (Summary) **98k:05089** 05C35 (05C12)

Hartonas, Chrysafis (*with* Dunn, J. M.) Stone duality for lattices. (English summary) *Algebra Universalis* **37** (1997), *no.* 3, 391–401. (Brian A. Davey) **98m:06012** 06B15 (06A15)

— Pretopology semantics for bimodal intuitionistic linear logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 1, 65–78 (*electronic*). (Harold Schellinx) **98h:03075** 03F50 (03B45)

— An algebraic theory of structured objects. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 65–80. (Peter Vojtáš) **98m:03061** 03B70 (03E70)

— Semantics for finite delay. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 205–234. (Peter Bachmann) **98g:68040** 68Q10 (03B70, 03E70, 08A70, 18B20, 68Q55)

Hartonas-Garmhausen, Vasiliki (*with* Baier, Christel; Clarke, Edmund M.; Kwiatkowska, Marta; Ryan, Mark) Symbolic model checking for probabilistic processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 430–440, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

Hartsfield, Nora (*with* Archdeacon, Dan; Little, C. H. C.) Non-Hamiltonian triangulations with large connectivity and representativity. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 45–55. (Summary) **98g:57035** 57Q15 (05C10, 05C40, 05C45)

Hartshorne, Robin Families of curves in $\mathbf{P}^3$ and Zeuthen's problem. (English summary) *Mem. Amer. Math. Soc.* **130** (1997), *no.* 617, viii+96 *pp.* (Giorgio Bolondi) **98f:14024** 14H50 (14C20)

Hartung, Ferenc (*with* Herdman, Terry L.; Turi, Janos) On existence, uniqueness and numerical approximation for neutral equations with state-dependent delays. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 393–409. (Gustaf Gripenberg) **98d:34111** 34K40 (34K05, 65L99)

— On differentiability of solutions with respect to parameters in a class of functional-differential equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 65–79 (1998). (P. Ch. Tsamatos) **98i:34093** 34K05

— (*with* Turi, Janos) On differentiability of solutions with respect to parameters in state-dependent delay equations. (English summary) *J. Differential Equations* **135** (1997), *no.* 2, 192–237. (Sjoerd M. Verduyn Lunel) **98e:34119** 34K05

— (*with* Turi, Janos) Identification of parameters in delay equations with state-dependent delays. *Nonlinear Anal.* **29** (1997), *no.* 11, 1303–1318. (Haydar Akça) **98m:34160** 34K35 (34A55, 65K10, 93B30)

Hartwig, Helga A note on roughly convex functions. (English summary) *Optimization* **38** (1996), *no.* 4, 319–327. (Jean-Pierre Crouzeix) **98c:90097** 90C26 (26A51)

Hartwig, Robert E. (*with* Hartmann, Wolfgang M.) Computing the Moore-Penrose inverse for the covariance matrix in constrained nonlinear estimation. (English summary) *SIAM J. Optim.* **6** (1996), *no.* 3, 727–747. (Summary) **98i:65031** 65F20 (65F10, 65U05)

— (*with* Katz, Irving J.) On products of EP matrices. (English summary) *Linear Algebra Appl.* **252** (1997), 339–345. (Gong Ning Chen) **98a:15050** 15A57

— (*with* Chen, Xuzhou) On the convergence of power scaled Cesàro sums. (English summary) *Linear Algebra Appl.* **267** (1997), 335–358. (Uriel G. Rothblum) **98k:15003** 15A04 (65F10, 65F15)

— (*with* Puystjens, R.) The group inverse of a companion matrix. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 137–150. (Summary) **98k:15006** 15A09

Haruki, Hiroshi (*with* Rassias, Themistocles M.) New generalizations of the Poisson kernel. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 191–196. (Summary) **98a:31002** 31A05 (31A10)

Harvey, Alex The anisotropic Bianchi V cosmological model. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 9, 1217–1226. (Summary) **98j:83018** 83C15

Harvey, Jeffrey A. (*with* Gauntlett, Jerome P.) S-duality and the dyon spectrum in $N = 2$ super Yang-Mills theory. (English summary) *Nuclear Phys. B* **463** (1996), *no.* 2-3, 287–314. (Nguyen Anh Ky) **98a:81223** 81T60 (81T13)

— (*with* Gregory, Ruth; Moore, Gregory W.) Unwinding strings and T-duality of Kaluza-Klein and H-monopoles. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 283–297. (Paulo Moniz) **98k:81214** 81T30 (83E30)

— (*with* Green, Michael B.; Moore, Gregory W.) I-brane inflow and anomalous couplings on D-branes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 47–52. (Summary) **98b:81193** 81T30

Harville, David A. Generalized inverses and ranks of modified matrices. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 67–78, iv. (Predrag S. Stanimirović) **98f:15001** 15A09

— ★ Matrix algebra from a statistician's perspective. (English summary) *Springer-Verlag, New York*, 1997. xviii+630 *pp. ISBN* 0-387-94978-X (R. Kala) **98k:15001** 15-01

Harwell, Michael R. (*with* Serlin, Ronald C.) An empirical study of five multivariate tests for the single-factor repeated measures model. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 605–618. 62J10

Hasan, Ali A. (*with* Hasan, Mohammed A.) Hankel matrices of finite rank with applications to signal processing and polynomials. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 218–242. (Gong Ning Chen) **98c:15073** 15A57 (94A12)

Hasan, M. Anwarul Division-and-accumulation over GF(2^m). (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 6, 705–708. 94B99

Hasan, M. N. (*with* Koenker, Roger) Robust rank tests of the unit root hypothesis. (English summary) *Econometrica* **65** (1997), *no.* 1, 133–161. (Sung K. Ahn) **98e:62130** 62M10 (62G10, 62P20)

Hasan, Mohammed A. (*with* Hasan, Ali A.) Hankel matrices of finite rank with applications to signal processing and polynomials. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 218–242. (Gong Ning Chen) **98c:15073** 15A57 (94A12)

— A power method for computing square roots of complex matrices. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 393–405. (L. W. Ehrlich) **98h:65017** 65F30 (15A99, 65F15)

Hasankhani, A. (*with* Zahedi, M. M.) Some results on F-polygroups. (English summary) *New frontiers in hyperstructures* (*Molise*, 1995), 219–230, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

— (*with* Zahedi, M. M.) F-polygroups. II. (English summary) *Inform. Sci.* **89** (1996), *no.* 3-4, 225–243. (S. Comer) **98b:20117** 20N20 (04A72, 20N25)

— (*with* Zahedi, M. M.) On F-hypermodules. (English summary) *Algebraic hyperstructures and applications* (*Prague*, 1996), 61–76, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20 (04A72)

Hasanov, Alemdar *see* **Gasanov, A. I.**

Hasanov, Mahir (*with* Cesur, Y.) On a nonlinear eigenvalue problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 491–500. (L. Rodman) **98k:47036** 47A65 (47A75)

Haščák, Alexander (*with* Futák, Ján) Asymptotic and integral equivalence of multivalued differential systems. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 21–30. (J. W. Macki) **98j:34088** 34C99 (34A60, 34D05)

— Test for disconjugacy of a differential inclusion of neutral type. (English summary) *Georgian Math. J.* **4** (1997), *no.* 2, 101–108. (Uri Elias) **98d:34112** 34K40 (34A60, 34K15)

Hasebe, Norio (*with* Qian, Jun) On the technique of shifting side nodes in isoparametric elements to impose arbitrary singularity. (English summary) *Comput. & Structures* **66** (1998), *no.* 6, 841–846. 73V05

Hasegawa, H. *see* **Hasegawa, Hiroshi H.**

Hasegawa, Hikaru (*with* Chaturvedi, Anoop; Asthana, Sheel) Bayesian analysis of the linear regression model with non-normal disturbances. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 277–293. (Summary) **98m:62187** 62J05 (62F15)

— (*with* Chaturvedi, Anoop; Asthana, Sheel) Bayesian analysis of the linear regression model with an Edgeworth series prior distribution. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1145–1164. (Summary) **98a:62090** 62J05 (62F15)

— (*with* Chaturvedi, Anoop; Chaturvedi, Ajit; Shukla, Govind) Confidence sets for the coefficients vector of a linear regression model with nonspherical disturbances. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 406–429. (Ram Shanmugam) **98h:62112** 62J05 (62P20)

Hasegawa, Hiroshi H. Dynamical formulation of quantum level statistics. (English summary) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 54–75. (Peter N. Zhevandrov) **98i:81051** 81Q15 (82C23)

Hasegawa, Izumi (*with* Yamauchi, Kazunari; Shimada, Hideo) Sasakian structures on Finsler manifolds. *Lagrange and Finsler geometry*, 75–80, *Fund. Theories Phys.*, 76, *Kluwer Acad. Publ., Dordrecht*, 1996. (Aurel Bejancu) **98b:53068** 53C60 (53C25)

Hasegawa, K. *see* **Hasegawa, Koji**

Hasegawa, Kensuke (*with* Sugisawa, Makiko; Ma, Riquan) Deadlock avoidance for discrete production systems based on deadlock analyzing graph. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 77–91. 90B70 (93A30)

Hasegawa, Koji (*with* Antonov, Alexander; Zabrodin, A. V.) On trigonometric intertwining vectors and non-dynamical R-matrix for the Ruijsenaars model. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 747–770. (Rinat M. Kashaev) **98j:82016** 82B23 (17B37, 81R50, 81V70)

Hasegawa, Manabu Broken ergodic motion of two hard particles in a one-dimensional box. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 19–24. 58F11

Hasegawa, Masahito Decomposing typed lambda calculus into a couple of categorical programming languages. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 200–219, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (*see* **98c:68008**) 68N15 (03B40, 03B70)

— (*with* Gardner, Philippa) Types and models for higher-order action calculi. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 583–603, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q10 (68N15)

— Recursion from cyclic sharing: traced monoidal categories and models of cyclic lambda calculi. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 196–213, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98g:03043** 03B40 (18D99, 68Q55)

Hasegawa, Ryu A logical aspect of parametric polymorphism. (English summary) *Computer science logic* (*Paderborn*, 1995), 291–307, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03074** 03B70 (03F35, 68N15, 68Q55)

Hasegawa, Ryuzo (*with* Inoue, Katsumi[2]; Ohta, Yoshihiko; Koshimura, Miyuki) Non-Horn magic sets to incorporate top-down inference into bottom-up theorem proving. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 176–190, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68T15 (03B35, 68N17)

— (*with* Ohta, Yoshihiko; Inoue, Katsumi²) The equivalence between non-Horn magic sets and relevancy testing. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 10, 1894–1904. (Summary) **98i:68247** 68T15 (03B35)

Hasegawa, Toshiharu (*with* Miyoshi, Naoto) Smoothed perturbation analysis for single-server queues with some general service disciplines. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 545–566. (Summary) **98a:60140** 60K25

Hasegawa, Yuji Some examples of modular QM-abelian surfaces. (Japanese) Deformation of group schemes and applications to number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 942 (1996), 142–152. (Takeshi Ooe) **98a:11075** 11G18 (11F11, 14G35)

Hasenbein, John J. Necessary conditions for global stability of multiclass queueing networks. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 87–94. (Summary) **98f:90023** 90B22

Hasenfratz, P. Fascinating field theory: quantum field theory, renormalization group, and lattice regularization. Notes by F. Kleefeld and T. Kraus. *Lectures on QCD*, 1–35, *Lecture Notes in Phys.*, 481, *Springer, Berlin*, 1997. (*see* **98k:81306**) 81V17 (81–02, 81T25)

Hasfura-Buenaga, J. Roberto (*with* Fieldsteel, Adam) Dyadic equivalence to completely positive entropy. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1143–1166. (Meir Smorodinsky) **98k:28029** 28D15 (28D20)

abo-Hasha, Shadia M. *see* **Abo-Hasha, Shadia M.**

hakim-Hashemi, Mehdi *see* **Hakim-Hashemi, Mehdi**

Hashiguchi, Hiroki (*with* Niki, Naoto) Algebraic algorithm for calculating coefficients of zonal polynomials of order three. *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 41–46. 62H10 (65D20)

— (*with* Inoue, Tatsuki; Iwashita, Toshiya; Niki, Naoto) Matrix derivatives for higher-order asymptotic expansions and distribution of statistics under an elliptic population. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 210–217. (*see* **98h:00039**) 62H10 (62E20)

Hashiguchi, Kosaburo New upper bounds to the limitedness of distance automata. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 324–335, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q68 (68Q45)

— (*with* Ishiguro, Kenichi) Solvability of the equivalence decision problem for finite ambiguous business management automata. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 233–239. (*see* **98a:68008**) 68Q68

— (*with* Ishiguro, Kenichi) Decidability of the equivalence problem of finitely ambiguous finance automata. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 23–36. (Summary) **98g:68109** 68Q68 (20M35)

Hashiguchi, Masanori (*with* Kuwahara, Kunio) Numerical calculation of the geometric structure of vortex fields. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 213–219. (*see* **98e:76004**) 76M25 (76C05, 76D05)

Hashiguchi, Masao (*with* Ichijyō, Yoshihiro) On (a, b, f)-metrics. II. (English summary) *Rep. Fac. Sci. Kagoshima Univ. Math. Phys. Chem. No.* 29 (1996), 1–5. (Sorin Dragomir) **98f:53021** 53B40

— (*with* Hōjō, Shun-ichi; Matsumoto, Makoto) Landsberg spaces of dimension two with (α, β)-metric. *Tensor (N.S.)* **57** (1996), *no.* 2, 145–153. (Sándor Bácsó) **98g:53032** 53B40

Hashimoto, Akikazu Dynamics of Dirichlet-Neumann open strings on D-branes. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 243–258. (Summary) **98f:81257** 81T30

— (*with* Klebanov, Igor R.) Scattering of strings from D-branes. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 118–133. (Summary) **98d:81083** 81T30 (83E30)

— Perturbative dynamics of fractional strings on multiply wound D-strings. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 903–914. (Summary) **98k:81215** 81T30

Hashimoto, H. *see* **Hashimoto, Hiroaki**

Hashimoto, Hideya (*with* Koda, Takashi) Grassmann geometry of 6-dimensional sphere. (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 136–142, *World Sci. Publishing, River Edge, NJ*, 1997. (Hiroo Naitoh) **98g:53111** 53C42 (53C15, 53C40)

— (*with* Funabashi, Shoichi) Hypersurfaces in a 6-dimensional sphere. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 23–42. (Luis Ugarte) **98d:53081** 53C40 (53C15)

— Explicit representation of super-minimal J-holomorphic curves in a 6-dimensional sphere. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 241–251. (Motoko Kotani) **98m:53079** 53C42 (53C15)

Hashimoto, Hiroaki (*with* Kataoka, H.) A solution to a class of nonlinear optimal control problems derived from Noether's theorem. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 389–392, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 49K15

Hashimoto, Keizo (*with* Jami, Catherine) Kepler's laws in China: a missing link? Jean-François Foucquet's *Lifa wenda. Historia Sci.* (2) **6** (1997), *no.* 3, 171–185. (Shi Rong Guo) **98g:01014** 01A25 (01A45, 01A50)

Hashimoto, Ki-ichiro The structure of real multiplications connected with algebraic correspondences of algebraic curves of genus 2. (Japanese) Deformation of group schemes and applications to number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 942 (1996), 153–163. (Takeshi Ooe) **98a:14041** 14H40 (11G10, 14G25)

Hashimoto, Koji (*with* Hata, Hiroyuki) D-brane and gauge invariance in closed string field theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5179–5193. (Summary) **98g:81165** 81T30 (83E30)

Hashimoto, Mitsuyasu Tilting modules of q-Schur algebras. (Japanese) Geometry of toric varieties and convex polytopes (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 934 (1996), 190–211. (*see* **97c:00043**) 20G05 (16G10)

— Second syzygy of determinantal ideals generated by minors of generic symmetric matrices. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 1, 27–47. (Aldo Conca) **98a:13019** 13C40 (13D02, 15A69)

Hashimoto, Takahiro Pohozaev-type inequalities for weak solutions of elliptic equations. Variational problems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 951 (1996), 126–135. (Vicenţiu Rădulescu) **98d:35055** 35J60 (35B05, 47H15, 47N20)

— (*with* Ōtani, Mitsuharu) Nonexistence of positive solutions for some quasilinear elliptic equations in strip-like domains. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 565–578. (Summary) **98e:35070** 35J65 (35B05)

Hashimoto, Takeshi (*with* Taguchi, Motoyasu) Performance of explicit error detection and threshold decision in decoding with erasures. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1650–1655. 94B35

Hashimoto, Yasuji (*with* Manabe, Shojiro; Ogura, Yukio) Short time asymptotics and an approximation for the heat kernel of a singular diffusion. *Itô's stochastic calculus and probability theory*, 129–139, *Springer, Tokyo*, 1996. (Zhongmin Qian) **98k:60129** 60J60 (35K10, 58G32, 60F10)

Hashtrudi-Zaad, K. (*with* Khorasani, K.) An integral manifold approach to tracking control for a class of non-minimum phase linear systems using output feedback. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 11, 1533–1552. (H. A. Nour Eldin) **98b:93031** 93C05 (93B29, 93B50, 93C70)

Hasiewicz, Zbigniew Chiral systems on group manifolds. (English summary) *From field theory to quantum groups*, 219–228, *World Sci. Publishing, River Edge, NJ*, 1996. (Carlos R. Fernández-Pousa) **98f:81304** 81T40

— (*with* Daszkiewicz, Marcin; Jaskólski, Zbigniew) Non-critical light-cone string. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 437–459. (Summary) **98k:81202** 81T30 (81R10)

— *see also* **Duality—strings & fields, 98j:81004**

Hasiewicz, Zygmunt Two-stage identification of interconnected steady-state systems with cascade structure: a parametric approach. II. Empirical identification algorithm. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 125–154. (Summary) **98c:93011** 93A20 (93E10)

Haslach, Henry W., Jr. Geometric structure of the non-equilibrium thermodynamics of homogeneous systems. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 147–162. (Ryszard Mrugala) **98j:80004** 80A10 (53C80, 73B30, 76A02)

Hasler, Martin (*with* Maĭstrenko, Yurīĭ L.) An introduction to the synchronization of chaotic systems: coupled skew tent maps. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 856–866. (*see* **98g:93002**) 93D15 (58F13, 93C10)

— *see also* **Thiran, Patrick, 98i:92007**

Haslett, John (*with* Hayes, Kevin) Residuals for the linear model with general covariance structure. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 201–215. 62J05

Haslinger, J. (*with* Hlaváček, Ivan; Nečas, Jindřich) Numerical methods for unilateral problems in solid mechanics. *Handbook of numerical analysis, Vol. IV*, 313–485, *Handb. Numer. Anal., IV, North-Holland, Amsterdam*, 1996. (*see* **98b:65001**) 73Vxx (49J40, 65K10)

— (*with* Mäkinen, R. A. E.) Shape optimization of materially non-linear bodies in contact. (English summary) *Appl. Math.* **42** (1997), *no.* 3, 171–193. (Pekka Neittaanmäki) **98c:73061** 73K40 (49Q10, 73C50, 73T05, 73V05)

— (*with* Miettinen, Markku) Finite element approximation of vector-valued hemivariational problems. (English summary) *J. Global Optim.* **10** (1997), *no.* 1, 17–35. (Ruxandra Stavre) **98a:49018** 49J40 (65N30)

Hasnip, D. (*with* Apabhai, M. Z.; Georgikopoulos, N. I.; Jamie, R. K. D.; Kim, M.; Wilmott, P.) A model for the value of a business, some optimization problems in its operating procedures and the valuation of its debt. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 273–285. 90A09

Hasofer, Abraham M. (*with* Becker, Niels G.) Estimation in epidemics with incomplete observations. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 415–429. (Niels Keiding) **98f:62299** 62P10 (62M05)

Hassan, Ameer The KBM derivative expansion method is equivalent to the multiple-time-scales method. (English summary) *J. Sound Vibration* **200** (1997), *no.* 4, 433–440. (James A. Murdock) **98e:34083** 34C29 (34E05, 70K99)

Hassan, Ezzat R. Nonlinear Volterra integral equation with discontinuous right-hand side. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **50** (1996), 65–69. (Pinia G. Alzengendler) **98i:45005** 45G10

Hassan, F. M. (*with* Abou-Dina, M. S.) Generation of waves by a moving plate in stratified shallow water. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 239–253. (Summary) **98m:76150** 76V05 (86A05)

Hassan, H. M. Distributed optimal control of propagation of elastic waves. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 103–110. (Summary) **98j:49006** 49J20 (73D15, 73K50, 93C20)

Hassan, I. O. (*with* Schamel, H.) Two wave collapses and a strange soliton in current carrying plasmas. (English summary) *Phys. D* **105** (1997), *no.* 4, 253–266. (Summary) **98e:76113** 76X05 (76E25, 82D10)

fatema Hassan, M. *see* **Fatema Hassan, M.**

Hassan, M. F. (*with* Abdelwahed, S. S.; Sultan, M. A.) Parallel asynchronous algorithms for optimal control of large-scale dynamic systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 257–271. 93B40 (65Y05)

Hassan, S. F. (*with* Wadia, Spenta R.) D-brane black holes: large-N limit and the effective string description. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 43–52. (Summary) **98b:83087** 83E30 (81T30, 83C57)

Hassan, S. S. (*with* Hanna, L. A.-M.; Khalifa, M. E.) On representations of Lie algebras for quantized Hamiltonians. (English summary) *Linear Algebra Appl.* **266** (1997), 69–79. (Chon Hu Cheng) **98i:17009** 17B10 (15A69, 17B20)

mohammadi Hassanabadi, A. *see* **Mohammadi Hassanabadi, A.**

Hassanabadi, A. Mohammadi *see* **Mohammadi Hassanabadi, A.**

Hassanein, A. (*with* Fahmy, Mohamed Hussein) P. I. differential operator rings. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 35–38 (1994). 16R10

Hassani, Seddiq (*with* Alaoui Soulimani, Amina; Ehrlacher, Alain) Modèle viscoélastique non-linéaire: le modèle pseudo-linéaire. (French summary) [The pseudolinear model, a nonlinear viscoelastic model] *Élasticité, viscoélasticité et contrôle optimal (Lyon,*

1995), 243–252 (*electronic*). *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 73G25 (73F15)

Hassanien, I. A. (*with* Bakier, A. Y.; Gorla, R. S. R.) Natural convection boundary layer flow of a micropolar fluid. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 751–755. 76R10 (76A99, 76D10)

— Combined forced and free convection in boundary layer flow of a micropolar fluid over a horizontal plate. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 571–583. 76R05 (76A99, 76D10, 76R10)

Hassan Nasr, A. (*with* Osama El Giar, M.; Fatema Hassan, M.) The relaxation schemes for the two-dimensional anisotropic elliptic partial differential equation using multigrid method. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 409–425 (1997). (D. Schultz) **98i:65087** 65N06

Hasse, Helmut *see* **Scholz, Erhard**

Hasselblatt, Boris (*with* Wilkinson, Amie) Prevalence of non-Lipschitz Anosov foliations. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 93–98 (*electronic*). (Rafael Ruggiero Rodríguez) **98g:58140** 58F18 (58F15)

— Regularity of the Anosov splitting. II. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 169–172. (Edoh Amiran) **98d:58135** 58F15 (58F17)

Hassell, Andrew (*with* Mazzeo, Rafe; Melrose, Richard B.) A signature formula for manifolds with corners of codimension two. (English summary) *Topology* **36** (1997), *no.* 5, 1055–1075. (Gilles Carron) **98c:58163** 58G10 (58G20)

Hassell Sweatman, Catherine Z. W. (*with* Gibson, Gavin J.; Mulgrew, Bernard) A constructive algorithm for neural network design with application to channel equalization. *Applications of combinatorial mathematics* (*Oxford*, 1994), 79–93, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (*see* **98d:00014**) 92B20

Hassenpflug, W. C. Elliptic integrals and the Schwarz-Christoffel transformation. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 12, 15–114. (J. M. H. Peters) **98k:33042** 33E05 (30B10, 65R10)

Hassi, Seppo (*with* de Snoo, H. S. V.) On rank one perturbations of selfadjoint operators. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 288–300. (Alexei V. Rybkin) **98k:47027** 47A55 (47B25)

— (*with* Kaltenbäck, Michael; de Snoo, H. S. V.) Triplets of Hilbert spaces and Friedrichs extensions associated with the subclass $\mathbf{N}_1$ of Nevanlinna functions. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 155–181. (Vladimir Derkach) **98c:47013** 47A55

— (*with* de Snoo, H. S. V.; Willemsma, A. D. I.) Smooth rank one perturbations of selfadjoint operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2663–2675. (Vladimir Derkach) **98k:47028** 47A55 (47A57, 47B25)

Hassin, Refael (*with* Rubinstein, Shlomi) An approximation algorithm for maximum packing of 3-edge paths. *Inform. Process. Lett.* **63** (1997), *no.* 2, 63–67. 68Q25 (68R10)

— (*with* Guttmann-Beck, Nili) Approximation algorithms for min-max tree partition. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 266–286. (Summary) **98d:68165** 68R10 (05C85, 68Q25)

— (*with* Arkin, Esther M.; Klein, Limor) Restricted delivery problems on a network. (English summary) *Networks* **29** (1997), *no.* 4, 205–216. (Summary) **98b:90050** 90B10 (05C90, 68Q25)

— (*with* Rubinstein, Shlomi; Tamir, Arie) Approximation algorithms for maximum dispersion. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 133–137. 90B80 (90C30)

— (*with* Anily, Shoshana; Glass, Celia A.) The scheduling of maintenance service. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 27–42. 90B35 (90B05)

Hassler, John (*with* Lindbeck, Assar) Optimal actuarial fairness in pension systems: a note. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 251–255. 90A20 (62P05)

Hassler, Urs (*with* Guidon, Thomas; Nazarova, L. A.; Roiter, Andrei V.) Dyadic sets S: a dichotomy for indecomposable S-matrices. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1205–1210. (Summary) **98d:16017** 16G10

Hassler, Uwe (*with* Ooms, Marius) On the effect of seasonal adjustment on the log-periodogram regression. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 135–141. 62M10 (62P20)

— Sample autocorrelations of nonstationary fractionally integrated series. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 43–62. 62M10

el Hassouni, A. *see* **El Hassouni, A.**

Hassouni, Y. (*with* El Hassouni, A.; Tahri, E. H.) Differential calculi on the quantum superplane. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2517–2525. (Peter Prešnajder) **98d:58006** 58B30 (81R50)

— (*with* Daoud, M.; Tahri, E. H.) Deformation of the exterior algebra $\Omega(M_n)$ and the Yang-Baxter equation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1413–1421. (Dmitriĭ I. Gurevich) **98i:16026** 16S80 (81R50)

— (*with* Daoud, M.; Douari, J.) Quonic realization of the deformed Heisenberg-Weyl algebra. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3071–3077. 81R50

— (*with* Daoud, M.) A new realization of the fractional supersymmetry. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1033–1037. (Summary) **98g:81071** 81R50 (81Q60)

— (*with* El Hassouni, A.; Zakkari, M.) q-structure algebra of $U_q(\hat{g})$ from its adjoint action. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 1039–1043. (Summary) **98g:81072** 81R50

Håstad, Johan (*with* Bellare, Mihir; Coppersmith, Don; Kiwi, Marcos; Sudan, Madhu) Linearity testing in characteristic two. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1781–1795. (Summary) **98m:68111** 68Q25 (68Q15, 90C27)

Hastings, Harold M. (*with* Tarnopolska-Weiss, Marysia; Wu, Yihren) A topological approach to the Williams conjecture on shift equivalence for full n-shifts. *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 68–71, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F03

Hastings, S. P. (*with* Kwong, Man Kam; Troy, W. C.) The existence of multiple solutions for a Ginzburg-Landau type model of superconductivity. (English summary) *European J. Appl. Math.* **7** (1996), *no.* 6, 559–574. (Alexei D. Kiselev) **98e:82046** 82D55 (35Q55)

— (*with* McLeod, J. Bryce) An oscillatory differential equation. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 4, 432–446. (Gabriele Villari) **98e:34060** 34C10 (34A34)

Hasunuma, Toru (*with* Shibata, Yukio) Embedding de Bruijn, Kautz and shuffle-exchange networks in books. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 103–116. (Jean-Claude Bermond) **98i:05054** 05C10

Hata, Hiroyuki (*with* Oda, Hajime; Yahikozawa, Shigeaki) String field theory in Rindler space-time and string thermalization. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 5, 985–1019. (George K. Savvidy) **98h:81086** 81T20 (81T08, 81T30)

— (*with* Oda, Hajime) Causality in covariant string field theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 307–314. (Summary) **98m:81142** 81T30

— (*with* Hashimoto, Koji) D-brane and gauge invariance in closed string field theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5179–5193. (Summary) **98g:81165** 81T30 (83E30)

Hata, Masayoshi (*with* Yamaguti, Masaya; Kigami, Jun) ★ Mathematics of fractals. (English summary) Translated from the 1993 Japanese original by Kiki Hudson. Translations of Mathematical Monographs, 167. *American Mathematical Society, Providence, RI*, 1997. xii+78 *pp. ISBN* 0-8218-0537-1 (Peter R. Massopust) **98j:28006** 28A80 (58F13)

— The irrationality of $\log(1+1/q)\log(1-1/q)$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2311–2327. (F. Beukers) **98h:11093** 11J72

Hatada, Kazuyuki On p-adic convergent power series of several variables. *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **21** (1997), *no.* 2, 21–31. (Daniel Barsky) **98e:11137** 11S80 (26E30, 41A10)

Hatakeyama, Nozomu (*with* Kambe, Tsutomu) Strained vortex and statistical law of turbulence. (English summary) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 55–66. (*see* **98g:76052**) 76F05 (76M25, 76M35)

Hatami, A. (*with* Walker, Louise Anne) Decoupling the normal modes of continuous symmetric structures using group representation theory. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 973–978. (Summary) **98b:70025** 70J10 (73K12)

Hatano, Kazuo Collocation orthogonal wavelets and discrete wavelet transforms. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 135–144. (*see* **98j:65001**) 65T20

Hatano, Kenji (*with* Kamei, Toshiyuki; Tanaka, Katsumi[3]) Authoring and retrieval of video scenes by multi-level self-organizing maps. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 933–942. 68P20

Hatcliff, John (*with* Barthe, Gilles; Sørensen, Morten Heine) A notion of classical pure type system (preliminary version). (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 56 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 03B15

— (*with* Danvy, Olivier) Thunks and the λ-calculus. (English summary) *J. Funct. Programming* **7** (1997), *no.* 3, 303–319. (Summary) **98i:68040** 68N15 (03B40)

— (*with* Danvy, Olivier) A computational formalization for partial evaluation. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 507–541. (Summary) **98h:68027** 68N15

Hatfield, G. A. Conservation laws in transversely isotropic linear elastic materials. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 1005–1017. (Reza Malek-Madani) **98m:73015** 73B40 (35L65, 73C02)

Hatfield, Gary C. Was the scientific revolution really a revolution in science? *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 489–525, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (*see* **98b:01002**) 01A45

Hatimy, Abdelhalim (*with* Sabri, Abderrahmane) Harmonic and 1/2-subharmonic synchronization solutions of a nonautonomous system with quadratic nonlinearities. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 45–54. (Summary) **98b:70026** 70K40 (34C15, 70–08)

Hatjispyros, Spyros J. Rational zeta functions for the Chebyshev family of maps. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 941–948. (Dieter H. Mayer) **98k:58180** 58F20 (58F03)

Hatori, Osamu (*with* Takahasi, Sin-Ei; Takahashi, Yasuji; Tanahashi, Kōtarō) Commutative Banach algebras and BSE-norm. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 273–277. (Volker Runde) **98f:46044** 46J05 (46J40)

— Measures with natural spectra on locally compact abelian groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2351–2353. (G. V. Wood) **98k:43008** 43A25 (43A40)

Hatsugai, Yasuhiro (*with* Yamanaka, Masanori; Honjo, Shinsuke; Kohmoto, Mahito) Exact ground-state correlation functions of one-dimensional strongly correlated electron models with resonating-valence-bond ground state. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 1133–1208. (Detlef Lehmann) **98f:82035** 82B20 (81V70, 82D20)

Hattingh, Johannes H. (*with* Dunbar, Jean E.; Grossman, Jerrold W.; Hedetniemi, Stephen T.; McRae, Alice A.) On weakly connected domination in graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 261–269. (Summary) **98b:05055** 05C35

— (*with* Cockayne, E. J.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.; McRae, Alice A.) Using maximality and minimality conditions to construct inequality chains. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 43–61. (Bert L. Hartnell) **98j:05082** 05C35

— (*with* Ungerer, Elna) The signed and minus k-subdomination numbers of comets. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 141–152. (Summary) **98m:05100** 05C35

— (*with* Henning, Michael A.) Star-path bipartite Ramsey numbers. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 255–258. (Summary) **98m:05128** 05C55

— (*with* Henning, Michael A.) On strong domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 73–82. (Summary) **98m:05101** 05C35 (05C70)

Hattori, Harumi (*with* Li, Dening) The existence of global solutions to a fluid dynamic model for materials for Korteweg type. (English summary) *J. Partial Differential Equations* **9** (1996), *no.* 4, 323–342. (Leonid V. Bogdanov) **98b:35145** 35Q35 (76N10)

— (*with* Kawashima, Shuichi) Smooth shock profiles in viscoelasticity with memory. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 271–281, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 73F15 (35L60, 35Q72, 45K05)

— Stability and instability of steady-state solutions for a hydrodynamic model of semiconductors. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 781–796. (Zhangxin Chen) **98g:35025** 35B35 (35L99, 35Q99, 76E25, 76X05, 82D99)

Hattori, Kumiko (*with* Barlow, Martin T.; Hattori, Tetsuya[1]; Watanabe, Hiroshi[2]) Weak homogenization of anisotropic diffusion on pre-Sierpiński carpets. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 1–27. (Ben Hambly) **98m:60122** 60J60

Hattori, Masumi (*with* Nakano, Huzio) Electrical conductivity, Boltzmann equation, Neumann equation and variation principles. Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 89–100. (*see* **98h:00037**) 82C70 (82C40)

— (*with* Nakano, Huzio) Hierarchy in variational principles of irreversible processes. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 68–78. (*see* **98h:00038**) 82C03

— (*with* Nakano, Huzio) Quantum variational principle of irreversible processes in a magnetic field. (English summary) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 79–89. (*see* **98h:00038**) 82C10

Hattori, Motofumi (*with* Tadokoro, Satoshi; Takamori, Toshi) Robust stabilization of flexible structures using static output feedback. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2215–2220. (*see* **98i:00030**) 93D21

Hattori, Satoshi (*with* Okano, Kozo; Higashino, Teruo; Taniguchi, Kenichi) Modular confluence of conditional term rewriting systems with extra variables in right-hand sides. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 160–166. (*see* **98a:68008**) 68Q42

Hattori, Tetsuya[1] (*with* Barlow, Martin T.; Hattori, Kumiko; Watanabe, Hiroshi[2]) Weak homogenization of anisotropic diffusion on pre-Sierpiński carpets. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 1–27. (Ben Hambly) **98m:60122** 60J60

— Asymptotically one-dimensional diffusions on scale-irregular gaskets. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 229–278. (Ben Hambly) **98h:60115** 60J60 (60J25, 60J80)

Hattori, Toshiaki Asymptotic geometry of arithmetic quotients of symmetric spaces. *Math. Z.* **222** (1996), *no.* 2, 247–277. (Raul Quiroga) **98d:53061** 53C23 (22E40)

Hattori, Yasunao (*with* Yamada, Kohzo) Finite-to-one mappings and large transfinite dimension. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 181–194. (Francisco G. Arenas) **98m:54019** 54C10 (54E35, 54F45)

Hatvani, László Asymptotic constancy of the solutions of a nonlinear delay equation. *Advances in nonlinear dynamics*, 63–70, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Luiz Fichmann) **98i:34113** 34K20 (34K25)

— (*with* Krisztin, Tibor) Necessary and sufficient conditions for intermittent stabilization of linear oscillators by large damping. (English summary) *Differential Integral Equations* **10** (1997), *no.* 2, 265–272. (Summary) **98d:93076** 93D15

Hatzenbuhler, James P. (*with* Mattson, Don A.) Rimcompact spaces as remainders of compactifications. (English summary) *Topology Proc.* **21** (1996), 113–123. (Summary) **98j:54045** 54D35

Hatziafratis, T. (*with* Tsarpalias, A.) On the integral giving the degree of a map and a Rouché type theorem. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 239–247. (Christian Fenske) **98c:58014** 58C30 (47H11)

Hatzinakos, Dimitrios (*with* Ilow, Jacek) Detection in alpha-stable noise environments based on prediction. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 555–568. 94A13

Hatzinikitas, A. Duality symmetries in generalized Coxeter orbifolds. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 32, 5729–5738. (Masoud Alimohammadi) **98g:81166** 81T30 (81T40)

Hatzitheodorou, Michael Shape from shadows. A Hilbert space setting. (English summary) *J. Complexity* **14** (1998), *no.* 1, 63–84. (Summary) **98m:65237** 65Y25

Hauer, Tamas Systematic proof of the existence of Yangian symmetry in chiral Gross-Neveu models. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 297–302. 81T40 (81T17)

Haug, E. J. (*with* Negrut, D.; Iancu, M.) A state-space-based implicit integration algorithm for differential-algebraic equations of multibody dynamics. (English summary) *Mech. Structures Mach.* **25** (1997), *no.* 3, 311–334. (Summary) **98g:70004** 70–08 (34A09, 65L99, 70E15)

Haug, Einar (*with* Langtangen, Hans Petter) Basic equations in Eulerian continuum mechanics. (English summary) *Numerical methods and software tools in industrial mathematics*, 121–156, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:73002** 73B05 (73Vxx, 76A02, 76Mxx, 80–08, 80A20)

Haugan, Mark P. Experimental gravitation physics: past accomplishments and future prospects. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 93–106, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83B05

Hauge, E. H. (*with* Piasecki, Jarosław; Hansen, Alex) Magnetotransport in the 2D Lorentz model: linear and nonlinear effects of a weak electric field. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 795–809. (Summary) **98c:82062** 82C40

— (*with* Bobylev, A. V.; Maao, Frank A.; Hansen, Alex) There is more to be learned from the Lorentz model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1205–1228. (Summary) **98g:82037** 82C40

Haugland, D. (*with* Foulds, L. R.) Multiperiod mixed integer programming models and techniques for new petroleum refinery construction. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 1, 69–76. 90C11 (90C90)

Haught, Christine Ann (*with* Slaman, Theodore A.) Automorphisms in the PTIME-Turing degrees of recursive sets. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 139–152. (Rodney G. Downey) **98h:68087** 68Q15 (03D30)

Haughton, David Mark (*with* Orr, A.) On the eversion of compressible elastic cylinders. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 15, 1893–1914. (Summary) **98e:73038** 73C50 (73G05, 73H05)

— (*with* Ogden, Raymond W.; Steigmann, David J.) The effect of elastic surface coating on the finite deformation and bifurcation of a pressurized circular annulus. (English summary) *J. Elasticity* **47** (1997), *no.* 2, 121–145. (Summary) **98j:73027** 73C50 (73H05)

— (*with* Chen, Yi-Chao) Existence of exact solutions for the eversion of elastic cylinders. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 79–88. (Summary) **98m:73030** 73C50 (73G05)

Haughton, Dominique M. A. (*with* Oud, Johan H. L.; Jansen, Robert A. R. G.) Information and other criteria in structural equation model selection. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1477–1516. 62P20

Hauke, Guillermo (*with* Hughes, Thomas J. R.) A comparative study of different sets of variables for solving compressible and incompressible flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 1–44. (Summary) **98i:76052** 76M10

Hauke, J. (*with* Baksalary, J. K.; Styan, George P. H.) On some distributional properties of quadratic forms in normal variables and on some associated matrix partial orderings. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 111–121, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H10 (15A99)

Haukkanen, Pentti A multinomial formula for rational arithmetic functions of order $(r,0)$. *Math. Student* **64** (1995), *no.* 1-4, 69–72 (1996). 11A25

— (*with* Tóth, László) A generalization of Euler's φ-function with respect to a set of polynomials. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 69–83 (1997). (Jean-Marie De Koninck) **98g:11004** 11A25 (11C08)

— On meet matrices on posets. (English summary) *Linear Algebra Appl.* **249** (1996), 111–123. (Steve Ligh) **98f:11024** 11C20 (15A57)

— A characterization of completely multiplicative arithmetical functions. (English summary) *Nieuw Arch. Wisk.* (4) **14** (1996), *no.* 3, 325–328. (J. Sándor) **98a:11009** 11A25

— On a recurrence relation in two variables. *Fibonacci Quart.* **35** (1997), *no.* 1, 32–34. (Péter Kiss) **98e:11014** 11B37 (05A15, 94A15)

— A note on the bracket function transform. *Fibonacci Quart.* **35** (1997), *no.* 2, 156–159. (F. T. Howard) **98c:11020** 11B83

— (*with* Wang, Jun[1]) High degree analogs of Menon's identity. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 37–42. (W. Narkiewicz) **98j:11002** 11A25 (11A05)

— A class of rational arithmetical functions with combinatorial meanings. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 179–184. (Jean-Marie De Koninck) **98f:11009** 11A25 (11B75)

— (*with* Wang, Jun[1]; Sillanpää, Juha) On Smith's determinant. (English summary) *Linear Algebra Appl.* **258** (1997), 251–269. (Thomas H. Foregger) **98f:15003** 15A15

— On the real powers of completely multiplicative arithmetical functions. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 73–77. (Aleksander Grytczuk) **98h:11006** 11A25 (11N64)

— (*with* Sillanpää, Juha) On some analogues of the Bourque-Ligh conjecture on LCM matrices. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 52–57. (Jau-Shyong Shiue) **98k:11025** 11C20

Haul, Christian (*with* Voß, Stefan) Using surrogate constraints in genetic algorithms for solving multidimensional knapsack problems. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 235–251, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27

Haulk, Claire Cates (*with* Drew, John; Johnson, Charles Royal; Tart, J. Hunter) Characterization of supercommuting matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 35–51. (Summary) **98j:15021** 15A27

Haupt, Elvira (*with* Schäbe, Hendrik) The TTT transformation and a new bathtub distribution model. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 229–240. (M. M. Siddiqui) **98m:62283** 62N05 (62A10)

Haupt, Peter (*with* Lührs, Georg; Hartmann, Stefan) On the numerical treatment of finite deformations in elastoviscoplasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **144** (1997), *no.* 1-2, 1–21. 73V05 (73E60, 73G20)

Haupt, Randy L. (*with* Haupt, Sue Ellen) ★ Practical genetic algorithms. (English summary) A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+177 *pp. ISBN* 0-471-18873-5 68T05 (90C99)

Haupt, Sue Ellen (*with* Haupt, Randy L.) ★ Practical genetic algorithms. (English summary) A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+177 *pp. ISBN* 0-471-18873-5 68T05 (90C99)

Haupt, Tomasz (*with* Fox, Geoffrey Charles; Klasky, Scott) HPF for numerical relativity. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30

Haurie, A. (*with* Filar, Jerzy A.) Optimal ergodic control of singularly perturbed hybrid stochastic systems. (English summary) *Mathematics of stochastic manufacturing systems (Williamsburg, VA, 1996)*, 101–126, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Arie Leizarowitz) **98e:49067** 49K45 (93E20)

Hausen, Jutta (*with* Schultz, Phillip) The maximal normal p-subgroup of the automorphism group of an abelian p-group. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2525–2533. (Peter Puusemp) **98k:20093** 20K30

Hauser, Heather M. (*with* Chimonas, George) The transfer of angular momentum from vortices to gravity swirl waves. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 13, 1701–1711. (Summary) **98e:76017** 76C10 (76C15, 86A10)

Hauser, John E. (*with* Chung, Chung Choo) Nonlinear H_∞ control around periodic orbits. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 127–137. (Summary) **98c:93035** 93B36 (93C10)

Hauser, Kai (*with* Hjorth, Greg) Strong cardinals in the core model. (English summary) *Ann. Pure Appl. Logic* **83** (1997), *no.* 2, 165–198. (A. Kanamori) **98b:03070** 03E45 (03E15)

Hauskrecht, Milos Incremental methods for computing bounds in partially observable Markov decision processes. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997)*, 734–739, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 90C40

Hausmann, Jean-Claude On minimal coverings in the sense of Lusternik-Schnirelmann for spaces and manifolds. *Geometric topology (Athens, GA, 1993)*, 456–472, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Octavian Cornea) **98j:55004** 55M30 (55P50, 57N99)

— (*with* Knutson, Allen) Polygon spaces and Grassmannians. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 173–198. (Tadeusz Januszkiewicz) **98e:58035** 58D29 (14M15, 58F05)

Hauss, Michael An Euler-Maclaurin-type formula involving conjugate Bernoulli polynomials and an application to $\zeta(2m+1)$. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 15–32. (Pavel Guerzhoy) **98b:11019** 11B68 (11M06, 11Y60, 65B15)

Haussler, David A general minimax result for relative entropy. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1276–1280. (Ma. Luisa Menéndez) **98f:94006** 94A17 (62B10)

— (*with* Cesa-Bianchi, Nicolò; Freund, Yoav; Helmbold, David P.; Schapire, Robert E.; Warmuth, Manfred K.) How to use expert advice. (English summary) *J. ACM* **44** (1997), *no.* 3, 427–485. (Peter Auer) **98e:68220** 68T05 (68Q99)

Häußling, R. (*with* Paschke, Mario; Scheck, F.) Leptonic generation mixing, noncommutative geometry and solar neutrino fluxes. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 312–319. 81V25 (58B30, 81R10)

Haußmann, Werner (*with* Kounchev, Ognyan Iv.) Peano theorem for linear functionals vanishing on polyharmonic functions. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 233–240, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41030** 41A63 (46E99)

— (*with* Armitage, David H.; Gardiner, Stephen J.; Rogge, Lothar) Characterization of best harmonic and superharmonic L^1-approximants. *J. Reine Angew. Math.* **478** (1996), 1–15. (Juan Carlos Fariña Gil) **98h:41023** 41A30 (31B05)

— (*with* Zeller, Karl) Canonical point sets in multivariate constructive function theory. *Proceedings of the Ashkelon Workshop on Complex Function Theory (1996)*, 91–104, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Saulius Norvidas) **98h:41037** 41A63 (41A50)

Hauth, M. (*with* Schneeweiß, Ch.) Kapazitätsanpassung bei simultaner Losgrößen- und Reihenfolgeplanung. (English and German summaries) [Adapting capacity for lotsizing and scheduling problems] *OR Spektrum* **19** (1997), *no.* 4, 251–260. (Summary) **98e:90076** 90B35 (90C35)

Havas, George (*with* Ford, David) A new algorithm and refined bounds for extended GCD computation. (English summary) *Algorithmic number theory (Talence, 1996)*, 145–150, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (P. G. Walsh) **98d:11157** 11Y16

— (*with* Majewski, Bohdan S.) Integer matrix diagonalization. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 399–408. (Summary) **98g:65039** 65F30 (65Y20)

— (*with* Czech, Zbigniew J.; Majewski, Bohdan S.) Perfect hashing. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 1–143. (Friedhelm Meyer auf der Heide) **98h:68048** 68P10 (68P05, 68Q25)

Havas, Katalin G. Children, philosophy, and logic from a dialectical point of view. *Logique et Anal. (N.S.)* **38** (1995), *no.* 150-152, 151–158. 03A05

— Aristotelian and modern logic. *Sorites No.* 4 (1996), 36–40 (*electronic*). (Ignacio Angelelli) **98a:03003** 03–03 (03A05)

ten Have, G. N. (*with* Tijdeman, R.) Diophantine approximation of matrices. (English summary) Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 1139–1164. (Michel Waldschmidt) **98c:11066** 11J25 (11C20)

Havel, Ivan (*with* Dvořák, Tomáš; Liebl, Petr) Euler cycles in the complete graph K_{2m+1}. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 89–102. (Cun-Quan Zhang) **98c:05103** 05C45

Haven, G. Neil (*with* Purdom, Paul Walton, Jr.) Backtracking and probing. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 153–209, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:68148** 68T20 (03B05, 03D15, 03F20)

— (*with* Purdom, Paul Walton, Jr.) Probe order backtracking. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 456–483. (Frada Burstein) **98f:68242** 68T20 (03B05, 05A16, 68Q25, 68T15)

Haviar, Alfonz (*with* Monoszová, Gabriela) Valuations and metrics on a poset. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 4 (1996), 25–38. (Gerhard Behrendt) **98h:06003** 06A06

Haviar, Miroslav Affine complete algebras abstracting double Stone and Kleene algebras. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 4 (1996), 39–52. (David Hobby) **98h:06022** 06D15 (06D30)

Haviland, Julie (*with* Firby, Peter) Maximal spacing configurations in graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 455–463. (Michael E. Raines) **98i:05063** 05C12

Havin, V. P. *see* **Khavin, Viktor Petrovich**

Haviv, Moshe (*with* van der Wal, Jan) Equilibrium strategies for processor sharing and random queues with relative priorities. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 403–412. 60K25

Havlena, Vladimír (*with* Kraus, Franta) Receding-horizon MIMO LQ controller design with guaranteed stability. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1567–1570. 93E20 (49N10)

Havlíček, Hans Invariant points of circular transformations. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 113–118. (O. Giering) **98c:51005** 51B10 (51B15, 51B20)

— Isomorphisms of affine Plücker spaces. (English summary) *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 171–178, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Victor V. Pambuccian) **98d:51003** 51A15

— (*with* Zanella, Corrado) Quadratic embeddings. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 289–298. (Burkard Polster) **98e:51002** 51A05

— Affine circle geometry over quaternion skew fields. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 153–165. (Andrea Blunck) **98h:51006** 51B05

Havlíček, Miloslav (*with* Pelantová, Edita; Klimyk, A. U.) Nonstandard $U_q(so_3)$ and $U_q(so_4)$: tensor products of representations, oscillator realizations and roots of unity. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 13–16. (Summary) **98f:81130** 81R50 (17B37)

— (*with* Patera, Jiří; Pelantová, Edita) On the fine gradings of simple classical Lie algebras. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 189–194. (Summary) **98c:17027** 17B70 (17B20)

Havlin, S. (*with* Rabinovich, Savely; Berkolaiko, G.) Solving nonlinear recursions. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5828–5836. (F. J. Papp) **98e:39009** 39B42 (39A10)

— (*with* Rabinovich, Savely; Berkolaiko, G.; Buldyrev, S.; Shehter, A.) Analytical solution of the logistic equation. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 837–838. (Summary) **98m:39063** 39B12

al-Hawaj, A. Y. *see* **Al-Hawaj, A. Y.**

Hawala, Sam (*with* Wang, Jane-Ling) A general approach to derive chi-square type of goodness-of-fit tests for lifetime data. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 113–123, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62028** 62F03 (62G10, 62N05)

el-Hawary, H. M. *see* **El-Hawary, H. M.**

Hawkes, John Epsilon entropy and the packing of balls in Euclidean space. (English summary) *Mathematika* **43** (1996), *no.* 1, 23–31. (Claude Tricot) **98a:28004** 28A80 (28A75)

— (*with* Allouba, Hassan; Durrett, Richard; Perkins, Edwin) Super-tree random measures. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 773–794. (Xue Lei Zhao) **98m:60074** 60G57 (60J80)

Hawkes, Philip (*with* O'Connor, Luke) On applying linear cryptanalysis to IDEA. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 105–115, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98m:94036** 94A60

Hawking, Stephen W. (*with* Bousso, Raphael) Pair creation and evolution of black holes in inflation. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 261–264. (Markku Lehto) **98a:83073** 83C57 (83F05)

— (*with* Bousso, Raphael) Black holes in inflation. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 201–205. (Summary) **98g:83055** 83C57 (83F05)

— (*with* Taylor-Robinson, Marika M.) Evolution of near-extremal black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7680–7692. (Gil De Oliveira-Neto) **98f:83069** 83C57 (81T20, 83E30)

— (*with* Ross, Simon F.) Loss of quantum coherence through scattering off virtual black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6403–6415. (Kirill V. Krasnov) **98j:83058** 83C57 (81T20, 83C47)

Hawkins, D. L. Can the finiteness of a mean be tested? (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 273–277. (Li-Xing Zhu) **98d:62081** 62G10

Hawkins, Jane (*with* Dajani, Karma) A construction of a non-measure-preserving endomorphism using quotient relations and automorphic factors. *J. Math. Anal. Appl.* **204** (1996), *no.* 3, 854–867. (Cesar E. Silva) **98g:28030** 28D99

Hawkins, Thomas The birth of Lie's theory of groups. *The Sophus Lie Memorial Conference (Oslo, 1992)*, 23–50, *Scand. Univ. Press, Oslo*, 1994. (Joachim Schwermer) **98g:01062** 01A70 (01A55, 22–03)

Hawley, Katherine Indeterminism and indeterminacy. *Analysis (Oxford)* **58** (1998), *no.* 2, 101–106. 03A05

Hawrylycz, Michael (*with* Jones, Roger D.; Makhan'kov, V. G.; Prichard, Dean) The risk and survival of economic agents. *Random Comput. Dynam.* **5** (1997), *no.* 4, 213–242. 90A46

Hawthorn, Ian The existence and uniqueness of injectors for Fitting sets of solvable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2229–2230. 20D10

Hawthorne, James Mathematical instrumentalism meets the conjunction objection. (English summary) *J. Philos. Logic* **25** (1996), *no.* 4, 363–397. (Stewart Shapiro) **98g:03009** 03A05 (00A30, 03B30)

Haxell, P. E. Partitioning complete bipartite graphs by monochromatic cycles. (English summary) *J. Combin. Theory Ser. B* **69** (1997), *no.* 2, 210–218. (Stanislav Jendrol') **98e:05029** 05C10 (05C15, 05C38, 05C70)

— (*with* Yu, Bo^2; Cheriyan, Joseph) Hypercubes and multicommodity flows. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 190–200. (Summary) **98a:68151** 68R10 (05C85, 05C90, 90C35)

Haxthausen, Anne Elisabeth (*with* Nickl, Friederike) Pushouts of order-sorted algebraic specifications. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 132–147, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98f:68184** 68Q65

Háy, B. (*with* Pasquini, Lionello; Vértesi, Péter) A remark on p-normal matrices. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 207–215. 41A05 (65D15)

Hayakawa, Eijirou Errata to: "A sufficient condition for the existence of periodic points of homeomorphisms on surfaces" [Tokyo J. Math. **18** (1995), no. 1, 213–219; MR 96b:58092]. *Tokyo J. Math.* **20** (1997), *no.* 2, 519. (Editors) **98i:58192** 58F20 (55M20)

Hayakawa, Masashi Mass hierarchy from compositeness hierarchy in supersymmetric gauge theory. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 207–212. 81T60

Hayakawa, Takesi (*with* Mathai, A. M.; Provost, Serge B.) ★ Bilinear forms and zonal polynomials. Lecture Notes in Statistics, 102. *Springer-Verlag, New York*, 1995. xii+376 *pp. ISBN* 0-387-94522-9 (Nariaki Sugiura) **98k:62016** 62E15 (62E20, 62H10, 62H15)

— Discriminant analysis for Langevin population. (English summary) MSI-2000, Vol. III (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **17** (1997), *no.* 1-2, 147–161. (Summary) **98d:62109** 62H30

— *see also* **MSI-2000, 98c:62004**

Hayama, Eriko (*with* Ivanova, Raina; Kawaguchi, Tomoaki) A Riemannian approach to the J-divergence. *Tensor (N.S.)* **57** (1996), *no.* 3, 282–293. (Introduction) **98g:62013** 62B10 (53B99)

Hayami, Ken (*with* Kunihiro, Noboru; Sugihara, Masaaki) Automatic numerical integration of nearly singular boundary element integrals. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics*

(*Tokyo*, 1994), 249–252, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65N38

Hayasaka, K. (*with* Ambjørn, Jan; Nakayama, Ryuichi) Non-critical open strings beyond the semiclassical approximation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 17, 1241–1266. (Kazuto Oshima) **98f:81231** 81T30 (81T40, 83E30)

Hayase, Kazuyoshi On relationship between a monotone function and the set of its prime implicants in OBDD size. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 1–7. (*see* **98a:68008**) 68Q25 (03B05, 03D15, 03G05)

Hayase, Michiyoshi Three point Steiner minimum trees in λ-geometry. (Japanese. English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 74–81. (*see* **98k:68015**) 51M04 (05C05)

Hayashi, Chuichiro On parallelism of more than two strings in tangles. (English summary) *Topology Appl.* **71** (1996), *no.* 2, 109–113. (William Dunbar) **98a:57008** 57M25 (57N10)

— (*with* Motegi, Kimihiko) Only single twists on unknots can produce composite knots. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4465–4479. (Katura Miyazaki) **98b:57010b** 57M25

— (*with* Motegi, Kimihiko) Dehn surgery on knots in solid tori creating essential annuli. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4897–4930. (Ying Qing Wu) **98c:57007** 57M25

Hayashi, Hiroshi[2] (*with* Enright, W. H.) A delay differential equation solver based on a continuous Runge-Kutta method with defect control. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 349–364 (1998). 65L06

Hayashi, Makoto[2] On a Liénard system with three equilibrium points. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 139–146, *VSP, Utrecht*, 1997. (Noel G. Lloyd) **98g:34047** 34C05

— On the uniqueness of the closed orbit of FitzHugh-Nagumo system. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 331–336. (Alan R. Hausrath) **98j:34045** 34C05 (92C20)

— On the uniqueness of the closed orbit of the Liénard system. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 371–376. (Miklós Farkas) **98m:34088** 34C25

Hayashi, Masahito Minimization of errors related to quantum local unbiased measurements. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 1–11. (*see* **98h:00038**) 81P15

Hayashi, Masahumi (*with* Ando, Shiro) Counting the number of equivalence classes of (m, F) sequences and their generalizations. *Fibonacci Quart.* **35** (1997), *no.* 1, 3–8. (Y. H. Harris Kwong) **98d:11014** 11B37 (05A15, 11B39)

Hayashi, Nakao On the initial value problem for the Davey-Stewartson and the Ishimori systems. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 145–154, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q55

— (*with* Kato, Keiichi) Analyticity in time and smoothing effect of solutions to nonlinear Schrödinger equations. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 273–300. (Thierry Cazenave) **98g:35185** 35Q55 (35B65)

— (*with* de Bouard, Anne; Saut, Jean Claude) Global existence of small solutions to a relativistic nonlinear Schrödinger equation. (English and French summaries) *Comm. Math. Phys.* **189** (1997), *no.* 1, 73–105. (Elaine Machtyngier) **98k:35174** 35Q55 (35B60, 81V80)

— (*with* Kato, Keiichi) Global existence of small analytic solutions to Schrödinger equations with quadratic nonlinearity. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 773–798. (Summary) **98c:35153** 35Q55 (35J60)

— (*with* Naumkin, Pavel I.) Asymptotic behavior in time of solutions to the derivative nonlinear Schrödinger equation revisited. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 383–400. (Elaine Machtyngier) **98e:35155** 35Q55 (35B40)

— (*with* Hirata, Hitoshi) Global existence and asymptotic behavior in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system. 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 273–278. (*see* **98k:00020**) 35Q55 (35M10)

— (*with* Hirata, Hitoshi) Local existence in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system in the usual Sobolev space. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 563–581. (From the text) **98i:35177** 35Q55 (76B15)

— (*with* Hirata, Hitoshi) Global existence of small solutions to nonlinear Schrödinger equations. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 671–685. (Oktay K. Pashaev) **98j:35168** 35Q55

Hayashi, Shuhei Connecting invariant manifolds and the solution of the C^1 stability and Ω-stability conjectures for flows. *Ann. of Math.* (2) **145** (1997), *no.* 1, 81–137. (Clark Robinson) **98b:58096** 58F10

Hayashi, Susumu (*with* Ishikawa, Masakazu; Kobayashi, Satoshi[1]; Nakano, Hiroshi; Nakazaki, Syuichi) Two extensions of PX system (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 9 pp. (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B70 (68N99)

Hayashi, Takao A bibliography (1958–1995) of Radha Charan Gupta, historian of Indian mathematics. *Historia Sci.* (2) **6** (1996), *no.* 1, 43–53. (Editors) **98f:01066** 01A70 (00A15)

— Āryabhaṭa's rule and table for sine-differences. (English, Hindi and Japanese summaries) *Historia Math.* **24** (1997), *no.* 4, 396–406. (A. I. Volodarskiĭ) **98m:01003** 01A32

Hayashi, Tatsuya (*with* Nakano, Koji; Olariu, Stephan) Efficient list ranking on the reconfigurable mesh, with applications. (English summary) *Algorithms and computation* (*Osaka*, 1996), 326–335, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68M10

Hayashi, Yoshiki Numerische Berechnung der Geschlechter von den quadratischen Zahlkörpern für allgemeine Diskriminanten. (English summary) [Numerical calculation of the genera of quadratic number fields for general discriminants] *Mem. Inst. Sci. Engrg. Ritsumeikan Univ. No.* 55 (1996), 7–12 (1997). (Franz Lemmermeyer) **98b:11128** 11Y40 (11R11, 11R29)

Hayashi, Yuichi (*with* Fujii, Masatomo) Remarks on extended Milne's device for the Adams PC methods. *Bull. Fukuoka Univ. Ed. III* **46** (1997), 23–30. 65L05

Hayashi, Yukiko (*with* Matsumoto, Satoshi; Shoudai, Takayoshi) Inductive inferability of term graph languages in polynomial time from positive data. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 66–73. (*see* **98k:68015**) 68T05

Hayashida, Yoshihiro Re-examination on validity of analytic solution of Bessel's equation to estimate the magnitude of fluctuation of stem wood temperature in standing *Pinus densiflora* trees. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 147–154, *VSP, Utrecht*, 1997. (*see* **98h:00027**) 92C40

Hayashimoto, Atsushi On proper holomorphic mappings and CR mappings. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 235–238, *World Sci. Publishing, River Edge, NJ*, 1996. (Mario Landucci) **98h:32048** 32H35

Hayat, Tasawar (*with* Asghar, Saleem; Ayub, M.) Point source diffraction by an absorbing strip in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 327–339. (Summary) **98c:76093** 76Q05 (35Q35)

— (*with* Asghar, Saleem) Diffraction of a spherical acoustic wave near an absorbing finite-plane. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 1–17. (Summary) **98m:76139** 76Q05

— (*with* Asghar, Saleem; Zahid, G. H.) Diffraction of a spherical electromagnetic wave by a perfectly conducting half plane in a homogeneous biisotropic medium. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 615–628. (Summary) **98k:78009** 78A45

Hayata, Takahiro (*with* Oda, Takayuki) An explicit integral representation of Whittaker functions for the representations of the discrete series—the case of SU(2, 2). *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 519–530. (Rebecca Herb) **98m:22018** 22E45 (22E46)

— Whittaker functions of generalized principal series on SU(2, 2). *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 531–546. (Rebecca Herb) **98m:22019** 22E45 (22E46)

Hayat-Legrand, Claude (*with* Wang, Shicheng; Zieschang, Heiner) Degree-one maps onto lens spaces. (English summary) *Pacific J. Math.* **176** (1996), *no.* 1, 19–32. (Yongwu Rong) **98b:57030** 57N10 (57M25)

— (*with* Wang, Shicheng; Zieschang, Heiner) Minimal Seifert manifolds. *Math. Ann.* **308** (1997), *no.* 4, 673–700. (Yongwu Rong) **98i:57029** 57N10

Hayden, J. L. Generalized Hadamard matrices. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 69–73. (Ivan Landgev) **98i:05036** 05B20

Haydn, Nicolai (*with* Gutkin, Eugene) Topological entropy of polygon exchange transformations and polygonal billiards. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 849–867. (Serge E. Troubetzkoy) **98d:58102** 58F11

Haydon, Richard *see* **Androulakis, George**, **98j:46011**

Hayek, Nalla (*with* Blot, Joël) Second-order necessary conditions for the infinite-horizon variational problems. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 4, 979–990. (Urszula Ledzewicz) **98a:49032** 49K15

Hayes, Brian T. (*with* LeFloch, Philippe G.) Measure solutions to a strictly hyperbolic system of conservation laws. (English summary) *Nonlinearity* **9** (1996), *no.* 6, 1547–1563. (Fumioki Asakura) **98f:35096** 35L65 (35D05, 35Q35)

— (*with* LeFloch, Philippe G.) Non-classical shocks and kinetic relations: scalar conservation laws. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 1, 1–56. (Long An Ying) **98h:35156** 35L67 (35L65, 76L05)

— Binary modulated oscillations in a semi-discrete version of Burgers equation. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 287–313. (Cun-Zheng Wang) **98g:35180** 35Q53 (65M99, 76D99)

Hayes, David R. (*with* Dummit, David S.) Checking the p-adic Stark conjecture when p is Archimedean. (English summary) *Algorithmic number theory* (*Talence*, 1996), 91–97, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Franz Lemmermeyer) **98c:11124** 11R37 (11Y40)

— (*with* Chen, Zesen) Norm and trace of the j-invariants of Drinfeld modules associated to hyperelliptic curves. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 1–11. (Liang-Chung Hsia) **98d:11064** 11G09 (11G15)

Hayes, Edward F. (*with* Wu, Xudong T.; Korambath, Prakashan P.; Sorensen, Danny C.) Computation of rovibrational eigenvalues of van der Waals molecules on a CRAY T3D. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 286–301. (Summary) **98k:82004** 82–08

Hayes, J. P. (*with* Dutt, Shantanu) A local-sparing design methodology for fault-tolerant multiprocessors. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 25–50. (Summary) **98g:68012** 68M15 (05C90)

Hayes, Kevin (*with* Haslett, John) Residuals for the linear model with general covariance structure. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 201–215. 62J05

Hayes, Michael A. (*with* Boulanger, Ph.) Collected results on finite amplitude plane waves in deformed Mooney-Rivlin materials. *Mathematical problems in elasticity*, 1–45, *Ser. Adv. Math. Appl. Sci.*, 38, *World Sci. Publishing, River Edge, NJ*, 1996. (Ion Nistor) **98c:73034** 73D15 (73G05)

— (*with* Boulanger, Ph.) Wave propagation in sheared rubber. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 75–87. (Mohammad A. Dowaikh) **98e:73046** 73D15 (73C50, 73G05)

— (*with* Scott, N. H.) Constant amplitude acceleration waves in a prestrained incompressible isotropic elastic solid. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 291–295. (Summary) **98e:73053** 73D15 (73C50, 73D35)

Hayes, Scott (*with* Grebogi, Celso; Lai, Ying-Cheng) Control and applications of chaos. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 1115–1146. (B. V. Loginov) **98m:58091** 58F13 (58F12, 93C10)

Hayman, Walter K. The growth of solutions of algebraic differential equations. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 2, 67–73. (Gary G. Gundersen) **98d:34004** 34A20 (30D15)

Haynatzka, V. (*with* Rachev, Svetlozar T.; Haynatzki, G.) Probability metrics and limit theorems in AIDS epidemiology. (English summary) *Real and stochastic analysis*, 159–223, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Juan A. Cuesta-Albertos) **98m:60010** 60B99 (60K30)

Haynatzki, G. (*with* Rachev, Svetlozar T.; Haynatzka, V.) Probability metrics and limit theorems in AIDS epidemiology. (English summary) *Real and stochastic analysis*, 159–223, *Probab. Stochastics Ser., CRC, Boca Raton, FL*, 1997. (Juan A. Cuesta-Albertos) **98m:60010** 60B99 (60K30)

Haynes, Michele A. (*with* MacGillivray, H. L.; Mengersen, K. L.) Robustness of ranking and selection rules using generalised g-and-k distributions. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 45–66. 62F07 (62E15)

Haynes, Teresa W. (*with* Domke, Gayla S.; Dunbar, Jean E.; Knisley, D. J.; Markus, Lisa R.) Independence, domination and generalized maximum degree. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 145–152. (Summary) **98j:05083** 05C35 (05C70)

— (*with* Dunbar, Jean E.; Henning, Michael A.) The domatic number of a graph and its complement. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 53–63. (Summary) **98i:05101** 05C35

— (*with* Harary, Frank; Slater, Peter J.) Efficient and excess domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 83–95. (Summary) **98j:05108** 05C70

Haynsworth, W. H. (*with* Golightly, W. L.; Sarvate, Dinesh G.) A family of connected quasi-strongly regular graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 89–95. (*see* **98h:05003**) 05C75

Hayter, A. J. (*with* Goldsman, D. M.; Kastner, T. M.) A sequential multinomial selection procedure with elimination. (English summary) *Advances in statistical decision theory and applications*, 265–275, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62L10 (62F07)

ibn al-Haytham, Ḥasan *see* **Sabra, A. I., 98d:01009** *and* **Rebstock, U., 98f:01013**

Hayward, Ryan B. (*with* Kearney, Paul E.; Meijer, Henk) Inferring evolutionary trees from ordinal data. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms (New Orleans, LA, 1997)*, 418–426, *ACM, New York*, 1997. (Summary) **98b:92011** 92D15 (68Q20, 68Q25, 68T99, 92B10)

— Meyniel weakly triangulated graphs. I. Co-perfect orderability. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 3, 199–210. (Chinh T. Hoang) **98e:05039** 05C15 (05C10)

Hayward, Sean A. (*with* Kriele, Marcus) Outer trapped surfaces and their apparent horizon. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1593–1604. (János Kánnár) **98a:83093** 83C75 (53C50, 53C80)

Haywood, John (*with* Tunnicliffe Wilson, G.) Fitting time series models by minimizing multistep-ahead errors: a frequency domain approach. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 237–254. (Raúl Pedro Mentz) **98f:62254** 62M10

Hazama, Fumio Hodge cycles on the Jacobian variety of the Catalan curve. (English summary) *Compositio Math.* **107** (1997), *no.* 3, 339–353. (Ben Moonen) **98d:11065** 11G15 (14H40)

— Twist and generalized Chebyshev polynomials. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 79–81. 41A50 (33C45)

Hazan, Simone (*with* Neumann-Lara, Víctor) Fixed points of posets and clique graphs. (English summary) *Order* **13** (1996), *no.* 3, 219–225. (Aleksander Rutkowski) **98f:06002** 06A06 (05C99)

Hazanov, S. On separation of energies in viscoelasticity. (English summary) *Mech. Res. Comm.* **24** (1997), *no.* 2, 167–177. (Mircea Sofonea) **98c:73042** 73F05 (73B30, 73F10)

Hazard, Christophe (*with* Lenoir, Marc) On the solution of time-harmonic scattering problems for Maxwell's equations. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1597–1630. (Rainer Picard) **98c:35157** 35Q60 (35C15, 35J25, 78A45)

Hazari, Bharat (*with* Chesney, Marc) Irrational entry, rational exit. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 1–13. 90A40

Hazeltine, Richard D. (*with* Helander, P.; Catto, Peter J.) Plasma transport near the separatrix of a magnetic island. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2920–2927. (Summary) **98e:76111** 76X05

— *see also* **Meeting: Division of Plasma Physics, American Physical Society, 98b:76003**

Hazen, A. P. (*with* Taylor, Barry) Flexibly structured predication. *Logique et Anal. (N.S.)* **35** (1992), *no.* 139-140, 375–393. (Jānis Cīrulis) **98k:03015** 03B10 (03B65)

Hazewinkel, Michiel The Wouthuysen equation. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 323–340, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Francois Vanderseypen) **98i:81086** 81R20

— *see also* **Encyclopedia: Mathematics, 98k:00002; Fomenko, A. T., 98k:57001** *and* **Index: Artificial Intelligence**

Hazod, Wilfried Remarks on convergence of types theorems on finite-dimensional vector spaces. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 197–219. (Andrzej Łuczak) **98e:60009** 60B10 (60B15)

Hazzledine, P. (*with* Berdichevskiĭ, V. L.; Shoĭkhet, B. A.) Micromechanics of diffusional creep. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1003–1032. (Pham Duc Chinh) **98j:73076** 73S10 (73B05, 73B27)

Hbid, M. L. (*with* Arino, O.) Sur l'unicité des solutions périodiques du système différentiel à retard $dx/dt = f(x(t-r))$, $x \in \mathbf{R}^2$. (English summary) [Uniqueness of the periodic solutions of the delay differential system $dx/dt = f(x(t-r))$, $x \in \mathbf{R}^2$] *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 71–79. (Radu Precup) **98e:34124** 34K15

— (*with* Ait Babram, M.; Arino, O.) Approximation scheme of a center manifold for functional-differential equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 554–572. (Teresa Faria) **98h:34122** 34K15 (34A45, 34C20, 34C40)

Hdeib, H. Z. *see* **Liang, Xue-Peng, 98k:54045**

He, B. *see* **He, Bing Sheng**

He, Bai Rong (*with* Tang, Huai Min) A fractional step difference method for solving a quasi-three-dimensional model of groundwater flow systems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 4, 348–357. (Summary) **98b:65096** 65M06

He, Bing Sheng (*with* de Klerk, E.; Roos, Cornelis; Terlaky, Tamás) Method of approximate centers for semi-definite programming. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 291–309. (Summary) **98f:90037** 90C08 (90C30)

He, C. *see* **He, Chun Yang**

He, Can Zhi (*with* Lo, Zhongwei) The stability and estimation of time lag for a class of higher system of time lag with variable coefficients. (English summary) *Hunan Ann. Math.* **16** (1996), *no.* 2, 6–12. (Denis Khusainov) **98g:34121** 34K20

— (*with* Yu, Sheng Hua) Comparison of general Gauss-Markov models in estimable subspaces. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 580–586. 62J05

— (*with* Xu, He Lian) A principal components estimate of the parameters of a multivariate linear model. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 16–22. 62J05

He, Chen Nuclear operators on $C(\Omega, X)$. (English summary) *J. Shanghai Jiaotong Univ. (Engl. Ed.)* **1** (1996), *no.* 1, 71–73. (C. W. Swartz) **98d:47066** 47B38 (46E40, 47B10)

He, Cheng The Cauchy problem for Navier-Stokes equations. *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 228–242. (Jürgen Socolowsky) **98b:35134** 35Q30 (76D05)

— Existence and regularity of a class of weak solutions to the Navier-Stokes equations. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 512–530. (Summary) **98d:35176** 35Q30 (35D05, 35D10, 76D05)

He, Cheng Qi (*with* Jiang, Tian Quan) Representation theorems for discrete groups generated by a class of punctured domains. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 6, 691–695. (Summary) **98b:30007** 30C20

He, Cheng Yuan Symmetric R-block circulant matrices. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 353–360. (Summary) **98h:15045** 15A57

— Positive-definite tridiagonal matrices. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 35–39. 15A48

He, Chu Ning Positive subdefinite solutions of a matrix equation on a linear manifold. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 1, 8–13. 15A24

— Positive definite and semipositive definite solutions to the matrix equation $A^T XB = C$. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 475–480. 15A24 (15A48)

He, Chun Xiong (*with* Luo, Xuebo) Hypoelliptic convolution operators and Rockland condition. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 10, 1025–1033. 22E30 (35H05)

— (*with* Yu, Jian Ning) Explicit fundamental solutions for a class of nonhomogeneous nontransversally elliptic invariant differential operators on the two-step nilpotent Lie group $H_{2n+1} \times \mathbf{R}^{2d}$. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 12–19. (Summary) **98m:58127** 58G03 (22E25, 22E30, 35A05, 35J99)

He, Chun Yang (*with* Watson, G. Alistair) An algorithm for computing the numerical radius. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 329–342. (Summary) **98c:65059** 65F15

— On the distance to uncontrollability and the distance to instability and their relation to some condition numbers in control. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 463–477. (Petko Petkov) **98g:93004** 93B05 (65F35, 93B40)

— (*with* Byers, Ralph; Mehrmann, Volker) The matrix sign function method and the computation of invariant subspaces. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 615–632. (Frank Uhlig) **98d:65035** 65F10 (65F30)

He, Da-Ren (*with* Wang, Bing Hong[1]; Ji, Xi-ping; Guan, Shan; Sun, Jian-gang; Qu, Shi-Xian) Escaping from strange sets in discontinuous circle map. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 249–252. (Frederick R. Marotto) **98d:58124** 58F13

— (*with* Wu, Shun Guang; Mao, Xiang Yu; Qu, Shi-Xian) Stabilization or suppression of chaos in a discontinuous circle map. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 8, 1464–1472. 58F13 (39B12, 82C05)

— (*with* Qu, Shi-Xian; Wu, Shun Guang) A multiple devil's staircase in a discontinuous map. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 152–158. (Alexander Loskutov) **98g:58047** 58F03 (58F08)

— (*with* Qu, Shi-Xian; Wu, Shun Guang) Multiple devil's staircase and type-V intermittency. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 402–411. 58F12 (58F13)

He, Dongqi Circumferences of 3-connected tough graphs with large degree sums. (English summary) *Australas. J. Combin.* **16** (1997), 195–202. (Summary) **98k:05090** 05C35 (05C38, 05C40)

He, Fei Yun (*with* Wen, Mao Sheng; Cai, Yuan Long) Nonblocking ATM switching networks. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 35–39, 45. 94C10

He, Gan Tong (*with* Yao, Dong) A new algorithm for linear programming—the direct search iteration method. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 1, 73–84. (Shu Zhong Zhang) **98c:90072** 90C05

He, Guan Yu Necessary and sufficient conditions for restricted decoupling control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 125–129. 93C05 (93C15)

He, Guang Zong (*with* Chen, Hua Fu) A gradient projection method for linear programming. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 549–551. 90C05 (49M07)

— (*with* Chen, Hua Fu) A general gradient projection method with an arbitrary initial point. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 552–556. 90C30 (49M07)

He, Guo Guang (*with* Feng, Wei Dong; Ma, Shou Feng) A study on the self-organization development law and its theoretic models of urban population scale. (Chinese. English and Chinese summaries) *J. Systems Engrg.* **11** (1996), *no.* 4, 84–93. (From the summary) **98f:92014** 92H10

He, Guo Long (*with* Xu, Shi Ying) Remarks on approximations to weakly quasiconvex sets and generalized convex sets. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 372–375. 41A65 (46B20)

He, Guo Ping (*with* Diao, Bai Qing; Gao, Zi You) An SQP algorithm with nonmonotone line search for general nonlinear constrained optimization problem. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 179–192. (Summary) **98c:90133** 90C30 (65K05)

— (*with* Gao, Zi You; Wu, Fang) Sequential systems of linear equations algorithm for nonlinear optimization problems with general constraints. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 371–397. (K. Schittkowski) **98k:90107** 90C30 (65K05)

— (*with* Gao, Zi You; Lai, Yanlian) New sequential quadratic programming algorithm with consistent subproblems. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 137–150. (José Mario Martínez) **98e:90159** 90C30 (65K05)

— (*with* Yuan, Yun Yao; Sui, Shu Lin) Symbolic geometric programming and a modified algorithm for feasible regions. (Chinese. English and Chinese summaries) *Shandong*

Kuangye Xueyuan Xuebao **16** (1997), *no.* 1, 86–93. 90C28

He, Guoqiang (*with* Cao, Weiming) Rigorous analysis of an implicit spectral method for KdV equation. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 159–167. (Summary) **98m:65169** 65M70 (35Q53)

He, Guowei (*with* Lambert, André; Lima, Ricardo) Wavelike patterns in one-dimensional coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 404–411. (Summary) **98d:58116** 58F13

He, Hui Yong (*with* Li, Guang Hua[2]) The representation of the multicomponent of coherent states for the quantum algebra $SU_q(4)$. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 218–224. (Zhong Qi Ma) **98h:81050** 81R50 (17B37, 81R30)

He, Ji Cheng (*with* Zheng, Lian Cun) Similarity solutions to a class of generalized reaction-diffusion equations with perturbations. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 5, 573–577. 35K57

— (*with* Zheng, Lian Cun) A class of nonlinear boundary layer problems in the theory of power law fluids. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 95–97. 34B15 (76A05, 76D10)

He, Ji Huan Generalized variational principles for one-dimensional unsteady flow of a gas in an elastic pipe with a varying cross-section. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **2** (1996), *no.* 5, 584–590. (Feng Liu) **98j:76123** 76N15 (73K70, 76M30)

— Equivalent theorem of Hellinger-Reissner and Hu-Washizu variational principles. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 1, 36–41. 73V25 (73V05)

— Generalized variational principles for three-dimensional unsteady inviscid compressible flow. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 1, 99–105. (Biyue Liu) **98d:76103** 76M10 (76M30, 76N10)

— Generalized variational principles for one-dimensional unsteady gas flow using the semi-inverse method. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 3, 299–307. (Summary) **98e:76064** 76M10 (76N15)

He, Jia Ru The concept of a fuzzy set and some fundamental relations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 28–36. (Summary) **98f:03046** 03E72

— The T-norm intersection and the S-norm union of fuzzy sets and nests of sets. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 27–33. 04A72

He, Jia Xing (*with* Zhang, Yu Lei) Combinatorial triangular interpolation polynomials. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 33–37. 41A10

— (*with* Zhang, Yu Lei; Li, Song Tao) S. N. Bernstein type trigonometric interpolation polynomial. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 154–158. 42A15

He, Jian-Bo (*with* Wang, Qing Guo; Lee, Tong Heng) Low-order stabilizers for linear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 651–654. (Summary) **98c:93094** 93D15 (93C05)

— (*with* Wang, Qing Guo; Lee, Tong Heng) Towards minimal-order stabilizers for all-pole plants. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 49–57. (John Maroulas) **98k:93100** 93D15

— (*with* Wang, Qing Guo; Lee, Tong Heng) H^∞ disturbance attenuation for state delayed systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 105–114. (Rabah Rabah) **98m:93034** 93B36 (90D25, 93D15)

He, Jian Jun Asymptotically normal convergence rates of U-statistics. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 75–81. 60F05 (62E20, 62G20)

He, Jian Xun[1] (*with* Chen, Peng Nian; Qin, Hua Shu) A proof of the Jacobian conjecture on global asymptotic stability. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 14, 1265–1268. (Shao Zhu Chen) **98c:34081** 34D20 (58F10)

He, Jian Xun[3] (*with* Peng, Li Zhong) Admissible wavelets associated with the transform group on $\mathbf{R}^n$. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 500. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 473–482. (Summary) **98i:42011** 42C15

— (*with* Liu, Heping) Admissible wavelets associated with the affine automorphism group of the Siegel upper half-plane. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 58–70. (G. C. Bohnké) **98k:22023** 22D10 (42C15, 43A32)

— Wavelets associated with the automorphism group of the unit disk. (English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 3, 1–7. (Summary) **98h:22016** 22E46 (42C15)

He, Jiang-heng (*with* Liang, Guo-ping) The non-conforming domain decomposition method for elliptic problems with Lagrangian multipliers. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 8–19. 65N55

He, Jianming (*with* Grimshaw, Roger H. J.; Malomed, Boris A.) Nonlinear analysis of instability produced by linear mode coupling. (English summary) *Phys. D* **113** (1998), *no.* 1, 26–42. (Summary) **98m:76075** 76E30 (76C99)

He, Jianxun *see* **He, Jian Xun[3]**

He, Jifeng (*with* Seidel, Karen; McIver, Annabelle) Probabilistic models for the guarded command language. (English summary) Formal specifications: foundations, methods, tools and applications (Konstancin, 1995). *Sci. Comput. Programming* **28** (1997), *no.* 2-3, 171–192. (Summary) **98d:68141** 68Q60

He, K. *see* **He, Kun**

He, Kaifen (*with* Zhou, Luqun; Huang, Zu Qia) Multistable structure in a Korteweg-de Vries system driven by a solitary wave. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 159–162. (Summary) **98k:35171** 35Q53 (35B99)

He, Kun (*with* Shen, Xiaotong) The rate of convergence of PMLEs. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 21–28. (Masafumi Akahira) **98i:62020** 62F12 (62E20)

He, Lian Fa Pseudo-orbits and topological pressure. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 635–642. (Bing Hong Wang) **98b:58140** 58F20 (58F11)

— (*with* Li, Hong[1]; Sun, Wen Xiang) Invariant of topological pressure under some semi-conjugates. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 355–362. (András Krámli) **98m:58081** 58F11 (28D20)

He, Ling Hui (*with* Liu, Ren Huai) Bounds of the expansion coefficients of composites reinforced by spherically isotropic particles. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 4, 341–348; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 317–323 (*Chinese. English and Chinese summaries*). 73K20

— (*with* Cheng, Zhen-Qiang) Micropolar elastic fields due to a circular cylindrical inclusion. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 659–668. (Summary) **98e:73113** 73S10 (73B25)

He, Matthew X. The orthogonality of weighted Faber polynomials. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 241–248, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 42C05 (30E10, 33C45)

— On the zeros of weighted Faber polynomials. (English summary) *Indian J. Math.* **37** (1995), *no.* 2, 79–93 (1996). (Yuri A. Farkov) **98a:30005** 30C15 (30E10, 41A10)

— (*with* Natalini, P.; Ricci, Paolo Emilio) A class of Jacobi polynomials orthogonal with respect to varying weights. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 123–130, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **98m:33020** 33C45

— (*with* Simon, David S.; Ricci, Paolo Emilio) Dynamics of the zeros of Fibonacci polynomials. *Fibonacci Quart.* **35** (1997), *no.* 2, 160–168. (V. Siva Rama Prasad) **98e:11018** 11B39 (12E10, 30C15)

— (*with* Noschese, S.; Ricci, Paolo Emilio) The relativistic Szegő polynomials. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 59–68. (Summary) **98c:33009** 33C45 (81Q99)

He, Min *see* **He, Min[3]**

He, Min[1] Integrodifferential equations dependent on parameters. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 253–262. (Kenneth B. Hannsgen) **98a:45014** 45N05 (34K30, 35B30, 45K05, 47D06, 73F15)

He, Min[2] (*with* Wu, Qi Guang) Inadmissibility results for some loss estimators. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 1, 75–82. (Khursheed Alam) **98d:62011** 62C15 (62F10, 62J05)

He, Min[3] Espaces de modules de systèmes cohérents. I. Normalité. (English and French summaries) [Moduli spaces of coherent systems. I. Normality] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 183–188. (Jean-Marc Drezet) **98m:14011** 14D20

— Espaces de modules de systèmes cohérents. II. Nombres de Donaldson. (English and French summaries) [Moduli spaces of coherent systems. II. Donaldson numbers] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 301–306. (Jean-Marc Drezet) **98m:14012** 14D20

He, Ming[2] (*with* Huang, Huai Zhi; Wang, Huan Chen) A study of the sealed-bid auction mechanism with incomplete information. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 4, 16–22. 90A60

— (*with* Zhang, Wei Jiang) Oscillator death in chains of oscillators with one-directional time-delay coupling on a cycle. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 81–84. (Wantong Li) **98k:34112** 34K15 (34C15, 34K20)

— Minimal periodic solutions of symmetric natural Hamiltonian systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 103–106. 34C25 (58E05, 58F22, 70H05)

He, Ming Feng (*with* Wang, Yi) A conjecture of Moore. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 627–630. 11B39

He, Ming Xing A topological degree for m-accretive operators perturbed by a condensing mapping. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 4, 440–444. (Yong Qing Li) **98h:47082** 47H11 (47H06)

He, Pin Pin Boolean algebras and subtraction algebras. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 4, 17–20. (Summary) **98a:06021** 06E05 (03G05, 06D99)

He, Qi-Chang A direct proof of the uniqueness of the square-root of a positive-definite tensor. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 251–253. (Summary) **98k:15050**. 15A72 (73B99)

— A remarkable tensor in plane linear elasticity. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 704–707. (Summary) **98h:73015** 73B99 (73C02)

He, Qi Chao (*with* Cheng, Jing Yuan; Wang, Zhi Wei[3]) Fuzzy clustering based on the concept of a fuzzy approach relation and its availability. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 602–607. 90C70 (04A72)

He, Qi Ming[1] (*with* Neuts, Marcel F.) On episodic queues. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 223–248. (Volker Schmidt) **98b:60161** 60K25

He, Qi Ming[2] (*with* Evans, David J.; Kang, Lishan) Schwarz domain decomposition method for multidimensional and nonlinear parabolic equations: multidimensional subdomains with overlaps. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 101–119. (Beny Neta) **98k:65056** 65M55

He, Qi Xiang Bootstrap approximation for the Chernoff-Savage statistic. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 175–184. 62G09 (62G20)

He, Qimiag *see* **He, Qi Ming[2]**

He, Qing[3] The stabilizers of Ulam ideals. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 150–152. (Pin Chao Wang) **98g:20011** 20B35

He, Qun CR-submanifolds of pseudocomplex space forms. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 107–110. (Chuan Yu Ma) **98d:53082** 53C40

He, Shang Lu (*with* Bai, Li Hua) A linear programming method for solving some minimax problems. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **16** (1997), *no.* 3, 83–86. 90C05

He, Sheng-Wu (*with* Qian, Zhongmin) On the hypercontractivity of Ornstein-Uhlenbeck semigroups with drift. *Séminaire de Probabilités, XXIX*, 202–217, *Lecture Notes in Math., 1613, Springer, Berlin*, 1995. (Tu Sheng Zhang) **98h:60112** 60J35 (47D07, 60G20)

— (*with* Wang, Jia-Gang; Yao, Rong-Qin) The characterizations of Laplacians in white noise analysis. *Nagoya Math. J.* **143** (1996), 93–109. (Isamu Dôku) **98c:46083** 46G05 (46N50, 60H30)

— (*with* Xia, Aihua) On Poisson approximation to the partial sum process of a Markov chain. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 101–111. (Andrew D. Barbour) **98g:60067** 60F17 (60J10)

He, Shuyuan Maximal probability inequality and truncation property for random field and its application. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 40–53. (Summary) **98i:60041** 60G42 (60G60)

— The LIL convergence for stationary linear random field. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 159. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 4, 385–397. (F. Móricz) **98g:60094** 60G60 (60F15)

— Estimation of the mixed AR and hidden periodic model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 196–208. (Summary) **98c:62171** 62M10

— Convergence of the clipped sample autocorrelation and autocovariance. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 36–42. (Summary) **98m:62245** 62M10

He, Song-nian (*with* Guo, Ben-yu) Chebyshev spectral-finite element method for incompressible fluid flow. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 491. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 377–398. (D. M. Sloan) **98b:76052** 76M25 (76D99, 76M10)

— (*with* Guo, Ben-yu) Chebyshev spectral-finite element method for three-dimensional unsteady Navier-Stokes equation. (English summary) *Appl. Math. Comput.* **82** (1997), *no.* 2-3, 97–127. (Summary) **98i:76053** 76M10 (65N30, 76M25)

He, Tian-Xiao Spline interpolation and its wavelet analysis. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 143–150, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 41A15 (42C15)

He, Wan Sheng (*with* Qiao, Zhan Ke) A characterization of a class of π-regular semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 25–29. 20M17

He, Wei (*with* Liu, Ying Ming) Epireflective subcategories of the category locale. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 361–366. 18B30 (06D10, 54B30)

He, Wei (*with* Wang, Zhemin) On generalization of the Edmonds-Karp maximum flow algorithm in the setting of quasi-pure networks. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 145–156, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05087** 05C35

He, Wen Jiong (*with* Jiang, Qing Rong) Increasing life insurances with randomness in interest rates. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 145–152. 90A09 (60G99, 62P05)

He, X. *see* **He, Xin**[1]

He, Xiao Hai (*with* Wu, Xiao Qiang; Tao, De Yuan) Wavelet transforms and vector quantization coding. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 1, 66–70. (K. Pan) **98b:94008** 94A29 (68U10)

He, Xiao Rong (*with* Hu, Shan Ying; Chen, Bing Zhen; Shen, Jing Zhu) The simulated annealing method for global optimization in nonlinear programming problems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 6, 5–9. 90C30 (65C05, 65K05)

He, Xiaoyi (*with* Zou, Qisu; Luo, Li-Shi; Dembo, Micah) Analytic solutions of simple flows and analysis of nonslip boundary conditions for the lattice Boltzmann BGK model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 115–136. (Summary) **98d:82041** 82C40

— (*with* Luo, Li-Shi) Lattice Boltzmann model for the incompressible Navier-Stokes equation. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 927–944. (Summary) **98g:82038** 82C40 (76D05, 76M35, 76P05)

— (*with* Zou, Qisu) On pressure and velocity boundary conditions for the lattice Boltzmann BGK model. (English summary) *Phys. Fluids* **9** (1997), *no.* 6, 1591–1598. (Summary) **98c:76092** 76P05 (76M25, 82C40)

He, Xin[1] (*with* Uehara, Ryuhei; Chen, Zhi-Zhong) Fast RNC and NC algorithms for finding a maximal set of paths with an application. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 209–218, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05143** 05C85 (05C38, 68Q22, 68Q25, 68R10)

— (*with* Uehara, Ryuhei; Chen, Zhi-Zhong) Fast RNC and NC algorithms for maximal path sets and applications to superstrings with flipping. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 113–119. (*see* **98a:68008**) 68R10 (68Q22)

— (*with* Chen, Zhi-Zhong) Parallel algorithms for maximal acyclic sets. (English summary) *Algorithmica* **19** (1997), *no.* 3, 354–367. (Summary) **98e:68088** 68Q22 (05C85, 68Q25, 68R10)

— Grid embedding of 4-connected plane graphs. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 339–358. (Summary) **98f:05048** 05C10

— (*with* Kant, Goos) Regular edge labeling of 4-connected plane graphs and its applications in graph drawing problems. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 175–193. (Peter Eades) **98b:68152** 68R10 (05C78, 05C85)

He, Xiu Li (*with* Dena, Turehan; Chai, Gui Ping) Two theorems on uniform asymptotic stability criteria for neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 2, 30–34. (Guo Zhu Gao) **98e:34136** 34K20 (34K40)

He, Xudong A formal definition of hierarchical predicate transition nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 212–229, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q90

He, Xue-Zhong (*with* Gopalsamy, K.) Oscillations and convergence in an almost periodic competition system. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 3, 247–266. (Krystyna Twardowska) **98m:92028** 92D40 (34K15, 34K20, 92D25)

— (*with* Gopalsamy, K.) Persistence, attractivity, and delay in facultative mutualism. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 154–173. (Summary) **98j:92018** 92D40 (34K15, 34K20)

He, Xuming (*with* Shi, Peide) Asymptotics for M-type regression splines with auxiliary scale estimation. (English summary) *Sankhyā Ser. A* **57** (1995), *no.* 3, 452–461. (Girdhar G. Agarwal) **98f:62094** 62G05

— (*with* Shao, Qi-Man) A general Bahadur representation of M-estimators and its application to linear regression with nonstochastic designs. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2608–2630. (M. Hušková) **98b:62041** 62F12 (60F05, 62F35, 62J05)

— (*with* Shi, Peide) Bivariate tensor-product B-splines in a partly linear model. (English summary) *J. Multivariate Anal.* **58** (1996), *no.* 2, 162–181. (Summary) **98f:62095** 62G05

— (*with* Wang, Gang[2]) Convergence of depth contours for multivariate datasets. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 495–504. (Raúl Pedro Mentz) **98f:62165** 62H12

— (*with* Shen, Liji) Linear regression after spline transformation. (English summary) *Biometrika* **84** (1997), *no.* 2, 474–481. (Girdhar G. Agarwal) **98m:62191** 62J05

He, Ye Ping (*with* Wang, Wei; Fan, Shu Xiang) A two-level refined design of an RSA public key cryptosystem. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 2, 10–13. (Summary) **98e:94018** 94A60

He, Yi De A hypothetical proof of Goldbach's conjecture and a necessary and sufficient condition for the truth of the conjecture. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 1, 103–106. (Kee Wai Lau) **98c:11108** 11P32

He, Yi Jun (*with* Qiu, Rui Feng; Zhang, Zhi Tian) Reducible Dehn surgery and toroidal Dehn surgery. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 3, 21–26. (Summary) **98j:57030** 57N10

He, Yin Nian (*with* Huang, Ai Xiang) Stability of nonlinear Galerkin algorithms. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 7–16. 65L06 (65M60)

— (*with* Li, Kaitai) Nonlinear Galerkin method for steady nonlinear differential equations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 320–328. (Wojciech Mydlarczyk) **98i:65083** 65M70 (34G20)

He, Yong *see* **He, Yong**[2]

He, Yong[1] (*with* Lin, Guohui; Yao, Yujun; Lu, Haiyan) Exact bounds of the modified LPT algorithms applying to parallel machines scheduling with nonsimultaneous machine available times. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 109–116. (Frank Werner) **98c:90051** 90B35 (68M20)

— A linear time $\frac{1}{3}$-approximate algorithm for partitioning problems with kernel sets. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 467–474. 90B35 (68Q25)

He, Yong[2] (*with* Zhang, Mou-Cheng) The structure of $\mathscr{P}$-regular semigroups. (English summary) *Semigroup Forum* **54** (1997), *no.* 3, 278–291. (R. J. Warne) **98d:20072** 20M17

He, Yong Fu[2] (*with* Zhong, Cheng Kui; Ma, Yu Lan) A variational principle on locally compact metric spaces. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 1–4. (Fuan Zhao) **98m:49040** 49J52 (49J45)

He, Yongbao (*with* Lu, Hong Tao[1]; He, Zhenya) A chaos-generator: analyses of complex dynamics of a cell equation in delayed cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 2, 178–181. 58F13 (34K15, 92B20)

He, You Sheng (*with* Wang, Cheng[3]; Ye, Qu Yuan) Application of the Gaussian wavelet family to solving the Navier-Stokes equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 12, 102–107. (Summary) **98m:76128** 76M25

He, Yu Zan (*with* Ma, Ji Gang[3]) Bers-Orlicz spaces on the product Riemann surface. (English summary) A Chinese summary appears in Acta Math. Sinica **38** (1995), no. 4, 575. *Acta Math. Sinica (N.S.)* **10** (1994), *no.* 3, 249–259. (S. K. Vodop'yanov) **98d:46035** 46E35 (30F99)

— Factorization of meromorphic solution to a class of non-linear differential equations. (English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 7–12. (Enid M. Steinbart) **98a:34004** 34A20 (30D30)

— (*with* Dong, Xinhan) BMOA and multivalent functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 47–62. (Summary) **98d:30025** 30C55 (30D50)

— (*with* Yuan, Wen Jun) Decomposable solutions of the differential equation $(f')^2 = a_0(z)(f - a_1(z))^2 f$. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 14, 1498–1501. 34A20

He, Yuanjiang On the structures of random measure and point process convolution semigroups. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 467–476. (Summary) **98e:60007** 60B05 (60G55)

— Some properties of the delayed renewal sequence semigroup. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 116–120. (Summary) **98m:60139** 60K05 (22A15)

— Upper monotone partial monoids. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 505–511. (Summary) **98g:60018** 60B99 (22A99, 60E05)

He, Ze Rong (*with* Ma, Zhi En) The effects of pollution and capture on a logistic population. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 230–237. 92D25

He, Zhenya (*with* Lu, Hong Tao[1]) Chaos and bifurcations in cellular neural networks with changeable output equations. (English summary) *J. Southeast Univ. (English Ed.)* **12** (1996), *no.* 1, 31–35. (Summary) **98a:34039** 34C23 (58F13, 92B20)

— (*with* Lu, Hong Tao[1]; He, Yongbao) A chaos-generator: analyses of complex dynamics of a cell equation in delayed cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 2, 178–181. 58F13 (34K15, 92B20)

He, Zhi Fang (*with* Wu, Dao Ming) Analytic solutions of Volterra predator-prey models. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 27–28, 32. 34A25

— (*with* Wu, Dao Ming) Rational approximations to solutions of stiff differential equations. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 18–20. 65L99

He, Zhiping A unique continuation property for wavelet transforms. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 65–78. (Summary) **98j:42020** 42C15 (43A65)

He, Zhong Quan Perturbations of nonlinear variational inequalities. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 4, 406–410. 49J40 (90C31)

He, Zhong Shi (*with* Yang, Xiao Fan; Tian, Yu Fang) The optimal connectivity of bipartite graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 35–38. 05C40

He, Zhuo Qiong (*with* Studden, William J.; Sun, Dongchu) Optimal designs for rational models. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2128–2147. (James E. Stafford) **98b:62137** 62K05 (62F15)

He, Zong Xiang (*with* Li, Qing De) The weak local Z_4 property for Banach spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 570–574. (Bor-Luh Lin) **98b:46018** 46B20

Head, A. K. (*with* Sherring, J.; Prince, G. E.) Dimsym and LIE: symmetry determination packages. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 153–164. (*see* **98b:35006**) 35–04 (34–04, 34A25, 68Q40)

Head, Allen C. (*with* Gregory, Allan W.; Raynauld, Jacques) Measuring world business cycles. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 677–701. 90A16 (90A60)

Head, Thomas Cylindrical and eventual languages. (English summary) *Mathematical linguistics and related topics*, 179–183, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45

— (*with* Păun, Gheorghe; Pixton, Dennis) Language theory and molecular genetics: generative mechanisms suggested by DNA recombination. *Handbook of formal languages, Vol. 2*, 295–360, *Springer, Berlin*, 1997. (Karel Culik, II) **98m:68148** 68Q45 (03D05, 92D20)

Headley, Patrick On a family of hyperplane arrangements related to the affine Weyl groups. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 331–338. (P. Orlik) **98e:52010** 52B30 (20F55)

Heagerty, Patrick J. (*with* Zeger, Scott L.) Lorelogram: a regression approach to exploring dependence in longitudinal categorical responses. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 150–162. 62H17 (62M30)

Heagy, James F. (*with* Pecora, Louis M.; Carroll, Thomas L.; Johnson, Gregg A.; Mar, Douglas J.) Fundamentals of synchronization in chaotic systems, concepts, and applications. (English summary) *Chaos* **7** (1997), *no.* 4, 520–543. 58F13 (58F40)

Heal, Geoffrey M. (*with* Chichilnisky, Graciela) The geometry of implementation: a necessary and sufficient condition for straightforward games. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 259–294. (Maurice Salles) **98k:90003** 90A08

— (*with* Chichilnisky, Graciela) Social choice with infinite populations: construction of a rule and impossibility results. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 303–318. (Anjan Mukherji) **98m:90010** 90A08

— *see also* **Topological social choice**, **98c:90006**

Healey, Jonathan James Location of 2:1 resonances in complex dispersion relationships. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1952, 2065–2077. (Summary) **98a:76035** 76E30 (76B15, 76D33)

Healey, Richard Nonlocality and the Aharonov-Bohm effect. (English summary) *Philos. Sci.* **64** (1997), *no.* 1, 18–41. 81P05

Healey, Timothy J. (*with* Kielhöfer, Hansjörg) Free nonlinear vibrations for a class of two-dimensional plate equations: standing and discrete-rotating waves. *Nonlinear Anal.* **29** (1997), *no.* 5, 501–531. (Pavel Krejčí) **98d:35155** 35L75 (35B10, 47H15, 47N20, 73D35, 73K10)

— (*with* Whalen, Timothy M.) Free vibration analysis of rotating nonlinearly elastic structures with symmetry: an efficient group-equivariance approach. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 1, 1–37. (Peter Ashwin) **98c:73057** 73K12 (34C15, 34C23, 58E09, 73V99)

Healy, Dennis M., Jr. (*with* Priebe, Carey E.; Olson, Tim) A spatial scan statistic for stochastic scan partitions. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1476–1484. (Summary) **98m:62272** 62M40

— (*with* Driscoll, J. R.; Rockmore, Daniel N.) Fast discrete polynomial transforms with applications to data analysis for distance transitive graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1066–1099. (David K. Maslen) **98j:42012** 42C05 (42C10, 65T20)

Healy, Michael J. Continuous functions and neural network semantics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1335–1341. (*see* **98i:00029**) 68T05 (68Q55)

Hearn, Donald W. (*with* Bergendorff, Pia; Ramana, Motakuri V.) Congestion toll pricing of traffic networks. (English summary) *Network optimization (Gainesville, FL, 1996)*, 51–71, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90B10 (90C35)

— (*with* Gibbons, Luana E.; Pardalos, Panos M.; Ramana, Motakuri V.) Continuous characterizations of the maximum clique problem. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 754–768. (Horst W. Hamacher) **98h:90061** 90C27

— *see also* **Network optimization**, **98e:90007**

Heath, Daniel J. On classification of Heegaard splittings and triangulations. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 241–264. (Rachel Roberts) **98i:57030** 57N10 (57M25)

— (*with* Kobayashi, Tsuyoshi) Essential tangle decomposition from thin position of a link. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 101–117. (Charles Livingston) **98j:57007** 57M25

Heath, David C. (*with* Resnick, Sidney I.; Samorodnitsky, Gennady) Patterns of buffer overflow in a class of queues with long memory in the input stream. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1021–1057. (Summary) **98h:60133** 60K25 (90B22)

— (*with* Berry, Donald A.; Chen, Robert W.; Zame, Alan; Shepp, Larry A.) Bandit problems with infinitely many arms. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2103–2116. (Peter Watts Jones) **98b:62121** 62L05 (62C10)

— (*with* Resnick, Sidney I.; Samorodnitsky, Gennady) Heavy tails and long range dependence in ON/OFF processes and associated fluid models. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 145–165. (Summary) **98j:60130** 60K25 (62M10, 90B22)

Heath, Lenwood S. (*with* Ganley, Joseph L.) An experimental evaluation of local search heuristics for graph partitioning. (English summary) *Computing* **60** (1998), *no.* 2, 121–132. 90C35 (05C85)

Heath, Michael *see* **Proceedings: Conference on Parallel Processing for Scientific Computing, 98b:65004**

Heath, Philip R. (*with* Keppelmann, Ed) Fibre techniques in Nielsen periodic point theory on nil and solvmanifolds. I. (English summary) *Topology Appl.* **76** (1997), *no.* 3, 217–247. (Peter Wong) **98e:55004** 55M20

— (*with* Zhao, Xuezhi) Nielsen numbers for based maps, and for noncompact spaces. (English summary) *Topology Appl.* **79** (1997), *no.* 2, 101–119. (Michael R. Kelly) **98h:55002** 55M20

Heath, W. P. (*with* Wellstead, P. E.) Self-tuning prediction and control for two-dimensional processes. I. Fixed parameter algorithms. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 65–107. 93B52 (93E10)

Heath-Brown, D. R. Weyl's inequality, Waring's problem and Diophantine approximation. *Number theory and related topics (Bombay, 1988)*, 41–46, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (R. C. Baker) **98b:11104** 11P05 (11J99)

— Searching for solutions of $x^3 + y^3 + z^3 = k$. *Séminaire de Théorie des Nombres, Paris, 1989–90*, 71–76, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Andrew Bremner) **98f:11025** 11D25 (11Y50)

— The density of rational points on cubic surfaces. *Acta Arith.* **79** (1997), *no.* 1, 17–30. (Emmanuel Peyre) **98h:11083** 11G35 (14G05)

Heathcote, Adrian Abductive inference and invalidity. *Theoria* **61** (1995), *no.* 3, 231–260. 03A05

Heatherly, Henry E. (*with* Birkenmeier, Gary F.; Lee, Enoch K. S.) Special radicals for near-ring. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 281–288. (Stefan Veldsman) **98c:16060** 16Y30 (16N80)

— (*with* Birkenmeier, Gary F.; Pilz, Günter F.) Near-rings and rings generated by homomorphisms on groups. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 199–210, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (C. J. Maxson) **98k:16065** 16Y30

— (*with* Birkenmeier, Gary F.; Groenewald, Nico J.) Minimal and maximal ideals in rings with involution. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 217–225. (Geoffrey L. Booth) **98i:16031** 16W10

— (*with* Birkenmeier, Gary F.; Pilz, Günter F.) Homomorphisms on groups. I. Distributive and d.g. near-rings. *Comm. Algebra* **25** (1997), *no.* 1, 185–211. (John D. P. Meldrum) **98d:16056** 16Y30 (16S50)

Hebbar, H. V. (*with* Janardan, K. G.; Mohan, N. R.; Vasudeva, R.) A stochastic model with random change point for the study of oviposition tactics of weevils on beans. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 193–201. 60K99 (62P10, 92D40)

— (*with* Vadiraja, N.) Limit points of sequences of moving maxima. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 13–18. (Ralph P. Russo) **98k:60042** 60F15 (60F20, 60G17)

Hebda, James (*with* Roberts, Craig W.) Examples of Thomas-Whitehead projective connections. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 87–104. (Lieven Vanhecke) **98m:53027** 53B10 (53B15, 53C05, 53C30)

Hebecker, Arthur (*with* Carow-Watamura, Ursula; Watamura, Satoshi; Schlieker, Michael; Weich, Wolfgang) Bicovariant differential calculus on quantum groups and wave mechanics. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1279–1288. (Andreas Cap) **98g:58006** 58B30 (16W30, 17B37, 81R50)

Hebeker, F.-K. (*with* Führer, Christian; Rannacher, R.) An adaptive finite element method for unsteady convection-dominated flows with stiff source terms. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 101–105, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65M60 (76M10, 76R99)

Heber, Gerd (*with* Eichhorn, Jürgen) The configuration space of gauge theory on open manifolds of bounded geometry. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 269–286, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Ambar Sengupta) **98d:58020** 58D19 (22E65, 53C07, 81T13)

Hebert, D. J. A branching random walk model for diffusion-reaction-convection. (English summary) *Adv. Math.* **125** (1997), *no.* 1, 121–153. (Pablo A. Ferrari) **98h:60123** 60J80 (60K35)

Hebert, Jaimie L. (*with* Carpenter, David Mark) Estimating guaranteed lifetimes of systems in a random environment. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 309–316. (A. M. Abouammoh) **98c:62188** 62N05

Hebey, Emmanuel ★ Sobolev spaces on Riemannian manifolds. Lecture Notes in Mathematics, 1635. *Springer-Verlag, Berlin*, 1996. x+116 *pp. ISBN* 3-540-61722-1 (H. Triebel) **98k:46049** 46E35 (58D15)

— (*with* Vaugon, Michel) Sobolev spaces in the presence of symmetries. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 859–881. (Gilles Carron) **98m:46047** 46E35 (58D99)

Hebisch, Waldemar Boundedness of L^1 spectral multipliers for an exponential solvable Lie group. *Colloq. Math.* **73** (1997), *no.* 1, 155–164. (Michael Cowling) **98e:22005** 22E30 (22E25)

Hébrard, Jean-Jacques (*with* Luquet, Philippe) The Horn basis of a set of clauses. (English summary) *J. Logic Programming* **34** (1998), *no.* 1, 59–66. (Summary) **98f:68045** 68N17

Hecht, Frédéric (*with* Borouchaki, Houman; George, Paul Louis; Laug, Patrick; Saltel, Eric) Delaunay mesh generation governed by metric specifications. I. Algorithms. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 61–83. (Pieter W. Hemker) **98c:65163** 65M55 (76M10)

Hecht, Henryk (*with* Taylor, Joseph L.) A remark on Casselman's comparison theorem. *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 139–146, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Jen-Tseh Chang) **98j:22021** 22E46 (22E30)

Hecht, Robert (*with* Happel, Robert; Schuster, Peter Karl; Stadler, Peter F.) Autocatalytic networks with intermediates. I. Irreversible reactions. (English summary) *Math. Biosci.* **140** (1997), *no.* 1, 33–74. (Yoram Schiffmann) **98b:92029** 92E20 (34C25, 34E15, 92C40)

Heck, Richard G., Jr. The consistency of predicative fragments of Frege's *Grundgesetze der Arithmetik*. (English summary) *Hist. Philos. Logic* **17** (1996), *no.* 4, 209–220. (Summary) **98i:03079** 03F35 (01A60, 03–03)

— Finitude and Hume's principle. (English summary) *J. Philos. Logic* **26** (1997), *no.* 6, 589–617. (Stewart Shapiro) **98m:03117** 03F35 (03A05, 03B30)

van Hecke, M. (*with* Malomed, Boris A.) A domain wall between single-mode and bimodal states and its transition to dynamical behavior in inhomogeneous systems.

(English summary) *Phys. D* **101** (1997), *no.* 1-2, 131–156. (Summary) **98a:76036** 76E30 (76E15, 82B99)

van Hecke, T. *see* **Van Hecke, T.**

Heckel, Reiko (*with* Corradini, Andrea) A compositional approach to structuring and refinement of typed graph grammars. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95)* (*Volterra*, 1995), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q50 (68R10)

— (*with* Habel, Annegret; Taentzer, Gabriele) Graph grammars with negative application conditions. (English summary) Graph transformations (Noordwijkerhout, 1993). *Fund. Inform.* **26** (1996), *no.* 3-4, 287–313. (K. G. Subramanian) **98f:68165** 68Q50 (68R10)

— (*with* Corradini, Andrea; Ehrig, Hartmut; Löwe, Michael) Horizontal and vertical structuring of typed graph transformation systems. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 613–648. (K. G. Subramanian) **98f:68166** 68Q50 (68R10)

Heckenberger, István (*with* Schmüdgen, Konrad) Levi-Civita connections on the quantum groups $SL_q(N)$, $O_q(N)$ and $Sp_q(N)$. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 177–196. (Tomasz Brzeziński) **98h:58012** 58B30 (16W30, 17B37, 81R50)

Hecker, Hans-Dietrich (*with* Dietel, Jana) Quadrilaterizing an orthogonal polygon in parallel. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 50–68. (Evangelos Kranakis) **98m:68272** 68U05 (03D15, 68Q22, 68Q25)

Hecker, Hartmut (*with* Wübbelt, Peter) Clustering by response: CBR. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 2, 193–215. (Summary) **98c:62117** 62H30

Heckerman, David (*with* Geiger, Dan) A characterization of the Dirichlet distribution through global and local parameter independence. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1344–1369. (A. H. Khan) **98h:62013** 62E10 (60E05)

Heckler, Charles E. (*with* Rao, Poduri S. R. S.) The three-fold nested random effects model. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 341–352. 62J05

Heckman, James J. (*with* Smith, Jeffrey Andrew) Making the most out of programme evaluations and social experiments: accounting for heterogeneity in programme impacts. (English summary) With the assistance of Nancy Clements. Evaluation of training and other social programmes (Madrid, 1993). *Rev. Econom. Stud.* **64** (1997), *no.* 4, 487–535. (*see* **98g:90006**) 90A08 (90A58)

— (*with* Ichimura, Hidehiko; Todd, Petra) Matching as an econometric evaluation estimator. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 2, 261–294. 62P20

Heckmann, Ralf (*with* Lengauer, Thomas) Computing upper and lower bounds on textile nesting problems. (English summary) *Algorithms—ESA '96* (*Barcelona*), 392–405, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:90062** 90B50 (90C90)

Heckmann, Reinhold Abstract valuations: a novel representation of Plotkin power domain and Vietoris hyperspace. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68156** 68Q55 (06B35, 54B20)

— (*with* Wilhelm, Reinhard) A functional description of TEX's formula layout. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 451–485. 68U15

Hector, Gilbert Géométrie et topologie des espaces difféologiques. (English summary) [Geometry and topology of diffeological spaces] *Analysis and geometry in foliated manifolds* (*Santiago de Compostela*, 1994), 55–80, *World Sci. Publishing, River Edge, NJ*, 1995. (Maïdo Rahula) **98f:58008** 58A05 (22E99, 58D05)

— (*with* Macho-Stadler, Marta) Isomorphisme de Thom et feuilletages presque sans holonomie. (English and French summaries) [Thom isomorphism and foliations almost without holonomy] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1015–1018. (Evgeniĭ V. Troitskiĭ) **98k:58216** 58G12 (19K35, 46L80, 57R30)

— (*with* Alcalde Cuesta, F.) Feuilletages en surfaces, cycles évanouissants et variétés de Poisson. (English summary) [Surface foliations, vanishing cycles and Poisson manifolds] *Monatsh. Math.* **124** (1997), *no.* 3, 191–213. (Raúl Ibáñez) **98i:57054** 57R30 (58F05)

Hedayat, A. S. (*with* Stufken, John; Su, Guoqin) On difference schemes and orthogonal arrays of strength t. (English summary) Special issue on orthogonal arrays and affine designs, Part II. *J. Statist. Plann. Inference* **56** (1996), *no.* 2, 307–324. (E. Seiden) **98e:05015** 05B10 (05B15, 62K15, 94B05)

— (*with* Yan, Bo; Pezzuto, John M.) Modeling and identifying optimum designs for fitting Dose-response curves based on raw optical density data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1132–1140. 62K05

— (*with* Robieson, Weining Z.) Exclusion of an undesirable sample from the support of a simple random sample. (English summary) *Amer. Statist.* **52** (1998), *no.* 1, 41–43. 62D05

Hedayat, S. (*with* Stufken, John; Su, Guoqin) On the construction and existence of orthogonal arrays with three levels and indexes 1 and 2. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2044–2053. (E. Seiden) **98m:05025** 05B15 (62K15, 94B05)

Hedayatian, K. On the certain Banach spaces of analytic functions. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 133–136, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 46E15 (47B38)

Heden, Olof Another Bruen chain. *Discrete Math.* **188** (1998), *no.* 1-3, 267. 51E23 (51A40)

Hedenmalm, Håkan (*with* Ben Natan, Yaakov; Benyamini, Yoav; Weit, Yitzhak) Wiener's Tauberian theorem for spherical functions on the automorphism group of the unit disk. (English summary) *Ark. Mat.* **34** (1996), *no.* 2, 199–224. (H. G. Dales) **98b:43009** 43A20 (43A80)

— (*with* Borichev, A. A.) Harmonic functions of maximal growth: invertibility and cyclicity in Bergman spaces. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 761–796. (Kristian Seip) **98a:30066** 30H05 (46E20, 46J15, 47A15)

Hedetniemi, Sandra M. (*with* Yan, Jing-Ho; Chang, Gerard J.; Hedetniemi, Stephen T.) k-path partitions in trees. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 227–233. (Summary) **98f:05101** 05C38 (05C05, 05C85)

— (*with* Cockayne, E. J.; Hattingh, Johannes H.; Hedetniemi, Stephen T.; McRae, Alice A.) Using maximality and minimality conditions to construct inequality chains. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 43–61. (Bert L. Hartnell) **98j:05082** 05C35

Hedetniemi, Stephen T. (*with* Yan, Jing-Ho; Chang, Gerard J.; Hedetniemi, Sandra M.) k-path partitions in trees. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 227–233. (Summary) **98f:05101** 05C38 (05C05, 05C85)

— (*with* Dunbar, Jean E.; Grossman, Jerrold W.; Hattingh, Johannes H.; McRae, Alice A.) On weakly connected domination in graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 261–269. (Summary) **98b:05055** 05C35

— (*with* Cockayne, E. J.; Hattingh, Johannes H.; Hedetniemi, Sandra M.; McRae, Alice A.) Using maximality and minimality conditions to construct inequality chains. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 43–61. (Bert L. Hartnell) **98j:05082** 05C35

— (*with* Cockayne, E. J.; Grobler, P. J. P.; McRae, Alice A.) What makes an irredundant set maximal? (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 213–223. (Summary) **98e:05063** 05C35

Hedliková, Jarmila (*with* Pulmannová, Sylvia) Generalized difference posets and orthoalgebras. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 247–279. (Joel Berman) **98i:06001** 06A06 (06C15, 08A55)

— (*with* Katriňák, Tibor) Lattice betweenness relation and a generalization of König's lemma. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 343–354. (Yehuda Rav) **98m:06001** 06A06 (05C20, 06B05, 08A02)

Hedrick, J. Karl (*with* Lee, Albert W.) Some new results on closed-loop stability in the presence of control saturation. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 619–631. 93D05 (93B52)

Hedrih, Katica R. Mass moment vectors at an N-dimensional coordinate system. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor (N.S.)* **54** (1993), *Commemoration Volume II*, 82–86. (*see* **98d:53002**) 70B10

— 350 years since the birth of the mathematician of Slav origin, the creator of the infinitesimal method and the co-author of the differential and integral calculus, Gottfried Wilhelm Leibnitz [Leibniz] (1646–1716). *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, *i–iii*. 01A70

Heeg, R. A. *see* **Heeg, Richard A.**

Heeg, R. S. (*with* Riley, N.) Simulations of the formation of an axisymmetric vortex ring. (English summary) *J. Fluid Mech.* **339** (1997), 199–211. (Summary) **98d:76032** 76C05 (76M25)

Heeg, Richard A. (*with* Chadha, S. S.) A nonlinear fractional program and its dual. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 43–54. (Summary) **98i:90100** 90C32

Heen, Olivier Efficient constant speed-up for one-dimensional cellular automata calculators. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1663–1671. (*see* **98h:68006**) 68Q80

Heering, J. (*with* Bergstra, Jan A.; Klop, Jan Willem) Object-oriented algebraic specification proposal for a notation and 12 examples. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 188–213, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 68Q65

Heermann, D. W. (*with* Binder, K.) ★ Monte Carlo simulation in statistical physics. (English summary) An introduction. Third edition. Springer Series in Solid-State Sciences, 80. *Springer-Verlag, Berlin*, 1997. x+150 *pp. ISBN* 3-540-63265-4 (Sergei A. Nemnyugin) **98m:82036** 82B80 (82–01, 82C80)

Heertjes, M. F. (*with* van de Molengraft, M. J. G.; Kok, Jan Jakob; van Campen, D. H.) Vibration reduction of a harmonically excited beam with one-sided spring using sliding computed torque control. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 361–375. 93D15 (93C20)

Heesterbeek, J. A. P. (*with* Barbour, A. D.; Luchsinger, C. J.) Thresholds and initial growth rates in a model of parasitic infection. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1045–1074. (P. R. Parthasarathy) **98b:92020** 92D30 (60J85)

Heffernan, David (*with* Power, Stephen C.) Limits of sums of digraph algebras with reduced digraphs having two vertices. (English summary) *Internat. J. Math.* **8** (1997), *no.* 1, 61–82. (Allan P. Donsig) **98a:46068** 46L05 (19K99, 46L80, 47D25)

Heffernan, P. (*with* Tseng, Li-Hsin; Lee, Der Tsai) Two-guard walkability of simple polygons. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 85–116. (Summary) **98k:68171** 68U05

Heffernan, Peter M. Unbiased estimation of central moments by using U-statistics. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 861–863. (Summary) **98f:62096** 62G05

poetzsch-Heffter, Arnd *see* **Poetzsch-Heffter, Arnd**

Hefner, Andreas (*with* Kleinschmidt, P.) A polyhedral approach for a constrained matching problem. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 429–437. (Xue Liang Li) **98c:90110** 90C27 (05C70, 90B35, 90C35)

— A min-max theorem for a constrained matching problem. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 180–189. (Charles H. C. Little) **98b:05079** 05C70 (05C35, 90C27)

Hegarty, Peter V. Autocommutator subgroups of finite groups. (English summary) *J. Algebra* **190** (1997), *no.* 2, 556–562. (Ma. Jesús Iranzo) **98g:20038** 20D99 (20F28)

Hegedűs, Tibor (*with* Megiddo, Nimrod) On the geometric separability of Boolean functions. (English summary) *Discrete Appl. Math.* **66** (1996), *no.* 3, 205–218. (György Turán) **98d:68076** 68Q15 (68Q25, 68T05)

Hegenbarth, Friedrich (*with* Cavicchioli, Alberto) A note on four-manifolds with free fundamental groups. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 435–451. (Jonathan A. Hillman) **98e:57028** 57N13 (57N65, 57Q10, 57R67)

Hegerfeldt, Gerhard C. Problems about causality in Fermi's two-atom model and possible resolutions. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 253–264, *World Sci. Publishing, River Edge, NJ*, 1995. (S. Gudder) **98f:81023** 81P10 (81P15)

— (*with* Beige, Almut; Sondermann, Dirk G.) Atomic quantum Zeno effect for ensembles and single systems. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1671–1688. (Summary) **98k:81023** 81P15

— (*with* Beige, Almut) Quantum Zeno effect and light-dark periods for a single atom. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1323–1334. (Yu. P. Rybakov) **98g:81007** 81P05 (81V45, 81V80)

— (*with* Sachse, T. I.; Sondermann, Dirk G.) Unusual light spectra from a two-level atom in squeezed vacuum. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 6, 961–973. (Summary) **98i:81294** 81V80

Hegger, R. (*with* Kantz, Holger) Embedding of sequences of time intervals. (English summary) *Europhys. Lett.* **38** (1997), *no.* 4, 267–272. (Hans-Peter Herzel) **98c:58159** 58F40 (92C50)

Heggernes, Pinar (*with* Blair, Jean R. S.; Telle, Jan Arne) Making an arbitrary filled graph minimal by removing fill edges. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 173–184, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98e:05098** 05C85 (68Q25)

Hegland, Markus (*with* Arbenz, Peter) The stable parallel solution of narrow banded linear systems. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30 (65Y05)

— (*with* Nair, M. Thamban; Anderssen, Robert S.) The trade-off between regularity and stability in Tikhonov regularization. (English summary) *Math. Comp.* **66** (1997), *no.* 217, 193–206. (Alexei I. Filinkov) **98a:65081** 65J20 (47A50, 65J10, 65R30)

Hegyvári, Norbert Subset sums in $\mathbf{N}^2$. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 393–402. (Vsevolod F. Lev) **98a:11016** 11B25 (11B05)

— (*with* Bollobás, Béla; Jin, Guoping) On a problem of Erdös and Graham. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 253–257. (Yuri Bilu) **98h:11016** 11B13 (11B05, 11B25, 11B75)

— (*with* Wintsche, Gergely) The rolling polyhedra. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 43–54. (Summary) **98k:52025** 52B05 (52B10)

Hehl, Friedrich W. (*with* Mielke, Eckehard W.; Baekler, Peter; Macías, Alfredo; Morales-Técotl, Hugo A.) Yang-Mills-Clifford version of the chiral Einstein action. (English summary) *Gravity, particles and space-time*, 217–254, *World Sci. Publishing, River Edge, NJ*, 1996. (Manoel F. Borges) **98e:83062** 83C47 (81V17, 83C99)

— (*with* Tsantilis, Efstratios; Puntigam, Roland A.) A quadratic curvature Lagrangian of Pawłowski and Rączka: a finger exercise with MathTensor. (English summary) *Relativity and scientific computing*, 231–240, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–04 (83C99)

— (*with* Obukhov, Yu. N.) On the relation between quadratic and linear curvature Lagrangians in Poincaré gauge gravity. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2685–2693. (Alberto Saa Vazquez) **98c:83085** 83D05

— (*with* Puntigam, Roland A.; Lämmerzahl, Claus) Maxwell's theory on a post-Riemannian spacetime and the equivalence principle. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1347–1356. (Metin Gürses) **98b:83079** 83D05 (83C22)

— (*with* Obukhov, Yu. N.; Mielke, Eckehard W.; Budczies, Jan) On the chiral anomaly in non-Riemannian spacetimes. (English summary) *Found. Phys.* **27** (1997), *no.* 9, 1221–1236. (Author's review (Yu.N.O.)) **98k:83076** 83D05 (53C80, 81T50)

— (*with* Obukhov, Yu. N.; Vlachynsky, E. J.; Esser, W.) Effective Einstein theory from metric-affine gravity models via irreducible decompositions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7769–7778. (Alberto Saa Vazquez) **98m:83067** 83D05 (83C15)

— *see also* **Relativity and scientific computing**, **98i:83003**

Heiberg, J.-L. *see* **Tannery, Paul**, **98a:01025a**

meyer auf der Heide, Friedhelm *see* **Meyer auf der Heide, Friedhelm**

Heidegger, M. *see* **Roubach, Michael**

Heidel, Jack (*with* Fu, Zhang) Non-chaotic behaviour in three-dimensional quadratic systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1289–1303. (Henryk Żołądek) **98f:34072** 34C99 (58F13)

Heidler, Harald Algebraic and essentially algebraic composition operators on the ball or polydisk. (English summary) *Studies on composition operators (Laramie, WY, 1996)*, 43–56, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (William Thomas Ross) **98k:47053** 47B38 (47C05, 47D25)

Heiermann, Volker Sur l'espace des représentations irréductibles du groupe de Galois d'un corps local. (English and French summaries) [On the space of irreducible representations of the Galois group of a local field] *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 6, 571–576. (Yoshihiro Koya) **98a:11166** 11S37 (11F80, 11F85)

Heifetz, Aviad Non-well-founded-type spaces. (English summary) *Games Econom. Behav.* **16** (1996), *no.* 2, 202–217. (Summary) **98h:90119** 90D60

Heifetz, E. (*with* Alpert, P.; da Silva, Arlindo Moraes) On the parcel method and the baroclinic wedge of instability. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 5, 788–795. 86A10 (76E20)

Heij, Christiaan (*with* Scherrer, Wolfgang) Identification of factor models by behavioural and subspace methods. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 335–344. (Summary) **98k:93026** 93B30 (93C15)

van der Heijden, G. H. M. (*with* Champneys, Alan R.; Thompson, J. M. T.) Homoclinic bifurcation and localised torsional buckling of elastic rods. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 143–150, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 73H05 (47H15, 58F14, 58F40, 73K05)

— (*with* Champneys, Alan R.; Thompson, J. M. T.) Spatially complex localization after one-twist-per-wave equilibria in twisted circular rods with initial curvature. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2151–2174. (Summary) **98j:73052** 73K05 (73D99, 73H05)

— (*with* Thompson, J. M. T.) Lock-on to tape-like behaviour in the torsional buckling of anisotropic rods. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 201–224. (Summary) **98m:73053** 73H05 (34C37, 73K05)

van der Heijden, M. C. (*with* Diks, Erik Bas) Modeling stochastic lead times in multi-echelon systems. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 469–485. 90B05

van Heijst, G. J. F. (*with* van de Konijnenberg, J. A.; Andersson, Helge I.) Spin-up in a rectangular tank with a sloping bottom. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 609–623. 76U05

— (*with* Trieling, R. R.; Beckers, M.) Dynamics of monopolar vortices in a strain flow. (English summary) *J. Fluid Mech.* **345** (1997), 165–201. (Summary) **98g:76011** 76C05 (76–05, 76M20, 76V05)

— (*with* Vosbeek, P. W. C.; van Geffen, J. H. G. M.; Meleshko, V. V.) Collapse interactions of finite-sized two-dimensional vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3315–3322. 76C05 (76M20, 76M25)

— (*with* van Geffen, J. H. G. M.) Viscous evolution of 2D dipolar vortices. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 4, 191–213. (Summary) **98m:76061** 76D99 (76C05, 76M20)

— (*with* Beckers, M.) The observation of a triangular vortex in a rotating fluid. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 5, 265–279. 76C05 (76–05)

— (*with* Trieling, R. R.) Decay of monopolar vortices in a stratified fluid. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 1, 27–43. 76C05 (76–05)

— (*with* Eisenga, A. H. M.; Verzicco, R.) Dynamics of a vortex ring moving perpendicularly to the axis of a rotating fluid. (English summary) *J. Fluid Mech.* **354** (1998), 69–100. 76C05 (76–05, 76M25)

— (*with* Trieling, R. R.; van Wesenbeeck, J. M. A.) Dipolar vortices in a strain flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 144–159. (Summary) **98h:76020** 76C05 (76–05)

— (*with* van de Konijnenberg, J. A.; Flór, J. B.) Decaying quasi-two-dimensional viscous flow on a square domain. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 595–606. (Summary) **98k:76031** 76D07 (76–05, 76V05)

Heikkilä, Seppo Applications of a recursion method to maximization problems in partially ordered spaces. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 249–260. (Marcel Erné) **98g:06003** 06A06 (06F30, 46A40, 54F05)

— First-order discontinuous differential equations with functional boundary conditions. *Advances in nonlinear dynamics*, 273–281, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Eduardo Liz) **98h:34039** 34B15

— Existence results for first order discontinuous differential equations of general form. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 79–83, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 34A12

— First order discontinuous implicit differential equations with discontinuous boundary conditions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1753–1761. (Marlène Frigon) **98j:34001** 34A09 (34A45, 34B15)

— (*with* Seikkala, S.) Uniqueness, comparison and existence results for discontinuous implicit differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1771–1780. (Marlène Frigon) **98j:34002** 34A09 (34A12)

— (*with* Salonen, H.) Applications of a recursion method to game theory. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 81–87. (Summary) **98d:90135** 90D06 (90D25)

— (*with* Carl, Siegfried) On a second order discontinuous implicit boundary value problem. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 219–232. (P. W. Eloe) **98j:34027** 34B15 (34A09, 34A45)

— (*with* Carl, Siegfried) Elliptic equations with discontinuous nonlinearities in $\mathbf{R}^N$. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 217–227. (Henghui Zou) **98m:35051** 35J60 (35R05, 47H15, 47N20)

Heikkinen, Juha (*with* Arjas, Elja) An algorithm for nonparametric Bayesian estimation of a Poisson intensity. (English summary) *Comput. Statist.* **12** (1997), *no.* 3, 385–402. 62G05 (62F15)

Heikkola, Erkki ★ Domain decomposition method with nonmatching grids for acoustic scattering problems. (English summary) Dissertation, University of Jyväskylä, Jyväskylä, 1997. Report, 76. *University of Jyväskylä, Department of Mathematics, Jyväskylä*, 1997. viii+94 *pp. ISBN* 951-39-0105-X (Lutz Tobiska) **98m:65214** 65N55 (76M25, 76Q05)

Heil, Christopher (*with* Colella, David) Sobolev regularity for refinement equations via ergodic theory. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 151–158, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42033** 42C15

— (*with* Ramanathan, Jayakumar; Topiwala, P.) Singular values of compact pseudodifferential operators. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 426–452. (Rodolfo Torres) **98k:47102** 47G30 (35S05, 47B10)

— (*with* Christensen, Ole) Perturbations of Banach frames and atomic decompositions. (English summary) *Math. Nachr.* **185** (1997), 33–47. (B. S. Rubin) **98m:42061** 42C99 (46B15, 46E30)

— (*with* Benedetto, John J.; Walnut, David F.) Gabor systems and the Balian-Low theorem. (English summary) *Gabor analysis and algorithms*, 85–122, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42016** 42C15

Heiligers, Berthold Computing E-optimal polynomial regression designs. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 2, 219–233. (Girdhar G. Agarwal) **98f:62223** 62K05

— (*with* Chang, Fu-Chuen) E-optimal designs for polynomial regression without intercept. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 371–387. (Bronisław Ceranka) **98e:62110** 62K05

Heiligman, Mark (*with* Fu, David) A characterization of zero-dimensional annihilators of tableaus. (English summary) *J. Algebra* **193** (1997), *no.* 2, 748–756. (P. L. N. Varma) **98f:13010** 13C20

Heilmann, Ole J. Unique large-time behaviour for solutions to Smoluchowski's coagulation equation. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8611–8622. (Summary) **98k:82178** 82C99 (34A34, 34C99)

Heilpern, Stanisław Representation and application of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 259–268. (Summary) **98g:04007** 04A72 (68T30)

Heim, Udo Proper blocking sets in projective spaces. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 167–176. (György Kiss) **98h:51016** 51E21 (05B25)

Heimonen, Ari On effective irrationality measures for some values of certain hypergeometric functions. (English summary) Dissertation, University of Oulu, Oulu, 1997. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 290 (1997), 105 *pp.* (Michael A. Bennett) **98f:11075** 11J82 (11J91)

— How were the irrational numbers discovered? (Finnish. English and Finnish summaries) *Arkhimedes* **1997**, *no.* 6, 10–16. (Summary) **98j:01004** 01A20

Hein, Georg The tangent bundle of $\mathbf{P}^2$ restricted to plane curves. (English summary) *Complex analysis and geometry (Trento, 1995)*, 137–140, *Pitman Res. Notes Math. Ser.*,

366, *Longman, Harlow*, 1997. (Summary) **98j:14047** 14H60
— On the generalized theta divisor. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 95–98. (Summary) **98a:14018** 14D20 (14C22)
Hein, Jotun (*with* Jiang, Tao[1]; Wang, Lusheng; Zhang, Kaizhong) On the complexity of comparing evolutionary trees. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 153–169. (Michael A. Steel) **98f:92004** 92D15 (05C05, 68Q25, 92B10)
— *see also* **Combinatorial pattern matching, 98i:68004**
Heindel, T. J. (*with* Bloom, Frederick) Mathematical modelling of the flotation deinking process. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 13–58. (Summary) **98b:76072** 76T05 (76D99, 76M35, 82C99)
Heindl, Gerhard (*with* Kreinovich, Vladik; Bouchon-Meunier, Bernadette) Geometry of errors revisited: a natural way to vector-valued metric spaces. (English summary) *Geombinatorics* **7** (1997), *no.* 2, 47–60. 54E35
— How to compute interval inclusions of geodetic coordinates from interval inclusions of Cartesian coordinates. (English summary) *Reliab. Comput.* **3** (1997), *no.* 4, 421–435. 70–08
Heindorf, Lutz Another note on countable Boolean algebras. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 815–819. (From the text) **98c:06017** 06E05 (54E35, 54H12)
— (*with* Baur, Lynne) Initial chain algebras on pseudotrees. (English summary) *Order* **14** (1997), *no.* 1, 21–38. (D. Monk) **98k:06013** 06E05 (54F05)
Heinemann, Bernhard On the complexity of prefix formulas in modal logic of subset spaces. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 145–155, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68Q60 (03B45, 03B70, 03D15)
— On binary computation structures. (English summary) Workshop on Computability, Complexity and Logic (Zinnowitz, 1996). *Math. Logic Quart.* **43** (1997), *no.* 2, 203–215. (Neculai Curteanu) **98d:03044** 03B70 (03B45, 68Q60, 68T27)
Heinig, Georg (*with* Sakhnovich, Lev Aronovich; Tydnyuk, I. F.) Paired Cauchy matrices. (English summary) *Linear Algebra Appl.* **251** (1997), 189–214. (Luis Verde-Star) **98d:15004** 15A09 (41A05)
— (*with* Bojanczyk, Adam) Transformation techniques for Toeplitz and Toeplitz-plus-Hankel matrices. I. Transformations. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 193–226. (Israel Koltracht) **98e:15026** 15A57
— The group inverse of the transformation $\mathcal{L}(X) = AX - XB$. (English summary) *Linear Algebra Appl.* **257** (1997), 321–342. (Ronald L. Smith) **98c:15014** 15A09 (15A04)
Heinig, Hans P. (*with* Drábek, Pavel; Kufner, Alois) Higher-dimensional Hardy inequality. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 3–16, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Maria J. Carro) **98k:26026** 26D10
Heinkel, B. When is $|S_n|^p/n^p$ an amart? (English summary) *Studia Sci. Math. Hungar.* **32** (1996), *no.* 3-4, 445–453. (Allan Gut) **98d:60086** 60G48 (60F15, 60G50)
Heinkenschloss, Matthias (*with* Cliff, E. M.; Shenoy, A. R.) An optimal control problem for flows with discontinuities. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 273–309. (Summary) **98f:49031** 49M25 (76M30, 76N10, 93C20)
— The numerical solution of a control problem governed by a phase field model. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 211–263. (Summary) **98f:49032** 49M25 (65K10)
Heinle, Wolfgang (*with* Goré, Rajeev; Heuerding, Alain) Relations between propositional normal modal logics: an overview. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 649–658. (George F. Schumm) **98m:03038** 03B45 (03B35)
Heinonen, Juha (*with* Hinkkanen, A.) Quasiconformal maps between compact polyhedra are quasisymmetric. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 997–1019. (J. Ferrand) **98c:30026** 30C65 (57Q99)
— The boundary absolute continuity of quasiconformal mappings. II. (English summary) *Rev. Mat. Iberoamericana* **12** (1996), *no.* 3, 697–725. (Olli Martio) **98c:30027** 30C65
— A theorem of Semmes and the boundary absolute continuity in all dimensions. (English summary) *Rev. Mat. Iberoamericana* **12** (1996), *no.* 3, 783–789. (P. Caraman) **98a:30027** 30C65 (26B30, 28A78, 30D40, 31B15)
— (*with* Palka, Bruce) The mathematics of F. W. Gehring. *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 5–8, *Springer, New York*, 1998. (*see* **98f:30001**) 01A70
— *see also* **Quasiconformal mappings and analysis, 98f:30001**
Heinrich, Bernd (*with* Nicaise, Serge; Weber, Beate) Elliptic interface problems in axisymmetric domains. I. Singular functions of non-tensorial type. (English summary) *Math. Nachr.* **186** (1997), 147–165. (Ya. A. Roĭtberg) **98e:35051** 35J25 (35D10, 35R05, 42A16)
Heinrich, Helmut *see* **Schmidt, Jochen W.**
Heinrich, K. (*with* Verrall, H.) A construction of a perfect set of Euler tours of K_{2k+1}. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 215–230. (John M. Harris) **98b:05064** 05C45
Heinrich, Philippe Zero-one laws for polynomials in Gaussian random variables: a simple proof. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 1019–1027. (Summary) **98c:60039** 60F20
— Continuité des trajectoires des chaos gaussiens de degré fini. (English summary) [Continuity of the trajectories of Gaussian chaos of finite degree] *Probab. Math. Statist.* **16** (1996), *no.* 2, 201–209. (Evarist Giné) **98e:60060** 60G17 (60G15)
Heinrich, Reinhart (*with* Montero de Juan, Francisco Javier; Klipp, Edda; Waddell, Thomas G.; Meléndez-Hevia, Enrique) Kinetic and thermodynamic constraints for the structural design of glycolysis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1793–1804. (*see* **98i:00029**) 92C30 (92C40)
— (*with* Wolf, Jana) Dynamics of biochemical oscillators in a large number of interacting cells. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1835–1845. (*see* **98i:00029**) 92C30
Heinrich, Stefan (*with* Frank, Karin[2]) Computing discrepancies of Smolyak quadrature rules. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 287–314. (Gh. Adam) **98e:65119** 65Y20 (65C05, 65D32, 68Q25)
Heinrichs, J. New perspective in the theory of second-order stochastic processes. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5289–5298. (C. van den Broeck) **98m:82057** 82C31
Heinrichs, Wolf-Dieter Topological tensor products of unbounded operator algebras on Fréchet domains. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 241–255. (Camillo Trapani) **98g:47037** 47D40 (46K05, 46M05)
Heintel, Markus A note on a Bayesian order determination procedure for vectorautoregressive processes. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 213–221. 62M10 (62F15)
Heintz, Joos (*with* Giusti, Marc; Morais, Jose Enrique; Pardo, Luis Miguel) When polynomial equation systems can be "solved" fast? (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 205–231, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98a:68106** 68Q40 (68Q25)
— (*with* Giusti, Marc; Morais, Jose Enrique; Pardo, Luis Miguel) Le rôle des structures de données dans les problèmes d'élimination. (English and French summaries) [The relevance of data structures for elimination problems] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1223–1228. (Summary) **98j:68068** 68Q40
— (*with* Bank, B.; Giusti, Marc; Mbakop, G. M.) Polar varieties, real equation solving, and data structures: the hypersurface case. (English summary) *J. Complexity* **13** (1997), *no.* 1, 5–27. (Alexander I. Barvinok) **98h:68123** 68Q40 (14P10, 14Q10, 68Q25)
Heintze, Ernst (*with* Liu, Xiaobo) A splitting theorem for isoparametric submanifolds in Hilbert space. *J. Differential Geom.* **45** (1997), *no.* 2, 319–335. (McKenzie Y. Wang) **98c:58006** 58B25 (53C40)
Heintze, Nevin (*with* Michaylov, Spiro; Stuckey, Peter J.; Yap, Roland H. C.) Meta-programming in CLP($\mathcal{R}$). (English summary) *J. Logic Programming* **33** (1997), *no.* 3, 221–259. (Summary) **98c:68036** 68N17 (68T20)
Heinz, Stefan Time scales of stratified turbulent flows and relations between second-order closure parameters and flow numbers. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 958–973. 76F99
Heinzer, William (*with* Lantz, David) Coefficient and stable ideals in polynomial rings. *Factorization in integral domains (Iowa City, IA, 1996)*, 359–370, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (L. J. Ratliff, Jr.) **98d:13024** 13F20 (13A15)
— (*with* Ratliff, L. J., Jr.; Shah, Kishor) On the irreducible components of an ideal. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1609–1634. (Scott Chapman) **98j:13022** 13H99 (13A15)
— (*with* Rotthaus, Christel; Wiegand, Sylvia) Idealwise algebraic independence for elements of the completion of a local domain. *Illinois J. Math.* **41** (1997), *no.* 2, 272–308. (Liam O'Carroll) **98b:13021** 13J10 (13C11, 13C15, 13J15)
— (*with* Huneke, Craig) The Dedekind-Mertens lemma and the contents of polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1305–1309. (Karen E. Smith) **98j:13003** 13A15 (13B25)
Heinzner, Peter (*with* Huckleberry, A. T.) Kählerian potentials and convexity properties of the moment map. *Invent. Math.* **126** (1996), *no.* 1, 65–84. (Michel Brion) **98e:58075** 58F05 (32C17, 32M05)
— (*with* Migliorini, L.) Quotients with respect to holomorphic actions of reductive groups. *Complex analysis and geometry (Trento, 1995)*, 141–152, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Dennis Snow) **98h:32056** 32M05
— (*with* Iannuzzi, Andrea) Integration of local actions on holomorphic fiber spaces. (English summary) *Nagoya Math. J.* **146** (1997), 31–53. (B. Gilligan) **98k:32047** 32M05
— (*with* Gilligan, Bruce) Globalization of holomorphic actions on principal bundles. (English summary) *Math. Nachr.* **189** (1998), 145–156. (Summary) **98j:32041** 32M05
Heise, Bodo (*with* Jung, Michael[1]) Robust parallel Newton-multilevel methods. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II (Nijmegen, 1996)*, 153–168, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65N55 (65N22, 78A30)
Heise, Werner (*with* Constantinescu, Ioana) On the concept of code-isomorphy. (English summary) *J. Geom.* **57** (1996), *no.* 1-2, 63–69. (Jonathan I. Hall) **98e:94028** 94B05
Heiser, Willem J. (*with* Bennani, Mohammed) Triadic distance models: axiomatization and least squares representation. (English summary) *J. Math. Psych.* **41** (1997), *no.* 2, 189–206. (Ki Hang Kim) **98k:92022** 92G15
— (*with* Groenen, Patrick J. F.) Cluster differences scaling with a within-clusters loss component and a fuzzy successive approximation strategy to avoid local minima. (English summary) *Psychometrika* **62** (1997), *no.* 1, 63–83. (C. Hayashi) **98e:62149** 62P15 (62H30)
Heiss, Stefan Antisymmetric mappings for finite solvable groups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 445–454. (U. Schoenwaelder) **98k:20023** 20D10 (20D60, 94B60)
— A note on the P_3-sequenceability of finite groups. (English summary) *Ars Combin.* **47** (1997), 173–175. 20D99
schroeder-Heister, Peter *see* **Schroeder-Heister, Peter**
Heisterkamp, Douglas R. (*with* Bhattacharya, Prabir) Invariants of families of coplanar conics and their applications to object recognition. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 3, 253–267. (Summary) **98b:68165** 68T10 (51N20)
Heitjan, Daniel F. Ignorability, sufficiency and ancillarity. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 375–381. (Sakutaro Yamada) **98e:62013** 62B05
Heitmann, Raymond C. The plus closure in mixed characteristic. *J. Algebra* **193** (1997), *no.* 2, 688–708. (Karen E. Smith) **98f:13006** 13B99
Hejazian, S. (*with* Niknam, A.) Continuity of module derivations on C^*-algebras and JB^*-algebras. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 137–143, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Khristo N. Boyadzhiev) **98k:46119** 46L70 (46L57)
Hejcman, Jan On simple recognizing of bounded sets. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 149–156. (M. Hušek) **98j:54046** 54E15 (22A05, 54E35, 54H11)
Hejduk, Jacek On the density topology with respect to an extension of Lebesgue measure. (English summary) *Real Anal. Exchange* **21** (1995/96), *no.* 2, 811–816. (Summary) **98m:28007** 28A12 (54A10)
— Non-Baire unions in category bases. (English summary) *Georgian Math. J.* **3** (1996), *no.* 6, 543–546. (Péter Komjáth) **98a:28001** 28A05 (04A15)
— Convergence with respect to F_σ-supported ideals. *Colloq. Math.* **72** (1997), *no.* 2, 363–368. (Zbigniew Grande) **98b:28003** 28A05 (54A10, 54B10, 54H05)

Hejhal, Dennis (*with* Bott, Raoul; Earle, Clifford J.; Jenkins, James A.; Jorgensen, Troels; Marden, Albert; Osserman, Robert) Lars Valerian Ahlfors (1907–1996). Edited and with an introduction by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 248–255. (Editors) **98m:01028** 01A70

Hejmo, Władysław (*with* Kloch, Jacenty) On singular phenomena in certain time-optimal problem. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 327–349. (Ovidiu Cârjă) **98c:49005** 49J15 (49J30, 49N40)

Helal, M. A. (*with* Khater, A. H.; El-Kalaawy, O. H.) Two new classes of exact solutions for the KdV equation via Bäcklund transformations. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 12, 1901–1909. 35Q53 (58F37)

Helander, P. (*with* Hazeltine, Richard D.; Catto, Peter J.) Plasma transport near the separatrix of a magnetic island. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2920–2927. (Summary) **98e:76111** 76X05

Hélary, Jean-Michel *see* **Distributed algorithms, 98a:68003**

Held, Dieter (*with* Pavčević, Mario-Osvin) Symmetric (79, 27, 9)-designs admitting a faithful action of a Frobenius group of order 39. (English summary) *European J. Combin.* **18** (1997), *no.* 4, 409–416. (Summary) **98a:05040** 05B30 (20B25)

Held, Martin (*with* Arkin, Esther M.; Mitchell, Joseph S. B.; Skiena, Steven S.) Recognizing polygonal parts from width measurements. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 237–246. (Summary) **98k:68160** 68U05

king-Hele, J. A. *see* **King-Hele, J. A.**

Helemäe, Hele-Liis (*with* Tiit, Ene-Margit) Multivariate minimal distributions. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **45** (1996), *no.* 4, 317–322. (Giorgio Dall'Aglio) **98a:60015** 60E05 (62H05)

— (*with* Tiit, Ene-Margit) Boundary distributions with fixed marginals. *Distributions with given marginals and moment problems* (*Prague*, 1996), 99–106, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E05 (62H05)

Helffer, Bernard (*with* Connes, Alain) ★ Mathématiques quantiques. (French) [Quantum mathematics] SMF Journée Annuelle [SMF Annual Conference], 1992. *Société Mathématique de France, Paris*, 1992. 52 *pp.* (Editors) **98f:81003** 81–06

— (*with* Bolley, Catherine) Rigorous results on Ginzburg-Landau models in a film submitted to an exterior parallel magnetic field. II. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 121–152. (J. R. Ockendon) **98c:82075** 82D55 (35Q55)

— Splitting in large dimension and infrared estimates. (English summary) *Microlocal analysis and spectral theory* (*Lucca*, 1996), 307–347, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Mihai Pascu) **98j:81089** 81Q20 (35J10, 35P05, 47F05, 47N50, 81Q10, 82B05)

— Semiclassical analysis for the Schrödinger operator with magnetic wells (after R. Montgomery, B. Helffer-A. Mohamed). (English summary) *Quasiclassical methods* (*Minneapolis, MN*, 1995), 99–114, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (Summary) **98m:81034** 81Q20

— (*with* Bolley, Catherine) Proof of the De Gennes formula for the superheating field in the weak κ limit. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 597–613. (Guang Shan Tian) **98h:82070** 82D55 (34B15)

— (*with* Bolley, Catherine) The Ginzburg-Landau equations in a semi-infinite superconducting film in the large κ limit. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 347–367. (Summary) **98k:82200** 82D55 (34B15)

— (*with* Bolley, Catherine) Superheating in a semi-infinite film in the weak κ limit: numerical results and approximate models. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 121–165. (J. R. Ockendon) **98b:82089** 82D55 (34B15, 82B80)

Helfrich, H.-P. (*with* Zwick, Daniel S.) A trust region algorithm for parametric curve and surface fitting. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 119–134. (Summary) **98f:65024** 65D17 (41A63)

— (*with* Amann, Herbert; Scholz, Reinhard) Joachim A. Nitsche (1926–1996). (German) *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 2, 90–100. (Editors) **98g:01056** 01A70

Helgason, Richard V. (*with* Kennington, Jeffery L.) Primal simplex algorithms for minimum cost network flows. *Network models*, 85–133, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C35 (90B10)

Helgason, Sigurdur Sophus Lie, the mathematician. *The Sophus Lie Memorial Conference* (*Oslo*, 1992), 3–21, *Scand. Univ. Press, Oslo*, 1994. (Joachim Schwermer) **98g:01061** 01A70 (01A55)

— Orbital integrals, symmetric Fourier analysis, and eigenspace representations. (English summary) *Representation theory and automorphic forms* (*Edinburgh*, 1996), 167–189, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Rebecca Herb) **98i:22019** 22E45 (22–02, 22E46, 43A85)

— Harish-Chandra and his mathematical legacy: some personal recollections. *Current Sci.* **74** (1998), *no.* 10, 921–924. 01A70 (17–03, 22–03)

Heil, Pavol (*with* Gargano, Luisa; Pérennes, Stéphane) Colouring paths in directed symmetric trees with applications to WDM routing. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 505–515, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (68M10, 90B12)

— (*with* Brewster, Richard C.; MacGillivray, Gary) The complexity of restricted graph homomorphisms. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 145–154. (Summary) **98c:05147** 05C85 (68Q25)

— (*with* Seyffarth, K.) Broadcasting in planar graphs. (English summary) *Australas. J. Combin.* **17** (1998), 309–318. (Summary) **98m:05183** 05C90

Hella, Lauri (*with* Dawar, Anuj; Kolaitis, Phokion G.) Implicit definability and infinitary logic in finite model theory (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 624–635, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 03C13 (03C75, 68Q15)

— (*with* Kolaitis, Phokion G.; Luosto, Kerkko) Almost everywhere equivalence of logics in finite model theory. (English summary) *Bull. Symbolic Logic* **2** (1996), *no.* 4, 422—443. (M. Yasuhara) **98c:03079** 03C13 (03C75, 03C80)

— Logical hierarchies in PTIME. (English summary) *Inform. and Comput.* **129** (1996), *no.* 1, 1–19. (Christine Charretton) **98a:03064** 03D15 (68P15, 68Q15)

— (*with* Luosto, Kerkko; Väänänen, Jouko) The hierarchy theorem for generalized quantifiers. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 802–817. (G. Fuhrken) **98a:03059** 03C80

— (*with* Kolaitis, Phokion G.; Luosto, Kerkko) How to define a linear order on finite models. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 241–267. (Ricardo Bianconi) **98m:03065** 03C13 (03C50, 03C80, 03D15, 68Q15)

— (*with* Väänänen, Jouko; Westerståhl, Dag) Definability of polyadic lifts of generalized quantifiers. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 3, 305–335. (Michal Krynicki) **98j:03053** 03C80 (03C13)

— (*with* Dawar, Anuj; Gottlob, Georg) Capturing relativized complexity classes without order. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 109–122. (Christine Charretton) **98m:68087** 68Q15 (03C13, 03C80, 03D15)

Hellaby, Charles (*with* Dray, Tevian; Ellis, George F. R.; Manogue, Corinne A.) Gravity and signature change. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 591–597. (Viqar Husain) **98a:83011** 83C05

— (*with* Sumeruk, Ariel; Ellis, George F. R.) Classical signature change in the black hole topology. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 2, 211–238. (Marek Kossowski) **98j:83059** 83C57

Hellberg, Rasmus Design of reflectionless slabs for obliquely incident transient electromagnetic waves. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 97–112. (Summary) **98b:78032** 78A45

Hellegouarch, Yves Une généralisation d'un théorème de Terjanian. (French summary) [A generalization of a theorem of Terjanian] *Séminaire de Théorie des Nombres, Paris*, 1989–90, 77–92, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Andrew Granville) **98f:11026** 11D41 (11A15)

— Analogues en caractéristique p d'un théorème de Mason. (English and French summaries) [Two p-analogues for a theorem of Mason] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 141–144. (Paul M. Voutier) **98k:11023** 11C08 (11D72)

— (*with* Recher, François) Generalized t-modules. *J. Algebra* **187** (1997), *no.* 2, 323–372. (D. A. Jordan) **98g:11068** 11G09 (11J91, 16S36)

Hellekalek, Peter (*with* Leeb, Hannes) Dyadic diaphony. *Acta Arith.* **80** (1997), *no.* 2, 187–196. (Robert F. Tichy) **98g:11090** 11K45

Hellendoorn, Hans Industrial applications of fuzzy control. (English summary) Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 69–91. (*see* **98e:04004**) 93C42 (04A72)

Heller, Alex Stable homotopy theories and stabilization. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 2, 113–130. (A. D. Elmendorf) **98g:55021** 55U35 (18D05, 55P42)

— Homological algebra and (semi)stable homotopy. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 2, 131–139. (A. D. Elmendorf) **98g:18013** 18G10 (18D05, 55U35)

Heller, E. J. (*with* da Luz, M. G. E.; Lupu-Sax, A. S.) Quantum scattering from arbitrary boundaries. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2496–2507. (Summary) **98i:81259** 81U05

Heller, Mark Five layers of interpretation for possible worlds. *Philos. Stud.* **90** (1998), *no.* 2, 205–214. 03B45 (03A05)

Heller, Michael The non-linear universe: creative processes in the universe. *The emergence of complexity in mathematics, physics, chemistry and biology* (*Vatican City*, 1992), 191–215, *Pontif. Acad. Sci. Scr. Varia*, 89, *Pontif. Acad. Sci., Vatican City*, 1996. (Lawrence Sklar) **98k:83093** 83F05

— (*with* Sasin, Wiesław) Noncommutative structure of singularities in general relativity. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5665–5671. (Kamran Kaviani) **98g:83075** 83C75 (46L87)

— (*with* Sasin, Wiesław) The closed Friedmann world model with the initial and final singularities as a non-commutative space. (English summary) *Mathematics of gravitation, Part I* (*Warsaw*, 1996), 153–162, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Manfred Requardt) **98j:83074** 83C75 (46L99, 58B30)

— (*with* Sasin, Wiesław; Lambert, Dominique) Groupoid approach to noncommutative quantization of gravity. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5840–5853. (Gianpiero Mangano) **98k:58017** 58B30 (46L87, 83C45)

Hellerstein, Lisa (*with* Coullard, Collette R.) Independence and port oracles for matroids, with an application to computational learning theory. (English summary) *Combinatorica* **16** (1996), *no.* 2, 189–208. (Jiří Tůma) **98a:05043** 05B35 (68T05)

Helleseth, Tor (*with* Johansson, Thomas) Universal hash functions from exponential sums over finite fields and Galois rings. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 31–44, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98g:94028** 94A60

— (*with* Kumar, P. Vijay; Shanbhag, Abhijit) Codes with the same weight distributions as the Goethals codes and the Delsarte-Goethals codes. (English summary) *Des. Codes Cryptogr.* **9** (1996), *no.* 3, 257–266. (Summary) **98a:94036** 94B05

— (*with* Hamada, Noboru) The uniqueness of [87, 5, 57; 3]-codes and the nonexistence of [258, 6, 171; 3]-codes. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 105–127. (Vera Pless) **98b:05023** 05B25 (62K15)

— (*with* Hamada, Noboru) A characterization of some $\{3v_2 + v_3, 3v_1 + v_2; 3, 3\}$-minihypers and some [15, 4, 9; 3]-codes with $B_2 = 0$. (English summary) Special issue on orthogonal arrays and affine designs, Part I. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 129–146. (Vera Pless) **98b:05024** 05B25 (62K15)

— (*with* Hamada, Noboru) A characterization of $\{3v_1 + v_4, 3v_0 + v_1; 4, 3\}$-minihypers and projective ternary [78, 5, 51] codes. (English summary) *Math. Japon.* **43** (1996), *no.* 2, 253–266. (Raymond Hill) **98c:94021** 94B05 (51E22)

— (*with* Kumar, P. Vijay) An expansion for the coordinates of the trace function over Galois rings. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 353–361. (Mihai Caragiu) **98e:11142** 11T30

— (*with* Kløve, Torleiv; Levenshteĭn, V. I.) On the information function of an error-correcting code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 549–557. (Ram Autar) **98g:94047** 94B65

— (*with* Kløve, Torleiv) The Newton radius of codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1820–1831. (Summary) **98i:94034** 94B05

— (*with* Yang, Kyeongcheol) On the weight hierarchy of Preparata codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1832–1842. (Summary) **98j:94027** 94B05

— (*with* Boukliev, Iliya; Dodunekov, Stefan M.; Ytrehus, Øyvind) On the [162, 8, 80] codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2055–2057. 94B05

— (*with* Yang, Kyeongcheol) On the weight hierarchy of Goethals codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 304–307. (Summary)

98h:94024 94B05

Helling, Heinz (*with* Vinberg, Èrnest Borisovich; Mennicke, Jens L.) On some generalized triangular groups and three-dimensional orbifolds. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **56** (1995), 5–32, 350; *translation in Trans. Moscow Math. Soc.* **1995**, 1–21. (L. A. Kurdachenko) **98i:20031** 20F05 (57N10)

Helliwell, T. M. (*with* Konkowski, D. A.) Using the Reissner-Nordström Cauchy horizon to test a stability conjecture. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 69–75, *World Sci. Publishing, River Edge, NJ*, 1994. (From the introduction) **98d:83064** 83C75 (83C15)

Hellman, Geoffrey Structuralism without structures. (English summary) Mathematical structuralism. *Philos. Math.* (3) **4** (1996), *no.* 2, 100–123. (Summary) **98h:00006** 00A30 (03A05)

— Quantum mechanical unbounded operators and constructive mathematics—a rejoinder to Bridges. (English summary) *J. Philos. Logic* **26** (1997), *no.* 2, 121–127. (R. Gylys) **98c:03122** 03F60 (03A05, 03B30, 47N50, 81P05)

— Bayes and beyond. (English summary) *Philos. Sci.* **64** (1997), *no.* 2, 191–221. 03B48

— Responses to P. Maher: "Depragmatized Dutch book arguments" [Philos. Sci. **64** (1997), no. 2, 291–305] and K. T. Kelly, O. Schulte and C. Juhl: "Learning theory and the philosophy of science" [ibid. 245–267]. *Philos. Sci.* **64** (1997), *no.* 2, 317–322. 03B48

Hellmund, Meik (*with* Gladikowski, Jens) Static solitons with nonzero Hopf number. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5194–5199. (Bernd J. Schroers) **98i:81146** 81T10 (57R99)

Hellou, Mustapha (*with* Moreau, Françoise; El Yazidi, Mohamed) Écoulements cellulaires de Stokes dans un canal plan obstrué par une file de cylindres. (English and French summaries) [Cellular Stokes flow in a channel obstructed by a row of cylinders] *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 31–45. (Summary) **98i:76023** 76D07

Hellwig, K.-E. (*with* Bugajski, S.; Stulpe, W.) On fuzzy random variables and statistical maps. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 1–11. 60E99 (28E10, 81S25, 82B03)

Helm, Martin (*with* Bednarchak, Debe) A note on the Beck-Fiala theorem. (English summary) *Combinatorica* **17** (1997), *no.* 1, 147–149. (Miklós Bóna) **98d:05003** 05A05 (05D05)

Helmberg, Christoph (*with* Rendl, Franz; Weismantel, Robert) Quadratic knapsack relaxations using cutting planes and semidefinite programming. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 175–189, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Regina Hildenbrandt) **98e:90092** 90C08 (52B12, 65K05, 90C20)

— (*with* Weismantel, Robert) Cutting plane algorithms for semidefinite relaxations. (English summary) *Topics in semidefinite and interior-point methods (Toronto, ON, 1996)*, 197–213, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:90073** 90C25 (90C09)

Helmberg, Gilbert Estimating the sum of alternating series with a convexity property. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 7–14. (Summary) **98i:40001** 40A25 (26A51)

Helmberger, Donald V. (*with* Song, Xi J.) Pseudo Green's functions and waveform tomography. (English summary) *Bull. Seismol. Soc. Amer.* **88** (1998), *no.* 1, 304–312. 86A15

Helmbold, David P. (*with* Kwek, Stephen; Pitt, Leonard) Learning when to trust which experts. (English summary) *Computational learning theory (Jerusalem, 1997)*, 134–149, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68145** 68T05 (68Q99)

— (*with* Cesa-Bianchi, Nicolò; Freund, Yoav; Haussler, David; Schapire, Robert E.; Warmuth, Manfred K.) How to use expert advice. (English summary) *J. ACM* **44** (1997), *no.* 3, 427–485. (Peter Auer) **98e:68220** 68T05 (68Q99)

Helmer, D. A general diagonal process and compactness in spaces of measurable functions. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 149–155. (Richard Becker) **98b:46034** 46E30 (04A20, 28A20, 46E40, 46G10)

Helmers, Roelof (*with* Gilat, David) On strong laws for generalized L-statistics with dependent data. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 187–192. (Manfred Denker) **98g:62096** 62G30 (28D05, 60F15, 60G10, 62G20)

Helmi, Amina (*with* Vucetich, Héctor) Non-integrability and chaos in classical cosmology. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 153–156. (Summary) **98b:83095** 83F05 (58F13, 83C15)

Helmig, Rainer *see* **Modeling and computation in environmental sciences, 98f:76003**

Helminck, A. G. Tori invariant under an involutorial automorphism. II. (English summary) *Adv. Math.* **131** (1997), *no.* 1, 1–92. (James E. Humphreys) **98j:20063** 20G15 (14M17, 22E46, 53C35)

Helmke, Uwe (*with* Manthey, W.; Hinrichsen, Diederich) On Fischer-Frobenius transformations and the structure of rectangular block Hankel matrices. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 3, 255–288. (R. N. Mukherjee) **98e:93055** 93C05 (15A57)

— (*with* Hüper, K.) The Jacobi method: a tool for computation and control. *Systems and control in the twenty-first century (St. Louis, MO, 1996)*, 205–228, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (P. Bertrand) **98a:93026** 93B40 (65F15, 90–02, 93B15)

— (*with* Rosenthal, Joachim; Schumacher, J. M.) A controllability test for general first-order representations. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 2, 193–201. (Pramod Kumar Sharma) **98b:93011** 93B05 (93C30)

— (*with* Fuhrmann, Paul A.) A homeomorphism between observable pairs and conditioned invariant subspaces. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 217–223. (Anna Maria Perdon) **98g:93009** 93B27 (93B28, 93C35)

— (*with* Fuhrmann, Paul A.) Tangent spaces of rational matrix functions. (English summary) *Linear Algebra Appl.* **271** (1998), 1–40. (Zbigniew Bartosiewicz) **98j:93023** 93B25 (53B99, 93B29, 93C05, 93C45)

— *see also* **Operators, systems, and linear algebra, 98k:93005**

Helou, Charles Proof of a conjecture of Terjanian for regular primes. (English summary) *C. R. Math. Rep. Acad. Sci. Canada* **18** (1996), *no.* 5, 193–198. (Kurt Girstmair) **98a:11142** 11R18 (11A15)

— Cauchy-Mirimanoff polynomials. (French summary) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 2, 51–57. (Maurice Mignotte) **98k:11147** 11R09 (11C08, 11R32)

Helsing, J. (*with* Milton, G. W.; Movchan, A. B.) Duality relations, correspondences and numerical results for planar elastic composites. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 4, 565–590. (Leonid V. Gibiansky) **98e:73092** 73K20 (73B27, 73C02, 73V20)

Helton, J. William (*with* Bailey, F. N.; Merino, Orlando) Performance functions and sublevel sets for frequency domain design of single loop feedback control systems with plant uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 3, 227–263. (Summary) **98m:93045** 93B51 (93B36, 93B52, 93C41, 93C80)

— (*with* Bailey, F. N.; Merino, Orlando) Alternative approaches in frequency domain design of single loop feedback systems with plant uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 3, 265–277. (Summary) **98m:93046** 93B51 (93B36, 93B52, 93C70)

— (*with* Zhan, Wei) Piecewise Riccati equations and the bounded real lemma. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 8, 741–757. (Gerhard Freiling) **98e:93036** 93B36 (49L25)

— (*with* Vityaev, Andrei E.) Analytic functions optimizing competing constraints. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 749–767. (Sergei Treil) **98b:93022** 93B36

Helversen-Pasotto, Anna P. Character sum identities in analogy with special functions identities. *Adv. Math.* **128** (1997), *no.* 1, 186–189. (Ronald J. Evans) **98h:11105** 11L10 (33C99)

Helzel, Christiane (*with* Petras, Knut) Numerical estimation of projection constants. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 555–566. (Manfred Sommer) **98h:41004** 41A10 (41A65)

Hemami, A. Steering control problem formulation of low-speed tricycle-model vehicles. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 783–790. 93C85 (93C95)

Hemasinha, Rohan Iterates of circulant matrices over the fuzzy semiring. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 237–244, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 15A33 (04A72)

— (*with* Pal, Nikhil R.; Bezdek, James C.) The determinant of a fuzzy matrix with respect to t and co-t norms. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 297–306. (Summary) **98a:15011** 15A15 (04A72)

— (*with* Ghosh, Dilip Kumar; Patel, A. H.; Bagui, Subhash C.) Construction of balanced ternary designs and proper balanced $(m+1)$-ary designs. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 257–264. 62K10 (05B05)

Hemaspaandra, Edith (*with* Naik, Ashish V.; Ogihara, Mitsunori; Selman, Alan L.) P-selective sets and reducing search to decision vs self-reducibility. (English summary) Eighth Annual Structure in Complexity Theory Conference (San Diego, CA, 1993). *J. Comput. System Sci.* **53** (1996), *no.* 2, *part* 1, 194–209. (Marius Zimand) **98a:68070** 68Q15

— (*with* Hemaspaandra, Lane A.; Hempel, Harald) R^{SN}_{1-tt}(NP) distinguishes robust many-one and Turing completeness. (English summary) *Algorithms and complexity (Rome, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q15 (03D15)

— (*with* Hemaspaandra, Lane A.; Rothe, Jörg) Exact analysis of Dodgson elections: Lewis Carroll's 1876 voting system is complete for parallel access to NP. (English summary) *Automata, languages and programming (Bologna, 1997)*, 214–224, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15 (68Q25)

— (*with* Hemaspaandra, Lane A.; Hempel, Harald) A downward translation in the polynomial hierarchy. (English summary) *STACS 97 (Lübeck)*, 319–328, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68048** 68Q15

— (*with* Hemaspaandra, Lane A.; Rothe, Jörg) Exact analysis of Dodgson elections: Lewis Carroll's 1876 voting system is complete for parallel access to NP. (English summary) *J. ACM* **44** (1997), *no.* 6, 806–825. (Summary) **98m:68089** 68Q15 (68Q25, 90A28)

Hemaspaandra, Lane A. (*with* Jiang, Zhigen; Rothe, Jörg; Watanabe, Osamu[2]) The join can lower complexity. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 260–267, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:68077** 68Q15 (03D15)

— (*with* Han, Yenjo) Pseudorandom generators and the frequency of simplicity. (English summary) *J. Cryptology* **9** (1996), *no.* 4, 251–261. (Robert M. Baer) **98a:94021** 94A60 (65C10)

— (*with* Hemaspaandra, Edith; Hempel, Harald) R^{SN}_{1-tt}(NP) distinguishes robust many-one and Turing completeness. (English summary) *Algorithms and complexity (Rome, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q15 (03D15)

— (*with* Rothe, Jörg; Wechsung, Gerd) On sets with easy certificates and the existence of one-way permutations. (English summary) *Algorithms and complexity (Rome, 1997)*, 264–275, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98m:68090** 68Q15 (03D15, 94A60)

— (*with* Hemaspaandra, Edith; Rothe, Jörg) Exact analysis of Dodgson elections: Lewis Carroll's 1876 voting system is complete for parallel access to NP. (English summary) *Automata, languages and programming (Bologna, 1997)*, 214–224, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15 (68Q25)

— (*with* Fischer, Sophie; Torenvliet, Leen) Witness-isomorphic reductions and local search. (English summary) *Complexity, logic, and recursion theory*, 207–223, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (William Gasarch) **98f:68097** 68Q15 (03D15, 68Q05)

— (*with* Hemaspaandra, Edith; Hempel, Harald) A downward translation in the polynomial hierarchy. (English summary) *STACS 97 (Lübeck)*, 319–328, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68048** 68Q15

— (*with* Hemaspaandra, Edith; Rothe, Jörg) Exact analysis of Dodgson elections: Lewis Carroll's 1876 voting system is complete for parallel access to NP. (English summary) *J. ACM* **44** (1997), *no.* 6, 806–825. (Summary) **98m:68089** 68Q15 (68Q25, 90A28)

— (*with* Rothe, Jörg) Unambiguous computation: Boolean hierarchies and sparse Turing-complete sets. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 634–653. (Uwe Schöning) **98d:68078** 68Q15 (03D15, 68Q10)

Hematiyan, M. R. (*with* Karami, G.) Field boundary element formulation of materially nonlinear and large deformation analysis. (English and Farsi summaries) *Iranian J. Sci. Tech.* **21** (1997), *no.* 3, *Trans. B Tech.*, 229–255, 345. 73V10 (73C50, 73G05)

Hemkemeier, Boris (*with* Scharlau, Rudolf) Classification of integral lattices with large class number. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 737–749. (Renaud Coulangeon) **98g:11042** 11E41 (11H55)

Hemker, Bas T. (*with* Sijtsma, Klaas; Molenaar, Ivo W.; Junker, Brian W.) Stochastic ordering using the latent trait and the sum score in polytomous IRT models. (English summary) *Psychometrika* **62** (1997), *no.* 3, 331–347. (Summary) **98d:62191** 62P15

Hemker, Pieter W. (*with* Désidéri, Jean-Antoine; Koren, Barry; Lallemand, Marie-Hélène) Research in computational fluid dynamics, stimulated by ERCIM. *From universal morphisms to megabytes: a Baayen space odyssey*, 269–286, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 01A74

— (*with* Farrell, Paul A.; Shishkin, Grigorii I.) Discrete approximations for singularly perturbed boundary value problems with parabolic layers. II. (English summary) *J. Comput. Math.* **14** (1996), *no.* 2, 183–194. (Bernhard A. Schmitt) **98a:65150** 65N06 (65N15, 65N50)

— (*with* Farrell, Paul A.; Shishkin, Grigorii I.) Discrete approximations for singularly perturbed boundary value problems with parabolic layers. III. (English summary) *J. Comput. Math.* **14** (1996), *no.* 3, 273–290. (Bernhard A. Schmitt) **98a:65114** 65M06 (65M15, 65M20)

— (*with* Koren, Barry; Lioen, Walter M.; Louter-Nool, Margreet; van der Maarel, H. T. M.) Multigrid for steady gas dynamics problems. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 393–417, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76104** 76M25 (65M55, 76N15)

— (*with* de Zeeuw, P. M.) BASIS3, a data structure for 3-dimensional sparse grids. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 443–484, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 65M55 (65–04)

— Finite volume multigrid for 3D-problems. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 485–509, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Claus-Dieter Munz) **98m:65215** 65N55 (65M55, 76M25)

— (*with* Koren, Barry; de Zeeuw, P. M.) Semi-coarsening in three directions for Euler-flow computations in three dimensions. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 547–567, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— (*with* Pflaum, Christoph) Approximation on partially ordered sets of regular grids. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 55–87. (S. F. McCormick) **98h:65042** 65M55 (65N55)

van Hemmen, J. L. (*with* Hey, Heyder; Wreszinski, Walter F.) Quantum tunnelling of magnetization in an alternating magnetic field: localization and chaos. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6371–6389. (Summary) **98k:82195** 82D40 (82C20)

Hemmer, P. C. *see* **Onsager, Lars**, **98b:01042**

Hemmers, Ronald H. (*with* Bandler, John W.; Biernacki, Radek M.; Chen, Shao Hua; Madsen, Kaj) Space mapping optimization for engineering design. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 1–15, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (*see* **98b:90003**) 90C90 (49N55)

Hemmeter, J. (*with* Baker, Ronald D.; Ebert, G. L.; Woldar, A. J.) Maximal cliques in the Paley graph of square order. (English summary) Special issue on orthogonal arrays and affine designs, Part 1. *J. Statist. Plann. Inference* **56** (1996), *no.* 1, 33–38. (A. A. Makhnev) **98a:05084** 05C35

Hemmi, Yutaka (*with* Morisugi, Kaoru; Oshima, Hideaki) Self maps of spaces. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 438–453. (Ken-ichi Maruyama) **98e:55005** 55M20 (55M25, 55P45)

— A_n-spaces and primitivity. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 81–86. (Paul Selick) **98f:55008** 55P45

Hemminger, R. L. (*with* Aldred, R. E. L.; Ellingham, M. N.; Jipsen, Peter) P_3-isomorphisms for graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 35–51. (Xue Liang Li) **98d:05104** 05C60

Hemmo, Meir (*with* Bacciagaluppi, Guido) Modal interpretations, decoherence and measurements. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 3, 239–277. (Paul B. Slater) **98g:81019** 81P15

Hempel, Carl Gustav Empiricist criteria of cognitive significance: problems and changes. *The philosophy of language*, 26–38, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— *see also* **Jeffrey, Richard**

Hempel, Harald (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) $R^{SN}_{1-tt}(NP)$ distinguishes robust many-one and Turing completeness. (English summary) *Algorithms and complexity (Rome, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q15 (03D15)

— (*with* Wechsung, Gerd) The operators min and max on the polynomial hierarchy. (English summary) *STACS 97 (Lübeck)*, 93–104, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98f:68100** 68Q15 (03D15)

— (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) A downward translation in the polynomial hierarchy. (English summary) *STACS 97 (Lübeck)*, 319–328, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68048** 68Q15

Hempel, Rainer On the asymptotic distribution of eigenvalues in gaps. *Quasiclassical methods (Minneapolis, MN, 1995)*, 115–124, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (*see* **98g:00031**) 35P20 (35J25, 47F05, 47N50, 81Q10)

— (*with* Kriecherbauer, Thomas; Plankensteiner, Peter) Discrete and Cantor spectrum for Neumann Laplacians of combs. (English summary) *Math. Nachr.* **188** (1997), 141–168. (Jan Bochenek) **98m:35141** 35P05 (35J25, 47F05)

— (*with* Levendorskiĭ, S. Z.) On eigenvalues in gaps for perturbed magnetic Schrödinger operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 63–78. (George D. Raikov) **98j:35133** 35P20 (35J10, 47F05, 47N50, 81Q10)

de Hemptinne, X. (*with* Kumičák, J.) The dynamics of thermodynamics. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 258–274. (Summary) **98k:82139** 82C35

bar-Hen, Avner *see* **Bar-Hen, Avner**

Hénaff, Sylvain Asymptotics of a minimum distance estimator of the parameter of the Ornstein-Uhlenbeck process. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 911–914. (Summary) **98i:62068** 62M09

Hénaut, Alain Tissus linéaires et théorèmes d'algébrisation de type Abel-inverse et Reiss-inverse. (English summary) [Linear webs and algebraization theorems of Abel-inverse and Reiss-inverse type] *Geom. Dedicata* **65** (1997), *no.* 1, 89–101. (John B. Little) **98g:14010** 14C21 (53A60)

Hench, J. J. A technique for the identification of linear periodic state-space models. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 289–301. 93B30 (93E12)

Henchi, Kamel (*with* Dhatt, Gouri; Talbot, Martin; Fafard, Mario) Comportement dynamique des poutres continues sollicitées par des charges mobiles. Approches semi-analytiques et éléments finis. (English and French summaries) [Dynamical behavior of continuous beams subject to moving loads. Semianalytic and finite-element approaches] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 165–195. 73K05 (73V05)

Henderson, Gregory D. Spectral sequences for the classification of extensions of Hopf algebras. (English summary) *J. Algebra* **193** (1997), *no.* 1, 12–40. (Mitsuhiro Takeuchi) **98h:16063** 16W30 (16E40)

Henderson, Johnny (*with* Wang, Hai Yan[1]) Positive solutions for nonlinear eigenvalue problems. *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 252–259. (John W. Lee) **98c:34033** 34B15 (47H15, 47N20)

— (*with* Eloe, Paul W.) Positive solutions for $(n-1, 1)$ conjugate boundary value problems. *Nonlinear Anal.* **28** (1997), *no.* 10, 1669–1680. (Marie-Françoise Bidaut-Véron) **98a:34022** 34B15 (47N20)

— (*with* Agarwal, Ravi P.; Wong, Patricia J. Y.) On superlinear and sublinear (n, p) boundary value problems for higher order difference equations. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 101–115. (Summary) **98m:39004** 39A10

— (*with* Eloe, Paul W.) A boundary value problem for a system of ordinary differential equations with impulse effects. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 785–799. (Eduardo Liz) **98i:34020** 34A37 (34A45, 34B15)

— (*with* Eloe, Paul W.; Kaufmann, Eric R.) Multiple positive solutions for difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 219–229. (Summary) **98m:39011** 39A10

Henderson, R. J. (*with* Rajeev, S. G.) Renormalized contact potential in two dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 749–759. (Summary) **98k:81169** 81T15

Henderson, Ronald D. Nonlinear dynamics and pattern formation in turbulent wake transition. (English summary) *J. Fluid Mech.* **352** (1997), 65–112. 76E30 (76F99)

Henderson, W. (*with* Coleman, J. L.; Pearce, Charles E. M.; Taylor, Peter G.) A correspondence between product-form batch-movement queueing networks and single-movement networks. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 160–175. (Richard F. Serfozo) **98f:60185** 60K25 (68M20, 90B22)

Hendi, M. M. I. (*with* Abouammoh, A. M.) Shock models for classes of life distributions based on generating functions. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 2, 91–102. 62N05

— (*with* Al-Nachawati, H.) Shock models with NEXBRC properties. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 1, 1–14. (Summary) **98c:62191** 62N05

Hendrickson, Bruce (*with* Rothberg, Edward) Effective sparse matrix ordering: just around the BEND. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F50

— (*with* Jacobs, Donald J.) An algorithm for two-dimensional rigidity percolation: the pebble game. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 346–365. (Summary) **98g:65143** 65Y25 (82C99)

— (*with* Rothberg, Edward) Sparse matrix ordering methods for interior point linear programming. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 107–113. 90C05 (65F50)

Hendrickson, Erik A computational algorithm for a disturbance rejection problem in structural acoustics. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 245–253, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 1997. (*see* **98b:00023**) 93C20 (73K50, 76Q05, 93B40)

— (*with* Lasiecka, Irena) Convergence of numerical algorithms for the approximations to Riccati equations arising in smart material acoustic structure interactions. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 1, 73–101. (Kirsten Anna Morris) **98f:65093** 65M12 (93C20)

Hendriks, E. M. (*with* Walsh, J.; van Bergen, A. R. D.) A general approach to association using cluster partition functions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1287–1306. (Summary) **98g:82024** 82B99

Hendriks, Harrie (*with* Landsman, Zinoviy; Ruymgaart, Frits H.) Asymptotic behavior of sample mean direction for spheres. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 141–152. (Yasunori Fujikoshi) **98c:62106** 62H11 (62H10)

Hendriks, Peter A. An algorithm for computing a standard form for second-order linear q-difference equations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 331–352. (Ş. A. Basarab) **98i:12007** 12H10

Hendriksen, E. (*with* Bultheel, Adhemar; González-Vera, P.; Njåstad, Olav) A Favard theorem for rational functions with poles on the unit circle. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 21–37. (Yuri A. Farkov) **98c:42022** 42C05 (30C10)

— (*with* Bultheel, Adhemar; González-Vera, P.; Njåstad, Olav) Orthogonal rational functions and nested disks. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 344–371. (Boris Petrovich Osilenker) **98e:44004** 44A60 (30E05)

Hendy, Mike Centrefold: Gillian Thornley. *New Zealand Math. Soc. Newslett.* **1997**, *no.* 71, 16–17. 01A70 (01A80)

Hendy, S. (*with* Frolov, V. P.; De Villiers, J. P.) Rigidly rotating strings in stationary axisymmetric spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1099–1114. (Mark D. Roberts) **98c:83095** 83E30 (81T30, 83C57)

Hengartner, Nicolas W. (*with* Linton, Oliver B.) Nonparametric regression estimation at design poles and zeros. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 4, 583–591. (Noël Veraverbeke) **98b:62067** 62G05 (62G20)

— Adaptive demixing in Poisson mixture models. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 917–928. (Margaret P. Gessaman) **98g:62065** 62G05 (62G20)

Hengjian, Cui *see* **Cui, Heng Jian**

Henig, Mordechai I. (*with* Buchanan, John T.) Tradeoff directions in multiobjective optimization problems. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser A*, 357–374. (Gert Wanka) **98j:90058** 90C29

Henin, Claude (*with* Pistre, Nathalie) The use of second-order stochastic dominance to bound European call prices: theory and results. *Numerical methods in finance*, 305–326, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (*see* **98c:90004**) 90A12

Henk, M. (*with* Betke, U.; Tsintsifa, L.) Inradii of simplices. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 365–375. (Keith Ball) **98d:52003** 52A20 (52A40)

Henkel, E.-Ch. εk^0-subdifferentials of convex functions. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 4, 999–1013. (Gérard Lebourg) **98b:49016** 49J52 (90C25)

Henkel, Malte (*with* Schütz, Gunter M.) Schrödinger invariance in discrete stochastic systems. (English summary) *Perspectives on solvable models*, 39–51, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82046** 82C20

— (*with* Orlandini, Enzo; Santos, Jaime Eduardo) Reaction-diffusion processes from equivalent integrable quantum chains. (English summary) *Ann. Physics* **259** (1997), *no.* 2, 163–231. (Summary) **98k:82110** 82C10 (82C20)

Henkes, R. A. W. M. *see* **Transitional boundary layers in aeronautics, 98k:76003**

Henkin, G. *see* **Khenkin, G. M.**

Henkin, Gennadi *see* **Khenkin, G. M.**

Henkin, Gennadi M. *see* **Khenkin, G. M.**

Henle, Michael ★ Modern geometries. The analytic approach. *Prentice Hall, Inc., Upper Saddle River, NJ*, 1997. xii+372 *pp. ISBN* 0-13-193418-X (Victor V. Pambuccian) **98e:51001** 51–01

Henley, Christopher L. (*with* Burton, J. K., Jr.) A constrained Potts antiferromagnet model with an interface representation. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8385–8413. 82B20 (82–04, 82B24)

— (*with* Raghavan, R.; Arouh, Scott L.) New two-color dimer models with critical ground states. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 517–550. (Murray T. Batchelor) **98e:82018** 82B20 (82–04, 82B27)

— Relaxation time for a dimer covering with height representation. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 483–507. 82C20 (82C41)

Henn, Hans-Werner Commutative algebra of unstable K-modules, Lannes' T-functor and equivariant mod-p cohomology. (English summary) *J. Reine Angew. Math.* **478** (1996), 189–215. (Roland Schwänzl) **98h:18014** 18E35 (55R35)

— Centralizers of elementary abelian p-subgroups, the Borel construction of the singular locus and applications to the cohomology of discrete groups. *Topology* **36** (1997), *no.* 1, 271–286. (Donald M. Davis) **98g:57060** 57T99 (55N20, 55T99)

Henneaux, Marc Spacetime locality of the antifield formalism: general method illustrated by means of explicit examples. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 40–51, *World Sci. Publishing, River Edge, NJ*, 1994. (Mohamed Kachkachi) **98i:81250** 81T70 (81T10, 81T13)

— (*with* Barnich, Glenn) Isomorphisms between the Batalin-Vilkovisky antibracket and the Poisson bracket. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5273–5296. (Summary) **98f:58069** 58E30 (17B65, 58F05, 81T70)

— (*with* Devecchi, Fernando P.) Covariant path integral for chiral p-forms. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 2, 1606–1613. (Kostas Skenderis) **98e:81178** 81T70 (81S40, 81T18)

— (*with* Bañados, Máximo; Iannuzzo, C.; Viallet, Claude-M.) Gauge symmetries of pure Chern-Simons theories with p-form gauge fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2455–2468. (Viqar Husain) **98i:81153** 81T13 (53C80)

— (*with* Knaepen, Bernard; Schomblond, Christiane) BRST cohomology of the Chapline-Manton model. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 337–348. (Ion V. Vancea) **98m:81191** 81T70 (81T13, 81T50)

— The role of antifields in BRST theory. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 131–137. (Summary) **98i:81251** 81T70 (81T13)

— (*with* Deser, S.; Gomberoff, Andrés; Teitelboim, C.) Duality, self-duality, sources and charge quantization in abelian N-form theories. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 80–86. (Summary) **98c:81129** 81T13

— (*with* Bautier, K.; Deser, S.; Seminara, D.) No cosmological $D = 11$ supergravity. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 49–53. (Summary) **98c:83104** 83E50 (81V17)

— (*with* Knaepen, Bernard) All consistent interactions for exterior form gauge fields. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, R6076–R6080. (Summary) **98k:81160** 81T13

— (*with* Brandt, Friedemann; Wilch, André) Extended antifield formalism. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 640–656. (Jan Sładkowski) **98k:81283** 81T70

Henneberger, P. (*with* Corliss, George F.; Griewank, Andreas; Kirlinger, G.; Potra, Florian A.; Stetter, H. J.) High-order stiff ODE solvers via automatic differentiation and rational prediction. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 114–125, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L05

Hennefeld, J. Parallel processing and OOP as an analogy for the discovery of certain mathematical proofs. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 91–97. (Summary) **98a:68176** 68T99 (03B70, 68N05)

Henneke, Michael R. (*with* Ellzey, Janet L.) The shock-vortex interaction: the origins of the acoustic wave. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 3, 171–184. (Summary) **98c:76057** 76L05 (76N15, 76Q05)

Hennessy, David A. The short- and long-run comparative statics of uncertainty. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 347–353. 90A05 (90A20)

Hennessy, Matthew (*with* Riely, James) Distributed processes and location failures (extended abstract). (English summary) *Automata, languages and programming* (*Bologna*, 1997), 471–481, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q10

— (*with* Kiehn, Astrid) On the decidability of non-interleaving process equivalences. (English summary) *Fund. Inform.* **30** (1997), *no.* 1, 11–30. (Summary) **98i:68085** 68Q10 (68Q55)

Hennet, Jean-Claude (*with* Tarbouriech, Sophie) Stability and stabilization of delay differential systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 347–354. (M. G. Frost) **98e:93085** 93D15 (34K20, 34K35, 93C30, 93D09)

— (*with* Tarbouriech, Sophie) Stability conditions of constrained delay systems via positive invariance. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 265–278. (Summary) **98k:93083** 93D09 (93C55, 93E15)

Henniart, Guy (*with* Bushnell, Colin J.) Local tame lifting for GL(N). I. Simple characters. *Inst. Hautes Études Sci. Publ. Math. No.* 83 (1996), 105–233. (A. Deitmar (Zbl 878.11042)) **98m:11129** 11S37 (22E50)

— (*with* Bushnell, Colin J.) An upper bound on conductors for pairs. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 183–196. (Ernst-Wilhelm Zink) **98h:11153** 11S37 (11F70, 22E50)

Hennicker, Rolf (*with* Bidoit, Michel) Behavioural theories and the proof of behavioural properties. (English summary) Fourth International Conference on Algebraic and Logic Programming (Madrid, 1994). *Theoret. Comput. Sci.* **165** (1996), *no.* 1, 3–55. (Eric G. Wagner) **98e:68174** 68Q65 (03B70)

— (*with* Wirsing, Martin) Proof systems for structured algebraic specifications: an overview. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 19–37, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q65

— (*with* Wirsing, Martin; Bidoit, Michel) Proof systems for structured specification with observability operators. (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 393–443. (Summary) **98i:68199** 68Q65

Hennig, D. Stability properties of stationary integrable and nonintegrable discrete nonlinear Schrödinger equations. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 308–312, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 35Q55

Hennig, J. D. Nonlinear Schrödinger equations and Hamiltonian mechanics. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 155–165, *World Sci. Publishing, River Edge, NJ*, 1995. (Frans Cantrijn) **98d:81039** 81S99 (58F05)

Hennigan, Gary (*with* Shadid, John N.; Hutchinson, Scott; Moffat, Harry; Devine, Karen; Salinger, A. G.) Efficient parallel computation of unstructured finite element reacting flow solutions. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1307–1325. (*see* **98f:76004**) 76M10 (65Y05)

Henniger, J. P. Factorization and similarity in GL(2, **Z**). (English summary) *Linear Algebra Appl.* **251** (1997), 223–237. (Zhe-xian Wan) **98a:20045** 20G30 (15A21, 15A23)

Henning, Michael A. (*with* Gimbel, John; Tuza, Zsolt) Switching distance graphs. (English summary) *Ars Combin.* **47** (1997), 109–119. (Summary) **98h:05071** 05C12

— (*with* Goddard, Wayne) Generalised domination and independence in graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 161–171. (*see* **98h:05002**) 05C70 (05C35)

— (*with* Dunbar, Jean E.; Haynes, Teresa W.) The domatic number of a graph and its complement. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 53–63. (Summary) **98i:05101** 05C35

— (*with* Beineke, Lowell W.) Opinion functions on trees. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 127–139. (Summary) **98a:05049** 05C05

— (*with* Maharaj, Hiren) Frames of cycles and directed cycles. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 647–660. (Ortrud R. Oellermann) **98h:05114** 05C38

— (*with* Hattingh, Johannes H.) Star-path bipartite Ramsey numbers. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 255–258. (Summary) **98m:05128** 05C55

— (*with* Hattingh, Johannes H.) On strong domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 73–82. (Summary) **98m:05101** 05C35 (05C70)

— Distance perfect neighborhoods in graphs. (English summary) *Util. Math.* **53** (1998), 189–200. (Summary) **98m:05060** 05C12

Hennings, M. A. (*with* Smith, T. B.; Dubin, D. A.) Asymptotics for the Weyl quantized phase. (English summary) *J. Phys. A* **28** (1995), *no.* 23, 6779–6807. (Summary) **98i:81069** 81Q99 (81R30)

— (*with* Smith, T. B.; Dubin, D. A.) Approximations to the quantum phase operator. (English summary) *J. Phys. A* **28** (1995), *no.* 23, 6809–6856. (Summary) **98i:81070** 81Q99

— Invariants of links and 3-manifolds obtained from Hopf algebras. *J. London Math. Soc.* (2) **54** (1996), *no.* 3, 594–624. (Louis H. Kauffman) **98g:57011** 57M25 (57N10)

— (*with* Dubin, D. A.; Solomon, A. I.) Integrable representations of the ultra-commutation relations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3238–3262. (Władysław Adam Majewski) **98e:81084** 81S05

Henningson, Måns (*with* Moore, Gregory W.) Threshold corrections in $K3 \times T^2$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 187–210. (Miguel A. Vázquez-Mozo) **98j:81276** 81T30 (32G81, 83E30)

— (*with* Yi, Piljin) Four-dimensional BPS spectra via M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1291–1298. (Summary) **98j:81333** 81T60 (81T30)

Henocq, Thierry (*with* Rotillon, Denis) The theta divisor of a Jacobian variety and the decoding of geometric Goppa codes. (English summary) *J. Pure Appl. Algebra* **112** (1996), *no.* 1, 13–28. (Allen Tannenbaum) **98b:14022** 14G15 (11G20, 14H40, 94B27)

Henrard, J. *see* **Dynamical behaviour of our planetary system, 98g:70003** *and* **98m:70002**

Henriksen, Jesper G. (*with* Thiagarajan, P. S.) A product version of dynamic linear time temporal logic. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 45–58, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68190** 68Q60 (03B45, 03B70)

Henriksen, Melvin (*with* Larson, Suzanne; Martinez, Jorge[2]) The intermediate value theorem for polynomials over lattice-ordered rings of functions. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 108–123, *Ann. New York*

Acad. Sci., 788, New York Acad. Sci., New York, 1996. (Summary) **98g:54026** 54C30 (06F25, 16S60, 54G05)
— A survey of f-rings and some of their generalizations. *Ordered algebraic structures (Curaçao, 1995)*, 1–26, *Kluwer Acad. Publ., Dordrecht*, 1997. (Stuart A. Steinberg) **98h:06036** 06F25
— Separate vs. joint continuity. A tale of four topologies—a summary. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996)*, 67–84, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:54006** 54A10 (54C08, 54C30)
Henrion, René Topological properties of the approximate subdifferential. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 345–360. (Summary) **98d:49022** 49J52 (90C48)
Henrot, Antoine How to prove symmetry in shape optimization problems? (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1001–1013. (Pekka Neittaanmäki) **98d:49050** 49Q10
— (*with* Barkatou, Mohammed) Un résultat d'existence en optimisation de forme en utilisant une propriété géométrique de la normale. (French summary) [An existence result in shape optimization using a geometric property of the normal] *ESAIM Control Optim. Calc. Var.* **2** (1997), 105–123 (*electronic*). (Maïtine Bergounioux) **98f:49040** 49Q10 (49J10)
— (*with* Philippin, Gérard A.) On a class of overdetermined eigenvalue problems. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 11, 905–914. (Serge Lvin) **98e:35052** 35J25 (35N10)
Henry, Greg (*with* Dongarra, Jack; Watkins, David) A distributed memory implementation of the nonsymmetric QR algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30
— (*with* Purkayastha, Avijit) On a distributed design and implementation for a matrix equation. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30
— (*with* Blackford, L. S.; Choi, Jaeyoung; Cleary, A.; D'Azevedo, E.; Demmel, James W.; Dhillon, Inderjit S.; Dongarra, Jack; Hammarling, S.; Petitet, A.; Stanley, K.; Walker, David W.; Whaley, R. C.) ScaLAPACK: a linear algebra library for message-passing computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 15 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04
Henry, Jacques (*with* Yvon, J. P.) On the use of space invariant imbedding to solve optimal control problems for second-order elliptic equations. (English summary) *System modelling and optimization (Prague, 1995)*, 195–202, *Chapman & Hall, London*, 1996. (Summary) **98g:49019** 49K20
Henry, Jean-Jacques (*with* Gallego, Jean-Louis; Farges, Jean-Loup) Traffic queue estimation. (English summary) *Top* **5** (1997), *no.* 1, 81–93. 90B22 (90B20)
Henry, Marc (*with* Robinson, Peter M.) Bandwidth choice in Gaussian semiparametric estimation of long range dependence. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II (1995)*, 220–232, *Lecture Notes in Statist., 115, Springer, New York*, 1996. (Summary) **98g:62180** 62M15 (62G05)
Hens, Thorsten Stability of tâtonnement processes of short period equilibria with rational expectations. (English summary) *J. Math. Econom.* **28** (1997), *no.* 1, 41–67. (Summary) **98a:90028** 90A14 (19D10)
Henseler, Michael (*with* Wirzba, Andreas; Guhr, Thomas) Quantization of hyperbolic N-sphere scattering systems in three dimensions. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 286–319. (Jiu Qing Liang) **98j:81094** 81Q50 (81Q20, 81U20)
Hensgen, Wolfgang Bounded linear functionals on vector-valued H^∞ spaces. *Math. Scand.* **79** (1996), *no.* 2, 224–236. (Gordon Blower) **98b:46050** 46E40 (46E15, 46J15)
Hensley, Douglas (*with* Borosh, Itshak; Hobbs, Arthur M.) Vertex prime graphs and the Jacobsthal function. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 193–222. (Summary) **98j:05117** 05C78
— The distribution of reciprocal pairs modulo polynomials over a finite field. (English summary) *Math. Nachr.* **184** (1997), 177–190. (S. D. Cohen) **98a:11173** 11T06 (11L05, 11T24)
Henson, C. Ward (*with* Kalton, Nigel J.; Peck, N. Tenney; Tereščák, Ignác; Zlatoš, Pavol) Some Ramsey type theorems for normed and quasinormed spaces. (English summary) *Studia Math.* **124** (1997), *no.* 1, 81–100. (W. A. J. Luxemburg) **98a:46010** 46A16 (05D10, 46B20, 46S20)
— *see also* **Nonstandard analysis, 98i:03006**
van Hentenryck, Pascal *see* **Van Hentenryck, Pascal**
Hentosh, O. E. *see* **Gentosh, O. E.**
Hentschel, Klaus An unwelcome discovery: the pole effect in the electric arc, a threat to early 20th century precision spectrometry. (English summary) *Arch. Hist. Exact Sci.* **51** (1997), *no.* 3, 199–271. (Arne Schirrmacher) **98j:01032** 01A60 (78–03)
Hentzel, Irvin R. (*with* Kleinfeld, Erwin; Smith, Harry F.) Commutative center = center in a prime finitely generated right alternative ring. *Comm. Algebra* **25** (1997), *no.* 10, 3147–3153. (Consuelo Martínez) **98h:17037** 17D15
— (*with* Peresi, Luiz A.) Identities of Cayley-Dickson algebras. (English summary) *J. Algebra* **188** (1997), *no.* 1, 292–309. (Oleg Smirnov) **98a:17004** 17A75 (17D05)
— (*with* Ashlock, Daniel A.; Driessel, Kenneth R.) On matrix structures invariant under Toda-like isospectral flows. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 29–48. (O. Christov) **98b:58067** 58F07 (15A18, 58F19)
Henze, Norbert ★ Stochastik für Einsteiger. (German. German summary) [Stochastics for beginners] *Friedr. Vieweg & Sohn, Braunschweig*, 1997. x+294 *pp. ISBN* 3-528-06894-9 (Publisher's description) **98g:60001** 60–01
— (*with* Wagner, Thorsten) A new approach to the BHEP tests for multivariate normality. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 1–23. (Thomas W. Epps) **98m:62142** 62G10 (62H15)
— A statistical and probabilistic analysis of popular lottery tickets. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 155–163. 62E15
— Limit laws for multivariate skewness in the sense of Móri, Rohatgi and Székely. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 299–307. (V. K. Rohatgi) **98h:62093** 62H10 (60F05, 62H15)
Henzinger, Monika Rauch (*with* La Poutré, Han) Certificates and fast algorithms for biconnectivity in fully-dynamic graphs. (English summary) *Algorithms—ESA '95 (Corfu)*, 171–184, *Lecture Notes in Comput. Sci., 979, Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C40, 05C85)
— Approximating minimum cuts under insertions. (English summary) *Automata, languages and programming (Szeged, 1995)*, 280–291, *Lecture Notes in Comput. Sci., 944, Springer, Berlin*, 1995. (*see* **98c:68007**) 68R10 (05C85, 68P05, 68Q20)
— (*with* Telle, Jan Arne) Faster algorithms for the nonemptiness of Streett automata and for communication protocol pruning. (English summary) *Algorithm theory—SWAT '96 (Reykjavik, 1996)*, 16–27, *Lecture Notes in Comput. Sci., 1097, Springer, Berlin*, 1996. (Summary) **98e:68181** 68Q68 (68Q60)
— (*with* Thorup, Mikkel) Improved sampling with applications to dynamic graph algorithms. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 290–299, *Lecture Notes in Comput. Sci., 1099, Springer, Berlin*, 1996. (Summary) **98f:68214** 68R10 (05C85, 68Q25)
— (*with* King, Valerie) Maintaining minimum spanning trees in dynamic graphs. (English summary) *Automata, languages and programming (Bologna, 1997)*, 594–604, *Lecture Notes in Comput. Sci., 1256, Springer, Berlin*, 1997. (Summary) **98k:68040** 68P05 (05C05, 05C85)
— A static 2-approximation algorithm for vertex connectivity and incremental approximation algorithms for edge and vertex connectivity. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 194–220. (Summary) **98a:68148** 68R10 (05C25, 05C40, 68Q25)
— (*with* Klein, Philip N.; Rao, Satish B.; Subramanian, Sairam) Faster shortest-path algorithms for planar graphs. (English summary) 26th Annual ACM Symposium on the Theory of Computing (STOC '94) (Montreal, PQ, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 1, 3–23. (Peter B. Gibbons) **98m:68209** 68R10 (05C38, 05C85)
— (*with* Alberts, D.) Average-case analysis of dynamic graph algorithms. (English summary) *Algorithmica* **20** (1998), *no.* 1, 31–60. (Peter B. Gibbons) **98k:68078** 68Q25 (05C85, 68R10)
Henzinger, Thomas A. Hybrid automata with finite bisimulations. (English summary) *Automata, languages and programming (Szeged, 1995)*, 324–335, *Lecture Notes in Comput. Sci., 944, Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q68 (03D05, 68Q60)
— (*with* Kopke, Peter W.; Wong-Toi, Howard) The expressive power of clocks. (English summary) *Automata, languages and programming (Szeged, 1995)*, 417–428, *Lecture Notes in Comput. Sci., 944, Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q60 (68Q10, 68Q68)
— (*with* Alur, Rajeev) Reactive modules. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 207–218, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q10 (68Q60)
— The theory of hybrid automata. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 278–292, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98b:68121** 68Q68
— (*with* Kupferman, Orna; Vardi, Moshe Y.) A space-efficient on-the-fly algorithm for real-time model checking. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 514–529, *Lecture Notes in Comput. Sci., 1119, Springer, Berlin*, 1996. (*see* **98c:68002**) 68Q60
— (*with* Kopke, Peter W.) State equivalences for rectangular hybrid automata. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 530–545, *Lecture Notes in Comput. Sci., 1119, Springer, Berlin*, 1996. (Summary) **98f:68177** 68Q60
— (*with* Kopke, Peter W.) Discrete-time control for rectangular hybrid automata. (English summary) *Automata, languages and programming (Bologna, 1997)*, 582–593, *Lecture Notes in Comput. Sci., 1256, Springer, Berlin*, 1997. (Summary) **98m:93076** 93C62 (68Q25, 68Q68)
— (*with* Alur, Rajeev) Modularity for timed and hybrid systems. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 74–88, *Lecture Notes in Comput. Sci., 1243, Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)
— (*with* Kupferman, Orna; Rajamani, Sriram K.) Fair simulation. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 273–287, *Lecture Notes in Comput. Sci., 1243, Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q60
Heo, Junseong (*with* Krauss, Lawrence M.; Liu, Hong) Dirty black holes and hairy black holes. (English summary) *Phys. Rev. Lett.* **77** (1996), *no.* 26, 5164–5167. (Summary) **98f:83073** 83C57
Heppes, A. A note on the shortest partitioning nets of the 2-sphere. (English summary) *Intuitive geometry (Budapest, 1995)*, 347–355, *Bolyai Soc. Math. Stud., 6, János Bolyai Math. Soc., Budapest*, 1997. (Stanislav Jendrol') **98h:52027** 52B60 (52A55)
— (*with* Kertész, G.) Packing circles of two different sizes on the sphere. (English summary) *Intuitive geometry (Budapest, 1995)*, 357–365, *Bolyai Soc. Math. Stud., 6, János Bolyai Math. Soc., Budapest*, 1997. (R. Blind) **98g:52027** 52C15
Herald, Christopher M. Flat connections, the Alexander invariant, and Casson's invariant. *Comm. Anal. Geom.* **5** (1997), *no.* 1, 93–120. (Paul A. Kirk) **98i:57062** 57R57 (57M25, 57N10, 58D29)
Hérard, Jean-Marc Second order modelling of incompressible turbulent buoyant flows: some comments on the maximum principle. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 197–204, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76F99
— (*with* Forestier, Alain; Louis, Xavier) Solveur de type Godunov pour simuler les écoulements turbulents compressibles. (English and French summaries) [A Godunov-type solver for turbulent compressible flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 919–926. (Tomás Chacón Rebollo) **98g:76048** 76F99 (65M55, 76M10, 76N99)
— (*with* Combe, Laure) Un schéma volumes-finis pour la simulation d'un modèle bi-fluide d'écoulements diphasiques compressibles gaz-solide. (English and French summaries) [A finite-volume scheme for the simulation of a two-fluid model of gas-solid compressible two-phase flows] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 2, 197–231. (Rolf Jeltsch) **98j:76105** 76M25 (65M60, 76L05, 76N15, 76T05)
Heras, José A. New approach to the classical radiation fields of moving dipoles. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 343–348. (Summary) **98m:78019** 78A35 (78A40)
giraud-Héraud, Eric *see* **Giraud-Héraud, Eric**

Herb, Rebecca A. Matching theorems for twisted orbital integrals. (English summary) *Pacific J. Math.* **171** (1995), *no.* 2, 409–428. (Martin L. Karel) **98e:22012** 22E50 (22E35)

— (*with* Goldberg, David) Some results on the admissible representations of non-connected reductive *p*-adic groups. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 97–146. (Marko Tadić) **98b:22033** 22E50

— Discrete series characters and two-structures. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3341–3369. (D. Miličić) **98k:22058** 22E46

Herbelin, Hugo A λ-calculus structure isomorphic to Gentzen-style sequent calculus structure. (English summary) *Computer science logic* (*Kazimierz*, 1994), 61–75, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:03047** 03F05 (03B20, 03B40)

— (*with* Danos, Vincent; Regnier, Laurent) Game semantics & abstract machines. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 394–405, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98h:68149** 68Q55 (68Q05)

— Games and weak-head reduction for classical PCF. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 214–230, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **98g:03044** 03B40

Herbera, Dolors (*with* Faith, Carl) Endomorphism rings and tensor products of linearly compact modules. *Comm. Algebra* **25** (1997), *no.* 4, 1215–1255. (J. L. Gómez Pardo) **98b:16026** 16S50 (13C13, 13J10)

— (*with* Phạm Ngọc Ánh; Menini, Claudia) AB-5* and linear compactness. *J. Algebra* **200** (1998), *no.* 1, 99–117. (Mihail Ursul) **98m:16003** 16D10 (16W80)

— (*with* Cedó, Ferran) The maximum condition on annihilators for polynomial rings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2541–2548. (Carl Faith) **98k:13025** 13F20 (13E05)

Herbin, Raphaèle Existence of a solution to a coupled elliptic system arising in the mathematical modelling of fuel cells. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 133–142, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35J25 (80A32)

— (*with* Labergerie, Olivier) Finite volume schemes for elliptic and elliptic-hyperbolic problems on triangular meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 1-2, 85–103. (Summary) **98f:65108** 65N30 (76M25)

Herbst, B. M. (*with* Le Roux, G. J.; Ablowitz, Mark J.) Chaos in numerics. (English summary) *Numerical analysis*, 133–154, *World Sci. Publishing, River Edge, NJ*, 1996. (Vassili G. Gelfreich) **98d:58117** 58F13 (34C37, 58F14, 65H17)

— (*with* Schober, Constance) Chaos in symplectic discretizations of the pendulum and sine-Gordon equations. (English summary) With comments by A. Mazer and K. L. Teo. *Control and chaos* (*Honolulu, HI*, 1995), 39–59, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98b:58155** 58F39 (35Q53, 58F13)

— (*with* Ablowitz, Mark J.; Schober, Constance) On the numerical solution of the sine-Gordon equation. II. Performance of numerical schemes. (English summary) *J. Comput. Phys.* **131** (1997), *no.* 2, 354–367. (Mark J. Friedman) **98f:65101** 65M99 (34C37, 35Q53)

— (*with* Ablowitz, Mark J.; Schober, Constance) The nonlinear Schrödinger equation: asymmetric perturbations, traveling waves and chaotic structures. (English summary) Computation of nonlinear phenomena. *Math. Comput. Simulation* **43** (1997), *no.* 1, 3–12. (Peter E. Zhidkov) **98d:35203** 35Q55 (58F39, 65M99)

Herburt, Irmina (*with* Moszyńska, Maria; Rudnik, Krzysztof) Spaces with intrinsically invariant fractal dimensions. (English summary) *Glas. Mat. Ser. III* **30(50)** (1995), *no.* 2, 193–207. (Christoph Bandt) **98a:54027** 54E40 (28A80, 54F45)

— (*with* Braß, Peter) On point sets fixing a convex body from within. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 87–90. (Peter M. Gruber) **98d:52004** 52A20

Herbut, F. State-dependent logical implication in quantum mechanics and distant correlations. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 21 (1996), 1–7. (Summary) **98a:81015** 81P15

Herceg, D. *see* **Herceg, Dragoslav**

Herceg, Djordje (*with* Ilić, Snežana M.; Petković, Miodrag S.) A note on Babylonian square-root algorithm and related variants. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 155–162. (K.-B. Gundlach) **98h:01042** 01A99 (01A17, 65–03, 65H05)

— (*with* Petković, Miodrag S.) On the localization of polynomial zeros. (English summary) *PRIM '96* (*Budva*), 319–330, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65H05 (30C15)

— (*with* Petković, Miodrag S.) Methods with corrections for the simultaneous inclusion of polynomial zeros. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 73–82. (*see* **98i:00027**) 65G10 (65H05)

— (*with* Tričković, Slobodan; Petković, Miodrag S.) On the fourth order methods of Weierstrass' type. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 83–88. (*see* **98i:00027**) 65H05

Herceg, Dragoslav (*with* Krejić, Nataša; Lužanin, Zorana) Quasi-Newton's method with correction. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 115–127. (De Ren Wang) **98h:65021** 65H10

— (*with* Krejić, Nataša) On an acceleration of iterative methods for discrete analogues of SPP boundary value problems. (English summary) *PRIM '96* (*Budva*), 91–101, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65L10

— (*with* Pavlović, Ljiljana) On higher order difference schemes. (English summary) *PRIM '96* (*Budva*), 103–116, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65L12

— (*with* Krejić, Nataša) On the strong componentwise stability and H-matrices. *Demonstratio Math.* **30** (1997), *no.* 2, 373–378. (A. Bultheel) **98d:65054** 65F30

— (*with* Krejić, Nataša) On a numerical method for discrete analogues of boundary value problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 9–15. (*see* **98i:00027**) 65L06

— (*with* Lužanin, Zorana; Krejić, Nataša) Parameter selection for inexact Newton method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 17–24. (*see* **98i:00027**) 65H10 (90C30)

— *see also* **PRIM '96, 98h:00033**

Herdman, Terry L. (*with* Kang, Kyehong) A structured sequential quadratic programming and its application to a flow matching problem. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 255–261, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 90C20 (76G25, 76M99)

— (*with* Hartung, Ferenc; Turi, Janos) On existence, uniqueness and numerical approximation for neutral equations with state-dependent delays. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 393–409. (Gustaf Gripenberg) **98d:34111** 34K40 (34K05, 65L99)

hernández Heredero, R. *see* **Hernández Heredero, R.**

Heredero, Rafael Hernández *see* **Hernández Heredero, R.**

pareja Heredia, Diego *see* **Pareja Heredia, Diego**

Hereman, Willy (*with* Anderson, Robert Leonard; Baikov, V. A.; Gazizov, R. K.; Ibragimov, N. Kh.; Mahomed, F. M.; Meleshko, S. V.; Nucci, M. C.; Olver, Peter J.; Sheftel′, M. B.; Turbiner, A. V.; Vorob′ev, E. M.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 3. New trends in theoretical developments and computational methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1996. xvi+536 *pp.* *ISBN* 0-8493-9419-8 (Juha Pohjanpelto) **98b:58176** 58G35 (00A20, 22E05, 34A34, 35–04, 35A30, 58–02)

— (*with* Göktaş, Ünal) Symbolic computation of conserved densities for systems of nonlinear evolution equations. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 5, 591–621. (Summary) **98g:35001** 35–04 (35A25, 35Q53)

— Review of symbolic software for Lie symmetry analysis. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 115–132. (*see* **98b:35006**) 35–04 (35A30, 35Q53)

— (*with* Göktaş, Ünal; Erdmann, Grant) Computation of conserved densities for systems of nonlinear differential-difference equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 30–38. (Summary) **98h:35205** 35Q53 (35Q55)

Herendi, T. (*with* Siegl, T.; Tichy, Robert F.) Fast Gaussian random number generation using linear transformations. (English summary) *Computing* **59** (1997), *no.* 2, 163–181. (Francesco Fabris) **98j:65005** 65C10 (62E25, 65C05)

Herer, Wojciech Martingales of random subsets of a metric space of negative curvature. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 2, 147–157. (Summary) **98f:60081** 60G42 (58G32)

Herff, W. (*with* Jochems, B.; Kamps, Udo) The inspection paradox with random time. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 103–110. (Summary) **98m:60140** 60K05 (62L10, 62N05)

Herfort, W. (*with* Zalesskiĭ, P. A.) Finitely generated pro-2 groups with a free subgroup of index 2. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 457–464. (Marcus du Sautoy) **98m:20027** 20E18

Hering, Christoph On the Diophantine equations $ax^2 + bx + c = c_0 c_1^{y_1} \cdots c_r^{y_r}$. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 251–262. (Nikos Tzanakis) **98m:11019** 11D61 (94B40)

— (*with* Al Ali, M. I. M.; Schaeffer, Hans-Jörg) On the conjugacy classes of q^3:GL(3, q). *Riv. Mat. Pura Appl. No.* 19 (1996), 107–113. (Oliver H. King) **98m:20062** 20G40 (20H30)

— (*with* Schaeffer, Hans-Jörg) A remark on a theorem of T. G. Ostrom. *Mostly finite geometries* (*Iowa City, IA*, 1996), 213–214, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (M. J. Kallaher) **98j:51009** 51E15 (51A35)

Hering, Franz (*with* Mejza, Stanisław) Incomplete split-block designs. (English summary) *Biometrical J.* **39** (1997), *no.* 2, 227–238. (Summary) **98a:62102** 62K10

Herings, P. Jean-Jacques An extremely simple proof of the K-K-M-S theorem. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 361–367. (Summary) **98j:90013** 90A14 (54H25, 90D06)

— (*with* van der Laan, Gerard; Venniker, Richard) The transition from a Drèze equilibrium to a Walrasian equilibrium. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 303–330. 90A56

Heritage, M. (*with* Galanti, B.; Gibbon, J. D.) Vorticity alignment results for the three-dimensional Euler and Navier-Stokes equations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1675–1694. (Summary) **98j:76023** 76D05 (35Q30, 76F05)

— (*with* Gibbon, J. D.) Angular dependence and growth of vorticity in the three-dimensional Euler equations. (English summary) *Phys. Fluids* **9** (1997), *no.* 4, 901–909. (Summary) **98b:76021** 76C99 (35Q05, 76F99, 76N10)

Herley, Kieran T. (*with* Pietracaprina, Andrea; Pucci, Geppino) Fast deterministic backtrack search. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 598–609, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68225** 68T20 (68Q22)

Herlt, Eduard Spherically symmetric nonstatic perfect fluid solutions with shear. (English summary) *Gen. Relativity Gravitation* **28** (1996), *no.* 8, 919–934. (Summary) **98f:83015** 83C15

Herman, Allen On the automorphism groups of rational group algebras of metacyclic groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2085–2097. (E. Jespers) **98g:16022** 16S34 (16W20)

Herman, Gabor T. Jordan pairs of adjacency relations in digital spaces. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 154–169, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98g:68169** 68U05 (54D05, 68U10)

— (*with* García-Fernández, I.; Ortigosa, P. M.; Casado, L. G.; Matej, S.) Multidimensional optimization in image reconstruction from projections. (English summary) *Developments in global optimization* (*Szeged*, 1995), 289–299, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C90 (65D15)

— (*with* Aharoni, Ron; Kuba, A.) Binary vectors partially determined by linear equation systems. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 1–16. (L. W. Ehrlich) **98d:15003** 15A06 (15A24)

Herman, Gérard (*with* Ernst, Fabian) Scattering of guided waves in laterally varying layered media. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 294–305, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 86A15 (73D25, 73N20)

Herman, Robert *see* **Potts, Ren**

Herman, Ted (*with* Dolev, Shlomi) Superstabilizing protocols for dynamic distributed systems. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 4, 40 *pp.* (*electronic*). (Summary) **98h:68016** 68M10

Hermann, Jakob *see* **Mazzone, Silvia, 98m:01069**

Hermann, Martin (*with* Kunkel, Peter; Middelmann, W.) Augmented systems for the computation of singular points in Banach space problems. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 1, 39–50. (Mihail Yu. Kokurin) **98m:47102** 47H15 (34B15, 46N40, 47N40, 65J15)

Hermann, Miki (*with* Galbavý, Roman) Unification of infinite sets of terms schematized by primal grammars. (English summary) *Theoret. Comput. Sci.* **176** (1997), *no.* 1-2, 111–158. (Aldo Ursini) **98d:68114** 68Q42 (03D05)

Hermann, Raphaël P. Numerical simulation of a quantum particle in a box. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3967–3975. (Gian Carlo Ghirardi) **98f:81056** 81Q05 (81–08)

Hermann, Thomas[1] (*with* Lukács, Gábor) A new insight into the G^n continuity of polynomial surfaces. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 697–707. (Luiz Henrique de Figueiredo) **98a:65202** 65Y25 (65D17)

Hermans, A. J. An asymptotic method in ship hydrodynamics. *Differential equations* (*Bandung*, 1996), 103–123, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98m:76023** 76B20

Hermans, Jan Modeling the structure of ice as a problem in global minimization. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 69–71, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92E10)

Hermenegildo, Manuel (*with* García de la Banda, María; Marriott, Kim) Independence in dynamically scheduled logic languages. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 47–61, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68N17

— (*with* Debray, Saumya; López-García, Pedro) Non-failure analysis for logic programs. (English summary) *Logic programming* (*Leuven*, 1997), 48–62, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98h:68037** 68N17 (68Q60)

— (*with* Bueno, F.; Montanari, Ugo; Rossi, Francesca) Partial order and contextual net semantics for atomic and locally atomic CC programs. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 51–82. (Summary) **98m:68166** 68Q55 (68Q10)

Hermes, Henry Smooth homogeneous asymptotically stabilizing feedback controls. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 13–32 (*electronic*). (Gianna Stefani) **98b:93057** 93D15 (93C10, 93D20, 93D22)

— Stabilizing feedback controls via the nonlinear regulator. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2567–2575. (*see* **98i:00031**) 93D15 (93C10)

Hermida, Claudio (*with* Jacobs, B. P. F.) An algebraic view of structural induction. (English summary) *Computer science logic* (*Kazimierz*, 1994), 412–426, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:68185** 68Q65 (03G30, 18B99)

Hermiller, Susan M. (*with* Meier, John) Tame combings, almost convexity and rewriting systems for groups. *Math. Z.* **225** (1997), *no.* 2, 263–276. (Friedrich Otto) **98i:20036** 20F32 (68Q42)

Hermisson, Joachim (*with* Baake, Michael; Pleasants, Peter A. B.) The torus parametrization of quasiperiodic L1-classes. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3029–3056. (Richard Kenyon) **98f:82130** 82D25 (52C22)

— (*with* Grimm, Uwe; Baake, Michael) Aperiodic Ising quantum chains. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7315–7335. (Summary) **98k:82064** 82B27 (82B20)

— (*with* Richard, Christoph; Baake, Michael) A guide to the symmetry structure of quasiperiodic tiling classes. (English summary) *J. Physique I* **7** (1997), *no.* 8, 1003–1018. (Richard Kenyon) **98f:52026** 52C20 (82D25)

Hermo, Montserrat (*with* Balcázar, José L.; Gavaldà, Ricard) Compressibility of infinite binary sequences. (English summary) *Complexity, logic, and recursion theory*, 75–91, *Lecture Notes in Pure and Appl. Math.*, 187, *Dekker, New York*, 1997. (Marius Zimand) **98i:68130** 68Q30

— Compressibility and uniform complexity. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 259–264. (Summary) **98b:68083** 68Q30

Hermoso Carazo, Aurora (*with* García-Ligero, M. J.; Linares Pérez, Josefa) Prediction and filtering algorithm for distributed parameter systems with multiplicative noise in the observations. (English summary) *Rebrape* **11** (1997), *no.* 1, 51–65. (Summary) **98m:62266** 62M20

melle-Hernández, A. *see* **Melle-Hernández, A.**

márquez Hernández, C. M. *see* **Márquez Hernández, C. M.**

Hernández, Carlos *see* **Hernández-Garciadiego, Carlos**

Hernández, Daniel (*with* Clementini, Eliseo; Di Felice, Paolino) Qualitative representation of positional information. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 317–356. (Olga M. Kosheleva) **98m:68255** 68T30

Hernández, Eduardo S. (*with* Mondragón, A.) Accidental degeneracy of resonances: physical aspects. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 303–312, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81351** 81U99 (81Q50)

— (*with* Mondragón, A.) Degeneracy of resonances and singularities of the hypercomplex energy surfaces. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 136–145, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:81038** 81Q50

— (*with* Mondragón, A.) Complex geometric phase of resonant states. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *suppl.* 1, 1–13. (Summary) **98i:81072** 81Q99

Hernández, Eugenio (*with* Weiss, Guido; Yang, Dachun) The φ-transform and wavelet characterizations of Herz-type spaces. (English summary) *Collect. Math.* **47** (1996), *no.* 3, 285–320. (I. Ya. Novikov) **98e:42034** 42C15 (42B30, 46E30)

— (*with* Cifuentes, Patricio; García-Cuerva, Jose; Soria, Fernando; Torrea Hernández, José Luis) Introduction [dedication to Miguel de Guzmán, on the occasion of his 60th birthday]. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, i–v. (Editors) **98k:01020** 01A70

— (*with* Wang, Xihua; Weiss, Guido) Smoothing minimally supported frequency wavelets. II. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 23–41. (Albert Cohen) **98b:42049** 42C15

Hernández, Eva (*with* Macías, Alfredo; Mielke, Eckehard W.) Coupling of the Kaluza-Klein induced dilaton field in the Dirac equation. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 258–262, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83111** 83E15

— (*with* Macías, Alfredo) Induced masses and spin self-interaction from five-dimensional Einstein-Cartan-Dirac theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 1, 169–182. (Summary) **98j:83089** 83E15 (81V22, 83D05)

membrillo-Hernández, Fausto Humberto *see* **Membrillo-Hernández, Fausto Humberto**

Hernandez, G. *see* **Hernández-Peñalver, Gregorio**

Hernández, Gastón E. (*with* Choi, Yung Sze) Existence and multiplicity of solutions for systems of semilinear elliptic equations. (English summary) *Proyecciones* **15** (1996), *no.* 1, 1–17. (Alan V. Lair) **98c:35059** 35J65 (35B30)

Hernández, Héctor Froilan (*with* Herrera, L.; Núñez, L. A.; Percoco, U.) On the eccentricity behaviour of radiating slowly rotating bodies in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 187–196. 83C99

Hernández, Héctor J. (*with* Brisaboa, Nieves R.) Testing bag-containment of conjunctive queries. (English summary) *Acta Inform.* **34** (1997), *no.* 7, 557–578. (Summary) **98g:68031** 68P15

Hernández, Jesús (*with* Díaz Díaz, Jesús Ildefonso; Tello, L.) On the multiplicity of equilibrium solutions to a nonlinear diffusion equation on a manifold arising in climatology. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 593–613. (Summary) **98i:86005** 86A10

— (*with* Fleckinger, Jacqueline Pellé; Takáč, Peter; de Thélin, François) Uniqueness and positivity for solutions of equations with the p-Laplacian. *Reaction diffusion systems* (*Trieste*, 1995), 141–155, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Rolando Magnanini) **98h:35074** 35J65

— Positive solutions for the logistic equation with unbounded weights. *Reaction diffusion systems* (*Trieste*, 1995), 183–197, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Qing Fang) **98i:35061** 35J65 (35B05, 92D25)

torrea Hernández, José Luis *see* **Torrea Hernández, José Luis**

martínez Hernández, Juan *see* **Martínez Hernández, Juan**

ruiz Hernández, Luis Enrique *see* **Ruiz Hernández, Luis Enrique**

Hernández, M. A. *see* **Hernández Verón, Miguel A.**

Hernández, María-Jesús (*with* Pellicer, Julio; Dolz, Manuel) A new definition of the logarithmic temperature scale based on the triple point of water. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 5, 837–841. 80A05

Hernández, Miguel A. *see* **Hernández Verón, Miguel A.**

Hernández, Rafael (*with* Gómez, César) M and F theory instantons, $N = 1$ supersymmetry and fractional topological charge. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5141–5149. 81T60

— (*with* Gómez, César; López, Esperanza) $K3$ fibrations and softly broken $N = 4$ supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 109–133. (Angel María Uranga) **98k:81266** 81T60 (14J28, 14J32, 32J81, 81R40, 81T13, 81T30)

— (*with* Gómez, César) M-theory, torons and confinement. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 172–176. (*see* **98j:81004**) 81T30

Hernández, Salvador On the existence of a Haar measure on a locally compact abelian group. (English summary) *J. Math. Sci. (Calcutta)* **4** (1993), *no.* 2, 63–67. 28C10 (43A05)

— (*with* Sanchis, Manuel) Dugundji spaces in the coset space G/H. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 262–268, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98e:54035** 54H11 (22A10, 54D30)

— Another approach to an algebraic characterization of compact abelian groups. *J. Math. Sci. (Calcutta)* **6** (1995), *no.* 1, 11–13. (From the text) **98f:22003** 22B05 (22C05)

— (*with* Araujo, Jesús; Font, Juan J.) A note on Holsztyński's theorem. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 9–12, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Francesco Altomare) **98g:46028** 46E15 (46E25)

— (*with* Galindo, Jorge) On the completion of a MAP group. (English summary) *Papers on general topology and applications* (*Gorham, ME*, 1995), 164–168, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Manuel Sanchis) **98i:22002** 22A05 (54D35, 54E15, 54H11)

— (*with* Font, Juan J.) Algebraic characterizations of locally compact groups. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 405–420. (Volker Runde) **98c:47039** 47B38 (43A20, 54C40)

Hernández, Vicente (*with* Bru, Rafael; Coll, Carmen; Sánchez, Elena) Geometrical conditions for the reachability and realizability of positive periodic discrete systems. (English summary) *Linear Algebra Appl.* **256** (1997), 109–124. (Summary) **98k:93018** 93B07 (93B03, 93C55)

— (*with* Quintana-Orti, Enrique S.) Parallel solution of Riccati matrix equations with the matrix sign function. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 151–156. 93B40 (65L99)

Hernández Barrera, Antonio A class of problems in computational geometry. (Spanish. Spanish summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 143–149, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

Hernández-Bermejo, Benito (*with* Fairén, Víctor) Lotka-Volterra representation of general nonlinear systems. (English summary) *Math. Biosci.* **140** (1997), *no.* 1, 1–32. (Ovide Arino) **98i:92042** 92D40 (34A34)

— (*with* Fairén, Víctor) A constant of motion in 3D implies a local generalized Hamiltonian structure. (English summary) *Phys. Lett. A* **234** (1997), *no.* 1, 35–40. (Domingo Chinea) **98j:58043** 58F05 (34A26, 70H05)

Hernández Cifre, M. A. (*with* Scott, P. R.; Segura Gomis, S.) On the centre of gravity and width of lattice-constrained convex sets in the plane. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 423–427. (Peter M. Gruber) **98k:52037** 52C05 (52A40)

Hernández Encinas, L. (*with* Montoya Vitini, F.; Muñoz Masqué, J.) A report on invariant gauge forms on associated bundles of an abelian principal bundle. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 113–122. (S. Timothy Swift) **98f:53024** 53C05 (53C80)

Hernández Flores, C. N. (*with* Artiles Romero, J.; Saavedra Santana, P.) Bootstrap estimation of population spectrum with replicated time series. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 19–29. 62M15 (62G09)

Hernández-García, E. (*with* Montagne, R.; San Miguel, Maxi) Numerical study of a Lyapunov functional for the complex Ginzburg-Landau equation. (English summary) Measures of spatio-temporal dynamics (Bryn Mawr, PA, 1995). *Phys. D* **96** (1996), *no.* 1-4, 47–65. (Summary) **98c:65171** 65M99 (35Q55, 65Q05)

— (*with* Montagne, R.; Amengual, A.; San Miguel, Maxi) Wound-up phase turbulence in the complex Ginzburg-Landau equation. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 151–167. (Summary) **98e:76050** 76F20 (76E30, 76F99)

Hernández-Garciadiego, Carlos (*with* Harte, Robin) On the Taylor spectrum of left-right multipliers. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 397–404. (Catalin Badea) **98e:46057** 46H05 (47A13, 47B48)

Hernández Heredero, R. (*with* Olver, Peter J.) Classification of invariant wave equations. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6414–6438. (Allen Tannenbaum) **98a:58160** 58G16 (35A30, 35L05, 58G35)

— (*with* González-López, Artemio; Marí Beffa, Gloria) Invariant differential equations and the Adler-Gel′fand-Dikii bracket. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5720–5738. (Paolo Casati) **98j:58053** 58F07

Hernández-Hernández, Daniel (*with* Fleming, Wendell) Risk-sensitive control of finite state machines on an infinite horizon. I. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1790–1810. (Tim Zajic) **98k:93119** 93E20 (49L20, 93B36)

— (*with* Marcus, Steven I.) Corrigendum to: "Risk sensitive control of Markov processes in countable state space" [Systems Control Lett. **29** (1996), no. 3, 147–155; MR 97g:93079]. *Systems Control Lett.* **34** (1998), *no.* 1-2, 105–106. 93E20 (90C40)

Hernández-Lerma, Onésimo (*with* Lasserre, Jean B.) Policy iteration for average cost Markov control processes on Borel spaces. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 125–154. (O. L. V. Costa) **98d:93102** 93E20 (90C40)

— (*with* Lasserre, Jean B.) Cone-constrained linear equations in Banach spaces. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 149–164. (M. Z. Nashed) **98i:90125** 90C48 (45B05, 45D05, 47A50, 47N20)

— (*with* Lasserre, Jean B.) Correction to: "An extension of the Vitali-Hahn-Saks theorem" [Proc. Amer. Math. Soc. **124** (1996), no. 12, 3673–3676; MR 97f:28012]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 949. 28A33 (46E27, 54D45, 60B10)

Hernández Martín, Aníbal (*with* Aguirregabiria, J. M.; Rivas, Martín) Order reductions of Lorentz-Dirac-like equations. (English summary) *J. Phys. A* **30** (1997), *no.* 19, L651–L654. (Summary) **98k:78009** 78A25

Hernández-Pastora, J. L. (*with* Herrera, L.; Di Prisco, A.; Martín, Jésus; Martínez, Justino) Thermal conduction in systems out of hydrostatic equilibrium. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2239–2247. (Summary) **98d:83043** 83C55

Hernández-Peñalver, Gregorio (*with* Abellanas, Manuel; Klein, Rolf; Neumann-Lara, Victor; Urrutia, Jorge) A combinatorial property of convex sets. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 307–318. (Summary) **98h:52013** 52A37

aroca Hernández-Ros, José M. *see* **Aroca Hernández-Ros, José M.**

Hernández Ruipérez, D. (*with* Bartocci, C.; Bruzzo, U.; Pestov, V.) Supermanifold theory: towards a unifying approach. (English summary) *Differential geometry and its applications* (*Santiago de Compostela*, 1995), 1–16, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Summary) **98i:58014** 58A50

— (*with* Bartocci, C.; Bruzzo, U.) A Fourier-Mukai transform for stable bundles on $K3$ surfaces. (English summary) *J. Reine Angew. Math.* **486** (1997), 1–16. (Antony Maciocia) **98i:14041** 14J60 (14J28)

Hernández Sánchez, J. (*with* Torres del Castillo, G. F.) Gravitomagnetic mass in the linearized Einstein theory. (English and Spanish summaries) *Rev. Mexicana Fis.* **42** (1996), *no.* 3, 498–504. (Yu. N. Obukhov) **98f:83027** 83C25 (83C10, 83C15)

Hernández Verón, Miguel A. (*with* Ezquerro, José A.) A note on a family of Newton type iterative processes. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 223–232. (Summary) **98d:65064** 65H05

— (*with* Gutiérrez, José Manuel; Salanova, M. A.) Resolution of quadratic equations in Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 1-2, 113–121. (Summary) **98j:47150** 47H17 (65J15)

— (*with* Gutiérrez, José Manuel) Third-order iterative methods for operators with bounded second derivative. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 171–183. (R. Kodnár) **98k:65030** 65J15 (47H17)

— (*with* Ezquerro, José A.) Relaxing convergence conditions for an inverse-free Jarratt-type approximation. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 131–135. (Summary) **98i:65045** 65J15 (47H17)

Hernando, M. C. (*with* Hurtado, Ferrán; Márquez, Alberto; Mora, Mercè; Noy, Marc) Geometric tree graphs. (Spanish. English summary) *VII Conference on Computational Geometry* (*Spanish*) (*Madrid*, 1997), 107–120, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 05C75 (05C05, 68R10)

Hernando, P. J. (*with* Bonilla, Luis L.; Herrero, Miguel A.; Kindelan, M.; Velázquez, Juan J. L.) Asymptotics of the trap-dominated Gunn effect in p-type Ge. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 168–190. (Summary) **98k:78046** 78A55 (78–04, 82D99)

Hernando Boto, B. (*with* Bessaga, C.; Martín-Peinador, E.) ★ An introduction to nuclear space. (English summary) Monografías de la Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza [Monographs of the Academy of Exact, Physical, Chemical and Natural Science of Zaragoza], 9. *Academia de Ciencias Exactas, Físicas, Químicas y Naturales de Zaragoza, Zaragoza*, 1997. 48 *pp.* (Plamen Dzhakov) **98g:46002** 46A11 (46A35)

Hernando Pérez, Jesús Natural power sums of natural numbers. (Spanish. English summary) *Rev. Acad. Cienc. Zaragoza* (2) **51** (1996), 5–6. (Summary) **98c:11017** 11B68

vicente Hernanz, Ma. Lina *see* **Vicente Hernanz, Ma. Lina**

torres Hernanz, Manuel *see* **Torres Hernanz, Manuel**

Herndon, Bruce (*with* Eldredge, Michael; Hughes, Thomas J. R.; Ferencz, Robert M.; Rifai, Steven M.; Raefsky, Arthur) High-performance parallel computing in industry. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1217–1233. (*see* **98f:76004**) 65Y05 (65–02)

Heroquist, Lars (*with* Heyl, Jeremy S.) QED one-loop corrections to a macroscopic magnetic dipole. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6475–6483. 81V10

— (*with* Heyl, Jeremy S.) Birefringence and dichroism of the QED vacuum. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6485–6492. 81V10

Herold, Heinz Temporal and spatial foliations of spacetimes. (English summary) *Relativity and scientific computing*, 111–121, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–08

— Rotating and oscillating neutron stars. (English summary) *Relativity and scientific computing*, 122–137, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83F05 (83–08)

— (*with* Nollert, Hans-Peter) Visualization in curved spacetimes. II. Visualization of surfaces via embedding. (English summary) *Relativity and scientific computing*, 330–351, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–04 (65Y25)

— (*with* Geyer, Axel) Slicing the Oppenheimer-Snyder collapse: harmonic versus maximal slicing. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1257–1268. (Summary) **98f:83084** 83C99 (83–08)

Herraiz, Luis A. Asymptotic behaviour of semilinear parabolic problems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1273–1278. (Summary) **98j:35087** 35K55 (35B40)

Herranz, Francisco J. (*with* Ballesteros, Angel; Del Olmo, Mariano A.; Pereña, C. M.; Santander, Mariano) Non-standard quantum $(1+1)$ Poincaré group: a T-matrix approach. (English summary) *J. Phys. A* **28** (1995), *no.* 24, 7113–7125. (Władysław Marcinek) **98g:81067** 81R50 (16W30, 17B37)

— (*with* Santander, Mariano) The general solution of the real $Z_2^{\otimes N}$ graded contractions of $\mathrm{so}(N+1)$. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6643–6652. (Summary) **98i:17038** 17B70 (81R05)

— (*with* Ballesteros, Angel; Parashar, Preeti) Quantum Heisenberg-Weyl algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L149–L154. (Michèle Irac-Astaud) **98e:17016** 17B37 (16W30, 17B35, 81R50)

— (*with* Santander, Mariano) Casimir invariants for the complete family of quasisimple orthogonal algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5411–5426. (Hartmut Schlosser) **98k:81086** 81R05 (17B81)

— Non-standard quantum $\mathrm{so}(3,2)$ and its contractions. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6123–6129. (Anatol Nowicki) **98j:81152** 81R50 (17B37)

— (*with* Ballesteros, Angel; Pereña, C. M.) Null-plane quantum universal R-matrix. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 71–77. (Peter Prešnajder) **98e:81068** 81R50 (58B30)

Herre, Heinrich *see* **Extensions of logic programming**, **98e:68003**

Herren, Volker Lévy-type processes and Besov spaces. (English summary) *Potential Anal.* **7** (1997), *no.* 3, 689–704. (Sheng Wu He) **98h:60051** 60G17 (46E35, 60J30)

Herrendörfer, G. (*with* Tuchscherer, A.) Selection and breeding. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 3, 307–321. (Khursheed Alam) **98a:62028** 62F07 (62P10)

Herrera, A. *see* **Herrera-Aguilar, Alfredo**

díaz-Herrera, Enrique *see* **Díaz-Herrera, Enrique**

Herrera, Francisco (*with* Verdegay, J. L.) Fuzzy sets and operations research: perspectives. (English summary) Fuzzy sets: Where do we stand? Where do we go? (São Paulo, 1995). *Fuzzy Sets and Systems* **90** (1997), *no.* 2, 207–218. (Summary) **98h:90006** 90A05 (04A72)

— (*with* Magdalena, Luis) Genetic fuzzy systems. (English summary) Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 93–121. (*see* **98e:04004**) 03E72 (92D15, 94B70)

— (*with* Herrera-Viedma, E.; Verdegay, J. L.) Choice processes for non-homogeneous group decision making in linguistic setting. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 287–308. 90A05 (90C70)

Herrera, L. (*with* Di Prisco, A.; Hernández-Pastora, J. L.; Martín, Jésus; Martínez, Justino) Thermal conduction in systems out of hydrostatic equilibrium. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2239–2247. (Summary) **98d:83043** 83C55

— (*with* Santos, Nilton O.) Local anisotropy in self-gravitating systems. (English summary) *Phys. Rep.* **286** (1997), *no.* 2, 53–130. (Summary) **98b:83051** 83C55 (76Y05)

— (*with* Hernández, Héctor Froilan; Núñez, L. A.; Percoco, U.) On the eccentricity behaviour of radiating slowly rotating bodies in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 187–196. 83C99

— (*with* Martínez, Justino) Dissipative fluids out of hydrostatic equilibrium. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 407–420. 83C55

— (*with* Martínez, Justino) Gravitational collapse: a case for thermal relaxation. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 445–471. 83C55 (83F05)

Herrera, Rafael (*with* Salamon, Simon) Intersection numbers on moduli spaces and symmetries of a Verlinde formula. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 521–534. (Jean-Marc Drezet) **98k:14012** 14D20 (14H60)

Herrera-Aguilar, Alfredo (*with* Shikin, G. N.; Yushchenko, L. P.) ★ Exact solutions to the nonlinear spinor field equations in the Gödel universe. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-368. *Ob″ed. Inst. Yadernykh Issled., Dubna*, 1996. 17 *pp.* (Editors) **98c:83073** 83C60 (81T20, 83C15)

— (*with* Shikin, G. N.) ★ Exact solutions to the interacting spinor and scalar field equations in the Gödel universe. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-367. *Ob″ed. Inst. Yadernykh Issled., Dubna*, 1996. 13 *pp.* (Summary) **98d:83063** 83C60 (81T20, 83C15)

— (*with* Kechkin, Oleg) $O(d,d)$-symmetry and Ernst formulation of Einstein-Kalb-Ramond theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1573–1582. (Ilya Shapiro) **98f:83095** 83E15 (83E30)

— (*with* Kechkin, Oleg) Double-Ernst solution in Einstein-Kalb-Ramond theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1629–1636. (Mark D. Roberts) **98g:83093** 83E15 (83E30)

— (*with* Kechkin, Oleg) Matrix Ernst potentials and orthogonal symmetry of low energy heterotic string theory reduced to three dimensions. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 393–402. 81T30

Herrera-Viedma, E. (*with* Herrera, Francisco; Verdegay, J. L.) Choice processes for non-homogeneous group decision making in linguistic setting. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 287–308. 90A05 (90C70)

Herrerías Pleguezuelo, Rafael (*with* Palacios González, Federico; Callejón Céspedes, José) Using generator function system to check independence of random variables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1211–1219. 62E10

Herrero, Carmen Arbitration schemes: impartiality and manipulability. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 115–124, *Univ. Lleida, Lleida*, 1997. (*see* **98m:00023**) 90A80
— Equitable opportunities: an extension. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 91–95. 90A05 (90A08)
— Endogenous reference points and the adjusted proportional solution for bargaining problems with claims. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 113–119. (Summary) **98i:90135** 90D12 (90A60)
Herrero, Miguel A. (*with* Velázquez, Juan J. L.) Chemotactic collapse for the Keller-Segel model. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 177–194. (Joseph So) **98j:35175** 35Q80 (35B40, 35K57, 92D40, 93B05, 93C20)
— (*with* Andreucci, Daniele; Velázquez, Juan J. L.) Liouville theorems and blow up behaviour in semilinear reaction diffusion systems. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 1, 1–53. (Yoshio Yamada) **98e:35088** 35K57 (35B05, 35B40)
— (*with* Medina Reus, Elena; Velázquez, Juan J. L.) Finite-time aggregation into a single point in a reaction-diffusion system. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1739–1754. (Summary) **98i:35095** 35K57 (35B40, 93B05)
— (*with* Bonilla, Luis L.; Hernando, P. J.; Kindelan, M.; Velázquez, Juan J. L.) Asymptotics of the trap-dominated Gunn effect in *p*-type Ge. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 168–190. (Summary) **98k:78046** 78A55 (78–04, 82D99)
Herrin, J. (*with* Howland, James S.) The Born-Oppenheimer approximation: straight-up and with a twist. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 467–488. (Peter N. Zhevandrov) **98f:81057** 81Q05 (81Q15, 81Q20)
Herring, Jackson R. The role of statistical models in turbulence theory. *Stochastic models in geosystems (Minneapolis, MN, 1994)*, 129–136, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (*see* **98e:00022**) 76F99 (76M35)
Herrlich, Horst Choice principles in elementary topology and analysis. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 545–552. (Norbert Brunner) **98m:03105** 03E25 (54A35)
— The Ascoli theorem is equivalent to the Boolean prime ideal theorem. *Rostock. Math. Kolloq. No.* 51 (1997), 137–140. (From the text) **98k:54004** 54A35 (04A25, 54C35, 54D30)
— (*with* Bentley, H. L.) Morita-extensions and nearness-completions. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 59–65. (Summary) **98m:54030** 54E17 (54D35, 54E15)
Herrmann, Burghard Characterizing equivalential and algebraizable logics by the Leibniz operator. (English summary) *Studia Logica* **58** (1997), *no.* 2, 305–323. (Jan Bernert) **98j:03004** 03B22 (03G99)
Herrmann, Christian (*with* Wild, Marcel) A polynomial algorithm for testing congruence modularity. *Internat. J. Algebra Comput.* **6** (1996), *no.* 4, 379–387. (Ralph Freese) **98a:08002** 08A30 (06C05, 08B10)
— On automorphism groups of Arguesian lattices. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 35–38. (Summary) **98k:06010** 06B15 (20B10)
Herrmann, Eva (*with* Eichenauer-Herrmann, Jürgen) Compound cubic congruential pseudorandom numbers. (English summary) *Computing* **59** (1997), *no.* 1, 85–90. (Robert F. Tichy) **98g:11089** 11K45 (65C10)
— (*with* Werthenbach, Claudia) A fast and stable updating algorithm for bivariate nonparametric curve estimation. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 61–76. 62G05
Herrmann, G. (*with* Kienzler, R.) On the properties of the Eshelby tensor. (English summary) *Acta Mech.* **125** (1997), *no.* 1-4, 73–91. (Summary) **98j:73022** 73C02 (73M25)
Herrmann, J. *see* **Herrmann, Jürgen Georg**
eichenauer-Herrmann, Jürgen *see* **Eichenauer-Herrmann, Jürgen**
Herrmann, Jürgen Georg (*with* Busse, F. H.) Convection in a rotating cylindrical annulus. IV. Modulations and transition to chaos at low Prandtl numbers. (English summary) *J. Fluid Mech.* **350** (1997), 209–229. 76E15 (76F20, 76R05, 76U05)
Herrmann, Manfred (*with* Hyry, Eero; Ribbe, Jürgen; Tang, Zhongming) Reduction numbers and multiplicities of multigraded structures. *J. Algebra* **197** (1997), *no.* 2, 311–341. (Liam O'Carroll) **98k:13006** 13A30 (13D40, 13H10, 13H15)
— (*with* Hyry, Eero; Korb, T.) On Rees algebras with a Gorenstein Veronese subring. *J. Algebra* **200** (1998), *no.* 1, 279–311. (Ngô Viêt Trung) **98m:13006** 13A30 (13D45, 13H10)
Herrmann, Michael (*with* Funke, Michael; Der, Ralf) Controlling low-dimensional chaos: determination and stabilization of unstable periodic orbits by Kohonen neural nets. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 489–499. (Summary) **98h:93013** 93C10 (58F13, 58F40, 93B52)
Herron, D. A. (*with* Koskela, Pekka) Continuity of Sobolev functions and Dirichlet finite harmonic measures. (English summary) *Potential Anal.* **6** (1997), *no.* 4, 347–353. (Takahide Kurokawa) **98i:46027** 46E35 (31C45)
Herron, Isom H. Hydrodynamic stability, differential operators and spectral theory. *African Americans in mathematics (Piscataway, NJ, 1996)*, 57–67, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Murad Brutyan) **98m:76078** 76E99 (35Q30, 47N20, 76D05)
Hersch, Roger D. (*with* Amidror, Isaac) Analysis of the superposition of periodic layers and their Moiré effects through the algebraic structure of their Fourier spectrum. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 99–130. (Summary) **98m:68284** 68U10
Herschkorn, Stephen J. Bandit bounds from stochastic variability extrema. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 283–288. (Summary) **98k:62147** 62L15
Herscovici, David Samuel (*with* Butler, Jon T.; Sasao, Tsutomu; Barton, Robert J., III) Average and worst case number of nodes in decision diagrams of symmetric multiple-valued functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 4, 491–494. (Summary) **98c:68087** 68Q25 (03B50, 03D15)
— Minimal paths between maximal chains in finite rank semimodular lattices. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 17–37. (Summary) **98j:06005** 06C10
— Semimodular lattices and semibuildings. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 39–51. (Summary) **98j:06006** 06C10
Hersh, Reuben ★ What is mathematics, really? (English summary) *Oxford University Press, New York*, 1997. xxiv+343 *pp. ISBN* 0-19-511368-3 (Michael Otte) **98f:00008** 00A30 (01A05)
— Prove—once more and again. (English summary) *Philos. Math.* (3) **5** (1997), *no.* 2, 153–165. (Yehuda Rav) **98d:00004** 00A30 (00A35, 03A05)
— (*with* Davis, Philip J.; Marchisotto, Elena Anne) Ideal mathematician. (Russian) Translated from the English by I. S. Safuanov. *Priroda* **1997**, *no.* 3, 126–128. (Editors) **98j:01045** 01A75 (01A80)
— Erratum: "Prove—once more and again" [Philos. Math. (3) **5** (1997), no. 2, 153–165; MR 98d:00004]. *Philos. Math.* (3) **6** (1998), *no.* 1, 85. 00A30 (00A35, 03A05)
Hershberger, J. E. (*with* Bern, Marshall; Eppstein, David; Guibas, Leonidas J.; Suri, Subhash; Wolter, Jan) The centroid of points with approximate weights. (English summary) *Algorithms—ESA '95 (Corfu)*, 460–472, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05
— (*with* Snoeyink, J. S.) Erased arrangements of lines and convex decompositions of polyhedra. (English summary) *Comput. Geom.* **9** (1998), *no.* 3, 129–143. (Evangelos Kranakis) **98m:52024** 52B55 (68U05)
Hershkowitz, Daniel (*with* Huang, Wenchao; Neumann, Michael; Schneider, Hans) Minimization of norms and the spectral radius of a sum of nonnegative matrices under diagonal equivalence. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 431–453. (Sing Cheong Ong) **98c:15075** 15A60
— Uniqueness of sum decompositions of symmetric matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **17** (1996), *no.* 3, 691–705. (Summary) **98c:15052** 15A33 (05C50)
— (*with* Cain, Bryan; Schneider, Hans) Theorems of the alternative for cones and Lyapunov regularity of matrices. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 487–499. (Jacques F. Bair) **98m:46002** 46A40 (15A24, 46N10, 52A05, 90C48)
— (*with* Hoffman, Alan J.; Schneider, Hans) On the existence of sequences and matrices with prescribed partial sums of elements. (English summary) *Linear Algebra Appl.* **265** (1997), 71–92. (Jacques Dubois) **98h:15037** 15A45
— (*with* Huang, Wenchao; Schneider, Hans; Weinberger, Hans F.) Approximability by weighted norms of the structured and volumetric singular values of a class of nonnegative matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 249–257. (Linda J. Patton) **98a:15055** 15A60 (15A48, 65F35, 93B35)
Hersonsky, Sa'ar (*with* Paulin, Frédéric) On the rigidity of discrete isometry groups of negatively curved spaces. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 3, 349–388. (Paul M. Albuquerque) **98h:58105** 58F11 (53C35, 57S30, 58F17)
— (*with* Hubbard, John Hamal) Groups of automorphisms of trees and their limit sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 869–884. (Michel Coornaert) **98k:57005** 57M07 (20E08, 58F11)
— (*with* Culler, Marc; Shalen, Peter B.) The first Betti number of the smallest closed hyperbolic 3-manifold. *Topology* **37** (1998), *no.* 4, 805–849. (Ken-ichi Ohshika) **98m:57017** 57M50 (57N10)
Hert, Susan (*with* Lumelsky, Vladimir J.) Planar curve routing for tethered-robot motion planning. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 225–252. (Hellmuth Stachel) **98j:68163** 68U05 (70B15)
Hertja, D. I. (*with* Ivanov, Alexandru) Compatibility in physical theories. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 387–405. (Peter G. Ovchinnikov) **98g:81017** 81P10
Hertling, Peter Topological complexity with continuous operations. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 315–338. (Klaus Meer) **98c:68051** 68Q05 (03F60, 68Q25)
Hertrampf, Ulrich The shapes of trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 412–421, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68149** 68Q45 (68Q05, 68Q15)
Hertrich-Jeromin, U. (*with* Burstall, F.; Pedit, Franz; Pinkall, U.) Curved flats and isothermic surfaces. *Math. Z.* **225** (1997), *no.* 2, 199–209. (Jan Cieśliński) **98j:53004** 53A05 (53C35, 58F07)
Hertz, Alain (*with* Taillard, Eric; de Werra, Dominique) Tabu search. *Local search in combinatorial optimization*, 121–136, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C27
— On the use of Boolean methods for the computation of the stability number. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 183–203. (Mukkai S. Krishnamoorthy) **98m:05102** 05C35 (05C85)
— *see also* **Colloquium: Graphs and Optimization, 98b:00021**
Hervé, Loïc Transformée en paquets d'ondelettes des signaux stationnaires: comportement asymptotique des densités spectrales. (English and French summaries) [Wavelet packet transform of stationary signals: asymptotic behavior of the spectral densities] *Rev. Mat. Iberoamericana* **12** (1996), *no.* 3, 653–667. (D. Stanomir) **98a:94003** 94A12 (42C15)
Hervé, M. (*with* Hervé, R. M.) Quelques propriétés des solutions de l'équation de Ginzburg-Landau sur un ouvert de $\mathbf{R}^2$. (English summary) [Some properties of the solutions of the Ginzburg-Landau equation on an open set in $\mathbf{R}^2$] *Potential Anal.* **5** (1996), *no.* 6, 591–609. (Heinrich Begehr) **98g:31002** 31A99 (35J60, 35Q55)
Hervé, R. M. (*with* Hervé, M.) Quelques propriétés des solutions de l'équation de Ginzburg-Landau sur un ouvert de $\mathbf{R}^2$. (English summary) [Some properties of the solutions of the Ginzburg-Landau equation on an open set in $\mathbf{R}^2$] *Potential Anal.* **5** (1996), *no.* 6, 591–609. (Heinrich Begehr) **98g:31002** 31A99 (35J60, 35Q55)
Hervella, L. M. (*with* Bonome, Agustín; Castro, Regina; García-Río, Eduardo; Matsushita, Yasuo) Pseudo-Chern classes and opposite Chern classes of indefinite almost Hermitian manifolds. *Acta Math. Hungar.* **75** (1997), *no.* 4, 299–316. (Vicente Miquel) **98i:53037** 53C15 (53C50, 57R20)
— (*with* Bonome, Agustín; Castro, Regina; García-Río, Eduardo) Curvature of indefinite almost contact manifolds. (English summary) *J. Geom.* **58** (1997), *no.* 1-2, 66–86. (Hideya Hashimoto) **98a:53044** 53C15
— (*with* Bonome, Agustín; Castro, Regina; García-Río, Eduardo; Vázques-Lorenzo, R.) Nonsymmetric Osserman indefinite Kähler manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2763–2769. (Pascual Lucas Saorin) **98m:53088** 53C50 (53C55)
van Herwaarden, Onno A. Stochastic epidemics: the probability of extinction of an infectious disease at the end of a major outbreak. (English summary) *J. Math. Biol.* **35**

(1997), *no.* 7, 793–813. (Summary) **98h:92021** 92C60 (92D30)

Herz, Carl S. *see* **Harmonic analysis and number theory, 98d:00028** *and* **Drury, S. W., 98k:01022**

Herzberg, Hanan On the spectrum of distances of a multilevel code, decoded by a multistage decoder. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1736–1740. 94B35

Herzberger, Jürgen On the R-order of convergence of a class of simultaneous methods of approximating the roots of a polynomial. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 113–119, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:65065** 65H05

— (*with* Metzner, Lars) On the Q-order and R-order of convergence for coupled sequences arising in iterative numerical processes. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 120–131, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98c:65088** 65J05

— *see also* **Numerical methods and error bounds, 98a:65004**

Herzer, Armin (*with* Klos, Birgit) Synthetische Konstruktion eines affinen Kettenraumes. [Synthetic construction of an affine chain space] *Mitt. Math. Ges. Hamburg* **15** (1996), 35–44 (1997). (Horst Struve) **98c:51006** 51B99

Herz-Fischler, Roger ★ A mathematical history of the golden number. (English summary) Corrected reprint of the 1987 original [*A mathematical history of division in extreme and mean ratio*, Laurier Univ. Press, Waterloo, ON, 1987; MR 88k:01006]. *Dover Publications, Inc., Mineola, NY*, 1998. *xxii*+195 *pp. ISBN* 0-486-40007-7 (Editors) **98j:01005** 01A20 (01A05, 01A35, 11–03)

Herzig, Andreas (*with* Crocco, Gabriella; Fariñas del Cerro, Luis) Introduction. *Conditionals: from philosophy to computer science*, 1–12, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B65 (03B70)

— (*with* Fariñas del Cerro, Luis) Combining classical and intuitionistic logic. (English summary) *Frontiers of combining systems* (*Munich*, 1996), 93–102, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Branislav Boričić) **98c:03022** 03B20 (03B60)

— (*with* Gasquet, Olivier) From classical to normal modal logics. *Proof theory of modal logic* (*Hamburg*, 1993), 293–311, *Appl. Log. Ser.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1996. (Katalin Bimbó) **98a:03023** 03B45

— *see also* **Conditionals: from philosophy to computer science, 98d:03003**

Herzinger, Kurt The number of generators for the product of an ideal with its inverse. (English summary) *Comm. Algebra* **25** (1997), *no.* 5, 1505–1512. (Sunsook Noh) **98g:13027** 13H15 (13E15, 13F30)

Herzlich, Marc Compactification conforme des variétés asymptotiquement plates. (English and French summaries) [Conformal compactification of asymptotically flat manifolds] *Bull. Soc. Math. France* **125** (1997), *no.* 1, 55–91. (Piotr T. Chruściel) **98d:53054** 53C21 (53C80)

Herzog, Christian Pushdown automata with bounded nondeterminism and bounded ambiguity. (English summary) Latin American Theoretical INformatics (Valparaiso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 141–157. (Summary) **98d:68146** 68Q68

Herzog, Gerd (*with* Lemmert, Roland) Ordinary differential equations in Frechet spaces. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 89–93, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 34G20

— On linear time-dependent row-finite systems of differential equations. (English summary) *Travaux mathématiques, Fasc. VIII*, 167–176, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1996. (Sergey G. Lobanov) **98f:34087** 34G10 (34A12)

— On a universality of the heat equation. (English summary) *Math. Nachr.* **188** (1997), 169–171. (Summary) **98i:35077** 35K05 (41A30)

— C^1-solutions of $x = f(x')$ are convex or concave. *Amer. Math. Monthly* **105** (1998), *no.* 6, 554–555. 34A99

— On ordinary differential equations with quasimonotone increasing right-hand side. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 142–146. (Kiyoko Furuya) **98j:34119** 34G20 (34A12)

Herzog, Ivo The endomorphism ring of a localized coherent functor. (English summary) *J. Algebra* **191** (1997), *no.* 1, 416–426. (Henning Krause) **98d:16022** 16G60 (18E35)

— The Ziegler spectrum of a locally coherent Grothendieck category. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 503–558. (Henning Krause) **98j:18017** 18E15 (03C60, 16D90)

Herzog, Jürgen (*with* Aramova, Annetta) p-Borel principal ideals. *Illinois J. Math.* **41** (1997), *no.* 1, 103–121. (Rafael H. Villarreal) **98i:13020** 13D02 (13F20)

— (*with* Aramova, Annetta; Hibi, Takayuki) Gotzmann theorems for exterior algebras and combinatorics. *J. Algebra* **191** (1997), *no.* 1, 174–211. (Ralf Fröberg) **98c:13025** 13D40 (13P10)

— (*with* Bruns, Winfried) Semigroup rings and simplicial complexes. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 185–208. (José A. Hermida-Alonso) **98m:13020** 13D02 (20M25)

— (*with* Popescu, Dorin) Thom-Sebastiani problems for maximal Cohen-Macaulay modules. *Math. Ann.* **309** (1997), *no.* 4, 677–700. (Gerhard Pfister) **98k:13012** 13C14 (14B05, 14B07)

Herzog, Marcel Two new elementary results in finite groups. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 64–66, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20D99

— (*with* Dovermann, Karl Heinz) Gap conditions for representations of symmetric groups. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 2, 113–137. (Ronnie Lee) **98g:57058** 57S17 (20C30, 57S25)

Hesaaraki, Mahmoud On the existence of switch-on and switch-off shock waves in magnetohydrodynamics. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 145–151, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 76W05 (34C37, 35Q35, 76L05)

— (*with* Kashani, S. M. B.) On the existence of MFD intermediate shock waves for rectilinear motion in some models of plasma. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 2, 1–18. (James F. Reineck) **98m:76157** 76W05 (34C37, 35Q35, 58F40, 76L05)

Heseltine, T. (*with* Bowden, G. J.) Some analytical results for ABC, $ABCD$, and $XBCD$ coupled spin 1/2 systems. I. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 353–364. (A. Ventura) **98b:81289** 81V70 (82C23)

— (*with* Bowden, G. J.; Prandolini, M. J.) Some analytical results for ABC, $ABCD$, and $XBCD$ coupled spin 1/2 systems. II. (English summary) *J. Math. Chem.* **19** (1996), *no.* 3-4, 365–374. (A. Ventura) **98b:81290** 81V70 (82C23)

— (*with* Bowden, G. J.; Prandolini, M. J.) Some analytical results for spin 1/2 spin systems. III. The benzene ring. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 285–299 (1997). (A. Ventura) **98g:81225** 81V55 (81V70)

Heskes, Tom (*with* Coolen, Jeroen) Learning in two-layered networks with correlated examples. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4983–4992. 82C32 (92B20)

Hess, Christian (*with* Balder, Erik J.) Two generalizations of Komlós' theorem with lower closure-type applications. (English summary) *J. Convex Anal.* **3** (1996), *no.* 1, 25–44. (Michel Valadier) **98c:49034** 49J45 (28B20, 47H04)

— (*with* Castaing, Charles; Ezzaki, Fatima) Convergence of conditional expectations for unbounded closed convex random sets. (English summary) *Studia Math.* **124** (1997), *no.* 2, 133–148. (Zvi Artstein) **98i:28016** 28B20 (60D05)

Hess, Heinz-Jürgen *see* **Leibniz, Gottfried Wilhelm, 98b:01040**

Hess, Peter O. An introduction to the symplectic model of nuclei and nuclear molecules in one dimension. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 219–243, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (*see* **98f:81011**) 81V35 (81–02, 81R05)

— Comparative study of the Sp(2, **R**) and the Sp(6, **R**) models and an application to the Ba chain of isotopes. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 1061–1081. 81V35 (81R05)

— (*with* Stephens, C. R.; Weber, Axel; López Vieyra, J. C.) Regge behaviour from an environmentally friendly renormalization group. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 333–339. 81T17

Hess, Ronald (*with* Yousefpor, Marduke; Palazoglu, Ahmet) Robust control design for SISO systems based on constrained optimization. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 477–491. 93B51 (93B40)

Hess, Walter Paul (*with* Schmidt, Jochen W.) Fair upper bounds for the curvature in univariate convex interpolation. (English summary) *BIT* **37** (1997), *no.* 4, 948–960. (Summary) **98g:41023** 41A29 (65D17)

Hesselholt, Lars On the p-typical curves in Quillen's K-theory. *Acta Math.* **177** (1996), *no.* 1, 1–53. (Charles Weibel) **98a:19001** 19D50 (14F30, 19D55, 19E20, 55P91)

— Witt vectors of non-commutative rings and topological cyclic homology. *Acta Math.* **178** (1997), *no.* 1, 109–141. (Charles Weibel) **98h:19003** 19D55 (13K05, 16E40, 18G55, 55P91)

— (*with* Madsen, Ib) Cyclic polytopes and the K-theory of truncated polynomial algebras. *Invent. Math.* **130** (1997), *no.* 1, 73–97. (Jerry Lodder) **98k:19002** 19D55 (19D50, 55N15)

Hesselink, Wim H. Angelic termination in Dijkstra's calculus. (English summary) *Mathematics of program construction* (*Kloster Irsee*, 1995), 322–334, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60 (68Q10)

Hessenberger, Gerald Analytic properties of the spectrum in Banach Jordan systems. (English summary) *Collect. Math.* **47** (1996), *no.* 3, 277–284. (Horst Behncke) **98c:46098** 46H70

— Barnes idempotents and cocapacity in Jordan pairs. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 1–17. (José A. Anquela) **98i:17042** 17C27 (17C05)

Hesser, J. (*with* Makhaniok, M.; Noehte, S.; Männer, R.) Limit cycles of a planar vector field. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 1, 13–32. (Rodrigo Bamon) **98e:34056** 34C05 (34C25, 58F21)

Hestenes, David Grassmann's vision. *Hermann Günther Grassmann* (1809–1877): *visionary mathematician, scientist and neohumanist scholar* (*Lieschow*, 1994), 243–254, *Boston Stud. Philos. Sci.*, 187, *Kluwer Acad. Publ., Dordrecht*, 1996. (H. K. Farahat) **98c:15084** 15A75 (01A55, 01A60)

Hestir, Kevin Conditional coding, a general method for simulating conditional distributions. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 77–91. 62F15 (60J10, 65C05, 65C20)

Hethcote, Herbert W. An age-structured model for pertussis transmission. (English summary) *Math. Biosci.* **145** (1997), *no.* 2, 89–136. 92C60

Héthelyi, László (*with* Blackburn, Norman) Some further properties of soft subgroups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 365–371. (Walter Carlip) **98j:20019** 20D15 (20E15)

— (*with* Szőke, M.; Lux, K.) The restriction of indecomposable modules of group algebras and the quasi-Green correspondence. *Comm. Algebra* **26** (1998), *no.* 1, 83–95. (J. L. Alperin) **98m:20017** 20C20 (16S34)

Hettel, J. (*with* Dangelmayr, G.; Knobloch, Edgar) Parity-breaking bifurcation in inhomogeneous systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1093–1114. (Philip J. Aston) **98h:58125** 58F14 (34C23, 34G20, 35B32)

Hettich, R. (*with* Kaplan, A. A.; Tichatschke, Rainer) Regularized penalty methods for ill-posed optimal control problems with elliptic equations. I. Distributed control with bounded control set and state constraints. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 5–27. (Fredi Tröltzsch) **98h:49035** 49M30 (49K20)

— (*with* Kaplan, A. A.; Tichatschke, Rainer) Regularized penalty methods for ill-posed optimal control problems with elliptic equations. II. Distributed and boundary control with unbounded control set and state constraints. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 29–43. (Fredi Tröltzsch) **98h:49036** 49M30 (49K20)

Hettlich, Frank (*with* Morgan, J. J.; Scherzer, Otmar) On the estimation of interfaces from boundary measurements. (English summary) *Inverse problems in geophysical applications* (*Yosemite, CA*, 1995), 163–178, *SIAM, Philadelphia, PA*, 1997. (From the text) **98k:86027** 86A22

— (*with* Kirsch, Andreas) Schiffer's theorem in inverse scattering theory for periodic structures. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 351–361. (Zhen-qiu Lu) **98d:35034** 35J05 (35R30, 78A10)

— (*with* Rundell, William) Recovery of the support of a source term in an elliptic differential equation. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 959–976. (Gottfried Anger) **98g:35213** 35R30 (35J25)

— Erratum: "Frechet derivatives in inverse obstacle scattering" [Inverse Problems **11** (1995), no. 2, 371–382; MR 95k:35217]. *Inverse Problems* **14** (1998), *no.* 1, 209–210. (Editors) **98j:35184** 35R30 (35J05)

Hettmansperger, Thomas P. (*with* Anderson, George F.) Generalized Wilcoxon methods for the one- and two-sample location models. (English summary) *Research developments in probability and statistics*, 303–317, *VSP, Utrecht*, 1996. (Summary) **98g:62082** 62G10

— (*with* Brown, Bruce Maxwell) Normal scores, normal plots, and tests for normality. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1668–1675. (A. D.

Gordon) **98a:62098** 62J20
— (*with* Öztürk, Ömer) Generalised weighted Cramér-von Mises distance estimators. (English summary) *Biometrika* **84** (1997), *no.* 2, 283–294. (Summary) **98f:62107** 62G05
— (*with* Sheather, Simon J.; McKean, Joseph W.) Finite sample stability properties of the least median of squares estimator. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 4, 371–383. 62J07
Hetzler, Steven M. A continuous version of Newton's method. *College Math. J.* **28** (1997), *no.* 5, 348–351. 65H05
Heuer, Norbert (*with* Stephan, Ernst P.) The *hp*-version of the boundary element method on polygons. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 2, 173–212. (A. V. Dzhishkariani) **98a:65171** 65N38 (65R20)
— Preconditioners for the boundary element method for solving the electric screen problem. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 106–110, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N38 (78–08, 78A25)
— (*with* Stephan, Ernst P.; Tran, Thanh) Multilevel additive Schwarz method for the *h-p* version of the Galerkin boundary element method. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 501–518. (Wojciech Mydlarczyk) **98g:65108** 65N30 (65N38)
Heuer, Rudolf (*with* Irschik, Hans; Rammerstorfer, Franz G.) Franz Ziegler—on the occasion of his 60th birthday. *Acta Mech.* **125** (1997), *no.* 1-4, 1–2. 01A70
Heuerding, Alain (*with* Schwendimann, Stefan) On the modal logic K plus theories. (English summary) *Computer science logic* (*Paderborn*, 1995), 308–319, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98f:03018** 03B45 (68T15)
— (*with* Seyfried, Michael; Zimmermann, Heinrich) Efficient loop-check for backward proof search in some non-classical propositional logics. (English summary) *Theorem proving with analytic tableaux and related methods* (*Terrasini*, 1996), 210–225, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (Summary) **98j:03023** 03B45 (03B20, 03B35)
— (*with* Goré, Rajeev; Heinle, Wolfgang) Relations between propositional normal modal logics: an overview. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 649–658. (George F. Schumm) **98m:03038** 03B45 (03B35)
Heumann, K. (*with* Mewes, H. W.) Genome analysis: pattern search in biological macromolecules. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 261–285, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98h:92030** 92D20
Heun, Karl *see* **Heun's differential equations**, **98a:33005**
Heun, Volker (*with* Mayr, Ernst W.) Embedding graphs with bounded treewidth into optimal hypercubes. (English summary) *STACS 96* (*Grenoble*, 1996), 157–168, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98i:68220** 68R10 (68M10)
Heunis, Andrew J. (*with* Pezeshki-Esfahani, Hossain) Strong diffusion approximations for recursive stochastic algorithms. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 512–523. (George Yin) **98c:62162** 62L20 (60F17)
Heusch, Peter The complexity of the falsifiability problem for pure implicational formulas. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 221–226, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98d:68100** 68Q25 (03B05, 03D15)
— (*with* Speckenmeyer, Ewald; Böhm, Max) On the imbalance of distributions of solutions of CNF-formulas and its impact on satisfiability solvers. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 669–676, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:68063** 68Q25 (03B05, 68T20)
Heusener, Michael (*with* Klassen, Eric P.) Deformations of dihedral representations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3039–3047. (Darren D. Long) **98b:57011** 57M25 (57M05)
Heuser, Harro Das Unendliche in Philosophie, Theologie und Mathematik. (German summary) [The infinite in philosophy, theology and mathematics] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3, 35–38. 00A30 (01A05)
Heuser, Marie-Luise Dynamisierung des Raumes und Geometrisierung der Kräfte. [Dynamization of space and geometrization of forces] Schellings, Arnims und Justus Graßmanns Konstruktion der Dimensionen im Hinblick auf Kant und die Möglichkeit einer mathematischen Naturwissenschaft. [Schelling's, Arnim's and Justus Grassmann's construction of dimensions with regard to Kant and the possibility of a mathematical natural science] "*Fessellos durch die Systeme*", 275–316, *Nat. Philos.*, 12, *Frommann-Holzboog, Stuttgart*, 1997. (*see* **98h:00023**) 00A30 (00A79, 01A55)
Heusler, Markus ★ Black hole uniqueness theorems. (English summary) Cambridge Lecture Notes in Physics, 6. *Cambridge University Press, Cambridge*, 1996. xiv+249 *pp. ISBN* 0-521-56735-1 (Valter Moretti) **98b:83057** 83C57 (83C15, 83C20, 83C22)
— No-hair theorems and black holes with hair. (English summary) Journées Relativistes 96, Part II (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 4, 501–528. (Piotr T. Chruściel) **98a:83084** 83C57
— On the uniqueness of the Papapetrou-Majumdar metric. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, L129–L134. (Piotr T. Chruściel) **98g:83062** 83C57 (83C20)
— Bogomol'nyĭ-type mass formulas for a class of nonrotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 961–973. (Paulo Moniz) **98e:83076** 83C57
— (*with* Brodbeck, Othmar) Stationary perturbations and infinitesimal rotations of static Einstein-Yang-Mills configurations with bosonic matter. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6278–6283. (Summary) **98g:83080** 83C99 (81T13, 81T20)
van den Heuvel, Edwin R. (*with* Klaassen, Chris A. J.) Spread, estimators and nuisance parameters. (English summary) *Bernoulli* **3** (1997), *no.* 3, 323–328. (Stergios B. Fotopoulos) **98m:62010** 62A25 (62C20, 62F12, 62G20)
van den Heuvel, J. (*with* Broersma, H. J.; Jackson, Bill; Veldman, Henk Jan) Hamiltonicity of regular 2-connected graphs. (English summary) *J. Graph Theory* **22** (1996), *no.* 2, 105–124. (Summary) **98d:05090** 05C45 (05C40)
— (*with* Bauer, Douglas; Morgana, Aurora; Schmeichel, Edward F.) The complexity of recognizing tough cubic graphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 35–44. (Summary) **98f:68209** 68R10 (05C85, 68Q25)
Heuveline, Vincent (*with* Sadkane, Miloud) Arnoldi-Faber method for large non-Hermitian eigenvalue problems. (English summary) *Electron. Trans. Numer. Anal.* **5** (1997), *Sept.*, 62–76 (*electronic*). (Summary) **98m:65054** 65F15
— (*with* Sadkane, Miloud) Parallel computation of polynomials with minimal uniform norm and its application to large eigenproblems. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 185–198. (Summary) **98e:65028** 65F15 (65Y05)
meléndez-Hevia, Enrique *see* **Meléndez-Hevia, Enrique**
Hevia, Héctor (*with* Barrientos, Christian; Dejter, Italo J.) Equitable labelings of forests. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 1–26, *World Sci. Publishing, River Edge, NJ*, 1995. (Martin Bača) **98g:05133** 05C78 (05C05)
— (*with* Chartrand, Gary; Oellermann, Ortrud R.) The chromatic number of a factorization of a graph. (English summary) *Bull. Inst. Combin. Appl.* **20** (1997), 33–56. (Robert C. Brigham) **98i:05067** 05C15 (05C70)
— (*with* Chartrand, Gary; Jarrett, Elzbieta B.; Schultz, Michelle) Subgraph distances in graphs defined by edge transfers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 63–79. (Ioan Tomescu) **98e:05033** 05C12 (05C45, 05C75)
— (*with* Dejter, Italo J.; Serra, Oriol) Hidden Cayley graph structures. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 69–83. (Arthur T. White) **98m:05082** 05C25 (05C10, 20B25)
Hewett, Dennis W. The embedded curved boundary method for orthogonal simulation meshes. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 585–616. 65C20
— (*with* Lambert, Michael A.; Rodrigue, Garry H.) A parallel DSDADI method for solution of the steady state diffusion equation. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 2041–2065. 65Y05 (65N55)
Hewett, J. S. (*with* Madnia, C. K.) Flame-vortex interaction in a reacting vortex ring. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 189–205. (Summary) **98i:80013** 80A25 (76C05)
Hewitt, C. G. (*with* Wainwright, John) Invariant classification of diagonal G_2 cosmologies. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 266–270, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83028** 83C20
— Dynamical equilibrium states of the orthogonally transitive G_2 cosmologies: a class of inhomogeneous self-similar cosmological models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3073–3090. (Alicia M. Sintes) **98m:83016** 83C20
Hewitt, P. R. Duality and local group cohomology. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1909–1914. (Olympia Talelli) **98j:20076** 20J05
Hewitt, Richard E. (*with* Duck, Peter W.; Foster, M. R.) On the boundary layer arising in the spin-up of a stratified fluid in a container with sloping walls. (English summary) *J. Fluid Mech.* **335** (1997), 233–259. (Murad Brutyan) **98d:76161** 76V05 (76D10, 76U05)
Hewson, Stephen (*with* Perry, Malcolm J.) The twelve-dimensional super-(2 + 2)-brane. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 249–277. (Edward Teo) **98g:81167** 81T30 (83E30)
— Generalised supersymmetry and *p*-brane actions. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 445–468. (Summary) **98k:81216** 81T30 (83E30)
Hey, Heyder (*with* van Hemmen, J. L.; Wreszinski, Walter F.) Quantum tunnelling of magnetization in an alternating magnetic field: localization and chaos. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6371–6389. (Summary) **98k:82195** 82D40 (82C20)
Hey, John D. (*with* Nakazawa, Koju) Consumption with fluctuations in preference. (English summary) *Economic and environmental risk and uncertainty* (*Oslo*, 1994), 173–192, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A40 (90A43)
Hey, Tony (*with* Walters, Patrick) ★ Einstein's mirror. (English summary) *Cambridge University Press, Cambridge*, 1997. xii+293 *pp. ISBN* 0-521-43504-8; 0-521-43532-3 (H. Treder) **98g:01051** 01A60 (01A70, 83–03)
Heydari, Mohammad H. (*with* Sudborough, I. Hal) On the diameter of the pancake network. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 67–94. (Summary) **98h:68017** 68M10
Heyde, C. C. Asymptotics for two-dimensional anisotropic random walks. (English summary) *Stochastic processes*, 125–130, *Springer, New York*, 1993. (Bernard Ycart) **98a:60096** 60J10 (82B41)
— (*with* Dai, Wen) Itô's formula with respect to fractional Brownian motion and its application. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 439–448. (Ali Süleyman Üstünel) **98f:60104** 60H05 (60H10, 60J65)
— (*with* Yang, Yan-Mei) On defining long-range dependence. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 939–944. (Piotr Kokoszka) **98j:60055** 60G10 (60G18)
— *see also* **Conference: Applied Probability and Time Series Analysis**, **98e:60004**
Heyde, K. (*with* Rombouts, S.) An accurate and efficient algorithm for the computation of the characteristic polynomial of a general square matrix. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 453–458. 65F30 (65H05)
Heydemann, Marie-Claude Cayley graphs and interconnection networks. (English summary) *Graph symmetry* (*Montreal, PQ*, 1996), 167–224, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (M. E. Watkins) **98b:05090** 05C25 (05C20, 05C90, 68M10)
— (*with* Barth, Dominique) A new digraphs composition with applications to de Bruijn and generalized de Bruijn digraphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 2, 99–118. (Jean-Claude Bermond) **98h:05082** 05C20 (05C35, 05C70)
— (*with* Barth, Dominique) Erratum: "A new digraphs composition with applications to de Bruijn and generalized de Bruijn digraphs [Discrete Appl. Math. **77** (1997), no. 2, 99–118; MR 98h:05082]. *Discrete Appl. Math.* **80** (1997), *no.* 1, 115. 05C20
Heyden, Anders (*with* Åström, Kalle) Algebraic properties of multilinear constraints. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1135–1162. (Gábor Hetyei) **98d:14078** 14Q15 (13P10)
Heyer, H. Generation and representation of continuous convolution families on topological groups. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 72–80, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 60B15
— Generation and representation of convolution hemigroups on a Polish group. *Infinite-dimensional harmonic analysis* (*Tübingen*, 1995), 32–85, *Gräbner, Tübingen*, 1996. (Gyula Pap) **98f:60006** 60B15 (22D40)

Heyl, Jeremy S. (*with* Hernquist, Lars) QED one-loop corrections to a macroscopic magnetic dipole. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6475–6483. 81V10

— (*with* Hernquist, Lars) Birefringence and dichroism of the QED vacuum. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6485–6492. 81V10

Heylighen, Francis Publications on complex, evolving systems: a citation-based survey. *Complexity* **2** (1997), *no.* 5, 31–36. 92B99 (68Q80)

Heyman, Daniel P. (*with* Cohen, David M.; Rabinovich, Asya; Brown, Danit) A parallel implementation of the GTH algorithm. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 218–223. 65U05 (60J10)

— (*with* O'Leary, Dianne P.) Overcoming instability in computing the fundamental matrix for a Markov chain. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 534–540 (*electronic*). (Summary) **98m:65035** 65F05 (62M05)

Heyman, Ehud (*with* Fidel, B.; Kastner, R.; Ziolkowski, Richard W.) Hybrid ray-FDTD moving window approach to pulse propagation. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 480–500. (Summary) **98j:78004** 78–08 (78A40)

Heymann, Michael (*with* Lin, Feng[1]) Discrete-event control of nondeterministic systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 3–17. (Bao Sheng Hu) **98k:93072** 93C83 (93C55, 93E03)

Heyns, L. J. (*with* Krüger, J. J.) A describing-function based criterion for a route to chaos in autonomous nonlinear systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 211–228. 93C10 (93B52)

Heyouni, M. (*with* Sadok, H.) On a variable smoothing procedure for Krylov subspace methods. (English summary) *Linear Algebra Appl.* **268** (1998), 131–149. (Marlis Hochbruck) **98j:65024** 65F10

Heys, H. M. (*with* Lee, J.; Tavares, S. E.) Resistance of a CAST-like encryption algorithm to linear and differential cryptanalysis. (English summary) Selected areas in cryptography (Ottawa, ON, 1995). *Des. Codes Cryptogr.* **12** (1997), *no.* 3, 267–282. (Summary) **98e:94020** 94A60

Heywood, J. G. (*with* Galdi, Giovanni Paolo; Shibata, Yoshihiro) On the global existence and convergence to steady state of Navier-Stokes flow past an obstacle that is started from rest. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 4, 307–318. (Ivan Straškraba) **98j:35140** 35Q30 (76D05)

Hiai, Fumio Log-majorizations and norm inequalities for exponential operators. (English summary) *Linear operators* (*Warsaw*, 1994), 119–181, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (D. Petz) **98k:47011** 47A30 (15A42, 47A63)

— Standard invariants for crossed products inclusions of factors. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 237–267. (Carl Winsløw) **98d:46069** 46L37

Hibberd, Katrina E. (*with* Gould, Mark D.; Links, Jon R.) Algebraic Bethe ansatz for the anisotropic supersymmetric U model. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8053–8065. (Deng Feng Wang) **98e:82025** 82B23 (81R50)

Hibi, Takayuki (*with* Aramova, Annetta; Herzog, Jürgen) Gotzmann theorems for exterior algebras and combinatorics. *J. Algebra* **191** (1997), *no.* 1, 174–211. (Ralf Fröberg) **98c:13025** 13D40 (13P10)

— (*with* De Negri, Emanuela) Gorenstein algebras of Veronese type. (English summary) *J. Algebra* **193** (1997), *no.* 2, 629–639. (P. Schenzel) **98f:13022** 13H10 (14M25)

— (*with* Terai, Naoki) Computation of Betti numbers of monomial ideals associated with stacked polytopes. (English summary) *Manuscripta Math.* **92** (1997), *no.* 4, 447–453. (Ralf Fröberg) **98b:13013** 13D02 (13F50, 52B20)

Hibino, Yuji (*with* Hitsuda, Masuyuki; Muraoka, Hiroshi) Construction of noncanonical representations of a Brownian motion. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 439–448. (Summary) **98m:60131** 60J65 (60G15)

Hibschweiler, R. A. Composition operators on spaces of Cauchy transforms. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 57–63, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (T. H. MacGregor) **98m:30057** 30E20 (30D05, 46E15, 47B38)

Hichert, Jens (*with* Hoffmann, Armin; Hoàng Xuân Phú) Convergence speed of an integral method for computing the essential supremum. (English summary) *Developments in global optimization* (*Szeged*, 1995), 153–170, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (G. M. Ostrovsky) **98k:90109** 90C30

Hickernell, Fred J. (*with* Zhu, Li-Xing; An, Hong Zhi) A goodness-of-fit test for linearity of a stochastic regression model. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 247–252; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 2, 199–208. (Summary) **98g:62128** 62J05 (62G10)

— (*with* Hon, Y. C.) Radial basis function approximation of the surface wind field from scattered data. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1998), *no.* 3, 221–247. 86A10

— A generalized discrepancy and quadrature error bound. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 299–322. (J. Kofroň) **98c:65032** 65D32

Hickey, J. B. (*with* Lawson, M. V.) Unit regular monoids. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 127–144. (Franco Migliorini) **98b:20103** 20M17

Hicks, Andrew *see* **Hicks, R. Andrew**

Hicks, D. L. (*with* Swegle, J. W.; Attaway, S. W.) Conservative smoothing stabilizes discrete-numerical instabilities in SPH material dynamics computations. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 209–226. (Dennis C. Jespersen) **98j:73097** 73V20 (65M12)

— (*with* Swegle, J. W.; Attaway, S. W.) Discrete-numerical instabilities in SPH computational material hyperdynamics stabilized by conservative smoothing. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 191–212. (Dennis C. Jespersen) **98a:65125** 65M12 (73D05, 73V20)

Hicks, R. Andrew Group actions and the topology of nonnegatively curved 4-manifolds. (English summary) *Illinois J. Math.* **41** (1997), *no.* 3, 421–437. (Luis Guijarro) **98f:53034** 53C21 (53C20)

Hicks, Troy L. Multivalued mappings on probabilistic metric spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 413–418. 54H25 (47H04, 47S50, 54C60, 54E70)

— Fixed point theorems for multivalued mappings. II. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 133–137. 54H25 (54C60)

Hida, Akihiko Some remarks on the Loewy series of projective modules for p-solvable groups. *Comm. Algebra* **25** (1997), *no.* 12, 3713–3719. (Carl Riehm) **98m:16032** 16S34 (20C05, 20C20)

Hida, Haruzo On the critical values of L-functions of GL(2) and GL(2) × GL(2). *Duke Math. J.* **74** (1994), *no.* 2, 431–529. (W. Kohnen (Zbl 838.11036)) **98f:11043** 11F67 (11F70)

— On the search of genuine p-adic modular L-functions for GL(n). (English and French summaries) With a correction to: "On p-adic L-functions of GL(2) × GL(2) over totally real fields" [Ann. Inst. Fourier (Grenoble) **41** (1991), no. 2, 311–391; MR 93b:11052]. *Mém. Soc. Math. Fr. (N.S.) No.* 67 (1996), vi+110 *pp.* (Alexey A. Panchishkin) **98i:11027** 11F33 (11F67, 11F85)

— (*with* Tilouine, Jacques; Urban, Eric) Adjoint modular Galois representations and their Selmer groups. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11121–11124. (Nigel Boston) **98m:11034** 11F33 (11F80, 11R23)

Hida, Takeyuki Innovation approach to random fields. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 76–81. (*see* **98b:00034**) 60G60

— (*with* De Faria, M.; Streit, Ludwig; Watanabe, Hisao) Intersection local times as generalized white noise functionals. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 3, 351–362. (Davar Khoshnevisan) **98c:60104** 60J65 (60G20, 60J55)

Hidalgo, F. Javier Spectral analysis for bivariate time series with long memory. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 773–792. (Peter M. Robinson) **98b:62169** 62M15 (62M10)

— (*with* Robinson, Peter M.) Time series regression with long-range dependence. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 77–104. (Alexander G. Kukush) **98g:62176** 62M10 (60G18, 62F12, 62J05)

— Non-parametric estimation with strongly dependent multivariate time series. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 2, 95–122. (Peter M. Robinson) **98h:62052** 62G05 (62M10)

lobo-Hidalgo, Miguel *see* **Lobo-Hidalgo, Miguel**

Hidalgo, Rubén A. Closed Riemann surfaces with dihedral groups of conformal automorphisms. (English summary) *Proyecciones* **15** (1996), *no.* 1, 47–90. (Pablo Arés Gastesi) **98g:30073** 30F40

Hidalgo Alonso, Santiago Weak Radon-Nikodým derivation via martingales. (Spanish) *Rev. Acad. Canaria Cienc.* **7** (1995), *no.* 1, 43–51. (Pedro Jiménez Guerra) **98a:28008** 28B05

Hidber, C. A generalisation of the Cantor-Zassenhaus algorithm. (English summary) *Computing* **59** (1997), *no.* 4, 325–330. (Mireille Car) **98k:11179** 11T06 (12Y05, 68Q40)

Hidenori, Fujiwara Sur la conjecture de Corwin-Greenleaf. (English summary) [On the Corwin-Greenleaf conjecture] *J. Lie Theory* **7** (1997), *no.* 1, 121–146. (Dominique Manchon) **98k:22031** 22E25 (22E30)

Hieber, Matthias (*with* Koch-Medina, Pablo; Merino, Sandro) Linear and semilinear parabolic equations on BUC($\mathbf{R}^N$). *Math. Nachr.* **179** (1996), 107–118. (C. J. K. Batty) **98a:35054** 35K15 (35B40, 47F05)

— (*with* Prüss, Jan) Heat kernels and maximal L^p-L^q estimates for parabolic evolution equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 9-10, 1647–1669. (Atsushi Yagi) **98k:34096** 34G10 (35K99, 47D06, 58D25)

Hieda, Yoshimasa (*with* Tsushima, Yukio) G. R. Robinson's $A_R(H)$-blocks. (Japanese) Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 61–67. (*see* **98k:00015**) 20C99

Hiegemann, M. Chebyshev matrix operator method for the solution of integrated forms of linear ordinary differential equations. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 231–242. (Summary) **98d:65106** 65L99 (34A45)

Hiemer, Philipp (*with* Snurnikov, Vadim) Polygonal billiards with small obstacles. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 453–466. (Serge L. Tabachnikov) **98k:58204** 58F99

Hientzsch, Bernhard ★ Theoretische und numerische Untersuchungen zur Burgersgleichung. (German) [Theoretical and numerical investigations on the Burgers equation] With a foreword by Ulrich Trottenberg. GMD-Studien [GMD Studies], 269. *GMD—Forschungszentrum Informationstechnik GmbH, St. Augustin*, 1995. iv+137 *pp. ISBN* 3-88457-269-5 (Hong Yuan Fu) **98j:35154** 35Q53 (65Mxx)

fernández garcía-Hierro, Manuel *see* **Fernández García-Hierro, Manuel**

Hietamäki, Antero *see* **Innovation in mathematics, 98g:00025**

Hietarinta, Jarmo Gauge symmetry and the generalization of Hirota's bilinear method. (English summary) Symmetry in nonlinear mathematical physics, Vol. 3 (Kiev, 1995). *J. Nonlinear Math. Phys.* **3** (1996), *no.* 3-4, 260–265. (Summary) **98c:58069** 58F07

— (*with* Zeng, Yunbo) Classical Poisson structures and r-matrices from constrained flows. (English summary) *J. Phys. A* **29** (1996), *no.* 16, 5241–5252. (Charles-Michel Marle) **98h:58097** 58F07 (35Q53)

— Nambu tensors and commuting vector fields. (English summary) *J. Phys. A* **30** (1997), *no.* 3, L27–L33. (Frans Cantrijn) **98d:58060** 58F05 (70H99)

— Permutation-type solutions to the Yang-Baxter and other n-simplex equations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4757–4771. (Andrei G. Bytsko) **98k:81112** 81R50 (82B23)

doan the Hieu *see* **Doan The Hieu**

Hifi, Mhand An improvement of Viswanathan and Bagchi's exact algorithm for constrained two-dimensional cutting stock. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 727–736. (Summary) **98e:90129** 90C27

kohatsu-Higa, Arturo *see* **Kohatsu-Higa, Arturo**

Higashijima, Kiyoshi (*with* Nitta, Muneto; Ohta, Kazutoshi; Ohta, Nobuyoshi) Low energy theorems in $N = 1$ supersymmetric theory. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 5, 1165–1178. (Summary) **98k:81268** 81T60

Higashimura, Satomi A remark on generalized Fisher inequalities of Delsarte's t-designs. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 557–561. (Summary) **98e:05023** 05B30 (05E30)

Higashino, Teruo (*with* Hattori, Satoshi; Okano, Kozo; Taniguchi, Kenichi) Modular confluence of conditional term rewriting systems with extra variables in right-hand sides. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 160–166. (*see* **98a:68008**) 68Q42

— (*with* Nakata, Akio; Taniguchi, Kenichi) Timed bisimulation equivalence verification methods that avoid state explosion due to time values. (Japanese. Japanese summary)

Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 200–206. (*see* **98a:68008**) 68Q10 (68Q55)
— (*with* Morioka, Sumio; Shibata, Naoki; Taniguchi, Kenichi) Techniques to reduce computation time in decision procedure for prenex normal form Presburger sentences bounded only by existential quantifiers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 12, 2419–2426. (Summary) **98m:03022** 03B35
— (*with* Mizuno, Kentaro; Nakata, Akio; Okano, Kozo; Taniguchi, Kenichi) Verification of liveness property for C-FSM's with transitions depending on state visiting numbers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 750–759. (Summary) **98m:68176** 68Q60 (68Q10)
— (*with* Yamaguchi, Hirozumi; Okano, Kozo; Taniguchi, Kenichi) Protocol synthesis in a time Petri net model with registers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 769–778. 68Q90 (68Q10, 68Q60)
Higdon, Robert L. (*with* de Szoeke, Roland A.) Barotropic-baroclinic time splitting for ocean circulation modeling. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 30–53. (Summary) **98g:86002** 86A05 (76C10, 76M25, 86–08)
Higginbotham, James The place of natural language. *On Quine* (*San Marino*, 1990), 113–139, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B65
longuet-Higgins, H. Christopher *see* **Longuet-Higgins, H. Christopher**
longuet-Higgins, Michael S. *see* **Longuet-Higgins, Michael S.**
Higgins, Peter M. Ramsey's theorem in algebraic semigroups. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 1–36, *de Gruyter, Berlin*, 1996. (K. S. S. Nambooripad) **98b:20100** 20M10 (05D10, 20M17)
— A proof of Simon's theorem on piecewise testable languages. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 257–264. (Summary) **98b:68098** 68Q45 (20M35, 68Q10)
— *see also* **Transformation semigroups**, **98h:20003**
Higgs, R. J. Projective characters of the same degree. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 14–15, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20C25
Higham, Desmond J. (*with* Calvo Pinilla, Manuel; Montijano, Juan I.; Rández, L.) Stepsize selection for tolerance proportionality in explicit Runge-Kutta codes. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 361–382. (Summary) **98b:65083** 65L06
— (*with* Sardar, Tasneem K.) Dynamics of constant and variable stepsize methods for a nonlinear population model with delay. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 425–438. (Summary) **98e:65067** 65M06 (34K15, 65L05, 92D25)
— Time-stepping and preserving orthonormality. (English summary) *BIT* **37** (1997), *no.* 1, 24–36. (I. Păvăloiu) **98e:65058** 65L06 (15A21, 34A45, 65F30)
— (*with* Aves, Mark A.; Griffiths, David F.) Does error control suppress spuriosity? (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 756–778. (T. E. Simos) **98b:65074** 65L05 (65L06, 65L20)
Higham, Jeff A product theorem for row-complete Latin squares. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 311–318. (David E. Woolbright) **98i:05032** 05B15
— Row-complete Latin squares of every composite order exist. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 63–77. (Jeffrey H. Dinitz) **98j:05034** 05B15 (05C70)
Higham, Lisa (*with* Przytycka, Teresa M.) Optimal cost-sensitive distributed minimum spanning tree algorithm. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 246–258, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98e:68065** 68Q10 (68M10, 68R10)
Higham, Nicholas J. Iterative refinement for linear systems and LAPACK. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 495–509. (Summary) **98e:65036** 65F30
— Stable iterations for the matrix square root. (English summary) *Numer. Algorithms* **15** (1997), *no.* 2, 227–242. (Summary) **98d:65055** 65F30 (65F05)
Higle, Julia L. (*with* Sen, Suvrajeet) ★ Stochastic decomposition. (English summary) A statistical method for large scale stochastic linear programming. Nonconvex Optimization and its Applications, 8. *Kluwer Academic Publishers, Dordrecht*, 1996. xxiv+220 *pp. ISBN* 0-7923-3840-5 (Peter Kall) **98d:90004** 90–02 (90C08, 90C15)
— (*with* Sen, Suvrajeet) Duality and statistical tests of optimality for two stage stochastic programs. (English summary) Approximation and computation in stochastic programming. *Math. Programming* **75** (1996), *no.* 2, *Ser. B*, 257–275. (I. M. Stancu-Minasian) **98b:90095** 90C15 (49N15)
Higson, Nigel (*with* Guentner, Erik) A note on Toeplitz operators. (English summary) *Internat. J. Math.* **7** (1996), *no.* 4, 501–513. (Raúl E. Curto) **98k:47044** 47B35 (19K33, 19K56, 46L99, 47A53, 58G10)
— (*with* Nistor, Victor) Cyclic homology of totally disconnected groups acting on buildings. (English summary) *J. Funct. Anal.* **141** (1996), *no.* 2, 466–495. (Erlend Dahl) **98b:19004** 19D55 (19K35, 46L80)
— (*with* Baum, Paul; Plymen, Roger) A proof of the Baum-Connes conjecture for p-adic $GL(n)$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 171–176. (Hiroshi Takai) **98m:46087** 46L80 (19K56)
— (*with* Pedersen, Erik Kjær; Roe, John) C^*-algebras and controlled topology. (English summary) *K-Theory* **11** (1997), *no.* 3, 209–239. (Carla Farsi) **98g:19009** 19K56 (46L80, 46L87, 57R67, 58G12)
Higuchi, Akira Lattices of closure operators. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 267–272. (Summary) **98g:06011** 06A15 (54A99)
Higuchi, Atsushi (*with* Camporesi, Roberto) On the eigenfunctions of the Dirac operator on spheres and real hyperbolic spaces. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 1, 1–18. (J. Alfredo Jiménez) **98c:58169** 58G25 (58G11)
— (*with* Matsas, George E. A.; Sudarsky, Daniel) Do static sources outside a Schwarzschild black hole radiate? (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, R6071–R6075. (Summary) **98h:83036** 83C47 (81T20)
Higuchi, Masahiro (*with* Tada, Harumasa; Fujii, Mamoru) A concurrency control algorithm using serialization graph testing with write deferring. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 10, 1995–2003. 68P15
— (*with* Kohara, Masaru; Nakaishi, Takaharu; Fujii, Mamoru) A method for generating test cases for register operations in conformance testing of communication protocols. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1067–1076. 68Q10 (68Q60)
Higuchi, Saburo (*with* Itoi, Chigaku; Nishigaki, Shinsuke M.; Sakai, Norisuke) Renormalization group approach to multiple-arc random matrix models. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 123–129. (Summary) **98f:82063** 82B28 (82B26, 82B31)
Higuchi, Teiichi (*with* Yamazaki, Seisi; Ito, Minoru[2]; Saito, Yoshimitu; Yamadera, Terumi; Kubo, Masahiko; Ikeda, Toshikazu; Tashiro, Yoshiaki) Riemann's period matrix of $y^3 = x^5 - 1$. *Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem. No.* 43 (1996), 1–14. (Gabino González Díez) **98b:30042** 30F30 (14H40)
— (*with* Tashiro, Yoshiaki; Yamazaki, Seisi; Ito, Minoru[2]) On Riemann's period matrix of $y^2 = x^{2n+1} - 1$. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 124–141. (Olivier Debarre) **98j:14045** 14H45 (14H40)
Higuchi, Tomoyuki Monte Carlo filter using the genetic algorithm operators. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 1, 1–23. 65C05
Higuchi, Yasunari Mixing conditions and percolation for Ising models. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 110–121, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:60181** 60K35 (82B20, 82B43)
— Ising percolation [translation of Sūgaku **47** (1995), no. 2, 111–124; MR 97i:82046]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 2, 143–158. (*see* **98j:00014**) 82B43 (82–02)
de la Higuera, Colin Characteristic sets for polynomial grammatical inference. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 59–71, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (*see* **98e:68004**) 68T05 (68Q45)
— (*with* Nourine, Lhouari) Drawing and encoding two-dimensional posets. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 293–308. (M. M. Syslo) **98h:06007** 06A07 (68Q25, 68Q35, 68R05)
— *see also* **Grammatical inference: learning syntax from sentences**, **98e:68004**
Higuera Acevedo, Clara Lucía The Incan yupana [abacus]: a historical element as a pedagogical instrument. (Spanish. Spanish summary) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 77–89, *Edit. UNESP, São Paulo*, 199?. (*see* **98d:00018**) 01A12
Hijab, Omar ★ Introduction to calculus and classical analysis. (English summary) Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xii+313 *pp. ISBN* 0-387-94926-7 (D. H. Armitage) **98e:26001** 26–01
Hijawi, M. (*with* Moschuk, N.; Ibrahim, R. A.) Unified second-order stochastic averaging approach. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 2, 281–291. (Summary) **98b:70030** 70L05 (34C29, 70–04, 70K40)
Hijazi, Oussama (*with* Milhorat, Jean-Louis) Twistor operators and eigenvalues of the Dirac operator on compact quaternion-Kähler spin manifolds. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 117–131. (Andrew Swann) **98i:58237** 58G25 (53C25)
— (*with* Branson, Thomas P.) Vanishing theorems and eigenvalue estimates in Riemannian spin geometry. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 921–934. (Uwe Semmelmann) **98k:58229** 58G25 (58G30)
Hijikata, Hiroaki (*with* Nishida, Kenji) Primary orders of finite representation type. (English summary) *J. Algebra* **192** (1997), *no.* 2, 592–640. (Jeremy Haefner) **98k:16022** 16H05 (16G30, 16G60, 16G70)
— On the decomposition of lattices over orders. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 431–437. (Ernst Kleinert) **98d:16027** 16H05 (06B05, 11S23)
Hikami, Kazuhiro Boundary K-matrix, elliptic Dunkl operator and quantum many-body systems. (English summary) *J. Phys. A* **29** (1996), *no.* 9, 2135–2147. (Naihuan Jing) **98i:81284** 81V70 (39A70, 82B23)
— Separation of variable for quantum open Toda lattice. (English summary) *J. Phys. Soc. Japan* **65** (1996), *no.* 5, 1213–1221. (Summary) **98b:81293** 81V70 (58F07)
— (*with* Komori, Yasushi) Integrable three-body problems with two- and three-body interactions. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1913–1923. (Summary) **98j:81385** 81V70 (33C80, 39A99, 81R50)
— Representation of the Yangian invariant motif and the Macdonald polynomial. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2447–2456. (Andrey V. Tsiganov) **98j:81153** 81R50 (33C80, 33D80)
— (*with* Inoue, Rei) Classical lattice W algebras and integrable systems. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6911–6924. (Alexander D. Popov) **98j:17027** 17B68 (58F07)
— (*with* Komori, Yasushi) Integrability, fusion, and duality in the elliptic Ruijsenaars model. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 11, 751–761. (Peter J. Forrester) **98m:81221** 81V70 (82B23)
— (*with* Komori, Yasushi) Elliptic K-matrix associated with Belavin's symmetric R-matrix. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 3, 687–701. (Rinat M. Kashaev) **98e:81077** 81R50 (17B37, 82B23)
— (*with* Komori, Yasushi) Boundary Boltzmann weight for the eight-vertex SOS model: vertex-IRF correspondence. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 78–82. (Summary) **98k:82039** 82B20 (82B23)
Hikami, S. (*with* Brézin, Edouard) Spectral form factor in a random matrix theory. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4067–4083. (Alexei Khorunzhy) **98g:15038** 15A52 (82B31)
Hikari, Michitaka Simple skew linear groups of degree 3. (English summary) *Hiyoshi Rev. Natur. Sci. No.* 21 (1997), 23–27. (Summary) **98j:20075** 20H25
Hikida, Mizuho On May spectral sequences. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 157–168. (Stanley Kochman) **98h:55026** 55T15 (55Q45)
Hilberdink, Titus (*with* Chu, Cho-Ho) The convolution equation of Choquet and Deny on nilpotent groups. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 1, 1–13. (Vadim A. Kaĭmanovich) **98c:43002** 43A05 (22E25)
Hilbert, A. (*with* Albeverio, Sergio; Kolokol'tsov, V. N.) Transience of stochastically perturbed classical Hamiltonian systems and random wave operators. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 41–55. (Summary) **98m:60086** 60H10 (34F05, 60H30, 70H05)
Hilbert, David[1] *see* **Webb, Judson C., 98c:01029**; **Majer, Ulrich, 98c:01032**; **Hintikka, Jaakko, 98e:03004**; **Corry, Leo et al., 98h:01016**; **Dreben, Burton, 98h:01019**; **Corry, Leo,**

98i:01016 *and* **Smirnova, E. D.**, (**98i:03005**)

Hildebrand, A. Extremal problems in sieve theory. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 1–9. (G. Greaves) **98k:11124** 11N35

Hildebrand, Michael (*with* Zimmermann, Martin G.; Firle, Sascha O.; Natiello, Mario A.; Eiswirth, Markus; Bär, Markus; Bangia, Anil K.; Kevrekidis, Ioannis G.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)

Hildebrandt, Stefan The calculus of variations today [MR 88f:49002]. (Finnish) *In the forest of symbols* (*Finnish*), 88–114, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 01A60 (49-03, 58-03)

— (*with* Giaquinta, Mariano) ★ Calculus of variations. I. The Lagrangian formalism. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 310. *Springer-Verlag, Berlin*, 1996. xxx+474 *pp. ISBN* 3-540-50625-X (T. Zolezzi) **98b:49002a** 49-02 (35F20, 49K10, 58E30, 70H25)

— (*with* Giaquinta, Mariano) ★ Calculus of variations. II. The Hamiltonian formalism. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 311. *Springer-Verlag, Berlin*, 1996. xxx+652 *pp. ISBN* 3-540-57961-3 (T. Zolezzi) **98b:49002b** 49-02 (35F20, 49K10, 58E30, 70H25)

— Boundary value problems for minimal surfaces. (English summary) *Geometry, V*, 153–237, 267–272, *Encyclopaedia Math. Sci.*, 90, *Springer, Berlin*, 1997. (Harold Parks) **98k:53009** 53A10 (58E12)

— (*with* Sauvigny, Friedrich) Minimal surfaces in a wedge. I. Asymptotic expansions. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 2, 99–115. (Roger Chen) **98d:58036** 58E12 (49Q05, 53A10)

— *see also* **Weyl, Hermann**, **98j:01047**

Hildebrandt, Thomas T. (*with* Sassone, Vladimiro) Comparing transition systems with independence and asynchronous transition systems. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 84–97, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68083** 68Q10 (68Q90)

— (*with* Sassone, Vladimiro) Transition systems with independence and multi-arcs. (English summary) *Partial order methods in verification* (*Princeton, NJ*, 1996), 273–288, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 29, *Amer. Math. Soc., Providence, RI*, 1997. (Ferucio Laurentiu Tiplea) **98k:68064** 68Q10

Hilden, Hugh M. (*with* Lozano, Maria Teresa; Montesinos-Amilibia, José María) On volumes and Chern-Simons invariants of geometric 3-manifolds. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 3, 723–744. (Danny C. Calegari) **98h:57056** 57R57 (57M50, 57N10)

Hildenbrand, W. (*with* Evstigneev, Igor V.; Jerison, Michael) Metonymy and cross-section demand. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 397–414. (Summary) **98g:90016** 90A40

— *see also* **Errata: "Metonymy and cross-section demand"**

Hildenbrandt, R. Parametric properties of the transportation problem and relations to supermatroids. (English summary) *Optimization* **39** (1997), *no.* 2, 165–189. (Summary) **98b:90088** 90C08 (05B35, 90C10)

Hile, Gerald N. (*with* Mawata, C. P.) Entire solutions of nonlinear parabolic equations. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 95–104, *VSP, Utrecht*, 1993. (Summary) **98b:35081** 35K55 (35A20, 35B05)

— (*with* Begehr, Heinrich) Higher order Cauchy Pompeiu operators. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 41–49, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Vladimir Mityushev) **98m:35046** 35J40 (30E25, 30G20, 35J25, 47B38)

— (*with* Mawata, C. P.) The behavior of the heat operator on weighted Sobolev spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1407–1428. (P. Szeptycki) **98k:35084** 35K10 (35B99, 47F05)

Hiley, Basil J. (*with* Fernandes, Marco) Process and time. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 365–383, *Springer, Berlin*, 1997. (*see* **98b:81013**) 81P05

— Essay review of *Quantum mechanics: historical contingency and the Copenhagen hegemony* [Univ. Chicago Press, Chicago, IL, 1994; MR 95m:81006] by J. T. Cushing. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 299–305. 81P05 (01A60)

— *see also* **Goldstein, Sheldon**

Hilger, Ralf (*with* Kleindienst, H.; Merckens, H.-P.) Accurate lower bounds for some excited P^0 states of the He atom. *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 959–960. 81V45

Hilger, Stefan Differential and difference calculus—unified! Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2683–2694. (*see* **98i:00031**) 26A03 (39A99)

Hilgers, M. G. (*with* Pipkin, A. C.) Kinetic energy of highly elastic membranes. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 791–800. (Summary) **98j:73054** 73K10 (73C50, 73G05)

— Dynamics of elastic sheets with bending stiffness. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 525–543. (Summary) **98i:73032** 73K10 (73C50, 73K12)

Hilgert, Joachim (*with* Neeb, Karl-Hermann; Ørsted, Bent) Unitary highest weight representations via the orbit method. I. The scalar case. (English summary) Representations of Lie groups, Lie algebras and their quantum analogues. *Acta Appl. Math.* **44** (1996), *no.* 1-2, 151–184. (D. Miličić) **98b:22030** 22E46

— (*with* Neeb, Karl-Hermann) Spherical functions on Ol′shanskiĭ spaces. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 446–493. (Gestur Ólafsson) **98c:43015** 43A90 (22E15, 43A10, 53C35)

Hilgevoord, Jan The uncertainty principle for energy and time. (English summary) *Amer. J. Phys.* **64** (1996), *no.* 12, 1451–1456. (Summary) **98f:81015** 81P05

Hilhorst, Danielle (*with* Bonami, Aline; Logak, Elisabeth; Mimura, Masayasu) A free boundary problem arising in a chemotaxis model. *Free boundary problems, theory and applications* (*Zakopane*, 1995), 368–373, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 92C99 (92D40)

— (*with* Dupaix, C.) A singularly perturbed phase field problem: upper-semicontinuity of the attractor. *Nonlinear analysis and applications* (*Warsaw*, 1994), 101–112, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 7, *Gakkōtosho, Tokyo*, 1996. (Albert J. Milani) **98b:35016** 35B25 (35K60)

— (*with* Guedda, M.; Peletier, M. A.) Disappearing interfaces in nonlinear diffusion. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 695–710. (Qing Fang) **98j:35094** 35K57 (35B40, 35K65)

— (*with* Chen, Xinfu; Logak, Elisabeth) Asymptotic behavior of solutions of an Allen-Cahn equation with a nonlocal term. *Nonlinear Anal.* **28** (1997), *no.* 7, 1283–1298. (Peter L. Christiansen) **98a:35060** 35K55 (35B40, 35Q99, 45K05)

Hilhorst, H. J. (*with* van Wijland, F.; Caser, S.) Statistical properties of the set of sites visited by the two-dimensional random walk. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 507–531. (Summary) **98f:82073** 82B41 (60J15)

— (*with* van Wijland, F.) Universal fluctuations in the support of the random walk. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 119–134. (E. J. Janse van Rensburg) **98m:82032** 82B41 (60J15)

Hilken, Barnaby P. (*with* Rydeheard, David E.) A theory of classes: proofs and models. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 2, 95–127. (Miroslav Repický) **98h:03070** 03F07 (03B10, 03B70, 03C68, 03E30, 18D30, 68N15)

Hill, Adrian T. Estimates on the heat kernel of parabolic equations with advection. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1309–1316. (D. G. Natroshvili) **98h:35088** 35K10 (35B45)

— Global dissipativity for *A*-stable methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 119–142. (Xin Yuan Wu) **98b:65091** 65L20 (34A45, 34G20, 65L05)

Hill, C. Denson (*with* Nacinovich, Mauro) On the Cauchy problem in complex analysis. *Ann. Mat. Pura Appl.* (4) **171** (1996), 159–179. (Harold P. Boas) **98h:32013** 32C16 (32C35, 32F40)

Hill, Claire Ortiz Did Georg Cantor influence Edmund Husserl? (English summary) *Synthese* **113** (1997), *no.* 1, 145–170. (Summary) **98m:01015** 01A55 (01A60)

Hill, D. F. (*with* Foda, M. A.) Subharmonic resonance of oblique interfacial waves by a progressive surface wave. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1129–1144. 76C10

Hill, D. L. (*with* Baskharone, E. A.) Development of a multiblock pressure-based algorithm using mixed interpolation for turbulent flows. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 615–631. (Summary) **98h:76084** 76M10

Hill, David J. (*with* Wang, You Yi[2]; Guo, Guoxiao) Robust decentralized nonlinear controller design for multimachine power systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1725–1733. 93D09 (93A14)

— (*with* Xiao, Chengshan; Agathoklis, Pan) Stability and the Lyapunov equation for *n*-dimensional digital systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 614–621. (Summary) **98d:93064** 93C62 (93D05)

— (*with* Xiao, Chengshan; Agathoklis, Pan) On the positive definite solutions to the 2-D continuous-time Lyapunov equation. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 315–333. (L. C. Godara) **98h:93019** 93D05

Hill, James M. (*with* Katoanga, Tui L.) On a family of axially symmetric kinematically determined plastic flows. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 275–290. (Summary) **98e:73062** 73E05 (73E99, 73Q05, 76A99)

Hill, Jonathan William Vassiliev-type invariants of planar fronts without dangerous self-tangencies. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 537–542. (Serge L. Tabachnikov) **98c:57008** 57M25 (53C15)

Hill, Katherine Neither ancient nor modern: Wallis and Barrow on the composition of continua. II. The seventeenth-century context: the struggle between ancient and modern. *Notes and Records Roy. Soc. London* **51** (1997), *no.* 1, 13–22. (Massimo Galuzzi) **98c:01013** 01A45

Hill, N. A. (*with* Bees, M. A.; Pedley, T. J.) Analytical approximations for the orientation distribution of small dipolar particles in steady shear flows. (English summary) *J. Math. Biol.* **36** (1998), *no.* 3, 269–298. (Summary) **98k:76155** 76Z05 (76M35)

— (*with* Bees, M. A.) Linear bioconvection in a suspension of randomly swimming, gyrotactic micro-organisms. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1864–1881. 76Z10

Hill, Paul (*with* West, Jane Kirchner) Subgroup transitivity in abelian groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1293–1303. (A. I. Moskalenko) **98j:20079** 20K10 (20K30)

Hill, Raymond (*with* Landgev, I.) On the nonexistence of some quaternary codes. (English summary) *Applications of finite fields* (*Egham*, 1994), 85–98, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Mihai Caragiu) **98c:11139** 11T71 (94B05)

— Giuseppe Tallini—a survey of some of his papers and personal memories. *Results Math.* **32** (1997), *no.* 3-4, 254–259. 01A70

Hill, Reginald J. Applicability of Kolmogorov's and Monin's equations of turbulence. (English summary) *J. Fluid Mech.* **353** (1997), 67–81. (P. L. Sulem) **98j:76058** 76F05

Hill, Richard D. (*with* Siler, Joseph R.) On Hermitian-invertors. (English summary) *Missouri J. Math. Sci.* **8** (1996), *no.* 1, 14–21. (Summary) **98d:15005** 15A09 (93C05)

— (*with* Siler, Joseph R.) Matricial inner products and pointed cones of Hermitian-preserving linear transformations. (English summary) *Linear Algebra Appl.* **257** (1997), 183–191. (R. H. Dye) **98c:15078** 15A60 (15A63)

Hill, S. P. (*with* Achuthan, N. R.; Caccetta, Louis) On the vehicle routing problem. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4277–4288. (*see* **98i:00032**) 90B85 (90C27)

Hill, Theodore P. A statistical derivation of the significant-digit law. (English summary) *Statist. Sci.* **10** (1995), *no.* 4, 354–363. (Peter Schatte) **98a:60021** 60E99 (60A10, 62E99)

Hillas, John (*with* Vermeulen, Dries; Jansen, M. J. M.) On the finiteness of stable sets. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 275–278. (Summary) **98c:90187** 90D06 (90A14)

Hille, Jürgen (*with* Plachky, Detlef) Monogenicity of probability measures based on measurable sets invariant under finite groups of transformations. (English summary) *Kybernetika* (*Prague*) **32** (1996), *no.* 4, 375–387. (Donald L. Cohn) **98e:28005** 28A10 (60A10)

— Smoothness properties of real-valued functions based on their oscillation. *Quaestiones Math.* **20** (1997), *no.* 1, 109–115. (T. H. Steele) **98f:26002** 26A15 (54C30)

— A heredity property of sufficiency. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 1, 123–127. (Sakutaro Yamada) **98f:62007** 62B05

Hille, S. C. (*with* van Dijk, G.) Canonical representations related to hyperbolic spaces. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 109–139. (Jacques Faraut) **98k:22053** 22E46 (43A85)

Hillebrand, Gerd (*with* Kanellakis, Paris Christos) On the expressive power of simply typed and let-polymorphic lambda calculi. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 253–263, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98f:68101** 68Q15 (03B40, 03D15, 68N15)

Hillebrand, Joris A. (*with* Bergstra, Jan A.; Ponse, Alban) Grid protocols based on synchronous communication. (English summary) *Sci. Comput. Programming* **29** (1997), *no.* 1-2, 199–233. (Summary) **98c:68056** 68Q10 (35–04, 68M10, 90B12, 94A05)

Hillen, Thomas Invariance principles for hyperbolic random walk systems. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 360–374. (Brian D. Sleeman) **98e:35094** 35K57 (35L99, 60J15)

Hiller, Manfred (*with* Kecskeméthy, A.; Krupp, T.) Symbolic processing of multiloop mechanism dynamics using closed-form kinematics solutions. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 1, 23–45. 70–04 (70–08, 70B15, 70E99)

Hillery, M. (*with* Bužek, V.) Quantum copying: beyond the no-cloning theorem. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1844–1852. (M. J. Mączyński) **98f:81026** 81P15

— (*with* Bužek, V.; Vedral, V.; Plenio, M. B.; Knight, P. L.) Broadcasting of entanglement via local copying. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3327–3332. (Summary) **98c:81006** 81P05

Hillion, A. (*with* Saoudi, S.; Ghorbel, Faouzi) Some statistical properties of the kernel-diffeomorphism estimator. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 1, 39–58. (Summary) **98d:62069** 62G05

Hillion, Pierre (*with* Bossaerts, Peter) Testing the mean-variance efficiency of well-diversified portfolios in very large cross-sections. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 40, 93–124. 90A09 (62P20)

— Covariant Laplace transforms. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 19–30. (J. M. H. Peters) **98e:35008** 35A22 (35L05, 44A10)

— Diffraction of a radar pulse at a perfectly conducting half-plane. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 10, 1559–1560. (Summary) **98j:78023** 78A45

— Beware of Maxwell's divergence equations. *J. Comput. Phys.* **132** (1997), *no.* 1, 154–155. (From the text) **98b:78009** 78A25 (78–08)

— Diffraction and Weber functions. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1702–1715. (Summary) **98g:35127** 35L05 (33C90, 78A45)

Hillman, Jonathan A. (*with* Sakuma, Makoto) On the homology of finite abelian coverings of links. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 309–315. (Roger Fenn) **98i:57010** 57M25 (57M12)

— On L^2-homology and asphericity. (English summary) *Israel J. Math.* **99** (1997), 271–283. (Michael L. Mihalik) **98f:57035** 57N13 (57M07, 57M20, 57Q45, 57R20)

— (*with* Jefferies, B. R. F.; Ricker, Werner J.; Straub, B.) Differential properties of the numerical range map of pairs of matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 317–334. (Chi-Kwong Li) **98h:15050** 15A60

— (*with* Cobb, Robin J.) S^2-bundles over aspherical surfaces and 4-dimensional geometries. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3415–3422. (Alexander I. Suciu) **98d:57021** 57M50 (55R25, 57N13)

— On the homotopy types of closed 4-manifolds covered by $S^2 \times \mathbf{R}^2$. (English summary) *Topology Appl.* **75** (1997), *no.* 3, 287–295. (Daniel Ruberman) **98a:57032** 57N13 (55R10)

Hills, D. A. (*with* Truman, C. E.; Sackfield, A.) The interior stress field for two- and three-dimensional linear indenters. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 313–321, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 73T05

— (*with* Truman, C. E.; Sackfield, A.) The solution of a boundary value problem in elasticity. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 323–329, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 73C02

Hillston, Jane ★ A compositional approach to performance modelling. (English summary) Dissertation, University of Edinburgh, Edinburgh, 1994. Distinguished Dissertations in Computer Science. *Cambridge University Press, Cambridge*, 1996. xii+158 *pp. ISBN* 0-521-57189-8 (Mark Andrew Stewart) **98a:68018** 68M20 (60J05, 60J25, 60K10, 60K25, 68Q90)

Hilpert, Markus (*with* Stopper, Dieter; Jirka, Gerhard H.) Resonance of a liquid column in a capillary tube. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 424–438. (Summary) **98e:76027** 76D45 (76Q05)

Hilscher, Roman (*with* Došlý, Ondřej) Spectral properties of fourth order differential operators. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 153–168. (Anton Zettl) **98g:34131** 34L05 (34B05)

winters-Hilt, Stephen N. *see* **Winters-Hilt, Stephen N.**

Hilton, A. J. W. (*with* Johnson, P. D., Jr.; Wantland, E. B.) The Hall number of a simple graph. (English summary) Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **121** (1996), 161–182. (Summary) **98g:05060** 05C15 (05A05)

— (*with* Dugdale, J. K.) Amalgamated factorizations of complete graphs [MR 95f:05090]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 223–239, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70 (05C15)

— (*with* Johnson, P. D., Jr.; Leonard, Douglas A.) Hall's condition for multicolorings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 195–203. (Summary) **98i:05077** 05C15 (05A15)

— (*with* Zhao, Cheng) Vertex-splitting and chromatic index critical graphs. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 205–211. (Summary) **98b:05041** 05C15 (68R10)

— (*with* Andersen, L. D.) Triangulations of 3-way regular tripartite graphs of degree 4, with applications to orthogonal Latin squares. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 17–34. (Katherine Heinrich) **98g:05025** 05B15 (05C70)

— (*with* Hamilton, G. M.; Hind, H. R. F.) Graphs of order at most 10 which are critical with respect to the total chromatic number. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 97–113. (Mark C. Ginn) **98d:05056** 05C15

— (*with* Zhao, Cheng) Coloring graphs which have equibipartite complements. (English summary) *J. Graph Theory* **26** (1997), *no.* 4, 183–194. (Adrian Riskin) **98m:05067** 05C15

Hilton, Joan F. (*with* Gee, Lauren) The size and power of the exact bivariate symmetry test. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 1, 53–69. 62G10

Hilton, Peter (*with* Pedersen, Jean, Somer, Lawrence) On Lucasian numbers. *Fibonacci Quart.* **35** (1997), *no.* 1, 43–47. (Paolo Emilio Ricci) **98e:11019** 11B39

— A new look at means on topological spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 617–620. (From the text) **98k:55013** 55P99

— (*with* Scevenels, Dirk) On finite abelian groups realizable as Mislin genera. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 495–505. (Ma. Jesús Iranzo) **98m:20040** 20F18

Hiltunen, Kai A stabilized finite element method for particulate two-phase flow equations. Laminar isothermal flow. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 387–399. (Summary) **98e:76065** 76M10 (76T05)

el Himdi, Khalid *see* **El Himdi, Khalid**

Himonas, A. Alexandrou (*with* Hanges, Nicholas) Non-analytic hypoellipticity in the presence of symplecticity. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 405–409. (Maria Mascarello) **98d:35031** 35H05

Hinamoto, Takao Stability of 2-D discrete systems described by the Fornasini-Marchesini second model. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 3, 254–257. (T. Kaczorek) **98a:93052** 93D05 (93C30)

— (*with* Doi, Akimitsu; Harada, Ken-Ichi) Design of multidimensional separable-denominator digital filters in the spatial domain. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 273–293. (A. Bultheel) **98d:94005** 94A12 (93E11)

Hinch, E. J. (*with* Kelly, E. D.) Numerical simulations of sink flow in the Hele-Shaw cell with small surface tension. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 533–550. (Summary) **98m:76063** 76D99 (76D45, 76M25, 76S05)

— (*with* Kelly, E. D.) Numerical solution of Hele-Shaw flows driven by a quadrupole. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 551–566. (Summary) **98m:76064** 76D99 (76D45, 76M25, 76S05)

Hinckfuss, Ian "Ought" and other restricted necessities. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 83–99. (George F. Schumm) **98m:03039** 03B45

Hind, H. R. F. (*with* Hamilton, G. M.; Hilton, A. J. W.) Graphs of order at most 10 which are critical with respect to the total chromatic number. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 97–113. (Mark C. Ginn) **98d:05056** 05C15

Hindawi, Ahmed (*with* Ovrut, Burt A.; Waldram, Daniel) Four-dimensional higher-derivative supergravity and spontaneous supersymmetry breaking. (English summary) *Nuclear Phys. B* **476** (1996), *no.* 1-2, 175–199. (W. Cox) **98e:83125** 83E50 (81R40, 81T60, 81V17)

— (*with* Bukhbinder, I. L.; Ovrut, Burt A.) A two-form formulation of the vector-tensor multiplet in central charge superspace. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 79–88. 81T13

Hinde, J. P. (*with* Firth, David) On Bayesian D-optimum design criteria and the equivalence theorem in non-linear models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 793–797. 62K05 (62F15)

— (*with* Firth, David) Parameter neutral optimum design for non-linear models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 799–811. 62K05 (62J02)

Hinder, Rainer (*with* Meister, Erhard) Regarding some problems of the Kutta-Joukovskii condition in lifting surface theory. (English summary) *Math. Nachr.* **184** (1997), 191–228. (Serge Nicaise) **98d:76008** 76B05 (35J05, 35Q72)

Hinderer, Karl (*with* Müller, Alfred[2]) Cost-minimal immunization in the Greenwood epidemic model. (English summary) *Math. Biosci.* **142** (1997), *no.* 1, 31–58. (Crăciun Iancu) **98c:90020** 90A14 (90C40)

Hindley, J. Roger ★ Basic simple type theory. Cambridge Tracts in Theoretical Computer Science, 42. *Cambridge University Press, Cambridge*, 1997. xii+186 *pp. ISBN* 0-521-46518-4 (Betti Venneri) **98k:03038** 03B40 (03B15, 68N15)

— (*with* Çağman, Naim) Combinatory weak reduction in lambda calculus. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 239–247. (Summary) **98k:03036** 03B40

— *see also* **Typed lambda calculi and applications, 98f:68017**

Hindman, Neil Recent results on the algebraic structure of βS. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 73–84, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (James Chew) **98k:22007** 22A05 (54D80, 54H11)

— (*with* Bergelson, Vitaly) IP* sets in product spaces. (English summary) *Papers on general topology and applications (Gorham, ME, 1995)*, 28–41, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (P. A. Biryukov) **98b:05098** 05D10 (20M99, 22A15, 54B10)

— (*with* Lefmann, Hanno) Canonical partition relations for (m, p, c)-systems. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 151–174. (Bruce Landman) **98a:05150** 05D10

— (*with* Maleki, Amir; Strauss, Dona) Central sets and their combinatorial characterization. (English summary) *J. Combin. Theory Ser. A* **74** (1996), *no.* 2, 188–208. (T. S. Blyth) **98d:22002** 22A15

— (*with* Leader, Imre) Image partition regularity of matrices [MR 95j:05167]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 393–419, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05D10

— (*with* Deuber, Walter A.; Gunderson, D. S.; Strauss, Dona) Independent finite sums for K_m-free graphs. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 171–198. (Tomasz J. Łuczak) **98d:05140** 05C99

— (*with* Bergelson, Vitaly; Weiss, Benjamin) All-sums sets in $(0, 1]$-category and measure. (English summary) *Mathematika* **44** (1997), *no.* 1, 61–87. (Arnold W. Miller) **98m:03099** 03E05

Hindy, Ayman (*with* Huang, Chi-fu; Zhu, Steven H.) Numerical analysis of a free-boundary singular control problem in financial economics. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 2-3, 297–327. (Silvana Stefani) **98d:90079** 90C15 (93E20)

Hines, P. M. (*with* Lawson, M. V.) An application of polycyclic monoids to rings. *Semigroup Forum* **56** (1998), *no.* 1, 146–149. 20M18 (16S50)

Hingston, Nancy On the lengths of closed geodesics on a two-sphere. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3099–3106. (Dorin Andrica) **98f:58055** 58E10 (53C22)

— On the equivariant Morse complex of the free loop space of a surface. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1129–1141. (John F. Oprea) **98g:58028** 58E10 (57R91, 58E40)

Hinich, Vladimir Descent of Deligne groupoids. *Internat. Math. Res. Notices* **1997**, *no.* 5, 223–239. (William M. McGovern) **98h:22019** 22E47 (22E41)

Hinkelmann, Knut (*with* Hintze, Helge) State-saving transformations for efficient bottom-up evaluation of logic programs and rule-based systems. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 335–356. (Summary) **98d:68046** 68N17 (68P15, 68T35)

Hinkkanen, A. (*with* Heinonen, Juha) Quasiconformal maps between compact polyhedra are quasisymmetric. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 997–1019. (J. Ferrand) **98c:30026** 30C65 (57Q99)

— (*with* Martin, Gaven J.) Julia sets of rational semigroups. *Math. Z.* **222** (1996), *no.* 2, 161–169. (I. N. Baker) **98d:30038** 30D05 (20M99, 58F23)

— (*with* Anderson, James Milne) Renewal sequences and ordered partitions. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 11–27. (M. S. Sgibnev) **98g:60157** 60K05 (60C05)

— On functions of bounded type. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 119–139. (Summary) **98d:30047** 30D35

Hinkley, D. V. (*with* Davison, A. C.) ★ Bootstrap methods and their application. (English summary) With 1 IBM-PC floppy disk (3.5 inch; HD). Cambridge Series on Statistical and Probabilistic Mathematics. *Cambridge University Press, Cambridge*, 1997. x+582 *pp. ISBN* 0-521-57391-2 (Publisher's description) **98g:62080** 62G09 (62E20)

— *see also* **Time series models, 98d:62170**

Hinnion, Roland Directed sets and Malitz-Cauchy-completions. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 465–484. (Klaas Pieter Hart) **98m:03072** 03C55 (03E55, 54E15)

Hino, Masanori Spectral properties of Laplacians on an abstract Wiener space with a weighted Wiener measure. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 485–520. (Kazuaki Taira) **98h:58200** 58G32 (35P05, 35R15, 46G05, 60H07)

— A remark on perturbation of hyperbounded semigroups for vector valued functions. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 151–156. (J. A. Van Casteren) **98f:47047** 47D03 (47D07)

Hino, Yoshiyuki (*with* Murakami, Satoru; Yoshizawa, Taro) Almost periodic solutions of abstract functional-differential equations with infinite delay. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 853–864. (George Seifert) **98k:34113** 34K15 (34C27, 34K30)

— (*with* Murakami, Satoru; Yoshizawa, Taro) Existence of almost periodic solutions of some functional-differential equations with infinite delay in a Banach space. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 1, 133–147. (Sjoerd M. Verduyn Lunel) **98e:34145** 34K30 (34C27, 47N20)

Hinrichs, Aicke The 2-summing norm of l_p^n computed with n vectors. (English summary) *Note Mat.* **14** (1994), *no.* 1, 81–89 (1997). (Oscar Blasco) **98b:46019** 46B20 (47A30, 47B10)

— Type norms with respect to characters of compact abelian groups and algebraic relations. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 265–273. (Françoise Lust-Piquard) **98b:47029** 47B10 (46B20, 47A30, 47D50)

Hinrichsen, Diederich (*with* Manthey, W.; Helmke, Uwe) On Fischer-Frobenius transformations and the structure of rectangular block Hankel matrices. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 3, 255–288. (R. N. Mukherjee) **98e:93055** 93C05 (15A57)

— (*with* Kharitonov, V. L.) On convex directions for stable polynomials. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 81–92. (B. T. Polyak) **98i:93066** 93D09

— (*with* O'Halloran, J.) Limits of generalized state space systems under proportional and derivative feedback. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 2, 97–124. (Paulo Sérgio Pereira da Silva) **98i:93043** 93C05 (93B10, 93B52, 93C35)

Hinrichsen, Einar L. (*with* Andreassen, Erik; Gundersen, Elisabeth; Langtangen, Hans Petter) A mathematical model for the melt spinning of polymer fibers. (English summary) *Numerical methods and software tools in industrial mathematics*, 195–212, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:82078** 82D60

Hinrichsen, Haye (*with* Sandow, Sven) Deterministic exclusion process with a stochastic defect: matrix-product ground states. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2745–2756. (Gunter Schütz) **98h:82014** 82B20 (60K35, 82B23)

— (*with* Rittenberg, Vladimir; Simon, Horatiu) Universality properties of the stationary states in the one-dimensional coagulation-diffusion model with external particle input. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1203–1235. (Summary) **98c:82064** 82C70

Hinterleitner, Franz Local and global aspects of separating coordinates for the Klein-Gordon equation. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 97–105. (J. Chrastina) **98j:53026** 53B50 (58G35, 81Q05)

Hintikka, Jaakko ★ Ludwig Wittgenstein. (English summary) Half-truths and one-and-a-half-truths. Jaakko Hintikka Selected Papers, 1. *Kluwer Academic Publishers, Dordrecht*, 1996. xiv+353 *pp. ISBN* 0-7923-4091-4 (Catherine Hyatt) **98e:01020** 01A75 (00A30, 01A60, 01A70, 03A05)

— Hilbert vindicated? A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 15–36. (Charles F. Kielkopf) **98e:03004** 03A05 (00A30, 01A60, 03–03)

— A revolution in the foundations of mathematics? Proof and progress in mathematics (Boston, MA, 1996). *Synthese* **111** (1997), *no.* 2, 155–170. (Alex Blum) **98m:03004** 03A05 (00A30, 03B55, 03C80)

— *see also* **Knowledge and inquiry: essays on Jaakko Hintikka's epistemology and philosophy of science, 98h:03005**

Hinton, D. B. (*with* Brown, Richard C.) Weighted interpolation and Hardy inequalities with some spectral-theoretic applications. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv*, 1993), 55–70, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 46N20 (34L05, 46E35)

— (*with* Brown, Richard C.; Edmunds, David E.; Rákosník, Jiří) Some weighted Poincaré-type inequalities in one and higher dimensions. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv*, 1994), 49–58, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 46E35

— (*with* Brown, Richard C.) Norm eigenvalue bounds for some weighted Sturm-Liouville problems. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 129–144, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Anton Zettl) **98c:34134** 34L15 (34B24)

— (*with* Anderson, T. G.; Brown, Richard C.) Perturbation theory for a one-term weighted differential operator. *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN*, 1996), 149–170, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Petru A. Kozhukhar') **98f:47054** 47E05 (34L05)

— (*with* Schneider, Albert[1]) On the Titchmarsh-Weyl coefficients for singular S-Hermitian systems. II. (English summary) *Math. Nachr.* **185** (1997), 67–84. (Walter Eberhard) **98h:34048** 34B20 (34L05, 47E05)

— *see also* **Spectral theory and computational methods of Sturm-Liouville problems, 98b:34003**

Hintze, Helge (*with* Hinkelmann, Knut) State-saving transformations for efficient bottom-up evaluation of logic programs and rule-based systems. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 335–356. (Summary) **98d:68046** 68N17 (68P15, 68T35)

Hinz, Andreas M. Square-free Tower of Hanoi sequences. (English summary) *Enseign. Math.* (2) **42** (1996), *no.* 3-4, 257–264. (Summary) **98f:05017** 05A99

Hinze, Michael On the numerical approximation and computation of minimal surface continua bounded by one-parameter families of polygonal contours. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 1, 89–116. (Summary) **98i:65127** 65Y25 (53A10)

Hioe, F. T. Superposition solutions of coupled nonlinear equations. (English summary) *Phys. Lett. A* **234** (1997), *no.* 5, 351–357. (Summary) **98h:35207** 35Q53 (35Q55, 78A60)

— Analytic solutions of some coupled nonlinear equations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7253–7256. 35Q55 (35C99, 35Q53)

Hip, I. (*with* Gattringer, C. R.; Lang, C. B.) Quantum fluctuations versus topology—a study in $U(1)_2$ lattice gauge theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 371–376. 81T25

Hiptmair, R. (*with* Schiekofer, T.; Wohlmuth, Barbara) Multilevel preconditioned augmented Lagrangian techniques for 2nd order mixed problems. (English and German summaries) *Computing* **57** (1996), *no.* 1, 25–48. (Stephen W. Brady) **98d:65140** 65N30 (65F10)

— Nonconforming vector valued finite elements. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 3, 163–182. (Zheng Hui Xie) **98i:65099** 65N30 (65N12)

Hiraba, Seiji Infinite Markov particle systems with singular immigration; martingale problems and limit theorems. *Osaka J. Math.* **33** (1996), *no.* 1, 145–187. (Anton Wakolbinger) **98k:60077** 60G57 (60J65)

Hirabuki, Shinkichi (*with* Matsuda, Ryûki) Note on Karpilovsky's problem (English summary) *Bull. Yamagata Univ. Natur. Sci.* **14** (1997), *no.* 2, 129–133. (Uno Kaljulaid) **98f:20048** 20M25

Hirachi, Kengo Invariants of CR structures and the logarithmic singularity of the Bergman kernel. *Geometric complex analysis (Hayama*, 1995), 239–247, *World Sci. Publishing, River Edge, NJ*, 1996. (Harold P. Boas) **98i:32038** 32H10 (32C16)

— (*with* Komatsu, Gen) Invariant theory of the Bergman kernel. *CR-geometry and overdetermined systems (Osaka*, 1994), 167–220, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Gregor Herbort) **98h:32041** 32H10 (32F20, 32F40)

Hirahara, Kazuki (*with* Miyazaki, Takeshi; Hanazaki, Hideshi) The quasi-three-dimensional instability of an elliptical vortex subject to a strain field in a rotating stratified fluid. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 5, 359–380. (Summary) **98h:76017** 76C05 (76E20, 76V05, 86A10)

Hirai, Takeshi (*with* Shimomura, Hiroaki) Relations between unitary representations of diffeomorphism groups and those of the infinite symmetric group or of related permutation groups. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 261–316. (Vladimir Pestov) **98k:22080** 22E65 (20C32, 46M05, 58D05)

Hiraide, Koichi Codimension two hyperbolic infra-nilmanifold automorphisms. *Dynamical systems and chaos, Vol. 1 (Hachioji*, 1994), 81–86, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F15 (57S30)

Hiraki, Akira (*with* Araya, Makoto; Jurišić, Aleksandar) Distance-regular graphs with $b_2 = 1$ and antipodal covers. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 243–248. (Sung-Yell Song) **98c:05169** 05E30

— Distance-regular subgraphs in a distance-regular graph. IV. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 635–645. (Dmitri Fon-Der-Flaass) **98m:05201** 05E30

Hiramine, Yutaka (*with* Suetake, Chihiro) On tactical decompositions of class number 2. (English summary) *Geom. Dedicata* **62** (1996), *no.* 1, 35–52. (Stanley E. Payne) **98e:05012** 05B05

— (*with* Suetake, Chihiro) A note on the Aschbacher biplanes of order 11. *Mostly finite geometries (Iowa City, IA*, 1996), 215–225, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (E. F. Assmus, Jr.) **98e:51006** 51E05 (05B25)

Hirano, Katuomi (*with* Aki, Sigeo; Uchida, Masayuki) Distributions of numbers of success-runs until the first consecutive k successes in higher order Markov dependent trials. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 401–410, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Demetrios L. Antzoulakos) **98h:62014** 62E15 (60C05)

— (*with* Hossain, Md. Forhad; Kashiwagi, N.) A generalization of the power inverse Gaussian distribution and some of its properties. (English summary) *Advances in the theory and practice of statistics*, 315–324, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62E15 (62E25, 62F10)

— (*with* Aki, Sigeo) Lifetime distributions of consecutive-k-out-of-n: F systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 555–562. (*see* **98i:00027**) 62N05 (60C05, 62E15)

Hirano, Miki On theta type functions associated with the zeros of the Selberg zeta functions. (English summary) *Manuscripta Math.* **92** (1997), *no.* 1, 87–105. (M. Ram Murty) **98d:11103** 11M36

Hirano, Norimichi (*with* Mizoguchi, Noriko) Existence of periodic solutions for semilinear parabolic equations. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 39–49, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98a:35005** 35B10 (35K60, 47H15, 47N20)

— Multiple existence of solutions for semilinear elliptic problems on a domain with a rich topology. *Nonlinear Anal.* **29** (1997), *no.* 7, 725–736. (Vicenţiu Rădulescu) **98d:35056** 35J60 (35B32, 58E05)

— Existence of entire positive solutions for nonhomogeneous elliptic equations. *Nonlinear Anal.* **29** (1997), *no.* 8, 889–901. (Vicenţiu Rădulescu) **98e:35062** 35J60 (35B05, 58E05)

— Multiple solutions of semilinear Dirichlet problems on a domain with S^1-group actions. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 283–296. (Summary) **98k:35071** 35J65 (35A30, 58E05)

Hirano, Shinji (*with* Kazama, Yoichi) Scattering of closed string states from a quantized D-particle. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 495–515. (Summary) **98g:81168** 81T30

— (*with* Kato, Mitsuhiro) Topological matrix model. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 6, 1371–1384. (Summary) **98k:81217** 81T30

Hirano, Yasuyuki (*with* Dinh Van Huynh; Park, Jae Keol) On rings whose prime radical contains all nilpotent elements of index two. *Arch. Math.* (*Basel*) **66** (1996), *no.* 5, 360–365. (From the text) **98b:16018** 16N80 (16N40)

— On right π-duo semigroups and rings. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 249–256. (Dragan Blagojević) **98e:20063** 20M12

Hirasaka, Mitsugu (*with* Suga, Yuji) The classification of association schemes with 13 or 15 points. (English summary) Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 71–80. (Summary) **98h:05182** 05E30

— The classification of association schemes with 11 or 12 vertices. *Kyushu J. Math.* **51** (1997), *no.* 2, 413–428. (Patrick Solé) **98h:05183** 05E30

— Association schemes with a prime number of points. (Japanese) Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 103–107. (*see* **98k:00015**) 05E30

Hirasawa, Shigeichi (*with* Kaneko, Toshimitsu; Nishijima, Toshihisa) An improvement of soft-decision maximum-likelihood decoding algorithm using hard-decision bounded-distance decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1314–1319. 94B35

Hirata, Hayato (*with* Aoyama, Tomoo; Iwasaki, Hironori) Images generated by using complex dynamical-system: a character of complex-iteration. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 26 (1997), 39–43. 58F23 (30D05)

Hirata, Hitoshi (*with* Hayashi, Nakao) Global existence and asymptotic behavior in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system. 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 273–278. (*see* **98k:00020**) 35Q55 (35M10)

— (*with* Hayashi, Nakao) Local existence in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system in the usual Sobolev space. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 563–581. (From the text) **98i:35177** 35Q55 (76B15)

— (*with* Hayashi, Nakao) Global existence of small solutions to nonlinear Schrödinger equations. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 671–685. (Oktay K. Pashaev) **98j:35168** 35Q55

Hirata, Kouichi (*with* Shimozono, Shinichi; Shinohara, Ayumi) On the hardness of approximating the minimum consistent OBDD problem. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 112–123, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68064** 68Q25 (68T05)

— Constructing simply recursive programs from a finite set of good examples. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 225–230. (From the introduction) **98m:68229** 68T05 (68N17)

Hirata, Masaki[I] Poisson law for the dynamical systems with the "self-mixing" conditions. *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 87–96, *World Sci. Publishing, River Edge, NJ*, 1995. (András Krámli) **98h:81032** 81Q50 (58F15, 82C10)

Hirata-Kohno, Noriko Diophantine approximation on elliptic curves. (English summary) Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 82–89. (Michel Waldschmidt) **98g:11087** 11J89 (11J86)

Hirayama, Minoru (*with* Zhang, Hui-Min; Hamada, Takeshi) Induced gauge structure of quantum mechanics on S^D. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 4, 679–689. (Michael S. Marinov) **98m:81084** 81S99 (81T13)

— (*with* Kamibayashi, Shiori) Fermion representation of quantum group. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 4, 691–702. (Mathias Pillin) **98e:81076** 81R50

Hirayama, Osamu (*with* Takaki, Ryuji) Fully developed states of a one-dimensional fluidized bed. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 3, 171–187. (Summary) **98j:76142** 76T05

Hiremath, G. R. An (α_2)-property and metrization. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 123–142. (Józef Chaber) **98d:54051** 54E25 (54E30, 54E35)

— Semi-open covers and metrization. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 243–252. (Józef Chaber) **98d:54052** 54E25 (54E30, 54E35)

— A note on $w\Delta$-spaces. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 61–77. (C. R. Borges) **98g:54059** 54E18

Hiremath, V. A. A note to the paper: "Finitely projective modules over bounded hereditary Noetherian prime rings" [J. Indian Math. Soc. (N.S.) **60** (1994), no. 1-4, 83–93; MR 95g:16017]. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 175–178. 16P40 (16E60, 16P60)

Hiriart-Urruty, Jean-Baptiste (*with* Ledyaev, Yu. S.) A note on the characterization of the global maxima of a (tangentially) convex function over a convex set. (English summary) *J. Convex Anal.* **3** (1996), *no.* 1, 55–61. (Bernard Lemaire) **98a:49027** 49J52 (46N10, 90C30)

— (*with* Torki, Mounir) Analyse de la sensibilité du second ordre de toutes les valeurs propres d'une matrice symétrique. (English and French summaries) [Second-order sensitivity analysis of all eigenvalues of a symmetric matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1071–1074. (Summary) **98c:90150** 90C31 (15A18, 65F15)

— *see also* **100 years after [the death of] Th.-J. Stieltjes, 98b:00036**

Hirokawa, Masao General properties between canonical correlation and the independent-oscillator model on a partial $*$-algebra. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 82–91. (Camillo Trapani) **98i:82037** 82C10 (47D40, 47N50)

— Weyl's relation on a doubly connected space and the Aharonov-Bohm effect. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 240–257. (*see* **98h:00038**) 81Q99

Hirokawa, Sachio (*with* Komori, Yuichi; Takeuti, Izumi) A reduction rule for Peirce formula. (English summary) *Studia Logica* **56** (1996), *no.* 3, 419–426. (A. S. Kuzichev) **98b:03021** 03B40 (03F05)

— (*with* Kameyama, Yukiyoshi; Baba, Kensuke) Calculations of λ_C and of λ_P and their applications. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 167–174. (*see* **98k:68015**) 68N15

Hironaka, Eriko Multi-polynomial invariants for plane algebraic curves. *Singularities and complex geometry* (*Beijing*, 1994), 67–74, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Luca Chiantini) **98h:14021** 14E20

— Alexander stratifications of character varieties. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 2, 555–583. (Azniv Kasparian) **98e:14020** 14F35 (14J40, 20E05, 32J99, 57N80)

Hironaka, H. On the presentations of resolution data. Noted and with an appendix by T. T. Moh. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 135–151, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Piotr Jaworski) **98h:14020** 14E15 (14B05, 32S45)

Hironaka, Yumiko Spherical functions and local densities on Hermitian forms. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 153–171. (Hidenori Katsurada) **98h:11048** 11E95 (11E39)

Hirosawa, Fumihiko Global solvability for the generalized degenerate Kirchhoff equation with real-analytic data in $\mathbf{R}^n$. *Tsukuba J. Math.* **21** (1997), *no.* 2, 483–503. (Linda M. Holt) **98m:35203** 35Q72 (35B60, 35L70)

Hirose, Kei-ichi (*with* Saitō, Satoshi; Nomura, Yasuyuki; Ichikawa, Yoshi H.) Separatrix reconnection and periodic orbit annihilation in the Harper map. (English summary) *Chaos* **7** (1997), *no.* 2, 245–253. (Summary) **98k:58195** 58F27 (70H05, 82D20)

Hirose, Keiichi Mean integrated squared error and deficiency of nonparametric recursive kernel estimators of smooth distribution functions. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 195–207. (Summary) **98h:62053** 62G05

Hirose, Musemitsu Structure of radial solutions to $\Delta u + \frac{1}{2}x \cdot \nabla u + \lambda u + |u|^{p-1}u = 0$ in $\mathbf{R}^n$. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 151–169. (*see* **98f:35003**) 35J60 (34A34, 35B05)

— (*with* Yanagida, Eiji) Bifurcation of rapidly decaying solutions for the Haraux-Weissler equation. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 619–636. (Giovanni Leoni) **98i:34001** 34A12 (34A47, 35B32, 35K55)

Hiroshima, Fumio Diamagnetic inequalities that appear in certain interactions between quantized fields and particles. (Japanese) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 92–108. (*see* **98b:00034**) 81U99

— A scaling limit of a Hamiltonian of many nonrelativistic particles interacting with a quantized radiation field. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 2, 201–225. (Hiroshi Isozaki) **98b:81281** 81V10 (81Q10)

— Functional integral representation of a model in quantum electrodynamics. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 489–530. (A. L. Rebenko) **98f:81364** 81V10 (46N50, 81S40)

— Scaling limit of a model of quantum electrodynamics. (Japanese. Japanese summary) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 1–11. (*see* **98h:00037**) 81V10

— Scaling limit of a model of quantum electrodynamics with N-nonrelativistic particles. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 52–67. (*see* **98h:00038**) 81V10

Hirota, Kaoru (*with* Subašić, Pero) Similarity rules and gradual rules for analogical and interpolative reasoning with imprecise data. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 53–75. (Summary) **98k:68159** 68T35 (03B52, 04A72)

Hirota, Osamu (*with* Ban, Masashi; Kurokawa, Keiko; Momose, Rei) Optimum measurements for discrimination among symmetric quantum states and parameter estimation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1269–1288. (Koichiro Matsuno) **98h:81011** 81P15

— (*with* Sasaki, Masahide; Kato, Kentaro; Izutsu, Masayuki) A demonstration of superadditivity in the classical capacity of a quantum channel. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 1–4. (Summary) **98i:81033** 81P99 (94A40)

— Conditional isometric operators. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 130–136. (*see* **98h:00037**) 81P99

— (*with* Osaki, Masao; Ban, Masashi) The maximum mutual information without coding for binary quantum-state signals. (English summary) *J. Modern Opt.* **45** (1998), *no.* 2, 269–282. (Summary) **98k:81033** 81P99 (94A05)

Hirota, Ryogo Conserved quantities of "random-time Toda equation". (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 2, 283–284. (Summary) **98a:82073** 82C05 (82C31)

— (*with* Iwao, Masataka) Soliton solutions of a coupled modified KdV equations. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 3, 577–588. (Summary) **98c:35141** 35Q53 (35C99)

— "Molecule solutions" of coupled modified KdV equations. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 9, 2530–2532. 35Q53

— (*with* Iwao, Masataka; Ramani, A.; Takahashi, Daisuke; Grammaticos, B.; Ohta, Yasuhiro) From integrability to chaos in a Lotka-Volterra cellular automaton. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 39–44. (Summary) **98i:58131** 58F08

Hirsch, Ch. (*with* Van Ransbeeck, P.) A general analysis of 2D/3D multidimensional upwind convection schemes. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 251–304, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76112** 76M25 (65M55)

— (*with* Van Ransbeeck, P.) Multidimensional upwind schemes for the Euler/Navier-Stokes equations on structured grids. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 305–338, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76113** 76M25 (65M55)

— *see also* **van Leer, Bram**, (**98h:70003**)

Hirsch, Francis (*with* Lacombe, Gilles) ★ Éléments d'analyse fonctionnelle. (French. French summary) [Elements of functional analysis] Cours et exercices. [Course and exercises] Enseignement des Mathématiques. [The Teaching of Mathematics] *Masson, Paris*, 1997. x+340 *pp. ISBN* 2-225-85573-0 (J. Horváth) **98c:46001** 46–01 (47–01)

— (*with* Song, Shiqi) Criteria of positivity for the density of the law of a Wiener functional. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 4, 261–273. (Rémi Léandre) **98d:60102** 60H05

— Fonctions lipschitziennes et espaces de Sobolev fractionnaires. (English and French summaries) [Lipschitz functions and fractional Sobolev spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1227–1230. (Summary) **98d:47089** 47D07 (46E35, 60H07)

Hirsch, Jorge G. *see* **School: Physics, 98f:81011**

Hirsch, K. A. *see* **Bronshtein, I. N., 98a:00003**

Hirsch, Morris W. Weak limit sets of differential equations. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 197–209, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Alexandre N. Carvalho) **98m:34097** 34C99 (34A26, 34G10, 68T05)

— (*with* Hurley, Mike) Connected components of attractors and other stable sets. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 308–323. (Ian Melbourne) **98f:58131** 58F12 (54H20)

— Edwin Henry Spanier (1921–1996). *Notices Amer. Math. Soc.* **45** (1998), *no.* 6, 704–705. 01A70

Hirsch, P. B. (*with* Roberts, S. G.) Modelling plastic zones and the brittle-ductile transition. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 1991–2002. (Summary) **98k:73034** 73E99 (73M25)

Hirsch, Robin Expressive power and complexity in algebraic logic. (English summary) *J. Logic Comput.* **7** (1997), *no.* 3, 309–351. (Summary) **98b:03088** 03G15 (03D15, 68Q25)

— (*with* Hodkinson, Ian) Step by step—building representations in algebraic logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 1, 225–279. (Manuel Abad) **98g:03145** 03G15

— (*with* Hodkinson, Ian) Complete representations in algebraic logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 816–847. (Ivo Düntsch) **98m:03123** 03G05 (03G15, 06E05)

— (*with* Hodkinson, Ian) Axiomatising various classes of relation and cylindric algebras. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 209–229 (*electronic*). (Summary) **98g:03146** 03G15

Hirschberg, Daniel S. (*with* Eppstein, David) Choosing subsets with maximum weighted average. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 177–193. (Summary) **98a:68095** 68Q25

— (*with* Stauffer, Lynn M.) Dictionary compression on the PRAM. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 3, 297–308. (Summary) **98h:68103** 68Q22 (68P99)

Hirschberg, P. (*with* Knobloch, Edgar) Mode interactions in large aspect ratio convection. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 6, 537–556. (Marie Christine Néel) **98g:76033** 76E15 (34B15, 34C23)

Hirschfeld, J. W. P. (*with* Cossidente, Antonio; Storme, Leo) Applications of line geometry. III. The quadric Veronesean and the chords of a twisted cubic. (English summary) *Australas. J. Combin.* **16** (1997), 99–111. (Gary L. Ebert) **98g:51005** 51E20

Hirschkoff, Daniel A full formalisation of π-calculus theory in the calculus of constructions. (English summary) *Theorem proving in higher order logics* (*Murray Hill, NJ*, 1997), 153–169, *Lecture Notes in Comput. Sci.*, 1275, *Springer, Berlin*, 1997. (*see* **98i:68018**) 03B70 (68Q10, 68Q60)

Hirschowitz, André (*with* Despeyroux, Joëlle; Felty, Amy) Higher-order abstract syntax in Coq. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 124–138, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68T15 (03B40, 68N15)

— (*with* Alexander, James Ernest) Interpolation on jets. *J. Algebra* **192** (1997), *no.* 1, 412–417. (Tomasz Szemberg) **98i:14052** 14N05 (14J99)

— (*with* Alexander, James Ernest) Generic hypersurface singularities. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 2, 139–154. (Tohsuke Urabe) **98g:14014** 14E15 (14J70)

Hirsh, Haym (*with* Mishra, Nina; Pitt, Leonard) Version spaces without boundary sets. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 491–496, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T05

Hirshberg, A. (*with* Shortt, R. M.) A version of Strassen's theorem for vector-valued measures. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1669–1671. (Donald L. Cohn) **98i:28014** 28B05 (28A35, 46E10, 46G10)

Hirshfeld, Allen C. (*with* Sassenberg, Uwe) Explicit formulation of a third order finite knot invariant derived from Chern-Simons theory. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 6, 805–847. (Sergei K. Lando) **98a:57009** 57M25 (81Q30, 81T13)

— (*with* Sassenberg, Uwe; Klöker, Thomas) A combinatorial link invariant of finite type derived from Chern-Simons theory. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 243–280. (Stephen F. Sawin) **98j:57008** 57M25 (58G18, 81Q30, 81T13)

Hirshfeld, Yoram (*with* Jerrum, Mark; Moller, Faron) A polynomial-time algorithm for deciding bisimulation equivalence of normed basic parallel processes. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 3, 251–259. (C. Masalagiu) **98a:68058** 68Q10 (68Q22, 68Q60)

— Bisimulation trees and the decidability of weak bisimulations. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68073** 68Q10 (68Q60)

Hirst, Jeffry L. (*with* Lempp, Steffen) Infinite versions of some problems from finite complexity theory. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 545–553. (Uwe Schöning) **98d:03050** 03D15 (03D35, 68Q15)

Hirst, Tirza (*with* Harel, David) More about recursive structures: descriptive complexity and zero-one laws. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 334–347, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q15 (03B70, 03D15, 03D45)

Hirt, C. W. (*with* Amsden, A. A.; Cook, J. L.) An arbitrary Lagrangian-Eulerian computing method for all flow speeds [J. Comput. Phys. **14** (1974), no. 3, 227–253]. (English summary) With an introduction by L. G. Margolin. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 198–216. (*see* **98h:70003**) 76M20 (65M06)

Hirth, Ulrich Martin A Poisson approximation for the Dirichlet law, the Ewens sampling formula and the Griffiths-Engen-McCloskey law by the Stein-Chen coupling method. (English summary) *Bernoulli* **3** (1997), *no.* 2, 225–232. (Andrew D. Barbour) **98m:60026** 60F05 (60C05)

— Probabilistic number theory, the GEM/Poisson-Dirichlet distribution and the arc-sine law. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 1, 57–77. (Douglas Hensley) **98a:11106** 11K99 (60C05, 60E05)

— From GEM back to Dirichlet via Hoppe's urn. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 185–195. (Hajime Yamato) **98g:60020** 60C05

Hirzebruch, Friedrich (*with* Demailly, Jean-Pierre; Lannes, Jean) ★ Journée en l'Honneur de Henri Cartan. (French) [Conference in Honor of Henri Cartan] SMF Journée Annuelle [SMF Annual Conference], 1997. *Société Mathématique de France, Paris*, 1997. iv+27 *pp.* (Editors) **98h:00041** 00B30

— Learning complex analysis in Muenster-Paris, Zuerich and Princeton from 1945 to 1953. *Journée en l'Honneur de Henri Cartan*, 1–2, *SMF Journ. Annu.*, 1997, *Soc. Math. France, Paris*, 1997. (*see* **98h:00041**) 01A60

— German-Russian cooperation in mathematics. (German summary) *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 54–58. 01A72

— The second Mathematical Society of Japan address upon receiving the society's educational unity prize "Regular polyhedrons and soccer balls". (Japanese) *Sūgaku* **49** (1997), *no.* 2, 173–181. 01A74

— *see also* **Friedrich Hirzebruch, the second recipient of the Mathematical Society of Japan's Takakazu Kan Prize** *and* **Ueno, Kenji**

Hisakado, Masato Five-dimensional gauge theories and Whitham-Toda equation. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 29, 2183–2191. 81T13

— Unitary matrix models with a topological term and discrete time Toda equation. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 208–217. (Summary) **98a:81145** 81T27 (81T40)

Hisasue, Masaki (*with* Katsurada, Hidenori) A recursion formula for local densities. (English summary) *J. Number Theory* **64** (1997), *no.* 2, 183–210. (Martin Epkenhans) **98d:11042** 11E08

Hiscock, William A. Quantum effects in the Alcubierre warp-drive spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, L183–L188. (Mark D. Roberts) **98k:83044** 83C47 (81T20)

— (*with* Loranz, Daniel J.) Quantized fields and temperature in charged dilatonic black hole spacetimes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3893–3896. (Summary) **98c:83048** 83C47 (81T20, 83C57)

— (*with* Taylor, Brett E.; Anderson, Paul R.) Stress-energy of a quantized scalar field in static wormhole spacetimes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6116–6122. (Summary) **98b:83046** 83C47 (81T20)

— (*with* Larson, Shane L.; Anderson, Paul R.) Semiclassical effects in black hole interiors. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3571–3581. (Summary) **98e:83077** 83C57

Hishida, Toshiaki On a class of stable steady flows to the exterior convection problem. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 54–85. (Marie Christine Néel) **98k:35159** 35Q35 (76D99, 76R05)

Hislop, P. D. (*with* Sigal, Israel M.) ★ Introduction to spectral theory. (English summary) With applications to Schrödinger operators. Applied Mathematical Sciences, 113. *Springer-Verlag, New York*, 1996. x+337 *pp. ISBN* 0-387-94501-6 (Vladimir Georgescu) **98h:47003** 47–02 (35–01, 47A55, 47F05, 47N50, 81Q10)

— (*with* Barbaroux, J.-M.; Combes, J. M.) Localization near band edges for random Schrödinger operators. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 16–43. (Marco Lenci) **98h:82028** 82B44 (47B80, 47F05, 47N50, 81Q10)

— (*with* Barbaroux, J.-M.; Combes, J. M.) Landau Hamiltonians with unbounded random potentials. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 355–369. (Nariyuki Minami) **98i:82030** 82B44 (47F05, 47N50, 81Q10)

Hiss, Gerhard Zur Donovan Vermutung. [On Donovan's conjecture] *Darstellungstheoretage Jena* 1996, 67–73, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Burkhard Külshammer) **98a:20011** 20C20

— (*with* Geck, Meinolf; Malle, Gunter) Towards a classification of the irreducible representations in non-describing characteristic of a finite group of Lie type. *Math. Z.* **221** (1996), *no.* 3, 353–386. (Bhama Srinivasan) **98a:20017** 20C33

— (*with* Geck, Meinolf) Modular representations of finite groups of Lie type in non-defining characteristic. *Finite reductive groups* (*Luminy*, 1994), 195–249, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Peter Fleischmann) **98h:20016** 20C33 (20C20, 20C40)

— (*with* Szczepański, Andrzej) Flat manifolds with only finitely many affinities. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 349–357. (Bruno Zimmermann) **98k:57056** 57S30 (20F32, 57S25)

— Decomposition matrices of the Chevalley group $F_4(2)$ and its covering group. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2539–2555. (Julianne G. Rainbolt) **98d:20016** 20C33 (20C20, 20C40)

— (*with* Lübeck, Frank) The Brauer trees of the exceptional Chevalley groups of types F_4 and ${}^2E_6$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 16–21. (Donald L. White) **98k:20017** 20C33 (20C20, 20G40)

Hissong, Timbre (*with* Ünyelioğlu, Konur A.; Özgüner, Ümit; Winkelman, Jim) Wheel torque proportioning, rear steering, and normal force control: a structural investigation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 803–818. (Summary) **98a:93049** 93C95 (93B05)

Hitchcock, Christopher Read Causal decision theory and decision-theoretic causation. *Noûs* **30** (1996), *no.* 4, 508–526. (Philip L. Quinn) **98g:03063** 03B48 (03A05)

Hitchin, N. J. Frobenius manifolds. (English summary) With notes by David Calderbank. *Gauge theory and symplectic geometry (Montreal, PQ, 1995)*, 69–112, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 488, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jan Segert) **98f:58048** 58D29 (32G34, 58D27)

— Einstein metrics and the eta-invariant. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 95–105. (Thalia D. Jeffres) **98g:53085** 53C25 (58G10)

Hitczenko, P. (*with* Montgomery-Smith, Stephen J.; Oleszkiewicz, Krzysztof) Moment inequalities for sums of certain independent symmetric random variables. (English summary) *Studia Math.* **123** (1997), *no.* 1, 15–42. (Iosif Pinelis) **98e:60029** 60E15 (60G50)

Hitha, N. (*with* Sankaran, P. G.; Unnikrishnan Nair, N.) Some characterizations of the geometric law. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 49–54. 62E10

Hitotsuyanagi, Nobuo Manifolds with a triple multiplication. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 345–353. (O. Kowalski) **98g:53038** 53C05 (20N10, 53C35)

Hitsuda, Masuyuki (*with* Hibino, Yuji; Muraoka, Hiroshi) Construction of noncanonical representations of a Brownian motion. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 439–448. (Summary) **98m:60131** 60J65 (60G15)

Hitz, Martin (*with* Gutjahr, Walter J.; Mueck, T. A.) Task assignment in Cayley interconnection topologies. (English summary) *Parallel Comput.* **23** (1997), *no.* 10, 1429–1460. (Summary) **98i:68025** 68M10 (68R10)

Hiyama, Kaoru (*with* Takagi, Shin) Quantum coherence in a generalized Coleman-Hepp model. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 12–21. (*see* **98h:00037**) 81V80

Hizanidis, K. (*with* Frantzeskakis, D. J.; Polymilis, C.) Exact travelling wave solutions for a generalized nonlinear Schrödinger equation. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7687–7703. (Woodford W. Zachary) **98d:78011** 78A60 (35Q55, 81Q05)

Hizel, Emanullah (*with* Çelik, Salih) h-deformation of Gr(2). (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4677–4680. (Władysław Marcinek) **98j:81144** 81R50

Hjalmarsson, Håkan Optimally robust system identification of systems subject to amplitude-bounded stochastic disturbances. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 947–953. 93E12

— *see also* **Safavi, A. A.**, **98e:93030**

Hjorth, Greg (*with* Hauser, Kai) Strong cardinals in the core model. (English summary) *Ann. Pure Appl. Logic* **83** (1997), *no.* 2, 165–198. (A. Kanamori) **98b:03070** 03E45 (03E15)

— (*with* Kechris, Alexander S.) New dichotomies for Borel equivalence relations. *Bull. Symbolic Logic* **3** (1997), *no.* 3, 329–346. (Miroslav Repický) **98m:03101** 03E15 (54E50, 54H11)

— Some applications of coarse inner model theory. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 337–365. (Miroslav Repický) **98k:03104** 03E15 (03E35, 03E55, 03E60)

Hjorth, Poul (*with* Lisoněk, Petr; Markvorsen, Steen; Thomassen, Carsten) Finite metric spaces of strictly negative type. (English summary) *Linear Algebra Appl.* **270** (1998), 255–273. (Yao Zhang) **98k:15027** 15A48 (15A63)

Hladik, I. (*with* Reed, Martin Brian; Swoboda, G.) Robust preconditioners for linear elasticity FEM analyses. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 11, 2109–2127. 73V05 (65N30, 73C02)

Hladnik, Milan Elementary geometry and second-order matrices. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 2, 33–42. 15A99 (51M05)

Hlaváček, Ivan (*with* Haslinger, J.; Nečas, Jindřich) Numerical methods for unilateral problems in solid mechanics. *Handbook of numerical analysis, Vol. IV*, 313–485, *Handb. Numer. Anal., IV, North-Holland, Amsterdam*, 1996. (*see* **98b:65001**) 73Vxx (49J40, 65K10)

— Reliable solutions of problems in the deformation theory of plasticity with respect to uncertain material function. (English summary) *Appl. Math.* **41** (1996), *no.* 6, 447–466. (Summary) **98m:73048** 73E99 (35Q72, 65N30, 73C50, 73V05, 73V25)

— A note on the Neumann problem for a quasilinear elliptic problem of a nonmonotone type. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 365–369. (Zi Qian Yan) **98g:35078** 35J65 (35D05)

— Reliable solution of a quasilinear nonpotential elliptic problem of a nonmonotone type with respect to the uncertainty in coefficients. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 452–466. (Srinivasan Kesavan) **98h:35076** 35J65 (65N30)

— (*with* Whiteman, John R.) Existence and uniqueness of solutions in strain space of elastoplastic problems with isotropic hardening. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 1, 31–48. (Mircea Sofonea) **98b:73017** 73E50 (47H15, 47N20, 49J40, 73V25)

— Reliable solutions of elliptic boundary value problems with respect to uncertain data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3879–3890. (*see* **98h:00034**) 65N35 (35J60, 65J20)

— (*with* Lovíšek, J.) Optimal design of an elastic plate with unilateral elastic foundation and rigid supports, using the Reissner-Mindlin plate model. I. Continuous problems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 377–385. (Introduction) **98g:73026** 73K40 (49Q10, 73K10, 73V25)

— (*with* Lovíšek, J.) Optimal design of an elastic plate with unilateral elastic foundation and rigid supports, using the Reissner-Mindlin plate model. II. Approximate problems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 509–517. (From the introduction) **98g:73027** 73K40 (49Q10, 73K10, 73V05)

— (*with* Chleboun, Jan) Shape design sensitivity formulae approximated by means of a recovered gradient method. (English summary) *Finite element methods (Jyväskylä, 1997)*, 135–145, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98j:65015** 65D30 (49Q10, 65K10)

Hlavatý, Ladislav On the Painlevé classification of partial differential equations. II. Rational equations with one pole. (English summary) *Czechoslovak J. Phys.* **42** (1992), *no.* 8, 765–781. (Summary) **98c:35007** 35A30 (35A20, 35Q53)

— On associative commutation relations. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1331–1336. (*see* **98c:17001**) 81S05

— (*with* Kundu, Anjan) Quantum integrability of non-ultralocal models through Baxterization of quantized braided algebra. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 12, 2143–2165. (Summary) **98h:81051** 81R50 (82B23)

Hlawatsch, Franz (*with* Bölcskei, Helmut) Oversampled modulated filter banks. (English summary) *Gabor analysis and algorithms*, 295–322, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **98h:42001**) 94A12 (42C15)

Hlawka, Edmund Olga Taussky-Todd, 1906–1995. *Monatsh. Math.* **123** (1997), *no.* 3, 189–201. (C. J. Scriba) **98c:01040** 01A70

Hlibiciuc, A. A. (*with* Leahu, Alexe Ch.) Finite projection, queueing systems and their approximation. (Romanian) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 38–43. 60K25

Hliněný, Petr $K_{4,4}-e$ has no finite planar cover. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 51–60. (Seiya Negami) **98i:05131** 05C70 (57M10)

Hlynka, M. (*with* Drekic, S.; McPhail, G.) A non-monotone waiting time queueing model. (English summary) *Util. Math.* **52** (1997), 83–89. 60K25

— (*with* Brill, Percy H.) A single server N-line queue in which a customer may receive special treatment. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 905–931. 60K25

Hmamed, A. Componentwise stability of 1D and 2D linear discrete-time systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1759–1762. (From the summary) **98j:93074** 93D20 (93C30, 93D05)

— Further results on the robust stability of linear systems including delayed perturbations. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1763–1765. 93D09 (93C30)

— (*with* Benzaouia, A.) Componentwise stability of linear systems: a non-symmetrical case. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 11, 1023–1028. (Summary) **98k:93077** 93D05 (34D05)

Hnizdo, V. EPR and the Copenhagen interpretation. (English and German summaries) *European J. Phys.* **18** (1997), *no.* 5, 404–406. 81P05

nguyen cat Ho *see* **Nguyen Cat Ho**

Ho, Chat Yin Arc subgroups of planar Singer groups. *Mostly finite geometries (Iowa City, IA, 1996)*, 227–233, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Hendrik Van Maldeghem) **98h:51017** 51E21

Ho, Cheng-Seen (*with* Hwang, Chi-Pan) A new technique for behavior and temporal analysis of timed Petri nets. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 5, 481–492. 68Q90

Ho, Chih-Hsiang Repeated significance tests on accumulating data of repairable systems. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1181–1200. 62N05

Ho, Chin-Wen (*with* Peng, Shen Lung; Ko, Ming-Tat; Hsu, Tsan-sheng; Tang, Chuan Yi) Graph searching on chordal graphs. (English summary) *Algorithms and computation (Osaka, 1996)*, 156–165, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Peng, Shen Lung; Hsu, Tsan-sheng; Ko, Ming-Tat; Tang, Chuan Yi) Edge and node searching problems on trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 284–293, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68217** 68R10 (05C85)

— (*with* Chang, Jou-Ming) The recognition of geodetically connected graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 81–88. (Summary) **98j:68128** 68R10 (05C85, 68Q25)

Ho, Ching-Tien (*with* Bruck, Jehoshua; Cypher, Robert) Fault-tolerant meshes with small degree. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1764–1784. (A. T. Amin) **98k:68025** 68M15 (68R10)

Ho, Choon-Lin (*with* Hosotani, Yutaka) Braid group and operator algebra in Chern-Simons theory on a torus. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 93–105, *World Sci. Publishing, River Edge, NJ*, 1994. (Martin Schlichenmaier) **98j:81312** 81T40 (20F36, 81T13, 81V25, 81V70)

Ho, Chu Ning *see* **He, Chu Ning**

Ho, Daniel W. C. (*with* To, Ke-lai) A note on the decoupling controller design for unity feedback system. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 162–170. 93B51 (93B17)

— (*with* Chan, Ho Chung; Lam, James) Robust eigenvalue assignment in second-order systems: a gradient flow approach. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 283–296. 93B55 (93B60)

Ho, Hwai-Chung (*with* Hsing, Tailen) Limit theorems for functionals of moving averages. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1636–1669. (Peter M. Robinson) **98m:60027** 60F05

Ho, Jan Ming (*with* Ko, Ming-Tat) Bounded fan-out m-center problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 103–108. (Summary) **98e:68106** 68Q25 (68U05)

Ho, Jeongwon (*with* Kim, Won Tae; Park, Young-Jai; Shin, Hyeonjoon) Entropy in the Kerr-Newman black hole. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2617–2625. (Summary) **98h:83050** 83C57

Ho, Johnny C. (*with* Gupta, Jatinder N. D.; van der Veen, Jack A. A.) Single machine hierarchical scheduling with customer orders and multiple job classes. (English summary) *Ann. Oper. Res.* **70** (1997), 127–143. (S. Csibi) **98f:90029** 90B35 (60K25, 68M20)

Ho, Kevin I.-J. (*with* Leung, Joseph Y.-T.; Wei, Wandi) Scheduling imprecise computation tasks with 0/1-constraint. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 117–132. (Summary) **98f:68027** 68M20

Ho, Lop-Hing Application of Catlin's box construction to subellipticity of $n-1$ forms. *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1385–1394. (Der-Chen E. Chang) **98a:32017** 32F20 (32F15)

Ho, Mark C. Properties of slant Toeplitz operators. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 3, 843–862. (Shan Li Sun) **98a:47034** 47B38 (47A10, 47B35, 47D25)

— Adjoints of slant Toeplitz operators. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 301–312. (From the introduction) **98k:47045** 47B35 (47A10, 47B38)

— Spectra of slant Toeplitz operators with continuous symbols. *Michigan Math. J.* **44** (1997), *no.* 1, 157–166. (D. Sarason) **98c:47034** 47B35 (47A10, 47B38)

Ho, Ming-Tzu (*with* Datta, Aniruddha; Bhattacharyya, Shankar Prashad) An elementary derivation of the Routh-Hurwitz criterion. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 405–409. 93D05

Ho, Nan-Kuo (*with* Wong, Ngai-Ching) Space-filling curves and Hausdorff dimensions. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 105–111. (Summary) **98g:54075** 54F15 (28A78)

Ho, Pei-Hsin (*with* Chang, Gerard J.) The β-assignment problem in general graphs. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 757–765. (Rainer Burkard) **98j:90087** 90C35 (05C90)

Ho, Pei-Ming (*with* Chu, Chong-Sun; Zumino, Bruno) Non-abelian anomalies and effective actions for a homogeneous space G/H. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 1-2, 484–504. (Friedemann Brandt) **98b:81241** 81T50 (58Z05)

— (*with* Chu, Chong-Sun) Poisson algebra of differential forms. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 31, 5573–5587. (Raúl Ibáñez) **98m:58001** 58A10 (58F05, 70H05)

— (*with* Wu, Yong Shi[1]) Noncommutative geometry and D-branes. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 52–60. (Raimar Wulkenhaar) **98a:58014** 58B30 (46L60, 81T30)

— (*with* Wu, Yong Shi[1]) Brane creation in M(atrix) theory. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 43–50. (Summary) **98m:81143** 81T30

— (*with* Wu, Yong Shi[1]) Type-IIB-string–M-theory duality and longitudinal membranes in M(atrix) theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2571–2579. (Summary) **98j:81277** 81T30 (83E30)

Ho, Phoebe (*with* Plummer, Paul; So, Shing) Some results on compact convergence semigroups defined by filters. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 153–158. 54H11 (22A15, 54A20)

Ho, T. G. (*with* Landau, L. J.) Fermi gas on a lattice in the van Hove limit. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 821–845. (Bruno Nachtergaele) **98j:82038** 82C10 (82C20)

Ho, Ting-Yem (*with* Chang, Jou-Ming; Hsu, Chiun-Chieh; Wang, Yue-Li) Finding the set of all hinge vertices for strongly chordal graphs in linear time. (English summary) *Inform. Sci.* **99** (1997), *no.* 3-4, 173–182. (Summary) **98a:68144** 68R10 (05C85, 68M10, 68Q25)

Ho, Tung-Yang (*with* Sung, Ting-Yi; Hsu, Lih-Hsing) Projective torus networks. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 451–459, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68M10

Ho, Vu B. (*with* Morgan, M. J.) A geometrical quantum phase in Newtonian gravity. (English summary) *Phys. Lett. A* **234** (1997), *no.* 2, 86–90. (Summary) **98g:81022** 81P99

Ho, Y. C. *see* **Ho, Yu-Chi**

Ho, Y. Phoebe *see* **Ho, Yue-Chan Phoebe**

Ho, Yu-Chi (*with* Yang, Mike S.; Lee, Loohay) On stochastic optimization and its applications to manufacturing. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 317–331, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98a:90008**) 90B30 (90C15)

— (*with* Lau, T. W. Edward) Universal alignment probabilities and subset selection for ordinal optimization. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 455–489. (Summary) **98e:90105** 90C15 (90C90)

Ho, Yue-Chan Phoebe (*with* Liu, Yan) Parabolas in taxicab geometry. *Missouri J. Math. Sci.* **8** (1996), *no.* 2, 63–72. (Sergey N. Astrakov) **98e:51022** 51K05

lê tuân Hoa *see* **Lê Tuân Hoa**

hui-bon-Hoa, Alain *see* **Hui-Bon-Hoa, Alain**

Hoa, Lê Tuân *see* **Lê Tuân Hoa**

Hoa, S. V. (*with* Feng, Wei[4]; Huang, Qian) Classification of stress modes in assumed stress fields of hybrid finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4313–4339. 73V05

le thi Hoai An *see* **Le Thi Hoai An**

dinh huy Hoang *see* **Dinh Huy Hoang**

Hoang, Dinh Huy *see* **Dinh Huy Hoang**

Hoang, Nguyen Van (*with* Nguyen Hong Chuong; Minkevich, A. V.; Hung, Le Nhu) Cosmological constant and viscosity in homogeneous isotropic models with torsion. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 186–189, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83103** 83D05

Hoang, Son Hong (*with* De Mey, P.; Talagrand, O.; Baraille, Rémy) A new reduced-order adaptive filter for state estimation in high-dimensional systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1475–1498. 93E11 (93E35)

— (*with* Nguyen Thuc Loan; Baraille, Rémy; Talagrand, O.) Approximation approach for nonlinear filtering problem with time dependent noises. I. Conditionally optimal filter in the minimum mean square sense. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 4, 409–425. (Michael Kohlmann) **98i:93082** 93E11 (93E25)

— (*with* Baraille, Rémy; Talagrand, O.; Nguyen Thuc Loan; De Mey, P.) Approximation approach for nonlinear filtering problem with time dependent noises. II. Stable nonlinear filters. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 5, 557–576. (Michael Kohlmann) **98m:93113** 93E11 (93E25)

Hoang, Tuy *see* **Hoàng Tuy**

Hoang Duong Tuan (*with* Hosoe, S.) On robust and $\mathscr{H}_\infty$ controls for a class of linear and bilinear systems with nonlinear uncertainty. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1373–1377. (Summary) **98c:93096** 93D21 (93B36)

— Can linear programs be used to test global optimization algorithms? (English summary) *Computing* **59** (1997), *no.* 1, 91–93. 90C30 (65K05)

Hoàng Lê Minh Geometry of the Radon-Penrose transform and interpretation of singularities. (English summary) *Geometry from the Pacific Rim* (*Singapore*, 1994), 159–172, *de Gruyter, Berlin*, 1997. (Sergey Merkulov) **98k:32043** 32L25 (53C56)

Hoang Ngoc Minh, V. Summations of polylogarithms via evaluation transform. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 707–728. (Matti Vuorinen) **98h:33012** 33E99 (11Y99, 68Q40)

Hoang Quoc Toan On a class of nonlinear elliptic equations and boundary value problems in the limit domain. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 2, 253–267. (Summary) **98k:35072** 35J65

Hoàng Tuy D.C. optimization: theory, methods and algorithms. (English summary) *Handbook of global optimization*, 149–216, *Nonconvex Optim. Appl.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1995. (Marlies Borchardt) **98b:90108** 90C26 (65K05, 90–02, 90C08)

— (*with* Konno, Hiroshi; Phan Thiên Thạch) ★ Optimization on low rank nonconvex structures. Nonconvex Optimization and its Applications, 15. *Kluwer Academic Publishers, Dordrecht*, 1997. xii+457 *pp. ISBN* 0-7923-4308-5 (Edward J. Anderson) **98i:90003** 90–02 (90C26, 90C90)

— (*with* Jaumard, Brigitte; Meyer, Christophe) Generalized convex multiplicative programming via quasiconcave minimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 229–256. (Siegfried Schaible) **98c:90098** 90C26

— *see also* **Birthday: Hoàng Tuy**

Hoàng Xuân Phú (*with* An, P. T.) Stable generalization of convex functions. (English summary) *Optimization* **38** (1996), *no.* 4, 309–318. (Siegfried Schaible) **98a:90079** 90C26 (26A51)

— (*with* Hichert, Jens; Hoffmann, Armin) Convergence speed of an integral method for computing the essential supremum. (English summary) *Developments in global optimization* (*Szeged*, 1995), 153–170, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (G. M. Ostrovsky) **98k:90109** 90C30

— Six kinds of roughly convex functions. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 2, 357–375. (Sándor Komlósi) **98b:90109** 90C26 (52A41)

— (*with* Bock, Hans Georg; Schlöder, Johannes P.) The method of orienting curves and its application to manipulator trajectory planning. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 213–225. (Summary) **98a:49008** 49J15 (70B15, 70Q05)

Hoare, C. A. R. *see* **Abrial, J.-R., 98d:68034**

Hobbs, Arthur M. (*with* Borosh, Itshak; Hensley, Douglas) Vertex prime graphs and the Jacobsthal function. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 193–222. (Summary) **98j:05117** 05C78

Hobbs, C. A. (*with* Gibson, C. G.; Marar, W. L.) On versal unfoldings of singularities for general two-dimensional spatial motions. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 221–242. (Paulo Ferreira da Silva Porto, Jr.) **98e:58027** 58C27 (70B15)

Hobbs, R. E. (*with* Lee, C. K.) Automatic adaptive refinement for plate bending problems using Reissner-Mindlin plate bending elements. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 1, 1–63. (Summary) **98j:73091** 73V05 (73K10)

Hobby, John D. A natural lattice basis problem with applications. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1149–1161. (Christine Bachoc) **98j:52028** 52C07 (68U05)

Hobert, James P. (*with* Casella, George) The effect of improper priors on Gibbs sampling in hierarchical linear mixed models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1461–1473. (Mauro Piccioni) **98b:62132** 62J10 (62F15, 65U05)

— (*with* Robert, Christian P.; Goutis, Constantinos) Connectedness conditions for the convergence of the Gibbs sampler. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 235–240. (Salvatore Ingrassia) **98i:60064** 60J10 (62E25)

— (*with* Booth, James G.) Standard errors of prediction in generalized linear mixed models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 262–272. (Summary) **98m:62201** 62J12

Hobijn, Bart (*with* Franses, Philip Hans) Critical values for unit root tests in seasonal time series. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 1, 25–47. (Summary) **98a:62113** 62M10

Hobill, David Sources of chaos in mixmaster cosmologies. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 15–30, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83F05 (58F13)

— (*with* Bernstein, David H.; Seidel, Edward; Smarr, Larry; Towns, John) Gravitational waves from dynamic black hole spacetimes. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 312–316, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C35 (83C57)

— (*with* Anninos, Peter; Seidel, Edward; Smarr, Larry; Suen, Wai-Mo) When black holes collide. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 151–156, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98c:83055** 83C57

Hobson, David (*with* DeBlassie, R. Dante; Housworth, Elizabeth Ann; Toby, Ellen H.) Escape rates for transient reflected Brownian motion in wedges and cones. (English summary) *Stochastics Stochastics Rep.* **57** (1996), *no.* 3-4, 199–211. (Youngmee Kwon) **98c:60103** 60J65

Hochbaum, Dorit S. (*with* Garg, Naveen) An $O(\log k)$-approximation algorithm for the k minimum spanning tree problem in the plane. (English summary) *Algorithmica* **18** (1997), *no.* 1, 111–121. (M. M. Sysło) **98h:90060** 90C27 (05C05, 05C85, 68Q25)

— (*with* Landy, Dan) Scheduling with batching: two job types. (English summary) Models and algorithms for planning and scheduling problems (Loveno di Menaggio, 1993). *Discrete Appl. Math.* **72** (1997), *no.* 1-2, 99–114. (Summary) **98b:90067** 90B35

— (*with* Goldschmidt, Olivier) k-edge subgraph problems. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 159–169. (Kathryn Fraughnaugh) **98c:05089** 05C35 (05C85, 68R10)

Hochberg, David (*with* Visser, Matt) Geometric structure of the generic static traversable wormhole throat. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4745–4755. (Luis J. Garay) **98i:83068** 83E05 (83C99)

Hochberg, R. A. (*with* Clarke, T. A.; Hurlbert, Glenn H.) Pebbling in diameter two graphs and products of paths. (English summary) *J. Graph Theory* **25** (1997), *no.* 2, 119–128. (Aparna Higgins) **98j:05124** 05C99 (05C40, 90D42)

Hochberg, Yosef On assessing multiple equivalences with reference to bioequivalence. (English summary) *Statistical theory and applications*, 267–278, *Springer, New York*, 1996. (Summary) **98c:62197** 62P10 (62J15)

— (*with* Benjamini, Y.; Stark, Philip B.) Confidence intervals with more power to determine the sign: two ends constrain the means. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 309–317. 62F25

Hochbruck, Marlis Further optimized look-ahead recurrences for adjacent rows in the Padé table and Toeplitz matrix factorizations. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 219–236. (Summary) **98j:41012** 41A21 (65F05)

— (*with* Lubich, Christian) On Krylov subspace approximations to the matrix exponential operator. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1911–1925. (Summary) **98h:65018** 65F30 (65L99)

— (*with* Lubich, Christian) Error analysis of Krylov methods in a nutshell. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 695–701 (*electronic*). 65F10

Hochmuth, Reinhard (*with* Dahlke, Stephan; Dahmen, Wolfgang; Schneider, Reinhold) Stable multiscale bases and local error estimation for elliptic problems. (English summary) Multilevel methods (Oberwolfach, 1995). *Appl. Numer. Math.* **23** (1997), *no.* 1, 21–47. (Hans-Peter Helfrich) **98a:65075** 65J10 (65N30, 65R20)

Hochstättler, Winfried (*with* Kromberg, S.) A pseudoconfiguration of points without adjoint. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 2, 277–294. (Jesús A. de Loera) **98a:52018** 52B40 (05B35, 52B30)

— (*with* Faigle, Ulrich; Kern, Walter; Fekete, Sándor P.) On the complexity of testing membership in the core of min-cost spanning tree games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 361–366. (Summary) **98e:90250** 90D43 (65Y20)

Hochster, Melvin (*with* Aberbach, Ian M.) Finite Tor dimension and failure of coherence in absolute integral closures. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 171–184. (Irena Swanson) **98i:13006** 13A35 (13B22, 13D03)

Hochwald, Bertrand (*with* Zeger, Kenneth) Tradeoff between source and channel coding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1412–1424. (Summary) **98f:94008** 94A29 (94A24)

Hockemeyer, Cord Using the basis of a knowledge space for determining the fringe of a knowledge state. (English summary) *J. Math. Psych.* **41** (1997), *no.* 3, 275–279. (Summary) **98j:92023** 92J40

Hocking, G. C. (*with* Zhang, Hong[2]; Barry, D. A.) An analytical solution for critical withdrawal of layered fluid through a line sink in a porous medium. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 271–279. (Summary) **98i:76088** 76S05

Hocking, Ronald R. (*with* Ou, Shyh-Tyan; Wang, Suojin) Saddlepoint confidence intervals for variance components. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 3, 255–268. 62E17 (62F25, 62J05)

Hockney, G. M. (*with* Erber, Thomas) Complex systems: equilibrium configurations of N equal charges on a sphere ($2 \leq N \leq 112$). *Advances in chemical physics, Vol. XCVIII*, 495–594, *Adv. Chem. Phys., XCVIII, Wiley, New York*, 1997. (From the text) **98e:78002** 78A30

Hodas, Joshua S. (*with* Cervesato, Iliano; Pfenning, Frank) Efficient resource management for linear logic proof search. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 67–81, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17 (03B35, 03B70, 03F50, 68T15)

Hoddeson, Lillian *see* **Rise of the standard model, 98h:81002**

Hodé, Y. (*with* Deruyver, A.) Constraint satisfaction problem with bilevel constraint: application to interpretation of over-segmented images. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 321–335. (Summary) **98b:68170** 68T20

Hodel, A. Scottedward (*with* Collins, Emmanuel G., Jr.) Efficient solution of linearly coupled Lyapunov equations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 291–304. (M. M. Konstantinov) **98d:65028** 65F05 (15A06, 93B40)

Hodel, R. E. κ-structures: cardinality conditions, compactness, metrization. (English summary) *Papers on general topology and applications (Brookville, NY, 1990)*, 89–98, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54004** 54A05 (54A25, 54D20, 54D30, 54E35)

— κ-structures and topology. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 50–63, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54012** 54A25 (54A05, 54E05, 54E35)

— Metrizability of spaces satisfying Nagata's condition. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 287–293. (Summary) **98m:54033** 54E35

Hodges, Dewey H. *see* **Eglit, Margarita E. et al., 98f:73001a** *and* **98f:73001b**

Hodges, James S. *see* **Case studies in Bayesian statistics, 98g:62005**

Hodges, P. J. (*with* Mohammedi, Noureddine) Anti-field formalism and non-abelian duality. (English summary) *Phys. Lett. B* **388** (1996), *no.* 4, 761–768. (Friedemann Brandt) **98b:81194** 81T30 (81T70)

Hodges, Stewart D. (*with* Selby, Michael J. P.) The risk premium in trading equilibria which support Black-Scholes option pricing. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 41–52, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Clewlow, Les) Optimal delta-hedging under transactions costs. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1353–1376. (*see* **98c:90003**) 90A12 (90C90)

Hodges, Timothy J. (*with* Levasseur, Thierry; Toro V., Margarita Maria) Algebraic structure of multiparameter quantum groups. *Adv. Math.* **126** (1997), *no.* 1, 52–92. (Ian M. Musson) **98e:17022** 17B37 (16W30)

— Double quantum groups and Iwasawa decomposition. (English summary) *J. Algebra* **192** (1997), *no.* 1, 303–325. (E. J. Taft) **98c:16051** 16W30 (17B37)

— Nonstandard quantum groups associated to certain Belavin-Drinfeld triples. (English summary) *Perspectives on quantization (South Hadley, MA, 1996)*, 63–70, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:17016** 17B37 (16W30)

Hodges, Wilfrid ★ A shorter model theory. (English summary) *Cambridge University Press, Cambridge*, 1997. x+310 *pp. ISBN* 0-521-58713-1 (J. M. Plotkin) **98i:03041** 03Cxx (03–01)

— Compositional semantics for a language of imperfect information. (English summary) *Log. J. IGPL* **5** (1997), *no.* 4, 539–563 (*electronic*). (Zoran Ognjanović) **98k:03068** 03B60

Hodgess, E. M. (*with* Wei, William W. S.) Temporal disaggregation of time series. (English summary) *Applied statistical science, I (Lawrenceville, NJ, 1995)*, 33–43, *Nova Sci. Publ., Commack, NY*, 1996. (Mohsen Pourahmadi) **98f:62255** 62M10

Hodgins, J. E. (*with* Plymen, Roger) The representation theory of p-adic $\mathrm{GL}(n)$ and Deligne-Langlands parameters. *Analysis, geometry and probability*, 54–72, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (Alain Valette) **98m:22014** 22E35 (20G25, 22E50)

— (*with* Plymen, Roger) Universal example for S-arithmetic groups. *Expositiones Math.* **15** (1997), *no.* 2, 149–159. (Herbert Abels) **98j:20064** 20G25 (19L47, 22E40, 55R35)

Hodgson, D. C. (*with* Jimack, Peter K.) A domain decomposition preconditioner for a parallel finite element solver on distributed unstructured grids. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1157–1181. 65N55 (65N30)

Hodgson, David (*with* Gibbons, Alan; Amos, Martyn) Models of DNA computation. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 18–36, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68071** 68Q05 (92B99, 92D20)

Hodkinson, Ian (*with* Gabbay, Dov M.) Temporal logic in the context of databases. *Logic and reality (Christchurch, 1989)*, 69–87, *Oxford Univ. Press, New York*, 1996. (Neculai Curteanu) **98h:03024** 03B45 (03B70, 68P15, 68T30)

— (*with* Simon, András) The k-variable property is stronger than H-dimension k. (English summary) *J. Philos. Logic* **26** (1997), *no.* 1, 81–101. (Fuxing Shen) **98a:03045** 03C07 (03B10, 03B20, 03C13)

— (*with* Hirsch, Robin) Step by step—building representations in algebraic logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 1, 225–279. (Manuel Abad) **98g:03145** 03G15

— (*with* Hirsch, Robin) Complete representations in algebraic logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 816–847. (Ivo Düntsch) **98m:03123** 03G05 (03G15, 06E05)

— (*with* Hirsch, Robin) Axiomatising various classes of relation and cylindric algebras. (English summary) *Log. J. IGPL* **5** (1997), *no.* 2, 209–229 (*electronic*). (Summary) **98g:03146** 03G15

Hoechsmann, Klaus On the arithmetic of commutative group rings. *Group theory, algebra, and number theory (Saarbrücken, 1993)*, 145–201, *de Gruyter, Berlin*, 1996. (Sudarshan K. Sehgal) **98h:16049** 16U60 (16S34, 20C05)

Hoede, Kees (*with* Aarts, Harry; Funaki, Yukihiko) A marginalistic value for monotonic set games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 97–111. (Anatolii F. Kleimenov) **98a:90147** 90D12

— *see also* **Workshop: Graphs and Combinatorial Optimization, 98e:05003**

van der Hoef, M. A. (*with* Lowe, C. P.; Frenkel, D.) Deviations from Fick's law in Lorentz gases. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1229–1244. (Summary) **98g:82039** 82C40

Hoehn, Larry Concurrency theorems for pentagrams. *Missouri J. Math. Sci.* **8** (1996), *no.* 3, 125–133. (E. J. F. Primrose) **98c:51024** 51M15

Hoehnke, Hans-Jürgen On certain classes of categories and monoids constructed from abstract Mal′cev clones. IV. *General algebra and discrete mathematics (Potsdam, 1993)*, 137–167, *Res. Exp. Math.*, 21, *Heldermann, Lemgo*, 1995. (Václav Koubek) **98a:18005a** 18C05 (08B05, 18D15)

— On certain classes of categories and monoids constructed from abstract Mal′cev clones. IV. (English summary) *Algebra (Krasnoyarsk, 1993)*, 103–131, *de Gruyter, Berlin*, 1996. (Václav Koubek) **98a:18005b** 18C05 (08B05, 18D15)

— Remarks and problems on varieties and quasi-varieties, clones and quasi-clones. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 1, 11–56. (Andrei A. Krokhin) **98b:18009** 18C10 (08A40, 08A55, 08B05, 08C05, 08C15)

— (*with* Johnson, Kenneth Walter) k-characters and group invariants. *Comm. Algebra* **26** (1998), *no.* 1, 1–27. (E. Formanek) **98m:20012** 20C15

van Hoeij, Mark (*with* Weil, Jacques-Arthur) An algorithm for computing invariants of differential Galois groups. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 353–379. (Juan José Morales Ruiz) **98k:12005** 12H05 (34A25, 34A30)

— Rational parametrizations of algebraic curves using a canonical divisor. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 209–227. (Michael M. Dediu) **98g:14009** 14C20 (14Q05)

— Formal solutions and factorization of differential operators with power series coefficients. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 1, 1–30. (G. Eisenreich) **98e:12006** 12H20 (34A25)

— Factorization of differential operators with rational functions coefficients. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 5, 537–561. (U. D. Bekbaev) **98j:12007** 12H20 (34A30)

van der Hoek, Wiebe (*with* van Linder, B.; Meyer, J.-J. Ch.) Actions that make you change your mind. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 103–146, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Katalin Bimbó) **98k:68155** 68T27 (03B45, 03B70)

— (*with* Witteveen, Cees) Revision by communication: program revision by consulting weaker semantics. (English summary) *Logic programming and nonmonotonic reasoning (Lexington, KY, 1995)*, 189–202, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17

— (*with* Witteveen, Cees) Some postulates for nonmonotonic theory revision applied to logic programming. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 303–318, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68051** 68N17 (03B60, 03B70, 68T27)

— (*with* Witteveen, Cees) Revising and updating using a back-up semantics. (English summary) *Logics in artificial intelligence (Évora, 1996)*, 388–403, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (From the summary) **98f:03028** 03B60 (03B70, 68T27)

Hoetzer, Helmut *see* **Weiss, Eric A.**

Hoenigman, Rebecca L. (*with* Watkins, John J.) Knight's tours on a torus. *Math. Mag.* **70** (1997), *no.* 3, 175–184. (R. H. Schelp) **98i:00003** 00A08 (05C10, 05C45)

Hoepman, Jaap-Henk (*with* Papatriantafilou, Marina; Tsigas, Philippas) Self-stabilization of wait-free shared memory objects. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 273–287, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10 (68M15, 68T05)

Hoeve, Hendrik Jan *see* **van der Lubbe, Jan C. A., 98i:94005**

van der Hoeven, Joris On the computation of limsups. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 381–394. (Peter W. Day) **98h:41034** 41A60 (03H05, 14P15, 26A03)

Hoever, Georg Spektren von Kompositionsoperatoren auf Hardyräumen. [Spectra of composition operators on Hardy spaces] *Travaux mathématiques, Fasc. VIII*, 1–114, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1996. (John N. McDonald) **98k:47054** 47B38 (47A10)

— Two classroom proofs concerning composition operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 4, 493–496. (Summary) **98b:47041** 47B38

Hof, A. On a "structure intermediate between quasiperiodic and random". (English summary) *J. Statist. Phys.* **84** (1996), *no.* 1-2, 309–320. (Summary) **98c:58144** 58F27 (58F11)

— On scaling in relation to singular spectra. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 3, 567–577. (Oliver Knill) **98h:81021** 81Q10 (28D05, 47A35, 47N50, 82B03)

van den Hof, J. M. Realization of positive linear systems. (English summary) *Linear Algebra Appl.* **256** (1997), 287–308. (K. Amborski) **98d:93031** 93B17 (15A23, 93C05)

— Realization of continuous-time positive linear systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 243–253. (Vimal Singh) **98m:93025** 93B15

van den Hof, Paul M. J. *see* **Van den Hof, Paul M. J.**

Hofbauer, Franz The fractal dimension of invariant subsets for piecewise monotonic maps on the interval. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **64** (1995), *no.* 2, 235–245. (Summary) **98b:28032** 28D99 (26A18)

— The box dimension of completely invariant subsets for expanding piecewise monotonic transformations. (English summary) *Monatsh. Math.* **121** (1996), *no.* 3, 199–211. (Summary) **98b:28033** 28D99 (26A18)

Hofbauer, Josef (*with* Garay, Barnabas M.) Chain recurrence and discretisation. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 1, 63–71. (Elsayed Mohamed E. Zayed) **98a:34054** 34D45 (34A45, 34C35, 58F12)

— (*with* Hutson, V.; Vickers, G. T.) Travelling waves for games in economics and biology. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1235–1244. (*see* **98i:00028**) 90D35 (92B05)

Hofer, Christian *see* **Ross, Sheldon M.**

Hofer, Eberhard P. (*with* Tibken, Bernd) Constrained optimization algorithms and automatic differentiation for parameter estimation with application to granulocytic models. (English summary) *System modelling and optimization* (*Prague*, 1995), 115–119, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C90 (92C30, 93A30)

Hofer, Helmut (*with* Wysocki, K.; Zehnder, E.) Properties of pseudoholomorphic curves in symplectisation. IV. Asymptotics with degeneracies. (English summary) *Contact and symplectic geometry* (*Cambridge*, 1994), 78–117, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Karl Friedrich Siburg) **98e:58030** 58D10 (58F05)

— (*with* Wysocki, K.; Zehnder, E.) Unknotted periodic orbits for Reeb flows on the three-sphere. (English summary) *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 219–244. (Karl Friedrich Siburg) **98h:58155** 58F22 (34C25)

— (*with* Wysocki, K.; Zehnder, E.) Correction to: "A characterisation of the tight three-sphere" [Duke Math. J. **81** (1995), no. 1, 159–226 (1996); MR 97a:53043]. *Duke Math. J.* **89** (1997), *no.* 3, 603–617. (From the text) **98j:53037** 53C15 (58D10, 58F05)

Hofer-Szabó, Gábor Formal existence and uniqueness of the Reichenbachian common cause on Hilbert lattices. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1973–1980. (S. Gudder) **98j:81027** 81P10 (03G12, 06C15)

Hoff, David Discontinuous solutions of the Navier-Stokes equations for multidimensional, isentropic flow. *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 148–157, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **98a:35107** 35Q30 (76N10)

— Discontinuous solutions of the Navier-Stokes equations for multidimensional, compressible flow. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 229–236, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Alain Miranville) **98i:35144** 35Q30 (76N10)

— (*with* Zhao, Jennifer Jing) Convergence and error bound analysis of a finite-difference scheme for the one-dimensional Navier-Stokes equations. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 625–631, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 65M06 (65M12, 76D05, 76M20)

— Discontinuous solutions of the Navier-Stokes equations for multidimensional flows of heat-conducting fluids. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 4, 303–354. (Jürgen Socolowsky) **98j:35141** 35Q30 (76D05, 76N10)

— (*with* Zumbrun, Kevin) Pointwise decay estimates for multidimensional Navier-Stokes diffusion waves. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 597–614. (Alain Miranville) **98i:35145** 35Q30 (76N10)

Hoffman, Alan J. (*with* Cao, Dasong; Chvátal, V.; Vince, Andrew) Variations on a theorem of Ryser. (English summary) *Linear Algebra Appl.* **260** (1997), 215–222. (Summary) **98c:15053** 15A36 (05B05)

— (*with* Hershkowitz, Daniel; Schneider, Hans) On the existence of sequences and matrices with prescribed partial sums of elements. (English summary) *Linear Algebra Appl.* **265** (1997), 71–92. (Jacques Dubois) **98h:15037** 15A45

Hoffman, D. G. (*with* Rodger, C. A.) On the number of edge-disjoint one factors and the existence of k-factors in complete multipartite graphs. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 177–187. (Sheshayya A. Choudum) **98e:05088** 05C70 (05C15)

— (*with* Donovan, Diane) Critical sets in a family of groups. (English summary) *Australas. J. Combin.* **16** (1997), 21–28. 05B15

— (*with* Adams, Peter; Billington, Elizabeth J.) On the spectrum for $K_{m+2} \setminus K_m$ designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 1, 49–60. (Summary) **98g:05030** 05B30 (05C70)

— (*with* Billington, Elizabeth J.) The intersection problem for star designs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 217–222. (Summary) **98g:05031** 05B30

Hoffman, David A. (*with* Rosenberg, Harold) ★ Surfaces minimales et solutions de problèmes variationnels. [Minimal surfaces and solutions of variational problems] SMF Journée Annuelle [SMF Annual Conference], 1993. *Société Mathématique de France, Paris*, 1993. iv+67 *pp.* (Ricardo Sa Earp) **98m:53016** 53A10 (53–06)

— Comment utiliser un ordinateur pour trouver de nouvelles surfaces minimales et des bulles de savon. (English) [Using computers to find minimal surfaces and soap bubbles] *Surfaces minimales et solutions de problèmes variationnels*, 29 *pp.*, *SMF Journ. Annu.*, 1993, *Soc. Math. France, Paris*, 1993. (*see* **98m:53016**) 53A10

— (*with* Karcher, Hermann) Complete embedded minimal surfaces of finite total curvature. *Geometry, V*, 5–93, 267–272, *Encyclopaedia Math. Sci.*, 90, *Springer, Berlin*, 1997. (Rabah Souam) **98m:53012** 53A10

Hoffman, David K. (*with* Kouri, Donald J.) A tutorial on computational approaches to quantum scattering. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 19–82, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Takashi Ichinose) **98k:81290** 81U05 (81–02, 81–08)

— (*with* Wei, Guo Wei[2]; Zhang, De Sheng; Kouri, Donald J.) A robust and reliable approach to nonlinear dynamical problems. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 87–92. 65M99

— (*with* Wei, Guo Wei[2]; Zhang, De Sheng; Kouri, Donald J.) Distributed approximating functional approach to Burgers' equation in one and two space dimensions. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 93–109. 76D05 (65M99, 76M99)

Hoffman, Gary G. The rotational partition function for linear molecules. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 115–129. (Summary) **98f:82006** 82B10 (33C90)

Hoffman, J. William (*with* Weintraub, Steven H.) Cohomology of the Siegel modular group of degree two and level four. (English summary) *Mem. Amer. Math. Soc.* **133** (1998), *no.* 631, *ix*, 59–75. (Bruce Hunt) **98j:11039** 11F75 (11F46, 20G10)

Hoffman, Mark E. (*with* Wong, Edward K.) A ridge-following algorithm for finding the skeleton of a fuzzy image. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 227–238. 68U10

Hoffman, Michael E. (*with* Moen, Courtney) Sums of triple harmonic series. (English summary) *J. Number Theory* **60** (1996), *no.* 2, 329–331. (Bruce C. Berndt) **98a:11113** 11M06 (40A05)

Hoffmann, Armin (*with* Hichert, Jens; Hoàng Xuân Phú) Convergence speed of an integral method for computing the essential supremum. (English summary) *Developments in global optimization* (*Szeged*, 1995), 153–170, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (G. M. Ostrovsky) **98k:90109** 90C30

— (*with* Ginchev, I.) On the best approximation of set-valued functions. (English summary) *Recent advances in optimization* (*Trier*, 1996), 61–74, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Longin Rybiński) **98h:41040** 41A65 (26E25, 41A52, 54C65)

Hoffmann, Christoph M. (*with* Joan-Arinyo, Robert) Symbolic constraints in constructive geometric constraint solving. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 287–299. (Eugeniusz Korczak) **98j:51031** 51M15

Hoffmann, Detlev W. Minimal forms for function fields of Pfister forms. (English summary) *Théorie des nombres, Années* 1994/95–1995/96, 24 *pp.*, *Publ. Math. Fac. Sci. Besançon, Univ. Franche-Comté, Besançon*, 1997. (Adrian R. Wadsworth) **98h:11046** 11E81

— Sur les dimensions des formes quadratiques de hauteur 2. (English and French summaries) [On the dimensions of quadratic forms of height 2] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 1, 11–14. (Adrian R. Wadsworth) **98a:11043** 11E04

— On the dimensions of anisotropic quadratic forms in I^4. (English summary) *Invent. Math.* **131** (1998), *no.* 1, 185–198. (Adrian R. Wadsworth) **98i:11022** 11E81

Hoffmann, Frank (*with* Kriegel, Klaus) A graph-coloring result and its consequences for polygon-guarding problems. (English summary) *SIAM J. Discrete Math.* **9** (1996), *no.* 2, 210–224. (I. Broere) **98h:05076** 05C15 (52A37, 68U05)

— (*with* Aurenhammer, F.; Aronov, Boris) Minkowski-type theorems and least-squares clustering. (English summary) *Algorithmica* **20** (1998), *no.* 1, 61–76. (Summary) **98k:68161** 68U05

Hoffmann, Jörg W. Normalized coprime factorizations in continuous and discrete time—a joint state-space approach. (English summary) *IMA J. Math. Control Inform.* **13** (1996), *no.* 4, 359–384. (Yun Qing Shi) **98f:93005** 93B28 (47A68, 47N70, 93D15)

— (*with* Fuhrmann, Paul A.) Factorization theory for stable, discrete-time inner functions. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 4, 383–400. (Mihail Voicu) **98i:93014** 93B15 (15A23, 47N70, 93C05)

Hoffmann, Karl-Heinz[1] (*with* Chen, Zhi Ming[1]) Optimal control of dynamical Ginzburg-Landau vortices in superconductivity. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 3-4, 241–258. (Summary) **98c:49046** 49K20 (35Q55, 82D55)

— (*with* Tiba, D.) Control of a plate with nonlinear shape memory alloy reinforcements. *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 427–436. (Vadim Komkov) **98e:49012** 49J20 (49K20, 73K10, 73K40)

— (*with* Chen, Zhi Ming[1]; Jiang, Lishang) On the Lawrence-Doniach model for layered superconductors. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 369–387. (Ioan Bâldea) **98k:82202** 82D55 (35Q55)

— (*with* Zou, Jun) Finite element analysis on the Lawrence-Doniach model for layered superconductors. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 567–589. (Jacques Rappaz) **98g:65090** 65M60

— (*with* Chen, Zhi Ming[1]) Global classical solutions to a non-isothermal dynamical Ginzburg-Landau model in superconductivity. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 901–920. (Darko Kapor) **98m:82076** 82D55 (35Q55)

— (*with* Jiang, Lishang; Yu, Wanghui; Zhu, Ning) Models of superconducting-normal-superconducting junctions. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 59–91. (J. R. Ockendon) **98k:82204** 82D55 (35K99, 35Q55)

— (*with* Żochowski, Antoni) Control of the thermoelastic model of a plate activated by shape memory alloy reinforcements. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 589–603. (Summary) **98m:93059** 93C20 (35Q72, 49K20, 73B30, 73K10, 73K50)

Hoffmann, Kurt[1] An empirical Bayes Stein-type estimator for regression parameters under linear constraints. (English summary) *Statistics* **30** (1997), *no.* 2, 91–98. (Summary) **98m:62192** 62J05 (62C12)

Hoffmann, Marc Minimax estimation of the diffusion coefficient through irregular samplings. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 11–24. (M. Arató)

98i:62067 62M05

Hoffmann, Mark R. (*with* Kuhler, Kathleen) A nondiagonal quasidegenerate fourth-order perturbation theory. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 351–364 (1997). (Peter N. Zhevandrov) **98c:81060** 81Q15

Hoffmann, Walter (*with* Dekker, T. J.; Potma, K.) Stability of the Gauss-Huard algorithm with partial pivoting. (English and German summaries) *Computing* **58** (1997), *no.* 3, 225–244. (N. Gass) **98d:65029** 65F05 (65G05, 65Y20)

Hoffmann, Werner The Fourier transforms of weighted orbital integrals on semisimple groups of real rank one. (English summary) *J. Reine Angew. Math.* **489** (1997), 53–97. (Rebecca Herb) **98h:22017** 22E46 (22E30)

Hoffmann-Ostenhof, Maria (*with* Hoffmann-Ostenhof, Thomas; Nadirashvili, N. S.) On some properties of zero sets and critical sets of solutions to elliptic equations. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 167–176, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Nguyễn Minh Trí) **98j:35041** 35J15 (35B65)

— (*with* Hoffmann-Ostenhof, Thomas; Nadirashvili, N. S.) The nodal line of the second eigenfunction of the Laplacian in $\mathbf{R}^2$ can be closed. *Duke Math. J.* **90** (1997), *no.* 3, 631–640. (B. Hellwig) **98m:35146** 35P15 (35J05)

Hoffmann-Ostenhof, Thomas (*with* Hoffmann-Ostenhof, Maria; Nadirashvili, N. S.) On some properties of zero sets and critical sets of solutions to elliptic equations. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 167–176, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Nguyễn Minh Trí) **98j:35041** 35J15 (35B65)

— (*with* Hoffmann-Ostenhof, Maria; Nadirashvili, N. S.) The nodal line of the second eigenfunction of the Laplacian in $\mathbf{R}^2$ can be closed. *Duke Math. J.* **90** (1997), *no.* 3, 631–640. (B. Hellwig) **98m:35146** 35P15 (35J05)

Hoffmeister, Frank (*with* Sprave, Joachim) Problem-independent handling of constraints by use of metric penalty functions. (English summary) *Evolutionary programming, V* (*San Diego, CA*, 1996), 289–294, *Complex Adapt. Systems, MIT Press, Cambridge, MA*, 1996. (*see* **98g:90007**) 90C30 (65K05)

Hoffstein, Jeffrey (*with* Luo, Wenzhi) Nonvanishing of L-series and the combinatorial sieve. With an appendix by David E. Rohrlich. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 435–444. (Jiandong Guo) **98d:11052** 11F67 (11F11, 11N36)

Höfling, Burkhard Schunck classes and projectors of periodic soluble nilpotent-by-finite groups. *J. Algebra* **194** (1997), *no.* 2, 415–428. (M. J. Tomkinson) **98h:20069** 20F50

Hofmann, Bernd (*with* Fleischer, Gunter) The local degree of ill-posedness and the autoconvolution equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3323–3332. (*see* **98h:00034**) 47H17 (65J20)

Hofmann, Gerald On algebraic $\sharp$-cones in topological tensor algebras. II. Closed hulls and extremal rays. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 5, 729–783. (Maria Fragoulopoulou) **98d:46081** 46M05 (46K99, 81T05)

— On the GNS representation of generalized free fields with indefinite metric. (English summary) *Rep. Math. Phys.* **38** (1996), *no.* 1, 67–83. (Lech Jakóbczyk) **98b:81127a** 81T05 (46N50, 47N50, 81S05)

— The Hilbert space structure condition for quantum field theories with indefinite metric and transformations with linear functionals. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 281–295. (Lech Jakóbczyk) **98m:81088** 81T05 (46C20, 46K99, 46N50, 47N50)

— On GNS representations on inner product spaces. I. The structure of the representation space. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 299–323. (Alexandra Yu. Piryatinskaya) **98m:46068** 46K10 (46C15, 46L30)

— *see also* **Errata: "On the GNS representation of generalized free fields with indefinite metric", 98b:81127b**

Hofmann, Karl H. (*with* Lawson, Jimmie D.) Linearly ordered semigroups: historical origins and A. H. Clifford's influence. (English summary) *Semigroup theory and its applications* (*New Orleans, LA*, 1994), 15–39, *London Math. Soc. Lecture Note Ser.*, 231, *Cambridge Univ. Press, Cambridge*, 1996. (B. H. Neumann) **98b:01025** 01A60 (01A70, 06F05, 20M99)

— (*with* Fuchs, László[1]) Extensions of compact abelian groups by discrete ones and their duality theory. I. *J. Algebra* **196** (1997), *no.* 2, 578–594. (Karl-Hermann Neeb) **98i:22005** 22B05 (22C05)

— (*with* Djoković, Dragomir Ž.) The surjectivity question for the exponential function of real Lie groups: a status report. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 171–199. (Karl-Hermann Neeb) **98m:22008** 22E15 (22–02, 22E10, 22E60)

— (*with* Ruppert, Wolfgang A. F.) Lie groups and subsemigroups with surjective exponential function. (English summary) *Mem. Amer. Math. Soc.* **130** (1997), *no.* 618, viii+174 *pp.* (Karl-Hermann Neeb) **98f:22007** 22E15 (22A15)

— (*with* Chigogidze, A. Ch.; Martin, John R.) Compact groups and fixed point sets. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4537–4554. (L. E. Ward, Jr.) **98g:54074** 54F15 (22C05, 54H25)

Hofmann, Martin (*with* Altenkirch, Thorsten; Streicher, Thomas) Categorical reconstruction of a reduction free normalization proof. *Category theory and computer science* (*Cambridge*, 1995), 182–199, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (*see* **98c:68008**) 03F05 (03B40, 68N15)

— On the interpretation of type theory in locally Cartesian closed categories. (English summary) *Computer science logic* (*Kazimierz*, 1994), 427–441, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 03B15 (03G30, 68Q55)

— A simple model for quotient types. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 216–234, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B70 (03B15, 03B40)

— (*with* Altenkirch, Thorsten; Streicher, Thomas) Reduction-free normalisation for a polymorphic system. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 98–106, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68N15 (03B40, 03B70, 68Q15)

— Conservativity of equality reflection over intensional type theory. (English summary) *Types for proofs and programs* (*Torino*, 1995), 153–164, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (Summary) **98e:03007** 03B15

Hofmeier, Helmut (*with* Wittstock, Gerd) A bicommutant theorem for completely bounded module homomorphisms. *Math. Ann.* **308** (1997), *no.* 1, 141–154. (Christian Le Merdy) **98h:46065** 46L10 (46H40, 46L05, 46L89)

Hofmeister, Gerd (*with* Djawadi, Mehdi) Linear Diophantine problems. *Number theory* (*New York*, 1991–1995), 91–95, *Springer, New York*, 1996. (Béla Vizvári) **98e:11044** 11D85 (11D04)

Hofmeister, Thomas (*with* Lefmann, Hanno) Derandomization for sparse approximations and independent sets. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 201–210, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98k:68086** 68Q25 (68R10)

— (*with* Lefmann, Hanno) A combinatorial design approach to MAXCUT. (English summary) *STACS* 96 (*Grenoble*, 1996), 441–452, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98g:05141** 05C85 (05C40, 68R10)

— (*with* Bertram-Kretzberg, Claudia) Multiple product modulo arbitrary numbers. (English summary) *Inform. and Comput.* **131** (1996), *no.* 1, 81–93. (Christoph Meinel) **98d:68095** 68Q25

— (*with* Bertram-Kretzberg, Claudia; Lefmann, Hanno) An algorithm for Heilbronn's problem. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 23–31, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05 (68R10)

— (*with* Krause, Matthias; Simon, Hans Ulrich) Contrast-optimal k out of n secret sharing schemes in visual cryptography (extended abstract). (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 176–185, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 94A60

Hofri, Micha (*with* Boneh, Arnon) The coupon-collector problem revisited—a survey of engineering problems and computational methods. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 1, 39–66. (Ding Zhu Du) **98a:60009** 60C05 (05A05, 90B22)

van der Hofstad, R. (*with* den Hollander, Frank; König, W.) Central limit theorem for the Edwards model. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 573–597. (Philippe Biane) **98f:60041** 60F05 (60J55, 60J65)

— (*with* den Hollander, Frank; König, W.) Central limit theorem for a weakly interacting random polymer. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 1–62. (Anton Bovier) **98h:60025** 60F05 (60K35, 82B41)

ter Hofstede, A. H. M. (*with* Lippe, E.; van der Weide, Th. P.) Applications of a categorical framework for conceptual data modeling. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 927–963. 68P99 (68T30)

Hofuku, Ichiro (*with* Oshima, Kunio; Horimoto, Katsuhisa) Application of weighted ranking methods for tie-break simulations. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 313–320, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 65F30 (90D10)

— (*with* Oshima, Kunio; Horimoto, Katsuhisa) New interpolating functions for non-decreasing time series data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 995–1006. (*see* **98i:00028**) 41A30

Hogan, P. A. (*with* Ellis, George F. R.) The electromagnetic analogue of some gravitational perturbations in cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 2, 235–244. (Charles G. Torre) **98b:83048** 83C50 (83F05)

— (*with* Barrabès, C.; Bressange, G. F.) Implications of spontaneous glitches in the mass and angular momentum in Kerr space-time. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2109–2112. (Summary) **98d:83008** 83C15 (83C40)

Hogan, S. J. (*with* Mottram, N. J.) Multiple solutions in twisted nematic liquid crystal layers. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 4, 213–228. (Summary) **98e:76010** 76A15 (73B30, 82D30)

— (*with* Mottram, N. J.) Disclination core structure and induced phase change in nematic liquid crystals. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2045–2064. (Summary) **98k:82192** 82D30 (76A15)

Hogan, Tom Stability and independence of the shifts of a multivariate refinable function. (English summary) *Approximation theory VIII, Vol.* 2 (*College Station, TX*, 1995), 159–166, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:42053** 42C15

Hogarth, Mark A remark concerning prediction and spacetime singularities. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 1, 63–71. (Robert J. Low) **98h:83062** 83C75

Hogben, Leslie (*with* Cain, Bryan; DeAlba, Luz M.; Johnson, Charles Royal) Multiplicative perturbations of stable and convergent operators. (English summary) *Linear Algebra Appl.* **268** (1998), 151–169. (Sing Cheong Ong) **98j:15009** 15A18 (47A99)

Hogbe Nlend, H. Espaces nucléaires et représentations des relations de commutation. (French summary) [Nuclear spaces and representations of commutation relations] *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 243–248. (Roland Speicher) **98f:81144** 81S05 (22E70, 46G12, 46N50)

— On quasi-invariant measures in topological vector spaces. (French. English and French summaries) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 613–616. (Summary) **98m:46060** 46G12 (28C20, 46F05)

murray-Hogeboom, Karen *see* **Murray-Hogeboom, Karen**

Hogendijk, Jan P. Al-Mu'taman's simplified lemmas for solving "Alhazen's problem". *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II* (*Zaragoza*, 1993), 59–101, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (H. W. Guggenheimer) **98g:01019** 01A30

— Transmission, transformation, and originality: the relation of Arabic to Greek geometry. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 31–64, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (J. L. Berggren) **98i:01003** 01A30 (01A20)

Hoger, Anne Virtual configurations and constitutive equations for residually stressed bodies with material symmetry. (English summary) *J. Elasticity* **48** (1997), *no.* 2, 125–144. (Summary) **98k:73003** 73B05 (73B40, 73C50)

— (*with* Skalak, R.; Farrow, D. A.) Kinematics of surface growth. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 869–907. (Summary) **98i:92013** 92C15 (73P20)

Hogg, B. W. (*with* Flynn, D.; McLoone, S.; Irwin, G. W.; Brown, M. D.; Swidenbank, E.) Neural control of turbogenerator systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1961–1973. 93C95 (93C83)

Hogg, Tad Applications of statistical mechanics to combinatorial search problems. (English summary) *Annual reviews of computational physics, II*, 357–406, *Annual Rev.*

Comput. Phys., II, World Sci. Publishing, River Edge, NJ, 1995. (*see* **98a:82001**) 82C80 (05C15, 68Q25)

— (*with* Guenther, Oliver; Huberman, Bernardo A.) Controls for unstable structures. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 754–763, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K50, 90A16)

— (*with* Mammen, Dorothy L.) A new look at the easy-hard-easy pattern of combinatorial search difficulty. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 47–66. (Summary) **98f:68129** 68Q25

Hoggar, Stuart G. 64 lines from a quaternionic polytope. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 287–289. (H. W. Guggenheimer) **98m:51013** 51M04

Höglund, A. (*with* Edgar, S. Brian) The Lanczos potential for the Weyl curvature tensor: existence, wave equation and algorithms. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1959, 835–851. (Patrick Dolan) **98i:83062** 83C99 (53C80, 83C60)

Högnäs, Göran (*with* Vellekoop, M. H.) A unifying framework for chaos and stochastic stability in discrete population models. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 557–588. (John Haigh) **98k:92012** 92D25

— On the quasi-stationary distribution of a stochastic Ricker model. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 243–263. (Fima Klebaner) **98k:60150** 60J80

Hohage, Thorsten Logarithmic convergence rates of the iteratively regularized Gauss-Newton method for an inverse potential and an inverse scattering problem. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1279–1299. (V. V. Vasin) **98k:65031** 65J15 (47H17, 65J20)

Hohberger, R. (*with* Benecke, Ch.; Grund, R.; Kerber, Adalbert; Laue, Reinhard; Wieland, Thomas) Chemical isomerism, a challenge for algebraic combinatorics and for computer science. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 4–20, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the summary) **98a:92009** 92E10

Hohl, Jean-Christophe Massively parallel factorizations of polynomials with many non-commuting variables. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 255–263. (Summary) **98a:68083** 68Q22 (68Q40)

Hohlov, Yuri E. *see* **Khokhlov, Yu. E.**

Hohmann, Andreas (*with* Dellnitz, Michael; Junge, Oliver; Rumpf, Martin) Exploring invariant sets and invariant measures. (English summary) *Chaos* **7** (1997), *no.* 2, 221–228. (Summary) **98g:58099** 58F11 (65L06)

— (*with* Dellnitz, Michael) A subdivision algorithm for the computation of unstable manifolds and global attractors. (English summary) *Numer. Math.* **75** (1997), *no.* 3, 293–317. (Timothy Sauer) **98b:65075** 65L05 (58F12, 65L70)

Höhn, Gerald Self-dual vertex operator superalgebras with shadows of large minimal weight. *Internat. Math. Res. Notices* **1997**, *no.* 13, 613–621. (Mirko Primc) **98g:17027** 17B69

Hohneker, C. (*with* Kramer, Peter; Papadopolos, Zorka; Moody, Robert V.) Canonical icosahedral quasilattices for the F-phase generated by coherent phases in physical space. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6493–6507. (Richard Kenyon) **98k:82187** 82D25 (52C22)

Höhnle, Rainer (*with* Sturm, Karl Theodor) On the structure of subordinate semigroups. (English summary) *Forum Math.* **9** (1997), *no.* 5, 641–654. (Yoichi Ōshima) **98j:60106** 60J45 (31C25, 47D03)

Hohzaki, Ryusuke (*with* Iida, Koji; Kaiho, Takesi) Optimal investigating search maximizing the detection probability. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 294–309. (Summary) **98e:90085** 90B40 (90C15)

müller-Hoissen, Folkert *see* **Müller-Hoissen, Folkert**

Hojman, Sergio A. Non-Noetherian symmetries. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 117–136, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (Frans Cantrijn) **98g:58058** 58F05 (35A30, 35Q53, 58F35, 70H33)

— (*with* Gomberoff, Andrés) Non-standard construction of Hamiltonian structures. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5077–5084. (Jeffrey K. Lawson) **98i:70011** 70G50 (58F05, 70H05)

Hōjō, Shun-ichi (*with* Hashiguchi, Masao; Matsumoto, Makoto) Landsberg spaces of dimension two with (α, β)-metric. *Tensor* (*N.S.*) **57** (1996), *no.* 2, 145–153. (Sándor Bácsó) **98g:53032** 53B40

Hokari, Hisaaki (*with* Matsumura, Akitaka) Asymptotics toward one-dimensional rarefaction wave for the solution of two-dimensional compressible Euler equation with an artificial viscosity. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 283–298. (Paolo Secchi) **98k:35149** 35Q30 (35B40, 76N15)

Hökback, A. *see* **Fröman, Nanny**, **98m:81033**

Ho-Kim, Q. (*with* Truong, T. T.) Conformal symmetry in a six-vertex model. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 8, 1531–1550. (Yu Kui Zhou) **98f:82049** 82B23 (81R10)

Hokkanen, Veli-Matti (*with* Moroşanu, Gheorghe; Joulain, P.; Locquet, V.; Bourceanu, G.) An application of the Fourier method in acoustics. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 69–77. (Summary) **98d:76150** 76Q05 (35Q35)

— (*with* Moroşanu, Gheorghe) On the commutation, symmetricity and unitarity of the evolution operators for linear Cauchy problems. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 2, 1–14. (Yuri Sil'chenko) **98c:34094** 34G10 (47D06, 47N20)

Holá, Ľubica (*with* McCoy, Robert A.) The Fell topology on $C(X)$. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 99–110, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54029** 54C35 (54B20)

— (*with* Di Maio, Giuseppe) On hit-and-miss topologies. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **62** (1995), 103–124 (1996). (Summary) **98f:54010** 54B20 (54A10, 54A20, 54E50)

— (*with* Lucchetti, Roberto) Polishness of weak topologies generated by gap and excess functionals. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 283–294. (Summary) **98d:54023** 54B20

— (*with* Holý, Dušan; Meccariello, Enrico) Wijsman topology on lower semicontinuous functions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 973–986. (Dominique Azé) **98m:49032** 49J45 (54C08)

— (*with* Di Maio, Giuseppe; Holý, Dušan) A characterization of locally compact spaces by epiconvergence and convergence in epitopology. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 245–257. (Summary) **98h:54016** 54C05 (54A20, 54B20, 54C30, 54C35)

— (*with* Di Maio, Giuseppe) Wijsman topology on function spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 52–70. (Taras Banakh) **98e:54019** 54C35 (54B05, 54B20, 54C05, 54E35)

— (*with* Levi, S.) Decomposition properties of hyperspace topologies. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 309–321. (Summary) **98m:54015** 54B20 (54E15)

— *see also* **Real functions '94**, **98d:00022**

Holail, F. S. (*with* Fawzy, Tharwat; El-Ganayni, W. A.) Convergence of the spline solving $(0, m)$ lacunary interpolation problem. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 129–148. (Hans-Jörg Wenz) **98d:41010** 41A15

Holay, Sandeep H. Generators of ideals defining certain surfaces in projective space. (English summary) *Canad. J. Math.* **48** (1996), *no.* 3, 585–595. (Juan C. Migliore) **98b:14031** 14J25 (13D02, 13F20, 13H10)

Holbrook, John (*with* Gerow, Ken) Statistical sampling and fractal distributions. *Math. Intelligencer* **18** (1996), *no.* 2, 12–22. (Christoph Bandt) **98b:62014** 62E10 (28–01)

Holcombe, Mike (*with* Ipate, Florentin) An integration testing method that is proved to find all faults. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 159–178. (Summary) **98b:68112** 68Q60

Holcroft, Christina A. (*with* Rotnitzky, Andrea; Robins, James M.) Efficiency comparisons in multivariate multiple regression with missing outcomes. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 1, 102–128. (Summary) **98f:62205** 62J05

Holden, Arun V. (*with* Biktashev, V. N.; Nikolaev, E. V.) Spiral wave meander and symmetry of the plane. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*A*, 2433–2440. (Summary) **98c:58158** 58F40 (58F13)

— (*with* Gu, Shengshi; Zhang, Henggui) A solitary solution and its stability in a 1-D FHN equation. (English summary) *J. Shanghai Jiaotong Univ.* (*Engl. Ed.*) **1** (1996), *no.* 2, 17–20. 92C20 (35Q80)

— (*with* Gu, Shengshi; Zhang, Henggui) The analysis of the geometric structure of the delayed time used in the embedding process in predicting chaotic time series. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 23–26. (Hans-Peter Herzel) **98g:58115** 58F13 (58F40)

— Nonlinear science—the impact of biology. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 971–1014. (Summary) **98h:92001** 92–02

Holden, Helge (*with* Øksendal, Bernt; Ubøe, Jan; Zhang, Tu Sheng) ★ Stochastic partial differential equations. (English summary) A modeling, white noise functional approach. Probability and its Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1996. x+231 *pp. ISBN* 0-8176-3928-4 (Isamu Dōku) **98f:60124** 60H15 (35R60, 46N30, 60G20, 60H10)

— (*with* Gesztesy, Fritz) On trace formulas for Schrödinger-type operators. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 121–145, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Alexander A. Kiselev) **98m:34172** 34L40 (34A55, 35J10, 47A55, 47E05, 47F05, 81Q10)

— (*with* Risebro, Nils Henrik) Conservation laws with a random source. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 229–241. (Summary) **98c:35108** 35L65 (35R60, 60H15, 76M35, 76S05)

— *see also* **Onsager, Lars**, **98b:01042**

Holden, Lars The Buckley-Leverett equation with spatially stochastic flux function. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1443–1454. (Summary) **98h:76126** 76S05 (35L99, 35R60, 60H15, 76M35)

Holden, Steinar (*with* Haller, H. H.) Ratification requirement and bargaining power. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 825–851. 90A60 (90D10)

Hölder, Otto The axioms of quantity and the theory of measurement. Translated from the 1901 German original and with notes by Joel Michell and Catherine Ernst. With an introduction by Michell. *J. Math. Psych.* **40** (1996), *no.* 3, 235–252. (Reinhard Suck) **98c:00001** 00A05 (00A30, 00A69, 01A60, 01A75, 92J45)

Holder, Rodney D. Hume on miracles: Bayesian interpretation, multiple testimony, and the existence of God. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 1, 49–65. 03A05 (03B48)

Hole, A. (*with* Gulliksen, Tor) On the number of linearly separable subsets of finite sets in $\mathbf{R}^n$. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 463–472. (Stelian S. Dumitrascu) **98k:52019** 52A37 (52C99, 65Y25, 68U05)

Hole, Kjell Jørgen (*with* Hole, Marianne Fjelltveit) Tight bounds on the minimum average weight per branch for rate $(N-1)/N$ convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1301–1305. (Antoine Lobstein) **98g:94044** 94B60 (94B65)

Hole, Marianne Fjelltveit (*with* Ytrehus, Øyvind) Two-step trellis decoding of partial unit memory convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 324–330. (Summary) **98j:94028** 94B10 (94B35)

— (*with* Hole, Kjell Jørgen) Tight bounds on the minimum average weight per branch for rate $(N-1)/N$ convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1301–1305. (Antoine Lobstein) **98g:94044** 94B60 (94B65)

Holen, Margaret (*with* Majda, Andrew J.) Dissipation, topography, and statistical theories for large-scale coherent structure. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1183–1234. (P. L. Sulem) **98j:76017** 76C05 (76D05, 76E20, 76M35)

Holevo, A. S. *see* **Kholevo, A. S.**

Holgate, David The pullback closure operator and generalisations of perfectness. (English summary) Categorical topology (L'Aquila, 1994). *Appl. Categ. Structures* **4** (1996), *no.* 1, 107–120. (Summary) **98f:18001** 18A20 (18A32, 18B30, 54B30, 54C10)

Holický, Petr (*with* Kalenda, Ondřej) Remark on the point of continuity property. II. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 2, 105–111. (Summary) **98j:54063** 54H05

— (*with* Malý, Jan; Zajíček, Luděk; Weil, Clifford E.) A note on the gradient problem. *Real Anal. Exchange* **22** (1996/97), *no.* 1, 225–235. (Ada Bottaro Aruffo) **98f:26010** 26B05

— Binormality of Banach spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 279–282. (Summary) **98c:46023** 46B20 (54E55)

Holladay, Wendell G. The nature of particle-wave complementarity. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 1, 27–33. 81P05

Holland, Finbarr (*with* Brennan, Michael) A linear system of impulsive differential equations. (English summary) *Irish Math. Soc. Bull. No.* 38 (1997), 9–20. (Summary) **98a:92003** 92C45 (34A30, 34A37, 34C11)

Holland, Martin P. K-theory of endomorphism rings and of rings of invariants. (English summary) *J. Algebra* **191** (1997), *no.* 2, 668–685. (Pere Ara) **98c:16006** 16E20 (16R30, 16S35, 19A31)

Holland, Peter R. Is quantum mechanics universal? *Bohmian mechanics and quantum theory: an appraisal*, 99–110, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Holland, W. Charles *see* **Ordered groups and infinite permutation groups. 98g:20003**

den Hollander, Frank (*with* van der Hofstad, R.; König, W.) Central limit theorem for the Edwards model. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 573–597. (Philippe Biane) **98f:60041** 60F05 (60J55, 60J65)

— (*with* Bolthausen, Erwin) Localization transition for a polymer near an interface. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1334–1366. (Wolfgang König) **98h:60149** 60K99 (60K35, 82B24, 82B26)

— (*with* Steif, Jeffrey E.) On K-automorphisms, Bernoulli shifts and Markov random fields. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 405–415. (Scot Adams) **98b:28027** 28D15

— (*with* Steif, Jeffrey E.) Mixing properties of the generalized T, T^{-1}-process. (English summary) *J. Anal. Math.* **72** (1997), 165–202. (Ronald Meester) **98m:28034** 28D05 (60J15)

— (*with* Baillon, J.-B.; Clément, Philippe; Greven, Andreas) On the attracting orbit of a nonlinear transformation arising from renormalization of hierarchically interacting diffusions. II. The non-compact case. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 236–298. (Jean Vaillancourt) **98g:60177** 60K35 (47H99, 47N30)

— (*with* van der Hofstad, R.; König, W.) Central limit theorem for a weakly interacting random polymer. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 1–62. (Anton Bovier) **98h:60025** 60F05 (60K35, 82B41)

Hollander, Myles (*with* Peña, Edsel A.) Dynamic reliability models. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 131–140, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62N05

— (*with* Peña, Edsel A.) Reliability models and inference for systems operating in different environments. (English summary) *Naval Res. Logist.* **43** (1996), *no.* 8, 1079–1108. 62N05 (62G20, 90B25)

— (*with* McKeague, Ian W.; Yang, Jie[4]) Likelihood ratio-based confidence bands for survival functions. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 215–226. (Nabendu Pal) **98g:62091** 62G15 (62N05)

Hölldobler, Steffen (*with* Eder, Kerstin; Thielscher, Michael) An abstract machine for reasoning about situations, actions, and causality. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 137–151, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68044** 68N17 (03B70, 68Q05)

— *see also* **KI-96: Advances in artificial intelligence. 98d:68016**

Hollenberg, Marco An equational axiomatization of dynamic negation and relational composition. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 4, 381–401. (Jānis Cīrulis) **98k:03122** 03G15 (03B45, 03C05, 03G25, 08B05)

Höllig, K. (*with* Koch, Jürgen) Geometric Hermite interpolation with maximal order and smoothness. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 681–695. (Summary) **98m:65017** 65D05 (65D07)

Holling, Heinz (*with* Suck, Reinhard) Stress caused by waiting: a theoretical evaluation of a mathematical model. (English summary) *J. Math. Psych.* **41** (1997), *no.* 3, 280–286. (Summary) **98h:92057** 92J10

Hollis, S. L. (*with* Fitzgibbon, William E.; Morgan, J. J.) Stability and Lyapunov functions for reaction-diffusion systems. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 595–610. (Ying Guo Lei) **98d:35107** 35K57 (35B35)

Hollmann, Helia Quantization of stationary spherically symmetric gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 312–315. (Summary) **98h:83029** 83C45

Hollmann, Henk D. L. Bounded-delay-encodable, block-decodable codes for constrained systems. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1957–1970. (Summary) **98d:94046** 94B60

— (*with* van Lint, Jacobus Hendricus) Universal sequences. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 347–352. (Harald Niederreiter) **98j:11010** 11B75 (94A55)

— On an approximate eigenvector associated with a modulation code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1672–1678. (Summary) **98i:94003** 94A14 (94B12)

Hollot, C. V. (*with* Eszter, E. G.) An IQC for uncertainty satisfying both norm-bounded and passivity constraints. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1545–1548. 93C42 (93D09)

Holloway, Greg Ocean circulation: flow in probability under statistical dynamical forcing. (English summary) *Stochastic models in geosystems (Minneapolis, MN, 1994)*, 137–148, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (*see* **98e:00022**) 86A05

— (*with* Merryfield, William J.) Topographic stress parameterization in a quasi-geostrophic barotropic model. (English summary) *J. Fluid Mech.* **341** (1997), 1–18. 86A05 (76C99, 76U05)

Hollowood, Timothy J. (*with* Dorey, Nicholas; Fraser, Christophe; Kneipp, Marco A. C.) S-duality in $N = 4$ supersymmetric gauge theories with arbitrary gauge group. (English summary) *Phys. Lett. B* **383** (1996), *no.* 4, 422–428. (Summary) **98f:81194** 81T13 (81T60)

— (*with* Mavrikis, Evangelos) The $N = 1$ supersymmetric bootstrap and Lie algebras. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 631–652. (Wen-li Yang) **98k:81269** 81T60 (81R10, 81T10)

— (*with* Fraser, Christophe) On the weak coupling spectrum of $N = 2$ supersymmetric SU(n) gauge theory. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 217–235. (Tomasz Brzeziński) **98f:81321** 81T60 (81T13)

— (*with* Evans, Jonathan M.) Exact scattering in the SU(n) supersymmetric principal chiral model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 517–540. (Wen-li Yang) **98i:81231** 81T40 (81T60, 81U20, 82B23)

— (*with* Fernández-Pousa, Carlos R.; Gallas, Manuel V.; Miramontes, J. Luis) Solitonic integrable perturbations of parafermionic theories. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 673–689. (Luigi Martina) **98k:81247** 81T40 (58F07, 81R10)

— (*with* Fraser, Christophe) Semi-classical quantization in $N = 4$ supersymmetric Yang-Mills theory and duality. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 106–112. (Claus Montonen) **98j:81331** 81T60 (81T13)

Hollunder, Bernhard (*with* Bürckert, Hans-Jürgen; Laux, Armin) On Skolemization in constrained logics. (English summary) *Ann. Math. Artificial Intelligence* **18** (1996), *no.* 2-4, 95–131. (Ralph W. Wilkerson) **98c:03030** 03B35 (68N17, 68T15)

Iazard-Holly, Hippolyte *see* **Lazard-Holly, Hippolyte**

Holly, Konstanty (*with* Motyl, Elżbieta) Inversion of the div div*-operator and three numerical methods in hydrodynamics. (English summary) *Selected problems of mathematics*, 35–94, *50th Anniv. Cracow Univ. Technol. Anniv. Issue, 6, Cracow Univ. Technol., Kraków*, 1995. (Vasiliy I. Sedenko) **98g:35160** 35Q30 (35Q35, 47F05, 76D05, 76M25)

— (*with* Wiciak, Margareta) Compactness method applied to an abstract nonlinear parabolic equation. (English summary) *Selected problems of mathematics*, 95–160, *50th Anniv. Cracow Univ. Technol. Anniv. Issue, 6, Cracow Univ. Technol., Kraków*, 1995. (Vasiliy I. Sedenko) **98g:35161** 35Q30 (34G20, 35K55, 47H15, 47N20, 76D05)

— (*with* Dudek-Dyduch, Ewa) The jump of the Laplacian on a submanifold. (English summary) *Math. Nachr.* **188** (1997), 69–78. (V. S. Rabinovich) **98k:58230** 58G25 (35J05, 58C35)

— (*with* Mosurski, Ryszard) Automatic triangulation in arbitrary two-dimensional domains. (English and Polish summaries) *Opuscula Math. No.* 17 (1997), 5–6, 9–10, 23–32. 65N50

Holm, Darryl D. (*with* Camassa, Roberto; Levermore, C. David) Long-time effects of bottom topography in shallow water. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 258–286. (Yuri N. Skiba) **98a:76005** 76B15 (58F40, 76U05, 86A05)

— Hamiltonian balance equations. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 379–414. (Yuri N. Skiba) **98a:76087** 76U05 (76A02, 76C99, 76M30, 76V05, 86A05)

— The ideal Craik-Leibovich equations. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 415–441. (Yuri N. Skiba) **98b:76010** 76B15 (76A02, 76C05, 76E20, 86A05)

— (*with* Camassa, Roberto; Levermore, C. David) Long-time shallow-water equations with a varying bottom. (English summary) *J. Fluid Mech.* **349** (1997), 173–189. (Yuri N. Skiba) **98m:76031** 76C05 (35Q35, 76M30, 86A05)

— (*with* Aceves, Alejandro; Kovačič, Gregor; Timofeyev, Ilya) Homoclinic orbits and chaos in a second-harmonic generating optical cavity. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 203–208. (Summary) **98k:78049** 78A60 (34C37, 58F13, 58F40)

Holm, Jacob (*with* Alstrup, Stephen; de Lichtenberg, Kristian; Thorup, Mikkel) Minimizing diameters of dynamic trees. (English summary) *Automata, languages and programming (Bologna, 1997)*, 270–280, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68197** 68R10 (68P05, 68Q20)

Holm, Thorsten Derived equivalences and Hochschild cohomology for blocks with quaternion defect groups. (English summary) *Darstellungstheoretage Jena 1996*, 75–86, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Karin Erdmann) **98d:20010** 20C20 (16E40)

— Hochschild cohomology of the integral group ring of a cyclic group and related algebras. *Arch. Math. (Basel)* **67** (1996), *no.* 5, 360–366. (T. W. Hungerford) **98c:16007** 16E40

— Derived equivalent tame blocks. (English summary) *J. Algebra* **194** (1997), *no.* 1, 178–200. (Karin Erdmann) **98k:20012** 20C20 (16E40, 16G60)

Holman, M. (*with* Wisdom, J.; Touma, J.) Symplectic correctors. (English summary) *Integration algorithms and classical mechanics (Toronto, ON, 1993)*, 217–244, *Fields Inst. Commun.*, 10, *Amer. Math. Soc., Providence, RI*, 1996. (Wolf-Jürgen Beyn) **98d:65104** 65L20 (58F05, 70-08, 70H05)

Holman, R. (*with* Prem Kumar, S.) Gravitino zero modes on $U(1)_R$ strings. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7942–7950. (Summary) **98c:83097** 83E30 (81T30, 81V22)

Holmberg, U. (*with* Tsypkin, Yakov Z.) Robust stochastic control using the internal model principle and internal model control. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 809–822. (Summary) **98j:93077** 93E03 (93D09)

Holmbom, Anders Homogenization of parabolic equations: an alternative approach and some corrector-type results. (English summary) *Appl. Math.* **42** (1997), *no.* 5, 321–343. (Katsuyuki Ishii) **98m:35016** 35B27 (35K20, 73B27)

Holmes, M. Randall Untyped λ-calculus with relative typing. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 235–248, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (Summary) **98f:03013** 03B40 (03E70, 68T15)

Holmes, Mark H. (*with* Haider, Mansoor A.) Analytic approximations to the deformation of a thin compressible elastic layer by a rigid flat indenter. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 1–32. (Ranjit S. Dhaliwal) **98j:73081** 73T05

Holmes, Philip J. (*with* Lumley, John L.; Berkooz, Gal) ★ Turbulence, coherent structures, dynamical systems and symmetry. (English summary) Cambridge Monographs on Mechanics. *Cambridge University Press, Cambridge*, 1996. xviii+420 *pp. ISBN* 0-521-55142-0 (Charles R. Doering) **98d:76079** 76F20 (58F40, 76D05, 76M25)

— (*with* Diacu, Florin) ★ Celestial encounters. (English summary) The origins of chaos and stability. *Princeton University Press, Princeton, NJ*, 1996. xviii+234 *pp. ISBN* 0-691-02743-9 (Jaume Llibre) **98c:70006** 70F15 (00A69, 01A05, 58-03, 70-03, 70F10, 70K20, 70K50)

— (*with* Doelman, Arjen) Homoclinic explosions and implosions. *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1709, 845–893. (Summary) **98k:58166a** 58F14 (58F30)

— (*with* Doelman, Arjen) Errata: "Homoclinic explosions and implosions". *Philos. Trans. Roy. Soc. London Ser. A* **354** (1996), *no.* 1713, 1837–1839. (Summary) **98k:58166b** 58F14 (58F30)

— (*with* Ghrist, Robert W.; Sullivan, Michael C.) ★ Knots and links in three-dimensional flows. Lecture Notes in Mathematics, 1654. *Springer-Verlag, Berlin*, 1997. x+208 *pp. ISBN* 3-540-62628-X (J. S. Birman) **98i:58199** 58F25 (57M25)

— Metaphor and models in science and art. (English summary) *Advances in mathematical sciences: CRM's 25 years (Montreal, PQ, 1994)*, 169–182, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00020**) 00A69

— (*with* Elezgaray, Juan; Berkooz, Gal; Dankowicz, Harry; Myers, Mark) Local models and large scale statistics of the Kuramoto-Sivashinsky equation. (English summary) *Multiscale wavelet methods for partial differential equations*, 441–471, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Summary) **98d:65124** 65M60

— (*with* Coller, B. D.) Suppression of bursting. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 1, 1–11. (Summary) **98a:93060** 93D15 (34C37, 34H05, 58F40)

— (*with* Wittenberg, Ralf W.) The limited effectiveness of normal forms: a critical review and extension of local bifurcation studies of the Brusselator PDE. (English summary) *Phys. D* **100** (1997), *no.* 1-2, 1–40. (D. R. J. Chillingworth) **98f:58177** 58F36 (35B32, 35K57, 58F14)

— (*with* Aubry, Nadine; Lumley, John L.; Stone, Emily) Erratum to: "Application of dynamical system theory to coherent structures in the wall region" [Phys. D **37** (1989), no. 1-3, 1–10; MR 90j:76061] by Aubry, Holmes, Lumley and Stone and "Noise induced intermittency in a model of a turbulent boundary layer" [ibid., 20–32; MR 90j:76062] by Stone and Holmes. *Phys. D* **104** (1997), *no.* 2, 212–213. (From the text) **98d:76078** 76F20 (58F13, 58F14, 58F40, 76F99)

— (*with* Lumley, John L.; Berkooz, Gal; Mattingly, Jonathan C.; Wittenberg, Ralf W.) Low-dimensional models of coherent structures in turbulence. (English summary) *Phys. Rep.* **287** (1997), *no.* 4, 337–384. (P. L. Sulem) **98j:76065** 76F20 (58F39, 76M35)

Holmes, R. B. (*with* Jones, Lee Kenneth) On uniform generation of two-way tables with fixed margins and the conditional volume test of Diaconis and Efron. (English summary) *Ann. Statist.* **24** (1996), *no.* 1, 64–68. (I. J. Good) **98a:62068** 62G99 (62H17, 62P99)

Holmes, Richard L. (*with* Boston, Brian; Glimm, James; Grove, John W.; Zhang, Qiang[1]) Multiscale structure for hyperbolic waves. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 1–9, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65

— (*with* Apelian, Christopher; Avellaneda, Marco) A turbulent transport model: streamline results for a class of random velocity fields in the plane. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1053–1088. (Vered Rom-Kedar) **98j:76069** 76F99 (76M35, 82C70)

Holmes, Susan (*with* Diaconis, Persi) Are there still things to do in Bayesian statistics? (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 145–158. (I. J. Good) **98i:62002** 62A15

Holmqvist, Kristina (*with* Migdalas, Athanasios; Pardalos, Panos M.) Greedy randomized adaptive search for a location problem with economies of scale. (English summary) *Developments in global optimization (Szeged, 1995)*, 301–313, *Noncomex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90B85 (90C15)

— (*with* Migdalas, Athanasios; Pardalos, Panos M.) A GRASP algorithm for the single source uncapacitated minimum concave-cost network flow problem. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 131–142, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C35

Holovko, Myroslav *see* **Golovko, M. F.**

Holroyd, F. C. Strengthening Hadwiger's conjecture. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 2, 139–144. (David M. Berman) **98b:05042** 05C15 (05C10, 05C38)

— (*with* Johnson, Antony; Stahl, Saul) Multichromatic numbers, star chromatic numbers and Kneser graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 137–145. (Sheshayya A. Choudum) **98j:05067** 05C15

Holschneider, Matthias Some directional elliptic regularity for domains with cusps. (English summary) *Multiscale wavelet methods for partial differential equations*, 541–565, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (*see* **98d:65006**) 65N30

— (*with* Guerin, Charles-Antoine) On equivalent definitions of the correlation dimension for a probability measure. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 707–720. (Norbert Patzschke) **98b:28016** 28A99 (28A80, 42B10)

— (*with* Guerin, Charles-Antoine; Saillard, M.) Electromagnetic scattering from multi-scale rough surfaces. (English summary) *Waves Random Media* **7** (1997), *no.* 3, 331–349. (Summary) **98f:78021** 78A45 (78–04)

van der Holst, Hein On the graph parameters of Colin de Verdière. *Ten years LNMB*, 37–44, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Yuan Hong) **98i:05118** 05C50 (05C10)

Holst, Michael (*with* Vandewalle, Stefan) Schwarz methods: to symmetrize or not to symmetrize. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 699–722. (Andrei I. Tolstykh) **98c:65196** 65N55 (65F10, 65N22)

Holst, Ulla (*with* Ruppert, David; Wand, M. P.; Hössjer, Ola G.) Local polynomial variance-function estimation. (English summary) *Technometrics* **39** (1997), *no.* 3, 262–273. (Summary) **98c:62073** 62G05

Holt, Derek F. (*with* Macbeath, Murray) Certain maximal characteristic subgroups of the free group of rank 2. *Comm. Algebra* **25** (1997), *no.* 4, 1047–1077. (Martin Edjvet) **98c:20049** 20E07 (20E05)

— (*with* Cannon, John J.) Computing chief series, composition series and socles in large permutation groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 285–301. (Eamonn A. O'Brien) **98m:20009** 20B40 (68Q40)

— (*with* Cannon, John J.; Cox, Bruce C.) Computing Sylow subgroups in permutation groups. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 303–316. (Eamonn A. O'Brien) **98m:20010** 20B40 (20D20, 68Q40)

— (*with* Plesken, Wilhelm; Souvignier, B.) Constructing a representation of the group (2, 3, 7; 11). (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 489–492. (From the text) **98i:20007** 20C15 (20F05, 68Q40)

— Representing quotients of permutation groups. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 347–350. (Walter Carlip) **98j:20001** 20B05 (20B40, 20C30)

— *see also* **Computational algebra and number theory**, **98f:68006**

Holt, F. (*with* Klee, Victor) Counterexamples to the strong d-step conjecture for $d \geq 5$. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 33–46. (H. T. Lau) **98h:05115** 05C38

Holt, Jeffrey J. A class of extremal functions and trigonometric polynomials. (English summary) *J. Approx. Theory* **88** (1997), *no.* 3, 275–303. (R. C. Baker) **98j:42002** 42A05 (11N35, 30D20)

Holt, Robert J. (*with* Bruckstein, Alfred M.; Netravali, Arun N.) Discrete elastica. (English summary) *Discrete geometry for computer imagery (Lyon, 1996)*, 59–72, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 68U10 (68U05)

Holte, John M. Carries, combinatorics, and an amazing matrix. *Amer. Math. Monthly* **104** (1997), *no.* 2, 138–149. (Uriel G. Rothblum) **98g:15034** 15A48 (05A10, 11B73, 15A18, 15A51)

van Holten, J. W. New supersymmetries for spinning particles and black holes. (English summary) *Constraint theory and quantization methods (Montepulciano, 1993)*, 99–110, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83078** 83C57 (81T60, 83E50)

— Gravitational waves and black holes. An introduction to the physics of general relativity. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 6, 439–516. (Serguey M. Pokas') **98i:83006** 83Cxx (83C35, 83C57)

Holthaus, Martin (*with* Nicodemus, Rolf; Grossmann, Siegfried) Improved variational principle for bounds on energy dissipation in turbulent shear flow. (English summary) *Phys. D* **101** (1997), *no.* 1-2, 178–190. (Introduction) **98d:76076** 76F10 (76M30)

— (*with* Nicodemus, Rolf; Grossmann, Siegfried) Variational bound on energy dissipation in plane Couette flow. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6774–6786. (Summary) **98k:76078** 76F99

Holton, Derek (*with* Aldred, R. E. L.; Berendsen, Carl; Lonie, Andrew; Stearne, Martin) Research into matching extensions: a class exercise. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 41–51. 05C70

Holtz, O. V. (*with* Shtraus, V. A.) On classification of normal operators in real spaces with indefinite scalar product. (English summary) *Linear Algebra Appl.* **255** (1997), 113–155. (Aurelian Gheondea) **98e:15016** 15A21 (47B15, 47B50)

— On indecomposable normal matrices in spaces with indefinite scalar product. (English summary) *Linear Algebra Appl.* **259** (1997), 155–168. (Hans Arwed Keller) **98k:15042** 15A63 (15A18)

Holtz, René (*with* Emamirad, Hassan) Vecteurs d'état cohérent et image de la transformée de Husimi. (English and French summaries) [Coherent state vectors and range of the Husimi transformation] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1295–1300. (Alexander Isaakovich Shtern) **98h:47026** 47A70 (47B25, 47N50, 81R30)

Holub, James R. The equivalence of frames. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 73–76. (P. Miličić) **98c:46014** 46B15 (46C05, 47A05)

Holubowicz, Ryszard (*with* Mozgawa, Witold) An example of a non-Sasakian five-dimensional contact manifold. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 71–75. (Luis A. Cordero) **98k:53033** 53C15

Holvorcem, Paulo R. (*with* Bishop, Nigel T.; Gómez, Roberto; Matzner, Richard A.; Papadopoulos, Philippos O.; Winicour, Jeffrey) Cauchy-characteristic evolution and waveforms. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 140–167. (Summary) **98e:76084** 76M25 (76Q05)

Holwerda, Henk (*with* Vervaat, Wim) Lattices of capacities, and related topologies. (English summary) *Statist. Neerlandica* **50** (1996), *no.* 2, 306–324. (Tommy Norberg) **98i:28006** 28A12 (54H99, 60A10)

— A note on Fell- and epicompactness. (English summary) *Probability and lattices*, 151–154, *CWI Tract*, 110, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Summary) **98d:54045** 54D30 (06A23, 06B30, 54B20, 54C08)

— *see also* **Probability and lattices**, **98b:60001**

Holý, Dušan (*with* Holá, Ľubica; Meccariello, Enrico) Wijsman topology on lower semicontinuous functions. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 973–986. (Dominique Azé) **98m:49032** 49J45 (54C08)

— (*with* Di Maio, Giuseppe; Holá, Ľubica) A characterization of locally compact spaces by epiconvergence and convergence in epitopology. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 245–257. (Summary) **98h:54016** 54C05 (54A20, 54B20, 54C30, 54C35)

Hołyst, Janusz A. (*with* Hagel, Tilo; Haag, Günter) Destructive role of competition and noise for control of microeconomical chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1489–1505. 90A16 (58F13)

Holz, Hartmut (*with* Mosler, Karl) A bounding procedure for expected multiattribute utility. (English summary) *Constructing scalar-valued objective functions (Hagen, 1995)*, 153–165, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90A43

Holzer, Markus (*with* Damm, Carsten) Automata that take advice. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 149–158, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68?19**) 68Q68 (68Q15, 68Q45)

— On emptiness and counting for alternating finite automata. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 88–97, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:68112** 68Q25 (68Q68)

— (*with* Fernau, Henning) Accepting multi-agent systems. II. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 361–379. (Summary) **98a:68125** 68Q50

— (*with* Damm, Carsten) Inductive counting for width-restricted branching programs. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 91–99. (Christoph Meinel) **98c:68071** 68Q15 (68Q05)

— (*with* Fernau, Henning) Conditional context-free languages of finite index. (English summary) *New trends in formal languages*, 10–26, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68080** 68Q45

— (*with* Lange, Klaus-Jörn) On the complexity of iterated insertions. (English summary) *New trends in formal languages*, 440–453, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68153** 68Q45 (68Q15)

— (*with* Damm, Carsten; Rossmanith, Peter) Expressing uniformity via oracles. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 4, 355–366. (Gerhard Lischke) **98i:68100** 68Q15 (03D15)

Holzman, Ron (*with* Law-Yone, Nissan) Strong equilibrium in congestion games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 85–101. (Summary) **98k:90169** 90D35 (90D05)
— (*with* Einy, Ezra; Monderer, Dov; Shitovitz, Benyamin) Core equivalence theorems for infinite convex games. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 1–12. (Peter Borm) **98j:90107** 90D12 (90D13)
— (*with* Marcus, Yosi; Peleg, David) Load balancing in quorum systems. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 223–245. (Summary) **98c:68082** 68Q22 (05C65, 68M10, 68Q10, 68R05)
Holzmann, Gerard J. (*with* Kupferman, Orna) Not checking for closure under stuttering. (English summary) *The Spin verification system* (*New Brunswick, NJ*, 1996), 17–22, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 32, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:68182**) 68Q60 (68N15, 68Q22)
— *see also* **Partial order methods in verification**, **98a:68007** *and* **Spin verification system**, **98f:68182**
Hombali, Chhaya M. (*with* Bhoosnurmath, Subhas S.) On a result of Hayman. (English summary) *Ganita* **48** (1997), *no.* 2, 81–90. (Summary) **98k:30042** 30D35
Hombas, V. C. Waiting time and expected waiting time—paradoxical situations. (English summary) *Amer. Statist.* **51** (1997), *no.* 2, 130–133. (Summary) **98a:62019** 62E15
Home, Dipankar (*with* Whitaker, M. A. B.) A conceptual analysis of quantum Zeno; paradox, measurement, and experiment. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 237–285. (Lorenza Viola) **98h:81007** 81P05 (81P15)
— (*with* Kar, Guruprasad) Collapse-induced quantum nonlocal effect. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1765–1770. 81P05
— (*with* Whitaker, M. A. B.) Quantum Zeno effect: relevance for local realism, macroscopic realism, and non-invasive measurability at the macroscopic level. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 6–12. 81P05
Homentcovschi, D. (*with* Geer, James; Singler, T.) Uniform asymptotic solutions for small and large sessile drops. (English summary) *Acta Mech.* **128** (1998), *no.* 3-4, 141–171. (Summary) **98m:76026** 76B45 (76D45)
Homer, Steven (*with* Mocas, Sarah) Nonuniform lower bounds for exponential time classes. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 159–168, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98e:68079** 68Q15 (68Q30)
— (*with* Chen, Zhixiang; Cunha, Carlos) Finding a hidden code by asking questions. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 50–55, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98c:68159** 68R05 (68M15)
— (*with* Fenner, Stephen A.; Ogihara, Mitsunori; Selman, Alan L.) Oracles that compute values. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1043–1065. (Uwe Schöning) **98e:68056** 68Q05 (03D10, 03D15, 68Q15)
— (*with* Chen, Zhixiang) Learning counting functions with queries. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 155–168. (Summary) **98b:68143** 68Q99 (68T05)
al-Homidan, Suliman *see* **Al-Homidan, Suliman**
Homma, Kazuhiro (*with* Lenz, Reiner) Constructing iterative matching algorithms with the use of Lie theory: three-dimensional orientation example. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 8, 1734–1741. (Summary) **98f:78002** 78A05 (22E70, 33C55)
Homma, Masaaki A combinatorial characterization of the Fermat cubic surface in characteristic 2. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 311–318. (Ragni Piene) **98g:14070** 14N10 (14J25)
Hommes, Cars H. (*with* Brock, William A.) A rational route to randomness. (English summary) *Econometrica* **65** (1997), *no.* 5, 1059–1095. (Jakša Cvitanić) **98i:90035** 90A56 (58F40)
Homs, Josep (*with* González Calvet, Ramon; Solsona, Jordi) Estimating the error made in determining the place from which a photograph was taken. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 51–71. 51N15
Homsy, G. M. (*with* Haj-Hariri, H.) Three-dimensional instability of viscoelastic elliptic vortices. (English summary) *J. Fluid Mech.* **353** (1997), 357–381. (Summary) **98j:76053** 76E99 (76A10)
Hon, Giora Completeness has to be restricted: Gödel's interpretation of the parameter *t*. *Gödel '96* (*Brno*, 1996), 214–223, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Pierre Kerszberg) **98b:01026** 01A60 (03–03, 83–03)
Hon, Y. C. (*with* Lu, M. W.; Xue, Wei Min[1]; Zhu, Y. M.) Multiquadric method for the numerical solution of a biphasic mixture model. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 153–175. (Summary) **98k:76105** 76M25 (65M60, 76T05, 76Z99)
— (*with* Mao, X. Z.) A multiquadric interpolation method for solving initial value problems. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 51–55. (Summary) **98k:65039** 65L05
— (*with* Mao, X. Z.) An efficient numerical scheme for Burgers' equation. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 37–50. 65M06 (65M12, 76F99, 76M25)
— (*with* Hickernell, Fred J.) Radial basis function approximation of the surface wind field from scattered data. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1998), *no.* 3, 221–247. 86A10
Honary, Bahman K. A C^r density theorem. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 75–77, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Ya. L. Umanskiy) **98m:58075** 58F09 (58F10)
— (*with* Ghane, F. H.) A topologically mixing map with trivial rotation set. Erratum: "Degree one maps of the circle with non-trivial and non-persistent rotation sets" [Ann. Differential Equations **11** (1995), no. 4, 389–391; MR 97d:58070]. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 502–503. (Summary) **98c:58049** 58F03
Honary, Bahram (*with* Sidorenko, Vladimir; Markarian, Garik) Minimal trellis design for linear codes based on the Shannon product. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2048–2053. (Summary) **98d:94036** 94B10
Honavar, Vasant (*with* Parekh, Rajesh) An incremental interactive algorithm for regular grammar inference. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 238–249, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (*see* **98e:68004**) 68T05 (68Q45)
Honda, Aoi (*with* Okazaki, Yoshiaki; Yamaguchi, Shinji) Fuzzy measures and subjective evaluation problems. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 202–219. (*see* **98e:00020**) 90C70 (04A72, 28E10)
Honda, Kohei Abstract process structures (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 68Q10 (03B70, 68Q05, 68Q55)
— (*with* Yoshida, Nobuko) Game-theoretic analysis of call-by-value computation. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 225–236, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q55 (68N15)
Honda, Masanobu On maximal subalgebras and the hypercentre of Lie algebras. (English summary) *Hiroshima J. Math. Ed.* **5** (1997), 51–61. (Darin R. Stephenson) **98g:17011** 17B30 (17B05, 17B65)
Honda, Mitsuhiro (*with* Yamada, Koichi) A diagnostic method using conditional possibility distributions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 485–498. 68T27 (04A72, 68T30)
Honda, Naofumi Regularity theorems for holonomic modules. *Singularities and differential equations* (*Warsaw*, 1993), 85–91, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (P. Schapira) **98d:32011** 32C38 (58G07)
— Microfunction solutions of holonomic systems and Stokes lines. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 169–181, *World Sci. Publishing, River Edge, NJ*, 1996. (P. Schapira) **98d:32012** 32C38 (32G34)
Honda, Tatsuhiro The existence of solutions of the $\overline{\partial}$-problem on an infinite-dimensional Riemann domain. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 249–260, *World Sci. Publishing, River Edge, NJ*, 1996. (S. Dineen) **98g:32025** 32F20
— A special version of the Schwarz lemma on an infinite-dimensional domain. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 2, 107–110. (Summary) **98i:46044** 46G20
— (*with* Miyagi, Mitsuhiro; Nishihara, Masaru; Yoshida, Mamoru) On the extension of holomorphic mappings of weak type. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 2, 55–63. (Summary) **98g:46061** 46G20
Honda, Tomoaki Residue formulas for singular foliations defined by meromorphic functions on surfaces. Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 8–15. (M. G. Soares) **98c:32044** 32L30 (58F18)
Honda, Yasushi (*with* Horiguchi, Tsuyoshi; Miya, Masahiro) Restoration of digital images of the alphabet by using Ising models. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 319–324. (Summary) **98a:82067** 82B99 (68U10, 82B20)
Hone, Andrew N. W. Crum transformation and rational solutions of the non-focusing nonlinear Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7473–7483. (Summary) **98i:35178** 35Q55 (81Q05)
Honecker, A. (*with* Peschel, I.) Matrix-product states for a one-dimensional lattice gas with parallel dynamics. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 319–345. (Gunter Schütz) **98h:82047** 82C22 (60K35, 82B23, 82C26)
Honegger, Reinhard (*with* Rieckers, Alfred) Squeezed variances of smeared boson fields. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 507–541. (Lech Jakóbczyk) **98f:81395** 81V80 (46N50, 47N50, 81R30)
— On the continuous extension of states on the CCR algebra. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 11–25. (H. Araki) **98j:46079** 46L60 (46N50, 47D45, 81S05, 81V80)
— (*with* Rieckers, Alfred) Squeezing operations in Fock space and beyond. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 423–438. (Władysław Adam Majewski) **98k:81338** 81V80 (47N50, 81R30)
Honerkamp, J. (*with* Lauer, Stefan; Timmer, J.; van Calker, D.; Maier, Dieter) Optimal weighted Bayesian design applied to dose-response-curve analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2879–2903. 62K05
— (*with* Weese, J.; Korat, E.; Maier, Dieter) Unfolding sphere size distributions with a density estimator based on Tikhonov regularization. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 331–353. (Summary) **98j:65095** 65U05 (62G05)
Hong, Bum Il (*with* Ha, Sung Nam; Lee, Gyou Bong) A stability analysis for Hamilton-Jacobi equations. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 515–523. (Paola Loreti) **98b:35029** 35F20 (35B35)
— (*with* Ha, Sung Nam; Choi, Jeongwhan) An error of the method of vanishing viscosity of the first-order Hamilton-Jacobi equations. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 43–49. (Meng Zhao Qin) **98a:35015** 35F20 (35D05, 65M15)
Hong, Chan Yong (*with* Kim, Hong Kee; Park, Jae Keol) Rings with restricted descending chain conditions. *Comm. Algebra* **25** (1997), *no.* 8, 2579–2584. 16P70
Hong, Changkon (*with* Kim, Choongrak; Jeong, Meeseon; Yang, Meeyeong) Goodness-of-fit test for density estimation. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2725–2741. 62G05 (62G10)
Hong, Chong Sun (*with* Choi, Hyun Jip) On L_1 regression coefficients. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 531–537. 62J07
Hong, Dawei (*with* Han, Sunan; Leung, Joseph Y.-T.) Probabilistic analysis of a bin covering algorithm. (English summary) *Oper. Res. Lett.* **18** (1996), *no.* 4, 193–199. (Béla Vizvári) **98c:90109** 90C27 (90B35)
— (*with* Birget, Jean-Camille) Probabilistic approximation of some NP optimization problems by finite-state machines. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 151–164, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68087** 68Q25 (68Q68)
— (*with* Leung, Joseph Y.-T.) General probabilistic bounds for dual bin packing heuristics. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 85–96. (Summary) **98d:68101** 68Q25 (05B40, 90C35)
Hong, Dong Optimal triangulations for the best C^1 quartic spline approximation. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 249–256, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A15 (41A63)
— (*with* Chui, Charles K.) Swapping edges of arbitrary triangulations to achieve the optimal order of approximation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1472–1482. (Rong Qing Jia) **98h:41036** 41A63 (41A15, 65D07)

Hong, Dug Hun (*with* Hwang, Seok Yoon) The convergence of T-sum of fuzzy numbers on Banach spaces. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 129–134. 46S40 (04A72)

— A note on operations on fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 383–384. (Summary) **98c:03109** 03E72 (94D05)

— (*with* Do, Hae Young) Fuzzy system reliability analysis by the use of T_w (the weakest t-norm) on fuzzy number arithmetic operations. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 307–316. 90B25 (04A72)

— (*with* Hwang, Changha) A T-sum bound of LR-fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 239–252. (Summary) **98g:04008** 04A72

— (*with* Kim, Hoyong) A note to the sum of fuzzy variables. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 121–124. 28E10 (04A72, 60E99)

— A note on correlation of interval-valued intuitionistic fuzzy sets. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 113–117. 28E10

Hong, Hoon Implicitization of curves parameterized by generalized trigonometric polynomials. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 285–296, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98a:65019** 65D17 (65D05)

— An efficient method for analyzing the topology of plane real algebraic curves. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 571–582. (Victor Zvonilov) **98f:14048** 14Q05 (14P25)

— Heuristic search and pruning in polynomial constraints satisfaction. (English summary) *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 3-4, 319–334. (Summary) **98b:68091** 68Q40

— Implicitization of nested circular curves. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 177–189. (Summary) **98a:65203** 65Y25 (65D17)

— Subresultants under composition. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 4, 355–365. (From the introduction) **98d:68112** 68Q40 (13P10)

— *see also* **Applications of quantifier elimination**, **98d:68009**

Hong, Huei-Lin (*with* Wong, Fu-Hsiang; Yeh, Cheh-Chih) Nonexistence of positive solutions of quasilinear differential equations. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 1–8. (Robert Dalmasso) **98j:34030** 34B15 (35B05, 35J65)

Hong, Huimin (*with* Li, Ruisheng) Robust estimation without positive real condition. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 938–943. 93E10

Hong, Jeong Hee (*with* Szymański, Wojciech) Composition of subfactors and twisted bicrossed products. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 281–302. (Yasuyuki Kawahigashi) **98f:46052** 46L37 (16W30, 46L55)

Hong, Jialin (*with* Yuan, Rong[1]) Existence of almost periodic solutions of neutral differential equations with piecewise-constant argument. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 11, 1164–1177. (George Seifert) **98d:34107** 34K15 (34C27)

— (*with* Yuan, Rong[1]; Jing, Zhu Jun) Exponential dichotomies, almost periodic structurally stable differential systems, and an example. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 71–84. (S. Yu. Pilyugin) **98c:34086** 34D30 (34C27, 58F10)

— (*with* Yuan, Rong[1]) The existence of almost periodic solutions for a class of differential equations with piecewise constant argument. *Nonlinear Anal.* **28** (1997), *no.* 8, 1439–1450. (Yoshihiro Hamaya) **98e:34135** 34K15 (34C27, 34K20, 39A10)

Hong, Jiaxing Realization in the large in $\mathbf{R}^3$ of surfaces. *Geometry from the Pacific Rim (Singapore, 1994)*, 173–182, *de Gruyter, Berlin*, 1997. (William P. Minicozzi, II) **98m:53005** 53A05 (53C42)

— (*with* Tao, Youshan; Yi, Fa Huai) Muskat problem with surface tension. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 213–231. (Angela Pawell) **98f:35162** 35R35 (35Q35, 76D45, 76S05)

— Isometric embedding in $\mathbf{R}^3$ complete noncompact nonnegatively curved surfaces. *Manuscripta Math.* **94** (1997), *no.* 3, 271–286. (Joseph A. Iaia) **98m:53006** 53A05

Hong, Jin (*with* Jeong, Kyeonghoon; Kwon, Jae-Hoon) Integral points on hyperbolas. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 149–157. (Hartmut Menzer) **98e:11030** 11D09 (11H55)

Hong, Keum-Shik Asymptotic behavior analysis of a coupled time-varying system: application to adaptive systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1693–1697. (Summary) **98i:93059** 93D05 (93C15, 93C40)

Hong, Lang (*with* Chen, G.) A genetic algorithm based multi-dimensional data association algorithm for multi-sensor–multi-target tracking. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 57–69. (Summary) **98f:90033** 90B40

Hong, Min-Chun (*with* Jost, Jürgen; Struwe, Michael) Asymptotic limits of a Ginzburg-Landau type functional. (English summary) *Geometric analysis and the calculus of variations*, 99–123, *Internat. Press, Cambridge, MA*, 1996. (Patricio L. Felmer) **98e:58068** 58E99 (35Q55)

— Regularity results for minimizers of certain functionals having nonquadratic growth with obstacles. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 1, 65–84. (Gary M. Lieberman) **98e:49093** 49N60 (35J85)

Hong, Min-Chung (*with* Yang, Gou-Sheng) A note on Hadamard's inequality. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 33–37. (J. Sándor) **98h:26031** 26D15

Hong, Pan *see* **Pan, Hong**

Hong, S. M. *see* **Hong, Sung Min**

Hong, Seok-Min (*with* Lee, Sang Jeong; Goodwin, Graham C.) Loop transfer recovery for linear systems with delays in the state and the output. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1099–1118. 93E11 (93B52, 93C30)

Hong, Seongsoo (*with* Lee, Chang-Gun; Hahn, Joosun; Seo, Yang-Min; Min, Sang Lyul; Ha, Rhan; Park, Chang Yun; Lee, Minsuk; Kim, Chong Sang) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Hong, Shao Fang LCM matrix on an r-fold GCD-closed set. (English and Chinese summaries) *Sichuan Daxue Xuebao* **33** (1996), *no.* 6, 650–657. (Aleksander Grytczuk) **98d:11030** 11C20 (11A05)

— Additive characters and orthogonal families of multivariate polynomials over residue class rings. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 2, 151–155. 11T06

— (*with* Zhang, Mou-Cheng) On the structure rank of a class of structure matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 355–364. (Thomas L. Markham) **98m:15002** 15A03

Hong, Shengyan (*with* Gao, Ji Ti; Liang, Hua) Berry-Esseen bounds of error variance estimation in partly linear models. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 477–490. (Li-Xing Zhu) **98g:62045** 62F12 (62J02)

Hong, Shi Huang (*with* Hu, Shi Geng) Coupled minimax fixed points of nonlinear operators and their application. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 33–36. (Summary) **98m:47095** 47H10 (34K05)

Hong, Soon B. (*with* Koopmans, Lambert H.) Comparison problems for experiments with curve responses. (English summary) *Statistics, probability and game theory*, 99–113, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62211** 62J10

Hong, Sung Min (*with* Jun, Young Bae) On deductive systems of Hilbert algebras. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 595–600. (Manuel Abad) **98a:03100** 03G25 (06D99)

— (*with* Xin, Xiaolong) A note on k-nil radicals in BCI-algebras. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 205–209. (From the introduction) **98d:06022** 06F35 (03G25)

— (*with* Jun, Young Bae; Roh, Eun Hwan) k-nil radical in BCI-algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 237–242. (Summary) **98c:03135** 03G25 (06F35)

— (*with* Jun, Young Bae) A uniform structure of lattice implication algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 381–385. 54E15

— (*with* Jun, Young Bae) Right regular maps of Hilbert algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 409–416. (Summary) **98m:03130** 03G25 (06F99)

— (*with* Song, Seok-Zun; Jun, Young Bae; Kim, Hong Kee; Kim, Seon Jeong) On the minimum permanents related with certain barycentric matrices. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 825–839. (Thomas H. Foregger) **98k:15008** 15A15

— (*with* Song, Seok-Zun; Jun, Young Bae; Kim, Seon Jeong) Minimum permanents on a face of the polytope of doubly stochastic matrices. (English summary) *Linear Algebra Appl.* **259** (1997), 169–182. (Peter M. Gibson) **98k:15009** 15A15 (15A51)

— (*with* Jun, Young Bae; Kim, Seung Dong; Kim, Hee Sik) On fuzzy deductive systems in ortholattices. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 181–187. (Siegfried Gottwald) **98i:06005** 06C15 (03B52, 03E72, 03G25, 04A72)

— (*with* Jun, Young Bae; Meng, Jie) Fuzzy BCK-filters. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 45–49. 06F35

Hong, Sungbok The Kontsevich conjecture on mapping class groups. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 815–823. (Sylvain Gervais) **98a:57017** 57M50 (55R35, 57N10)

— (*with* Do, Ilyong) Myrberg-Agard density points and Schottky groups. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 77–86. (Darryl McCullough) **98c:30052** 30F40 (20H10, 57M50, 57S30)

Hong, Tony (*with* Boulet, Benoit; Francis, Bruce A.; Hughes, Peter C.) Daisy: a large flexible space structure testbed for advanced control experiments. *Trends in control (Rome, 1995)*, 115–139, *Springer, Berlin*, 1995. (From the introduction) **98c:93074** 93C85 (73K50)

Hong, Xiao-Bo (*with* Wang, Xin-Zhi; Wang, Lin-Xiang; Wang, Shang-Yong) Displacement solution of circular plates with unsymmetrical large deflection. (English summary) *Progr. Natur. Sci. (English Ed.)* **4** (1994), *no.* 1, 88–105. (Alexander Michailovich Khludnev) **98e:73082** 73K10 (73C02, 73C50)

Hong, Yeon Woong *see* **Cramer, Erhard**, **98c:62035**

Hong, Yi[1] (*with* Lin, Yun Yong) Convex mappings on some Banach spaces and on bounded convex domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **38** (1995), *no.* 6, 837–844. (Hong Kun Xu) **98a:46023** 46B20 (47H99)

— (*with* Wang, Guo Qiang; Tao, Zhi Sui) A problem of Heilbronn type in higher-dimensional spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 144–153. (Sheng Jiang) **98e:51031** 51M25 (51M16)

Hong, Yi Guang (*with* Mei, Sheng Wei; Qin, Hua Shu) Dynamic output feedback stabilization for a class of uncertain nonlinear MIMO systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 649–653. 93D15

— (*with* Yung, Siu Pang; Mei, Sheng Wei; Qin, Hua Shu) Viscosity solution to nonlinear H_∞ control. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 890–894. (Andrzej Swiech) **98h:93010** 93B36 (49L25)

— (*with* Chen, Peng Nian; Mei, Sheng Wei; Qin, Hua Shu) Design of a robust dynamic compensator for partially linearizable systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 233–237. 93B35 (93B52)

— (*with* Mei, Sheng Wei; Qin, Hua Shu; Chen, Peng Nian) A practical stabilization principle for nonlinear uncertain systems using an integrator. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 642–647. 93D09 (93C41)

— (*with* Mei, Sheng Wei; Qin, Hua Shu; Weng, Shao Peng) A viscosity solution method for nonlinear H_∞ control. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 7, 673–676. 93B36

Hong, Ying-Ji On the estimate of the gap between the first two eigenvalues. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 145–148, *Internat. Press, Cambridge, MA*, 1997. (Roman V. Romanov) **98i:58238** 58G25

Hong, Yongmiao Testing for independence between two covariance stationary time series. (English summary) *Biometrika* **83** (1996), *no.* 3, 615–625. (Jiří Anděl) **98b:62160** 62M10

— One-sided testing for conditional heteroskedasticity in time series models. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 3, 253–277. (N. Leonenko) **98k:62155** 62M10 (60G10)

— Testing for pairwise serial independence via the empirical distribution function. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 429–453. (Summary) **98m:62143** 62G10

Hong, YooPyo (*with* Datta, Karabi; Lee, Ran Baik) Applications of linear transformations to matrix equations. (English summary) *Linear Algebra Appl.* **267** (1997), 221–240. (William H. Gustafson) **98j:15020** 15A24

Hong, You Cheng (*with* Yin, Qun) Existence of bifurcation points for a nonlinear equation with respect to a curve. (Chinese. English and Chinese summaries) *J. Math. Res.*

Exposition **16** (1996), *no.* 2, 238–240. (Summary) **98d:47148** 47H15

Hong, Zhao *see* **Zhao, Hong**

nguyen Hong Chuong *see* **Nguyen Hong Chuong**

Ho Ngoc Duc Reasoning about rational, but not logically omniscient, agents. (English summary) *J. Logic Comput.* **7** (1997), *no.* 5, 633–648. (Petr Jirků) **98m:03040** 03B45 (03B70, 68T27)

Hong Tuan, R. Regge behaviour and Regge trajectory for ladder graphs in scalar φ^3 field theory. (English summary) *Phys. Lett. B* **393** (1997), *no.* 1-2, 84–88. (Summary) **98d:81046** 81T10 (81T15, 81U20)

lê Hông Vân *see* **Lê Hông Vân**

Honjo, Shinsuke (*with* Yamanaka, Masanori; Hatsugai, Yasuhiro; Kohmoto, Mahito) Exact ground-state correlation functions of one-dimensional strongly correlated electron models with resonating-valence-bond ground state. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 1133–1208. (Detlef Lehmann) **98f:82035** 82B20 (81V70, 82D20)

Honkala, Iiro S. (*with* Östergård, Patric R. J.) Code design. *Local search in combinatorial optimization*, 441–456, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 94B05 (90C27)

— (*with* Kaipainen, Yrjö; Tietäväinen, Aimo) Long binary narrow-sense BCH codes are normal. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 49–55. (Summary) **98e:94040** 94B15

— (*with* Laihonen, T.; Litsyn, Simon N.) On covering radius and discrete Chebyshev polynomials. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 395–401. (Giorgio Faina) **98i:94049** 94B65 (94B75)

— (*with* Cohen, Gérard Denis; Litsyn, Simon N.; Solé, Patrick) Long packing and covering codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1617–1619. 94B60

Honkala, Juha On unambiguous number systems with a prime power base. (English summary) *Acta Cybernet.* **10** (1992), *no.* 3, 155–163. (Véronique Bruyère) **98a:68116** 68Q45 (11U05)

— A decision method for Parikh slenderness of context-free languages. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 1, 1–4. (George Tourlakis) **98d:68123** 68Q45 (03D05, 68Q68)

— On the decidability of some equivalence problems for L algebraic series. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 3, 339–351. (Dong Yang Long) **98d:68124** 68Q45 (03B25)

— On Lindenmayerian rational subsets of monoids. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 1, 81–96. (Pascal Weil) **98d:68125** 68Q45 (20M99, 68Q42, 68Q70)

— (*with* Kuich, Werner) On Lindenmayerian algebraic power series. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 113–142. (Pascal Weil) **98m:68150** 68Q45

— On Lindenmayerian algebraic sequences. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 143–154. (Pascal Weil) **98m:68151** 68Q45

Honkan, Anant (*with* Andreopoulos, Yiannis) Vorticity, strain-rate and dissipation characteristics in the near-wall region of turbulent boundary layers. (English summary) *J. Fluid Mech.* **350** (1997), 29–96. 76-05 (76D10, 76F99)

Honkapohja, Seppo (*with* Evans, George William, III) Economic dynamics with learning: new stability results. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 1, 23–44. (Summary) **98i:62086** 62P20

Honkasalo, Hannu (*with* Laitinen, Erkki) Equivariant Lefschetz classes in Alexander-Spanier cohomology. *Osaka J. Math.* **33** (1996), *no.* 3, 793–804. (A. A. Ranicki) **98h:55009** 55N91 (57S17)

— A sheaf-theoretic approach to the equivariant Serre spectral sequence. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 1, 53–65. (Summary) **98c:55020** 55T10 (55N30, 55N91)

Honma, Eio Beeckman's natural philosophy. *Historia Sci.* (2) **5** (1996), *no.* 3, 225–247. (A. C. Garibaldi) **98c:01014** 01A45 (00A30)

Honma, Hirotoshi (*with* Masuyama, Shigeru) An $O(\log n)$ parallel algorithm for constructing a spanning forest on trapezoid graphs. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 114–121. (*see* **98k:68015**) 68Q22

Honohan, A. M. (*with* Vihinen, I.; Lin, Sung P.) Image of absolute instability in a liquid jet. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3117–3119. 76E99 (76D25)

Honoré, Bo E. (*with* Kyriazidou, Ekaterini; Udry, Christopher) Estimation of type 3 Tobit models using symmetric trimming and pairwise comparisons. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 107–128. (Luis Firinguetti) **98c:62201** 62P20 (62J99)

Honsberger, Ross ★ In Pólya's footsteps. (English summary) Miscellaneous problems and essays. The Dolciani Mathematical Expositions, 19. *Mathematical Association of America, Washington, DC*, 1997. xii+315 *pp. ISBN* 0-88385-326-4 (E. J. Barbeau) **98d:00002** 00A07

Honsell, Furio (*with* Lenisa, Marina) Final semantics for untyped λ-calculus. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 249–265, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Forti, Marco; Lenisa, Marina) Axiomatic characterizations of hyperuniverses and applications. (English summary) *Papers on general topology and applications (Gorham, ME, 1995)*, 140–163, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Marion Scheepers) **98a:03076** 03E30 (03E65)

— (*with* Miculan, Marino) A natural deduction approach to dynamic logic. (English summary) *Types for proofs and programs (Torino, 1995)*, 165–182, *Lecture Notes in Comput. Sci.*, 1158, *Springer, Berlin*, 1996. (*see* **98d:03006**) 68Q60 (03B35, 03B60, 03B70)

— (*with* Forti, Marco; Lenisa, Marina) An axiomatization of partial n-place operations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 3, 283–302. (Summary) **98b:08003** 08A55 (03B40, 68Q05, 68Q55)

Honusek, M. (*with* Vinduška, M.; Wagner, V.) Rotational spectra of deformed nuclei and the quantum group $SU_q(2)$. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1337–1344. (Summary) **98d:81132** 81V55 (81R50)

Honvault, Pascal Ensembles de module maximum des domaines rigides de $\mathbf{C}^2$. [Maximum modulus sets of rigid domains in $\mathbf{C}^2$] *Math. Z.* **225** (1997), *no.* 2, 295–316. (Bernard Joseph Coupet) **98m:32019** 32E35 (32E25)

Hoo, C. S. Topological MV-algebras. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 103–121. (Summary) **98g:06030** 06F35 (03G25, 08B30)

Hoobler, Raymond T. (*with* Colliot-Thélène, Jean-Louis; Kahn, Bruno) The Bloch-Ogus-Gabber theorem. (English summary) *Algebraic K-theory (Toronto, ON, 1996)*, 31–94, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Gennady Lyubeznik) **98j:14021** 14F20 (14F40, 19F27)

Hood, M. J. (*with* Wake, G. C.) Gel'fand's equation in spherical domains. II. Further results and the spherical annulus revisited. (English summary) Nonlinear dynamics of combustion (Leeds, 1995). *Math. Comput. Modelling* **24** (1996), *no.* 8, 47–54. (Alexandre Fedorov) **98b:80019** 80A32 (34B15, 35B40)

— (*with* Fitzpatrick, S. P.) A Fourier transform exercise. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 2, 74–75. 35K10 (35R05)

Hood, Simon On symmetry- and ansatz-based methods for integrating ordinary differential equations. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 1–18. (Ian M. Anderson) **98i:34011** 34A26 (34A25, 58F37)

Hooda, D. S. (*with* Singh, Umed) The useful information generating function of probability distributions. (English summary) *Aligarh J. Statist.* **14** (1994), 69–78. 62E15

— (*with* Bhaker, U. S.) On a weighted entropy generating function. (English summary) *Res. Bull. Panjab Univ. Sci.* **45** (1995), *no.* 1-4, 181–189. (Prasanna Sahoo) **98g:94009** 94A15

— Bound on exponential mean codeword length of size d-alphabet 1:1 code. (English summary) *J. Indian Inst. Sci.* **77** (1997), *no.* 2, 209–215. 94A24

— (*with* Ram, Anant) Bounds on $L_{1:1}^{\beta}(t)$ in terms of a generalized measure of entropy. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 201–212. (Summary) **98i:94004** 94A15 (94A24)

't Hooft, Gerard The unification of black holes with ordinary matter. *Gravitation et quantifications (Les Houches, 1992)*, 173–179, *North-Holland, Amsterdam*, 1995. (*see* **98b:81003**) 83C57

— The scattering matrix approach for the quantum black hole: an overview. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 26, 4623–4688. (Finn Larsen) **98b:81157** 81T20 (83C47, 83C57)

— Quantum-mechanical behaviour in a deterministic model. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 2, 105–111. (Jorge E. Stephany Ruiz) **98h:81035** 81Q99

— *see also* **Quantum fields and quantum space time, 98k:81006**

Hoogeboom, Hendrik Jan (*with* Rozenberg, Grzegorz) Dependence graphs. *The book of traces*, 43–67, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68R10 (68Q10, 68Q45)

— (*with* ten Pas, P.) Monadic second-order definable text languages. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 4, 335–354. (Jetty Kleijn) **98h:68139** 68Q45 (03D05)

van den Hoogen, Robert Dissipative cosmology. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 351–356, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:83001**) 83F05

— (*with* Coley, Alan A.; Ibáñez, J.) Homogeneous scalar field cosmologies with an exponential potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5256–5271. (Alicia M. Sintes) **98g:83012** 83C20

Hoogendijk, Paul Ferenc ★ A generic theory of datatypes. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Technische Universiteit Eindhoven, Eindhoven*, 1997. vi+163 *pp. ISBN* 90-386-0521-8 (Horst Reichel) **98j:68108** 68Q65 (68N15, 68Q55)

Hoogendoorn, Stephanie (*with* Hu, Chen-Yi; Cardenas, Angelina; Sepulveda, Pedro, Jr.) An interval polynomial interpolation problem and its Lagrange solution. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 27–38. (Summary) **98m:65018** 65D05

Hoogeveen, Johannes Adzer (*with* Kawaguchi, Tsuyoshi) Minimizing total completion time in a two-machine flowshop: analysis of special cases. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 374–388, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (M. M. Syslo) **98g:90021** 90B35 (90C27)

— (*with* Vestjens, Adrianus Petrus Antonius) Optimal on-line algorithms for single-machine scheduling. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 404–414, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Yuri Nazarovich Sotskov) **98b:90068** 90B35

— (*with* van de Velde, S. L.) Scheduling with target start times. (English summary) *Ten years LNMB*, 45–53, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Summary) **98d:90059** 90B35

— (*with* van de Velde, S. L.) Earliness-tardiness scheduling around almost equal due dates. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 92–99. (Summary) **98k:90046** 90B35

Hooghe, Muriel (*with* Pumir, Alain) A model of wave dynamics in the far wake of a cylinder. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1969–1979. (Summary) **98d:76049** 76D33 (76D25, 76E30)

Hooghiemstra, Gerard (*with* Hüsler, Jürg) A note on maxima of bivariate random vectors. (English summary) *Statist. Probab. Lett.* **31** (1996), *no.* 1, 1–6. (Michael Falk) **98c:60020** 60F05 (60G70)

— (*with* Meester, Ludolf E.) Computing the extremal index of special Markov chains and queues. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 2, 171–185. (Rudolf Grübel) **98b:60099** 60G70 (60F05, 60J05, 60K25)

— (*with* Meester, Ludolf E.) The extremal index in 10 seconds. *J. Appl. Probab.* **34** (1997), *no.* 3, 818–822. 60J10 (60G70)

— (*with* Keane, Michael S.) A central limit theorem for sums of correlated products. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 23–34. (Gutti J. Babu) **98c:60021** 60F05 (60G09)

Hoogstrate, A. J. (*with* Van Es, A. J.) How much do plug-in bandwidth selectors adapt to non-smoothness? (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 2, 185–197. (Summary) **98g:62061** 62G05

Hooke, Robert *see* **Erlichson, Herman, 98i:01010** *and* **Nauenberg, Michael**

Hooker, J. N. Constraint satisfaction methods for generating valid cuts. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 1–30, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C35 (68T20, 90C27)

Hooley, Christopher On a problem of Hardy and Littlewood. *Acta Arith.* **79** (1997), *no.* 4, 289–311. (D. R. Heath-Brown) **98b:11100** 11N36 (11P32, 11R42)

de Hoop, Maarten V. (*with* Bleistein, Norman) Generalized Radon transform inversions for reflectivity in anisotropic elastic media. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 669–690. (Alexander S. Denisjuk) **98g:73012** 73D25 (44A12, 73B40, 73D50, 86A15, 86A22)

Hoos, Holger H. Solving hard combinatorial problems with GSAT—a case study. (English summary) *KI-96: Advances in artificial intelligence (Dresden)*, 107–119, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (*see* **98d:68016**) 68Q25

Hooton, M. C. (*with* Blake, J. R.; Robinson, P. B.; Tong, R. P.) Collapsing cavities, toroidal bubbles and jet impact. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 537–550. (Summary) **98a:76002** 76B10 (76M15)

Hoover, D. N. Maximal limit spaces, powerspaces, and Scott domains. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98i:68179** 68Q55 (06B35, 54A99, 54B20)

Hoover, Thomas B. (*with* Burnap, Charles; Lambert, Alan) von Neumann algebras associated with composition operators. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 3-4, 565–582. (A. Böttcher) **98a:47031** 47B38 (46L99, 47C15)

Hoover, Wm. G. (*with* Posch, H. A.) Time-reversible dissipative attractors in three and four phase-space dimensions. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6803–6810. (Summary) **98b:58102** 58F12 (58F11, 70K99)

— Time reversibility in nonequilibrium thermomechanics. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 225–240. (*see* **98i:58004**) 82C35 (80A05)

Hopfinger, E. J. (*with* Rehab, H.; Villermaux, Emmanuel) Flow regimes of large-velocity-ratio coaxial jets. (English summary) *J. Fluid Mech.* **345** (1997), 357–381. (Summary) **98g:76025** 76D25 (76F99)

Höpfner, R. Two comments on parameter estimation in stable processes. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 125–134. (Claudia Klüppelberg) **98k:62156** 62M10 (60G55, 62M99)

— (*with* Kutoyants, Yurii) On minimum distance estimation in recurrent Markov step processes. I. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 61–79. (Martin Jacobsen) **98g:62153** 62M05

Hopkins, Danielle (*with* Mazumdar, J.) Further studies of fully developed flow through ducts of arbitrary section by the contour line-conformal mapping technique. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 783–797. 76D99 (76M99)

Hopkins, Glenn (*with* Staton, William) Outerplanarity without topology. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 112–116. (Summary) **98d:05043** 05C10

Hopkins, Michael *see* **Current developments in mathematics, 98d:00016**

Hopkins, Nora C. Generalized derivations of nonassociative algebras. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 215–224. (Santos González) **98e:17004** 17A36 (16W25)

Hopkins, Richard P. (*with* Best, Eike; Fleischhack, Hans; Frączak, Wojciech; Klaudel, Hanna; Pelz, Elisabeth) A class of composable high level Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 103–120, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

Hoppe, Jens Diffeomorphism invariant integrable field theories. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 341–343. (Hans P. Künzle) **98b:58054** 58E50 (58E20, 70G50)

— On the deformation of time harmonic flows. *Deformation theory and symplectic geometry (Ascona, 1996)*, 321–326, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:58003**) 58E15 (53C07)

— Non-local conservation laws in relativistic theories of extended objects. (English summary) *Nonlinear waves (Sapporo, 1995)*, 155–160, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98k:83083** 83E30 (35L65, 35Q75)

— (*with* Ratiu, Tudor S.) Hamiltonian reduction of diffeomorphism-invariant field theories. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, L45–L48. (Hans P. Künzle) **98b:58055** 58E50 (58E20, 70G50)

— On M-algebras, the quantisation of Nambu-mechanics, and volume preserving diffeomorphisms. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 302–317. (Ivailo M. Mladenov) **98g:81169** 81T30 (58Z05, 81S99)

schenk-Hoppé, Klaus Reiner *see* **Schenk-Hoppé, Klaus Reiner**

Hoppe, Ronald H. W. (*with* Sieber, E. R.; Wachutka, G.; Wiest, U.) Mathematical modelling and numerical simulation of a free boundary problem for an electromechanical micropump. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 65–78. 73R05 (73V20)

— (*with* Wohlmuth, Barbara) Multilevel iterative solution and adaptive mesh refinement for mixed finite element discretizations. (English summary) Multilevel methods (Oberwolfach, 1995). *Appl. Numer. Math.* **23** (1997), *no.* 1, 97–117. (Sui Yang Chen) **98g:65109** 65N30 (65N50)

— (*with* Wohlmuth, Barbara) Adaptive multilevel techniques for mixed finite element discretizations of elliptic boundary value problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1658–1681. (Manil Suri) **98e:65095** 65N30

— *see also* **Bader, Harald, 98g:73034**

Hoppe, U. (*with* Stumpf, Helmut) The application of tensor algebra on manifolds to nonlinear continuum mechanics—invited survey article. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 327–339. (Summary) **98e:73024** 73B99 (53A45)

Hoppensteadt, Frank C. (*with* Salehi, Habib; Skorokhod, Anatoliĭ Vladimirovich) On the asymptotic behavior of Markov chains with small random perturbations of transition probabilities. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH, 1996)*, 93–100, *VSP, Utrecht*, 1996. (Min Ping Qian) **98m:60106** 60J10 (60J20, 92D10)

— (*with* Izhikevich, E. M.) ★ Weakly connected neural networks. (English summary) Applied Mathematical Sciences, 126. *Springer-Verlag, New York*, 1997. xvi+400 *pp. ISBN* 0-387-94948-8 (Ladislav Andrey) **98k:92004** 92B20 (34C99, 58F40, 92–02)

— (*with* Salehi, Habib; Skorokhod, Anatoliĭ Vladimirovich) Discrete time semigroup transformations with random perturbations. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 463–505. (Isabel Simão) **98k:60155** 60J99

— (*with* Mittelmann, Hans D.) Wave propagation in mathematical models of striated cortex. *J. Math. Biol.* **35** (1997), *no.* 8, 988–994. 92C20 (92–04)

Hoque, Zahirul (*with* Shamsuddin, M. D.; Haque, Md. Emdadul) Regular fractions in $2^m \times 4^n$ factorials. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **21** (1997), *no.* 1, 47–52. 05B05

Hora, Akihito Quantum probability theory and spectral analysis of graphs. (Japanese) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 109–121. (*see* **98b:00034**) 60J15 (05E30, 81S99)

— The cut-off phenomenon in random walks on association schemes. Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 32–41. (Martin V. Hildebrand) **98h:60105** 60J15 (05E30, 60B99)

— The cut-off phenomenon for random walks on Hamming graphs with variable growth conditions. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 695–710. (Michael Voit) **98m:60111** 60J15 (60B15, 60C05, 82C41)

Horáček, J. (*with* Čížek, M.) Corrigendum: "On shooting methods for calculation of potential resonances" [J. Phys. A **29** (1996), no. 19, 6325–6342; MR 97i:81011]. *J. Phys. A* **30** (1997), *no.* 11, 4137. 81–08 (65F40, 81U05)

Horadam, Alwyn F. Jacobsthal representation polynomials. *Fibonacci Quart.* **35** (1997), *no.* 2, 137–148. (Neville Robbins) **98a:11017** 11B37

— A composite of Morgan-Voyce generalizations. *Fibonacci Quart.* **35** (1997), *no.* 3, 233–239. (Neville Robbins) **98f:11012** 11B37

— (*with* Filipponi, Piero) Derivative sequences of Jacobsthal and Jacobsthal-Lucas polynomials. *Fibonacci Quart.* **35** (1997), *no.* 4, 352–357. (Neville Robbins) **98j:11006** 11B39 (11B37)

— Rodrigues' formulas for Jacobsthal-type polynomials. *Fibonacci Quart.* **35** (1997), *no.* 4, 361–370. (Neville Robbins) **98j:11007** 11B39 (11B37)

— Negative subscript Jacobsthal numbers. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 9–22. (Y. H. Harris Kwong) **98f:11013** 11B37 (11B83)

Horák, Jiří V. On solvability of one special problem of coupled thermoelasticity. I. Classical boundary conditions and steady sources. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 39–58. (Ramon Quintanilla) **98f:73008** 73B30 (35Q72, 73C15)

— On solvability and approximation of 1D models of coupled thermoelasticity. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 84–89, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 73B30 (35Q72, 73V05)

Horák, Peter (*with* Černý, Anton; Rosa, Alexander; Znám, Š.) Maximal pentagonal packings. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 215–227. (Gerard J. Chang) **98b:05074** 05C70 (05C38)

— (*with* Phillips, Nicholas C.; Wallis, W. D.; Yucas, J. L.) Counting frequencies of configurations in Steiner triple systems. *Ars Combin.* **46** (1997), 65–75. (Barbu C. Kestenband) **98h:05031** 05B07

— (*with* Rosa, Alexander; Širáň, Jozef) Maximal orthogonal Latin rectangles. *Ars Combin.* **47** (1997), 129–145. (Katherine Heinrich) **98j:05035** 05B15

— (*with* Bertram, Edward) Decomposing 4-regular graphs into triangle-free 2-factors. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 309–317. (Y. Roditty) **98c:05122** 05C70 (05C85, 68R10)

Horau, Sébastien (*with* Mesnard, Fred; Maillard, Alexandra) CLP(χ) for proving program properties. (English summary) *Frontiers of combining systems (Munich, 1996)*, 321–338, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:68016** 68N17 (03B70, 68T20)

Horaud, Radu (*with* Pham Dinh Tao; Thai Quynh Phong; Quan, Long) Stability of Lagrangian duality for nonconvex quadratic programming. Solution methods and applications in computer vision. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 1, 57–90. (Chang Yu Wang) **98c:90086** 90C20 (90C31)

Hořava, Petr Chern-Simons gauge theory on orbifolds: open strings from three dimensions. (English summary) *J. Geom. Phys.* **21** (1996), *no.* 1, 1–33. (Summary) **98g:81128** 81T13 (53C80, 58D29, 81T30)

— (*with* Witten, Edward) Heterotic and type I string dynamics from eleven dimensions. (English summary) *Nuclear Phys. B* **460** (1996), *no.* 3, 506–524. (Clifford V. Johnson) **98c:81167** 81T30 (83E30)

— Gluino condensation in strongly coupled heterotic string theory. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7561–7569. (Summary) **98b:81195** 81T30 (83E30)

— Matrix theory and heterotic strings on tori. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 84–108. (Hitoshi Nishino) **98k:81218** 81T30 (81T60, 83E30)

Hordijk, Arie (*with* Loeve, Anneke) Analysis of a customer assignment model with decentralized control. (English summary) *Ten years LNMB*, 135–149, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90C40 (90B22)

— (*with* Altman, Eitan) Applications of Borovkov's renovation theory to non-stationary stochastic recursive sequences and their control. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 388–413. (Vladimir V. Kalashnikov) **98j:60062** 60G35 (60K25, 93E20)

— (*with* Gaĭrat, A. S.; Malyshev, V. A.; Spieksma, Flos M.) Fluid approximations of Markov decision chains. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 129–150. (M. Iosifescu) **98c:90181** 90C40 (90B22)

— (*with* Passchier, Olaf; Spieksma, Flos M.) Optimal service control against worst case admission policies: a multichained stochastic game. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 281–301. (Jean B. Lasserre) **98d:90134** 90D05

— (*with* Altman, Eitan; Spieksma, Flos M.) Contraction conditions for average and α-discount optimality in countable state Markov games with unbounded rewards. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 588–618. (L. C. Thomas) **98k:90157** 90D15 (90B22, 90C40)

van Horebeek, Johan *see* **Van Horebeek, Johan**

Horgan, C. O. (*with* Payne, Lawrence E.) Saint-Venant's principle in linear isotropic elasticity for incompressible or nearly incompressible materials. (English summary) *J. Elasticity* **46** (1997), *no.* 1, 43–52. (Summary) **98e:73032** 73C10

— (*with* Payne, Lawrence E.) Spatial decay estimates for a coupled system of second-order quasilinear partial differential equations arising in thermoelastic finite anti-plane shear.

(English summary) *J. Elasticity* **47** (1997), *no.* 1, 3–21. (J. Ignaczak) **98m:73010** 73B30 (35Q72, 73C10, 73C50)
— (*with* Scalpato, M. R.) Saint-Venant decay rates for an isotropic inhomogeneous linearly elastic solid in anti-plane shear. (English summary) *J. Elasticity* **48** (1997), *no.* 2, 145–166. (Summary) **98m:73027** 73C10 (35Q72, 73B27, 73K40)
Horgan, R. R. (*with* Dean, David S.; Drummond, I. T.) Renormalization of drift and diffusitivity in random gradient flows. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 7867–7879. (Summary) **98c:82051** 82C28 (82C70)
— (*with* Dean, David S.; Drummond, I. T.) Continuum Derrida approach to drift and diffusivity in random media. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 385–396. (Summary) **98f:82115** 82C44
Hori, Gen Isospectral flows expressed in multiple bracket forms. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 315–327. (C. Tomei) **98h:58149** 58F19
Hori, Kentaro Global aspects of gauged Wess-Zumino-Witten models. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 1–32. (Henrik Aratyn) **98b:81227** 81T40 (32G13, 32G81, 81T13)
— (*with* Eguchi, Tohru) $N = 2$ superconformal field theories in 4 dimensions and *A-D-E* classification. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 67–82, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Katsushi Ito) **98m:81180** 81T60 (81R10, 81T40)
— (*with* Ooguri, Hirosi; Oz, Yaron) Strong coupling dynamics of four-dimensional $N = 1$ gauge theories from M-theory fivebrane. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 1–52. (Angel Maria Uranga) **98k:81270** 81T60 (81T30, 83E30)
— (*with* Oz, Yaron) F-theory, T-duality on $K3$ surfaces, and $N = 2$ supersymmetric gauge theories in four dimensions. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 97–108. (Gonzalo Violero) **98k:81219** 81T30 (14J28, 32J81, 81T60)
— (*with* Eguchi, Tohru; Xiong, Chuan-Sheng) Quantum cohomology and Virasoro algebra. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 71–80. (Alexandre I. Kabanov) **98j:14035** 14H15 (14C17, 14D20, 17B68, 32G15, 32G81, 58D15, 81T70)
Hori, Muneo (*with* Kubo, Junichiro) Analysis of probabilistic distribution and range of average stress in each phase of heterogeneous materials. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 537–556. 73K20 (73N20, 86A17)
Hori, Yoichi (*with* Cao, Liyu) Mixed sensitivity optimization to avoid pole/zero cancellation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1379–1385. 93B60 (93B35)
Horibe, Minoru (*with* Shigemoto, Kazuyasu) Comments on Korepanov's solution in tetrahedron equation. *J. Phys. Soc. Japan* **66** (1997), *no.* 2, 499–500. (Yu Kui Zhou) **98e:82026** 82B23
Horie, Mitsuko The number knots of Galois extensions. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 50–61. (Ken Yamamura) **98k:11167** 11R37 (11R34)
Horie, Taro A generalization of Kohnen's estimates for Fourier coefficients of Siegel cusp forms. Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 145–152. (Hong Wen Lu) **98j:11031** 11F30 (11F46, 11F55)
— A generalization of Kohnen's estimates for Fourier coefficients of Siegel cusp forms. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 47–63. (B. Ramakrishnan) **98j:11032** 11F30 (11F37, 11F46)
Horiguchi, Kazumi Linear discrete-time models consistent with second-order information. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 3, 125–130. 93C55 (93C05)
Horiguchi, Tsutomu Phases of quantum gravity based on the Wheeler-DeWitt equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 8, 1107–1145. (Kazuo Ghoroku) **98j:83041** 83C45
Horiguchi, Tsuyoshi (*with* Honda, Yasushi; Miya, Masahiro) Restoration of digital images of the alphabet by using Ising models. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 319–324. (Summary) **98a:82067** 82B99 (68U10, 82B20)
Horimoto, Katsuhisa (*with* Oshima, Kunio; Hofuku, Ichiro) Application of weighted ranking methods for tie-break simulations. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 313–320, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 65F30 (90D10)
— (*with* Oshima, Kunio; Hofuku, Ichiro) New interpolating functions for non-decreasing time series data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 995–1006. (*see* **98i:00028**) 41A30
Horiuchi, Emi (*with* Date, Etsuro) On contiguity relations of Jackson's basic hypergeometric series ${}_3T_1(a;b;c;x,y,1/2)$ and its generalizations. *Osaka J. Math.* **34** (1997), *no.* 1, 215–221. (Stamatis Koumandos) **98h:33007** 33D20 (33D70, 33D80)
Horiuchi, Kiyomitsu (*with* Tamura, Naoyuki) VSOP fuzzy numbers and their fuzzy ordering. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 197–210. (Summary) **98g:04009** 04A72
Horiuchi, Toshio Best constant in weighted Sobolev inequality. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 9, 208–211. (Seng-Kee Chua) **98b:46042** 46E35
Horiuti, Kiyosi A new dynamic two-parameter mixed model for large-eddy simulation. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3443–3464. 76F99 (76M25)
Horja, Paul On the number of geodesic segments connecting two points on manifolds of non-positive curvature. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 5021–5030. (Carlo Petronio) **98c:53055** 53C22 (53C70)
Hörmander, Lars ★ The analysis of linear partial differential operators. IV. Fourier integral operators. Corrected reprint of the 1985 original. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 275. *Springer-Verlag, Berlin*, 1994. viii+352 *pp. ISBN* 3-540-13829-3 (Editors) **98f:35002** 35–02 (35S30, 47G30, 58G15)
— On the solvability of pseudodifferential equations. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 183–213, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. V. Egorov) **98f:35166** 35S05 (35A07)
— ★ Lectures on nonlinear hyperbolic differential equations. (English summary) Mathématiques & Applications [Mathematics & Applications], 26. *Springer-Verlag, Berlin*, 1997. viii+289 *pp. ISBN* 3-540-62921-1 (Jean-Marc Delort) **98e:35103** 35Lxx (35A27, 35B65, 35D05, 35Sxx)
— Remarks on the Klein-Gordon and Dirac equations. *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 101–125, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Ghias Hachem) **98g:35172** 35Q40 (35J10, 35L70, 81Q05)
Hörmann, B. (*with* Ullrich, Christian P.) Componentwise error bounds and direct linear system solving. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 184–191, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F10 (65G10)
Hörmann, Günther Regular Weyl-systems and smooth structures on Heisenberg groups. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 51–63. (Władysław Adam Majewski) **98j:81173** 81S05 (22E25, 43A65, 46L60)
Hormigós, Mariano The teaching of mathematics in Spain in the nineteenth century. (Spanish) *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 1–21, *Edit. UNESP, São Paulo*, 1997. (*see* **98d:00018**) 01A55
— Le journalisme mathématique en Espagne au XIXème siècle: la piste française. (English summary) [Mathematical periodicals in nineteenth-century Spain: the French influence] *Riv. Stor. Sci.* (2) **3** (1995), *no.* 1, 25–53 (1996). (Santiago Garma) **98m:01016** 01A55 (01A80)
— Paradigms and mathematics: a theoretical model for research into the history of mathematics. *Paradigms and mathematics*, 1–113, *Ciencia, Siglo XXI España Ed., Madrid*, 1996. (Warren Van Egmond) **98h:00007** 00A30 (01A05, 01A80, 01A99)
Horn, Gavin B. (*with* Kschischang, Frank R.) On the intractability of permuting a block code to minimize trellis complexity. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2042–2048. (*see* **98c:94001**) 94B12 (68Q25)
Horn, Mark A. (*with* Chan, Raymond H.; DeLillo, Thomas K.) The numerical solution of the biharmonic equation by conformal mapping. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1571–1582. (Summary) **98i:30005** 30C30 (65E05)
Horn, Mary Ann (*with* Lasiecka, Irena) Nonlinear boundary stabilization of parallelly connected Kirchhoff plates. (English summary) *Dynam. Control* **6** (1996), *no.* 3, 263–292. (J. Saint Jean Paulin) **98d:73044** 73K10 (35L70, 73K50, 93C20, 93D15)
Horn, Roger A. (*with* Rhee, Noah H.; So, Wasin) Eigenvalue inequalities and equalities. (English summary) *Linear Algebra Appl.* **270** (1998), 29–44. (Jorma Kaarlo Merikoski) **98m:15031** 15A42 (15A18)
Horn, Stephan (*with* Mahmood, Munir; Singh, Sarjinder) On the confidentiality guaranteed under randomized response sampling: a comparison with several new techniques. (English summary) *Biom. J.* **40** (1998), *no.* 2, 237–242. 62D05
Horn, Werner (*with* Sokołowski, Jan; Sprekels, Jürgen) A control problem with state constraints for a phase-field model. (English summary) *Control Cybernet.* **25** (1996), *no.* 6, 1137–1153. (Fredi Tröltzsch) **98f:49025** 49K20 (80A22, 93C20)
Horňák, Mirko (*with* Jendrol', Stanislav) Unavoidable set of face types for planar maps. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 123–141. (O. V. Borodin) **98d:05044** 05C10 (05C15)
Horne, Bill G. Lower bounds for the spectral radius of a matrix. (English summary) *Linear Algebra Appl.* **263** (1997), 261–273. (Zdeněk Dostál) **98h:15034** 15A42 (68T05, 92B20)
Horng, Gwoboa An active attack on protocols for server-aided RSA signature computation. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 71–73. 94A60
Horng, Jui-Hong Output tracking of a class of unknown nonlinear discrete-time systems using neural networks. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 503–515. 93D15 (93C83)
Horng, S.-J. (*with* Chen, Yuung-Jih) Medial axis transform on mesh-connected computers with hyperbus broadcasting. (English summary) *Computing* **59** (1997), *no.* 2, 95–114. 68U10 (68Q22)
Hornos, José Eduardo Martinho (*with* Hornos, Yvone M. M.) Perspectives in the algebraic approach to the genetic code. *Resenhas* **2** (1996), *no.* 4, 363–371. 92D20 (92D10)
— (*with* Forger, Michael; Hornos, Yvone M. M.) Global aspects in the algebraic approach to the genetic code. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7078–7082. (Summary) **98h:92029** 92D20
Hornos, Yvone M. M. (*with* Hornos, José Eduardo Martinho) Perspectives in the algebraic approach to the genetic code. *Resenhas* **2** (1996), *no.* 4, 363–371. 92D20 (92D10)
— (*with* Forger, Michael; Hornos, José Eduardo Martinho) Global aspects in the algebraic approach to the genetic code. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7078–7082. (Summary) **98h:92029** 92D20
Hörnquist, Michael Block variables for deterministic aperiodic sequences. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7057–7065. (Jean-Paul Allouche) **98k:11020** 11B85 (82B44)
Horntrop, David J. (*with* Elliott, Frank W., Jr.; Majda, Andrew J.) Monte Carlo methods for turbulent tracers with long range and fractal random velocity fields. (English summary) *Chaos* **7** (1997), *no.* 1, 39–48. (Summary) **98a:76044** 76F99 (65C05, 76M25, 76M35)
Hornung, Richard D. (*with* Trangenstein, John A.) Adaptive mesh refinement and multilevel iteration for flow in porous media. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 522–545. (Summary) **98h:76093** 76M20 (76M25, 76S05)
Hornung, Ulrich Introduction. *Homogenization and porous media*, 1–25, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05
— Miscible displacement. *Homogenization and porous media*, 129–146, 259–275, *Interdiscip. Appl. Math.*, 6, *Springer, New York*, 1997. (*see* **98h:76128**) 76S05
— *see also* **Homogenization and porous media, 98h:76128**
Horodecki, Michał (*with* Horodecki, Ryszard; Horodecki, Paweł) Teleportation, Bell's inequalities and inseparability. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 21–25. (Emilio Santos) **98c:81013** 81P10
— (*with* Horodecki, Ryszard) Information-theoretic aspects of inseparability of mixed states. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1838–1843. (Matthew J. Donald) **98f:81087** 81Q99 (94A17)
Horodecki, Paweł (*with* Horodecki, Ryszard; Horodecki, Michał) Teleportation, Bell's inequalities and inseparability. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 21–25. (Emilio Santos) **98c:81013** 81P10
— Separability criterion and inseparable mixed states with positive partial transposition. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 333–339. (Dorje C. Brody) **98g:81018** 81P10 (81P15)

Horodecki, Ryszard (*with* Horodecki, Michał; Horodecki, Paweł) Teleportation, Bell's inequalities and inseparability. (English summary) *Phys. Lett. A* **222** (1996), *no.* 1-2, 21–25. (Emilio Santos) **98c:81013** 81P10
— (*with* Horodecki, Michał) Information-theoretic aspects of inseparability of mixed states. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1838–1843. (Matthew J. Donald) **98f:81087** 81Q99 (94A17)
Horová, Ivana (*with* Budíková, Marie) A note on D. D. Stancu operators. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 397–407 (1996). (Octavian Agratini) **98i:41030** 41A35
Horowitz, C. (*with* Pinchuk, B.) A survey of recent results in A^{-n} and $A^{-\infty}$. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 105–116, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Fritz Haslinger) **98j:46021** 46E10 (30H05, 46E15)
— (*with* Korenblum, B.; Pinchuk, B.) Sampling sequences for $A^{-\infty}$. *Michigan Math. J.* **44** (1997), *no.* 2, 389–398. (John N. McDonald) **98d:46026** 46E15 (30H05)
Horowitz, Gary T. (*with* Maldacena, Juan M.; Strominger, Andrew) Nonextremal black hole microstates and U-duality. (English summary) *Phys. Lett. B* **383** (1996), *no.* 2, 151–159. (Summary) **98c:83060** 83C57 (81T20, 81T30, 83E30)
— (*with* Sheinblatt, Harrison J.) Tests of cosmic censorship in the Ernst spacetime. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 650–657. (Summary) **98c:83076** 83C75
— (*with* Marolf, Donald) Counting states of black strings with traveling waves. I, II. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 835–845, 846–852. (Summary) **98f:83106** 83E30 (81T30, 83C57)
— (*with* Marolf, Donald) Where is the information stored in black holes? (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3654–3663. (Summary) **98c:83061** 83C57 (83E30)
— (*with* Yang, Haisong) Black strings and classical hair. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7618–7624. (Sergiu I. Vacaru) **98f:83105** 83E30 (81T30, 83C57)
— (*with* Ross, Simon F.) Naked black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2180–2187. (Paulo Moniz) **98g:83063** 83C57 (83E30)
— (*with* Ross, Simon F.) Properties of naked black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1098–1107. (Jeremy Michelson) **98m:83046** 83C57 (83C75)
— (*with* Polchinski, Joseph) Self-gravitating fundamental strings. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2557–2563. (Summary) **98m:83071** 83E30 (81T30, 83C57)
Horowitz, Joel L. (*with* Hall, Peter Gavin) Bootstrap critical values for tests based on generalized-method-of-moments estimators. (English summary) *Econometrica* **64** (1996), *no.* 4, 891–916. (Thomas Mikosch) **98c:62084** 62G09 (62G10)
— (*with* Härdle, Wolfgang) Direct semiparametric estimation of single-index models with discrete covariates. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1632–1640. (Wolfgang Polonik) **98e:62054** 62G05
— (*with* Manski, Charles F.) Censoring of outcomes and regressors due to survey nonresponse: identification and estimation using weights and imputations. (English summary) *J. Econometrics* **84** (1998), *no.* 1, 37–58. 62P99 (62D05)
Horowitz, Joseph (*with* Acuña, Carmen O.) A statistical approach to the resolution of point sources. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 4, 421–435. (Summary) **98m:62269** 62M30 (62H11)
Horozov, E. *see* **Khorozov, E. I.**
de la Horra, Julian *see* **de la Horra Navarro, Julián**
Horrace, William C. Submodel estimation of a structural vector error correction model under cointegration. (English summary) *Econom. Lett.* **59** (1998), *no.* 1, 23–29. 62P20
de la Horra Navarro, Julián (*with* Cuevas, Antonio) Asymptotic behaviour of the predictive density in the exchangeable case. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 1–12. (Mark Steel) **98d:62046** 62F15 (62F12)
— (*with* Rodriguez-Bernal, Maria Teresa) Asymptotic behaviour of the posterior predictive p-value. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2689–2699. (Summary) **98m:62072** 62F15
— *see also* **Weiss, Robert E., 98f:62008**
Horský, Jan (*with* Mitskevich, N. V.) Conformal Kerr-Schild ansatz for all static spherically symmetric spacetimes. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 9, 2603–2606. (Anthony W. C. Lun) **98b:83014** 83C15
van Horssen, W. T. On integrating factors for ordinary differential equations. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 15–26. (From the text) **98d:34015** 34A34 (34A05)
Horst, Reiner (*with* Nguyen Van Thoai) Erratum: "Modification, implementation and comparison of three algorithms for globally solving linearly constrained concave minimization problems" [Computing **42** (1989), no. 2-3, 271–289; MR 90j:90119]. *Computing* **59** (1997), *no.* 1, 94. 90C30
— (*with* Nguyen Van Thoai) Utility function programs and optimization over the efficient set in multiple-objective decision making. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 3, 605–631. (Douglas John White) **98b:90122** 90C29 (90A05)
— (*with* Dür, Mirjam) Lagrange duality and partitioning techniques in nonconvex global optimization. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 347–369. (Siegfried Schaible) **98k:90079** 90C26 (49N15, 90C32)
— (*with* Dür, Mirjam; Locatelli, Marco) Necessary and sufficient global optimality conditions for convex maximization revisited. *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 637–649. (Ivan Ginchev) **98k:90070** 90C25
— (*with* Nguyen Van Thoai) An integer concave minimization approach for the minimum concave cost capacitated flow problem on networks. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 47–53. (Summary) **98m:90173** 90C35
— *see also* **Recent advances in optimization, 98c:90005** *and* **Developments in global optimization, 98e:90005**
Horst, Thomas (*with* Praskovskiĭ, A. A.; Praskovskaya, Eleanor) Further experimental support for the Kolmogorov refined similarity hypothesis. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2465–2467. (Summary) **98f:76037** 76F05 (76-05)
Horsten, Leon Reflecting in epistemic arithmetic. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 788–801. (Wim Veldman) **98c:03045** 03B45 (03B30, 03F40)
Horster, Patrick (*with* Michels, Markus) On the risk of disruption in several multiparty signature schemes. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 334–345, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94021** 94A60
Hortaçsu, M. (*with* Aliev, A. N.; Özdemir, N.) Vacuum fluctuations of a massless spin-$\frac{1}{2}$ field around multiple cosmic strings. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3215–3224. (Summary) **98i:83039** 83C47 (81T20)
— (*with* Bilge, Ayşe Hümeyra; Özdemir, N.) Can an Unruh detector feel a cosmic string? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 861–876. 83C47 (83F05)
— (*with* Enginer, Y.; Özdemir, N.) Quantum fluctuations for a scalar field in the space-time of gravitational impulsive wave. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1201–1211. 81T20 (83C35, 83C47)
Hortalá-González, M. Teresa (*with* González-Moreno, J. Carlos; Rodríguez-Artalejo, Mario) A higher order rewriting logic for functional logic programming. (English summary) *Logic programming* (*Leuven*, 1997), 153–167, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98f:68031** 68N15 (03B70, 68N17, 68Q42)
Hortel, M. *see* **GAMM 96, 98h:00022a** *and* **98h:00022b**
Horton, Claude Wendell, Jr. (*with* Sugama, H.) Nonlinear electromagnetic gyrokinetic equation for plasmas with large mean flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2560–2573. 76X05
Horton, George (*with* Dewdney, Chris) De Broglie, Bohm and the boson. *Bohmian mechanics and quantum theory: an appraisal*, 169–189, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81-03 (01A60, 81P05)
Horton, J. D. (*with* Spencer, Bruce) Extending the regular restriction of resolution to non-linear subdeductions. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 478–483, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T15
— (*with* Spencer, Bruce) Clause trees: a tool for understanding and implementing resolution in automated reasoning. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 25–89. (Summary) **98a:68162** 68T15 (03B35)
Horton, W. *see* **Horton, Claude Wendell, Jr.**
Horty, John F. (*with* Belnap, Nuel) The deliberative stit: a study of action, omission, ability, and obligation. *J. Philos. Logic* **24** (1995), *no.* 6, 583–644. (George F. Schumm) **98c:03046** 03B45
Horuzhy, S. S. *see* **Khoruzhiĭ, S. S.**
Horvat, Liljana (*with* Bogataj, Ludvig) Finite magnitude perturbations in the inventory systems. (English summary) *SOR '97 Proceedings* (*Preddvor*), 45–52, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90B05
Horváth, Ákos G. On the sublattices of the Barnes-Wall lattice. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 131–138. (Simon N. Litsyn) **98k:11096** 11H31 (11H06)
— Correction of my paper: "On double-latticelike spherepacking" [Ann. Univ. Sci. Budapest. Eötvös Sect. Math. **33** (1990), 53–60 (1991); MR 93a:52016]. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 101–105 (1997). (From the text) **98d:52024** 52C07 (52C17)
— Lower bounds of the maximal coordinates of minimum vectors. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 179–186, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Martin Henk) **98j:52029** 52C07 (11H06)
Horváth, Alexandru On some Jordan-Hölder-Dedekind type theorems in lattices. (English summary) *Math. Pannon.* **7** (1996), *no.* 2, 209–213. (T. S. Blyth) **98a:06012** 06B05 (20D30)
Horváth, Erzsébet (*with* Corrádi, Keresztély) About monomiality of π-characters of certain π-solvable groups. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 9–15 (1997). (I. M. Isaacs) **98g:20018** 20C15
— M-blocks of solvable groups. (English summary) *Math. Pannon.* **8** (1997), *no.* 1, 37–47. (Herbert Pahlings) **98b:20015** 20C20
Horváth, J. *see* **Horváth, John Michael**
Horváth, Jenő Eine Bemerkung zur Durchleuchtung von gitterförmigen Kugelpackungen. (English summary) [A remark on the illumination of lattice packings of balls] *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 187–191, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (R. Blind) **98h:52034** 52C17 (52C07)
— (*with* Temesvári, Ágota H.) Erratum: "On the closeness of packings of balls and the thickness of point systems in hyperbolic spaces" [Math. Pannon. **8** (1997), no. 1, 137–154; MR 97m:52040]. (German) *Math. Pannon.* **8** (1997), *no.* 2, 298. 52C17
Horváth, John Michael Some selected results of Professor Baltasar Rodríguez-Salinas. (English summary) Meeting on Mathematical Analysis (Spanish) (Avila, 1995). *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *Special Issue, suppl.*, 23–72. (F. Smithies) **98d:01038** 01A70 (28-03)
Horváth, Lajos (*with* Parzen, Emanuel) Limit theorems for Fisher-score change processes. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 157–169, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62F35 (62F03, 62G10)
— (*with* Berkes, István) Between local and global logarithmic averages. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 4, 369–378. (M. Csörgő) **98k:60044** 60F17 (60G15, 60G17)
— Detection of changes in linear sequences. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 271–283. (Yanhong Wu) **98i:62047** 62G10 (60G35, 62M10)
— (*with* Berkes, István) Almost sure invariance principles for logarithmic averages. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 1–24. (Peter Schatte) **98f:60054** 60F15 (60F05)
— (*with* Csörgő, Miklós; Shao, Qi-Man) Almost sure summability of partial sums. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 43–74. (N. H. Bingham) **98e:60046** 60F15 (60G50)
Horvath, Michael T. K. (*with* Watson, Mark W.) Testing for cointegration when some of the cointegrating vectors are prespecified. (English summary) Trending multiple time series (New Haven, CT, 1993). *Econometric Theory* **11** (1995), *no.* 5, 984–1014. (Summary) **98c:62202** 62P20
Horváth, Sándor (*with* Kudlek, Manfred) On classification and decidability problems of primitive words. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 2-3, 171–189. (Leonid P. Lisovik) **98f:68223** 68R15 (03D05, 03D25, 03D35, 68Q45)
Horváth, Tamás (*with* Gyimóthy, Tibor) Learning semantic functions of attribute grammars. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 3, 287–302. (Summary) **98f:68164** 68Q50 (68N20, 68S05, 68T05)

Horváth, Zalán (*with* Karp, R. L.; Palla, L.) On quantum equivalence of dual sigma models: SL(3) examples. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 435–456. (Yolanda Lozano) **98f:81258** 81T30

— (*with* Balog, J.; Forgács, P.; Palla, L.) Quantum corrections of abelian duality transformations in sigma models. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 294–301. (Summary) **98f:81172** 81T10

Horváthy, P. A. (*with* Duval, C.) Chern-Simons vortices. (English summary) *Geometry and nature* (*Madeira*, 1995), 271–288, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:81196** 81T13 (53C80, 58E15)

Horvatić-Baldasar, Ksenija (*with* Matulić-Bedenić, Ida) On infinite series of biplanes of order $n \neq 2$ prime number with Frobenius group $F_{n\cdot(n-1)}$. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 7–12. 05B25

Horvitz, Eric Models of continual computation. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 286–293, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T20

basarab-Horwath, Peter *see* **Basarab-Horwath, Peter**

Hörwein, K. Structuring resolution proofs by introducing new lemmata, or How to improve the readability of ATP-generated proofs. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 2, 173–203. (Sauro Tulipani) **98m:03021** 03B35 (68T15)

Horwich, Paul Implicit definition, analytic truth, and a priori knowledge. *Noûs* **31** (1997), *no.* 4, 423–440. 03A05

Horwitz, Alan *see* **Horwitz, Alan Stuart**

Horwitz, Alan L. Even compositions of entire functions and related matters. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 225–237. (Fred Gross) **98g:30004** 30B10 (30D20)

Horwitz, Alan Stuart Growth of leaves in foliations with Ehresmann connections. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 73–86. (James J. Hebda) **98i:53036** 53C12 (57R30)

Horwitz, Gerald Time and entropy from semi-classical tunneling of the cosmological scale function. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 885–902. (Summary) **98b:83038** 83C45

Horwitz, L. P. (*with* Adler, Stephen L.) Microcanonical ensemble and algebra of conserved generators for generalized quantum dynamics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5429–5443. (Summary) **98i:82004** 82B05 (81Q99, 82C05)

— (*with* Eisenberg, Eli; Strauss, Y.) Irreversible quantum evolution for unstable systems in Lax-Phillips scattering theory. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 171–184, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 82C10

— Schwinger algebra for quaternionic quantum mechanics. *Found. Phys.* **27** (1997), *no.* 7, 1011–1034. (Gennaro Miele) **98j:81036** 81P15

— (*with* Burakovsky, L.; Schieve, William C.) Mass–proper time uncertainty relation in a manifestly covariant relativistic statistical mechanics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 6, 503–516. (Summary) **98k:82006** 82B03

— (*with* Pelc, Oskar) Construction of a complete set of states in relativistic scattering theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 115–138. (Igor Yurievich Popov) **98b:81275** 81U20 (47N50)

— (*with* Pelc, Oskar) Generalization of the Coleman-Mandula theorem to higher dimension. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 139–172. (Szymon Rabsztyn) **98c:81102** 81R99 (81T10)

— (*with* Sarel, B.) A chiral spin theory in the framework of an invariant evolution parameter formalism. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2963–2995. (Guenther Hoermann) **98c:81090** 81R20 (81R25, 81V25)

— (*with* Land, M. C.) Off-shell phenomena in Coulomb scattering. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 135–140. (Summary) **98k:81309** 81V10

Hosabettu, Ravi Mohan (*with* Mukhopadhyay, Asish; Agrawal, Alok) On the ordinary line problem in computational geometry. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 330–341. (Summary) **98m:68276** 68U05 (52B55, 65Y25)

Hosaka, K. (*with* Takenaga, Yasuhiko; Kaneda, T.; Yajima, Shuzo) Size of ordered binary decision diagrams representing threshold functions. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 47–60. (Summary) **98a:68097** 68Q25 (68Q05, 94C10)

Hosaka, Masanori (*with* Kurano, Masami; Song, Jinjie; Huang, Youqiang) Controlled Markov set-chains with discounting. (English summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 136–146. (*see* **98h:90004**) 90C40

Hoschek, M. (*with* Günther, Michael M.) ROW methods adapted to electric circuit simulation packages. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 159–170. (Summary) **98e:65057** 65L06 (94C05)

Hoshi, Mamoru (*with* Han, Te Sun) Interval algorithm for random number generation. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 599–611. (Robert F. Tichy) **98e:65004** 65C10

Hoshiai, Yoko (*with* Ueda, Tohru) Application of principal component analysis for parsimonious summarization of DEA inputs and/or outputs. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 4, 466–478. 90C08 (62H25)

Hoshina, Takao (*with* Nagata, Jun-iti; Okuyama, Akihiro; Watanabe, Tadashi[4]) Kiiti Morita. 1915–1995. Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 3–14. (Editors) **98k:01029** 01A70

— *see also* **Memorial Issue: Morita, Kiiti**

Hoshino, Hiroki On the convergence properties of global solutions for some reaction-diffusion systems under Neumann boundary conditions. (English summary) *Differential Integral Equations* **9** (1996), *no.* 4, 761–778. (Gunter Bengel) **98b:35092** 35K57 (35B40, 47N20, 92D30)

Hoshino, Keisuke On a method constructing solutions to hyperbolic partial differential equations. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 133–142. (Summary) **98h:35143** 35L20 (35A35, 35B45)

— Construction of solutions to hyperbolic differential equations. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 198–208. (*see* **98h:00040**) 35L70

Hoshino, Mitsuo Selfinjectivity of rings relative to Lambek torsion theory. *Tsukuba J. Math.* **21** (1997), *no.* 1, 1–13. (J. L. García Hernández) **98j:16018** 16S90

Hoskins, Roy Frank *see* **Ferreira, J. Campos, 98h:46036**

Hosoe, S. (*with* Hoang Duong Tuan) On robust and $\mathscr{H}_\infty$ controls for a class of linear and bilinear systems with nonlinear uncertainty. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1373–1377. (Summary) **98c:93096** 93D21 (93B36)

Hosokawa, Hiroshi Some results on Igusa local zeta functions associated with simple prehomogeneous vector spaces. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 565–587. (Margaret M. Robinson) **98d:11151** 11S40 (11S80)

— Induced mappings on hyperspaces. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 239–250. (Summary) **98f:54011** 54B20 (54C05)

— Induced mappings on hyperspaces. II. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 3, 773–783. (Summary) **98m:54016** 54B20 (54C05)

Hosokawa, Iwao (*with* Oide, Shin-ichi; Yamamoto, Kiyoshi) Non-trivial difference in effect between the true dissipation rate and its 1D surrogate in isotropic turbulence. Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 97–108. (*see* **98e:76004**) 76F99

— Theory of scale-similar intermittent measures. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1959, 691–710. (P. L. Sulem) **98f:76035** 76F05 (28A80)

Hosono, Kenji (*with* Yui, S.; Kurihara, Mitsunobu) Approximate solution methods for quasiperiodic solutions to functional-differential equations. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 92–95. (*see* **98h:00040**) 34K15 (34C27)

Hosono, S. (*with* Klemm, Albrecht Otto; Theisen, Stefan) An extended lecture on mirror symmetry [MR 96f:32055]. *R.C.P. 25, Vol.* 47 (*Strasbourg*, 1993–1995), 33–76, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (*see* **98c:00015**) 32J81 (14J32, 14N10, 32G20, 32G81, 32J17, 81T30, 81T40)

— (*with* Lian, Bong H.) GKZ hypergeometric systems and applications to mirror symmetry. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 86–95, *World Sci. Publishing, River Edge, NJ*, 1996. (Bruce Hunt) **98b:32024** 32J17 (14J32, 32G81, 33C70)

— (*with* Lian, Bong H.; Yau, Shing-Tung) GKZ-generalized hypergeometric systems in mirror symmetry of Calabi-Yau hypersurfaces. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 535–577. (Dimitrios I. Dais) **98g:14042** 14J32 (14M25, 32J18, 33C70)

Hosotani, Yutaka (*with* Ho, Choon-Lin) Braid group and operator algebra in Chern-Simons theory on a torus. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 93–105, *World Sci. Publishing, River Edge, NJ*, 1994. (Martin Schlichenmaier) **98j:81312** 81T40 (20F36, 81T13, 81V25, 81V70)

Hosoya, Akio (*with* Tanimoto, Masayuki; Koike, Tatsuhiko) Hamiltonian structures for compact homogeneous universes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6560–6577. (Viqar Husain) **98j:83009** 83C05 (83C45)

Hosoya, Haruo (*with* Narumi, Hideyuki; Kita, Hideaki) Expressions for the perfect matching numbers of cubic $l \times m \times n$ lattices and their asymptotic values. (English summary) *J. Math. Chem.* **20** (1996), *no.* 1-2, 67–77. (Summary) **98c:82030** 82B41 (05C70)

— (*with* Takano, Ayako) Tables of topological characteristics of multilayered cyclic fence graphs. (English summary) *Natur. Sci. Rep. Ochanomizu Univ.* **48** (1998), *no.* 2, 45–80. 05C90

Hosoya, Yuzo Some limit theorems on stationary processes with long-range dependence. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 233–245, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Daniel W. Chambers) **98g:60042** 60F05 (60G10, 62M10)

— A limit theory for long-range dependence and statistical inference on related models. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 105–137. (M. I. Yadrenko) **98g:60041** 60F05 (60G10, 62M10)

Hossain, M. A. (*with* Joarder, Anwarul H.) Estimation of the eigenvalues of the scale matrix of a class of elliptical distributions. (English and Italian summaries) *Statistica* (*Bologna*) **56** (1996), *no.* 3, 313–319 (1997). 62H12

Hossain, M. Q. (*with* Shamsuddin, M. D.; Haque, Md. Emdadul) The confounded 8^n factorial design using the rotation-conversion method of pseudofactors. (English summary) *J. Stat. Stud.* **16** (1996), 9–15. 62K15 (05B05)

Hossain, Md. Forhad (*with* Kashiwagi, N.; Hirano, Katuomi) A generalization of the power inverse Gaussian distribution and some of its properties. (English summary) *Advances in the theory and practice of statistics*, 315–324, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62E15 (62E25, 62F10)

Hossain, S. S. (*with* Huda, S.) *A*-optimal third-order symmetric product designs for hypercubic regions. (English summary) *Aligarh J. Statist.* **14** (1994), 7–11. 62K05

Hossain, Syed Afzal (*with* Dahiya, Ram C.) A modification of Goel-Okumoto model. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 77–84, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62181** 62N05

Hossam El-Din, M. On the existence of periodic solutions of the system $\dot{x} = y - F(x)$, $\dot{y} = -g(x)$. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 19–33 (1997). (Alan R. Hausrath) **98e:34078** 34C25

mirian-Hosseinabadi, Seyed-Hassan *see* **Mirian-Hosseinabadi, Seyed-Hassan**

molla-Hosseini, M. *see* **Molla-Hosseini, M.**

Hosseini AliAbadi, M. *see* **Aliabadi, M. Hosseini**

Hossen, H. M. (*with* Aouf, M. K.) On subclasses of meromorphic p-valent close-to-convex functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 21–27. 30C45

— (*with* Aouf, M. K.) On certain fractional operators for certain classes of p-valent functions with negative coefficients. (English summary) *J. Fract. Calc.* **11** (1997), 89–94. (Summary) **98c:30012** 30C45

— (*with* Aouf, M. K.) Notes on certain class of analytic functions defined by Ruscheweyh derivatives. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 11–19. (O. P. Ahuja) **98e:30008** 30C45

Hössjer, Ola G. (*with* Gustafsson, Rolf T.; Öberg, Tommy) Adaptive detection of known signals in additive noise by means of kernel density estimators. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1192–1204. (Summary) **98c:94005** 94A13 (94A12)

— Recursive U-quantiles. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 119–129. (Jacek Koronacki) **98e:62119** 62L20 (62G30)

— (*with* Ruppert, David; Wand, M. P.; Holst, Ulla) Local polynomial variance-function estimation. (English summary) *Technometrics* **39** (1997), *no.* 3, 262–273. (Summary) **98c:62073** 62G05

Host, B. (*with* Blanchard, François; Maass, Alejandro) Représentation par automate de fonctions continues du tore. (French summary) [Representation by automata of continuous functions of the torus] *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 1, 205–214. (Fernanda Botelho) **98d:11025; EA 98m** 11B85 (68Q80)

— (*with* Blanchard, François; Glasner, Eli) A variation on the variational principle and applications to entropy pairs. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 29–43. (Manfred Denker) **98k:54073** 54H20 (28D05)

Host, Linda H. (*with* Bange, David W.; Barkauskas, Anthony E.; Clark, Lane H.) Efficient domination of the orientations of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 1–14. (Douglas F. Rall) **98i:05085** 05C20 (05C70)

Hota, Sanju (*with* Purisch, S.; Rajagopalan, Minakshisundaram) Countably compact spaces which cannot be cancellative topological semigroups. (English summary) *Papers on general topology and applications (Amsterdam, 1994)*, 124–132, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Tsugunori Nogura) **98h:54051** 54H11 (22A15, 54A20, 54D20, 54D35)

Hotaling, Steven P. (*with* Mozyrsky, Dima; Privman, Vladimir) Design of gates for quantum computation: the NOT gate. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 18, 2207–2215. (Summary) **98f:81050** 81P99

Hotje, Herbert Fibered incidence loops by neardomains. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 283–286, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30 (20N05)

— Einige Anmerkungen zu einer Konstruktion von Marchi/Zizioli. (English summary) [Remarks on a construction by Marchi and Zizioli] *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 192–197, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Norbert Knarr) **98j:51027** 51J15

— A remark on the Beckman/Quarles theorem. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 185–186. (H. Lenz) **98j:51024** 51F99

Hotta, Kenji (*with* Kikkawa, Keiji; Kunitomo, Hiroshi) Correlation between momentum modes and winding modes in Brandenberger-Vafa's string cosmological model. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 687–706. (Summary) **98j:83097** 83E30 (81T30)

Hotta, M. (*with* Kato, T.; Nagata, K.) A comment on geometric entropy and conical spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1917–1925. (Maria E. X. Guimarães) **98i:83040** 83C47 (81T20)

— (*with* Futamase, T.; Itoh, Yousuke) Black holes and two-dimensional dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1129–1135. (Michael O. Katanaev) **98m:83044** 83C57 (81T40)

Hotta, Ryoshi The Kazhdan-Lusztig conjecture and its origins. (Japanese) Lusztig program (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 954 (1996), 1–9. (Toshiyuki Tanisaki) **98i:20046** 20G10 (17B10)

Hotz, Günter (*with* Pitsch, Gisela) A new approach to analyse coupled-context-free languages. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 349–358, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q50 (68Q45, 68S05)

— (*with* Pitsch, Gisela) A representation theorem for coupled-context-free languages. (English summary) *Semigroups, automata and languages (Porto, 1994)*, 137–144, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:00029**) 68Q45 (68S05)

— (*with* Pitsch, Gisela) On parsing coupled-context-free languages. (English summary) *Theoret. Comput. Sci.* **161** (1996), *no.* 1-2, 205–233. (Summary) **98b:68099** 68Q45 (68Q52, 68S05)

Hou, Bo-Yu (*with* Shi, Kang-jie; Yang, Wen Li[2]; Yang, Zhong-Xia) Cyclic representation and function difference representation of Z_n Sklyanin algebra—elliptical $U_q(\mathrm{sl}(n))$ algebra. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 106–115, *World Sci. Publishing, River Edge, NJ*, 1994. (Benjamin David Enriquez) **98j:17013** 17B37 (81R50)

— (*with* Hu, Zhan-Ning) Three-dimensional vertex model in statistical mechanics from Baxter-Bazhanov model. (English summary) *J. Statist. Phys.* **82** (1996), *no.* 3-4, 633–655. (Summary) **98b:82026** 82B23 (82B20)

— (*with* Yue, Rui-Hong; Fan, Heng) Exact diagonalization of the quantum supersymmetric $SU_q(n|m)$ model. (English summary) *Nuclear Phys. B* **462** (1996), *no.* 1, 167–191. (Henrik Johannesson) **98a:82040** 82B23 (81R50, 82B20)

— (*with* Hou, Bo Yuan) ★ Differential geometry for physicists. (English summary) Translated from the Chinese. Advanced Series on Theoretical Physical Science, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+546 *pp. ISBN* 981-02-3105-9 (Liviu I. Nicolaescu) **98m:53002** 53–02 (00A05, 53C80, 58–02, 58Z05)

— (*with* Shi, Kang-jie; Yang, Wen Li[2]; Yang, Zhong-Xia; Zhou, Shan-You) Fusion for the function difference representation of Z_n Sklyanin algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2927–2945. (Rinat M. Kashaev) **98j:81154** 81R50 (17B37, 82B23)

— (*with* Fan, Heng; Shi, Kang-jie) Drinfeld constructions of the quantum affine superalgebra $U_q(\widehat{gl(m/n)})$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 411–433. (Pavel Šťovíček) **98a:17016** 17B37 (81R50)

— (*with* Fan, Heng; Shi, Kang-jie) Properties of eigenstates of the six-vertex model with twisted and open boundary conditions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3446–3456. (Murray T. Batchelor) **98f:82044** 82B23 (82B20)

— (*with* Shi, Kang-jie; Wang, Yan-Shen; Yang, Wen Li[2]) Correlation functions of the SU(2)-invariant Thirring model with a boundary. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 251–263. (Andrei Babichenko) **98b:81134** 81T10 (17B81, 81R50, 82B23)

— (*with* Fan, Heng; Shi, Kang-jie; Yang, Wen Li[2]) Bosonization of vertex operators for the Z_n-symmetric Belavin model. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5687–5696. (Andrey V. Tsiganov) **98j:82018** 82B23 (17B37, 81R50, 82B20)

— (*with* Fan, Heng; Li, Guang-Liang; Shi, Kang-jie) Integrable $A^{(1)}_{n-1}$ IRF model with reflecting boundary conditions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1929–1942. (Andrey V. Tsiganov) **98i:82021** 82B23 (81R50, 82B20)

— (*with* Fan, Heng; Shi, Kang-jie) Representation of the boundary elliptic quantum group $\mathcal{B}E_{\tau,\eta}(\mathrm{sl}_2)$ and the Bethe ansatz. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 551–570. (V. A. Golubeva) **98f:81126** 81R50 (17B37, 82B23)

— (*with* Fan, Heng; Shi, Kang-jie) Boundary K-operator for the elliptic R-operator acting on functional space. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 19–23. (Andrey V. Tsiganov) **98g:81073** 81R50 (82B23)

Hou, Bo Yuan (*with* Hou, Bo-Yu) ★ Differential geometry for physicists. (English summary) Translated from the Chinese. Advanced Series on Theoretical Physical Science, 6. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+546 *pp. ISBN* 981-02-3105-9 (Liviu I. Nicolaescu) **98m:53002** 53–02 (00A05, 53C80, 58–02, 58Z05)

— (*with* Mi, Dong; Yang, Fuzhong) Uniqueness of the Bethe ansatz of the *XXZ* chain and statistical interaction. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1189–1197. (Summary) **98a:82024** 82B20 (82B23)

Hou, Chao-Ju (*with* Shin, Kang G.) Allocation of periodic task modules with precedence and deadline constraints in distributed real-time systems. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1338–1356. 68M20

Hou, Duo (*with* Torrence, Bruce) Involutions fixing the disjoint union of copies of even projective space. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 162–166. (Summary) **98b:57050** 57S17

Hou, Jin (*with* Dai, Li Xin) Singular closed trajectories and limit cycles of a class of cubic systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 381–384. (Ding Jun Luo) **98c:34046** 34C05 (34C37, 58F21)

Hou, Jinchuan (*with* Zhang, Xiuling) Positive elementary operators compressing spectrum. *Chinese Sci. Bull.* **42** (1997), *no.* 4, 270–274. (P. Rosenthal) **98d:47072** 47B47 (47A10)

— (*with* Choi, Man-Duen; Rosenthal, Peter) Completion of operator partial matrices to square-zero contractions. (English summary) *Linear Algebra Appl.* **256** (1997), 1–30. (Hugo Jan Woerdeman) **98a:47007** 47A20 (47A30, 47A62)

— (*with* Wang, Qin) Point-spectrum-preserving elementary operators on $B(H)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2083–2088. (Robert L. Moore) **98h:47051** 47B49 (47A10, 47B47)

Hou, Jing-Yu (*with* Guo, Ben-yu; Ma, He-Ping) Chebyshev pseudospectral-hybrid finite element method for two-dimensional vorticity equation. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 7, 873–905. (Max D. Gunzburger) **98h:76083** 76M10 (65N30, 76M25)

Hou, L. Steven *see* **Hou, LiSheng**

Hou, Ling (*with* Michel, Anthony N.) Stability analysis of uncertain systems with saturation constraints. *Control of uncertain systems with bounded inputs*, 39–53, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Kaiqi Xiong) **98i:93069** 93D09 (34D99, 34H05)

— (*with* Michel, Anthony N.; Ye, Hui) Some qualitative properties of sampled-data control systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1721–1725. 93C57

Hou, LiSheng (*with* Ravindran, S. S.; Yan, Yin) Numerical solution of optimal distributed control problems for incompressible flows. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 2, 99–114. (Summary) **98e:49072** 49M05 (65K10, 76D05, 76M10)

— (*with* Gunzburger, Max D.; Ravindran, S. S.) Analysis and approximation of optimal control problems for a simplified Ginzburg-Landau model of superconductivity. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 243–268. (Claudia Simionescu-Badea) **98k:49009** 49J20 (35Q55, 49M99, 82D55)

— (*with* Yan, Yin) Dynamics for controlled Navier-Stokes systems with distributed controls. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 654–677. (Ruxandra Stavre) **98c:49009** 49J20 (35Q30, 76D05, 93C20)

— (*with* Yan, Yin) Dynamics and approximations of a velocity tracking problem for the Navier-Stokes flows with piecewise distributed controls. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1847–1885. (Jürgen Socolowsky) **98j:35142** 35Q30 (35B37, 35B40, 49J20, 65M60, 76D05)

Hou, Ming (*with* Patton, R. J.) Input observability and input reconstruction. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 789–794. 93B07 (93B15)

— (*with* Patton, R. J.) Optimal filtering for systems with unknown inputs. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 445–449. 93E11 (93C42)

Hou, Ren En Existence and uniqueness of solutions to a class of integral equations on the space F^*. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **10** (1996), *no.* 3, 26–36. (Yubo Chen) **98c:45020** 45N05 (04A72)

— Product fuzzy number measures of product spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 285–295. 28E10 (04A72)

Hou, Renmin (*with* Wang, Min[1]; Wang, Liangtao) A method for constructing Hadamard matrices. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 398–403, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05033** 05B20

Hou, Rui (*with* Chen, Han Qing) An upper bound on the number of elements of some finite rings. (Chinese. English and Chinese summaries) *J. Tianjin Norm. Univ. Nat. Sci. Ed.* **17** (1997), *no.* 1, 14–19. 16P10

Hou, Shu Hui Certain congruences on Δ-semigroups. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 28–32. (Yu Qi Guo) **98g:20096** 20M19

Hou, Shu Ling (*with* Shan, Xiaowen; Zou, Qisu; Doolen, Gary D.; Soll, Wendy E.) Evaluation of two lattice Boltzmann models for multiphase flows. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 695–713. (Summary) **98i:76064** 76M25 (76M35, 76T05)

Hou, Sixiang (*with* Du, Dong Lei) A heuristic for $F3/b_i = b/C_{\max}$ and its worst-case analysis. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 141–151. (Knut Richter) **98f:90030** 90B35

Hou, Thomas Y. (*with* Teng, Zhen-Huan; Zhang, Ping Wen) Well-posedness of linearized motion for 3-D water waves far from equilibrium. *Comm. Partial Differential Equations* **21** (1996), *no.* 9-10, 1551–1585. (Nikolay G. Kuznetsov) **98c:76013** 76B15 (35Q35)

— (*with* Beale, J. Thomas; Lowengrub, J. S.) Convergence of a boundary integral method for water waves. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1797–1843. (From the introduction) **98b:76009** 76B15 (35Q35, 65M12, 76B45, 76M25)

— (*with* Beale, J. Thomas; Lowengrub, J. S.) Stability of boundary integral methods for water waves. (English summary) *Nonlinear evolutionary partial differential equations*

(*Beijing*, 1993), 107–127, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc.*, *Providence, RI*, 1997. (Summary) **98e:76013** 76B15 (65M12, 76M25)

— (*with* Wu, Xiao-Hui) A multiscale finite element method for elliptic problems in composite materials and porous media. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 169–189. (Summary) **98e:73132** 73V05 (65M60, 73K20, 76M10, 76S05)

— (*with* Li, Zhilin; Osher, Stanley; Zhao, Hongkai) A hybrid method for moving interface problems with application to the Hele-Shaw flow. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 236–252. (Summary) **98d:76128** 76M25 (76D99)

— (*with* Lowengrub, J. S.; Shelley, Michael J.) The long-time motion of vortex sheets with surface tension. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1933–1954. (Summary) **98d:76033** 76C05 (76D45, 76E99, 76M25)

— (*with* Ceniceros, Héctor D.) Convergence of a non-stiff boundary integral method for interfacial flows with surface tension. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 137–182. (Robert F. Almgren) **98c:76077** 76M25 (65M12, 76D45, 76E99)

Hou, Wei Bo (*with* Wang, Rong Xin) Weak limit theorems for a class of fork-join queueing networks. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 59–66, 84. 60K25 (90B22)

Hou, Wei Gen (*with* Qiu, Qing Jiu) Weak solution to systems of 2×2 strictly hyperbolic conservation law equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 4, 556–562. (Si Ning Zheng) **98g:35142** 35L65 (35D05)

Hou, Xi-Wen (*with* Xie, Mi; Ma, Zhong-Qi) q-deformed boson-realization model applied to vibrational spectrum of sulfur dioxide. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1153–1157. (Summary) **98a:81272** 81V55 (81R50)

Hou, Xiang-Dong The Reed-Muller code $R(1, 7)$ is normal. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 75–82. (Harold N. Ward) **98i:94035** 94B05

— On the norm and covering radius of the first-order Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 1025–1027. (Summary) **98d:94048** 94B75

— On the centralizer of the centralizer of a matrix. (English summary) *Linear Algebra Appl.* **256** (1997), 251–261. (Mihail Voicu) **98a:15034** 15A30

Hou, Xiaorong (*with* Yang, Lu; Zeng, Zhenbing) A complete discrimination system for polynomials. (English summary) *Sci. China Ser. E* **39** (1996), *no.* 6, 628–646. (Timothy Stokes) **98b:68093** 68Q40 (68T15)

Hou, Xin Chang Simple calculations for two classes of numerical sequences. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 2, 17–20. 05A10

Hou, Yan Ren Fourier nonlinear Galerkin approximation for the two-dimensional Navier-Stokes equations. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 9, 879–887; *translated from Appl. Math. Mech.* **17** (1996), *no.* 9, 829–836 (*Chinese. English and Chinese summaries*). (Corneliu Berbente) **98a:76020** 76D05

Hou, Yao Ping The determinants of greatest common divisor matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 74–77. (Summary) **98a:15012** 15A15 (11A05, 11C20)

— Properties of GCD and LCM matrices. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 328–332. 15A57

Hou, You Liang (*with* Liu, Pei De) Martingales with respect to complex measures with the $b_p^*(K)$ condition. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 235–245. (Summary) **98g:60086** 60G42

Hou, Yu Hua Approximate M-estimates of regression parameters in linear models with an $MA(q)$ sequence of errors. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 413–421. 62M10

Hou, Zhanyuan (*with* Cassell, J. S.) Initial value problem for mixed-type differential equations. (English summary) *Monatsh. Math.* **124** (1997), *no.* 2, 133–145. (Ovide Arino) **98h:34117** 34K05

Hou, Zhen Ting (*with* Liu, Zai Ming; Zou, Jie Zhong) QNQL processes: (H, Q)-processes and examples of their application. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 9, 1003–1008. 60J27 (60K99)

Hou, Zixin (*with* Yan, Zhida) Some new developments in the study of differential geometry of homogeneous spaces. (English summary) *Group theory in China*, 255–261, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (O. Kowalski) **98d:53075** 53C30 (53C35, 53C55, 53C56, 58G25)

— (*with* Zhao, Qiang) Geometric parameters corresponding to representations of the classical groups with integral infinitesimal characters. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 268–284. (Jeffrey Adams) **98k:22059** 22E46 (20G15, 22E47)

— (*with* Zhao, Qiang) The Langlands classification of representations having integral regular infinitesimal characters of the classical groups of type A_n, B_n, and C_n. (English summary) *J. Algebra* **192** (1997), *no.* 1, 14–42. (Andrzej Daszkiewicz) **98j:22025** 22E46

Hou, Zong-yi (*with* Jin, Qi-nian) Finite-dimensional approximations to the solutions of nonlinear ill-posed problems. *Appl. Anal.* **62** (1996), *no.* 3-4, 253–261. 65J20

— (*with* Jin, Qi-nian) Maximum entropy method for solving nonlinear ill-posed problems. *Chinese Sci. Bull.* **41** (1996), *no.* 19, 1589–1593. (V. V. Vasin) **98a:47069** 47H17 (35R25, 65J15, 90C48)

— (*with* Yang, Hong Qi) A new regularization method for solving operator equations of the first kind. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 369–376. (Summary) **98f:65065** 65J15 (47A50, 65J20)

— (*with* Yang, Hong Qi) An inverse problem for a hyperbolic integrodifferential equation. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 19–24. (Guan Quan Zhang) **98d:35237** 35R30 (35L10, 45K05)

— (*with* Jin, Qi-nian) On the choice of the regularization parameter for ordinary and iterated Tikhonov regularization of nonlinear ill-posed problems. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 815–827. (Summary) **98b:65065** 65J20 (47H17)

— (*with* Jin, Qi-nian) Tikhonov regularization for nonlinear ill-posed problems. *Nonlinear Anal.* **28** (1997), *no.* 11, 1799–1809. (V. S. Sizikov) **98d:47149** 47H17 (47H15, 65J15)

— (*with* Jin, Qi-nian) Maximum entropy method for solving operator equations of the first kind. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 5, 483–493. (Charles W. Groetsch) **98m:65101** 65J05 (47A50)

Houart, L. (*with* Argurio, R.; Englert, F.) Intersection rules for p-branes. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 61–68. (Summary) **98a:81151** 81T30 (83E30)

— (*with* Argurio, R.; Englert, F.; Windey, P.) Opening of branes. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 151–156. (Summary) **98j:81242** 81T30 (83E30)

Houba, Harold The policy bargaining model. (English summary) *J. Math. Econom.* **28** (1997), *no.* 1, 1–27. (Su Sheng Wang) **98e:90231** 90D12 (90A60, 90D20)

— (*with* Bennett, Elaine) Odd man out: the proposal-making model. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 375–396. (Summary) **98h:90117** 90D35 (90A05)

Houdré, Christian (*with* Bobkov, S. G.) Variance of Lipschitz functions and an isoperimetric problem for a class of product measures. (English summary) *Bernoulli* **2** (1996), *no.* 3, 249–255. (Iosif Pinelis) **98e:60022** 60E05 (60A10, 60G15)

— (*with* Bobkov, S. G.) Characterization of Gaussian measures in terms of the isoperimetric property of half-spaces. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 31–38, 356. (Werner Linde) **98e:60056** 60G15 (52A40, 60B11)

— (*with* Bobkov, S. G.) Isoperimetric constants for product probability measures. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 184–205. (Werner Linde) **98g:60032** 60E15 (28A35)

— (*with* Bobkov, S. G.) Some connections between isoperimetric and Sobolev-type inequalities. (English summary) *Mem. Amer. Math. Soc.* **129** (1997), *no.* 616, viii+111 *pp.* (Luboš Pick) **98b:46038** 46E35 (49Q20, 60E15)

— (*with* Bobkov, S. G.) Converse Poincaré-type inequalities for convex functions. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 37–42. (Iosif Pinelis) **98g:60034** 60E15 (26D10)

— The iterated jackknife estimate of variance. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 197–201. (Summary) **98k:62079** 62G09

Hoßel, Jules *see* **Culleri, Paola, 98k:01009**

Hougardy, Stefan (*with* Dasbach, Oliver T.) Does the Jones polynomial detect unknottedness? (English summary) *Experiment. Math.* **6** (1997), *no.* 1, 51–56. (Summary) **98c:57004** 57M25

Hough, Patricia D. (*with* Vavasis, Stephen A.) Complete orthogonal decomposition for weighted least squares. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 369–392. (Robert W. Owens) **98a:65033** 65F05 (65F25, 65G05)

Houghton, Conor J. (*with* Sutcliffe, Paul M.) SU(N) monopoles and Platonic symmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5576–5589. (Roger Bielawski) **98j:53030** 53C07 (53C80, 58D27, 81T13)

— New hyper-Kähler manifolds by fixing monopoles. (English summary) *Phys. Rev. D (3)* **56** (1997), *no.* 2, 1220–1227. (Andrew Dancer) **98g:53045** 53C07 (53C25, 58D27)

— (*with* Manton, Nicholas S.; Sutcliffe, Paul M.) Rational maps, monopoles and skyrmions. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 507–537. (Roger Bielawski) **98m:58016** 58D27 (53C80, 81T13, 81V05)

Houle, Michael E. (*with* Turner, Gavin) Dimension-exchange token distribution on the mesh and the torus. (English summary) *Algorithms and computation (Osaka, 1996)*, 285–294, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68M10

Hounie, Jorge (*with* Santiago, Paulo) Local solvability in L^p of first order semilinear equations. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 137–148. (Abdelhamid Meziani) **98b:35030** 35F20 (35A07, 35B65)

— (*with* Moraes Melo, Maria Eulália) Local a priori estimates in L^p for first order linear operators with nonsmooth coefficients. (English summary) *Manuscripta Math.* **94** (1997), *no.* 2, 151–167. (You-Shi Lou) **98j:35022** 35B45 (35A07)

— (*with* Dos Santos Filho, José Ruidival) A fractional Friedrichs lemma for Hölder norms and applications. *Nonlinear Anal.* **28** (1997), *no.* 6, 1063–1077. (V. S. Rabinovich) **98c:35017** 35B45 (35J99, 35S05, 47G30)

Hounkonnou, M. N. (*with* Hounkpe, M.; Shabani, J.) Scattering theory for finitely many sphere interactions supported by concentric spheres. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2832–2850. (Mihai Pascu) **98d:81127** 81U10 (35B25, 35J10, 47F05, 47N50)

— (*with* Titantah, J. T.) A quantum statistical model of a three-dimensional linear rigid rotator in a bath of oscillators. II. The electrical birefringence in relaxation regime. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6327–6345. 81V80

— (*with* Titantah, J. T.) A quantum statistical model of a three-dimensional linear rigid rotator in a bath of oscillators. III. DC field dielectric property dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6347–6370. 81V80 (82D15)

Hounkpe, M. (*with* Hounkonnou, M. N.; Shabani, J.) Scattering theory for finitely many sphere interactions supported by concentric spheres. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2832–2850. (Mihai Pascu) **98d:81127** 81U10 (35B25, 35J10, 47F05, 47N50)

Houssein, Mouwad (*with* Van Oystaeyen, Freddy; Li, Huishi) Residual properties of graded algebras over domains. *Comm. Algebra* **25** (1997), *no.* 11, 3577–3586. (P. Wauters) **98j:16027** 16W50 (16E10)

Houston, Alice E. D. Densities of perfect linear complexity profile binary sequences. (English summary) *Applications of combinatorial mathematics (Oxford, 1994)*, 119–133, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (S. W. Golomb) **98f:94020** 94A99 (05A16)

— On the limit of maximal density of sequences with a perfect linear complexity profile. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 3, 351–359. (Summary) **98a:94022** 94A60 (68P25)

Houston, Evan (*with* Kabbaj, Salah-Eddine; Lucas, Thomas G.; Mimouni, A.) Duals of ideals in polynomial rings. *Commutative ring theory (Fès, 1995)*, 349–358, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Marco Fontana) **98f:13021** 13F20 (13A15)

— (*with* Gabelli, Stefania) Coherentlike conditions in pullbacks. *Michigan Math. J.* **44** (1997), *no.* 1, 99–123. (J. W. Brewer) **98d:13019** 13E15

Houston, Kevin Global topology of images of finite complex analytic maps. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 491–501. (Mihai Tibăr) **98k:32050** 32S20 (14F45)

— Local topology of images of finite complex analytic maps. *Topology* **36** (1997), *no.* 5, 1077–1121. (Mihai Tibăr) **98g:32064** 32S50 (32S30, 32S65, 57R45)

— Image multiple point spaces and rectified homotopical depth. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 323–331. (Mihai Tibăr) **98m:32051** 32S60 (14B15, 14F32)

Housworth, Elizabeth Ann (*with* DeBlassie, R. Dante; Hobson, David; Toby, Ellen H.) Escape rates for transient reflected Brownian motion in wedges and cones. (English summary) *Stochastics Stochastics Rep.* **57** (1996), *no.* 3-4, 199–211. (Youngmee Kwon) **98c:60103** 60J65

— (*with* Bañuelos, Rodrigo; Carroll, Tom) Inradius and integral means for Green's functions and conformal mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 577–585. (Daniel Girela) **98g:30016** 30C45

in 't Hout, K. J. Stability analysis of Runge-Kutta methods for systems of delay differential equations. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 1, 17–27. (H. Brunner) **98d:65097** 65L06 (65L20)

van Houten, M. H. (*with* Schoofs, A. J. G.; Etman, L. F. P.; van Campen, D. H.) Global and mid-range function approximation for engineering optimization. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 335–359. (*see* **98j:90004**) 90C90

van Houtum, Geert-Jan *see* **Van Houtum, Geert-Jan**

van der Houwen, Pieter J. On the history of Runge-Kutta methods. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 363–376, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 65L06 (65–03)

— (*with* van der Veen, Wolter A.) On solving implicit differential equations on parallel computers. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 159–178 (1997). (Alexander Ostermann) **98d:65098** 65L06 (34A09, 34A12, 34A45, 65Y05)

— (*with* de Swart, Jacques J. B.) Parallel linear system solvers for Runge-Kutta methods. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 157–181. (T. Feagin) **98c:65123** 65L06 (65Y05)

— (*with* van der Veen, Wolter A.) Waveform relaxation methods for implicit differential equations. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 183–197. (M. S. Derakhshan) **98c:65124** 65L06 (65L05)

— (*with* Sommeijer, B. P.) Euler-Chebyshev methods for integro-differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 203–218. (H. Brunner) **98h:65063** 65R20 (45K05, 45L05, 65L20)

— (*with* Sommeijer, B. P.; Kok, Jan) The iterative solution of fully implicit discretizations of three-dimensional transport models. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 243–256. (Summary) **98g:65077** 65M06 (65F10, 65L06)

— (*with* Messina, Enza) Parallel linear system solvers for Runge-Kutta-Nyström methods. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 407–422. (*see* **98d:65005**) 65L06 (65Y05)

— (*with* Sommeijer, B. P.) Splitting methods for three-dimensional transport models with interaction terms. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 215–231. (Summary) **98j:65057** 65M06

Houzel, Christian ★ Théorème de Fermat. (French) [Fermat's theorem] À travers l'histoire de l'analyse diophantienne. [Through the history of Diophantine analysis] SMF Journée Annuelle [SMF Annual Conference], 1995. *Société Mathématique de France, Paris*, 1995. ii+17 *pp.* (Andrew Granville) **98d:11002** 11–03 (01A05, 11D41)

van Hove, H. *see* **Van Hove, H.**

Hovelaque, V. (*with* Commault, C.; Dion, J. M.) A geometric approach for structured systems: application to disturbance decoupling. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 403–409. (Summary) **98e:93026** 93B27 (93C05)

Hover, F. S. (*with* Techet, A. H.; Triantafyllou, M. S.) Forces on oscillating uniform and tapered cylinders in crossflow. (English summary) *J. Fluid Mech.* **363** (1998), 97–114. 76B99

Hovey, Mark A. v_n-elements in ring spectra and applications to bordism theory. *Duke Math. J.* **88** (1997), *no.* 2, 327–356. (R. E. Stong) **98d:55017** 55P60 (55N22)

— (*with* Palmieri, John H.; Strickland, Neil P.) Axiomatic stable homotopy theory. (English summary) *Mem. Amer. Math. Soc.* **128** (1997), *no.* 610, x+114 *pp.* (J. P. C. Greenlees) **98a:55017** 55U35 (18E30, 18G35, 55N20, 55P42, 55P60, 55U15)

Hovi, J.-P. (*with* Aharony, Amnon) Different self-avoiding walks on percolation clusters: a small-cell real-space renormalization-group study. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1163–1178. (E. J. Janse van Rensburg) **98f:82068** 82B41 (82B28, 82B43, 82D30)

Hovland, P. (*with* Bischof, Christian H.; Spiegelman, Donna; Casella, Mario) Efficient derivative codes through automatic differentiation and interface contraction: an application in biostatistics. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 1056–1066. (Summary) **98c:65004** 65–04 (65D25, 92B15)

Howard, C. Douglas (*with* Newman, Charles M.) Euclidean models of first-passage percolation. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 153–170. (Agoston Pisztora) **98g:60182** 60K35 (60G55, 82B43, 82D30)

— Distinguishing certain random sceneries on **Z** via random walks. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 123–132. (Wei-Shih Yang) **98h:60106** 60J15

Howard, F. T. Sums of powers of integers via generating functions. *Fibonacci Quart.* **34** (1996), *no.* 3, 244–256. (Noriaki Kimura) **98a:11025** 11B68 (05A15, 11B37)

Howard, Louis N. (*with* Berloff, Natalia G.) Solitary and periodic solutions of nonlinear nonintegrable equations. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 1, 1–24. (Pavel Krejčí) **98f:35125** 35Q53 (35B10)

— (*with* Berloff, Natalia G.) Nonlinear wave interactions in nonlinear nonintegrable systems. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 3, 195–213. 35Q53

Howard, Martin J. (*with* Täuber, Uwe C.) "Real" versus "imaginary" noise in diffusion-limited reactions. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7721–7731. 82C31

Howard, Paul (*with* Rubin, Arthur L.; Rubin, Jean E.) Kinna-Wagner selection principles, axioms of choice and multiple choice. (English summary) *Monatsh. Math.* **123** (1997), *no.* 4, 309–319. (Jakub Jasiński) **98i:03067** 03E25 (03E35, 04A25)

Howard, Ralph The sharp Sobolev inequality and the Banchoff-Pohl inequality on surfaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2779–2787. (Eberhard Teufel) **98k:53096** 53C65 (53C42)

Howard, Tim Controlling limits of Boltzmann-type ODE's. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 465–470. (Introduction) **98k:34082** 34C99 (34D05)

Howe, Douglas J. Semantic foundations for embedding HOL in Nuprl. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 85–101, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98f:68234** 68T15 (03B35)

Howe, Jacob M. Two loop detection mechanisms: a comparison. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 188–200, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B35 (03B20)

Howe, Lawrence Twisted Hasse-Weil L-functions and the rank of Mordell-Weil groups. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 749–771. (Jan Nekovář) **98h:11087** 11G40 (11G05)

Howe, M. S. Sound generated by turbulence and discrete vortices interacting with a perforated elastic plate in low-Mach-number flow. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 2, 279–301. (Summary) **98c:76095** 76Q05 (73K70)

— The compression wave produced by a high-speed train entering a tunnel. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1523–1534. 76Q05 (76N10)

Howe, P. S. (*with* West, P. C.) Operator product expansions in four-dimensional superconformal field theories. (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 273–279. (Summary) **98a:81198** 81T40

— (*with* Sezgin, Ergin) Superbranes. (English summary) *Phys. Lett. B* **390** (1997), *no.* 1-4, 133–142. (Summary) **98f:81259** 81T30 (83E30)

— (*with* Sezgin, Ergin) $D = 11$, $p = 5$. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 62–66. (Summary) **98f:81260** 81T30 (83E30)

— (*with* Sezgin, Ergin; West, P. C.) Covariant field equations of the M-theory five-brane. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 49–59. (Sergey Nikolaevich Roshchupkin) **98d:81084** 81T30 (83E30)

— (*with* Sezgin, Ergin; West, P. C.) The six-dimensional self-dual tensor. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 255–259. (Summary) **98f:81261** 81T30 (83E30)

— (*with* West, P. C.) Superconformal invariants and extended supersymmetry. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 307–313. (Sergiu I. Vacaru) **98i:81245** 81T60 (81T13)

— Weyl superspace. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 149–155. (Sergey Nikolaevich Roshchupkin) **98k:83090** 83E50 (83E30)

— (*with* Lambert, N. D.; West, P. C.) A new massive type IIA supergravity from compactification. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 303–308. (Summary) **98i:83087** 83E50 (81T30, 83E30)

Howe, R. Michael Dual representations of GL_∞ and decomposition of Fock spaces. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2757–2781. (Vladimir Pestov) **98d:22019** 22E65 (81R10)

Howell, J. R. Some classes of step-response models without extrema. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1427–1428. 93B51 (93C05)

Howell, Kathleen C. (*with* Ely, Todd A.) Dynamics of artificial satellite orbits with tesseral resonances including the effects of luni-solar perturbations. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 243–269. (Summary) **98m:70032** 70M20 (70F15, 70K50)

— (*with* Barden, B. T.; Lo, M. W.) Application of dynamical systems theory to trajectory design for a libration point mission. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 2, 161–178. 70F15 (70M20)

Howell, Louis H. (*with* Bell, John B.) An adaptive mesh projection method for viscous incompressible flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 4, 996–1013. (Summary) **98c:76079** 76M25 (65M06, 76C05, 76D05)

Howell, Peter Erratum: "Models for thin viscous sheets" [European J. Appl. Math. **7** (1996), no. 4, 321–343; MR 97e:76035]. *European J. Appl. Math.* **9** (1998), *no.* 1, 93. 76D99

Howie, James (*with* Metaftsis, Vasileios; Thomas, Richard M.) Triangle groups and their generalisations. (English summary) *Groups—Korea '94 (Pusan)*, 135–147, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20F05

— (*with* Brodskiĭ, S. D.) The universal torsion-free image of a group. (English summary) *Israel J. Math.* **98** (1997), 209–228. (Martin Edjvet) **98g:20048** 20F05

Howie, John M. ★ Fundamentals of semigroup theory. London Mathematical Society Monographs. New Series, 12. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1995. x+351 *pp. ISBN* 0-19-851194-9 (P. M. Higgins) **98e:20059** 20Mxx (20–02)

— (*with* Gomes, Gracinda M. S.) A P-theorem for inverse semigroups with zero. *Portugal. Math.* **53** (1996), *no.* 3, 257–278. (Karl Byleen) **98b:20107** 20M18

Howison, S. D. (*with* Moriarty, J. A.; Ockendon, J. R.; Terrill, E. L.; Wilson, S. K.) A mathematical model for drying paint layers. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 4, 377–394. (Summary) **98k:76040** 76D99 (76D45)

— (*with* Carpio, A.; Chapman, S. J.; Ockendon, J. R.) Dynamics of line singularities. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2013–2024. (Summary) **98j:76015** 76C05 (73C99, 82D55)

— (*with* Morgan, John David; Ockendon, J. R.) A class of codimension-two free boundary problems. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 221–253. (Summary) **98b:35224** 35R35 (76B10, 76S05)

Howl, J. M. (*with* Davis, Mark H. A.) A Markovian analysis of the finite-buffer $M/D/1$ queue. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1947–1962. (Summary) **98e:60150** 60K25 (90B22)

Howland, James S. (*with* Geisler, Lyn, III) Spectra of quasienergies. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 397–408. (Liu Yang) **98c:81053** 81Q10 (47N50)

— Quasiclassical eigenvalues. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2069–2076. (Denise Huet) **98g:81038** 81Q15 (34L40, 81Q05)

— (*with* Herrin, J.) The Born-Oppenheimer approximation: straight-up and with a twist. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 4, 467–488. (Peter N. Zhevandrov) **98f:81057** 81Q05 (81Q15, 81Q20)

Howlett, P. G. (*with* Torokhtiĭ, A. P.) On the constructive approximation of non-linear operators in the modelling of dynamical systems. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 1–27. (Summary) **98c:41039** 41A35 (47H15, 47H17, 47N70, 93A30)

— (*with* Torokhtiĭ, A. P.) A methodology for the constructive approximation of nonlinear operators defined on noncompact sets. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 343–365. (M. Z. Nashed) **98i:47065** 47H99 (41A35, 47A70)

Howlett, R. B. (*with* Glasby, S. P.) Writing representations over minimal fields. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1703–1711. (V. A. Belonogov) **98c:20019** 20C20

— (*with* Rowley, P. J.; Taylor, D. E.) On outer automorphism groups of Coxeter groups. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 499–513. (Vladimir M. Levchuk) **98j:20056** 20F55 (20F28)

Howls, Chris J. (*with* Majima, Hideyuki; Olde Daalhuis, Adri B.) Vanishing theorems in asymptotic analysis. III. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 267–278, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98k:58227** 58G18 (33B15)

— An introduction to hyperasymptotics using Borel-Laplace transforms. (English summary) Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 31–48. (Summary) **98j:41035** 41A60 (44A10)

Howroyd, J. D. (*with* Falconer, K. J.) Packing dimensions of projections and dimension profiles. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 269–286. (Irene Hueter) **98j:28004** 28A78

Howse, Adelle (*with* Donovan, Diane; Adams, Peter) A discussion of Latin interchanges. (English summary) *J. Combin. Math. Combin. Comput.* **23** (1997), 161–182. (Katherine Heinrich) **98b:05019** 05B15

— Minimal critical sets for some small Latin squares. (English summary) *Australas. J. Combin.* **17** (1998), 275–288. (Summary) **98m:05026** 05B15

Howson, Colin What inductive probability is and what it is not. (Spanish) *Current perspectives in logic and philosophy of science (Spanish)*, 417–425, *Filosofía, Siglo XXI España Ed., Madrid*, 1994. (*see* **98m:00014**) 03B48

— Bayesian rules of updating. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 195–208. (Reinhard Suck) **98k:03058** 03B48 (00A30)

— Logic and probability. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 4, 517–531. (Summary) **98h:03033** 03B48

— A logic of induction. *Philos. Sci.* **64** (1997), *no.* 2, 268–290. 03B48

— *see also* **Mayo, Deborah G.**

Howze, J. W. (*with* Bhattacharyya, Shankar Prashad) Robust tracking, error feedback, and two-degree-of-freedom controllers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 980–983. 93B36 (93B52)

Hoy, Erich Eine a-priori-Abschätzung für die Gaußsche Krümmung bei verallgemeinerten Minimalflächen. [An a priori estimate for the Gaussian curvature in generalized minimal surfaces] *Mitt. Math. Sem. Giessen No.* 229 (1997), 55–63. (Karsten Grosse-Brauckmann) **98a:53011** 53A10

Hoyle, R. B. (*with* Woods, Andrew W.) Analytical model of propagating sand ripples. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6861–6868. 86A05 (73N20)

duque Hoyos, Álvaro *see* **Duque Hoyos, Álvaro**

Hradil, Z. (*with* Mogilevtsev, D.; Peřina, Jan) Homodyne reconstruction of density matrix in Fock-state basis: deterministic versus maximum likelihood approach. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2261–2269. 81V80

— Quantum-state estimation. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, R1561–R1564. (Summary) **98c:81028** 81P99

Hrimiuc, D. Diffusions on Lagrange manifolds. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 247–252. (Zoltan Kovacs) **98h:58201** 58G32 (53B40)

Hristea, Florentina On single distribution outlying pairs in a linear regression model. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 27–34. 62F11 (62J05)

Hristopulos, Dionissios T. (*with* Christakos, George) Stochastic indicator analysis of contaminated sites. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 988–1008. (Summary) **98h:60065** 60G60 (62C99, 62N99, 62P99, 86A05, 86A32)

tsiporkova-Hristoskova, Elena *see* **Tsiporkova-Hristoskova, Elena**

Hristova, S. G. *see* **Khristova, S. G.**

Hristova, Snezhana *see* **Khristova, S. G.**

Hristova, Snezhana G. *see* **Khristova, S. G.**

Hromkovič, Juraj (*with* Wierzchula, Detlef) On nondeterministic linear time, real time, and parallel communicating grammar systems. (English summary) *Mathematical linguistics and related topics*, 184–190, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q50 (68Q15, 68Q25)

— (*with* Klasing, Ralf; Monien, Burkhard; Peine, Regine) Dissemination of information in interconnection networks (broadcasting & gossiping). *Combinatorial network theory*, 125–212, *Appl. Optim.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the introduction) **98d:68027** 68M10 (05C90, 90B12)

— On the communication complexity of distributive language generation. *Developments in language theory, II (Magdeburg, 1995)*, 237–246, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q25 (68Q50)

— (*with* Dietzfelbinger, Martin; Schnitger, Georg) A comparison of two lower-bound methods for communication complexity. (English summary) 19th International Symposium on Mathematical Foundations of Computer Science (Košice, 1994). *Theoret. Comput. Sci.* **168** (1996), *no.* 1, 39–51. (Summary) **98a:68068** 68Q15 (68Q25)

— ★ Communication complexity and parallel computing. (English summary) Texts in Theoretical Computer Science. An EATCS Series. *Springer-Verlag, Berlin*, 1997. x+336 *pp. ISBN* 3-540-57459-X (Christoph Meinel) **98f:68102** 68Q15 (68–02, 68Q10)

— (*with* Calude, Cristian) Complexity: a language-theoretic point of view. *Handbook of formal languages, Vol. 2*, 1–60, *Springer, Berlin*, 1997. (Robert M. Baer) **98k:68072** 68Q15 (03D05, 03D15, 68Q45)

— (*with* Karhumäki, Juhani) Two lower bounds on computational complexity of infinite words. (English summary) *New trends in formal languages*, 366–376, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68081** 68Q45 (68Q25)

— (*with* Seibert, Sebastian; Wilke, Thomas) Translating regular expressions into small ε-free nondeterministic finite automata. (English summary) *STACS 97 (Lübeck)*, 55–66, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68084** 68Q45

— (*with* Ďuriš, Pavol; Rolim, José D. P.; Schnitger, Georg) Las Vegas versus determinism for one-way communication complexity, finite automata, and polynomial-time computations. (English summary) *STACS 97 (Lübeck)*, 117–128, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68045** 68Q15 (68Q10, 68Q68, 68Q75)

Hrovat, D. Survey of advanced suspension developments and related optimal control applications. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1781–1817. 93C95 (49N55)

Hruby, Jaroslav On the Q-deformed Heisenberg uncertainty relations and discrete time. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 133–152. (*see* **98b:00032**) 81R50 (81S05)

Hrutka, Marina (*with* Keung, Wai-Yee; Sukhatme, Uday P.) Accuracy of semiclassical methods for shape-invariant potentials. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3345–3350. (Summary) **98d:81019** 81Q20

Hryniewicz, Olgierd Optimal procedures of statistical process control in the presence of erroneous process inspections. (English summary) *Control Cybernet.* **25** (1996), *no.* 6, 1217–1231. (Stefanka Chukova) **98f:62293** 62N10

— Quality control of a continuously monitored production process. *Frontiers in statistical quality control*, 5 (*Osaka*), 156–167, *Physica, Heidelberg*, 1997. (*see* **98c:62009**) 62N10

— *see also* **Symposium: System Analysis and Computer Science, 98k:93007**

Hsia, J. S. (*with* Jöchner, M.) Almost strong approximations for definite quadratic spaces. *Invent. Math.* **129** (1997), *no.* 3, 471–487. (A. G. Earnest) **98m:11025** 11E12 (11E88, 20G30)

Hsia, Liang-Chung (*with* Yu, Jing) On singular moduli of Drinfeld modules in characteristic two. *J. Number Theory* **69** (1998), *no.* 1, 80–97. (Yoshinori Hamahata) **98m:11058** 11G09 (11F03)

Hsia, Wei Shen (*with* Lee, Tan-Yu) Some minimax theorems on set functions. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 29–33. (Francesco Ferro) **98c:49016** 49J35 (49K35)

Hsiang, Jieh (*with* Wasilewska, Anita) Automating algebraic proofs in algebraic logic. (English summary) *Fund. Inform.* **28** (1996), *no.* 1-2, 129–140. (Summary) **98h:03016** 03B35 (03G25, 68Q42, 68T15)

— *see also* **Rewriting systems and applications, 98i:68014**

Hsiang, Wu-Yi (*with* Straume, Eldar) A brief introduction to the topology of compact Lie transformation groups. *The Sophus Lie Memorial Conference (Oslo, 1992)*, 139–152, *Scand. Univ. Press, Oslo*, 1994. (Karl Heinz Dovermann) **98d:57063** 57S15 (57S25)

— Kinematic geometry of mass-triangles and reduction of Schrödinger's equation of three-body systems to partial differential equations solely defined on triangular parameters. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 17, 8936–8938. (Jair Koiller) **98j:81064** 81Q05 (35Q40)

Hsiao, Cheng Statistical properties of the two-stage least squares estimator under cointegration. (English summary) *Rev. Econom. Stud.* **64** (1997), *no.* 3, 385–398. (Summary) **98b:62198** 62P20

— (*with* Wang, Liqun; Wang, Qing) Estimation of nonlinear errors-in-variables models: an approximate solution. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 1–25. (Summary) **98f:62186** 62J02

Hsiao, Chuhsing Kate Approximate Bayes factors when a mode occurs on the boundary. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 656–663. 62F15

Hsiao, Chun-Hui State analysis of linear time delayed systems via Haar wavelets. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 5, 457–470. (Summary) **98j:65093** 65T99 (42C10)

Hsiao, Feng-Hsiag (*with* Pan, Shing-Tai; Teng, Ching-Cheng) Dynamic output feedback control of nonlinear singularly perturbed systems. (English summary) *J. Franklin Inst. B* **333** (1996), *no.* 6, 947–973. (Đordan I. Slavov) **98a:93047** 93C70 (34E15, 34H05)

— (*with* Lin, Chin E.; Yang, Ciann-Dong; Chang, Chia-Yuang) H^∞-optimal observer-based controller design for nonlinear multivariable systems. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 573–596. (A. T. Barabanov) **98b:93023** 93B36 (93B07)

— (*with* Pan, Shing-Tai; Teng, Ching-Cheng) D-stability bound analysis for discrete multiparameter singularly perturbed systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 4, 347–351. (Summary) **98c:93095** 93D20 (93C70)

— (*with* Hwang, Jiing-Dong) Optimal controller for dithered systems with backlash or hysteresis. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 87–113. (Summary) **98a:93035** 93C10 (49N35, 93B52)

— (*with* Hwang, Jiing-Dong; Pan, Shing-Tai) D-stability analysis for discrete uncertain time-delay systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 109–114. 93D05 (93C55)

— (*with* Hwang, Jiing-Dong; Chien, I-Lung) Stabilization of nonlinear large-scale systems by dithers. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 203–226. 93D99

Hsiao, George C. (*with* Kleinman, Ralph E.) Mathematical foundations for error estimation in numerical solutions of integral equations in electromagnetics. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 3, 316–328. (Summary) **98a:78001** 78–08 (65R20, 78A25)

— *see also* **Analysis, numerics and applications of differential and integral equations, 98f:00036**

Hsiao, L. *see* **Xiao, Ling**

Hsiao, Ling *see* **Xiao, Ling**

Hsiao, Wen-Hoar (*with* Chen, Shyi-Ming; Jong, Woei-Tzy) Bidirectional approximate reasoning based on interval-valued fuzzy sets. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 339–353. 68T35 (04A72)

— (*with* Chen, Shyi-Ming; Lee, Chia-Hoang) A new interpolative reasoning method in sparse rule-based systems. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 17–22. (Summary) **98j:68156** 68T35 (03B52)

Hsiau, Shoou-Ren Compound Poisson limit theorems for Markov chains. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 24–34. (J. Gani) **98a:60097** 60J10 (60F99)

Hsieh, C. Samuel A fine-grained data-flow analysis framework. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 653–665. (Summary) **98c:68040** 68N20 (68N15)

Hsieh, Cheng-Hsiung (*with* Manry, Michael T.; Dawson, Michael S.; Fung, Adrian K.; Apollo, Steven J.) Cramer Rao maximum a posteriori bounds on neural network

training error for non-Gaussian signals and parameters. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 3, 381–391. (Summary) **98c:94036** 94C99 (94A15)

Hsieh, Din-Yu (*with* Wang, Xiao-Ping) Phase transition in van der Waals fluid. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 871–892. (R. M. Gundersen) **98h:35196** 35Q35 (76T05, 82B26, 82D15)

Hsieh, Fushing (*with* Turnbull, Bruce W.) Nonparametric and semiparametric estimation of the receiver operating characteristic curve. (English summary) *Ann. Statist.* **24** (1996), *no.* 1, 25–40. (Sh. A. Khashimov) **98m:62098** 62G05 (62G20, 62H30)

— A transformation model for two survival curves: an empirical process approach. (English summary) *Biometrika* **83** (1996), *no.* 3, 519–528. (Benjamin Epstein) **98e:62141** 62N05 (62G05)

— (*with* Lu, Henry Horng-Shing) Transformation models for interval scale grouped data with applications. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 841–854. 62G05

Hsieh, H. K. Prediction intervals for Weibull order statistics. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1039–1051. 62G30

Hsieh, Jer-Guang (*with* Lee, Li; Fang, Chun-Hsiung) Exact unidirectional perturbation bounds for robustness of uncertain generalized state-space systems: continuous-time cases. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1923–1927. 93D09 (93C05)

— (*with* Sun, Yeong-Jeu; Yang, Horng-Chin) On the stability of uncertain systems with multiple time-varying delays. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 101–105. (Summary) **98a:93059** 93D09 (34K20, 34K35, 93C25)

— (*with* Sun, Yeong-Jeu; Lien, Chang-Hua) Comments on: "*D*-stability of continuous time-delay systems subjected to a class of highly structured perturbations" [IEEE Trans. Automat. Control **40** (1995), no. 10, 1803–1807] by C. H. Lee. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 689. 93D09 (93C30)

— (*with* Sun, Yeong-Jeu) On α-stability criteria of nonlinear systems with multiple time delays. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 695–705. (Sergiy V. Yanchuk) **98m:34157** 34K20

Hsieh, Po-Fang (*with* Kohno, Mitsuhiko; Sibuya, Yasutaka) Construction of a fundamental matrix solution at a singular point of the first kind by means of the *SN* decomposition of matrices. (English summary) *Linear Algebra Appl.* **239** (1996), 29–76. (Summary) **98c:65037** 65F05 (15A23, 34–04, 34A30, 65–04)

Hsien, Nan-Chen (*with* Chiang, Ding-An; Chow, Louis R.) Fuzzy information in extended fuzzy relational databases. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 1–20. (Summary) **98f:68062** 68P15 (04A72)

Hsien, Tsung-Lieh *see* **Yang, Tao²**

Hsing, Tailen (*with* Hüsler, Jürg; Reiss, Rolf-Dieter) The extremes of a triangular array of normal random variables. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 2, 671–686. (Raul Gouet) **98b:60040** 60F05 (60G10, 60G15)

— (*with* Ho, Hwai-Chung) Limit theorems for functionals of moving averages. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1636–1669. (Peter M. Robinson) **98m:60027** 60F05

Hsiung, Chao A. (*with* Chang, I-Shou; Chen, Chen-Hsin) Estimation in change-point hazard rate models with random censorship. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 78–92, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62F10 (60G05, 62G20)

— (*with* Chang, I-Shou; Chuang, Yuan-Chuan) Applications of a frailty model to sequential survival analysis. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 127–138. (Richard A. Johnson) **98k:62146** 62L15 (62E20)

Hsiung, Chuan-Chih ★ A first course in differential geometry. *International Press, Cambridge, MA*, 1997. xviii+343 *pp. ISBN* 1-57146-046-2 (Man Chun Leung) **98e:53001** 53–01 (53A04, 53A05)

— Some conditions for a complex structure. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 39–41. (Andrew Bucki) **98j:53038** 53C15

Hsu, Charles (*with* Szu, Harold) Spatiotemporal chaos information processing in neural networks. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 237–257, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:58005**) 92B20 (58F13)

Hsu, Cheng-Hsiung (*with* Lin, Song-Sun) Some qualitative properties of the Riemann problem in gas dynamical combustion. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 10–43. (Long An Ying) **98h:76077** 76L05 (35L67, 35Q99, 76N15, 80A32)

Hsu, Chih-Nung On Artin's conjecture for the Carlitz module. *Compositio Math.* **106** (1997), *no.* 3, 247–266. (Yoshinori Hamahata) **98c:11053** 11G09

— On certain character sums over $\mathbf{F}_q[T]$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 647–652. (Charles Helou) **98f:11091** 11L40 (11A07)

— Some results on finite Drinfeld modules. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1955–1961. (David Goss) **98h:11072** 11G09

Hsu, Chin Shui (*with* Yu, Xianggang) Reduced order H_∞ filter design for discrete time-variant systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 8, 797–809. (Summary) **98e:93103** 93E11 (93B11)

— (*with* Yeh, Hsi-Han; Banda, Siva S.; Rawson, Jenny L.) Reduced-order robust compensator design with real parameter uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1029–1045. 93B51 (93C42)

Hsu, Chiun-Chieh (*with* Chang, Jou-Ming; Wang, Yue-Li; Ho, Ting-Yem) Finding the set of all hinge vertices for strongly chordal graphs in linear time. (English summary) *Inform. Sci.* **99** (1997), *no.* 3-4, 173–182. (Summary) **98a:68144** 68R10 (05C85, 68M10, 68Q25)

Hsu, Chung-Chang (*with* Chang, Maw-Shang) On minimum intersection of two minimum dominating sets of interval graphs. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 41–50. (Anthony E. Barkauskas) **98k:05086** 05C35 (05C85)

Hsu, Elton P. Logarithmic Sobolev inequalities on path spaces over Riemannian manifolds. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 9–16. (Shi Zan Fang) **98i:58249** 58G32 (31C12, 58D20, 60H07)

— Stochastic local Gauss-Bonnet-Chern theorem. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 819–834. (Rémi Léandre) **98k:58249** 58G32 (60J65)

— Integration by parts in loop spaces. *Math. Ann.* **309** (1997), *no.* 2, 331–339. (Rémi Léandre) **98m:60083** 60H07 (58G32)

Hsu, Guang-Hui *see* **Xu, Guang Hui¹**

Hsu, Hsiao-Ping (*with* Huang, Ming-Chang) Critical probability and scaling functions of bond percolation on two-dimensional random lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3429–3438. 82B43 (82B20, 82B27, 82B44)

Hsu, Jason C. (*with* Berger, Roger L.) Bioequivalence trials, intersection-union tests and equivalence confidence sets. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **11** (1996), *no.* 4, 283–319. (Summary) **98e:62046** 62F25 (62P10)

— (*with* Fritsch, Kathleen S.) Multiple comparisons with the mean. (English summary) *Advances in statistical decision theory and applications*, 189–204, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62J15

— (*with* Soong, W. C.) Using complex integration to compute multivariate normal probabilities. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 4, 397–415. 62J15 (62–04, 62H10)

— (*with* Nelson, Barry L.) Multiple comparisons in the general linear model. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 23–41. 62J15

Hsu, John S. J. (*with* Leonard, Tom) Hierarchical Bayesian semiparametric procedures for logistic regression. (English summary) *Biometrika* **84** (1997), *no.* 1, 85–93. (Summary) **98a:62096** 62J12

Hsu, Jong-Ping (*with* Hsu, Leonardo) Generalized Lorentz transformations for linearly accelerated frames with limiting four-dimensional symmetry. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 4, 407–417. (Mary L. Boas) **98h:83005** 83A05

Hsu, Kou-Cheng Variable structure control design for uncertain dynamic systems with sector nonlinearities. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 505–508. 93B12

Hsu, L. C. *see* **Hsu, Leetsch Charles**

Hsu, Lee-Chuang (*with* Peng, Hsin-Min; Chang, Fan Ren) Computation of transfer function matrices of generalized state-space systems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 4, 471–479. 93B40 (65F30)

Hsu, Leetsch Charles (*with* Shiue, Peter Jau-Shyong) Representation of various special polynomials via the cycle indicator of symmetric group. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 157–162, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 05A15 (05E05)

— (*with* Sun, Guangrun) The use of nonstandard Möbius inversion to solve stochastic Volterra integral equations. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 4, 360–365. (Summary) **98a:60087** 60H20 (26E35, 28E05, 45D05)

— On a problem of summing a kind of higher-order arithmetic-geometric progression. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 3, 1–5. (Summary) **98a:40004** 40A25 (42A24)

— (*with* Yu, Hong Quan) A unified approach to a class of Stirling-type pairs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 225–232. (F. T. Howard) **98e:11024** 11B73 (05A10, 33E30)

— On a kind of generalized arithmetic-geometric progression. *Fibonacci Quart.* **35** (1997), *no.* 1, 62–67. (Y. H. Harris Kwong) **98c:11018** 11B73 (05A19)

— On a refinement of Hilbert's inequality. (English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 1–4. (Summary) **98g:26022** 26D15

— A new constructive proof of the Stirling formula. (Chinese summary) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 5–7. (Richard B. Paris) **98e:33001** 33B15

— (*with* Mullen, Gary L.; Shiue, Peter Jau-Shyong) Dickson-Stirling numbers. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 409–423. (F. T. Howard) **98i:11011** 11B73 (05A10)

Hsu, Leonardo (*with* Hsu, Jong-Ping) Generalized Lorentz transformations for linearly accelerated frames with limiting four-dimensional symmetry. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 4, 407–417. (Mary L. Boas) **98h:83005** 83A05

Hsu, Li (*with* Prentice, Ross L.) Regression on hazard ratios and cross ratios in multivariate failure time analysis. (English summary) *Biometrika* **84** (1997), *no.* 2, 349–363. 62N05

Hsu, Lifang New procedures for group-testing based on the Huffman lower bound and Shannon entropy criteria. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 249–262, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62N10

Hsu, Lih-Hsing (*with* Sung, Ting-Yi; Ho, Tung-Yang) Projective torus networks. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 451–459, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68M10

— (*with* Wang, Jeng-Jung; Hung, Chun-Nan) Optimal 1-Hamiltonian graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 157–161. (Summary) **98m:68218** 68R10 (05C45)

Hsu, Lily C. (*with* Rzhetsky, Andrey; Ayala, Francisco José; Chang, Cheng; Yoshida, Akira) Fitting models of intron evolution to aldehyde dehydrogenase data. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 95–109, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92B05 (60G35)

Hsu, Rue-Ron (*with* Yang, I-Ching; Yeh, Ching-Tzung; Lee, Chin-Rong) On the energy of a charged dilaton black hole. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 349–356. (Summary) **98f:83078** 83C57

— (*with* Chern, Jyh-Long; Ko, Jing-Yuan; Lih, Jiann-Shing; Su, Han-Tzong) Recognizing hidden frequencies in a chaotic time series. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 134–140. 58F13 (58F40)

Hsu, Steen J. (*with* Lin, Rong S.; Yuang, Maria C.) Efficient minimization of homogeneous FSMs for fault diagnosis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 117–124. (Summary) **98k:94020** 94C12

Hsu, Stephen D. H. (*with* Shvets, N. R.) A note on supersymmetry breaking. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 287–292. (Summary) **98d:81030** 81R40 (81T60)

Hsu, Tsan-sheng (*with* Peng, Shen Lung; Ko, Ming-Tat; Ho, Chin-Wen; Tang, Chuan Yi) Graph searching on chordal graphs. (English summary) *Algorithms and computation* (*Osaka*, 1996), 156–165, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Kao, Ming-Yang) Optimal augmentation for bipartite componentwise biconnectivity in linear time (extended abstract). (English summary) *Algorithms and computation*

(*Osaka*, 1996), 213–222, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Tsai, Kuo-Hui; Wang, Da-Wei; Lee, Der Tsai) Steiner problems on directed acyclic graphs. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 21–30, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (J. W. Moon) **98c:05075** 05C20 (05C85)

— (*with* Kao, Ming-Yang) Optimal bi-level augmentation for selectively enhancing graph connectivity with applications. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 169–178, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05137** 05C85 (05C40)

— (*with* Peng, Shen Lung; Ho, Chin-Wen; Ko, Ming-Tat; Tang, Chuan Yi) Edge and node searching problems on trees. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 284–293, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68217** 68R10 (05C85)

Hsu, Tsing-San (*with* Wang, Hwai-Chiuan) On the structure of solution of equations $-\Delta u + ae^u - be^{-u} - \lambda u - f = 0$. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 87–98, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35063** 35J65 (35B99)

— (*with* Wang, Hwai-Chiuan) A perturbation result of semilinear elliptic equations in exterior strip domains. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 983–1004. (Summary) **98h:35063** 35J60

— (*with* Wang, Hwai-Chiuan) Multiple symmetric solutions of semilinear elliptic equations in unbounded symmetric domains. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 63–71. (Alexandra Kurepa) **98k:35056** 35J60 (35B05)

Hsu, Vernon Ning (*with* Lowe, Timothy J.; Tamir, Arie) Structured p-facility location problems on the line solvable in polynomial time. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4, 159–164. (Summary) **98h:90042** 90B80 (90C39)

Hsu, Wen-Ko (*with* Chen, Huey-Kuo; Chiang, Wei-Ling) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 2, 155–168. (Summary) **98a:04004** 04A72 (65G10)

Hsu, Wen-Lian On-line recognition of interval graphs in $O(m + n \log n)$ time. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 27–38, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:68168** 68R10 (05C85)

— On physical mapping algorithms: an error-tolerant test for the consecutive ones property. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 242–250, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:92018** 92D20 (68Q20)

Hsu, Yu-Ping (*with* Dilworth, S. J.) On a property of Kadec-Klee type for quasi-normed unitary matrix spaces. (English summary) *Far East J. Math. Sci.* **1996**, *Special Volume, Part II*, 183–194. (Dirk Werner) **98a:46021** 46B20 (46B28, 47B10)

Hsueh, H. M. (*with* Cheng, K. F.; Chien, T. H.) Goodness of fit tests with misclassified data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 6, 1379–1393. 62F03

Hu, Bambi the Frenkel-Kontorova model: classical generalizations and quantum glimpses. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 445–452, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81V70 (58F13, 81Q50)

Hu, Bao Sheng (*with* Xing, Ke Yi; Li, Jun Min; Xu, Xiang Qin) Control strategies for the firing sequence problem. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 502–507. 93C83 (93C30)

— (*with* Xing, Ke Yi; Li, Jun Min) Synthesis of optimal live Petri net models for a class of flexible manufacturing systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 762–767. 90B30 (68Q90)

— (*with* Xie, Yong Bin; Luo, Zhong; Feng, Zu Ren) Closed-loop analysis of DMC predictive control of second-order inertial systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 398–402. 93C40 (93B52)

— (*with* Xie, Yong Bin; Luo, Zhong; Feng, Zu Ren; Li, Lin) A generalized predictive control algorithm based on cerebellar model articulation control. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 30–34. 93B40 (93B30)

— (*with* Kang, Zheng Jiu) A systolic algorithm for the triangular Stein equation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 40–45. 65F30 (68Q22)

Hu, Bei (*with* Friedman, Avner; Liu, Yong) A boundary value problem for the Poisson equation with multi-scale oscillating boundary. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 54–93. (Sergey Nikolaevich Alekseenko) **98j:35045** 35J25 (35B25)

— (*with* Friedman, Avner) A non-stationary multi-scale oscillating free boundary for the Laplace and heat equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 119–165. (Lisa Santos) **98g:35223** 35R35 (35J05, 35K05, 76X05)

— (*with* Yin, Hong-Ming) On critical exponents for the heat equation with a mixed nonlinear Dirichlet-Neumann boundary condition. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 683–711. (Norbert Hungerbühler) **98j:35105** 35K60 (35B30, 35K05)

— (*with* Yin, Hong-Ming) The DeGiorgi-Nash-Moser type of estimate for parabolic Volterra integrodifferential equations. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 265–277. (Hana Petzeltová) **98a:35051** 35K10 (35B40, 45K05)

— (*with* Guo, Jong-Shenq) The profile near quenching time for the solution of a singular semilinear heat equation. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 437–456. (Siegfried Carl) **98i:35087** 35K55 (35B35, 35B40)

Hu, Bei Lok (*with* Shiokawa, K.) Decoherence, delocalization, and irreversibility in quantum chaotic systems. (English summary) *Phys. Rev. E* (3) **52** (1995), *no.* 3, *part A*, 2497–2509. (Summary) **98k:81065** 81Q50

— (*with* Matacz, A.) Quantum noise in gravitation and cosmology. (English summary) *Fluctuations and order*, 429–454, *Inst. Nonlinear Sci., Springer, New York*, 1996. (Markku Lehto) **98c:83046** 83C47 (82C10, 82D99, 83F05)

— (*with* Shiokawa, K.) Environment-induced effects on quantum chaos: decoherence, delocalization and irreversibility. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 381–394, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50 (82C10)

— (*with* Phillips, Nicholas G.) Fluctuations of the vacuum energy density of quantum fields in curved spacetime via generalized ζ functions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6123–6134. (Summary) **98d:81068** 81T20 (81T16, 83C47)

— (*with* Ramsey, S. A.) O(N) quantum fields in curved spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 661–677. (Francisco Diego Mazzitelli) **98j:81232** 81T20 (83C47)

— (*with* Ramsey, S. A.) Nonequilibrium inflaton dynamics and reheating: back reaction of parametric particle creation and curved spacetime effects. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 678–705. (Francisco Diego Mazzitelli) **98j:81233** 81T20 (83C47)

— *see also* **Quantum classical correspondence**, **98m:81002**

Hu, Bi Jin Inverse π-Bayesian decision making. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **16** (1996), *no.* 4, 421–434. (Summary) **98c:62048** 62F15 (62A15)

— On Wald's conjecture. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 24–31. 62L15 (62C10)

Hu, Bing (*with* Zhou, Tian-Xiao; Bai, Wen) Mini mixed finite elements for solving the Stokes problem. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 731–735. 65N30 (76D07, 76M10)

Hu, Bing Song (*with* Wang, Jia Song) An efficient algorithm for generating optimal sequences. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 105–109. 65F30 (65B99)

Hu, Bo To determine that all the roots of a transcendental polynomial have negative real parts. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 373–392. (A. T. Barabanov) **98k:34123** 34K20 (93D05)

Hu, C. *see* **Hu, Chen-Yi**

Hu, Chang Bing Higher-order extrapolation of the fictitious domain method for elliptic equations. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 154–159; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 3, 47–53. (Summary) **98i:65113** 65N55

— (*with* Ma, Yichen) Smoothness of inertial manifold under time discretization. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 1, 108–120. (Anibal Rodriguez-Bernal) **98e:34114** 34G20 (34C30, 47H15, 47H20, 58F39)

— (*with* Li, Kaitai) A simple construction of inertial manifolds under time discretization. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 531–540. (Summary) **98h:35091** 35K22 (34G20, 35Q53, 47H20, 65M12)

Hu, Chang-Yu (*with* Guo, Ming; Xu, Lu; Yu, Shi-Mei) Study on structure-activity relationship of organic compounds—applications of a new highly discriminating topological index. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 185–197. (*see* **98b:92001**) 92E10

Hu, Chen-Yi A parallel algorithm for interval polynomial interpolation. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65G10 (65Y05)

— (*with* Beheshti, M.; Berrashed, A.; de Korvin, A.; Sirisaengtaksin, O.) Fuzzy Petri nets for decision making in uncertain and variable environments. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 309–323. 90A05 (90C70)

— (*with* Cardenas, Angelina; Hoogendoorn, Stephanie; Sepulveda, Pedro, Jr.) An interval polynomial interpolation problem and its Lagrange solution. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 27–38. (Summary) **98m:65018** 65D05

Hu, Cheng Dong (*with* Liu, Wei[3]) Boundary value problems of finite deformation of elastic plates with small shear. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 1–16. (Summary) **98c:73051** 73K10 (73G05)

Hu, Chin-Yuan (*with* Hwang, Tea-Yuan) On an integro-functional equation arising in order statistics. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 161–169. 62E10

Hu, Chuan-Gan The stability of integral equations with the Cauchy kernel. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 175–183 (1997). (Naum Ya. Krupnik) **98g:47041** 47G10 (45E05, 45P05)

Hu, D. L. (*with* Cai, Da Yong) RQI dynamics for non-normal matrices with real eigenvalues. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 138–148. (V. L. Makarov) **98g:65030** 65F15

Hu, De Wen (*with* Wen, Xi Sen; Wang, Zheng Zhi[2]) Identification of structure and parameter invariants for multivariable stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 377–381. 93E03 (93E12)

Hu, Di He (*with* Hu, Xiao Yu) The equation for the hitting probabilities of a class of Lévy processes. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 18–22. (Summary) **98e:60118** 60J30

Hu, Dong Liang (*with* Ye, Xiang Yun; Qi, Fei Hu) Mathematical morphology using cellular neural networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **31** (1997), *no.* 3, 33–36. 68U10 (68Q80, 68T05, 92B20)

Hu, Fei Fang The asymptotic properties of the maximum-relevance weighted likelihood estimators. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 1, 45–59. (Tadashi Nakamura) **98k:62033** 62F12

Hu, Fen Lan (*with* Zhou, Gang[1]; Wang, Ji Lin) A pursuit method for solving banded systems of linear equations with complex coefficients. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **31** (1997), *no.* 6, 9–13. 65F30

Hu, Gang *see* **Hu, Gang[3]**

Hu, Gang[1] (*with* Chen, Guanrong) Some controllability conditions for nonlinear feedback control of chaotic systems. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 208–212. (Boris G. Zaslavskiĭ) **98e:93006** 93B05 (34H05, 93C10)

Hu, Gang[3] (*with* Li, Jian Xin) The constructions of the max-min fuzzy relation equations that have a unique minimal solution. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 1, 44–52. (Summary) **98c:04007** 04A72 (15A24)

Hu, Guan Zhang Group theory and computer methods for combinatorial enumeration. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 1, 1–12. (Jing Zhong Mao) **98e:05058** 05C30 (05C25, 05C45, 68R05)

Hu, Guang-Da (*with* Hu, Guang-Di) Stability of neutral delay-differential systems: boundary criteria. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 247–259. (Tibor Krisztin) **98f:34110** 34K20 (34K40)

Hu, Guang-Di (*with* Hu, Guang-Da) Stability of neutral delay-differential systems: boundary criteria. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 247–259. (Tibor Krisztin) **98f:34110** 34K20 (34K40)

Hu, Guang Hua (*with* Zhang, Sheng[1]) Discounted semi-Markov decision processes with a constraint. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 187–195. (Han Sheng Wu) **98e:90209** 90C40

Hu, Guang Shu (*with* Wang, Jun Feng) A study of perfect models of stationary random signals. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 4, 68–71. (Xing Wei Zhou) **98m:94006** 94A12

Hu, Guoen Weighted norm inequalities for commutators of homogeneous singular integrals. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 1, 141. *Acta Math. Sinica (N.S.)* **11** (1995), *Special Issue*, 77–88. (Javier Duoandikoetxea) **98b:42028** 42B20

— On a multilinear singular integral operator. (English summary) *Approx. Theory Appl. (N.S.)* **11** (1995), *no.* 4, 90–107. (Summary) **98g:42024** 42B20

— A note on singular integral operators. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 54–59. (Summary) **98e:42017** 42B20 (42B25, 47G10)

— Multilinear oscillatory singular integral with rough kernel. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 50–59. (Dashan Fan) **98j:42007** 42B20 (42B15, 42B25)

— A weighted norm inequality for oscillatory singular integrals. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 2, 133–138. (Summary) **98k:42016** 42B20 (42B25)

— On a multiple singular integral operator. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 134–142. (Summary) **98f:42012** 42B20 (47G10)

Hu, Guoquan (*with* Xu, Yong Hua[1]) Quantum commutative algebras and their duals. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 243–252. (Summary) **98c:16052** 16W30

Hu, H. H. (*with* Huang, Peter Y.; Feng, Jimmy; Joseph, Daniel D.) Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. (English summary) *J. Fluid Mech.* **343** (1997), 73–94. (Summary) **98c:76006** 76A10 (76M25, 76T05)

— (*with* Huang, Peter Y.; Joseph, Daniel D.) Direct simulation of the sedimentation of elliptic particles in Oldroyd-B fluids. (English summary) *J. Fluid Mech.* **362** (1998), 297–325. 76T05 (76A05)

Hu, Hai Yan An adaptive control strategy for directing chaotic motion to periodic motion. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 5, 631–635. 93C40 (58F13)

— Controlling chaos of a dynamical system with discontinuous vector field. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 1–8. (Helena E. Nusse) **98i:93045** 93C10 (34C15, 58F13, 70K50)

— *see also* **Dai, D. C.**

Hu, Hesheng Soliton and differential geometry. *Soliton theory and its applications*, 297–336, 397–398, *Springer, Berlin*, 1995. (*see* **98j:58064**) 58F07 (53A05, 58F37)

Hu, Hongde (*with* Tholen, Walter) A note on free regular and exact completions and their infinitary generalizations. (English summary) *Theory Appl. Categ.* **2** (1996), No. 10, 113–132 (*electronic*). (S. B. Niefield) **98e:18001** 18A35 (18E10, 18G05)

— (*with* Joyal, André) Coherence completions of categories and their enriched softness. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98j:68101** 68Q55 (03G30, 18C10, 18D20)

Hu, Inchi Strong consistency in stochastic regression models via posterior covariance matrices. (English summary) *Biometrika* **84** (1997), *no.* 3, 744–749. 62J05

— (*with* Basak, Gopal K.; Wei, Ching-Zong) Weak convergence of recursions. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 65–82. (Götz Kersting) **98k:60029** 60F05 (60H10, 60J60)

— (*with* Chen, Kani) On consistency of Bayes estimates in a certainty equivalence adaptive system. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 943–947. 93E35 (93E10)

Hu, Ji Cheng A Plemelj formula for Bochner-Martinelli integrals. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 25–33. (Shu Jin Chen) **98f:32004** 32A25

Hu, Jia Gan (*with* Liu, Xing Ping) The EPE_4 method and matrices that can be made positive definite. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 30–39. (Guo Liang Chen) **98g:65028** 65F10 (65N22)

Hu, Jia-Zhen (*with* Wang, Fu-Gao) The critical behavior of the Ising model on Union Jack lattice. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 175–180. (Takeo Kojima) **98f:82058** 82B23 (81R50)

Hu, Jian Lan (*with* Jiang, Ling Fang; Wang, Lian Gui) Analytic traveling wave solutions for some classes of nonlinear equations. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 3, 41–45. (Song Mu Zheng) **98a:35117** 35Q53 (35K57, 35Q80, 92D25, 92E99)

Hu, Jian-Qiang (*with* Girish, Muckai K.) Higher order approximations for tandem queueing networks. (English summary) *Queueing Systems Theory Appl.* **22** (1996), *no.* 3-4, 249–276. (L. A. Grinshpan) **98f:60190** 60K25

— (*with* Girish, Muckai K.) An interpolation approximation for the $GI/G/1$ queue based on multipoint Padé approximation. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 269–284. 60K25 (41A21, 90B22)

Hu, Jian-wei (*with* Tian, Chun-song) A Galerkin partial upwind finite element method for the convection-diffusion equations. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 60–77. 65N30 (76M10)

— (*with* Tian, Chun-song) Automatic generation of graded triangular meshes in a planar domain. (English summary) *Chinese J. Numer. Math. Appl.* **16** (1994), *no.* 1, 13–22. 65D15 (65N30)

— Partial upwind finite element method for some nonlinear evolution equations. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 59–68, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Hassan Emamirad) **98f:65097** 65M60 (76M10)

Hu, Jiaxin A limiting viscosity approach to Riemann solutions containing delta-shock waves for nonstrictly hyperbolic conservation laws. *Quart. Appl. Math.* **55** (1997), *no.* 2, 361–373. (Pavel Dubovskiĭ) **98c:35109** 35L65 (35D05)

Hu, Jie (*with* Nakamura, Tadao; Li, Lei) Convergence, complexity and simulation of monotone asynchronous iterative method for computing fixed point[s] on a distributed computer. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 1–11. (Summary) **98c:65210** 65Y05 (65J15, 65Y20)

— (*with* Nakamura, Tadao; Li, Lei) Asynchronous monotone Newton iterative method on distributed computers. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 341–348. (Summary) **98k:65025** 65H10 (65Y05)

Hu, Ju Shi A new disjoint sum algorithm for network reliability. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **17** (1996), *no.* 6, 676–679. (Summary) **98a:68017** 68M15

Hu, Jun[2] (*with* Atela, Pau) Commuting polynomials and polynomials with same Julia set. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*A*, 2427–2432. (I. N. Baker) **98c:58133** 58F23 (30D05)

Hu, Jun Yun Existence of solutions to singular Hammerstein integral equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 617–620. (Da Jun Guo) **98d:45005** 45G10 (47H15, 47H30)

Hu, Ke On Hilbert-Ingham inequality and its applications. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 299–302. 26D15

Hu, Lei (*with* Liu, Mulan) Modules of linear recurring arrays over finite fields. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 244–248, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 13C13

— Product of spaces of doubly periodic arrays. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 337–342. 13P99

Hu, Li Li (*with* Gu, Zhong Bi; Wang, Zhen Xue) Adaptive control by fuzzy neural networks. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 71–76. 93C40 (93C83)

Hu, Longfei (*with* Katti, Raj S.) A parallel algorithm to solve continuous time Markov processes that model the performance of parallel computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 4 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65Y05 (65U05)

Hu, Man Tian (*with* Ji, Guang Rong; Wang, Peng; Lu, Hong Tao[2]) 3D object recognition based on moment invariants. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 3, 366–372. 68T10

Hu, Min (*with* Jackson, Kenneth R.; Janssen, Jan; Vandewalle, Stefan) Remarks on the optimal convolution kernel for CSOR waveform relaxation. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 135–156. (Ian Gladwell) **98c:65107** 65L05 (65N22, 65R10)

— (*with* Enright, W. H.) Continuous Runge-Kutta methods for neutral Volterra integro-differential equations with delay. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 175–190. (Jose Cuminato) **98g:65126** 65R20 (34K40, 45L05, 65L06)

— (*with* Enright, W. H.) Improving performance when solving high-order and mixed-order boundary value problems in ODEs. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 107–116 (1998). 65L10

Hu, Naihong The graded modules for the Poisson algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 515–522. (Rolf Farnsteiner) **98a:17028** 17B50 (17B70)

Hu, Neng-Chung Maximum coset decomposition of prime-factor DCT. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 4, 423–433. (Summary) **98g:94004** 94A11 (65F30)

Hu, Ning[3] (*with* Guo, Xian-Zhong; Katz, I. Norman) Multi-p preconditioners. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1676–1697. (Jin Xi Zhao) **98i:65038** 65F35 (65N30)

Hu, Pei-Chu (*with* Yang, Chung-Chun) Applications of pseudo volume forms to holomorphic mappings. (English summary) *Complex Variables Theory Appl.* **30** (1996), *no.* 2, 153–168. (Evgenii Nochka) **98b:32022** 32H30 (30C80)

— (*with* Yang, Chung-Chun) Further results on factorization of meromorphic solutions of partial differential equations. (English summary) *Results Math.* **30** (1996), *no.* 3-4, 310–320. (Fred Gross) **98f:32003** 32A20 (32A22, 32H30, 35A20, 35A25)

Hu, Ping[2] (*with* Tsiatis, Anastasios A.) Estimating the survival distribution when ascertainment of vital status is subject to delay. (English summary) *Biometrika* **83** (1996), *no.* 2, 371–380. (Winfried Stute) **98c:62061** 62G05 (62G20, 62P10)

Hu, Pingxian (*with* Chao, Xiuli; Gu, Jifa) Queueing network modeling and analysis in the design and evaluation of seaport systems. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 237–252. (Summary) **98e:60148** 60K25 (90B22)

Hu, Qi Ya (*with* Luo, Xian Nan) The β-polynomial spline collocation method for Hammerstein Volterra weakly singular integral equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 128–134. (Summary) **98f:45008** 45L05 (45G10, 65R20)

— Superconvergence of collocation solutions to integrodifferential equations with delays. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 8–11. (Qi Wo Xuan) **98g:65128** 65R20 (45L05)

Hu, Qiao (*with* Sun, Dao Heng; Xu, Hao) A new form of variational principle for elastoplasticity. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 75–78. 73E99 (73V25)

Hu, Qing[2] (*with* Zhang, Yixin; Shen, Xiaojun) Rearrangeable graphs. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 441–450, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R10 (68M10)

— (*with* Shen, Xiaojun; Liang, Weifa) On embedding between 2D meshes of the same size. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 880–889. (Summary) **98d:68029** 68M10

Hu, Qing Ping (*with* Li, Dan; Lin, Yi[3]) Divisibility and cardinal functions related to quotient systems. (English summary) *Cybernetica* **40** (1997), *no.* 2, 95–102. 93A05 (93A10)

— (*with* Li, Dan) Some problems on the connections between algebras of different types. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 4, 287–288, 292. 08A05 (08A30)

— (*with* Li, Dan) Quadratic extensions of universal algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 68–69, 67. 08A05

Hu, Qiying (*with* Wang, Jinling) Mixed Markov decision processes in a semi-Markov environment with discounted criterion. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 1–20. (Onésimo Hernández Lerma) **98m:90180** 90C40

Hu, Ri-zhang (*with* Mao, Ming Zhi) Spline interpolations and smoothing approximations to scattered data on L-shaped domains. (English summary) *Chinese J. Numer. Math. Appl.* **16** (1994), *no.* 3, 49–58. 65D07 (41A63)

— (*with* Micchelli, Charles A.; Xu, Yuesheng) Weakly singular Fredholm integer equations. II. Singularity preserving wavelet-collocation methods. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 167–178, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (Andreas Rathsfeld) **98h:65065** 65R20 (45B05, 45E05, 45L05)

Hu, Rui Min (*with* Xu, Zheng Quan[2]; Peng, Jun; Yao, Tian Ren) An input network with a training sample having a fuzzy boundary and its learning capability. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 37–40. 92B20 (04A72)

Hu, San Qing (*with* Dai, Qionghai; Jing, Yuan Wei; Zhang, Si Ying) Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 699–703. (Summary) **98a:93068** 93D21 (93C41)

— (*with* Dai, Qionghai; Jing, Yuan Wei; Zhang, Si Ying) Correction to: "Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties" [IEEE Trans. Automat. Control **42** (1997), no. 5, 699–703; MR 98a:93068]. *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1339. 93D21 (93C41)

Hu, Sean (*with* Zhong, Xiaolin) Linear stability of viscous supersonic plane Couette flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 709–729. 76J20 (76E99)

Hu, Shan Ying (*with* Chen, Bing Zhen; He, Xiao Rong; Shen, Jing Zhu) The simulated annealing method for global optimization in nonlinear programming problems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 6, 5–9. 90C30 (65C05, 65K05)

Hu, Shang Xu (*with* Dong, Jun) Progress and prospects of research on chaotic neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 5, 360–368, 378. 93C83 (93C10)

Hu, Shao-Chung (*with* Fong, I-Kong) An analytic approach for computing pi-coefficients of continuous-time systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 139–147. (Summary) **98g:93020** 93B40 (93D05)

Hu, Shi Geng (*with* Huang, Zheng Hai) The solvability of a higher-order three-point boundary value problem. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 121–128. (Summary) **98c:34028** 34B10 (34B15, 47N20)

— Integral equations and inequalities on partially ordered topological spaces. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *suppl.*, 16–22. (Hong Kun Xu) **98g:45002** 45D05 (45N05)

— Boundary value problems for functional-differential equations involving eigenvalues. (Chinese) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 311–315. (Shao Zhu Chen) **98f:34096** 34K10 (47N20)

— (*with* Wang, Chun Lin; Huang, Zheng Hai; Cheng, Shi Jie) Positive solutions to a class of second-order boundary value problems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 30–32. 34B15

— (*with* Hong, Shi Huang) Coupled minimax fixed points of nonlinear operators and their application. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 33–36. (Summary) **98m:47095** 47H10 (34K05)

— (*with* Shen, Yi[2]; Wang, Shu Ning; Liao, Xiao Xin) Existence theorems for saddle points and minimax theorems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 37–39. 49J35 (49K35)

— (*with* Shen, Yi[2]; Wang, Shu Ning; Liao, Xiao Xin) A minimax theorem for quasiconvex functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 40–43. 49J35 (90C26)

— (*with* Shen, Yi[2]; Wang, Shu Ning; Liao, Xiao Xin) Alternative theorems for almost generalized convex functions and their applications. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 44–47. 90C26 (26B35)

— (*with* Shen, Yi[2]; Huang, Zheng Hai) Generalized convex sets and generalized convex functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 95–98. 90C25 (90C48)

— (*with* Huang, Zheng Hai; Shen, Yi[2]) Optimality and duality of nonconvex and nonsmooth programming. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 99–102. (Summary) **98e:90160** 90C30 (49J52, 49N15)

— A comparison theorem for higher-order functional boundary value problems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 5, 109–112. (Summary) **98g:34109** 34K10 (34B15)

— Solvability of a second-order three-point boundary value problem. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 2, 65–69. (Wan Zhuang) **98i:34032** 34B10 (34B15)

Hu, Shi Min (*with* Wang, Guo Jin[1]; Sun, Jiaguang) A type of triangular ball surface and its properties. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 63–72. (Summary) **98j:68166** 68U07 (65D17)

— (*with* Luo, Yan Lin; Chen, Ling Jun) Generalized subdivision of tensor product Bézier volumes. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 1, 53–58. 65D17

Hu, Shi Wen (*with* Miao, Yuan; Li, Chun Wen) An algorithm for determining the stability of 2-dimensional singular higher-order critical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 430–433. 93D15 (93B40)

Hu, Shou Xin (*with* Yan, Guang Wu; Shi, Wei Ping) A lattice gas model for simulating weakly compressible Navier-Stokes equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 1–6. 76N10 (35Q30, 76M35, 76P05, 82C40, 82C80)

Hu, Shouchuan (*with* Papageorgiou, Nikolaos S.) ★ Handbook of multivalued analysis. Vol. I. (English summary) Theory. Mathematics and its Applications, 419. *Kluwer Academic Publishers, Dordrecht*, 1997. xvi+964 *pp. ISBN* 0-7923-4682-3 (Gérard Lebourg) **98k:47001** 47–02 (47H04, 49–02)

— (*with* Papageorgiou, Nikolaos S.) Time-dependent subdifferential evolution inclusions and optimal control. (English summary) *Mem. Amer. Math. Soc.* **133** (1998), *no.* 632, *viii*+81 *pp.* (Luc Doyen) **98j:34120** 34G20 (34A60, 34H05, 47H99, 47N20, 49J24)

Hu, Shu He The convergence rate of the least squares estimator in nonlinear models with φ-mixing errors. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 58–62. 62G20 (62E20)

— Nonparametric and semiparametric regression models with locally generalized Gaussian error. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 80–90. (Summary) **98a:62045** 62G05 (62G07, 62G20)

Hu, T. C. *see* **Hu, Tien Chung**

Hu, Tai Pei An isomorphism theorem for distributed loop networks. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 35–40. 94C15 (05C90)

Hu, Taizhong (*with* Fang, Zhaoben) Developments on MTP_2 properties of absolute value multinormal variables with nonzero means. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 376–384. (Summary) **98m:60021** 60E15 (62H05)

— The class of sum-geometric infinitely divisible distributions of order k. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 355–363. 60E07

Hu, Te Chiang (*with* Morgenthaler, J. D.) Optimum alphabetic binary trees. (English summary) *Combinatorics and computer science (Brest, 1995)*, 234–243, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98a:68037** 68P05 (05C85)

Hu, Thakyin (*with* Huang, Jui-Chi) Iteration of fixed points on hyperspaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 665. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 423–428. (Tomás Dominguez Benavides) **98j:47129** 47H10 (54H25)

— (*with* Huang, Jui-Chi; Rhoades, B. E.) A general principle for Ishikawa iterations for multi-valued mappings. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1091–1098. (Charles Ejike Chidume) **98k:47111** 47H10 (47H04, 47H17)

Hu, Tien Chung (*with* Volodin, A. I.) Complete convergence criterion for arrays of Banach space valued random elements. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 85–92. (Xia Chen) **98m:60008** 60B12

Hu, Ting Feng (*with* Zhang, Zhi Zheng) Some properties of generalized Fibonacci and Lucas sequences. (Chinese. English and Chinese summaries) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **11** (1997), *no.* 2, 104–108. (Zhen Fu Cao) **98e:11020** 11B39 (11B68)

Hu, Ting-shu (*with* Qiu, Li) Complex and real performance radii and their computation. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 2, 187–209. (Summary) **98j:93065** 93D09 (93D15)

— (*with* Qiu, Li) Controllable regions of linear systems with bounded inputs. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 55–61. (Ovidiu Cârjă) **98m:93015** 93B05 (93B11, 93C15)

Hu, Weiwu (*with* Xia, Peisu) Out-of-order execution in sequentially consistent shared-memory systems: theory and experiments. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 2, 125–140. 68N25

Hu, Wen Feng (*with* Su, Ben Tang) Minimum degree and f-factors. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 2, 166–170. (Summary) **98g:05113** 05C70

Hu, X. D. *see* **Hu, Xiao Dong**

Hu, Xi Yan (*with* Huang, Xian Tong; Xiao, Xiang Ding) Construction of a Jacobian matrix from the eigenvalues of its principal submatrices. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 94–100. 15A57 (15A18)

— (*with* Huang, Xian Tong; Xiao, Xiang Ding) The pole assignment problem for linear control systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 78–81. 93B55

— (*with* Zhang, Lei[1]; Huang, Xian Tong) Construction of a Jacobian matrix from its spectrum and a principal submatrix. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 143–150; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 66–73. 65F30 (65F15)

Hu, Xian Cheng (*with* Gu, Jin Sheng) The properties of a class of special systems of differential-algebraic equations and their applications. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 28–36. (Summary) **98g:34006** 34A09 (35K99, 65L06)

— (*with* Gu, Jin Sheng) An overlapping domain decomposition method for nonselfadjoint elliptic problems discretized by Crouzeix-Raviart elements. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 282–290; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 4, 34–42. 65N30

— (*with* Gu, Jin Sheng) Extension theorems for plate elements with applications. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1375–1388. (Włodzimierz Proskurowski) **98a:65164** 65N30 (65N55, 73K10)

— (*with* Gu, Jin Sheng) An iterative substructuring method with nonconforming elements. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 1, 77–89. (Larisa V. Maslovskaya) **98k:65067** 65N30 (65F10)

Hu, Xiang Jun Remarks on two extreme value problems for an ellipse. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 2, 35–39. 52A40

Hu, Xiang Ming (*with* Peng, Jin Sheng) An enhanced index of refraction in an undriven system. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1344–1348. 81V80

Hu, Xiangyue (*with* Duan, Yi Wu; An, Weike; Li, Siping) Bifurcation of periodic orbits of electron in two-center Coulomb field. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 35–41. (Summary) **98e:81027** 81Q05 (34C23, 34C25, 81V55)

Hu, Xiao Dong (*with* Hwang, Frank K.; Wright, Paul E.) Exact reliabilities of most reliable double-loop networks. (English summary) *Networks* **30** (1997), *no.* 2, 81–90. (M. Dal Cin) **98i:68026** 68M10 (05C20, 05C85, 68R10)

Hu, Xiao Shan (*with* Peng, Hou Fu) Existence of mild solutions to semilinear stochastic evolution equations in a Hilbert space. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 539–542. (Summary) **98e:60103** 60H10

Hu, Xiao Yu (*with* Hu, Di He) The equation for the hitting probabilities of a class of Lévy processes. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 18–22. (Summary) **98e:60118** 60J30

— (*with* Taylor, S. James) The multifractal structure of stable occupation measure. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 283–299. (Lars Olsen) **98m:60117**

60J30 (28A80)

Hu, Xiaodong (*with* Chern, Shikai) Equivariant Chern character for the invariant Dirac operator. *Michigan Math. J.* **44** (1997), *no.* 3, 451–473. (Vicumpriya S. Perera) **98j:58111** 58G12 (19D55, 19K56)

Hu, Xiaomi Maximum-likelihood estimation under bound restriction and order and uniform bound restrictions. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 165–171. (Summary) **98j:62016** 62F10

Hu, Xin Qi (*with* Zhang, Cong Jun) Generalized variational inequalities for a class of fuzzy mappings. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 3, 13–17. 49J40 (90C70)

Hu, Xin Sheng (*with* Shi, Bao Chang; Chen, Ting[1]) A maximum entropy method for multiobjective minimax problems and its convergence. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 95–98. 90C29 (90C30, 90D10)

— (*with* Shi, Bao Chang; Zhou, Xiao Yang) Projected gradient type method of centers for constrained optimization. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 375–381. 90C30 (65K05)

Hu, Xing-Biao (*with* Lou, Sen-yue) Infinitely many Lax pairs and symmetry constraints of the KP equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6401–6427. (Theodora Ioannidou) **98g:58081** 58F07 (35Q53)

— An approach to generate superextensions of integrable systems. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 619–632. (B. A. Kupershmidt) **98c:58070** 58F07 (35Q58)

— (*with* Lou, Sen-yue) Non-local symmetries via Darboux transformations. (English summary) *J. Phys. A* **30** (1997), *no.* 5, L95–L100. (Summary) **98c:35143** 35Q53 (35A30, 58F37)

— (*with* Bullough, Robin) Bäcklund transformation and nonlinear superposition formula for an extended Lotka-Volterra equation. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3635–3641. (J. J. C. Nimmo) **98i:35159** 35Q51 (34K99)

— (*with* Clarkson, Peter A.; Bullough, Robin) New integrable differential-difference systems. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L669–L676. (Summary) **98h:58177** 58F37 (35Q58, 35R10, 58F07)

— (*with* Bullough, Robin) A Bäcklund transformation and nonlinear superposition formula of the Caudrey-Dodd-Gibbon-Kotera-Sawada hierarchy. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 3, 772–777. (Summary) **98m:35182** 35Q53 (58F37)

Hu, Y. *see* **Hu, Yueyun**

Hu, Y. K. *see* **Hu, Yingkang**

Hu, Y. Z. *see* **Hu, Yao Zhong**

Hu, Yang Zeng (*with* Davison, E. J.) A PMGOP method of parameter identification for a class of continuous nonlinear systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 349–378. 93B30

Hu, Yao Zhong (*with* Meyer, P. A.) On the approximation of multiple Stratonovich integrals. (English summary) *Stochastic processes*, 141–147, *Springer, New York*, 1993. (Josep Lluis Solé i Clivillés) **98a:60074** 60H05

— On the differentiability of functions of an operator. Addendum to: "Some operator inequalities" [in *Séminaire de Probabilités, XXVIII*, 316–333, Lecture Notes in Math., 1583, Springer, Berlin, 1994; MR 96c:47021]. (French) *Séminaire de Probabilités, XXIX*, 218–219, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Introduction) **98f:47023** 47A63 (47A60, 60H30)

— Strong and weak order of time discretization schemes of stochastic differential equations. *Séminaire de Probabilités, XXX*, 218–227, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (From the text) **98j:60081** 60H10 (65U05)

— (*with* Driver, Bruce K.) On heat kernel logarithmic Sobolev inequalities. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 189–200, *World Sci. Publishing, River Edge, NJ*, 1996. (Elton Pei Hsu) **98h:58183** 58G11 (46E35, 58G32, 60H07, 60J60)

— On the self-intersection local time of Brownian motion-via chaos expansion. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 337–350. (Peter Imkeller) **98a:60114** 60J65 (60G60, 60H07, 60J55)

— (*with* Albeverio, Sergio; Zhou, Xian Yin) A remark on non-smoothness of the self-intersection local time of planar Brownian motion. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 57–65. (A. N. Al-Hussaini) **98d:60160** 60J65 (60J55)

Hu, Yi Relative geometric invariant theory and universal moduli spaces. (English summary) *Internat. J. Math.* **7** (1996), *no.* 2, 151–181. (Yves Laszlo) **98i:14016** 14D25 (14D20)

— (*with* Li, Wei-Ping) Birational models of the moduli spaces of stable vector bundles over curves. (English summary) *Internat. J. Math.* **8** (1997), *no.* 6, 781–808. (P. E. Newstead) **98k:14013** 14D20 (14H60)

Hu, Yi Chun (*with* Piao, Zhong Xuan) Persistence and periodic solutions of a nonautonomous system with a type II functional response model. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 45–48, 54. 92D25 (34C25)

Hu, Yi-Jun Large deviation properties for a class of diffusion processes with values in a Hilbert space. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 5, 548–555. (Summary) **98g:60057** 60F10 (60B11, 60J60)

— A large deviation principle for small perturbations of random evolution equations in Hölder norm. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 83–99. (Toshio Mikami) **98j:60040** 60F10 (60J60)

Hu, Yiantai *see* **Hu, Yuan Tai**

Hu, Yiming (*with* Woyczyński, Wojbor A.) Large-scale structure of the universe and asymptotics of Burgers' turbulence with heavy-tailed dependent data. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 135–149, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Victoria Parkhomenko) **98i:85005** 85A30 (35Q53, 35R60, 60G60)

Hu, Ying A nonsmooth chain rule for Malliavin's derivative operator. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 3, 345–353. (Marta Sanz Solé) **98m:60084** 60H07 (60H30)

Hu, Yingkang (*with* Kopotun, Kirill A.; Yu, Xiang Ming) On positive and copositive polynomial and spline approximation in $L_p[-1,1]$, $0<p<\infty$. (English summary) *J. Approx. Theory* **86** (1996), *no.* 3, 320–334. (Summary) **98e:41009** 41A15 (41A29)

Hu, Yong Jian (*with* Chen, Gong-ning) Some properties of real positive definite matrices. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 40–46. (Gang Song Leng) **98e:15025** 15A48

Hu, Yu Da (*with* Xu, Ping) The optimality condition and duality of multiobjective posynomial geometric programming. (English summary) *J. Shanghai Jiaotong Univ. (Engl. Ed.)* **1** (1996), *no.* 2, 1–5. (Summary) **98c:90120** 90C29 (49N15)

— An equivalent theorem on connectedness of the weakly cone-efficient sets. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 340–342. 90C29

— (*with* Liu, Guang) Duality of weakly major efficient solutions in multiobjective programming. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 6, 6–8. 90C29 (49N15)

— (*with* Luo, Qing Lin) Two theorems on major efficiency and Pareto efficiency. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 100–102. 90C29

— (*with* Meng, Zhi Qing) Stability of multiobjective programming under two perturbations in Banach space. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 1, 24–31. (From the summary) **98e:90138** 90C29 (90C48)

— (*with* Meng, Zhi Qing) Necessary conditions for major optimal solutions and major efficient solutions of multiobjective programming. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 315–319. (Fred Behringer) **98k:90101** 90C29

— (*with* Cai, Hui) Ordinary partial preference sets in group decision-making and voting paradoxes. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 2, 142–145. 90A05 (90A28)

Hu, Yuan Tai (*with* Huang, Yu Ying; Cheng, Lingzhi; Li, Siping; Zhong, Weifang) Periodic elliptic holes in anisotropic elasticity. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 2, 171–178. 73C02 (73B40, 73V35)

Hu, Yue-Qing (*with* Wei, Bo Cheng; Fung, Wing Kam) Generalized leverage and its applications. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 25–37. (Summary) **98m:62084** 62F35 (62J05)

Hu, Yueyun (*with* Attal, S.; Burdzy, Krzysztof; Émery, M.) Sur quelques filtrations et transformations browniennes. [Some filtrations and Brownian transformations] *Séminaire de Probabilités, XXIX*, 56–69, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Peter Imkeller) **98j:60111** 60J65 (60G05, 60G44, 60H05)

— Sur la représentation des $(\mathcal{F}_t^- = \sigma\{B_s^-,\ s \le t\})$-martingales. [On the representation of $(\mathcal{F}_t^- = \sigma\{B_s^-,\ s \le t\})$-martingales] *Séminaire de Probabilités, XXIX*, 290–296, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Ely Merzbach) **98i:60042** 60G44 (60J65)

— (*with* Mellouk, M.) Régularité Besov-Orlicz du temps local brownien. (English and French summaries) [Besov-Orlicz regularity of the Brownian local time] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1265–1268. (Summary) **98d:60161** 60J65 (60G17, 60J55)

Hu, Yunfa (*with* Zhang, Chenghong; Shi, Baile) A reasoning mechanism for deductive object-oriented databases. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 337–345. 68P15 (68N15)

— (*with* Bibel, Wolfgang) Reduction of cycle unification of type Cpg + r. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 18–24. (Summary) **98m:68237** 68T15

Hu, Ze-Jun (*with* Li, Hai Zhong) A global pinching theorem for compact surfaces in S^3 with constant mean curvature. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 126–132. (Man Chun Leung) **98i:53048** 53C20 (53C42)

— (*with* Zhao, Guo-Song) Classification of isometric immersions of the hyperbolic space H^2 into H^3. (English summary) *Geom. Dedicata* **65** (1997), *no.* 1, 47–57. (Marcos Dajczer) **98a:53093** 53C42 (53C21)

Hu, Zhan-Ning Three-dimensional star-star relation for Baxter-Bazhanov model. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 303–308, *World Sci. Publishing, River Edge, NJ*, 1994. (Rinat M. Kashaev) **98h:82020** 82B23

— (*with* Hou, Bo-Yu) Three-dimensional vertex model in statistical mechanics from Baxter-Bazhanov model. (English summary) *J. Statist. Phys.* **82** (1996), *no.* 3-4, 633–655. (Summary) **98b:82026** 82B23 (82B20)

— Baxter-Bazhanov model, Frenkel-Moore equation and the braid group. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 429–434. (Rinat M. Kashaev) **98h:82021** 82B23 (20F36)

Hu, Zhangjian On a conjecture of Stroethoff on Hankel operators. (English and Chinese summaries) *J. Math. (Wuhan)* **15** (1995), *no.* 3, 260–262. (Li Zhong Peng) **98c:47035** 47B35

— Continuous embedding between harmonic Hardy spaces and mixed-norm spaces. *Chinese Sci. Bull.* **42** (1997), *no.* 2, 106–108. 46E15 (46E35)

Hu, Zhanyi (*with* Ma, Songde) Performance prediction of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 1, 49–57. (Gopi Ahuja) **98a:44004** 44A15

Hu, Zhenjiang (*with* Iwasaki, Hideya; Takeichi, Masato) Construction of list homomorphisms by tupling and fusion. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 407–418, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q22 (68P05)

— (*with* Iwasaki, Hideya) Promotional transformation of functional programs with accumulative parameter. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 664–673. 68N15

Hu, Zhi Hua (*with* Li, Guang Quan; Tang, Wan Sheng) Eigenstructure assigment of singular two-dimensional systems. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 4, 416–422. 93C05 (93B51)

Hu, Zhi Xiang The largest generalized exponents and a characterization of the extreme digraphs of imprimitive digraphs. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 27–32. 05C20

Hu, Zhi Xing (*with* Wang, Hui[1]; Gao, Li) The distribution of the difference between the D. H. Lehmer number and its inverse in the primitive roots modulo q. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **26** (1996), *no.* 4, 281–284. (Wen-Bin Zhang) **98e:11111** 11N69 (11L05, 11N37)

— (*with* Wang, Hui[1]; Gao, Li) The distribution of the D. H. Lehmer numbers among the primitive roots modulo q. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 2, 84–88. (Summary) **98i:11082** 11N69 (11L05, 11N37)

— (*with* Wang, Hui[1]; Gao, Li) Divisibility of primitive roots and their inverses modulo N. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 429–436. (Zun Shan) **98k:11114** 11L05 (11A07)

— (*with* Wang, Hui[1]; Ma, Zhi En) An epidemiological model with nonlinear incidence rate and population dynamics. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 385–392. 92D30

— (*with* Wang, Hui[1]; Gao, Li) The distribution of primitive roots modulo n and a generalization. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 3, 190–194. (Jie Wu) **98f:11103** 11N37

— (*with* Gao, Li; Zhao, Zhen[4]; Wang, Hui[1]) A problem associated with Golomb's conjecture. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 104–108. (Ping Ding) **98k:11131** 11N56 (11A07)

Hu, Zhiguo Extreme non-Arens regularity of quotients of the Fourier algebra $A(G)$. *Colloq. Math.* **72** (1997), *no.* 2, 237–249. (A. T.-M. Lau) **98a:43004** 43A22 (43A30)

Hua, B. L. (*with* Klein, Patrice) An exact criterion for the stirring properties of nearly two-dimensional turbulence. (English summary) *Phys. D* **113** (1998), *no.* 1, 98–110. (Summary) **98m:76098** 76F99

Hua, Bu Yue (*with* Zhang, Ke Min[1]) On the arc-pancyclicity of local tournaments. (English summary) *Ars Combin.* **47** (1997), 242–254. (Summary) **98h:05116** 05C38 (05C20)

Hua, Jianwen (*with* Liu, Liren; Li, Guoqiang) Extended fractional Fourier transforms. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3316–3322. 42A38

— (*with* Liu, Liren; Li, Guoqiang) Dual self-transform function. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1199–1202. (Summary) **98c:44006** 44A15

— (*with* Liu, Liren; Li, Guoqiang) Imaginary angle fractional Fourier transform and its optical implementation. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 374–378. 78A05 (26A33, 44A15)

— (*with* Liu, Liren; Wang, Ning) Optical dual self functions. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 583–587. 78A10

Hua, Jiu Kun (*with* Ye, Er Hua; Chen, Yi Nan) AMLE of exponential distribution parameters based on zero-failure data. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 183–190. 62N05

Hua, Jiuzhao Generalizing the recursion relationship for the partition function. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 105–117. (Richard P. Lewis) **98g:11117** 11P81 (05A17)

Hua, Luo Geng *see* **Wan, Zhe-xian, 98a:51001**

Hua, Xin-hou (*with* Yang, Chung-Chun) Uniqueness and value-sharing of meromorphic functions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 395–406. (Ilpo Laine) **98h:30050** 30D35 (34A20)

— (*with* Fang, Ming Liang) Meromorphic functions sharing four small functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 797–811. (Gary G. Gundersen) **98j:30029** 30D35

— (*with* Yang, Chung-Chun) Unique polynomials of entire and meromorphic functions. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 391–398. (Summary) **98k:30043** 30D35

— (*with* Yang, Chung-Chun) Dynamics of transcendental entire functions. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 1–4. (Summary) **98f:30028** 30D05

Hua, Xuan Ji (*with* Cao, Yuan) Developable classification of quadratic parametric surfaces. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 159–164. (Chuan Yu Ma) **98g:53005** 53A05

— (*with* Zhang, Huai) Singularities of spherical four-bar motion. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 95–102. (Summary) **98m:70007** 70B15

Hua, Yingbo (*with* Qiu, Wanzhi) Performance analysis of the matrix pair method for blind channel identification. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1245–1253. (Summary) **98c:94004** 94A12 (93B30)

Huaguang, Zhang *see* **Zhang, Hua Guang**

Huaien, Li *see* **Li, Huai En**

Huan, Zhongdan Semi-jets on boundaries and well-posedness of boundary value problems. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 341–356. 35J65 (35D05)

— On steady boundaries under the scheme of viscosity solutions. *J. Differential Equations* **139** (1997), *no.* 1, 60–75. (Naoki Yamada) **98g:35024** 35B30 (35D99, 35J65, 49L25)

— (*with* Chen, Zizhen) On the continuity of the mth root of a continuous nonnegative definite matrix-valued function. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 60–66. (K. Chandrasekhara Rao) **98b:15031** 15A99 (35J99)

Huang, Ai Xiang (*with* Li, Kaitai; Zhang, Wu) Taylor problem between eccentric rotating cylinders. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 5, *suppl.*, 104–117. 76U05 (76D08, 76E99)

— (*with* He, Yin Nian) Stability of nonlinear Galerkin algorithms. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 7–16. 65L06 (65M60)

— (*with* Wang, Wei Dong; Li, Lu Xian) A way of treating multivariable periodicity conditions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 21–25. 65F10

— (*with* Shi, Dong Yang; Zhao, Hai Yan) Two new nonconforming membrane elements. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 50–56. 73V05 (73K10)

— (*with* Ma, Yichen) The application of modern numerical methods to the neutron transport equation. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 65–83. (Summary) **98k:82206** 82D75 (82–08)

Huang, Anshan (*with* Pivka, Ladislav; Wu, Chai Wah) Lorenz equation and Chua's equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2443–2489. (Robert Ghrist) **98e:34075** 34C23 (58F13)

Huang, B. *see* **Huang, Biao**

Huang, Bao Jun The topological entropy of homotopy classes of maps. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 241–244. (Summary) **98i:54007** 54C70 (55M20, 57S99)

Huang, Biao (*with* Shah, S. L.) The role of the unitary interactor matrix in the explicit solution of the singular LQ output feedback control problem. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2071–2075. 93B52 (93C05)

Huang, Bowen (*with* Qian, Shang-Wu; Gu, Zhi-Yu) Supersymmetric quantum mechanics of effective screened potential. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 602–607. 81Q60

Huang, C. H. (*with* Turan, L.; Safonov, M. G.) Synthesis of positive real feedback systems: a simple derivation via Parrott's theorem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1154–1157. (Summary) **98c:93041** 93B36 (93D21)

Huang, C.-S. *see* **Huang, Chieh-Sen**

Huang, Chang Ning (*with* Zhang, Jin[3]) A method for deriving definitional primitives from a monolingual dictionary. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 3, 28–33. 68S05

Huang, Chao-Guang Wave functional of spherically-symmetric space-time with A in self-dual representation. (English summary) *Chinese Phys. Lett.* **12** (1995), *no.* 8, 449–452. 83C45 (81V17)

— Weaving of spherically symmetric spaces with large loops. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 497–500. (Summary) **98a:83098** 83C99 (83C45)

— (*with* Feng, Sze-Shiang) Can Dirac observability apply to gravitational systems? (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1179–1187. (Valter Moretti) **98a:83097** 83C99 (83C47)

Huang, Chaocheng Homogenization of biharmonic equations in domains perforated with tiny holes. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 203–227. (Summary) **98i:35016** 35B27 (35J40)

Huang, Cheng Gui An external analytic model and indefiniteness or uncertainty in δ-functions and singular integrals. (Chinese. English and Chinese summaries) *J. Changzhou Indust. Tech. College Nat. Sci. Ed.* **10** (1997), *no.* 2, 1–3. 03H05 (26E35)

— To solve differential and integro-differential equations by using a least p-power functional. (English summary) *J. Changzhou Indust. Tech. College Nat. Sci. Ed.* **10** (1997), *no.* 4, 34–45. 65M99 (65R20)

Huang, Cheng Ming[2] Algebraic stability of hybrid methods. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 298–304; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 4, 67–74. (Summary) **98f:65071** 65L06

— B-convergence properties of general linear methods. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 1, 13–19. 65L05

Huang, Chi-fu (*with* Hindy, Ayman; Zhu, Steven H.) Numerical analysis of a free-boundary singular control problem in financial economics. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 2-3, 297–327. (Silvana Stefani) **98d:90079** 90C15 (93E20)

Huang, Chieh-Sen (*with* Douglas, J., Jr.) An accelerated domain decomposition procedure based on Robin transmission conditions. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 678–686. (*see* **98f:65005**) 65N55 (65F35)

Huang, Chongfu Principle of information diffusion. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 69–90. 62G99 (04A72, 90C70)

Huang, Chunchao Oscillation and nonoscillation for second order linear impulsive differential equations. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 378–394. (Yuri V. Rogovchenko) **98h:34019** 34A37 (34C10)

Huang, Chunyi (*with* Yu, Bo[1]; Wang, Yu[2]) A new interior path following method for nonconvex nonlinear programming. *Northeast. Math. J.* **13** (1997), *no.* 3, 257–260. 90C30 (90C26)

Huang, Cliff J. (*with* Lee, Junsoo; Shin, Yongcheol) On stationary tests in the presence of structural breaks. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 165–172. 62M10 (62P20)

Huang, Da Ren (*with* Sun, Qi Yu; Wang, Wei[11]) Multiresolution generated by several scaling functions. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 2, 165–180. (Summary) **98k:42044** 42C15

— (*with* Sun, Qi Yu; Zhang, Ze Yin) Integral representation of M-band filters of Daubechies type. *Chinese Sci. Bull.* **42** (1997), *no.* 10, 803–807. 42C15

— (*with* Sun, Qi Yu; Zhang, Ze Yin) An integral representation for n-ary Daubechies filters. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 8, 807–810. 42C15

— (*with* Zhang, Ze Yin; Jiang, Qing Rong) Decomposition of higher-dimensional wavelet packets. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 3, 277–285. 42C15

Huang, Dawei (*with* Yao, Yi-Ching; Davis, Richard Alan) On almost sure behavior of change-point estimators. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 359–372, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G05 (60F15)

Huang, De-Bin (*with* Zhao, Xiao-Hua; Dai, Hui-Hui) Invariant tori and chaotic streamlines in the ABC flow. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 136–140. (Peter E. Kloeden) **98m:76088** 76F20 (58F13, 58F40, 76C99)

Huang, Deng-Yuan Selection procedures in linear models. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 3, 271–277. (Nitis Mukhopadhyay) **98a:62029** 62F07 (62J05)

— (*with* Lin, Ching-Ching) Multiple decision procedures for testing homogeneity of normal means with unequal unknown variances. (English summary) *Advances in statistical decision theory and applications*, 253–262, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:62043** 62F03

Huang, F. C. *see* **Huang, Fu Chun**

Huang, Falun (*with* Li, Miao[2]) Characterizations of contraction C-semigroups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1063–1069. (S. Kantorovitz) **98f:47048** 47D03 (47A99, 47D06)

Huang, Fei Min (*with* Wang, Zhen[1]; Ding, Xia Xi) On the Cauchy problem of transportation equations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 113–122. (Roberto Natalini) **98f:35102** 35L65 (35Q35, 76N10, 76X05)

— (*with* Yang, Xiao Zhou) The two-dimensional Riemann problem for a simplified Euler equation. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 1, 22–25. 35L65

Huang, Fu Chun (*with* An, Hong Zhi) The geometrical ergodicity of nonlinear autoregressive models. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 943–956. (Wolfgang Schmid) **98d:62153** 62M10

Huang, Guo Lin (*with* Wu, Jia Bang) On the star chromatic numbers of the graphs $G - v$, $G - e$, and W_{2n+1}. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci.*

Tech. **25** (1997), *no.* 6, 100–102. 05C15

Huang, Guo Xiang[2] Constructing Craig interpolation formulas. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 181–190, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Neculai Curteanu) **98d:03021** 03B35 (03C40, 68T15)

— (*with* Myers, Dale) Subgoal strategies for solving board puzzles. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 215–253. (Summary) **98m:68241** 68T20 (00A69, 03–04, 03B35)

Huang, H. C. *see* **Huang, Hong Ci**

Huang, H. Y. *see* **Huang, Hsin Yi**

Huang, Hai (*with* Yuan, Rong[1]) Boundedness and existence of invariant tori of solutions to generalized pendulum-type equations. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 13, 1368–1371. 34C30 (34C25, 58F27, 70H05)

Huang, Hai Jun (*with* Gu, Chang Yao) Properties and parameter calibration of Fisk's stochastic traffic assignment model. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 376–380. 90B15 (90C15)

Huang, Hai Yang (*with* Liu, Lai Fu) The application of a delay operator to a biological population diffusion model. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 13–18. (Bing Hong Wang) **98f:92009** 92D25 (35Q80, 35R10)

— Traveling wave solutions to biological population diffusion models with a class of delay terms. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 110–115. (Summary) **98j:92013** 92D25

Huang, Hai Yu (*with* Liu, Xiao Hua; Li, Shang Bai; Huang, Ning; Zheng, Gao Qun) A computer algorithm for curve plotting and its application in a CAD system. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 6, 82–90, 98. 65D17 (65Y25)

Huang, Hong (*with* Ren, Xue Mei; Fan, Rui Xia) Learning control for nonlinear systems by means of neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 156–159. 93E35 (93C42)

Huang, Hong Ci (*with* Han, Weimin; Zhou, Jinshi) Extrapolation of numerical solutions for elliptic problems on corner domains. (English summary) *Appl. Math. Comput.* **83** (1997), *no.* 1, 53–67. (Luciano Biasini) **98f:65122** 65N99

— (*with* Zhu, Zuonong; Xue, Wei Min[1]) Solitary wave solutions having two wave modes of KdV-type and KdV-Burgers-type. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 1, 633–639. 35Q53

— (*with* Cheng, Xiao Liang; Han, Weimin) Finite element methods for Timoshenko beam, circular arch and Reissner-Mindlin plate problems. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 215–234. (Pekka Neittaanmäki) **98a:73053** 73V05 (65N30, 73K05, 73K10)

— (*with* Cheng, Xiao Liang; Han, Weimin) Analysis of some mixed elements for the Stokes problem. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 1, 19–35. (Summary) **98j:65076** 65N30 (76D07, 76M10)

— (*with* Xue, Wei Min[1]; Zhang, Sheng[2]) Splitting a concave domain to convex subdomains. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 279–287. (Summary) **98e:65108** 65N55

— (*with* Han, Weimin) Quantitative justification of linearization in nonlinear Hencky material problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 325–341. (Mircea Sofonea) **98f:73013** 73C50 (73G05, 73V25)

— (*with* Zhu, Zuonong; Xue, Wei Min[1]; Wu, Xiao Nan) The bi-Hamiltonian structures of some new Lax integrable hierarchies associated with 3×3 matrix spectral problems. (English summary) *Phys. Lett. A* **235** (1997), *no.* 3, 227–232. 35Q99

Huang, Hongxin (*with* Xie, Qingji; Cao, Zexing; Liu, Shubin) Hartree-Fock quantum Monte Carlo method. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1090–1093. 81–08 (81V55, 92E99)

Huang, Hsiao-Ping (*with* You, Huei-Shyang) New robust state analytical predictor design for a general class of deadtime processes. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 651–683. 93B51 (93E10)

Huang, Hsin-Cheng (*with* Cressie, Noel) Spatio-temporal prediction of snow water equivalent using the Kalman filter. (English summary) *Comput. Statist. Data Anal.* **22** (1996), *no.* 2, 159–175. (P. S. Knopov) **98d:62175** 62M20

Huang, Hsin Yi (*with* Wu, F. Y.; Kunz, Hervé; Kim, Doochul) Interacting dimers on the honeycomb lattice: an exact solution of the five-vertex model. (English summary) *Phys. A* **228** (1996), *no.* 1-4, 1–32. (Takeo Kojima) **98f:82050** 82B23 (81R50)

— (*with* Wu, F. Y.) The infinite-state Potts model and solid partitions of an integer. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 121–126. (George E. Andrews) **98c:11145** 11Z05 (05A17, 11P81, 82B20)

— (*with* Popkov, V. Yu.; Kim, Doochul; Wu, F. Y.) Lattice statistics in three dimensions: solution of layered dimer and layered domain wall models. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3999–4008. (Summary) **98i:82019** 82B20 (82B23, 82B26)

— (*with* Popkov, V. Yu.; Wu, F. Y.) Exact solution of a three-dimensional dimer system. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 3, 409–412. (Gunter Schütz) **98a:82034** 82B23 (82B20, 82B27)

— (*with* Wu, F. Y.) Sum rule identities and the duality relation for the Potts n-point boundary correlation function. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 25, 4954–4957. (Summary) **98h:82017** 82B20

Huang, Huai Zhi (*with* He, Ming[2]; Wang, Huan Chen) A study of the sealed-bid auction mechanism with incomplete information. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 4, 16–22. 90A60

Huang, Huei-Ping (*with* Robinson, Walter A.) Two-dimensional turbulence and persistent zonal jets in a global barotropic model. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 4, 611–632. (Summary) **98k:86014** 86A10 (76C20, 76F99)

Huang, Hui-Ling (*with* Chen, Gen-Huey) Topological properties and algorithms for two-level hypernet networks. (English summary) *Networks* **31** (1998), *no.* 2, 105–118. (Summary) **98k:68023** 68M10

Huang, I-Chiau Theory of residues on the projective plane. (English summary) *Manuscripta Math.* **92** (1997), *no.* 2, 259–272. (Reinhold Hübl) **98a:14027** 14F10 (13D45, 14B15, 14H99)

Huang, J. B. (*with* Eatock Taylor, R.) Second-order wave-diffraction by an axisymmetric body in monochromatic waves. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1515–1541. (Summary) **98f:76011** 76B15

Huang, Janice F. Counting characters in blocks of M_{22}. *J. Algebra* **191** (1997), *no.* 1, 1–75. (J. L. Alperin) **98c:20020** 20C20 (20C34, 20D08)

Huang, Jia Zhou Limit cycles of homogeneous binomial systems—nonexistence and uniqueness. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 1, 25–35. (Xue Min Li) **98d:34054** 34C05

— Limit cycles of binomial-homogeneous systems—existence. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 14–20. (Xue Min Li) **98e:34052** 34C05

Huang, Jian[1] Maximum likelihood estimation for proportional odds regression model with current status data. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 129–145, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G05 (62E20, 62G20, 62P99)

— (*with* Præstgaard, Jens Thomas) Asymptotic theory for nonparametric estimation of survival curves under order restrictions. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1679–1716. (Subhash C. Kochar) **98b:62025** 62E20 (62G10, 62J02)

— (*with* Rossini, A. J.) Sieve estimation for the proportional-odds failure-time regression model with interval censoring. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 960–967. (Summary) **98f:62289** 62N05 (62G05)

Huang, Jian Guo A domain decomposition method for nonconforming finite elements—the case of strong overlap. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 1, 47–58. (Chuan Miao Chen) **98m:65216** 65N55

— An algebraic approach to the Schwarz alternating methods. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 159–164. (C. Ilioi) **98f:65123** 65N99 (65J10)

Huang, Jian Hua[3] (*with* Luo, Jian Shu; Li, Zhong Sheng) Wavelet decompositions and filters for fractal signals. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 1–5. 94A12 (42C15)

— (*with* Liang, Zhao Jun) The topological structure of the orbits of two classes of quadratic systems. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 139–144. (Sui Lin Cai) **98h:34055** 34C05

Huang, Jian Min *see* **Huang, Jian Min**[2]

Huang, Jian Min[1] The predator-prey model with Holling type (II) functional response and generalized logistic growth of the prey population. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 4, 90–95. (Summary) **98c:92009** 92D25

— Qualitative analysis of a class of food chain models with three species. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 44–49. (Summary) **98m:92029** 92D40

Huang, Jian Min[2] Periodic positive solutions to a higher-order delay equation. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 28–31. (Summary) **98i:34101** 34K15 (34C25, 47H15, 47N20)

Huang, Jian Zhong[2] (*with* Xiong, Lian Huan; Li, De Hua; Xu, Chang Fa) A Sobolev orthogonal wavelet-finite element method for solving ordinary differential equations with constant coefficients. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 5, 76–78, 93. 65L06

Huang, Jiang Hua *see* **Huang, Jian Hua**[3]

Huang, Jie[1] Asymptotic tracking in uncertain Volterra systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 215–223. (Summary) **98i:93038** 93B52 (93B35)

— An efficient algorithm to solve a sequence of linear equations arising in nonlinear H^∞ control. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 293–306. (Vasile Drăgan) **98m:93041** 93B40 (65F30, 93B36)

Huang, Jin Neng (*with* Li, Shi-Jie) Quadric representation of minimal surfaces of an m-dimensional sphere. *Kyushu J. Math.* **50** (1996), *no.* 1, 207–219. (Fabio Podestà) **98d:53092** 53C42

— (*with* Zuo, Zai Si; Shen, Wen Huai; Yi, Jian Xin) Localization of relative epimorphisms and monomorphisms in homotopy theory. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 645–652. 55P60

— (*with* Yi, Jian Xin; Liu, Yun) The homotopic property of near homeomorphisms. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 73–75. 55P99 (54H99)

— (*with* Shen, Wen Huai; Zuo, Zai Si) A theorem characterizing fibrations that are also cofibrations. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 9, 915–918. 55P05

Huang, Jin Tang (*with* Li, Wen[1]) A study of a class of Z-matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 70–73. (Summary) **98d:15021** 15A57

Huang, Jing (*with* Caccetta, Louis) The maximum degree of a critical graph of diameter two. (English summary) *Australas. J. Combin.* **16** (1997), 245–258. (V. R. Kulli) **98j:05081** 05C35

Huang, Jing-Song Harmonic analysis on compact polar homogeneous spaces. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 553–569. (Gudlaugur Thorbergsson) **98f:43014** 43A85 (22E30, 53C35)

— Plancherel formulae for non-symmetric polar homogeneous spaces. (English summary) *Pacific J. Math.* **176** (1996), *no.* 2, 345–356. (Takeshi Kawazoe) **98b:22018** 22E30 (43A85)

— (*with* Zhu, Chen-Bo) On certain small representations of indefinite orthogonal groups. (English summary) *Represent. Theory* **1** (1997), 190–206 (*electronic*). (Jeffrey Adams) **98j:22026** 22E46

Huang, Jinyang Large time step Glimm's and Godunov's schemes and their entropy consistency. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 515–519, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L60 (65M06)

Huang, Ju Yong (*with* Huang, Shou Dong; Qiao, Bai You; Zhang, Si Ying) Controllability of symmetric composite systems through a single channel. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 6, 644–647. 93B05 (93C15)

Huang, Jue Meromorphic functions that share four values. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 38–42. 30D35

Huang, Jui-Chi (*with* Hu, Thakyin) Iteration of fixed points on hyperspaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 665. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 423–428. (Tomás Domínguez Benavides) **98j:47129** 47H10 (54H25)
— (*with* Hu, Thakyin; Rhoades, B. E.) A general principle for Ishikawa iterations for multi-valued mappings. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1091–1098. (Charles Ejike Chidume) **98k:47111** 47H10 (47H04, 47H17)
Huang, Jun[1] (*with* Chen, Cai Sheng[1]) The asymptotic behavior of global solutions to a class of systems of semilinear reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 73–77. 35K57 (35B40)
Huang, Jun Min G-commutative primitive words and their algebraic properties. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 1–4. (Summary) **98i:68228** 68R15 (68Q70)
— On strongly regular rings. (English summary) *J. Shanghai Jiaotong Univ. (Engl. Ed.)* **1** (1996), *no.* 2, 6–8, 16. (John Clark) **98d:16011** 16E50 (20M17)
— t-semigroups and E-minimal semigroups. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 85–87, 96. 20M99
Huang, Junn-Chung (*with* Chang, Fan Ren) A design method for control systems possessing integrity and robust stability. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 139–147. 93B51 (93D09)
Huang, K. *see* **Huang, Kai Bin**
Huang, K. L. *see* **Huang, Ke Lei**
Huang, Kai Bin (*with* Yu, J.) Remarks on a formula for the pseudoinverse by the modified Huang algorithm. (English summary) *Computing* **59** (1997), *no.* 2, 183–185. 65F20
— (*with* Wu, Hebin) A remark on the inverse of principal matrices by implicit LU factorization. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 527–528. (Summary) **98m:65044** 65F10 (15A09, 15A23)
— (*with* Yu, Jin Cheng) The solution sets and minimum norm solutions for total least squares problems. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 4, 1–5. 65F20
— (*with* Yan, Shi Jian[2]) The solvability of the multidimensional total least perturbation problem in spectral norm. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 185–192. (Summary) **98e:65037** 65F30
Huang, Ke (*with* Wu, Jie[5]) The balanced hypercube: a cube-based system for fault-tolerant applications. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 4, 484–490. (Summary) **98a:68015** 68M10 (68M15)
Huang, Ke Lei (*with* Li, De Ming; Lu, Qi Shao) Bifurcation for a class of integral equations with two-dimensional bifurcation equations. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 267–273. (Da Jun Guo) **98i:45007** 45G10 (47H15)
— (*with* Zhao, Xiao-Hua; Li, Ji Bin) Homoclinic orbits in perturbed generalized Hamiltonian systems. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 361–374. (Jürgen Scheurle) **98d:58072** 58F05 (34C37, 58F30, 70H05)
— (*with* To, C. W. S.; Li, De Ming) Supercritical and subcritical Hopf bifurcations in a stochastically excited system. *J. Sound Vibration* **201** (1997), *no.* 5, 648–656. (Jan I. Seidler) **98c:34093** 34F05 (34C23, 70K40, 70L05)
Huang, Ke Ming[1] Some asymptotic properties of least squares estimates in regression analysis with nonlinear parameters. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 8–11. 62J05
— (*with* Lin, Xiu Ying) Convergence properties of sums of weakly dependent random variables. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 15–18. 60F05 (60G60)
Huang, Keliang (*with* Zhou, Hongnan) Structure and evolution of an isothermal thin accretion disk around a black hole. (English summary) *Chinese Phys. Lett.* **12** (1995), *no.* 8, 505–508. 83C57
Huang, Kerson (*with* Timmermans, Eddy; Tommasini, Paolo) Variational Thomas-Fermi theory of a nonuniform Bose condensate at zero temperature. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3645–3657. (Summary) **98f:82010** 82B10
Huang, Kuo-Ching (*with* Chen, Bor-Liang; Cheng, Chun-Kan; Fu, Hung-Lin) A study of the total chromatic number of equibipartite graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 49–60. (Summary) **98i:05068** 05C15
Huang, L. J. *see* **Huang, Liang Jiao**
Huang, L. R. *see* **Huang, Liren**
Huang, Lan Jie Domain decomposition for the difference solution of incompressible Navier-Stokes equations. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 30–47. 65M55 (76D05, 76M25)
— (*with* Wu, Ya Dan) The component-consistent pressure correction projection method for the incompressible Navier-Stokes equations. (English summary) *Comput. Math. Appl.* **31** (1996), *no.* 11, 1–21. (Summary) **98c:76080** 76M25 (65M60, 76D05)
— (*with* Wu, Ya Dan) Efficient and robust finite difference schemes for the unsteady Navier-Stokes equations. II. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 1, 58–72. (Summary) **98a:76061** 76M20 (76D05)
Huang, Langchai (*with* Liang, Yi Xing) Two pinching constants for minimal submanifolds in a sphere. *Tensor (N.S.)* **57** (1996), *no.* 2, 197–203. (Paul E. Ehrlich) **98f:53060** 53C42 (53C20, 53C40)
Huang, Li Hong (*with* Yu, Jian She) Asymptotic behavior of solutions for a class of difference equations. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 3, 830–839. (Jerzy Popenda) **98a:39017** 39A11
— (*with* Chen, Hai Bo[2]) Qualitative analysis of a class of dynamic predator-prey systems. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 88–92. 92D40 (34C05, 34C11)
— Boundedness of solutions for some nonlinear differential systems. *Nonlinear Anal.* **29** (1997), *no.* 7, 839–848. (John R. Graef) **98i:34058** 34C11 (34C15)
Huang, Li Ping[3] Algebras having the singular value decomposition property. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 161–166. 16W10
— Solvability of the matrix equation $AXB + CYD = E$ over a ring. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 269–275. (Shao Kuan Li) **98i:15017** 15A24 (15A33)
— Extremum principles for eigenvalues of self-conjugate quaternion matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 101–104. (Chong Guang Cao) **98g:15024** 15A33 (15A18)
— (*with* Liu, Jian Zhou) The extension of Roth's theorem for matrix equations over a ring. (English summary) *Linear Algebra Appl.* **259** (1997), 229–235. (Summary) **98c:15045** 15A24 (15A33)
Huang, Li-Shan Testing goodness-of-fit based on a roughness measure. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1399–1402. (Summary) **98m:62144** 62G10
Huang, Liang Jiao (*with* Ding, Jiu) On the continuity of generalized inverses of linear operators in Hilbert spaces. (English summary) *Linear Algebra Appl.* **262** (1997), 229–242. (Vladimir Rakočević) **98k:47002** 47A05 (47A50)
Huang, Lin (*with* Qu, Shi-Xian; Zheng, Hai Rong) A canonical ensemble description of multifractal measures. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 28–30. 28A80
Huang, Lin[1] (*with* Yu, Wen Sheng) Robust oscillation analysis for a family of polynomials. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 5, 581–586. 93D09
Huang, Linwen (*with* Zha, Jian Guo) A characterization of differentiable modules over Kac-Moody groups. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 17–23. (Yuliy Billig) **98c:17023** 17B67 (17B10)
Huang, Liping *see* **Huang, Li Ping**[3]
Huang, Liren (*with* Ng, Kung Fu) On some relations between Chaney's generalized second-order directional derivative and that of Ben-Tal and Zowe. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 4, 1220–1234. (Marcin Studniarski) **98e:49039** 49J52 (26B05, 58C20)
Huang, Lu Bing (*with* Chai, Nai Xu; Zhang, Jian Ju) The Painlevé property and symmetries of the Zakharov-Kuznetsov equation in 3 + 1 dimensions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 34–38. (Summary) **98b:35158** 35Q53
Huang, Mei Ling (*with* Kerman, R. A.; Weit, Yitzhak) Abel summability of the autoregressive series for the best linear least squares predictors. *Illinois J. Math.* **41** (1997), *no.* 4, 577–588. (Mohsen Pourahmadi) **98j:42006** 42A24 (30D55, 60G25, 62M10)
— (*with* Brill, Percy H.) A level crossing density estimation method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4403–4414. (*see* **98i:00032**) 62G05
— (*with* Fung, Karen Y.) On moments and cumulants of the D compound Poisson distribution. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 357–361. 62E15
Huang, Min Hai The welding problem for an anisotropic half-plane and an isotropic strip. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 40–45. 73C02 (30E25, 73V35)
Huang, Ming-Chang (*with* Hsu, Hsiao-Ping) Critical probability and scaling functions of bond percolation on two-dimensional random lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3429–3438. 82B43 (82B20, 82B27, 82B44)
Huang, Ming-Deh A. (*with* Adleman, Leonard M.) Counting rational points on curves and abelian varieties over finite fields. (English summary) *Algorithmic number theory (Talence, 1996)*, 1–16, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Jonathan Pila) **98d:11070** 11G25 (11Y16, 14G05)
— (*with* Ierardi, Doug) Counting points on curves over finite fields. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 1–21. (Igor E. Shparlinski) **98i:11040** 11G20 (11Y16, 14G15)
Huang, Ming You (*with* Cong, Fu Zhong; Li, Yong[6]) Invariant tori for nearly twist mappings with intersection property. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 280–298. (Luigi Chierchia) **98j:58100** 58F30 (34C30, 34C50, 58F27)
— (*with* Wang, Qiao Long) The numerical simulation of solitary waves for the regularized long wave equation. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 3, 1–13. (Summary) **98i:65069** 65M06
— (*with* Küpper, Tassilo; Masbaum, Norbert) Computation of invariant tori by the Fourier methods. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 918–942. (Arnaud Debussche) **98f:65084** 65L99 (34C30, 65N99, 65T20)
Huang, Mo Jia (*with* Fu, Ming Fu; Zhao, Xi Qian) A direct integral evaluation of the Cauchy mean rotation. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 1, 111–115. (Summary) **98d:73017** 73B99
Huang, Nan Jing (*with* Zhang, Shi Sheng; Cho, Yeol Je) Coupled fixed point theorems with applications. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 575–585. (Charles Ejike Chidume) **98k:47115** 47H10 (45G10)
— (*with* Wu, Ding Ping) Boundedness of solutions to generalized nonlinear implicit quasicomplementarity problems and a perturbed iterative algorithm for them. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **33** (1996), *no.* 5, 490–493. (Xian Zhi George Yuan) **98c:49028** 49J40 (47H17, 47N10, 90C33)
— A new method for a class of nonlinear variational inequalities with fuzzy mappings. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 129–133. 49J40 (04A72)
— Existence of periodic traveling wave solutions for a class of generalized BBM equation. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 6, 599–603; *translated from Appl. Math. Mech.* **18** (1997), *no.* 6, 557–561 (*Chinese. English and Chinese summaries*). (F. Pempinelli) **98h:35208** 35Q53 (35B10, 76B15)
— (*with* Lee, Byung Soo; Kang, Mee Kwang) Fixed point theorems for compatible mappings with applications to the solutions of functional equations arising in dynamic programmings. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 673–680. (Summary) **98a:54058** 54H25 (47H10, 47N10, 90C39)
— Random completely generalized strongly nonlinear quasi-complementarity problems for random fuzzy mappings. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 605–616. 90C33 (04A72, 90C70)
— (*with* Lee, Byung Soo) Random generalized set-valued complementarity problems. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 1–12. (Bruce D. Craven) **98e:49022** 49J40 (90C33)
— (*with* Li, Hong-xu) Existence of nonoscillatory solutions for nth order nonlinear neutral functional-differential equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 375–389. (Ch. G. Philos) **98k:34114** 34K15 (34K40)
— (*with* Zhang, Wen-Bin[1]) Completely generalized mildly nonlinear complementarity problems for fuzzy mappings. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 249–261. (Muhammad Aslam Noor) **98m:90098** 90C20 (04A72, 49J40)
— Some new equilibrium theorems for abstract economies. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 41–45. 90A14 (47N10)

Huang, Nan-Sheng (*with* Liao, Teh Lu) Control and synchronization of discrete-time chaotic systems via variable structure control technique. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 262–268. 58F13

Huang, Ning (*with* Liu, Xiao Hua; Li, Shang Bai; Huang, Hai Yu; Zheng, Gao Qun) A computer algorithm for curve plotting and its application in a CAD system. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 6, 82–90, 98. 65D17 (65Y25)

Huang, P. Y. *see* **Huang, Peter Y.**

Huang, Pei Gen (*with* Wang, Lian Gui) Robust H^∞ control for state feedback of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 34–37. 93B36 (93D09)

Huang, Peter Y. (*with* Feng, Jimmy; Hu, H. H.; Joseph, Daniel D.) Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. (English summary) *J. Fluid Mech.* **343** (1997), 73–94. (Summary) **98c:76006** 76A10 (76M25, 76T05)

— (*with* Hu, H. H.; Joseph, Daniel D.) Direct simulation of the sedimentation of elliptic particles in Oldroyd-B fluids. (English summary) *J. Fluid Mech.* **362** (1998), 297–325. 76T05 (76A05)

Huang, Ping An A class of semicomplete groups. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 69–71. 20D99

Huang, Q. *see* **Huang, Qian**

Huang, Qi Chang (*with* Wei, Jun Jie) Existence of periodic solutions for Liénard equations with finite delay. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1145–1149. (From the text) **98i:34108** 34K15 (34C23, 34C25)

— (*with* Wei, Jun Jie) Existence of periodic solutions to Liénard equations with finite delays. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 9, 906–909. 34K15 (34C25)

— (*with* Wei, Jun Jie) A survey of developments in bifurcation theory for functional-differential equations. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 24, 2581–2586. 34K15 (34C23)

Huang, Qi Yu (*with* Zhang, Hui Ying) Existence of limit cycles for cubic systems with parabolic and hyperbolic solutions. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 2, 6–14. (Zhengrong Liu) **98m:34065** 34C05

Huang, Qian (*with* Feng, Wei[4]; Hoa, S. V.) Classification of stress modes in assumed stress fields of hybrid finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4313–4339. 73V05

Huang, Qie Yuan (*with* Wang, Ju) Hierarchy structures of phase spaces over linear logic. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 1–4. (Summary) **98b:03045** 03B60 (03F50)

Huang, Qing *see* **Huang, Qing[3]**

Huang, Qing[1] (*with* Tao, Bi You; Yan, Jun[2]) A q-analogue of a Jacobi identity and a quantum Kac-Moody algebra. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 71–77. (Hai Sheng Li) **98h:17032** 17B69 (17B67, 81R50)

Huang, Qing[3] (*with* Mochizuki, Kiyoshi) A note on the global solutions of a degenerate parabolic system. *Tokyo J. Math.* **20** (1997), *no.* 1, 63–66. (Maura Ughi) **98h:35134** 35K65 (35K45, 35K55)

Huang, Qing Long A Harnack inequality for degenerate parabolic equations. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *no.* 3, 325–327. (Ying Guo Lei) **98d:35117** 35K65 (35B45)

Huang, Qingdao (*with* Li, Yong[6]) Nagumo theorems of nonlinear singular boundary value problems. *Nonlinear Anal.* **29** (1997), *no.* 12, 1365–1372. (L. E. Bobisud) **98h:34040** 34B15

Huang, Qingping (*with* Richardson, J. D.; Cruse, T. A.) On the validity of conforming BEM algorithms for hypersingular boundary integral equations. (English summary) *Comput. Mech.* **20** (1997), *no.* 3, 213–220. (Summary) **98h:73078** 73V10 (45E05, 45L05)

Huang, Qiongxiang (*with* Meng, Jixiang) Almost all Cayley graphs are Hamiltonian. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 151–155. (Hong Zhang) **98j:05095** 05C45 (05C25, 05C80)

— (*with* Meng, Jixiang) Hamiltonian cycles and decompositions of Cayley digraphs of finite abelian groups. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 259–266. (Brian Alspach) **98f:05108** 05C45 (05C20, 05C25, 05C70)

— On arc-transitive circulant digraphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 500. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 463–472. (Summary) **98m:05076** 05C20 (05C25)

— (*with* Meng, Jixiang) Almost all Cayley graphs have diameter 2. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 267–269. 05C25

Huang, Quan Sheng (*with* Guo, Shu Yan; Han, Zeng Jin) Perturbation analysis of discrete event dynamical systems. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 31–36. 58F30

Huang, Sen-Shan Ramanujan's evaluations of Rogers-Ramanujan type continued fractions at primitive roots of unity. *Acta Arith.* **80** (1997), *no.* 1, 49–60. (G. Ramharter) **98h:11012** 11A55 (11P83)

— On modular relations for the Göllnitz-Gordon functions with applications to partitions. (English summary) *J. Number Theory* **68** (1998), *no.* 2, 178–216. (David M. Bressoud) **98k:11141** 11P81 (11F11)

Huang, Sen-Zhong (*with* van Neerven, Jan; Räbiger, Frank) Ditkin's condition for certain Beurling algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1397–1407. (Aharon Atzmon) **98k:43009** 43A45 (43A20)

Huang, Sha (*with* Qiao, Yu Ying) A new hypercomplex structure and Clifford analysis. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 4, 367–371. (Guo Chun Wen) **98a:30064** 30G35 (35J99)

— Nonlinear boundary value problem for biregular functions in Clifford analysis. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 11, 1152–1163. (Guo Chun Wen) **98b:30047** 30G35 (35J65)

— (*with* Wen, Guo Chun) The Riemann-Hilbert boundary value problem for nonlinear elliptic complex equations of nth order. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 375–392. (Summary) **98j:35071** 35J65 (30E25, 35Q15)

Huang, Shing-Tsaan (*with* Tsai, Ming-Shin) A self-stabilizing algorithm for the shortest paths problem with a fully distributed demon. (English summary) *Parallel Process. Lett.* **4** (1994), *no.* 1-2, 65–72. (From the introduction) **98b:90159** 90C35 (68Q10, 68R10)

— (*with* Liu, Tzong-Jye) Four-state stabilizing phase clock for unidirectional rings of odd size. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 325–329. 68M10

Huang, Shou Dong (*with* Qiao, Bai You; Huang, Ju Yong; Zhang, Si Ying) Controllability of symmetric composite systems through a single channel. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 6, 644–647. 93B05 (93C15)

— (*with* Zhang, Si Ying) The solving of Riccati equations for large-scale systems with symmetric circulant structure. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 75–81. 49N10 (93B40)

Huang, Shou-Hsuan S. (*with* Liu, Hongfei; Verma, Rakesh M.) A new combinatorial approach to optimal embeddings of rectangles. (English summary) *Algorithmica* **16** (1996), *no.* 2, 161–180. (Summary) **98c:68169** 68R10 (05C10, 05C85, 68M10)

— (*with* Liu, Hongfei; Verma, Rakesh M.) On embedding rectangular meshes into rectangular meshes of smaller aspect ratio. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 123–129. 68M10 (68Q35)

Huang, Siming (*with* Liu, Jianyong) On optimal strategy of discounted Markov stochastic games. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 15–25. (Vivek S. Borkar) **98j:93079** 93E05 (90D20)

Huang, Su-Yun Wavelet based empirical Bayes estimation for the uniform distribution. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 141–146. (M. Hušková) **98e:62017** 62C12 (62G05)

— (*with* Liang, TaChen) Empirical Bayes estimation of the truncation parameter with linex loss. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 755–769. (Françoise Garcia-Brouaye) **98m:62017** 62C12 (62F11)

Huang, T. *see* **Huang, Tian**

Huang, Tai Ping (*with* Chang, Hai Ping) The auto-adjustable damping method for solving nonlinear equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 163–168; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 151–155 (*Chinese. English and Chinese summaries*). 65H05

Huang, Thomas T. (*with* Dong, Ronald R.; Katz, Joseph) On the structure of bow waves on a ship model. (English summary) *J. Fluid Mech.* **346** (1997), 77–115. 76B20

Huang, Tian (*with* Song, Jian Wei; Zhang, Dawei; Zeng, Ziping) Application of graph theory to formulation of rigid body linear vibrational systems. (English and Chinese summaries) *Trans. Tianjin Univ.* **2** (1996), *no.* 1, 76–80. (David A. Levinson) **98a:70004** 70B10 (70D05, 70E15)

— (*with* Whitehouse, D. J.) The use of graph theory to formulate the linear dynamic characteristics of rigid body systems. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1299–1310. (David A. Levinson) **98c:70007** 70E15 (05C90)

Huang, Tian Lin (*with* Cao, Cong) The classification of EC-semigroups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 1, 26–30. (Summary) **98d:20068** 20M10

Huang, Wan Zhen (*with* Li, Shanling) A two-stage hybrid flowshop with uniform machines and setup times. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 27–45. (Summary) **98m:90072** 90B35

Huang, Wei Yang (*with* Huang, Zai Xing; Fan, Wei Xun) New points of view on the nonlocal field theory and their applications to the fracture mechanics. I. Fundamental theory. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 1, 45–54; *translated from Appl. Math. Mech.* **18** (1997), *no.* 1, 45–54 (*Chinese. English and Chinese summaries*). (E. S. Şuhubi) **98e:73001** 73A05 (73B18, 73C99, 73M25)

Huang, Wei Zhang *see* **Huang, Wei Zhang[2]**

Huang, Wei Zhang[1] (*with* Russell, Robert D.) Analysis of moving mesh partial differential equations with spatial smoothing. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1106–1126. (J. D. P. Donnelly) **98e:65077** 65M50 (65L50, 65N50)

— (*with* Leimkuhler, Benedict J.) The adaptive Verlet method. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 239–256. (V. R. Ibragimov) **98g:65063** 65L05

— (*with* Russell, Robert D.) A high-dimensional moving mesh strategy. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 63–76. (*see* **98i:65004**) 65M50 (65M70)

Huang, Wei Zhang[2] (*with* Mo, Jia Qi) Singular perturbations of fourth-order semilinear elliptic integro-differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 70–76. (Yao Tian Shen) **98h:35077** 35J65 (35B25, 45K05)

— A class of nonlocal singularly perturbed nonlinear boundary value problems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 140–145. (Summary) **98g:34096** 34E15 (34B15)

— Boundary value problem for a singularly perturbed nonlinear system. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 6, 575–584; *translated from Appl. Math. Mech.* **18** (1997), *no.* 6, 535–544 (*Chinese. English and Chinese summaries*). (Summary) **98f:34085** 34E15 (34B15)

— Singular perturbations of boundary value problems for boundary value problems of nonlinear systems with turning points. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 170–174. 34E20 (34B15)

Huang, Weizhang *see* **Huang, Wei Zhang[2]**

Huang, Wen-Chung (*with* Yang, Bo-Yin; Yeh, Yeong Nan) From ternary strings to Wiener indices of benzenoid chains. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 2, 113–131. (Rong Si Chen) **98b:92028** 92E10 (05C90)

Huang, Wen Hua (*with* Wu, Guangrong; Shen, Zu He) On a min-max theorem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 293–298. (Patricio L. Felmer) **98m:47104** 47H15 (34B15, 34C25)

Huang, Wen-Jang *see* **Conference: Mathematics, 98a:00006**

Huang, Wen-ling Transformations of strongly causal space-times preserving null geodesics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1637–1641. (Robert J. Low) **98m:53090** 53C50 (83C75)

Huang, Wen Ping (*with* Sun, Da Jun) Characterizations of the p-semisimple part of a nil BCI-algebra. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat.*

Sci. Ed. **24** (1996), *no.* 3, 9–12. (Summary) **98a:06030** 06F35 (03G25)
— (*with* Jun, Young Bae) Heyting algebras are dual to a class of BCK-algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 515–520. (Summary) **98m:06029** 06F35 (03G25)
— (*with* Luo, Min Xia) Semigroup characterizations of bounded commutative BCK-algebras. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 24–26. 06F35
Huang, Wen Qi (*with* Yu, Xin Guo; Lai, Chu Sheng) A theory and algorithm for the factorization of bivariate polynomials with integer coefficients. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *no.* 3, 388–391. 68Q40 (13P05, 68Q25)
— (*with* Li, Wei[3]) A hopeful CNF-SAT algorithm—its high efficiency, industrial application and limitation. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 9–12. 68Q25
Huang, Wenchao (*with* Hershkowitz, Daniel; Neumann, Michael; Schneider, Hans) Minimization of norms and the spectral radius of a sum of nonnegative matrices under diagonal equivalence. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 431–453. (Sing Cheong Ong) **98c:15075** 15A60
— Matrices which belong to an idempotent in a sandwich semigroup of circulant Boolean matrices. (English summary) *Linear Algebra Appl.* **249** (1996), 157–167. (Grigori I. Žitomirskiĭ) **98g:20093** 20M14 (15A30, 15A33)
— (*with* Hershkowitz, Daniel; Schneider, Hans; Weinberger, Hans F.) Approximability by weighted norms of the structured and volumetric singular values of a class of nonnegative matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 249–257. (Linda J. Patton) **98a:15055** 15A60 (15A48, 65F35, 93B35)
— (*with* Li, Chi-Kwong; Schneider, Hans) Norms and inequalities related to Schur products of rectangular matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 334–347. (Sing Cheong Ong) **98c:15076** 15A60 (15A45)
Huang, Wenhua (*with* Luo, You Xue) Six even subgraphs (3, 4)-cover of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 284–287, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05118** 05C70
Huang, Wenzao (*with* Li, Tie Cheng[2]) A bifurcation theorem for critical points of variational equation. *Chinese Sci. Bull.* **41** (1996), *no.* 5, 358–362. (Konstantin Mischaikow) **98i:58061** 58E07
Huang, Wenzhang (*with* Dushoff, Jonathan; Castillo-Chavez, Carlos) Backwards bifurcations and catastrophe in simple models of fatal diseases. *J. Math. Biol.* **36** (1998), *no.* 3, 227–248. 92C60
Huang, Wung-Hong Quantization of semiclassical gravitation theory in anisotropic spacetime. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 8–11. (Summary) **98e:81122** 81T20 (81V17, 83C47)
Huang, X. *see* **Huang, Xian Hua**
Huang, Xian Chun (*with* Tu, Zhen Han) The unicity problem for meromorphic functions. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 19–21. 30D35
Huang, Xian Hua (*with* Reyn, J. W.) Phase portraits of quadratic systems with finite multiplicity three and a degenerate critical point at infinity. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 929–978. (I. D. Iliev) **98k:34051** 34C05 (58F21)
Huang, Xian Tong (*with* Xiao, Xiang Ding; Hu, Xi Yan) Construction of a Jacobian matrix from the eigenvalues of its principal submatrices. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 94–100. 15A57 (15A18)
— (*with* Xiao, Xiang Ding; Hu, Xi Yan) The pole assignment problem for linear control systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 78–81. 93B55
— (*with* Hu, Xi Yan; Zhang, Lei[1]) Construction of a Jacobian matrix from its spectrum and a principal submatrix. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 143–150; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 66–73. 65F30 (65F15)
Huang, Xiang Fu (*with* Yuan, Yong Bin; Xu, Ji Lin) Autocorrelation properties of a class of chaotic sequences. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 468–472. 58F13
Huang, Xiao Han (*with* Pan, Victor Y.; Kim, Myong-Hi; Sadikou, Akimou; Zheng, Ailong) On isolation of real and nearly real zeros of a univariate polynomial and its splitting into factors. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 572–594. (Miodrag Petković) **98e:65044** 65H05 (26C10)
— (*with* Pan, Victor Y.; Zheng, Ailong; Yu, Yanqiang) Fast multipoint polynomial evaluation and interpolation via computations with structured matrices. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 483–510. (Luis Verde-Star) **98k:65006** 65D15 (65D05, 65Y20)
— (*with* Pan, Victor Y.; Zheng, Ailong; Dias, Olen) Newton's iteration for inversion of Cauchy-like and other structured matrices. (English summary) *J. Complexity* **13** (1997), *no.* 1, 108–124. (D. Bini) **98h:65014** 65F10 (65H10, 68Q25)
Huang, Xiao Ling Spline approximations of two-dimensional singular integrals. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 20–24. 41A55 (65D32)
Huang, Xiaohan *see* **Huang, Xiao Han**
Huang, Xiaojun On an n-manifold in $\mathbf{C}^n$ near an elliptic complex tangent. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 669–692. (Eric Bedford) **98m:32026** 32F25
Huang, Xin[2] (*with* Liu, Zeng Rong; Zhang, Wei[6]) Is there chaotic synchronization in space extend systems? (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 4, 319–326. (Volker Matthias Gundlach) **98b:58118** 58F13
Huang, Xin Han (*with* Lu, Hao[2]; Fang, Hua Jing) The structure of H^∞ optimal controllers for infinite-dimensional systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 8–11. 93B36 (93C25)
— (*with* Lu, Hao[2]; Wang, Zhi Hong; Fang, Hua Jing) Finite-dimensional approximation and H^∞ error bounds for a class of distributed parameter systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 8, 14–17. 93B36 (93C20)
Huang, Xin Min[2] (*with* Wu, Zhi Zheng; Xu, Xiao Ming) Linearizing feedback for a class of nonlinear systems using a neural network trained by a genetic algorithm. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 6, 38–42. 93B52 (93B17)
Huang, Xiong Approximability of NP optimization problems. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 5, 556–562. (Summary) **98k:90136** 90C60 (68Q25)
Huang, Xu Ming Cubic polynomial local area interpolating splines. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 1, 21–24. 65D07
Huang, Xun Cheng *see* **Kooij, Robert E., 98b:34041**
Huang, Y. *see* **Huang, Yonggang**
Huang, Y. S. *see* **Huang, Ying Sue**
Huang, Y. X. *see* **Huang, Yin Xi**
Huang, Y.-Z. *see* **Huang, Yi-Zhi**
Huang, Yao-Xiong Wave four-vectors for the electromagnetic waves in relatively moving dielectric media. (English summary) *J. Modern Opt.* **44** (1997), *no.* 3, 623–631. (Summary) **98a:78010** 78A40
Huang, Yen Kun (*with* Anh, V. V.; Kloeden, Peter E.) Strong convergence of stochastic Taylor expansions of two-parameter random fields. *Stochastic Anal. Appl.* **15** (1997), *no.* 2, 137–149. (Yu. S. Mishura) **98i:60045** 60G60 (60F15, 60H10)
Huang, Yennun (*with* Rangarajan, Sampath; Tripathi, Satish K.) On the scalability and mean-time to failure of k resilient protocols. (English summary) *Acta Inform.* **34** (1997), *no.* 7, 543–556. (Summary) **98e:68016** 68M15
Huang, Yeu-Shiang (*with* Bier, Vicki M.) A natural conjugate prior for the non-homogeneous Poisson process with a power law intensity function. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 525–551. 62F15 (62N05)
Huang, Yi[2] (*with* Tian, Yu Ping[1]) The mixed μ decomposition principle and its application to robust stabilization. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 1, 37–42. (Fu En Zhang) **98k:93106** 93D21 (93D15)
— (*with* Han, Jingqing; Wang, Wei[9]) A synthesis method for two-order uncertain systems: auto-stable region approach. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 152–159. (Valery I. Korobov) **98c:93076** 93D05 (93B51, 93C41)
Huang, Yi Fang (*with* Tan, Ben Kui) The resonant interaction of five planetary waves. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 71–76. (Summary) **98j:76144** 76U05 (76C99, 86A10)
Huang, Yi Sheng[1] (*with* Zhou, Yu Ying[2]) Several existence theorems for the nonlinear complementarity problem. *J. Math. Anal. Appl.* **202** (1996), *no.* 3, 776–784. (Sehie Park) **98e:90201** 90C33 (49J40, 90C48)
Huang, Yi Sheng[2] (*with* Chen, Fuyuan; Chen, Zhaomu) Semisimple BCI-algebraic structure. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 113–117. (Summary) **98b:06029** 06F35 (03G25)
— (*with* Chen, Zhaomu) Normal BCK-algebras. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 541–546. (Summary) **98a:06031** 06F35 (03G25, 08A05)
— (*with* Chen, Zhaomu) The n-fold implicative BCK-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 63–67. (Yishu Pu) **98k:06021** 06F35
Huang, Yi-Zhi (*with* Lepowsky, James) A theory of tensor products for module categories for a vertex operator algebra. I. (English summary) Geometric aspects of infinite integrable systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 883 (1994), 148–203. (Jian-Pan Wang) **98a:17048** 17B69 (18D10, 81R10)
— (*with* Lepowsky, James) A theory of tensor products for module categories for a vertex operator algebra. III. (English summary) *J. Pure Appl. Algebra* **100** (1995), *no.* 1-3, 141–171. (Jian-Pan Wang) **98a:17049** 17B69 (18D10, 81R10, 81T40)
— A theory of tensor products for module categories for a vertex operator algebra. IV. (English summary) *J. Pure Appl. Algebra* **100** (1995), *no.* 1-3, 173–216. (Jian-Pan Wang) **98a:17050** 17B69 (18D10, 81R10, 81T40)
— (*with* Lepowsky, James) A theory of tensor products for module categories for a vertex operator algebra. I, II. (English summary) *Selecta Math. (N.S.)* **1** (1995), *no.* 4, 699–756, 757–786. (Mirko Primc) **98a:17047** 17B69 (18D10, 81R10)
— ★ Two-dimensional conformal geometry and vertex operator algebras. (English summary) Progress in Mathematics, 148. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xiv+280 *pp. ISBN* 0-8176-3829-6 (Mirko Primc) **98i:17037** 17B69 (18D10, 81-02, 81R10, 81T40)
— Intertwining operator algebras, genus-zero modular functors and genus-zero conformal field theories. (English summary) *Operads: Proceedings of Renaissance Conferences (Hartford, CT/Luminy, 1995)*, 335–355, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (Olga Kravchenko) **98a:17051** 17B69 (81R10, 81T40)
Huang, Yin Xi (*with* Binding, Paul A.; Drábek, Pavel) The range of the p-Laplacian. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 77–82. (Summary) **98g:34035** 34B15 (35J65, 47H12, 47N20)
— (*with* Drábek, Pavel) Multiplicity of positive solutions for some quasilinear elliptic equation in $\mathbf{R}^N$ with critical Sobolev exponent. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 106–132. (Vyacheslav N. Pavlenko) **98k:35052** 35J60 (35B32, 58E05)
— A note on the asymptotic behavior of positive solutions for some elliptic equation. *Nonlinear Anal.* **29** (1997), *no.* 5, 533–537. (P. Lindqvist) **98f:35051** 35J65 (35B40, 35P30)
— (*with* Drábek, Pavel) Positive solutions and bifurcation problems for some quasilinear elliptic equations in $\mathbf{R}^N$. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3671–3681. (Yi Hong Du) **98m:35054** 35J60 (35B05, 35B32, 47H12, 58E07)
— (*with* Binding, Paul A.; Drábek, Pavel) On the Fredholm alternative for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3555–3559. (Summary) **98b:35058** 35J65 (35P30)
Huang, Ying Sue (*with* Aronson, D. G.) Discrete rotating wave solutions for system of globally coupled Josephson junctions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 10, 1789–1797. (Michail G. Blizorukov) **98i:34062** 34C15 (39A12, 78A25, 81V10)
— (*with* Aronson, D. G.) Single waveform solutions for linear arrays of Josephson junctions. (English summary) *Phys. D* **101** (1997), *no.* 1-2, 157–177. (Lev Lerman) **98g:34066** 34C15 (35Q99, 78A55, 94C05)
Huang, Yisheng *see* **Huang, Yi Sheng[2]**

Huang, Yo-Ping (*with* Chen, Mei-En; Shi, Kai Quan) Multicriteria and multilevel decision making in fuzzy talent selection. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 839–853. 90A05 (04A72, 90C70)

Huang, Yong (*with* Wang, Shu Ning; Dai, Jian She) Validation of a frequency domain model for eigenvalue perturbations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 10, 104–106. 93B60 (93C05)

Huang, Yong Nian[1] (*with* Wang, De Quan; Xi, Xiu Feng) A remark on a theorem about period-doubling bifurcations. (Chinese) *J. Xinjiang Univ. Natur. Sci.* **13** (1996), *no.* 3, 1–3, 5. (Yi Yuan Chen) **98i:58173** 58F14 (34C23, 58F13)

Huang, Yonggang (*with* Chen, Jiyu; Ortiz, Michael) Fracture analysis of cellular materials: a strain gradient model. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 5, 789–828. 73M25

Huang, You Du C^2 continuous piecewise bivariate quintic interpolation polynomials over triangular domains. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 186–195; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 3, 66–75. 65D15 (41A63)

Huang, Young-Ye (*with* Jeng, Jyh-Chung) Approximating fixed points by iteration processes. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 129–138. (Livia D'Apuzzo) **98c:47070** 47H10 (47H17)

Huang, Youqiang (*with* Kurano, Masami) The LP approach in average reward MDPs with multiple cost constraints: the countable state case. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 33–47. (Andris Abakuks) **98b:90165** 90C40

— (*with* Kurano, Masami; Song, Jinjie; Hosaka, Masanori) Controlled Markov set-chains with discounting. (English summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 136–146. (*see* **98h:90004**) 90C40

Huang, Yu Qin Optimal fill-in for a class of special graphs. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 23–25. 05C99

Huang, Yu Ying (*with* Zou, Shi Zhi; Huang, Zhong Lin; Jin, Tao) A generalized variational principle for nonlinear coupled solid-liquid systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 12, 88–90. 73K70 (76M30)

— (*with* Hu, Yuan Tai; Cheng, Lingzhi; Li, Siping; Zhong, Weifang) Periodic elliptic holes in anisotropic elasticity. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 2, 171–178. 73C02 (73B40, 73V35)

Huang, Yuan Mei (*with* Chen, Ye Hua) Existence of solutions to a class of nonlinear second-order differential equations of dynamical systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 213–216. (Shao Zhu Chen) **98c:34029** 34B15

Huang, Yuan Qiu (*with* Liu, Yan Pei) Maximum genus and 2-factors of graphs. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 587–596; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 425–434 (1998). 05C10 (05C70)

— (*with* Liu, Yan Pei) Maximum genus and maximum nonseparating independent set of a 3-regular graph. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 149–158. (Arthur T. White) **98f:05049** 05C10

Huang, Yun Bao (*with* Shen, Chuan Long) Some properties of C^∞-words with applications. *Southeast Asian Bull. Math.* **20** (1996), *no.* 4, 19–30. (Jean-Paul Allouche) **98c:68178** 68R15 (11B85)

— (*with* Shen, Chuan Long) Further remarks on a conjecture about powers of C^∞-words. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 243–246. 20M05

Huang, Yun-Qing The superconvergence of finite element methods on domains with reentrant corners. (English summary) *Finite element methods (Jyväskylä, 1997)*, 169–182, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98i:65100** 65N30

Huang, Z. *see* **Huang, Zhen You**

Huang, Z. L. *see* **Huang, Zhilong**

Huang, Z. Q. *see* **Huang, Zu Qia**

Huang, Zai Xing (*with* Fan, Wei Xun; Huang, Wei Yang) New points of view on the nonlocal field theory and their applications to the fracture mechanics. I. Fundamental theory. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 1, 45–54; *translated from Appl. Math. Mech.* **18** (1997), *no.* 1, 45–54 (*Chinese. English and Chinese summaries*). (E. S. Şuhubi) **98e:73001** 73A05 (73B18, 73C99, 73M25)

Huang, Zhao Yong FP-self-injective dimension over noncommutative coherent rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 167–174. (Jian Long Chen) **98h:16010** 16E10 (16D50)

Huang, Zhen Xun (*with* Gao, Guo Zhu) Estimates of the number of zeros of solutions to some classes of second-order functional-differential equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 533–538. (Yi Zhong Lin) **98b:34090** 34K15

Huang, Zhen You A spectral mapping theorem for a class of unbounded operators. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 265–268. (Summary) **98c:47050** 47D06 (47A10, 47A60)

— C-regularized smooth distribution groups and spectral mapping theorem. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 223–232. (Irina V. Mel′nikova) **98m:47057** 47D03 (42A38, 47A56, 47A60)

— (*with* deLaubenfels, Ralph; Wang, Sheng Wang; Wang, Y.) Laplace transforms of polynomially bounded vector-valued functions and semigroups of operators. (English summary) *Israel J. Math.* **98** (1997), 189–207. (C. J. K. Batty) **98h:47060** 47D06 (44A10)

— (*with* Wang, Sheng Wang) Strongly continuous integrated $\mathscr{C}$-cosine operator functions. (English summary) *Studia Math.* **126** (1997), *no.* 3, 273–289. (Dieter Lutz) **98i:47038** 47D09 (34G10)

Huang, Zhen Yu (*with* Zhuang, Jian Nan; Lin, Ying Ju) A steepest descent algorithm for bounded nonsmooth global optimization. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 218–225. (Wanzhen Huang) **98c:90134** 90C30 (65K05)

— (*with* Shen, Zu He; Wolfe, Michael A.) An interval maximum entropy method for a discrete minimax problem. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 1, 49–68. (Summary) **98c:90141** 90C30 (65K05)

— A new convergence result for fixed-point iteration in bounded interval of $\mathbf{R}^n$. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 33–36. 65H10

— (*with* Cao, Dexin) An interval algorithm for a discrete minimax problem. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 74–82. (Summary) **98j:90069** 90C30 (49J35)

— A remark on Ishikawa iteration theorem of M. O. Osilike. (English summary) *Soochow J. Math.* **23** (1997), *no.* 1, 113–114. (B. E. Rhoades) **98a:47061** 47H10

Huang, Zheng Hai (*with* Hu, Shi Geng) The solvability of a higher-order three-point boundary value problem. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 121–128. (Summary) **98c:34028** 34B10 (34B15, 47N20)

— (*with* Wang, Chun Lin; Hu, Shi Geng; Cheng, Shi Jie) Positive solutions to a class of second-order boundary value problems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 30–32. 34B15

— (*with* Shen, Yi[2]; Hu, Shi Geng) Generalized convex sets and generalized convex functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 95–98. 90C25 (90C48)

— (*with* Hu, Shi Geng; Shen, Yi[2]) Optimality and duality of nonconvex and nonsmooth programming. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 99–102. (Summary) **98e:90160** 90C30 (49J52, 49N15)

Huang, Zheng Liang (*with* Wan, Bai Wu) Estimates of steady state models for a class of nonlinear systems and an analysis of their strong consistency. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 6, 20–26. 93B55 (93D05)

Huang, Zhengao (*with* Wang, Guoqiu) On aspiration solutions in predicting coalition formation in cooperative games. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 492. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 475–486. (Jos Potters) **98e:90232** 90D12

Huang, Zhengda (*with* Zheng, Shi Ming) On a family of parallel root-finding methods for generalized polynomials. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 221–231. 65H05

Huang, Zhengyu *see* **Huang, Zhen Yu**

Huang, Zhida (*with* Xiao, Shutie) One-dimensional filtration problem in partially saturated layered porous media. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 4, 418–426. (From the introduction) **98j:76140** 76S05 (35K99, 35Q35)

— (*with* Xiao, Shutie) Filtration in partially saturated and partially dried layered porous media. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 225–234. (Elena Comparini) **98k:76138** 76S05 (35K99, 35Q35)

Huang, Zhilong (*with* Zhu, Wei Qiu) Exact stationary solutions of averaged equations of stochastically and harmonically excited MDOF quasi-linear systems with internal and/or external resonances. (English summary) *J. Sound Vibration* **204** (1997), *no.* 2, 249–258. (Summary) **98c:70024** 70L05

Huang, Zhisheng (*with* Masuch, Michael) The logic of permission and obligation in the framework of ALX.3: how to avoid the paradoxes of deontic logics. (English summary) *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 55–74. (George F. Schumm) **98e:03022** 03B45

— (*with* Masuch, Michael; Pólos, László) ALX, an action logic for agents with bounded rationality. (English summary) *Artificial Intelligence* **82** (1996), *no.* 1-2, 75–127. (Summary) **98f:68243** 68T25 (03B45, 03B70)

Huang, Zhiyuan (*with* Ren, Jiagang) Analytic functionals and a new distribution theory over infinite-dimensional spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 507–514. (Habib Ouerdiane) **98m:60055** 60G15 (60G20)

Huang, Zhong Lin (*with* Zou, Shi Zhi; Huang, Yu Ying; Jin, Tao) A generalized variational principle for nonlinear coupled solid-liquid systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 12, 88–90. 73K70 (76M30)

Huang, Zu Qia (*with* Zhou, Luqun; He, Kaifen) Multistable structure in a Korteweg-de Vries system driven by a solitary wave. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 159–162. (Summary) **98k:35171** 35Q53 (35B99)

Huard, James G. (*with* Spearman, Blair K.; Williams, Kenneth S.) Pascal's triangle (mod 9). *Acta Arith.* **78** (1997), *no.* 4, 331–349. (W. A. Webb) **98c:11014** 11B65 (11A07)

— (*with* Spearman, Blair K.; Williams, Kenneth S.) On Pascal's triangle modulo p^2. *Colloq. Math.* **74** (1997), *no.* 1, 157–165. (W. A. Webb) **98f:11020** 11B65 (11B50)

Hubbard, John Hamal (*with* McDill, Jean Marie; Noonburg, Anne; West, Beverly H.) A new look at the Airy equation with fences and funnels. (English summary) *Organic mathematics (Burnaby, BC, 1995)*, 277–303, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98k:34015** 34A34 (33C10, 34A25, 34C99)

— (*with* Hersonsky, Sa'ar) Groups of automorphisms of trees and their limit sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 869–884. (Michel Coornaert) **98k:57005** 57M07 (20E08, 58F11)

Hubbard, M. E. (*with* Baines, M. J.) Conservative multidimensional upwinding for the steady two-dimensional shallow water equations. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 419–448. (Summary) **98i:76060** 76M20 (76B15)

Hubbard, Peter M. (*with* Smith, Barbara M.; Brailsford, Sally C.; Williams, H. Paul) The progressive party problem: integer linear programming and constraint programming compared. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 36–52, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 90C10 (68T20)

— (*with* Smith, Barbara M.; Brailsford, Sally C.; Williams, H. Paul) The progressive party problem: integer linear programming and constraint programming compared. (English summary) *Constraints* **1** (1996), *no.* 1-2, 119–138. 68T20 (90C10, 90C27)

Hubbers, Engelbert (*with* van den Essen, Arno) Chaotic polynomial automorphisms: counterexamples to several conjectures. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 382–388. (L. Andrew Campbell) **98b:14011** 14E09 (30D05, 34C20, 58F08, 58F23)

— (*with* Cima, Anna; van den Essen, Arno; Gasull, Armengol; Mañosas, Francesc) A polynomial counterexample to the Markus-Yamabe conjecture. (English summary) *Adv. Math.* **131** (1997), *no.* 2, 453–457. (Gary H. Meisters) **98k:34084** 34D05 (58F10)

— (*with* van den Essen, Arno) $\mathcal{G}_n(A)$ for a class of polynomial automorphisms and stably tameness. (English summary) *J. Algebra* **192** (1997), *no.* 1, 460–475. (Ludwik M. Drużkowski) **98k:14016** 14E09

Hubbuck, J. R. Numerical forms. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 1, 65–75. (Andrew J. Baker) **98d:11043** 11E76 (13F20, 55N15)

— (*with* Crabb, M. C.; McCall, J. A. W.) Stable summands of $U(n)$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 963–973. (J. Aguadé) **98i:55009** 55P42 (57T10)

Huber, Annette ★ Mixed motives and their realization in derived categories. Lecture Notes in Mathematics, 1604. *Springer-Verlag, Berlin*, 1995. xvi+207 *pp. ISBN* 3-540-59475-2 (Luca Barbieri Viale) **98d:14030** 14F99 (18E30, 19E20)

— Mixed perverse sheaves for schemes over number fields. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 107–121. (Adolfo Quirós) **98k:14024** 14F20 (11G35, 14F32, 14G25, 18E30, 18F20)

Huber, Birkett (*with* Sturmfels, Bernd) Bernstein's theorem in affine space. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 2, 137–141. (Carla Peri) **98b:52014** 52B20 (14M25, 52A39)

Huber, Catherine *see* **Huber-Carol, Catherine**

Hüber, Dirk (*with* Witała, H.; Nogga, A.; Glöckle, Walter; Kamada, H.) A new look into the partial-wave decomposition of three-nucleon forces. (English summary) *Few-Body Systems* **22** (1997), *no.* 3, 107–134. (A. Ventura) **98k:81319** 81V35 (81–08)

Huber, Greg (*with* Bohr, Tomas; Ott, Edward) The structure of spiral-domain patterns and shocks in the 2D complex Ginzburg-Landau equation. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 95–112. (Summary) **98b:35173** 35Q55 (76E30)

Huber, Klaus The MacWilliams theorem for two-dimensional modulo metrics. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 41–48. (Bal Kishan Dass) **98i:94037** 94B10

— Codes over tori. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 740–744. (Summary) **98b:94022** 94B27 (11T71)

Huber, Peter J. *see* **Robust statistics, data analysis, and computer intensive methods, 98h:62004** *and* **Bibliography: Huber, Peter J., (98h:62004)**

Huber, Thomas M. (*with* Nagel, Matthias) Data based prototyping. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 197–213, *Lecture Notes in Statist., 109, Springer, New York*, 1996. (*see* **98h:62004**) 62–07 (62H25)

Huber-Carol, Catherine (*with* Hall, Peter Gavin; Speckman, Paul L.) Covariate-matched one-sided tests for the difference between functional means. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1074–1083. (Summary) **98h:62080** 62G10

— (*with* Nikulin, Mikhail S.) Remarques sur le maximum de vraisemblance. (English and French summaries) [Remarks on maximum likelihood] *Qüestiió* (2) **21** (1997), *no.* 1-2, 37–58. (Summary) **98m:62058** 62F10

Huberman, Bernardo A. The power of cooperation. *Fourth Granada Lectures in Computational Physics* (1996), 55–81, *Lecture Notes in Phys., 493, Springer, Berlin*, 1997. (*see* **98h:00028**) 92B99 (68T20)

— (*with* Guenther, Oliver; Hogg, Tad) Controls for unstable structures. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 754–763, *Proc. SPIE, 3039, SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K50, 90A16)

Hubert, F. (*with* Serre, Denis) Slow dynamics of linear waves in nonlinear systems of conservation laws. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 247–260, *AMS/IP Stud. Adv. Math., 3, Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:35108** 35L65

sanchez-Hubert, J. *see* **Sanchez-Hubert, J.**

Hubert, Lawrence (*with* Arabie, Phipps; Meulman, Jacqueline) The construction of globally optimal ordered partitions. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 299–311, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci., 37, Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 62H30 (90C27, 92G30)

— (*with* Arabie, Phipps; Meulman, Jacqueline) Linear and circular unidimensional scaling for symmetric proximity matrices. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 253–284. 62H99 (62P15)

— *see also* **Clustering and classification, 98d:62115**

Hubert, Mia (*with* Rousseeuw, Peter J.) Robust regression with a categorical covariable. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 215–224, *Lecture Notes in Statist., 109, Springer, New York*, 1996. (*see* **98h:62004**) 62F35 (62J05)

— The breakdown value of the L_1 estimator in contingency tables. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 4, 419–425. (Summary) **98a:62077** 62H17

Hubert, Pascal Propriétés combinatoires des suites définies par le billard dans les triangles pavants. (English and French summaries) [Combinatorial properties of sequences defined by the billiard in paving triangles] *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 165–183. (Patrice Séébold) **98e:68216** 68R15 (11B85, 58F99, 68Q20)

Hubert, Steven L. (*with* Pyke, Ronald) A particular application of Brownian motion to sequential analysis. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 109–126. (Nitis Mukhopadhyay) **98h:62122** 62L10 (62L12)

Hübl, Reinhold (*with* Seibert, Gerhard) The adjunction morphism for regular differential forms and relative duality. (English summary) *Compositio Math.* **106** (1997), *no.* 1, 87–123. (Amnon Yekutieli) **98i:14023** 14F10

— (*with* Sun, Xiaotao) On the cohomology of regular differential forms and dualizing sheaves. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1931–1940. (Peter Brückmann) **98k:14021** 14F10 (13N05)

Hübler, Olaf Pseudolatent models: goodness of fit measures, residuals, estimation, testing, and simulation. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 271–285. 62P20

— Addendum: "Pseudolatent models: goodness of fit measures, residuals, estimation, testing and simulation" [Statist. Papers **38** (1997), no. 3, 271–285]. *Statist. Papers* **38** (1997), *no.* 4, 461–463. 62P20

Hübner, M. (*with* Khasminskii, Rafail Z.; Rozovskii, Boris L.) Two examples of parameter estimation for stochastic partial differential equations. (English summary) *Stochastic processes*, 149–160, *Springer, New York*, 1993. (Michael A. Kouritzin) **98b:62042** 62F12 (35R60, 60H15, 62M05)

Hübsch, Tristan On a stringy singular cohomology. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 8, 521–533. (Bruce Hunt) **98g:32045** 32J17 (14F32, 14J32, 81T70)

— A hitchhiker's guide to superstring jump gates and other worlds. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 347–350. (*see* **98g:81005**) 81T30 (81–02)

Huckaba, James A. (*with* Fontana, Marco; Papick, Ira J.) ★ Prüfer domains. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 203. *Marcel Dekker, Inc., New York*, 1997. x+328 *pp. ISBN* 0-8247-9816-3 (Evan G. Houston) **98d:13021** 13F05 (13A15, 13G05)

Huckaba, Sam (*with* Marley, Thomas) Hilbert coefficients and the depths of associated graded rings. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 64–76. (Santiago Zarzuela Armengou) **98i:13028** 13D40 (13A30, 13H15)

Huckaby, Dale A. (*with* Belkasri, Abdel K.) Presence of racemic phases at low temperatures in a three-dimensional lattice gas of enantiomers. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6205–6214. (Summary) **98j:82009** 82B20 (82B26)

Huckenbeck, Ulrich ★ Extremal paths in graphs. (English summary) Foundations, search strategies, and related topics. Mathematical Topics, 10. *Akademie Verlag, Berlin*, 1997. 480 *pp. ISBN* 3-05-501658-0 (Mechthild Stoer) **98g:90036** 90C35 (05C35, 05C38, 68R10)

— On valve adjustments that interrupt all s-t-paths in a digraph. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 1, 19–45. (Summary) **98e:68202** 68R10 (05C20, 68Q25)

Huckle, Thomas K. (*with* Grote, Marcus J.) Parallel preconditioning with sparse approximate inverses. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 838–853. (Zahari Zlatev) **98f:65033** 65Fxx (65Y05)

— Efficient computation of sparse approximate inverses. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 57–71. 65F50

Huckleberry, A. T. (*with* Zaitsev, Dmitri) Actions of groups of birationally extendible automorphisms. *Geometric complex analysis (Hayama, 1995)*, 261–285, *World Sci. Publishing, River Edge, NJ*, 1996. (Peter Heinzner) **98e:32057** 32M05

— (*with* Heinzner, Peter) Kählerian potentials and convexity properties of the moment map. *Invent. Math.* **126** (1996), *no.* 1, 65–84. (Michel Brion) **98e:58075** 58F05 (32C17, 32M05)

— (*with* Bell, S. R.; Brylinski, Jean-Luc; Narasimhan, Raghavan; Okonek, Christian; Schumacher, Georg; Van de Ven, A.; Zucker, Steven M.) ★ Complex manifolds. Corrected reprint of the 1990 translation [*Several complex variables. VI*, Encyclopaedia, Math. Sci., 69, Springer, Berlin, 1990; MR 91i:32001]. *Springer-Verlag, Berlin*, 1998. *viii*+310 *pp. ISBN* 3-540-62995-5 (Editors) **98k:32002** 32–06

al-mu'taman ibn Hūd, Yūsuf *see* **al-Mu'taman ibn Hūd, Yūsuf**

Huda, S. (*with* Hossain, S. S.) A-optimal third-order symmetric product designs for hypercubic regions. (English summary) *Aligarh J. Statist.* **14** (1994), 7–11. 62K05

— A method for construction of third order rotatable designs. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 19–25. 62K10

— (*with* Khan, I. H.) Further results on A-optimal second-order designs over cubic regions. (English summary) *Arab J. Math. Sci.* **1** (1995), *no.* 1, 41–53. (Summary) **98k:62132** 62K05

— Optimal design of experiments with nonuniform interest in the parameters. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 47–54. 62K05

— Second order designs in k-cubes minimizing average variance of the difference between estimated responses at a point and the centre. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 2, 53–65. 62K05

— Minimax second-order designs over hypercubes for the difference between estimated responses at a point and at the centre. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 193–199. 62K05

Hudec, Marcus (*with* Futschik, Andreas) Rotation invariant tests for discrete uniformity against peak shaped alternatives. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 431–457. 62G10 (62H11)

Hudelmaier, Jörg Improved decision procedures for the modal logics K, T and S4. (English summary) *Computer science logic (Paderborn, 1995)*, 320–334, *Lecture Notes in Comput. Sci., 1092, Springer, Berlin*, 1996. (Summary) **98c:03047** 03B45 (68Q25, 68T15)

Hudelson, Matthew (*with* Klee, Victor; Larman, David) Largest j-simplices in d-cubes: some relatives of the Hadamard maximum determinant problem. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 519–598. (Summary) **98c:15025** 15A15

Hudry, Olivier (*with* Charon-Fournier, Irène; Woirgard, Frédéric) A 16-vertex tournament for which Banks set and Slater set are disjoint. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 211–215. (Summary) **98h:05083** 05C20

Hudson, H. Malcolm (*with* Ma, Jun[3]) Modified Fisher scoring algorithms using Jacobi or Gauss-Seidel subiterations. (English summary) *Comput. Statist.* **12** (1997), *no.* 4, 467–479. 62F10 (62J12, 65U05)

Hudson, John F. P. Regular rewrite systems and automatic structures. (English summary) *Semigroups, automata and languages (Porto, 1994)*, 145–152, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98g:68076** 68Q42 (68Q45)

Hudson, Kiki *see* **Yamaguti, Masaya et al., 98j:28006**

Hudson, Robert G. Classical physics and early quantum theory: a legitimate case of theoretical underdetermination. (English summary) *Synthese* **110** (1997), *no.* 2, 217–256. (Dennis Dieks) **98e:81007** 81P05 (00A79, 01A60)

Hudson, Robin Lyth Thinking noncommutatively. *Analysis, geometry and probability*, 87–124, *Texts Read. Math., 10, Hindustan Book Agency, Delhi*, 1996. (David Applebaum) **98j:81183** 81S25 (46L50, 60F05)

— Lie algebras and chaotic decompositions in quantum stochastic calculus. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 249–256, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:81156** 81S25 (46L60, 60H99)

— (*with* Eyre, T. M. W.) Representations of Lie superalgebras and generalized boson-fermion equivalence in quantum stochastic calculus. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 87–94. (Summary) **98i:81125** 81S25 (17B81)

— (*with* Struletskaya, V. R.) Erratum: "Fermionic quantum stochastic flows" [Lett. Math. Phys. **37** (1996), no. 3, 309–317; MR 97i:81060]. *Lett. Math. Phys.* **42** (1997), *no.* 3, 297. (Editors) **98j:81184** 81S25

— Unitarity and multiplicativity via higher Itô product formula. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 95–108. (Andreas Boukas) **98i:81126** 81S25

— On Hausdorff-Young inequalities for quantum Fourier transformations. (English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 3, 465–471; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 514–522 (1998). (Franco Fagnola) **98j:46073** 46L50 (46M35, 81S25)

Hudson, S. R. (*with* Dewar, R. L.) Stellarator symmetry. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 275–280. (Summary) **98m:76165** 76X05 (58F40)

Hudson, Timothy D. Radicals and prime ideals in limit subalgebras of AF algebras. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 213–233. (Alan Hopenwasser) **98i:46053** 46L05 (16N40, 46K50, 47D25)

— (*with* Marcoux, L. W.; Sourour, A. R.) Lie ideals in triangular operator algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3321–3339. (David R. Larson) **98k:47090** 47D25 (46K50)

Hudzik, Henryk (*with* Cui, Yun An; Pluciennik, Ryszard) Banach-Saks property in some Banach sequence spaces. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 2, 193–202. (Anatolij M. Plichko) **98c:46037a** 46B45 (46B20)

— (*with* Cui, Yun An; Pluciennik, Ryszard) Errata to the paper: "Banach-Saks property in some Banach sequence spaces". *Ann. Polon. Math.* **65** (1997), *no.* 3, 303. (Anatolij M. Plichko) **98c:46037b** 46B45 (46B20)

— (*with* Kamińska, Anna; Mastyło, Mieczysław) Local geometry of $L^1 \cap L^\infty$ and $L^1 + L^\infty$. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 2, 159–168. (Ting Fu Wang) **98a:46038** 46E30 (46B20)

— (*with* Finol, Carlos; Maligranda, Lech) Orlicz spaces which are AM-spaces. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 3, 234–242. (Cong Xin Wu) **98h:46027** 46E30 (46A45)

— (*with* Kamińska, Anna; Mastyło, Mieczysław) On geometric properties of Orlicz-Lorentz spaces. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 316–329. (Summary) **98d:46032** 46E30 (46B20)

— (*with* Mastyło, Mieczysław) Local uniform rotundity in Banach spaces via sublinear operators. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 1–4. (Marián Fabian) **98h:46012** 46B20 (46E30)

— (*with* Pallaschke, Diethard) On some convexity properties of Orlicz sequence spaces equipped with the Luxemburg norm. (English summary) *Math. Nachr.* **186** (1997), 167–185. (Anna H. Kamińska) **98f:46024** 46E30 (46B20)

— (*with* Cui, Yun An; Zhu, Hongwei) Maluta's coefficient in Musielak-Orlicz sequence spaces equipped with the Orlicz norm. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 115–121. (Anna H. Kamińska) **98c:46038** 46B45 (46E30)

— *see also* **Conference: Function Spaces, 98h:46001**

Huebschmann, J. (*with* Guruprasad, Krishnamurthi; Jeffrey, Lisa C.; Weinstein, Alan D.) Group systems, groupoids, and moduli spaces of parabolic bundles. *Duke Math. J.* **89** (1997), *no.* 2, 377–412. (William Goldman) **98e:58034** 58D29 (14D20, 58F05)

an Huef, Astrid (*with* Raeburn, Iain) The ideal structure of Cuntz-Krieger algebras. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 611–624. (John Quigg) **98k:46098** 46L35 (46L05)

Huelga, Susana F. (*with* Marshall, Trevor W.; Santos, Emilio) Temporal Bell-type inequalities for two-level Rydberg atoms coupled to a high-Q resonator. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1798–1807. (Summary) **98c:81022** 81P15

— (*with* Marshall, Trevor W.; Santos, Emilio) Observation of quantum coherence by means of temporal Bell-type inequalities. (English summary) *Europhys. Lett.* **38** (1997), *no.* 4, 249–254. (Summary) **98f:81029** 81P15

Huen, Y. K. The twin prime problem revisited. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 825–834. (Marc Deléglise) **98m:11139** 11Y55 (11A41)

Huerre, Patrick (*with* Amram, K.; Chomaz, Jean-Marc) Instabilities and bifurcations in variable density flows. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 3–8, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76E99 (76D25)

— (*with* Delbende, Ivan; Chomaz, Jean-Marc) Absolute/convective instabilities in the Batchelor vortex: a numerical study of the linear impulse response. (English summary) *J. Fluid Mech.* **355** (1998), 229–254. (Summary) **98k:76057** 76E99 (76C05, 76D25, 76E15, 76M25)

Huerta, Antonio (*with* Rodríguez-Ferran, Antonio; Pegon, Pierre) Two stress update algorithms for large strains: accuracy analysis and numerical implementation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4363–4404. (Summary) **98i:73061** 73V05

— (*with* Díez, Pedro; Egozcue, Juan José) Analysis of the average efficiency of an error estimator. *Finite element methods (Jyväskylä, 1997)*, 113–126, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65N30 (65N12)

— (*with* Díez, Pedro; Egozcue, Juan José) Error estimation for linear and nonlinear problems. *Finite element methods (Jyväskylä, 1997)*, 183–194, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65N30 (65N15)

Huerta, Ramón (*with* Rabinovich, M. I.; Abarbanel, Henry D. I.; Elson, Rob; Selverston, Al I.) Self-regularization of chaos in neural systems: experimental and theoretical results. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 997–1005. (*see* **98g:93002**) 93D15 (58F40, 93C83)

Huertas, J. L. *see* **Visions of nonlinear science in the 21st century, 98f:58007**

Huet, Gérard Axiomatisations, proofs, and formal specifications of algorithms: commented case studies in the Coq proof assistant. *Logic of computation (Marktoberdorf, 1995)*, 157–199, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (*see* **98i:68008**) 68T15 (03B70, 68Q60)

— (*with* Laulhère, Henri) Finite-state transducers as regular Böhm trees. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 604–610, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q68

— Functional pearl: the Zipper. *J. Funct. Programming* **7** (1997), *no.* 5, 549–554. (From the introduction) **98k:68041** 68P05 (68N15)

Huet, Patrick (*with* Narayanan, Rajamani; Neuberger, Herbert) Overlap formulation of Majorana-Weyl fermions. (English summary) *Phys. Lett. B* **380** (1996), *no.* 3-4, 291–295. (Summary) **98f:81200** 81T13 (58G10, 58G40)

— (*with* Brodsky, Stanley J.) Aspects of SU(N_c) gauge theories in the limit of small number of colors. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 145–153. (Summary) **98j:81208** 81T13 (81V05)

Huet, Sylvie (*with* Caouder, Nathalie) Testing goodness-of-fit for nonlinear regression models with heterogeneous variances. (English summary) *Comput. Statist. Data Anal.* **23** (1997), *no.* 4, 491–507. (Gutti J. Babu) **98c:62120** 62J02 (62G10)

Hueter, Irene (*with* Peres, Yuval) Self-affine carpets on the square lattice. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 2, 197–204. (Manuel Morán) **98h:28004** 28A78 (28A80)

Häffel, H. Stochastic quantization of gauge models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 209–211. (*see* **98f:83002**) 81S30 (81T13)

van Huffel, Sabine *see* **Van Huffel, Sabine**

Huffer, Fred W. (*with* Doss, Hani; Lawson, Kevin L.) Bayesian nonparametric estimation via Gibbs sampling for coherent systems with redundancy. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1109–1139. (Truc Nguyen) **98g:62060** 62G05 (62N05)

— (*with* Lin, Chien-Tai) Computing the exact distribution of the extremes of sums of consecutive spacings. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 2, 117–132. 62E15 (62G30)

— (*with* Lin, Chien-Tai) Approximating the distribution of the scan statistic using moments of the number of clumps. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1466–1475. 62E20 (60F05, 62G99)

Huffman, W. Cary Characterization of quaternary extremal codes of lengths 18 and 20. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1613–1616. 94B05

Höffmann, Andreas (*with* Delius, Gustav W.; Gould, Mark D.; Zhang, Yao-Zhong) Quantum Lie algebras associated to $U_q(\mathrm{gl}_n)$ and $U_q(\mathrm{sl}_n)$. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5611–5617. (Mariano A. del Olmo) **98b:81095** 81R50 (17B37)

Hug, Daniel Contributions to affine surface area. (English summary) *Manuscripta Math.* **91** (1996), *no.* 3, 283–301. (Carla Peri) **98d:52009** 52A38 (52A20)

angeleri Hügel, Lidia *see* **Angeleri Hügel, Lidia**

Hugger, Jens The equilibrium method for local, a posteriori, pointwise estimation of the finite element error. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 263–283. (Summary) **98d:73062** 73V05

Huggins, Eric (*with* Benjamin, Arthur T.) Optimal blackjack strategy with "lucky bucks". *UMAP J.* **14** (1993), *no.* 4, 309–318. (Introduction) **98b:90197** 90D60

Huggins, James K. (*with* Gurevich, Yuri) The railroad crossing problem: an experiment with instantaneous actions and immediate reactions. (English summary) *Computer science logic (Paderborn, 1995)*, 266–290, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:68134** 68Q60 (68Q05, 68Q10)

— (*with* Gurevich, Yuri) Equivalence is in the eye of the beholder. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 353–380. (Ryszard Janicki) **98e:68169** 68Q60 (68Q05, 68Q10)

Huggins, Richard (*with* Kim, Soon-kwi) Diagnostics for autocorrelated regression models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 65–71. 62J20

Hughes, Barnabas The earliest correct algebraic solutions of cubic equations. *Vita mathematica (Toronto, ON, 1992; Quebec City, PQ, 1992)*, 107–112, *MAA Notes*, 40, *Math. Assoc. America, Washington, DC*, 1996. (C. J. Scriba) **98c:01006** 01A35 (01A40)

Hughes, Barry D. ★ Random walks and random environments. Vol. 2. Random environments. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xxiv+526 *pp. ISBN* 0-19-853789-1 (Cheng Xun Wu) **98d:60139** 60J15 (60K35, 82B41, 82B43, 82C41)

Hughes, Brian L. The smallest list for the arbitrarily varying channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 803–815. (Summary) **98a:94008** 94A24 (94A40)

Hughes, C. Bruce (*with* Ranicki, Andrew) ★ Ends of complexes. (English summary) Cambridge Tracts in Mathematics, 123. *Cambridge University Press, Cambridge*, 1996. xxvi+353 *pp. ISBN* 0-521-57625-3 (Ross Geoghegan) **98f:57039** 57Q10 (19L64, 55N07, 57N15)

— Controlled topological equivalence of maps in the theory of stratified spaces and approximate fibrations. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 2, 31–50. (Masayuki Yamasaki) **98c:57019** 57N80 (55R65, 57N15, 57N40, 57R45)

Hughes, David W. (*with* Kim, Eun-jin) Flow helicity in a simplified statistical model of a fast dynamo. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 211–218. (Summary) **98i:86012** 86A25

Hughes, F. M. (*with* Saidy, M.) Predictive excitation control of a turbo-alternator. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 949–963. 93C95

Hughes, I. P. (*with* Campbell, H. E. A.; Shank, R. J.; Wehlau, David L.) Bases for rings of coinvariants. (English summary) *Transform. Groups* **1** (1996), *no.* 4, 307–336. (Andrzej Tyc) **98a:13011** 13A50

— (*with* Campbell, H. E. A.; Geramita, Anthony V.; Smith, G. G.; Wehlau, David L.) Hilbert functions of graded algebras. (English summary) *The Curves Seminar at Queen's, Vol. XI (Kingston, ON, 1997)*, 60–74, *Queen's Papers in Pure and Appl. Math.*, 105, *Queen's Univ., Kingston, ON*, 1997. (Koji Nishida) **98d:13002** 13A02 (13D40)

— (*with* Campbell, H. E. A.) Vector invariants of $U_2(\mathbf{F}_p)$: a proof of a conjecture of Richman. (English summary) *Adv. Math.* **126** (1997), *no.* 1, 1–20. (Andrzej Tyc) **98c:13007** 13A50

Hughes, James P. Computing the observed information in the hidden Markov model using the EM algorithm. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 107–114. (Tobias Rydén) **98e:62123** 62M09

Hughes, John B. (*with* Youness, E.; El-Kholy, N. A.) Parametric Nash coalitive differential games. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 97–105. (Ivan Ginchev) **98i:90141** 90D25 (90D12)

— (*with* Saad, Omar M.) Bicriterion integer linear fractional programs with parameters in the objective functions. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 97–108. 90C29 (90C32)

Hughes, M. H. (*with* Zabusky, Norman J.; Roberts, K. V.) Contour dynamics for the Euler equations in two dimensions [MR 80g:76016]. (English summary) With an introduction

by David G. Dritschel. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 217–226. (*see* **98h:70003**) 76M25

Hughes, Peter C. (*with* Boulet, Benoit; Francis, Bruce A.; Hong, Tony) Daisy: a large flexible space structure testbed for advanced control experiments. *Trends in control* (*Rome*, 1995), 115–139, *Springer, Berlin*, 1995. (From the introduction) **98c:93074** 93C85 (73K50)

Hughes, Rhonda J. Relativistic point interactions: approximation by smooth potentials. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 425–432. (Mihai Pascu) **98i:81041** 81Q05 (34L40, 47E05)

Hughes, Thomas J. R. (*with* Brezzi, Franco; Franca, Leopoldo P.; Russo, Alessandro) $b = \int g$. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 329–339. (I. N. Molchanov) **98g:65086** 65M50 (65M60, 73V05)

— (*with* Stewart, James R.) *h*-adaptive finite element computation of time-harmonic exterior acoustics problems in two dimensions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 65–89. (Summary) **98d:76108** 76M10 (73V05, 76Q05)

— (*with* Masud, Arif) A space-time Galerkin/least-squares finite element formulation of the Navier-Stokes equations for moving domain problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 91–126. (Summary) **98d:76105** 76M10

— (*with* Stewart, James R.) An a posteriori error estimator and *hp*-adaptive strategy for finite element discretizations of the Helmholtz equation in exterior domains. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 1–26. (Summary) **98b:65111** 65M55 (76M10, 76Q05)

— (*with* Eldredge, Michael; Ferencz, Robert M.; Rifai, Steven M.; Raefsky, Arthur; Herndon, Bruce) High-performance parallel computing in industry. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1217–1233. (*see* **98f:76004**) 65Y05 (65–02)

— (*with* Hauke, Guillermo) A comparative study of different sets of variables for solving compressible and incompressible flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 1–44. (Summary) **98i:76052** 76M10

— *see also* **Parallel computing methods in applied fluid mechanics, 98f:76004**

Hughston, Lane P. (*with* Flesaker, Bjorn) Dynamic models for yield curve evolution. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 294–314, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

— (*with* Brody, Dorje C.) Generalised Heisenberg relations for quantum statistical estimation. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 257–262. (Summary) **98j:81048** 81P99 (82B10)

Huguet, Sébastien (*with* Petit, Antoine) Modular constructions of distributing automata. *Mathematical foundations of computer science* 1995 (*Prague*), 467–478, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q45 (68Q10)

Huh, Moon Yul (*with* Li, Seung-Chun) Exact tests for variance ratios in unbalanced random effect linear models. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 457–469. (Summary) **98e:62106** 62J10

Huh, Myung-Hoe (*with* Olkin, Ingram) Asymptotic aspects of ordinary ridge regression. (English summary) MSI-2000, Vol. I (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **15** (1995), *no.* 3-4, 239–254. (Summary) **98f:62209** 62J07

— (*with* Park, Mira) Quantification plots for several sets of variables. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 589–601. (Summary) **98g:62117** 62H20

Huhn, Michaela (*with* Niebert, Peter) Towards automata for branching time and partial order. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 611–626, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q68)

— Action refinement and property inheritance in systems of sequential agents. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 639–654, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60

Huhtanen, Marko ★ Numerical linear algebra techniques for spectral approximation and applications. (English summary) Dissertation, Helsinki University of Technology, Espoo, 1997. Helsinki University of Technology. Institute of Mathematics. Research Reports, A380. *Helsinki University of Technology, Institute of Mathematics, Espoo*, 1997. iv+10 *pp. ISBN* 951-22-3546-3 (Summary) **98g:47008** 47A50 (47A75, 65F15)

Hui, Chi-Chung (*with* Chanson, Samuel T.) Minimal communication cost software construction in the Internet environment. (English summary) *Acta Inform.* **34** (1997), *no.* 8, 579–595. (Summary) **98c:68028** 68M10 (68R10)

Hui, K. C. (*with* Albrecht, Andreas; Cheung, S. K.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. I. Analytical results for the unbounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 890–904. 90C27 (90C15)

— (*with* Albrecht, Andreas; Cheung, S. K.; Leung, K. S.; Wong, Chak Kuen) Optimal placements of flexible objects. II. A simulated annealing approach for the bounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 905–929. 90C27 (90C15)

Hui, Kin Ming Singular limit of solutions of some degenerate parabolic equations. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 161–162, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35K65 (35K55)

Hui, Pak-ming (*with* Wang, Bing Hong[1]; Gu, Guo-qing) Dynamical evolution of highway traffic flow: from microscopic to macroscopic. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 3, 202–205. (Summary) **98c:90039** 90B20

Huibin, Lan *see* **Lan, Hui Bin**

Hui-Bon-Hoa, Alain Clause-based proofs for hereditary Harrop formulas. (English summary) *Logic programming* (*Portland, OR*, 1995), 179–193, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1995. (Summary) **98a:03042** 03B70 (03B35, 68N17)

garcia-Huidobro, Marta *see* **Garcia-Huidobro, Marta**

Huijberts, H. J. C. (*with* Moog, C. H.; Andiarti, R.) Generalized controlled invariance for nonlinear systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 953–979. (Henk Nijmeijer) **98c:93059** 93C10 (93B27, 93C35)

Huillet, Thierry (*with* Jeannet, Bernard) A combinatorial approach to branched polymers' statistics. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 83–101. (Summary) **98k:82205** 82D60 (82B26)

— Statistical physics models of aggregation phenomena. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1849–1862. (Summary) **98d:82037** 82C31

zimmermann-Huisgen, Birge *see* **Zimmermann-Huisgen, Birge**

Huisgen-Zimmermann, B. *see* **Zimmermann-Huisgen, Birge**

Huisgen-Zimmermann, Birge *see* **Zimmermann-Huisgen, Birge**

Huisken, Barbara Parabolic Monge-Ampère equations on Riemannian manifolds. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 140–163. (John Urbas) **98d:35096** 35K55 (53C21, 58G11)

Huisken, Gerhard (*with* Dierkes, Ulrich) The N-dimensional analogue of the catenary: prescribed area. (English summary) *Geometric analysis and the calculus of variations*, 1–12, *Internat. Press, Cambridge, MA*, 1996. (Ulrich Dierkes) **98e:58051** 58E12 (35J60, 49Q05, 53A10)

— (*with* Ilmanen, T.) The Riemannian Penrose inequality. *Internat. Math. Res. Notices* **1997**, *no.* 20, 1045–1058. (Knut Smoczyk) **98m:53055** 53C21 (53C80, 83C40)

Huiskes, M. J. (*with* van der Burgh, A. H. P.) A double pendulum in a wind field: the non-resonant case. (English summary) *Differential equations* (*Bandung*, 1996), 281–299, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 70K40 (73K70)

elkenbracht-Huizing, R.-Marije *see* **Elkenbracht-Huizing, R.-Marije**

Hulanicki, Andrzej (*with* Damek, Ewa; Zienkiewicz, Jacek) Estimates for the Poisson kernels and their derivatives on rank one *NA* groups. (English summary) *Studia Math.* **126** (1997), *no.* 2, 115–148. (Detlef Horst Müller) **98h:22007** 22E25 (31B25, 43A85)

Hulbert, G. M. (*with* Du, Shuqin; Zagrodzki, P.; Barber, J. R.) Finite element analysis of frictionally excited thermoelastic instability. (English summary) *J. Thermal Stresses* **20** (1997), *no.* 2, 185–201. (Summary) **98a:73010** 73B30 (73T05, 73V05)

Hule, H. (*with* Schicho, J.) On two conjectures about systems of algebraic equations. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 201–204 (1997). (Pavol Zlatoš) **98f:08002** 08B05

Hulek, Klaus *see* **Weyl, Hermann, 98j:01047**

Hulett, Eduardo G. (*with* Sánchez, Cristián U.; Dal Lago, Walter; García, Alicia) On some properties which characterize symmetric and general R-spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 291–302. (Anna M. Fino) **98j:53061** 53C35 (53C30)

— (*with* Sánchez, Cristián U.) An algebraic characterization of $\mathscr{R}$-spaces. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 349–365. (Philippos J. Xenos) **98h:53086** 53C35

Hull, Christopher M. (*with* Cvetič, Mirjam) Black holes and U-duality. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 296–316. (Paulo Moniz) **98c:83058** 83C57 (83E30)

— Duality and gauge symmetry in non-perturbative string theory. S-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 96–107. (Angel Maria Uranga) **98b:81196** 81T30 (81–02, 83E30)

— (*with* Abou Zeid, M.) Geometry, isometries and gauging of (2, 1) heterotic sigma-models. (English summary) *Phys. Lett. B* **398** (1997), *no.* 3-4, 291–297. (Summary) **98c:81210** 81T60 (81T40)

— (*with* Abou Zeid, M.) Intrinsic geometry of D-branes. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 264–270. (Summary) **98f:81229** 81T30

— Actions for (2, 1) sigma models and strings. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 252–272. (Summary) **98m:81144** 81T30 (53C25, 81R10)

Hüllermeier, Eyke An approach to modelling and simulation of uncertain dynamical systems. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 2, 117–137. (Summary) **98a:93004** 93A30 (04A72, 34A99, 58F99, 68T99)

Hulshof, Josephus (*with* Galaktionov, V. A.; Vazquez, Juan L.) Extinction and focusing behaviour of spherical and annular flames described by a free boundary problem. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 7, 563–608. (Lisa Santos) **98h:35238** 35R35 (35B40, 35K05, 80A25)

— (*with* Akveld, M. E.) Travelling wave solutions of a fourth-order semilinear diffusion equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 115–120. 35K55 (35B99)

— (*with* Mitidieri, Enzo; Van der Vorst, Robert C. A. M.) Strongly indefinite systems with critical Sobolev exponents. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2349–2365. (Yi Hong Du) **98j:35063** 35J65 (35B05, 35J55)

Hulsurkar, Suwarna (*with* Youssef, Samy A.) A new relation on a Weyl group. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 151–153. (Summary) **98c:20081** 20F55

— (*with* Sinha, Surendra B.; Biswal, M. P.) Fuzzy programming approach to the multi-objective probabilistic linear programming problems when only b_i's are probabilistic. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 63–73. 90C70 (90C29)

al-Humadi, Ala *see* **Al-Humadi, Ala**

Humberstone, I. L. Some structural and logical aspects of the notion of supervenience. (English summary) *Logique et Anal.* (*N.S.*) **35** (1992), *no.* 137-138, 101–137. (George F. Schumm) **98m:03041** 03B45 (03A05)

— A basic system of congruential-to-monotone bimodal logic and two of its extensions. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 602–612. (Silvio Ghilardi) **98e:03023** 03B45

— Singulary extensional connectives: a closer look. (English summary) *J. Philos. Logic* **26** (1997), *no.* 3, 341–356. (Décio Krause) **98i:03018** 03B22 (03B30, 03G10)

— (*with* Williamson, Timothy) Inverses for normal modal operators. (English summary) *Studia Logica* **59** (1997), *no.* 1, 33–64. (Marcus Kracht) **98k:03044** 03B45

von Humboldt, Alexander *see* **Nature, mathematics and history**

Hume, David *see* **Byrne, Alex** *and* **Holder, Rodney D.**

Humenn, Polar (*with* Blair, Howard A.; Chidella, Jagan; Dushin, Fred; Ferry, Audrey) A continuum of discrete systems. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 153–186. (Summary) **98k:68034** 68N17 (68Q80)

Humes, Carlos, Jr. Linear programming derived functional bounds for closed queueing networks: a primal approach. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 139–162, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Y. C. Ho) **98e:90066** 90B22 (60K25)

— (*with* Ou, Jihong; Kumar, Panganamala Ramana) The delay of open Markovian queueing networks: uniform functional bounds, heavy traffic pole multiplicities, and stability. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 921–954. (Summary) **98h:60134** 60K25 (90B22)

d'Humières, D. (*with* Ginzbourg, I.) Local second-order boundary methods for lattice Boltzmann models. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 927–971. (Giuseppe Toscani) **98f:82108** 82C40

Humke, Paul D. (*with* Laczkovich, Miklós) A visit to the Erdős problem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 819–822. (Harry I. Miller) **98e:28003** 28A05 (04A20)

Hummel, Christoph ★ Gromov's compactness theorem for pseudo-holomorphic curves. (English summary) Progress in Mathematics, 151. *Birkhäuser Verlag, Basel*, 1997. viii+131 *pp. ISBN* 3-7643-5735-5 (Bernd Siebert) **98k:58032** 58D15 (58D27, 58F05)

— Rank one lattices whose parabolic isometries have no rotational part. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2453–2458. (Raul Quiroga) **98j:22014** 22E40 (53C35)

Hummel, Robert (*with* Manevitz, Larry M.) Combination calculi for uncertainty reasoning: representing uncertainty using distributions. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 69–109. (Jozef Šajda) **98i:68260** 68T30

Humphreys, J. E. Comparing modular representations of semisimple groups and their Lie algebras. *Modular interfaces (Riverside, CA*, 1995), 69–80, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Mark R. Sepanski) **98h:17006** 17B10 (17B50, 20G05)

— Modular representations of simple Lie algebras. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 2, 105–122. (Georgia M. Benkart) **98k:17007** 17B10 (17B20, 17B50)

— Erratum to: "Modular representations of simple Lie algebras" [Bull. Amer. Math. Soc. (N.S.) **35** (1998), no. 2, 105–122; MR 98k:17007]. *Bull. Amer. Math. Soc. (N.S.)* **35** (1998), *no.* 3, 231. 17B10 (17B20, 17B50)

Humphreys, John F. ★ A course in group theory. (English summary) Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xii+279 *pp. ISBN* 0-19-853453-1; 0-19-853459-0 (Ronald Solomon) **98a:20001** 20-01

Humphreys, L. D. Numerical mountain pass solutions of a suspension bridge equation. *Nonlinear Anal.* **28** (1997), *no.* 11, 1811–1826. (From the introduction) **98g:65099** 65M99 (35Q72)

Humphreys, Paul Computational empiricism. (English summary) *Topics in the foundation of statistics*, 119–130, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:00009**) 00A79

Humphries, A. R. (*with* Budd, C. J.) Adaptive methods for semi-linear elliptic equations with critical exponents and interior singularities. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 227–240. (*see* **98i:65004**) 65N50

Humphries, Stephen P. Cogrowth of groups and a matrix of Redheffer. (English summary) *Linear Algebra Appl.* **265** (1997), 101–117. (Christophe Champetier) **98m:20033** 20F05

— A new characterisation of braid groups and rings of invariants for symmetric automorphism groups. *Math. Z.* **224** (1997), *no.* 2, 255–287. (J. S. Birman) **98g:20057** 20F29 (20F36)

Hund, Friedrich *see* **Laitko, Hubert**, **98g:01052** *and* **Beuermann, Klaus**

Hundack, Christoph (*with* Prömel, Hans Jürgen; Steger, Angelika) Extremal graph problems for graphs with a color-critical vertex [MR 95d:05070]. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993), 421–433, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C35 (05C15, 05C80)

Hundal, Hein (*with* Deutsch, Frank) Two generalizations of Dykstra's cyclic projections algorithm. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 335–355. (J. Borwein) **98b:41033** 41A65 (65J05)

Hundhausen, Joan R. Zeroing in on the delta function. *College Math. J.* **29** (1998), *no.* 1, 27–32. 46F10

Hundsdorfer, Willem (*with* Frank, Jason; Verwer, J. G.) On the stability of implicit-explicit linear multistep methods. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 193–205. (H. Brunner) **98m:65126** 65L20 (65L06)

— A note on stability of the Douglas splitting method. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 183–190. (Sándor Frivaldszky) **98c:65108** 65L05 (65M06, 65M12)

— Trapezoidal and midpoint splittings for initial-boundary value problems. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1047–1062. (Petr N. Vabishchevich) **98k:65053** 65M20

Huneke, Craig (*with* Aberbach, Ian M.; Smith, Karen E.) A tight closure approach to arithmetic Macaulayfication. *Illinois J. Math.* **40** (1996), *no.* 2, 310–329. (Melvin Hochster) **98c:13005** 13A35 (13A30, 13H10)

— Tight closure and strong test ideals. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 243–250. (Karen E. Smith) **98g:13003** 13A35

— (*with* Smith, Karen E.) Tight closure and the Kodaira vanishing theorem. *J. Reine Angew. Math.* **484** (1997), 127–152. (Lê Tuân Hoa) **98e:13007** 13A35 (13D45, 14F17)

— (*with* Trivedi, Vijaylaxmi) The height of ideals and regular sequences. (English summary) *Manuscripta Math.* **93** (1997), *no.* 2, 137–142. (José F. Andrade) **98i:13018** 13C15 (13H15)

— (*with* Heinzer, William) The Dedekind-Mertens lemma and the contents of polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1305–1309. (Karen E. Smith) **98j:13003** 13A15 (13B25)

nguyễn mạnh Hùng *see* **Nguyễn Mạnh Hùng**

Hung, Chun-Nan (*with* Wang, Jeng-Jung; Hsu, Lih-Hsing) Optimal 1-Hamiltonian graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 157–161. (Summary) **98m:68218** 68R10 (05C45)

Hung, Dang Van *see* **Dang Van Hung**

Hung, H. M. James (*with* O'Neill, Robert T.; Bauer, Peter H.; Köhne, Karl) The behavior of the *P*-value when the alternative hypothesis is true. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 11–22. (Summary) **98a:62024** 62F03

Hung, Henry H. *B*-spaces. (English summary) *Papers on general topology and applications (Slippery Rock, PA*, 1993), 85–91, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54060** 54E18

— Factorization of metrizability. (English summary) *Papers on general topology and applications (Amsterdam*, 1994), 133–137, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Józef Chaber) **98j:54048** 54E30 (54E18, 54E20, 54E25, 54E35)

— A note on a recent metrization theorem. (English summary) *Topology Proc.* **21** (1996), 125–128. (Summary) **98j:54049** 54E35

— Cushioning and topological symmetry in the theory of metrization. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN*, 1996), 85–88, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:54050** 54E35

— Metrization and stratification of squares of topological spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 205–210. (Summary) **98k:54032** 54D10 (54D15, 54D20, 54E15, 54E20, 54E35)

— Quasi-metrizability. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 39–43. (A. H. Stone) **98k:54051** 54E35 (54D70, 54E15, 54E55, 54F65)

Hung, Le Nhu (*with* Nguyen Hong Chuong; Minkevich, A. V.; Hoang, Nguyen Van) Cosmological constant and viscosity in homogeneous isotropic models with torsion. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON*, 1993), 186–189, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83103** 83D05

Hung, Ming-Jui (*with* Lei, Hin-Chi) Linearity of waves in some systems of non-linear elastodynamics. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 2, 353–360. (Ion Nistor) **98b:73016** 73D35 (73C50)

Hung, Wen-Liang (*with* Fan, Tsai-Hung) Balanced resampling for bootstrapping finite state Markov chains. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1465–1475. 62G09

Hung, Y. S. (*with* Lam, James) On the stability of projections of balanced realizations. (English summary) *Linear Algebra Appl.* **257** (1997), 163–182. (Boris G. Zaslavskiĭ) **98c:93024** 93B15 (93B10)

— (*with* Chu, D. L.) Relationships between discrete-time and continuous-time algebraic Riccati inequalities. (English summary) *Linear Algebra Appl.* **270** (1998), 287–313. (M. M. Konstantinov) **98m:93035** 93B36 (15A45, 65F30)

Hungerbühler, Norbert Global weak solutions of the *p*-harmonic flow into homogeneous spaces. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 1, 275–288. (Joseph F. Grotowski) **98g:58036a** 58E20 (35K55)

— (*with* Halbeisen, Lorenz) Optimal bounds for the length of rational Collatz cycles. *Acta Arith.* **78** (1997), *no.* 3, 227–239. (J. C. Lagarias) **98g:11025** 11B83 (58F08)

— (*with* Dolzmann, Georg; Müller, Stefan) The *p*-harmonic system with measure-valued right hand side. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 353–364. (Summary) **98c:35055** 35J65 (35R05)

— Non-uniqueness for the *p*-harmonic flow. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 174–182. (Zhi Ren Jin) **98c:58038** 58E20 (35J60)

— A refinement of Ball's theorem on Young measures. (English summary) *New York J. Math.* **3** (1997), 48–53 (*electronic*). 28A33 (28A20, 46E27)

— Compactness properties of the *p*-harmonic flow into homogeneous spaces. *Nonlinear Anal.* **28** (1997), *no.* 5, 793–798. (Joseph F. Grotowski) **98g:58036b** 58E20 (35K55)

— (*with* Halbeisen, Lorenz) Packings in complete graphs. (English summary) *Ars Combin.* **48** (1998), 97–110. (Summary) **98m:05147** 05C70

— *see also* **Simon, Leon M.**, **98c:58042**

dang Hung Thang *see* **Dang Hung Thang**

tran Hung Thao *see* **Tran Hung Thao**

Hunjak, Tihomir Mathematical foundations of the methods for multicriterial decision making. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 161–169. 90C29 (90A05)

Hünlich, Rolf (*with* Glitzky, Annegret) Electro-reaction-diffusion systems for heterostructures. (English summary) *Free boundary problems, theory and applications (Zakopane*, 1995), 305–313, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 78A35 (35K57, 35R35)

— (*with* Glitzky, Annegret) Global estimates and asymptotics for electro-reaction-diffusion systems in heterostructures. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 205–226. 35K57 (35B40, 35Q80, 78A35)

— (*with* Glitzky, Annegret; Gröger, Konrad) Discrete-time methods for equations modelling transport of foreign-atoms in semiconductors. *Nonlinear Anal.* **28** (1997), *no.* 3, 463–487. (Elias Tuma) **98b:35090** 35K57 (35Q99, 82C70, 82D99)

— (*with* Glitzky, Annegret) Energetic estimates and asymptotics for electro-reaction-diffusion systems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 823–832. (Ioannis G. Stratis) **98k:35099** 35K57 (35B40, 65M12, 78A35)

Hunsaker, Worthen N. (*with* Fletcher, Peter; Frith, J.; Schauerte, A.) The Nachbin quasi-uniformity of a bi-Stonian space. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 3, 322–326. (Summary) **98g:54056** 54E15 (03G10, 06D20, 54E05, 54F05)

— *see also* **Papers on general topology and applications**, **98f:54004**

Hunt, B. *see* **Hunt, Bruce**

Hunt, Brian R. Estimating invariant measures and Lyapunov exponents. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 4, 735–749. (Makoto Mori) **98a:58103** 58F11

— (*with* Ott, Edward) Controlling chaos using embedded unstable periodic orbits: the problem of optimal periodic orbits. *Nonlinear dynamics, chaotic and complex systems (Zakopane*, 1995), 16–23, *Cambridge Univ. Press, Cambridge*, 1997. (Konstantin Athanassopoulos) **98h:58115** 58F13 (58F22)

— (*with* Ott, Edward) Structure in the parameter dependence of order and chaos for the quadratic map. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7067–7076. (Summary) **98i:58158** 58F13

— (*with* Kaloshin, Vadim Yu.) How projections affect the dimension spectrum of fractal measures. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1031–1046. (Summary) **98k:28010** 28A80 (31A15, 58F11, 94A17)

— (*with* Ott, Edward; Yorke, James A.) Differentiable generalized synchronization of chaos. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4029–4034. (Mikhail Zaks) **98h:58116** 58F13 (58F40)

— (*with* Jacobs, Joeri; Ott, Edward) Scaling of the durations of chaotic transients in windows of attracting periodicity. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6508–6515. 58F13

— The Hausdorff dimension of graphs of Weierstrass functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 791–800. (Lars Olsen) **98i:28009** 28A78 (42A32)

Hunt, Bruce ★ The geometry of some special arithmetic quotients. Lecture Notes in Mathematics, 1637. *Springer-Verlag, Berlin*, 1996. xiv+332 *pp. ISBN* 3-540-61795-7 (I. Dolgachev) **98c:14033** 14J30 (11F55, 14G35, 14J26, 14K25, 32M15)

— (*with* Lynker, Monika; Schimmrigk, Rolf) Heterotic/type II duality in $D = 4$ and string-string duality. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 339–343. (Summary) **98j:81278** 81T30 (14J32, 32J81)

Hunt, F. Y. Erratum: "A Monte Carlo approach to the approximation of invariant measures" [Random Comput. Dynam. **2** (1994), no. 1, 111–133; MR 95a:58074]. *Random Comput. Dynam.* **5** (1997), *no.* 4, 361–362. (Paweł Góra) **98j:58069** 58F11 (65C05)

Hunt, G. R. (*with* Ingham, D. B.) Laminar and turbulent radial jets. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 25–38. (Summary) **98i:76026** 76D25 (76F99)

Hunt, G. W. (*with* Lord, Gabriel James; Champneys, Alan R.) Computation of localized post buckling in long axially compressed cylindrical shells. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2137–2150. (Summary) **98g:73020** 73H05 (34C37, 73K15)

— (*with* Blackmore, A.) Homoclinic and heteroclinic solutions of upheaval buckling. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2185–2195. (Summary) **98g:73019** 73H05 (34C37)

— (*with* Mühlhaus, H.-B.; Whiting, A. I. M.) Folding processes and solitary waves in structural geology. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2197–2213. (Summary) **98g:73030** 73N20 (86A60)

— (*with* Wadee, M. K.; Whiting, A. I. M.) Asymptotic and Rayleigh-Ritz routes to localized buckling solutions in an elastic instability problem. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2085–2107. (Summary) **98i:73026** 73H05 (73–04, 73K05)

Hunt, Harry B., III (*with* Marathe, Madhav V.; Ravi, R.; Sundaram, Ravi; Ravi, S. S.; Rosenkrantz, Daniel J.) Bicriteria network design problems. (English summary) *Automata, languages and programming (Szeged, 1995)*, 487–498, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 90C35 (90C29)

— (*with* Marathe, Madhav V.; Radhakrishnan, Venkatesh; Ravi, S. S.; Rosenkrantz, Daniel J.; Stearns, Richard E.) NC-approximation schemes for NP- and PSPACE-hard problems for geometric graphs. (English summary) *J. Algorithms* **26** (1998), *no.* 2, 238–274. (Summary) **98m:68119** 68Q25 (05C85, 68Q15, 68Q22)

Hunt, J. C. R. (*with* Jerram, N.; Belcher, S. E.) Turbulent flow through a distributed force—a model for the wind within and above an urban canopy. (English summary) *Flow and dispersion through groups of obstacles (Cambridge, 1994)*, 157–173, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 86A10

— (*with* Eames, I.) Forces on bodies moving in a weak density gradient without buoyancy effects. *IUTAM Symposium on Variable Density Low-speed Turbulent Flows (Marseille, 1996)*, 135–142, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76T05 (76D99)

— (*with* Kevlahan, N. K.-R.) Nonlinear interactions in turbulence with strong irrotational straining. (English summary) *J. Fluid Mech.* **337** (1997), 333–364. (Summary) **98c:76051** 76F99

— (*with* Eames, I.) Inviscid flow around bodies moving in weak density gradients without buoyancy effects. (English summary) *J. Fluid Mech.* **353** (1997), 331–355. (From the summary) **98j:76020** 76C99 (76V05)

— Lewis Fry Richardson and his contributions to mathematics, meteorology, and models of conflict. (English summary) *Annual review of fluid mechanics, Vol. 30, xiii–xxxvi, Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:01029** 01A70

— (*with* Belcher, S. E.) Turbulent flow over hills and waves. (English summary) *Annual review of fluid mechanics, Vol. 30, 507–538, Annu. Rev. Fluid Mech., 30, Annual Reviews, Palo Alto, CA*, 1998. (Summary) **98m:86009** 86A10 (76C99)

Hunt, L. R. (*with* Meyer, George) Stable inversion for nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1549–1554. 93B30 (93C10)

— (*with* Meyer, George; Su, Renjeng) Driven dynamics of time-varying linear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1313–1317. 93B51 (93C15)

Hunt, P. J. (*with* Gandhi, S. K.) Numerical option pricing using conditioned diffusions. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 457–472, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (60J60)

— (*with* Laws, C. N.) Optimization via trunk reservation in single resource loss systems under heavy traffic. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1058–1079. (Summary) **98g:60175** 60K30 (60K20, 90B15)

Huntebrinker, Wolfgang Numerical computation of eigenvalues of the Laplace-Beltrami operator on three-dimensional hyperbolic spaces by finite-element methods. (English summary) *Diss. Summ. Math.* **1** (1996), *no.* 1-2, 29–36. (Christopher M. Judge) **98f:11052b** 11F72 (11Y35, 35P99, 58G25, 65N25, 65N30)

— (*with* Grunewald, Fritz) A numerical study of eigenvalues of the hyperbolic Laplacian for polyhedra with one cusp. (English summary) *Experiment. Math.* **5** (1996), *no.* 1, 57–80. (Christopher M. Judge) **98f:11052a** 11F72 (11Y35, 35P99, 58G25, 65N25)

Hunter, Anthony (*with* Besnard, Philippe) Quasi-classical logic: non-trivializable classical reasoning from inconsistent information. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg, 1995)*, 44–51, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 03B53 (68T27)

Hunter, Charles H. Nonuniqueness of self-consistent models. *Three-dimensional systems (Gainesville, FL, 1993)*, 76–92, *Ann. New York Acad. Sci.*, 751, *New York Acad. Sci., New York*, 1995. (*see* **98b:70018**) 85A05 (70F15)

Hunter, David Understanding, justification and the a priori. *Philos. Stud.* **87** (1997), *no.* 2, 119–141. 03B45

Hunter, John K. (*with* Ali, G.) Resonant reflection of sound waves by large amplitude entropy waves. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 17–26. (Maria Elena Schonbek) **98g:76066** 76Q05 (76N10)

— (*with* Vedantham, Ram) Sound wave propagation through incompressible flows. (English summary) *Wave Motion* **26** (1997), *no.* 4, 319–328. (Summary) **98j:76131** 76Q05

— (*with* Ali, G.) Wave interactions in magnetohydrodynamics. (English summary) *Wave Motion* **27** (1998), *no.* 3, 257–277. (Summary) **98m:76154** 76W05 (35Q35)

Hunter, Lawrence W. (*with* Maryak, John L.; Favin, Stanley) Automated system monitoring and diagnosis via singular value decomposition. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2059–2063. 93B30 (94C12)

Hunter, Simon (*with* Sorenson, Jonathan) Approximating the number of integers free of large prime factors. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1729–1741. (Adolf Hildebrand) **98c:11093** 11N25 (11Y35)

Hunter, William C. (*with* Elliott, Robert James; Jamieson, Barbara M.) Drift and volatility estimation in discrete time. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 209–218. (Summary) **98m:90017** 90A09

Hunting, M. (*with* Faigle, Ulrich; Kern, Walter; Prakash, Ravi; Supowit, K. J.) Simplices by point-sliding and the Yamnitsky-Levin algorithm. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 131–142. (F. Pickel) **98m:90082** 90C05

Huntley, Jonathan (*with* Jorgenson, Jay; Lundelius, Rolf) Continuity of small eigenfunctions on degenerating Riemann surfaces with hyperbolic cusps. *Bol. Soc. Mat. Mexicana* (3) **1** (1995), *no.* 2, 119–125. (Christopher M. Judge) **98e:58171** 58G25 (11F72)

Hunziker, M. Classical invariant theory for finite reflection groups. (English summary) *Transform. Groups* **2** (1997), *no.* 2, 147–163. (Michel Brion) **98e:13010** 13A50 (17B45, 20H15)

Huo, Peijun (*with* Wang, Zi Dong) Robust variance-constrained design for uncertain continuous stochastic systems via output feedback. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 145–148. 93B51 (93E03)

Huo, Yuan-ji (*with* Wan, Zhe-xian) Lattices generated by orbits of subspaces under finite classical groups. *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 163–172, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 20G40 (05B35)

nguyen Huong Lâm *see* **Nguyen Huong Lâm**

Huotari, Robert (*with* Li, Wu[1]) Continuities of metric projection and geometric consequences. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 319–339. (Ioan Şerb) **98j:46013** 46B20 (41A65)

Huovinen, Petri Singular integrals and rectifiability of measures in the plane. Dissertation, University of Jyväskylä, Jyväskylä, 1997. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 109 (1997), 63 *pp.* (Joan Verdera) **98g:30066** 30E20 (28A75, 42B20)

Hüper, K. (*with* Helmke, Uwe) The Jacobi method: a tool for computation and control. *Systems and control in the twenty-first century (St. Louis, MO, 1996)*, 205–228, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (P. Bertrand) **98a:93026** 93B40 (65F15, 90–02, 93B15)

Huppert, Bertram Conjugacy classes and character degrees in finite groups. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 159–160, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20C15

— Stochastic matrices. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 161–165, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 15A51

— *see also* **Wielandt, Helmut**, **98h:01040**

Huq, Mijan (*with* Matzner, Richard A.; Botero, Alonso; Choi, Dae Il; Kask, Üllar; Lara, Juan; Liebling, Steven; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05

Hur, Chang Kyu (*with* Kim, Hee Sik) On fuzzy relations of near-rings. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 245–252. 16Y30 (04A72)

Hur, Kul (*with* Moon, Joo Ran; Rhee, Choon Jai) Connectedness im Kleinen and components in $C(X)$. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 225–231. (Introduction) **98e:54009** 54B20 (54D05)

— (*with* Baik, Bong Sin; Rhee, Choon Jai) R^1-sets and contractibility. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 309–319. (Summary) **98b:54014** 54B20 (54F15)

Hur, Sun A note on varying the number of states in the arrival process of MR/GI/1 queue. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 12, 1113–1118. 60K25

Hurd, H. L. (*with* Russek, A.) Stepanov almost periodically correlated and almost periodically unitary processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 591–611; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 3, 449–467 (1997). (Randall James Swift) **98g:60073** 60G12

Hurelbaatar, G. Almost sure limit theorems for dependent random variables. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 167–175. (Lothar Heinrich) **98h:60038** 60F15 (60E07, 60F05, 60G50)

Hurfin, Michel (*with* Raynal, Michel) Detecting diamond necklaces in labeled dags (a problem from distributed debugging). (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 211–223, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68R10

Hurink, Johann (*with* Brucker, Peter; Jurisch, Bernd; Wöstmann, Birgit) A branch & bound algorithm for the open-shop problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 43–59. (Summary) **98e:90124** 90C27 (05C90, 90B35)

Hurkens, Antonius J. C. A simplification of Girard's paradox. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 266–278, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— Foundation of the cumulative hierarchy of sets. (English summary) SMC 50 jubilee (Amsterdam, 1996). *CWI Quarterly* **9** (1996), *no.* 1-2, 97–101. (Constantin Milici) **98a:03077** 03E30

Hurkens, C. A. J. (*with* Chen, Zhi Ping; de Jong, J. L.) A branch-and-price algorithm for solving the cutting strips problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 215–224. 90C27

Hurkens, Sjaak (*with* van Damme, Eric) Games with imperfectly observable commitment. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 282–308. (Summary) **98k:90147** 90D10 (90D35)

Hurlbert, Glenn H. (*with* Mitchell, Chris J.; Paterson, Kenneth G.) On the existence of de Bruijn tori with two by two windows. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 213–230. (Siu Lun Ma) **98g:05027** 05B15 (05B30, 94A55)

— (*with* Isaak, Garth) On higher-dimensional perfect factors. (English summary) *Ars Combin.* **45** (1997), 229–239. (Summary) **98a:05031** 05B15

— (*with* Clarke, T. A.; Hochberg, R. A.) Pebbling in diameter two graphs and products of paths. (English summary) *J. Graph Theory* **25** (1997), *no.* 2, 119–128. (Aparna Higgins) **98j:05124** 05C99 (05C40, 90D42)

Hurley, D. G. The generation of internal waves by vibrating elliptic cylinders. I. Inviscid solution. (English summary) *J. Fluid Mech.* **351** (1997), 105–118. (From the summary) **98k:76023a** 76C10

— (*with* Keady, G.) The generation of internal waves by vibrating elliptic cylinders. II. Approximate viscous solution. (English summary) *J. Fluid Mech.* **351** (1997), 119–138. (From the summary) **98k:76023b** 76C10

Hurley, Mike Properties of attractors of generic homeomorphisms. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1297–1310. (Romeo F. Thomas) **98a:58112** 58F12

— (*with* Hirsch, Morris W.) Connected components of attractors and other stable sets. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 308–323. (Ian Melbourne) **98f:58131** 58F12 (54H20)

— Lyapunov functions and attractors in arbitrary metric spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 245–256. (Romeo F. Thomas) **98i:58147** 58F12 (54H20)

Hurley, T. C. (*with* Sehgal, Sudarshan K.) The modular Fox subgroups. *Comm. Algebra* **24** (1996), *no.* 14, 4563–4580. (N. D. Gupta) **98c:16032** 16S34 (20E05, 20F14)

Hürlimann, Werner Fonctions extrémales et gain financier. (German summary) [Extremal functions and financial gain] *Elem. Math.* **52** (1997), *no.* 4, 152–168. 90A09 (62P05)

— An elementary unified approach to some loss variance bounds. (English, French and German summaries) *Schweiz. Aktuarver. Mitt.* **1997**, *no.* 1, 73–88. (Summary) **98g:62192** 62P05

Hurrelbrink, Jürgen (*with* Rehmann, Ulf) Splitting patterns and linear combinations of two Pfister forms. *J. Reine Angew. Math.* **495** (1998), 163–174. (Detlev W. Hoffmann) **98k:11033** 11E04 (11E76, 11E81)

Hurricane, O. A. Rotating toroidal equilibria of quasi-neutral and non-neutral plasmas. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2197–2202. 76X05

Hurri-Syrjänen, Ritva (*with* Staples, Susan G.) Quasiconformal maps and Poincaré domains. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1395–1423. (David A. Herron) **98h:30036** 30C65 (26D10, 46E35)

— (*with* Staples, Susan G.) A quasiconformal analogue of Brennan's conjecture. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 1, 27–32. (Summary) **98k:30025** 30C62

— A weighted Poincaré inequality with a doubling weight. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 545–552. (Kairat T. Mynbaev) **98d:26009** 26D10

Hurst, Paul R. Relating composition operators on different weighted Hardy spaces. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 6, 503–513. (Barbara D. MacCluer) **98c:47040** 47B38 (46E20)

Hurtado, Ferrán (*with* Noy, Marc) Triangulations, visibility graph and reflex vertices of a simple polygon. (English summary) *Comput. Geom.* **6** (1996), *no.* 6, 355–369. (Igor Rivin) **98j:52022** 52B55 (68U05)

— (*with* Serra, Oriol; Urrutia, Jorge) Hiding points in arrangements of segments. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 187–197. (Marilyn Breen) **98c:52008** 52A30

— (*with* Sacristán, Vera; Toussaint, Godfried) Aperture angle in vision in two and three dimensions. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 15–28, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05

— (*with* Noy, Marc; Seara, Carlos) Separating points by wedges and strips. (Spanish. English summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 45–55, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* Sellarès, Toni) Regular perspective projections. Correspondence by perspective projection between plane configurations of points. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 57–70, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* Noy, Marc; Urrutia, Jorge) Sequential and parallel interchange of edges in triangulations. (Spanish. English and Spanish summaries) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 81–88, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* Abellanas, Manuel; Claverol, Mercè) Structures of minimum weight. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 97–105, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (52B55)

— (*with* Hernando, M. C.; Márquez, Alberto; Mora, Mercè; Noy, Marc) Geometric tree graphs. (Spanish. English summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 107–120, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 05C75 (05C05, 68R10)

— (*with* Díaz, J. Miguel; Gómez Martín, Francisco) Location of polygonal facilities with restricted number of vertices. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 239–250, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 68U05 (90B80)

Hurter, Arthur P. (*with* Macal, Charles M.) Dependence of bilevel mathematical programs on irrelevant constraints. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 12, 1129–1140. (Summary) **98m:90153** 90C31

Hurth, Tobias (*with* Dütsch, Michael; Scharf, G.) Causal construction of Yang-Mills theories. III. (English summary) *Nuovo Cimento A* (11) **108** (1995), *no.* 6, 679–707. (Summary) **98c:81131** 81T13

— (*with* Dütsch, Michael; Scharf, G.) Causal construction of Yang-Mills theories. IV. Unitarity. (English summary) *Nuovo Cimento A* (11) **108** (1995), *no.* 6, 737–773. (Summary) **98c:81132** 81T13

— Higgs-free massive nonabelian gauge theories. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 406–416. (Florian Scheck) **98k:81161** 81T13

— (*with* Preitschopf, Christian; van Nieuwenhuizen, Peter; Waldron, Andrew K.) OSp(1|8)-gravity. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 310–317. (Introduction) **98g:83116** 83E50

— (*with* Dragon, Norbert; van Nieuwenhuizen, Peter) Polynomial form of the Stueckelberg model. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 318–321. (Summary) **98f:81175** 81T10 (81T15)

— (*with* van Nieuwenhuizen, Peter; Waldron, Andrew K.; Preitschopf, Christian) Possible new R^2 theory of supergravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7593–7614. (Manoel F. Borges) **98h:83094** 83E50 (81V17)

Hurtubise, Jacques Holomorphic maps of a Riemann surface into a flag manifold. (English summary) *J. Differential Geom.* **43** (1996), *no.* 1, 99–118. (Seiichi Udagawa) **98e:58057** 58E20 (58D15)

— (*with* Adams, M. R.; Harnad, John) Darboux coordinates on coadjoint orbits of Lie algebras. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 41–57. (Alexander V. Shapovalov) **98g:58069** 58F07 (17B99, 22E60)

— *see also* **Gauge theory and symplectic geometry**, **98a:58001**

Huruya, Tadasi A note on p-hyponormal operators. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3617–3624. (Takayuki Furuta) **98b:47025** 47A63 (47B20)

Hurvich, Clifford M. (*with* Tsai, Chih-Ling) Selection of a multistep linear predictor for short time series. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 395–406. 62M10

— (*with* Simonoff, Jeffrey S.; Tsai, Chih-Ling) Smoothing parameter selection in nonparametric regression using an improved Akaike information criterion. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 271–293. 62G05 (62J02)

Hurwitz, Carol (*with* Ahdout, Shahla; Itzkowitz, Gerald; Rothman, Sheldon; Strassberg, Helen) Maximal protori in compact topological groups. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 227–236, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (K. H. Hofmann) **98h:22001** 22C05 (54H11)

Hurwitz, Mark F. Drag in a porous medium: an example of the use of ensemble averaged hydrodynamic potentials. (English summary) *Particulate flows (Minneapolis, MN, 1996)*, 89–97, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **98m:76142** 76S05 (76M35, 76T05)

Husa, S. Initial data for general relativity containing a marginally outer trapped torus. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7311–7321. (Francis Cagnac) **98a:83013** 83C05 (83–08, 83C57, 83C75)

Husain, I. (*with* Gulati, T. R.; Ahmed, Aquil) Multiobjective symmetric duality with invexity. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 25–36. (Phan Quốc Khánh) **98d:90102** 90C29 (49N15)

— (*with* Gulati, T. R.; Ahmed, Aquil) Symmetric duality for multiobjective variational problems. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 22–38. (Gert Wanka) **98e:90137** 90C29 (49N15)

— (*with* Gulati, T. R.; Ahmad, Izhar) Symmetric duality for nondifferentiable minimax mixed integer programming problems. (English summary) *Optimization* **39** (1997), *no.* 1, 69–84. (Klaus Hofstedt) **98j:90042** 90C10 (49N15)

— (*with* Gulati, T. R.; Ahmed, Aquil) Symmetric duality with invexity in static and continuous fractional programming. (English summary) *Optimization* **40** (1997), *no.* 1, 41–56. (Chanchal Singh) **98h:90090** 90C32 (49N15)

Husain, Iqbal (*with* Chandna, O. P.; Latypov, Azat M.) Exact solutions of compressible plane potential flows—a new approach. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 2, 177–201. (Denis Serre) **98i:76076** 76N10 (35C05, 35Q35, 76N15)

Husain, Shamshad (*with* Siddiqi, Abul Hasan; Kazmi, K. R.) On extended generalized variational-like inequalities. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 121–129. (Sehie Park) **98m:49026** 49J40

Husain, Viqar Diffeomorphism invariance and observables. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 302–306, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:83033** 83C45 (81S99)

— General covariance and supersymmetry without supersymmetry. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7849–7856. (Orfeu Bertolami) **98a:81226** 81T60 (81T13)

— (*with* Barnich, Glenn) Geometrical representation of Euclidean general relativity in the canonical formalism. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1043–1058. (Alexander N. Petrov) **98e:83009** 83C05

— (*with* Brown, J. David) Black holes with short hair. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 563–573. (Gil De Oliveira-Neto) **98m:83042** 83C57

— (*with* Major, Seth) Gravity and *BF* theory defined in bounded regions. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 381–401. (Marc Henneaux) **98m:83024** 83C40 (83C99)

— Constants of motion for vacuum general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, R1831–R1835. (Dmitri Korotkin) **98i:83009** 83C05 (83C40)

Husain, Zegham (*with* Agarwal, Ashok Kumar) Some theorems on fixed point. *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 211–214. 54H25

al-Husari, M. M. M. *see* **Al-Husari, M. M. M.**

Huseby, O. (*with* Thovert, J.-F.; Adler, Pierre M.) Geometry and topology of fracture systems. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1415–1444. (Francois Vanderseypen) **98f:73030** 73N20 (76S05, 82B99)

Hušek, Miroslav (*with* Giuli, Eraldo) A counterpart of compactness. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 605–621. (Summary) **98g:54017** 54B30 (18B30, 54D30)

— Productivity of some classes of topological linear spaces. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 141–154. (P. Pérez Carreras) **98i:46006** 46A99 (03E55)

— *see also* **Symposium: General Topology and its Relations to Modern Analysis and Algebra**, **98j:54002**

Husfeldt, Thore Fully dynamic transitive closure in plane dags with one source and one sink. (English summary) *Algorithms—ESA '95 (Corfu)*, 199–212, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C85)

— (*with* Frandsen, Gudmund Skovbjerg; Miltersen, Peter Bro; Rauhe, Theis; Skyum, Søren) Dynamic algorithms for the Dyck languages. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 98–108, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q45

Hushwater, V. A path from the quantization of the action variable to quantum mechanical formalism. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 167–184. 81P99

Hušková, Marie Limit theorems for M-processes via rank statistics processes. (English summary) *Advances in combinatorial methods and applications to probability and*

statistics, 521–534, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Edgar Brunner) **98m:62099** 62G05 (60F17, 62G20)
— (*with* Antoch, J.; Prášková, Z.) Effect of dependence on statistics for determination of change. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 291–310. (Summary) **98m:62231** 62M10
— (*with* Dupačová, Jitka; Abaffy, József; Bertocchi, Maria) On estimating the yield and volatility curves. (English summary) Econometrics and operational research. *Kybernetika (Prague)* **33** (1997), *no.* 6, 659–673. (*see* **98i:90006**) 90A12 (90A09)
— Limit theorems for rank statistics. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 45–55. (Georg Neuhaus) **98f:62133** 62G10 (62E20)
Huskowski, Tadeusz *see* **Fichtenholz, G. M.**
Hüsler, Jürg (*with* Hsing, Tailen; Reiss, Rolf-Dieter) The extremes of a triangular array of normal random variables. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 2, 671–686. (Raul Gouet) **98b:60040** 60F05 (60G10, 60G15)
— (*with* Hooghiemstra, Gerard) A note on maxima of bivariate random vectors. (English summary) *Statist. Probab. Lett.* **31** (1996), *no.* 1, 1–6. (Michael Falk) **98c:60020** 60F05 (60G70)
Husnine, Syed Muhammad On a characterization of $\widehat{F_4(2)}$ the Ree-extension of the Chevalley group $F_4(2)$. II, III. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 30–38, 39–46. (Ulrich Dempwolff) **98e:20020** 20D06
— (*with* Aslam, M.; Majeed, A.) Modular group action on certain quadratic fields. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 47–68. (Parvati Shastri) **98h:11129** 11R11 (11F06)
Huson, Daniel H. (*with* Delgado Friedrichs, Olaf) Orbifold triangulations and crystallographic groups. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 29–55. (Summary) **98k:52051** 52C22 (20H15, 57M12, 57Q15, 68Q40)
— (*with* Dolbilin, Nikolai P.) Periodic Delone tilings. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 57–64. (Summary) **98k:52052** 52C22 (52B55)
Hussain, F. *see* **Hussain, Fazie**
Hussain, Faheem (*with* Iengo, Roberto; Núñez, Carmen A.) Axion production from gravitons off interacting 0-branes. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 205–235. (Summary) **98e:81139** 81T30 (83E30)
— (*with* Iengo, Roberto; Núñez, Carmen A.; Scrucca, Claudio A.) Interaction of moving D-branes on orbifolds. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 101–108. (Summary) **98j:81279** 81T30 (83E30)
Hussain, Fazle (*with* Goldshtik, M.; Yao, R. J.) The vortex liquid piston engine and some other vortex technologies. (English summary) Recent advances in mechanical engineering (Bangalore, 1995). *Sādhanā* **22** (1997), *no.* 3, 323–367. (Summary) **98m:76035** 76C05 (76–05, 76D99, 76T05, 76U05)
— (*with* Schoppa, Wade) A large-scale control strategy for drag reduction in turbulent boundary layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1049–1051. 76D10 (76F99)
Hussain, M. A. *see* **Hussain, Md. Azhar**
Hussain, M. F. (*with* Al-Sultan, K. S.) A hybrid genetic algorithm for nonconvex function minimization. (English summary) *J. Global Optim.* **11** (1997), *no.* 3, 313–324. (Chae Y. Lee) **98k:90081** 90C26 (90C30)
Hussain, Malik Zawwar (*with* Butt, Sohail) Positivity preserving using rational cubics. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 159–170. (Petru P. Blaga) **98e:41023** 41A29 (41A15, 65D07)
Hussain, Manzoor (*with* Rao, M. Bhaskara; Ogunyemi, Theophilus) On improving the quality of minimal incomplete block designs. (English summary) *J. Appl. Statist. Sci.* **4** (1996), *no.* 2-3, 215–230. (K. Afsarinejad) **98c:62148** 62K10 (05B05)
Hussain, Md. Azhar (*with* Kamarujjama, M.; Hussain, Md. Raghib) On certain integral transforms. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 4, 239–242. (R. G. Buschman) **98c:44007** 44A15 (33C70)
— (*with* Narayan, Om Prakash[1]) Bilinear and bilateral generating relations for the even and odd Bragg's polynomials. *Math. Ed. (Siwan)* **31** (1997), *no.* 2, 115–117. 33C45
— (*with* Nazri, Md. Aslam) Generating functions for product of Laguerre polynomials. *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 154–156. 33C45
— (*with* Aftab, Faizi) Mixed generating relations for even and odd Bragg's polynomials. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 175–176. 33C45
— (*with* Kamarujjama, M.; Aftab, Faizi) On partly bilateral and partly unilateral generating relations. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 359–363. (Summary) **98m:33022** 33C45
Hussain, Md. Raghib (*with* Kamarujjama, M.; Hussain, Md. Azhar) On certain integral transforms. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 4, 239–242. (R. G. Buschman) **98c:44007** 44A15 (33C70)
Hussain, Nawab (*with* Khan, Abdul Rahim; Aslam, Muhammad[2]) Some best approximation results in locally convex spaces. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 3, 29–36. (J. B. Prolla) **98h:41041** 41A65 (46A03, 46E40)
— (*with* Khan, Abdul Rahim; Aslam, Muhammad[2]) Mann iterative construction of fixed points in locally convex spaces. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 155–159. 47H10
Hussain, Taukir (*with* Frydman, Halina) Statistical inference for switching Brownian motions. (English summary) *Sankhyā Ser. A* **57** (1995), *no.* 1, 11–28. (Uttara V. Naik-Nimbalkar) **98a:62110** 62M05 (60J60, 60J65)
al-Hussaini, A. N. *see* **Al-Hussaini, A. N.**
al-Hussaini, Essam K. *see* **Al-Hussaini, Essam K.**
Hussein, Mohammad Lotfy An iterative-approach to fuzzy chance-constrained parametric goal programming. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 793–803. 90C70 (04A72)
— Complete solutions of multiple objective transportation problems with possibilistic coefficients. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 293–299. (Summary) **98m:90127** 90C29 (90C08)
— *see also* **Zhu, Shi Jing**, **98e:90219**
Hussein, Saluh El Din S. (*with* Radwan, Abdelaziz E.) Holonomic filtered modules in the category of micro-structure sheaves. *Tamkang J. Math.* **27** (1996), *no.* 4, 337–342. (A. Verschoren) **98a:16035** 16S60 (16W60)
— (*with* Radwan, Abdelaziz E.) On the projective Green ring. *Tamkang J. Math.* **28** (1997), *no.* 1, 39–45. (Wolfgang Knapp) **98i:20012** 20C25
Hüsseinov, Farhad Characterization of spannability of functions. (English summary) *J. Math. Econom.* **28** (1997), *no.* 1, 29–40. (G. van der Laan) **98i:90021** 90A14
Husserl, Edmund *see* **Majer, Ulrich**, **98c:01032** *and* **Hill, Claire Ortiz**, **98m:01015**
Hussien, Nagat Abdel Rahman (*with* Yahya, Abdel Azim Abdel Hady) The first quantum correction to the fourth virial coefficient for fluids in d-dimensionality for the square-well potential at the classical limit. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 445–465. (Summary) **98g:82049** 82D15 (82C10)
Hussien, Rawya A. (*with* Abdel-All, N. H.) Variation of curvatures and stability of hypersurfaces. (English summary) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 147–161. (Luis J. Alías) **98i:53082** 53C42 (49Q10, 58E12)
Huss-Lederman, Steven (*with* Tsao, Anna; Turnbull, Thomas) A parallelizable eigensolver for real diagonalizable matrices with real eigenvalues. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 869–885. (T. R. Hopkins) **98f:65040** 65F15 (65Y05)
Hustadt, U. Introducing epistemic operators into a description logic. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 65–86, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Summary) **98f:68245** 68T27 (03B45, 03B70, 68S05)
— (*with* Ohlbach, Hans Jürgen; Schmidt, Renate A.) Translating graded modalities into predicate logics. *Proof theory of modal logic (Hamburg, 1993)*, 253–291, *Appl. Log. Ser.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1996. (Mohamed Amer) **98j:03024** 03B45 (03B70, 68T27, 68T30)
Hutchings, Michael Integration of singular braid invariants and graph cohomology. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1791–1809. (J. S. Birman) **98j:57009** 57M25 (20F36)
Hutchinson, Alan First order meta theories. (English summary) *Log. J. IGPL* **5** (1997), *no.* 1, 97–144 (*electronic*). (Décio Krause) **98a:03013** 03B22 (03B05, 03B30)
Hutchinson, J. *see* **Hutchinson, Joan P.**
Hutchinson, J. Wesley (*with* Mungale, Amitabh) Pairwise partitioning: a nonmetric algorithm for identifying feature-based similarity structures. (English summary) *Psychometrika* **62** (1997), *no.* 1, 85–117. (Fumiko Samejima) **98h:62153** 62P15
Hutchinson, Joan P. (*with* Dean, Alice M.) Rectangle-visibility representations of bipartite graphs. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 9–25. (Thomas Andreae) **98c:05153** 05C99 (05C10, 05C35)
— (*with* Chung, Fan R. K.) A tribute to Herbert S. Wilf in celebration of his 65th birthday. The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Foreword, approx.* 5 *pp.* (*electronic*). (*see* **98b:00038**) 01A70
— (*with* Wagon, Stan) Kempe revisited. *Amer. Math. Monthly* **105** (1998), *no.* 2, 170–174. 05C15
Hutchinson, John E. (*with* Fang, Yi) Hessian energy and optimal parametrisations of surfaces. *Math. Z.* **225** (1997), *no.* 3, 507–535. (Giandomenico Orlandi) **98i:58064** 58E12
Hutchinson, John W. (*with* Wei, Yueguang) Steady-state crack growth and work of fracture for solids characterized by strain gradient plasticity. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 8, 1253–1273. 73M25 (73E05)
Hutchinson, Scott (*with* Shadid, John N.; Hennigan, Gary; Moffat, Harry; Devine, Karen; Salinger, A. G.) Efficient parallel computation of unstructured finite element reacting flow solutions. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1307–1325. (*see* **98f:76004**) 76M10 (65Y05)
Huth, Michael A powerdomain of possibility measures. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 06B35 (68T30)
Hutson, Alan D. (*with* Mudholkar, Govind S.; Freimer, Marshall) On the efficiencies of some common quick estimators. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1623–1647. (Summary) **98b:62040** 62F10 (62F12)
— (*with* Mudholkar, Govind S.) Some refinements of the quasi-quantiles. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 67–74. (Stergios B. Fotopoulos) **98e:62063** 62G05 (62G20)
— (*with* Mudholkar, Govind S.) Asymmetric quasimedians: remarks on an anomaly. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 261–268. (S. N. Alam) **98g:62097** 62G30 (62G05, 62G20)
Hutson, V. Reaction-diffusion systems in biology. *Differential equations and its applications (Budapest, 1991)*, 159–177, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 92B05 (35K57, 35Q80)
— (*with* Hofbauer, Josef; Vickers, G. T.) Travelling waves for games in economics and biology. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1235–1244. (*see* **98i:00028**) 90D35 (92B05)
Hüttel, Hans (*with* Aceto, Luca; Ingólfsdóttir, Anna; Kleist, Josva) Relating semantic models for the object calculus (preliminary report). (English summary) *EXPRESS'97 (Santa Margherita Ligure, 1997)*, 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68N15)
Hutter, Dieter Coloring terms to control equational reasoning. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 3, 399–442. (Ralph W. Wilkerson) **98f:68235** 68T15 (03B35)
Hutter, Kolumban (*with* Calov, R.) Large scale motion and temperature distributions in land-based ice shields; the Greenland ice sheet in response to various climatic scenarios. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 5, 919–962. (Summary) **98j:86010** 86A40
— (*with* Berezin, Yu. A.; Spodareva, L. A.) On stability of rapid granular shear flows. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 4, 229–240. (Summary) **98e:76011** 76A99 (73N20, 76E99, 76T05)
— (*with* Straughan, Brian) Penetrative convection in thawing subsea permafrost. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 5, 259–272. (Summary) **98g:86003** 86A05 (76E20, 76E30, 76S05)
— (*with* Berezin, Yu. A.) On large-scale vortical structures in (incompressible) fluids with thermal expansion. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997),

no. 1, 113–123. (Summary) **98a:76079** 76R05 (76C05, 76E15, 76F99, 76U05)
— (*with* Berezin, Yu. A.; Spodareva, L. A.) Stability properties of shallow granular flows. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 647–658. (Summary) **98m:76010** 76A99 (73E99, 76E99)
— (*with* Wang, Yongqi) A semi-implicit semispectral primitive equation model for lake circulation dynamics and its stability performance. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 1, 209–241. (Summary) **98k:86002** 86–08 (86A05)
Huttner, Bruno (*with* Gisin, Nicolas) Erratum: "Quantum cloning, eavesdropping and Bell's inequality" [Phys. Lett. A **228** (1997), no. 1-2, 13–21]. *Phys. Lett. A* **232** (1997), *no.* 6, 463. 81P99
Hutton, J. P. (*with* Dempster, M. A. H.) Numerical valuation of cross-currency swaps and swaptions. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 473–503, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
nguyen Huu Anh *see* **Nguyen Huu Anh**
nguyen Huu Bao *see* **Nguyen Huu Bao**
nguyen Huu Cong *see* **Nguyen Huu Cong**
phạm Hữ'u Sách *see* **Phạm Hữ'u Sách**
nguyễn Hữ'u Việt Hu'ng *see* **Nguyễn Hữ'u Việt Hu'ng**
Huveneers, R. J. A. G. (*with* Verhulst, Ferdinand) A metaphor for adiabatic evolution to symmetry. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1421–1442. (Mikhail B. Sevryuk) **98e:34084** 34C29 (34C15, 34Exx, 70H05)
Huwang, Longcheen Asymptotically honest confidence sets for structural errors-in-variables models. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1536–1546. (I. Guttman) **98d:62050** 62F25 (62E99, 62J99)
Huxley, M. N. Integer points in a domain with smooth boundary. *Séminaire de Théorie des Nombres, Paris*, 1989–90, 93–111, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Wolfgang Müller) **98m:11104** 11P21
ha Huy Bang *see* **Ha Huy Bang**
Huybrechts, Cécile An arithmetic reduction of finite rank 3 geometries with linear spaces as plane residues and with dual linear spaces as point residues. (English summary) *J. Algebraic Combin.* **5** (1996), *no.* 4, 329–335. (Antonio Pasini) **98a:51009** 51E24
Huybrechts, Daniel (*with* Lehn, Manfred) ★ The geometry of moduli spaces of sheaves. (English summary) Aspects of Mathematics, E31. *Friedr. Vieweg & Sohn, Braunschweig*, 1997. xiv+269 *pp. ISBN* 3-528-06907-4 (Jean-Marc Drezet) **98g:14012** 14D20 (14F05)
— Birational symplectic manifolds and their deformations. *J. Differential Geom.* **45** (1997), *no.* 3, 488–513. (Mark Gross) **98e:32031** 32G05 (32J18)
Huygens, Christiaan *see* **Mačák, Karel**, **98d:01017** *and* **Stroup, Alice**, **98d:01018**
dinh Huy Hoang *see* **Dinh Huy Hoang**
ha Huy Khoai *see* **Ha Huy Khoai**
Huyn, Nam Maintaining global integrity constraints in distributed databases. (English summary) *Constraints* **2** (1997), *no.* 3-4, 377–399. (Summary) **98k:68048** 68P15
dinh van Huynh *see* **Dinh Van Huynh**
van Huynh, Dinh *see* **Dinh Van Huynh**
Huynh, Dinh Van *see* **Dinh Van Huynh**
Huynh, H. T. *see* **Huynh, Hung T.**
Huynh, Hsueh-Ling (*with* Aslaksen, Helmer) Laws of trigonometry in symmetric spaces. (English summary) *Geometry from the Pacific Rim* (*Singapore*, 1994), 23–36, *de Gruyter, Berlin*, 1997. (O. Kowalski) **98j:53057** 53C35 (51M10)
Huynh, Hung T. (*with* Suresh, A.) Accurate monotonicity-preserving schemes with Runge-Kutta time stepping. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 83–99. (Summary) **98e:76081** 76M20 (65L06, 65M99)
Huynh, Linh (*with* Moffat, Alistair) A probability-ratio approach to approximate binary arithmetic coding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1658–1662. 94B40
ha Huy Vui *see* **Ha Huy Vui**
Huzil, Mituaki (*with* Chen, Chunhang) Statistical properties of a predictor for a seasonal time series when its residual deviates from a stationary process. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 132–146, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:62131** 62M10
Huzurbazar, Aparna V. (*with* Butler, Ronald W.) Stochastic network models for survival analysis. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 246–257. (Benjamin Epstein) **98e:62140** 62N05
Hvalica, Dušan The cost of solution subgraphs in AND/OR graphs modelling projects. (English summary) *SOR '97 Proceedings* (*Preddvor*), 183–187, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90C35
Hwan, Chyi (*with* Guo, Tong-Yi; Lin, Bo-Win) A new method for factoring matrix polynomials relative to the unit circle. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 1, 87–92. 65F30 (15A23, 93B40)
Hwang, Andrew D. (*with* Simanca, Santiago R.) Extremal Kähler metrics on Hirzebruch surfaces which are locally conformally equivalent to Einstein metrics. *Math. Ann.* **309** (1997), *no.* 1, 97–106. (Thalia D. Jeffres) **98f:58056** 58E11 (32J15, 53C25, 53C55)
Hwang, Ann-Yin (*with* Chou, Chan-Shin) Control of longitudinal vibration and wave in a beam. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 584–595, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K05, 73K12, 73K50, 93D15)
Hwang, Changha (*with* Hong, Dug Hun) A T-sum bound of LR-fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 239–252. (Summary) **98g:04008** 04A72
Hwang, Chi-Pan (*with* Ho, Cheng-Seen) A new technique for behavior and temporal analysis of timed Petri nets. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 5, 481–492. 68Q90
Hwang, Dae Sung (*with* Lee, Chang-Yeong) Topological Yang-Mills theory with scalar and vector fields in two and three dimensions. (English summary) *J. Math. Phys.* **37** (1996), *no.* 2, 693–701. (Summary) **98b:58031** 58D29 (81T13, 81T40)
— (*with* Lee, Chang-Yeong) Non-abelian topological mass generation in four dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 30–38. (Summary) **98f:81201** 81T13 (58Z05, 81T70)
Hwang, Duh Yan A note of Pachpatte on Hardy like integral inequalities. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 323–326. (B. G. Pachpatte) **98g:26023** 26D15
Hwang, Der-June (*with* Chang, Jinn-Ja; Lin, Mao-Chao) Some extended results on the search for good convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1682–1697. (Summary) **98e:94035** 94B10
Hwang, Frank K. (*with* Wright, Paul E.) Generalized Kaplansky line and cycle theorems with multiple constraints. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 173–185, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05005** 05A15
— (*with* Yao, Yi-Ching; Grammatikakis, Miltos D.) A d-move local permutation routing for the d-cube. (English summary) *Discrete Appl. Math.* **72** (1997), *no.* 3, 199–207. (Summary) **98a:68011** 68M10 (90B35)
— (*with* Fishburn, Peter C.; Du, Ding Zhu; Gao, Biao) On 1-rate wide-sense nonblocking for 3-stage Clos networks. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 75–87. (Summary) **98f:05140** 05C90 (68M10)
— (*with* Chang, Gerard J.; Tong, Li-Da) The Hamiltonian property of the consecutive-3 digraph. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 83–88. (Ding Zhu Du) **98j:05093** 05C45 (05C20)
— (*with* Chang, Gerard J.) Optimality of consecutive and nested tree partitions. (English summary) *Networks* **30** (1997), *no.* 2, 75–80. (Peter Mihók) **98h:90102** 90C35 (05C05)
— (*with* Wright, Paul E.; Hu, Xiao Dong) Exact reliabilities of most reliable double-loop networks. (English summary) *Networks* **30** (1997), *no.* 2, 81–90. (M. Dal Cin) **98i:68026** 68M10 (05C20, 05C85, 68R10)
— (*with* Gilbert, E. N.) Constrained arrangements of objects in a cycle. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 361–370. (Martin Klazar) **98j:05008** 05A15
— (*with* Gao, Biao) Wide-sense nonblocking for multirate 3-stage Clos networks. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 171–182. (Summary) **98e:68008** 68M10
— (*with* Liaw, S. C.; Yeh, Hong-Gwa; Chang, Gerard J.) A simple and direct derivation for the number of noncrossing partitions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1579–1581. (Summary) **98g:05016** 05A18
— (*with* Yao, Yi-Ching) Comments on the oblivious routing algorithm of Kaklamanis, Krizanc, and Tsantilas in the hypercube. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 63–66. (Summary) **98i:68027** 68M10 (68Q10)
Hwang, Gang Uk (*with* Choi, Bong Dae) The MAP, $M/G_1, G_2/1$ queue with preemptive priority. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 407–421. (Summary) **98h:90035** 90B22 (60K25)
Hwang, Hae-shin (*with* Schulman, Craig) Estimation of SUR model with non-nested missing observations. (English and French summaries) *Ann. Économ. Statist.* **1996**, *no.* 44, 219–240. 62P20 (62J05)
Hwang, Hsien-Kuei Distribution of integer partitions with large number of summands. *Acta Arith.* **78** (1997), *no.* 4, 351–365. (Wolfgang Schwarz) **98b:11108** 11P82
— (*with* Yeh, Yeong Nan) Measures of distinctness for random partitions and compositions of an integer. *Adv. in Appl. Math.* **19** (1997), *no.* 3, 378–414. (Igor E. Shparlinski) **98d:11097** 11K99 (11T99)
— A constant arising from the analysis of algorithms for determining the maximum of a random walk. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 333–335. (Summary) **98i:05007** 05A16
— Asymptotic estimates of elementary probability distributions. (English summary) *Stud. Appl. Math.* **99** (1997), *no.* 4, 393–417. (Summary) **98e:62027** 62E20
Hwang, In-Gyu (*with* Kim, Jong Jin; Oh, Chun-Young; Park, Seoung-Hee) The relationships in pluricomplex Green function, Azukawa pseudometric and Sibony pseudometric. (English summary) *Bull. Honam Math. Soc.* **13** (1996), 127–137. (M. Klimek) **98g:32038** 32H15 (32F05)
Hwang, In Sung (*with* Lee, Woo Young) On the continuity of spectra of Toeplitz operators. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 66–73. (A. Böttcher) **98i:47024** 47B35 (47A10)
Hwang, J. J. (*with* Hwang, Seok Yoon; An, Jeong Hyang) The triangular norm-based addition of fuzzy intervals. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 9–13. 04A72
Hwang, J. S. *see* **Hwang, Jun Shung**
Hwang, J. T. Gene From Neyman's frequentism to the frequency validity in the conditional inference. (English summary) *Advances in statistical decision theory and applications*, 135–150, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98g:62008** 62A10 (62F25)
— (*with* Ding, A. Adam) Prediction intervals for artificial neural networks. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 748–757. (Summary) **98f:62073** 62F25 (62G15)
— (*with* Pemantle, Robin) Estimating the truth indicator function of a statistical hypothesis under a class of proper loss functions. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 103–128. (A. Balogh) **98k:62020** 62F03 (62C15)
Hwang, Jai-chan Cosmological perturbations in generalized gravity theories: conformal transformation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1981–1991. (Summary) **98d:83076** 83D05
— Quantum generations of cosmological perturbations in generalized gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3327–3336. (Summary) **98h:83073** 83D05 (81V17)
— Roles of a coherent scalar field on the evolution of cosmic structures. (English summary) *Phys. Lett. B* **401** (1997), *no.* 3-4, 241–246. (Summary) **98b:83096** 83F05
— (*with* Noh, Hyerim) Density spectra from pole-like inflations based on generalized gravity theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1387–1400. 83D05
— Gravitational wave spectra from pole-like inflations based on generalized gravity theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1401–1413. 83D05 (83C35)
— The origin of structures in generalized gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 545–553. 83D05
— (*with* Noh, Hyerim) Cosmological vorticity in a gravity with quadratic order curvature couplings. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2617–2620. 83D05
Hwang, Jiing-Dong (*with* Hsiao, Feng-Hsiag) Optimal controller for dithered systems with backlash or hysteresis. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1,

87–113. (Summary) **98a:93035** 93C10 (49N35, 93B52)
— (*with* Hsiao, Feng-Hsiag; Pan, Shing-Tai) *D*-stability analysis for discrete uncertain time-delay systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 109–114. 93D05 (93C55)
— (*with* Hsiao, Feng-Hsiag; Chien, I-Lung) Stabilization of nonlinear large-scale systems by dithers. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 203–226. 93D99
Hwang, Jing Shiang (*with* Dempster, A. P.) Bayesian implementation of a complex hierarchical model. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 221–236, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62D05
Hwang, Jun-Muk Holomorphic vector fields with totally degenerate zeroes. (English summary) *Compositio Math.* **105** (1997), *no.* 1, 65–77. (Aleksandr G. Aleksandrov) **98b:32036** 32S65 (32L30)
— Rigidity of homogeneous contact manifolds under Fano deformation. (English summary) *J. Reine Angew. Math.* **486** (1997), 153–163. (Jarosław A. Wiśniewski) **98h:32031** 32G07 (32G05)
Hwang, Jun Shung Small zeros of additive forms in algebraic number fields. *Bull. London Math. Soc.* **29** (1997), *no.* 3, 295–298. (R. C. Baker) **98c:11029** 11D72
Hwang, Kyo-Shin (*with* Choi, Yong-Kab; Park, Soon-Kyu) Superior and inferior limits on the increments of Gaussian processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 57–74. (Zheng Yan Lin) **98k:60057** 60G15 (60F15, 60G10, 60G17)
— (*with* Choi, Yong-Kab; Jung, Jong Soo) On superior limits for the increments of Gaussian processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 289–296. (Summary) **98h:60039** 60F15 (60G15)
Hwang, Kyubum (*with* Lee, Sichang) Chow groups on complete regular local rings. II. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 569–573. 13H10 (14C15)
Hwang, Leng-Cheng A Bayesian approach to sequential estimation without using the prior information. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 319–343. (Rohana J. Karunamuni) **98m:62018** 62C12 (62H15, 62L12)
Hwang, Min-Shiang A cryptographic key assignment scheme in a hierarchy for access control. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 2, 27–31. (Summary) **98f:94017** 94A60 (68P25)
Hwang, S. Y. *see* **Hwang, Sun Young**
Hwang, Seok Yoon (*with* Hong, Dug Hun) The convergence of T-sum of fuzzy numbers on Banach spaces. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 129–134. 46S40 (04A72)
— (*with* Hwang, J. J.; An, Jeong Hyang) The triangular norm-based addition of fuzzy intervals. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 9–13. 04A72
Hwang, Shin-Jia (*with* Chang, Chin-Chen) A simple approach for generating RSA keys. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 19–21. (Summary) **98j:94015** 94A60 (68P25)
Hwang, Suk-Geun (*with* Song, Seok-Zun) Spanning column ranks and their preservers of nonnegative matrices. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 485–495. (Donald W. Robinson) **98a:15002** 15A03
Hwang, Sun Young (*with* Basawa, Ishwar V.) The local asymptotic normality of a class of generalized random coefficient autoregressive processes. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 165–170. (Adhir K. Basu) **98m:62246** 62M10
Hwang, Tea-Yuan (*with* Hu, Chin-Yuan) On an integro-functional equation arising in order statistics. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 161–169. 62E10
Hwang, Tsung-Min (*with* Lin, Wen-Wei; Pierce, Daniel J.) Improved bound for rank revealing *LU* factorizations. (English summary) *Linear Algebra Appl.* **261** (1997), 173–186. (Donald W. Robinson) **98h:15026** 15A23 (15A03, 15A45)
Hwang, Tzonelih (*with* Li, Chuan-Ming; Lee, Narn-Yih) Threshold-multisignature schemes where suspected forgery implies traceability of adversarial shareholders. (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 194–204, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60
— (*with* Lee, Narn-Yih) Remarks on Chang-Buehrer access control scheme in a hierarchy. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 11–12. 94A60
Hwang, Wen-Jyi Source coding theorem for cyclostationary Gaussian sources. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 1, 27–37. (Francesco Fabris) **98d:94018** 94A29 (94A34)
Hwang, Yoon Sung The index of the corestriction of a valued division algebra. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 279–284. (Summary) **98c:16017** 16K20
Hwu, Chyanbin (*with* Fan, C. W.) Sliding punches with or without friction along the surface of an anisotropic elastic half-plane. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 159–177. 73T05
Hyakutake, Hiroto (*with* Takada, Yoshikazu) Fixed-size confidence region by multivariate two-stage procedure when the covariance matrix has a structure. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 37–44. (Summary) **98c:62156** 62L10 (62H12)
Hyčková, Silvia On some functions connected with ultraspherical polynomials. (English and Slovak summaries) *Stud. Univ. Transp. Commun. Žilina Math.-Phys. Ser.* **10** (1995), 11–17. (Summary) **98f:33021** 33C55
Hyde, Charles E. Bargaining and delay: the role of external information. (English summary) *Theory and Decision* **42** (1997), *no.* 1, 81–104. (Akira Okada) **98d:90041** 90A35 (90A60, 90D10, 90D20)
Hyde, Dominic Rehabilitating Russell. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 139–173. (Charles F. Kielkopf) **98f:03003** 03A05 (00A30)
Hyers, Donald H. (*with* Isac, George; Rassias, Themistocles M.) ★ Topics in nonlinear analysis & applications. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+699 *pp. ISBN* 981-02-2534-2 (Xie Ping Ding) **98g:47001** 47–02 (47Hxx, 47N10, 49J52, 58Exx)
— (*with* Isac, George; Rassias, Themistocles M.) On the asymptoticity aspect of Hyers-Ulam stability of mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 425–430. (W. Smajdor) **98d:39004** 39B72 (47H99)
Hyland, David C. (*with* Phan, Minh Q.; Juang, Jer-Nan) On neural networks in identification and control of dynamic systems. (English summary) *Wave motion, intelligent structures and nonlinear mechanics*, 194–225, *Ser. Stab. Vib. Control Struct.*, 1, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:93013** 93B30 (93C83)
Hylin, E. C. (*with* McDonough, James) Derivation of projection methods from formal integration of the Navier-Stokes equations. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 349–374. (Summary) **98b:76053** 76M25 (65M99, 76D05)
Hylkema, Jouke (*with* Villedieu, Philippe) Une méthode particulaire aléatoire reposant sur une équation cinétique pour la simulation numérique des sprays denses de gouttelettes liquides. (English and French summaries) [A random particle method based on a kinetic equation for the numerical simulation of dense sprays of liquid droplets] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 323–328. (Hassan Emamirad) **98k:82165** 82C40 (65C20, 76M35, 76P05, 76T05, 82C80)
Hylleberg, S. (*with* Haldrup, Niels) Near-integration and deterministic trends. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 77–101. (Summary) **98e:62129** 62M10
Hyman, James M. (*with* Shashkov, Mikhail) Natural discretizations for the divergence, gradient, and curl on logically rectangular grids. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 4, 81–104. (Philip Huddleston) **98i:39004** 39A12 (39A70, 65D25, 65L12)
— (*with* Shashkov, Mikhail; Steinberg, Stanly) The numerical solution of diffusion problems in strongly heterogeneous non-isotropic materials. (English summary) *J. Comput. Phys.* **132** (1997), *no.* 1, 130–148. (Leonid K. Antanovskiĭ) **98a:65151** 65N06 (76M20, 80–08)
— (*with* Li, Jia^2) Behavior changes in SIS STD models with selective mixing. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1082–1094. (Summary) **98d:92015** 92D25 (34D20, 58F40, 92C60)
Hyndman, J. P. Covers of some varietal products. *Algebra Universalis* **37** (1997), *no.* 2, 154–184. (Katarzyna Hałkowska) **98d:08011** 08B25 (08B15)
Hyndman, Rob J. (*with* Wand, M. P.) Nonparametric autocovariance function estimation. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 313–324. 62G05 (62M10)
— (*with* Grunwald, Gary K.; Hamza, Kais) Some properties and generalizations of non-negative Bayesian time series models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 615–626. (Bert M. Steece) **98g:62164** 62M10
Hyodo, Yoshifumi (*with* Yamamoto, Sumiyasu; Fujii, Yoshio; Yumiba, Hiromu) New light on fractional 2^m factorial designs. (English summary) Special issue on orthogonal arrays and affine designs, Part II. *J. Statist. Plann. Inference* **56** (1996), *no.* 2, 269–287. (K. Vijayan) **98g:62145** 62K15 (05B15)
— (*with* Yumiba, Hiromu; Yamamoto, Sumiyasu) Classification of two-symbol orthogonal arrays of size 24, strength 2, 6 constraints and index 6 derivable from saturated orthogonal arrays having 23 constraints. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 47–63. (Summary) **98h:05042** 05B15 (62K15)
— (*with* Yumiba, Hiromu; Yamamoto, Sumiyasu) Characterization of orthogonal 24-run 2^6 factorial designs derivable from saturated two-symbol orthogonal arrays of strength 2 size 24, 23 constraints and index 6. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 277–290. 62K15 (05B15)
Hyounet, M. Robustness of the exponential stability of a non-linear controlled system under some state and control perturbations. (English summary) *Systems Control Lett.* **31** (1997), *no.* 2, 103–113. (V. Kolmanovskiĭ) **98m:93116** 93E15 (93D09)
de la Hyre, Laurent *see* **Pinault, Madeleine**, (**98b:01001**)
Hyry, Eero (*with* Herrmann, Manfred; Ribbe, Jürgen; Tang, Zhongming) Reduction numbers and multiplicities of multigraded structures. *J. Algebra* **197** (1997), *no.* 2, 311–341. (Liam O'Carroll) **98k:13006** 13A30 (13D40, 13H10, 13H15)
— (*with* Herrmann, Manfred; Korb, T.) On Rees algebras with a Gorenstein Veronese subring. *J. Algebra* **200** (1998), *no.* 1, 279–311. (Ngô Viêt Trung) **98m:13006** 13A30 (13D45, 13H10)
Hyun, Jae Min (*with* Park, Jun Sang) Transient sidewall shear layers of compressible fluid in a rapidly rotating circular cylinder. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 4, 231–250. 76U05 (76N20)
Hyun, Jong-Ik The structure conformal vector fields on a Sasakian manifold. II. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 661–679. (Ion Mihai) **98b:53036** 53C25
— (*with* Takagi, Ryoichi) Hypersurfaces of a real space form with parallel higher order fundamental form. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 1, 5–20. (Editors) **98g:53099** 53C40
— (*with* Takagi, Ryoichi) Notice: "Hypersurface of a real space form with parallel higher order fundamental form" [Yokohama Math. J. **44** (1997), no. 1, 5–20; MR 98g:53099]. *Yokohama Math. J.* **45** (1998), *no.* 1, 71. 53C40
Hyung, Namwon (*with* Granger, Clive W. J.; Jeon, Yongil) Fractional stochastic unit root processes. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 190–204, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M10

–I–

Iachello, F. Symmetry and supersymmetry in nuclear physics. *Riv. Nuovo Cimento* (3) **19** (1996), *no.* 7, 26 *pp.* (A. Ventura) **98e:81046** 81R05 (81–01, 81V35)

— Spectrum generating algebras and dynamic symmetries in scattering. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 237–254, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U05 (81V35, 81V55)

Iacob, Andrei *see* **Kadets, Mikhail I., 98a:46016**

Iacob, Maria-Eugenia Divided differences and convex functions of higher order on networks. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 3, 43–55. (R. S. Booth) **98e:39006** 39A99 (26B25, 39–02)

Iacoviello, Daniela (*with* Kijowski, Jerzy; Magli, Giulio) The dynamical structure of the A.D.M. equations for general relativistic, isotropic elastic media. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 341–345, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C55

— (*with* Bertuzzi, Alessandro; Gandolfi, Alberto; Sinisgalli, Carmela) Steel's potential doubling time and its estimation in cell populations affected by nonuniform cell loss. (English summary) *Math. Biosci.* **143** (1997), *no.* 2, 61–89. 92C50 (92D25)

Iaffei, Bibiana Comparison of two weak versions of the Orlicz spaces. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 191–202. (Abdelmoujib Benkirane) **98i:46023** 46E30

Iagolnitzer, Daniel Causalité et analyticité en théorie quantique des champs. (English summary) [Causality and analyticity in quantum field theory] *Géométrie complexe* (*Paris*, 1992), 203–218, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (*see* **98g:32004**) 81T05

Iancu, C. (*with* Coman, Gheorghe) Lacunary interpolation by cubic spline. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 4, 77–84. (A. S. Cavaretta) **98a:41015** 41A15

— Interpolation by cubic spline with fixed points. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 53–57. 65D07

— (*with* Coman, Gheorghe) Spline interpolation of Birkhoff type. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 233–240, *Transilvania, Cluj-Napoca*, 1997. (Jian Ke Lu) **98k:41014** 41A15 (65D07)

mihai Iancu, G. *see* **Mihai Iancu, G.**

Iancu, Ion Reasoning system with fuzzy uncertainty. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 51–59. (Summary) **98f:68258** 68T35 (03B52)

— Propagation of uncertainty and imprecision in knowledge-based systems. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 29–43. (Summary) **98m:68250** 68T27 (68T30)

Iancu, Lăcrimioara (*with* Pop, Maria S.) On (m,n)-generalized rings. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 1–14. 08A05

— (*with* Pop, Maria S.) A Post type theorem for (m,n) rings with unit as a system of $(n-1)$ elements. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 1–22. 08A05

Iancu, M. (*with* Haug, E. J.; Negrut, D.) A state-space-based implicit integration algorithm for differential-algebraic equations of multibody dynamics. (English summary) *Mech. Structures Mach.* **25** (1997), *no.* 3, 311–334. (Summary) **98g:70004** 70–08 (34A09, 65L99, 70E15)

Iannece, D. (*with* Graziano, L.; Romano, Antonio) Continua with an interface and ferromagnetic crystals. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 8, 769–782. (Victor A. L'vov) **98j:82067** 82D20 (78A30, 82B24)

— (*with* Graziano, L.; Lista, V.) Branching in ferromagnetic crystals. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 107–114. 82D40

Iannelli, Angela Abstract approximation of Hopf bifurcation. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **128** (1994), *no.* 2, 269–299 (1995). (Tassilo Küpper) **98c:65093** 65J15 (58E07)

— (*with* Prouse, Giovanni) Analysis of a nonlinear model of the vibrating rod. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 2, 233–248. (Takashi Narazaki) **98d:73042** 73K05 (35Q72, 73D35, 73K12)

Iannelli, Mimmo (*with* Kim, Mi-Young[2]; Park, Eun-Jae) Splitting methods for the numerical approximation of some models of age-structured population dynamics and epidemiology. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 1, 69–93. (Summary) **98c:65144** 65M06 (65M12, 92D25, 92D30)

— (*with* Martcheva, Maia) A semigroup approach to the well posedness of an age-structured two-sex population model. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 353–369. (Summary) **98i:92031** 92D25 (35Q80, 47D06, 47N60)

Ianni, Antonella (*with* Anderlini, Luca) Path dependence and learning from neighbors. (English summary) *Games Econom. Behav.* **13** (1996), *no.* 2, 141–177. (Summary) **98c:90188** 90D10 (90A15)

di Ianni, Miriam *see* **Di Ianni, Miriam**

Iannuzzi, Andrea (*with* Heinzner, Peter) Integration of local actions on holomorphic fiber spaces. (English summary) *Nagoya Math. J.* **146** (1997), 31–53. (B. Gilligan) **98k:32047** 32M05

Iannuzzo, C. (*with* Bañados, Máximo; Henneaux, Marc; Viallet, Claude-M.) Gauge symmetries of pure Chern-Simons theories with p-form gauge fields. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2455–2468. (Viqar Husain) **98i:81153** 81T13 (53C80)

Iano-Fletcher, Anthony R. (*with* Epstein, David B. A.; Zwick, Uri) Growth functions and automatic groups. (English summary) *Experiment. Math.* **5** (1996), *no.* 4, 297–315. (Susan Hermiller) **98h:20056** 20F32

Iantchenko, Alexei The electron density in intermediate scales. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 367–385. (Peter D. Hislop) **98i:81278** 81V45 (81Q10)

Ianuş, Iuliana Statistical manifolds and tangent bundles. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **56/57** (1994/95), *no.* 1-4, 29–34. (Andrew Bucki) **98m:53034** 53C05

Ianus, Stere (*with* Pastore, A. M.) On harmonic mappings of metric f-manifolds. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 203–206. (Andrew Bucki) **98e:53043** 53C15 (58E20)

— (*with* Rizza, Giovanni Battista) Submanifolds of constant holomorphic deviation. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 115–124. (Bang-yen Chen) **98e:53092** 53C40 (53C15)

Iarovici, A. (*with* Visarion, Viorel) Modified Legendre's polynomials used in the theory of differential equations. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 3, 3–4, 17–24. 33C90 (33C45, 34A30)

Iarrobino, A. Inverse system of a symbolic power. III. Thin algebras and fat points. (English summary) *Compositio Math.* **108** (1997), *no.* 3, 319–356. (P. Schenzel) **98k:13017** 13D40 (13P10, 14Q05)

Iasnogorodski, R. (*with* Aspandiiarov, S.) Tails of passage-times and an application to stochastic processes with boundary reflection in wedges. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 1, 115–145. (Youngmee Kwon) **98a:60057** 60G42 (60J10, 60J65)

Iavernaro, F. (*with* DiLena, Giovanni; Mazzia, Francesca) On the unique solvability of the systems arising from boundary value methods. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 1–12. (Martin Hermann) **98e:34023** 34A45 (65L10)

Ibănescu, I. (*with* Crâciunaş, Aurora; Crâciunaş, P.) Lagrange equations for a rigid body and a geometrical interpretation concerning the principle of kinetic moment related to a fixed point. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 87–99. 70E15 (70H35)

— (*with* Rusu, Elisabeta) Some problems of thermoelasticity in initially stressed bodies. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **39(43)** (1993), *no.* 1-4, 101–112. 73B30

Ibáñez, J. (*with* Feinstein, Alexander; Lazkoz, Ruth) Cosmologies with two-dimensional inhomogeneity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 245–248, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83011** 83C15

— (*with* Coley, Alan A.; van den Hoogen, Robert) Homogeneous scalar field cosmologies with an exponential potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5256–5271. (Alicia M. Sintes) **98g:83012** 83C20

angulo Ibañez, J. M. *see* **Angulo Ibañez, J. M.**

Ibáñez, L. E. (*with* Aldazabal, G.; Font, Anamaría; Uranga, A. M.) New branches of string compactifications and their F-theory duals. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 119–151. (Bruce Hunt) **98h:81089** 81T30 (32G81, 32J81, 83E30)

— (*with* Aldazabal, G.; Font, Anamaría; Uranga, A. M.) String-string dualities in $D=6,4$ dimensions. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 318–325. (Summary) **98j:81239** 81T30 (14J32, 32J81)

Ibañez, L. F. (*with* Piriz, A. R.; Sanz, J.) Rayleigh-Taylor instability of steady ablation fronts: the discontinuity model revisited. (English summary) *Phys. Plasmas* **4** (1997), *no.* 4, 1117–1126. (Summary) **98c:76043** 76E25 (76X05)

de campos Ibáñez, Luis Miguel *see* **de Campos Ibáñez, Luis Miguel**

Ibáñez, Raúl (*with* Fernández, Marisa; de León, Manuel) Poisson cohomology and canonical homology of Poisson manifolds. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 1, 29–56. (Juan Carlos Marrero Gonzalez) **98h:58061** 58F05 (53C15, 58A12)

— (*with* de León, Manuel; Marrero, Juan Carlos; Martín de Diego, David) Dynamics of generalized Poisson and Nambu-Poisson brackets. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2332–2344. (Frans Cantrijn) **98d:53042** 53C15 (58F05, 70H05, 70H99)

— (*with* de León, Manuel; Marrero, Juan Carlos; Martín de Diego, David) Co-isotropic and Legendre-Lagrangian submanifolds and conformal Jacobi morphisms. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5427–5444. (Jesús Marín-Solano) **98k:58090** 58F05 (53C15, 70H05)

— (*with* Fernández, Marisa; de León, Manuel) A Nomizu's theorem for the coeffective cohomology. *Math. Z.* **226** (1997), *no.* 1, 11–23. (Domingo Chinea) **98k:58008** 58A12 (53C15)

— Harmonic cohomology classes of almost cosymplectic manifolds. *Michigan Math. J.* **44** (1997), *no.* 1, 183–199. (Juan Carlos Marrero Gonzalez) **98d:58003** 58A12 (53C15)

Ibáñez Pérez, M. J. (*with* Barrera Rosillo, D.; López Carmona, A.) Compactly supported fundamental functions for bivariate Hermite spline interpolation and triangular finite elements of HCT type. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 414–421, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65D05 (41A63, 65D17)

Ibaraki, Toshihide (*with* Boros, Endre; Makino, Kazuhisa) Boolean analysis of incomplete examples. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 440–451, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98h:68191** 68T05 (03D15, 06E30, 68Q05)

— (*with* Karuno, Yoshiyuki; Nagamochi, Hiroshi) Vehicle scheduling on a tree to minimize maximum lateness. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 3, 345–355. (Summary) **98b:90069** 90B35

— (*with* Karuno, Yoshiyuki; Nagamochi, Hiroshi) Computational complexity of the traveling salesman problem on a line with deadlines and general handling times. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **45** (1996), 19–22. (Summary) **98e:90067** 90B22 (68Q25, 90C60)

— (*with* Makino, Kazuhisa; Yano, Kojin) Positive and Horn decomposability of partially defined Boolean functions. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 251–274. (Summary) **98h:68116** 68Q25 (68P15)

— (*with* Nagamochi, Hiroshi) Deterministic $\tilde{O}(nm)$ time edge-splitting in undirected graphs. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 5–46. (H. T. Lau) **98m:90174** 90C35 (05C85)

— (*with* Nagamochi, Hiroshi; Zeng, Dao-Zhi; Kabutoya, Naohisa) Complexity of the minimum base game on matroids. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 146–164. (Rong Si Chen) **98b:90184** 90D12 (68Q25)

— (*with* Makino, Kazuhisa) The maximum latency and identification of positive Boolean functions. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1363–1383. (Nicolae Ţăndăreanu) **98j:68058** 68Q25 (06E30, 68T05, 94C10)

— (*with* Nagamochi, Hiroshi; Nishimura, Kazuhiro) Computing all small cuts in an undirected network. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 469–481. (Mechthild Stoer) **98e:05067** 05C35 (05C40)

— (*with* Nonobe, Koji) Tabu search approach to CSP (constraint satisfaction problem) as a general problem solver. (English summary) Continuous and discrete mathematical

optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 11–21. (*see* **98g:90004**) 90C27 (68T20, 90C30)

— (*with* Deng, Xiao Tie; Nagamochi, Hiroshi) Optimization games on graphs. (English summary) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 37–49. (*see* **98g:90004**) 90D43

— (*with* Ishii, Toshimasa; Nagamochi, Hiroshi) Augmenting edge-connectivity and vertex-connectivity simultaneously. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 90–97. (Summary) **98m:05116** 05C40 (68R10)

— (*with* Bioch, Jan C.; Makino, Kazuhisa) Minimum self-dual decompositions of positive dual-minor Boolean functions. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 183–190. (Summary) **98m:68112** 68Q25 (94C10)

Ibarra, Andoni (*with* Mormann, Thomas) ★ Representaciones en la ciencia. (Spanish. Spanish summary) [Representations in science] De la invariancia estructural a la significatividad pragmática. [From structural invariance to pragmatic meaning] Textos del Bronce [Bronce Texts], 11. *Ediciones del Bronce, Barcelona*, 1997. 332 *pp. ISBN* 84-89854-21-1 00A69

— *see also* **Grattan-Guinness, Ivor, 98f:01044** *and* **Carnap's program, 98k:03013**

Ibarra, Oscar H. (*with* Tran, Nicholas Q.; Yang, Tao[2]) On the parallel complexity of loops. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 381–395. (Evangelos Kranakis) **98f:68052** 68N20 (68Q15, 68Q22, 68Q25)

Ibarra-Valdez, C. (*with* Suárez, Rodolfo; Álvarez-Ramírez, José; Sznaier, M.) $\mathcal{L}^2$-disturbance attenuation for linear systems with bounded controls: an ARE-based approach. *Control of uncertain systems with bounded inputs*, 25–38, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (Valery I. Korobov) **98k:93037** 93B36 (93D15)

Ibel, Maximilian (*with* Eğecioğlu, Ömer) Asymptotic hypercube embeddings of dynamic k-ary trees. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 21–32. (Summary) **98i:05053** 05C10 (05C05)

Ibens, Ortrun (*with* Letz, Reinhold) Subgoal alternation in model elimination. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 201–215, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B35 (68T15)

Ibiejugba, M. A. (*with* Bamigbola, O. M.; Evans, David J.) Analysis of Chebyshev finite element method for linear differential equations using equal interval elements. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 113–130. (Summary) **98c:65139** 65L60

Ibn al-Hā'im *see* **Abdurahman, Muhammad, (98d:01002)**

Ibn al-Haitam *see* **ibn al-Haytham, Ḥasan**

Ibn al-Haytham *see* **ibn al-Haytham, Ḥasan**

Ibn al-Haytham, Ḥasan *see* **ibn al-Haytham, Ḥasan**

Ibn al-Zarqāliuh *see* **Abū Ishāq Ibrāhīm ibn Yahyā al-Naqqāsh**

Ibn Ma'dān, Abū al-Qāsim *see* **ibn Ma'dān, Abū al-Qāsim**

Ibn Sartāq *see* **Djebbar, Ahmed, 98e:01006**

Ibn Sīnā, Abū 'Alī al-Ḥusayn ibn 'Abdallāh *see* **Street, Tony, 98e:01008** *and* **Rath, Ingo W., 98f:03004**

Ibohal, Ng. On the relationship between Killing-Yano tensors and electromagnetic fields on curved spaces. (English summary) *Astrophys. Space Sci.* **249** (1997), *no.* 1, 73–93. (Volker Perlick) **98k:83046** 83C50 (53C80)

Ibort, Luis Alberto (*with* Marmo, Giuseppe) A generalized reduction procedure for dynamical systems. (English summary) *Differential geometry and its applications (Santiago de Compostela, 1995)*, 55–70, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Manuel de León) **98b:58061** 58F05

— (*with* de León, Manuel; Marmo, Giuseppe) Reduction of Jacobi manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2783–2798. (Domingo Chinea) **98e:53044** 53C15 (17B66, 58F05)

— (*with* de León, Manuel; Lacomba, Ernesto A.; Martín de Diego, David; Pitanga, Paulo) Mechanical systems subjected to impulsive constraints. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5835–5854. (Frans Cantrijn) **98k:70018** 70F30 (58F05, 70F25, 70H35)

Ibragimov, A. I. (*with* Landis, E. M.) Zaremba's problem for elliptic equations in the neighbourhood of a singular point or at infinity. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 269–282. (Summary) **98m:35035** 35J15

— (*with* Nekrasov, A. A.) An analogue of the Schwarz method for solving the Zaremba problem, and its application in underground hydromechanics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 150–156. (Summary) **98i:76086** 76S05 (35J15, 35Q35)

Ibragimov, I. A. Almost sure versions of limit theorems. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 301–303. (Peter Schatte) **98c:60035** 60F15 (60F05)

— A generalization of the Cramér-Rao inequality. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 154–161, 359–360. (J. A. Melamed) **98g:62014** 62B10 (62F10)

— (*with* Khasminskiĭ, Rafail Z.) Some estimation problems in infinite-dimensional Gaussian white noise. *Festschrift for Lucien Le Cam*, 259–274, *Springer, New York*, 1997. (Mamikon S. Ginovian) **98f:62242** 62M09 (62G05)

— The work of R. L. Dobrushin on Markov processes. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 5–9; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 239–243. (M. Iosifescu) **98m:60104** 60J05 (01A70, 60J10, 60J15, 60J27)

Ibragimov, M. Yu. (*with* Ikramov, Kh. D.) The Nekrasov property is hereditary for Gaussian elimination. *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 394–396. (From the text) **98b:15020** 15A45 (65F30)

Ibragimov, N. Kh. Lie group analysis of differential equations. A mosaic of results and open problems. *The Sophus Lie Memorial Conference (Oslo, 1992)*, 53–75, *Scand. Univ. Press, Oslo*, 1994. (Zoya I. Symenoh) **98d:58201** 58G35 (34A26, 35A30)

— (*with* Aksenov, A. V.; Baikov, V. A.; Chugunov, V. A.; Gazizov, R. K.; Meshkov, A. G.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 2. Applications in engineering and physical sciences. Edited by Ibragimov. *CRC Press, Boca Raton, FL*, 1995. xx+546 *pp. ISBN* 0-8493-2864-0 (Juha Pohjanpelto) **98b:58175** 58G35 (00A05, 00A20, 00A79, 22E70, 34A34, 35A30, 58–02)

— (*with* Anderson, Robert Leonard; Baikov, V. A.; Gazizov, R. K.; Hereman, Willy; Mahomed, F. M.; Meleshko, S. V.; Nucci, M. C.; Olver, Peter J.; Sheftel', M. B.; Turbiner, A. V.; Vorob'ev, E. M.) ★ CRC handbook of Lie group analysis of differential equations. Vol. 3. New trends in theoretical developments and computational methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1996. xvi+536 *pp. ISBN* 0-8493-9419-8 (Juha Pohjanpelto) **98b:58176** 58G35 (00A20, 22E05, 34A34, 35–04, 35A30, 58–02)

— (*with* Baikov, V. A.; Gazizov, R. K.; Kovalev, Vladimir F.) Water redistribution in irrigated soil profiles: invariant solutions of the governing equation. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 395–409. (Summary) **98c:76100** 76S05 (35Q35, 86A05)

— (*with* Kara, A. H.; Mahomed, F. M.) Lie-Bäcklund and Noether symmetries with applications. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 2, 115–136. (Frans Cantrijn) **98m:58124** 58F37 (35A30, 58F05, 58G37)

Ibragimov, R. (*with* Sharakhmetov, Sh.) On an exact constant for the Rosenthal inequality. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 341–350; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 294–302 (1998). (Pawel Hitczenko) **98j:60026** 60E15

Ibragimova, N. Zh. On the reduction of a problem of integral geometry to an inverse problem for the heat equation. (Russian) *Analysis and discrete mathematics (Russian)*, 61–65, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (R. G. Mukhometov) **98f:53066** 53C65 (35K05, 35R30)

Ibrahim, A. G. On differential inclusions with memory in Banach spaces. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 67 (1992), 1–26 (1994). (Nikolaos S. Papageorgiou) **98g:34030** 34A60 (34K30, 47D06, 47N20)

— (*with* El-Sayed, Ahmed M. A.) Definite integral of fractional order for set-valued functions. (English summary) *J. Fract. Calc.* **11** (1997), 81–87. (Summary) **98a:28010** 28B20 (26A33)

— Functional evolution equations with nonconvex lower semicontinuous multivalued perturbations. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 165–170. (Alexsander Ivan Bulgakov) **98k:34129** 34K30 (34A60, 34G20, 49J24)

Ibrahim, Abd El-Hamid M. On multiply perfect numbers. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **37** (1997), *no.* 2, 89–91. 11A25

— On the search for perfect numbers. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **37** (1997), *no.* 2, 93–95. 11A25

Ibrahim, Iman H. (*with* Ismail, Gamal A. F.) Variable step stiffly stable methods. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 227–240. (Summary) **98m:65114** 65L06

Ibrahim, Joseph G. On properties of predictive priors in linear models. (English summary) *Amer. Statist.* **51** (1997), *no.* 4, 333–337. 62J05

al-Ibrahim, M. *see* **Al-Ibrahim, M.**

Ibrahim, M. A.-K. (*with* El-Safty, Abdalla; Abo-Hasha, Shadia M.) Application of spline functions to neutral delay-differential equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 233–239. (Summary) **98h:65029** 65L06 (34K40)

— (*with* Alnasr, M. H.) Product θ-methods with the regularization technique for the high thermal loss problem. (English summary) *J. Egyptian Math. Soc.* **5** (1997), *no.* 2, 155–169. (Summary) **98i:65121** 65R20

Ibrahim, R. A. (*with* Pilipchuk, V. N.) Strong nonlinear modal interaction in shallow suspended cables with oscillating ends. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 4, 637–657. (Summary) **98a:73043** 73K12 (70K50)

— (*with* Chang, W. K.; Pilipchuk, V. N.) Fluid flow-induced nonlinear vibration of suspended cables. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 4, 377–406. 73K12 (73D35)

— (*with* Hijawi, M.; Moschuk, N.) Unified second-order stochastic averaging approach. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 2, 281–291. (Summary) **98b:70030** 70L05 (34C29, 70–04, 70K40)

Ibrahim, R. S. (*with* Khater, A. H.; Shamardan, A. B.; Callebaut, D. K.) Bäcklund transformations and Painlevé analysis: exact solutions for a Grad-Shafranov-type magnetohydrodynamic equilibrium. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 51–69. (Summary) **98c:76122** 76W05 (35Q35, 58G37, 85A30)

— (*with* Khater, A. H.; Callebaut, D. K.) Bäcklund transformations and Painlevé analysis: exact solutions for the nonlinear isothermal magnetostatic atmospheres. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2853–2863. (Summary) **98e:76112** 76X05 (85A15, 85A30)

— (*with* Khater, A. H.; Callebaut, D. K.; Shamardan, A. B.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for strongly rarefied relativistic cold plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3910–3922. (Summary) **98j:76152** 76X05 (35Q35, 76Y05)

— (*with* Khater, A. H.; Callebaut, D. K.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for the unstable nonlinear Schrödinger equation modeling electron beam plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 395–400. (Summary) **98i:35179** 35Q55 (76X05)

Ibrahim, S. F. M. (*with* Zayed, E. M. E.) An expansion theorem for an eigenvalue problem of an arbitrary multiply connected domain with an eigenparameter in a general type of boundary conditions. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 719. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 4, 399–407. (Günter Berger) **98b:35127** 35P10 (35J10, 47F05)

Ibrahim, Tarek (*with* Nath, Pran) The chromoelectric and purely gluonic operator contributions to the neutron electric dipole moment in $N = 1$ supergravity. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 98–106. 81V22 (81V17, 83E50)

Ibrahimbegović, Adnan On the choice of finite rotation parameters. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 49–71. (Xiaoguang Allan Zhong) **98j:73072** 73K99 (73C50, 73V20)

— (*with* Al Mikdad, Mazen) Finite rotations in dynamics of beams and implicit time-stepping schemes. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 781–814. (Summary) **98k:73067** 73V20 (73C50, 73K05)

abū ishāq Ibrāhīm ibn Yahyā al-Naqqāsh *see* **Abū Ishāq Ibrāhīm ibn Yahyā al-Naqqāsh**

Ibro, Vait (*with* Jovanović, Ivan) The space $A^p(D)$ and multipliers. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 111–114, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 46E15 (30B10)

Ibstedt, Henry ★ Surfing on the ocean of numbers. (English summary) A few Smarandache notions and similar topics. *Erhus University Press, Vail, AZ*, 1997. 75 *pp. ISBN* 1-879585-57-X (H. L. Abbott) **98f:11001** 11-02 (11Y70)

— The Smarandache ceil function. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 21–24. 11A25

— The Smarandache pseudo function $Z(n)$. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 25–28. 11A25

— On Smarandache's periodic sequences. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 126–135. 11B37

— A few Smarandache integer sequences. (English summary) *Smarandache Notions J.* **8** (1997), *no.* 1-3, 170–183. 11B83

— Smarandache primitive numbers. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 216–219. 11A25

Ibukiyama, Tomoyoshi An explicit formula for zeta functions associated with quadratic forms. Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 88–101. (Margaret M. Robinson) **98c:11033** 11E45 (11M41)

— (*with* Katsurada, Hidenori) An explicit form of Koecher Maass Dirichlet series associated with Siegel Eisenstein series. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 41–51. (Hiroshi Saito) **98i:11029** 11F46 (11F66)

— (*with* Onodera, F.) On the graded ring of modular forms of the Siegel paramodular group of level 2. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 297–305. (Riccardo Salvati-Manni) **98j:11035** 11F46 (14G35)

— (*with* Saito, Hiroshi[1]) On zeta functions associated to symmetric matrices. III. An explicit form of L-functions. (English summary) *Nagoya Math. J.* **146** (1997), 149–183. (Hideshi Takayanagi) **98f:11096** 11M41 (11E45, 11F46, 11L05)

Ichihara, T. (*with* Ambjørn, Jan; Anagnostopoulos, K. N.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) Quantum geometry of topological gravity. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 177–184. (Summary) **98a:83037** 83C27 (83C45)

— (*with* Ambjørn, Jan; Anagnostopoulos, K. N.; Jensen, Lars Gerhard; Kawamoto, Noboru; Watabiki, Y.; Yotsuji, K.) The quantum space-time of $c = -2$ gravity. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 673–710. 81T80 (81T40)

Ichijyō, Yoshihiro (*with* Hashiguchi, Masao) On (a, b, f)-metrics. II. (English summary) *Rep. Fac. Sci. Kagoshima Univ. Math. Phys. Chem. No.* 29 (1996), 1–5. (Sorin Dragomir) **98f:53021** 53B40

Ichikawa, Takashi Theta constants and Teichmüller modular forms. (English summary) *J. Number Theory* **61** (1996), *no.* 2, 409–419. (Cris Poor) **98e:11060** 11F46 (11F30, 14H15)

— Deformation of degenerate curves and automorphic functions on the Teichmüller space. Deformation of group schemes and applications to number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 942 (1996), 172–182. (From the introduction) **98a:32046** 32N10 (14H15, 32G15)

— Schottky uniformization theory on Riemann surfaces and Mumford curves of infinite genus. (English summary) *J. Reine Angew. Math.* **486** (1997), 45–68. (Yaacov Kopeliovich) **98e:14027** 14H25 (11G20, 14G20, 14H42, 58F07)

Ichikawa, Yoshi H. (*with* Saitô, Satoshi; Nomura, Yasuyuki; Hirose, Kei-ichi) Separatrix reconnection and periodic orbit annihilation in the Harper map. (English summary) *Chaos* **7** (1997), *no.* 2, 245–253. (Summary) **98k:58195** 58F27 (70H05, 82D20)

Ichimura, H. *see* **Ichimura, Humio**

Ichimura, Hidehiko (*with* Kamiya, Kazuya) Nonparametric restrictions of dynamic optimization behavior under risk: the case of time-additive expected utility. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 214–244. (*see* **98i:90007**) 90A46 (90A43)

— (*with* Heckman, James J.; Todd, Petra) Matching as an econometric evaluation estimator. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 2, 261–294. 62P20

Ichimura, Humio On some congruences for units of local p-cyclotomic fields. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 273–279. (Alan Candiotti) **98a:11161** 11S23 (11R18, 11R23)

— (*with* Sumida, Hiroki) On the Iwasawa invariants of certain real abelian fields. II. *Internat. J. Math.* **7** (1996), *no.* 6, 721–744. (Robert Gold) **98e:11128c** 11R23

— (*with* Sumida, Hiroki) On the Iwasawa λ-invariant of the real p-cyclotomic field. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 2, 457–470. (Robert Gold) **98e:11128b** 11R23

— (*with* Sumida, Hiroki) Iwasawa λ-invariants of certain types of real abelian fields. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 78–89. (Masakazu Yamagishi) **98j:11092** 11R23 (11Y40)

— Class numbers of real quadratic function fields of genus one. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 181–185. (Bruno Anglès) **98b:11118** 11R58 (11R29)

— (*with* Sumida, Hiroki) On the Iwasawa invariants of certain real abelian fields. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 2, 203–215. (Robert Gold) **98e:11128a** 11R23

— Local units modulo Gauss sums. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 36–56. (Cornelius Greither) **98k:11154** 11R23 (11L05, 11R37)

— A note on Greenberg's conjecture and the *abc* conjecture. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1315–1320. (Robert Gold) **98j:11093** 11R23

Ichimura, Keiko (*with* Nishizawa, Kiyoko) Bifurcations for skew tent maps. I. Stair type. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 41–48. (*see* **98h:00039**) 58F14 (58F03)

Ichinose, Ikuo (*with* Sekiguchi, Akira) Topological solitons in Chern-Simons theories for the double-layer fractional quantum Hall effect. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 683–706. (Guillermo Zemba) **98f:81383** 81V70 (81T13)

Ichinose, Shoichi (*with* Ikeda, Noriaki[2]) New formulation of the anomaly, the anomaly formula, and a graphical representation. (English summary) *Phys. Rev. D* (3) **53** (1996), *no.* 10, 5932–5951. (Klaus Kirsten) **98c:81208** 81T50 (58G11)

— (*with* Ikeda, Noriaki[2]) Graphical classification of global SO(n) invariants and independent general invariants. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6475–6521. (Sergey I. Tertychniy) **98m:83032** 83C45 (53A55, 83-04, 83C47)

Ichinose, Takashi (*with* Takanobu, Satoshi) On the norm estimate of the difference between the Kac operator and the Schrödinger semigroup. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 165–173, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Summary) **98b:47061** 47F05 (35J10, 35P05, 47D06, 47N50, 81Q05)

Ichinose, Wataru On the formulation of the Feynman path integral through broken line paths. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 17–33. (John I. LaChapelle) **98k:81138** 81S30 (58D30)

Ichiraku, Shigeo On spiral-linear systems. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 2, 141–146. (Andrew C. Fowler) **98k:58158** 58F13 (34C99)

Ichishima, Rikio (*with* Kountanis, Dionysios I.; Nurul, Md. Azam) An efficient parallel sorting network. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 11–24. (Summary) **98k:68077** 68Q22 (68M10, 68P10)

Ichiyanagi, Masakazu The second law and Boltzmann's H-theorem. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 3, 589–597. (Alexander Orlov) **98d:82038** 82C35 (80A05, 82C10, 82C40)

— Comments on the entropy differential in extended irreversible thermodynamics. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 220–233. (*see* **98h:00038**) 82C35

Ichtiaroglou, Simos Non-integrability in Hamiltonian mechanics. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 21–31. (Juan José Morales Ruiz) **98i:58088** 58F05 (34C25, 70H05)

Icke, Vincent Particles, space, and time. (English summary) International Conference on Modern Mathematical Models of Time and their Applications to Physics and Cosmology (Tucson, AZ, 1996). *Astrophys. Space Sci.* **244** (1996), *no.* 1-2, 293–311. (H. Treder) **98h:83067** 83C99 (81T13)

— Particles, space, and time [MR 98h:83067]. (English summary) *Modern mathematical models of time and their applications to physics and cosmology* (*Tucson, AZ*, 1996), 293–311, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:83002**) 83C99 (81P05)

Ickstadt, Katja *see* **Martin, Jacinto, 98f:62013**

Ida, Kenichi (*with* Gen, Mitsuo) Improvement of the two-phase approach to solving fuzzy multiple objective linear programming problems. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 105–114. 90C70 (90C08)

Ida, M. P. (*with* Miksis, Michael J.) Dynamics and stability of thin liquid films. *Ordinary and partial differential equations, Vol. V* (*Dundee*, 1996), 75–84, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (*see* **98k:00018**) 76D99 (76E99)

Ida, Masaaki Possibility valuation based on ordinal utility. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 727–741 (1996). 90A05 (04A72, 90C70)

Ida, Tetsuo (*with* Nakahara, Koichi) Leftmost outside-in narrowing calculi. (English summary) *J. Funct. Programming* **7** (1997), *no.* 2, 129–161. (Summary) **98c:68032** 68N15 (68Q42)

— (*with* Hamada, Mohamed) Deterministic and non-deterministic lazy conditional narrowing and their implementations. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 656–663. (Summary) **98m:68137** 68Q42

Idczak, Dariusz The generalization of the Du Bois-Reymond lemma for functions of two variables to the case of partial derivatives of any order. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 221–236, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Urszula Ledzewicz) **98g:49015** 49K10 (26B30, 49J10)

Idelhadj, Abdelouahab (*with* Kaidi, El Amin) The dual of the socle-fine notion and applications. *Commutative ring theory* (*Fès*, 1995), 359–367, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (K. R. Fuller) **98d:16005** 16D80 (16L60)

Idelsohn, Sergio R. (*with* Oñate, Eugenio) The finite point method (FPM) in computational mechanics. *Numerical methods in mechanics* (*Concepción*, 1995), 93–107, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (*see* **98g:65009**) 65M70 (73V20, 76M25)

— (*with* Storti, Mario; Nigro, Norberto) (SU+C)PG: a Petrov-Galerkin formulation for advection-reaction-diffusion problems. (English summary) *Numerical methods in mechanics* (*Concepción*, 1995), 149–161, *Pitman Res. Notes Math. Ser.*, 371, *Longman, Harlow*, 1997. (*see* **98g:65009**) 65M70 (76M10)

— (*with* Storti, Mario; Nigro, Norberto) Equal-order interpolations: a unified approach to stabilize the incompressible and advective effects. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 3-4, 317–331. (Summary) **98b:76057** 76M25 (65M12)

— (*with* Nigro, Norberto; Storti, Mario) CFD presents: compressible + incompressible, a marriage of convenience. (Spanish. English and Spanish summaries) MECOM'96 (Spanish) (Tucumán, 1996). *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 4, 531–545. (*see* **98k:73002**) 76Mxx

— *see also* **MECOM'96, 98k:73002**

Idemen, M. (*with* Erdoğan, Eren) High-frequency surface currents induced on a spherical reflector by the edge-diffraction of obliquely incident waves. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 121–141, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (I. Kay) **98h:78013** 78A45 (45E10)

— (*with* Akduman, I.) One-dimensional profile inversion of a half-space over a multi-part impedance ground. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 240–256, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (I. Kay) **98m:78025** 78A45 (35R30)

Ido, Augustin (*with* Melançon, Guy) Lyndon factorization of the Thue-Morse word and its relatives. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 43–52 (*electronic*). (Summary) **98e:68217** 68R15

Idris, Ismail M. On *-primes and *-valuations. (English and Arabic summaries) *Proc. Math. Phys. Soc. Egypt No.* 68 (1993), 1–6 (1997). 16W10

Idrisov, F. F. A spline estimate for the power spectrum from measurements taken at random moments of time. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 4, 27–31; *translation in Russian Phys. J.* **40** (1997), *no.* 4, 332–337. 62M15

— Estimation by splines of the correlation function from measurements taken at random moments of time. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 4, 32–37; *translation in Russian Phys. J.* **40** (1997), *no.* 4, 338–343. 62M10

Jarmouni-Idrissi, K. *see* **Jarmouni-Idrissi, K.**

Idziak, Paweł M. (*with* Tyszkiewicz, Jerzy) Monadic second order probabilities in algebra. Directly representable varieties and groups. (English summary) *Logic and random structures* (*New Brunswick, NJ*, 1995), 79–107, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:03042** 03C13 (03B15, 03B25, 08A05, 20A15)

— (*with* Wroński, Andrzej) Definability of principal congruences in equivalential algebras. *Colloq. Math.* **74** (1997), *no.* 2, 225–238. (R. Sh. Grigolia) **98m:08004** 08A30 (03G25, 08B05)

— A characterization of finitely decidable congruence modular varieties. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 3, 903–934. (S. Comer) **98c:08001** 08A05 (03B25, 03C13, 08B10)

Ĭdzik, Ĭ. M. (*with* Ignatyuk, V. V.; Tokarchuk, M. V.) The Fokker-Planck equation for a nonequilibrium distribution function of collective variables. II. Computation of the spatial-time dispersion of transport coefficients. (Ukrainian. English, Russian and Ukrainian summaries) *Ukraïn. Fiz. Zh.* **41** (1996), *no.* 10, 1017–1021. (Summary) **98a:82092** 82C70

Iellici, Devis (*with* Moretti, Valter) Thermal partition function of photons and gravitons in a Rindler wedge. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7459–7469. (Summary) **98i:81169** 81T20 (58G26, 81T16)

— (*with* Moretti, Valter) Kabat's surface terms in the zeta-function approach. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 317–321, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:83047** 83C57 (58G26, 83C47)

— Massive scalar field near a cosmic string. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3287–3301. (Summary) **98i:83041** 83C47 (58G26, 81T20)

Iengo, Roberto (*with* Hussain, Faheem; Núñez, Carmen A.) Axion production from gravitons off interacting 0-branes. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 205–235. (Summary) **98e:81139** 81T30 (83E30)

— (*with* Hussain, Faheem; Núñez, Carmen A.; Scrucca, Claudio A.) Interaction of moving D-branes on orbifolds. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 101–108. (Summary) **98j:81279** 81T30 (83E30)

Ierardi, Doug (*with* Chen, Yui-Bin) Time-optimal trajectories of a rod in the plane subject to velocity constraints. (English summary) *Algorithmica* **18** (1997), *no.* 2, 165–197. (Inge Troch) **98m:70006** 70B15 (49N99, 70Q05)

— (*with* Huang, Ming-Deh A.) Counting points on curves over finite fields. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 1–21. (Igor E. Shparlinski) **98i:11040** 11G20 (11Y16, 14G15)

Ierley, G. R. (*with* Balmforth, N. J.; Cvitanović, Predrag; Spiegel, E. A.; Vattay, G.) Advection of vector fields by chaotic flows. *Stochastic processes in astrophysics* (*Gainesville, FL*, 1993), 148–160, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 76F20 (76W05)

— (*with* Balmforth, N. J.; Worthing, Rodney A.) Pulse dynamics in an unstable medium. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 205–251. (Andrew C. Fowler) **98b:35141** 35Q35 (34C23, 35B25, 35Q55, 58F39)

— (*with* Miles, John Wilder) Surface-wave generation by gusty wind. (English summary) *J. Fluid Mech.* **357** (1998), 21–28. (Summary) **98m:76020** 76B15 (86A05)

Ieşan, D. Uniqueness results in the theory of microstretch fluids. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 7, 669–679. (Rakesh Kumar Bhatnagar) **98h:76007** 76A05

— A theory of mixtures with different constituent temperatures. (English summary) *J. Thermal Stresses* **20** (1997), *no.* 2, 147–167. (K. S. Harinath) **98d:73007** 73B30 (35Q72, 73B27, 80A20)

— (*with* Nappa, L.) Some properties of solutions in dynamical theory of mixtures. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 351–360. (Summary) **98e:73021** 73B99 (73D99)

— Uniqueness theorems in the theory of nonsimple fluids. *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 146–150. (Mariarosaria Padula) **98c:76003** 76A05 (35Q35)

Ifantis, Evangelos K. (*with* Kokologiannaki, C. G.; Siafarikas, P. D.) Newton sum rules and monotonicity properties of the zeros of scaled co-recursive associated polynomials. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 4, 486–497. (E. R. Love) **98m:33021** 33C45

— A criterion for the nonuniqueness of the measure of orthogonality. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 207–218. (T. S. Chihara) **98m:42037** 42C05 (30E05)

Iftimie, Dragos Approximation du système quasigéostrophique à l'aide des systèmes primitifs. (English and French summaries) [Approximation of the quasigeostrophic system using the primitive systems] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 417–420. (José Luiz Boldrini) **98b:35131** 35Q05 (35F99, 76C99, 76U05, 86A05, 86A10)

Iftimie, Viorel Décroissance exponentielle des fonctions propres des opérateurs de Schrödinger avec des champs magnétiques. [Exponential decay of eigenfunctions of Schrödinger operators with magnetic fields] *Bull. Sci. Math.* **120** (1996), *no.* 5, 445–471. (B. Hellwig) **98d:35166** 35P05 (35B40, 35J10, 47F05, 47N50, 81V10)

Iftimovici, Andrei Hard-core scattering for N-body systems. (English summary) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 265–313. (Fumio Hiroshima) **98k:81292** 81U10 (47A40, 47F05, 47N50)

Iftode, V. Periodic solutions for a Riccati equation in Hilbert spaces. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **56** (1994), *no.* 1-2, 37–41. 49K27 (34G20, 34H05, 49L25)

Igarashi, Hiroshi (*with* Fujiwara, Takanori; Takimoto, Yoshio) Quantum exchange algebra and locality in Liouville theory. (English summary) *Phys. Lett. B* **391** (1997), *no.* 1-2, 78–86. (Kazuto Oshima) **98b:81096** 81R50 (58F07, 81T10, 81T40)

Igarashi, Masao (*with* Ypma, Tjalling) Empirical versus asymptotic rate of convergence of a class of methods for solving a polynomial equation. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 229–237. (*see* **98d:65005**) 65H05

Igarashi, Takanori Killing equation in Cartan space. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 66–76. (Mihai Anastasiei) **98k:53021** 53B40

Igarashi, Yoshihide (*with* Bao, Feng) Break finite automata public key cryptosystem. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 147–158, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (William R. Nico) **98m:94029** 94A60 (68P25, 68Q68)

— (*with* Bao, Feng; Katano, Keiko) Broadcasting in hypercubes with randomly distributed Byzantine faults. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 215–229, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15)

— (*with* Obokata, Koji; Iwasaki, Yukihiro; Bao, Feng) Independent spanning trees of product graphs. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 73–79. (*see* **98a:68008**) 05C05

— (*with* Iwasaki, Yukihiro; Kajiwara, Yuka; Obokata, Koji) Independent spanning trees of chordal rings. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 431–440, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68210** 68R10 (68M10)

— (*with* Obokata, Koji; Iwasaki, Yukihiro; Bao, Feng) Independent spanning trees of product graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 338–351, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05044** 05C05 (68R10)

— (*with* Bao, Feng; Mei, Aohan) Average competitive ratios of on-line spanning trees. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 213–216. (Summary) **98a:68143** 68R10 (05C05, 05C85)

— (*with* Iwasaki, Yukihiro; Kajiwara, Yuka; Obokata, Koji) Independent spanning trees of chordal rings. The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 82–89. (*see* **98k:68015**) 05C05

— *see also* **Algorithms and computation, 98k:68001**

Igarashi, Yuji (*with* Kitakado, Shinsaku; Otsu, Hideharu; Sato, Toshiro[2]) Induced gauge structure for the zero modes of two-dimensional solitons. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 1, 57–64. (Summary) **98a:81119** 81T13

— (*with* Itoh, Katsumi; Kamimura, Kiyoshi; Kuriki, Rie) Canonical equivalence between super D-string and type IIB superstring. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **98k:81220** 81T30 (83E30)

Igari, Katsuju Analytic continuation of holomorphic solutions of partial differential equations. (English summary) *Proceedings of the Sixth International Colloquium on Differential Equations* (*Plovdiv*, 1995), 103–110, *VSP, Utrecht*, 1996. (Summary) **98e:35006** 35A20 (35B60)

Igari, Satoru The career of prize recipient Hitoshi Arai. (Japanese) *Sūgaku* **49** (1997), *no.* 4, 394–399. 01A70

Igel, Christian (*with* Temme, Karl-Heinz) Chaining syllogism applied to fuzzy IF-THEN rules and rule bases. (English summary) *Computational intelligence* (*Dortmund*, 1997), 179–188, *Lecture Notes in Comput. Sci.*, 1226, *Springer, Berlin*, 1997. (*see* **98g:68003**) 68T35 (03B52)

Iggidr, Abderrahman (*with* Kalitin, B. S.; Outbib, R.) Semidefinite Lyapunov functions: stability and stabilization. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 2, 95–106. (Summary) **98b:93047** 93D05 (34D20, 34H05, 93D15)

— (*with* Ferfera, Abdelhak) A remark on the stabilization of partially linear composite systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 411–414. (Han Sheng Wu) **98a:93061** 93D15 (93D05)

— (*with* Bensoubaya, M.) New results on the stability of discrete-time systems and applications to control problems. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 392–414. (Vasile Drăgan) **98m:93086** 93D05 (93C55, 93D15)

Iglesias, Andres (*with* Power, H.) Boundary elements with Mathematica. (English summary) *Innovation in mathematics* (*Rovaniemi*, 1997), 247–254, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 65N38 (65–04)

— (*with* Castillo, Enrique) A package for symbolic solution of real functional equations of real variables. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 181–198. (Summary) **98m:39065** 39B22 (68Q40)

— (*with* Gutiérrez Llorente, José Manuel) Synchronizing chaotic systems with positive conditional Lyapunov exponents by using convex combinations of the drive and response systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 174–180. 58F13

castaño Iglesias, F. *see* **Castaño Iglesias, F.**

Iglesias, Pablo A. An entropy formula for time-varying discrete-time control systems. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 5, 1691–1706. (Summary) **98j:93031** 93B36 (47N70, 93C50, 93C55)

— (*with* Peters, Marc A.) ★ Minimum entropy control for time-varying systems. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. x+185 *pp. ISBN* 0-8176-3972-1 (Carlos S. Kubrusly) **98c:93007** 93–02 (93B36)

— (*with* Peters, Marc A.) Minimum entropy control for discrete-time time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 591–605. (Zbigniew Nahorski) **98g:93056** 93E20 (93C50, 93C55)

— (*with* Peters, Marc A.) Continuous-time time-varying entropy. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 76–96. (Vasile Drăgan) **98e:93112** 93E20 (93E03)

Ignaczak, Ewa Weyl-von Neumann type theorems with the perturbation vanishing on a given subspace. I. *Demonstratio Math.* **30** (1997), *no.* 3, 629–634. (Pei Yuan Wu) **98k:47029** 47A55 (47B25)

Ignat, Anca Approximation of H^∞-control problem in Hilbert spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 591–608. (Rabah Rabah) **98g:93017** 93B36 (41A65, 49N10, 93C30)

Ignát, Csaba (*with* Dáné, Károly) On the open questions of P. Erdős and M. Bencze (OQ.14. and 27.). *Octogon Math. Mag.* **6** (1998), *no.* 1, 73–77. 51M04

Ignatenko, V. F. Algebraic surfaces with an infinite set of skew symmetry planes. Mutual arrangement of linear spans of four orbits of symmetry directions. *Some questions of differential geometry in the large*, 27–51, *Amer. Math. Soc. Transl. Ser.* 2, 176, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **98c:51015** 51F15

Ignat'ev, A. O. Stability of a linear oscillator with variable parameters. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 17, 6 *pp.* (*electronic*). (P. Hagedorn) **98i:34076** 34D20 (70J25)

— On the stability of equilibrium for almost periodic systems. *Nonlinear Anal.* **29** (1997), *no.* 8, 957–962. (Peter Moson) **98j:34101** 34D20 (34C27)

Ignat'ev, Yu. G. (*with* Popov, Arkadiĭ Aleksandrovich) Spherically symmetric perturbation of an ultrarelativistic fluid in a homogeneous and isotropic universe. (English summary) *Phys. Lett. A* **220** (1996), *no.* 1-3, 22–29. (Maria Piedade Ramos) **98a:83066** 83C55

Ignat'eva, I. V. SH-approximation of semigroups by finite characters. (Russian) *Modern algebra, No. 1* (*Russian*), 25–30, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Mária B. Szendrei) **98b:20110** 20M99 (20M14, 20M18)

Ignatovich, S. Yu. (*with* Sklyar, G. M.) A classification of linear time-optimal control problems in a neighborhood of the origin. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 791–811. (Heinz Schättler) **98d:49002** 49J15 (49K15)

Ignatyev, A. O. *see* **Ignat'ev, A. O.**

Ignatyuk, V. V. (*with* Ĭdzik, Ĭ. M.; Tokarchuk, M. V.) The Fokker-Planck equation for a nonequilibrium distribution function of collective variables. II. Computation of the spatial-time dispersion of transport coefficients. (Ukrainian. English, Russian and Ukrainian summaries) *Ukraïn. Fiz. Zh.* **41** (1996), *no.* 10, 1017–1021. (Summary) **98a:82092** 82C70

Igodt, Paul (*with* Dekimpe, Karel) Chaque groupe polycyclique-par-fini admet une structure polynomiale de degré borné. (English and French summaries) [Polycyclic-by-finite groups admit a polynomial structure of bounded degree] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 303–306. (Paul Igodt) **98a:20056** 20J05 (57S30)

— (*with* Dekimpe, Karel; Ongenae, Veerle) The five-dimensional complete left-symmetric algebra structures compatible with an abelian Lie algebra structure. (English summary) *Linear Algebra Appl.* **263** (1997), 349–375. (Daniel Segal) **98g:17001** 17A30 (17B99)

— (*with* Dekimpe, Karel) Polynomial structures on polycyclic groups. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 9, 3597–3610. (Summary) **98f:20021** 20F38 (57S30)

Igoshin, V. A. On a problem of É. Cartan. (Russian) *Dokl. Akad. Nauk* **346** (1996), *no.* 1, 13–14. (Vladislav Goldberg) **98c:53016** 53B10

— Infinitesimal symmetries of quasigeodesic flows of second degree with respect to "velocity". (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 14–17. (J. S. Joel) **98h:58142** 58F17

— The triviality problem for quasigeodesic flows that are quadratic with respect to "velocity". (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 586–588. 58F17 (34A26, 53C22)

Igoshin, V. I. Pages from a biography of Mikhail Yakovlevich Suslin. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 3(309), 3–16; *translation in Russian Math. Surveys* **51** (1996), *no.* 3, 371–383. (F. Smithies) **98d:01039** 01A70 (04–03)

Iguchi, Kazumoto The Saxon-Hutner theorem, its converse theorem and their applications to localization and delocalization problems in binary quasiperiodic lattices. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 18, 2157–2182. (Summary) **98j:82034** 82B44

— Quantum statistical mechanics of an ideal gas with fractional exclusion statistics in arbitrary dimensions. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 17, 3233–3236. (Summary) **98f:82007** 82B10

Iguchi, Tatsuo (*with* Tanaka, Naoto; Tani, Atusi) On the two-phase free boundary problem for two-dimensional water waves. *Math. Ann.* **309** (1997), *no.* 2, 199–223. (J. Thomas Beale) **98e:76015** 76B15 (35Q35, 35R35, 76B45)

— The incompressible limit and the initial layer of the compressible Euler equation in $\mathbf{R}^n_+$. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 11, 945–958. (Alexander Yurjevich Chebotarev) **98f:35118** 35Q30 (76C99, 76N10)

— Two-phase problem for two-dimensional water waves of finite depth. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 791–821. (Nikolay G. Kuznetsov) **98k:76010** 76B15 (35Q35, 45K05)

Igusa, Jun-ichi Remarks on Chow. *Birational algebraic geometry* (*Baltimore, MD*, 1996), xi–xvii, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **98m:01030a** 01A70

— *see also* **Algebraic analysis, geometry, and number theory, 98d:00013**

Ih, K.-D. (*with* Lee, D.-J.) Development of the direct boundary element method for thin bodies with general boundary conditions. (English summary) *J. Sound Vibration* **202** (1997), *no.* 3, 361–373. (Summary) **98e:73144** 73V10 (65N38, 76M15, 76Q05)

Ihara, Shunsuke The maximum entropy method and a large deviation theorem for stationary processes. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 14–27. (*see* **98e:00020**) 60F10 (60G10, 62M15)

Ihara, Yasutaka (*with* Nakamura, Hiroaki) On deformation of maximally degenerate stable marked curves and Oda's problem. *J. Reine Angew. Math.* **487** (1997), 125–151. (Noriko Yui) **98j:14040** 14H30 (11G30, 14H10)

Ihlenburg, Frank (*with* Makridakis, Charalambos; Babuška, Ivo) Analysis and finite element methods for a fluid-solid interaction problem in one dimension. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 8, 1119–1141. (J. T. Oden) **98a:73056** 73V05 (35Q72, 73K70, 76M10, 76Q05)

— (*with* Babuška, Ivo; Strouboulis, Theofanis; Gangaraj, S. K.) A posteriori error estimation for finite element solutions of Helmholtz' equation. I. The quality of local indicators and estimators. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3443–3462. (Zhangxin Chen) **98h:65043** 65M60 (76M10)

— (*with* Babuška, Ivo) Finite element solution of the Helmholtz equation with high wave number. II. The *h-p* version of the FEM. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 315–358. (Manfred Dobrowolski) **98f:65109** 65N30

Ii, Kiyotaka (*with* Yaguchi, Syūichi) On a Riemannian geometric construction of a Kähler structure on the punctured tangent bundle of the complex projective space. (Japanese. English summary) *Bull. Yamagata Univ. Natur. Sci.* **14** (1997), *no.* 2, 59–70. (Kenro Furutani) **98k:53088** 53C55 (53C15, 53C25)

Iida, Ken-ichi Existence of a recurrent trajectory for recurrent processes. (English summary) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 104–113. (Remo Badii) **98m:54045** 54H20 (34C28, 34C35)

Iida, Koji (*with* Hohzaki, Ryusuke; Kaiho, Takesi) Optimal investigating search maximizing the detection probability. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 294–309. (Summary) **98e:90085** 90B40 (90C15)

Iida, Masatoshi Spherical functions of the principal series representations of Sp(2, **R**) as hypergeometric functions of C_2-type. *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 689–727. (Patrick J. Moylan) **98g:43013** 43A90 (22E46, 22E70, 33C55)

Iida, Youichi A note on the Schur index of an irreducible character of a 2-group. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 163–165. 20C15

Ijzerman, W. L. (*with* van Groesen, E.) Model manifolds for analysing data of wave splitting. (English summary) *Differential equations* (*Bandung*, 1996), 257–268, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 65R10 (65R30, 94A12)

Ikeda, A. *see* **Ikeda, Akira**

Ikeda, Akira On space forms of real Grassmann manifolds which are isospectral but not isometric. *Kodai Math. J.* **20** (1997), *no.* 1, 1–7. (Dorothee Schueth) **98c:58170** 58G25 (53C30)

Ikeda, Akira (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Lee, Sang Keun; Obradović, Milutin; Aouf, M. K.; Saitoh, Hitoshi; Koike, Naoya) Sufficient conditions for starlikeness. (English summary) *Chinese J. Math.* **24** (1996), *no.* 3, 265–271. (K. S. Padmanabhan) **98c:30017** 30C45

— An opinion on non-imaginary part of gamma-starlike functions. Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 29–32. (E. Złotkiewicz) **98i:30009** 30C45

— (*with* Nunokawa, Mamoru; Saitoh, Hitoshi; Koike, Naoya; Ota, Yoshiaki) On certain starlike functions. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 74–77. (Summary) **98g:30029** 30C45

— (*with* Owa, Shigeyoshi) Properties of certain analytic functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 219–223. (Summary) **98g:30022** 30C45

— (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Saitoh, Hitoshi; Koike, Naoya) Some results for strongly starlike functions. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 98–106. (R. McLaughlin) **98g:30030** 30C45

— (*with* Nunokawa, Mamoru; Koike, Naoya; Ota, Yoshiaki; Saitoh, Hitoshi) Differential inequalities and Carathéodory functions. *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 324–332. (Carl P. McCarty) **98f:30015** 30C45

Ikeda, Fumio On three-dimensional Finsler spaces without Kikuchi's condition for conformal flatness. *Tensor* (*N.S.*) **57** (1996), *no.* 2, 160–163. (L. Tamássy) **98c:53025** 53B40

Ikeda, Hidemi The upper bound of the Dilworth number and the Rees number of Noetherian local rings with a Hilbert function. *Adv. Math.* **124** (1996), *no.* 2, 197–206. (Joseph P. Brennan) **98f:13025** 13H99 (13E10)

— The Dilworth number and Rees number of one-dimensional modules. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2627–2633. (Elsa Zatini) **98f:13023** 13H15 (13D45, 13H10)

Ikeda, Hiroshi[1] (*with* Yamashita, Masakatsu; Yokoyama, Kazuo) Symbolic description of homeomorphisms on closed 3-manifolds. *Kobe J. Math.* **13** (1996), *no.* 1, 69–115. (Dušan Repovš) **98m:57021** 57N10 (57M60)

Ikeda, I. (*with* Inoue, Atsushi[2]; Takakura, M.) Unitary equivalence of unbounded $*$-representations of $*$-algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 269–279. (Giuseppina Epifanio) **98g:46076** 46K10 (47D40)

Ikeda, Kazuma Normal forms for derivations in Arai's $\mathrm{AI}^-_\varepsilon$. (English summary) Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 38–54. (*see* **98f:03001**) 03F30 (03D70, 03F05)

— A normal form for arithmetical derivations implying the ω-consistency of arithmetic. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 285–304. (Thomas Strahm) **98m:03116** 03F30 (03F05)

Ikeda, Koichiro On theories having a small Galois group. *Kobe J. Math.* **13** (1996), *no.* 1, 61–67. (Martin Epkenhans) **98d:12008** 12L99 (03C60)

Ikeda, Masao (*with* Muramatsu, Eiichi; Tamai, Takayuki) Stabilization of a multi-input multi-output plant with variable operating conditions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2291–2296. (*see* **98i:00030**) 93D15

— (*with* Wada, Teruyo; Ohta, Yuzo; Šiljak, Dragoslav D.) Parametric absolute stability of multivariable Lur'e systems: a Popov-type condition and application of polygon interval arithmetic. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3713–3723. (*see* **98h:00034**) 93D10 (93D09)

Ikeda, Nobuyuki (*with* Manabe, Shojiro) Van Vleck-Pauli formula for Wiener integrals and Jacobi fields. *Itô's stochastic calculus and probability theory*, 141–156, *Springer, Tokyo*, 1996. (M. J. Goovaerts) **98g:81110** 81S40 (58D30)

— Early days and development of stochastic analysis. (Japanese) *Sūgaku* **49** (1997), *no.* 3, 272–291. 60–03 (60H05, 60J65)

Ikeda, Noriaki[2] (*with* Ichinose, Shoichi) New formulation of the anomaly, the anomaly formula, and a graphical representation. (English summary) *Phys. Rev. D* (3) **53** (1996), *no.* 10, 5932–5951. (Klaus Kirsten) **98c:81208** 81T50 (58G11)

— (*with* Abe, Mitsuo; Nakanishi, Noboru) Operator ordering index method for multiple commutators and Suzuki's quantum analysis. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 547–555. (Igor Yurievich Popov) **98d:47162** 47N50 (47A60, 47B47, 81S05)

— (*with* Ichinose, Shoichi) Graphical classification of global SO(n) invariants and independent general invariants. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6475–6521. (Sergey I. Tertychniy) **98m:83032** 83C45 (53A55, 83–04, 83C47)

Ikeda, Satoshi[1] On the theory of gravitational field in Finsler spaces. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 2, 85–90. 53B40 (53B50, 83D05)

— On the theory of gravitational field in Finsler spaces. II. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 119–125. (Mihai Anastasiei) **98e:53027** 53B40 (53B50, 83D05)

— Some generalized connection structures of the Finslerian gravitational field. II. *Tensor* (*N.S.*) **56** (1995), *no.* 3, 318–324. (Zoltan Kovacs) **98a:53034** 53B40 (53B50, 83D05)

— Some structural considerations on the theory of fields in higher order spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1099–1106. (Mihai Anastasiei) **98k:53022** 53B40 (58A20, 83D05)

— *see also* **Miron, Radu, 98g:53002**

Ikeda, Takeshi Coset constructions of conformal blocks. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 19, 2311–2332. (Gloria Luzón) **98j:81313** 81T40 (17B81, 81R10)

Ikeda, Tamotsu An introduction to results related to the central critical value. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 178–182. (*see* **98d:11004**) 11F67

Ikeda, Tomohiro (*with* Sakawa, Masatoshi; Inuiguchi, Masahiro; Kato, Kosuke) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 721–735 (1997). 90C29 (04A72, 49N55, 90C70)

Ikeda, Toshiharu (*with* Fujiwara, Fumiyo; Mimura, Fumitake) A determination of motions in the central force problem through conserved quantities. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 44 (1997), 23–32. (George Bozis) **98i:70003** 70F05 (70D05)

Ikeda, Toshikazu (*with* Yamazaki, Seisi; Ito, Minoru[2]; Saito, Yoshimitu; Yamadera, Terumi; Kubo, Masahiko; Tashiro, Yoshiaki; Higuchi, Teiichi) Riemann's period matrix of $y^3 = x^5 - 1$. *Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem. No.* 43 (1996), 1–14. (Gabino González Diez) **98b:30042** 30F30 (14H40)

Ikeda, Tsutomu Numerical simulation for nonlinear oscillation of internal layers. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994), 69–77, Lecture Notes Numer. Appl. Anal., 14, Kinokuniya, Tokyo, 1995.* (Summary) **98f:65102** 65M99 (65–04, 92C15)

— (*with* Ueda, Akiho) Parallel computation of interfacial dynamics. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 68–77. (*see* **98i:65002**) 65M99 (65Y05)

Ikegame, Toshinori (*with* Kato, Kosuke; Sakawa, Masatoshi) Interactive decision making for multiobjective block angular 0-1 programming problems with fuzzy parameters through genetic algorithms. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 49–59. 90A05 (90C09, 90C29, 90C70)

Ikehata, Masaru (*with* Nakamura, Gen) Inverse boundary value problems—fifteen years after Calderón. (Japanese) *Sūgaku* **48** (1996), *no.* 3, 259–281. (Hideo Soga) **98a:35141** 35R30 (35J10, 35Q60)

— (*with* Đặng Đình Áng; Dang Duc Trong; Yamamoto, Masahiro) Unique continuation for a stationary isotropic Lamé system with variable coefficients. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 371–385. (Summary) **98j:35049** 35J45 (35B60, 73C02)

Ikehata, Ryo (*with* Suzuki, Takashi[1]) Stable and unstable sets for evolution equations of parabolic and hyperbolic type. (English summary) *Hiroshima Math. J.* **26** (1996), *no.* 3, 475–491. (Herbert Koch) **98f:35107** 35L70 (35B40, 35K55)

— (*with* Matsuyama, Tokio) On global solutions and energy decay for the wave equations of Kirchhoff type with nonlinear damping terms. *J. Math. Anal. Appl.* **204** (1996), *no.* 3, 729–753. (Herbert Koch) **98f:35109** 35L70 (35B40)

— The global behavior of weak solutions to some nonlinear wave equations. (English summary) *Nonlinear waves (Sapporo, 1995), 163–168, GAKUTO Internat. Ser. Math. Sci. Appl., 10, Gakkōtosho, Tokyo, 1997.* (*see* **98h:00031**) 35L70 (35B40, 35D10)

— (*with* Matsuyama, Tokio) Energy decay for the wave equations of Kirchhoff type with linear damping terms. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 315–335. (Hiroyuki Takamura) **98c:35116** 35L70 (35B40)

Ikemakhen, A. (*with* Bérard Bergery, L.) Sur l'holonomie des variétés pseudo-riemanniennes de signature (n, n). (English and French summaries) [Holonomy of pseudo-Riemannian manifolds of signature (n, n)] *Bull. Soc. Math. France* **125** (1997), *no.* 1, 93–114. (Summary) **98m:53087** 53C50

Ikeshoji, H. (*with* Wu, Ta Sun) On the lifting of transformation semigroups. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995), 159–166, Contemp. Math., 215, Amer. Math. Soc., Providence, RI, 1998.* (Summary) **98k:54077** 54H20

Ikhile, M. O. N. (*with* Otunta, F. O.) Stability and convergence of a class of variable order non-linear one-step rational integrators of initial value problems in ordinary differential equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 199–208. 65L20

Ikhouane, Fayçal (*with* Rabeh, Abderrahman; Giri, Fouad) Transient performance analysis in robust nonlinear adaptive control. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 21–31. (Summary) **98e:93063** 93C40 (93C10)

— (*with* Krstić, Miroslav) Adaptive backstepping with parameter projection: robustness and asymptotic performance. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 429–435. 93B51

— (*with* Krstić, Miroslav) Robustness of the tuning functions adaptive backstepping design for linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 431–437. 93D09 (93B36)

Ikramov, Kh. D. (*with* Elsner, Ludwig F.) On normal matrices with normal principal submatrices. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **229** (1995), *Chisl. Metody i Voprosy Organ. Vychisl.* 11, 63–94, 322; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 6, 1631–1651. (Zhi Jie Chen) **98b:15027** 15A57

— On normal completions of triangular matrices. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 11–12. (Vladimir B. Larin) **98c:15086** 15A99

— (*with* Elsner, Ludwig F.) On a condensed form for normal matrices under finite sequences of elementary unitary similarities. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 79–98. (Summary) **98b:15011** 15A21

— On pseudosymmetric tridiagonal forms of real matrices. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 1, 3–5, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 1, 1–4. (Summary) **98c:15036** 15A21

— The Schur inequality for pseudo-eigenvalues, and conjugate-normal matrices. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 3–6, 50. (Yao Zhang) **98j:15012** 15A18 (15A42)

— (*with* Ibragimov, M. Yu.) The Nekrasov property is hereditary for Gaussian elimination. *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 394–396. (From the text) **98b:15020** 15A45 (65F30)

— On normal band matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 1, 3–6. (Anna Lee) **98a:15051** 15A57

— Evenness of the Jordan structure of block quaternions with a real spectrum, and its computational consequences. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1029–1033. (M. M. Konstantinov) **98m:15024** 15A33 (15A21)

— The canonical Schur form of a unitarily quasidiagonalizable matrix. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1411–1415. (Summary) **98j:15015** 15A21 (93B10)

— On the dimension of a variety of normal matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 5–10. (Mihail Voicu) **98m:15023** 15A30 (14P05)

— On the simultaneous reducibility of pairs of oblique projectors to block-triangular form. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 181–182. (Summary) **98j:15016** 15A21

— On the fast computation of a polynomial of the Frobenius matrix. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 557–558. 65F30

Ikromov, I. A. (*with* Abullaev, Zh. I.; Lakaev, S. N.) On embedded eigenvalues and resonances of the generalized Friedrichs model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 54–62; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 390–397. (Evgeni L. Korotyaev) **98h:81020** 81Q10 (47A40, 47A55, 47N50)

Ilamaran, S. (*with* Balachandran, Krishnan) Existence and uniqueness of mild and strong solutions of a Volterra integrodifferential equation with nonlocal conditions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 93–100. (Shu Chun Gao) **98g:45007** 45J05 (34K30, 47D06, 47H15, 47N20)

bar-Ilan, Avner *see* **Bar-Ilan, Avner**

Ilchev, V. (*with* Koynov, St.) A method for training neural networks through direct and inverse functions. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 15–22. 68T05 (82C32, 92B20)

Ilchmann, Achim (*with* Allgöwer, Frank; Ashman, Jon) High-gain adaptive λ-tracking for nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 881–888. (Summary) **98c:93047** 93B52 (93C90)

— Universal adaptive stabilization of nonlinear systems. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 199–213. (Engin Yaz) **98e:93086** 93D15

kohr-Ile, Mirela *see* **Kohr-Ile, Mirela**

Il'ev, V. P. An error estimate for a gradient algorithm for independence systems. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 1, 9–22, 92. (P. F. Körner) **98d:90129** 90C35 (05B35)

Ilic, Bo Geometric properties of the double-point divisor. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1643–1661. (Tomasz Szemberg) **98i:14010** 14C20 (14E05, 14N05)

Ilić, Snežana M. (*with* Petković, Miodrag S.; Herceg, Djordje) A note on Babylonian square-root algorithm and related variants. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 155–162. (K.-B. Gundlach) **98h:01042** 01A99 (01A17, 65–03, 65H05)

— (*with* Petković, Miodrag S.) From Babylonian formulas to Newton's method and Julia sets. (English summary) *PRIM '96 (Budva), 127–137, Univ. Novi Sad, Novi Sad, 1997.* (*see* **98h:00033**) 65H10 (01A17, 58F13)

— (*with* Petković, Miodrag S.; Tričković, Slobodan) A family of simultaneous zero-finding methods. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 49–59. (Summary) **98i:65041** 65H05

— (*with* Petković, Miodrag S.) Point estimation and the convergence of the Ehrlich-Aberth method. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 141–149. (Xiaojun Chen) **98m:65095** 65H10

Il'ichev, V. G. On selection criteria in ecology models. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 5, 120–133; *translation in Automat. Remote Control* **57** (1996), *no.* 5, *part* 2, 716–727. (Š. Schwabik) **98i:92043** 92D40 (34C99)

Il'ichov, L. V. Algebraic phenomenological model for molecular rotational relaxation. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4773–4782. 81V55 (81R05)

Ilié, J. M. (*with* Haddad, Serge; Taghelit, M.; Zouari, B.) Symbolic reachability graph and partial symmetries. (English summary) *Application and theory of Petri nets 1995 (Turin), 238–257, Lecture Notes in Comput. Sci., 935, Springer, Berlin, 1995.* (*see* **98a:68141**) 68Q90

Ilie, Lucian (*with* Ehrenfeucht, Andrzej; Păun, Gheorghe; Rozenberg, Grzegorz; Salomaa, Arto) On the generative capacity of certain classes of contextual grammars. (English summary) *Mathematical linguistics and related topics, 105–118, Ed. Acad. Române, Bucharest, 1995.* (Solomon Marcus) **98k:68106** 68Q50 (68Q45)

— On disjunctivity, ultimate periodicity and ultimate identity of Păun-Salomaa self-reading sequences. (English summary) *Developments in language theory, II (Magdeburg, 1995), 44–53, World Sci. Publishing, River Edge, NJ, 1996.* (Summary) **98e:68218** 68R15

— (*with* Salomaa, Arto) On regular characterizations of languages by grammar systems. (English summary) Grammar systems: recent results and perspectives (Budapest, 1996). *Acta Cybernet.* **12** (1996), *no.* 4, 411–425. (Jetty Kleijn) **98b:68106** 68Q50 (68Q45)

— A nonsemilinear language generated by an internal contextual grammar with finite choice. (English summary) *An. Univ. Bucureşti Mat. Inform.* **45** (1996), *no.* 1, 63–70. (Summary) **98a:68117** 68Q45

— (*with* Mitrana, Victor) Binary self-adding sequences and languages. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 171–181. (Summary) **98f:68155** 68Q45

— The decidability of the generalized confluence problem for context-free languages. (English summary) *New trends in formal languages, 454–464, Lecture Notes in Comput. Sci., 1218, Springer, Berlin, 1997.* (Summary) **98j:68082** 68Q45 (03D05)

— On the computational complexity of Marcus contextual languages. (English summary) *Fund. Inform.* **30** (1997), *no.* 2, 161–167. (Summary) **98i:68154** 68Q45 (68Q52)

— (*with* Harju, Tero) Languages obtained from infinite words. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 445–455. (Summary) **98m:68147** 68Q45 (03B25, 03D05)

— On computational complexity of contextual languages. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 33–44. (Summary) **98d:68130** 68Q50 (68Q45, 68Q52)

Iliev, A. I. A generalization of Obreshkoff-Ehrlich method for multiple roots of polynomial equations. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 5, 23–34. (From the introduction) **98c:65082** 65H05

Iliev, Atanas The theta divisor of bidegree (2, 2) threefold in $\mathbf{P}^2 \times \mathbf{P}^2$. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 57–88. (Olivier Debarre) **98k:14007** 14C34 (14H45, 14J30, 14K30)

Iliev, Bozhidar Z. Normal frames and the validity of the equivalence principle. II. The case along paths. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4327–4336. (S. Timothy Swift) **98j:53027** 53B50 (53B05, 83D05)

Iliev, I. D. (*with* Khorozov, E. I.) Hilbert-Arnold problem for cubic Hamiltonians and limit cycles. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 115–124, *VSP, Utrecht*, 1994. (Summary) **98d:34055** 34C05 (58F21)

Iliev, St. Non-axisymmetric static drops on a horizontal plane: numerical analysis. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 3, 7, 66–74. 76M25 (76D45)

Ilieva, N. (*with* Narnhofer, Heide) A Fermi field algebra as crossed product. (English summary) *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 13–33 (1997). (Jens Böckenhauer) **98m:81093** 81T10 (46L55, 46L60, 81T05)

Ilievski, Borko On a class of $(r + is)$-analytical functions having common general exponential characteristic function. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 133–137, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 30A05 (35A20)

— On a subclass of generalized analytic functions of the fourth class. (English summary) *PRIM '96 (Budva)*, 139–145, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 30G20

Il'in, A. M. (*with* Danilin, A. R.) Asymptotic behavior of the solution of the time-optimality problem for a linear system under perturbation of initial data. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 155–157. (G. A. Kurina) **98c:49056** 49K40 (49K15, 49N05)

— (*with* Neudachin, D. I.) On the influence of small dissipation on weakly discontinuous solutions of a hyperbolic system. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 583–585. 35L60

— (*with* Yalysheva, T. Yu.) An elliptic equation with a small parameter multiplying the highest derivatives that is degenerate on the boundary of the domain. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 847–848, 864; *translation in Differential Equations* **33** (1997), *no.* 6, 852–853 (1998). 35B25 (35J25)

Il'in, A. V. (*with* Korovin, S. K.; Fomichev, V. V.) The controllable model method in problems of the inversion of dynamical systems. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 171–173. 93B30 (93A30)

Ilin, K. I. (*with* Vladimirov, V. A.; Moffatt, H. K.) On general transformations and variational principles for the magnetohydrodynamics of ideal fluids. II. Stability criteria for two-dimensional flows. (English summary) *J. Fluid Mech.* **329** (1996), 187–205. (Alexander Lifschitz) **98d:76167** 76W05 (76E25, 76E30, 76M30)

— (*with* Vladimirov, V. A.) On the energy instability of liquid crystals. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 23–36. (Summary) **98m:76006** 76A15 (76E99, 82D30)

Il'in, V. A. *see* **Il'in, Vladimir Aleksandrovich**[1]

Il'in, Valentin Petrovich (*with* Besov, O. V.; Nikol'skiĭ, S. M.) ★ Интегральные представления функций и теоремы вложения. (Russian. Russian summary) [Integral representations of functions, and embedding theorems] Second edition. *Fizmatlit "Nauka", Moscow*, 1996. 480 *pp. ISBN* 5-02-014532-7 (From the preface) **98b:46037** 46E35

— Parallel implicit alternating-direction methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 899–907. (Summary) **98e:65021** 65F10 (65Y05)

Il'in, Vladimir Aleksandrovich[1] (*with* Antoniou, Ioannis E.) An estimate, uniform over the whole line **R**, for the deviation of an expanded function from its spectral expansion corresponding to the Schrödinger operator with a bounded and measurable potential. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1649–1657, 1773 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1613–1621 (1996). (Boris M. Levitan) **98c:34131** 34L10 (34L40)

— Equiconvergence, uniform on the whole line **R**, with the Fourier integral of the spectral expansion corresponding to a selfadjoint extension of the Schrödinger operator with a uniformly locally summable potential. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 12, 1957–1967, 2108; *translation in Differential Equations* **31** (1995), *no.* 12, 1927–1937 (1996). (Victor S. Rykhlov) **98a:34095** 34L10 (47E05)

— (*with* Kritskov, L. V.) An estimate, uniform on the whole line **R**, for the rate of convergence of a spectral expansion corresponding to the Schrödinger operator with a summable potential. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 1, 32–36, 141; *translation in Differential Equations* **32** (1996), *no.* 1, 32–37. (Vladimir Georgescu) **98c:81054** 81Q10 (34L05, 34L40, 47E05)

— (*with* Antoniou, Ioannis E.) On spectral expansions corresponding to the Liouville operator generated by the Schrödinger operator with a uniformly locally summable potential. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 435–440, 572; *translation in Differential Equations* **32** (1996), *no.* 4, 437–441. (Victor S. Rykhlov) **98a:34094** 34L10 (47A70, 47E05)

— (*with* Denisov, A. M.; Emel'yanov, S. V.; Osipov, Yu. S.; Samarskiĭ, A. A.; Sveshnikov, A. G.) Andreĭ Nikolaevich Tikhonov (on the occasion of the ninetieth anniversary of his birth). (Russian) *Differ. Uravn.* **32** (1996), *no.* 10, 1299–1302; *translation in Differential Equations* **32** (1996), *no.* 10, 1297–1299 (1997). 01A70

— (*with* Moiseev, E. I.) An order-sharp estimate that is uniform in $\mathbf{R}^N$ for $N = 2$ and $N = 3$ for the increment with respect to the spectral parameter taken on the diagonal of the spectral function for the Schrödinger operator with a potential satisfying the Kato condition. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 159–161. (Viorel Iftimie) **98c:47059** 47F05 (35J10, 35P05)

— (*with* Antoniou, Ioannis E.) The uniform over the whole line **R** estimates of spectral expansions related to the selfadjoint extensions of the Hill operator and of the Schrödinger operator with a bounded and measurable potential. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 627–632. (*see* **98g:00016**) 34L40 (47E05, 81Q10)

— (*with* Kritskov, L. V.) Some properties of spectral expansions related to the one-dimensional Stark effect Hamiltonian. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 633–640. (Alexander A. Kiselev) **98j:81081** 81Q10 (34L10, 34L40)

— How to express basis conditions and conditions for the equiconvergence with trigonometric series of expansions related to non-self-adjoint differential operators. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 641–647. (*see* **98g:00016**) 34L10 (47E05)

— (*with* Izobov, N. A.; Martynyuk, A. A.; Samoĭlenko, A. M.) Yuriĭ Alekseevich Mitropol'skiĭ (on the occasion of his eightieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 3–5; *translation in Differential Equations* **33** (1997), *no.* 1, 1–3. (Editors) **98k:01030** 01A70

— (*with* Azbelev, Nikolai Viktorovich; Gaĭshun, Ivan Vasil'evich; Izobov, N. A.; Koplatadze, R. G.; Rozov, Nikolaĭ Khristovich; Shemyakina, T. K.) Ivan Tarielovich Kiguradze (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 6–11; *translation in Differential Equations* **33** (1997), *no.* 1, 4–10. (Editors) **98k:01016** 01A70

— (*with* Kurkina, A. V.) Spectral expansions that correspond to the Liouville operator generated by the Schrödinger operator with a matrix potential satisfying the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 324–328, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 321–325. (Summary) **98k:34135** 34L10 (47E05)

— (*with* Izobov, N. A.; Krasovskiĭ, N. N.; Matrosov, Vladimir M.; Samarskiĭ, A. A.; Samoĭlenko, A. M.) Ivan Vasil'evich Gaĭshun (on the occasion of his fiftieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 6, 723–729; *translation in Differential Equations* **33** (1997), *no.* 6, 723–732 (1998). (Editors) **98k:01031** 01A70

— (*with* Emel'yanov, S. V.; Zhuravlev, Yu. I.; Moiseev, E. I.; Oleĭnik, Ol'ga Arsen'evna; Prokhorov, Yu. V.; Samarskiĭ, A. A.) Anatoliĭ Platonovich Prudnikov (on the occasion of his seventieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 6, 730–736; *translation in Differential Equations* **33** (1997), *no.* 6, 733–740 (1998). (Editors) **98k:01023** 01A70

Il'in, Yu. A. On the asymptotic perturbation of a nonlinear center. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 632–637, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 635–640 (1998). (Summary) **98k:34047** 34C05 (34C11, 34D05)

Il'ina, G. V. *see* **Algebraic geometry, 98e:14002**

Ilinca, F. (*with* Pelletier, Dominique H.; Arnoux-Guisse, F.) An adaptive finite element scheme for turbulent free shear flows. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 3, 171–188. (Summary) **98g:76054** 76M10 (76F05)

— (*with* Pelletier, Dominique H.; Turgeon, É.) An adaptive finite element method for forced convection. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 803–823. (Summary) **98h:76087** 76M10 (76R05)

Ilinskaya, A. V. (*with* Il'inskiĭ, K. N.) Generalization of the Agranovich-Toshich transformation and a constraint free bosonic representation for systems of truncated oscillators. (English summary) *J. Phys. A* **29** (1996), *no.* 2, L23–L29. (Summary) **98a:82007** 82B10 (81S05)

Ilinski, K. N. *see* **Il'inskiĭ, K. N.**

Il'inskii, A. I. A theorem on stability of the argument of characteristic function. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 70–79. (Summary) **98g:60029** 60E10

Il'inskii, A. S. Approximate collocation method for an integral equation with a logarithmic kernel. (English summary) Numerical methods in mathematical physics. *Comput. Math. Model.* **8** (1997), *no.* 2, 106–111. (Gennady S. Mishuris) **98e:65114** 65R20 (45L05)

— (*with* Katyushina, V. A.) Galerkin method for the linear-radiator integral equation. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 385–392. (*see* **98i:00039**) 65R20

Il'inskiĭ, K. N. (*with* Kapitonov, V. S.) A functional representation for correlators of spin chains. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **224** (1995), *Voprosy Kvant. Teor. Polya i Statist. Fiz.* 13, 192–207, 339; *translation in J. Math. Sci. (New York)* **88** (1998), *no.* 2, 233–243. (Nicolae Angelescu) **98a:82009** 82B10 (82B23)

— (*with* Ilinskaya, A. V.) Generalization of the Agranovich-Toshich transformation and a constraint free bosonic representation for systems of truncated oscillators. (English summary) *J. Phys. A* **29** (1996), *no.* 2, L23–L29. (Summary) **98a:82007** 82B10 (81S05)

— (*with* Kalinin, G. V.; Stepanenko, A. S.) q-functional Wick's theorems for particles with exotic statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5299–5310. (Władysław Marcinek) **98j:81155** 81R50 (81S05)

— (*with* Kalinin, G. V.; Stepanenko, A. S.) q-functional field theory for particles with exotic statistics. (English summary) *Phys. Lett. A* **232** (1997), *no.* 6, 399–408. (Władysław Marcinek) **98j:81156** 81R50 (81S05, 81T15)

Il'inskiĭ, N. B. (*with* Elizarov, A. M.; Potashev, A. V.) ★ Обратные краевые задачи аэрогидродинамики. (Russian. English and Russian summaries) [Inverse boundary value problems in aerohydrodynamics] Теория и методы проектирования и оптимизации формы крыловых профилей. [Theory and methods in the design and optimization of airfoil shapes] *Fizmatlit "Nauka", Moscow*, 1994. 440 *pp. ISBN* 5-02-015143-2 (Adrian Carabineanu) **98c:76055** 76G25 (76B05, 76D10, 76H05, 76N20)

— (*with* Abzalilov, D. F.) On an extremal problem of the flow of an ideal incompressible fluid around a smooth closed contour with a sink. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 43–46; *translation in Phys. Dokl.* **42** (1997), *no.* 5, 265–268. (Adrian Carabineanu) **98g:76003** 76B05 (76M30)

— (*with* Fokin, D. A.) A universal algorithm for solving the direct, inverse, and mixed problems of the airfoil theory. *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 77–80. (Adrian Carabineanu) **98a:76001** 76B05 (65N30, 76M25)

Il'inykh, A. P. Finite neofields and 2-transitive groups. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 2, 166–193, 240; *translation in Algebra and Logic* **36** (1997), *no.* 2, 99–116. (V. D. Mazurov) **98m:12004** 12K05 (20B20)

Iliopoulos, Costas S. (*with* Galley, Clive N.) On the lower bound for parallel string matching. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 155–162. (Summary) **98i:68115** 68Q22 (68Q25)

— (*with* Moore, Dennis; Smyth, W. F.) The covers of a circular Fibonacci string. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 227–236. (Summary) **98k:05013** 05A99 (68R05)

Illanes, Alejandro The fundamental group of Whitney blocks. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1425–1441. (Sukhjit Singh) **98g:54014** 54B20 (55Q05)

— Characterizing dendrites by deformation retractions. (English summary) *Topology Proc.* **21** (1996), 129–141. (Summary) **98j:54058** 54F15

— Hyperspaces which are products. (English summary) *Topology Appl.* **79** (1997), *no.* 3, 229–247. (Summary) **98d:54024** 54B20

Ilie, Pierre Indecomposable graphs. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 71–78. (Summary) **98d:05123** 05C75

— (*with* Cournier, Alain) Minimal indecomposable graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 61–80. (Kathryn Fraughnaugh) **98m:05098** 05C35

Illés, Tibor (*with* Béres, László) Computational investigation of the covering number of finite projective planes with small order. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 397–411 (1997). 51E12 (05B25, 65Y25, 90C10)

Illi, Sabina (*with* Vach, Werner) Biased estimation of adjusted odds ratios from incomplete covariate data due to violation of the missing at random assumption. (English summary) *Biometrical J.* **39** (1997), *no.* 1, 13–28. (Summary) **98a:62127** 62P10

Illman, Sören Smoothly equivalent real analytic proper G-manifolds are subanalytically equivalent. *Math. Ann.* **306** (1996), *no.* 4, 647–673. (A. L. Onishchik) **98a:57045** 57S20 (14P15)

— Erkki Laitinen in memoriam. (Finnish. Finnish summary) *Arkhimedes* **1997,** *no.* 2, 31–33. (Editors) **98f:01067** 01A70

Illner, Reinhard (*with* Bobylev, A. V.; Dukes, Peter; Victory, Harold Dean, Jr.) On Vlasov-Manev equations. I. Foundations, properties, and nonglobal existence. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 885–911. (Carlo Cercignani) **98j:85001** 85A05 (45K05, 70F10, 82D10)

— (*with* Lange, Horst R.; Toomire, Bruce; Zweifel, P. F.) On quasi-linear Schrödinger-Poisson systems. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1223–1238. (Summary) **98e:35156** 35Q55 (65N30, 82D10)

— Existence, uniqueness and asymptotic behavior of Wigner-Poisson and Vlasov-Poisson systems: a survey. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 195–207. (Paul F. Zweifel) **98g:82047** 82C70 (82D10)

— (*with* Bose, Christopher J.; Ukai, S.) On shock wave solutions for discrete velocity models of the Boltzmann equation. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 35–66. (Alexander Orlov) **98m:82061** 82C40 (76P05)

— *see also* **Simulation methods in kinetic theory**, **98i:76002**

Iloussamen, E. Continuité automatique des dérivations et des epimorphismes. II. [Automatic continuity of derivations and epimorphisms. II] *Extracta Math.* **11** (1996), *no.* 2, 301–305. (K. B. Laursen) **98g:46068** 46H40

Illuminati, Fabrizio (*with* De Martino, Salvatore; De Siena, Silvio) Theory of controlled quantum dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4117–4132. (Gian Carlo Ghirardi) **98f:81038** 81P20 (81R30)

Illusie, Luc *see* **Verdier, Jean-Louis**, **98c:18007**

Ilmanen, T. (*with* Huisken, Gerhard) The Riemannian Penrose inequality. *Internat. Math. Res. Notices* **1997,** *no.* 20, 1045–1058. (Knut Smoczyk) **98m:53055** 53C21 (53C80, 83C40)

Ilmuradov, D. D. On differential properties of real functions. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 7, 922–928 (1995). (Aleksander Maliszewski) **98a:26011** 26B05

Ilow, Jacek (*with* Hatzinakos, Dimitrios) Detection in alpha-stable noise environments based on prediction. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 555–568. 94A13

Iltyakov, A. V. On polynomial identities of Jordan pairs of rectangular matrices. (English summary) *Linear Algebra Appl.* **260** (1997), 257–271. (K. Chandrasekhara Rao) **98c:15087** 15A99

Magaril-Il'yaev, G. G. *see* **Magaril-Il'yaev, G. G.**

Ilyashenko, Yu. Limit cycles and nonlinear Stokes phenomena. *The Stokes phenomenon and Hilbert's 16th problem* (*Groningen*, 1995), 7–23, *World Sci. Publishing, River Edge, NJ*, 1996. (Lubomir Gavrilov) **98d:58149** 58F21 (34C05, 34C23, 58F14)

Il'yasov, Kh. Kh. (*with* Bordakov, G. A.; Mikolaevskiĭ, È. Yu.; Sekerzh-Zen'kovich, S. Ya.) On the influence of a quasi-thin fluid-saturated porous layer on Rayleigh and Stoneley surface waves. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 651–658. 73D20 (76S05)

Il'yasov, Ya. Sh. On the manifold of solutions of semilinear elliptic equations satisfying the Pokhozhaev identity. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1063–1070, 1149; *translation in Differential Equations* **32** (1996), *no.* 8, 1067–1074 (1997). (Dian K. Palagachev) **98m:35063** 35J65 (35D05)

Ilyushin, A. S. (*with* Ovchinnikova, E. N.) ★ Теоретико-групповые методы в дифракционных исследованиях структуры и свойств твердых тел. (Russian. Russian summary) [Methods of group theory in X-ray scattering investigations of the structure and properties of solids] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1996. 121 *pp. ISBN* 5-211-03452-X (Gh. Adam) **98k:82188** 82D25 (81-01, 81V55, 82-01, 92E10)

Il'yushin, Aleksei Antonovich Asymmetry of deformation and stress tensors in continuum mechanics. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 5, 6–14, 103. (Summary) **98f:73011** 73B99 (73A05, 73C50, 76A99)

— *see also* **Birthday: Il'yushin, Aleksei Antonovich**

Il'yushina, G. A. On solutions of the thermodynamic equation for the reaction functional in the space of continuously differentiable processes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 2, 75–79, 105. (Summary) **98i:80001** 80A10

Il'yuta, G. G. Geometric realizations of higher Bruhat orders, and M-Morsifications. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 91–100; *translation in Izv. Math.* **60** (1996), *no.* 6, 1183–1192. (V. M. Zakalyukin) **98f:58034** 58C27 (52B30, 55R99, 57M07)

— Coxeter-Dynkin diagrams of partially ordered sets and A'Campo-Guseĭn-Zade diagrams of simple singularities. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 12–19, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 10–15. (V. D. Sedykh) **98k:58024** 58C27

Im, Bok-Hee (*with* Park, Won-Sun; Kim, Pyeong-Ju) Centralizers of elements of the future cone in the Minkowski world. *Bull. Honam Math. Soc.* **13** (1996), 19–23. (Martin Funk) **98a:51003** 51B20 (20N05, 51P05)

Im, Eric Ikseon Narrower eigenbounds for Hadamard products. (English summary) *Linear Algebra Appl.* **264** (1997), 141–144. (M. L. Mehta) **98f:15013** 15A42

Im, Hong G. (*with* Lund, Thomas S.; Ferziger, Joel H.) Large eddy simulation of turbulent front propagation with dynamic subgrid models. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3826–3833. (Summary) **98j:76109** 76M25 (76F05, 80A25)

so Im, Kyung *see* **So Im, Kyung**

Im, Sung Mo (*with* Lee, Sang Han) A metric induced by a norm on normed almost linear spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 115–125. (David Yost) **98g:46006a** 46A35 (41A65, 46B20, 46N10)

— (*with* Lee, Sang Han) Uniqueness of bases for almost linear spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 127–133. (David Yost) **98g:46006b** 46A35 (41A65, 46B20, 46N10)

Imafuku, Kentaro (*with* Ohba, Ichiro; Yamanaka, Yoshiya) Tunneling time and Nelson's quantum mechanics. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 30–40. (*see* **98k:00038**) 81P20

Imahashi, T. (*with* Hama, Masaki) Periodic β-expansions for certain classes of Pisot numbers. (English summary) *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 103–116. (Christopher Smyth) **98m:11113** 11R06 (11A63)

Imai, H. *see* **Imai, Hitoshi**

Imai, Hideo[2] On the universal norms of some abelian varieties over local fields. (English summary) *Interdiscip. Inform. Sci.* **3** (1997), *no.* 1, 1–4. (Summary) **98m:14049** 14K15 (11G25)

Imai, Hideyuki (*with* Sato, Yoshiharu) Exploratory projection pursuit for fuzzy data. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 817–856 (1996). 90D26 (04A72, 90C70)

— (*with* Miyakoshi, Masaaki; Watanabe, Takenori; Da-te, Tsutomu) General solutions to a generalized transitive coupling problem in fuzzy structural modeling. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 2, 223–245. 04A72

— (*with* Miyakoshi, Masaaki) An algebraic structure of the set of solutions in a transitive coupling problem in fuzzy structural modeling. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 4, 515–533 (1997). 04A72

— (*with* Miyakoshi, Masaaki; Da-te, Tsutomu) Some properties of minimal solutions for a fuzzy relation equation. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 335–340. (Summary) **98f:04005** 04A72

— (*with* Ohnishi, Shin-ichi; Kawaguchi, Michiaki) Evaluation of the stability on weights of fuzzy analytic hierarchy process using sensitivity analysis. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 147–160. 90C70 (90C31)

Imai, Hiroshi (*with* Imai, Keiko) Enumeration of regular triangulations. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 126–132. (*see* **98a:68008**) 68U05 (68Q40)

— (*with* Sekine, Kyoko) Calculation of Tutte polynomials and Jones polynomials. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 133–139. (*see* **98a:68008**) 57M25 (05C10, 05C15)

— (*with* Takeuchi, Fumihiko) Enumerating triangulations for products of two simplices and for arbitrary configurations of points. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 470–481, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05

— (*with* Takeuchi, Fumihiko; Imai, Keiko) Enumerating triangulations for arbitrary configurations of points and for products of two simplices. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 98–105. (Summary) **98k:68170** 68U05 (05C30)

— (*with* Takeguchi, T.; Nose, K.) Robust output regulation for linear systems with structured uncertainty and with unmeasurable controlled output by high gain observer approach. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 505–522. 93D21 (93C41)

Imai, Hitoshi (*with* Ishimura, Naoyuki; Nakamura, Masa Aki) Magnetic Bénard system and its simplified model. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 79–92, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (From the introduction) **98e:76105** 76W05 (35Q60, 58F40, 76E25, 76R05)

— (*with* Aiki, Toyohiko) Behaviour of blow-up solutions to one-phase Stefan problems with Dirichlet boundary conditions. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 3–15, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Barbara E. E. Stoth) **98h:35237** 35R35 (35B05, 35K60)

— (*with* Ishimura, Naoyuki; Nakamura, Masa Aki) Convergence of attractors for simplified magnetic Bénard system. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 56–64. (*see* **98i:65002**) 76F20 (58F13, 58F14, 76E25, 76W05)

— (*with* Ali, Zulfikar; Shinohara, Yoshitane; Sakaguchi, Hideo) Existence and uniqueness of quasi-periodic solutions to nonlinear ordinary differential equations with perturbation terms. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 179–187. (*see* **98j:65001**) 34C27

Imai, Katsunobu (*with* Adachi, Taichi; Furusaka, Shinichi; Morita, Kenichi) The firing squad synchronization problem in two-dimensional reversible cellular automata. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 228–232. (*see* **98a:68008**) 68Q80

— (*with* Morita, Kenichi) Computation universality of 2-dimensional 8-state triangular reversible cellular automata. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 154–158. (*see* **98k:68015**) 68Q80

Imai, Keiko (*with* Imai, Hiroshi) Enumeration of regular triangulations. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 126–132. (*see* **98a:68008**) 68U05 (68Q40)

— (*with* Takeuchi, Fumihiko; Imai, Hiroshi) Enumerating triangulations for arbitrary configurations of points and for products of two simplices. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 98–105. (Summary) **98k:68170** 68U05 (05C30)

Imai, Kenji (*with* Matsuba, Ken-ichi; Nozaki, Kazuhiro) Nonlinear modulation of travelling rolls in magnetoconvection. (English summary) *Phys. D* **107** (1997), *no.* 1, 69–74. (Summary) **98g:76078** 76W05 (76E15, 76E25)

Imamoğlu, A. (*with* Villain, P.; Lewenstein, M.; Dum, R.; Castin, Y.; You, Li; Kennedy, T. A. B.) Quantum dynamics of the phase of a Bose-Einstein condensate. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1775–1799. 82C10

Imamoğlu, Ö. (*with* Duke, W.) Siegel modular forms of small weight. *Math. Ann.* **310** (1998), *no.* 1, 73–82. (Stefan Breulmann) **98m:11037** 11F46 (11F66)

Imamura, Kousuke (*with* Kuroda, Hideo; Popescu, Daniel; Yan, Hong) Fast block matching method for fractal image coding. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1543–1553. 68U10

Imamura, Yosuke Born-Infeld action and Chern-Simons term from Kaluza-Klein monopole in M-theory. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 242–250. (Summary) **98i:81205** 81T30 (83E30)

— A comment on fundamental strings in M(atrix) theory. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 677–685. (Richard A. Corrado) **98m:81145** 81T30

— D-particle creation on an orientifold plane. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 55–60. (Summary) **98m:81146** 81T30 (83E30)

Imanaliev, M. I. (*with* Pankov, P. S.; Kenenbaeva, G. M.) An algorithm for guaranteed bounds of solutions of singularly perturbed ordinary differential equations and autonomous systems of the second order, and the singular cycle phenomenon. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 733–735. (Yuri V. Rogovchenko) **98h:34099** 34E15 (34C05, 34C11)

Imanbaev, N. S. (*with* Kanguzhin, B. E.) On zeros of entire functions that have an integral representation. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1995**, *no.* 3, 47–51. (Summary) **98i:30038** 30D10 (30D15)

Imanuvilov, Oleg Yu. (*with* Fursikov, Andrei V.) Local exact boundary controllability of the Navier-Stokes system. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 115–129, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Vilmos Komornik) **98k:93058** 93C20 (35Q30, 76D05, 93B05)

— Local exact controllability for the 2-D Navier-Stokes equations with the Navier slip boundary conditions. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 148–168, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Ruxandra Stavre) **98m:35157** 35Q30 (35B37, 49J20, 76D05, 76M30, 93C20)

Imaoka, Haruki On a subjective evaluation model by a generalized fuzzy integral. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 5, 517–529. 28E10

Imaoka, Mitsunori (*with* Kawamoto, Yusuke) Symmetricity of the Whitehead element. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 221–228. (Donald M. Davis) **98d:55020** 55Q15 (55S10)

Imaoka, Teruo (*with* Ogawa, Takahide) Note on representations of generalized inverse $*$-semigroups. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 54–65. (Vladimir S. Mazorchuk) **98e:20067** 20M30 (20M18, 22A15)

— (*with* Katsura, Masashi) Representations of locally inverse $*$-semigroups. II. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 247–255. (P. R. Jones) **98h:20108** 20M18

Imayoshi, Yoichi (*with* Mabuchi, Toshiki) A Torelli-type theorem for stable curves. *Geometry and analysis on complex manifolds*, 75–95, *World Sci. Publishing, River Edge, NJ*, 1994. (Hiroshige Shiga) **98h:14010** 14C34 (14H15, 32G15)

Imbens, Guido W. (*with* Rubin, Donald B.) Bayesian inference for causal effects in randomized experiments with noncompliance. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 305–327. (I. J. Good) **98a:62006** 62A15 (62B15, 62C10, 62F15, 62K99)

— One-step estimators for over-identified generalized method of moments models. (English summary) *Rev. Econom. Stud.* **64** (1997), *no.* 3, 359–383. (Summary) **98e:62150** 62P20

— (*with* Rubin, Donald B.) Estimating outcome distributions for compliers in instrumental variables models. (English summary) Evaluation of training and other social programmes (Madrid, 1993). *Rev. Econom. Stud.* **64** (1997), *no.* 4, 555–574. (*see* **98g:90006**) 90A20 (90A09)

— (*with* Spady, Richard H.; Johnson, Phillip Matthew) Information-theoretic approaches to inference in moment condition models. (English summary) *Econometrica* **66** (1998), *no.* 2, 333–357. 62F10 (62B10)

Imberger, J. (*with* De Silva, I. P. D.; Ivey, G. N.) Localized mixing due to a breaking internal wave ray at a sloping bed. (English summary) *J. Fluid Mech.* **350** (1997), 1–27. 76F99 (76–05, 76C10)

Imbimbo, Camillo (*with* Becchi, Carlo M.; Giusto, Stefano) Gauge dependence in topological gauge theories. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 342–348. (Bai-Ling Wang) **98c:81221** 81T70 (58D29, 81T13)

Imbo, Tom D. (*with* Brekke, Lee; Collins, Sterrett J.) Non-abelian vortices on surfaces and their statistics. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 465–485. (S. Timothy Swift) **98k:81316** 81V25 (20F36, 81T13, 81T40)

— (*with* Teotonio-Sobrinho, Paulo) Topology change and θ-vacua in 2D Yang-Mills theory. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 565–578. 81T13 (58Z05)

Imdad, M. (*with* Ahmad, Aqeel) On common fixed point of mappings and multivalued mappings. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 147–158. 54H25 (47H10, 54C60)

— (*with* Ahmad, Aqeel) Some common fixed point theorems for mappings and multi-valued mappings. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 546–560. 54H25 (47H10, 54C60)

Imhof, Henrik Computational aspects of arity hierarchies. (English summary) *Computer science logic* (*Utrecht*, 1996), 211–225, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98k:03089** 03D15 (68Q15)

— Fixed-point logics, generalized quantifiers, and oracles. (English summary) *J. Logic Comput.* **7** (1997), *no.* 3, 405–425. (Andreas Blass) **98m:03081** 03C80 (03C13, 03C85, 68Q15)

Imhof, Lorens A counterexample in experimental design showing that the G-criterion function is not necessarily strictly decreasing. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 341–344. (Summary) **98j:62057** 62K05

Imieliñska, C. (*with* Kalantari, Bahman) A general class of heuristics for minimum weight perfect matching and fast special cases with doubly and triply logarithmic errors. (English summary) *Algorithmica* **18** (1997), *no.* 4, 544–559. (Summary) **98d:68166** 68R10 (68Q25)

Imielinski, Tomasz (*with* Bonner, Anthony J.) Reusing and modifying rulebases by predicate substitution. (English summary) 11th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Diego, CA, 1992). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 1, 136–166. (Marc Gyssens) **98g:68029** 68P15 (03B70, 68N17)

Imiya, Atsushi (*with* Kenmochi, Yukiko; Ezquerra, Norberto F.) Polyhedra generation from lattice points. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 127–138, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 52B55 (68U10)

Immerman, Neil (*with* Medina, J. Antonio) A generalization of Fagin's theorem. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 2–12, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q15 (03C13, 03C85, 03D15)

— (*with* Allender, Eric; Balcázar, José L.) A first-order isomorphism theorem. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 557–567. (Christine Charretton) **98a:68062** 68Q15 (03D15)

Immink, Kees A. Schouhamer A practical method for approaching the channel capacity of constrained channels. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1389–1399. 94A40

Immirzi, Giorgio Real and complex connections for canonical gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, L177–L181. (Viqar Husain) **98i:83010** 83C05

— Quantum gravity and Regge calculus. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 65–72. (Summary) **98g:83021** 83C27 (83C45)

Imomnazarov, Kh. Kh. Fundamental solutions of a system of equations of the continual theory of filtration for a nonhomogeneous medium. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 2, 242–245. (From the text) **98f:76073** 76S05

— (*with* Dorovskiĭ, V. N.; Romenskiĭ, E. I.) A hydrodynamic nonlinear model of bubble liquid. II. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 13–15. (From the summary) **98c:76110b** 76T05 (76Q05)

— Uniqueness of determination of a source in the Cauchy problem for the system of equations of continual filtration theory. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 75–79. 35R30 (35L05, 76S05)

Imoto, Nobuyuki (*with* Koashi, Masato) Quantum cryptography based on split transmission of one-bit information in two steps. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 12, 2383–2386. (Summary) **98g:81023** 81P99 (94A60)

Impagliazzo, Jean-Luc (*with* Dutto, Patrick; Novotny, Antonin) Schauder estimates for steady compressible Navier-Stokes equations in bounded domains. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 125–139. (Yu. G. Rykov) **98k:35148** 35Q30 (35B45, 76N10)

Impagliazzo, Russell (*with* Beame, Paul W.; Krajíček, Jan; Pitassi, Toniann, Pudlák, Pavel) Lower bounds on Hilbert's Nullstellensatz and propositional proofs. (English summary) 35*th Annual Symposium on Foundations of Computer Science* (*Santa Fe, NM*, 1994), 794–806, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 03F20 (03D15, 68Q15)

— Using hard problems to derandomize algorithms: an incomplete survey. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 165–173, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68088** 68Q25 (68Q15)

— (*with* Cook, Stephen A.; Yamakami, Tomoyuki) A tight relationship between generic oracles and type-2 complexity theory. (English summary) *Inform. and Comput.* **137** (1997), *no.* 2, 159–170. (Rodney G. Downey) **98m:68086** 68Q15 (03D15)

— (*with* Paturi, Ramamohan; Saks, Michael E.) Size-depth tradeoffs for threshold circuits. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 3, 693–707. (Juraj Hromkovič) **98h:68088** 68Q15 (68Q25, 94C10)

— (*with* Gupta, Arvind) Bounding the size of planar intertwines. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 337–358. (Arthur T. White) **98g:05046** 05C10

Imreh, B. (*with* Friedler, F.; Fan, L. T.) An algorithm for improving the bounding procedure in solving process network synthesis by a branch-and-bound method. (English summary) *Developments in global optimization* (*Szeged*, 1995), 315–348, *Nonconvex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (H. T. Lau) **98f:90070** 90C35 (90B12)

— (*with* Friedler, F.; Fan, L. T.) Process network synthesis: problem definition. (English summary) *Networks* **31** (1998), *no.* 2, 119–124. (Summary) **98m:90060** 90B10

Imrich, Wilfried (*with* Pisanski, Tomaž; Žerovnik, Janez) Recognizing Cartesian graph bundles. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 393–403. (Summary) **98b:05090** 05C85

— (*with* Klavžar, Sandi) Recognizing Hamming graphs in linear time and space. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 91–95. (Summary) **98d:05134** 05C85 (68R10)

— (*with* Klavžar, Sandi; Vesel, Aleksander) A characterization of halved cubes. (English summary) *Ars Combin.* **48** (1998), 27–32. (Summary) **98m:05164** 05C75

Imron, Moch. Aruman (*with* Chandra, Daniel; Nusantara, Toto; Basuki) On the formation of hotspot in microwave heating. (English summary) *Differential equations* (*Bandung*, 1996), 245–255, *Khwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 80A20

Imura, Jun-ichi (*with* Sugie, Toshiharu; Yoshikawa, Tsuneo) Characterization of the strict bounded real condition of nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1459–1464. (Summary) **98h:93018** 93D05 (93B36)

In, Byung Sik On fuzzy FC-compactness. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 137–150. 54A40 (54D30)

In, Visarath (*with* Ding, Mingzhou; Ding, E-Jiang; Ditto, William L.; Gluckman, Bruce J.; Peng, Jian-Hua; Spano, Mark L.; Yang, Weiming) Control and synchronization of chaos in high-dimensional systems: review of some recent results. (English summary) *Chaos* **7** (1997), *no.* 4, 644–652. 58F13 (58F40)

Inaba, Hiroshi (*with* Otsuka, Naohisa; Toraichi, Kazuo) Parameter insensitive disturbance-rejection problems with incomplete-state feedback for infinite-dimensional

systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 4, 29–38 (1997). (Summary) **98e:93024** 93B25 (93C25)
— (*with* Otsuka, Naohisa) Parameter-insensitive disturbance rejection for infinite-dimensional systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 401–413. (Summary) **98j:93045** 93B52 (93B28, 93C15)
— (*with* Ito, Naoharu) Block triangular decoupling for linear systems over principal ideal domains. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 744–765. (Summary) **98a:93015** 93B27 (93B05, 93D15)
Inaba, Makoto (*with* Egawa, Hiroshi S.) Numerical analysis of scaling behavior in 4D quantum simplicial gravity. (English summary) *Proc. School Sci. Tokai Univ.* **32** (1997), 73–84. (Summary) **98c:83031** 83C45 (81V17, 83C27, 83E30)
Inaba, T. (*with* Nagai, Yoshinori; Wako, H.) Dynamic relationships among economic variables examined by the embedding method. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 381–388, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A16
— (*with* Dohtani, A.; Misawa, Tetsuya; Yokoo, M.; Owase, T.) Chaos, complex transients and noise: illustration with a Kaldor model. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2157–2174. (*see* **98a:90007**) 90A16
Inada, Koichi (*with* Kim, Hea-Jung) On shrinkage to interval estimators of the binomial p. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 95–112. (Kurt Hoffmann) **98f:62056** 62F10 (62F15)
Inagaki, Nobuo (*with* Kumagai, Etsuo) Exact information loss in Fisher's circle model. (English summary) *Math. Japon.* **44** (1996), *no.* 3, 455–467. (Adnan M. Awad) **98d:62007** 62B10 (62F10)
İnal, C. (*with* Ergün, G.) An investigation of Kalman filter under outliers. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 171–179. 93E11
Inamdar, S. P. On syzygies of projective varieties. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 71–76. (Juan C. Migliore) **98a:14010** 14C20 (13D02, 14J60)
Inami, Takeo (*with* Ueno, Tatsuya; Kanno, Hiroaki) Higher-dimensional WZW model on Kähler manifold and toroidal Lie algebra. *Modern Phys. Lett. A* **12** (1997), *no.* 36, 2757–2764. (Summary) **98i:58047** 58D27 (53C55, 81T40)
— (*with* Kanno, Hiroaki; Ueno, Tatsuya; Xiong, Chuan-Sheng) Two-toroidal Lie algebra as current algebra of the four-dimensional Kähler WZW model. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 97–104. (Michael A. I. Flohr) **98j:81118** 81R10 (17B65, 81T40)
Inamuro, Takaji (*with* Yoshino, Masato; Ogino, Fumimaru) Accuracy of the lattice Boltzmann method for small Knudsen number with finite Reynolds number. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3535–3542. 76P05
Inasaridze, Kh. N. ★ Non-abelian homological algebra and its applications. (English summary) Mathematics and its Applications, 421. *Kluwer Academic Publishers, Dordrecht*, 1997. iv+265 *pp. ISBN* 0-7923-4718-8 (Stanisław Betley) **98j:18018** 18G50 (19D55)
— Non-abelian cohomology of groups. (English summary) *Georgian Math. J.* **4** (1997), *no.* 4, 313–332. (Graham J. Ellis) **98g:20083** 20J05 (18G50, 18G55)
— Non-abelian cohomology with coefficients in crossed bimodules. (English summary) *Georgian Math. J.* **4** (1997), *no.* 6, 509–522. (Graham J. Ellis) **98k:20089** 20J06 (18G50)
Inayat Noor, Khalida *see* **Noor, Khalida Inayat**
Ince, D. C. (*with* Pengelly, A. D.) A graph-theoretic solution to the interface equation. (English summary) *Applications of combinatorial mathematics (Oxford, 1994)*, 185–197, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Summary) **98f:68218** 68R10 (05C90, 68Q10)
Ince, H. O. (*with* Ogras, S.) On the distribution of zeros of the equation of state. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 67–73. (M. Lawrence Glasser) **98h:30007** 30C15 (82B05)
İnceoğlu, M. (*with* Koç, Çetin Kaya) A parallel algorithm for principal nth roots of matrices. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1735–1738. (Summary) **98f:65057** 65H10 (93B40)
Inderfurth, Karl Simple optimal replenishment and disposal policies for a product recovery system with leadtimes. (English and German summaries) Production and logistics. *OR Spektrum* **19** (1997), *no.* 2, 111–122. (*see* **98e:90009**) 90B70 (90B05)
— *see also* **Production and logistics, 98e:90009**
Indira, R. (*with* Meenakshi, A. R.) On conjugate EP matrices. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 67–72. (R. A. Horn) **98g:15014** 15A21 (15A23)
Induráin Eraso, Esteban (*with* Candeal, Juan Carlos; De Miguel, Juan Ramón) Topological additively representable semigroups. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 375–389. (Jimmie D. Lawson) **98k:22011** 22A15 (06F05)
— (*with* Candeal, Juan Carlos; Chichilnisky, Graciela) Topological aggregation of preferences: the case of a continuum of agents. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 333–343. (Edward W. Packel) **98e:90014** 90A08
— (*with* Candeal, Juan Carlos; Uriarte, José Ramón) Addendum to: "Some issues related to the topological aggregation of preferences" [Soc. Choice Welf. **9** (1992), no. 3, 213–227; MR 93i:90013]. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 359–361. (*see* **98c:90006**) 90A07 (90A06)
Indyk, Piotr (*with* Chlebus, Bogdan S.; Gambin, Anna) Shared-memory simulations on a faulty-memory DMM. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 586–597, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10 (68M15)
— On word-level parallelism in fault-tolerant computing. (English summary) *STACS 96 (Grenoble, 1996)*, 193–204, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q10 (68M15, 68Q05)
— (*with* Gąsieniec, Leszek; Krysta, Piotr) External inverse pattern matching. (English summary) *Combinatorial pattern matching (Aarhus, 1997)*, 90–101, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98k:68075** 68Q20 (68Q22, 68Q25)
— (*with* Gąsieniec, Leszek) Efficient parallel computing with memory faults. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 188–197, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q10 (68M15)
Infeld, E. (*with* Zorski, H.) Continuum dynamics of a peptide chain. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 769–801. (George Rowlands) **98i:92005** 92D20 (73B05, 73D35)
— (*with* Rowlands, George) Lagrangian picture of plasma physics. I. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 4, 607–645. (Summary) **98m:76168** 76X05 (82D10)
— *see also* **Nonlinear dynamics, chaotic and complex systems, 98e:58005**
Ingarden, Roman S. (*with* Kossakowski, A.; Ohya, Masanori) ★ Information dynamics and open systems. (English summary) Classical and quantum approach. Fundamental Theories of Physics, 86. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+307 *pp. ISBN* 0-7923-4473-1 (Bruno Nachtergaele) **98k:82002** 82–02 (00A69, 46L60, 82B10, 82C10)
— (*with* Matsumoto, Makoto; Tamássy, Lajos) Vector field relative Finsler space in two physical examples. (English summary) *Nonlinear World* **4** (1997), *no.* 1, 85–99. (Aurel Bejancu) **98g:53033** 53B40
Ingber, L. Data mining and knowledge discovery via statistical mechanics in nonlinear stochastic systems. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 9–31. 82B80
— Statistical mechanics of neocortical interactions: training and testing canonical momenta indicators of EEG. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 33–64. 82B80 (92C20, 92C50)
van Ingen, J. L. Looking back at forty years of teaching and research in Ludwig Prandtl's heritage of boundary layer flows. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 1, 3–20. 76–03 (01A70, 76B05, 76D10, 76G25)
— *see also* **Transitional boundary layers in aeronautics, 98k:76003**
Ingham, D. B. (*with* Lesnic, D.; Elliott, Lionel) Spacewise coefficient identification in steady and unsteady one-dimensional diffusion problems. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 183–192. (Summary) **98g:35196** 35Q99 (35R30, 76S05)
— (*with* Pop, Ioan^2; Lesnic, D.) Conjugate film flow down a heated vertical wall. *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 151–154. (Summary) **98c:76029** 76D10 (76M20)
— (*with* Hunt, G. R.) Laminar and turbulent radial jets. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 25–38. (Summary) **98i:76026** 76D25 (76F99)
— *see also* **Boundary integral formulations for inverse analysis, 98g:65006**
Inglese, Gabriele Identification of the drift coefficient of a Fokker-Planck equation from the moment discretization of its stationary solution. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 335–348. 34F05
— (*with* Fassari, Silvestro) Spectroscopy of a three-dimensional isotropic harmonic oscillator with a δ-type perturbation. (English summary) *Helv. Phys. Acta* **69** (1996), *no.* 2, 130–140. (H. Hogreve) **98b:81037** 81Q10 (35J10, 47N50, 81Q15)
— (*with* Fasino, Dario) Recovering a probability density from a finite number of moments and local a priori information. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 183–200 (1997). 62E99 (60E99)
— A stochastic perturbation method for studying inverse problems of dynamics. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 391–398. (Summary) **98d:34087** 34F05 (34A55, 35F99, 35R30, 60J60)
— (*with* Fassari, Silvestro) On the spectrum of the harmonic oscillator with a δ-type perturbation. II. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 858–865. (Raghu R. Gompa) **98j:81360** 81U40 (47N50, 81Q10, 81Q15)
— An inverse problem in corrosion detection. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 977–994. 35R30 (35J05, 65N99, 78A30)
— (*with* Fassari, Silvestro) On the eigenvalues of the Hamiltonian of the harmonic oscillator with the interaction $\hat{\lambda}x^2/(1+gx^2)$. II. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 77–86. (Ê. S. Kryachko) **98k:81039** 81Q05 (81Q15)
Inglot, Tadeusz (*with* Kallenberg, Wilbert C. M.; Ledwina, Teresa) Data driven smooth tests for composite hypotheses. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1222–1250. (Zuzana Prášková) **98f:62134** 62G10 (62F03, 62G20)
Ingólfsdóttir, Anna (*with* Aceto, Luca) An equational axiomatization of observation congruence for prefix iteration. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 195–209, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98h:68062** 68Q10 (68Q55, 68Q60)
— (*with* Schalk, Andrea) A fully abstract denotational model for observational precongruence. (English summary) *Computer science logic (Paderborn, 1995)*, 335–361, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:68128** 68Q55 (68Q10)
— (*with* Aceto, Luca) CPO models for compact GSOS languages. (English summary) *Inform. and Comput.* **129** (1996), *no.* 2, 107–141. (Gheorghe Ştefănescu) **98f:68075** 68Q10 (68Q55)
— Weak semantics based on lighted button pressing experiments: an alternative characterization of the readiness semantics. (English summary) *Computer science logic (Utrecht, 1996)*, 226–243, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (*see* **98k:03005**) 68Q55 (68Q10)
— (*with* Aceto, Luca; Hüttel, Hans; Kleist, Josva) Relating semantic models for the object calculus (preliminary report). (English summary) *EXPRESS'97 (Santa Margherita Ligure, 1997)*, 16 *pp. (electronic)*, *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68N15)
— (*with* Aceto, Luca) A characterization of finitary bisimulation. *Inform. Process. Lett.* **64** (1997), *no.* 3, 127–134. (Introduction) **98m:68060** 68Q10 (68Q55)
Ingraham, R. L. Gravitational waves in matter. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 1, 117–140. (A. D. Popova) **98e:83041** 83C35
— (*with* Vulcan, T.) Chaotic behavior and strange attractor in time-dependent solutions of the magnetohydrodynamic equations for the Faraday disc. (English summary) *Phys. Plasmas* **4** (1997), *no.* 9, 3173–3176. (Summary) **98h:76136** 76W05 (58F13, 58F40)
Ingram, D. M. (*with* Batten, Paul; Causon, D. M.; Saunders, Robert) The representation of small scale obstructions in hydrocode calculations. (English summary) *Flow and dispersion through groups of obstacles (Cambridge, 1994)*, 199–209, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05)
— (*with* Jiang, B.; Causon, D. M.; Saunders, Robert) Numerical prediction of confined gas cloud detonation. (English summary) *Flow and dispersion through groups of obstacles (Cambridge, 1994)*, 211–225, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05, 76N15, 80–08)

Ingrao, Bruna The mechanist cast in economics: what is missing? (English summary) *Riv. Stor. Sci.* (2) **2** (1994), *no.* 2, 41–97 (1995). (Summary) **98d:01035** 01A60 (90–03)

Ingster, Yu. I. Some problems of hypothesis testing leading to infinitely divisible distributions. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 47–69. (Yannis A. Phillis) **98j:62015a** 62F03 (62F15, 93E10, 94A13)

— Correction: "Some problems of hypothesis testing leading to infinitely divisible distributions". *Math. Methods Statist.* **6** (1997), *no.* 2, 266. (Yannis A. Phillis) **98j:62015b** 62F03 (62F15, 93E10, 94A13)

Iñiguez, David (*with* Marinari, Enzo; Parisi, Giorgio; Ruiz-Lorenzo, Juan J.) 3D spin glass and 2D ferromagnetic *XY* model: a comparison. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7337–7347. 82B20 (82D30)

Inman, Daniel J. (*with* Friswell, Michael I.) Sensor and actuator topology for vibration control and parameter estimation. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 735–746, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K12, 73K50, 93D15)

— (*with* Starek, L.) A symmetric inverse vibration problem for nonproportional underdamped systems. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 601–605. (Summary) **98d:70022** 70J05

— *see also* **Wave motion, intelligent structures and nonlinear mechanics, 98d:70002**

Innami, Nobuhiro Local Riemannian metrics for flows which satisfy Huygen's [Huygens'] principle. *Kyushu J. Math.* **49** (1995), *no.* 2, 435–453. (Edoh Amiran) **98h:53067** 53C22 (34A26, 53B20)

Innamorati, Stefano (*with* Peroni, Patrizia) Hyperclassification of remote sensing images. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 115–123. 20N20 (04A72)

— (*with* Berardi, Luigia; Buratti, Marco) 4-blocked Hadamard 3-designs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 35–46. (Mohan S. Shrikhande) **98j:05039** 05B30

Innanen, Kimmo (*with* Mikkola, Seppo) Orbital stability of planetary quasi-satellites. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 345–355, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70F15 (70K20)

Inohara, Takehiro (*with* Takahashi, Shingo; Nakano, Bunpei) On conditions for a meeting not to reach a deadlock. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 1, 1–9. 90A05 (90D12)

— (*with* Takahashi, Shingo; Nakano, Bunpei) Complete stability and inside commonality of perceptions. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 1, 11–25. 90D35 (90A05)

Inokuchi, Shuichi (*with* Kawahara, Yasuo) On product formula of tree expressions. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 134–137. (*see* **98k:68015**) 68Q80

Inomata, Akira (*with* Kirchner, Stefan) The Maxwell-Boltzmann behavior of a quon gas. (English summary) *Phys. Lett. A* **222** (1996), *no.* 4, 213–219. (Zhaoyan Wu) **98k:81113** 81R50 (82B10)

— (*with* Kirchner, Stefan) Bose-Einstein condensation of a quon gas. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 311–314. (Marcelo R. Ubriaco) **98k:82014** 82B10 (81R50)

Inostroza, Patricio (*with* Rivara, María-Cecilia) Using longest-side bisection techniques for the automatic refinement of Delaunay triangulations. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 4, 581–597. (Patrick M. Knupp) **98a:65133** 65M50 (65N50)

Inoue, A. *see* **Inoue, Atsushi[2]**

Inoue, Akihiko Regularly varying correlation functions and KMO-Langevin equations. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 457–482. (S. K. Srinivasan) **98j:60091** 60H20 (26A12, 60G10)

Inoue, Atsuko (*with* Takatsuka, Kazuo) Global representation of Maslov-type semiclassical wave function and its spectrum in a small number of classical trajectories. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 8, 1404–1407. (Summary) **98a:81043** 81Q20

Inoue, Atsushi *see* **Inoue, Atsushi[3]**

Inoue, Atsushi[2] (*with* Antoine, J.-P.; Ogi, H.) Standard generalized vectors for partial O^*-algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 3, 223–258. (Gerald Hofmann) **98m:47071** 47D40 (46L10, 46L60, 47D45, 82B10)

— (*with* Ikeda, I.; Takakura, M.) Unitary equivalence of unbounded $*$-representations of $*$-algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 269–279. (Giuseppina Epifanio) **98g:46076** 46K10 (47D40)

Inoue, Atsushi[3] (*with* Okamoto, Wataru; Tano, Shun'ichi; Fujioka, Ryosuke) Constraints on natural language propositions involving fuzzy quantifiers by truth-qualification and inference method for the propositions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 409–432. 04A72 (68S05)

— (*with* Okamoto, Wataru; Tano, Shun'ichi; Iwatani, Toshiharu) An effect by qualification of truth-qualifiers on inference results for natural language propositions involving fuzzy quantifiers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 3, 365–374 (1998). 03B52 (03B65, 68S05)

Inoue, Hiroshi *see* **Inoue, Hiroshi[2]**

Inoue, Hiroshi[1] (*with* Taylor, Robert Lee) Laws of large numbers for random sets. (English summary) *Random sets* (*Minneapolis, MN*, 1996), 347–360, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (60F15)

Inoue, Hiroshi[2] (*with* Ôtani, Mitsuharu) Heat convection equations in noncylindrical domains. *Nonlinear analysis and applications* (*Warsaw*, 1994), 193–200, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 7, *Gakkōtosho, Tokyo*, 1996. (Jianzhong Su) **98b:35099** 35K60 (35K05)

— (*with* Ôtani, Mitsuharu) Periodic problems for heat convection equations in noncylindrical domains. (English summary) *Funkcial. Ekvac.* **40** (1997), *no.* 1, 19–39. (Cun-Zheng Wang) **98i:35152** 35Q35 (35B10, 76D99, 76R10)

— On heat convection equations with dissipative terms in time dependent domains. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4441–4448. (*see* **98i:00032**) 35K55 (34G20)

Inoue, Hiroyuki (*with* Kamei, Katsuari; Inoue, Kazuo) Automatic generation of fuzzy if-then rules using genetic algorithms and hyper-cone membership functions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 957–975 (1997). 03B52

Inoue, Jun-ichi Statistical mechanics of the multi-constraint continuous knapsack problem. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1047–1058. (Summary) **98c:90111** 90C27 (82C32)

— (*with* Kabashima, Yoshiyuki) Learning of non-monotonic rules by simple perceptrons. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 123–144. 82C32

Inoue, Junko[1] Semi-invariant vectors associated to decompositions of monomial representations of exponential Lie groups. *J. Math. Soc. Japan* **49** (1997), *no.* 4, 647–661. (Jean Ludwig) **98j:22007** 22E27 (22E60)

Inoue, Katsumi *see* **Inoue, Katsumi[2]**

Inoue, Katsumi[1] One and two generator subgroups of Möbius groups in several dimensions. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 182–187. (*see* **98e:00014**) 20H10

Inoue, Katsumi[2] (*with* Sakama, Chiaki) Abductive framework for nonmonotonic theory change. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 204–210, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B60, 03B70)

— (*with* Sakama, Chiaki) Embedding circumscriptive theories in general disjunctive programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 344–357, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55, 68T27)

— (*with* Hasegawa, Ryuzo; Ohta, Yoshihiko; Koshimura, Miyuki) Non-Horn magic sets to incorporate top-down inference into bottom-up theorem proving. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 176–190, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68T15 (03B35, 68N17)

— (*with* Ohta, Yoshihiko; Hasegawa, Ryuzo) The equivalence between non-Horn magic sets and relevancy testing. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 10, 1894–1904. (Summary) **98i:68247** 68T15 (03B35)

— (*with* Yamamoto, Eiko) Implementation of SOL resolution based on model elimination. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 11, 2112–2121. (Summary) **98i:68248** 68T15 (03B35)

Inoue, Kazuo (*with* Inoue, Hiroyuki; Kamei, Katsuari) Automatic generation of fuzzy if-then rules using genetic algorithms and hyper-cone membership functions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 957–975 (1997). 03B52

Inoue, Rei (*with* Hikami, Kazuhiro) Classical lattice W algebras and integrable systems. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6911–6924. (Alexander D. Popov) **98j:17027** 17B68 (58F07)

— (*with* Wadati, Miki) Hungry Volterra model and a new hierarchy of discrete models. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 5, 1291–1293. (Summary) **98a:35125** 35Q58 (34K99, 35R10, 92D25)

Inoué, Takao On the Härtig-style axiomatization of unprovable and satisfiable formulas of Bernays and Schönfinkel's classes. (English summary) Conference on Philosophical Logic (Ghent, 1994). *Logique et Anal.* (*N.S.*) **36** (1993), *no.* 143-144, 261–309. (M. Tetruashvili) **98c:03025** 03B25

— Corrections and additions to my paper: "A note on unprovability-preserving sound translations" [Logique et Anal. (N.S.) **33** (1990), no. 131, 243–257; MR 95c:03028], more general constructions. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 335–367. 03B22 (03F25)

Inoue, Tatsuki (*with* Iwashita, Toshiya; Hashiguchi, Hiroki; Niki, Naoto) Matrix derivatives for higher-order asymptotic expansions and distribution of statistics under an elliptic population. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 210–217. (*see* **98h:00039**) 62H10 (62E20)

Inoue, Tetsuo Zeros distribution of normalized counting measure. *Mathematica* **38(61)** (1996), *no.* 1-2, 67–73. 30C15

— New charge simulation method for numerical conformal mapping of ring domains. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 2, 295–301. (Summary) **98b:30008** 30C30

— The interpolating approximation of smooth functions on an interval and by harmonic functions. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1659–1661. 41A30 (65D15)

Inoue, Tomoki Ratio ergodic theorems related to some intermittent dynamical systems. (English summary) *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 97–100, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 28D05 (58F11)

— Ratio ergodic theorems for maps with indifferent fixed points. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 625–642. (Oliver Knill) **98e:58109** 58F11

Inoue, Tomoo (*with* Granger, Clive W. J.; Morin, Norman) Nonlinear stochastic trends. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 65–92. (Summary) **98m:62304** 62P20

Inoue, Yoshinari The inverse Penrose transform on Riemannian twistor spaces. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 1, 59–76. (From the introduction) **98k:53091** 53C56 (32L25, 58G03)

Inoue, Yoshinori (*with* Yano, Takeru) Propagation of strongly nonlinear plane N-waves. (English summary) *J. Fluid Mech.* **341** (1997), 59–76. (Summary) **98d:76144** 76N15 (76L05, 76M20, 76Q05)

Inozemtsev, V. I. Integrable model of interacting fermions confined by the Morse potential. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 195–200. (Kazuhiro Hikami) **98c:81251** 81V70 (81R50, 82B20)

— (*with* Inozemtseva, N. G.) New examples of solvable non-uniform spin lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L137–L142. (Kazuhiro Hikami) **98e:82016** 82B20 (81R50)

Inozemtseva, N. G. (*with* Inozemtsev, V. I.) New examples of solvable non-uniform spin lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L137–L142. (Kazuhiro Hikami) **98e:82016** 82B20 (81R50)

Insel, Arnold J. Levels of subnormality. (English summary) *Linear Algebra Appl.* **262** (1997), 27–53. (Fuad Kittaneh) **98g:15040** 15A57 (47B20)

rios-Insua, David *see* **Rios-Insua, David**

rios-Insua, Sixto *see* **Rios-Insua, Sixto**

Interlando, J. Carmelo (*with* Palazzo, Reginaldo, Jr.; Elia, Michele) On the decoding of Reed-Solomon and BCH codes over integer residue rings. (English summary) *IEEE*

Trans. Inform. Theory **43** (1997), *no.* 3, 1013–1021. (Summary) **98e:94042** 94B35 (94B05)

Intermont, Michele An equivariant van Kampen spectral sequence. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 31–48. (Steven R. Costenoble) **98e:55013** 55P91 (18G40, 55Q20, 55Q91, 55T99)

In 't Hout, K. J. *see* **in 't Hout, K. J.**

Intissar, Ahmed (*with* Ould Moustapha, M. V.) Explicit formulae for the wave kernels for the Laplacians $\Delta_{\alpha\beta}$ in the Bergman ball B^n, $n \geq 1$. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 221–234. (Jin Hao Zhang) **98g:58175** 58G16 (35L05)

Intrigila, Benedetto Non-existent Statman's double fixed point combinator does not exist, indeed. (English summary) *Inform. and Comput.* **137** (1997), *no.* 1, 35–40. (J. P. Seldin) **98m:03028** 03B40

Intriligator, Kenneth RG fixed points in six dimensions via branes at orbifold singularities. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 177–190. (Summary) **98f:81323** 81T60 (81T17, 81T30)

— (*with* Morrison, David R.; Seiberg, Nathan) Five-dimensional supersymmetric gauge theories and degenerations of Calabi-Yau spaces. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 56–100. (Bruce Hunt) **98h:81117** 81T60 (14J32, 32J81, 81T13, 81T30)

Inui, Norio (*with* Katori, Makoto) Ballot number representation of the percolation probability series for the directed square lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2975–2994. (Mathew D. Penrose) **98i:82028** 82B43 (60K35)

— (*with* Katori, Makoto; Komatsu, Genichi; Kameoka, K.) Hypergeometric series in a series expansion of the directed-bond percolation probability on the square lattice. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 37–55. (Roberto Fernández) **98f:82074** 82B43 (33C05, 60K35, 82–04)

Inuiguchi, Masahiro (*with* Sakawa, Masatoshi; Kato, Kosuke; Ikeda, Tomohiro) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 721–735 (1997). 90C29 (04A72, 49N55, 90C70)

— (*with* Sakawa, Masatoshi) Robust soft optimization in fuzzy linear programming problems. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 991–1005 (1997). 90C70 (90C05)

— Fuzzy linear programming: what, why and how? (English summary) Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 123–167. (*see* **98e:04004**) 90C70 (04A72)

Invernizzi, Sergio Continuous versus discrete time dynamical models of Newton's second fundamental law. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 357–365. (Summary) **98f:70008** 70D05 (34A12)

— *see also* **Dedicated to the memory of Pierre Grisvard**

d'Inverno, Ray A. Algebraic computing in general relativity. *General relativity* (*Aberdeen*, 1995), 283–329, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (Sergey I. Tertychniy) **98e:83002** 83–04 (68Q40, 83–02, 83C20)

— Numerical computing in general relativity. *General relativity* (*Aberdeen*, 1995), 331–376, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (Sergey I. Tertychniy) **98e:83003** 83–04 (83–08, 83C27)

— (*with* Vickers, James A.) Combining Cauchy and characteristic codes. III. The interface problem in axial symmetry. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 4919–4928. (Jörg Frauendiener) **98a:83004** 83–08 (83C05)

— (*with* Vickers, James A.) Combining Cauchy and characteristic codes. IV. The characteristic field equations in axial symmetry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 772–784. (Jörg Frauendiener) **98h:83002** 83–08 (83C05)

Ioakimidis, Nikolaos I. Quantifier elimination in applied mechanics problems with cylindrical algebraic decomposition. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 30, 4037–4070. 73Vxx (73–04)

— Classical numerical methods in engineering: a note on existential quantifier elimination under parametric inequality constraints. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 103–134. (Summary) **98j:73098** 73V20 (73M25)

Ioan, Catalin-Angelo Totally geodesic foliations on semi-Riemannian manifolds. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 31–34. 53C12 (53C50)

Ioannides, D. A. (*with* Alevizos, P. D.) Nonparametric estimation in time series with measurement errors. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3539–3546. (*see* **98h:00034**) 62G05 (62M10)

— (*with* Papanastassiou, D. P.) Nonparametric estimation in econometrics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4365–4374. (*see* **98i:00032**) 62G05 (62P20)

— (*with* Alevizos, P. D.) Nonparametric regression with errors in variables and applications. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 35–43. (G. Roussas) **98f:62097** 62G05 (62G20)

Ioannidou, H. (*with* Skaltsas, D.) Classical analogue of a class of squeezed states. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 933–936. (Summary) **98i:81093** 81R30 (81V80)

Ioannidou, Theodora Soliton dynamics in a novel discrete O(3) sigma model in (2 + 1) dimensions. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1357–1367. (Bernd J. Schroers) **98i:81147** 81T10 (58E50)

Ioannou, Petros A. (*with* Chien, Cheng-Chih; Zhang, Youping) Traffic density control for automated highway systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1273–1285. 93C95 (90B20)

— *see also* **New directions in control and automation, 98g:93001**

Iobe, Atsushi (*with* Abe, Yutaka) Fractal-like basin boundaries and indeterminate transition in nonlinear resonance of a Toda oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1673–1678. (Summary) **98i:58148** 58F12 (58F14)

Iochum, Bruno (*with* Kastler, Daniel; Schücker, Thomas) Riemannian and non-commutative geometry in physics. (English summary) *Geometry and nature* (*Madeira*, 1995), 165–174, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:81128** 81V25 (58B30)

— (*with* Kastler, Daniel; Schücker, Thomas) Spectral model and fuzzy mass relations. (English summary) *Geometry and nature* (*Madeira*, 1995), 175–189, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:81273** 81V22 (58B30, 58G40, 81T13)

— (*with* Carminati, Lionel; Schücker, Thomas) The noncommutative constraints on the standard model à la Connes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1269–1280. (Kamran Kaviani) **98e:81199** 81V22 (46L60, 46L87, 58B30)

Ioerger, Thomas R. Integrating a spatial reasoner with a resolution theorem-prover. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 145–152, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T15 (03B70)

Iofa, M. Z. Higher-genus corrections to black-string solution. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 12, 837–850. (C. Gauthier) **98f:81262** 81T30 (83E30)

— (*with* Pando Zayas, Leopoldo A.) Non-abelian fields in exact string solutions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 13, 913–924. (Sergey Nikolaevich Roshchupkin) **98d:81085** 81T30

— (*with* Pando Zayas, Leopoldo A.) Non-abelian fields in heterotic coset models. *Phys. Atomic Nuclei* **60** (1997), *no.* 11, 1930–1935; *translated from Yadernaya Fiz.* **60** (1997), *no.* 11, 2104–2109 (*Russian*). (Summary) **98k:81248** 81T40 (81T10)

Ioffe, A. *see* **Ioffe, Alexandre D.**

Ioffe, Abram Fedorovich *see* **Sonin, A. S.**

Ioffe, Alexandre D. (*with* Schwartzman, Efim) Metric critical point theory: potential well theorem and its applications. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 303–320 (1997). (Roberto Lucchetti) **98e:49040** 49J52 (58E05)

— (*with* Ginsburg, Boris) The maximum principle in optimal control of systems governed by semilinear equations. (English summary) *Nonsmooth analysis and geometric methods in deterministic optimal control* (*Minneapolis, MN*, 1993), 81–110, *IMA Vol. Math. Appl.*, 78, *Springer, New York*, 1996. (B. Mordukhovich) **98f:49026** 49K27 (49J52)

— (*with* Penot, Jean-Paul) Subdifferentials of performance functions and calculus of coderivatives of set-valued mappings. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 257–282. (Jay S. Treiman) **98i:49022** 49J52 (46G05, 46N10, 47H04, 47N10, 90C31)

— (*with* Schwartzman, Efim) Metric critical point theory. II. Deformation techniques. (English summary) *New results in operator theory and its applications*, 131–144, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Andrei V. Dmitruk) **98m:58019** 58E05 (49J52)

— (*with* Schwartzman, Efim) Parametric Morse lemmas for $C^{1,1}$-functions. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 139–147, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Jean Mawhin) **98d:58028** 58E05 (49J52)

— Directional compactness, scalarization and nonsmooth semi-Fredholm mappings. *Nonlinear Anal.* **29** (1997), *no.* 2, 201–219. (Abderrahim Jourani) **98c:49043** 49J52 (47H15, 47N10)

Ioffe, Dmitri Extremality of the disordered state for the Ising model on general trees. (English and French summaries) *Trees* (*Versailles*, 1995), 3–14, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Summary) **98j:82013** 82B20 (82B26, 82B43)

Ioffe, Ludmila (*with* Averbuch, Amir; Israeli, Moshe; Vozovoi, Lev) Highly scalable 2-D and 3-D Navier-Stokes parallel solver on MIMD multiprocessors. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60 (65Y05)

— (*with* Averbuch, Amir; Israeli, Moshe; Vozovoi, Lev) A parallel spectral Fourier–nonlinear Galerkin algorithm for simulation of turbulence. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 699–715. (Summary) **98h:76100** 76M25 (65N30, 65Y05, 76F99)

Ioffe, M. V. (*with* Andrianov, A. A.; Cannata, F.; Nishnianidze, D. N.) Matrix Hamiltonians: SUSY approach to hidden symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5037–5050. (Avinash Khare) **98k:81067** 81Q60

Iohara, Kenji (*with* Ding, Jintai) Drinfeld comultiplication and vertex operators. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 1–13. (Hai Sheng Li) **98i:17034** 17B69 (17B37, 81R50)

— Sur une formule des caractères pour les algèbres de Kac-Moody symétrisables. (English and French summaries) [On a character formula for symmetrizable Kac-Moody algebras] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 9, 837–841. (Summary) **98j:17023** 17B67 (17B10)

— (*with* Ding, Jintai) Generalization of Drinfeld quantum affine algebras. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 181–193. (Oleg Andreev) **98e:17019** 17B37 (81R50)

Iohara, Takao (*with* Nishida, Takaaki; Teramoto, Yoshiaki; Yoshihara, Hideaki) Benard-Marangoni convection with a deformable surface. Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 30–42. (*see* **98g:76052**) 76R05 (35Q35, 76E15)

Iomin, A. (*with* Gangardt, D.; Fishman, Shmuel) Nonlinear dynamics in periodic phase space. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4054–4062. (Summary) **98m:82037** 82C05 (58F40, 78A35)

Ion, Patrick *see* **Serre, Jean-Pierre, 98g:12007**

Ionel, Eleny-Nicoleta (*with* Parker, Thomas H.) The Gromov invariants of Ruan-Tian and Taubes. *Math. Res. Lett.* **4** (1997), *no.* 4, 521–532. (Bernd Siebert) **98i:58038** 58D10 (14N10, 58D27, 58D29)

Ionescu, Adrian On the operator-valued Nevanlinna-Pick problem. (English summary) *Z. Anal. Anwendungen* **14** (1995), *no.* 3, 431–439. (John Maroulas) **98a:47014** 47A57 (30E05, 47A20, 47A56)

Ionescu, Ioan R. (*with* Paumier, Jean-Claude) Instabilities in slip dependent friction. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 99–111 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Summary) **98j:73082** 73T05 (35Q72, 73C99, 73N20, 73V25, 86A15)

Ionescu, Paltin (*with* Toma, Matei) On very ample vector bundles on curves. (English summary) *Internat. J. Math.* **8** (1997), *no.* 5, 633–643. (Ciro Ciliberto) **98h:14036** 14H60 (14J40)

Ionescu, Vlad The signature condition and its application to circuits and systems theory. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **39** (1994), *no.* 3, 399–404. 49N10 (93C05)

— (*with* Oară, Cristian) The four-block Nehari problem: a generalized Popov-Yakubovich-type approach. (English summary) *IMA J. Math. Control Inform.* **13** (1996), *no.* 2, 173–194. (Summary) **98c:93077** 93D05 (93B28)

— (*with* Oară, Cristian) The time-varying discrete four block Nehari problem: a generalized Popov-Yakubovich type approach. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 4, 404–431. (Daniel Alpay) **98h:47090** 47N70 (93C25)

— (*with* Oară, Cristian; Weiss, Martin) General matrix pencil techniques for the solution of algebraic Riccati equations: a unified approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1085–1097. (M. M. Konstantinov) **98j:93037** 93B40 (15A22, 15A24, 93B50)

— (*with* Niculescu, Silviu-Iulian) On delay-independent stability criteria: a matrix-pencil approach. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 299–306. (V. B. Smirnova) **98j:34153** 34K20 (34K35, 93D05)

Ionescu-Pallas, Nicholas (*with* Sofonea, Liviu) The Lagrange's formalism used in the modelling of "finite range" gravity. *Lagrange and Finsler geometry*, 217–231, *Fund. Theories Phys.*, 76, *Kluwer Acad. Publ., Dordrecht*, 1996. (Aurel Bejancu) **98b:83078** 83D05 (53B40)

Ionin, Yury J. New symmetric designs from regular Hadamard matrices. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 1, 8 *pp.* (*electronic*). (Dieter Jungnickel) **98j:05020** 05B05

Ionov, V. N. (*with* Selivanov, V. V.; Zarubin, V. S.) ★ Аналитические методы механики сплошной среды. (Russian. Russian summary) [Analytic methods in continuum mechanics] *Moskovskiĭ Gosudarstvennyĭ Tekhnicheskiĭ Universitet im. N. Ė. Baumana, Moscow*, 1994. 384 *pp. ISBN* 5-7038-1043-4 (Alexander B. Movchan) **98c:73001** 73–01

Iooss, Gérard (*with* Kirrmann, Pius) Capillary gravity waves on the free surface of an inviscid fluid of infinite depth. Existence of solitary waves. (English summary) *Arch. Rational Mech. Anal.* **136** (1996), *no.* 1, 1–19. (Shu Ming Sun) **98a:76008** 76B15 (35R35, 76B25, 76B45)

— Existence d'orbites homoclines à un équilibre elliptique, pour un système réversible. (English and French summaries) [Existence of orbits homoclinic to an elliptic equilibrium, for a reversible system] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 993–997. (Stephen Schecter) **98c:34076** 34C37 (58F36)

Iordache, C. (*with* Delsanto, P. P.; Iordache, Doina; Ruffino, E.) Analysis of stability and convergence in FD simulations of the 1-D ultrasonic wave propagation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 19–29. (Summary) **98a:65113** 65M06 (65M12)

Iordache, Doina (*with* Delsanto, P. P.; Iordache, C.; Ruffino, E.) Analysis of stability and convergence in FD simulations of the 1-D ultrasonic wave propagation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 19–29. (Summary) **98a:65113** 65M06 (65M12)

— (*with* Delsanto, P. P.; Scalerandi, M.) Pulse distortions in the FD simulation of elastic wave propagation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 31–43. (Summary) **98a:65116** 65M06 (65M12)

Iordache, Mihai (*with* Cristea, P.; Spinei, F.; Dumitriu, Lucia; Popescu, Nicolae) A diakoptic method for tree and *s*-forest generation without duplication. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **40** (1995), *no.* 4, 461–471. (W.-K. Chen) **98h:94031** 94C15 (05C05, 05C85)

— (*with* Iordache, R.) Diakoptic analysis for large-scale piecewise-linear nonlinear electrical circuits. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 3, 297–315. 94C05

Iordache, R. (*with* Iordache, Mihai) Diakoptic analysis for large-scale piecewise-linear nonlinear electrical circuits. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 3, 297–315. 94C05

Iordan, Andrei (*with* Khenkin, G. M.) Compactness of the Neumann operator for hyperconvex domains with non-smooth B-regular boundary. *Math. Ann.* **307** (1997), *no.* 1, 151–168. (Der-Chen E. Chang) **98a:32018** 32F20

Iordanskiĭ, M. A. A functional approach to the representation of graphs. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 3, 303–305. (B. Zelinka) **98k:05117** 05C75

Iorgov, V. (*with* Zyapkov, N.) Doubly even self-dual [40, 20, 8]-codes with an automorphism of odd order. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 41–46; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 253–257 (1997). (Ivan Landgev) **98b:94020** 94B05 (11T71, 94B65)

Iori, G. (*with* Marinari, Enzo) On the stability of the mean-field spin glass broken phase under non-Hamiltonian perturbations. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4489–4511. 82D30

Iorio, A. (*with* O'Raifeartaigh, L.; Sachs, Ivo; Wiesendanger, C.) Weyl gauging and conformal invariance. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 433–450. (Ilya Shapiro) **98g:83082** 83C99 (81T20)

Iório, Rafael José, Jr. (*with* Linares, Felipe; Scialom, Márcia A. G.) Living under the Sobolev barrier. *Proceedings of the Third Summer School on Differential Geometry, Partial Differential Equations and Numerical Analysis (Spanish)* (*Bogota*, 1995), 61–73, *Colec. Mem.*, 7, *Acad. Colombiana Cienc. Exact. Fis. Natur., Bogotá*, 1996. (Alexander L. Sakhnovich) **98a:35136** 35R20 (35Q53)

— (*with* Linares, Felipe) On KdV equation and Bore-like data. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 183–187, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q53

Iosevich, A. (*with* Sawyer, Eric T.) Sharp L^p-L^q estimates for a class of averaging operators. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1359–1384. (Dashan Fan) **98a:42008** 42B10 (42B25)

Iosifescu, Marius On the Gauss-Kuzmin-Lévy theorem. II. (English summary) *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 2, 91–105. (Kh. Ī. Kuchmīns'ka) **98a:40002** 40A15

Iosifescu, Mircea (*with* Scutaru, Horia) Classical limits of tensorial identities satisfied by linear representations. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 158–163. (Plamen Koshlukov) **98k:17008** 17B10 (17B81, 81R05)

Iosif'yan, G. A. On some homogenization problems in perforated domains with nonlinear boundary conditions. (English summary) *Appl. Anal.* **65** (1997), *no.* 3-4, 257–288. (Summary) **98g:35019** 35B27 (35J65, 73B27)

Iosilevich, Alexander (*with* Bathe, Klaus-Jürgen; Brezzi, Franco) On evaluating the inf-sup condition for plate bending elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3639–3663. (Pekka Neittaanmäki) **98h:73075** 73V05 (73K10)

Iovanovich, M. V. *see* **Jovanović, Milan V.**

Iovino, José Definability in functional analysis. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 493–505. (Alexander E. Gutman) **98i:03046** 03C40 (03E47, 26E35, 46M99, 46S20, 46S99)

Ipate, Florentin (*with* Holcombe, Mike) An integration testing method that is proved to find all faults. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 3-4, 159–178. (Summary) **98b:68112** 68Q60

Ipatova, V. M. On attractors of approximations of nonautonomous evolution equations. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 6, 47–56; *translation in Sb. Math.* **188** (1997), *no.* 6, 843–852. (Summary) **98g:47062** 47H20 (34G20, 35B40, 35Q35, 54H20, 58F39, 76C05)

— (*with* Agoshkov, V. I.) Solvability of the altimeter data assimilation problem in a quasigeostrophic multilayer model of ocean circulation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 355–366. (Summary) **98i:86002** 86A05 (76U05)

Ipsen, Ilse C. F. Computing an eigenvector with inverse iteration. (English summary) *SIAM Rev.* **39** (1997), *no.* 2, 254–291. (Guo Rong Wang) **98f:65041** 65F15 (15A18)

Ipser, James R. A new method for treating nonradial pulsations in general relativity. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 110–118, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83F05

— *see also* **Three-dimensional systems, 98b:70018** *and* **Nonlinear problems in relativity and cosmology, 98g:83001**

Iqbal, Mohammad[1] On the maximum likelihood regularization of inversion of Laplace transform. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 105–119. 65R10 (65D99)

— Maximum-likelihood method for numerical inversion of Mellin transform. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 5, 687–699. (Fritz Keinert) **98i:65118** 65R10 (44A15)

— A statistical perspective on numerical inversion of Laplace transform. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 3, 767–771. 65R10

Irac-Astaud, Michèle Differential calculus on a three-parameter oscillator algebra. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 8, 1083–1090. (Dmitriĭ I. Gurevich) **98c:81099** 81R50 (58B30)

— A three-parameter deformation of the Weyl-Heisenberg algebra: differential calculus and invariance. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 17–24. (Summary) **98d:81031** 81R50 (17B37, 58B30)

— (*with* Bertrand, Jacqueline) Invariance quantum groups of the deformed oscillator algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2021–2026. (Nicolás Andruskiewitsch) **98g:81068** 81R50 (17B37)

Irani, Sandy (*with* Seiden, Steve) Randomized algorithms for metrical task systems. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 159–170, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (68M20)

— (*with* Rabani, Yuval) On the value of coordination in distributed decision making. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 3, 498–519. (A. T. Amin) **98h:68104** 68Q22 (68Q25, 68R10)

— (*with* Burley, W. R.) On algorithm design for metrical task systems. (English summary) *Algorithmica* **18** (1997), *no.* 4, 461–485. (Summary) **98d:68096** 68Q25 (68M20)

Iranmanesh, A. Fisher matrices. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 425–426, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20C15

— Characters of the affine group in low dimensions. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 27–62. (Summary) **98j:20059** 20G05 (20G40)

Iravani, S. M. R. (*with* Posner, Morton J. M.) An $M/G/1$ queue with cyclic service times. (English summary) *Queueing Systems Theory Appl.* **22** (1996), *no.* 1-2, 145–169. (B. R. K. Kashyap) **98d:60180** 60K25

— (*with* Posner, Morton J. M.; Buzacott, J. A.) A two-stage tandem queue attended by a moving server with holding and switching costs. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 203–228. (Summary) **98g:60167** 60K25

Ireland, Evan (*with* Swarup, Vipin; Reddy, Uday S.) Assignments for applicative languages. (English summary) *ALGOL-like languages, Vol.* 1, 235–271, *Progr. Theoret. Comput. Sci., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98c:68003a**) 68N17 (68Q55)

Ireland, Peter N. Sustainable monetary policies. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 87–108. (Summary) **98e:90037** 90A12

Irfan, M. On pullback and pushout diagrams in general and super comma categories. (English summary) *Bull. Allahabad Math. Soc.* **8/9** (1993/94), 57–62 (1997). 18A30

Irges, Nikolaos (*with* Binétruy, Pierre; Lavignac, Stéphane; Ramond, Pierre) Anomalous U(1) and low-energy physics: the power of D-flatness and holomorphy. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 38–46. (Summary) **98f:81310** 81T50 (81T13, 81T30, 81V22)

— (*with* Elwood, John K.; Ramond, Pierre) A model of Yukawa hierarchies. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 322–330. 81V22

Iri, Masao Network flow—theory and applications with practical impact. *System modelling and optimization* (*Prague*, 1995), 24–36, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90B10 (90–02, 90C35)

— Roles of automatic differentiation in nonlinear analysis and high-quality computation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4317–4328. (*see* **98i:00032**) 65D25

Iričanin, Bratislav D. Note on a type of errors which occur in the application of the Lobatto quadrature formulae. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 135–138, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 65D30 (41A55)

— (*with* Gvozdić, Dejan M.) The analytic approach in the modelling of one-dimensional electron concentration distribution in some two-valley semiconductor electron devices. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2997–3017. 82D99 (82–04)

Iriondo, Mirta Susana (*with* Malec, Edward; Ó Murchadha, Niall) Constant mean curvature slices and trapped surfaces in asymptotically flat spherical spacetimes. (English sum-

mary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 4792–4798. (Leonardo Fernández-Jambrina) **98a:83092** 83C75 (83C05)

— (*with* Kozameh, Carlos N.; Rojas, Alejandra) Null surfaces and the Bach equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4714–4729. (Simonetta Frittelli) **98e:83011** 83C05 (83C30, 83C60)

— (*with* Dickenstein, Alicia; Rojas, Teresita Alejandra) Integrating singular functions on the sphere. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5361–5370. (Alexandr M. Kytmanov) **98h:32006** 32A27 (30E20)

Iriye, K. (*with* Mimura, Mamoru; Shimakawa, K.; Yasuo, M.) A quaternionic analogue of Atiyah's real K-theory. *Transformation group theory* (*Taejŏn*, 1996), 51–61, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (V. P. Snaith) **98h:55007** 55N15 (19L47)

Irle, A. On consistency in nonparametric estimation under mixing conditions. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 1, 123–147. (Kongming Wang) **98f:62098** 62G05

Irmak, Hüseyin A class of p-valently analytic functions with positive coefficients. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 315–322. (H. M. Srivastava) **98a:30010** 30C45 (33C45)

— (*with* Cho, Nak Eun; Aouf, M. K.) Some applications of differential subordinations for meromorphic functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 39–44. (K. S. Padmanabhan) **98j:30008** 30C45

— (*with* Chen, Ming-Po; Srivastava, Hari M.) Some families of multivalently analytic functions with negative coefficients. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 674–690. (Albert E. Livingston) **98g:30019** 30C45

— (*with* Lee, Sang Hun; Cho, Nak Eun) Some multivalently starlike functions with negative coefficients and their subclasses defined by using a differential operator. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 43–51. (Summary) **98c:30013** 30C45

— (*with* Chen, Ming-Po; Srivastava, Hari M.; Yu, Ching Shu) Some subclasses of meromorphically multivalent functions with positive or negative coefficients. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 53–72. (Zhong Zhu Zou) **98m:30013** 30C45

Irmatov, A. A. Estimates for the number of threshold functions. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 92–107; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 569–583. (I. Strazdiņš) **98d:05014** 05A16 (06A07, 06E30, 18G30, 55U10, 68R05, 94C10)

Irmay, Shragga Note: a family of analytical solutions of the Navier-Stokes equations in space. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1261–1263. (Summary) **98h:76027** 76D05

— The relationship between Zipf's law and the distribution of first digits. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 4, 383–393. (Summary) **98h:62015** 62E15

Irmen, Andreas Mark-up pricing and bilateral monopoly. (English summary) *Econom. Lett.* **54** (1997), *no.* 2, 179–184. 90A12

Irodova, I. P. Spline approximation and spaces of smooth functions. (Russian) *Mathematics at Yaroslavl' University* (*Russian*), 83–91, *Yaroslav. Gos. Univ., Yaroslavl'*, 1996. (From the text) **98k:46050** 46E35 (41A15, 41A63)

Irschik, Hans (*with* Schlacher, Kurt; Kugi, Andreas) Control of nonlinear beam vibrations by multiple piezoelectric layers. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 355–362, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 73K50 (73K05, 73K12, 93C95)

— (*with* Heuer, Rudolf; Rammerstorfer, Franz G.) Franz Ziegler—on the occasion of his 60th birthday. *Acta Mech.* **125** (1997), *no.* 1-4, 1–2. 01A70

— (*with* Schlacher, Kurt; Kugi, Andreas) Control of earthquake excited nonlinear structures using Liapunov's theory. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 83–90. 73K50 (93C95)

— (*with* Schlacher, Kurt; Kugi, Andreas) H_∞-control of random structural vibrations with piezoelectric actuators. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 137–145. 93B36 (73K12, 73K50, 93C95)

Irtegov, V. D. (*with* Titorenko, T. N.) On the modeling and investigation of some problems using computer algebra. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 1, 68–74; *translation in Program. Comput. Software* **23** (1997), *no.* 1, 51–55. 68Q40

Irwin, G. W. (*with* Flynn, D.; McLoone, S.; Brown, M. D.; Swidenbank, E.; Hogg, B. W.) Neural control of turbogenerator systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 1961–1973. 93C95 (93C83)

— (*with* Kadlec, Jiří; Gaston, F. M. F.) A parallel fixed-point predictive controller. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 415–430. (*see* **98e:93001**) 93B40 (65Y05, 93C40)

Irwin, Patrick SU(3) monopoles and their fields. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5200–5208. (Roger Bielawski) **98i:53033** 53C07 (53C80, 58D27, 81T13)

Isaac, Alan G. Monotonic saddle-path dynamics. (English summary) *Econom. Lett.* **53** (1996), *no.* 3, 235–238. (Summary) **98m:39014** 39A10

Isaacs, Frank D. Comparing the deficiency indices of powers of $\tau^+\tau$ and $\tau\tau^+$, where τ is a linear ordinary differential expression. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 143–151, *VSP, Utrecht*, 1995. (Sobhy El-Sayed Ibrahim) **98h:34138** 34L05 (47E05)

Isaacs, I. M. Characters of groups associated with finite algebras. *Proceedings of the First Jamaican Conference on Group Theory and its Applications* (*Kingston*, 1996), 2–4, *Univ. West Indies, Kingston*, 199?. (*see* **98g:20004**) 20C15

— Automorphisms fixing elements of prime order in finite groups. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 5, 359–366. (Richard Davitt) **98e:20030** 20D45

— (*with* Knutson, Greg) Irreducible character degrees and normal subgroups. *J. Algebra* **199** (1998), *no.* 1, 302–326. (David Gluck) **98m:20013** 20C15

— (*with* Robinson, Geoffrey R.) Linear constituents of certain character restrictions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2615–2617. (Summary) **98k:20010** 20C15 (20D20)

Isaacson, Eli L. (*with* Allen, Myron B., III) ★ Numerical analysis for applied science. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+492 *pp. ISBN* 0-471-55266-6 (Editors) **98k:65001** 65–01

Isaak, Garth (*with* Hurlbert, Glenn H.) On higher-dimensional perfect factors. (English summary) *Ars Combin.* **45** (1997), 229–239. (Summary) **98a:05031** 05B15

Isac, George The fold complementarity problem and the order complementarity problem. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 343–358 (1997). (Daniel Goeleven) **98m:49019** 49J40 (47H19, 47N10, 90C33)

— (*with* Hyers, Donald H.; Rassias, Themistocles M.) ★ Topics in nonlinear analysis & applications. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xiv+699 *pp. ISBN* 981-02-2534-2 (Xie Ping Ding) **98g:47001** 47–02 (47Hxx, 47N10, 49J52, 58Exx)

— (*with* Bulavskiĭ, V. A.; Kalashnikov, Vyacheslav Vital'evich) Exceptional families, topological degree and complementarity problems. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 207–225. (Sehie Park) **98d:90124** 90C33 (47H11, 47N10, 49J40)

— (*with* Vuza, D. T.) Differential representation of measures and functions. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 518–531. (B. S. Rubin) **98j:26009** 26B40 (42C99)

— (*with* Persson, Lars-Erik) Inequalities related to isotonicity of projection and antiprojection operators. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 85–97. (Xie Ping Ding) **98m:47054** 47B60 (46N10, 47B65, 47N10)

— (*with* Hyers, Donald H.; Rassias, Themistocles M.) On the asymptoticity aspect of Hyers-Ulam stability of mappings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 425–430. (W. Smajdor) **98d:39004** 39B72 (47H99)

Isaev, A. P. Para-Grassmann integral, discrete systems and quantum groups. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 201–206. (Władysław Marcinek) **98g:81079** 81R50 (16W30, 17B37, 58B30)

— (*with* Kulish, Petr P.) Tetrahedron reflection equations. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 6, 427–437. (Rinat M. Kashaev) **98d:82019** 82B23 (81R50)

Isaev, A. V. (*with* Krantz, Steven G.) Finitely smooth Reinhardt domains with non-compact automorphism group. *Illinois J. Math.* **41** (1997), *no.* 3, 412–420. (John Bland) **98i:32054** 32M05 (32A07)

Isaev, I. M. Finite algebras with no independent basis of identities. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 440–444. (B. H. Neumann) **98j:08004** 08A45

Isakov, Sergei B. (*with* Viefers, Susanne) Model of statistically coupled chiral fields on the circle. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 10, 1895–1914. (Summary) **98f:81384** 81V70

Isakov, Victor (*with* Sever, Ali) Numerical implementation of an integral equation method for the inverse conductivity problem. (English summary) *Inverse Problems* **12** (1996), *no.* 6, 939–951. (Nassar H. S. Haidar) **98h:65059** 65N99 (35R30, 65R30, 78A30)

— (*with* Alessandrini, Giovanni) Analyticity and uniqueness for the inverse conductivity problem. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 351–369 (1997). (Gottfried Anger) **98g:35218** 35R35 (35J25, 35R30)

— On uniqueness and stability in the Cauchy problem. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 131–146, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Hidetoshi Tahara) **98h:35003** 35A05 (35B35, 35Q72)

— (*with* Bouchouev, Ilia) The inverse problem of option pricing. (English summary) *Inverse Problems* **13** (1997), *no.* 5, L11–L17. (Dave Furth) **98m:90014** 90A09

— (*with* Elayyan, Alaeddin) On an inverse diffusion problem. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1737–1748. (Ulrich Tautenhahn) **98j:35182** 35R25 (35K55, 35R30, 65J15, 93B30)

— (*with* Elayyan, Alaeddin) On uniqueness of recovery of the discontinuous conductivity coefficient of a parabolic equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 1, 49–59. (Brian D. Sleeman) **98a:35140** 35R30 (35K10)

— (*with* Bukhgeim, A. L.; Dyatlov, G. V.) Stability of memory reconstruction from the Dirichlet-Neumann operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 738–749, i; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 636–646. (Summary) **98g:35210** 35R30 (35L10, 45K05)

Isaksen, Daniel C. (*with* Moulton, David P.) Randomly planar graphs. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 265–269. (Summary) **98f:05050** 05C10

Isambert, Emmanuel Propriétés des classes d'éléments α-standard. [Properties of classes of α-standard elements] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 1, 57–67. (Ricardo Bianconi) **98c:03137** 03H05

Isar, A. (*with* Sandulescu, A.; Scutaru, Horia; Stefanescu, E.; Scheid, Werner) Open quantum systems. (English summary) *Internat. J. Modern Phys. E* **3** (1994), *no.* 2, 635–714. (Robert Alicki) **98b:82050** 82C10 (82–02)

Isayama, Tetsuo Introduction to complex dynamical systems. I. (Japanese) Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 1–6. (*see* **98b:58005**) 30D05 (58F23)

Isaza Jaramillo, Pedro (*with* Mejía Laverde, Jorge; Stallbohm, Volker) Regularizing effects for the linearized Kadomtsev-Petviashvili (KP) equation. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 1, 37–61. (John Albert) **98j:35155** 35Q53 (35B65)

Isbell, John Some structure of Borel locales. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2477–2479. (Klaas Pieter Hart) **98j:54064** 54H05 (03E15, 06B99, 18B99, 54A05)

kern-Isberner, Gabriele *see* **Kern-Isberner, Gabriele**

Ischebeck, Friedrich (*with* Ojanguren, Manuel) Another example of a projective module over a localized polynomial ring. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 29–30. (Summary) **98k:13009** 13C10

van Iseghem, Jeannette *see* **Van Iseghem, Jeannette**

Iseki, Kiyoshi (*with* Yamashita, Koji) On a problem of Domosi. (Japanese) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 37–43. (*see* **98d:00023**) 11Y70

Isenberg, James Solving the Einstein constraint equations. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 59–69, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83004** 83C05 (58G16)

— (*with* Berger, Beverly K.; Chruściel, Piotr T.; Moncrief, Vincent) Global foliations of vacuum spacetimes with T^2 isometry. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 117–148. (Alan D. Rendall) **98j:83005** 83C05 (58G16)

— (*with* Chruściel, Piotr T.) On the stability of the differentiability of Cauchy horizons. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 2, 249–277. (Norbert Noutchegueme) **98j:83006** 83C05 (58G16)

Iserles, Arieh (*with* Calvo, Mari Paz; Zanna, Antonella) Runge-Kutta methods on manifolds. (English summary) *Numerical analysis*, 57–70, *World Sci. Publishing, River*

Edge, NJ, 1996. (W. S. Loud) **98c:65117** 65L06 (34A45, 34C30)

— (*with* Zanna, Antonella) Qualitative numerical analysis of ordinary differential equations. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 421–442, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (H. Brunner) **98d:65099** 65L06 (65–02, 65L20)

— (*with* Calvo, Mari Paz; Zanna, Antonella) Runge-Kutta methods for orthogonal and isospectral flows. (English summary) Special issue celebrating the centenary of Runge-Kutta methods. *Appl. Numer. Math.* **22** (1996), *no.* 1-3, 153–163. (Masaharu Nakashima) **98b:65082** 65L06 (34A45)

— (*with* Zanna, Antonella) A scalpel, not a sledgehammer: qualitative approach to numerical mathematics. SMC 50 jubilee (Amsterdam, 1996). *CWI Quarterly* **9** (1996), *no.* 1-2, 103–112. (B. M. Herbst) **98b:65002** 65–01 (58F05, 65L99)

— (*with* Baxter, B. J. C.) On approximation by exponentials. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 39–54. (Dumitru Acu) **98c:41027** 41A30

— Exact and discretized stability of the pantograph equation. Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 295–308. (H. Brunner) **98j:34130** 34K05 (34K25, 65L07)

— (*with* Nørsett, S. P.) Biorthogonal polynomials and zero-mapping transformations. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 129–143. (Franz Peherstorfer) **98i:26019** 26C10 (42C05)

— (*with* Liu, Yunkang) Integro-differential equations and generalized hypergeometric functions. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 404–424. (Alexander Tovbis) **98f:34095** 34K05 (33C20, 45J05)

— (*with* Derfel, G.) The pantograph equation in the complex plane. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 117–132. (Frederick R. Marotto) **98f:34094** 34K05 (30D05, 34A20, 34K20)

— (*with* Calvo, Mari Paz; Zanna, Antonella) Numerical solution of isospectral flows. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1461–1486. (Benedict J. Leimkuhler) **98d:65083** 65L05 (34C30, 58F07)

— *see also* **Acta numerica**, **98g:65005** *and* **Approximation theory and optimization**, **98i:00037**

abū Ishāq Ibrāhīm ibn Yahyā al-Naqqāsh *see* **Abū Ishāq Ibrāhīm ibn Yahyā al-Naqqāsh**

Ishchanov, B. Zh. On the representation of solutions of certain classes of equations as potentials of measures distributed on the set of singularities of these solutions. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 455–458. 35C99 (32A30, 35A20)

Ĭshchuk, Yu. B. (*with* Artemovich, O. D.) Semiperfect rings with periodic adjoint groups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 11–14. 16L30 (20F60)

Ishibashi, Akihiro (*with* Maeda, Kengo) Causality violation and singularities. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 9, 2569–2576. (Summary) **98f:83083** 83C75

— (*with* Koike, Tatsuhiko; Siino, Masaru; Kojima, Sadayoshi) Compact hyperbolic universe and singularities. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7303–7310. (Piotr T. Chruściel) **98a:58125** 58F17 (58F40, 83C75, 83E15)

— (*with* Maeda, Kengo) Strong cosmic censorship and causality violation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2094–2099. (Summary) **98k:83064** 83C75

Ishibashi, Hiroyuki Two-element generation of the orthogonal groups over the prime field $F = \{0, 1\}$. (Japanese) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 66–70. (*see* **98d:00023**) 20G40

Ishibashi, Nobuyuki (*with* Kawai, Hikaru; Kitazawa, Yoshihisa; Tsuchiya, Asato) A large-N reduced model as superstring. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 467–491. (Daniel N. Kabat) **98k:81221** 81T30

Ishibashi, Yasunori (*with* Nakamizo, Tetsuya) A note on the Galois group of a quartic polynomial. (English summary) *Bull. Fac. School Ed. Hiroshima Univ. Part II* **19** (1997), 39–41. (H. F. Kreimer) **98a:12005** 12F10

Ishibe, Katsuhiro The Casson-Walker invariant for branched cyclic covers of S^3 branched over a doubled knot. *Osaka J. Math.* **34** (1997), *no.* 2, 481–495. (Chichen M. Tsau) **98m:57004** 57M12 (57M25, 57N10)

Ishida, Hiroshi Some concepts defined by subsemigroups. *J. Fac. Internat. Stud. Cult. Kyushu Sangyo Univ. No.* 8 (1997), 135–160. 20M99

Ishida, Masa-Nori Convex sets in the p-adic open ball. (Japanese summary) Geometry of toric varieties and convex polytopes (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 934 (1996), 79–105. (Qing Liu) **98b:14024** 14G20 (32P05)

Ishida, Yoshihisa (*with* Song, Junbo) Robust tracking controller design for pneumatic servo system. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 905–920. 93C85 (93B52)

Ishigami, Yoshiyasu (*with* Tani, Sei'ichi) VC-dimensions of finite automata and commutative finite automata with k letters and n states. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 123–134. (Summary) **98c:68141a** 68Q68 (68T05)

— (*with* Tani, Sei'ichi) VC-dimensions of finite automata and commutative finite automata with k letters and n states. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 229–240. (Editors) **98c:68141b** 68Q68 (68T05)

Ishiguro, Kenichi (*with* Hashiguchi, Kosaburo) Solvability of the equivalence decision problem for finite ambiguous business management automata. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 233–239. (*see* **98a:68008**) 68Q68

— (*with* Hashiguchi, Kosaburo) Decidability of the equivalence problem of finitely ambiguous finance automata. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 23–36. (Summary) **98g:68109** 68Q68 (20M35)

Ishihara, Hironobu Rank 2 ample vector bundles on some smooth rational surfaces. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 309–336. (Marino Palleschi) **98k:14057** 14J60 (14J26)

Ishihara, Kazuo (*with* Muroya, Yoshiaki; Yamamoto, Tetsuro) On nonlinear SOR-like methods. II. Convergence of the SOR-Newton method for mildly nonlinear equations. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 1, 99–110. (Eugene Allgower) **98m:65088** 65H05

Ishihara, Takashi[2] (*with* Kaneda, Yukio) Singularity formation in the shape of a vortex sheet in three dimensions—numerical simulation. (English summary) *Vortex flows and related numerical methods, II* (*Montreal, PQ*, 1995), 463–479, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Summary) **98b:76017** 76C05 (76M25)

— (*with* Kaneda, Yukio) Analytic structure of vortex layers within uniform strain fluids. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 248–259. (*see* **98g:76052**) 76C05 (76D99)

Ishihara, Yasunori (*with* Seki, Hiroyuki; Ito, Minoru[1]) Type consistency problems for queries in object-oriented databases. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 140–145. (Summary) **98b:68031** 68P15 (68Q25)

Ishii, Alexander T. (*with* Leiserson, Charles E.; Papaefthymiou, Marios C.) Optimizing two-phase, level-clocked circuitry. (English summary) *J. ACM* **44** (1997), *no.* 1, 148–199. (Michitaka Kameyama) **98h:68121** 68Q35 (94C99)

Ishii, Hiroaki[1] (*with* Itoh, Takeshi) A model of fuzzy shortest path by possibility measure. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 977–990 (1997). 05C99 (04A72)

— (*with* Itoh, Takeshi) Fuzzy two-stage problem by possibility measure. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 279–288. 90C70 (90A05)

— (*with* Tsurumi, Masayo; Shiode, Shogo) Bargaining sets that include uncertainty. (Japanese. Japanese summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 97–101. (*see* **98h:90004**) 90D12

— (*with* Katagiri, Hideki; Itoh, Takeshi) Fuzzy random variables and their applications. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 95–103. (*see* **98g:90004**) 60A99 (04A72)

— (*with* Itoh, Takeshi) Fuzzy shortest path problems that consider the existence of paths. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 104–113. (*see* **98g:90004**) 90C70 (04A72, 90C35)

— (*with* Mohri, Shintaro; Masuda, Teruo) Dual-purpose MPM open-shop scheduling problems. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 128–132. (*see* **98g:90004**) 90B35

Ishii, Hitoshi (*with* Nagai, Hideo; Teramoto, Fuyuhiko) A singular limit on risk sensitive control and semi-classical analysis. *Probability theory and mathematical statistics* (*Tokyo*, 1995), 164–173, *World Sci. Publishing, River Edge, NJ*, 1996. (Daniel Hernández-Hernández) **98j:93078** 93E05 (93C20)

— Comparison results for Hamilton-Jacobi equations without growth condition on solutions from above. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 357–372. (Summary) **98m:35023** 35F20 (35B05, 49L25)

— (*with* Arisawa, Mariko; Lions, Pierre-Louis) Un contre-exemple pour la théorie du contrôle ergodique en dimension infinie. (English and French summaries) [A counterexample for ergodic control theory in infinite dimensions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 37–41. (E. N. Barron) **98d:49036** 49L25 (35B37, 93E20)

— Viscosity solutions and their applications [translation of Sūgaku **47** (1995), no. 2, 97–110; MR 96k:35023]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 2, 123–141. (*see* **98j:00014**) 35Dxx (35B27, 35B37, 49L25)

Ishii, Koji (*with* Kodama, Yuji; Maekawa, Toru) Microscopic dynamic analysis of heat and mass transfer. Thermal energy propagation near the critical point and electronic dynamics in a mesoscopic system. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2797–2802. (*see* **98i:00031**) 80–08

Ishii, Naohiro (*with* Liu, Zhibin[1]; Du, Xiaoyong) Speeding up string searching algorithms for nonuniform texts. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1344–1351. 68Q20

Ishii, Shihoko The canonical modifications by weighted blow-ups. (English summary) *J. Algebraic Geom.* **5** (1996), *no.* 4, 783–799. (Aviva Szpirglas) **98m:14014** 14E05

— A Fano 3-fold with nonrational singularities and a two-dimensional basis. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3785–3788. (Mark Gross) **98f:14035** 14J45

— The weighted blowing ups of singularities with $\kappa = 0$. *Singularities and complex geometry* (*Beijing*, 1994), 75–82, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Gerhard Pfister) **98g:14004** 14B05 (32S25)

Ishii, Toshimasa (*with* Nagamochi, Hiroshi; Ibaraki, Toshihide) Augmenting edge-connectivity and vertex-connectivity simultaneously. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 90–97. (Summary) **98m:05116** 05C40 (68R10)

Ishii, Yuko (*with* Yasuhara, Akira) Color invariant for spatial graphs. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 319–325. (Hugh Reynolds Morton) **98g:57003** 57M15 (05C10, 57M25)

Ishii, Yutaka A topological approach to the complex Hénon family. (English summary) Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 142–151. (Marco Abate) **98j:32030** 32H50 (58F23)

— Towards a kneading theory for Lozi mappings. I. A solution of the pruning front conjecture and the first tangency problem. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 731–747. (Frederick R. Marotto) **98h:58117** 58F13 (54H20, 58F03)

Ishikawa, Atushi (*with* Anazawa, Masahiro; Itoyama, Hiroshi) Fusion rules and interactions for macroscopic loop amplitudes. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 141–157, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81193** 81T40 (81T30)

— (*with* Ezawa, Kiyoshi) OSp(1|2) Chern-Simons gauge theory as 2D $N = 1$ induced supergravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2362–2368. (Summary) **98i:81154** 81T13 (81T60, 83E50)

— (*with* Anazawa, Masahiro; Tanaka, Hirokazu) Interaction of boundaries with heterogeneous matter states in matrix models. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 419–436. (Summary) **98k:81186** 81T30

Ishikawa, Goo Developable of a curve and determinacy relative to osculation-type. *Quart. J. Math. Oxford Ser.* (2) **46** (1995), *no.* 184, 437–451. (Peter Giblin) **98b:58022** 58C27 (53A04)

— Transversalities for Lagrange singularities of isotropic mappings of corank one. *Singularities and differential equations* (*Warsaw*, 1993), 93–104, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (V. M. Zakalyukin) **98d:58012** 58C27 (58F05)

— Topology of plane trigonometric curves and a duality for strangeness of plane curves derived from real pseudo-line arrangements. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 131–146. (A. Marin) **98d:14073** 14P25 (53A04)

— (*with* Brodersen, Hans; Wilson, Leslie Charles) A criterion for finite topological determinacy of map-germs. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 662–700. (From the introduction) **98i:58029** 58C27

Ishikawa, Hiroshi[2] (*with* Hamada, Ken-ji) Non-linear structures in the non-critical NSR string. (English summary) *Comm. Math. Phys.* **176** (1996), *no.* 2, 401–420. (Josep Herrero) **98a:81173** 81T30 (17B81, 81R10, 81T40)

— (*with* Matsuo, Yutaka; Sugawara, Yuji; Sugiyama, Katsuyuki) BPS mass spectrum from D-brane action. (English summary) *Phys. Lett. B* **388** (1996), *no.* 2, 296–302. (Masoud Alimohammadi) **98g:81170** 81T30 (83E30)

Ishikawa, Kenzo (*with* Maeda, Nobuki) Flux state in von Neumann lattices and the fractional Hall effect. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 507–525. (Guillermo Zemba) **98f:81385** 81V70

Ishikawa, Masaaki On the free boundary problem for stochastic hyperbolic heat systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2273–2278. (*see* **98i:00030**) 35R35 (35K05, 35L99)

Ishikawa, Masakazu (*with* Hayashi, Susumu; Kobayashi, Satoshi[1]; Nakano, Hiroshi; Nakazaki, Syuichi) Two extensions of PX system (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 9 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B70 (68N99)

Ishikawa, Masao (*with* Wakayama, Masato) Minor summation formula and applications, discrete Fourier transforms. (English summary) Applied mathematics for nonlinear integrable systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 933 (1995), 85–104. (Tadeusz Józefiak) **98g:15006** 15A15 (05E05, 05E35)

Ishikawa, Masaru (*with* Kitaoka, Yoshiyuki) On the distribution of units modulo prime ideals in real quadratic fields. (English summary) Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 65–72. (Franz Lemmermeyer) **98m:11114** 11R11 (11R45, 11Y40)

Ishikawa, Satoshi The range characterizations of the totally geodesic Radon transform on the real hyperbolic space. (English summary) Representation theory of groups and analysis on homogeneous spaces (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 929 (1995), 76–102. (Summary) **98f:58185** 58G15 (53C65)

Ishikawa, Shiro A consistent history approach to compatibilities and commutativities in non-relativistic quantum mechanics. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 309–314, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81030** 81P15

— Fuzzy inferences by algebraic method. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 2, 181–200. (Summary) **98f:81031** 81P15 (03B52, 46L60, 46S40)

— A quantum mechanical approach to a fuzzy theory. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 277–306. (Frank Antonsen) **98i:81030** 81P99 (04A72)

Ishikawa, Yasushi Large deviation estimate of transition densities for jump processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 179–222. (Summary) **98m:60113** 60J25 (60F10, 60J75)

— On the upper bound of the density for truncated stable processes in small time. (English summary) *Potential Anal.* **6** (1997), *no.* 1, 11–37. (Rémi Léandre) **98k:60090** 60H07 (60J75)

Ishikawa, Yujiro (*with* Nakai, Mitsuru) Regular and stable points in Dirichlet problem. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 1, 1–4. (Neil A. Watson) **98i:31004** 31B20 (35J05, 35J67)

Ishimoto, A. (*with* Sagal, P. T.) Interpreting Leśniewski's ontology: a propositional fragment of Leśniewski's ontology and related systems. (Russian) *Logical investigations, No.* 2 (*Russian*), 6–16, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B60

— Logical grammar: logical and ontological observations. (Russian) *Logical investigations, No.* 2 (*Russian*), 44–52, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B65

Ishimura, Naoyuki (*with* Imai, Hitoshi; Nakamura, Masa Aki) Magnetic Bénard system and its simplified model. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 79–92, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (From the introduction) **98e:76105** 76W05 (35Q60, 58F40, 76E25, 76R05)

— (*with* Nakamura, Masa Aki) A note on uniqueness for the classical solution of the MHD equations in $\mathbf{R}^3$. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 189–193, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 76W05 (35Q35)

— (*with* Nakamura, Masa Aki) Uniqueness for unbounded classical solutions of the MHD equations. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 7, 617–623. (V. D. Sharma) **98a:35110** 35Q35 (76W05)

— (*with* Imai, Hitoshi; Nakamura, Masa Aki) Convergence of attractors for simplified magnetic Bénard system. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 56–64. (*see* **98i:65002**) 76F20 (58F13, 58F14, 76E25, 76W05)

— (*with* Asai, Keisui) On the interior derivative blow-up for the curvature evolution of capillary surfaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 835–840. (Dian K. Palagachev) **98e:35023** 35B40 (35K60, 58E15)

Ishimura, Ryuichi (*with* Okada, Yasunori) The micro-support of the complex defined by a convolution operator in tube domains. *Singularities and differential equations* (*Warsaw*, 1993), 105–114, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Alex Méril) **98f:58181** 58G07 (35A27, 35R50, 46F15)

Ishioka, Keiichi An upper bound problem for development of a disturbance due to barotropic instability. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 49–56. (*see* **98e:76004**) 76E20 (76U05)

Ishiwata, Emiko (*with* Muroya, Yoshiaki) The fundamental *LUL* decomposition and its applications. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 21–30. (*see* **98j:65001**) 65F05

Ishiwata, Shingo (*with* Watanabe, Shinsuke; Kawamura, Katsuyuki; Oh, Heung Geun) Higher order solution of nonlinear waves. II. Shock wave described by Burgers equation. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 4, 984–987. (Summary) **98e:35135** 35Q35 (76B15, 76B25, 76X05)

— (*with* Matsutani, Shigeki; Ōnishi, Yoshihiro) Localization state of hard core chain and cyclotomic polynomial: hard core limit of diatomic Toda lattice. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 208–216. (Summary) **98g:82010** 82B20 (11Z05)

Ishiwata, Tetsuya (*with* Tsutsumi, Masayoshi) A numerical study of blow-up solutions to $u_t = u^n(\Delta u + \mu u)$. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 195–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 65M06 (35B40, 35K55, 35K65)

— (*with* Tsutsumi, Masayoshi) Regional blow-up of solutions to the initial-boundary value problem for $u_t = u^n(\Delta u + u)$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 871–887. (Hongwei Chen) **98g:35117** 35K60 (35B05)

Ishizaka, Hiroki (*with* Sugimoto, Noriko) A translation procedure for elementary formal systems. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 207–213. (From the text) **98b:68104** 68Q45 (03D05)

— (*with* Arimura, Hiroki; Shinohara, Takeshi) Learning unions of tree patterns using queries. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 47–62. (Summary) **98j:68142** 68T05 (68Q99)

Ishizaki, Katsuya An oscillation result for a certain linear differential equation of second order. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 421–434. (Enid M. Steinbart) **98i:34004** 34A20 (30D35, 34C10)

— (*with* Tohge, Kazuya) On the complex oscillation of some linear differential equations. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 503–517. (Ilpo Laine) **98c:34007** 34A20 (30D35)

— On the Schwarzian differential equation $\{w, z\} = R(z, w)$. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 67–78. (Enid M. Steinbart) **98f:34006** 34A20

— Rubel's problem (from Bergweiler's work). (Japanese) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 80–87. (*see* **98h:58002**) 30D35

Ishizawa, Akihiro (*with* Takahashi, Tsuguo) Vorticity distribution caused by three-dimensional disturbance in two-dimensional shear flow. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 1, 29–46. (Summary) **98b:76018** 76C05

Ishizuka, Yo (*with* Shimizu, Kiyotaka; Bard, Jonathan F.) ★ Nondifferentiable and two-level mathematical programming. (English summary) *Kluwer Academic Publishers, Boston, MA*, 1997. xii+470 *pp. ISBN* 0-7923-9821-1 (Doug Ward) **98c:90002** 90–02 (49J52, 65K05, 90C30, 90D65)

Ishkhanov, V. V. (*with* Lur'e, B. B.; Faddeev, D. K.) ★ The embedding problem in Galois theory. (English summary) Translated from the 1990 Russian original by N. B. Lebedinskaya. Translations of Mathematical Monographs, 165. *American Mathematical Society, Providence, RI*, 1997. xii+182 *pp. ISBN* 0-8218-4592-6 (Editors) **98c:12007** 12F12 (11R32, 11S20)

— (*with* Lur'e, B. B.) On an embedding problem over a p-extension. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 87–97; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 733–742. (Zhi Jie Chen) **98k:12002** 12F10 (20D20)

Ishwar, B. Non-linear stability in the generalized restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 3, 253–289. (Summary) **98c:70010** 70F07 (70F15, 70K20)

Isidori, Alberto A note on almost disturbance decoupling for nonlinear minimum phase systems. *Systems Control Lett.* **27** (1996), *no.* 3, 191–194. (Henk Nijmeijer) **98b:93027** 93B52 (93C10)

— (*with* Byrnes, Christopher I.; Delli Priscoli, Francesco) ★ Output regulation of uncertain nonlinear systems. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+120 *pp. ISBN* 0-8176-3997-7 (Kevin A. Grasse) **98c:93001** 93–02 (93B52, 93C41, 93D15)

— (*with* Byrnes, Christopher I.; Delli Priscoli, Francesco; Kang, Wei) Structurally stable output regulation of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 369–385. (John Tsinias) **98c:93087** 93D15 (93B52)

— A remark on the problem of semiglobal nonlinear output regulation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1734–1738. (Summary) **98i:93039** 93B52 (93C10)

Isidro, José M. *see* **Isidro, José María**[2]

Isidro, José María[1] (*with* Mukherjee, Avijit; Nunes, João P.; Schnitzer, Howard J.) A new derivation of the Picard-Fuchs equations for effective $N = 2$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 647–681. (Katsushi Ito) **98g:81207** 81T60 (14D05, 32G81, 81T13)

Isidro, José María[2] (*with* Nunes, João P.; Schnitzer, Howard J.) *BF* theories and group-level duality. (English summary) *Nuclear Phys. B* **465** (1996), *no.* 1-2, 315–328. (Rajesh Gopakumar) **98b:81228** 81T40 (32G81, 58D29)

— (*with* Mukherjee, Avijit; Nunes, João P.; Schnitzer, Howard J.) On the Picard-Fuchs equations for massive $N = 2$ Seiberg-Witten theories. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 363–382. (Katsushi Ito) **98j:81334** 81T60 (14D05, 32G20, 81T13)

— (*with* Mukherjee, Avijit; Nunes, João P.; Schnitzer, Howard J.) A note on the Picard-Fuchs equations for $N = 2$ Seiberg-Witten theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 233–250. (Summary) **98m:81181** 81T60 (14D05, 32G81, 81T13)

Isihara, Akira Developments and outlook of statistical physics at the turn of the century. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 5, 709–737. (M. Lawrence Glasser) **98h:82001** 82–02 (82–03, 82D50, 82D60)

— (*with* Hara, Hiroaki) Fundamental aspects of statistical mechanics. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 65–77. 82B03 (82C03)

Isihara, Paul (*with* Knapp, M.) Basic Z_{12} analysis of musical chords. (English summary) With loose erratum. *UMAP J.* **14** (1993), *no.* 4, 319–348. (Dan Vuza) **98f:00015** 00A69

Işık, Ahmet (*with* Ocak, Rahim) On an Eisenstein series of dimension-k. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 127–134. (Michael C. Berg) **98i:11032** 11F55 (11F03)

— (*with* Dıkıcı, Ramazan) The Jacobi modular forms. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 181–186. 11F55 (33C80)

— (*with* Dıkıcı, Ramazan) Fibonacci sequences in modular groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 187–189. 20H10 (11B39)

Işik, Mahmut (*with* Gençoğlu, Tuncay; Özçelik, Salih) A paper on renewal function. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 1–3. 60K05

Ising, Ernst *see* **Kobe, S., 98h:82002**

Iskandarani, Mohamed (*with* Levin, Julia G.; Haidvogel, Dale B.) A spectral filtering procedure for eddy-resolving simulations with a spectral element ocean model. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 130–154. (Summary) **98h:86001** 86A05 (76M20, 86–08)

Iskandarov, S. Lower bounds for the solutions of a first-order linear homogeneous Volterra integro-differential equation. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1508–1512, 1604; *translation in Differential Equations* **31** (1995), *no.* 9, 1462–1466 (1996). (A. Corduneanu) **98a:45008** 45J05

Iskander, A. A. Factorable congruences and strict refinement. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 1, 101–109. (E. Fried) **98a:08008** 08B10 (08C10)

Iske, Armin Reconstruction of functions from generalized Hermite-Birkhoff data. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 257–264, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A10

Iskenderov, N. Sh. (*with* Yıldız, Abdullah) The inverse nonstationary scattering problem for a hyperbolic system of equations on semi-axis. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 4, 503–519. (Hideo Soga) **98a:35142** 35R30 (35L50, 35P25, 47N20)

Iskovskikh, V. A. (*with* Pukhlikov, A. V.) Birational automorphisms of multidimensional algebraic manifolds. Algebraic geometry, 1. *J. Math. Sci.* **82** (1996), *no.* 4, 3528–3613. (Alessio Corti) **98e:14009** 14E07 (14E30, 14J45)

— (*with* Drinfel′d, V. G.; Kostrikin, Alekseĭ Ivanovich; Tyurin, A. N.; Shafarevich, Igor′ Rostislavovich) Yuriĭ Ivanovich Manin (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 233–242; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 863–873. (Editors) **98f:01062** 01A70

— (*with* Klyachko, Aleksandr Anatol′evich; Kostrikin, Alekseĭ Ivanovich; Kunyavskiĭ, B. È.; Parshin, A. N.; Stepanov, S. A.; Shafarevich, Igor′ Rostislavovich) Valentin Evgen′evich Voskresenskiĭ (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 201–202; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1345–1347. 01A70

Islam, A. S. (*with* Paul, S. R.) Joint estimation of the mean and dispersion parameters in the analysis of proportions: a comparison of efficiency and bias. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 83–94. 62F10 (62F12)

Islam, Anwarul (*with* Nandi, Kamal K.; Evans, James Carl) Induced quantum fluctuations in the spherically symmetric space-time. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 18, 3171–3180. (Summary) **98e:83063** 83C47 (81T20)

Islam, M. M. (*with* Puglia, S. J.) Anomalous chiral action from the path integral. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 523–551. 81T50 (81S40)

Islam, M. N. *see* **Islam, Muhammad Nurul[1]**

Islam, Md. Nurul (*with* Shahabuddin, M.) A one-one correspondence between stationary Einstein equations and static Einstein-Maxwell equations. (English summary) *Ganit* **15** (1995), 11–14. 83C15 (83C22)

Islam, Misbah Ul (*with* Beg, Ismat) Fuzzy Archimedean spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 413–423. (W. J. Kotzé) **98h:46085** 46S40 (04A72, 06F20, 46A40)

Islam, Muhammad Nurul[1] Almost periodic solutions of nonlinear integral equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 865–869. (*see* **98i:00028**) 45M99 (34K15)

Islam, Quamrul (*with* Shahabuddin, M.; Azad, A. K.) One-one mapping from E-M equations to E-M equations. (English summary) *Ganit* **14** (1994), *no.* 1-2, 1–3. 83C22 (83C50)

Isler, Romano (*with* Bosi, Gianni) Representing preference relations with nontransitive indifference by a single real-valued function. (English summary) *Economic and environmental risk and uncertainty (Oslo, 1994)*, 257–262, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A06

Isli, Amar (*with* Belhadji, Saïd) Temporal constraint satisfaction techniques in job shop scheduling problem solving. (English summary) *Constraints* **3** (1998), *no.* 2-3, 203–211. 90B35 (68T20)

Ismael, Jenann Curie's principle. (English summary) *Synthese* **110** (1997), *no.* 2, 167–190. (Dennis Dieks) **98c:00006** 00A30 (00A79)

Ismail, A. I. The motion of fast spinning rigid body about a fixed point with definite natural frequency. (English summary) *Aerosp. Sci. Technol.* **1** (1997), *no.* 3, 183–190. (Summary) **98g:70011** 70E15

Ismail, Fudziah Bt (*with* Suleiman, Mohamed B.) Embedded singly diagonally implicit Runge-Kutta methods (4, 5) in (5, 6). For the integration of stiff systems of ODEs. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 325–341. (Summary) **98m:65113** 65L06

Ismail, Gamal A. F. (*with* Ibrahim, Iman H.) Variable step stiffly stable methods. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 227–240. (Summary) **98m:65114** 65L06

Ismail, Hassan N. A. (*with* Elbarbary, Elsayed M. E.) Restrictive Padé approximation and parabolic partial differential equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 343–351. (Summary) **98m:65142** 65M06 (41A21)

Ismail, M. S. Finite difference method with cubic spline for solving nonlinear Schrödinger equation. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 101–112. (Summary) **98b:65097** 65M06 (65D07)

Ismail, Moshira A. (*with* Zaher, Adel M.; Bahaa, Mohamed S.) Bayesian type I censored designs for the Weibull lifetime model: information based criterion. (English summary) *Egyptian Statist. J.* **40** (1996), *no.* 2, 127–150. 62N05 (62F15)

Ismail, Mourad E. H. (*with* Rahman, Mizan; Zhang, Ruiming) Diagonalization of certain integral operators. II. (English summary) *J. Comput. Appl. Math.* **68** (1996), *no.* 1-2, 163–196. (Dharma P. Gupta) **98d:33011** 33D45 (42C10, 45C05)

— (*with* Masson, David R.; Suslov, Sergeĭ K.) Some generating functions for q-polynomials. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 91–108, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Mizan Rahman) **98d:33012** 33D45 (33C45, 33D15)

— (*with* Stanton, Dennis) Classical orthogonal polynomials as moments. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 520–542. (Mizan Rahman) **98f:33033** 33D45 (30E05, 33C45, 33D20)

— (*with* Rahman, Mizan; Suslov, Sergeĭ K.) Some summation theorems and transformations for q-series. (English summary) *Canad. J. Math.* **49** (1997), *no.* 3, 543–567. (David M. Bressoud) **98e:33005** 33D20 (33D60)

— Fractional powers of a difference operator. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 145–150. (Summary) **98j:39012** 39A70

— (*with* Bustoz, Joaquin) Turán inequalities for symmetric orthogonal polynomials. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 1–7. (R. K. Saxena) **98f:33014** 33C45

— (*with* Stempak, Krzysztof) Fourier transform of $h_n(x+p)h_n(x-p)$. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 613–615. (Summary) **98f:42004** 42A38 (33C45, 33C90, 42C05)

— Remarks on a paper by C. Giordano, A. Laforgia and J. Pečarić: "Supplements to known inequalities for some special functions" [J. Math. Anal. Appl. **200** (1996), no. 1, 34–41; MR 97b:33004]. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 621–625. (Summary) **98f:33006** 33C10 (26D05)

— (*with* Chen, Yang[1]) Thermodynamic relations of the Hermitian matrix ensembles. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6633–6654. (Summary) **98k:82074** 82B41 (33C90)

Ismail, Osman (*with* Bandyopadhyay, B.; Upadhye, Avinash) γ-δ Routh approximation for interval systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1127–1130. (Summary) **98e:93029** 93B30 (65G10, 93B40)

— (*with* Bandyopadhyay, B.; Gorez, R.) Discrete interval system reduction using Padé approximation to allow retention of dominant poles. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1075–1078. 93B60

Ismailescu, D. (*with* Csizmadia, György) Maximum number of different distance counts. (English summary) *Intuitive geometry (Budapest, 1995)*, 301–309, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (W. Moser) **98i:52023** 52C10

Ismailov, I. G. Some problems on the control of coefficients for higher-order elliptic equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1996,** *no.* 3, 22–30, 81; *translation in Moscow Univ. Comput. Math. Cybernet.* **1996,** *no.* 3, 18–25 (1997). (Florin Iacob) **98b:49007** 49J20 (35J65)

— (*with* Kutuzov, A. A.) Gradient procedures for integral functionals. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 51–56. (Summary) **98a:49050** 49M07 (49J05)

— On a procedure for the approximate solution of control and optimization problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 4, 227–231; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 705–708. (Summary) **98b:90169** 90C48 (49M37)

— (*with* Bobylev, N. A.; Korovin, S. K.) Gradient procedures in problems with nonisolated extremals. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 11–13. (Ján Lovišek) **98m:49014** 49J40 (35J85, 49M07, 65K10)

Ismailov, V. E. (*with* Babaev, M.-B. A.) Two-sided estimates for the best approximation in domains different from the parallelepiped. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 121–128. (Christian Coatmélec) **98m:41046** 41A63 (41A50, 65D15)

Ismailov, Z. I. (*with* Maksudov, F. G.) Normal boundary value problems for a first-order differential equation. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 1, 19–21. (Miroslav Lvovich Gorbachuk) **98f:34088** 34G10 (47A20, 47B15, 47N20)

Isobe, Takeshi Relaxed Yang-Mills functional over 4-manifolds. (English summary) *Topol. Methods Nonlinear Anal.* **6** (1995), *no.* 2, 235–253. (Xiao Wei Peng) **98e:58052** 58E15 (53C07)

— Optimal regularity of harmonic maps from a Riemannian manifold into a static Lorentzian manifold. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 71–93. (Martin Fuchs) **98g:58037** 58E20

Isobe, Yoshinao (*with* Sato, Yutaka; Ohmaki, Kazuhito) Approximative analysis by process algebra with graded spatial actions. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 336–350, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q10 (68Q55, 68Q60)

Isoda, Eiko (*with* Nagaoka, Kazuaki) Incompleteness results in Kripke bundle semantics. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 485–498. (Jerzy Kotas) **98m:03044** 03B45 (03B55)

— Kripke bundle semantics and C-set semantics. (English summary) *Studia Logica* **58** (1997), *no.* 3, 395–401. (Leo Esakia) **98i:03027** 03B45

Isoherranen, H. (*with* Aalto, J.) An element by element recovery method with built-in field equations. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 177–196. (Summary) **98e:73129** 73V05

Isokawa, Yukinao A class of random fractal tessellations in hyperbolic planes. *Bull. Fac. Ed. Kagoshima Univ. Natur. Sci.* **48** (1996), 1–35. (Hermann Haase) **98c:28007** 28A80 (60D05)

dell'Isola, Francesco (*with* Ruta, Giuseppe C.) Outlooks in Saint-Venant theory. III. Torsion and flexure in sections of variable thickness by formal expansions. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 2, 321–343. (Cornelius O. Horgan) **98j:73021** 73C02

— (*with* Rosa, Luigi) Almansi-type boundary conditions for electric potential inducing flexure in linear piezoelectric beams. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 2, 115–125. 73R05 (73K05)

— (*with* Batra, R. C.) Saint-Venant's problem for porous linear elastic materials. (English summary) *J. Elasticity* **47** (1997), *no.* 1, 73–81. (Summary) **98g:73005** 73C10 (73B99)

— (*with* Ruta, Giuseppe C.) Generalizing Jouravski formulas by techniques from differential geometry. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 307–319. (Cornelius O. Horgan) **98i:73008** 73C02

— (*with* Seppecher, Pierre) Edge contact forces and quasi-balanced power. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 1, 33–52. (Gérard A. Maugin) **98d:73003** 73A05 (73B18, 73S10)

— (*with* Woźniak, Cz.) On continuum modelling the interphase layers in certain two-phase elastic solids. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 519–526. (Gianpietro Del Piero) **98j:73010** 73B27 (73D99, 73K20, 73M25)

Isozaki, Hideki (*with* Okuno, Hiroshi G.; Minato, Shin-ichi) On the properties of combination set operations. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 195–199. 68T20

Isozaki, Hiroshi Inverse scattering theory for Dirac operators. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 237–270. (Ghias Hachem) **98g:81215** 81U40 (35Q40, 35R30, 47A40, 47N50)

— Inverse scattering theory for wave equations in stratified media. (English summary) *J. Differential Equations* **138** (1997), *no.* 1, 19–54. (R. G. Aĭrapetyan) **98f:35156** 35R30 (35L05, 47F05)

Ispány, M. Stationarity and second-order properties of a scalar-valued nonlinear time series with Gaussian residuals. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 95–104. 60G10 (62M10)

ben-Israel, Adi *see* **Ben-Israel, Adi**

Israel, Werner Covariant double-null dynamics. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 309–315. (Carlos N. Kozameh) **98c:83025** 83C30

— Covariant double-null dynamics and the internal geometry of aspherical black holes. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 71–79, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83053** 83C57

Israeli, Amos (*with* Kranakis, Evangelos; Krizanc, Danny; Santoro, Nicola) Time-message trade-offs for the weak unison problem. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 317–329. (Summary) **98m:68009** 68M10

— (*with* Shirazi, Asaf) The time complexity of updating snapshot memories. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 33–40. 68Q10 (68M15)

Israeli, Moshe (*with* Amitai, Dganit; Averbuch, Amir) Asynchronous parallel solvers for hyperbolic conservation laws. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65R20 (65Y05)

— (*with* Averbuch, Amir; Ioffe, Ludmila; Vozovoi, Lev) Highly scalable 2-D and 3-D Navier-Stokes parallel solver on MIMD multiprocessors. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60 (65Y05)

— (*with* Zrahia, U.; Orszag, Steven A.) Hybrid spectral element/asymptotic method for boundary layers problems. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 858–880. (Summary) **98i:65107** 65N35 (76M25)

— (*with* Averbuch, Amir; Ioffe, Ludmila; Vozovoi, Lev) A parallel spectral Fourier–nonlinear Galerkin algorithm for simulation of turbulence. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 699–715. (Summary) **98h:76100** 76M25 (65N30, 65Y05, 76F99)

Israelit, Mark (*with* Rosen, Nathan) A Weyl-Dirac geometric particle. (English summary) *Found. Phys.* **26** (1996), *no.* 5, 585–594. (Summary) **98b:83013** 83C15

— Massive electrodynamics and magnetic monopoles. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 11, 1411–1424. (Edson Stédile) **98i:83042** 83C50

— Magnetic monopoles and massive photons in a Weyl-type electrodynamics. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1597–1614. (Edson Stédile) **98i:83043** 83C50

Israilov, M. I. (*with* Allakov, I. A.) On the sum of the kth powers of natural numbers. (Russian) *Trudy Mat. Inst. Steklov.* **207** (1994), 172–179; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 6 (207), 155–161. (Don Redmond) **98b:11105** 11P05

Issa, A. Nourou Examples of hypospecial loops. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 4, 499–513. (Elena Brožíková) **98c:20120** 20N05 (17D05, 53B05)

Issautier, Didier (*with* Depeyre, Sophie) A new constrained formulation of the Maxwell system. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 327–357. (B. M. Herbst) **98j:65067** 65M60 (35Q60)

Issman, E. (*with* Degrez, G.) Solving steady compressible flow problems with subspace iteration methods. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 135–138. (*see* **98b:65005**) 76M25 (76N10)

Istad, Roy M. A bright spot at exam time. (Norwegian. English summary) *Normat* **45** (1997), *no.* 3, 126–130, 143. 15A15

Istas, Jacques Estimating the singularity function of a Gaussian process with applications. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 581–595. (Syed N. U. A. Kirmani) **98f:62284** 62M99 (60G15)

— (*with* Lang, Gabriel) Quadratic variations and estimation of the local Hölder index of a Gaussian process. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 4, 407–436. (José Rafael León) **98e:60057** 60G15 (60G35)

Istomin, A. D. (*with* Bagrov, V. G.; Obukhov, V. V.; Osetrin, K. E.) The problem of the classification of conformally Stäckel spaces in the Vaidya problem. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **39** (1996), *no.* 8, 48–53; *translation in Russian Phys. J.* **39** (1996), *no.* 8, 744–749 (1997). (Jan Novotný) **98b:83021** 83C20

Istrate, Gabriel I. Some remarks on almost periodic sequences and languages. *Mathematical linguistics and related topics*, 191–194, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45 (68R15)

Itai, Alon (*with* Gil, Joseph) Packing trees. (English summary) *Algorithms—ESA '95 (Corfu)*, 113–127, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68N20 (68Q25)

— (*with* Allenberg-Navony, Nechama; Moran, Shlomo) Average and randomized complexity of distributed problems. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1254–1267. (Summary) **98g:68061** 68Q25 (68Q05, 68Q22)

Itakura, Kazuhiro (*with* Tabata, Masahisa) Precise computation of drag coefficients of the sphere (extended abstract). Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 151–163. (*see* **98g:76052**) 76M25 (76D99)

Italiano, Giuseppe F. (*with* Eppstein, David; Galil, Zvi; Nissenzweig, Amnon) Sparsification—a technique for speeding up dynamic graph algorithms. (English summary) *J. ACM* **44** (1997), *no.* 5, 669–696. (Peter B. Gibbons) **98k:68039** 68P05 (68R10)

Itaya, Nobutoshi (*with* Kobayashi, Yasumaro) The Dirichlet problem for a certain degenerate parabolic equation. (English summary) *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 1, 1–13. (Introduction) **98j:35111** 35K65 (35K20)

Itazu, Yoshihiro (*with* Nagano, Yasutaka) Renormalization group theory for turbulence: assessment of the Yakhot-Orszag-Smith theory. (English summary) International Symposium on Mathematical Modelling of Turbulent Flows (Tokyo, 1995). *Fluid Dynam. Res.* **20** (1997), *no.* 1-6, 157–172. (Summary) **98b:76039** 76F99

Itelvi, A. M. On a numerical-analytic method for second-order difference equations. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **48** (1996), *no.* 7, 920–924; *translation in Ukrainian Math. J.* **48** (1996), *no.* 7, 1039–1044 (1997). (M. Znojil) **98b:39005** 39A10 (65Q05)

Itenberg, I. V. Topology of real algebraic T-surfaces. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 131–152. (Shuguang Wang) **98m:14056** 14P25 (14J99)

Itkis, Gene (*with* Lin, Chengdian; Simon, Janos) Deterministic, constant space, self-stabilizing leader election on uniform rings. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 288–302, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15, 68T05)

Itkis, Yu. M. (*with* Ivanov, Victor Vladimirovich; Purevdorj, B.; Puzynin, Igor V.; Vinitskiĭ, S. I.) Dynamics of realistic neural network with time-dependent external signal. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 667–675. (*see* **98i:00017**) 92B20

Ito, Akio Large-time behaviour of solutions to phase-separation models in one-dimensional case. Variational problems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 951 (1996), 101–110. (Weiqing Xie) **98c:80003** 80A22 (35R35)

Ito, Hidejī Computation of modular equation. II. (English summary) *Mem. College Ed. Akita Univ. Natur. Sci. No.* 52 (1997), 1–10. (Marvin I. Knopp) **98h:11049** 11F03

Ito, Hidekazu Integrable symplectic maps and their Birkhoff normal forms. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 1, 73–114. (Jürgen Pöschel) **98e:58149** 58F36 (58F05)

Ito, Hiroshi[1] (*with* Ohmori, Hiromitsu; Sano, Akira) Robust performance of decentralized control systems by expanding sequential designs. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1297–1311. 93A14 (93B51)

Ito, Hiroyuki[2] On automorphisms of supersingular $K3$ surfaces. *Osaka J. Math.* **34** (1997), *no.* 3, 713–724. (M. Kh. Gizatullin) **98m:14037** 14J27 (14J28)

Ito, Hisashi A new statement about the theorem determining the region of eigenvalues of stochastic matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 241–246. (Marc Artzrouni) **98i:15016** 15A18 (15A51)

Ito, K. R. (*with* Kugo, Tatsuya; Tamura, Hiroshi) Representations of O(N) spin models by self-avoiding random walks. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 723–737. (Aernout C. D. van Enter) **98k:82076** 82B41 (60K35, 82B20)

Ito, Katsushi (*with* Yang, Sung-Kil) Picard-Fuchs equations and prepotentials in $N = 2$ supersymmetric QCD. (English summary) *Frontiers in quantum field theory (Osaka, 1995)*, 331–342, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81217** 81T60 (81T13)

— (*with* Sasakura, Naoki) One-instanton calculations in $N = 2$ SU(N_c) supersymmetric QCD. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 3, 205–216. (Summary) **98a:81254** 81V05 (81T13, 81T60)

— (*with* Sasakura, Naoki) Exact and microscopic one-instanton calculations in $N = 2$ supersymmetric Yang-Mills theories. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 141–166. (Antonio González-Arroyo) **98c:81218** 81T60 (81T13)

— Picard-Fuchs equations and prepotential in $N = 2$ supersymmetric G_2 Yang-Mills theory. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 54–59. (Tomasz Brzeziński) **98h:81118** 81T60 (14D05, 14H45, 81T13)

Ito, Kazufumi (*with* Ravindran, S. S.) Optimal control of compressible Navier-Stokes equations. *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 289–294, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 49J20 (49K20, 76D05)

— (*with* Fahroo, Fariba) Optimum damping design for an abstract wave equation. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika (Prague)* **32** (1996), *no.* 6, 557–574. (Xiao Liang He) **98e:93084** 93D15 (93C20, 93D21)

— (*with* Kunisch, Karl) Estimation of the convection coefficient in elliptic equations. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 995–1013. (Summary) **98e:49080** 49M37 (35R30, 65N30, 93C20)

— (*with* Fang, Weifu) Steady-state solutions of a one-dimensional hydrodynamic model for semiconductors. (English summary) *J. Differential Equations* **133** (1997), *no.* 2, 224–244. (J. W. Jerome) **98a:35131** 35Q99 (78A35, 82D99)

— (*with* Fang, Weifu) Weak solutions to a one-dimensional hydrodynamic model of two carrier types for semiconductors. *Nonlinear Anal.* **28** (1997), *no.* 5, 947–963. (J. W. Jerome) **98b:35205** 35Q99 (78A35, 82D99)

— (*with* Nakagiri, Shin-ichi) Identifiability of stiffness and damping coefficients in Euler-Bernoulli beam equations with Kelvin-Voigt damping. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 107–129. (Summary) **98m:73069** 73K50 (34G20, 35Q72, 35R30, 73K05, 93C20)

— (*with* Ackleh, Azmy S.) An implicit finite difference scheme for the nonlinear size-structured population model. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 865–884. (Dale H. Mugler) **98m:65133** 65M06 (92D25)

— (*with* Fang, Weifu) On the inhomogeneous system of isentropic gas dynamics by the viscosity method. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 261–280. (Summary) **98k:35116** 35L60 (35D05, 35Q35, 76N15)

— (*with* Kappel, Franz) The Trotter-Kato theorem and approximation of PDEs. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 21–44. (Paolo Acquistapace) **98c:47060** 47D06 (35A35, 47N20, 65M06)

— (*with* Propst, Georg) Legendre-tau-Padé approximations to the one-dimensional wave equation with boundary oscillators. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 57–70. (Summary) **98j:65086** 65N35 (41A21)

— (*with* Morris, K. A.) An approximation theory of solutions to operator Riccati equations for H^∞ control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 82–99 (*electronic*). (Summary) **98m:93036** 93B36 (47N70, 49N10, 65J15, 65L99)

Ito, Kazuo Asymptotic decay toward the planar rarefaction waves of solutions for viscous conservation laws in several space dimensions. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 116–135. (Mehmet Can) **98m:35086** 35K55 (35B40, 35L65)

Ito, Kenji (*with* Kikuchi, Yoshiyuki; Furukawa, Yasu) Rudolf Clausius' copy of Sadi Carnot's *Réflexions*: a new look at Clausius' access to Carnot's work. *Historia Sci.* (2) **6** (1996), *no.* 1, 31–36. 01A55 (80–03, 82–03)

Ito, Masahiko (*with* Kita, Michitake) On the rank of the hypergeometric system $E(n+1, m+1; \alpha)$. *Kyushu J. Math.* **50** (1996), *no.* 2, 285–295. (Takeshi Sasaki) **98c:33017** 33C70 (13N10)

Ito, Masami[1] (*with* Thierrin, Gabriel) Right shifting languages and their decompositions. *Mathematical linguistics and related topics*, 195–199, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68Q45 (68Q70)

— Height functions and linear languages. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 98–101, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68139** 68Q45

— Height functions and formal languages. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 71–76. (*see* **98d:00023**) 68Q45 (20M35)

— (*with* Ţiplea, Ferucio Laurenţiu; Katsura, Masashi) On replacement of Petri nets and some applications. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 178–190. (*see* **98d:00023**) 68Q90

— (*with* Ţiplea, Ferucio Laurenţiu; Katsura, Masashi) Processes and vectorial characterizations of parallel communicating grammar systems. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 1, 47–73. (Wiesław Zielonka) **98k:68111** 68Q50 (68Q90)

— (*with* Kari, Lila; Thierrin, Gabriel) Insertion and deletion closure of languages. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 3–19. (Dong Yang Long) **98h:68140** 68Q45

Ito, Masato On Fourier integral operators of Fredholm type. (English summary) *Sci. Rep. Fac. Ed. Fukushima Univ. No.* 59 (1996), 1–6. (Luigi Rodino) **98e:47077** 47G30 (35S30, 58G15)

Ito, Michiko (*with* Nishizawa, Kiyoko) Bifurcations for skew tent maps. II. Renormalization. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 49–56. (*see* **98h:00039**) 58F14 (58F03)

Ito, Minoru *see* **Ito, Minoru[2]**

Ito, Minoru[1] (*with* Ishihara, Yasunori; Seki, Hiroyuki) Type consistency problems for queries in object-oriented databases. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 140–145. (Summary) **98b:68031** 68P15 (68Q25)

Ito, Minoru[2] (*with* Yamazaki, Seisi; Saito, Yoshimitu; Yamadera, Terumi; Kubo, Masahiko; Ikeda, Toshikazu; Tashiro, Yoshiaki; Higuchi, Teiichi) Riemann's period matrix of $y^3 = x^5 - 1$. *Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem. No.* 43 (1996), 1–14. (Gabino González Díez) **98b:30042** 30F30 (14H40)

— (*with* Tashiro, Yoshiaki; Yamazaki, Seisi; Higuchi, Teiichi) On Riemann's period matrix of $y^2 = x^{2n+1} - 1$. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 124–141. (Olivier Debarre) **98j:14045** 14H45 (14H40)

Ito, Naoharu (*with* Inaba, Hiroshi) Block triangular decoupling for linear systems over principal ideal domains. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 744–765. (Summary) **98a:93015** 93B27 (93B05, 93D15)

Ito, Noboru Some results on Hadamard groups. *Groups—Korea '94* (*Pusan*), 149–155, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20D99

— (*with* Okamoto, Takeo) On Hadamard groups of order 72. (English summary) *Algebra Colloq.* **3** (1996), *no.* 4, 307–324. (Kathryn J. Horadam) **98c:05029** 05B10 (05B20, 20B25)

— Remarks on Hadamard groups. *Kyushu J. Math.* **50** (1996), *no.* 1, 83–91. (Stephen D. Smith) **98d:20028a** 20D60 (20C15, 20D10)

— (*with* Cho, Jung Rae; Kim, Pan Soo; Sim, Hyo-Seob) Hadamard 2-groups with arbitrarily large derived length. (English summary) *Australas. J. Combin.* **16** (1997), 83–86. 20D15

— On Hadamard groups. III. *Kyushu J. Math.* **51** (1997), *no.* 2, 369–379. (Elena Brožiková) **98k:20026** 20D20 (05B20)

— Remarks on Hadamard groups. II. *Rep. Fac. Sci. Technol. Meijo Univ. No.* 37 (1997), 1–7. (Stephen D. Smith) **98d:20028b** 20D60 (20C15, 20D10)

Ito, S. *see* **Ito, Shunji**

Ito, Satoshi Inexact implementation of interior point algorithms for optimal control problems. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 245–248, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 49M37 (49M05)

— Numerical methods of nonlinear optimal control based on mathematical programming. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3843–3854. (*see* **98h:00034**) 49M37 (49K15)

Ito, Shunji Fractal domains of quasi-periodic motions on T^2. *Algorithms, fractals, and dynamics* (*Okayama/Kyoto*, 1992), 95–99, *Plenum, New York*, 1995. (*see* **97b:00014**) 58F27

— Limit set of $\{\sqrt{q}\binom{qa-p}{q\beta-r} \mid (q,p,r) \in \mathbf{Z}^3\}$ and domain exchange transformations. *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 101–102, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F15

— (*with* Fujita, Takahiko; Keane, Michael S.; Ohtsuki, M.) On almost everywhere exponential convergence of the modified Jacobi-Perron algorithm: a corrected proof. *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1345–1352. (Roger Paysant-Le Roux) **98a:11105** 11K60

Ito, T. *see* **Itô, Takashi**

Itô, Takashi Every normal Toeplitz matrix is either of type I or of type II. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 75–79. (*see* **98h:47004**) 47B35

Ito, Takashi (*with* Terada, K.; Kikuchi, Noboru) Characterization of the mechanical behaviors of solid-fluid mixture by the homogenization method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 3-4, 223–257. (Summary) **98k:73007** 73B27 (73K70, 76S05)

Ito, Takayasu *see* **Theoretical aspects of computer software, 98i:68019**

Ito, Toshikazu The number of compact leaves of a one-dimensional foliation on the $(2n-1)$-dimensional sphere S^{2n-1} associated with a holomorphic vector field. Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 75–79. (J. S. Joel) **98e:58134** 58F18 (57R30)

Ito, Yoshifumi Theory of Fourier microfunctions of several types. II. (English summary) *J. Math. Tokushima Univ.* **30** (1996), 45–69. (Carlos A. Berenstein) **98c:46079** 46F15 (32A45)

Ito, Yoshifusa (*with* Saito, Koji) Superposition of linearly independent functions and finite mappings by neural networks. (English summary) *Math. Sci.* **21** (1996), *no.* 1, 27–33. (Summary) **98g:68146** 68T05 (92B20)

Ito, Yukari (*with* Reid, Miles) The McKay correspondence for finite subgroups of SL(3, C). (English summary) *Higher-dimensional complex varieties* (*Trento*, 1994), 221–240, *de Gruyter, Berlin*, 1996. (Nicolas Pouyanne) **98i:14018** 14E15 (14F45, 14L30)

Itoh, Hidenori (*with* Yamada, Masashi; Seki, Hirohisa; Budiarto, Rahmat) A cat's cradle string diagram display method based on a genetic algorithm. (English summary) *Forma* **9** (1994), *no.* 1, 11–28. (Summary) **98i:57020** 57M25 (68T05, 68U05)

— (*with* Shimajiri, Yuka; Seki, Hirohisa) Incorporating a pruning strategy into the computation of stable models based on MGTP. (English summary) *Logic programming* (*Leuven*, 1997), 376–390, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68Q55)

— (*with* Budiarto, Rahmat; Yamada, Masashi; Seki, Hirohisa; Itoh, Ken-ichi; Miyazaki, Tsuyoshi) A system for simulating and displaying magic game in cat's cradle and a characterization method of its string state. (English summary) *Forma* **12** (1997), *no.* 1, 75–89. (Summary) **98i:57021** 57M25 (68T05, 68U05)

— (*with* Yamada, Masashi; Budiarto, Rahmat; Seki, Hirohisa) Topology of cat's cradle diagrams and its characterization using knot polynomials. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1573–1582. 57M25

Itoh, Hisanori (*with* Kimoto, Masahide) Multiple attractors and chaotic itinerancy in a quasigeostrophic model with realistic topography: implications for weather regimes and low-frequency variability. (English summary) *J. Atmospheric Sci.* **53** (1996), *no.* 15, 2217–2231. (Summary) **98a:86012** 86A10 (58F13, 58F40, 76U05)

Itoh, Katsumi (*with* Igarashi, Yuji; Kamimura, Kiyoshi; Kuriki, Rie) Canonical equivalence between super D-string and type IIB superstring. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **98k:81220** 81T30 (83E30)

Itoh, Ken-ichi (*with* Budiarto, Rahmat; Yamada, Masashi; Seki, Hirohisa; Miyazaki, Tsuyoshi; Itoh, Hidenori) A system for simulating and displaying magic game in cat's cradle and a characterization method of its string state. (English summary) *Forma* **12** (1997), *no.* 1, 75–89. (Summary) **98i:57021** 57M25 (68T05, 68U05)

Itoh, Makoto (*with* Wu, Chai Wah; Chua, Leon O.) Communication systems via chaotic signals from a reconstruction viewpoint. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 275–286. (Summary) **98e:94003** 94A12 (34C15, 34D45, 58F13, 58F40)

— Synthesis of topologically conjugate chaotic nonlinear circuits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1195–1223. 94C05 (58F13)

Itoh, Masuo Spectral mapping theorems for p-hyponormal operators. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 3-4, 523–535. (Ridgley Lange) **98a:47024** 47B20 (47A10, 47A60)

— (*with* Chō, Muneo; Ōshiro, Satoru) Weyl's theorem holds for p-hyponormal operators. *Glasgow Math. J.* **39** (1997), *no.* 2, 217–220. (Ameer Athavale) **98e:47038** 47B20 (47A10)

— (*with* Chō, Muneo) Fuzzy bounded operators. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 353–362. (Summary) **98k:47143** 47S40 (04A72)

Itoh, Mitsuhiro The maximum principle on Einstein-Weyl manifolds. (English summary) *Proceedings of the First International Workshop on Differential Geometry* (*Taegu*, 1996), 129–142, *Kyungpook Natl. Univ., Taegu*, 1997. (Henrik Pedersen) **98d:53064** 53C25

— Odd-dimensional tori and contact structure. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 4, 58–59. (Keizo Hasegawa) **98h:53048** 53C15 (58F05)

Itoh, Nobutake Multiple instability of flows along adhesion lines on slanting cylinders. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 14–23. (*see* **98e:76004**) 76E99

— Development of an axisymmetric wave packet in rotating-disk flow. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 2, 87–100. (Summary) **98d:76159** 76U05 (76D10, 76E10)

Itoh, Shoji (*with* Zhang, Shao-Liang; Natori, Makoto) Rotated alternative LU decomposition method for periodic block pentadiagonal linear systems. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 1, 153–156. 15A23

Itoh, Takashi[1] An introduction to Kirchberg's work. (Japanese) Theory of paragroups and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 956 (1996), 16–23. (*see* **98b:46005**) 46Lxx

Itoh, Takayuki (*with* Kanoh, Hideaki; Abe, Naoto[2]) Nonlinear H_∞ control for heat exchangers controlled by the manipulation of flow rate. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2237–2248. (*see* **98i:00030**) 93B36

Itoh, Takeshi (*with* Ishii, Hiroaki[1]) A model of fuzzy shortest path by possibility measure. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 977–990 (1997). 05C99 (04A72)

— (*with* Ishii, Hiroaki[1]) Fuzzy two-stage problem by possibility measure. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 279–288. 90C70 (90A05)

— (*with* Katagiri, Hideki; Ishii, Hiroaki[1]) Fuzzy random variables and their applications. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto,

1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 95–103. (*see* **98g:90004**) 60A99 (04A72)
— (*with* Ishii, Hiroaki[1]) Fuzzy shortest path problems that consider the existence of paths. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 104–113. (*see* **98g:90004**) 90C70 (04A72, 90C35)
Itoh, Toshiya (*with* Ohta, Yuji; Shizuya, Hiroki) A language-dependent cryptographic primitive. (English summary) *J. Cryptology* **10** (1997), *no.* 1, 37–49. (Summary) **98m:94037** 94A60
Itoh, Toyoharu A new family of 2-designs over GF(q) admitting $SL_m(q^l)$. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 261–286. (Wan Di Wei) **98m:05036** 05B30 (51E20)
Itoh, Y. *see* **Itoh, Yousuke**
Itoh, Yoshiaki (*with* Maehara, Hiroshi) A variation to the ruin problem. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 97–102. (Amy L. Rocha) **98m:60068** 60G40
Itoh, Yousuke (*with* Futamase, T.; Hotta, M.) Black holes and two-dimensional dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1129–1135. (Michael O. Katanaev) **98m:83044** 83C57 (81T40)
Itoi, Chigaku (*with* Mukaida, Hisamitsu; Sakamoto, Yoshinori) Replica method for wide correlators in Gaussian orthogonal, unitary and symplectic random matrix ensembles. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5709–5725. (Alexei Khorunzhy) **98k:82092** 82B44 (15A52, 60H25)
— Universal wide correlators in non-Gaussian orthogonal, unitary and symplectic random matrix ensembles. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 651–659. (Estelle L. Basor) **98k:82007** 82B05 (82B44)
— (*with* Higuchi, Saburo; Nishigaki, Shinsuke M.; Sakai, Norisuke) Renormalization group approach to multiple-arc random matrix models. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 123–129. (Summary) **98f:82063** 82B28 (82B26, 82B31)
Itoyama, Hiroshi (*with* Anazawa, Masahiro; Ishikawa, Atushi) Fusion rules and interactions for macroscopic loop amplitudes. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 141–157, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81193** 81T40 (81T30)
— (*with* Morozov, A. Yu.) Integrability and Seiberg-Witten theory. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 301–324, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98j:81335** 81T60 (58F07, 81-02, 81T13)
— (*with* Morozov, A. Yu.) Integrability and Seiberg-Witten theory—curves and periods. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 855–877. (Gregorio Falqui) **98d:81116** 81T60 (14H99, 32G20, 58F07, 81T13)
— (*with* Fumita, N.; Oota, Takeshi) Motions of the string solutions in the *XXZ* spin chain under a varying twist. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 4, 801–838. (Yu Kui Zhou) **98e:82015** 82B20
— (*with* Arakane, Y.; Kunitomo, Hiroshi; Tokura, A.) Infinity cancellation, type I′ compactification and string $\mathscr{S}$-matrix functional. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 149–163. (Summary) **98b:81172** 81T30
— (*with* Morozov, A. Yu.) Prepotential and the Seiberg-Witten theory. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 3, 529–573. (Henrik Aratyn) **98h:81119** 81T60 (14D05, 14H55, 32J81, 81T13, 81T30)
— (*with* Takashino, Hiroyuki) Schwinger-Dyson equation for supersymmetric Yang-Mills theory—manifestly supersymmetric form. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 963–1001. (Tobias Hurth) **98k:81271** 81T60 (81T13)
Its, A. R. (*with* Korepin, Vladimir E.; Waldron, Andrew K.) Probability of phase separation for the Bose gas with delta interaction. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 450–461, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:82008** 82B10 (82B26)
— (*with* Frahm, Holger; Korepin, Vladimir E.) An operator-valued Riemann-Hilbert problem associated with the *XXX* model. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 133–142, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (Anne Schilling) **98f:82046** 82B23 (58F07)
— Connection formulae for the Painlevé transcendents. (English summary) *The Stokes phenomenon and Hilbert's 16th problem* (*Groningen*, 1995), 139–165, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrei A. Kapaev) **98c:34008** 34A20 (34A55, 34E10, 41A60)
— (*with* Deift, Percy A.; Zhou, Xin) A Riemann-Hilbert approach to asymptotic problems arising in the theory of random matrix models, and also in the theory of integrable statistical mechanics. *Ann. of Math.* (2) **146** (1997), *no.* 1, 149–235. (John N. Palmer) **98k:47097** 47G10 (15A52, 30E25, 34A55, 34E20, 41A60, 82B23, 82B44)
— (*with* Eßler, Fabian H. L.; Frahm, Holger; Korepin, Vladimir E.) Determinant representation for a quantum correlation function of the lattice sine-Gordon model. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 219–244. (Deng Feng Wang) **98d:81069** 81T25 (82B20, 82B23)
rodriguez-Iturbe, I. *see* **Rodriguez-Iturbe, I.**
Iezaun Iturralde, Mikel *see* **Lezaun Iturralde, Mikel**
Iturriaga, Renato (*with* Contreras-Barandiarán, Gonzalo; Delgado, Jorge) Lagrangian flows: the dynamics of globally minimizing orbits. II. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 155–196. (Author's review (R1)) **98i:58093** 58F05 (49Q20, 58E05)
Itzhaki, N. Stringy corrections to Kaluza-Klein black holes. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 700–714. (Summary) **98h:83089** 83E30 (81T30, 83C57)
— (*with* Brandhuber, A.; Kaplunovsky, Vadim S.; Sonnenschein, Jacob; Yankielowicz, Shimon) Comments on the M theory approach to $N = 1$ SQCD and brane dynamics. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 27–35. 81V05 (81T30)
— On field theories with an infinite number of fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 625–634. 81T15
— (*with* Brandhuber, A.; Sonnenschein, Jacob; Yankielowicz, Shimon) More on probing branes with branes. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 238–246. (Summary) **98m:81132** 81T30 (83E30)
Itzkowitz, Gerald (*with* Ahdout, Shahla; Hurwitz, Carol; Rothman, Sheldon; Strassberg, Helen) Maximal protori in compact topological groups. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 227–236, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (K. H. Hofmann) **98h:22001** 22C05 (54H11)
— Uniform separation and a theorem of Katětov. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 92–96, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98f:54007** 54A20 (54B05, 54C20, 54D15, 54E15)
— (*with* Wu, Ta Sun) Iwasawa-type decomposition in compact groups. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 138–146, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (K. H. Hofmann) **98i:22008** 22D05 (22C05, 22E15, 54A25, 54D05, 54E45)
— (*with* Shakhmatov, Dmitriĭ B.) Dense countably compact subgroups of compact groups. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 497–501. (W. W. Comfort) **98k:54068** 54H11 (22A05, 22C05, 54A25, 54B05, 54B10)
— (*with* Shakhmatov, Dmitriĭ B.) Haar nonmeasurable partitions of compact groups. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 1, 251–262. (T.-S. Wu) **98i:22007** 22C05 (22A05, 54A25, 54B05)
— *see also* **Papers on general topology and applications**, **98d:54001** *and* **98f:54004**
Itzykson, Claude Counting rational curves on rational surfaces. *Perspectives on solvable models*, 255–276, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 14N10 (14J26)
— (*with* Bauer, Michel) Triangulations. (French) *Discrete Math.* **156** (1996), *no.* 1-3, 29–81. (Vagn Lundsgaard Hansen) **98m:14027** 14H15 (05A15, 11G99, 32G99, 57N05, 57Q15, 81T40)
— (*with* Bauer, Michel; Coste, Antoine; Ruelle, P.) Comments on the links between su(3) modular invariants, simple factors in the Jacobian of Fermat curves, and rational triangular billiards. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 2, 134–189. (Martin Schlichenmaier) **98g:81189** 81T40 (11F11, 11F22, 11G10, 11Z05, 14H40, 17B67)
— *see also* **Advanced quantum field theory**, **98f:81004**; **Mathematical beauty of physics**, **98g:00034**; **Combinatorics and physics**, **98h:00025** *and* **Obituary: Itzykson, Claude**, (**98h:00025**)
Io Iudice, N. *see* **Lo Iudice, N.**
Iudice, N. Lo *see* **Lo Iudice, N.**
Iusem, Alfredo Noel (*with* Butnariu, Dan) Local moduli of convexity and their application to finding almost common fixed points of measurable families of operators. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 61–91, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Brailey Sims) **98m:46012** 46B20 (41A65, 47H10, 47H40, 52A41)
— (*with* Alber, Yakov; Burachik, Regina S.) A proximal point method for nonsmooth convex optimization problems in Banach spaces. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 97–120. (Bernard Lemaire) **98m:90185** 90C48 (46N10, 47N10, 49M45)
— Steepest descent methods with generalized distances for constrained optimization. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 2, 225–246. (Bernard Lemaire) **98h:90105** 90C25 (90C30)
— An interior point method for the nonlinear complementarity problem. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 4, 469–482. (R. N. Kaul) **98h:90095** 90C33
— (*with* Butnariu, Dan) On a proximal point method for convex optimization in Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 723–744. (W. W. Breckner) **98k:90133** 90C48 (47N10)
— (*with* Solodov, Michael V.) Newton-type methods with generalized distances for constrained optimization. (English summary) *Optimization* **41** (1997), *no.* 3, 257–278. (Summary) **98h:90078** 90C30 (65K05)
— (*with* Svaiter, B. F.) A variant of Korpelevich's method for variational inequalities with a new search strategy. (English summary) *Optimization* **42** (1997), *no.* 4, 309–321. (Summary) **98m:49020** 49J40 (49M07, 90C25)
— (*with* Burachik, Regina S.; Svaiter, B. F.) Enlargement of monotone operators with applications to variational inequalities. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 2, 159–180. (Bernard Lemaire) **98h:49010** 49J40 (47H05, 90C33)
Ivaldi, Marc (*with* Florens, Jean-Pierre; Larribeau, Sophie) Sobolev estimation of approximate regressions. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 753–772. (Summary) **98m:62301** 62P20 (62G05)
Ivan, Gheorghe (*with* Puta, Mircea; Buligă, M.) ★ Une incursion à la théorie élémentaire des catastrophes. (French) [An excursion into elementary catastrophe theory] Monografii Matematice [Mathematical Monographs], 52. *Universitatea de Vest din Timişoara, Facultatea de Matematică, Timişoara*, 1995. 115 *pp.* (D. R. J. Chillingworth) **98d:58015** 58C28 (14B05)
— (*with* Puta, Mircea) A new application of the Oh's stability criterion. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 243–246. (Ernesto A. Lacomba) **98i:70013** 70H05 (58F05, 70E15, 70K20, 70Q05)
Ivan, M. (*with* Raşa, Ion) A sequence of positive linear operators. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 159–164. 41A36
Ivanauskas, Feliksas The splitting method for solving the second boundary value problem for semilinear evolution equations. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1542–1547, 1605–1606; *translation in Differential Equations* **31** (1995), *no.* 9, 1498–1504 (1996). (Rémi Vaillancourt) **98a:65147** 65M99
— A priori estimates, convergence and stability of difference schemes for the solution of nonlinear evolution equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 43–47, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 29–32 (1997). 65M12 (35K55)
— (*with* Meškauskas, Tadas) Justification of difference schemes for derivative nonlinear evolution equations. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 335–340, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M06
— (*with* Radžiūnas, M.) Stability and convergence of Du Fort-Frankel difference schemes for a nonlinear equation of Schrödinger type. (Russian. Russian and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 334–352; *translation in Lithuanian Math. J.* **37** (1997), *no.* 3, 249–263 (1998). (Meng Zhao Qin) **98i:65067** 65M06
Ivanchik, I. I. Analytic representation of the equation of state in classical statistical mechanics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996),

no. 1, 135–158; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 1, 958–976 (1997). (Nicolae Angelescu) **98a:82052** 82B30

Ivanchov, M. I. Inverse problems of heat conduction with nonlocal conditions. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 5, 15–21. 35R30 (35K05)

Ivanciuc, O. (*with* Diudea, Mircea V.; Nikolić, Sonja; Trinajstić, N.) Matrices of reciprocal distance, polynomials and derived numbers. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 41–64. (Xiao Feng Guo) **98h:05130** 05C50 (05C90, 92E10)

Ivanenko, S. A. (*with* Charakhch'yan, A. A.) A variational form of the Winslow grid generator. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 2, 385–398. 65N55

Ivaneshkin, A. I. (*with* Dorovskikh, A. V.) Control of the queue structure in a single-server system with a variable service rate. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996,** *no.* 6, 112–125, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 837–845 (1997). 90B22 (60K25)

Ivanitskiĭ, G. R. (*with* Tsyganov, I. M.; Aliev, R. R.) A "dissipative pulsar" in excitable media. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 5, 699–703. (János Tóth) **98i:92014** 92C20 (92C05)

Ivanoff, B. Gail (*with* Merzbach, Ely) A martingale characterization of the set-indexed Brownian motion. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 903–913. (David Nualart) **98d:60094** 60G60 (60B11, 60H05)

— (*with* Merzbach, Ely) Poisson convergence for set-indexed empirical processes. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1, 81–86. (Lajos Horváth) **98d:60045** 60F05 (60G48, 60G55)

Ivanov, A. A. *see* **Ivanov, Aleksandr Anatol'evich**

Ivanov, A. F. *see* **Ivanov, Anatoliĭ Fedorovich**

Ivanov, A. I. Synthesis of nonlinear dynamic Wiener-Hammerstein models by the redistribution of memory between input and output. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 21–32. 93B30 (93C30)

Ivanov, A. I. (*with* Kostrikova, N. A.) Lie-algebraic approach to the calculation of quasi-energies. (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 285–288. 81R05

Ivanov, A. N. (*with* Faber, M.; Troitskaya, N. I.; Zach, M.) Shape fluctuations of dual Dirac strings in the dual Higgs model with dual Dirac strings. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 331–338. 81T30 (81V05)

Ivanov, A. O. (*with* Tuzhilin, Alekseĭ Avgustinovich) Geometry and topology of local minimal 2-trees. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 1, 103–139. (Mechthild Stoer) **98a:90121** 90C35 (05C10, 90C27)

Ivanov, A. P. A Kelvin theorem and partial work of impulsive forces. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 2, 438–440. (Summary) **98b:70007** 70E15 (70F30)

Ivanov, Al. *see* **Ivanov, Alexandru**

Ivanov, Aleksandr Anatol'evich (*with* Stroth, Gernot) A characterization of 3-local geometry of $M(24)$. (English summary) *Geom. Dedicata* **63** (1996), *no.* 3, 227–246. (Summary) **98g:51009** 51E24 (20D08)

— (*with* Liebler, Robert A.; Penttila, Tim; Praeger, Cheryl E.) Antipodal distance-transitive covers of complete bipartite graphs. (English summary) *European J. Combin.* **18** (1997), *no.* 1, 11–33. (John van Bon) **98a:05160** 05E30 (05C25, 05C70)

— Exceptional extended dual polar spaces. (English summary) *European J. Combin.* **18** (1997), *no.* 8, 859–885. (John van Bon) **98m:51011** 51E24 (05B25)

— (*with* Shpektorov, S. V.) The universal nonabelian representation of the Petersen type geometry related to J_4. (English summary) *J. Algebra* **191** (1997), *no.* 2, 541–567. (Antonio Pasini) **98i:51007** 51E24 (20D08)

— (*with* Meierfrankenfeld, U.) Simple connectedness of the 3-local geometry of the Monster. (English summary) *J. Algebra* **194** (1997), *no.* 2, 383–407. (Gernot Stroth) **98k:51027** 51E24 (20D08)

Ivanov, Alexandru (*with* Herţia, D. I.) Compatibility in physical theories. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 3, 387–405. (Peter G. Ovchinnikov) **98g:81017** 81P10

Ivanov, Anatoliĭ Fedorovich (*with* Sharkovs'kiĭ, Aleksandr; Fedorenko, V. V.; Fedorenko, O. D.) Coexistence of periodic orbits for a class of discontinuous mappings. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 11, 21–25 (1997). (Mikhail Zaks) **98g:58048** 58F03 (58F27)

Ivanov, B. F. A frequency criterion for the boundedness of solutions of a class of linear systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 704–706, 720; *translation in Differential Equations* **33** (1997), *no.* 5, 707–709 (1998). (From the text) **98k:34058** 34C11 (34A30)

— A frequency criterion for smoothness, with respect to the parameters, of solutions of a class of linear systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 1001, 1008; *translation in Differential Equations* **33** (1997), *no.* 7, 1010–1011 (1998). 34A12

Ivanov, B. V. Gravitational effects in a rotating prolate spheroid. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 509–515. (János Kánnár) **98a:83036** 83C25

Ivanov, D. V. (*with* Egorov, I. V.) Modeling of internal separated flows taking into account chemical nonequilibrium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 751–758. (Summary) **98b:76042** 76J20 (76M20, 76N15)

— (*with* Egorov, I. V.) Application of the Newton method in the modeling of unsteady separated flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 504–509. 76M25

Ivanov, D. Yu. (*with* Tarasov, R. P.) Numerical solution of integral equations with a one-parameter semigroup of symmetries. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 7, 54–76; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 7, 869–887. (Nassar H. S. Haidar) **98a:65187** 65R20 (65D15)

Ivanov, Evgeniĭ Alekseevich[2] (*with* Sutulin, A.) Tensor and nonlinear (4, 4) supermultiplets in SU(2) × SU(2) harmonic superspace. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 843–863. (Sergey Nikolaevich Roshchupkin) **98a:81227** 81T60 (83E50)

— (*with* Ahn, Changhyun; Sorin, A. S.) $N = 2$ affine superalgebras and Hamiltonian reduction in $N = 2$ superspace. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 205–252. (Josep Herrero) **98i:81081** 81R10 (17B68, 17B81, 81T60)

— (*with* Delduc, François; Sokatchev, E.) The massive spinning particle revisited. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 13, 937–947. (Summary) **98c:81229** 81T99

— SU(2) × SU(2) harmonic superspace and (4, 4) sigma models. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 354–356. (*see* **98g:81005**) 81T60

— (*with* Krivonos, S.) New integrable extensions of $N = 2$ KdV and Boussinesq hierarchies. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 75–81. (Summary) **98h:58077** 58F07 (35Q53)

— (*with* Delduc, François; Gallot, L.) New super KdV system with the $N = 4$ SCA as the Hamiltonian structure. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 122–132. (Summary) **98f:58099** 58F07 (35Q53)

— (*with* Krivonos, S.; Toppan, Francesco) $N = 4$ super NLS-mKdV hierarchies. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 85–94. (Luigi Martina) **98h:58078** 58F07 (81R10)

— (*with* Bukhbinder, I. L.; Bukhbinder, E. I.; Kuzenko, Sergei M.; Ovrut, Burt A.) Effective action of the $N = 2$ Maxwell multiplet in harmonic superspace. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 309–319. (Ilya Shapiro) **98k:81260** 81T60 (81T13)

— (*with* Bellucci, S.; Gribanov, V.; Krivonos, S.; Pashnev, A.) Non-linear realizations of superconformal and W-algebras as embeddings of strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 477–501. (Summary) **98j:81115** 81R10 (81T30, 81T40)

Ivanov, G. M. (*with* Zhelezovskiĭ, S. E.; Krivonogov, N. P.) On the rate of convergence of Galerkin approximations for a nonlinear problem in the thermoelasticity of thin plates. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 157–168. (Summary) **98i:73035** 73K10 (73B30, 73D35, 73V20)

Ivanov, I. A. WKB quantization of the Morse Hamiltonian and periodic meromorphic functions. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3977–3982. (Gabriel Alvarez) **98e:81035** 81Q20 (30D30)

— Sum rule for the spectra of x^{2m} potentials. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4337–4339. 81Q05

Ivanov, I. V. *see* **Ivanov, Ivan Velichkov**

Ivanov, Ivan Ganchev A method for solving the spectral problem for complex matrices. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 192–199, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F15

Ivanov, Ivan T. (*with* Roček, Martin) Supersymmetric σ-models, twistors, and the Atiyah-Hitchin metric. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 291–302. (Krzysztof Galicki) **98i:53065** 53C25 (32L25, 53C55, 53C80, 58D27, 81T60)

Ivanov, Ivan Velichkov (*with* Kovacheva, Ralitza K.; Gilewicz, Jacek) Rational functions of best uniform approximation and holomorphic continuation of functions. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 1–9. (A. Bultheel) **98d:41018** 41A20 (30E10)

Ivanov, K. G. (*with* Sharma, Ambikeshwar) Quadratic mean radius of a polynomial in $\mathbf{C}(Z)$. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 497–514. (N. K. Govil) **98k:30007** 30C15 (26C10)

— (*with* de Bruin, Marcel G.; Sharma, Ambikeshwar) A conjecture of Schoenberg. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 103–105. 30C15

Ivanov, M. G. (*with* Aref'eva, I. Ya.; Volovich, I. V.) Non-extremal intersecting p-branes in various dimensions. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 44–48. (Summary) **98c:83092** 83E30 (81T30)

Ivanov, M. S. *see* **Ivanov, Mikhail Samuilovich**

Ivanov, M. Ya. On the modeling of averaged solutions of hydrodynamic problems. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 12, 110–120. (Summary) **98k:76041** 76D99 (76F99)

Ivanov, Mikhail Samuilovich (*with* Gimelshein, S. F.) Computational hypersonic rarefied flows. (English summary) *Annual review of fluid mechanics, Vol.* 30, 469–505, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76K05 (76M25, 76P05)

— (*with* Gimelshein, S. F.; Markelov, G. N.) Statistical simulation of the transition between regular and Mach reflection in steady flows. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 113–125. (*see* **98i:76002**) 76M35 (76L05)

Ivanov, Milen (*with* Deville, Robert) Smooth variational principles with constraints. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 418–426. (J. Borwein) **98m:49016** 49J40 (49J27, 49J52, 58E35)

Ivanov, N. V. Automorphism of complexes of curves and of Teichmüller spaces. (English summary) *Internat. Math. Res. Notices* **1997,** *no.* 14, 651–666. (Darryl McCullough) **98j:57023** 57M99 (20F38, 30F60, 57N05)

Ivanov, O. A. ★ Избранные главы элементарной математики. (Russian. Russian summary) [Selected chapters in elementary mathematics] With a preface by A. S. Merkur'ev. *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1995. 224 *pp. ISBN* 5-288-01430-2 (Darko Veljan) **98b:00001** 00–01 (00A05)

— (*with* Netsvetaev, N. Yu.) On the intersection form of the result of gluing manifolds with degenerate intersection forms. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **231** (1995), *Issled. po Topol.* 8, 169–179, 324–325 (1996). (Rostislav Matveyev) **98e:57032** 57N65 (11E12, 57P10)

— (*with* Netsvetaev, N. Yu.) Estimates for the number of singularities of a complex hypersurface, and related questions. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **231** (1995), *Issled. po Topol.* 8, 180–190, 325 (1996). (J. S. Joel) **98e:32064** 32S50 (57R52, 57R75)

Ivanov, R. P. (*with* Raykov, I. L.) Parametric Lyapunov function method for solving nonlinear systems in Hilbert spaces. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 9-10, 893–901. (Simeon Reich) **98i:65046** 65J15 (47H05, 47H17)

Ivanov, S. (*with* Fuchssteiner, Benno; Wiwianka, W.) Algorithmic determination of infinite-dimensional symmetry groups for integrable systems in 1 + 1 dimensions. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 91–100. (*see* **98b:35006**) 35A30 (35Q58, 68Q40)

Ivanov, S. A. (*with* Belotserkovskiĭ, O. M.; Yanitskiĭ, V. E.) Direct statistical modeling of some turbulence problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 489–503. (Summary) **98m:76092** 76F99 (76M35)

Ivanov, S. V. *see* **Ivanov, Sergei Vladimirovich**

Ivanov, Sergei Alekseevich (*with* Belishev, M. I.; Gotlib, V. Yu.) The BC method in multidimensional spectral inverse problem: theory and numerical illustrations. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 307–327 (*electronic*). (Sergei A. Avdonin) **98k:93056** 93C20 (35P05, 35R30, 47F05)

— (*with* Belishev, M. I.; Blagoveshchenskiĭ, A. S.) The two-velocity dynamical system: boundary control of waves and inverse problems. (English summary) *Wave Motion* **25** (1997), *no.* 1, 83–107. (Guenter Leugering) **98g:73015a** 73D50 (35L05, 93B05, 93C20)

— *see also* **Errata: "The two-velocity dynamical system: boundary control of waves and inverse problems", 98g:73015b**

Ivanov, Sergei Vladimir (*with* Ol'shanskiĭ, A. Yu.) On finite and locally finite subgroups of free Burnside groups of large even exponents. (English summary) *J. Algebra* **195** (1997), *no.* 1, 241–284. (J. Wiegold) **98h:20070** 20F50

— (*with* Schupp, P. E.) On the hyperbolicity of small cancellation groups and one-relator groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1851–1894. (Martin Edjvet) **98h:20048** 20F06

Ivanov, Sergei Vladimirovich Gromov-Hausdorff convergence and volumes of manifolds. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 65–83; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 945–959. (Tadeusz Januszkiewicz) **98k:53052** 53C23

— (*with* Burago, D. Yu.; Kleiner, Bruce) On the structure of the stable norm of periodic metrics. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 791–808. (Edoh Amiran) **98k:53051** 53C22 (53C20)

Ivanov, Stefan P. (*with* Petrova, Irina) Curvature operator with parallel Jordanian basis on circles. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 23–31 (1997). (Jürgen Berndt) **98d:53065** 53C25

— (*with* Petrova, Irina) Riemannian manifolds in which certain curvature operator has constant eigenvalues along each circle. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 157–171. (Andrea Spiro) **98c:53051** 53C21 (53C25)

— On dual holomorphically projectively flat affine connections. (English summary) *J. Geom.* **59** (1997), *no.* 1-2, 67–76. (Luis A. Cordero) **98g:53120** 53C56 (53C05)

— (*with* Gauduchon, Paul) Einstein-Hermitian surfaces and Hermitian Einstein-Weyl structures in dimension 4. *Math. Z.* **226** (1997), *no.* 2, 317–326. (Henrik Pedersen) **98m:53063** 53C25

— On the fundamental theorem for non-degenerate complex affine hypersurface immersions. (English summary) *Monatsh. Math.* **123** (1997), *no.* 4, 321–336. (Christine Scharlach) **98h:53021** 53A15 (53B05)

— (*with* Apostolov, Vestislav; Ganchev, Georgi) Compact Hermitian surfaces of constant antiholomorphic sectional curvatures. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3705–3714. (Tedi C. Draghici) **98b:53065** 53C55 (53C21)

Ivanov, Tsolo Petrov (*with* Savova, R.) A note on Rayleigh waves. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 3, 6, 57–61. 73D20

Ivanov, V. A. *see* **Ivanov, Valerii Alexandrovich**

Ivanov, V. I. (*with* Smirnov, O. I.) On Jackson's theorem in the space $l_2(\mathbf{Z}_n^s)$. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 390–405, 479; *translation in Math. Notes* **60** (1996), *no.* 3-4, 288–299 (1997). (Weiyi Su) **98k:42008** 42A99 (46C99)

Ivanov, V. V. Geometric properties of monotone functions and the probabilities of random oscillations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 1, 117–150, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 1, 102–129. (From the text) **98m:28008** 28A15 (26A48, 28D99)

Ivanov, Vadim Aleksandrovich (*with* Ivchenko, G. I.) Decomposable statistics and stopping times in a scheme of sampling without replacement. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 43–58; *translation in Discrete Math. Appl.* **7** (1997), *no.* 1, 47–63. (Gh. Oprişan) **98m:60012** 60C05 (60G40, 62D05)

Ivanov, Valentin Ivanovich Mathematical model of periodic waves of limiting amplitude on the surface of a deep fluid. *Fluid Dynam.* **32** (1997), *no.* 5, 756–760 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 5, 171–176 (*Russian. Russian summary*). 76B15

Ivanov, Valerii Alexandrovich (*with* Taras'ev, A. M.; Ushakov, Vladimir N.; Khripunov, A. P.) Extremal controls in the "toreador" problem. (Russian) *Radio age* (*Russian*), 160–171, 288, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (*see* **98b:00019**) 90D25 (93C15)

Ivanov, Victor Vladimirovich (*with* Itkis, Yu. M.; Purevdorj, B.; Puzynin, Igor V.; Vinitskiĭ, S. I.) Dynamics of realistic neural network with time-dependent external signal. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 667–675. (*see* **98i:00017**) 92B20

— (*with* Bonushkina, A. Yu.; Zrelov, P. V.) Multivariate data analysis based on the ω_n^k-criteria and multilayer perceptron. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 677–685. (*see* **98i:00017**) 92B20

— (*with* Basios, V.; Bonushkina, A. Yu.) A method for approximating one-dimensional functions. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 687–693. (*see* **98i:00017**) 41A05 (33C45, 92B20)

— (*with* Zrelov, P. V.) Nonparametric integral statistics $\omega_n^k = n^{k/2}\int_{-\infty}^{\infty}|S_n(x) - F(x)|^k dF(x)$: main properties and applications. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 703–726. (*see* **98i:00017**) 62G10 (68T10)

Ivanova, O. K. (*with* Bloshanskiĭ, I. L.; Roslova, T. Yu.) Generalized localization and equiconvergence of expansions in a double trigonometric series, and the Fourier integral of functions in $L(\ln^+ L)^2$. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 437–441; *translation in Math. Notes* **60** (1996), *no.* 3-4, 324–327 (1997). (Elijah Liflyand) **98k:42010** 42B05 (42A63, 42B10)

Ivanova, Raina Point-wise constancy of the skew-symmetric curvature operator's characteristic coefficients. *Tensor* (*N.S.*) **57** (1996), *no.* 1, 97–104. (Quo-Shin Chi) **98f:53035** 53C21 (53C20)

— (*with* Yawata, Makoto) A skew-symmetric curvature operator in the 3-dimensional Riemannian manifolds. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 268–273. (Fernando Etayo Gordejuela) **98f:53032** 53C20

— (*with* Hayama, Eriko; Kawaguchi, Tomoaki) A Riemannian approach to the J-divergence. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 282–293. (Introduction) **98g:62013** 62B10 (53B99)

— (*with* Yawata, Makoto) 4-dimensional Riemannian manifolds, characterized by some quadratic curvature conditions. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 294–299. (Fernando Etayo Gordejuela) **98f:53033** 53C20

— (*with* Kawaguchi, Tomoaki) An interpretation of the Riemannian curvature in a statistical parameter space. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 300–305. (Introduction) **98e:62014** 62B10 (53B20, 62A99, 62F99)

— (*with* Yawata, Makoto) On the Riemannian manifolds of constant sectional curvature. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 328–333. (Eric Boeckx) **98g:53086** 53C25 (53C20)

— On a property of the 4-dimensional Einstein manifolds. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 198–207, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Sorin Dragomir) **98i:53066** 53C25

— An orthogonal tangential group of transformations of a 4-dimensional Riemannian manifold. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 57–67. (Andrew Bucki) **98m:53048** 53C20 (53C25)

— (*with* Kawaguchi, Tomoaki; Yamada, Masashi; Miyata, Manabu; Sasahara, Yasutaka) On the statistical parameter space constituted by the logistic density function. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 71–82. 62B10 (62F99)

Ivanova, S. L. (*with* Tarakanovskiĭ, L. F.) Some properties of polynomials and the determination of roots by parts. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 154–156. 12D05 (65H05)

gateva-Ivanova, T. *see* **Gateva-Ivanova, T.**

Ivanova, T. A. On infinite-dimensional algebras of symmetries of the self-dual Yang-Mills equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 79–87. (Ian A. B. Strachan) **98j:53031** 53C07 (58G35, 81T13)

Ivanova-Karatopraklieva, Ivanka On the infinitesimal bendings of higher order of closed rotational surfaces. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 1–9. (Vladislav Goldberg) **98f:53004** 53A05

Ivanović, I. D. Unbiased projector basis over $\mathbf{C}^3$. (English summary) *Phys. Lett. A* **228** (1997), *no.* 6, 329–334. (Summary) **98f:81016** 81P05

Ivanović, Mirjana (*with* Maćoš, Dragan; Budimac, Zoran) An interpreter of extended λ-calculus using monads. (English summary) *PRIM '96* (*Budva*), 175–180, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 68N15 (03B40)

Ivanovski, Novak A generalization of the space $H^2(\beta)$. (English and Macedonian summaries) *Prirod.-Mat. Fak. Univ. Kiril Metodij Skopje Godishen Zb.* **36** (1995), 9–16. (Dinesh Singh) **98h:47039** 47B37 (46E20, 47B38)

— (*with* Malcheski, Aleksa) Invertibility and finite-dimensionality in Banach algebras. (Macedonian. English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 17–22. (Summary) **98c:46091** 46H05

Ivan'shin, N. A. (*with* Shirokova, E. A.) Solution of the second fundamental problem in the theory of elasticity for a plane with a doubly symmetric cut having two zero angles. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 350–351; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 339–340. 73C02 (73C35, 73V35)

— (*with* Shirokova, E. A.) The exact solution of the plane elasticity problems for the airfoil crack with two cusps. *Mech. Res. Comm.* **25** (1998), *no.* 2, 179–182. 73C02 (73M25, 73V35)

Ivanšić, Ivan Note about the author [Mardešić, Sibe] on the occasion of his 70th birthday. *Math. Commun.* **2** (1997), *no.* 1, 13–14. 01A70

Ivansson, S. The compound matrix method for multi-point boundary-value problems. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 10, 767–776. (Summary) **98f:65079** 65L10 (34B10, 73D99, 73K70, 76Q05)

Ivanychev, D. N. (*with* Fraĭman, G. M.) Formation of soliton pairs in nonlinear media with small dissipation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 254–271; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 199–213. (Summary) **98d:35190** 35Q53

Ivanyos, Gábor (*with* de Graaf, Willem A.; Rónyai, Lajos) Computing Cartan subalgebras of Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 339–349. (Andrej A. Zolotykh) **98m:17001** 17–04 (17B05)

— (*with* Cohen, Arjeh M.; Wales, David B.) Finding the radical of an algebra of linear transformations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 177–193. (R. F. Rossa) **98h:16026** 16N40

Ivashchuk, V. D. (*with* Melnikov, V. N.) Multidimensional extremal dilatonic black holes in string-like model with cosmological term. (English summary) *Phys. Lett. B* **384** (1996), *no.* 1-4, 58–62. (Summary) **98h:83090** 83E30 (81T30, 83C57)

— (*with* Melnikov, V. N.) Sigma-model for generalized composite p-branes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3001–3029. (Paulo Moniz) **98j:81280** 81T30 (83E30)

— (*with* Gavrilov, V. R.; Kasper, U.; Melnikov, V. N.) Integrability of multicomponent models in multidimensional cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 599–612. (Oscar Sergio Zandron) **98b:83081** 83E15

— (*with* Melnikov, V. N.) Generalized intersecting p-brane solutions from the σ-model approach. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 23–30. (Summary) **98f:81263** 81T30 (81V17, 83E30)

Ivashkevich, E. V. Symmetries of the stochastic Burgers equation. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L525–L533. (Summary) **98k:76066** 76F05 (35Q53, 35R60, 60H15, 76M35, 81Q05)

Ivashko, D. G. (*with* Levikov, A. A.) On a pursuit problem under conditions in which information is constantly refined. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 83–90, 95, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 90D26

— Equivalent transformations and admissible algebras for three-dimensional control systems. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 37–50, 86, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (Summary) **98b:93018** 93B25 (34C20, 34H05, 93C10)

Ivasishen, S. D. (*with* Voznyak, O. G.) Fundamental solutions of the Cauchy problem for a class of degenerate parabolic equations and their applications. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 10, 11–16. (Summary) **98b:35104** 35K65 (35A08, 35C15)

— (*with* Kondur, O. S.) Properties of a class of solutions of a homogeneous system of arbitrary order that is parabolic in the sense of Petrovskiĭ. (Ukrainian. English

summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 11, 12–15 (1997). (Summary) **98a:35056** 35K30 (35C15)

— (*with* Ėĭdel'man, S. D.) On fundamental solutions of the Cauchy problem for a new class of degenerate parabolic pseudodifferential equations. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 6, 18–23. (Summary) **98i:35222** 35S05 (35A08, 35K65)

Ivasishin, L. M. (*with* Ėĭdel'man, S. D.) On the domain of $(s, \mathbf{K})$-positivity of solutions of general elliptic systems. (Russian. English and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994,** *no.* 8, 13–15. (Summary) **98h:35052** 35J45 (35B05, 35D05)

Ivaska, Vladislovas (*with* Aleksiejunas, Rimvydas) Geometric phases for scalar wave superpositions. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 1–6. (Summary) **98i:81067** 81Q99

Ivchenko, G. I. (*with* Ivanov, Vadim Aleksandrovich) Decomposable statistics and stopping times in a scheme of sampling without replacement. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 1, 43–58; *translation in Discrete Math. Appl.* **7** (1997), *no.* 1, 47–63. (Gh. Oprişan) **98m:60012** 60C05 (60G40, 62D05)

Iversen, Birger Dirac's algebra and Brauer-Wall groups. *Geometry and nature (Madeira,* 1995), 25–36, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI,* 1997. (Bertfried Fauser) **98g:11045** 11E88 (11E81, 15A66)

Ivey, G. N. (*with* De Silva, I. P. D.; Imberger, J.) Localized mixing due to a breaking internal wave ray at a sloping bed. (English summary) *J. Fluid Mech.* **350** (1997), 1–27. 76F99 (76–05, 76C10)

Ivey, Thomas A. Local existence of Ricci solitons. *Manuscripta Math.* **91** (1996), *no.* 2, 151–162. (Introduction) **98e:53063** 53C21

— (*with* Landsberg, J. M.) On isometric and minimal isometric embeddings. *Duke Math. J.* **89** (1997), *no.* 3, 555–576. (Sergio Console) **98g:53109** 53C42

— Affine isometric embeddings and rigidity. *Geom. Dedicata* **64** (1997), *no.* 2, 125–144. (Christine Scharlach) **98f:53009** 53A15

Ivić, Aleksandar (*with* De Koninck, Jean-Marie) Arithmetic characterization of regularly varying functions. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 41–64. (Adolf Hildebrand) **98k:11130** 11N56 (11N37)

— On the distribution of zeros of a class of convolution functions. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 21 (1996), 61–71. (Daniel A. Goldston) **98f:11095** 11M26 (11M06)

— On large additive functions over primes of positive density. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 1, 103–120. (Jean-Marie De Koninck) **98a:11127** 11N37

— On the mean square of the error term in the approximate functional equation for $\zeta^2(s)$. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 6, 468–476. (David W. Farmer) **98c:11084** 11M06

Ivić Weiss, A. *see* **Weiss, Asia Ivić**

Ivings, M. J. (*with* Causon, D. M.; Toro, Eleuterio F.) On hybrid high resolution upwind methods for multicomponent flows. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 645–668. (Summary) **98e:76088** 76M25 (65M06, 76L05, 76T05)

Ivković, Zoran (*with* Lloyd, Errol L.) Partially dynamic bin packing can be solved within $1+\varepsilon$ in (amortized) polylogarithmic time. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 45–50. (Summary) **98d:68102** 68Q25 (90C27)

— (*with* Ramnath, Sarnath; Sunder, Sivaprakasam) Fully dynamic algorithms for permutation graph coloring. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 37–55. (Summary) **98i:68221** 68R10 (05C15, 05C85, 68Q35)

Ivković, Zoran A. (*with* Peruničić, Predrag M.; Pantić, Dražen) Mean-square derivative of a linear non-anticipative transformation of a continuous martingale. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 17–27. (Randall James Swift) **98a:60059** 60G44 (60G12, 60G46)

Ivnitskiĭ, O. V. A closed queueing network with a multiserver order transmission channel. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 72–81; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 281–289 (1997). (Summary) **98c:60123** 60K25

Ivnitskiĭ, V. A. On the invariance of stationary probabilities of states of a closed star-shaped queueing network with state-dependent transition probabilities. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 179–184; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 162–167 (1998). (Summary) **98d:60181** 60K25

Ivochkina, Nina M. (*with* Ladyzhenskaya, O. A.) Estimation of the second derivatives for surfaces evolving under the action of their principal curvatures. *Topol. Methods Nonlinear Anal.* **6** (1995), *no.* 2, 265–282. (Ben Andrews) **98c:58028** 58E12 (35J60, 35K55, 53A10)

— (*with* Lin, Mi; Trudinger, Neil S.) The Dirichlet problem for the prescribed curvature quotient equations with general boundary values. *Geometric analysis and the calculus of variations,* 125–141, *Internat. Press, Cambridge, MA,* 1996. (John Urbas) **98d:35076** 35J65 (53A10)

— On the maximum principle for principal curvatures. (English summary) *Singularities and differential equations (Warsaw,* 1993), 115–126, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw,* 1996. (John Urbas) **98d:35057** 35J60 (35B50, 53A10)

— (*with* Ladyzhenskaya, O. A.) Estimates for first-order derivatives for solutions of some classes of non-totally parabolic equations. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 109–131. (Ya Zhe Chen) **98m:35087** 35K55 (35B45)

Ivril, V. Ya. Heavy molecules in the strong magnetic field. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts,* 1997), *Exp. No. IX,* 8 *pp., École Polytech., Palaiseau,* 1997. (*see* **98f:35004**) 81V55 (81V10)

— *see also* **Partial differential equations and their applications, 98e:35003**

Iwai, Keiichiro Continuity of the topological entropy. (Japanese) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 69–83. (*see* **98i:90007**) 58F08

Iwai, Toshihiro (*with* Sunako, Takehiko) The quantized SU(2) Kepler problem and its symmetry group for negative energies. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 2-3, 250–272. (Ivailo M. Mladenov) **98d:81036** 81S10 (53C80, 70F05, 81R05)

— (*with* Watanabe, Eiji) The Berry phase in the plate-ball problem. (English summary) *Phys. Lett. A* **225** (1997), *no.* 4-6, 183–187. (Péter Pál Lévay) **98b:70024** 70H99 (22E60, 70G99, 70Q05, 81Q99)

Iwama, Kazuo (*with* Miyazaki, Shuichi) Approximation of coNP sets by NP-complete sets. (English summary) *Computing and combinatorics (Xi'an,* 1995), 11–20, *Lecture Notes in Comput. Sci.,* 959, *Springer, Berlin,* 1995. (Summary) **98c:68072** 68Q15

— (*with* Asahiro, Yuichi; Tamaki, Hisao; Tokuyama, Takeshi) Greedily finding a dense subgraph. (English summary) *Algorithm theory—SWAT '96 (Reykjavik,* 1996), 136–148, *Lecture Notes in Comput. Sci.,* 1097, *Springer, Berlin,* 1996. (Summary) **98g:68120** 68R10 (05C85, 68Q25)

— (*with* Iwamoto, Chuzo) Computational complexity classes based on the PRAM and logarithmic time uniform circuit families. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 26–32. (Juraj Hromkovič) **98e:68080** 68Q15 (68Q05, 94C10)

— (*with* Miyazaki, Shuichi) Polynomial time transformations taking into consideration approximate solutions. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 240–245. (*see* **98a:68008**) 68Q25 (03D15)

— (*with* Takaki, Kazuya) Satisfiability of 3CNF formulas with small clause/variable-ratio. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ,* 1996), 315–333, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.,* 35, *Amer. Math. Soc., Providence, RI,* 1997. (Summary) **98k:90060** 90C09 (03B05, 03D15, 03F20, 68Q25, 90C90)

— (*with* Iwamoto, Chuzo; Ohsawa, Taku) A faster parallel algorithm for k-connectivity. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 5, 265–269. (Summary) **98c:68170** 68R10 (05C85, 68Q22, 68Q25)

— (*with* Iwamoto, Chuzo) Strict space complexity hierarchies of Turing machines. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 138–145. (*see* **98k:68015**) 68Q15

— (*with* Takaki, Kazuya) Nondeterministic finite automata whose deterministic counterparts need an exponential number of states. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 146–153. (Summary) **98m:68186** 68Q68

— (*with* Iwamoto, Chuzo) A canonical form of vector machines. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 37–65. (Summary) **98k:68053** 68Q05 (68Q22)

Iwamoto, Chuzo (*with* Iwama, Kazuo) Computational complexity classes based on the PRAM and logarithmic time uniform circuit families. Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 26–32. (Juraj Hromkovič) **98e:68080** 68Q15 (68Q05, 94C10)

— (*with* Iwama, Kazuo; Ohsawa, Taku) A faster parallel algorithm for k-connectivity. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 5, 265–269. (Summary) **98c:68170** 68R10 (05C85, 68Q22, 68Q25)

— (*with* Iwama, Kazuo) Strict space complexity hierarchies of Turing machines. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 138–145. (*see* **98k:68015**) 68Q15

— (*with* Iwama, Kazuo) A canonical form of vector machines. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 37–65. (Summary) **98k:68053** 68Q05 (68Q22)

Iwamoto, Seiichi Optimal policies for optimization of associative functionals. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 143–163. (*see* **98i:90007**) 90C40 (90A05)

Iwaniec, Henryk (*with* Duke, W.) Estimates for coefficients of L-functions. III. *Séminaire de Théorie des Nombres, Paris,* 1989–90, 113–120, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA,* 1992. (M. Ram Murty) **98h:11056** 11F66 (11F30)

— ★ Topics in classical automorphic forms. Graduate Studies in Mathematics, 17. *American Mathematical Society, Providence, RI,* 1997. xii+259 *pp. ISBN* 0-8218-0777-3 (B. Ramakrishnan) **98e:11051** 11Fxx (11–02)

— (*with* Fouvry, Étienne) Gaussian primes. *Acta Arith.* **79** (1997), *no.* 3, 249–287. (John B. Friedlander) **98a:11120** 11N05 (11N32, 11N35, 11N36)

— (*with* Friedlander, John) Using a parity-sensitive sieve to count prime values of a polynomial. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 4, 1054–1058. (G. Greaves) **98b:11097** 11N32 (11N35)

Iwaniec, Tadeusz The failure of lower semicontinuity for the linear dilatation. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 55–61. (J. Ferrand) **98i:30033** 30C65

Iwanik, A. Anzai skew products with Lebesgue component of infinite multiplicity. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 2, 195–199. (G. R. Goodson) **98f:28022** 28D05

— Spectral properties of skew-product diffeomorphisms of tori. *Colloq. Math.* **72** (1997), *no.* 2, 223–235. (Mahesh Nerurkar) **98g:28022** 28D05

— How restrictive is topological dynamics? (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 563–569. (Summary) **98k:54078** 54H20

— (*with* Lemańczyk, Mariusz; de la Rue, T.; de Sam Lazaro, J.) Quelques remarques sur les facteurs des systèmes dynamiques gaussiens. (English summary) [Some remarks on the factors of Gaussian dynamical systems] *Studia Math.* **125** (1997), *no.* 3, 247–254. (Michael T. Lacey) **98m:28035** 28D05 (60G10)

Iwano, Kazuo (*with* Dai, Yang; Katoh, Naoki) A new probabilistic analysis of Karger's randomized algorithm for minimum cut problems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 255–261. (Summary) **98h:68108** 68Q25 (05C85, 68R10, 90C27)

Iwanuma, Koji (*with* Oota, Kazuhiko) An extension of pointwise circumscription. (English summary) *Artificial Intelligence* **86** (1996), *no.* 2, 391–402. (Summary) **98i:68253** 68T27 (03B60, 03B70)

— Lemma matching for a PTTP-based top-down theorem prover. (English summary) *Automated deduction—CADE-14 (Townsville,* 1997), 146–160, *Lecture Notes in Comput. Sci.,* 1249, *Springer, Berlin,* 1997. (*see* **98c:68186**) 68T15 (03B35)

Iwao, Masataka (*with* Hirota, Ryogo) Soliton solutions of a coupled modified KdV equations. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 3, 577–588. (Summary) **98c:35141** 35Q53 (35C99)

— (*with* Hirota, Ryogo; Ramani, A.; Takahashi, Daisuke; Grammaticos, B.; Ohta, Yasuhiro) From integrability to chaos in a Lotka-Volterra cellular automaton. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 39–44. (Summary) **98i:58131** 58F08

Iwasa, Manabu An extension of a convolution inequality for G-monotone functions and an approach to Bartholomew's conjectures. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 249–271. (S. Psarakis) **98a:62070** 62H05 (62F30)

— (*with* Moritani, Yoshiya) A note on admissibility of the maximum likelihood estimator for a bounded normal mean. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 1,

99–105. (Khursheed Alam) **98f:62017** 62C15 (62C10, 62F03)

Iwasa, Yoh *see* **Biological pattern formation, 98h:92002**

Iwasaki, Akinori (*with* Shirakami, Toshiharu; Otagaki, Hirokazu; Nakagawa, Yūji; Naruhisa, Hiroyuki) Approximate solution methods for nonlinear integer programming problems. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 57–63. (*see* **98g:90004**) 90C10 (90C30)

Iwasaki, Hideya (*with* Hu, Zhenjiang; Takeichi, Masato) Construction of list homomorphisms by tupling and fusion. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 407–418, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q22 (68P05)

— (*with* Hu, Zhenjiang) Promotional transformation of functional programs with accumulative parameter. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 664–673. 68N15

Iwasaki, Hironori (*with* Aoyama, Tomoo; Hirata, Hayato) Images generated by using complex dynamical-system: a character of complex-iteration. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 26 (1997), 39–43. 58F23 (30D05)

Iwasaki, Katsunori Polytopes and the mean value property. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 2, 163–189. (Jacqueline Detraz) **98b:52013** 52B11 (35C99)

— (*with* Kamimura, Yutaka) An inverse bifurcation problem and an integral equation of the Abel type. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1015–1031. (Alfredo Lorenzi) **98e:34038** 34B15 (34A47, 34A55, 45B05, 47H15, 47N20)

— Basic invariants of finite reflection groups. (English summary) *J. Algebra* **195** (1997), *no.* 2, 538–547. (Andrzej Tyc) **98j:13007** 13A50 (20F55)

— Regular simplices, symmetric polynomials and the mean value property. (English summary) *J. Anal. Math.* **72** (1997), 279–298. (Alexander I. Kheyfits) **98i:31002** 31B05

— Asymptotic analysis for linear difference equations. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 4107–4142. (Themistocles M. Rassias) **98b:39006** 39A10 (35A27, 47B35, 47N20)

Iwasaki, Tetsuya (*with* Hara, Shinji; Rotea, Mario A.) Computational complexity reduction in scaled $\mathscr{H}_\infty$ synthesis. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1325–1332. (Summary) **98e:93037** 93B36 (93B40)

— (*with* Skelton, Robert E.; Grigoriadis, Karolos M.) ★ A unified algebraic approach to linear control design. (English summary) The Taylor & Francis Systems and Control Book Series. *Taylor & Francis, Ltd., London*, 1998. xviii+285 *pp. ISBN* 0-7484-0592-5 (Petko Petkov) **98m:93003** 93–02 (93B25, 93C05)

— (*with* Skelton, Robert E.; Corless, Martin) A recursive construction algorithm for covariance control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 268–272. (Summary) **98k:93039** 93B40 (65F30)

Iwasaki, Yukihiro (*with* Obokata, Koji; Bao, Feng; Igarashi, Yoshihide) Independent spanning trees of product graphs. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 73–79. (*see* **98a:68008**) 05C05

— (*with* Kajiwara, Yuka; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 431–440, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68210** 68R10 (68M10)

— (*with* Obokata, Koji; Bao, Feng; Igarashi, Yoshihide) Independent spanning trees of product graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 338–351, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05044** 05C05 (68R10)

— (*with* Kajiwara, Yuka; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 82–89. (*see* **98k:68015**) 05C05

Iwasaki, Yumi (*with* Levy, Alon Y.; Fikes, Richard E.) Automated model selection for simulation based on relevance reasoning. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 351–394. 68T99 (68U20)

Iwase, Kenichi (*with* Baba, Yoshitomo) On quasi-Harada rings. (English summary) *J. Algebra* **185** (1996), *no.* 2, 544–570. (John Clark) **98a:16026** 16L99 (16D40, 16D50, 16P20)

Iwashita, Toshiya Adjustment of Bartlett type to Hotelling's T^2-statistic under elliptical distributions. (English summary) MSI-2000, Vol. III (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **17** (1997), *no.* 1-2, 91–96. (Summary) **98d:62094** 62H10

— Asymptotic null and nonnull distribution of Hotelling's T^2-statistic under the elliptical distribution. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 1, 85–104. (N. Giri) **98m:62165** 62H10 (62E20)

— (*with* Inoue, Tatsuki; Hashiguchi, Hiroki; Niki, Naoto) Matrix derivatives for higher-order asymptotic expansions and distribution of statistics under an elliptic population. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 210–217. (*see* **98h:00039**) 62H10 (62E20)

Iwata, Satoru (*with* Shigeno, Maiko) A cost-scaling algorithm for 0-1 submodular flows. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 3, 261–273. (Summary) **98a:90127** 90C35 (05C90)

— (*with* Murota, Kazuo; Shigeno, Maiko) A fast parametric submodular intersection algorithm for strong map sequences. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 803–813. (Winfried Hochstättler) **98i:90114** 90C35 (90C27)

— (*with* Olesky, D. D.; van den Driessche, P.) Patterns that preserve sparsity in orthogonal factorization. (English summary) *Linear Algebra Appl.* **268** (1998), 345–354. (Donald W. Robinson) **98j:15019** 15A23 (05C50, 65F25)

— Block triangularization of skew-symmetric matrices. (English summary) *Linear Algebra Appl.* **273** (1998), 215–226. (V. V. Sergeĭchuk) **98h:15022** 15A21

Iwatani, Toshiharu (*with* Okamoto, Wataru; Tano, Shun'ichi; Inoue, Atsushi[3]) An effect by qualification of truth-qualifiers on inference results for natural language propositions involving fuzzy quantifiers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 3, 365–374 (1998). 03B52 (03B65, 68S05)

Iwatsuka, Akira (*with* Shirai, Shin-ich) The asymptotic distribution of eigenvalues of Schrödinger operators with magnetic fields. (Japanese) Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 128–136. (*see* **98f:35006**) 35P20 (35J10, 47F05, 47N50, 81Q10, 81V10)

Iwayama, Takahiro (*with* Okamoto, Hisao) Re-examination of scaling theory in 2-dimensional decaying turbulence. (Japanese. Japanese summary) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 173–182. (*see* **98e:76004**) 76F05

Ixaru, L. Gr. Operations on oscillatory functions. (English summary) *Comput. Phys. Comm.* **105** (1997), *no.* 1, 1–19. (Summary) **98h:65012** 65D25 (65L99)

Iyase, S. A. Oscillating periodic solutions of some non-linear differential equations. *Afrika Mat.* (3) **7** (1997), 13–20. (Juan J. Nieto) **98h:34080** 34C25

— (*with* Tejumola, H. O.) Periodic solutions of a class of even order differential equations. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 209–221. (M. A. Alwash) **98j:34080** 34C25

Iyengar, Sitharama (*with* Trivedi, Sudhir; Jones, Bush) Signal and noise: towards a general theory of algorithms. (English summary) *Cybernetica* **40** (1997), *no.* 2, 151–164. 94A12

— (*with* Vedantham, Sundararajan) The bandwidth allocation problem in the ATM network model is NP-complete. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 179–182. 90B12 (68M10, 68Q25)

Iyengar, Srikanth Free resolutions and change of rings. (English summary) *J. Algebra* **190** (1997), *no.* 1, 195–213. (Lê Tuân Hoa) **98h:13016** 13D02

— Shifts in resolutions of multigraded modules. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 437–441. (From the text) **98h:13017** 13D02

Iyengar, T. K. V. (*with* Seshagiri Rao, K. V. V.) On the oscillatory behaviour of a second order nonlinear differential equation. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 37–40. (Olusola Akinyele) **98e:34061** 34C10

— (*with* Srinivasa Charya, D.) Drag on an axisymmetric body performing rectilinear oscillations in a micropolar fluid. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 987–1001. 76D07 (76A99)

Iyer, Sai (*with* Gupta, Anshu; Prasanna, A. R.) Behaviour of the centrifugal force and of ellipticity for a slowly rotating fluid configuration with different equations of state. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, L143–L150. (Summary) **98f:83057** 83C55

— (*with* Prasanna, A. R.) Cumulative dragging: an intrinsic characteristic of stationary axisymmetric spacetime. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 17–24. (Summary) **98e:85001** 85A05

Iyer, Srikanth K. (*with* Epstein-Feldman, Raisa) A representation for functionals of superprocesses via particle picture. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 173–186. (Sylvie Roelly) **98d:60149** 60J55 (60F05, 60F17, 60G57, 60J80)

— (*with* Adler, Robert J.) Attractive polymer models for two- and three-dimensional Brownian motion. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 271–281. (Wei-Shih Yang) **98k:60136** 60J65 (82D60)

Iyer, Vivek Lagrangian perfect fluids and black hole mechanics. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3411–3426. (Kirill V. Krasnov) **98c:83062** 83C57 (83C55)

İyigün, E. (*with* Özdamar, E.) On the Meusnier's theorem for Lorentzian surfaces. (English summary) *Comm. Fac. Sci. Univ. Ankara Ser. A$_1$ Math. Statist.* **43** (1994), *no.* 1-2, 19–30 (1996). 53B30

Izakson, V. Yu. (*with* Sleptsov, V. I.; Mordovskoĭ, S. D.) ★ Математическое моделирование теплообменных процессов в многолетнемерзлых горных породах. (Russian. Russian summary) [Mathematical modeling of heat exchange processes in permafrost rock] "*Nauka*" *Sibirsk. Otdel., Novosibirsk*, 1996. 101 *pp. ISBN* 5-02-031204-5 (Jiří Nedoma) **98k:86029** 86A60 (80A20, 86A40)

de Izarra, Charles (*with* Vallée, Olivier; Soares, Manuel) An integral representation for the product of Airy functions. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 156–160. (E. R. Love) **98k:33009** 33C10

Izawa, K.-I. (*with* Kawasaki, Masahiro; Yanagida, Tsutomu) Dynamical tuning of the initial condition for new inflation in supergravity. (English summary) *Phys. Lett. B* **411** (1997), *no.* 3-4, 249–255. 83E50

Izbash, Vladimir I. Isomorphisms of quasigroups isotopic to groups. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 34–50. 20N02

— (*with* Prodan, N. I.) On D-groupoids, quasigroups and homomorphisms. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 31–34, 113, 116. 20N02

Ize, Jorge (*with* Vignoli, Alfonso) Equivariant degree for abelian actions. II. Index computations. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 369–430. (Thomas Bartsch) **98k:58049** 58E09 (34C25, 47H11, 55M25, 55Q91)

Izeki, Hiroyasu The new proof of Mostow's rigidity theorem by G. Besson, G. Courtois and S. Gallot. (Japanese) *Sūgaku* **49** (1997), *no.* 2, 200–211. 58F17 (58F11)

— The Teichmüller distance on the space of flat conformal structures. (English summary) *Conform. Geom. Dyn.* **2** (1998), 1–24 (*electronic*). (William Goldman) **98k:58034** 58D27 (32G13)

Izelgue, Lahoucine (*with* Barucci, Valentina; Kabbaj, Salah-Eddine) Some factorization properties of $A + XB[X]$ domains. *Commutative ring theory* (*Fès*, 1995), 69–78, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Muhammad Zafrullah) **98a:13031** 13G05 (13B25, 13F15)

— (*with* Fontana, Marco; Kabbaj, Salah-Eddine; Tartarone, Francesca) On the Krull dimension of domains of integer-valued polynomials. *Exposition. Math.* **15** (1997), *no.* 5, 433–465. (Jean-Luc Chabert) **98m:13027** 13F20 (13C15)

Izergin, A. G. (*with* Colomo, F.; Tognetti, V.) Correlation functions in the *XXO* Heisenberg chain and their relations with spectral shapes. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 361–370. (Summary) **98f:82017** 82B20 (82B23)

— (*with* Bogolyubov, N. M.; Kitanin, N. A.) Correlators of the phase model. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 347–352. (Summary) **98f:82015** 82B20

Izhboldin, O. T. Quadratic forms with maximal splitting. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 51–57; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 219–224. (Krzysztof Kozioł) **98h:11047** 11E81 (11E88)

Izhikevich, E. M. (*with* Hoppensteadt, Frank C.) ★ Weakly connected neural networks. (English summary) Applied Mathematical Sciences, 126. *Springer-Verlag, New York*, 1997. xvi+400 *pp. ISBN* 0-387-94948-8 (Ladislav Andrey) **98k:92004** 92B20 (34C99, 58F40, 92–02)

Izhutkin, V. S. (*with* Petropavlovskiĭ, M. V.; Blinov, A. V.) The center and the barrier function methods using reduced directions for the nonlinear progamming problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 30–41; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 27–38 (1997). (Stefan M. Stefanov) **98c:90135** 90C30 (65K05)

Izmailov, Aleksei Feridovich (*with* Tret'yakov, A. A.) On a local regularization of some classes of nonlinear operator equations. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 7, 15–29; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 7, 835–846. (A. M. Galperin) **98c:65094** 65J20 (65J15)

— On methods for solving nonlinear operator equations with degenerate Fredholm derivatives. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 145–152. (P. P. Zabreĭko) **98c:47079** 47H17 (65J15, 65R20)

— Attractors of iterative processes in the presence of noise. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 908–913. (A. M. Galperin) **98j:65043** 65J15 (47H15, 47H17, 65K10)

— (*with* Tret'yakov, A. A.) On methods for finding singular solutions of nonlinear operator equations in the absence of 2-regularity. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1157–1162. (A. M. Galperin) **98i:47057** 47H17 (65J15)

Izmaĭlova, O. V. (*with* Kozlov, Valeriĭ V.) Analytical properties of solutions of Euler-Poincaré equations on solvable Lie algebras. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 60–65, 93. (J. S. Joel) **98e:58095** 58F07 (34A20, 70E15, 70H05)

Izmest'ev, A. A. (*with* Pogosyan, G. S.; Sisakyan, A. N.; Winternitz, Pavel) Contractions of Lie algebras and separation of variables. (English and French summaries) *J. Phys. A* **29** (1996), *no.* 18, 5949–5962. (Andrey A. Bogush) **98c:22017** 22E60 (17B99, 33C80, 35A30, 58G35, 81R05)

— (*with* Pogosyan, G. S.; Sisakyan, A. N.; Winternitz, Pavel) Contractions of Lie algebras and separation of variables. Two-dimensional hyperboloid. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 53–61. (J. Lõhmus) **98k:81087** 81R05 (17B81, 33C80, 35A30)

Izobov, N. A. (*with* Filiptsov, A. V.) On the sharpness of conditions for the coincidence of lower Perron exponents of linear differential systems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1300–1309, 1436; *translation in Differential Equations* **31** (1995), *no.* 8, 1244–1252 (1996). (Alexander V. Lasunsky) **98d:34081** 34D08 (34A30)

— (*with* Il'in, Vladimir Aleksandrovich[1]; Martynyuk, A. A.; Samoĭlenko, A. M.) Yuriĭ Alekseevich Mitropol'skiĭ (on the occasion of his eightieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 3–5; *translation in Differential Equations* **33** (1997), *no.* 1, 1–3. (Editors) **98k:01030** 01A70

— (*with* Azbelev, Nikolai Viktorovich; Gaĭshun, Ivan Vasil'evich; Il'in, Vladimir Aleksandrovich[1]; Koplatadze, R. G.; Rozov, Nikolaĭ Khristovich; Shemyakina, T. K.) Ivan Tarielovich Kiguradze (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 6–11; *translation in Differential Equations* **33** (1997), *no.* 1, 4–10. (Editors) **98k:01016** 01A70

— (*with* Filiptsov, A. V.) On the invariance of lower Perron exponents of linear systems with respect to exponentially decreasing perturbations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 177–184, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 177–183. (Summary) **98j:34100** 34D08 (34D10)

— On a lower exponent of a two-dimensional linear system with Perron perturbations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 623–631, 717; *translation in Differential Equations* **33** (1997), *no.* 5, 626–634 (1998). (Summary) **98m:34100** 34D08 (34A30)

— (*with* Il'in, Vladimir Aleksandrovich[1]; Krasovskiĭ, N. N.; Matrosov, Vladimir M.; Samarskiĭ, A. A.; Samoĭlenko, A. M.) Ivan Vasil'evich Gaĭshun (on the occasion of his fiftieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 6, 723–732; *translation in Differential Equations* **33** (1997), *no.* 6, 723–732 (1998). (Editors) **98k:01031** 01A70

Izquierdo, José M.[1] (*with* de Azcárraga, José A.; Perelomov, A. M.; Pérez Bueno, J. C.) The Z_2-graded Schouten-Nijenhuis bracket and generalized super-Poisson structures. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3735–3749. (Frans Cantrijn) **98e:58016** 58A50 (53C15, 58F05)

— (*with* de Azcárraga, José A.; Pérez Bueno, J. C.) On the higher-order generalizations of Poisson structures. (English summary) *J. Phys. A* **30** (1997), *no.* 18, L607–L616. (David Martín de Diego) **98k:58085** 58F05 (58F06, 70H05)

Izquierdo Barrios, Milagros (*with* Singerman, David) Pairs of symmetries of Riemann surfaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 3–24. (C. Maclachlan) **98m:20065** 20H10 (30F10)

Izrailevich, Ya. A. (*with* Borisovich, Yu. G.; Bliznyakov, N. M.; Fomenko, T. N.) ★ Введение в топологию. (Russian. English and Russian summaries) [Introduction to topology] Second edition. *Fizmatlit "Nauka", Moscow*, 1995. 416 *pp. ISBN* 5-02-014118-6 (Alexander N. Dranishnikov) **98f:55001** 55–01 (54–01, 57–01)

Izuchi, Keiji (*with* Ohno, Shûichi) Selfadjoint commutators and invariant subspaces on the torus. II. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 208–220. (Takahiko Nakazi) **98e:47012** 47A15 (46E20, 47A15, 47B38)

— L^∞ approximation of the identity operator. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 50–56. (*see* **98h:47004**) 47A58

Izumi, Chiye Timaean science—the role of stereometry in Greek cosmology. *Historia Sci.* (2) **7** (1997), *no.* 1, 45–57. 01A20

Izumi, Hideaki Non-commutative L^p-spaces. Theory of paragroups and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 956 (1996), 24–37. (From the introduction) **98h:46070** 46L50 (46M35)

Izumi, Masaki Galois correspondence of compact group actions. Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 76–80. (*see* **98f:46002**) 46L55

Izumino, Saichi (*with* Seo, Yuki) Ozeki's inequality and noncommutative covariance. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 55–58. (Matthew J. Donald) **98f:46053** 46L50 (26D15, 47A63)

— (*with* Fujii, Masatoshi; Nakamoto, Ritsuo; Seo, Yuki) Operator inequalities related to Cauchy-Schwarz and Hölder-McCarthy inequalities. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 117–122. (Summary) **98j:47037** 47A63 (47B15)

— (*with* Seo, Yuki) Ozeki's inequality. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 80–98. (*see* **98h:47004**) 47A63

Izumiya, Shyuichi Local classifications of multi-valued solutions of quasilinear first order partial differential equations. *Real and complex singularities (São Carlos*, 1994), 84–94, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (J. Chrastina) **98j:58006** 58A17 (35A30, 35F20)

— (*with* Kossioris, Georgios T.) Formation of singularities for viscosity solutions of Hamilton-Jacobi equations. *Singularities and differential equations (Warsaw*, 1993), 127–148, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (V. M. Zakalyukin) **98j:58122** 58G17 (35D10, 35F20, 58C27)

— Legendrian singularities and first order differential equations. (English summary) *Stratifications, singularities and differential equations, I (Marseille*, 1990; *Honolulu, HI*, 1990), 41–61, *Travaux en Cours*, 54, *Hermann, Paris*, 1997. (Valentin V. Lychagin) **98h:58023** 58C27 (35F20)

— (*with* Kossioris, Georgios T.) Geometric singularities for solutions of single conservation laws. *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 255–290. (Philippe G. LeFloch) **98j:35116** 35L65 (35A20, 58C27)

— (*with* Kossioris, Georgios T.) Bifurcations of shock waves for viscosity solutions of Hamilton-Jacobi equations of one space variable. (English and French summaries) *Bull. Sci. Math.* **121** (1997), *no.* 8, 619–667. (Victor V. Zharinov) **98m:35131** 35L67 (35D05, 35F25, 58G17)

— (*with* Sun, Wei-Zhi) Singularities of solution surfaces for quasilinear first-order partial differential equations. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 331–341. (Stanisław Janeczko) **98c:58012** 58C27 (35A30, 35F20)

— (*with* Takiyama, Akihiro) A time-like surface in Minkowski 3-space which contains pseudocircles. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 127–136. (Eduardo García-Río) **98a:53100** 53C50

— *see also* **Real analytic and algebraic singularities**, **98i:32001**

Izutsu, Masayuki (*with* Sasaki, Masahide; Kato, Kentaro; Hirota, Osamu) A demonstration of superadditivity in the classical capacity of a quantum channel. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 1–4. (Summary) **98i:81033** 81P99 (94A40)

Izydorek, Marek (*with* Rybicki, Sławomir; Szafraniec, Zbigniew) A note on the Poincaré-Bendixson index theorem. (English summary) *Kodai Math. J.* **19** (1996), *no.* 2, 145–156. (Summary) **98f:58167** 58F25 (34C05)

Izzo, Alexander J. Failure of polynomial approximation on polynomially convex subsets of the sphere. (English summary) *Bull. London Math. Soc.* **28** (1996), *no.* 4, 393–397. (Clement Lutterodt) **98d:32017** 32E20 (32E25, 32E30, 46E15, 46J15)

— A characterization of $C(K)$ among the uniform algebras containing $A(K)$. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 771–788. (Eggert Briem) **98m:46066** 46J10 (46J40)

– J –

Jaa, Omar (*with* Fernández López, Antonio[1]; García Rus, Eulalia) Towards a Goldie theory for Jordan pairs. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 79–90. (José A. Anquela) **98i:17041** 17C10 (17C20, 17C27)

Jaam, Jihad Ramsey numbers by stochastic algorithms with new heuristics. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 163–181, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90176** 90C35 (05C55, 90C15)

Jaballah, Ali (*with* Ayache, Ahmed) Residually algebraic pairs of rings. *Math. Z.* **225** (1997), *no.* 1, 49–65. (David E. Dobbs) **98d:13004** 13B22 (13F05, 13G05)

Jabara, Enrico A note on the structure of some factorizable groups. (Italian. English summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 351–354. 20D40

sheikh Jabbari, M. M. *see* **Sheikh Jabbari, M. M.**

Jabbari, S. H. (*with* Tousi, M.; Zakeri, H.) On the comparison of complexes of modules of generalized functions and generalized Hughes complexes. *Honam Math. J.* **19** (1997), *no.* 1, 1–20. (Liam O'Carroll) **98j:13013** 13D25 (13C15)

Jaberi, F. A. (*with* Colucci, P. J.; Givi, P.; Pope, Stephen B.) Filtered density function for large eddy simulation of turbulent reacting flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 499–515. 76F99 (76M35)

Jablan, Slavik V. Pawley multiple antisymmetry three-dimensional space groups $G_3^{l,p'}$. II. Hemisymmorphic and asymmorphic groups. (English summary) *Filomat No.* 10 (1996), 63–71. (Juan Pablo Rossetti) **98k:20085** 20H15

– Simple and multiple antisymmetry space groups derived from cubical *P*-symmetry groups. (English summary) *Filomat No.* 11 (1997), 1–6. 20H15

– (*with* Palistrant, A. F.) Alexander Mihailovich Zamorzaev (1927–1997). *Filomat No.* 11 (1997), 157–159. 01A70

Jablonowski, Janusz (*with* Łukaszewicz, Witold; Madalińska-Bugaj, Ewa) Reasoning about action and change: defeasible observations and actions with abnormal effects. (English summary) *KI-96: Advances in artificial intelligence* (*Dresden*), 135–147, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (Summary) **98f:68246** 68T27 (03B60, 03B70)

Jachimiak, Wojciech A note on invariance for semilinear differential equations. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 181–185. (Nicolae H. Pavel) **98j:34121** 34G20 (47H20)

Jachymski, Jacek R. An extension of A. Ostrowski's theorem on the round-off stability of iterations. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 242–253. (B. E. Rhoades) **98d:47122** 47H09 (47H17, 54H25, 65J15)

– Graphs and common fixed point theorems for sequences of maps. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 567–572. (Salvatore Sessa) **98f:54036** 54H25 (47H10)

– Fixed point theorems in metric and uniform spaces via the Knaster-Tarski principle. *Nonlinear Anal.* **32** (1998), *no.* 2, 225–233. (J. J. Charatonik) **98j:54079** 54H25 (54E40)

Jaćimović, Milojica (*with* Vasil'ev, F. P.; Nedić, Anđelija) A third-order regularized continuous method of linearization. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1622–1627, 1772 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1582–1588 (1996). (Riho Lepp) **98b:90106** 90C25 (65K05, 90C30)

– (*with* Krnić, I.; Potapov, M. M.) On well-posedness of quadratic minimization problem on ellipsoid and polyhedron. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **62(76)** (1997), 105–112. (T. Zolezzi) **98i:49005** 49J27 (90C48)

– (*with* Nedić, Anđelija; Antipin, A. S.) The continuous linearization method of the fourth order. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 1, 39–47. (Summary) **98e:90120** 90C25

– (*with* Vasil'ev, F. P.; Nedić, Anđelija) A regularized continuous linearization method of the fourth order. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 217–229. (Summary) **98f:90065** 90C30 (65K05)

Jacka, S. D. (*with* Roberts, Gareth O.; Pollett, P. K.) Non-explosivity of limits of conditioned birth and death processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 35–45. (Erik A. van Doorn) **98a:60124** 60J80 (60B10, 60J27)

– (*with* Roberts, Gareth O.) On strong forms of weak convergence. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 1, 41–53. (Jun Kawabe) **98d:60008** 60B10 (60J25, 60J27, 62B05)

Jackiewicz, Z. (*with* Butcher, J. C.) Construction of diagonally implicit general linear methods of type 1 and 2 for ordinary differential equations. (English summary) *Appl. Numer. Math.* **21** (1996), *no.* 4, 385–415. (Masaharu Nakashima) **98a:65092** 65L06

– (*with* Vermiglio, R.) General linear methods with external stages of different orders. (English summary) *BIT* **36** (1996), *no.* 4, 688–712. (V. R. Ibragimov) **98g:65064** 65L05

– (*with* Kwapisz, Marian) Convergence of waveform relaxation methods for differential-algebraic systems. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2303–2317. (Michael Hanke) **98b:65077** 65L05 (34A09, 34A45, 34K40)

– (*with* Butcher, J. C.; Mittelmann, Hans D.) A nonlinear optimization approach to the construction of general linear methods of high order. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 181–196. (Xu Hai Xu) **98f:65070** 65L06

– (*with* Kwapisz, Marian; Lo, Edisenter) Waveform relaxation methods for functional-differential systems of neutral type. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 255–285. (John W. Mooney) **98g:65123** 65Q05 (34K40, 65L06, 65L70)

– (*with* Butcher, J. C.; Chartier, P.) Nordsieck representation of DIMSIMs. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 209–230 (1998). (Summary) **98m:65130** 65L70

– (*with* Butcher, J. C.) Implementation of diagonally implicit multistage integration methods for ordinary differential equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2119–2141. (Iulian Coroian) **98m:65110** 65L06 (65L05, 65L70)

– *see also* **Volterra centennial, 98b:65008**

Jackiw, Roman (Constrained) quantization without tears. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 163–175, *World Sci. Publishing, River Edge, NJ*, 1994. (Ivailo M. Mladenov) **98i:81134** 81S99 (81T20, 81V10)

– Gauge theories for lineal gravities. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 116–129, *World Sci. Publishing, River Edge, NJ*, 1994. (Michael O. Katanaev) **98i:83063** 83C99 (81V17)

– My encounters—as a physicist—with mathematics. *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 195–199, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00020**) 01A70 (81–03, 81T13)

– Topological effects on the physics of the standard model. Notes by H. W. Grießhammer, O. Schnetz, G. Fischer and S. Simbürger. *Lectures on QCD*, 90–127, *Lecture Notes in Phys.*, 481, *Springer, Berlin*, 1997. (*see* **98k:81306**) 81V22 (81–02, 81T18)

– A nonrelativistic chiral soliton in one dimension. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 261–270. (Summary) **98j:35169** 35Q55 (81Q05)

– Solutions to a quantal gravity-matter field theory on a line. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 162–170. (Summary) **98g:83041** 83C45

– (*with* Pi, So-Young) Reducing the Chern-Simons term by a symmetry. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 364–368. (Summary) **98m:81097** 81T13

Jackson, A. D. (*with* Şener, M. K.; Verbaarschot, J. J. M.) Universality of correlation functions in random matrix models of QCD. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 612–632. 81V05 (82B44)

– (*with* Halasz, M. A.; Verbaarschot, J. J. M.) Yang-Lee zeros of a random matrix model for QCD at finite density. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 293–297. (Summary) **98b:81277** 81V05 (81T25)

– (*with* Halasz, M. A.; Verbaarschot, J. J. M.) Fermion determinants in matrix models of QCD at nonzero chemical potential. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5140–5152. (Summary) **98g:81217** 81V05 (82B41)

Jackson, Allyn Mathematics: an interview with AMS president Arthur Jaffe. *Notices Amer. Math. Soc.* **44** (1997), *no.* 11, 1459–1462. 01A70

– Bonn's Max Planck Institute: a new building and a new era. *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 582–588. 01A74

– Theory into profit: Microsoft invests in mathematicians. *Notices Amer. Math. Soc.* **45** (1998), *no.* 6, 698–703. 68Q99

Jackson, Bill (*with* Broersma, H. J.; van den Heuvel, J.; Veldman, Henk Jan) Hamiltonicity of regular 2-connected graphs. (English summary) *J. Graph Theory* **22** (1996), *no.* 2, 105–124. (Summary) **98d:05090** 05C45 (05C40)

Jackson, D. M. (*with* Perry, Malcolm J.; Visentin, T. I.) Factorisations for partition functions of random Hermitian matrix models. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 1, 25–59. (Jacobus Verbaarschot) **98b:82035** 82B41 (58Z05, 81T30, 81T40)

– (*with* Visentin, T. I.) A formulation for the genus series for regular maps. (English summary) *J. Combin. Theory Ser. A* **74** (1996), *no.* 1, 14–32. (E. Rodney Canfield) **98b:05007** 05A15 (05C10)

Jackson, Dunham ★ The theory of approximation. Reprint of the 1930 original. American Mathematical Society Colloquium Publications, 11. *American Mathematical Society, Providence, RI*, 1994. viii+178 *pp. ISBN* 0-8218-1011-1 (Editors) **98a:01022** 01A75 (41–03)

Jackson, E. Atlee The OPCL control method for entrainment, model-resonance, and migration actions on multiple-attractor systems. (English summary) *Chaos* **7** (1997), *no.* 4, 550–559. (Summary) **98i:58210** 58F40 (58F13, 93C15)

Jackson, Jeffrey C. An efficient membership-query alogithm for learning DNF with respect to the uniform distribution. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 414–440. (Summary) **98m:68230** 68T05 (68Q99)

Jackson, Kenneth R. (*with* Enenkel, Robert F.) DIMSEMs-diagonally implicit single-eigenvalue methods for the numerical solution of stiff ODEs on parallel computers. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 97–133. (Beny Neta) **98c:65106** 65L05 (65L20, 65Y05)

– (*with* Hu, Min; Janssen, Jan; Vandewalle, Stefan) Remarks on the optimal convolution kernel for CSOR waveform relaxation. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 135–156. (Ian Gladwell) **98c:65107** 65L05 (65N22, 65R10)

Jackson, Matthew O. (*with* Kalai, Ehud) Social learning in recurring games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 102–134. (Vivek S. Borkar) **98m:90205** 90D20 (90D10, 90D35, 93E35)

– (*with* Manelli, Alejandro M.) Approximately competitive equilibria in large finite economies. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 354–376. 90A56

Jackson, Roy (*with* Wang, Chi-Hwa; Sundaresan, S.) Instabilities of fully developed rapid flow of a granular material in a channel. (English summary) *J. Fluid Mech.* **342** (1997), 179–197. 76E99 (73E99, 76A99)

Jackson, Sally Fallacies and heuristics. (English summary) *Logic and argumentation* (*Amsterdam*, 1994), 101–114, *K. Ned. Akad. Wet. Verh. Afd. Lett.* (*N. S.*), 170, *North-Holland, Amsterdam*, 1996. (*see* **98f:03006**) 03A05

Jackson, Steve (*with* Erdös, Paul[1]; Mauldin, R. Daniel) On infinite partitions of lines and space. (English summary) *Fund. Math.* **152** (1997), *no.* 1, 75–95. (W. W. Comfort) **98b:03066** 03E05 (03E50, 05A18)

Jackson, T. L. (*with* Criminale, W. O.; Lasseigne, D. G.; Joslin, R. D.) Perturbation dynamics in viscous channel flows. (English summary) *J. Fluid Mech.* **339** (1997), 55–75. (Summary) **98a:76018** 76D05 (76E05)

Jackson, Trachette (*with* Tang, Betty; Sitomer, Ann) Population dynamics and competition in chemostat models with adaptive nutrient uptake. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 453–479. (Summary) **98a:92051** 92D40

Jackson, Wen-Ai (*with* Martin, Keith M.; O'Keefe, Christine M.) Ideal secret sharing schemes with multiple secrets. (English summary) *J. Cryptology* **9** (1996), *no.* 4, 233–250. (Ugo Vaccaro) **98e:94019** 94A60 (68P25)

– (*with* van Dijk, Marten; Martin, Keith M.) A note on duality in linear secret sharing schemes. (English summary) *Bull. Inst. Combin. Appl.* **19** (1997), 93–101. (Douglas R. Stinson) **98a:94020** 94A60 (05B35)

– (*with* Martin, Keith M.; O'Keefe, Christine M.) Mutually trusted authority-free secret sharing schemes. (English summary) *J. Cryptology* **10** (1997), *no.* 4, 261–289. (Summary) **98m:94038** 94A60

ben-Jacob, Eshel *see* **Ben-Jacob, Eshel**

Jacob, Niels (*with* Schilling, René L.) Estimates for Feller semigroups generated by pseudodifferential operators. *Function spaces, differential operators and nonlinear*

analysis (*Paseky nad Jizerou*, 1995), 27–49, *Prometheus, Prague*, 1996. (Kazuaki Taira) **98k:47084** 47D07 (31C25, 35S05, 47G30, 60J35)

Jacob, Pierre M. (*with* Suquet, Ch.) Regression and asymptotical location of a multivariate sample. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 173–179. (Summary) **98k:62057** 62G05

— (*with* Oliveira, Paulo Eduardo) Kernel estimators of general Radon-Nikodym derivatives. (English summary) *Statistics* **30** (1997), *no.* 1, 25–46. (Summary) **98e:62055** 62G05

Jacob, V. W. (*with* Ashraf, Mohammad; Quadri, M. A.) Certain commutativity conditions for rings with unity. (English summary) *Pure Appl. Math.* **13** (1997), *no.* 1, 98–102. 16U80

Jacobi, Carl Gustav Jacob *see* **Pulte, Helmut, 98g:01045**

Jacobitz, Frank G. (*with* Sarkar, Sutanu) The effect of nonvertical shear on turbulence in a stably stratified medium. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1158–1168. 76F10 (76V05)

Jacoboni, C. (*with* Nedyalkov, M.; Dimov, Ivan T.; Bordone, P.; Brunetti, R.) Using the Wigner function for quantum transport in device simulation. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 33–53. 81S30

Jacobowitz, Howard The Levi and Stein problems for elliptic structures. *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 141–153, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (A. Alexandrou Himonas) **98d:32025** 32F99 (32E10, 35F99, 35N15)

— (*with* Hanges, Nicholas) The Euclidean elliptic complex. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 753–770. (A. Alexandrou Himonas) **98m:58129** 58G05

Jacobs, Andrew D. (*with* Cornwell, J. F.) Twisting 2-cocycles for the construction of new non-standard quantum groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5383–5401. (Pavel Šťovíček) **98h:17016** 17B37 (81R50)

Jacobs, B. P. F. (*with* Hermida, Claudio) An algebraic view of structural induction. (English summary) *Computer science logic* (*Kazimierz*, 1994), 412–426, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:68185** 68Q65 (03G30, 18B99)

— Subtypes and bounded quantification from a fibred perspective. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68028** 68N15 (68Q55)

— Parameters and parametrization in specification, using distributive categories. (English summary) *Fund. Inform.* **24** (1995), *no.* 3, 209–250. (Summary) **98f:18007** 18B99 (18A40, 68Q65)

— Coalgebraic specifications and models of deterministic hybrid systems. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 520–535, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q65 (68Q60)

Jacobs, David P. (*with* Trevisan, Vilmar) The determinant of a tree's neighborhood matrix. (English summary) *Linear Algebra Appl.* **256** (1997), 235–249. (Summary) **98c:15026** 15A15

Jacobs, Donald J. (*with* Hendrickson, Bruce) An algorithm for two-dimensional rigidity percolation: the pebble game. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 346–365. (Summary) **98g:65143** 65Y25 (82C99)

Jacobs, Joeri (*with* Ott, Edward; Grebogi, Celso) Computing the measure of nonattracting chaotic sets. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 1–11. (Remo Badii) **98g:58102** 58F11 (58F12, 58F13)

— (*with* Ott, Edward; Hunt, Brian R.) Scaling of the durations of chaotic transients in windows of attracting periodicity. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6508–6515. 58F13

Jacobs, Kurt A. (*with* Knight, P. L.; Vedral, V.) Determining the state of a single cavity mode from photon statistics. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2427–2439. (Allan I. Solomon) **98k:81339** 81V80 (81R30)

Jacobs, Patricia A. (*with* Gaver, D. P.) Attrition modeling in the presence of decoys: an operations-other-than-war motivation. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 5, 507–514. 90B06

— (*with* Gaver, D. P.) Testing or fault-finding for reliability growth: a missile destructive-test example. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 623–637. (Tim Bedford) **98g:90019** 90B25 (62L10, 62N05)

Jacobsen, Hans Jorgen (*with* Schultz, Christian) Optimal labor contracts may exhibit wage fluctuations due to wage discrimination. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 75–90. 90A50

Jacobsen, Jesper Lykke Comment on: "Duality relations for Potts correlation functions" [Phys. Lett. A **228** (1997), no. 1-2, 43–48; MR 97m:82003] by F. Y. Wu. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 489–492. (Summary) **98k:82040** 82B20

— (*with* Cardy, John) Critical behavior of random-bond Potts models. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 21, 4063–4066. (Summary) **98k:82063** 82B27 (82B20)

Jacobson, Clas (*with* Perev, Kamen; Shafai, Bahram) An algorithm for identification of smooth nonlinear systems based on parametrized linearization families. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1013–1043. 93B30 (93C10)

Jacobson, Eliot (*with* Carlip, Walter) Stability of two-term recurrence sequences with even parameter. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 1, 70–83. (Y. H. Harris Kwong) **98b:11014** 11B50 (11B37)

Jacobson, Mark T. (*with* Matthews, Peter) Generating uniformly distributed random Latin squares. (English summary) *J. Combin. Des.* **4** (1996), *no.* 6, 405–437. (Lars Døvling Andersen) **98b:05021** 05B15 (60J10)

Jacobson, Michael J., Jr. (*with* Buchmann, Johannes; Teske, Edlyn) On some computational problems in finite abelian groups. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1663–1687. (Duncan A. Buell) **98a:11185** 11Y16 (20K01)

Jacobson, Michael S. (*with* Levin, Gregory M.; Scheinerman, Edward R.) On fractional Ramsey numbers. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 159–175. (Saul Stahl) **98h:05138** 05C55 (05C10)

— (*with* Kézdy, André E.; Lehel, Jenő) Recognizing intersection graphs of linear uniform hypergraphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 359–367. (Jean-Claude Bermond) **98k:05118** 05C75 (05C65)

— (*with* Kézdy, André E.; Lehel, Jenő) Recognizing triangle-free graphs with induced path-cycle double covers is NP-complete. (English summary) *Networks* **31** (1998), *no.* 1, 1–10. (Summary) **98k:05130** 05C85 (68Q25)

— (*with* Chen, Guantao; Kézdy, André E.; Lehel, Jenő) Tough enough chordal graphs are Hamiltonian. (English summary) *Networks* **31** (1998), *no.* 1, 29–38. (Dieter Kratsch) **98m:05118** 05C45 (05C38)

Jacobson, Nathan ★ Finite-dimensional division algebras over fields. (English summary) *Springer-Verlag, Berlin*, 1996. viii+278 *pp. ISBN* 3-540-57029-2 (B. Fein) **98a:16024** 16K20 (12E15)

Jacobson, Theodore A. Introduction to black hole microscopy. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 87–112, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83085** 83C57

— (*with* Bengtsson, Ingemar) Degenerate metric phase boundaries. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 11, 3109–3121. (Jorge A. Pullin) **98k:83036** 83C45 (83C05)

Jacobson, Tor (*with* Carling, Kenneth) Identification of dependent competing risks models. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 59–63, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62180** 62N05

Jacod, J. La variation quadratique du brownien en présence d'erreurs d'arrondi. (French summary) [Quadratic variation of the Brownian in the presence of round-off errors] Hommage à P. A. Meyer et J. Neveu. *Astérisque No.* 236 (1996), 155–161. (Paul McGill) **98c:60105** 60J65 (60J55, 62M05)

Jacqmin, David A variational approach to deriving smeared-interface surface tension models. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 231–240, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98m:76057** 76D45 (76M30)

Jacqmin-Gadda, H. (*with* Commenges, D.) Generalized score test of homogeneity based on correlated random effects models. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 157–171. (Summary) **98k:62125** 62J10 (62G10)

Jacquart, Danielle *see* **Paths of Greek science, 98k:01002**

Jacquemard, Alain (*with* Khechichine-Mourtada, F. Z.; Mourtada, Abderaouf) Algorithmes formels appliqués à l'étude de la cyclicité d'un polycycle algébrique générique à quatre sommets hyperboliques. (English and French summaries) [Formal algorithms applied to the study of the cyclicity of a generic algebraic polycycle with four hyperbolic apices] *Nonlinearity* **10** (1997), *no.* 1, 19–53. (Sergeĭ Yu. Yakovenko) **98b:58142** 58F21 (13P99, 34C05, 34C35)

— (*with* Teixeira, Marco Antonio) On the doubling period reversible cusps in $\mathbf{R}^3$. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 73–84. (Arnd Scheel) **98i:58205** 58F36

Jacquemard, Florent Decidable approximations of term rewriting systems. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 362–376, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q42 (03B25, 03B70)

Jacques, Jean-Marie (*with* Tscheulin, Dieter K.) Goal programming approaches for priorities in Saaty's analytic hierarchy process (AHP). (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **36** (1996), *no.* 4, 189–203. 90C90 (90A05)

Jacques, Michel The Istanbul option: where the standard European option becomes Asian. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 2, 139–152. 90A09

Jacquet, Hélène (*with* Bauderon, Michel) Node rewriting in hypergraphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 31–43, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68Q42 (68R10)

Jacquet, Hervé Principal L-functions for GL(n). *Representation theory and automorphic forms* (*Edinburgh*, 1996), 321–329, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (David Ginzburg) **98k:11169** 11R39 (11F70, 22E55)

— Note on the analytic continuation of Eisenstein series: An appendix to "Theoretical aspects of the trace formula for GL(2)" [in *Representation theory and automorphic forms (Edinburgh, 1996)*, 355–405, Proc. Sympos. Pure Math., 61, Amer. Math. Soc., Providence, RI, 1997; MR 98k:11062] by A. W. Knapp. *Representation theory and automorphic forms* (*Edinburgh*, 1996), 407–412, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Werner Hoffmann) **98k:11063** 11F72 (11F70, 22E55)

— Automorphic spectrum of symmetric spaces. *Representation theory and automorphic forms* (*Edinburgh*, 1996), 443–455, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Jiandong Guo) **98m:22024** 22E55 (11F70, 11F72)

Jacquet, Jean-Marie (*with* Brim, Luboš; Gilbert, David Roger; Křetínský, Mojmír) A process algebra for synchronous concurrent constraint programming. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 165–178, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q10 (68N17, 68T20)

Jacquette, Dale Many-valued deontic predications. (English summary) *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 155-156, 243–254. 03B45 (03B50)

Jacquez, John A. Design of experiments. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 259–279. (*see* **98i:92001**) 92B10 (62K99)

Jacquin, L. (*with* Sipp, D.) Elliptic instability in two-dimensional flattened Taylor-Green vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 839–849. (Summary) **98k:76059** 76E99 (76C05)

Jacquod, Ph. (*with* Amiet, J.-P.) On the convergence to ergodic behaviour of quantum wavefunctions. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2963–2974. (Summary) **98e:81091** 81S30 (82B41)

Jacquot, Sophie Simulated annealing for stochastic semilinear equations on Hilbert spaces. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 73–91. (Matthias Löwe) **98b:60109** 60H10

Jacroux, Mike (*with* Majumdar, Dibyen; Shah, Kirti R.) On the determination and construction of optimal block designs in the presence of linear trends. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 375–382. (Summary) **98k:62133** 62K05

Jadczyk, A. (*with* Blanchard, Ph.) Theory of events. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 265–272, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:81025** 81P15

— (*with* Blanchard, Ph.) Time of events in quantum theory. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich,

1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 613–635. (Guido A. Raggio) **98f:81014** 81P05 (81P15)

— (*with* Kondrat, Grzegorz; Olkiewicz, Robert) On uniqueness of the jump process in event enhanced quantum theory. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1863–1880. (Radu Purice) **98j:81037** 81P15 (81S25)

Jadot, F. (*with* Viel, F.; Bastin, Georges) Global stabilization of exothermic chemical reactors under input constraints. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1437–1448. 93D15 (93C95)

Jaeck, Frédéric (*with* Chalendar, Isabelle) On the contractions in the classes $\mathbf{A}_{n,m}$. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 265–296. (Alfredo Octavio) **98m:47070** 47D27 (47A20, 47A65)

Jaeger, François Towards a classification of spin models in terms of association schemes. *Progress in algebraic combinatorics* (*Fukuoka*, 1993), 197–225, *Adv. Stud. Pure Math.*, 24, *Math. Soc. Japan, Tokyo*, 1996. (Louis H. Kauffman) **98g:57012** 57M25 (05E30, 82B23)

— New constructions of models for link invariants. (English summary) *Pacific J. Math.* **176** (1996), *no.* 1, 71–116. (Yuanan Diao) **98a:57010** 57M25 (82B20)

— (*with* Bannai, Eiichi; Bannai, Etsuko) On spin models, modular invariance, and duality. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 203–228. (Paul-Hermann Zieschang) **98f:05150** 05E30 (57M25)

Jaeger, Lars (*with* Kantz, Holger) Structure of generating partitions for two-dimensional maps. (English summary) *J. Phys. A* **30** (1997), *no.* 16, L567–L576. (Alexander Loskutov) **98j:58075** 58F13 (58F08, 82C05)

— (*with* Kantz, Holger) Homoclinic tangencies and non-normal Jacobians—effects of noise in nonhyperbolic chaotic systems. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 79–96. (Remo Badii) **98c:58109** 58F13 (58F15)

tomczak-Jaegermann, N. *see* **Tomczak-Jaegermann, N.**

Jaekel, Marc-Thierry (*with* Reynaud, Serge) Mass as a relativistic quantum observable. (English summary) *Europhys. Lett.* **38** (1997), *no.* 1, 1–6. (Summary) **98f:81046** 81P99 (81R05, 81V80)

— (*with* Lambrecht, Astrid; Reynaud, Serge) The Casimir force for passive mirrors. *Phys. Lett. A* **225** (1997), *no.* 4-6, 188–194. (Summary) **98a:81261** 81V10

Jaenicke, Edward (*with* Chambers, Robert G.; Färe, Rolf; Lichtenberg, Erik) Using dominance in forming bounds on DEA models: the case of experimental agricultural data. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 189–203. 62P20

Jafari, Farhad (*with* Sehgal, V. M.) Some fixed point theorems for nonconvex spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 133–138. (V. V. Obukhovskiĭ) **98h:47075** 47H10 (47H04)

— *see also* **Studies on composition operators, 98h:47005**

Jafari, Saeid (*with* Noiri, Takashi) Decompositions of s-continuity. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 253–256. 54C08 (54C60)

Jafarizadeh, M. A. (*with* Fakhri, H.) Calculation of the determinant of shape invariant operators. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 157–163. (Avinash Khare) **98m:81043** 81Q60 (58G11, 58G26, 81Q20)

— (*with* Fakhri, H.) Supersymmetry and shape invariance in differential equations of mathematical physics. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 164–170. (Avinash Khare) **98m:81044** 81Q60 (33C80)

Jaffard, Stéphane (*with* Benassi, Albert; Roux, Daniel) Gaussian elliptic processes. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 35–48, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Akio Noda) **98e:60055** 60G15 (60G17, 60G18, 60G60)

— Trees in the time-scale domain. (English and French summaries) *Trees* (*Versailles*, 1995), 15–24, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Summary) **98f:28009** 28A80 (42C15)

— (*with* Mandelbrot, Benoît B.) Local regularity of nonsmooth wavelet expansions and application to the Polya function. (English summary) *Adv. Math.* **120** (1996), *no.* 2, 265–282. (Summary) **98c:42031** 42C15

— Old friends revisited: the multifractal nature of some classical functions. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 1–22. (Peter R. Massopust) **98b:28013** 28A80 (42C15)

— (*with* Arneodo, A.; Bacry, E.; Muzy, J. F.) Oscillating singularities on Cantor sets: a grand-canonical multifractal formalism. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 179–209. (Steen Pedersen) **98k:28007** 28A80

— (*with* Mandelbrot, Benoît B.) Peano-Pólya motions, when time is intrinsic or binomial (uniform or multifractal). *Math. Intelligencer* **19** (1997), *no.* 4, 21–26. (Hermann Haase) **98k:28012** 28A80

— (*with* Tucsnak, Marius) Regularity of plate equations with control concentrated in interior curves. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 1005–1025. (R. Kodnár) **98m:35204** 35Q72 (35B65, 47N60, 73K10, 73K50, 93C20)

— (*with* Benassi, Albert; Roux, Daniel) Elliptic Gaussian random processes. (English and French summaries) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 19–90. (Christian Houdré) **98k:60056** 60G15 (60G60, 60J05)

— (*with* Young, Robert M.) A representation theorem for Schauder bases in Hilbert space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 553–560. (Anatolij M. Plichko) **98d:46019** 46C05 (46B15, 47A55)

Jaffe, Arthur (*with* Lebowitz, Joel L.; Sinaĭ, Yakov Grigor′evich) Roland L. Dobrushin. *Comm. Math. Phys.* **189** (1997), *no.* 2, 259–261. 01A70

— Proof and the evolution of mathematics. Proof and progress in mathematics (Boston, MA, 1996). *Synthese* **111** (1997), *no.* 2, 133–146. (Detlef Laugwitz) **98g:00009** 00A35 (00A30, 01A05)

— *see also* **Current developments in mathematics, 98d:00016; Quantum fields and quantum space time, 98k:81006** *and* **Jackson, Allyn**

Jaffe, David B. (*with* Ruberman, Daniel) A sextic surface cannot have 66 nodes. *J. Algebraic Geom.* **6** (1997), *no.* 1, 151–168. (Susan J. Colley) **98m:14035** 14J17 (14N10, 94B05)

Jaffray, Jean-Yves (*with* Chateauneuf, Alain) Local Möbius transforms of monotone capacities. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 115–124, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98c:68195** 68T30

— On the maximum of conditional entropy for upper/lower probabilities generated by random sets. (English summary) *Random sets* (*Minneapolis, MN*, 1996), 107–127, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (62B10, 90C25, 94A17)

— (*with* Philippe, Fabrice) On the existence of subjective upper and lower probabilities. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 165–185. (E.-A. Weiss, Jr.) **98a:90020** 90A10 (90A43)

Jaffre, J. (*with* Siegel, Pascal; Mosé, R.; Ackerer, Ph.) Solution of the advection-diffusion equation using a combination of discontinuous and mixed finite elements. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 6, 595–613. (Summary) **98a:76055** 76M10 (76Rxx)

Jafry, Y. Orbital mechanics of free-falling bodies for testing the weak equivalence principle in space. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 1–12. (Summary) **98j:83004** 83B05

Jagadeesan, Radha (*with* Gupta, Vineet; Saraswat, Vijay) Models for concurrent constraint programming. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 66–83, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10

— (*with* Gupta, Vineet; Saraswat, Vijay) Truly concurrent constraint programming. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 373–388, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10

— (*with* Saraswat, Vijay; Gupta, Vineet) Timed default concurrent constraint programming. (English summary) *J. Symbolic Comput.* **22** (1996), *no.* 5-6, 475–520. (Neculai Curteanu) **98d:68069** 68Q10 (68Q55, 68Q60, 68T27)

— (*with* Gupta, Vineet; Saraswat, Vijay) Probabilistic concurrent constraint programming. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 243–257, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)

— (*with* Gupta, Vineet; Saraswat, Vijay) Computing with continuous change. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 3–49. (Summary) **98m:68035** 68N17 (68T30)

Jagadish, H. V. Analysis of the Hilbert curve for representing two-dimensional space. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 1, 17–22. (Summary) **98a:68048** 68P20 (68P15)

Jagannathan, Ramaswamy (*with* Basu-Mallick, B.; Ramadevi, P.) Multiparametric and colored extensions of the quantum group $GL_q(N)$ and the Yangian algebra $Y(\mathrm{gl}_N)$ through a symmetry transformation of the Yang-Baxter equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 5, 945–962. (Kazuhiro Hikami) **98a:81072** 81R50 (82B23)

de Jager, Bram (*with* van de Wal, Marc; Philips, Patrick) Actuator and sensor selection for an active vehicle suspension aimed at robust performance. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 703–720. 93C05 (93B07)

de Jager, E. M. *see* **de Kerf, E. A. et al., 98k:17002**

Jäger, Gerhard (*with* Feferman, Solomon) Systems of explicit mathematics with non-constructive μ-operator. II. (English summary) *Ann. Pure Appl. Logic* **79** (1996), *no.* 1, 37–52. (Ulrich Kohlenbach) **98b:03081** 03F35 (03F25, 03F50)

— (*with* Strahm, Thomas) Some theories with positive induction of ordinal strength $\varphi\omega 0$. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 818–842. (Ulrich Kohlenbach) **98a:03090** 03F30 (03F05, 03F15, 03F50)

Jäger, Gunther Compactness in fuzzy convergence spaces. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 341–348. (Summary) **98j:54006** 54A40 (04A72)

— The Richardson compactification for fuzzy convergence spaces. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 349–355. (Summary) **98j:54007** 54A40 (04A72)

— Extending 2_0-connectedness to fuzzy subsets. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 733–740. 54A40

— Compactness and connectedness as absolute properties in fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 405–410. 54A40 (54D05, 54D30)

Jager, Lisette Fonctions de Mathieu et polynômes de Klein-Gordon. (English and French summaries) [Mathieu functions and Klein-Gordon polynomials] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 713–716. (Summary) **98g:34135** 34L40 (33E10, 34B30, 81Q05)

de Jager, N. G. (*with* Pap, Gyula; Van Zuijlen, Martien C. A.) Facts, phantasies, and a new proposal concerning the Stringer bound. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 37–54. (Summary) **98d:62086** 62G15

Jäger, Willi (*with* Oleĭnik, Ol′ga Arsen′evna; Shaposhnikova, T. A.) On homogenization of solutions of the Poisson equation in a perforated domain with different types of boundary conditions on different cavities. *Appl. Anal.* **65** (1997), *no.* 3-4, 205–233. (Summary) **98g:35020** 35B27 (35J05)

— (*with* Lu, Yun Guang) Global regularity of solution for general degenerate parabolic equations in 1-D. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 365–377. (Summary) **98j:35112** 35K65 (35B65, 35K55)

— (*with* Saitō, Yoshimi) The reduced wave equation in layered materials. *Osaka J. Math.* **34** (1997), *no.* 2, 267–301. (Bruno Scheurer) **98m:35029** 35J05 (35P05, 47F05)

— (*with* Oleĭnik, Ol′ga Arsen′evna; Shamaev, A. S.) On the asymptotic behavior of solutions of a boundary value problem for the Laplace equation in a partially punctured domain with boundary conditions of the third kind on the boundaries of cavities. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 187–223; *translation in Trans. Moscow Math. Soc.* **1997,** 163–196. (Dietrich Göhde) **98m:35011** 35B25 (35J25, 73B27)

— *see also* **Modeling and computation in environmental sciences, 98f:76003**

Jagers, Peter Coupling and population dependence in branching processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 281–298. (Fima Klebaner) **98e:60141** 60J80 (60F15, 60F25, 92D25)

— *see also* **Classical and modern branching processes, 98h:60004**

Jagger, Chris Tournaments as strong subcontractions. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 177–184. (Yubao Guo) **98i:05090** 05C20

Jagota, Arun Kumar (*with* Botelho, Fernanda; Garzon, Max) Decoding independent sets from an analog Hopfield network. (English summary) *Neural Parallel Sci. Comput.* **4** (1996), *no.* 3, 263–276. (Răzvan Andonie) **98c:92002** 92B20

— (*with* Gyárfás, András; Schelp, R. H.) Monochromatic path covers in nearly complete graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 129–144. (Gerard J. Chang) **98h:05149** 05C70 (05C15, 05C38)

— (*with* Regan, Kenneth W.) Performance of neural net heuristics for maximum clique on diverse highly compressible graphs. (English summary) *J. Global Optim.* **10** (1997), *no.* 4, 439–465. (Summary) **98b:68076** 68Q25 (05C85, 68T05)

Jahan, Nujhat (*with* Khan, M. G. M.; Khan, E. A.) Optimum number of strata for surveys with small sample size. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 27–34. 62D05

— (*with* Khan, M. G. M.; Ahsan, M. J.) Determining the optimum cluster size. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 121–129. 62D05

Jahan, Rowshan Misspecified parametric regression models for failure time data: the case of Weibull regression model. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 21–33. 62N05

Jahangiri, Massoud A new criterion for close-to-convexity of partial sums of certain hypergeometric functions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 197–202. (Eberhard Wagner) **98m:33013** 33C20 (30C45, 33C05)

— (*with* Ahuja, O. P.) Fekete-Szegö problem for a unified class of analytic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 2, 67–78. (J. G. Krzyż) **98c:30011** 30C45 (30C50)

— (*with* Ahuja, O. P.) Convolution duality applied to a class of analytic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 47–53. (Iscander Nezhmetdinov) **98d:30014** 30C45 (30C75)

— (*with* Ahuja, O. P.) On the derivatives of a family of analytic functions. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 67–72. (Summary) **98k:30012** 30C45 (30C50)

Jahanshahi, Mohammad (*with* Aliev, N. A.) Sufficient conditions for reduction of the BVP including a mixed PDE with non-local boundary conditions to Fredholm integral equations. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 3, 419–425. 35A25

bigdeli-Jahed, Fariba *see* **Bigdeli-Jahed, Fariba**

Jaheen, Zeinhum F. (*with* Al-Hussaini, Essam K.) Bayesian prediction bounds for the Burr type XII distribution in the presence of outliers. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 1, 23–37. (Summary) **98c:62046** 62F15

— (*with* Ali Mousa, M. A. M.) Bayesian prediction for the Burr type XII model based on doubly censored data. (English summary) *Statistics* **29** (1997), *no.* 3, 285–294. (Summary) **98c:62183** 62N05 (62F15)

el-Jahel, Lina *see* **El-Jahel, Lina**

Jahn, Johannes Optimality conditions in set-valued vector optimization. (English summary) *Multiple criteria decision making* (*Hagen*, 1995), 22–30, *Lecture Notes in Econom. and Math. Systems*, 448, *Springer, Berlin*, 1997. (Christiane Tammer) **98c:90121** 90C29 (90C48)

Jahnke, Hans Niels (*with* Hanna, Gila) Proof and proving. (English summary) *International handbook of mathematics education, Part* 1, 2, 877–908, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (Detlef Laugwitz) **98f:00012** 00A35

— Mathematikgeschichte für Lehrer—Gründe und Beispiele. (German summary) [History of mathematics for teachers—reasons and examples] *Math. Semesterber.* **43** (1996), *no.* 1, 21–46. 00A35 (01A99)

el Jaï, Abdelhak *see* **El Jaï, Abdelhak**

gutiérrez Jáimez, Ramón *see* **Gutiérrez Jáimez, Ramón**

Jaimoukha, Imad M. A general minimal residual Krylov subspace method for large-scale model reduction. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1422–1427. (Summary) **98h:93003** 93B11

— (*with* Al-Husari, M. M. M.; Limebeer, D. J. N.) A descriptor solution to a class of discrete distance problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1558–1564. (R. N. Mukherjee) **98m:93032** 93B36 (93B11)

— (*with* Halikias, G. D.; Wilson, D. A.) A numerical solution to the matrix $\mathscr{H}_2/\mathscr{H}_\infty$ optimal control problem. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 7, 711–726. (M. M. Konstantinov) **98i:93024** 93B36 (93B40)

Jain, Anant Singh (*with* Rangaswamy, Balasubramanian; Glover, Fred) Tabu search candidate list strategies in scheduling. (English summary) *Advances in computational and stochastic optimization, logic programming, and heuristic search*, 215–233, *Oper. Res./Comput. Sci. Interfaces Ser.*, 9, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **98i:90005**) 90C27 (90B35)

Jain, Gautam (*with* Sigman, Karl) A Pollaczek-Khintchine formula for $M/G/1$ queues with disasters. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1191–1200. (Summary) **98m:60145** 60K25 (60K30)

Jain, Jawahar (*with* Bitner, James; Abadir, Magdy S.; Abraham, Jacob A.; Fussell, Donald S.) Indexed BDDs: algorithmic advances in techniques to represent and verify Boolean functions. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1230–1245. (Summary) **98j:94043** 94C10 (68Q05, 68Q60)

Jain, Kamal (*with* Arun-Kumar, S.) Testing processes for efficiency. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 100–110, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68Q10

— (*with* Măndoiu, Ion; Vazirani, Vijay V.) The "art of trellis decoding" is computationally hard—for large fields. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1211–1214. (Summary) **98m:94047** 94B12 (94B35)

Jain, Madhu (*with* Lata, Prem) Accumulated work process in a time sharing queue with finite population. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 33–36. 60K25

— (*with* Dhyani, Indu) A finite-multiserver queueing system with non-preemptive priorities. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 45–55. 60K25

— (*with* Ghimire, R. P.) Machine repair queueing system with non-reliable service stations and heterogenous service discipline. (English summary) *J. Maulana Azad College Tech.* **30** (1997), 105–116. 60K25 (60K10)

— $M/M/R$ machine repairmen problem with spares and additional repairmen. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 517–524. 60K25 (60K10, 90B25)

— (*with* Sharma, G. C.; Kumar, Sanjeev; Saral, R. N.) The effects of non-zero bulk flow and non-mixing on diffusion with variable transfer of the solute. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1998), *no.* 3, 201–210. (Summary) **98k:76137** 76S05

Jain, Naresh C. (*with* Baxter, John R.) An approximation condition for large deviations and some applications. (English summary) *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 63–90, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (Anatolii A. Pukhal'skiĭ) **98b:60050** 60F10 (60G15)

Jain, Neeru (*with* Arya, S. P.) On fuzzy weak continuity, fuzzy almost continuity and fuzzy precontinuity. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 747–754. 54A40 (54C08)

Jain, P. C. *see* **Jain, Padam Chand**

Jain, P. K. *see* **Jain, Pawan Kumar**

Jain, Padam Chand (*with* Shankar, Rama; Bhardwaj, Dheeraj) Numerical solution of the Korteweg-de Vries (KdV) equation. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 6, 943–951. (Summary) **98b:65107** 65M12

Jain, Pankaj On imbeddings of weighted Sobolev spaces. (English summary) *Note Mat.* **15** (1995), *no.* 1, 31–43 (1997). (Seng-Kee Chua) **98m:46048** 46E35

Jain, Pawan Kumar (*with* Sinha, D. P.) Sequential characterizations of Markuševič decompositions of Banach spaces. *Math. Student* **64** (1995), *no.* 1-4, 183–187 (1996). 46B15

Jain, Pushpendra K. Under-damped harmonic oscillator with large damping: displacement, velocity, acceleration and energy. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 735–748. 34C15 (70K99)

— Corrigendum: "Under-damped harmonic oscillator with large damping: displacement, velocity, acceleration and energy" [Internat. J. Math. Ed. Sci. Tech. **28** (1997), no. 5, 735–748]. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 2, 315. 34C15 (70K99)

Jain, R. C. (*with* Singal, Asha Rani) Slightly continuous mappings. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 195–203. 54C08

Jain, Rajendra Kumar[1] (*with* Sahu, H. K.; Fisher, Brian) Related fixed point theorems for three metric spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 11–17. 54H25

— (*with* Shrivastava, A. K.) On a common fixed point theorem for five mappings. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 1, 97–100. 54H25

Jain, Ritu (*with* Sen, Kanwar) A multivariate generalized Polya-Eggenberger probability model—first passage approach. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 871–884. (Summary) **98b:62020** 62E15 (60C05)

Jain, S. K. *see* **Jain, Surender Kumar**

Jain, Sandeep (*with* Khorrami, Farshad) Decentralized adaptive control of a class of large-scale interconnected nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 136–154. (Kimio Kanai) **98d:93003** 93A14 (93C40, 93D15)

— (*with* Khorrami, Farshad) Robust adaptive control of flexible joint manipulators. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 609–615. 93C85 (70B15)

Jain, Sanjay[1] Branch and bound on the network model. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 11–21, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98d:68087** 68Q22 (68M10, 90C35)

— (*with* Case, John; Stephan, Frank C.) Vacillatory and BC learning on noisy data. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 285–298, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98i:68236** 68T05 (68Q99)

— (*with* Sharma, Arun K.) The intrinsic complexity of language identification. (English summary) Seventh Annual Workshop on Computational Learning Theory (COLT) (New Brunswick, NJ, 1994). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 1, 393–402. (Rani Siromoney) **98c:68182** 68T05 (68Q25, 68Q45)

— Program synthesis in the presence of infinite number of inaccuracies. (English summary) *J. Comput. System Sci.* **53** (1996), *no.* 3, 583–591. (William Gasarch) **98b:68145** 68Q99 (03D25)

— (*with* Case, John; Sharma, Arun K.) Anomalous learning helps succinctness. (English summary) *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 13–28. (Summary) **98f:68229** 68T05 (68Q30)

— (*with* Case, John; Suraj, Mandayam) Control structures in hypothesis spaces: the influence on learning. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 286–300, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (*see* **98f:68007**) 68T05

— (*with* Ambainis, Andris; Sharma, Arun K.) Ordinal mind change complexity of language identification. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 301–315, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98j:68124** 68Q99 (03D05, 68T05)

— (*with* Baliga, Ganesh R.; Sharma, Arun K.) Learning from multiple sources of inaccurate data. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 961–990. (Summary) **98c:68179** 68T05 (68Q99)

Jain, Sudhu[2] Sequential probability ratio test to control the traffic intensity for $M/M/1$ queueing model. (English summary) *Indust. Math.* **47** (1997), *no.* 1, 1–9. 62L10 (60K25)

Jain, Sudhir R. (*with* Alonso, Daniel) Quantum chaos, random matrix theory, statistical mechanics in two dimensions, and the second law—a case study. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 4993–5005. (Robert Alicki) **98m:81039** 81Q50 (82B41)

— (*with* Pati, Arun K.) Adiabatic geometric phases and response functions. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 4, 650–653. (Summary) **98j:81384** 81V70 (81Q50, 81V35)

Jain, Surender Kumar (*with* Dinh Van Huynh; López-Permouth, S. R.) On weakly injective continuous modules. (English summary) *Abelian groups and modules* (*Colorado Springs, CO*, 1995), 385–392, *Lecture Notes in Pure and Appl. Math.*, 182, *Dekker, New York*, 1996. (B. M. Pandeya) **98a:16003** 16D50

— (*with* Srinivasan, Murali K.) Applications of Burnside and Pólya theorems. *Applied abstract algebra* (*Delhi*, 1995), 19–37, *Univ. Delhi, Delhi*, 1996. (Barbara Baumeister) **98j:05011** 05A15

— An application of finite fields and number theory to cryptography. *Applied abstract algebra* (*Delhi*, 1995), 96–100, *Univ. Delhi, Delhi*, 1996. (*see* **98b:00017**) 94A60 (11T71)

— (*with* Snyder, L. E.) A note on factoring 0-1 matrices. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 3, 193–198. (Summary) **98g:15021** 15A23 (15A36)

— (*with* Bapat, R. B.; Pati, S.) Weighted Moore-Penrose inverse of a Boolean matrix. (English summary) *Linear Algebra Appl.* **255** (1997), 267–279. (Jian Long Chen) **98a:15007** 15A09

— (*with* Bapat, R. B.; Snyder, L. E.) Nonnegative idempotent matrices and the minus partial order. (English summary) *Linear Algebra Appl.* **261** (1997), 143–154. (Ronald L. Smith) **98c:15061** 15A48

— *see also* **Applied abstract algebra**, **98b:00017** *and* **Advances in ring theory**, **98b:16001**

Jain, Swapna Ray Multi-Hamiltonian structure of KdV hierarchy by Drien-feld[Drinfel'd]-Sokolov formalism. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 5, 903–909. (Summary) **98c:58071** 58F07 (35Q53)

Jain, V. K. *see* **Jain, Vinay Kumar**

Jain, Vidyut (*with* Gaillard, Mary K.; Saririan, Kamran) Supergravity coupled to chiral matter at one loop. II. Chiral and Yang-Mills matter. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 2, 883–924. (Summary) **98j:83086** 83E15 (81T15, 81V17)

Jain, Vimal Chand (*with* Bali, Raj) Some viscous fluid cosmological models in general relativity. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 1, 13–23. 83C15 (83C55, 83F05)

Jain, Vinay Kumar On Cauchy's type bounds for zeros of a polynomial. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **49** (1995), 109–116. (George L. Csordas) **98b:30005** 30C15

— On Cauchy's bound for zeros of a polynomial. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 245–251. (N. K. Govil) **98e:30003** 30C15 (26C10)

— Inequalities for polynomials satisfying $p(z) \equiv z^n p(1/z)$. III. (English summary) *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 1–4. (D. A. Brannan) **98h:30006** 30C15

— Generalization of certain well known inequalities for polynomials. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 45–51. (Summary) **98f:30003** 30C10 (30A10)

— On the zeros of a class of polynomials and related analytic functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 533–549. (N. K. Govil) **98d:30009** 30C15

Jain, Vinod Kumar (*with* Verma, Arun) A q-analogue of Watson's product formula and its applications. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 237–255. (Alexei Zhedanov) **98k:33031** 33D15 (33D20, 33D45)

Jaiswal, N. K. ★ Military operations research. (English summary) Quantitative decision making. International Series in Operations Research & Management Science, 5. *Kluwer Academic Publishers, Boston, MA*, 1997. xii+388 *pp. ISBN* 0-7923-9858-0 (From the preface) **98a:90001** 90–02 (90B06, 90C90)

Jajte, Ryszard On summability methods generated by R-integrable functions. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 8 (1996), 3–8. (H. P. Dikshit) **98c:40007** 40G05 (40G99)

— (*with* Paszkiewicz, Adam) Convergence of orthogonal series of projections in Banach spaces. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 137–153. (W. Ricker) **98m:47019** 47A58 (46B15, 46E30, 47B38)

Jakob-Chien, Ruediger Parallel FFTs and FMMs in a global shallow water model. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 6 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60 (65Y05)

Jakóbczak, Piotr The exceptional sets for holomorphic functions in Hartogs domains. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 1, 89–97. (Song Ying Li) **98e:32016** 32E05 (32A07)

— Descriptions of exceptional sets in the circles for functions from the Bergman space. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 633–649. (Steven George Krantz) **98h:32042** 32H10 (32H99)

— Highly nonintegrable functions in the unit ball. (English summary) *Israel J. Math.* **97** (1997), 175–181. (Jan Stankiewicz) **98b:32002** 32A10

Jakobsen, Hans Plesner (*with* Zhang, Hechun) The center of the Dipper Donkin quantized matrix algebra. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 411–421. (Mitsuhiro Takeuchi) **98i:16025** 16S36 (16U70)

— (*with* Zhang, Hechun) The center of the quantized matrix algebra. (English summary) *J. Algebra* **196** (1997), *no.* 2, 458–474. (K. R. Goodearl) **98i:17016** 17B37 (16S36, 16U70, 16W30, 81R50)

— Tensoring with small quantized representations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4323–4335. (Oleg Andreev) **98e:17023** 17B37 (17B10, 81R50)

— Unitarity of highest-weight modules for quantum groups. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 119–133. (Andrei G. Bytsko) **98e:17024** 17B37 (81R50)

Jakobson, Michael (*with* Newhouse, Sheldon) On the structure of non-hyperbolic attractors. (English summary) *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 103–111, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:58109** 58F12 (58F11)

Jakobsson, Markus (*with* Yung, Moti) Proving without knowing: on oblivious, agnostic and blindfolded provers. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 186–200, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

— (*with* Bellare, Mihir; Yung, Moti) Round-optimal zero-knowledge arguments based on any one-way function. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 280–305, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **98k:68071** 68Q15 (68P25)

Jakoby, Andreas (*with* Reischuk, Rüdiger) Data transmission in processor networks. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 145–159, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68Q10, 68Q25)

— (*with* Schindelhauer, Christian) On the complexity of worst case and expected time in a circuit. (English summary) *STACS* 96 (*Grenoble*, 1996), 295–306, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q25 (68Q15)

Jakšević̆ius, Šarūnas Approximation by a convolution of Poisson type. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 313–321; *translation in Lithuanian Math. J.* **36** (1996), *no.* 3, 249–255 (1997). (Petr Lachout) **98g:60043** 60F05 (60G50, 62E17)

Jakšić, Vojkan (*with* Pillet, Claude-Alain) On a model for quantum friction. III. Ergodic properties of the spin-boson system. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 3, 627–651. (Bruno Nachtergaele) **98e:82035** 82C10 (46L60)

— (*with* Pillet, Claude-Alain) Spectral theory of thermal relaxation. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1757–1780. (Demetris P. K. Ghikas) **98m:82044** 82C10 (35Q99, 46L60, 82C05)

— (*with* Pillet, Claude-Alain) Ergodic properties of the non-Markovian Langevin equation. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 49–57. (Vitor R. Vieira) **98h:82049** 82C31 (60G20, 60J65)

— (*with* Molchanov, Stanislav Alekseevich; Pastur, Leonid Andreevich) On the propagation properties of surface waves. *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 143–154, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 35Q72 (73D20, 73D25, 73D70, 78A40)

Jakubec, Stanislav Criterion for 3 to be eleventh power. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 37–43. (Ronald J. Evans) **98f:11088** 11L10

— Connection between congruences $n^{q-1} \equiv 1 \pmod{q^2}$ and divisibility of h^+. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 151–158. (Charles J. Parry) **98a:11145** 11R29 (11B68, 11R18, 11R20)

— (*with* Trojovský, P.) On divisibility of the class number h^+ of the real cyclotomic fields $\mathbf{Q}(\zeta_p + \zeta_p^{-1})$ by primes $q \leq 5000$. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 269–280. (T. Metsänkylä) **98j:11095** 11R29 (11R18, 11Y40)

— On divisibility of the class number h^+ of the real cyclotomic fields of prime degree l. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 369–398. (Stéphane Louboutin) **98d:11136** 11R29 (11R18)

Jakubi, Alejandro S. (*with* Chimento, Luis P.) Influence of a perfect fluid on scalar field cosmologies. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 316–320, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:83012** 83C15 (83C55)

— (*with* Chimento, Luis P.) Mathematical features of several cosmological models. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 336–340, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83023** 83C15

— (*with* Chimento, Luis P.) Dissipative cosmological solutions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1811–1820. (Nora Bretón Báez) **98e:83024** 83C20 (83C15)

— (*with* Chimento, Luis P.; Méndez, Vicenç; Maartens, Roy) Cosmological solutions with nonlinear bulk viscosity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3363–3375. (Summary) **98k:83049** 83C55 (83C15, 83F05)

Jakubík, Ján On half lattice ordered groups. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 4, 745–767. (Michael Darnel) **98c:06021** 06F15 (20F60)

— Directly indecomposable direct factors of a lattice. (English summary) *Math. Bohem.* **121** (1996), *no.* 3, 281–292. (N. Prabhakara Rao) **98a:06013** 06B05

— (*with* Lihová, Judita) Systems of intervals of partially ordered sets. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 355–361. (Andreja Tepavčević) **98m:06002** 06A06

— Lateral and Dedekind completions of strongly projectable lattice ordered groups. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 511–523. (J. C. Ault) **98k:06018** 06F15

— Convergence l-groups with zero radical. (English summary) *Math. Bohem.* **122** (1997), *no.* 1, 63–73. (S. J. Bernau) **98g:06028** 06F20 (06F15, 20F60, 22C05)

— Unions of uniquely complemented lattices. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 147–152. (Manfred Stern) **98m:06016** 06C15 (06B05)

Jakubíková-Studenovská, Danica Retract irreducibility of connected monounary algebras. II. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 113–126. (Boris M. Schein) **98c:08002** 08A60

— Retract varieties of monounary algebras. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 701–716. (Pavol Zlatoš) **98m:08011** 08A60 (08B25, 08C99)

Jakubowicz, Antoni (*with* Glanc, Barbara; Kleczewska, Halina) The generalized Reissner-Nordström space-time. *Demonstratio Math.* **30** (1997), *no.* 3, 635–639. (Jaume J. Carot) **98j:83017** 83C15 (83C20)

Jakubowski, Adam Continuity of the Ito stochastic integral in Hilbert spaces. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 169–182. (Ireneusz Szyszkowski) **98a:60036** 60F17 (60B11, 60G48, 60H05)

— A non-Skorohod topology on the Skorohod space. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 4, 21 *pp.* (*electronic*). (Ireneusz Szyszkowski) **98k:60046** 60F17 (60B05, 60B10, 60G17)

— The almost sure Skorokhod representation for subsequences in nonmetric spaces. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 209–216; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 1, 167–174 (1998). (Ireneusz Szyszkowski) **98h:60007** 60B05 (60B10)

Jakubowski, Jacek Existence of weak solutions to stochastic differential equations in conuclear spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 4, 515–526. (Jorge A. León) **98b:60112** 60H15 (35R15, 35R60, 60B11, 60H20)

Jakubowski, Mariusz H. (*with* Steiglitz, Ken; Squier, Richard K.) When can solitons compute? (English summary) *Complex Systems* **10** (1996), *no.* 1, 1–21. (Summary) **98c:68148** 68Q80 (00A69, 35Q51, 68Q05)

Jakubowski, Z. J. (*with* Fuka, Jaroslav) On estimates of functionals in some classes of functions with positive real part. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 213–230. (Tom Carroll) **98b:30026** 30C80

— (*with* Fuka, Jaroslav) On some properties of the class $\mathcal{P}(B, b, \alpha)$. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 197–220. (Johnny E. Brown) **98e:30011** 30C45

Jalali, M. A. (*with* Pourtakdoust, S. H.) Regular and chaotic solutions of the Sitnikov problem near the 3/2 commensurability. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 2, 151–162. (Richard C. Churchill) **98m:70014** 70F07 (58F13, 70F15, 70K50)

Jallouli, H. (*with* Sazdjian, H.) Incorporation of anomalous magnetic moments in the two-body relativistic wave equations of constraint theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2181–2196. (Giorgio Cattapan) **98g:81060** 81R20 (81V10)

— (*with* Sazdjian, H.) Gauge transformations in relativistic two-particle constraint theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4951–4970. (A. L. Rebenko) **98i:81071** 81Q99 (81T99)

Jama, Danuta (*with* Nawrat, Aleksander Michał) Some modernizations: the Gronwall-Bellman lemma and its application to differential equations with delay. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 155–163, *VSP, Utrecht*, 1997. (B. G. Pachpatte) **98h:34126** 34K15 (26D15, 34A40, 34K20)

Jamali, A. On the efficiency of some wreath products of groups. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 1, 23–34. (E. F. Robertson) **98k:20043** 20F05 (20E22)

fernández-Jambrina, L. *see* **Fernández-Jambrina, L.**

James, Alan T. Normal multivariate analysis of families of regression coefficient vectors. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 281–295, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H12 (62J10)

James, Donald G. Conjugacy classes of symmetries in orthogonal groups. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 3, 747–753. (Jasbir Singh Chahal) **98b:11038** 11E57 (20G30)

James, François (*with* Sepúlveda, Mauricio; Valentin, Patrick) Statistical thermodynamics models for multicomponent isothermal diphasic equilibria. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 1, 1–29. (Summary) **98a:82044** 82B24 (82B21)

James, Gordon (*with* Dipper, Richard; Murphy, G. E.) Gram determinants of type B_n. (English summary) *J. Algebra* **189** (1997), *no.* 2, 481–505. (Robert Bédard) **98a:20010** 20C20 (20F55)

James, I. M. Fibrewise complexes. (English summary) *Algebraic topology: new trends in localization and periodicity (Sant Feliu de Guixols, 1994)*, 193–199, *Progr. Math.*, 136, *Birkhäuser, Basel*, 1996. (Summary) **98b:55018** 55R99 (55P99)

— (*with* Wall, C. T. C.) Obituary: John Frank Adams. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 489–501. (A. A. Ranicki) **98c:01041** 01A70

— James Joseph Sylvester, F.R.S. (1814–1897). *Notes and Records Roy. Soc. London* **51** (1997), *no.* 2, 247–261. (Jeremy Gray) **98h:01025** 01A70 (01A55)

James, Kevin L-series with nonzero central critical value. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 635–641. (M. Ram Murty) **98m:11040** 11F67 (11F30, 11F37, 11G05)

James, Lancelot F. A study of a class of weighted bootstraps for censored data. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1595–1621. (Lin-Cheng Zhao) **98m:62129** 62G09 (60F17, 62G20, 62G30)

James, Robert C. *see* **Fetter, Helga, 98k:46013**

James, William Sheaf spaces on finite closed sets. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 175–188. (Peter Johnstone) **98e:03041** 03G30 (03B53, 03C90, 18B25)

— *see also* **Mortensen, Chris, 98k:03002**

Jameson, Anthony Logic is not enough: why reasoning about another person's beliefs is reasoning under uncertainty. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 199–229, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Katalin Bimbó) **98k:68158** 68T30 (03B45, 03B70)

Jameson, Antony (*with* Kim, Chongam; Xu, Kun; Martinelli, Luigi) Analysis and implementation of the gas-kinetic BGK scheme for computational gas dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 1, 21–49. (Summary) **98d:76129** 76M25 (76N15)

xavier James Raj, M. *see* **Xavier James Raj, M.**

Jamet, Guillaume Sections hyperplanes et endomorphismes de l'espace projectif. (English and French summaries) [Hyperplane sections and endomorphisms of projective space] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1381–1384. (Summary) **98j:14057** 14J99

Jami, Catherine (*with* Hashimoto, Keizo) Kepler's laws in China: a missing link? Jean-François Foucquet's *Lifa wenda*. *Historia Sci.* (2) **6** (1997), *no.* 3, 171–185. (Shi Rong Guo) **98g:01014** 01A25 (01A45, 01A50)

Jamie, R. K. D. (*with* Apabhai, M. Z.; Georgikopoulos, N. I.; Hasnip, D.; Kim, M.; Wilmott, P.) A model for the value of a business, some optimization problems in its operating procedures and the valuation of its debt. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 273–285. 90A09

Jamieson, Barbara M. (*with* Elliott, Robert James; Hunter, William C.) Drift and volatility estimation in discrete time. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 2, 209–218. (Summary) **98m:90017** 90A09

Jamiołkowski, Andrzej *see* **Proceedings: Symposium on Mathematical Physics, 98i:00033**

Jamison, K. David (*with* Lodwick, Weldon A.) Interval methods and fuzzy optimization. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 239–249. (Summary) **98a:90134** 90C70 (04A72)

Jamitzky, F. A hidden symmetry of the ideal MHD-equations. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 183–186. (John Adam) **98f:76083** 76W05 (34D20, 76M30)

Jamjoom, F. B. H. (*with* Bajunid, I.; Zaheer, N.) A generalization of Walsh's two-circle theorem to vector spaces. *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 459–471. (Aleksandar Lipkovski) **98d:12001** 12D10

Jamshidian, Mortaza An EM algorithm for ML factor analysis with missing data. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 247–258, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (*see* **98g:62007**) 62H25

— (*with* Jennrich, Robert I.) Acceleration of the EM algorithm by using quasi-Newton methods. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 569–587. (Murray A. Jorgensen) **98m:62059** 62F10

Jan, Naeem (*with* de Arcangelis, Lucilla) Computational aspects of damage spreading. (English summary) *Annual reviews of computational physics, I*, 1–16, *Annual Rev. Comput. Phys., I, World Sci. Publishing, River Edge, NJ*, 1994. (Sergei A. Nemnyugin) **98a:82093** 82C80 (82B20, 82B80)

Jan, Rong-Hong (*with* Liang, De-Ron; Tripathi, Satish K.) Reliability analysis of replicated and-or graphs. (English summary) *Networks* **29** (1997), *no.* 4, 195–203. (Summary) **98d:68169** 68R10 (68M15, 68Q10)

Jan, Show-Li (*with* Randles, Ronald H.) Interdirection tests for simple repeated-measures designs. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1611–1618. (K. G. Russell) **98i:62048** 62G10 (62J10)

le Jan, Yves *see* **Le Jan, Yves**

Jana, Prasanta K. (*with* Sinha, Bhabani P.) Efficient parallel algorithms for Lagrange and Hermite interpolations. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 2, 118–136. 65Y05 (65D05)

— (*with* Sinha, Bhabani P.) Fast parallel algorithms for Graeffe's root squaring technique. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 71–80. 65H05 (65Y05)

Janaki, Mylavarapu Sita (*with* Das, Shawpawn Kumar; Dasgupta, Brahmananda) Divergences in the solutions of the plasma screening equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5707–5710. (Piotr P. Goldstein) **98j:82064** 82D10

Janakiram, B. (*with* Kulli, V. R.) The cobondage number of a graph. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 111–117. (Summary) **98c:05090** 05C35

Janardan, K. G. Bernoulli learning models: Uppuluri numbers. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 471–480, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98a:60001**) 60C05 (05A10)

— A stochastic process and generalized distributions for the study of oviposition evolution of a parasite. (English summary) *Biometrical J.* **39** (1997), *no.* 7, 839–848. 62P10 (60K99, 62E15)

— A wider class of Lagrange distributions of the second kind. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2087–2091. 62E15

— (*with* Mohan, N. R.; Vasudeva, R.; Hebbar, H. V.) A stochastic model with random change point for the study of oviposition tactics of weevils on beans. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 193–201. 60K99 (62P10, 92D40)

Janardan, Ravi (*with* Gupta, Prosenjit; Majhi, Jayanth; Woo, Tony) Efficient geometric algorithms for workpiece orientation in 4- and 5-axis NC-machining. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 171–182, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05 (68Q25, 90C27)

— (*with* Gupta, Prosenjit; Smid, Michiel) A technique for adding range restrictions to generalized searching problems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 263–269. (Summary) **98h:68225** 68U05

— (*with* Gupta, Prosenjit; Smid, Michiel; Dasgupta, Bhaskar) The rectangle enclosure and point-dominance problems revisited. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 437–455. (Summary) **98f:68266** 68U05 (94C30)

Janas, D. (*with* Dahlhaus, R.) A frequency domain bootstrap for ratio statistics in time series analysis. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1934–1963. (Zuzana Prášková) **98b:62158** 62M10 (62E20, 62G09)

Janas, Jan (*with* Rudol, Krzysztof) Toeplitz operators in infinitely many variables. (English summary) *Topics in operator theory, operator algebras and applications (Timişoara, 1994)*, 147–160, *Rom. Acad., Bucharest*, 1995. (Richard Rochberg) **98e:47044** 47B35 (46E50, 47N50)

— An operator version of the Newman-Shapiro isometry theorem. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 2, 188–201. (Richard Rochberg) **98e:47039** 47B20

— The Newman-Shapiro isometry theorem—operator version for systems. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 57–61. (Roni Levy) **98f:47030** 47B35 (47A13, 47D40)

— *see also* **Linear operators, 98a:47001**

Janashia, G. (*with* Lagvilava, E.) On factorization and partial indices of unitary matrix-functions of one class. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 439–442. (I. Spitkovsky) **98g:47017** 47A68 (15A23)

Janaswamy, Ramakrishna (*with* Liu, Yen) An unstaggered colocated finite-difference scheme for solving time-domain Maxwell's equations in curvilinear coordinates. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1584–1591. 78–08

Jančar, Petr (*with* Mráz, František; Plátek, Martin; Vogel, Jörg) Restarting automata. (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 283–292, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (Summary) **98b:68122** 68Q68 (68Q45)

— (*with* Esparza, Javier) Deciding finiteness of Petri nets up to bisimulation. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 478–489, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68190** 68Q90

— (*with* Mráz, František; Plátek, Martin; Procházka, Martin; Vogel, Jörg) Restarting automata, Marcus grammars and context-free languages. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 102–111, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45 (68Q50, 68Q68)

— Bisimulation equivalence is decidable for one-counter processes. (English summary) *Automata, languages and programming (Bologna, 1997)*, 549–559, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68071** 68Q10 (68Q60)

— (*with* Kučera, Antonín) Bisimilarity of processes with finite-state systems. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems (Bologna, 1997)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68166** 68Q60 (68Q10)

— (*with* Mráz, František; Plátek, Martin; Vogel, Jörg) On restarting automata with rewriting. (English summary) *New trends in formal languages*, 119–136, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68112** 68Q68 (68Q42, 68S05)

Jančařík, A. (*with* Kepka, Tomáš) Multiplication groups of quasigroups and loops. III. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 53–62. 20N05

Jancewicz, Bernard (*with* Baylis, William E.) Clifford-valued functions in Cl_3. (English summary) *Clifford algebras and spinor structures*, 313–324, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Wolfgang Sprössig) **98h:30067** 30G35 (78A30)

— The extended Grassmann algebra of $\mathbf{R}^3$. *Clifford (geometric) algebras (Banff, AB, 1995)*, 389–421, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A75

— (*with* Sommen, Franciscus C.) Explicit solutions of the inhomogeneous Dirac equation. (English summary) *J. Anal. Math.* **71** (1997), 59–74. (Michael V. Shapiro) **98f:35019** 35C10 (35Q40, 81Q05)

Jančić, D. (*with* Avram, A. C.; Derrick, E.) On semi-periods. (English summary) *Nuclear Phys. B* **471** (1996), *no.* 1-2, 293–308. (Anatoly Libgober) **98e:32037** 32G20 (14D05, 14J32, 32J17)

Jancovici, Bernard *see* **Dedicated to Bernard Jancovici, 98h:81003**

Jandhyala, V. K. (*with* Jiang, Peilei) Eigenvalues of a Fredholm integral operator and applications to problems of statistical inference. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 4, 413–427. (Summary) **98b:45001** 45B05 (45P05, 47G10, 62F99)

— (*with* MacNeill, I. B.) Iterated partial sum sequences of regression residuals and tests for changepoints with continuity constraints. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 147–156. (Barbara H. Szyszkowicz) **98f:62216** 62J12 (62M10)

Jane, Ignacio Theoremhood and logical consequence. (English summary) *Theoria (San Sebastián)* (2) **12** (1997), *no.* 28, 139–160. (Charles J. G. Morgan) **98i:03010** 03A05

Janeczko, Stanisław (*with* Domitrz, Wojciech) On Martinet's singular symplectic structures. *Singularities and differential equations (Warsaw, 1993)*, 51–59, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98i:58086** 58F05 (57R45, 58A35)

— (*with* Domitrz, Wojciech) Equivalence of Lagrangian germs in the presence of a surface. *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 31–37, *Banach*

Center Publ., 39, *Polish Acad. Sci., Warsaw*, 1997. (V. M. Zakalyukin) **98f:58033** 58C27 (57R45)
— Equivalence of isotropic submanifolds and symmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5402–5415. (Shyûichi Izumiya) **98h:58062** 58F05 (58C27)
— *see also* **Symplectic singularities and geometry of gauge fields, 98b:58006**
fiestras-Janeiro, M. Gloria *see* **Fiestras-Janeiro, M. Gloria**
Janelidze, George (*with* Carboni, Aurelio; Kelly, G. M.; Paré, R.) On localization and stabilization for factorization systems. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 1–58. (Walter Tholen) **98k:18001** 18A32 (12F10, 18A20, 18E40)
— (*with* Tholen, Walter) Facets of descent. II. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 3, 229–248. (Summary) **98h:18011** 18D30 (18A20, 18A25, 18B30, 18D35)
— (*with* Pedicchio, Maria Cristina) Internal categories and groupoids in congruence modular varieties. (English summary) *J. Algebra* **193** (1997), *no.* 2, 552–570. (Peter Johnstone) **98f:08003** 08B10 (18C10, 18D35, 55U35)
— (*with* Brown, Ronald) Van Kampen theorems for categories of covering morphisms in lextensive categories. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 255–263. (Donald M. Davis) **98c:18004** 18B99 (57M10)
— (*with* Kelly, G. M.) The reflectiveness of covering morphisms in algebra and geometry. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 6, 132–159 (*electronic*). (Walter Tholen) **98k:18002** 18A40 (08C05, 13B05, 18B25, 18C10)
— (*with* Bourn, D.) Protomodularity, descent, and semidirect products. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 2, 37–46 (*electronic*). (Summary) **98m:18006** 18G50 (18C10, 20J05)
Janez, Fabrice (*with* Chapeau-Blondeau, François; Ferrier, Jean-Louis) A dynamic adaptive relaxation scheme applied to the Euclidean Steiner minimal tree problem. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1037–1053. (Summary) **98k:90123** 90C35 (05C05)
Jang, Ae Bang (*with* Lee, Jae Won[2]) A study on the goodness-of-fit tests for proportional hazards model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **10** (1997), *no.* 1, 85–104. 62N05
Jang, Changrim (*with* Park, Joonsang) Hypersurfaces satisfying $\Delta x = Rx + b$ in S_1^{n+1} and in H^{n+1}. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 215–224. (Ivko Dimitric) **98a:53081** 53C40 (53C50)
— A class of compact submanifolds with constant mean curvature. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 155–171. (Pascual Lucas Saorin) **98f:53050** 53C40 (53A07)
Jang, Ho-Jong (*with* Cha, Kyung-Joon; Yoon, Dall Sun) Least squares approach for structural reanalysis. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 369–379. (Ivar Petersen) **98d:90082** 90C20 (62J12)
— A constrained least-squares approach to the rapid reanalysis of structures. (English summary) *Linear Algebra Appl.* **265** (1997), 185–202. (Summary) **98e:73133** 73V05 (73K99)
Jang, Lee-Chae (*with* Kil, B. M.; Kim, Yun Kyong; Kwon, Joong-Sung) Some properties of Choquet integrals of set-valued functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 95–98. 28E10 (04A72, 28B20)
— (*with* Kwon, Joong-Sung) Convergences of sequences of set-valued and fuzzy-set-valued functions. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 241–246. 54A40 (04A72, 54A20, 54C60)
— (*with* Kwon, Joong-Sung) On the convergence of T-sum series of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 239–241. 26E50
Jang, Mi Kyung (*with* Jo, Young Soo) Dual operator algebras and hereditary properties of isometric dilations and coisometric extensions. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 967–974. (Alfredo Octavio) **98a:47048** 47D27 (47A15, 47A20, 47A45, 47A65)
— (*with* Jung, Il Bong) Dual operator algebras and hereditary properties of minimal isometric dilations. II. *Math. J. Toyama Univ.* **19** (1996), 1–16. (Srdjan Petrović) **98a:47021** 47A65 (47A15, 47A20, 47D27)
Jang, Ming-Jyi (*with* Chen, Chieh-Li) Analysis of the response of a strongly nonlinear damped system using a differential transformation technique. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 137–151. 34C15 (70–08, 70K40)
Jang, Sook Hee (*with* Choi, Seung Hoe; Kim, Hae Kyung) The consistency estimation in nonlinear regression models with noncompact parameter space. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 377–383. (Jean Diebolt) **98b:62115** 62J02 (62F12, 62F35)
Jang, Sun Young Spectral subspaces for compact group actions on C^*-algebras. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 525–533. (Ferdinand Beckhoff) **98m:46083** 46L55
Jangveladze, T. *see* **Dzhangveladze, T. A.**
Jani, P. N. (*with* Singh, Arun Kumar) On characterization of multiparameter exponential family and of some irregular families of distributions. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 181-182, 9–22. (D. N. Shanbhag) **98j:62008** 62E10 (62H05)
Janić, Milan H-projecting in n-dimensional Euclidean space E^n. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 77–80. 51N10
Janicki, Aleksander On the geometric structures of the solutions of the Burgers equation. (Polish) *Wiadom. Mat.* **32** (1996), 75–94. (Piotr P. Goldstein) **98i:35165** 35Q53 (35R60, 76D99, 76F05)
— (*with* Popova, Ivilina; Ritchken, P. H.; Woyczyński, Wojbor A.) Option pricing bounds in an α-stable security market. (English summary) Heavy tails and highly volatile phenomena. *Comm. Statist. Stochastic Models* **13** (1997), *no.* 4, 817–839. (Fabio Antonelli) **98k:90012** 90A09 (60H10)
— (*with* Woyczyński, Wojbor A.) Hausdorff dimension of regular points in stochastic Burgers flows with Lévy α-stable initial data. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 277–299. (N. Leonenko) **98f:35165** 35R60 (35Q53, 60E07, 62E25)
Janicki, Krzysztof L. (*with* Szemplińska-Stupnicka, Wanda) Subharmonic resonances in a driven oscillator: bifurcation structures and transitions to chaos. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 4, 671–694. (George Rowlands) **98e:70015** 70K40 (34C23, 58F14, 70K30, 70K50)
— (*with* Szemplińska-Stupnicka, Wanda) Basin boundary bifurcations and boundary crisis in the twin-well Duffing oscillator: scenarios related to the saddle of the large resonant orbit. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 129–146. (Summary) **98b:34054** 34C23 (34C37, 34D45, 58F14, 70K40, 70K50)
Janicki, Ryszard (*with* Koczkodaj, W. W.) A weak order approach to group ranking. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 2, 51–59. (Summary) **98f:90005** 90A08 (68T35)
— (*with* Koutny, Maciej) Fundamentals of modelling concurrency using discrete relational structures. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 367–388. (Andrea Maggiolo-Schettini) **98i:68084** 68Q10 (68Q55)
Janik, Romuald A. On irreducible components of a Weierstrass-type variety. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 169–178. (Arkadiusz Płoski) **98h:14022** 14E20 (32B15, 32C25)
— (*with* Nowak, Maciej A.; Papp, Gábor; Zahed, Ismail) Non-Hermitian random matrix models. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 3, 603–642. (Alexei Khorunzhy) **98k:82093** 82B44 (15A52, 60H25)
Janin, David (*with* Walukiewicz, Igor) Automata for the modal μ-calculus and related results. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 552–562, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q60 (03B70, 68Q68)
— (*with* Walukiewicz, Igor) On the expressive completeness of the propositional mu-calculus with respect to monadic second order logic. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 263–277, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68191** 68Q60 (03B15, 03B70, 68Q10)
Janiš, Vladimír[2] Fixed points of fuzzy functions. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 13–19. (*see* **98i:00019**) 54A40 (54E40, 54H25)
Janiszczak, I. (*with* Fleischmann, Peter; Knörr, R.) The number of regular semisimple classes of special linear and unitary groups. *Linear Algebra Appl.* **274** (1998), 17–26. (Jürgen Müller) **98m:20063** 20G40 (20D06)
Janjić, Milan (*with* Romano, Daniel Avraám) Essential quotient of a coideal by an ideal. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 17–19, *Univ. Priština, Priština*, 1995. (A. Kučera) **98g:03140** 03F65 (13A99)
— A note on positive Hermitian matrices. (English summary) *Bull. Soc. Math. Banja Luka* **2** (1995), 9–14. (Summary) **98a:15025** 15A21 (15A48, 15A57)
— A commutativity condition for π-regular rings. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 9–10. (Silvia Pellegrini) **98h:16053** 16U80
Janjić, Predrag (*with* Kocarev, Ljupčo; Parlitz, Ulrich; Stojanovski, Toni) Controlling spatio-temporal chaos in coupled oscillators by sporadic driving. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 283–293. (Summary) **98k:93054** 93C10 (58F13, 93C41)
Janko, Zvonimir The existence of symmetric designs with parameters (189, 48, 12). *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 334–338. (R. N. Mohan) **98j:05021** 05B05
Janković, Dragan (*with* Hamlett, T. R.) On weaker forms of paracompactness, countable compactness, and Lindelöfness. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 41–49, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54042** 54D20 (54D10)
— (*with* Stanković, Radomir S.; Stanković, Milena) Calculation of the Fourier transform on finite non-abelian groups through decision diagrams. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 249–264. (Summary) **98b:65055** 65J05 (65T20)
— (*with* Hamlett, T. R.; Rose, David Alon) Paracompactness with respect to an ideal. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 433–442. (Summary) **98d:54043** 54D20
— (*with* Hamlett, T. R.; Konstandilaki, Ch.) On some properties weaker than S-closed. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 297–304. (Summary) **98h:54032** 54D20 (54G05)
Janković, M. (*with* Sepulchre, Rodolphe; Kokotović, Petar V.) ★ Constructive nonlinear control. (English summary) Communications and Control Engineering Series. *Springer-Verlag, Berlin*, 1997. xii+313 *pp. ISBN* 3-540-76127-6 (John Tsinias) **98k:93002** 93–02 (93B51, 93C10, 93C40, 93D15)
Janković, Slobodanka Restricted convergence and p-max stable laws. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 153–159. (N. R. Mohan) **98m:60077** 60G70
Janković, Svetlana (*with* Jovanović, Miljana) On a general iterative method for solving hereditary differential equations. I. (English summary) *Filomat No.* 10 (1996), 149–158. (Haydar Akça) **98c:65109** 65L05 (34K05, 65L20)
— (*with* Jovanović, Miljana) On a class of nonlinear stochastic hereditary integrodifferential equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1061–1082. (Summary) **98g:60117** 60H99 (45J05, 47H40)
Janković, Vladimir On the impossibility of one ruler-and-compass construction. (English summary) *Mat. Vesnik* **48** (1996), *no.* 3-4, 73–75. (E. J. F. Primrose) **98c:51025** 51M15
— (*with* Jovanović, Milan V.) On contractibility of the operator $I - t\nabla f$. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Arandelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 245–248. (Summary) **98k:26020** 26B25
— On necessary conditions in the calculus of variations. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 61–72. (Philip D. Loewen) **98h:49022** 49K05 (49K10)
Jankowski, Andrzej Wojciech (*with* Marek, Victor W.; Orłowska, Ewa; Skowron, Andrzej) Cecylia Rauszer (1942–1994). (Polish) *Wiadom. Mat.* **32** (1996), 167–182. (Zdzisław Grodzki) **98c:01042** 01A70 (03–03, 68–03)
Jankowski, Marcus Newton's method for solutions of quasi-Bessel differential equations. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 1, 187–204. (F. W. Stallmann) **98a:30031** 30D05 (34A20, 65E05, 65H05)
Jankowski, Norbert (*with* Duch, Włodzisław) New neural transfer functions. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 639–658. 92B20 (68T05)
Jankowski, Tadeusz (*with* Lakshmikantham, V.) Monotone iterations for differential equations with a parameter. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 273–278. (Summary) **98e:34024** 34A45
Janner, A. Elements of a multimetrical crystallography. (English summary) *Beyond quasicrystals* (*Les Houches*, 1994), 33–54, *Springer, Berlin*, 1995. (Vojtěch Kopský) **98a:20052** 20H15 (52C07, 82D25)
— Non-Euclidean symmetries in crystals. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 396–403, *World Sci. Publishing, River*

Edge, NJ, 1995. (*see* **98k:82003**) 82D25

Janno, Jaan (*with* von Wolfersdorf, Lothar) On a class of multilinear operator equations. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 4, 935–948. (Introduction) **98k:47122** 47H15 (45G10, 47N20)

— On nonlinear equations of convolution type and innverse problems. (Estonian. Estonian summary) *Estonian Mathematical Society. Annual 1992/1993 (Estonian)*, 3–13, *Estonian Math. Soc., Tartu*, 1997. (Editors) **98j:47112** 47G10 (35P30, 45K05, 47H30)

— Discretization and regularization of an inverse problem related to a quasilinear hyperbolic integrodifferential equation. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 711–728. (Diego A. Murio) **98c:65205** 65R30 (35L70, 35R30, 45K05, 73F15)

— (*with* von Wolfersdorf, Lothar) Identification of weakly singular memory kernels in heat conduction. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 243–257. (Maurizio Grasselli) **98d:35233** 35R30 (35K99, 45K05, 73B30)

— On a regularization method for the autoconvolution equation. *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 393–394. (Peter Junghanns) **98e:65115** 65R20 (45L05)

Jannussis, A. D. (*with* Baskoutas, S.; Vlahos, E.; Mignani, R.) Generalized parametric oscillator in phase space. (English and French summaries) *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 311–316. (Vitor R. Vieira) **98a:81099** 81S30

— (*with* Kliros, G.; Vlahos, E.) Non-unitary Weyl and squeeze operators. (English summary) *Comm. Theoret. Phys. (Allahabad)* **5** (1996), *no.* 1, 33–43. 81R30

— Lie-admissible structure of Caldi's model. (English summary) *Hadronic J.* **19** (1996), *no.* 5, 535–541. (Marcelo R. Ubriaco) **98a:81080** 81R50

— (*with* Angelopoulou, P. A.; Sotiropoulou, A. A.) Complex geometry as genogeometry and axiomatization of irreversibility. *Tensor (N.S.)* **57** (1996), *no.* 1, 84–96. 53B50

Janoš, Ludvik Compactification and linearization of abstract dynamical systems. (English summary) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 63–70. (Anzelm Iwanik) **98j:54071** 54H20 (47D03, 54H15)

Janous, Walter (*with* Arslanagić, Šefket) Inequalities for the internal angle-bisectors of a triangle. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 41–45. (E. J. F. Primrose) **98g:51013** 51M16

Janovec, V. (*with* Dirl, R.; Zeiner, P.; Davies, B. L.) Coset decompositions of space groups: applications to domain structure analysis. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 456–466. (Vojtěch Kopský) **98g:20079** 20H15 (82–01, 82D25)

Janowitz, Melvin F. (*with* Harding, John) A bundle representation for continuous geometries. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 2, 282–293. (F. D. Veldkamp) **98g:06016** 06C20

Janowski, E. J. (*with* Feuer, J.; Ladas, G.) Lyness-type equations in the third quadrant. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1183–1189. (From the text) **98m:39012** 39A10

— (*with* Kocic, V. L.; Ladas, G.; Tzanetopoulos, G.) Global behavior of solutions of $x_{n+1} = [\max\{x_n^k, A\}]/x_{n-1}$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 297–310. (Summary) **98m:39015** 39A10

Jansana, Ramon (*with* Font, Josep Maria) ★ A general algebraic semantics for sentential logics. Lecture Notes in Logic, 7. *Springer-Verlag, Berlin*, 1996. vi+135 *pp. ISBN* 3-540-61699-3 (Manuel Abad) **98a:03002** 03–02 (03B22)

— (*with* Dellunde, P.) Characterization theorems for infinitary universal Horn logic. (English summary) *Truth: logic, representation and the world (Spanish) (Santiago de Compostela*, 1996), 193–199, *Cursos Congr. Univ. Santiago de Compostela*, 88, *Univ. Santiago de Compostela, Santiago de Compostela*, 1996. (Bienvenido F. Nebres) **98k:03086** 03C75 (03B50)

— (*with* Casanovas, E.; Dellunde, P.) On elementary equivalence for equality-free logic. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 3, 506–522. (Michał Krynicki) **98c:03075** 03C07 (03B10, 03C20)

— (*with* Celani, Sergio Arturo) A new semantics for positive modal logic. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 1–18. (Marcus Kracht) **98m:03034** 03B45

Jansche, Stefan (*with* Butzer, Paul L.) A direct approach to the Mellin transform. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 325–376. (Henri-Michel Maire) **98d:44003** 44A15 (44–01, 47G10)

Jansen, Benjamin (*with* Roos, Cornelis; Terlaky, Tamás; Vial, Jean-Philippe) Long-step primal-dual target-following algorithms for linear programming. (English summary) *Math. Methods Oper. Res.* **44** (1996), *no.* 1, 11–30. (Summary) **98b:90083** 90C05

— ★ Interior point techniques in optimization. (English summary) Complementarity, sensitivity and algorithms. Applied Optimization, 6. *Kluwer Academic Publishers, Dordrecht*, 1997. xiv+277 *pp. ISBN* 0-7923-4430-8 (Romesh Saigal) **98m:90001** 90–02 (90C05, 90C30)

— (*with* Roos, Cornelis; Terlaky, Tamás; Yoshise, Akiko) Polynomiality of primal-dual affine scaling algorithms for nonlinear complementarity problems. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser. A*, 315–345. (Joaquim J. Júdice) **98j:90080** 90C33

— (*with* Warners, J. P.; Terlaky, Tamás; Roos, Cornelis) Potential reduction algorithms for structured combinatorial optimization problems. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 55–64. (Summary) **98j:90053** 90C27

— (*with* Roos, Cornelis; Terlaky, Tamás) A family of polynomial affine scaling algorithms for positive semidefinite linear complementarity problems. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 1, 126–140. (Henry Wolkowicz) **98e:90195** 90C33 (90C20)

Jansen, Christoph (*with* Müller, Jürgen[4]) The 3-modular decomposition numbers of the sporadic simple Suzuki group. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2437–2458. (Koichiro Harada) **98e:20019** 20C34 (20D08)

— (*with* Wilson, Robert A.) Two new constructions of the O'Nan group. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 579–583. (Summary) **98m:20022** 20D08

Jansen, Henri *see* **Landau, Rubin H., 98c:65001**

Jansen, Klaus The optimum cost chromatic partition problem. (English summary) *Algorithms and complexity (Rome*, 1997), 25–36, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q25 (05C15, 05C85, 68R10)

— (*with* Kaklamanis, Christos; Persiano, Pino; Erlebach, Thomas) Constrained bipartite edge coloring with applications to wavelength routing. (English summary) *Automata, languages and programming (Bologna*, 1997), 493–504, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (68M10, 90B12)

— Approximation results for the optimum cost chromatic partition problem. (English summary) *Automata, languages and programming (Bologna*, 1997), 727–737, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68211** 68R10 (68Q25)

— (*with* Reiter, Joachim) A new approximation algorithm for the register allocation problem. (English summary) *Solving irregularly structured problems in parallel (Paderborn*, 1997), 135–146, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 68M20 (68Q10)

— (*with* Scheffler, Petra) Generalized coloring for tree-like graphs. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 2, 135–155. (R. J. Douglas) **98i:05078** 05C15 (05C05, 05C85)

— Approximation results for the optimum cost chromatic partition problem. (English summary) *Network design: connectivity and facilities location (Princeton, NJ*, 1997), 143–168, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:05067** 05C15 (68Q25)

Jansen, M. J. M. (*with* Perea y Monsuwé, Andres; Peters, Hans) Characterization of consistent assessments in extensive form games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 238–252. (Summary) **98k:90170** 90D35 (90D10)

— (*with* Hillas, John; Vermeulen, Dries) On the finiteness of stable sets. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 275–278. (Summary) **98c:90187** 90D06 (90A14)

— (*with* Perea y Monsuwé, Andres; Peters, Hans) Consistency of assessments in infinite signaling games. (English summary) *J. Math. Econom.* **27** (1997), *no.* 4, 425–449. (Summary) **98c:90203** 90D44 (90D40)

— (*with* Vermeulen, A. J.) On the invariance of solutions of finite games. (English summary) *Math. Social Sci.* **33** (1997), *no.* 3, 251–267. (Summary) **98a:90145** 90D10

Jansen, Michiel J. W. Maximum entropy distributions with prescribed marginals and normal score correlations. *Distributions with given marginals and moment problems (Prague*, 1996), 87–92, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E05 (62H20)

Jansen, Robert A. R. G. (*with* Haughton, Dominique M. A.; Oud, Johan H. L.) Information and other criteria in structural equation model selection. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1477–1516. 62P20

Jansen, Willem S. (*with* Odenthal, Charles J.) A tiled order having large global dimension. (English summary) *J. Algebra* **192** (1997), *no.* 2, 572–591. (J. Kuzmanovich) **98e:16010** 16E10 (16H05)

Jansen, Wolfgang A note on the determination of the type of communication areas. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 1, 71–86. (Joan Carles Tatjer) **98i:58174** 58F14 (58F08)

Janse van Rensburg, E. J. Statistical mechanics and topology of surfaces in $\mathscr{Z}^d$. (English summary) *Random knotting and linking (Vancouver, BC*, 1993), 133–146, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:82030** 82B41 (57M25, 82B26)

— (*with* Orlandini, Enzo; Sumners, De Witt; Tesi, M. C.; Whittington, Stuart G.) The writhe of knots in the cubic lattice. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 1, 31–44. (Yuanan Diao) **98a:57011** 57M25 (82B41)

— (*with* Diao, Yuanan; Ernst, Claus Dieter) In search of a good polygonal knot energy. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 633–657. (Anders Linnér) **98j:58027** 58E10 (57M25)

— (*with* Tesi, M. C.; Orlandini, Enzo; Whittington, Stuart G.) Torsion of polygons in $\mathbf{Z}^3$. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5179–5194. (Summary) **98k:82081** 82B41

— (*with* Orlandini, Enzo; Tesi, M. C.; Whittington, Stuart G.) The shapes of self-avoiding polygons with torsion. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L693–L698. 82B41 (82–04)

— (*with* Madras, N.) Monte Carlo study of the Θ-point for collapsing trees. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 1–36. (Summary) **98b:82045** 82B80 (82–04, 82D60)

— Crumpling self-avoiding surfaces. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 177–200. (Cheng Xun Wu) **98k:82077** 82B41 (60K35, 82C41, 82D60)

Janson, Svante (*with* Szpankowski, Wojciech) Analysis of an asymmetric leader election algorithm. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 17, 16 *pp.* (*electronic*). (Summary) **98d:90039** 90A28 (05A05)

— Hook lengths in a skew Young diagram. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 24, 5 *pp.* (*electronic*). (Summary) **98k:05144** 05E10

Jansons, Kalvis M. The distribution of time spent by a standard excursion above a given level, with applications to ring polymers near a discontinuity in potential. (English summary) *Electron. Comm. Probab.* **2** (1997), 53–58 (*electronic*). (Summary) **98k:60141** 60J65

Janssen, A. J. E. M. The duality condition for Weyl-Heisenberg frames. (English summary) *Gabor analysis and algorithms*, 33–84, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42021** 42C15 (94A12)

Janssen, Arnold (*with* Neuhaus, Georg) Two-sample rank tests for censored data with non-predictable weights. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 1, 45–59. (Joachim Krauth) **98k:62086** 62G10

Janssen, Bert (*with* Bergshoeff, E. A.; de Roo, Mees; Eyras, E.; van der Schaar, J. P.) Intersections involving monopoles and waves in eleven dimensions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2757–2769. (André J. Van Tonder) **98j:83092** 83E30 (81T30, 83E50)

— (*with* Bergshoeff, E. A.; de Roo, Mees; Eyras, E.; van der Schaar, J. P.) Multiple intersections of D-branes and *M*-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 119–143. (Gerardo Marcelo Aldazabal) **98d:81075** 81T30 (83E30)

— (*with* Bergshoeff, E. A.; Ortín, Tomás) Kaluza-Klein monopoles and gauged sigma-models. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 131–141. (Javier Borlaf González) **98k:81194** 81T30 (81T40, 83E30)

— (*with* Behrndt, Klaus; Bergshoeff, E. A.) Intersecting D-branes in ten and six dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3785–3792. (Summary) **98f:81236** 81T30 (83E30)

Janssen, J. *see* **Janssen, Jan**

Janssen, Jacques (*with* Manca, Raimondo; Di Biase, Giuseppe) Markov and semi-Markov option pricing models with arbitrage possibility. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 2, 103–113. 90A09 (90A20)

Janssen, Jan (*with* Vandewalle, Stefan) Convolution SOR waveform relaxation on spatial finite element meshes. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 19–22. (*see* **98b:65005**) 65M60

— (*with* Hu, Min; Jackson, Kenneth R.; Vandewalle, Stefan) Remarks on the optimal convolution kernel for CSOR waveform relaxation. (English summary) Parallel methods for ODEs. *Adv. Comput. Math.* **7** (1997), *no.* 1-2, 135–156. (Ian Gladwell) **98c:65107** 65L05 (65N22, 65R10)

Janssen, Jeannette (*with* Häggkvist, Roland) New bounds on the list-chromatic index of the complete graph and other simple graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 295–313. (Sheshayya A. Choudum) **98i:05076** 05C15 (05C20, 05C70)

Janssen, Maarten C. W. (*with* Goyal, Sanjeev) Non-exclusive conventions and social coordination. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 34–57. (Summary) **98f:90004** 90A08

Janssen, Paul (*with* Aerts, Marc; Augustyns, Ilse) Expansions and bootstrapping for smoothed lattice data. (English summary) *Research developments in probability and statistics*, 77–90, *VSP, Utrecht*, 1996. (Krzysztof Podgorski) **98h:62075** 62G09 (62E20)

— Bootstrapping U-statistics. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 185–216. (Summary) **98m:62130** 62G09

— (*with* Aerts, Marc; Augustyns, Ilse) Sparse consistency and smoothing for multinomial data. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 41–48. (Keh-Wei Chen) **98k:62044** 62G05 (62G20)

— (*with* Aerts, Marc; Augustyns, Ilse) Local polynomial estimation of contingency table cell probabilities. (English summary) *Statistics* **30** (1997), *no.* 2, 127–148. (Summary) **98m:62171** 62H17 (62G05)

— (*with* Aerts, Marc; Augustyns, Ilse) Smoothing sparse multinomial data using local polynomial fitting. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 2, 127–147. (Summary) **98g:62113** 62H17 (62G05)

Janssen, Ted W. J. M. Aperiodic Schrödinger operators. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 269–306, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Dimitri Petritis) **98i:82069** 82D25 (81Q10)

— (*with* Radulescu, O.) Dynamics of lattice vibrations for one-dimensional commensurate and incommensurate composites with harmonic interaction. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4199–4214. 82C20

Janssen, Wil (*with* Fischer, Clemens) Synchronous development of asynchronous systems. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 735–750, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q10)

Jansson, Jesper (*with* Gąsieniec, Leszek; Lingas, Andrzej; Östlin, Anna) On the complexity of computing evolutionary trees. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 134–145, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68118** 68Q25 (92D10)

Janszky, J. (*with* Szabó, S.; Domokos, P.; Adam, Peter) Coherent-state representation on an infinitesimal interval in phase space. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 203–206. (Summary) **98m:81068** 81R30

Jantosciak, James Transposition in hypergroups. (English summary) *Algebraic hyperstructures and applications* (*Prague*, 1996), 77–84, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20

— *see also* **Algebraic hyperstructures and applications**, **98c:20002**

Jantzen, Chris Reducibility of certain representations for symplectic and odd-orthogonal groups. (English summary) *Compositio Math.* **104** (1996), *no.* 1, 55–63. (David Manderscheid) **98d:22014** 22E50 (20G25)

Jantzen, J. C. *see* **Kaneda, Masaharu**, **98d:17024**

Jantzen, Robert T. (*with* Bini, Donato; Carini, Paolo) The intrinsic derivative and centrifugal forces in general relativity. I. Theoretical foundations. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 1, 1–38. (Volker Perlick) **98f:83012** 83C10

Januszewski, Janusz (*with* Lassak, Marek) On-line packing sequences of cubes in the unit cube. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 285–293. (Uwe Schnell) **98j:52033** 52C17

Janwa, H. (*with* Lal, Arbind Kumar) On the generalized Hamming weights of cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 299–308. (Summary) **98j:94030** 94B15

Janyška, Josef (*with* Modugno, Marco) Relations between linear connections on the tangent bundle and connections on the jet bundle of a fibred manifold. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 4, 281–288. (George Virsik) **98c:53030** 53C05 (58A20)

— Natural symplectic structures on the tangent bundle of a space-time. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo (2) Suppl. No.* 43 (1996), 153–162. (Vadim V. Shurygin) **98i:53094** 53C50 (53C80, 58F05)

Janžura, Martin Image processing, Markov chain approach. (English summary) *COMPSTAT* 1996 (*Barcelona*), 89–100, *Physica, Heidelberg*, 1996. (*see* **98h:62001**) 62M40 (60J99, 68U10)

— (*with* Koski, Timo; Otáhal, Antonín) Minimum entropy of error estimation for discrete random variables. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1193–1201. (Summary) **98b:94005** 94A15 (60F05, 62F15, 94A17)

— Asymptotic results in parameter estimation for Gibbs random fields. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 133–159. (Mamikon S. Ginovian) **98m:62271** 62M40 (93E10)

Jaoua, Mohamed (*with* Bannour, Tarek; Ben Abda, Amel) A semi-explicit algorithm for the reconstruction of 3D planar cracks. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 899–917. (Summary) **98c:65198** 65N99 (78A55, 80A20)

Japaridze, Giorgi *see* **Dzhaparidze, G. K.**

Jara, Pascual (*with* Gómez Torrecillas, José; Merino, L.) Locally finite representations of algebras. *Comm. Algebra* **24** (1996), *no.* 14, 4581–4601. (From the introduction) **98c:16029** 16S30 (17B30)

— (*with* Bueso, José L.; Castro-Jiménez, F. J.) Effective computation of the Gelfand-Kirillov dimension. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 111–117. (G. Krause) **98c:16027** 16P90 (13P10, 16S30)

Járai, A. (*with* Székelyhidi, László) Regularization and general methods in the theory of functional equations. (English summary) *Aequationes Math.* **52** (1996), *no.* 1-2, 10–29. (R. A. Rosenbaum) **98c:39006** 39B05 (39–02, 46N20)

Jaramillo, D. E. (*with* Pérez-Lorenzana, A.; Ponce, William A.; Zepeda, Arnulfo) Symmetry breaking in $[SU(6)]^3 \times Z_3$. (English and Spanish summaries) *Rev. Mexicana Fis.* **43** (1997), *no.* 5, 737–749. 81V22 (81R05)

Jaramillo, Diana (*with* Orellana, Yaneth) On the construction of ideals. (Spanish. Spanish summary) *Rev. Integr. Temas Mat.* **13** (1995), *no.* 2, 67–70. 16D25

Jaramillo, J. A. (*with* Gonzalo, Raquel) Separating polynomials on Banach spaces. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 145–164. (Ignacio Zalduendo) **98m:46062** 46G20 (46B20)

— (*with* Azagra, Daniel; Gómez Gil, Javier) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 487–495. (Joe Thrash) **98h:58016** 58C15 (46G05)

Isaza Jaramillo, Pedro *see* **Isaza Jaramillo, Pedro**

Jaranowski, Piotr Technicalities in the calculation of the 3rd post-Newtonian dynamics. (English summary) *Mathematics of gravitation, Part II* (*Warsaw*, 1996), 55–63, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (Summary) **98d:83021** 83C25

Jarczyk, Witold On an equation of linear iteration. (English summary) *Aequationes Math.* **51** (1996), *no.* 3, 303–310. (B. Choczewski) **98a:39023** 39B12 (11A05, 26A18)

— Works on functional equations in a single variable. IV. *Aequationes Math.* **56** (1998), *no.* 1-2, 181–198. 39–00 (00A15)

Jardak, M. (*with* Fortin, A.; Gervais, Jean-Jacques; Pierre, Roger) Localization of Hopf bifurcations in fluid flow problems. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 11, 1185–1210. (Summary) **98a:76019** 76D05 (76E99, 76M10, 76M25)

Jardas, Cvetan (*with* Sarapa, Nikola) A note on the mean ergodic theorem. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 227–233. (Idris Assani) **98e:47015** 47A35

— (*with* Sarapa, Nikola) A generalization of Beck's strong law of large numbers. (English summary) *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 43–52, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Rastislav Potocký) **98i:47007** 47A35 (60B12)

— (*with* Pečarić, Josip E.; Sarapa, Nikola) A note on Chung's strong law of large numbers. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 328–334. (Zheng Yan Lin) **98m:60044** 60F15 (40D15)

Jarden, Moshe Large normal extension of Hilbertian fields. *Math. Z.* **224** (1997), *no.* 4, 555–565. (Peter Müller) **98e:12003** 12E25 (12L05)

— (*with* Razon, Aharon) Rumely's local global principle for algebraic P,$\mathscr{C}$C fields over rings. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 55–85. (Alexandra Shlapentokh) **98d:11142** 11R58 (11R04, 11U05, 12E25, 14G05)

Jardine, A. P. (*with* Chui, W. K.; Glimm, James; Tangerman, F. M.; Madsen, J. S.; Donnellan, T. M.; Leek, R.) Process modeling in resin transfer molding as a method to enhance product quality. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 714–727. (Summary) **98j:76141** 76T05 (73K20, 76S05)

Jardine, J. F. ★ Generalized étale cohomology theories. (English summary) Progress in Mathematics, 146. *Birkhäuser Verlag, Basel*, 1997. x+317 *pp. ISBN* 3-7643-5494-1 (V. P. Snaith) **98c:55013** 55P42 (18F20, 18F25, 19F27)

— Ultraproducts and the discrete cohomology of algebraic groups. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 111–129, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Kevin P. Knudson) **98j:20062** 20G10 (03C20, 03C60, 19F27, 55R40, 57T10)

— A closed model structure for differential graded algebras. (English summary) *Cyclic cohomology and noncommutative geometry* (*Waterloo, ON*, 1995), 55–58, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:00017**) 55U15 (18G55, 55P62)

Jarecki, Stanisław (*with* Gennaro, Rosario; Krawczyk, Hugo; Rabin, Tal) Robust and efficient sharing of RSA functions. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 157–172, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Jaric, Jovo On the gradients of the principal invariants of a second-order tensor. (English summary) *J. Elasticity* **44** (1996), *no.* 3, 285–287. (Maurizio Vianello) **98a:15058** 15A72 (73B05)

Jaritz, Renate Oriented matroids in terms of order functions. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 249–260. (Jesús A. de Loera) **98h:05053** 05B35 (52B40)

— Eine Variante des Fano-Axioms für angeordnete Ebenen. (English summary) [A variant of the Fano axiom for ordered planes] *Geom. Dedicata* **64** (1997), *no.* 3, 365–372. (Franz B. Kalhoff) **98c:51017** 51G05

Jarmouni-Idrissi, K. (*with* Mokhtar-Kharroubi, Mustapha) A class of nonlinear problems arising in the stochastic theory of neutron transport. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 265–293. (Giuliana Lauro) **98m:45017** 45K05 (47N55, 76N20, 82C70, 82D75)

Jarnicki, Marek (*with* Pflug, Peter) On n-circled $\mathscr{F}^\infty$-domains of holomorphy. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 253–264. (Bernard Joseph Coupet) **98h:32016** 32D05 (32A07)

Jarník, Jiří Generalized Riemann and Perron integrals and their relations. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 159–163. (Cheng-Ming Lee) **98k:26016** 26A39 (26A42, 28B05)

— (*with* Kurzweil, Jaroslav) Another Perron type integration in n dimensions as an extension of integration of stepfunctions. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 557–575. (D. K. Dutta) **98i:26015** 26A39

Jaromczyk, Jerzy W. (*with* Kowaluk, Mirosław) The two-line center problem from a polar view: a new algorithm and data structure. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 13–25, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

Jaroš, Jaroslav (*with* Graef, John R.; Miciano, A.; Spikes, P. W.; Thandapani, E.) Oscillation and nonoscillation results for general nonlinear difference equations. (English

summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 199–206, *Dynamic, Atlanta, GA*, 1996. (Ulrich Krause) **98a:39003** 39A10 (39A11)

— (*with* Kusano, Takaši) Second-order semilinear differential equations with external forcing terms. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 191–197. (*see* **98h:00040**) 34C10

Jarosz, Krzysztof $\mathrm{Lip}_{\mathrm{Hol}}(X,\alpha)$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3129–3130. (Pamela Gorkin) **98f:46045** 46J15 (46J20)

— (*with* Briem, Eggert) Operating functions for Banach function spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 169–180. (S. J. Sidney) **98i:46019** 46E15 (47H30)

— Almost multiplicative functionals. (English summary) *Studia Math.* **124** (1997), *no.* 1, 37–58. (H. G. Dales) **98d:46051** 46J10 (46H05)

— Multiplicative functionals and entire functions. II. (English summary) *Studia Math.* **124** (1997), *no.* 2, 193–198. (Summary) **98k:46077** 46H05 (46J05)

Jaroszewski, I. (*with* Kwaśniewski, A. K.) Dynamics of the Möbius mapping and Fibonacci-like sequences. *Fibonacci Quart.* **35** (1997), *no.* 3, 258–264. (Remo Badii) **98g:58110** 58F12 (11B39)

Jaroszkiewicz, George (*with* Norton, Keith) Principles of discrete time mechanics. I. Particle systems. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3115–3144. (Summary) **98k:81076** 81Q99 (70F99, 70H99)

— (*with* Norton, Keith) Principles of discrete time mechanics. II. Classical field theory. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3145–3163. (Summary) **98k:81077** 81Q99 (70G50, 70H99, 81T99)

Jarque, Xavier (*with* Devaney, Robert L.) Misiurewicz points for complex exponentials. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1599–1615. (Walter Bergweiler) **98m:58112** 58F23 (30D05)

Jarrah, A. M. (*with* Tallafha, Abdalla) Open problems in bases theory. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 95–100 (1996). 46A35 (46B15)

— On independent sequences in topological vector spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 249–254. (Bor-Luh Lin) **98i:46004** 46A35

Jarraud, Pierre (*with* Bories-Longuet, Francette; Lévy-Bruhl, Anne) ★ Algèbre et géométrie. (French. French summary) [Algebra and geometry] Avec rappels de cours. [With course summaries] Problèmes de Mathématiques. Écrit du CAPES 1991–1996. [Mathematics Problems. CAPES Exams 1991–1996] *Masson, Paris*, 1997. vi+351 *pp.* *ISBN* 2-225-85511-0 00A07 (12-01, 15-01)

Jarrett, Elzbieta B. (*with* Chartrand, Gary; Hevia, Héctor; Schultz, Michelle) Subgraph distances in graphs defined by edge transfers. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 63–79. (Ioan Tomescu) **98e:05033** 05C12 (05C45, 05C75)

Jarušek, J. (*with* Eck, Ch.) Dynamic contact problem with Coulomb friction for viscoelastic bodies, existence of solutions for a general body. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 111–115, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73T05 (35Q72, 73F15)

Jaruszewska-Walczak, Danuta On impulsive parabolic differential-functional inequalities. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 2, 155–166. (Summary) **98b:35228** 35R45 (35K55, 35R10)

Järvenpää, Maarit Concerning the packing dimension of intersection measures. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 287–296. (Claude Tricot) **98e:28009** 28A78

Järvi, P. (*with* Vuorinen, Matti K.) Uniformly perfect sets and quasiregular mappings. *J. London Math. Soc.* (2) **54** (1996), *no.* 3, 515–529. (Kiyoko Nishizawa) **98d:30031** 30C65 (28A78, 30F40)

Järvinen, Jouni A representation of dependence spaces and some basic algorithms. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 369–382. (Summary) **98f:68256** 68T30 (68P15)

Jarvis, Frazer On Galois representations associated to Hilbert modular forms. (English summary) *J. Reine Angew. Math.* **491** (1997), 199–216. (Ian Kiming) **98h:11067** 11F80 (11F41, 11R39)

Jarvis, P. D. (*with* Baker, T. H.) Quantum superspin chains. (English summary) *Perspectives on solvable models*, 175–187, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98c:82007** 82B20 (81Q60)

— (*with* Tsohantjis, Ioannis; Paolucci, A.) On boson algebras as Hopf algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4075–4087. (Tomasz Brzeziński) **98d:81033** 81R50 (16W30, 17B37)

— (*with* Hamel, A. M.; Yung, C. M.) Symmetric functions, tableaux decompositions and the fermion-boson correspondence. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 149–159. (Summary) **98m:05194** 05E05 (05E10, 17B10)

Jarvis, R. J. *see* **Ordinary and partial differential equations, 98k:00018**

Jarvis, Stuart (*with* Norbury, Paul) Zero and infinite curvature limits of hyperbolic monopoles. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 6, 737–744. (Conor J. Houghton) **98i:53034** 53C07 (58D27)

— (*with* Norbury, Paul) Compactification of hyperbolic monopoles. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1073–1092. (Roger Bielawski) **98k:58035** 58D27 (53C07, 55P10, 57R57)

Jasem, Milan Intrinsic metric preserving maps on partially ordered groups. (English summary) *Algebra Universalis* **36** (1996), *no.* 1, 135–140. (Summary) **98c:06022** 06F15

— Isometries in non-abelian multilattice groups. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 491–496. (K. L. N. Swamy) **98f:06015** 06F15

Jasinski, Jakub Large sets containing copies of small sets. (English summary) *Real Anal. Exchange* **21** (1995/96), *no.* 2, 758–766. (Summary) **98f:28001** 28A05 (03E15, 28C10)

Jaskold Gabszewicz, Jean (*with* Cordella, Tito) "Nice" trivial equilibria in strategic market games. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 162–169. (Summary) **98m:90045** 90A60 (90D35)

Jaskólski, Zbigniew (*with* Daszkiewicz, Marcin; Hasiewicz, Zbigniew) Non-critical light-cone string. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 437–459. (Summary) **98k:81202** 81T30 (81R10)

— *see also* **Duality—strings & fields, 98j:81004**

Jaspars, Jan O. M. Normal forms in partial modal logic. (English summary) *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 37–50, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Leo Esakia) **98b:03030** 03B45

Jassim, W. S. On the intersection of finitely generated subgroups of free groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **9** (1996), *no.* 1, 67–84. (N. D. Gupta) **98c:20046** 20E05 (20E07)

Jaswani, Rajni (*with* Badshah, V. H.; Singh, Bijendra) Common fixed point of four mappings on Menger spaces. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 3, 386–390. 54H25

Jat, K. L. (*with* Gupta, Virendra K.; Gupta, Vandana; Lakhwara, Monika) Approximation of a function by partial sums of its Fourier-Laguerre series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 2, 103–109. 42C10

Jathe, M. (*with* Krabs, W.; Scheffran, J.) Control and game-theoretical treatment of a cost-security model for disarmament. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 8, 653–666. (Mikuláš Luptáčik) **98f:90077** 90D10 (90D06, 90D80)

Jatkar, Dileep P. (*with* Rama, S. Kalyana) *F*-theory from Dirichlet 3-branes. (English summary) *Phys. Lett. B* **388** (1996), *no.* 2, 283–290. (Fermin Aldabe) **98a:81174** 81T30

— (*with* Mukherji, Sudipta; Panda, Sudhakar) Dyonic black hole in heterotic string theory. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 223–244. (Summary) **98g:83104** 83E30 (81T30, 83C57)

Jaulent, J.-F. (*with* Michel, Alexis) Classes des corps surcirculaires et des corps de fonctions. [Classes of supercircular fields and function fields] *Séminaire de Théorie des Nombres, Paris*, 1989–90, 141–162, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Martha Rzedowski-Calderón) **98f:11118** 11R23 (11R34, 11R58)

— (*with* Sauzet, O.) Pro-l-extensions de corps de nombres l-rationnels. (English and French summaries) [Pro-l-extensions of l-rational number fields] *J. Number Theory* **65** (1997), *no.* 2, 240–267. (Thông Nguyễn-Quang-Đỗ) **98h:11146** 11R34 (11R23)

Jaulin, L. (*with* Godet, J.-L.; Walter, Eric; Elliasmine, A.; Le Duff, Y.) Light scattering data analysis via set inversion. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7733–7738. 78A45

Jaumard, Brigitte (*with* Douanya Nguetsé, Guy-Blaise; Hansen, Pierre) Probabilistic satisfiability and decomposition. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 151–161, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B48, 03B70, 68T27)

— (*with* Meyer, Christophe; Hoàng Tụy) Generalized convex multiplicative programming via quasiconcave minimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 229–256. (Siegfried Schaible) **98c:90098** 90C26

— (*with* Audet, Charles; Hansen, Pierre; Savard, Gilles) Links between linear bilevel and mixed 0-1 programming problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 273–300. (Guntram Scheithauer) **98c:90076** 90C09 (65Y20, 90C11)

— (*with* Hansen, Pierre) Cluster analysis and mathematical programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 191–215. (András Faragó) **98g:90043** 90C90 (90C39)

— (*with* Audet, Charles; Hansen, Pierre; Savard, Gilles) On the linear maxmin and related programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 181–208, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C10 (90C27, 90D05)

— (*with* Hansen, Pierre; Mladenović, Nenad) Minimum sum of squares clustering in a low-dimensional space. (English and French summaries) *J. Classification* **15** (1998), *no.* 1, 37–55. 62H30

Jáuregui, Rocío (*with* Récamier A., José) On the harmonic approximation for a forced time dependent harmonic oscillator. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 118–122, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q05

— (*with* Bunge, Carlos; Ley-Koo, Eugenio) Electrons in atoms: how well can we describe them? (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 79–95. (*see* **98h:81004**) 81V45

Jauslin, H. R. (*with* Govin, M.; Cibils, M.) Convergence of iterative methods in perturbation theory. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 151–159, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Dario Bambusi) **98f:58173** 58F30 (34C50, 34D10, 34L40)

— (*with* Guérin, S.; Monti, F.; Dupont, J.-M.) On the relation between cavity-dressed states, Floquet states, RWA and semiclassical models. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7193–7215. (Allan I. Solomon) **98m:81224** 81V80

— (*with* Govin, M.; Cibils, M.) Convergence of KAM iterations for counterterm problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 419–427. 58F27

moser-Jauslin, L. *see* **Moser-Jauslin, L.**

Javadian, A. D. Optimal variational difference method of solving the limiting problem for one quasisingular class of elliptic problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 5, 421–435. (Manil Suri) **98k:65074** 65N99

Javadpour, S. H. *see* **Proceedings: Mathematics Conference, 98h:00035**

Javanainen, Juha (*with* Yoo, Sung Mi; Ruostekoski, Janne) Interference of two Bose-Einstein condensates. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1763–1774. 82B10

Javed, M. (*with* Gupta, Jai P.) A class of estimators of finite population correlation coefficient in stratified sampling. (English summary) *Aligarh J. Statist.* **14** (1994), 53–61. 62D05

Jawarneh, Musa A. A. Semi-symmetric metric connection in a Riemannian manifold. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 4, 428–430. (V. Oproiu) **98e:53034** 53C05

Jawerth, Björa (*with* Cornea, Emil; Zheng, Weimin) Wavelets and interactive surface modeling. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 39–46, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (65D17)

Jaworowski, Jan Borsuk-Ulam type theorems for orthogonal groups. *Antipodal points and fixed points*, 1–19, *Lecture Notes Ser.*, 28, *Seoul Nat. Univ., Seoul*, 1995. (From the introduction) **98f:55002** 55M20

Jaworski, Piotr On the Witt rings of function fields of quasihomogeneous varieties. *Colloq. Math.* **73** (1997), *no.* 2, 195–219. (Adrian R. Wadsworth) **98g:11044** 11E81 (13A99)
— On Witt rings of function fields of real analytic surfaces and curves. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 153–171. (Guang Xing Zeng) **98m:14053** 14P15 (11E81, 12D15)
Jaworski, Wojciech The asymptotic σ-algebra of a recurrent random walk on a locally compact group. (English summary) *Israel J. Math.* **94** (1996), 201–219. (Michael Voit) **98g:60011** 60B10 (43A05, 60F20, 60J15)
Jay, C. Barry A fresh look at parametric polymorphism: covariant types. (English summary) Nineteenth Australasian Computer Science Conference (Melbourne, 1996). *Austral. Comput. Sci. Comm.* **18** (1996), *no.* 1, 525–533. (*see* **98k:68006**) 68N15 (68Q55)
— Finite objects in a locos. (English summary) Special volume on the occasion of the 60th birthday of Professor Peter J. Freyd. *J. Pure Appl. Algebra* **116** (1997), *no.* 1-3, 169–183. (Colin McLarty) **98a:18003** 18B20
— Covariant types. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 237–258. (Bart Jacobs) **98m:68026** 68N15 (03B15, 03B40, 68Q55)
Jay, Laurent O. (*with* Petzold, Linda R.; Yen, Jeng) Numerical solution of highly oscillatory ordinary differential equations. *Acta numerica*, 1997, 437–483, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (Benedict J. Leimkuhler) **98k:65040** 65L07 (34A45, 65L20, 70–08)
— (*with* Petzold, Linda R.; Rosen, J. Ben; Gill, Philip E.; Park, Kihong) Numerical optimal control of parabolic PDEs using DASOPT. (English summary) *Large-scale optimization with applications, Part II (Minneapolis, MN, 1995)*, 271–299, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98f:49003** 49–04 (49M37, 65K10, 65L06)
— (*with* Sandu, A.; Potra, Florian A.; Carmichael, G. R.) Improved quasi-steady-state-approximation methods for atmospheric chemistry integration. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 182–202. (N. L. Vulchanov) **98c:65110** 65L05 (80–08)
Jayakumar, K. (*with* Balakrishna, N.) Bivariate autoregressive minification process. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 2-3, 129–141. (Summary) **98e:62125** 62M10
— (*with* Balakrishna, N.) Bivariate semi-Pareto distributions and processes. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 149–165. (Summary) **98d:62017** 62E10
Jayanti, Prasad Wait-free computing. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 19–50, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10
— Robust wait-free hierarchies. (English summary) *J. ACM* **44** (1997), *no.* 4, 592–614. (Julian Padget) **98m:68101** 68Q22 (68Q10)
Jayaprakash, C. (*with* Chen, Kan; Bhagavatula, Ravi) Earthquakes in quasistatic models of fractures in elastic media: formalism and numerical techniques. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2297–2315. 86A15 (86–04)
Jayaram, C. (*with* Johnson, E. W.) Strong compact elements in multiplicative lattices. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 105–112. (Michael E. Detlefsen) **98d:06018** 06F10 (06B05, 06C99, 06F05)
Jayaram, S. R. Minimal dominating sets of cardinality two in a graph. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 43–46. (Summary) **98b:05058** 05C35
Jayashree, P. R. (*with* Sridharan, V.) Transient solutions of a software model with imperfect debugging and generation of errors by two servers. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 3, 103–108. 90B25 (68N99)
Jayasree, S. (*with* Tandon, R.) Determinant of representations of division algebras of prime degree over local fields. *Number theory (Tiruchirapalli, 1996)*, 109–133, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Hiroshi Saito) **98j:22027** 22E50
Jayasuriya, Bodhini R. Testing for polynomial regression using nonparametric regression techniques. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1626–1631. (Jian-Jian Ren) **98f:62135** 62G10 (62G09, 62J05)
Jayasuriya, Suhada (*with* Franchek, Matthew A.) Controller design for performance guarantees in uncertain regulating systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 127–148. 93B51 (93C42)
Jayawardena, A. W. (*with* Johnson, I. W.) Efficient numerical solution of the dispersion equation using moving finite elements. (English summary) *Finite Elem. Anal. Des.* **28** (1998), *no.* 3, 241–253. (Summary) **98i:76054** 76M10 (76M25)
Jayawardene, Chula J. (*with* Rousseau, Cecil C.) The Ramsey number for a quadrilateral vs. a complete graph on six vertices. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 97–108. (Summary) **98m:05133** 05C55
Jayawardene, Sumedha (*with* Yang, Shie-Shien) A nonlinear ordered rank test to detect stochastic ordering between two distributions. (English summary) *Statistical theory and applications*, 177–185, *Springer, New York*, 1996. (Summary) **98d:62082** 62G10
— (*with* Yang, Shie-Shien) On using linear ordered rank statistics for detecting early differences between two distributions. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 103–113. (Summary) **98a:62058** 62G10
Jayesh (*with* Van Slooten, P. R.; Pope, Stephen B.) Advances in PDF modeling for inhomogeneous turbulent flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 1, 246–265. (Summary) **98j:76063** 76F10 (76M35)
Jayet, Hubert Collective location. (English and French summaries) *Ann. Économ. Statist.* **1997,** *no.* 45, 139–160. (Summary) **98e:90035** 90A11 (90B80)
nakhaie-Jazar, G. *see* **Nakhaie-Jazar, G.**
Jbilou, K. (*with* Sadok, H.) Hybrid vector transformations. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 257–267. (Summary) **98c:65049** 65F10 (65H10)
abu-Jdayil, B. *see* **Abu-Jdayil, B.**
Jean, Tsong-Hai (*with* Peddieson, John, Jr.) One-dimensional equations and solutions for particulate suspension flows. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 8, 803–818. (Summary) **98c:76112** 76T05
Jeanblanc-Picqué, Monique (*with* Yor, Marc; Chesney, Marc; Geman, Helyette) Some combinations of Asian, Parisian and barrier options. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 61–87, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09
— (*with* Chesney, Marc; Yor, Marc) Brownian excursions and Parisian barrier options. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 165–184. (Angelos Dassios) **98b:90013** 90A09 (60G46, 60J60)
— (*with* Pitman, James W.; Yor, Marc) The Feynman-Kac formula and decomposition of Brownian paths. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 1, 27–52. (F. B. Knight) **98f:60156** 60J65 (60J60)
— (*with* El Karoui, Nicole; Shreve, Steven E.) Robustness of the Black and Scholes formula. (English summary) *Math. Finance* **8** (1998), *no.* 2, 93–126. (Summary) **98m:90016** 90A09
Jeanjean, Louis (*with* Bertotti, Maria Letizia) Multiplicity of homoclinic solutions for singular second-order conservative systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1169–1180. (Addolorata Salvatore) **98a:58064** 58F05 (34C37, 58E05, 70H05)
— (*with* Caldiroli, Paolo) Homoclinics and heteroclinics for a class of conservative singular Hamiltonian systems. (English summary) *J. Differential Equations* **136** (1997), *no.* 1, 76–114. (Patricio L. Felmer) **98e:58038** 58E05 (34C25, 34C37, 58F05, 70H05)
— Existence of solutions with prescribed norm for semilinear elliptic equations. *Nonlinear Anal.* **28** (1997), *no.* 10, 1633–1659. (Long-Yi Tsai) **98c:35060** 35J65
Jean-Marie, Alain (*with* Gaujal, Bruno) Computational issues in recursive stochastic systems. (English summary) *Idempotency (Bristol, 1994)*, 209–230, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 60K15 (93E03)
Jeannerot, R. Inflation in supersymmetric unified theories. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6205–6216. (Summary) **98g:81220** 81V22 (83C45)
Jeannet, Bernard (*with* Huillet, Thierry) A combinatorial approach to branched polymers' statistics. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 83–101. (Summary) **98k:82205** 82D60 (82B26)
Jeannin, P. (*with* Fiorot, J. C.; Sucher, B.) Recursive calculation of the derivatives of rational curves in (*BR*) form. (English summary) Symbolic computation, new trends and developments (Lille, 1993). *Math. Comput. Simulation* **42** (1996), *no.* 4-6, 751–764. (Adam Marlewski) **98c:65024** 65D17 (68U05)
andré-Jeannin, Richard *see* **André-Jeannin, Richard**
Jeannin, Stéphane Tables des nombres de classes et unités des corps quintiques cycliques de conducteur $f \leq 10\,000$. [Tables of class numbers and units of cyclic quintic fields with conductor $f \leq 10\,000$] *Théorie des nombres, Années 1994/95–1995/96*, 42 *pp.*, *Publ. Math. Fac. Sci. Besançon, Univ. Franche-Comté, Besançon*, 1997. (Franz Lemmermeyer) **98b:11129** 11Y40 (11R27, 11R29)
— (*with* Gras, Georges) Critère effectif de puissance p-ième dans un corps de nombres galoisien. (English summary) [Effective pth-power criterion in a Galois number field] *J. Number Theory* **63** (1997), *no.* 2, 339–356. (Alan Candiotti) **98m:11119** 11R32 (11R27)
saint Jean Paulin, Jeannine *see* **Saint Jean Paulin, Jeannine**
Jeanprêtre, N. (*with* Clarke, P. G. H.; Gabriel, J.-P.) Competitive exclusion between axons dependent on a single trophic substance: a mathematical analysis. (English summary) *Math. Biosci.* **135** (1996), *no.* 1, 23–54. (Steven Matthysse) **98b:92002** 92C20 (92C15, 92C45)
Jeavons, John S. (*with* Crossley, John N.) A logic-based modelling of Prolog resolution sequences. *Logique et Anal. (N.S.)* **35** (1992), *no.* 137-138, 189–205. (Sauro Tulipani) **98k:03028** 03B35 (03B25, 68N17, 68Q55, 68T15)
— (*with* Crossley, John N.) A logic-based modelling of Prolog resolution sequences including the negation as failure rule. *Logique et Anal. (N.S.)* **37** (1994), *no.* 147-148, 379–406. (Neculai Curteanu) **98b:03048** 03B70 (03B35, 68T15)
— An alternative linear semantics for allowed logic programs. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 3–16. (Summary) **98b:68015** 68N17 (03B70, 03F50, 68Q55)
Jeavons, Peter (*with* Cohen, David A.; Gyssens, Marc) A unifying framework for tractable constraints. (English summary) *Principles and practice of constraint programming—CP '95 (Cassis, 1995)*, 276–291, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68107** 68Q25 (90C27)
— (*with* Cohen, David A.; Cooper, Martin C.) When constraints are easy to satisfy. (English summary) *Applications of combinatorial mathematics (Oxford, 1994)*, 135–153, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Summary) **98f:68241** 68T20
Jebelean, Petru (*with* Dinca, George) Une méthode de point fixe pour le p-laplacien. (English and French summaries) [A fixed point method for the p-Laplacian] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 165–168. (Elvira Mascolo) **98a:35037** 35J65
— Finite-dimensional approximation in a multivalued problem with p-Laplacian. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 2, 99–111. (Shuzi Zhou) **98d:65141** 65N30
Jech, Thomas (*with* Shelah, Saharon) On countably closed complete Boolean algebras. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1380–1386. (L. Bukovský) **98h:06028** 06E10 (03E35)
— Large ordinals. (English summary) *Adv. Math.* **125** (1997), *no.* 2, 155–170. (Peter G. Hinman) **98g:03117** 03E10 (03E55)
— (*with* Dougherty, Randall) Left-distributive embedding algebras. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 28–37 (*electronic*). (Norbert Endres) **98b:20114** 20N02 (03E55, 03F30, 08B20)
Jędrzejowicz, Joanna An undecidable problem for shuffle languages. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 112–118, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **98e:68140** 68Q45 (03D05, 03D35)
Jedwab, Jonathan (*with* Arasu, K. T.; Davis, James Andrew; Ma, Siu Lun; McFarland, Robert L.) Exponent bounds for a family of abelian difference sets. (English summary) *Groups, difference sets, and the Monster (Columbus, OH, 1993)*, 129–143, *Ohio State Univ. Math. Res. Inst. Publ.*, 4, *de Gruyter, Berlin*, 1996. (A. P. Street) **98b:05014** 05B10
— (*with* Davis, James Andrew) A unifying construction for difference sets. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 1, 13–78. (Dieter Jungnickel) **98g:05021** 05B10 (20D60)
— (*with* Davis, James Andrew) Nested Hadamard difference sets. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 13–20. (Kathryn J. Horadam) **98h:05037** 05B10 (62K05)

Jee, Eun Sook A study of some tests of trend in contingency tables. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 7–18. 62H17

Jeevanand, E. S. (*with* Unnikrishnan Nair, N.) Bayes prediction interval for the exponential and Pareto populations in the presence of an outlier. (English summary) *Far East J. Math. Sci.* **1996**, *Special Volume, Part I*, 81–95. (Summary) **98a:62034** 62F15

Jeffay, Kevin (*with* Baruah, Sanjoy K.; Gehrk, Johannes E.; Plaxton, C. Gregory; Stoica, Ion; Abdel-Wahab, Hussein) Fair on-line scheduling of a dynamic set of tasks on a single resource. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 1, 43–51. (Summary) **98h:68021** 68M20

Jefferies, B. R. F. ★ Evolution processes and the Feynman-Kac formula. (English summary) Mathematics and its Applications, 353. *Kluwer Academic Publishers Group, Dordrecht*, 1996. x+235 *pp. ISBN* 0-7923-3843-X (Hung Trung Nguyen) **98g:60128** 60J25 (28B05, 46G10, 46N50)

— (*with* Hillman, Jonathan A.; Ricker, Werner J.; Straub, B.) Differential properties of the numerical range map of pairs of matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 317–334. (Chi-Kwong Li) **98h:15050** 15A60

Jefferson, T. R. (*with* Scott, C. H.) Duality for a sum of convex ratios. (English summary) *Optimization* **40** (1997), *no.* 4, 303–312. (Summary) **98b:90139** 90C32 (49N15)

Jeffres, Thalia D. Singular set of some Kähler orbifolds. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 1961–1971. (Naichung Conan Leung) **98d:53066** 53C25 (14J17, 32L07, 53C55)

Jeffrey, A. *see* **Jeffrey, Alan**

Jeffrey, Alan (*with* Lu, Yun Guang) A study of the global weak solution for the isentropic equations of a polytropic gas. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 261–270, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (R. M. Gundersen) **98g:35168** 35Q35 (35L65, 76N15)

Jeffrey, Alan Stewart Austin A fully abstract semantics for a nondeterministic functional language with monadic types. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68N15 (68Q55)

Jeffrey, D. J. (*with* Corless, Robert M.; Gonnet, Gaston H.; Hare, D. E. G.; Knuth, Donald E.) On the Lambert *W* function. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 329–359. (Summary) **98j:33015** 33E20

— (*with* Corless, Robert M.; Monagan, M. B.; Pratibha) Two perturbation calculations in fluid mechanics using large-expression management. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 4, 427–443. 76–04 (76D08)

Jeffrey, Lisa C. Quantum field theory, equivariant cohomology, symplectic geometry and moduli spaces of vector bundles on Riemann surfaces. *Geometry and physics (Aarhus, 1995)*, 33–57, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Jonathan A. Poritz) **98h:58029** 58D27 (32G13, 57R91, 58F06)

— (*with* Weitsman, Jonathan) A perfect Morse function for the moduli space of flat connections. (English summary) *Compositio Math.* **105** (1997), *no.* 2, 147–151. (Jonathan A. Poritz) **98j:32017** 32G13 (57R57, 58D27)

— (*with* Guruprasad, Krishnamurthi; Huebschmann, J.; Weinstein, Alan D.) Group systems, groupoids, and moduli spaces of parabolic bundles. *Duke Math. J.* **89** (1997), *no.* 2, 377–412. (William Goldman) **98e:58034** 58D29 (14D20, 58F05)

— (*with* Kirwan, Frances C.) Localization and the quantization conjecture. (English summary) *Topology* **36** (1997), *no.* 3, 647–693. (Johannes Huebschmann) **98e:58088** 58F06 (55N91, 57R20, 57S25, 58G05, 58G10)

Jeffrey, Richard Unknown probabilities. (English summary) Probability, dynamics and causality (Luino, 1995). *Erkenntnis* **45** (1996), *no.* 2-3, 327–335. (Summary) **98a:60002** 60A05 (03B48, 62A99)

— In memoriam: Carl Gustav Hempel (January 8th 1905–November 9th 1997). *Erkenntnis* **47** (1997), *no.* 3, 281–283 (1998). 01A70 (03–03)

Jeffries, John S. A singularly perturbed semilinear system. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 2, 157–173. (Archibald D. MacGillivray) **98g:34097** 34E15 (34B15)

Jefimenko, Oleg D. Correct use of Lorentz-Einstein transformation equations for electromagnetic fields. (English and German summaries) *European J. Phys.* **18** (1997), *no.* 6, 444–447. 78A25

— *see also* **Webber, B. R.**

Jeganathan, P. Some aspects of asymptotic theory with applications to time series models. (English summary) Trending multiple time series (New Haven, CT, 1993). *Econometric Theory* **11** (1995), *no.* 5, 818–887. (Summary) **98g:62165** 62M10

— On asymptotic inference in AR and cointegrated models with unit roots and heavy tailed errors. *Festschrift for Lucien Le Cam*, 275–296, *Springer, New York*, 1997. (Sung K. Ahn) **98k:62157** 62M10 (62P20)

Jeganathan, P. On some characterizations of Tauberian relations. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 43–57. (R. W. Cross) **98k:47040** 47B07 (47A05)

Jégou, Philippe (*with* Chmeiss, Assef) A generalization of chordal graphs and the maximal clique problem. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 2, 61–66. (Summary) **98a:05122** 05C75 (05C85, 68Q25, 68R10)

Jehanne, Arnaud (*with* Cassou-Noguès, Philippe) Formes primitives et représentations galoisiennes de type octaédral. (English and French summaries) [Primitive forms and Galois representations of octahedral type] *Experiment. Math.* **5** (1996), *no.* 4, 275–290. (Ian Kiming) **98a:11069** 11F80 (11R32, 11R39)

— (*with* Cassou-Noguès, Philippe) Parité du nombre de classes des S_4-extensions de **Q** et courbes elliptiques. [Parity of the class number of S_4-extensions of **Q** and elliptic curves] *J. Number Theory* **57** (1996), *no.* 2, 366–384. (Philippe Satgé) **98a:11070** 11G05 (11R29)

Jehiel, Philippe (*with* Scotchmer, Suzanne) Free mobility and the optimal number of jurisdictions. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 45, 219–231. (Summary) **98e:90046** 90A28 (90A09)

Jelenković, Predrag R. (*with* Lazar, Aurel A.) A network multiplexer with multiple time scale and subexponential arrivals. (English summary) *Stochastic networks (New York, 1995)*, 215–235, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60124** 60K25

Jelenkowska, Helena Tereza Bayesian modal estimators of parameters of multivariate mixed model. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 111–124. (Jack C. Lee) **98h:62036** 62F15 (62H12)

— (*with* Press, S. James) Bayesian inference in the multivariate mixed model MANOVA. (English summary) MSI-2000, Vol. III (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **17** (1997), *no.* 1-2, 97–116. (Summary) **98g:62105** 62H10 (62F15, 62H15)

— Bayesian estimation of the intraclass correlation coefficients in the mixed linear model. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 103–110. (Summary) **98m:62172** 62H20 (62F15)

Jelinek, Jiří (*with* Čížek, Jiří) A Tauberian theorem for distributions. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 479–488. (Hans-Jürgen Glaeske) **98a:46050** 46F10 (42A38, 46E05)

Jelonek, Włodzimierz Projectively flat connections and rigidity of affine spheres. (English summary) *Selected problems of mathematics*, 161–169, *50th Anniv. Cracow Univ. Technol. Anniv. Issue*, 6, *Cracow Univ. Technol., Kraków*, 1995. (Summary) **98j:53065** 53C40 (53C05)

— *K*-contact $\mathcal{A}$-manifolds. *Colloq. Math.* **75** (1998), *no.* 1, 97–103. (Andrew Bucki) **98i:53040** 53C15 (53C25)

Jelonek, Zbigniew A hypersurface which has the Abhyankar-Moh property. *Math. Ann.* **308** (1997), *no.* 1, 73–84. (Peter Brückmann) **98d:14019** 14E09

Jeltsch, Rolf (*with* Renaut, Rosemary A.; Smit, Jacobus Hendrik) The maximal accuracy of stable difference schemes for the wave equation. (English summary) *BIT* **35** (1995), *no.* 1, 83–115. (I. P. Gavrilyuk) **98e:65064** 65M06

— (*with* Renaut, Rosemary A.; Smit, Jacobus Hendrik) On the Courant-Friedrichs-Lewy condition equipped with order for hyperbolic differential equations. (English summary) *Hyperbolic problems: theory, numerics, applications (Stony Brook, NY, 1994)*, 30–42, *World Sci. Publishing, River Edge, NJ*, 1996. (Ji Chun Li) **98c:65153** 65M12 (65M06)

— (*with* Forrer, Hans) A higher-order boundary treatment for Cartesian-grid methods. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 259–277. (Summary) **98m:76107** 76M20

Jeniołło, S. (*with* Telega, Józef Joachim) Non-polynomial representations of orthotropic tensor functions in the three-dimensional case: an alternative approach. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 1, 233–239. (Maurizio Vianello) **98c:73003** 73B05 (73B40)

— (*with* Telega, Józef Joachim) Fabric tensor and constitutive equations for a class of plastic and locking orthotropic materials. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 6, 1041–1067. (Summary) **98m:73045** 73E05 (73B40)

Jena, J. (*with* Sharma, V. D.) Lie transformation group solutions of non-linear equations describing viscoelastic materials. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1033–1044. (From the introduction) **98k:73036** 73F15 (35A30, 35Q72)

Jenčová, Anna A comparison of linearization and quadratization domains. (English summary) *Appl. Math.* **42** (1997), *no.* 4, 279–291. (Keh-Wei Chen) **98k:62027** 62F10

Jenda, Overtoun M. G. (*with* Enochs, Edgar E.; Xu, Jinzhong) Lifting group representations to maximal Cohen-Macaulay representations. (English summary) *J. Algebra* **188** (1997), *no.* 1, 58–68. (Yasuo Iwanaga) **98c:16004** 16E10 (16G10)

Jendo, Stefan (*with* Putresza, J.; Marks, W.) Multicriterion reliability-oriented optimization of structural systems by stochastic programming. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 361–375. (*see* **98j:90004**) 90C90 (90B25, 90C15)

Jendroľ, Stanislav (*with* Horňák, Mirko) Unavoidable set of face types for planar maps. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 123–141. (O. V. Borodin) **98d:05044** 05C10 (05C15)

— (*with* Madaras, Tomáš) On light subgraphs in plane graphs of minimum degree five. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 207–217. (Summary) **98a:05123** 05C75

— (*with* Skupień, Zdzisław) Exact numbers of longest cycles with empty intersection. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 575–578. (Summary) **98c:05096** 05C38

— (*with* Fabrici, Igor) Subgraphs with restricted degrees of their vertices in planar 3-connected graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 245–250. (Joseph Zaks) **98h:05112** 05C38 (05C99)

— (*with* Servatius, Brigitte; Servatius, Herman) A note on the rank of self-dual polyhedra. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 171–174. (Summary) **98j:05058** 05C10

— (*with* Akka, D. G.; Klešč, M.; Panshetty, S. V.) On line graphs with crossing number 2. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 3–8. (V. R. Kulli) **98k:05049** 05C10

Jenei, Sándor A more efficient method for defining fuzzy connectives. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 25–35. (Summary) **98c:03110** 03E72

— Erratum: "A more efficient method for defining fuzzy connectives" [Fuzzy Sets and Systems **90** (1997), no. 1, 25–35; MR 98c:03110]. *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 389–391. 03E72

Jeng, Jyh-Chung (*with* Huang, Young-Ye) Approximating fixed points by iteration processes. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 129–138. (Livia D'Apuzzo) **98c:47070** 47H10 (47H17)

Jenkins, Alastair D. (*with* Dysthe, Kristian B.) The effective film viscosity coefficients of a thin floating fluid layer. (English summary) *J. Fluid Mech.* **344** (1997), 335–337. (Summary) **98i:76009** 76A99 (76D99)

Jenkins, James A. On *n*-fold symmetrization. *J. Anal. Math.* **69** (1996), 67–71. (Vladimir N. Dubinin) **98c:30030** 30C85 (31A15)

— On weighted distortion in conformal mapping. II. *Bull. London Math. Soc.* **30** (1998), *no.* 2, 151–158. (Alec Matheson) **98m:30038** 30C75 (30F30)

— (*with* Bott, Raoul; Earle, Clifford J.; Hejhal, Dennis; Jorgensen, Troels; Marden, Albert; Osserman, Robert) Lars Valerian Ahlfors (1907–1996). Edited and with an introduction by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 248–255. (Editors) **98m:01028** 01A70

Jenkins, Joe (*with* Benson, Chal; Ratcliff, Gail; Worku, Tefera) Spectra for Gelfand pairs associated with the Heisenberg group. *Colloq. Math.* **71** (1996), *no.* 2, 305–328. (Jacek Cygan) **98b:22016** 22E30 (43A55)

— (*with* Benson, Chal; Lipsman, Ronald L.; Ratcliff, Gail) A geometric criterion for Gelfand pairs associated with the Heisenberg group. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 1–36. (Jean Ludwig) **98i:22012** 22E25 (22E60, 43A20)

Jenkner, Wolfgang Sur les fonctions zêta attachées aux classes de rayon. [Zeta functions associated with ray classes] Les Dix-huitièmes Journées Arithmétiques (Bordeaux, 1993). *J. Théor. Nombres Bordeaux* **7** (1995), *no.* 1, 1–14. (Kiyoshi Nagata) **98e:11131** 11R42 (11R47)

Jenner, Birgit (*with* McKenzie, Pierre; Thérien, Denis) Logspace and logtime leaf languages. (English summary) *Inform. and Comput.* **129** (1996), *no.* 1, 21–33. (Robert M. Baer) **98a:68071** 68Q15 (03D15, 68Q05)

Jenner, Lars (*with* Vogler, Walter) Fast asynchronous systems in dense time. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 75–86, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q60 (68Q10, 68Q90)

Jennings, L. S. (*with* Teo, Kok Lay; Rehbock, V.; Zheng, Wei Xin) Optimal control of singular systems with a cost on changing control. (English summary) *Dynam. Control* **6** (1996), *no.* 1, 63–89. (Stanisław Walczak) **98c:49065** 49M07 (49J15, 65L06)

— (*with* Lee, H. W. J.; Teo, Kok Lay; Rehbock, V.) Control parametrization enhancing technique for time optimal control problems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 243–261. (Ernest Scheiber) **98e:49079** 49M30 (34H05)

— (*with* Lee, H. W. J.; Teo, Kok Lay) On optimal control of multi-link vertical planar robot arms systems moving under the effect of gravity. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 195–213. 49N55 (70B15, 70Q05, 93C85)

— (*with* Sethi, Suresh P.; Teo, Kok Lay) Computation of optimal production plans for manufacturing systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4329–4338. (*see* **98i:00032**) 90B25 (90B30)

Jennison, Christopher (*with* Turnbull, Bruce W.) Group-sequential analysis incorporating covariate information. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1330–1341. (Summary) **98m:62284** 62N05

— (*with* Gavin, John) A subpixel image restoration algorithm. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 2, 182–201. 62H99

Jennrich, Robert I. (*with* Jamshidian, Mortaza) Acceleration of the EM algorithm by using quasi-Newton methods. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 569–587. (Murray A. Jorgensen) **98m:62059** 62F10

Jensen, A. S. (*with* Garrido, E.; Fedorov, D. V.) Three-body systems with square-well potentials in $L = 0$ states. (English summary) *Few-Body Systems* **22** (1997), *no.* 4, 193–236. (Summary) **98k:81293** 81U10

Jensen, Bjørn (*with* Soleng, Harald H.) Anisotropic domain walls. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1821–1829. (Summary) **98e:83126** 83E50 (83C75)

— Geometries of relativistic strings and other p-branes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1329–1346. (Sergiu I. Vacaru) **98a:83116** 83E30 (81T30)

— (*with* Lindström, Ulf) Classical interactions for tensionless strings. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 83–87. (João P. Nunes) **98c:81168** 81T30 (83E30)

Jensen, C. U. (*with* Geyer, W.-D.) Prodihedral groups as Galois groups over number fields. *J. Number Theory* **60** (1996), *no.* 2, 332–372. (Jack Sonn) **98c:11119** 11R23 (11R20, 11R32)

Jensen, D. R. Structured dispersion and validity in linear inference. (English summary) *Linear Algebra Appl.* **249** (1996), 189–196. (Summary) **98f:62154** 62H05 (62J05)

— Exact properties of residuals in subset diagnostics. (English summary) *Advances in the theory and practice of statistics*, 225–240, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Goetz Trenkler) **98m:62193** 62J05 (62J10)

— Conditioning and concentration of principal components. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 93–104. (Jacques Dauxois) **98m:62174** 62H25

— Symmetry and unimodality in linear inference. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 188–202. (K. R. Shah) **98i:62060** 62J05 (62F35)

Jensen, F. V. (*with* Lauritzen, Steffen L.) Local computation with valuations from a commutative semigroup. (English summary) Advances in the understanding and use of conditional independence (Fort Lauderdale, FL, 1996). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 1, 51–69. (Summary) **98j:68153** 68T30

Jensen, Iwan (*with* Guttmann, Anthony J.; Enting, Ian G.) The Potts model on Kagomé and honeycomb lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8067–8083. (Summary) **98m:82014** 82B20 (82B27)

Jensen, Jens Ledet A simple derivation of r^* for curved exponential families. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 33–46. (Ling Yau Chan) **98c:62005** 62A10 (62F03)

— (*with* Wood, Andrew T. A.) On the non-existence of a Bartlett correction for unit root tests. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 181–187. (Summary) **98f:62256** 62M10

bang-Jensen, Jørgen *see* **Bang-Jensen, Jørgen**

Jensen, Kurt ★ Coloured Petri nets. Vol. 3. (English summary) Basic concepts, analysis methods and practical use. Monographs in Theoretical Computer Science. An EATCS Series. *Springer-Verlag, Berlin*, 1997. x+265 *pp. ISBN* 3-540-62867-3 (From the preface) **98c:68154** 68Q90

— ★ Coloured Petri nets. Vol. 1. (English summary) Basic concepts, analysis methods and practical use. Corrected reprint of the second (1996) edition. Monographs in Theoretical Computer Science. An EATCS Series. *Springer-Verlag, Berlin*, 1997. xii+234 *pp. ISBN* 3-540-60943-1 68Q90

flensted-Jensen, M. *see* **Flensted-Jensen, M.**

Jensen, Mogens H. (*with* Olesen, Poul) Turbulent binary fluids: a shell model study. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 243–264. (Summary) **98k:76076** 76F99

gronbech-Jensen, Niels *see* **Gronbech-Jensen, Niels**

Jensen, Ole Rask (*with* Nielsen, Erik Bjerrum) A Bose-Fock space quantization of the Witt algebra. (English summary) *Rep. Math. Phys.* **37** (1996), *no.* 2, 157–161. (Alan L. Carey) **98b:22038** 22E65 (47N50, 81S05)

— Construction of vacuum for the positive-energy representation and its Bose counterpart. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 101–106. (Roland Speicher) **98f:81145** 81S05 (46L60)

Jensen, Pablo Le physicien: explorateur ou artiste? Étude du polymorphisme mathématique de la physique. [Physicists: explorers or artists? Study of the mathematical polymorphism of physics] *Rev. Questions Sci.* **167** (1996), *no.* 3, 223–235. 00A79 (00A30)

Jensen, Robert R. (*with* Barron, E. N.; Liu, Wenxiong) Hopf-Lax type formula for $u_t + H(u, Du) = 0$. II. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1141–1160. (Summary) **98g:35038** 35F25 (49L20)

— (*with* Barron, E. N.; Liu, Wenxiong) Explicit solution of some first-order PDE's. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 149–164. (Summary) **98c:35027** 35F20 (49L20)

Jensen, Ronald B. Exploring the infinite: developments in set theory. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 52–55. 01A67

Jensen, S. T. *see* **Jensen, Søren Tolver**

Jensen, Søren S. (*with* Korneev, Vadim G.) Preconditioning of the p-version of the finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 215–238. (Summary) **98k:65068** 65N30 (73V05)

— (*with* Wieczorek, Andrzej) Convergence of Mann iteration processes for nonexpansive operators in equi-connected metric spaces. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 609–621. (Summary) **98d:54056** 54E40 (47H10, 47H17)

— (*with* Han, Weimin; Reddy, B. Dayanand) Numerical approximations of problems in plasticity: error analysis and solution algorithms. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 191–204. (Summary) **98b:73045** 73V25 (73E50)

— (*with* Garcia, Sonia M. F.) The p version of mixed finite element methods for parabolic problems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 3, 303–326. (Alexander Ostermann) **98d:65126** 65M60

Jensen, Søren Tolver (*with* Nielsen, Bent) On convergence of multivariate Laplace transforms. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 125–128. (Summary) **98a:62021** 62E20 (62M10)

Jensen, Uwe (*with* Aven, Terje) Asymptotic distribution of the downtime of a monotone system. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 355–375. (Summary) **98d:60166** 60K10 (60F05, 90B25)

— An optimal stopping problem in risk theory. (English summary) *Scand. Actuar. J.* **1997**, *no.* 2, 149–159. (Summary) **98k:62175** 62P05

— *see also* **Special Issue: Stochastic models of reliability**, **98b:90005**

Jeníková, Jolana (*with* Čepička, Jan; Drábek, Pavel) On the stability of periodic solutions of the damped pendulum equation. *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 712–723. (Rafael Ortega) **98j:34068** 34C25 (34D20)

Jenssen, Helge Kristian (*with* Baiti, Paolo) Well-posedness for a class of 2×2 conservation laws with L^∞ data. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 161–185. (Christophe Cheverry) **98k:35122** 35L65

Jentsch, Lothar (*with* Natroshvili, David) Thermoelastic oscillations of anisotropic bodies. *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt, 1996)*, 68–87, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Andrzej Chrzęszczyk) **98k:73010** 73B30 (35Q72, 73B40, 73D30)

— On the elastic potentials at corners. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 1, 73–95. (Alexander B. Movchan) **98e:73019** 73B50 (35C99, 73C99, 73V10)

— (*with* Natroshvili, David) Interaction between thermoelastic and scalar oscillation fields. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 3, 261–288. (R. C. MacCamy) **98e:73016** 73B30 (73D99)

— (*with* Natroshvili, David; Wendland, Wolfgang L.) Basic and mixed interface problems in the theory of elastic oscillations of anisotropic bodies. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 116–121, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 73D30 (35Q72, 73B40, 73C35)

Jeon, Hyeong-Gon (*with* Seo, Gyeong-Sig) Graded rings and Clifford systems for finite groups. *Bull. Honam Math. Soc.* **13** (1996), 39–45. (Piotr Grzeszczuk) **98f:16030** 16W50

Jeon, In Ho (*with* Kim, Jin Chun; Lee, Woo Young) On a spectral property of analytic operators. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 379–385. (Marek Ptak) **98i:47003** 47A10 (47A15)

Jeon, Jong Dsek (*with* Khe Kan Cher; Park, Ji Hyun; Jeon, Yong Hee; Choi, Jong Bae) Protter's conjugate boundary value problems for the two-dimensional wave equation. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 857–863. (A. Borzymowski) **98c:35103** 35L05 (35L20)

Jeon, Jong Woo (*with* Lee, Sang Ho; Kim, Woo Chul) Dual limit theorems for the generalized Curie-Weiss model: multiple global minima case. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 215–233. (Barbara Gentz) **98k:60027** 60F05 (60K35, 82B20)

— (*with* Lee, Sang Ho) Weak convergence of processes in a generalized Curie-Weiss model and its dual. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 855–865. (Barbara Gentz) **98k:60047** 60F17 (60K35, 82B20)

— (*with* Kim, Chi Yong) Asymptotic Gaussian structures in a critical generalized Curie-Weiss mean field model: large deviation approach. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 515–527. (F. Papangelou) **98f:60208** 60K35 (60F05, 60F10)

— (*with* Park, Dong Ho) Nonparametric tests for monotonicity properties of mean residual life function. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 101–115. (Summary) **98d:62083** 62G10 (62N05)

Jeon, Myung-Jin Existence of homotopic harmonic maps into metric space of nonpositive curvature. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 931–941. (Yuan-Jen Chiang) **98g:58038** 58E20

— Ideal boundary of CAT(0) spaces. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 95–107. (Tadeusz Januszkiewicz) **98j:53046** 53C23 (53C22)

Jeon, Tae Il Central limit theorems for a vector processes of non-linear functionals of Gaussian sequences of vectors. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 963–974. (From the introduction) **98a:60025** 60F05 (60G15)

— A central limit theorem for functionals of level overshoot by a Gaussian field with dependence. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 77–83. (Daniel W. Chambers) **98m:60028** 60F05 (60G15)

Jeon, Y. *see* **Jeon, Youngmok**

Jeon, Yong Hee (*with* Jeon, Jong Duek; Khe Kan Cher; Park, Ji Hyun; Choi, Jong Bae) Protter's conjugate boundary value problems for the two-dimensional wave equation. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 857–863. (A. Borzymowski) **98c:35103** 35L05 (35L20)

Jeon, Yongil (*with* Granger, Clive W. J.; Hyung, Namwon) Fractional stochastic unit root processes. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 190–204, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M10

Jeon, Young-Sik (*with* Choi, Seung-Bok; Cho, Seung-Sang) Vibration and tracking control of piezoceramic-based smart structures via quantitative feedback theory. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 596–605, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K12, 73K50, 93D15)

Jeon, Youngmok (*with* Kimn, Ha-Jine) A quadrature method for logarithmic-kernel integral equations on closed curves. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 929–954. (M. Z. Nashed) **98i:65106** 65N35 (45L05, 65R20)

— (*with* Sloan, I. H.; Stephan, Ernst P.; Elschner, Johannes) Discrete qualocation methods for logarithmic-kernel integral equations on a piecewise smooth boundary. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 547–571. (Andreas Rathsfeld) **98d:65167** 65R20

— (*with* Elschner, Johannes; Sloan, I. H.; Stephan, Ernst P.) The collocation method for mixed boundary value problems on domains with curved polygonal boundaries. (English summary) *Numer. Math.* **76** (1997), *no.* 3, 355–381. (Bruce A. Finlayson) **98h:65055** 65N35

Jeong, Dong-Myung (*with* Song, Myung-Unn; Song, Jae-Kee) Checking the additive risk model with martingale residuals. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 433–444. (Prafulchandra N. Jani) **98f:62292** 62N05 (62F05)

— (*with* Song, Myung-Unn; Song, Jae-Kee) Confidence bands for survival curve under the additive risk model. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 429–443. (Summary) **98m:62149** 62G15 (62N05)

Jeong, G. S. (*with* Rhoades, B. E.) Some remarks for improving fixed point theorems for more than two maps. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1177–1196. (Summary) **98j:54080** 54H25 (54E40)

— An interesting property of probabilistic 2-metric spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 393–402. 54H25 (47H10, 47S50, 54E70)

Jeong, Il-Kwon (*with* Lee, Ju-Jang) Evolving multi-agents using a self-organizing genetic algorithm. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 293–303. (Summary) **98h:92008** 92B99

Jeong, Ja A (*with* Park, Gie Hyun) Exponential rank of extensions of C^*-algebras. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 395–401. (Summary) **98f:46049** 46L05

Jeong, Jae Ug Fixed point theorems for fuzzy mappings in complete metric spaces. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 223–232. 54H25 (54A40)

— (*with* Park, Jong Yeoul; Han, Hyo Keun) Asymptotic behavior of solutions of fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 361–364. (Osmo Kaleva) **98j:34125** 34G20 (04A72, 34A12, 45G10)

— (*with* Park, Jong Yeoul) Strongly variational inequalities for fuzzy mappings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 475–482. 49J40 (47H19)

Jeong, Jin Gyo (*with* Shin, Ki-Yeon) Existence of solution of nonlinear functional-differential equations in general Banach spaces. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1003–1013. (Mary E. Parrott) **98j:34157** 34K30 (47N20)

— (*with* Shin, Ki-Yeon) Abstract functional-differential equations in Banach spaces. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 501–513. (Mary E. Parrott) **98g:34126** 34K30 (47H10, 47N20)

Jeong, Jin-Mun (*with* Park, Jong Yeoul; Kwun, Young Chel) Remark on controllability for semilinear evolution equation. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 143–157. (Hong Xing Zhou) **98c:93016** 93B05 (34G20, 34H05, 93C20)

— (*with* Park, Jong Yeoul; Kwun, Young Chel) Optimal initial functions of retarded control systems. (English summary) *Kybernetika* (*Prague*) **32** (1996), *no.* 5, 455–464. (A. Kósa) **98c:49052** 49K25

— (*with* Kwun, Young Chel; Park, Jong Seo; Ko, Bae-Jun) Approximate controllability of nonlinear delay parabolic equations under boundary control. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 67–82. (A. K. Nandakumaran) **98i:93004** 93B05 (35K55, 35R10, 93C20)

— (*with* Park, Jong Yeoul; Kwun, Young Chel) Optimal control for retarded control system. *Nihonkai Math. J.* **8** (1997), *no.* 1, 59–70. (Vyacheslav I. Maksimov) **98e:49062** 49K25 (34K35, 49J25)

Jeong, Kyeonghoon (*with* Kang, Seok-Jin; Lee, Hyeonmi) Lie-admissible algebras and Kac-Moody algebras. (English summary) *J. Algebra* **197** (1997), *no.* 2, 492–505. (Kaiming Zhao) **98k:17037** 17D25 (17B67)

— (*with* Hong, Jin; Kwon, Jae-Hoon) Integral points on hyperbolas. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 149–157. (Hartmut Menzer) **98e:11030** 11D09 (11H55)

Jeong, Meeseon (*with* Kim, Choongrak; Hong, Changkon; Yang, Meeyeong) Goodness-of-fit test for density estimation. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2725–2741. 62G05 (62G10)

Jeong, Moonja Continuous extendibility of the Szegő kernel. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 145–149. (Summary) **98j:30005** 30C40

Jeong, Sangtae Rational points on algebraic curves that change genus. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 170–181. (Laurent Denis) **98k:11085** 11G30 (11G09, 14G40)

Jerbi, Hamadi (*with* Xu, Cheng-Zhong) A robust PI-controller for infinite-dimensional systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 33–45. 93B36 (93C25)

Jeremías López, Ana (*with* Alonso Tarrío, Leovigildo; Lipman, Joseph) Local homology and cohomology on schemes. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 1–39. (Gennady Lyubeznik) **98d:14028** 14F99 (14B15)

Jerez Díaz, C. (*with* Betancor, Jorge J.) Convolution Watson integral transformations in spaces of generalized functions. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 209–216. (Gopi Ahuja) **98j:44002** 44A15 (46F12)

Jeribi, Aref Quelques remarques sur les opérateurs de Fredholm et application à l'équation de transport. (English and French summaries) [Some remarks on Fredholm operators and application to the transport equation] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 43–48. (Hassan Emamirad) **98e:47019** 47A53 (47G20, 47N55, 82C70)

Jerison, David (*with* Stroock, Daniel W.) Norbert Wiener. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 3–19, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (R. L. Cooke) **98c:01043** 01A70

— *see also* **Symposium: Legacy of Norbert Wiener, 98b:00039**

Jerison, Michael (*with* Evstigneev, Igor V.; Hildenbrand, W.) Metonymy and cross-section demand. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 397–414. (Summary) **98g:90016** 90A40

— *see also* **Errata: "Metonymy and cross-section demand"**

Jerman, Marjan Ruler and compass constructions. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 3, 73–78. 51M09

Jerome, Joseph W. ★ Analysis of charge transport. (English summary) A mathematical study of semiconductor devices. *Springer-Verlag, Berlin*, 1996. xii+167 *pp. ISBN* 3-540-60318-2 (G. Albinus) **98b:35206** 35Q99 (65Nxx, 76D99, 76X05, 82D99)

— (*with* Chen, Gui-Qiang; Zhang, Bo[4]) Particle hydrodynamic moment models in biology and microelectronics: singular relaxation limits. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 233–244. (*see* **98i:00027**) 35Q80 (35Q35, 76X05)

hertrich-Jeromin, U. *see* **Hertrich-Jeromin, U.**

Jéron, Thierry (*with* Quemener, Yves-Marie) Model-checking of infinite Kripke structures defined by simple graph grammars. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q60 (68Q50, 68R10)

Jerram, N. (*with* Belcher, S. E.; Hunt, J. C. R.) Turbulent flow through a distributed force—a model for the wind within and above an urban canopy. (English summary) *Flow and dispersion through groups of obstacles* (*Cambridge*, 1994), 157–173, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 86A10

Jerri, Abdul J. The DFT operational sum calculus method for solving difference equations with boundary conditions. (English summary) *J. Differ. Equations Appl.* **3** (1997), *no.* 1, 21–31. (Summary) **98b:39007** 39A10 (65R10, 65T20)

Jerrum, Mark (*with* Hirshfeld, Yoram; Moller, Faron) A polynomial-time algorithm for deciding bisimulation equivalence of normed basic parallel processes. (English summary) *Math. Structures Comput. Sci.* **6** (1996), *no.* 3, 251–259. (C. Masalagiu) **98a:68058** 68Q10 (68Q22, 68Q60)

— (*with* Frieze, Alan) Improved approximation algorithms for MAX k-CUT and MAX BISECTION. (English summary) *Algorithmica* **18** (1997), *no.* 1, 67–81. (Yixun Lin) **98a:90083** 90C27 (90C35)

— (*with* Gore, Vivek; Kannan, Sampath; Sweedyk, Z.; Mahaney, Stephen R.) A quasi-polynomial-time algorithm for sampling words from a context-free language. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 59–74. (Peter Kirschenhofer) **98b:68075** 68Q25 (68Q45)

— (*with* Goldberg, Leslie Ann; Leighton, Frank Thomson; Rao, Satish B.) Doubly logarithmic communication algorithms for optical-communicating parallel computers. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1100–1119. (Summary) **98h:68102** 68Q22 (68R05)

Jervell, Herman Ruge Thoralf Skolem: pioneer of computational logic. *Nordic J. Philos. Logic* **1** (1996), *no.* 2, 107–117 (*electronic*). (E. Mendelson) **98i:01031** 01A70 (03–03)

Jerwood, D. (*with* Artikis, T.; Moshakis, J.; Voudouri, A.) A stochastic model for proactive risk management decisions. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 87–95. 90A46

— (*with* Artikis, T.; Loukas, S.) A transformed geometric distribution in stochastic modelling. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 43–51. 60E07 (60K25)

Jespers, Eric (*with* Goodaire, Edgar G.; Polcino Milies, César) ★ Alternative loop rings. North-Holland Mathematics Studies, 184. *North-Holland Publishing Co., Amsterdam*, 1996. xvi+387 *pp. ISBN* 0-444-82438-3 (Orin Chein) **98e:17041** 17D05

— (*with* Leal, Guilherme) Free products of abelian groups in the unit group of integral group rings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1257–1265. (Alexander Zimmermann) **98j:16019** 16U60 (16S34, 20C05)

Jessup, Barry (*with* Cairns, Grant; Pitkethly, Jane) On the Betti numbers of nilpotent Lie algebras of small dimension. (English summary) *Integrable systems and foliations/Feuilletages et systèmes intégrables* (*Montpellier*, 1995), 19–31, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Joyce O'Halloran) **98c:17018** 17B56 (17B30)

— (*with* Cairns, Grant) New bounds on the Betti numbers of nilpotent Lie algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 415–430. (Yun Gao) **98a:17032** 17B56 (17B30)

— (*with* Murillo-Mas, Aniceto) Approximating rational spaces with elliptic complexes and a conjecture of Anick. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 269–280. (Yves Félix) **98j:55012** 55P62

hamilton-Jester, Crista Lee *see* **Hamilton-Jester, Crista Lee**

linhares de Jesus, C. *see* **Linhares de Jesus, C.**

Jetto, Leopoldo (*with* Grasselli, O. M.; Longhi, Sauro) Ripple-free dead-beat tracking for multirate sampled-data systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1437–1455. 93C57 (93B52)

— (*with* Longhi, Sauro) The invariant polynomial assignment problem for linear periodic discrete-time systems. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika* (*Prague*) **32** (1996), *no.* 6, 615–624. (T. Kaczorek) **98a:93030** 93B55 (93C55)

van der Jeugt, J. *see* **Van der Jeugt, J.**

Jeulin, T. (*with* Azéma, J.; Knight, Frank B.; Mokobodzki, Gabriel; Yor, Marc) Sur les processus croissants de type injectif. [On increasing processes of injective type] *Séminaire de Probabilités, XXX*, 312–343, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Martin Schweizer) **98k:60052** 60G07

Jevicki, Antal Introduction to path integrals, matrix models and strings. *Field theory, topology and condensed matter physics* (*Storms River Mouth*, 1994), 55–98, *Lecture Notes in Phys.*, 456, *Springer, Berlin*, 1995. (From the introduction) **98a:81175** 81T30 (81–02, 81S40, 81T40)

— (*with* Avan, J.; Lee, Julian) Yangian-invariant field theory of matrix-vector models. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 650–672. (Kazuhiro Hikami) **98c:81248** 81V70 (82B23)

— (*with* Mihailescu, Mihail; Nunes, João P.) Large N WZW field theory of $N = 2$ strings. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 334–340. (Summary) **98k:81222** 81T30

Jevremović, Vesna On some "paradoxes" in probability and statistics. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 181–186, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 60A99 (62A99)

Jevtić, Dušan B. On sum distinct sets of integral vectors. (English summary) *Ars Combin.* **45** (1997), 87–95. (Bruce Landman) **98g:11010** 11B13

Jevtić, Miroljub Embedding derivatives of $\mathcal{M}$-harmonic Hardy spaces into Lebesgue spaces. (English summary) *Math. Balkanica (N.S.)* **9** (1995), *no.* 4, 239–242. (Daniel H. Luecking) **98b:46030** 46E15 (32A35)

— A Bergman-Carleson measure characterization of $\mathcal{M}$-harmonic Bloch functions. (English summary) *Filomat No.* 10 (1996), 139–142. (Song Ying Li) **98c:32006** 32A37

— (*with* Massaneda, Xavier; Thomas, Pascal J.) Interpolating sequences for weighted Bergman spaces of the ball. *Michigan Math. J.* **43** (1996), *no.* 3, 495–517. (Daniel H. Luecking) **98c:32007** 32A37 (30H05, 46E15)

— Toeplitz operators on M-harmonic Hardy space $H^p_M(S)$ with $0 < p \le 1$. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 76–82. (Ke He Zhu) **98j:47061** 47B35

— Analytic Besov space B^p, $0 < p < 1$. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 127–136. (Summary) **98k:46051** 46E35 (32A35)

Jewell, Nicholas P. (*with* van der Laan, Mark J.) Generalizations of current status data with applications. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 141–148, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62P10

— (*with* van der Laan, Mark J.; Bickel, Peter J.) Singly and doubly censored current status data: estimation, asymptotics and regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 289–307. (Patricia B. Cerrito) **98m:62103** 62G05

— *see also* **Lifetime data: models in reliability and survival analysis**, **98a:62001**

Jeyakumar, V. (*with* Demyanov, V. F.) Hunting for a smaller convex subdifferential. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 305–326. (Jay S. Treiman) **98c:49042** 49J52 (90C48)

— Asymptotic dual conditions characterizing optimality for infinite convex programs. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 153–165. (Armin Hoffmann) **98g:90026** 90C25 (49N15, 90C48)

— (*with* Yang, Xiao Qi) First and second-order optimality conditions for convex composite multiobjective optimization. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 209–224. (Christiane Tammer) **98j:90067** 90C29 (49J52, 49K99, 90C26, 90C31)

Jeyaratnam, S. (*with* Panchapakesan, S.) An integrated formulation for selecting the best from several normal populations in terms of the absolute values of their means: common known variance case. (English summary) *Advances in statistical decision theory and applications*, 277–289, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Thomas J. Santner) **98m:62048** 62F07

Ježek, Jaroslav (*with* Drápal, Aleš; Kepka, Tomáš) Groupoids and the associative law. IX. Associative triples in some classes of groupoids. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 39–52. 20N02

— (*with* Kepka, Tomáš) Selfdistributive groupoids of small orders. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 463–468. (Norbert Endres) **98g:20102** 20N02 (20N05)

— Enumerating left distributive groupoids. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 717–727. (Norbert Endres) **98k:20109** 20N02 (20N05)

Jezequel, L. (*with* Remillat, C.) Application d'une méthode par critère d'optimalité à l'optimisation de revêtements amortissants. (French summary) [Application of an optimality criterion method to the optimization of damping layers] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 263–273 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (*see* **98g:73001**) 73K40 (49Q20, 73V05)

Jezierski, Jacek Conformal Yano-Killing tensors and asymptotic CYK tensors for the Schwarzschild metric. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1679–1688. (Piotr T. Chruściel) **98f:83032** 83C30 (83C40)

Jezierski, Jerzy (*with* Gonçalves, Daciberg Lima) Lefschetz coincidence formula on non-orientable manifolds. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 1–23. (Summary) **98m:55002** 55M20 (57S99)

Jha, Kanhaijee (*with* John, Johny K.) The rules of arithmetic progression according to Nārāyaṇa Paṇḍita. *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 48–52. (A. I. Volodarskiĭ) **98f:01014** 01A32

Jha, P. *see* **Jha, Purushottam**

Jha, Pranava K. (*with* Agnihotri, Naveen; Kumar, Rajesh[4]) Long cycles and long paths in the Kronecker product of a cycle and a tree. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 101–121. (Martin Sonntag) **98d:05083** 05C38 (05C45, 05C85)

— Kronecker products of paths and cycles: decomposition, factorization and bi-pancyclicity. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 153–167. (Summary) **98i:05108** 05C38 (05C70)

Jha, Purushottam (*with* Arya, S. P.) FR-compactness and fuzzy supercompactness. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 251–259 (1996). 54A40 (54D20)

— (*with* Arya, S. P.) Countable fuzzy paracompactness, fuzzy metacompactness and the extension theorem for point-finite fuzzy covers. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 53–61. 54A40 (54D20)

— (*with* Arya, S. P.) FT_2-fuzzy supercompact spaces, fuzzy compact finite spaces and infinite fuzzy compact net spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 171–179. 54A40 (54D20)

Jha, Somesh (*with* Browne, Anca; Clarke, Edmund M.; Long, David E.; Marrero, W.) An improved algorithm for the evaluation of fixpoint expressions. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 237–255. (Summary) **98b:68110** 68Q60

Jha, V. *see* **Jha, Vikram**

Jha, V. N. Indian method for testing correctness of fundamental operations. (English summary) *Ganita-Bhāratī* **18** (1996), *no.* 1-4, 21–24. (Summary) **98c:01003** 01A32

Jha, Vikram (*with* Johnson, Norman Lloyd[1]) Flocks of oval cones and extensions of theorems of Thas. (English summary) *Note Mat.* **14** (1994), *no.* 2, 189–197 (1997). (Laura Bader) **98e:51013** 51E21 (51E20)

— (*with* Johnson, Norman Lloyd[1]) Structure theory for point-Baer and line-Baer collineations in affine planes. (English summary) *Mostly finite geometries* (*Iowa City, IA*, 1996), 235–273, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (M. J. Kallaher) **98k:51004** 51A35 (51A40)

— (*with* Johnson, Norman Lloyd[1]) The doubly transitive flocks of quadratic cones. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 763–778. (M. J. Kallaher) **98k:51017** 51E20 (05B25, 20B25, 51E12)

Jhingan, S. (*with* Cooperstock, Fred I.; Joshi, Pankaj S.; Singh, Tejinder Pal) Cosmic censorship and the role of pressure in gravitational collapse. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2195–2201. (Patrick Dolan) **98i:83058** 83C75

— (*with* Virbhadra, K. S.; Joshi, Pankaj S.) Nature of singularity in Einstein-massless scalar theory. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 357–361. (Robert J. Low) **98h:83063** 83C75 (83C15)

Jhon, Chu Shik (*with* Kim, Jin-Soo[2]; Ha, Soonhoi) Relaxed barrier synchronization for the BSP model of computation on message-passing architectures. *Inform. Process. Lett.* **66** (1998), *no.* 5, 247–253. 68Q22 (68M10)

Ji, Ai Bing Fuzzy measure on locally compact space. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 989–995. 28E10 (04A72)

Ji, Chang Ming (*with* Wan, Zhong Ping; Chen, Kai Zhou) A smooth approximation method for solving single-state stochastic programming problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 565–569. 90C15

— (*with* Wan, Zhong Ping; Tan, Dai Fu) A reduced gradient approximation method for constrained minimax problems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 19–24. 90C30 (90D10)

Ji, Chuanshu (*with* Kira, E.) Rates of convergence for the Gibbs sampler. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 89–102. (Arnoldo Frigessi) **98f:60209** 60K35 (47D07, 47N30, 60J20, 65C05)

Ji, Chuanxiang (*with* Shivakumar, P. N.) Upper and lower bounds for inverse elements of finite and infinite tridiagonal matrices. (English summary) *Linear Algebra Appl.* **247** (1996), 297–316. (I. Gavrea) **98c:15057** 15A45 (33C10)

— (*with* Shivakumar, P. N.; Yan, Ning Ning) A finite element method for evaluating a double integral arising from a Dirichlet problem in fluid dynamics. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 627–634. (Summary) **98c:76070** 76M10 (65D30, 65N30)

— (*with* Shivakumar, P. N.) On the nonsingularity of matrices with certain sign patterns. (English summary) *Linear Algebra Appl.* **273** (1998), 29–43. (Pauline van den Driessche) **98m:15012** 15A09 (15A90)

Ji, Chuanyi (*with* Psaltis, Demetri) Capacity of two-layer feedforward neural networks with binary weights. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 256–268. (Summary) **98g:68147** 68T05 (92B20)

Ji, Chueng-Ryong (*with* Choi, Ho-Meoyng; Lee, Hyun Kyu) Non-abelian Berry's phase in a slowly rotating electric field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1281–1288. (Péter Pál Lévay) **98a:81270** 81V45 (53C80, 81Q15)

Ji, Chun Gang Normal integral bases in number fields of type $(2, 2, \cdots, 2)$. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 1, 1–5. (Ming Guang Leu) **98m:11112** 11R04 (11R20)

Ji, Da-Ren (*with* Ying, He-Ping; Chen, Feng) An application of loop-cluster algorithm for the 2D quantum Heisenberg antiferromagnet. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 398–401, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98e:81001**) 82B80 (82B20)

— (*with* Ying, He-Ping) A coherent updating algorithm for the XYZ model. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 3, 219–222. (Summary) **98f:82036** 82B20 (82B80)

Ji, Guang Rong (*with* Wang, Peng; Lu, Hong Tao[2]; Hu, Man Tian) 3D object recognition based on moment invariants. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 3, 366–372. 68T10

Ji, Guo Jun (*with* Song, Wen Zhong) Properties of solutions of superlinear neutral second-order differential equations. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **26** (1996), *no.* 6, *A*, 111–116. (Yi Zhong Lin) **98c:34112** 34K15 (34K40)

— (*with* Song, Wen Zhong) Forced oscillations of nonlinear functional-differential equations with damping. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 1, 109–112. 34K15

Ji, Guoxing Approximation by products of two self-adjoint operators. *Kyushu J. Math.* **50** (1996), *no.* 2, 263–273. (Cecelia Laurie) **98d:47040** 47A58 (47B15)

— (*with* Ohwada, Tomoyoshi; Saito, Kichi-Suke) A construction of subdiagonal algebras. (Japanese) Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 102–115. (*see* **98f:46002**) 47D25 (46L05)

— (*with* Ohwada, Tomoyoshi; Saito, Kichi-Suke) The triangular form of subdiagonal algebras. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 104–114. (*see* **98h:47004**) 47D25 (46L05)

— (*with* Ohwada, Tomoyoshi; Saito, Kichi-Suke) Certain invariant subspace structure of $L^2(\mathbf{T}^2)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2361–2368. (Takahiko Nakazi) **98j:47008** 47A15 (46J15, 47B38)

Ji, Jeong-Young (*with* Kim, Sang Pyo; Shin, Hak-Soo; Soh, Kwang-Sup) Coherence and emergence of classical spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3756–3758. (Summary) **98e:83060** 83C47 (83C99)

Ji, Lizhen Compactifications of symmetric spaces and locally symmetric spaces. *Geometric complex analysis* (*Hayama*, 1995), 297–308, *World Sci. Publishing, River Edge, NJ*, 1996. (Vadim A. Kaĭmanovich) **98j:53060** 53C35 (32M15)

— (*with* Wentworth, Richard) Correction to: "Spectral convergence on degenerating surfaces" [Duke Math. J. **66** (1992), no. 3, 469–501; MR 93g:32031]. *Duke Math. J.* **90**

(1997), *no.* 1, 205–207. (From the text) **98i:58239** 58G25 (58G11)

— Satake and Martin compactifications of symmetric spaces are topological balls. *Math. Res. Lett.* **4** (1997), *no.* 1, 79–89. (Azniv Kasparian) **98a:53073** 53C35 (22E46, 57S99)

— The trace class conjecture and the Weyl upper bound on the discrete spectrum of arithmetic groups. *Math. Res. Lett.* **4** (1997), *no.* 4, 501–511. (Werner Hoffmann) **98i:11037** 11F72 (22E40)

Ji, Min Multiplicity of periodic solutions to Birkhoff's billiard ball problem. *Chinese Sci. Bull.* **42** (1997), *no.* 5, 353–355. (Roberto Markarian) **98g:58145** 58F22 (70F35)

Ji, Pei Sheng Isometric algebraic isomorphisms between nonselfadjoint operator algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 4, 477–482. (Deguang Han) **98g:46081** 46L05 (47D25)

— Facial structure in JB-algebras. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 36–42. (Summary) **98c:46147** 46L70 (46B20, 46H70)

— Local derivations on triangular subalgebras in hyperfinite von Neumann algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 248–250. 46L57 (46L10)

Ji, Ping (*with* Lee, Wing Bun; Li, Hongyu) A new algorithm for the assignment problem: an alternative to the Hungarian method. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1017–1023. 90C27 (90C35)

Ji, Qing Zhong (*with* Tian, Bao Guang) Generalized ridge–principal component estimation and its properties. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 287–292. 62J07

Ji, Shanyu New approaches to the Riemann mapping theorem. *Geometric complex analysis (Hayama, 1995)*, 309–316, *World Sci. Publishing, River Edge, NJ*, 1996. (James J. Faran, V) **98i:32033** 32H02 (32F25, 53C56)

Ji, Un Cig (*with* Chung, Dong Myung; Chung, Tae Su) A simple proof of analytic characterization theorem for operator symbols. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 421–436. (A. V. Uglanov) **98g:46055** 46F25 (46G12)

Ji, Wang (*with* Dang Van Hung) On the design of hybrid control systems using automata models. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 156–167, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68Q60 (68Q68)

Ji, Weijun (*with* Venkatasubramanian, Vaithianathan) Numerical approximation of $(n-1)$-dimensional stable manifolds in large systems such as the power system. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1877–1883. (Summary) **98f:93011** 93D05 (93C10)

Ji, Wen Duo (*with* Feng, Zhao Sheng; Fei, Shu Min) Analytic solutions of a generalized Klein-Gordon equation. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 222–226. 35Q53 (35C99)

Ji, Xi-ping (*with* Wang, Bing Hong[1]; He, Da-Ren; Guan, Shan; Sun, Jian-gang; Qu, Shi-Xian) Escaping from strange sets in discontinuous circle map. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 249–252. (Frederick R. Marotto) **98d:58124** 58F13

Ji, Xiao Da (*with* Calogero, Francesco) C-integrable nonlinear PDEs. IV. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6781–6794. (Emma Previato) **98b:58069** 58F07 (35F20, 35Q58, 58F37)

Ji, Xing Min Integral inequalities for compact minimal submanifolds in spaces of quasiconstant curvature. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 2, 15–18. (Chuan Yu Ma) **98d:53091** 53C42

Ji, Xinhua Asymptotic behavior for n-dimensional Lotka-Volterra systems. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 112–115, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 34D05 (92D40)

— Poisson kernel for a degenerate elliptic equation and applications to boundary value problems. (English summary) *Potential Anal.* **7** (1997), *no.* 3, 705–724. (Guido Sweers) **98i:35071** 35J70 (31B35)

Ji, You Qing (*with* Jiang, Chun Lan; Wang, Zong Yao) The closure of unitary orbit of the set of strongly irreducible operators in nest algebras and approximation theorem. *Northeast. Math. J.* **12** (1996), *no.* 3, 253–256. (Randall Crist) **98i:47039** 47D25 (47A58)

— (*with* Jiang, Chun Lan; Wang, Zong Yao) Essentially normal + small compact = strongly irreducible. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 485–494. (Hari Bercovici) **98i:47011** 47A55 (47B15)

— (*with* Jiang, Chun Lan; Wang, Zong Yao) The strongly irreducible operators in nest algebras. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 28–44. (Allan P. Donsig) **98b:47057** 47D25 (47A99)

— (*with* Jiang, Chun Lan; Wang, Zong Yao) The unitary orbit of strongly irreducible operators in the nest algebra with well-ordered set. *Michigan Math. J.* **44** (1997), *no.* 1, 85–98. (Allan P. Donsig) **98a:47047** 47D25 (47A10, 47A65, 47A99)

Ji, Zhen Yu Generalized variance analysis principles for a class of factor experiments. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 159–164. 62J10

Ji, Zhong Zhen (*with* Wang, Bin[1]; Zeng, Qing Cun) A preliminary study on the theory of splitting algorithms. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 115–126; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 3, 12–25. 65M06 (65M30)

— (*with* Wang, Bin[1]; Zeng, Qing Cun) A class of new explicit Runge-Kutta schemes. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 2, 195–205. (Masaharu Nakashima) **98b:65085** 65L06

— (*with* Wang, Bin[1]; Zeng, Qing Cun) Symplectic operator method and its test. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 3, 345–353. (Summary) **98d:65107** 65L99 (58F05, 65M99, 65N99)

Jia, Bao Guo Stability of the zero solution for some neutral systems with infinite delay. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **35** (1996), *no.* 4, 31–36. (Wantong Li) **98a:34084** 34K20 (34K40)

— A higher-dimensional bounded-delay difference-differential inequality and its application. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 2, 42–47. (Daoyi Xu) **98c:34123** 34K20 (34K40)

— Stability of large-scale neutral linear systems with variable coefficients. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 6, 53–56. 34K20 (34K40, 93D05)

— (*with* Zhou, Zuo Ling) Hausdorff measure of sets of finite type of one-sided symbolic space. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 261–269. (Summary) **98a:28002** 28A78

Jia, Chao Hua On the Piatetski-Shapiro-Vinogradov theorem. *Acta Arith.* **73** (1995), *no.* 1, 1–28. (John B. Friedlander) **98b:11107** 11P32 (11N35, 11P55)

— The greatest prime factor of the integers in a short interval. IV. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 160. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 4, 433–445. (Ming Gao Lu) **98f:11098** 11N05 (11L03)

Jia, Chun-Sheng (*with* Wang, Xiao-Guo; Yao, Xiao-Ke; Chen, Pu-Chun; Xiao, Wei) A unified recurrence operator method for obtaining normalized explicit wavefunctions for shape-invariant potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4763–4772. 81Q05

Jia, F. *see* **Jia, Fang**

Jia, Fang Solutions of the Seiberg-Witten equation on the flat Euclidean space $\mathbf{R}^8$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 746–751. (Weimin Chen) **98k:58242** 58G30 (57R57)

Jia, Fang (*with* Jiang, Jin) A robust fault diagnosis scheme based on signal modal estimation. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 461–475. 93E12

Jia, Guo Ping A new algorithm for the solution of constrained L_∞ problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 20–29. 90C08 (65K05)

Jia, Ji Shen (*with* Zhang, Yuan Lin; Wang, Tai Peng) Reliability analysis of a consecutive $(n-1)$-out-of-n:G repairable system. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 807–811. 90B25

— (*with* Zhang, Yuan Lin) A fault repair model incorporating preventive maintenance time. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 425–432. 90B25 (60K30)

Jia, Jian Yuan (*with* Li, Zhi Wu; Ye, Shang Hui) A formal design method for Petri not controllers for sequential manufacturing systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 213–219. 93C83 (93B52)

Jia, Lu (*with* Yang, Xiao Po) The $(i,\cdots,j)$-inverse of a morphism in a category with an involution. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 44–47. 18A20

Jia, Pei Zhang (*with* Li, Hai Tao) The optimal orthonormal wavelets for subband coding. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 180–186. 94A11 (65T20)

Jia, Peifa (*with* Li, Dafa) Automated natural deduction prover and experiments. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 153–157, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B35 (68Q05, 68T15)

Jia, Rong Qing Refinable shift-invariant spaces: from splines to wavelets. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 179–208, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (41A15)

— Perturbation of polynomial ideals. *Adv. in Appl. Math.* **17** (1996), *no.* 3, 308–336. (Thomas Garrity) **98h:13027** 13F20 (41A15)

— Partition of unity and density: a counterexample. (English summary) *Constr. Approx.* **13** (1997), *no.* 2, 251–260. (Dinh Dung) **98c:41011** 41A15 (41A25)

— (*with* Lei, Junjiang; Cheney, E. W.) Approximation from shift-invariant spaces by integral operators. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 481–498. (P. L. Butzer) **98h:41026** 41A35 (41A63, 65D10)

— Approximation properties of multivariate wavelets. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 647–665. (Dinh Dung) **98g:41020** 41A25 (41A63, 42C15)

— (*with* Lee, Seng Luan; Sharma, Ambikeshwar) Spectral properties of continuous refinement operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 729–737. (Amos Ron) **98e:39008** 39B32 (39B42, 41A15)

Jia, Rui-Zhong (*with* Caccetta, Louis) Binary labeling of graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 119–137. (Yixun Lin) **98c:05142** 05C78

Jia, Xiaohua (*with* Wang, Lusheng) Fixed topology Steiner trees and spanning forests with applications in network communications. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 373–382, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R10

Jia, Yuting (*with* Zhou, Hai Yun) Approximating the zeros of accretive operators by the Ishikawa iteration process. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 2, 153–167. (P. S. Milojević) **98d:47118** 47H06 (47H17)

— (*with* Zhou, Hai Yun) On the Mann and Ishikawa iteration processes. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 341–349. (B. E. Rhoades) **98k:47116** 47H10 (47H17)

— Unitary representations of the q-Virasoro algebras. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 449–452. (Summary) **98k:17032** 17B68

Jia, Zhen Sheng (*with* Dai, Wei Ji) A sufficient condition for the codiameter. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 143–144. 05C38

Jia, Zhong Zhen (*with* Wang, Song Gui) Some recent developments in E. Pitman's measures of closeness. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 4, 429–438. 62F10

Jia, Zhongxiao Refined iterative algorithms based on Arnoldi's process for large unsymmetric eigenproblems. (English summary) *Linear Algebra Appl.* **259** (1997), 1–23. (Summary) **98c:65060** 65F15 (15A18)

— A refined iterative algorithm based on the block Arnoldi process for large unsymmetric eigenproblems. (English summary) *Linear Algebra Appl.* **270** (1998), 171–189. (J. Segethová) **98m:65055** 65F15

Jian, Hongmei (*with* Vologodskii, Alexander V.; Schlick, Tamar) A combined wormlike-chain and bead model for dynamic simulations of long linear DNA. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 168–179. 92D20

Jian, Huai Yu (*with* Xiao, Ling) Global smooth solutions to the spatially periodic Cauchy problem for dissipative nonlinear evolution equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 262–274. (Vitaly A. Volpert) **98d:35103** 35K55 (35Q35, 76E15, 76R99)

— Global smooth solutions to a system of dissipative nonlinear evolution equations. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 158–168. (Guido Schneider) **98d:35185** 35Q35 (35K55, 47H10, 47N20)

— Lipschitz estimates for Nash equilibria of variational integrals. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 97–102. (Summary) **98d:49033** 49K40 (90C31, 90D10)

Jian, Jinbao A generalized projection-successive linear equations algorithm for nonlinearly equality and inequality constrained optimization and its rate of convergence. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 343–354. (Summary) **98j:90072** 90C30 (65K05)

Jian, Ming (*with* Yu, Xiao Pei) Properties of normal families of operator-valued analytic functions. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **30** (1996), *no.* 4, 399–401. (Jin-Chuan Hou) **98e:47021** 47A56 (47A60)

— An extremal property of analytic operator functions. (English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 1, 47–54. (Kazimierz Włodarczyk) **98j:47032** 47A56 (46G20, 47A60)

— Generalized Schwarz's lemma for analytic operator functions. (English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 4, 445–448. (T. Ando) **98d:47036** 47A56 (47A60, 47B15)

— (*with* Yang, Chang Sen) Harnack's inequalities for analytic operator functions. *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 437–442. (T. Ando) **98m:47014** 47A56 (47A30)

Jiang, B. (*with* Ingram, D. M.; Causon, D. M.; Saunders, Robert) Numerical prediction of confined gas cloud detonation. (English summary) *Flow and dispersion through groups of obstacles* (*Cambridge*, 1994), 211–225, *Inst. Math. Appl. Conf. Ser. New Ser.*, 62, *Oxford Univ. Press, New York*, 1997. (*see* **98e:86001**) 76M99 (76L05, 76N15, 80–08)

Jiang, Bin (*with* Wang, Xian Lai; Zhang, Si Ying) Exponential stabilization for a class of nonlinear composite systems with unmatched uncertainties. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 759–764. 93D15 (93A14)

Jiang, Bo-Nan On the least-squares method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 239–257. (Summary) **98m:65191** 65N30 (65M60, 76M10)

Jiang, Chang Jun (*with* Zheng, Ying Ping; Shu, Song Gui) Performance analysis of arbitrary stochastic Petri nets based on behavior expression. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 370–376. 68Q90

— (*with* Wu, Zhe-Hui) Two new algorithms for matrix multiplication and vector convolution. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 27–36. (Summary) **98d:65056** 65F30 (68Q25, 68Q40)

— (*with* Yan, Chun Gang) Isomorphic factor decompositions of tensor product graphs. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 303–306. 05C70

Jiang, Cheng Shun (*with* Li, Hai Feng) The Cauchy problem, Harnack inequality, and initial trace for a class of porous medium equations in N dimensions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 231–241. (Jianzhong Su) **98h:35136** 35K65 (35Q35)

— (*with* Xie, Chun Hong) Asymptotic behavior of the solutions to a chemical reaction-diffusion system. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 193–204; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 2, 137–149. (L. Hsiao) **98m:35099** 35K57 (35B40, 92E20)

— (*with* Li, Hai Feng) Nonlocal IBVP for a reaction-diffusion system. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 47–54. (Vladimir Grebenev) **98h:35115** 35K57

Jiang, Chuanhai (*with* Wu, Xiao Wei) Approximation of multidimensional maps with fading memory and identification of system. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 114–118. 93B30 (93C60)

Jiang, Chun Lan (*with* Wang, Zong Yao) Recent research on completely reducible operators. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 3, 30–34. (Pei Yuan Wu) **98d:47041** 47A58 (47A55, 47A65, 47B99)

— (*with* Ji, You Qing; Wang, Zong Yao) The closure of unitary orbit of the set of strongly irreducible operators in nest algebras and approximation theorem. *Northeast. Math. J.* **12** (1996), *no.* 3, 253–256. (Randall Crist) **98i:47039** 47D25 (47A58)

— (*with* Ji, You Qing; Wang, Zong Yao) Essentially normal + small compact = strongly irreducible. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 485–494. (Hari Bercovici) **98i:47011** 47A55 (47B15)

— (*with* Chen, Xiaoman) The closure of unitary orbit for strongly irreducible operators in a class of nest algebras. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 285–293. (Kenneth R. Davidson) **98h:47024** 47A58 (47D25)

— (*with* Ji, You Qing; Wang, Zong Yao) The strongly irreducible operators in nest algebras. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 28–44. (Allan P. Donsig) **98b:47057** 47D25 (47A99)

— (*with* Ji, You Qing; Wang, Zong Yao) The unitary orbit of strongly irreducible operators in the nest algebra with well-ordered set. *Michigan Math. J.* **44** (1997), *no.* 1, 85–98. (Allan P. Donsig) **98a:47047** 47D25 (47A10, 47A65, 47A99)

Jiang, Chunxuan (*with* Liang, Bing Gui) On the Yu-Goldbach prime theorem. (Chinese. Chinese summary) *Guangxi Sci.* **3** (1996), *no.* 1, 9–12. 11P32

Jiang, Cui Po (*with* Meng, Dao Ji) Relations of representations of A_∞ and C_∞. *Chinese Sci. Bull.* **41** (1996), *no.* 14, 1155–1159. (From the text) **98h:17007** 17B10

— (*with* Meng, Dao Ji) The relation between representations of A_∞ and C_∞. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 15, 1351–1354. (Liang Chen) **98d:17011** 17B10

— (*with* Meng, Dao Ji) The vertex representation of the affine Lie algebra B_∞. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 419–422. (Summary) **98d:17012** 17B10 (17B67)

— (*with* Meng, Dao Ji) The realization and structure of complete Lie algebras whose nilpotent radicals are Heisenberg algebras. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 383–385. 17B05

— (*with* Meng, Dao Ji) The derivation algebra and the universal central extension of the q-analog of the Virasoro-like algebra. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1335–1346. (Vladimir S. Mazorchuk) **98m:17027** 17B40 (17B68)

— (*with* Meng, Dao Ji) The classification of complete Lie algebras with commutative nilpotent radical. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 15–23. (Aleksandr A. Mikhalev) **98h:17002** 17B05

Jiang, D. C. (*with* Teo, Kok Lay; Yan, Wei Yong) A new computational method for the functional inequality constrained minimax optimization problem. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 53–63. (Summary) **98c:49066** 49M15 (90C34)

Jiang, Da Qing Existence of positive solutions for third-order nonlinear differential equations. (Chinese. English and Chinese summaries) *Donghei Shida Xuebao* **1996**, *no.* 4, 6–10. (Shao Zhu Chen) **98e:34039** 34B15 (47N20)

— A four-point boundary value problem for nonlinear equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 68–76. (Alberto Cabada) **98d:34031** 34B10 (34B15, 47N20)

— (*with* Wang, Jun Yu) A generalized periodic boundary value problem for the one-dimensional p-Laplacian. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 265–270. (Anna Capietto) **98d:34035** 34B15 (47H15, 47N20)

— (*with* Wang, Jun Yu) A unified approach to some two-point, three-point, and four-point boundary value problems with Carathéodory functions. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 223–232. (Johnny Henderson) **98d:34033** 34B10 (34B15)

Jiang, Dechang (*with* Sun, Xie Hua) On the convergence rate of Hermite-Fejér interpolation at zeros of Jacobi polynomials. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 293–304. (J. Szabados) **98k:41039** 41A35 (33C45)

Jiang, Deqming (*with* Liu, Wen[1]) An extension of a strong limit theorem on random selection. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 4, 289–309. (Andrew Rosalsky) **98m:60045** 60F15

Jiang, Fangming (*with* Chen, Jianlong) t-flatness of injective modules. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 3, 263–269. (B. M. Pandeya) **98a:16004** 16D50 (16S90)

Jiang, Feng (*with* Ren, Fuyao; Zhao, Xing Qiu; Qiu, Weiyuan; Su, Feng; Qiang, Shaoxing; Shen, Pinpin) Local fractional Brownian motions and Gaussian noises and application. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 4, 361–373. (Summary) **98b:60075** 60G15 (28A80, 60G17)

Jiang, George J. (*with* Knight, John L.) A nonparametric approach to the estimation of diffusion processes, with an application to a short-term interest rate model. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 615–645. (Summary) **98m:62306** 62P20

Jiang, Gong Jian A class of Baskakov-Durrmeyer type operators. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **15** (1996), *no.* 6, 118–123. (Jia-Ding Cao) **98c:41035** 41A35 (41A25)

Jiang, Guang Feng (*with* Feng, Jiaxin) An algorithm to produce the structure sequence of arrangement. (English summary) *Singularities and complex geometry* (*Beijing*, 1994), 83–92, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Johann Linhart) **98f:52013** 52B30 (32S70)

— Symmetry properties of linear singularities. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 357–360. (Yang Cheng Li) **98k:58025** 58C27

Jiang, Guo Jun The application of neural networks in plane routing. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **24** (1997), *no.* 4, 317–321. 92B20

— An algorithm for finding Hamiltonian cycles using Hopfield networks. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 6, 792–797. 05C45

Jiang, Guo Ping (*with* Song, Wen Zhong) A new kind of state PI regulator. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 786–792. 93C99

— (*with* Song, Wen Zhong) Tracking problems in state feedback control of discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 292–296. 93C55 (93B52)

Jiang, Guoyong (*with* Sarkar, Sanat K.) Some asymptotic tests for the equality of the covariance matrices of two dependent bivariate normals. (English summary) *Biom. J.* **40** (1998), *no.* 2, 205–225. 62H15

Jiang, H. *see* **Jiang, Haitao**

Jiang, Hai Jing (*with* Yang, Run Sheng) The set of weakly almost periodic points of a continuous self-map of an interval. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 16–19. 58F13 (58F11)

— (*with* Yang, Run Sheng) Mappings with a semi-pseudo-shift invariant set. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 16–20. (Summary) **98g:54097** 54H20 (54C70)

Jiang, Haitao (*with* Blackmore, D. L.; Leu, M. C.; Wang, Li Ping) Swept volumes: a retrospective and prospective view. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 81–101. (*see* **98g:65008**) 65D17 (65–02)

Jiang, Hong (*with* Yu, Run Yi) Sampled data systems with generalized holders—structural properties and robust adaptive control. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 684–688. 93C40 (93B35)

Jiang, Hong Yan (*with* Xiao, Ai Guo; Yang, Min; Wen, Li Ping) Some notes on symplectic Runge-Kutta methods. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 5–7. 65L06

— (*with* Li, Shou Fu) Computation of the measure of stability for multistep methods. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 8–13. 65L20

Jiang, Houyuan (*with* Wei, Zeng Xin; Qi, Liqun) Some convergence properties of descent methods. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 177–188. (Summary) **98i:90094** 90C30 (65K05)

— (*with* Qi, Liqun) Semismooth Karush-Kuhn-Tucker equations and convergence analysis of Newton and quasi-Newton methods for solving these equations. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 301–325. (G. M. Ostrovsky) **98e:90169** 90C30 (65K05)

— (*with* Qi, Liqun) A new nonsmooth equations approach to nonlinear complementarity problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 178–193. (Stefan Scholtes) **98b:90145** 90C33 (49J52)

Jiang, Hua Guang (*with* Finke, G.) A variant of the permutation flow shop model with variable processing times. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 123–140. (Summary) **98e:90074** 90B35 (90C27)

Jiang, Ing-Guey (*with* Ko, Chung-Ming) Force-free magnetic fields on curvilinear coordinate surfaces. (English summary) *Astrophys. Space Sci.* **245** (1996), *no.* 1, 117–129. (Summary) **98b:76080** 76W05

Jiang, J. *see* **Jiang, Jin**

Jiang, Ji Fa Periodic monotone systems with an invariant function. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1738–1744. (Summary) **98h:34089** 34C35 (34D20)

— Qualitative investigation of the second order equation $\ddot{x} + f(x, \dot{x})\dot{x} + g(x) = 0$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 325–342. (Gabriele Villari) **98m:34077** 34C15 (34C05, 34C10, 34D20)

— The global stability of a class of second order differential equations. *Nonlinear Anal.* **28** (1997), *no.* 5, 855–870. (A. Ya. Savchenko) **98a:34048** 34D20

Jiang, Ji-Han (*with* Chang, Chin-Chen; Buehrer, Daniel J.) A new method for temporal join using a priority search tree. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 3, 1–13. (Summary) **98f:68061** 68P15

Jiang, Jia Hui (*with* Gao, Wang Dong; Zhang, Yong[2]) A center-line method for solving large-scale sparse systems of linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 92–98. 65F50

Jiang, Jian Fei (*with* Fujii, Masatoshi; Kamei, Eizaburo) Applications of Furuta inequality based on a simple characterization of chaotic order. Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 98–105. (*see* **98e:00020**) 47A63

— (*with* Fujii, Masatoshi; Kamei, Eizaburo) Complements to the Furuta inequality. IV. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 511–518. (Frank Hansen) **98i:47015** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Kamei, Eizaburo) A characterization of orders defined by $A^6 \geq B^6$ via Furuta inequality. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 519–525. (Frank Hansen) **98g:47016** 47A63 (47B15)

— (*with* Kamei, Eizaburo; Fujii, Masatoshi) The monotonicity of operator functions associated with the Furuta inequality. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 337–343. (Frank Hansen) **98j:47039** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Kamei, Eizaburo) A geometrical structure in the Furuta inequality. II. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 37–46. (Frank Hansen) **98f:47020** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Kamei, Eizaburo) Characterization of chaotic order and its application to Furuta inequality. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3655–3658. (Frank Hansen) **98b:47023** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Kamei, Eizaburo) Characterization of chaotic order and its applications to Furuta's type operator inequalities. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 339–349. (Summary) **98m:47020** 47A63 (47B15)

Jiang, Jianmin (*with* Shi, Miaogen) A logarithmic barrier Newton method for semidefinite programming. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 168–175. (Dorel Duca) **98e:90161** 90C30 (90C05, 90C08)

Jiang, Jiann-Sheng (*with* Lin, Chi-Kun) Nonlocal effects induced by homogenization of second order differential equation. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 131–148, *World Sci. Publishing, River Edge, NJ*, 1996. (Taras A. Mel'nyk) **98b:35020** 35B27 (73B27)

Jiang, Jiming Wald consistency and the method of sieves in REML estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1781–1803. (N. C. Weber) **98f:62061** 62F12

— A derivation of BLUP—best linear unbiased predictor. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 321–324. (Summary) **98b:62122** 62J05

— Sharp upper and lower bounds for asymptotic levels of some statistical tests. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 395–400. (Summary) **98j:62036** 62G10

Jiang, Jin (*with* Jia, Fang) A robust fault diagnosis scheme based on signal modal estimation. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 461–475. 93E12

Jiang, Jin Sheng (*with* Cheng, Xiao Liang) Locally mass-preserving higher-order Taylor-Hood elements. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 193–197. 76M10 (65M12, 76D05)

Jiang, Jing Ping (*with* Zhu, Tong; Yu, Jiang) An identification method for a kind of Wiener model with time-delayed control. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 81–86. 93E12

Jiang, Jiuxing (*with* Liu, Shutian; Zhang, Yan; Zhang, Jingde) Generalized fractional Fourier transforms. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 973–981. (Summary) **98a:81002** 81–08

Jiang, Jun[2] (*with* Zhang, Yao) A new relationship among the eigenvalues of iterative matrices. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 2, 6–13. (Jin Yun Yuan) **98f:65044** 65F15 (15A18)

Jiang, Li Fan (*with* Zhang, Li Hua) Controllability for a class of systems under boundary control and its implementation by neural networks. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 3, 36–39. 93C15 (93B05, 93C83)

Jiang, Li Fen (*with* Zhu, Ben Fu) Using PDEs to construct an interpolation surface over a triangular mesh. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 97–101. 65D17 (65N30)

Jiang, Li Li (*with* Qin, Zhong Ping) Equivalence classes of matrices related to $(2^r, (2^r - 1)!)$ Latin arrays. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 2, 110–112. 05B15 (15A21)

Jiang, Li Qiang (*with* Ma, Zhi En; Wang, Wen Di) Effects of toxicants on population survival. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 8–18. (Summary) **98i:92045** 92D40 (92D25)

— (*with* Song, Guo Hua) The stability of large-scale Volterra integrodifferential systems. II. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 71–76. (Summary) **98j:45005** 45J05 (34K20, 45M10)

Jiang, Li Zhong (*with* Zhao, Yue Yu) Global bifurcation and chaotic behavior of thin elastic plates in a noninertial system. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 3, 28–33. 73K10 (34C23, 58F13, 58F40)

Jiang, Ling Fang (*with* Hu, Jian Lan; Wang, Lian Gui) Analytic traveling wave solutions for some classes of nonlinear equations. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 3, 41–45. (Song Mu Zheng) **98a:35117** 35Q53 (35K57, 35Q80, 92D25, 92E99)

Jiang, Lishang (*with* Chen, Zhi Ming[1]; Hoffmann, Karl-Heinz[1]) On the Lawrence-Doniach model for layered superconductors. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 369–387. (Ioan Bâldea) **98k:82202** 82D55 (35Q55)

— (*with* Hoffmann, Karl-Heinz[1]; Yu, Wanghui; Zhu, Ning) Models of superconducting-normal-superconducting junctions. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 59–91. (J. R. Ockendon) **98k:82204** 82D55 (35K99, 35Q55)

Jiang, Marc Méthodes heuristiques pour le problème du T-coloriage avec ensembles. (English and French summaries) [Heuristic methods for the set T-coloring problem] *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 75–99. 90C27 (90C90)

Jiang, Mei Qun Matrix analysis of domain decomposition methods for the biharmonic equation. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 1–6. 65N55

Jiang, Miaohua (*with* Bunimovich, Leonid A.) Dynamics of spatial averages. (English summary) *Chaos* **7** (1997), *no.* 1, 21–26. (Athanasios Yannacopoulos) **98b:58099** 58F11

Jiang, Min-Yee (*with* Beddhu, Murali; Taylor, Lafayette K.; Whitfield, David L.) Computation of steady and unsteady flows with a free surface around the Wigley hull. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 67–84. (*see* **98g:00021**) 76M20

Jiang, Ming Hui (*with* Guo, Zhong) The properties of paw form matrices and their inverse eigenvalue problems. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 4, 18–23. 15A57 (15A18)

Jiang, P. L. *see* **Jiang, Peilei**

Jiang, Pei Lin (*with* Liu, Fang Ling) Some problems concerning the relationships between the development of science and technology in China and traditional Chinese culture. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 121–126. 01A25

Jiang, Peilei (*with* Jandhyala, V. K.) Eigenvalues of a Fredholm integral operator and applications to problems of statistical inference. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 4, 413–427. (Summary) **98b:45001** 45B05 (45P05, 47G10, 62F99)

Jiang, Ping (*with* Han, Sheng Lian; Jiang, Shi Qin) Analytic solutions for compensated MIMO fuzzy systems. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 2, 218–223. 93C42 (04A72)

Jiang, Qing (*with* Beatty, Millard F.) On compressible materials capable of sustaining axisymmetric shear deformations. II. Rotational shear of isotropic hyperelastic materials. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 2, 211–237. (Summary) **98d:73024** 73C50 (73G05)

Jiang, Qing Rong (*with* Zhang, Ze Yin; Huang, Da Ren) Decomposition of higher-dimensional wavelet packets. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 3, 277–285. 42C15

— (*with* He, Wen Jiong) Increasing life insurances with randomness in interest rates. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 145–152. 90A09 (60G99, 62P05)

Jiang, Qingshan (*with* Suzuki, Hisakichi; Wang, Zhenyuan; Klir, George J.) Exhaustivity and absolute continuity of fuzzy measures. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 231–238. 28E10

Jiang, Qingtang (*with* Lee, Seng Luan) Spectral properties of matrix continuous refinement operators. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 383–399. (Gabriel Dimitriu) **98g:65040** 65F30 (65D99)

— Rotation invariant ambiguity functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 561–567. (Walter Schempp) **98g:42054** 42C15 (94A12)

Jiang, Rongzhi (*with* Yamamoto, Kyoji; Yanase, Shinichiro) Stability of the flow in a helical tube. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 3, 153–170. 76E10

Jiang, Rui Quan (*with* Feng, Xue Bin; Shen, Bing; Wang, Xiao Chun[1]) Oscillation-free uniform cubic B-spline interpolation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 2, 57–62. 41A15 (41A63, 65D07)

Jiang, Shao En Numerical solutions to wave equations based on the fast Hankel transform. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 3, 161–166; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 1–8. 65M99 (65R10)

Jiang, Sheng Conformally flat minimal hypersurfaces in a hyperbolic space. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 343–346. (Pascual Lucas Saorin) **98g:53110** 53C42

Jiang, Sheng Yi Criteria for strong influence points of linear regression models. (Chinese. Chinese summary) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 5, 27–31. 62J05 (62F25)

Jiang, Shi Qin (*with* Han, Sheng Lian; Jiang, Ping) Analytic solutions for compensated MIMO fuzzy systems. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 2, 218–223. 93C42 (04A72)

Jiang, Shouli On a Katuta-Junnila problem. (English summary) *Bull. Allahabad Math. Soc.* **8/9** (1993/94), 63–68 (1997). (Summary) **98b:54031** 54D20

— (*with* Cao, Jiling; Reilly, Ivan L.) Covering properties of some generalized metric spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 103–107. (Summary) **98m:54031** 54E35 (54D20)

Jiang, Shoushan (*with* Eberhard, Peter) Collision detection for contact problems in mechanics with a boundary search algorithm. (English summary) *Math. Model. Systems* **3** (1997), *no.* 4, 265–281. 70B15 (65Y25, 70–04, 70E99)

Jiang, Shu Qiang (*with* Wang, Yong Li; Zheng, Hui Qin; Zhang, Ding Bang) A simplified proof of the Dirichlet formula and its application. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **15** (1996), *no.* 4, 104–106. (Summary) **98f:33005** 33C05

— Some properties of bilinear functions. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 1, 94–102. 15A63

Jiang, Shu Zhen The proximate zero order (R) of the generalized Laplace-Stieltjes transform. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 292–296. (Bao Qin Li) **98j:44003** 44A15 (30D99)

Jiang, Song Global smooth solutions to a one-dimensional nonlinear thermoviscoelastic model. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 771–787. (Michael Renardy) **98k:35190** 35Q72 (73B30, 73F15)
— (*with* Muñoz Rivera, Jaime E.) The thermoelastic and viscoelastic contact of two rods. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 423–458. (Kenneth Kuttler) **98m:73076** 73T05 (35Q72, 73B30, 73F15)
Jiang, Tan (*with* Yau, Stephen S.-T.) Complement of arrangement of hyperplanes. *Singularities and complex geometry (Beijing, 1994)*, 93–104, *AMS/IP Stud. Adv. Math., 5, Amer. Math. Soc., Providence, RI*, 1997. (P. Orlik) **98e:52011** 52B30 (32S20)
Jiang, Tao[1] (*with* Hein, Jotun; Wang, Lusheng; Zhang, Kaizhong) On the complexity of comparing evolutionary trees. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 153–169. (Michael A. Steel) **98f:92004** 92D15 (05C05, 68Q25, 92B10)
— (*with* Li, Ming[1]) *k* one-way heads cannot do string-matching. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 513–524. (Maxime Crochemore) **98e:68182** 68Q68 (68Q05)
— (*with* Li, Ming[1]) DNA sequencing and string learning. (English summary) *Math. Systems Theory* **29** (1996), *no.* 4, 387–405. (György Turán) **98g:68065** 68Q25 (68R15, 68T05, 92D20)
— (*with* Seiferas, Joel I.; Vitányi, Paul M. B.) Two heads are better than two tapes. (English summary) *J. ACM* **44** (1997), *no.* 2, 237–256. (Ronald E. Prather) **98h:68059** 68Q05 (68Q25)
— (*with* Seiferas, Joel I.; Vitányi, Paul M. B.) Erratum: "Two heads are better than two tapes" [J. ACM **44** (1997), no. 2, 237–256; MR 98h:68059]. *J. ACM* **44** (1997), *no.* 4, 632. 68Q05 (68Q25)
— (*with* Breslauer, Dany; Jiang, Zhigen) Rotations of periodic strings and short superstrings. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 340–353. (Summary) **98e:68097** 68Q25
— *see also* **Computing and combinatorics, 98k:68004**
Jiang, Tian Quan Riemann mapping functions and corresponding discrete groups on doubly connected regions. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 2, 206–209. (Jin Hao Zhang) **98f:30018** 30C55
— (*with* He, Cheng Qi) Representation theorems for discrete groups generated by a class of punctured domains. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 6, 691–695. (Summary) **98b:30007** 30C20
— A weighted Ky Fan inequality and its refinements. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 432–436. 26D15
Jiang, Tianzi Parallel information-based complexity of numerical integration on Sobolev class $W_q^r(\Omega)$. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 10–18. 65D30 (65Y20)
— Parallel information-based complexity of numerical integration on Holder class $H_M^{\alpha,\alpha}(\Omega)$. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 297–308. (Summary) **98g:65139** 65Y20
— (*with* Ma, Songde) Contour matching using wavelet transform and multigrid methods. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 6, 564–570. 65T20 (65N55)
Jiang, Wei Optimal control of financial management systems with delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 2, 146–153. (Mikuláš Luptáčik) **98j:49009** 49J25 (34K35, 90A09)
— (*with* Zheng, Zu Xiu) The optimal control of delay control systems with restricted state right endpoint. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 871–876; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 813–818 (*Chinese. English and Chinese summaries*). 49K25 (49J25)
Jiang, Wei Sun (*with* Yue, Hong[2]) A new method for soft-bound robust controller design. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 426–429. 93B51 (93D09)
Jiang, Xia Mei (*with* Ogden, Raymond W.) On azimuthal shear of a circular cylindrical tube of compressible elastic material. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 143–158. (Summary) **98k:73022** 73C50 (73G05)
Jiang, Xing Guo (*with* Xiao, Jian Zhong) Probabiilistic norm of linear operators on PN space. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 3, 307–313; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 285–290 (*Chinese*). (V. V. Obukhovskiĭ) **98d:47165** 47S50 (47A30, 47D15)
Jiang, Xinhui (*with* Elliott, George A.; Gong, Guihua; Su, Hongbing) A classification of simple limits of dimension drop C^*-algebras. *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 125–143, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Hua Xin Lin) **98a:46067** 46L05
Jiang, Xun A linear extrapolation method for a general phase relaxation problem. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei (9) Mat. Appl.* **7** (1996), *no.* 3, 169–179. (Vitaly A. Volpert) **98e:80002** 80A22 (65M30, 80–08)
Jiang, Ya Ling (*with* Cheng, Su Jun; Yan, Rong Yi) Three kinds of characteristic surfaces of a uniformly rectilinearly accelerating nonstationary black hole. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 197–200. 83C57
— (*with* Zhao, Zheng; Zhang, Jian Hua[3]) A jet appearing when a black hole event horizon touches the Rindler horizon. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1359–1368. (Summary) **98b:83065** 83C57
— (*with* Cheng, Su Jun; Yan, Rong Yi) Characteristic surfaces of a Kerr black hole in uniformly accelerating rectilinear motion. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 1, 168–176. 83C57 (83C15)
Jiang, Yan Wei (*with* Ma, Zi Long; Wu, Xiu Hua) Sufficient conditions for integral operators of a certain class to preserve starlikeness. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 15–17, 20. 30C45
Jiang, Yih-Jaw (*with* Tsai, Han-Ping) Some new extremal self-dual [58, 29, 10] codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 813–814. 94B60
Jiang, Ying *see* **Jiang, Ying[3]**
Jiang, Ying[1] Isomorphisms between the coherent models of the lambda-calculus. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 8, 785–798. (Harold Schellinx) **98d:03023** 03B40
Jiang, Ying[3] (*with* Duan, Yi-Shi; Yang, Guohong) The quantization of the space-time defects in the early universe. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 4, 565–577. (János Kánnár) **98f:83042** 83C45 (53C80, 81V17, 83D05)
Jiang, Yong (*with* Zhang, Zhen Wei; Shen, You Dao; Li, Jian Liang) The functional extremum of optimum human pressing board movement with elastic supporter. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 55–61. 92C10
Jiang, Yong Quan (*with* Zhang, Bao Shan) A use of matrix equations to study inverse problems for two classes of linear equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 626–628. 15A24
Jiang, Yu *see* **Yu, Jiang**
Jiang, Yu Ming[2] (*with* Luo, Xiao Nan) A matrix representation and a construction method for concurrent curves. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 282–288. 65D17 (41A63)
Jiang, Yueping (*with* Fang, Ainong; Fang, Ming[1]) The traces of Clifford matrices and Jørgensen's inequality in $\overline{\mathbf{R}}^n$. (English summary) *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 21–30, *de Gruyter, Berlin*, 1996. (Tadashi Kuroda) **98b:30019** 30C62 (20H10, 30F40)
Jiang, Yueyen (*with* Kautz, Henry; Selman, Bart) A general stochastic approach to solving problems with hard and soft constraints. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 573–586, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C09 (68R05, 68R10, 68T15, 68T20, 90C15, 90C27)
Jiang, Yun Fei (*with* Cheng, Xiao Chun; Liu, Xu Hua) The rationality and decidability of fuzzy implications. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 1910–1915, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 03B52 (68T27)
Jiang, Yunping Renormalization on one-dimensional folding maps. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 116–125, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:58045** 58F03
— ★ Renormalization and geometry in one-dimensional and complex dynamics. Advanced Series in Nonlinear Dynamics, 10. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xvi+309 *pp. ISBN* 981-02-2326-9 (Viviane Baladi) **98e:58070** 58Fxx (30D05, 58F03, 58F13, 58F23)
— On rigidity of one-dimensional maps. (English summary) *Lipa's legacy (New York, 1995)*, 319–341, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Fuyao Ren) **98h:58056** 58F03 (58F15)
Jiang, Z. X. (*with* Wahlberg, C.; Eriksson, H. G.) Nonlinear dynamics of an elliptic magnetic stagnation line. (English summary) *Phys. Plasmas* **4** (1997), *no.* 7, 2397–2405. (Summary) **98d:76066** 76E25 (76E30, 76W05)
Jiang, Ze Pei Multiplicity properties of stationary second order random fields. (English summary) *Stochastic processes*, 31–40, *Springer, New York*, 1993. (Ahmad Reza Soltani) **98b:60093** 60G60 (60G10, 60G12, 60G25)
Jiang, Ze Yun (*with* Qin, Geng Sheng) Consistent error estimation in a nonparametric regression model under dependent samples. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 371–377. 62G05
Jiang, Zeng Rong (*with* Cheng, Li Zhi) Fast convolution algorithms for DFTs of size $N = 2^s$. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 163–172. 65T20 (65Y20)
Jiang, Zhao Lin (*with* Li, Rui Ming) Nonsingularity of level k circulant matrices of type $(n_1, n_2, \cdots, n_k)$ and order $n_1 n_2 \cdots n_k$. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 104–108. 15A57
— (*with* Qiu, Gan Di) Some properties of meromorphic functions with maximal quasi-deficiency sum. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 489–495. 30D35
— (*with* Qiu, Gan Di) Entire functions that share a value with their derivatives. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 9–13. (Jian-Hua Zheng) **98i:30046** 30D35
— (*with* Li, Zi Nian; Fang, Kui) Special methods for finding the inverses of k-circulant matrices of type $(n_1, n_2, \cdots, n_k)$. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 87–90. (Summary) **98f:65051** 65F30 (15A09)
— (*with* Li, Rui Ming; Gao, Lan Chang) Domains of superior convergence of the USSOR method compared to the SOR and SSOR methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 149–155. 65F10
— (*with* Tao, Jie; Sun, Qing Ying) Level-2 circulant matrices of type (n_1, n_2) and level-2 symmetric circulant matrices of type (n_1, n_2), and their nonsingularity. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 42–48. (Summary) **98g:15041** 15A57
Jiang, Zhen-yu (*with* Wu, Qi Guang) The existence of the uniformly minimum risk equivariant estimator in SURE model. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 113–128. (Kurt Hoffmann) **98e:62103** 62J05 (62F10)
Jiang, Zheng Lu Compactness in relation to the transport operator for the relativistic Boltzmann equation. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 330–335. (Summary) **98j:82059** 82C40
Jiang, Zhenhua (*with* Mo, De) The recent Chinese and Mongolian translations of Euclid's *Elements*. (English, French and Chinese summaries) *Historia Math.* **24** (1997), *no.* 2, 197–199. (Summary) **98d:01006a** 01A20 (01A25)
— *see also* **Martzloff, Jean-Claude, 98d:01006b**
Jiang, Zhi Min The Hamiltonian structure of new integrable systems associated with 2×2 spectral problems. (English summary) *Phys. Lett. A* **228** (1997), *no.* 4-5, 275–278. (Summary) **98h:58079** 58F07 (35Q58)
— The Bäcklund transformations of the λ MKdV-KdV equation. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 22–25. 58F37 (35Q53)
Jiang, Zhi-Ming On the indices of convergence of reducible Boolean matrices with the generalized period $f_0 \geq 2$. (English summary) *Linear Algebra Appl.* **248** (1996), 355–374. (Jia-yu Shao) **98g:15035** 15A48 (15A33)
Jiang, Zhigen (*with* Hemaspaandra, Lane A.; Rothe, Jörg; Watanabe, Osamu[2]) The join can lower complexity. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 260–267, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98d:68077** 68Q15 (03D15)
— (*with* Breslauer, Dany; Jiang, Tao[1]) Rotations of periodic strings and short superstrings. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 340–353. (Summary) **98e:68097** 68Q25

Jiang, Zhike On rotational Steiner triple systems: five, seven and eleven. (English summary) *Ars Combin.* **47** (1997), 201–221. (Chung Je Cho) **98k:05023** 05B07 (05B05)

Jiang, Zhimin *see* **Jiang, Zhi Min**

Jiang, Zhiping (*with* Wang, Liya; Wu, Zhi Ming[1]) A new scheme for the dynamic control of discrete event systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 9–16. 93C55 (93C83)

Jiang, Zhong-Ping (*with* Nijmeijer, Henk) Tracking control of mobile robots: a case study in backstepping. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1393–1399. (Edward Jezierski) **98k:93074** 93C85 (70B15, 70Q05, 93C95, 93D05)

— (*with* Mareels, Iven M. Y.) A small-gain control method for nonlinear cascaded systems with dynamic uncertainties. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 292–308. (Fu En Zhang) **98b:93009** 93A20 (93C42)

Jiang, Zhonghao Bivarieties of orthodox semigroups generated by generalized Mal′cev products. *Semigroup Forum* **55** (1997), *no.* 2, 256–266. (Mária B. Szendrei) **98d:20064** 20M07 (20M19)

Jiang, Zhuo Jun (*with* Zhu, Wen Hong[1]; Xi, Yu Geng) A recursive algorithm for adaptive control of coordinated multiple manipulators (fingers). (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 613–620. 93C85 (93B40)

Jiang, Zimei Quasi-critical ring of a primitive ring with nonzero socle. *Chinese Sci. Bull.* **42** (1997), *no.* 3, 189–192. (Edward S. Letzter) **98i:16006** 16D60

Jiang, Ziwen Conditions for oscillation of first order neutral delay differential equations. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 1–16. (Yiannis Sficas) **98d:34102** 34K15 (34K40)

Jianhua, Sun *see* **Sun, Jian Hua[1]**

Jiao, Ling Yun (*with* Zhang, You Min; Chen, Hong Liang; Dai, Guan Zhong) A new fixed-interval smoothing algorithm based on singular value decomposition. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 579–583. 93E14

Jiao, Ming Qi (*with* Zhong, Bao Dong) Mathematical debate. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 31–34. 00A35

Jiao, Zhengming (*with* Zhao, Wenzheng; Wang, Shuan Hong) The Hopf algebra structure on a double crossproduct. *Comm. Algebra* **26** (1998), *no.* 2, 467–476. (George Szeto) **98m:16046** 16W30

Jibladze, Mamuka *see* **Dzhibladze, M. A.**

Jibu, Mari (*with* Yasue, Kunio) What is mind?—Quantum field theory of evanescent photons in brain as quantum theory of consciousness. (English summary) Consciousness as informational phenomenalism: an informational, phenomenological, philosophical, neural and quantum-mechanical view. *Informatica* (*Ljubl.*) **21** (1997), *no.* 3, 471–490. (*see* **98h:92003**) 92J99

Jie, Quan-lin (*with* Wang, Shun Jin; Wei, Lian-Fu) Exact solutions of non-autonomous quantum systems with semisimple Lie algebraic structure. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2077–2084. (Summary) **98c:81037** 81Q05 (17B81, 81R05)

— (*with* Wang, Shun Jin; Wei, Lian-Fu) Algebraic structure and analytic solutions of generalized three-level Jaynes-Cummings models. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6147–6154. (Summary) **98j:81394** 81V80 (81R05)

— (*with* Wei, Lian-Fu; Wang, Shun Jin) Gauge covariant construction of the coherent states for a time-dependent harmonic oscillator by algebraic dynamical method. (English summary) *Z. Phys. B* **102** (1997), *no.* 4, 541–543. (Summary) **98f:81116** 81R30 (81Q99)

Jie, Xiao *see* **Xiao, Jie[1]**

Jie, Yan *see* **Yan, Jie**

Jifeng, He *see* **He, Jifeng**

Jihui, Zhang *see* **Zhang, Ji Hui**

Jim, Trevor (*with* Appel, Andrew W.) Shrinking lambda expressions in linear time. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 515–540. (Summary) **98i:68037** 68N15 (68N20)

— (*with* Palsberg, Jens) Type inference with simple selftypes is NP-complete. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 3, 259–286. (Summary) **98f:68035** 68N15 (68Q25)

Jimack, Peter K. (*with* Touheed, Nasir) Dynamic load-balancing for adaptive PDE solvers with hierarchical refinement. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60

— (*with* Capon, Philip J.) An inexact Newton method for systems arising from the finite element method. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 9–12. 65H10 (65M60)

— An optimal finite element mesh for elastostatic structural analysis problems. (English summary) Computational structures technology (Athens, 1994). *Comput. & Structures* **64** (1997), *no.* 1-4, 197–208. (Summary) **98e:73134** 73V05

— (*with* Hodgson, D. C.) A domain decomposition preconditioner for a parallel finite element solver on distributed unstructured grids. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1157–1181. 65N55 (65N30)

— (*with* Berzins, Martin; Capon, Philip J.) On spatial adaptivity and interpolation when using the method of lines. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 117–133. (*see* **98i:65004**) 65M20

Jimbo, Masakazu (*with* Mishima, Miwako) Some types of cyclically resolvable cyclic Steiner 2-designs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 193–203. (Summary) **98j:05024** 05B05

— (*with* Genma, Masaki; Mishima, Miwako) Cyclic resolvability of cyclic Steiner 2-designs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 3, 177–187. (Dieter Jungnickel) **98a:05018** 05B05

Jimbo, Michio (*with* Kedem, Rinat; Konno, Hitoshi; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) New level-0 action of $U_q(\widehat{\mathfrak{sl}}_2)$ on level-1 modules. (English summary) *Recent progress in statistical mechanics and quantum field theory* (*Los Angeles, CA*, 1994), 169–193, *World Sci. Publishing, River Edge, NJ*, 1995. (Jun'ichi Shiraishi) **98f:81131** 81R50 (17B37)

— (*with* Kedem, Rinat; Konno, Hitoshi; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) Level-0 structure of level-1 $U_q(\widehat{\mathfrak{sl}}_2)$-modules and Macdonald polynomials. (English summary) *J. Phys. A* **28** (1995), *no.* 19, 5589–5606. (Alexander Balinsky) **98b:17015** 17B37 (33D80, 81R50)

— (*with* Konno, Hitoshi; Miwa, Tetsuji) Massless *XXZ* model and degeneration of the elliptic algebra $\mathcal{A}_{q,p}(\widehat{\mathfrak{sl}}_2)$. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 117–138, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jun'ichi Shiraishi) **98m:82022** 82B23 (17B81, 82B20)

— (*with* Lashkevich, M. Yu.; Miwa, Tetsuji; Pugai, Yaroslav) Lukyanov's screening operators for the deformed Virasoro algebra. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 285–292. (Stanislav Z. Pakuliak) **98h:81041** 81R10 (17B37, 81R50, 82B23)

Jimbo, Shuichi Local characterization in reaction diffusion equation in a singularly perturbed domain. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 47–58, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (Elias Tuma) **98h:35116** 35K57 (35B25)

— On the existence of nontrivial stable solutions to the Ginzburg-Landau equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 811–817. (*see* **98i:00028**) 35Q55

— (*with* Chen, Xu-Yan; Morita, Yoshihisa) Stabilization of vortices in the Ginzburg-Landau equation with a variable diffusion coefficient. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 903–912 (*electronic*). (Summary) **98m:35189** 35Q55 (35J65)

Jimbo, Toshiya (*with* Niwa, Norio; Owa, Shigeyoshi) Hardy class of functions defined by Salagean operator. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 67–73. (*see* **98d:30004**) 30C45

castro-Jiménez, F. J. *see* **Castro-Jiménez, F. J.**

Jimenez, Guillermo (*with* Lundgren, J. Richard) The domination-compliance graph of a tournament. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 65–78. (Summary) **98k:05091** 05C35 (05C20)

Jimenez, J. C. *see* **Jimenez, Juan Carlos**

Jiménez, J. L. (*with* Roa-Neri, J. A. E.; Nasser, L.) Dual charges and radiation reaction. (English summary) *Found. Phys. Lett.* **9** (1996), *no.* 6, 535–550. (Summary) **98b:78010** 78A25

— (*with* Roa-Neri, J. A. E.) A systematic approach to the Lorentz-Dirac equation. (English summary) *Nuovo Cimento B* (11) **111** (1996), *no.* 9, 1051–1057. (W. Cox) **98c:81088** 81R20

— (*with* Campos, I.; Del Valle, G.) A canonical treatment of nonautonomous systems of type $\dot{v} = f(t) + c$. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 5, 449–471. (Summary) **98e:70010** 70H20

aimendros-Jiménez, J. M. *see* **Almendros-Jiménez, J. M.**

Jiménez, José M. (*with* Cardenal, Jesús; Duff, Iain S.) Solution of sparse quasi-square rectangular systems by Gaussian elimination. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 165–177. (Summary) **98m:65077** 65F50 (65F05)

moreno-Jiménez, José María *see* **Moreno-Jiménez, José María**

dana Jiménez, Juan C. *see* **Dana Jiménez, Juan C.**

Jimenez, Juan Carlos (*with* Biscay, R.; Riera, J. J.; Valdes-Sosa, Pedro A.) Local linearization method for the numerical solution of stochastic differential equations. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 631–644. (Shigetoku Kawabata) **98b:60107** 60H10 (65U05)

— (*with* Valdes-Sosa, Pedro A.; Rodriguez, L. M.; Riera, J. J.; Biscay, R.) Computing the noise covariance matrix of the local linearization scheme for the numerical solution of stochastic differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 19–23. 65U05

Jiménez, M. A. *see* **Jiménez Pozo, Miguel A.**

núñez Jiménez, Manuel *see* **Núñez Jiménez, Manuel**

pérez-Jiménez, Mario *see* **Pérez-Jiménez, Mario**

Jiménez, Raúl (*with* Palacios, José Luis) Entropy of sample spacings and Kullback's information. (English summary) *Rebrape* **11** (1997), *no.* 1, 1–10. (Summary) **98j:62002** 62B10 (62E10)

Jimenez Guerra, Pedro Evolution of the integral in the XIXth century. (Spanish) *History of mathematics in the XIXth century, Part 2* (*Spanish*) (*Madrid*, 1993), 57–78, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (Javier Duoandikoetxea) **98g:01042** 01A55 (26–03, 28–03)

— (*with* Balbás, A.) Sensitivity in multiobjective programming by differential equations methods. The case of homogeneous functions. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 188–196, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Vasile Postolică) **98k:90093** 90C29 (90C31)

Jiménez López, Víctor (*with* Snoha, Ľubomír) Full cascades of simple periodic orbits on the interval. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 12, 1628–1637; *reprinted in Ukrainian Math. J.* **48** (1996), *no.* 12, 1843–1851 (1997). (Louis Block) **98d:58147** 58F20 (54H20, 58F03)

Jimenéz-Merchán, A. (*with* Gómez Martín, José Ramón; Khakimdjanov, Y.) On the variety of nilpotent Lie algebra laws of dimension 11. (English summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 2, 137–142. (From the introduction) **98k:17010** 17B30

— (*with* Gómez Martín, José Ramón; Khakimdjanov, Y.) Classifying filiform Lie algebras with Mathematica. (English summary) *Innovation in mathematics* (*Rovaniemi*, 1997), 169–176, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 17B30

Jiménez-Morales, F. (*with* Karma, H.) Non-trivial collective behavior in three-dimensional totalistic illegal cellular automata with high connectivity. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 151–159. 82C20 (58F08, 68Q80)

Jiménez Olivo, Pedro José (*with* Peña Miralles, Juan; Ginestar Peiró, Damián; Verdú Martín, Gumersindo; Muñoz-Cobo González, José Luis) A fast Galerkin method to obtain the periodic solutions of a nonlinear oscillator. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 261–282. (Summary) **98g:34078** 34C25 (34A45, 34C15, 65L60)

— (*with* Peña Miralles, Juan; Verdú Martín, Gumersindo; Muñoz-Cobo González, José Luis) A fast Galerkin method for obtaining the periodic solutions of a nonlinear

oscillator. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **13** (1997), *no.* 3, 367–381. 34C15 (34C25, 65L06, 70–08, 70K99)

Jiménez Pozo, Miguel A. (*with* Guerra, Francisco) A semi-infinite programming approach to a mixed approximation problem. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 135–143, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (R. Tichatschke) **98c:90173** 90C34 (41A30)

Jiménez Sevilla, M. (*with* Moreno, J. P.) Renorming Banach spaces with the Mazur intersection property. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 486–504. (Gilles Godefroy) **98a:46024** 46B20

— (*with* Moreno, J. P.) A note on norm attaining functionals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1989–1997. (Dirk Werner) **98k:46022** 46B20 (46B10)

— (*with* Payá-Albert, Rafael) Norm attaining multilinear forms and polynomials on preduals of Lorentz sequence spaces. (English summary) *Studia Math.* **127** (1998), *no.* 2, 99–112. (Ignacio Zalduendo) **98k:46031** 46B28 (46G20)

Jiménez-Urroz, Jorge (*with* Cilleruelo, Javier) Lattice points on hyperbolas. (English summary) *J. Number Theory* **63** (1997), *no.* 2, 267–274. (Hartmut Menzer) **98d:11119** 11P21 (11R04)

Jiménez-Vargas, A. (*with* Mena-Jurado, J. F.; Navarro-Pascual, J. C.) Complex extremal structure in spaces of continuous functions. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 605–615. (Summary) **98k:46063** 46E40 (46B20)

Jin, B. J. (*with* Kim, Jong Kyu) On the existence and uniqueness of solutions for nonlinear differential equations in probabilistic normed spaces. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 291–302. (Xian Zhi George Yuan) **98e:34110** 34G20 (47H15, 47N20, 47S50, 60B99)

Jin, Bai-Qi (*with* Ma, Zhong-Qi) *R* matrix for U_qE_7. (English summary) *Comm. Theoret. Phys.* **24** (1995), *no.* 4, 403–410. (A. U. Klimyk) **98b:81098** 81R50 (17B37)

Jin, Chao Yong The norm of the inverse of a Vandermonde matrix and the decentralized stabilization of large-scale systems. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 219–228. 93D15 (93C05)

Jin, Chen Hui Upper bound estimates for the primitive exponents of circulant matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 586–588. 15A45

Jin, Cheng-Hai (*with* Zhang, Shao-Liang; Natori, Makoto) Product-type Krylov-subspace methods for solving nonsymmetric linear systems. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 92–102. (*see* **98i:65002**) 65F10

Jin, Chun (*with* Elfessi, Abdulaziz) On robust estimation of the common scale parameter of several Pareto distributions. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 4, 345–352. (Andrzej S. Kozek) **98m:62055** 62F10 (62F11)

— (*with* Crouse, Robert H.) An identity for exponential distributions with the common location parameter and its applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 409–422. (Summary) **98m:62033** 62E15 (62F10)

Jin, Dong Ping (*with* Chen, Yu Shu) Bifurcations and singularities in systems with hysteretic nonlinearity. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 299–304. (Summary) **98c:34063** 34C23 (34C05, 70K99, 73K99)

Jin, Gan Stability of general control systems in terms of two measures. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 5, 423–432. (P. Seibert) **98e:93069** 93D05 (34D20, 34H05)

— Lipschitz stability of general control systems. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 432–440. (Summary) **98d:93068** 93D05 (34D99, 34H05)

Jin, Guo Xiang Approximate solution of Hilbert boundary value problems. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 5, 556–560. (Summary) **98b:30039** 30E25

Jin, Guoping (*with* Bollobás, Béla; Hegyvári, Norbert) On a problem of Erdős and Graham. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 253–257. (Yuri Bilu) **98h:11016** 11B13 (11B05, 11B25, 11B75)

Jin, Gyo Taek Polygon indices and superbridge indices of torus knots and links. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 281–289. (Daniel Matignon) **98h:57018** 57M25

Jin, Haiming (*with* Ou, Jihong; Kumar, Panganamala Ramana) The throughput of irreducible closed Markovian queueing networks: functional bounds, asymptotic loss, efficiency, and the Harrison-Wein conjectures. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 886–920. (Summary) **98h:60135** 60K25 (90B22)

Jin, Heng (*with* Wang, Li Ming) Hypothesis testing for the parameters of a two-parameter exponential distribution. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1996**, *no.* 4, 9–13. 62F03

Jin, Hua (*with* Zheng, Zhong Guo) Lower confidence limits in censored case. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 27–39. 62F25

Jin, Hui (*with* Zhang, Nai Yao) A stability-oriented study and improvement of a fuzzy adaptive control scheme. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 160–166. 93C42

Jin, Jia Hua (*with* Mo, Guo Duan; Liu, Kai Di) Newton series expansions of a class of entire functions. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 44–50. 30E05

Jin, Jian Xiang (*with* Wang, Jing Cheng; Su, Hong Ye; Chu, Jian; Yu, Li[1]) Robust H_∞ control of uncertain linear time-varying systems with delays. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 257–262. 93B36 (93C30)

Jin, Liu Wang *see* **Liu, Wang Jin**

Jin, Ming-xing (*with* Ding, Pei-zhu; Wu, Cheng Xun[2]; Mu, Ying-kui; Li, Yan-xin) Square-preserving and symplectic structure and scheme for quantum system. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 245–248. (Summary) **98d:81011** 81Q05 (81–08)

Jin, Ming Zhong[1] (*with* Chen, Xi Ru) Necessary and sufficient conditions for strong consistency of LS estimates. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 97–106. (Wilfried Grossmann) **98e:62100** 62J05 (62F12)

Jin, Ming Zhong[2] (*with* Yu, Yuan Hong) Oscillation of differential equation on cylindrical surface. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 1–9. (Klaus Morgenthal) **98i:34102** 34K15

Jin, Mingzhong *see* **Jin, Ming Zhong[1]**

Jin, Ning Automorphisms of infinite-dimensional Lie algebras of Cartan type. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 155–160. (Summary) **98i:17022** 17B40 (17B50)

Jin, Qi-nian (*with* Hou, Zong-yi) Finite-dimensional approximations to the solutions of nonlinear ill-posed problems. *Appl. Anal.* **62** (1996), *no.* 3-4, 253–261. 65J20

— (*with* Hou, Zong-yi) Maximum entropy method for solving nonlinear ill-posed problems. *Chinese Sci. Bull.* **41** (1996), *no.* 19, 1589–1593. (V. V. Vasin) **98a:47069** 47H17 (35R25, 65J15, 90C48)

— (*with* Hou, Zong-yi) On the choice of the regularization parameter for ordinary and iterated Tikhonov regularization of nonlinear ill-posed problems. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 815–827. (Summary) **98b:65065** 65J20 (47H17)

— (*with* Hou, Zong-yi) Tikhonov regularization for nonlinear ill-posed problems. *Nonlinear Anal.* **28** (1997), *no.* 11, 1799–1809. (V. S. Sizikov) **98d:47149** 47H17 (47H15, 65J15)

— (*with* Hou, Zong-yi) Maximum entropy method for solving operator equations of the first kind. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 5, 483–493. (Charles W. Groetsch) **98m:65101** 65J05 (47A50)

Jin, Renling (*with* Shelah, Saharon) Can a small forcing create Kurepa trees. (English summary) *Ann. Pure Appl. Logic* **85** (1997), *no.* 1, 47–68. (Eva Coplakova) **98g:03121** 03E35 (03E05, 03E55)

Jin, Shi (*with* Katsoulakis, Markos A.) Relaxation approximations to front propagation. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 380–387. (Shigeaki Koike) **98j:35088** 35K55 (35L65, 35Q72)

— (*with* Caflisch, Russel E.; Russo, Giovanni) Uniformly accurate schemes for hyperbolic systems with relaxation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 246–281. (P. K. Mahanti) **98a:65112** 65M06 (35L65, 76L05, 76M25, 76N15, 82B40)

Jin, Tao (*with* Zou, Shi Zhi; Huang, Zhong Lin; Huang, Yu Ying) A generalized variational principle for nonlinear coupled solid-liquid systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 12, 88–90. 73K70 (76M30)

Jin, Weiqi (*with* Katsulai, Hiroshi) Restoration of gray-scale images using genetic algorithm with consideration of pixel correlationship. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1155–1164. 68U10

Jin, Xiao Ming (*with* Rong, Gang; Wang, Shu Qing; Wang, Ji Cheng) A new algorithm for fuzzy identification of dynamic systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 565–569. 93B30 (93C42)

Jin, Xing (*with* Deng, Shuhui) Existence and uniqueness of optimal consumption and portfolio rules in a continuous-time finance model with habit formation and without short sales. (English summary) *J. Math. Econom.* **28** (1997), *no.* 2, 187–205. (Summary) **98a:90018** 90A09

Jin, Yi Hui (*with* Sun, Xi; Fang, Chong Zhi) Self-tuning decoupling control for multivariable bilinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 173–179. 93C40 (93C10)

— (*with* Sun, Xi; Fang, Chong Zhi) Bilinear adaptive feedforward control and its application. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 184–191. 93C40 (93C10)

Jin, Zhi Ming[1] (*with* Luo, Jian Shu) The structure of Snell's envelope for continuous two-parameter rapidly decreasing processes. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 101–106. (Summary) **98f:60085** 60G44 (60G60)

Jin, Zhi Ying (*with* Goldfarb, Donald; Orlin, James B.) Polynomial-time highest-gain augmenting path algorithms for the generalized circulation problem. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 793–802. (José F. Fontanari) **98j:90051** 90C27

— (*with* Jones, Douglas H.; Chiang, Junnyih) Optimal designs for simultaneous item estimation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4051–4058. (*see* **98i:00032**) 62K05

Jin, Zhiren (*with* Lancaster, Kirk E.) Behavior of solutions for some Dirichlet problems near reentrant corners. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 827–862. (Andrzej Swiech) **98m:35073** 35J67 (35B05, 35J65)

— Multiple solutions for a class of semilinear elliptic equations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3659–3667. (Yao Tian Shen) **98h:35078** 35J65 (35B32)

— Solutions for a class of singular semilinear elliptic equations. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 475–492. (Dian K. Palagachev) **98k:35073** 35J65 (35B05, 35J70)

Jing, Bing-Yi (*with* Fisher, Nicholas I.; Hall, Peter Gavin; Wood, Andrew T. A.) Improved pivotal methods for constructing confidence regions with directional data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1062–1070. (Hung Trung Nguyen) **98f:62121** 62G09 (62G15)

— (*with* Robinson, John) Two-sample nonparametric tilting method. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 25–34. (Summary) **98d:62087** 62G15

— On the relative performance of the block bootstrap for dependent data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1313–1328. (Alfredas Račkauskas) **98j:62034** 62G09

Jing, Fengjie (*with* Zeng, Xiangjin) A class of naturally ordered abundant semigroups with a greatest idempotent. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 198–204. (Juturu Hanumanthachari) **98i:06007** 06F05

— (*with* Zeng, Xiangjin; Chen, Hui[1]) The characterization and construction of abundant semigroups with a normal medial idempotent. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 4, 392–400. (Summary) **98e:20070** 20M99

Jing, Hai Rong (*with* Lu, Sheng Zhi) Propagation of the Langmuir soliton in inhomogeneous plasmas. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 66–71. 76X05 (82D10)

Jing, Ji-liang Thermodynamics of stationary axisymmetric Einstein-Maxwell dilaton-axion black hole. (English summary) *Nuclear Phys. B* **476** (1996), *no.* 3, 548–555. (Summary) **98f:83070** 83C57 (81T20, 82C99, 83E30)

— Thermodynamics of a static dilaton black hole. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 2, 81–84. 83C57 (81T20)

— (*with* Wang, Yong Jiu) Quantum thermal effects of a radiating rotating charged black hole. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1745–1752.

(Summary) **98e:83079** 83C57 (83C47)
— Entropy of the quantum scalar field in static black holes. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1441–1453. 83C57 (83C47)
Jing, Naihuan (*with* Zhang, James J.) On the trace of graded automorphisms. (English summary) *J. Algebra* **189** (1997), *no.* 2, 353–376. (G. Krause) **98f:16029** 16W50 (13A50, 13D40, 16W20)
Jing, Pei Dong A note on the norm of the Poincaré series operator. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 1, 77–80. (Jin Hao Zhang) **98e:30046** 30F35 (22E99, 30F60)
Jing, Ping (*with* Zhu, Li-Xing) On some tests-based projection pursuit for elliptical symmetry of a high-dimensional distribution. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 450–458. 62H40
Jing, Shu Jie (*with* Qi, He) A gradient projection method under linear equality constraints. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 6–10. 90C30
Jing, Si-Cong (*with* Fan, Hong Yi[1]) Relationship between negative binomial state and SU(1, 1) coherent state and its q-deformed generalization. (English summary) *Comm. Theoret. Phys.* **24** (1995), *no.* 3, 377–380. (Qi Hong Fan) **98c:81093** 81R30 (22E45, 81R50)
Jing, Xin (*with* Xue, Jia Qing) A dual interior point algorithm for convex programming. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 98–100. 90C25
Jing, Yuan Wei (*with* Gai, Ru Dong; Zhang, Si Ying) Stability of a class of nonlinear large scale composite systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 73–76. 93D05 (34D05)
— (*with* Zhao, Jun[2]; Zhang, Si Ying) A normal form with cascade decomposition for symmetric nonlinear control systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 238–242. 93B10 (93C10)
— (*with* Lu, Shou Yin; Liu, Xiao Ping[2]) Design of global robust self-tuning controller for multi-input uncertain nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 330–336. 93B51 (93C10)
— (*with* Hu, San Qing; Dai, Qionghai; Zhang, Si Ying) Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 699–703. (Summary) **98a:93068** 93D21 (93C41)
— (*with* Hu, San Qing; Dai, Qionghai; Zhang, Si Ying) Correction to: "Quadratic stabilizability of multi-input linear systems with structural independent time-varying uncertainties" [IEEE Trans. Automat. Control **42** (1997), no. 5, 699–703; MR 98a:93068]. *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1339. 93D21 (93C41)
Jing, Zhu Jun (*with* Zhao, Xiao-Qiang) Global asymptotic behavior in some cooperative systems of functional-differential equations. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 421–444. (Hal Leslie Smith) **98e:34141** 34K20 (92D25)
— (*with* Zeng, Xianwu; Chan, Kai-Yuen) Harmonic and subharmonic bifurcation in the Brusselator model with periodic force. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 289–301. (Peter Ashwin) **98f:34058** 34C25 (34C23)
— (*with* Zeng, Wei Yao) Mel'nikov vectors and transversal heteroclinic orbits in degenerate cases. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 213–220. (Xue Min Li) **98g:34081** 34C37 (34C23, 34D10)
— (*with* Hong, Jialin; Yuan, Rong[1]) Exponential dichotomies, almost periodic structurally stable differential systems, and an example. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 71–84. (S. Yu. Pilyugin) **98c:34086** 34D30 (34C27, 58F10)
— (*with* Xu, Pengcheng) Logistic map and Cantor set. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 4, 416–421. (John G. Milton) **98j:58041** 58F03 (28A80, 39A10, 39B12, 58F11)
Jinlin, Shi *see* **Shi, Jin Lin**
Jipsen, Peter Discriminator varieties of Boolean algebras with residuated operators. (English summary) *Algebraic methods in logic and in computer science (Warsaw, 1991)*, 239–252, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (Leo Esakia) **98b:06019** 06E25 (03G15, 08B26)
— (*with* Aldred, R. E. L.; Ellingham, M. N.; Hemminger, R. L.) P_3-isomorphisms for graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 35–51. (Xue Liang Li) **98d:05104** 05C60
— (*with* Maddux, Roger D.) Nonrepresentable sequential algebras. (English summary) *Log. J. IGPL* **5** (1997), *no.* 4, 565–574 (*electronic*). (Ivo Düntsch) **98j:03092** 03G25 (03B70, 03C05, 03G15)
Jirásko, Josef ★ Matematika. 35. (Czech) [Mathematics. 35] Matematická logika. [Mathematical logic] *Vydavatelství České Vysoké Učení Technické v Praze (ČVUT), Prague*, 1997. 108 *pp. ISBN* 80-01-01668-4 03–01
Jirka, Gerhard H. (*with* Chen, Daoyi) Absolute and convective instabilities of plane turbulent wakes in a shallow water layer. (English summary) *J. Fluid Mech.* **338** (1997), 157–172. (Summary) **98c:76036** 76E15 (76D25, 76F99)
— (*with* Hilpert, Markus; Stopper, Dieter) Resonance of a liquid column in a capillary tube. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 424–438. (Summary) **98e:76027** 76D45 (76Q05)
Jiroušek, R. Artificial intelligence, the marginal problem and inconsistency. *Distributions with given marginals and moment problems (Prague, 1996)*, 223–234, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 68T35 (60E05, 62H05)
Jirstrand, Mats Nonlinear control system design by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 137–152. (Summary) **98f:68137** 68Q40
Jitomirskaya, Svetlana Ya. (*with* Gordon, A. Ya.; Last, Y.; Simon, Barry) Duality and singular continuous spectrum in the almost Mathieu equation. *Acta Math.* **178** (1997), *no.* 2, 169–183. (Michael P. Lamoureux) **98f:47041** 47B39 (39A70, 47A10)
— Continuous spectrum and uniform localization for ergodic Schrödinger operators. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 312–322. (Themistocles M. Rassias) **98f:39014** 39A12 (35J10, 35P05, 39A70, 47B80, 47F05, 47N50)
Jiu, Quansen (*with* Liu, Jun) Existence and uniqueness of global solutions of [the nonlinear Schrödinger equation] on $\mathbf{R}^2$. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 414–424. (Summary) **98j:35170** 35Q55
Jiwen, Zeng *see* **Zeng, Ji Wen**
Jo, Cheong Lai (*with* Kim, Do Sang; Lee, Gue Myung) Duality relations for generalized fractional programming involving n-set functions. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 12, 1167–1173. (Bruce D. Craven) **98c:90156** 90C32 (49N15)
— (*with* Lee, Gue Myung; Kim, Do Sang) Duality for multiobjective variational problems with generalized invexity. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 13–23. 90C29 (49N15)
Jo, Jung Bok (*with* Tsujimura, Yasuhiro; Gen, Mitsuo; Yamazaki, Genji) Performance evaluation of network models based on fuzzy queuing system. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 393–408. 60K25 (04A72)
— (*with* Yamazaki, Genji; Tsujimura, Yasuhiro; Gen, Mitsuo) Performance of multiclass computer systems using fuzzy queueing model. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 879–894 (1997). (From the summary) **98f:90024** 90B22 (04A72, 68M20)
Jo, See-Heyon (*with* Cho, Joong-Jae; Han, Jeong-Hye) Bootstrapping unified process capability index. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 543–554. 62G09 (62N10)
Jo, Young Soo (*with* Jang, Mi Kyung) Dual operator algebras and hereditary properties of isometric dilations and coisometric extensions. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 967–974. (Alfredo Octavio) **98a:47048** 47D27 (47A15, 47A20, 47A45, 47A65)
— (*with* Kang, Joo Ho) Isomorphisms of Alg$\mathscr{L}_{2n(k)}$. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 211–228. (Alan Hopenwasser) **98d:47096** 47D25
Joan-Arinyo, Robert (*with* Hoffmann, Christoph M.) Symbolic constraints in constructive geometric constraint solving. (English summary) Parametric algebraic curves and applications (Albuquerque, NM, 1995). *J. Symbolic Comput.* **23** (1997), *no.* 2-3, 287–299. (Eugeniusz Korczak) **98j:51031** 51M15
Joarder, Anwarul H. (*with* Ali, Mir Maswood) On the characteristic function of the multivariate t-distribution. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 1, 55–62. (Summary) **98f:62155** 62H05 (62H10)
— (*with* Hossain, M. A.) Estimation of the eigenvalues of the scale matrix of a class of elliptical distributions. (English and Italian summaries) *Statistica (Bologna)* **56** (1996), *no.* 3, 313–319 (1997). 62H12
— (*with* Mahmood, Munir) An inductive derivation of Stirling numbers of the second kind and their applications in statistics. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 2, 151–157. 05A10 (60C05, 62E15)
— On the characteristic function of the multivariate Pearson type II distribution. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 177–182. (Summary) **98b:60032** 60E10 (62E15)
— (*with* Ali, Mir Maswood) Estimation of the scale matrix of a multivariate t-model under entropy loss. (English summary) *Metrika* **46** (1997), *no.* 1, 21–32. (Summary) **98k:62096** 62H12
— (*with* Singh, Sarjinder) Optional randomized response technique for sensitive quantitative variable. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 151–157 (1998). 62D05
— (*with* Singh, Sarjinder) Estimation of the trace of the scale matrix of a multivariate t-model using regression type estimator. (English summary) *Statistics* **29** (1997), *no.* 2, 161–168. (Summary) **98k:62097** 62H12
— Some useful Wishart expectations based on the multivariate t-model. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 223–229. 62H10
Job Kozhamthadam, S. J. Kepler and the origin of modern science. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 1, 63–86. 01A45
Jochems, B. (*with* Herff, W.; Kamps, Udo) The inspection paradox with random time. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 103–110. (Summary) **98m:60140** 60K05 (62L10, 62N05)
Jochmann, F. Existence of weak solutions of the drift diffusion model coupled with Maxwell's equations. *J. Math. Anal. Appl.* **204** (1996), *no.* 3, 655–676. (Volker Vogelsang) **98e:35030** 35D05 (35Q60, 78A55)
— Galerkin approximation of weak solutions of the drift diffusion model for semiconductors coupled with Maxwell's equations. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 18, 1471–1488. (W. E. Williams) **98f:78033** 78A55 (35Q60)
— A compactness result for vector fields with divergence and curl in $L^q(\Omega)$ involving mixed boundary conditions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 189–203. 46E35 (35F05)
— A singular limit in the drift diffusion model for semiconductors coupled with Maxwell's equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 121–136. (Summary) **98k:35187** 35Q60 (78A55)
Jöchner, M. (*with* Hsia, J. S.) Almost strong approximations for definite quadratic spaces. *Invent. Math.* **129** (1997), *no.* 3, 471–487. (A. G. Earnest) **98m:11025** 11E12 (11E88, 20G30)
Jocić, Danko R. Norm inequalities for self-adjoint derivations. II. (English summary) *Topics in operator theory, operator algebras and applications (Timişoara, 1994)*, 161–168, *Rom. Acad., Bucharest*, 1995. (T. Ando) **98b:47032** 47B10 (47A30, 47A55, 47B47)
— Double operator integrals and generalized normal derivations. Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 167–170. (Vladimir Manuilov) **98b:47030** 47B10 (47A30, 47A60, 47A63, 47B15, 47B47)
— Norm inequalities for self-adjoint derivations. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 24–34. (T. Ando) **98b:47031** 47B10 (47A30, 47A55, 47B47)
— Cauchy-Schwarz and means inequalities for elementary operators into norm ideals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2705–2711. (T. Ando) **98k:47012** 47A30 (47A63, 47B15)
Jódar, Lucas (*with* Villanueva Micó, R. J.; Covachev, V. Chr.) Periodic solutions of neutral impulsive systems with a small delay. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 125–135, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 34K15 (34A37, 34C25)
— (*with* Villanueva Micó, R. J.; Covachev, V. Chr.; Martín Alustiza, J. A.) Analytic-numerical solutions of variable coefficient second order delay differential equations. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 137–146, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 34K05 (34K15, 65L06)

— (*with* Defez, Emilio; Ponsoda, E.) Orthogonal matrix polynomials with respect to linear matrix moment functionals: theory and applications. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 96–115. (Summary) **98f:42022** 42C05 (41A10)

— (*with* Company, R.) Hermite matrix polynomials and second order matrix differential equations. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 20–30. (Summary) **98j:33008** 33C50 (34A30, 42C05)

— (*with* Ponsoda, E.; Legua Fernández, M.) On well-conditioned boundary value problems for systems of second order difference equations. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 4, 81–95. (Johnny Henderson) **98j:39003** 39A10

— (*with* Villanueva Micó, R. J.) Explicit solutions of implicit second-order difference systems in unbounded bilateral domains. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 9, 19–28. (Summary) **98f:39001** 39A10

— (*with* Defez, Emilio) Some new matrix formulas related to Hermite matrix polynomials theory. *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 93–101, *Univ. Carlos III Madrid, Leganés*, 1997. (*see* **98b:33001**) 33C45

— (*with* Ponsoda, E.; Rodríguez Sánchez, Gerardo) Approximations and error bounds for computing the inverse mapping. (English summary) *Appl. Math.* **42** (1997), *no.* 2, 99–110. (S. Dubuc) **98c:65085** 65H10 (26B10, 34A45, 65D15)

— (*with* Defez, Emilio) Analytic-numerical solutions with a priori error bounds for time-dependent mixed partial differential problems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 49–59. (Summary) **98j:35011** 35A35 (65M06)

— (*with* Almenar, Pedro) Numerical approximations with a priori error bounds for time dependent damped wave mixed problems. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1997), *no.* 2, 178–200. (Muthusamy Vanninathan) **98j:65070** 65M99 (65D07)

— (*with* Almenar, Pedro; Martín Alustiza, J. A.) Mixed problems for the time-dependent telegraph equation: continuous numerical solutions with a priori error bounds. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 31–44. (Summary) **98d:65128** 65M99

Jodayree Akbarfam, Aliasghar A survey of the inverse problem of Sturm-Liouville problem in one turning point case. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 181–186, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 34B24 (34A55, 34L40)

Jodeit, Max, Jr. (*with* Levitan, B. M.) Isospectral vector-valued Sturm-Liouville problems. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 117–122. (Mayumi Ohmiya) **98j:34164** 34L05 (34A55)

Jodoin, B. (*with* Winckelmans, G. S.; Salmon, J. K.; Warren, M. S.; Leonard, Anthony) Application of fast parallel and sequential tree codes to computing three-dimensional flows with the vortex element and boundary element methods. (English summary) *Vortex flows and related numerical methods, II (Montreal, PQ, 1995)*, 225–240, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Ivan K. Lifanov) **98e:76069** 76M15 (76M25)

Joe, Barry (*with* Wang, Wenping) Interpolation on quadric surfaces with rational quadratic spline curves. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 3, 207–230. (Petru P. Blaga) **98a:65022** 65D17 (41A10)

— (*with* Wang, Wenping; Goldman, Ronald) Rational quadratic parameterizations of quadrics. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 599–619. (Michael Kallay) **98j:68167** 68U07 (51N35)

Joe, Harry Families of m-variate distributions with given margins and $m(m-1)/2$ bivariate dependence parameters. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 120–141, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98g:62106** 62H10 (62E15)

— Time series models with univariate margins in the convolution-closed infinitely divisible class. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 664–677. (William P. McCormick) **98g:62166** 62M10 (60G10)

— ★ Multivariate models and dependence concepts. (English summary) Monographs on Statistics and Applied Probability, 73. *Chapman & Hall, London*, 1997. xviii+399 *pp. ISBN* 0-412-07331-5 (Moshe Shaked) **98k:62011** 62E10 (60E05, 60E15, 62H05)

Joe, S. (*with* Sloan, I. H.) ★ Lattice methods for multiple integration. (English summary) Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1994. xii+239 *pp. ISBN* 0-19-853472-8 (Pierre Hillion) **98a:65026** 65D30 (65–02)

Joffe, Anatole (*with* Fuchs, Aimé) Formule exacte de l'espérance du rapport de la somme des carrés par le carré de la somme. (English and French summaries) [Exact formula for the expectation of the ratio of the sum of squares by the square of the sum] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 907–909. (Summary) **98b:60023** 60E99 (60F05)

Jofré, Alejandro (*with* Correa, Rafael; Thibault, Lionel) Subdifferential characterization of convexity. (English summary) *Recent advances in nonsmooth optimization*, 18–23, *World Sci. Publishing, River Edge, NJ*, 1995. (A. B. Németh) **98g:49012** 49J52 (46G05)

Jog, M. A. (*with* Hader, M. A.) Continuum plasma flow past a sphere. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 902–909. 76X05

Joglekar, Satish D. (*with* Mandal, Bhabani Prasad) Local BRS transformations and OSp(3, 1|2) symmetry of Yang-Mills theories. (English summary) *Z. Phys. C* **74** (1997), *no.* 1, 179–183. (Liviu Tătar) **98c:81134** 81T13 (81R40, 81T70)

Joglekar, Yogesh (*with* Dass, Tulsi) Augmented temporal logic formalism for histories-based generalized quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 704–729. (S. Gudder) **98j:81026** 81P10

Johann, Patricia (*with* Socher-Ambrosius, Rolf) ★ Deduction systems. (English summary) Translated from the German. Revised by the authors. Graduate Texts in Computer Science. *Springer-Verlag, New York*, 1997. xii+206 *pp. ISBN* 0-387-94847-3 (Ralph W. Wilkerson) **98m:03025** 03B35 (03–01, 68T15, 68T27)

Johannesson, Pär Rainflow cycles for switching processes with Markov structure. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 143–175. (Summary) **98k:60183** 60K99 (60J20)

Johannesson, Rolf (*with* Forney, G. David, Jr.; Wan, Zhe-xian) Minimal and canonical rational generator matrices for convolutional codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1865–1880. (Summary) **98d:94034** 94B10

— (*with* Osthoff, Harro; Anderson, John B.; Lin, Chin-foo) Systematic feed-forward convolutional encoders are better than other encoders with an M-algorithm decoder. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 831–838. 94B10

Johannsen, Jan On sharply bounded length induction. (English summary) *Computer science logic (Paderborn, 1995)*, 362–367, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98e:03033** 03F30

— A bounded arithmetic theory for constant depth threshold circuits. (English summary) *Gödel '96 (Brno, 1996)*, 224–234, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Shih Ping Tung) **98f:03051** 03F30 (03D15, 68Q15)

Johannsen, Klaus An aligned 3D-finite-volume method for convection-diffusion problems. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 227–243, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98g:76059** 76M25 (76Rxx)

Johannson, Klaus ★ Topology and combinatorics of 3-manifolds. Lecture Notes in Mathematics, 1599. *Springer-Verlag, Berlin*, 1995. xviii+446 *pp. ISBN* 3-540-59063-3 (Colin C. Adams) **98c:57014** 57N10 (57M50)

Johansen, Anders (*with* Sornette, Didier) Large financial crashes. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 411–422. 90A16 (90A09)

Johansen, Andrei Twisting of $N = 1$ SUSY gauge theories and heterotic topological theories. (English summary) *Internat. J. Modern Phys. A* **10** (1995), *no.* 30, 4325–4357. (Summary) **98a:81228** 81T60 (32J81, 53C25, 53C80, 81T70)

— (*with* Bershadsky, Michael) Colliding singularities in F-theory and phase transitions. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 122–138. (Bruce Hunt) **98e:81132** 81T30 (32J81, 32S45)

— (*with* Anselmi, Damiano; Grisaru, M. T.) A critical behaviour of anomalous currents, electric-magnetic universality and CFT_4. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 221–248. (Antonio González-Arroyo) **98i:81242** 81T60 (81T40)

— Anomalous currents in $SCFT_4$. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 357–361. (Summary) **98j:81336** 81T60 (81T40)

— A comment on BPS states in F-theory in 8 dimensions. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 36–41. (Summary) **98b:81197** 81T30 (14J28, 32J81)

— (*with* Axenides, Minos; Nielsen, Holger Bech) A Z_2 classification for 2D fermion level crossing. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 58–63. (Summary) **98a:81265** 81V25 (81T13, 83F05)

Johansen, Lars M. EPR correlations and EPW distributions revisited. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 173–176. 81P15

— Equivalence between Bell's inequality and a constraint on stochastic field theories for Einstein-Podolsky-Rosen states. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 100–107. (Constantin Syros) **98f:81039** 81P20 (81S20)

Johansen, Peter Adaptive pattern recognition. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 4, 325–339. 68T10 (68U10)

Johansen, Soren ★ Likelihood-based inference in cointegrated vector autoregressive models. *Oxford University Press, New York*, 1995. xii+267 *pp. ISBN* 0-19-877449-4 (Raúl Pedro Mentz) **98m:62247** 62M10 (62P20)

Johansson, Anders (*with* Häggkvist, Roland) (1, 2)-factorizations of general Eulerian nearly regular graphs [MR 95f:05091]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 329–337, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70 (05B07, 05C38)

Johansson, Björn (*with* Björk, Tomas) Parameter estimation and reverse martingales. (English summary) *Stochastic Process. Appl.* **63** (1996), *no.* 2, 235–263. (C. C. Heyde) **98f:62237** 62M05

Johansson, Kurt On random matrices from the compact classical groups. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 3, 519–545. (A. Böttcher) **98e:60016** 60B15 (15A52, 47B35, 60F05, 82B05)

Johansson, Magnus (*with* Christiansen, Peter L.; Rasmussen, K. Ø.; Galdikdel, Yu. B.; Bang, O.) On some NLS systems and their applications. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 215–233, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35175** 35Q55 (81V55, 82C10)

— (*with* Christiansen, Peter L.; Rasmussen, K. Ø.; Galdidel, Yu. B.; Yakimenko, Irina I.) White noise and nonlinear damping in the two-dimensional model of energy transfer in molecular systems. (English summary) *Progress in industrial mathematics at ECMI 96 (Lyngby, 1996)*, 208–216, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 81V55

Johansson, Stefan Traces in arithmetic Fuchsian groups. (English summary) *J. Number Theory* **66** (1997), *no.* 2, 251–270. (Jens Marklof) **98g:11046** 11F06 (11R47, 11R54)

Johansson, Thomas (*with* Helleseth, Tor) Universal hash functions from exponential sums over finite fields and Galois rings. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 31–44, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98g:94028** 94A60

— Bucket hashing with a small key size. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 149–162, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **98j:94020** 94A60 (68P20, 68P25)

— (*with* Kurosawa, Kaoru; Stinson, Douglas R.) Almost k-wise independent sample spaces and their cryptologic applications. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 409–421, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

Johari, H. (*with* Fang, Hui^2) Horizontal vortex ring motion in linearly stratified media. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2605–2616. 76C05 (76–05, 76V05)

John, J. A. Interchange algorithms for constructing designs with complex blocking structures. (English summary) *Statistical theory and applications*, 233–246, *Springer, New York*, 1996. (Summary) **98c:05021** 05B05 (62K10)

— (*with* Williams, E. R.) t-Latinized designs. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 111–118. 62K10

John, Johny K. (*with* Jha, Kanhaijee) The rules of arithmetic progression according to Nārāyaṇa Paṇḍita. *Ganita-Bhārati* **18** (1996), *no.* 1-4, 48–52. (A. I. Volodarskiĭ) **98f:01014** 01A32

John, Kamil (*with* Emmanuele, G.) Uncomplementability of spaces of compact operators in larger spaces of operators. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 19–32. (Andreas Defant) **98e:46017** 46B28 (46B03, 46B07, 47D15)

— (*with* Emmanuele, G.) Some remarks on the position of the space $K(X, Y)$ inside the space $W(X, Y)$. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 183–189.

(Dirk Werner) **98m:46024** 46B28 (47B07, 47D15)
st. John, Katherine *see* **St. John, Katherine**
John, Peter (*with* Kim, Bjong Ro) Nonlinear local supersymmetric SU(5)-model. (English summary) *Z. Phys. C* **73** (1996), *no.* 1, 169–180. (Angel Maria Uranga) **98b:81250** 81T60 (81T20, 81V22, 83E50)
John, Peter E. (*with* Schild, Göran) Calculating the characteristic polynomial and the eigenvectors of a tree. (English summary) *Match No.* 34 (1996), 217–237. (Luis Verde-Star) **98m:65056** 65F15 (05C50)
John, Reinhard A simple cycle preserving extension of a demand function. (English summary) *J. Econom. Theory* **72** (1997), *no.* 2, 442–445. (Summary) **98a:90021** 90A10 (90A06)
John, Varghese (*with* Bowick, Mark J.; Thorleifsson, Gudmar) The Hausdorff dimension of surfaces in two-dimensional quantum gravity coupled to Ising minimal matter. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 197–202. (Summary) **98f:81296** 81T40 (81T30, 83C99)
Johnsen, Ben From Jacques Casanova to Claude Shannon. (Norwegian. English summary) *Normat* **45** (1997), *no.* 3, 113–125, 143. (Summary) **98h:01043** 01A99 (94–03)
Johnsen, Trygve Plane projections of a smooth space curve. (English summary) *Parameter spaces* (*Warsaw*, 1994), 89–110, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Rosario Strano) **98g:14031** 14H50 (14N05)
— (*with* Kleiman, Steven L.) Rational curves of degree at most 9 on a general quintic threefold. (English summary) *Comm. Algebra* **24** (1996), *no.* 8, 2721–2753. (Ragni Piene) **98c:14034** 14J30 (14H45, 14N10)
Johnson, A. *see* **Johnson, Antony**
Johnson, Aimee S. A. (*with* Park, Kyewon Koh) A dynamical system with a $\mathbf{Z}^2$ centralizer. *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 337–359. (Mariusz Lemańczyk) **98f:28023** 28D05
— (*with* Haddad, Kamel N.) Auslander systems. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 2161–2170. (Summary) **98a:54034** 54H20 (54H15)
Johnson, Alan (*with* Luo, Jian-san; van den Bosch, P. P. J.) Lyapunov stability robust analysis and robustness design for linear continuous-time systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1233–1251. 93D09
Johnson, Antony (*with* Holroyd, F. C.; Stahl, Saul) Multichromatic numbers, star chromatic numbers and Kneser graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 137–145. (Sheshayya A. Choudum) **98j:05067** 05C15
Johnson, Barry Edward Higher-dimensional weak amenability. (English summary) *Studia Math.* **123** (1997), *no.* 2, 117–134. (Niels Grønbæk) **98f:46046** 46J20 (46J40, 46M20)
Johnson, Brenda (*with* McCarthy, Randy) Linearization, Dold-Puppe stabilization, and Mac Lane's Q-construction. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1555–1593. (Teimuraz Pirashvili) **98i:18007** 18G30 (18E25, 18G10, 55P65, 55U15)
Johnson, Bruce R. (*with* Tilly, Benjamin J.) On the construction of independence counterexamples. (English summary) *Amer. Statist.* **50** (1996), *no.* 1, 14–16. (Summary) **98a:62020** 62E15
Johnson, C. A. *see* **Johnson, Chris A.**
Johnson, C. M. (*with* Trattles, J. T.) Comparative study of finite element formulations for the semiconductor drift-diffusion equations. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3405–3419. (Summary) **98i:78002** 78–08 (78A55)
Johnson, Charles Royal (*with* Eschenbach, Carolyn A.; Hall, Frank J.; Li, Zhongshan) The graphs of the unambiguous entries in the product of two $(+,-)$ sign pattern matrices. (English summary) *Linear Algebra Appl.* **260** (1997), 95–118. (Koduvayur R. Parthasarathy) **98e:05075** 05C50
— (*with* Maybee, John S.; Olesky, D. D.; van den Driessche, P.) Nested sequences of principal minors and potential stability. (English summary) *Linear Algebra Appl.* **262** (1997), 243–257. (Clark Jeffries) **98d:15010** 15A18
— (*with* Haulk, Claire Cates; Drew, John; Tart, J. Hunter) Characterization of supercommuting matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 35–51. (Summary) **98j:15021** 15A27
— (*with* Gelonch, Josep; Rubió i Díaz, Pedro) An extension of Flanders theorem to several matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 181–200. (Summary) **98k:15012** 15A18 (15A21, 15A23)
— (*with* Carlson, David H.) Extremal patterns of distinct entries in vectors in the range of a matrix. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 283–297. (Summary) **98k:15020** 15A45
— (*with* Cain, Bryan; DeAlba, Luz M.; Hogben, Leslie) Multiplicative perturbations of stable and convergent operators. (English summary) *Linear Algebra Appl.* **268** (1998), 151–169. (Sing Cheong Ong) **98j:15009** 15A18 (47A99)
— *see also* **Bhatia, Rajendra**, **98d:47045**
Johnson, Chris A. Deduction trees and the view update problem in indefinite deductive databases. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 1, 31–85. (Summary) **98f:68066** 68P15 (68N17)
Johnson, Clifford V. (*with* Gimon, Eric G.) $K3$ orientifolds. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 715–745. (Fermin Aldabe) **98f:81255** 81T30 (14J28, 32J81)
— (*with* Gimon, Eric G.) Multiple realisations of $\mathcal{N} = 1$ vacua in six dimensions. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 285–304. (Daniel N. Kabat) **98a:81170** 81T30 (14J32, 32J81)
— (*with* Khuri, Ramzi R.; Myers, Robert C.) Entropy of 4D extremal black holes. (English summary) *Phys. Lett. B* **378** (1996), *no.* 1-4, 78–86. (Edward Teo) **98a:83086** 83C57 (81T30, 83E30)
— Introduction to D-branes, with applications. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 326–331. (*see* **98g:81005**) 81T30 (81–02)
— (*with* Myers, Robert C.) Aspects of type IIB theory on asymptotically locally Euclidean spaces. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6382–6393. (Gerardo Marcelo Aldazabal) **98g:81171** 81T30 (53C80, 83E30)
Johnson, Craig M. A computer search for free actions on surfaces. *Amer. Math. Monthly* **105** (1998), *no.* 2, 144–153. 57M60
Johnson, D. L. *see* **Johnson, David Lawrence**
Johnson, Darren J. (*with* Krishnamoorthy, K.) Combining independent studies in a calibration problem. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1707–1715. (Heleno Bolfarine) **98d:62118** 62J05 (62F12)
— (*with* Krishnamoorthy, K.) Combining independent information in a multivariate calibration problem. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 2, 171–186. (Heleno Bolfarine) **98d:62120** 62J05 (62F12, 62H12)
Johnson, David Bascomb (*with* Chen, Shea; Raad, Peter E.; Fadda, Dani) The surface marker and micro cell method. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 7, 749–778. (Summary) **98h:76102** 76M25 (76B10)
Johnson, David Copeland (*with* Wilson, W. Stephen) On a theorem of Ossa. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3753–3755. (Donald M. Davis) **98b:55003** 55N15 (55P15)
Johnson, David H. (*with* Queen, Clifford S.) Genus characters and the arithmetic of commutative monoids. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 150–174. (W. Narkiewicz) **98f:11115** 11R11 (11R29, 11R42, 20M12)
Johnson, David Lawrence (*with* Kim, Ann Chi; Song, Hyun-Jong) The growth of the trefoil group. (English summary) *Groups—Korea '94* (*Pusan*), 157–161, *de Gruyter, Berlin*, 1995. (Summary) **98f:20007** 20E06
— ★ Presentations of groups. Second edition. London Mathematical Society Student Texts, 15. *Cambridge University Press, Cambridge*, 1997. xii+216 *pp. ISBN* 0-521-58542-2 (From the preface) **98e:20001** 20–01 (20F05)
— ★ Elements of logic via numbers and sets. (English summary) Springer Undergraduate Mathematics Series. *Springer-Verlag London, Ltd., London*, 1998. x+174 *pp. ISBN* 3-540-76123-3 04–01
— *see also* **Groups—Korea '94**, **98e:20003**
Johnson, David Linton (*with* Norris, Andrew N.) Rough elastic spheres in contact: memory effects and the transverse force. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 6, 1025–1036. (Summary) **98d:73058** 73T05 (73D15)
Johnson, David Stifler (*with* McGeoch, Lyle A.) The traveling salesman problem: a case study. *Local search in combinatorial optimization*, 215–310, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C27 (68Q25)
Johnson, Don H. (*with* Leang, Charles C.) On the asymptotics of M-hypothesis Bayesian detection. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 280–282. 94A13 (62F03)
Johnson, E. G. (*with* Alviti, E.; Kulkarni, R. B.; Nazareth, J. L.; Stone, J. C.) A pavement network optimization system using Dantzig-Wolfe decomposition. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 1–16, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)
Johnson, E. R. (*with* Schmidt, G. A.) The scattering of stratified topographic Rossby waves by seafloor ridges. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 1-2, 29–52. (Summary) **98m:86007** 86A05 (76C20, 76V05)
— (*with* Clarke, Simon R.) Topographically forced long waves on a sheared coastal current. I. The weakly nonlinear response. (English summary) *J. Fluid Mech.* **343** (1997), 131–151. (Summary) **98d:86003** 86A05 (76U05)
— (*with* Clarke, Simon R.) Topographically forced long waves on a sheared coastal current. II. Finite-amplitude waves. (English summary) *J. Fluid Mech.* **343** (1997), 153–168. (Summary) **98d:86004** 86A05 (76U05)
Johnson, E. W. (*with* Johnson, Johnny A.; Taylor, Monty B.) Modules with small cofinite irreducibles, cyclic submodules and duality. (English summary) *Comm. Algebra* **25** (1997), *no.* 1, 267–272. (Daniel D. Anderson) **98c:13017** 13C13 (13B35, 13E10)
— (*with* Jayaram, C.) Strong compact elements in multiplicative lattices. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 1, 105–112. (Michael E. Detlefsen) **98d:06018** 06F10 (06B05, 06C99, 06F05)
Johnson, Frederick A. Apodeictic syllogisms: deductions and decision procedures. (English summary) *Hist. Philos. Logic* **16** (1995), *no.* 1, 1–18. (Summary) **98c:03023** 03B20 (01A20, 03–03)
— Extended Gergonne syllogisms. (English summary) *J. Philos. Logic* **26** (1997), *no.* 5, 553–567. (Summary) **98c:03024** 03B20
Johnson, Gerald W. (*with* DeFacio, Brian; Lapidus, Michel L.) Feynman's operational calculus and evolution equations. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 155–211. (Brian Jefferies) **98f:58050** 58D30 (47N50)
Johnson, Gregg A. (*with* Pecora, Louis M.; Carroll, Thomas L.; Mar, Douglas J.; Heagy, James F.) Fundamentals of synchronization in chaotic systems, concepts, and applications. (English summary) *Chaos* **7** (1997), *no.* 4, 520–543. 58F13 (58F40)
Johnson, I. W. (*with* Jayawardena, A. W.) Efficient numerical solution of the dispersion equation using moving finite elements. (English summary) *Finite Elem. Anal. Des.* **28** (1998), *no.* 3, 241–253. (Summary) **98i:76054** 76M10 (76M25)
Johnson, J. Howard (*with* Wood, Derick) Instruction computation in subset construction. (English summary) *Automata implementation* (*London, ON*, 1996), 64–71, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (*see* **98i:68003**) 68Q68
Johnson, J. N. (*with* Clements, B. E.; Addessio, F. L.) Wave propagation in laminates: a study of the nonhomogenized dynamic method of cells. (English summary) *Wave Motion* **27** (1998), *no.* 3, 193–209. 73D15 (73K20, 73V20)
Johnson, John L. Coordinate transform invariance. (English summary) *Found. Phys.* **26** (1996), *no.* 11, 1529–1557. (Summary) **98i:81116** 81R99
Johnson, Johnny A. (*with* Johnson, E. W.; Taylor, Monty B.) Modules with small cofinite irreducibles, cyclic submodules and duality. (English summary) *Comm. Algebra* **25** (1997), *no.* 1, 267–272. (Daniel D. Anderson) **98c:13017** 13C13 (13B35, 13E10)
Johnson, K. L. (*with* Kim, Kyung-Suk; McMeeking, R. M.) Adhesion, slip, cohesive zones and energy fluxes for elastic spheres in contact. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 2, 243–266. (Summary) **98m:73074** 73T05
Johnson, K. W. *see* **Johnson, Kenneth Walter**
Johnson, Kenneth A. (*with* Haagensen, Peter E.; Lam, Chi-Sing) Gauge invariant geometric variables for Yang-Mills theory. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 273–292. (Summary) **98b:81141** 81T13 (53C80)
Johnson, Kenneth R. The Dirichlet inverse of Ramanujan's sum. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 184–186. (Jean-Marie De Koninck) **98f:11010** 11A25
Johnson, Kenneth Walter (*with* Ford, David) Determinants of Latin squares of order 8. (English summary) *Experiment. Math.* **5** (1996), *no.* 4, 317–325. (Charles Laywine) **98c:05032** 05B15 (15A15)
— (*with* Hoehnke, Hans-Jürgen) k-characters and group invariants. *Comm. Algebra* **26** (1998), *no.* 1, 1–27. (E. Formanek) **98m:20012** 20C15
Johnson, M. P. *see* **Johnson, Michael Patrick**

Johnson, Mark E. (*with* Jolly, Michael S.; Kevrekidis, Ioannis G.) Two-dimensional invariant manifolds and global bifurcations: some approximation and visualization studies. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 125–140. (Andrew C. Fowler) **98j:58079** 58F14 (34C23, 34C30, 58F21, 65L06)

Johnson, Mark Ray Note on multiplicities of blow-ups and residual intersections. *Comm. Algebra* **25** (1997), *no.* 12, 3797–3801. (Aron Simis) **98j:13021** 13H15 (13A30, 13C40)

— Second analytic deviation one ideals and their Rees algebras. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 2, 171–183. (Aron Simis) **98e:13005** 13A30 (13D45, 13H10)

— Linkage and sums of ideals. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1913–1930. (P. Schenzel) **98h:13015** 13C40 (13C14, 14M06)

Johnson, Mary A. (*with* Liu, Danielle; Narayana, Surya) Burstiness descriptors for Markov renewal processes and Markovian arrival processes. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 619–646. (Summary) **98a:60128** 60K15 (60K25)

Johnson, Michael Patrick (*with* Rennick, C.; Zak, E.) Skiving addition to the cutting stock problem in the paper industry. (English summary) *SIAM Rev.* **39** (1997), *no.* 3, 472–483. 90B90 (90C90)

Johnson, N. L. *see* **Johnson, Norman Lloyd[1]**

Johnson, Neil F. (*with* Markvardsen, Anders J.) A solvable model for excitonic complexes in one dimension. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4013–4022. (Summary) **98f:81391** 81V70

Johnson, Norman L. *see* **Johnson, Norman Lloyd[2]**

Johnson, Norman Lloyd[1] (*with* Jha, Vikram) Flocks of oval cones and extensions of theorems of Thas. (English summary) *Note Mat.* **14** (1994), *no.* 2, 189–197 (1997). (Laura Bader) **98e:51013** 51E21 (51E20)

— (*with* Payne, S. E.) Flocks of Laguerre planes and associated geometries. *Mostly finite geometries (Iowa City, IA, 1996)*, 51–122, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Andreas E. Schroth) **98h:51009** 51E12 (51B15, 51E21)

— (*with* Biliotti, Mauro) Variations on a theme of Dembowski. *Mostly finite geometries (Iowa City, IA, 1996)*, 139–168, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Ivano Pinneri) **98j:51004** 51A30 (51A40, 51E15, 51E23)

— (*with* Jha, Vikram) Structure theory for point-Baer and line-Baer collineations in affine planes. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 235–273, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (M. J. Kallaher) **98k:51004** 51A35 (51A40)

— (*with* Liu, Xiaobin) Flocks of quadratic and semi-elliptic cones. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 275–304, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Hendrik Van Maldeghem) **98g:51006** 51E20

— (*with* Liu, Xiaobin) The generalized Kantor-Knuth flocks. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 305–314, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Hendrik Van Maldeghem) **98g:51002** 51A40 (51E20)

— (*with* Storme, Leo) Spreads corresponding to flocks of quadrics. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 315–323, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Ivano Pinneri) **98h:51010** 51E14 (51E21)

— (*with* Jha, Vikram) The doubly transitive flocks of quadratic cones. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 763–778. (M. J. Kallaher) **98k:51017** 51E20 (05B25, 20B25, 51E12)

— *see also* **Mostly finite geometries, 98b:51002**

Johnson, Norman Lloyd[2] (*with* Balakrishnan, Narayanaswamy) Samuel Kotz—life and works. *Advances in the theory and practice of statistics*, 3–19, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Editors) **98f:01068** 01A70

— (*with* Balakrishnan, Narayanaswamy) A recurrence relation for discrete multivariate distributions and some applications to multivariate waiting time problems. (English summary) *Advances in the theory and practice of statistics*, 367–376, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:60008** 60C05 (62E15)

— *see also* **Advances in the theory and practice of statistics, 98e:62006**

Johnson, Ockle (*with* Banchoff, Thomas F.) The normal Euler class and singularities of projections for polyhedral surfaces in 4-space. (English summary) *Topology* **37** (1998), *no.* 2, 419–439. (R. E. Stong) **98j:57036** 57Q35

Johnson, P. D., Jr. (*with* Hilton, A. J. W.; Wantland, E. B.) The Hall number of a simple graph. (English summary) Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **121** (1996), 161–182. (Summary) **98g:05060** 05C15 (05A05)

— (*with* Hilton, A. J. W.; Leonard, Douglas A.) Hall's condition for multicolorings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 195–203. (Summary) **98i:05077** 05C15 (05A15)

Johnson, Peter R. (*with* Beggs, Edwin J.) Inverse scattering and solitons in A_{n-1} affine Toda field theories. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 653–681. (Henrik Aratyn) **98a:81251** 81U40 (58F07, 81T10)

— On soliton quantum S-matrices in simply laced affine Toda field theories. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 505–550. (Henrik Aratyn) **98d:81102** 81T40 (58F07, 81U20)

Johnson, Phillip *see* **Johnson, Phillip Matthew**

Johnson, Phillip E. Early Newtonian and Leibnizian development of the calculus. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 6, 803–816. (Summary) **98h:01010** 01A45

Johnson, Phillip Matthew (*with* Imbens, Guido W.; Spady, Richard H.) Information-theoretic approaches to inference in moment condition models. (English summary) *Econometrica* **66** (1998), *no.* 2, 333–357. 62F10 (62B10)

Johnson, R. *see* **Johnson, Russell Allen**

Johnson, R. A. *see* **Johnson, Russell Allen**

Johnson, R. S. Nonlinear gravity waves on the surface of an arbitrary shear flow with variable depth. (English summary) *Nonlinear instability analysis*, 221–243, *Adv. Fluid Mech.*, 12, *Comput. Mech., Southampton*, 1997. (Summary) **98g:76007** 76B15 (35Q35, 76B25)

Johnson, Richard A. (*with* Evans, James W.; Green, David W.) Goodness-of-fit tests for two-parameter and three-parameter Weibull distributions. (English summary) *Advances in the theory and practice of statistics*, 159–178, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62G10

— (*with* Taylor, James R.) Minimum distance estimation using the Lotka limit for age dependent branching processes. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 447–458. (*see* **98i:00027**) 60J80

Johnson, Roberto Whittaker models for Carayol representations of $\mathrm{GL}_N(F)$. *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 163–174, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (David Manderscheid) **98k:22071** 22E50

Johnson, Russell Allen (*with* Geronimo, Jeffrey S.) Rotation number associated with difference equations satisfied by polynomials orthogonal on the unit circle. (English summary) *J. Differential Equations* **132** (1996), *no.* 1, 140–178. (Themistocles M. Rassias) **98a:39002** 39A10 (33C99)

— (*with* Colonius, F.) Local and global null controllability of time varying linear control systems. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 329–341 (*electronic*). (G. Anichini) **98m:93013** 93B05 (93C25, 93E03)

— (*with* Nistri, Paolo; Kamenskiĭ, Mikhail) On periodic solutions of a damped wave equation in a thin domain using degree-theoretic methods. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 186–208. (Eduard Feireisl) **98j:35013** 35B10 (35L70, 47H11, 47N20)

Johnson, Simon (*with* Friedman, Eric J.) Dynamic monotonicity and comparative statics for real options. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 104–121. (Summary) **98c:90023** 90A16 (90A09)

Johnson, Tom (*with* Fletcher, Roger) On the stability of null-space methods for KKT systems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 938–958. (Hubertus Th. Jongen) **98f:65049** 65F30 (90C25)

Johnson, Warren P. A q-analogue of Faà di Bruno's formula. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 305–314. (Alain J. Phares) **98b:39008** 39A10 (05A30, 33D99)

Johnson, Wesley O. (*with* Geisser, Seymour) Interim analysis for normally distributed observables. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 263–279, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62F15 (62H17, 62L99)

— Predictive influence in the log normal survival model. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 104–121, *Springer, New York*, 1996. (Summary) **98b:62008** 62B10 (62F15)

— (*with* Deely, John) Normal means revisited. (English summary) *Advances in statistical decision theory and applications*, 19–30, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62F07

— *see also* **Modelling and prediction, 98a:62002**

Johnson, William B. (*with* Girardi, Maria) Universal non-completely-continuous operators. (English summary) *Israel J. Math.* **99** (1997), 207–219. (G. M. Ustinov) **98i:46010** 46B20 (47B99)

Johnson, William D. (*with* May, Warren Lee[1]) Properties of simultaneous confidence intervals for multinomial proportions. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 495–518. 62F25

— (*with* Diaz, Carroll J., Jr.) An F-test for multivariate repeated measures data with the Wiener stochastic process pattern in the covariance matrix. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 275–289. 62H15

Johnson-Laird, P. N. *see* **Hadamard, Jacques, 98j:00011**

Johnsson, M. T. (*with* Aitchison, I. J. R.) The SU(2) instanton and the adiabatic evolution of two Kramers doublets. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2085–2092. (Péter Pál Lévay) **98b:81062** 81Q99 (81R05, 81T13)

Johnsson, S. Lennart (*with* Shalaby, Nadia) Hierarchical load balancing for parallel fast Legendre transforms. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F20

Johnsson, Thomas Graph reduction, and how to avoid it. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68N20 (68N15)

Johnston, Carolyn P. On the pseudodilation representations of Flornes, Grossmann, Holschneider, and Torresani. *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 377–385. (Dirk Hachenberger) **98h:11162** 11T99 (42C99)

Johnston, Desmond Alexander (*with* Plecháč, Petr) Potts models on Feynman diagrams. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7349–7363. (Summary) **98k:82094** 82B44 (81T18, 82B20)

— (*with* Baig, M.; Espriu, Domènec; Malmini, Ranasinghe P. K. C.) String tension in gonihedric three-dimensional Ising models. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7695–7706. 82B20

Johnstone, Iain M. (*with* Silverman, Bernard W.) Wavelet threshold estimators for data with correlated noise. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 319–351. (Mohsen Pourahmadi) **98h:62054** 62G05 (62G20)

Johnstone, Peter (*with* Carboni, Aurelio) Connected limits, familial representability and Artin glueing. (English summary) Fifth Biennial Meeting on Category Theory and Computer Science (Amsterdam, 1993). *Math. Structures Comput. Sci.* **5** (1995), *no.* 4, 441–459. (Summary) **98f:18005** 18B25 (18A35, 18C15)

— *see also* **Category theory and computer science, 98c:68008**

Joinet, Jean-Baptiste (*with* Danos, Vincent; Schellinx, Harold) Computational isomorphisms in classical logic (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03F07

— (*with* Schellinx, Harold; Tortora de Falco, Lorenzo) Strong normalization for all-style $\mathrm{LK}^{\forall}$ (extended abstract). (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini, 1996)*, 226–243, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 03F05 (03B10, 03B15, 03B20)

Jolis, Maria (*with* Delgado, Rosario) A Hu-Meyer formula for generalized multiple anticipating integrals. (English summary) *Stochastics Stochastics Rep.* **58** (1996), *no.* 1-2,

115–138. (Marta Sanz Solé) **98b:60104** 60H05 (60H10)

Jolissaint, Paul Moyennabilité intérieure du groupe F de Thompson. (English and French summaries) [Inner amenability of Thompson's group F] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 61–64. (Mohammed E. B. Bekka) **98j:20049** 20F38 (57M07)

— *see also* **Cherix, Pierre-Alain**, **98b:43001**

Jolliffe, Ian T. (*with* Cadima, Jorge) Some comments on: "Optimality criteria for principal component analysis and generalizations" [British J. Math. Statist. Psych. **49** (1996), no. 2, 335–345] by J. M. F. ten Berge and H. A. L. Kiers. With a reply by ten Berge and Kiers. *British J. Math. Statist. Psych.* **50** (1997), *no.* 2, 365–368. 62H25

— (*with* Al-Kandari, Noriah M.) Variable selection and interpretation in canonical correlation analysis. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 873–900. 62H25

Jolly, M. R. On the calculus of complex matrices. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 749–755. 65F30

Jolly, Michael S. (*with* Johnson, Mark E.; Kevrekidis, Ioannis G.) Two-dimensional invariant manifolds and global bifurcations: some approximation and visualization studies. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 125–140. (Andrew C. Fowler) **98j:58079** 58F14 (34C23, 34C30, 58F21, 65L06)

Joly, Jean-Luc (*with* Métivier, Guy; Rauch, Jeffrey) Quelques résultats récents en optique géométrique non linéaire. [Some recent results in nonlinear geometric optics] *Complex analysis, harmonic analysis and applications* (*Bordeaux*, 1995), 183–207, *Pitman Res. Notes Math. Ser.*, 347, *Longman, Harlow*, 1996. (*see* **97b:00016**) 35L60 (78A05)

— (*with* Métivier, Guy; Rauch, Jeffrey) Solutions globales du système de Maxwell dans un milieu ferromagnétique. [Global solutions of Maxwell's system in a ferromagnetic medium] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* XI, 12 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 35Q60 (78A25)

Joly, Patrick Developments in numerical methods for transient scattering problems. *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 236–249, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 65N30

— (*with* Vacus, Olivier) Propagation d'ondes en milieu ferromagnétique 1D: existence et unicité des solutions. (English and French summaries) [Electromagnetic wave propagation in a 1D ferromagnetic medium: an existence and uniqueness result] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 1, 29–35. (Summary) **98b:82088** 82D40 (35Q55, 35Q60)

— (*with* Bécache, Éliane; Tsogka, Chrysoula) Étude d'un nouvel élément fini mixte permettant la condensation de masse. (English and French summaries) [Construction and analysis of a new mixed finite element allowing mass lumping] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1281–1286. (Summary) **98b:65056** 65J10 (65N30)

— (*with* Elmkies, Alexandre) Éléments finis d'arête et condensation de masse pour les équations de Maxwell: le cas 2D. (English and French summaries) [Edge finite elements and mass lumping for Maxwell's equations: the 2D case] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1287–1293. (Summary) **98b:65114** 65M60 (78–08)

— (*with* Elmkies, Alexandre) Éléments finis d'arête et condensation de masse pour les équations de Maxwell: le cas de dimension 3. (English and French summaries) [Edge finite elements and mass lumping for Maxwell's equations: the 3D case] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1217–1222. (Summary) **98m:78006** 78–08 (65N30, 78A25)

— (*with* Collino, P.; Delbue, G.; Piacentini, A.) A new interface condition in the non-overlapping domain decomposition method for the Maxwell equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 195–207. (Pierre Hillion) **98f:78001** 78–08 (78A25)

— (*with* Tuomela, Jukka) A new theoretical approach to absorbing layers. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 671–698. (Riccardo Fazio) **98a:65148** 65M99 (35C20, 35L05, 65M06)

Joly, Thierry Un plongement de la logique classique du 2nd ordre dans AF_2. (English and French summaries) [An embedding of second-order classical logic into FA_2] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 1–4. (Summary) **98g:03130** 03F07 (03B15, 03B40, 03F55)

Jona-Lasinio, Giovanni Chaos in quantum many-body systems. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 327–338, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50 (81V70)

— *see also* **Lebowitz, Joel L.**, **98a:82085**

Jonas, Amnon (*with* Kiryati, Nahum) Length estimation in 3-D using cube quantization. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 215–238. 68U10

Jonassen, Tore M. Lifts of one-dimensional systems. I. Hyperbolic behaviour. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 937–948. (Govindan Rangarajan) **98c:58050** 58F03 (39B12, 58F15, 58F30)

Jonasson, Johan (*with* Häggström, Olle) Rates of convergence for lamplighter processes. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 227–249. (Vadim A. Kaĭmanovich) **98j:60097** 60J05 (60J15)

Jónasson, Kristján (*with* Madsen, Kaj) Corrected sequential linear programming for sparse minimax optimization. (English summary) *BIT* **34** (1994), *no.* 3, 372–387. (G. Naadimuthu) **98a:90059** 90C05 (90C08)

Jonckheere, Edmond A. (*with* Li, Rong Sheng[1]) Hankel operator and H_∞ distance problem over a simply-connected domain. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 897–916. (Summary) **98j:93032** 93B36 (47B35, 47N70)

— (*with* Chu, Chung-Kuang) Bounded flatness in Q-triangulated regular N-simplexes. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 177–198. (Peter Kunkel) **98i:65042** 65H10 (57Q15)

Jones, A. *see* **Jones, Alan Stuart**

Jones, A. F. (*with* King-Hele, J. A.; Cardew, P. T.) A mathematical model of a hollow-fibre filter. (English summary) *Progress in industrial mathematics at ECMI 96* (*Lyngby*, 1996), 50–57, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76S05

Jones, Alan Stuart Non-standard soliton wavetrains. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4193–4196. (*see* **98i:00032**) 35Q51 (34A34, 35B10)

— Discontinuities in geometric optimization. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 1, 18–20. 49–01

Jones, Alexander On Babylonian astronomy and its Greek metamorphoses. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 139–155, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (*see* **98b:01002**) 01A17 (01A20)

— Studies in the astronomy of the Roman period. I. The standard lunar scheme. *Centaurus* **39** (1997), *no.* 1, 1–36. (George Abraham) **98c:01001** 01A20

— Studies in the astronomy of the Roman period. II. Tables for solar longitude. *Centaurus* **39** (1997), *no.* 3, 211–229. (George Abraham) **98h:01002** 01A20

Jones, Alfredo R. On the exponent of lattices over group rings. Representation theory of groups, algebras, and orders (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **4** (1996), *no.* 2, 83–88. (Jacques Thévenaz) **98d:20005** 20C11 (20C05)

Jones, Andrew J. I. (*with* Carmo, José) Deontic database constraints, violation and recovery. (English summary) Papers in deontic logic (Oslo, 1994). *Studia Logica* **57** (1996), *no.* 1, 139–165. (M. S. Burgin) **98h:03023** 03B45 (68P15)

Jones, Bush (*with* Trivedi, Sudhir; Iyengar, Sitharama) Signal and noise: towards a general theory of algorithms. (English summary) *Cybernetica* **40** (1997), *no.* 2, 151–164. 94A12

Jones, Byron (*with* Sinha, Kishore; Kageyama, Sanpei) Constructions of pairwise- and variance-balanced designs. (English summary) *Statistics* **29** (1997), *no.* 3, 241–250. (Summary) **98c:62149** 62K10

Jones, C. K. R. T. (*with* Sandstede, Björn; Alexander, James Crew) Existence and stability of N-pulses on optical fibers with phase-sensitive amplifiers. (English summary) *Phys. D* **106** (1997), *no.* 1-2, 167–206. (Peter E. Zhidkov) **98h:35227** 35Q99 (34C23, 78A60)

— (*with* Miller, Patrick D.; Rogerson, A. M.; Pratt, L. J.) Quantifying transport in numerically generated velocity fields. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 105–122. (Summary) **98h:76060** 76F20 (86A05)

— (*with* Alexander, James Crew; Grillakis, M. G.; Sandstede, Björn) Stability of pulses on optical fibers with phase-sensitive amplifiers. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 175–192. (Peter L. Christiansen) **98h:35212** 35Q55 (78A60)

Jones, Cristen (*with* Gowda, M. Seetharama) On the connectedness of solution sets in linear complementarity problems. (English summary) *Linear Algebra Appl.* **272** (1998), 33–44. (Stefan Scholtes) **98m:90157** 90C33

Jones, D. F. (*with* Tamiz, M.) An example of good modelling practice in goal programming: means for overcoming incommensurability. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 29–37, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C90)

Jones, D. S. ★ Introduction to asymptotics. (English summary) A treatment using nonstandard analysis. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+165 *pp. ISBN* 981-02-2915-1 (W. A. J. Luxemburg) **98i:41046** 41A60 (03H05, 34E20)

— Scattering by a cone. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 499–523. (B. Belinskiy) **98k:78038** 78A45

vere-Jones, David *see* **Vere-Jones, David**

Jones, Don A. (*with* Cockburn, Bernardo; Titi, Edriss S.) Estimating the number of asymptotic degrees of freedom for nonlinear dissipative systems. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1073–1087. (Anibal Rodriguez-Bernal) **98a:35130** 35Q99 (34G20, 35B99, 47H20, 65M60, 76D05)

— (*with* Stuart, Andrew M.; Titi, Edriss S.) Persistence of invariant sets for dissipative evolution equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 479–502. (Arnaud Debussche) **98m:34123** 34G20 (35K55, 47H20, 58F30)

Jones, Douglas H. (*with* Chiang, Junnyih; Jin, Zhi Ying) Optimal designs for simultaneous item estimation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4051–4058. (*see* **98i:00032**) 62K05

Jones, G. L. *see* **Jones, Gerald L.**

Jones, Gareth A. Maps on surfaces and Galois groups. (English summary) Graph theory (Donovaly, 1994). *Math. Slovaca* **47** (1997), *no.* 1, 1–33. (Arthur T. White) **98i:05055** 05C10 (12F10, 14H99)

Jones, Gary D. On the asymptotic behavior of solutions of a higher order linear differential equation. *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 171–179. (M. Cecchi) **98i:34059** 34C11 (34C10)

— Comparison theorems for disconjugate linear differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 469–482. (Uri Elias) **98m:34072** 34C10

Jones, Gavin L. The exponent of convergence of a finite Blaschke product. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 245–254. (F. W. Carroll) **98j:30023** 30D05 (30D50)

Jones, George (*with* Baylis, William E.) Covariance and Chevalley-Riesz spinors. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 354–358, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81108** 81R25 (15A66)

Jones, Geraint (*with* Bird, Richard S.; de Moor, Oege) More haste, less speed: lazy versus eager evaluation. (English summary) *J. Funct. Programming* **7** (1997), *no.* 5, 541–547. (Summary) **98j:68004** 68N15

Jones, Gerald L. Symmetry and conservation laws of differential equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 7, 1053–1059. (Mircea Crasmareanu) **98h:34011** 34A26 (58F35, 70H33)

Jones, J. D. S. (*with* Westbury, Bruce W.) Algebraic K-theory, homology spheres, and the η-invariant. *Topology* **34** (1995), *no.* 4, 929–957. (From the introduction) **98i:58217** 58G10 (19D55, 57N10, 57P10)

— (*with* Rawnsley, J. H.) Hamiltonian circle actions on symplectic manifolds and the signature. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 301–307. (Mark Hovey) **98i:58218** 58G10 (57R15, 58F05)

Jones, J. E. A theoretical explanation of the laws of Warburg and Sigmond. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 1033–1052. (Summary) **98b:78017** 78A35

Jones, James P. (*with* Levitz, Hilbert; Nichols, Warren D.) On series of ordinals and combinatorics. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 1, 121–133. (N. H. Williams) **98a:04002** 04A10

Jones, Jon (*with* Karampetakis, N. P.; Pugh, A. C.) The computation and application of the generalized inverse via Maple. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 99–124. 65–04 (65F10)

Jones, L. E. *see* **Jones, Lowell Edwin**

Jones, Lee Kenneth (*with* Holmes, R. B.) On uniform generation of two-way tables with fixed margins and the conditional volume test of Diaconis and Efron. (English summary) *Ann. Statist.* **24** (1996), *no.* 1, 64–68. (I. J. Good) **98a:62068** 62G99 (62H17, 62P99)

— The computational intractability of training sigmoidal neural networks. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 167–173. (Summary) **98g:68148** 68T05 (68Q25)

Jones, Lowell Edwin (*with* Farrell, F. T.) Compact infrasolvmanifolds are smoothly rigid. *Geometry from the Pacific Rim* (*Singapore*, 1994), 85–97, *de Gruyter, Berlin*, 1997. (Laurence R. Taylor) **98h:57065** 57S25 (57R50)

Jones, M. *see* **Jones, Mark Christopher Wynne**

Jones, M. C. *see* **Jones, Michael C.**

Jones, Mark *see* **Jones, Mark T.**

Jones, Mark Christopher Wynne Universal unfoldings of group invariant equations which model second and third harmonic resonant capillary-gravity waves. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 10, 59–89. (J. Thomas Beale) **98a:76009** 76B15 (35Q35, 47H15, 58E09, 65M99, 76B45)

— A new system of equations which predicts the evolution of a wave packet due to a fluid-fluid interaction under a narrow bandwidth assumption. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 6, 455–475. (Vladan D. Djordjević) **98m:76018** 76B15 (76B45, 76C10, 76V05)

— Nonlinear ripples of Kelvin-Helmholtz type which arise from an interfacial mode interaction. (English summary) *J. Fluid Mech.* **341** (1997), 295–315. (Summary) **98d:76015** 76B15 (76B45, 76E30)

Jones, Mark T. (*with* Freitag, Lori A.; Plassmann, Paul E.) A parallel algorithm for mesh smoothing. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N55 (65Y05)

— (*with* Plassmann, Paul E.) Adaptive refinement of unstructured finite-element meshes. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 41–60. (*see* **98a:65003**) 65M55 (65N55)

Jones, Michael C. (*with* Karunamuni, Rohana J.) Fourier series estimation for length biased data. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 57–68. (Ewaryst Rafajłowicz) **98m:62100** 62G05

— (*with* Signorini, D. F.) A comparison of higher-order bias kernel density estimators. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1063–1073. 62G05

— (*with* Park, Byeong U.; Kim, Woo Chul; Ruppert, David; Signorini, D. F.; Kohn, Robert Jacob) Simple transformation techniques for improved non-parametric regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 145–163. (Li-Xing Zhu) **98k:62066** 62G05 (62G20)

— (*with* Park, Byeong U.; Kim, Woo Chul) On identity reproducing nonparametric regression estimators. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 279–290. (Lin-Cheng Zhao) **98g:62093** 62G20 (62G05)

— A variation on local linear regression. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1171–1180. (Summary) **98k:62058** 62G05

Jones, Michael P. A class of semiparametric regressions for the accelerated failure time model. (English summary) *Biometrika* **84** (1997), *no.* 1, 73–84. (Summary) **98e:62056** 62G05 (62N05)

Jones, Oliver On the geometry of varieties of invertible symmetric and skew-symmetric matrices. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 89–100. (Alexandru Dimca) **98g:14018** 14F25 (14D07)

Jones, Owen Dafydd On the convergence of multitype branching processes with varying environments. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 772–801. (Ben Hambly) **98m:60136** 60J80

Jones, P. W. *see* **Jones, Peter Watts**

Jones, Peter R. E-free objects and e-locality for completely regular semigroups. (English summary) *Semigroup Forum* **51** (1995), *no.* 3, 357–377. (Mária B. Szendrei) **98b:20104** 20M17 (20M05)

— (*with* Trotter, Peter G.) Semidirect products of regular semigroups. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4265–4310. (Mária B. Szendrei) **98b:20105** 20M17 (20M05, 20M07)

Jones, Peter W. *see* **Jones, Peter Wilcox**

Jones, Peter Watts (*with* Lewis, A. M.; Hartley, Roger) Some designs for multicriteria bandits. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 88–94, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62L15)

Jones, Peter Wilcox (*with* Bishop, Christopher J.) The law of the iterated logarithm for Kleinian groups. (English summary) *Lipa's legacy* (*New York*, 1995), 17–50, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Vasily A. Chernecky) **98j:30051** 30F40 (28A78, 30C35, 31A15)

— (*with* Bishop, Christopher J.) Hausdorff dimension and Kleinian groups. *Acta Math.* **179** (1997), *no.* 1, 1–39. (Bernd O. Stratmann) **98k:22043** 22E40 (30F40)

— (*with* Müller, Paul F. X.) Radial variation of Bloch functions. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 395–400. (Stephen M. Zemyan) **98i:30049** 30D45

— (*with* Katz, Nets Hawk; Vargas, Ana M.) Checkerboards, Lipschitz functions and uniform rectifiability. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 189–210. (U. D'Ambrosio) **98j:49057** 49Q15

Jones, Richard W. (*with* Sbarbaro, Daniel G.) An approach to robust optimal control. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 885–896. 93B36 (49N55)

Jones, Roger D. (*with* Hawrylycz, Michael; Makhan'kov, V. G.; Prichard, Dean) The risk and survival of economic agents. *Random Comput. Dynam.* **5** (1997), *no.* 4, 213–242. 90A46

Jones, Roger L. (*with* Boshernitzan, Michael; Wierdl, Máté) Integer and fractional parts of good averaging sequences in ergodic theory. (English summary) *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 117–132, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (V. Losert) **98e:28022** 28D10

— (*with* Wierdl, Máté) Convergence of ergodic averages. (English summary) *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 229–247, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (V. Losert) **98k:28027** 28D10 (11K99, 47A35, 47B65, 60F15)

— (*with* Akcoglu, Mustafa A.; Ha, Dzung M.) Sweeping out properties of operator sequences. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 3–23. (Joseph Max Rosenblatt) **98b:28031** 28D99 (47A35, 60F99)

Jones, S. E. (*with* Vujanović, B. D.; Strauss, A. M.; Gillis, Peter Paul) Polynomial conservation laws of the generalized Emden-Fowler equation. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 377–384. (Summary) **98e:34017** 34A34 (70H33)

— (*with* Atanackovic, Teodor M.; Djukic, Djordje S.) On the rotating rod with shear and extensibility. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 4, 593–606. (Summary) **98k:73039** 73K05 (73H10, 73K12)

peyton Jones, S. L. *see* **Peyton Jones, S. L.**

Jones, Sarah C. (*with* Möller, J. Dominique) Potential vorticity inversion for tropical cyclones using the asymmetric balance theory. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 2, 259–282. 86A10 (76C10)

Jones, Todd Unification, reduction, and non-ideal explanations. (English summary) *Synthese* **112** (1997), *no.* 1, 75–96. 00A35 (00A30)

Jones, V. (*with* Sunder, V. S.) ★ Introduction to subfactors. (English summary) London Mathematical Society Lecture Note Series, 234. *Cambridge University Press, Cambridge*, 1997. xii+162 *pp. ISBN* 0-521-58420-5 (Carl Winslow) **98h:46067** 46L37 (46-01, 46L10, 57M25)

Jones, William (*with* Swaszek, Peter F.) How often is hard-decision decoding enough? (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1187–1193. (Summary) **98m:94045** 94B05

de Jong, Aise Johan (*with* van der Put, Marius) Étale cohomology of rigid analytic spaces. (English summary) *Doc. Math.* **1** (1996), *No.* 01, 1–56 (*electronic*). (Jean-Claude Douai) **98d:14024** 14F20 (32P05)

— Smoothness, semi-stability and alterations. *Inst. Hautes Études Sci. Publ. Math. No.* 83 (1996), 51–93. (Marko Roczen) **98e:14011** 14E15 (14B05, 14H10)

— Families of curves and alterations. (English summary) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 2, 599–621. (D.-M. Popescu) **98f:14019** 14H10 (14E15, 14L30)

— *see also* **Berthelot, Pierre, 98j:14023**

de Jong, J. L. (*with* Chen, Zhi Ping; Hurkens, C. A. J.) A branch-and-price algorithm for solving the cutting strips problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 2, 252. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 2, 215–224. 90C27

de Jong, Johan *see* **de Jong, Aise Johan**

de Jong, Piet The scan sampler for time series models. (English summary) *Biometrika* **84** (1997), *no.* 4, 929–937. 62M10 (62G05)

de Jong, Robert M. A strong law of large numbers for triangular mixingale arrays. (English summary) *Statist. Probab. Lett.* **27** (1996), *no.* 1, 1–9. (B. M. Pötscher) **98d:60061** 60F15 (62G05)

— (*with* Davidson, James) Strong laws of large numbers for dependent heterogeneous processes: a synthesis of recent and new results. (English summary) *Econometric Rev.* **16** (1997), *no.* 3, 251–279. (Summary) **98b:60059** 60F15

de Jong, Sijmen (*with* Phatak, Aloke) Partial least squares regression. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 25–36, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

Jong, Wooi-Tzy (*with* Chen, Shyi-Ming; Hsiao, Wen-Hoar) Bidirectional approximate reasoning based on interval-valued fuzzy sets. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 339–353. 68T35 (04A72)

Jongen, H. Th. (*with* Stein, Oliver) Parametric semi-infinite programming: jumps in the set of local minimizers. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 161–175, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Sven-Åke Gustafson) **98d:90126** 90C34 (90C31)

— (*with* Rückmann, Jan-J.; Stein, Oliver) Disjunctive optimization: critical point theory. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 2, 321–336. (Diethard Pallaschke) **98h:90088** 90C31 (57R70)

— (*with* Stein, Oliver) On generic one-parametric semi-infinite optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1103–1137. (Olaf Sarges) **98m:90168** 90C34

Jongen, T. (*with* Marx, Y. P.) Design of an unconditionally stable, positive scheme for the k-ε and two-layer turbulence models. (English summary) *Comput. & Fluids* **26** (1997), *no.* 5, 469–487. (Summary) **98h:76105** 76M25 (76F05)

de Jongh, Dick (*with* Visser, Albert) Embeddings of Heyting algebras. (English summary) *Logic: from foundations to applications* (*Staffordshire*, 1993), 187–213, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Summary) **98h:03079** 03G25 (06D20)

— (*with* Osherson, Daniel; Martin, Eric; Weinstein, Scott) Formal learning theory. *Handbook of logic and language*, 737–775, *North-Holland, Amsterdam*, 1997. (*see* **98e:03025**) 68T05 (68Q99, 68S05)

de Jonghe, Frank *see* **De Jonghe, Frank**

Jonke, L. (*with* Andrić, I.; Bardek, V.) Solitons in the Calogero-Sutherland collective field model. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 245–248, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81V70

— (*with* Andrić, I.; Bardek, V.) Multi-vortex solution in the Sutherland model. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 717–724. (Summary) **98f:81378** 81V70

Jonker, Catholijn M. Proof-theory for extensions of logic programming. (English summary) *Extensions of logic programming* (*Leipzig*, 1996), 161–175, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (*see* **98e:68003**) 68N17 (03B70)

Jonsson, Bengt (*with* Abdulla, Parosh Aziz; Čerāns, Kārlis; Tsay, Yih-Kuen) General decidability theorems for infinite-state systems. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 313–321, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60

— (*with* Abdulla, Parosh Aziz) Undecidable verification problems for programs with unreliable channels. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 71–90. (Gabriel Ciobanu) **98e:68160** 68Q60 (03D35, 68Q10)

— (*with* Tsay, Yih-Kuen) Assumption/guarantee specifications in linear-time temporal logic. (English summary) TAPSOFT '95 (Aarhus, 1995). *Theoret. Comput. Sci.* **167** (1996), *no.* 1-2, 47–72. (Summary) **98a:68131** 68Q60 (03B45, 03B70)

Jonsson, Håkan (*with* Carlsson, Svante) Computing a shortest watchman path in a simple polygon in polynomial-time. (English summary) *Algorithms and data structures*

(*Kingston, ON*, 1995), 122–134, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

Jonsson, Peter (*with* Drakengren, Thomas) Twenty-one large tractable subclasses of Allen's algebra. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 297–319. (Neculai Curteanu) **98e:68234** 68T27 (03B70, 68Q25, 68T30)

— A nonapproximability result for finite function generation. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 143–145. (Summary) **98e:68108** 68Q25

— (*with* Drakengren, Thomas) A complete classification of tractability in RCC-5. (English summary) *J. Artificial Intelligence Res.* **6** (1997), 211–221 (*electronic*). (Summary) **98f:68247** 68T27 (03B70, 03D15, 68Q25)

— (*with* Drakengren, Thomas) Eight maximal tractable subclasses of Allen's algebra with metric time. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 25–45. (Summary) **98f:68244** 68T27 (03B30, 03B45, 68Q25)

Jonsson, Thordur (*with* Ambjørn, Jan; Durhuus, Bergfinnur) ★ Quantum geometry. (English summary) A statistical field theory approach. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1997. xiv+363 *pp. ISBN* 0-521-46167-7 (E. J. Janse van Rensburg) **98i:82001** 82–02 (81T30, 82B41, 82B80, 83C45)

Jönsson, Ulf (*with* Rantzer, Anders) Systems with uncertain parameters—time-variations with bounded derivatives. (English summary) Linear matrix inequalities in control theory and applications. *Internat. J. Robust Nonlinear Control* **6** (1996), *no.* 9-10, 969–982. (Gargi Chakraborty) **98a:93056** 93D09 (93C41)

— (*with* Rantzer, Anders) Duality bounds in robustness analysis. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1835–1844. (Summary) **98f:93012** 93D09

— Stability analysis with Popov multipliers and integral quadratic constraints. (English summary) *Systems Control Lett.* **31** (1997), *no.* 2, 85–92. (K. B. Datta) **98e:93080** 93D10

Joó, Istvan (*with* Schnitzer, Franz J.) ★ Expansions with respect to non-integer bases. Grazer Mathematische Berichte [Graz Mathematical Reports], 329. *Karl-Franzens-Universität Graz, Graz*, 1996. ii+35 *pp.* (D. Boyd) **98e:11090** 11K16 (11A67)

— Some resonance theorems. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 85–88 (1997). (R. W. Cross) **98d:47006** 47A05 (46A13, 46B20)

— (*with* Liflyand, E. R.) A new approximation for the Fourier transform. II. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 89–93 (1997). (B. P. Parashar) **98m:42006** 42A38 (65R10)

— (*with* Erdős, Paul[1]; Schnitzer, Franz J.) On Pisot numbers. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 95–99 (1997). (Yann Bugeaud) **98d:11127** 11R06 (11B83)

— (*with* Várlaki, Peter M.) Stabilization of Dirac expansions by Riesz and other means. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 113–123 (1997). (Victor S. Rykhlov) **98b:34108** 34L10 (34L40, 47E05)

— A note on minimax theorems. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 175–179 (1997). (From the text) **98c:49017** 49J35

— (*with* Nguyễn Xuân Kỷ) On approximation by Riesz means. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 217–221. (Weixing Zheng) **98k:41032** 41A30 (42C99)

— Weighted Nikolskiĭ-type inequalities. II. (English summary) *Publ. Math. Debrecen* **49** (1996), *no.* 3-4, 201–209. (B. G. Pachpatte) **98c:41014** 41A17 (26D05)

— (*with* Minkin, A. M.) Eigenfunction estimate for a Dirac operator. *Acta Math. Hungar.* **76** (1997), *no.* 4, 337–349. (Victor S. Rykhlov) **98h:34148** 34L40 (34L05, 47E05)

— (*with* Forgó, F.) Necessary conditions for maxmin=minmax. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 123–135. (Francesco Ferro) **98j:49037** 49K35 (49J35)

Joosten, Reinoud (*with* Talman, A. J. J.) A globally convergent price adjustment process for exchange economies. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 15–26. 90A12

Joray, Pierre Du langage naturel aux langages logiques: esquisse d'une approche catégorielle. [From natural language to logical languages: sketch of a categorial approach] *Analyse catégorielle et logique*, 53–77, *Travaux Log.*, 10, *Univ. Neuchâtel, Neuchâtel*, 1996. (Jaime Nubiola) **98k:03071** 03B65

— Les logiques modales. [Modal logics] *Introduction aux logiques non classiques*, 15–55, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B45

Jorba, Àngel (*with* Delshams, Amadeo; Gelfreich, V. G.; Seara, Tere M.) Exponentially small splitting of separatrices under fast quasiperiodic forcing. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 1, 35–71. (Dmitry V. Treshchëv) **98j:34087** 34C99 (58F30, 70H05, 70K40)

— (*with* Delshams, Amadeo; Gelfreich, V. G.; Seara, Tere M.) Lower and upper bounds for the splitting of separatrices of the pendulum under a fast quasiperiodic forcing. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 1–10 (*electronic*). (Luigi Chierchia) **98a:58135** 58F27 (34C37)

— (*with* Villanueva, Jordi) On the persistence of lower-dimensional invariant tori under quasi-periodic perturbations. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 5, 427–473. (Mikhail B. Sevryuk) **98h:58168** 58F27 (34C27, 34C50, 58F30, 70F15, 70H05)

— (*with* Villanueva, Jordi) On the normal behaviour of partially elliptic lower-dimensional tori of Hamiltonian systems. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 783–822. (Mikhail B. Sevryuk) **98h:58169** 58F27 (34C20, 34C27, 34C50, 58F36, 70H05)

pérez-Jordá, José M. *see* **Pérez-Jordá, José M.**

Jordan, Bruce W. (*with* Livné, Ron) Ramanujan local systems on graphs. *Topology* **36** (1997), *no.* 5, 1007–1024. (Zhaojun Liang) **98f:05112** 05C50 (05C25)

Jordan, D. A. (*with* Akhavizadegan, M.) Prime ideals of quantized Weyl algebras. *Glasgow Math. J.* **38** (1996), *no.* 3, 283–297. (K. R. Goodearl) **98a:16029** 16P40 (16D30, 16S36, 17B37)

Jordan, Francis Cardinal invariants connected with adding real functions. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 696–713. (U. D'Ambrosio) **98k:26006** 26A15 (03E75, 54A25)

Jordan, Richard (*with* Turkington, Bruce) Maximum entropy states and coherent structures in magnetohydrodynamics. (English summary) *Maximum entropy and Bayesian methods* (*Santa Fe, NM*, 1995), 347–353, *Fund. Theories Phys.*, 79, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:76079** 76W05 (76F99, 76M35)

— (*with* Turkington, Bruce) Ideal magnetofluid turbulence in two dimensions. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 661–695. (Alexander Lifschitz) **98h:76069** 76F99 (76M35, 76W05)

— (*with* Turkington, Bruce) Statistical mechanics of organized structures in two-dimensional magnetofluid turbulence. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3629–3636. (*see* **98h:00034**) 76F99 (76M35, 76W05)

Jordan, Scott Alan (*with* Ku, Cheng-Yuan) Access control to two multiserver loss queues in series. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1017–1023. (Natesan Renganathan) **98i:60090** 60K25 (90B22)

Jordán, Tibor A note on the vertex-connectivity augmentation problem. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 294–301. (Summary) **98j:05090** 05C40

— On the existence of (k, l)-critical graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 273–275. (Summary) **98g:05084** 05C40

Jõreskog, Karl G. Structural equation modeling with ordinal variables. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 297–310, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H12 (62P25)

Jorge, J. C. (*with* Clavero Gracia, Carmelo; Lisbona, F.; Shishkin, Grigorii I.) Splitting time methods and one-dimensional special meshes for reaction-diffusion parabolic problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 106–113, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M55

Jørgensen, Bent (*with* Martínez, José Raúl) The Lévy-Khinchine representation of the Tweedie class. (English summary) *Rebrape* **10** (1996), *no.* 2, 225–233. (Gérard Letac) **98m:62027** 62E10 (60E07)

— (*with* Martínez, José Raúl) Tauber theory for infinitely divisible variance functions. (English summary) *Bernoulli* **3** (1997), *no.* 2, 213–224. (Gérard Letac) **98k:60025** 60E07 (62E10)

— (*with* Lundbye-Christensen, Søren; Song, Peter Xue-Kun; Sun, Li[1]) Addendum: "State space models for multivariate longitudinal data of mixed types" [Canad. J. Statist. **24** (1996), no. 3, 385–402; MR 97f:62144]. *Canad. J. Statist.* **25** (1997), *no.* 3, 425. 62M10 (62M20)

Jørgensen, Claus (*with* Ravn, Hans F.) Optimal feedback solution of a constrained stochastic one-storage model. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 6, 445–452. 90C39 (93E20)

Jørgensen, David A. Tor and torsion on a complete intersection. (English summary) *J. Algebra* **195** (1997), *no.* 2, 526–537. (Ming-chang Kang) **98k:13014** 13D05 (13C40)

Jørgensen, Leif K. (*with* Benczúr, András; Harborth, Heiko) Cube graph Ramsey numbers. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 151–157 (1997). (Stanisław P. Radziszowski) **98i:05120** 05C55

— (*with* Hartnell, B. L.; Vestergaard, P. D.; Whitehead, C. A.) Edge stability of the k-domination number of trees. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 31–40. (Summary) **98k:05089** 05C35 (05C12)

Jorgensen, P. E. T. (*with* Bratteli, Ola) Endomorphisms of $\mathscr{B}(\mathscr{H})$. II. Finitely correlated states on $\mathcal{O}_n$. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 2, 323–373. (Steve Wright) **98c:46128** 46L10 (46L05, 47D25)

Jorgensen, Troels Closed geodesics on the modular surface. (English summary) *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 81–86, *de Gruyter, Berlin*, 1996. (Leonid Potyagailo) **98a:30054** 30F35 (30F10)

— (*with* Bott, Raoul; Earle, Clifford J.; Hejhal, Dennis; Jenkins, James A.; Marden, Albert; Osserman, Robert) Lars Valerian Ahlfors (1907–1996). Edited and with an introduction by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 248–255. (Editors) **98m:01028** 01A70

Jorgenson, Jay (*with* Huntley, Jonathan; Lundelius, Rolf) Continuity of small eigenfunctions on degenerating Riemann surfaces with hyperbolic cusps. *Bol. Soc. Mat. Mexicana* (3) **1** (1995), *no.* 2, 119–125. (Christopher M. Judge) **98e:58171** 58G25 (11F72)

— (*with* Todorov, Andreĭ Nikolov) Analytic discriminants for manifolds with canonical class zero. *Manifolds and geometry* (*Pisa*, 1993), 223–260, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (I. Dolgachev) **98a:58167** 58G26 (11F55, 14J28)

— (*with* Lundelius, Rolf) Continuity of relative hyperbolic spectral theory through metric degeneration. *Duke Math. J.* **84** (1996), *no.* 1, 47–81. (Christopher M. Judge) **98g:58182** 58G25 (11F72, 58G26)

— (*with* Dodziuk, Józef) On the geometry and spectral asymptotics of degenerating hyperbolic three manifolds. (English summary) *Extremal Riemann surfaces* (*San Francisco, CA*, 1995), 191–206, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Jack Quine) **98b:58166** 58G18 (57M50, 58G11, 58G25, 58G26)

Jörgenson, Loki *see* **Organic mathematics, 98f:00027**

Jõricke, B. (*with* Khavin, Viktor Petrovich) The uncertainty principle in harmonic analysis [MR 93e:42001]. *Commutative harmonic analysis, III*, 177–259, 261–266, *Encyclopaedia Math. Sci.*, 72, *Springer, Berlin*, 1995. (*see* **98b:42001**) 42–02 (30E99, 42A38)

— Local polynomial hulls of discs near isolated parabolic points. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 789–826. (Norman Levenberg) **98j:32005** 32E20

Jorjadze, G. *see* **Dzhordzhadze, G. P.**

Jörnsten, K. (*with* Lind, M.; Tind, J.) Stable payment schemes of TU-games with multiple criteria. (English summary) *Optimization* **40** (1997), *no.* 1, 57–78. (M. S. Shtil'man) **98c:90196** 90D12 (90D46)

san José, Fernando *see* **San José, Fernando**

Joseph, Anito (*with* Gass, Saul I.; Bryson, N. A.) A computational study of an objective hyperplane search heuristic for the general integer linear programming problem. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 63–76. 90C10

Joseph, Anthony Coxeter structure and finite group action. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 185–219, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (William M. McGovern) **98k:17011** 17B35 (16S30)

— On a Harish-Chandra homomorphism. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 7, 759–764. (Ian M. Musson) **98d:17017** 17B35 (16S32)

Joseph, Binson Are chaotic particle trajectories fractals? (English summary) *Current Sci.* **73** (1997), *no.* 10, 864–868. 58F13

Joseph, Daniel D. (*with* Liao, T. Y.) Sidewall effects in the smoothing of an initial discontinuity of concentration. (English summary) *J. Fluid Mech.* **342** (1997), 37–51. (Summary) **98d:76155** 76R99 (76D99)
— (*with* Huang, Peter Y.; Feng, Jimmy; Hu, H. H.) Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. (English summary) *J. Fluid Mech.* **343** (1997), 73–94. (Summary) **98c:76006** 76A10 (76M25, 76T05)
— Lubricated transport of viscous materials. *IUTAM Symposium on Lubricated Transport of Viscous Materials* (*Tobago*, 1997), 1–24, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08 (76A99, 76T05)
— (*with* Mata, C.; Bai, Runyuan) Levitation of core flows. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials* (*Tobago*, 1997), 65–84, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08
— (*with* Bai, Runyuan; Kelkar, K.) Axisymmetric wavy core flow in a heavy viscous oil. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials* (*Tobago*, 1997), 85–130, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08
— (*with* Huang, Peter Y.; Hu, H. H.) Direct simulation of the sedimentation of elliptic particles in Oldroyd-B fluids. (English summary) *J. Fluid Mech.* **362** (1998), 297–325. 76T05 (76A05)
— *see also* **Particulate flows, 98j:76004**
Joseph, George Gheverghese Foundations of Eurocentrism in mathematics [revised version of Race and Class **28** (1987), no. 3, 13–28]. *Ethnomathematics*, 61–81, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A07 (01A05)
paulraj Joseph, J. *see* **Paulraj Joseph, J.**
Joseph, James E. (*with* Kwack, Myung H.) Extension and convergence theorems for families of normal maps in several complex variables. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), no. 6, 1675–1684. (Junjiro Noguchi) **98a:32004** 32A17 (32H20, 32H25, 54C20)
— (*with* Bayne, Richard E.; Kwack, Myung H.; Lawson, Thomas H.) A note on linear differential equations with constant coefficients. *Missouri J. Math. Sci.* **10** (1998), no. 1, 41–45. 34A30
Joseph, K. T. Generalized solutions to a Cauchy problem for a nonconservative hyperbolic system. (English summary) *J. Math. Anal. Appl.* **207** (1997), no. 2, 361–387. (Vyacheslav V. Chistyakov) **98b:35111** 35L60 (35D05)
Joseph, Merlymole (*with* Krishnamoorthy, A.) Analysis of general correlated bulk demand two commodity inventory problem. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), no. 2, 35–45. 90B05
Josephson, Paul Viktor Yakovlevich Frenkel, 22 February 1930–8 February 1997. *Isis* **88** (1997), no. 3, 512–513. 01A70
Joshi, A. V. (*with* Sahasrabudhe, S. C.; Shankar, K.) Bayesian approximation and invariance of Bayesian belief functions. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 251–258, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30 (03B48, 03B70)
Joshi, Amitabh (*with* Obada, A.-S. F.) Some statistical properties of the even and the odd negative binomial states. (English summary) *J. Phys. A* **30** (1997), no. 1, 81–97. (Apostolos Vourdas) **98f:81396** 81V80 (81R30)
Joshi, C. M. (*with* Bissu, S. K.) Inequalities for some special functions. II. (English summary) *Tamkang J. Math.* **26** (1995), no. 3, 235–242. (Pascal Maroni) **98h:33003** 33C10 (26D07, 33C15)
— (*with* Bissu, S. K.) Inequalities for some special functions. (English summary) *J. Comput. Appl. Math.* **69** (1996), no. 2, 251–259. (Pascal Maroni) **98h:33002** 33C10
— (*with* Joshi, N. L.) Expansions of Appell and Lauricella functions. (English summary) *Tamkang J. Math.* **27** (1996), no. 4, 271–279. (Hukum Chand Agrawal) **98f:33022** 33C65
Joshi, D. G. A summation formula for $\sum_{r=1}^{n} r^k$. *J. Indian Acad. Math.* **18** (1996), no. 2, 199–206. (Y. H. Harris Kwong) **98g:11017** 11B57 (11B75)
Joshi, G. C. (*with* Brumby, S. P.) Global effects in quaternionic quantum field theory. (English summary) *Found. Phys.* **26** (1996), no. 12, 1591–1599. (M. I. Monastyrskiĭ) **98h:81126** 81V15 (81T99)
— (*with* Ritz, A.) A q-Lorentz algebra from q-deformed harmonic oscillators. (English summary) *Chaos Solitons Fractals* **8** (1997), no. 5, *Special Issue*. 823–834. (Mathias Pillin) **98c:81100** 81R50
— (*with* Ritz, A.) A non-associative deformation of Yang-Mills gauge theory. (English summary) *Chaos Solitons Fractals* **8** (1997), no. 5, *Special Issue*, 835–845. (Mathias Pillin) **98c:81139** 81T13 (81R50)
— (*with* Lassig, C. C.) Constrained systems described by Nambu mechanics. (English summary) *Lett. Math. Phys.* **41** (1997), no. 1, 59–63. (From the introduction) **98g:70013** 70H05 (58F05, 70F99, 81S99)
— (*with* Lassig, C. C.) Magnetic charge in a nonassociative field theory. (English summary) *Phys. Lett. B* **400** (1997), no. 3-4, 295–300. (Summary) **98e:81193** 81V10 (81T30, 81T99)
Joshi, J. M. C. (*with* Parihar, Champa Lal) Integral representation of basic hypergeometric functions of three variables. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **39** (1996), no. 4, 249–254. (Summary) **98a:33001** 33C15
— (*with* Pant, R. P.; Lohani, A. B.; Pande, N. K.; Pandalia, S.) A fixed point theorem for sequences of mappings. (English summary) *Ganita* **48** (1997), no. 2, 105–113. 54H25
Joshi, M. S. A commutator proof of the propagation of polyhomogeneity for semi-linear equations. *Comm. Partial Differential Equations* **22** (1997), no. 3-4, 435–463. (William Margulies) **98c:35177** 35S05 (35B99, 58G15, 58G17)
— Complex powers of the wave operator. *Portugal. Math.* **54** (1997), no. 3, 345–362. (Jean-Marc Delort) **98g:35036** 35E20 (35L25, 47F05, 47G30, 58G07)
Joshi, N. L. (*with* Joshi, C. M.) Expansions of Appell and Lauricella functions. (English summary) *Tamkang J. Math.* **27** (1996), no. 4, 271–279. (Hukum Chand Agrawal) **98f:33022** 33C65
Joshi, Nalini (*with* Petersen, Johannes A.) Complex blow-up in Burgers' equation: an iterative approach. (English summary) *Bull. Austral. Math. Soc.* **54** (1996), no. 3, 353–362. (John Albert) **98d:35191** 35Q53 (35A20, 35B05, 35R20, 47H20)
— (*with* Doran-Wu, Patrick) Direct asymptotic analysis of the second Painlevé equation: three different limits. (English summary) *J. Phys. A* **30** (1997), no. 13, 4701–4708. (Andrei A. Kapaev) **98i:34003** 34A20 (34E05)
— (*with* Srinivasan, Gopala K.) The radius of convergence and the well-posedness of the Painlevé expansions of the Korteweg-de Vries equation. (English summary) *Nonlinearity* **10** (1997), no. 1, 71–79. (John Albert) **98d:35192** 35Q53 (35A20, 35B30)
Joshi, Nitu On the inversion of convolution integral equations involving parabolic cylinder function as the kernel. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), no. 1, 57–61. 45A05
Joshi, P. C. (*with* Chakraborty, Sharmishtha) Moments of Cauchy order statistics via Riemann zeta functions. (English summary) *Statistical theory and applications*, 117–127, *Springer, New York*, 1996. (Summary) **98f:62149** 62G30 (11M06, 62E15)
Joshi, Pankaj S. (*with* Królak, Andrzej) Nature of the central singularity in Szekeres models. (English summary) *Mathematics of gravitation, Part I* (*Warsaw*, 1996), 163–168, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Paul E. Ehrlich) **98j:83075** 83C75 (53C50)
— (*with* Dwivedi, I. H.) Initial data and the final fate of inhomogeneous dust collapse. (English summary) *Classical Quantum Gravity* **14** (1997), no. 5, 1223–1236. (Charles Hellaby) **98g:83051** 83C55
— (*with* Cooperstock, Fred I.; Jhingan, S.; Singh, Tejinder Pal) Cosmic censorship and the role of pressure in gravitational collapse. (English summary) *Classical Quantum Gravity* **14** (1997), no. 8, 2195–2201. (Patrick Dolan) **98i:83058** 83C75
— (*with* Virbhadra, K. S.; Jhingan, S.) Nature of singularity in Einstein-massless scalar theory. (English summary) *Internat. J. Modern Phys. D* **6** (1997), no. 3, 357–361. (Robert J. Low) **98h:83063** 83C75 (83C15)
Joshi, Rajani R. A new heuristic algorithm for probabilistic optimization. (English summary) *Comput. Oper. Res.* **24** (1997), no. 7, 687–697. (Summary) **98a:90067** 90C15 (90B05)
Joshi, Santosh B. (*with* Aouf, M. K.) A certain class of meromorphic multivalent functions with positive coefficients. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), no. 2, 221–228 (1997). (Zhong Zhu Zou) **98e:30013** 30C45
— (*with* Kulkarni, Shripad Rajaram) On a class of q-valent functions. (English summary) *J. Indian Acad. Math.* **18** (1996), no. 1, 1–11. (N. K. Thakare) **98j:30009** 30C45 (30C55)
— On a class of p-valent meromorphic functions with positive coefficients. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 171–178. (Shigeyoshi Owa) **98b:30012** 30C45
— (*with* Obradović, Milutin) On certain class of rational functions whose derivatives have positive real parts. (English summary) *Mat. Vesnik* **49** (1997), no. 2, 85–88. 30C45
Joshi, Shoba (*with* Gutman, Ivan M.; Popović, Ljiljana; Khadikar, Padmakar V.; Karmarkar, Sneha; Mandloi, Manorama) Relations between Wiener and Szeged indices of monocyclic molecules. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 91–103. (Rong Si Chen) **98i:92048** 92E10 (05C90)
Joshi, Shrikant N. (*with* Ghosh, Jayanta K.; Mukhopadhyay, Chiranjit) Asymptotics of a Bayesian approach to estimating change-point in a hazard rate. (English summary) *Comm. Statist. Theory Methods* **25** (1996), no. 12, 3147–3166. (Barbara H. Szyszkowicz) **98f:62093** 62G05 (62N05)
Joshi, Sucheta (*with* Ras, Zbigniew W.) Query approximate answering system for an incomplete DKBS. (English summary) Intelligent information systems. *Fund. Inform.* **30** (1997), no. 3-4, 313–324. (*see* **98f:68008**) 68T30 (68P15)
Joshi, Sumit Turnpike theorems in nonconvex nonstationary environments. (English summary) *Internat. Econom. Rev.* **38** (1997), no. 1, 225–248. (Makoto Yano) **98c:90024** 90A16 (49K45, 90A19)
— Recursive utility, martingales, and the asymptotic behaviour of optimal processes. (English summary) *J. Econom. Dynam. Control* **21** (1997), no. 2-3, 505–523. (Summary) **98c:90030** 90A43 (90C15)
Joshi, Sunil (*with* Bhati, S. S.) Certain transformation formulae for basic hypergeometric functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), no. 2, 131–134. (David M. Bressoud) **98d:33008** 33D20
— (*with* Bhati, S. S.) Fourier series for generalized functions. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), no. 4, 269–276. 33C99
Joshi, Y. V. (*with* Dutta Roy, S. C.) Design of IIR digital notch filters. (English summary) *Circuits Systems Signal Process.* **16** (1997), no. 4, 415–427. 94A12
Joslin, R. D. (*with* Criminale, W. O.; Jackson, T. L.; Lasseigne, D. G.) Perturbation dynamics in viscous channel flows. (English summary) *J. Fluid Mech.* **339** (1997), 55–75. (Summary) **98a:76018** 76D05 (76E05)
Joslyn, Cliff Measurement of possibilistic histograms from interval data. (English summary) *Internat. J. Gen. Systems* **26** (1997), no. 1-2, 9–33. 04A72
Joss, Heinz Messrechnen: 350 Jahre Rechenschieber. (German summary) [Measurement arithmetic: 350 years of slide rule] *Elem. Math.* **53** (1998), no. 2, 73–78. 01A05
Jost, Jürgen Equilibrium maps between metric spaces. (English summary) *Calc. Var. Partial Differential Equations* **2** (1994), no. 2, 173–204. (Yuan-Jen Chiang) **98a:58049** 58E20 (58E99)
— (*with* Hong, Min-Chun; Struwe, Michael) Asymptotic limits of a Ginzburg-Landau type functional. (English summary) *Geometric analysis and the calculus of variations*, 99–123, *Internat. Press, Cambridge, MA*, 1996. (Patricio L. Felmer) **98e:58068** 58E99 (35Q55)
— ★ Nonpositive curvature: geometric and analytic aspects. (English summary) Lectures in Mathematics ETH Zürich. *Birkhäuser Verlag, Basel*, 1997. viii+108 *pp. ISBN* 3-7643-5736-3 (Raul Quiroga) **98g:53070** 53C21 (58E20)
— (*with* Ding, Weiyue; Li, Jia Yu[1]; Wang, Guofang) The differential equation $\Delta u = 8\pi - 8\pi he^u$ on a compact Riemann surface. (English summary) *Asian J. Math.* **1** (1997), no. 2, 230–248. (Yisong Yang) **98k:58062** 58E15 (35J60, 58G30)
— Generalized Dirichlet forms and harmonic maps. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), no. 1, 1–19. (Martin Fuchs) **98f:31014** 31C25 (31D05, 58E20, 60H07)
— (*with* Habermann, Lutz) Convergence of eigenvalues and Green functions under surgery type degeneration of Riemannian manifolds. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), no. 2, 137–158. (Alberto G. Setti) **98f:58194** 58G25 (53C20)
— (*with* Li-Jost, Xianqing; Peng, Xiao-Wei) Correction to: "Bifurcation of minimal surfaces in Riemannian manifolds" [Trans. Amer. Math. Soc. **347** (1995), no. 1, 51–62; MR 95e:58048]. *Trans. Amer. Math. Soc.* **349** (1997), no. 11, 4689–4690. (Editors) **98b:58048** 58E20 (53C22, 58E10)

Jost, Thomas Morita equivalence for blocks of Hecke algebras of symmetric groups. *J. Algebra* **194** (1997), *no.* 1, 201–223. (Hiroshi Naruse) **98h:20014** 20C30 (05E10, 20C20)

Ji-Jost, Xianqing *see* **Li-Jost, Xianqing**

Joswig, Michael Towards modelling the topology of homogeneous manifolds by means of symbolic computation. (English summary) *Artificial intelligence and symbolic mathematical computation* (*Steyr*, 1996), 258–273, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98e:68124** 68Q40 (22E99)

— Translation generalized quadrangles. *Arch. Math.* (*Basel*) **67** (1996), *no.* 3, 253–264. (Stanley E. Payne) **98d:51007** 51E12 (20E42)

Jou, David (*with* Compte, Albert) Non-equilibrium thermodynamics and anomalous diffusion. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4321–4329. (Lamberto Rondoni) **98b:82061** 82C35 (80A10, 80A20)

Jou, Min-Jen (*with* Chang, Gerard J.; Lin, Ch'iang; Ma, Tze-Heng) A finiteness theorem for maximal independent sets. (English summary) *Graphs Combin.* **12** (1996), *no.* 4, 321–326. (Summary) **98g:05078** 05C35

— (*with* Chang, Gerard J.) Maximal independent sets in graphs with at most one cycle. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 67–73. (Summary) **98f:05088** 05C35 (05C38)

Jouannaud, Jean-Pierre (*with* Rubio, Albert) A recursive path ordering for higher-order terms in η-long β-normal form. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 108–122, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98i:68143** 68Q42

— (*with* Okada, Mitsuhiro) Abstract data type systems. (English summary) *Theoret. Comput. Sci.* **173** (1997), *no.* 2, 349–391. (V. Căzănescu) **98h:68024** 68N05 (68N15, 68Q42)

Jouanolou, J. P. Formes d'inertie et résultant: un formulaire. [Inertial forms and resultant: some formulas] *Adv. Math.* **126** (1997), *no.* 2, 119–250. (Allen Tannenbaum) **98k:14002** 14A99 (12D05, 12Y05, 13P05)

Joubert, Adriaan (*with* Rogers, L. C. G.) Fast, accurate and inelegant valuation of American options. *Numerical methods in finance*, 88–92, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (*see* **98c:90004**) 90A09

Joubert, W. (*with* Faber, V.; Knill, Emanuel; Manteuffel, Thomas A.) Minimal residual method stronger than polynomial preconditioning. (English summary) *SIAM J. Matrix Anal. Appl.* **17** (1996), *no.* 4, 707–729. (Zdeněk Dostál) **98a:65039** 65F10 (65F35)

Jouenne, Corinne Équations de Cauchy-Riemann dans une famille de convexes de type fini. (English and French summaries) [Cauchy-Riemann equations in a family of convex domains of finite type] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 949–952. (Joaquim Bruna) **98i:32004** 32A25 (32F20)

Jouhari, M. (*with* Ehrlacher, Alain) Thermodynamic analysis of a propagating crack in saturated porous media. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 235–253. (Summary) **98k:73011** 73B30 (73M25, 76S05, 80A10)

Joukowski, N. E. *see* **Zhukovskiĭ, Nikolaĭ Egorovich**

Joulain, P. (*with* Hokkanen, Veli-Matti; Moroşanu, Gheorghe; Locquet, V.; Bourceanu, G.) An application of the Fourier method in acoustics. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 69–77. (Summary) **98d:76150** 76Q05 (35Q35)

Joung, Yuh-Jzer Characterizing fairness implementability for multiparty interaction. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 110–121, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q10

Jourani, A. (*with* Cornejo, O.; Zălinescu, C.) Conditioning and upper-Lipschitz inverse subdifferentials in nonsmooth optimization problems. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 127–148. (Bernard Lemaire) **98j:49021** 49J52 (90C48)

— (*with* Thibault, Lionel) Chain rules for coderivatives of multivalued mappings in Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1479–1485. (Dariusz Zagrodny) **98j:49024** 49J52 (47H04, 58C20)

Jourdain, B. Diffusions with a nonlinear irregular drift coefficient and probabilistic interpretation of generalized Burgers' equations. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 339–355 (*electronic*). (Ralf Manthey) **98m:60091** 60H10 (35Q53, 35R30)

Jouve, François (*with* Allaire, Grégoire; Bonnetier, Eric; Francfort, Gilles) Shape optimization by the homogenization method. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 27–68. (Robert V. Kohn) **98a:73046** 73K40 (49Q15, 65K10, 73B27, 73V05, 73V25)

Joux, Antoine (*with* Friedman, Joel; Roichman, Yuval; Stern, Jacques; Tillich, Jean-Pierre) The action of a few random permutations on r-tuples and an application to cryptography. (English summary) *STACS* 96 (*Grenoble*, 1996), 375–386, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98g:94026** 94A60 (05C25, 05C80, 68P25, 68R05)

Jovanov, Djurica Variational inequalities with point-to-set operators. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 185–195. (George Isac) **98c:47081** 47H19 (47H04, 47H05, 47H17, 49J40, 65J99)

Jovanović, Aleksandar (*with* Mijajlović, Žarko) On weak normality and selectivity of ultrafilters. (English summary) *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 1–6. (L. Bukovský) **98h:03065** 03E55 (03E05, 03E35)

— Ultrafilter cardinality jumps and the continuum problem. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 55–59. (Marion Scheepers) **98g:03114** 03E05 (03E10, 03E50)

Jovanović, B. *see* **Jovanović, Božidar Žarko**

Jovanović, Božko S. On the convergence of a modified block SOR algorithm. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 31–47. (Christopher Harman) **98m:65175** 65N06 (65F10, 65N12, 65N22)

— Interpolation technique and convergence rate estimates for finite difference method. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 200–211, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65N12 (46M35, 46N40, 65N06)

— (*with* Popović, Branislav Zoran) Some convergence rate estimates for finite difference schemes. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 249–256. (Summary) **98m:65177** 65N12 (46N40, 65N06)

— (*with* Bojović, Dejan) Convergence of a finite difference method for the heat equation—interpolation technique. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 257–264. (Summary) **98m:65151** 65M12 (46N40, 65M06)

Jovanović, Božidar Žarko (*with* Dragović, Vladimir) On integrable potential perturbations of the billiard system within an ellipsoid. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3063–3068. (Kang-Jie Shi) **98c:58148** 58F30 (58F05, 58F07, 70H05)

— Integrable perturbations of billiards on constant curvature surfaces. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 353–358. (Roberto Markarian) **98i:58186** 58F17

Jovanović, Ivan (*with* Vujović, Svetlana; Obradović, Milutin) On certain univalence conditions in the unit disc. (English summary) *Filomat No.* 10 (1996), 123–128. 30C45

— (*with* Ibro, Vait) The space $A^p(D)$ and multipliers. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 111–114, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 46E15 (30B10)

Jovanović, Milan V. A remark on strongly convex and quasiconvex functions. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 778–779; *translation in Math. Notes* **60** (1996), *no.* 5-6, 584–585 (1997). 26A51

— (*with* Janković, Vladimir) On contractibility of the operator $I - t\nabla f$. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 245–248. (Summary) **98k:26020** 26B25

— (*with* Govedarica, Vidan) Functions with quasiconvex derivatives. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 471–473, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:00021**) 26A51 (26D10, 90C26)

Jovanović, Miljana (*with* Janković, Svetlana) On a general iterative method for solving hereditary differential equations. I. (English summary) *Filomat No.* 10 (1996), 149–158. (Haydar Akça) **98c:65109** 65L05 (34K05, 65L20)

— (*with* Janković, Svetlana) On a class of nonlinear stochastic hereditary integrodifferential equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1061–1082. (Summary) **98g:60117** 60H99 (45J05, 47H40)

Jovanović, Savo M. Entropy model to simulate origin-destination trip generation. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 257–266. 90C35 (90B06)

Jovanović, Vladimir On the convergence rate estimates for finite difference schemes approximating homogeneous initial-boundary value problem for hyperbolic equation. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **60(74)** (1996), 143–152. (Introduction) **98a:65117** 65M06

Joven, Fernando The infinitesimals as useful fictions for Leibniz: the controversy in the Paris Academy of Sciences. (Spanish. English and Spanish summaries) *Theoria* (*San Sebastián*) (2) **12** (1997), *no.* 29, 257–279. (Ricardo Bianconi) **98f:01027** 01A50 (01A45, 03H05)

torrecillas Jover, Blas *see* **Torrecillas Jover, Blas**

Jovović, Mirjana (*with* MacCluer, Barbara D.) Composition operators on Dirichlet spaces. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 1-2, 229–247. (Peter R. Mercer) **98d:47067** 47B38 (30H05)

Jovović, V. (*with* Kilibarda, G.) Enumeration of labelled initially-finally connected digraphs. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 237–247. (Peter Kirschenhofer) **98b:05051** 05C30

Joy, M. P. On the integrability and chaotic behavior of an ecological model. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 463–468. (Summary) **98m:92030** 92D40 (58F13, 58F40)

Joy, Steve (*with* Mitchell, John E.; Borchers, Brian) A branch and cut algorithm for MAX-SAT and weighted MAX-SAT. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 519–536, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C10 (03B05, 65K10, 90C90)

Joyal, André (*with* Nielsen, Mogens; Winskel, Glynn) Bisimulation from open maps. (English summary) Special issue dedicated to Paris Christos Kanellakis. *Inform. and Comput.* **127** (1996), *no.* 2, 164–185. (Summary) **98f:68082** 68Q10 (18B25, 68Q05, 68Q55, 68Q60)

— (*with* Hu, Hongde) Coherence completions of categories and their enriched softness. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98j:68101** 68Q55 (03G30, 18C10, 18D20)

— (*with* Bisson, Terrence P.) Q-rings and the homology of the symmetric groups. (English summary) *Operads: Proceedings of Renaissance Conferences* (*Hartford, CT/Luminy*, 1995), 235–286, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. M. Boardman) **98e:55021** 55S12 (20B30, 20J06, 55P47)

Joyce, G. S. (*with* Delves, R. T.; Zucker, I. J.) Exact results in the theory of intermediate statistics. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1177–1194. (Summary) **98d:82002** 82B05 (11M06, 11Z05)

Joye, Alain Exponential asymptotics in a singular limit for n-level scattering systems. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 669–703. (L. M. Berkovich) **98i:81054** 81Q20 (34E20, 34L25)

Joye, Marc (*with* Quisquater, Jean-Jacques) Protocol failures for RSA-like functions using Lucas sequences and elliptic curves. (English summary) *Security protocols* (*Cambridge*, 1996), 93–100, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94018** 94A60

— (*with* Quisquater, Jean-Jacques) Cryptanalysis of RSA-type cryptosystems: a visit. (English summary) *Network threats* (*New Brunswick, NJ*, 1996), 21–31, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 38, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98i:94020** 94A60

Ju, Guo-xing (*with* Cai, Jin-fang; Wu, Ke[1]; Wang, Shi-Kun) Super Yangian double $DY(\mathrm{gl}(1|1))$ and its Gauss decomposition. (English summary) *J. Phys. A* **30** (1997), *no.* 11, L347–L350. (Peter Prešnajder) **98j:81142** 81R50 (17B37)

Ju, Hyeong-Kwan (*with* Nam, Ill-Hyeon) Asymptotic behavior of blow-up solution of a localized semilinear parabolic equation. *Honam Math. J.* **19** (1997), *no.* 1, 61–69. (Arnaldo do Nascimento) **98h:35126** 35K60 (35B40)

montero de Juan, Francisco Javier *see* **Montero de Juan, Francisco Javier**

san Juan, J. F. *see* **San Juan, J. F.**

Juan, Jesús (*with* González Fernández, Camino) Obtaining the confounding pattern for 2^{k-p} experiments. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2769–2777. 62K15

burusco Juandeaburre, A. *see* **Burusco Juandeaburre, A.**

Juang, Jer-Nan (*with* Phan, Minh Q.; Hyland, David C.) On neural networks in identification and control of dynamic systems. (English summary) *Wave motion, intelligent structures and nonlinear mechanics*, 194–225, *Ser. Stab. Vib. Control Struct.*, 1, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:93013** 93B30 (93C83)

Juan-Pineda, Daniel Cohomological nonvanishing for modules over discrete groups. (English summary) *J. Pure Appl. Algebra* **111** (1996), *no.* 1-3, 213–228. (Summary) **98d:57004** 57M07 (20J05)

Jucan, Toader (*with* Ţiplea, Ferucio Laurenţiu) Jumping Petri nets. (English summary) *Mathematical linguistics and related topics*, 330–341, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:68118** 68Q90 (68Q45)

Judah, Haim (*with* Spinas, Otmar) Large cardinals and projective sets. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 2, 137–155. (Jakub Jasiński) **98m:03102** 03E15 (03E05, 03E50, 03E55)

— (*with* Lior, Amiran; Rectaw, Ireneusz) Very small sets. *Colloq. Math.* **72** (1997), *no.* 2, 207–213. (Étienne Matheron) **98a:04003** 04A15 (03E50)

Judd, B. R. Lie groups for atomic shells. (English summary) *Phys. Rep.* **285** (1997), *no.* 1-2, 1–76. (Summary) **98c:81245** 81V45 (81–02, 81–03, 81R05)

Judd, K. *see* **Judd, Kevin**

Judd, K. P. (*with* Rusak, Zvi; Wang, Shixiao) The effect of small pipe divergence on near critical swirling flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2273–2285. (Summary) **98f:76019** 76C05 (76E30)

Judd, Kenneth L. Approximation, perturbation, and projection methods in economic analysis. (English summary) *Handbook of computational economics, Vol. I*, 509–585, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90Axx (65–01)

Judd, Kevin (*with* Glass, Kathryn; Renton, Michael; Mees, Alistair I.) Creating and targeting periodic orbits. (English summary) With comments by Y. Cohen and E. Kostelich. *Control and chaos* (*Honolulu, HI*, 1995), 183–196, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98a:58118** 58F13 (58F22)

— *see also* **Mazer, Arthur**, **98d:28012**

Judge, C. M. (*with* Phillips, Ralph S.) Dissolving a cusp form in the presence of multiplicities. *Duke Math. J.* **88** (1997), *no.* 2, 267–280. (Jiandong Guo) **98d:11055** 11F72 (11F11)

Judge, George (*with* Golan, Amos; Perloff, Jeffrey) Estimation and inference with censored and ordered multinomial response data. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 23–51. (Summary) **98b:62196** 62P20 (62J05)

Júdice, Joaquim (*with* Portugal, Luis; Fernandes, Luís) A truncated Newton interior-point algorithm for the solution of a multicommodity spatial equilibrium model. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 315–344, *SIAM, Philadelphia, PA*, 1997. (Shinji Mizuno) **98b:90086** 90C06 (90C33, 90C35)

Judin, V. A. *see* **Yudin, Vladimir Aleksandrovich**

Juditsky, Anatoli (*with* Delyon, Bernard) On minimax wavelet estimators. (English summary) *Appl. Comput. Harmon. Anal.* **3** (1996), *no.* 3, 215–228. (Summary) **98k:62051** 62G05

— (*with* Delyon, Bernard) On the computation of wavelet coefficients. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 47–79. (Gerlind Plonka) **98a:42019** 42C15 (41A35, 49M27, 65D30)

— Wavelet estimators: adapting to unknown smoothness. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 1–25. (Mohsen Pourahmadi) **98i:62029** 62G05 (62G20)

— *see also* **Safavi, A. A.**, **98e:93030**

Judson, R. S. (*with* Meza, J. C.; Plantenga, T. D.) Novel applications of optimization to molecule design. (English summary) *Large-scale optimization with applications, Part III* (*Minneapolis, MN*, 1995), 73–97, *IMA Vol. Math. Appl.*, 94, *Springer, New York*, 1997. (*see* **98f:90003**) 90C90 (92C40)

Jue, C. (*with* Lee, Kyung-Hwa; Kim, Y. J.) Representations of superfields. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 527–538. (Victor O. Rivelles) **98e:81172** 81T60 (58A50)

Juel, Anne (*with* Darbyshire, Alan G.; Mullin, Tom) The effect on noise of pitchfork and Hopf bifurcations. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2627–2647. (Summary) **98g:58125** 58F14 (34C23, 34F05)

Jugeshwor, Naorem (*with* Manihar Singh, Kj.) Exact solutions of radiating and non-radiating viscous fluid universes coupled with an electromagnetic field in general relativity. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 165–176. 83C15 (83C50, 83C55)

Jugo, Josu (*with* de la Sen, Manuel) Robust direct adaptive control for a class of systems with delays. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 25–52. (Summary) **98m:93065** 93C40 (93D09)

Juhász, Istvan (*with* Nagy, Zs.; Soukup, L.; Szentmiklóssy, Z.) Intersection properties of open sets. II. (English summary) *Papers on general topology and applications* (*Amsterdam, 1994*), 147–159, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98h:54008** 54A25 (03E35)

— (*with* Dow, Alan; Soukup, L.; Szentmiklóssy, Z.) More on sequentially compact implying pseudoradial. (English summary) *Topology Appl.* **73** (1996), *no.* 2, 191–195. (Summary) **98j:54042** 54D30 (54A20, 54A35, 54D55)

— (*with* Dow, Alan) Are initially ω_1-compact separable regular spaces compact? (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 123–132. (J. E. Vaughan) **98m:54012** 54A35 (03E35, 54D30, 54D45)

Juhl, Cory (*with* Kelly, Kevin T.; Schulte, Oliver) Learning theory and the philosophy of science. (English summary) *Philos. Sci.* **64** (1997), *no.* 2, 245–267. 03B48

— *see also* **Hellman, Geoffrey**

Juhnke, Friedrich Embedded ellipsoids and generalized convexity. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 177–184, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Miroslav D. Ašić) **98b:90110** 90C26 (49N15, 90C34)

Juhola, Martti (*with* Tian, Jilei; Grönfors, Tapio) AR parameter estimation by a feedback neural network. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 1, 17–24. 62M10

Jukić, Dragan (*with* Crnjac, Miljenko; Scitovski, Rudolf) Surfaces generated by the noninterpolating moving total least squares method. (English summary) *SOR '97 Proceedings* (*Preddvor*), 189–194, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 65D17 (41A63)

— The matrix of a linear operator in a pair of ordered bases. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 1, 77–82. 15A04

Jukl, Marek Grassmann formula for certain type of modules. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 69–74. (J. Zelmanowitz) **98d:13007** 13C10

— Sylvester theorem for certain free modules. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 47–51 (1997). (Summary) **98k:15043** 15A63

— Inertial law of symplectic forms on modules over plural algebra. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 191–196. (E. W. Ellers) **98e:15029** 15A63 (51A50)

Jukna, Stasys (*with* Damm, Carsten; Sgall, Jiří) Some bounds on multiparty communication complexity of pointer jumping. (English summary) *STACS 96* (*Grenoble*, 1996), 643–654, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98f:68122** 68Q25 (68Q10, 68Q15)

Julia, B. *see* **Gravitation and quantizations**, **98b:81003**

Julia, Dominique (*with* Dhombres, Jean) Les repères d'une culture mathématique vers 1800: le témoignage de deux listes de livres. (English summary) [Image of the mathematical culture around 1800 as reflected in two lists of books] *Rév. Stor. Sci.* (2) **1** (1993), *no.* 1, 1–83. (Pierre Crépel) **98g:01034** 01A50 (00A15, 01A55, 01A80)

Julia, G. *see* **Artin, Emil**, **98b:51001**

Julia, Sandrine On ω-generators and codes. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 393–402, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98g:68133** 68R15 (68Q45)

Julien, K. A. (*with* Bizon, C.; Werne, J.; Predtechenskiĭ, A. A.; McCormick, W. D.; Swift, J. B.; Swinney, Harry L.) Plume dynamics in quasi-2D turbulent convection. (English summary) *Chaos* **7** (1997), *no.* 1, 107–124. (Summary) **98a:76080** 76R05 (76–05, 76E15, 76F99)

— (*with* Knobloch, Edgar) Fully nonlinear oscillatory convection in a rotating layer. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1906–1913. (Summary) **98d:76062** 76E15 (76E30, 76R05, 76U05)

— (*with* Balmforth, N. J.; Casti, Alexander) Thermohaline convection with nonlinear salt profiles. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 819–828. 76R99

Jullien, Bruno (*with* Combes, Pierre-Philippe; Caillaud, Bernard) Common market with regulated firms. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 65–99. (*see* **98g:90010**) 90A53 (90A60)

Jullien, G. A. (*with* Dimitrov, V. S.; Miller, William C.) A fast and robust RNS algorithm for evaluating signs of determinants. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 9–14. (Summary) **98m:65076** 65F40 (11Y16, 65Y25)

Jumarie, Guy On the stochastic differential equation $\dot{x} = f(x + w, t)$ where $w(t)$ is a Gaussian white noise. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 261–268. (Summary) **98f:60110** 60H10 (60G20)

— Chattering phenomenon in the sliding control of manipulators. Analysis via a stochastic modelling. (English summary) *Math. Engrg. Indust.* **6** (1997), *no.* 3, 233–245. (Rui Sheng Li) **98j:93060** 93C85 (70B15, 70Q05, 93B12)

Jun, Jinha Real projective structures on the (2, 2, 2, 2)-orbifold. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 535–547. (Darryl McCullough) **98j:57021** 57M50

Jun, S. *see* **Jun, Sukky**

Jun, S.-R. (*with* Kwon, Yonghoon; Kang, Sungkwon) A variational spectral method for the two-dimensional Stokes problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 1–17. (Summary) **98k:76106** 76M25 (65M60, 76D07)

Jun, Sukky (*with* Liu, Wing Kam; Hao, Wei; Chen, Yijung; Gosz, J.) Multiresolution reproducing kernel particle methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 4, 295–309. (Summary) **98f:65132** 65T99 (65D15)

— (*with* Liu, Wing Kam; Sihling, Dirk Thomas; Chen, Yijung; Hao, Wei) Multiresolution reproducing kernel particle method for computational fluid dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 12, 1391–1415. (Summary) **98d:76131** 76M25

— (*with* Liu, Wing Kam) Multiple-scale reproducing kernel particle methods for large deformation problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1339–1362. 73V20

Jun, Sungtae Theta series by primitive orders. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 583–602. (Thomas R. Shemanske) **98a:11155** 11R52 (11F27)

Jun, Young Bae (*with* Wei, Shi Min) Weakly positive implicative BCI-algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 815–821. (From the text) **98a:06034** 06F35 (03G25)

— (*with* Hong, Sung Min) On deductive systems of Hilbert algebras. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 595–600. (Manuel Abad) **98a:03100** 03G25 (06D99)

— Implicative filters of lattice implication algebras. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 193–198. (R. Piziak) **98g:03142** 03G10 (06B10)

— (*with* Zhang, Xiao Hong[1]) The role of $T(X)$ in the ideal theory of BCI-algebras. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 199–204. (A. B. Thaheem) **98g:03148** 03G25 (06F35)

— (*with* Hong, Sung Min; Roh, Eun Hwan) k-nil radical in BCI-algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 237–242. (Summary) **98c:03135** 03G25 (06F35)

— (*with* Hong, Sung Min) A uniform structure of lattice implication algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 381–385. 54E15

— (*with* Hong, Sung Min) Right regular maps of Hilbert algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 409–416. (Summary) **98m:03130** 03G25 (06F99)

— (*with* Huang, Wen Ping) Heyting algebras are dual to a class of BCK-algebras. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 515–520. (Summary) **98m:06029** 06F35 (03G25)

— (*with* Roh, Eun Hwan) On BCK-filters. (English summary) *Far East J. Math. Sci.* **1997, Special Volume, Part II**, 181–188. (From the text) **98j:06013** 06F35 (03G25)

— (*with* Meng, Jie; Kim, Hee Sik) Fuzzy implicative ideals of BCK-algebras. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 243–248. (Summary) **98a:06033** 06F35 (04A72)

— (*with* Kim, Jong Youl; Kim, Hee Sik) Hilbert algebras inherited from the posets. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 471–475. (Manuel Abad) **98c:06031** 06F99 (03G25)

— (*with* Meng, Jie; Roh, Eun Hwan) The role of $B(X)$ and $L(X)$ in the ideal theory of BCI-algebras. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 741–752. (Summary) **98b:06030** 06F35

— A note on obstinate fuzzy ideals in BCI-algebras. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 449–454. (Summary) **98c:06029** 06F35 (03G25, 04A72)

— Fuzzy quasi-associative ideals in BCI-algebras. II. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 885–888. 06F35 (03E72, 03G25)

— (*with* Kim, Jong Youl; Kim, Young-Hee; Kim, Hee Sik) Fuzzy commutative $\mathcal{I}$-ideals in BCI-semigroups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 889–898. 06F35 (04A72)

— (*with* Xu, Yang) On right regular maps of lattice implication algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 1, 53–58. (Summary) **98d:03063** 03G10 (06B10, 54E15)

— (*with* Song, Seok-Zun; Hong, Sung Min; Kim, Hong Kee; Kim, Seon Jeong) On the minimum permanents related with certain barycentric matrices. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 825–839. (Thomas H. Foregger) **98k:15008** 15A15

— (*with* Song, Seok-Zun; Hong, Sung Min; Kim, Seon Jeong) Minimum permanents on a face of the polytope of doubly stochastic matrices. (English summary) *Linear Algebra Appl.* **259** (1997), 169–182. (Peter M. Gibson) **98k:15009** 15A15 (15A51)

— (*with* Hong, Sung Min; Kim, Seung Dong; Kim, Hee Sik) On fuzzy deductive systems in ortholattices. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 181–187. (Siegfried Gottwald) **98i:06005** 06C15 (03B52, 03E72, 03G25, 04A72)

— (*with* Roh, Eun Hwan; Wei, Shi Min) A note on (*)-ideals in BCI-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 321–323. (A. B. Thaheem) **98m:06030** 06F35 (03G25)

— (*with* Meng, Jie; Roh, Eun Hwan) A note on filters of BCK-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 329–330. (Yishu Pu) **98m:06031** 06F35 (03G25)

— (*with* Lajos, Sándor) Fuzzy (1, 2)-ideals in semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 67–74. 20M12 (04A72)

— (*with* Lajos, Sándor) On fuzzy (1, 2)-ideals in semigroups. II. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 335–338. 20M12 (04A72)

— (*with* Meng, Jie; Xin, Xiaolong) On ordered filters of implicative semigroups. (English summary) *Semigroup Forum* **54** (1997), *no.* 1, 75–82. (T. S. Blyth) **98a:06022** 06F05 (20M99)

— (*with* Roh, Eun Hwan; Xu, Yang) LI-ideals in lattice implication algebras. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 13–24. (Summary) **98j:06002** 06B10 (03G10)

— (*with* Xu, Yang; Qin, Ke Yun) Positive implicative and associative filters of lattice implication algebras. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 53–61. (Summary) **98j:06003** 06B10 (03G10)

— (*with* Meng, Jie; Xin, Xiaolong) On fuzzy BCK-filters. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 91–97. 06F35 (03G25, 04A72)

— (*with* Meng, Jie; Roh, Eun Hwan) BCI-algebras of order 6. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 33–43. 06F35

— (*with* Hong, Sung Min; Meng, Jie) Fuzzy BCK-filters. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 45–49. 06F35

del Junco, Andrés (*with* Silva, Cesar E.) Prime type III_λ automorphisms: an instance of coding techniques applied to non-singular maps. (English summary) *Algorithms, fractals, and dynamics* (*Okayama/Kyoto*, 1992), 101–115, *Plenum, New York*, 1995. (Mahendra G. Nadkarni) **98f:28026** 28D99

Jung, Achim (*with* Puhlmann, Hermann) Types, logic, and semantics for nested databases. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98g:68033** 68P15 (68Q55)

Jung, Bae Eun (*with* Cho, Young Hyun) Some conditions for the uniform position property. *Comm. Algebra* **25** (1997), *no.* 6, 1741–1745. (Martin Kreuzer) **98c:13026** 13D40 (14C99, 14N05)

Jung, Christof Concepts of integrability in scattering systems. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 123–126, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81U99

— (*with* Lipp, Christoph; Seligman, Thomas H.) Classification of incomplete horseshoes and the chaotic inverse scattering problem. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 180–185, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:58119** 58F13 (58F40)

— (*with* Seligman, Thomas H.) Integrability of the S-matrix versus integrability of the Hamiltonian. (English summary) *Phys. Rep.* **285** (1997), *no.* 3, 77–141. (Luca Salasnich) **98f:81346** 81U20 (70H05, 70K50, 81Q50)

Jung, F. *see* **Richard-Jung, Françoise**

richard-Jung, Françoise *see* **Richard-Jung, Françoise**

Jung, Il Bong (*with* Jang, Mi Kyung) Dual operator algebras and hereditary properties of minimal isometric dilations. II. *Math. J. Toyama Univ.* **19** (1996), 1–16. (Srdjan Petrović) **98a:47021** 47A65 (47A15, 47A20, 47D27)

— (*with* Kim, Yong Chan) Subclasses of univalent functions subordinate to convex functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 243–247. (Paul Eenigenburg) **98b:30014** 30C45 (30C80)

Jung, J. S. *see* **Jung, Jong Soo**

Jung, Jin-Whan (*with* Koch, Gary G.) Analysis of correlated ordered categorical data with rank measures of association for responses with ties. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 167–183. 62H17

Jung, Jong Soo (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo; Kang, Shin Min) Coincidence point theorems and minimization theorems. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 27–39, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:54058** 54H25 (49J27, 54A40, 54C60, 54E70, 90C48)

— (*with* Lee, Byung Soo; Cho, Yeol Je) Some minimization theorems in generating spaces of quasi-metric family and applications. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 565–585. (Summary) **98a:54005** 54A40 (04A72, 54C60, 54E70)

— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Wang, Fan[1]) Nonlinear operator equations with probabilistic contractors in probabilistic normed spaces. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 117–129. (A. Nowak) **98c:47085** 47S50 (47H10, 47H15)

— (*with* Kim, Tae Hwa) Convergence of approximate sequences for compositions of nonexpansive mappings in Banach spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 93–102. (Behzad Djafari-Rouhani) **98e:47087** 47H09 (47H10, 49J45)

— (*with* Thakur, Balwant Singh) Fixed points of a certain class of mappings in uniformly convex Banach spaces. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 385–394. (Tomás Domínguez Benavides) **98h:47080** 47H10 (47H09)

— (*with* Park, Jong Yeoul; Park, Jong Seo) Asymptotic behavior of almost-orbits of reversible semigroups of non-Lipschitzian mappings in Banach spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 51–60. (Behzad Djafari-Rouhani) **98c:47082** 47H20 (47H05)

— (*with* Cho, Yeol Je; Lee, Byung Soo; Lee, Gue Myung; Pathak, H. K.) Some nonconvex minimization theorems in complete metric spaces and applications. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 35–45. (Xian Zhi George Yuan) **98g:49007** 49J40 (47H04, 47H10, 47H15, 47N10, 54E50, 90C48)

— (*with* Hwang, Kyo-Shin; Choi, Yong-Kab) On superior limits for the increments of Gaussian processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 289–296. (Summary) **98h:60039** 60F15 (60G15)

— (*with* Cho, Yeol Je; Pathak, H. K.; Kang, Shin Min) Common fixed points of compatible maps of type (β) on fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 99–111. 54H25 (04A72, 54A40)

Jung, Kang-Mo (*with* Kim, Myung Geun; Kim, Byung Chun) Local influence in maximum likelihood factor analysis. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 483–491. 62H25

— (*with* Kim, Myung Geun; Kim, Byung Chun) Second order local influence in linear discriminant analysis. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 1–11. 62H30

— Local influence on the goodness-of-fit test statistic in maximum likelihood factor analysis. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 447–455. 62H25

Jung, Michael[1] (*with* Heise, Bodo) Robust parallel Newton-multilevel methods. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 153–168, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (*see* **98d:65004**) 65N55 (65N22, 78A30)

Jung, Peter (*with* Fox, Ronald F.) Quasiadiabatic time evolution, avoided level crossings, and Berry's phase. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 4, 2339–2346. (Summary) **98m:81046** 81Q99

Jung, Rainer (*with* Dessai, Anand) On the rigidity theorem for elliptic genera. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4195–4220. (Mark Hovey) **98m:58130** 58G10 (11F11, 19L47, 57R15)

Jung, Seok-Won (*with* Kwon, Soun-Hi) Determination of all imaginary bicyclic biquadratic number fields of class number 3. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 83–89. (Franz Lemmermeyer) **98k:11159** 11R29 (11R20)

Jung, Seoung Dal (*with* Pak, Jin Suk) Some vanishing theorems on Kähler foliations. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 767–781. (James J. Hebda) **98a:58147** 58G05 (53C12)

— (*with* Pak, Jin Suk) Clifford L^2-cohomology on the complete Kähler manifolds. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 167–179. (John Roe) **98e:58176** 58G30 (58A12)

— Harmonic maps of complete Riemannian manifolds. *Nihonkai Math. J.* **8** (1997), *no.* 2, 147–154. (G. Tóth) **98j:58035** 58E20

Jung, Sin-Ho (*with* Lee, Kee-Won) Goodness-of-fit test for mean and variance functions. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 199–210. 62J02

Jung, Soon-Mo On transformation of the density of the thinnest covering and its applications. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 621–632. (A. Florian) **98g:52029** 52C17

— On the Hyers-Ulam-Rassias stability of the equation $f(x^2 - y^2 + rxy) = f(x^2) - f(y^2) + rf(xy)$. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 513–519. (W. Smajdor) **98e:39011** 39B72

— Hyers-Ulam-Rassias stability of functional equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 541–565. (Summary) **98m:39067** 39B22 (39–01, 39B32, 39B52, 39B72)

— On a modified Hyers-Ulam stability of homogeneous equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 475–478. 39B72 (39B52)

Jung, Tacksun (*with* Choi, Q-Heung) Critical points theory and its application to a nonlinear wave equation. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 73–82, *VSP, Utrecht*, 1995. (R. G. Airapetyan) **98h:35157** 35L70 (58E05)

— (*with* Choi, Q-Heung) Sharp results for the multiplicity of periodic solutions of a nonlinear suspension bridge equation. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 115–122. (John Albert) **98f:35145** 35Q72 (35B10, 73D35, 73K05)

— (*with* Choi, Q-Heung; Choi, Kyeongpyo) The existence of solutions of a nonlinear suspension bridge equation. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 503–512. (Eugene Schlereth) **98h:35220** 35Q72 (35B10)

— (*with* Choi, Q-Heung) The existence of solutions of a nonlinear wave equation. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 153–167. (Herbert Koch) **98f:35105** 35L70

— (*with* Choi, Q-Heung) Multiplicity results on a fourth order nonlinear elliptic equation. *Proceedings of Miniconference of Partial Differential Equations and Applications* (*Seoul*, 1995), 83–108, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (Vicenţiu Rădulescu) **98c:35052** 35J65 (35B32)

— (*with* Choi, Q-Heung) A nonlinear suspension bridge equation. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 39–48, *VSP, Utrecht*, 1997. (Summary) **98d:35211** 35Q72 (47H15, 47N20, 73D35)

Jung, Wolf Geometrical approach to inverse scattering for the Dirac equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 39–48. (Ricardo Weder) **98a:81252** 81U40 (35R30, 47N50)

Jung, Yoon-Tae (*with* Shin, Cheol Guen) On the conformal deformation over warped product manifolds. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 27–33. (Robert McOwen) **98k:53047** 53C21 (58G30)

Jungck, G. (*with* Rhoades, B. E.) Fixed points for set valued functions without continuity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 227–238. 54H25 (54C60)

— Fixed point theorems for semi-groups of self maps of semi-metric spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 125–132. 54H25 (54E25)

— Observations on a variant of compatibility. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 261–268. 54H25

Junge, Marius (*with* Defant, Andreas) Best constants and asymptotics of Marcinkiewicz-Zygmund inequalities. (English summary) *Studia Math.* **125** (1997), *no.* 3, 271–287. (P. Saphar) **98j:47048** 47B10 (42B25, 46E30, 47B38)

Junge, Oliver (*with* Dellnitz, Michael; Hohmann, Andreas; Rumpf, Martin) Exploring invariant sets and invariant measures. (English summary) *Chaos* **7** (1997), *no.* 2, 221–228. (Summary) **98g:58099** 58F11 (65L06)

Jüngel, Ansgar Stationary equations for charge carriers in semiconductors including electron-hole scattering. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 53–69. 35Q99

— A note on current-voltage characteristics from the quantum hydrodynamic equations for semiconductors. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 29–34. 82D99

— (*with* Degond, Pierre; Génieys, Stéphane) An existence and uniqueness result for the stationary energy-transport model in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 867–872. (Summary) **98f:82149** 82D99 (35Q99, 76X05)

— (*with* Degond, Pierre; Génieys, Stéphane) An existence result for a strongly coupled parabolic system arising in nonequilibrium thermodynamics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 227–232. (Summary) **98e:35083** 35K55 (35D05, 35Q99, 80A20)

— (*with* Díaz Díaz, Jesús Ildefonso; Galiano, Gonzalo) Space localization and uniqueness of solutions of a quasilinear parabolic system arising in semiconductor theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 267–272. (J. W. Jerome) **98h:35099** 35K55 (35Q99, 76X05, 82D99)

— (*with* Degond, Pierre; Génieys, Stéphane) Symmetrization and entropy inequality for general diffusion equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 963–968. (Summary) **98k:35091** 35K55 (35B45, 82C70)

— (*with* Degond, Pierre; Génieys, Stéphane) A system of parabolic equations in nonequilibrium thermodynamics including thermal and electrical effects. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 991–1015. (Vitaly A. Volpert) **98k:35092** 35K55 (35Q60, 78A25, 80A99)

— (*with* Pietra, Paola) A discretization scheme for a quasi-hydrodynamic semiconductor model. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 935–955. (Summary) **98e:65081** 65M60 (76X05, 78–08, 78A55)

— A nonlinear drift-diffusion system with electric convection arising in electrophoretic and semiconductor modeling. (English summary) *Math. Nachr.* **185** (1997), 85–110. (Dian K. Palagachev) **98e:35095** 35K57 (35D05, 35Q80, 76X05, 78A35, 92E20)

— (*with* Schmeiser, Christian) Voltage-current characteristics of a *pn*-diode from a drift-diffusion model with nonlinear diffusion. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 707–721. (Summary) **98j:78030** 78A55 (35R35)

— (*with* Gasser, Ingenuin) The quantum hydrodynamic model for semiconductors in thermal equilibrium. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 45–59. (Summary) **98b:82093** 82D99 (35Q99, 76Y05)

Jünger, Michael (*with* Reinelt, Gerhard; Rinaldi, Giovanni) The traveling salesman problem. *Network models*, 225–330, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C27 (68Q25, 90B10, 90B35)

— (*with* Mutzel, Petra) Maximum planar subgraphs and nice embeddings: practical layout tools. (English summary) *Algorithmica* **16** (1996), *no.* 1, 33–59. (I. Broere) **98b:05038** 05C10

— (*with* De Simone, Caterina) On the two-connected planar spanning subgraph polytope. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 223–229. (Summary) **98h:05066** 05C10 (05C35)

— (*with* Mutzel, Petra) 2-layer straightline crossing minimization: performance of exact and heuristic algorithms. (English summary) *J. Graph Algorithms Appl.* **1** (1997), *no.* 1, 1–25 (*electronic*). 68Q25 (05C10, 05C85, 68R10)

— (*with* Mutzel, Petra; Odenthal, Thomas; Scharbrodt, Mark) The thickness of a minor-excluded class of graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 169–176. (Summary) **98i:05149** 05C85

Junghanns, Peter (*with* Capobianco, Maria Rosaria; Criscuolo, Giuliana) A fast algorithm for Prandtl's integro-differential equation. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 103–128. (Mohammad Iqbal) **98a:65186** 65R20 (45L05)

Jungnickel, Dieter Maximal sets of mutually orthogonal Latin squares. (English summary) *Finite fields and applications (Glasgow, 1995)*, 129–153, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (J. Dénes) **98a:05032** 05B15

— (*with* Vanstone, Scott A.) Graphical codes revisited. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 136–146. (Summary) **98a:94037** 94B05 (05C90)

— (*with* Vanstone, Scott A.) An application of difference sets to a problem concerning graphical codes. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 43–46. (R. Balakrishnan) **98g:94039** 94B15 (05B10)

— *see also* **Fremuth-Paeger, Christian, 98m:90171**

Jungreis, Douglas (*with* Handjani, Shirin J.) Rate of convergence for shuffling cards by transpositions. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 983–993. (Ursula Porod) **98a:60095** 60J10 (60C05)

— Chains that realize the Gromov invariant of hyperbolic manifolds. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 643–648. (Rafael Ruggiero Rodríguez) **98c:57013** 57M50 (58F11)

Junker, Brian W. (*with* Ellis, Jules L.) A characterization of monotone unidimensional latent variable models. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1327–1343. (Ramesh C. Gupta) **98g:62023** 62E10

— (*with* Hemker, Bas T.; Sijtsma, Klaas; Molenaar, Ivo W.) Stochastic ordering using the latent trait and the sum score in polytomous IRT models. (English summary) *Psychometrika* **62** (1997), *no.* 3, 331–347. (Summary) **98d:62191** 62P15

— (*with* Ellis, Jules L.) Tail-measurability in monotone latent variable models. (English summary) *Psychometrika* **62** (1997), *no.* 4, 495–523. (Summary) **98k:62183** 62P15

Junker, Georg (*with* Leschke, Hajo) Exact thermostatic results for the *n*-vector model on the harmonic chain. *Perspectives on solvable models*, 53–58, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 82B20 (33C10, 33C15)

— (*with* Roy, Pinaki) Construction of $(1+1)$-dimensional field models with exactly solvable fluctuation equations about classical finite-energy configurations. (English summary) *Ann. Physics* **256** (1997), *no.* 2, 302–319. (Kirill Nikolaevich Ilinski) **98k:81156** 81T10 (81Q60)

— (*with* Karl, Harald; Leschke, Hajo) Classical and quantum dynamics of the *n*-dimensional kicked rotator. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 155–166. (Fausto Borgonovi) **98b:81048** 81Q50 (58F13)

— (*with* Roy, Pinaki) Conditionally exactly solvable problems and non-linear algebras. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 155–161. (Summary) **98d:81020** 81Q60

Junker, Wolfgang Hadamard states, adiabatic vacua and the construction of physical states for scalar quantum fields on curved spacetime. (English summary) *Rev. Math. Phys.* **8** (1996), *no.* 8, 1091–1159. (Michael Keyl) **98b:81158** 81T20 (35A27, 35S05, 58G15, 58G16, 81–02, 81T05, 81T08)

Junnila, H. (*with* Dow, Alan; Pelant, Jan) Weak covering properties of weak topologies. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 349–368. (Douglass L. Grant) **98i:54010** 54D20 (03E35, 46B99, 46E99, 54A35, 54D35, 54H13)

garcía-Jurado, Ignacio *see* **García-Jurado, Ignacio**

mena-Jurado, J. F. *see* **Mena-Jurado, J. F.**

Jurang, Yan *see* **Yan, Ju Rang**

Juráš, Martin (*with* Anderson, Ian M.) Generalized Laplace invariants and the method of Darboux. *Duke Math. J.* **89** (1997), *no.* 2, 351–375. (J. Chrastina) **98h:58004** 58A17 (35A30, 35L10)

Jurchescu, Martin The Cauchy-Riemann complex on a mixed manifold. (English summary) Travaux de la Conférence Internationale d'Analyse Complexe et du 7e Séminaire Roumano-Finlandais (1993). *Rev. Roumaine Math. Pures Appl.* **39** (1994), *no.* 10, 951–971. (Akira Asada) **98b:32012** 32F40 (35N99, 58G05)

— (*with* Spallek, Karlheinz) Differentiable spaces as functored spaces. Travaux de la Conférence Internationale d'Analyse Complexe et du 7e Séminaire Roumano-Finlandais (1993). *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 1, 1–9. (W. Waliszewski) **98e:58015** 58A40 (54B40, 54C40)

— (*with* Spallek, Karlheinz; Succi, Francesco) DC-spaces (double complex spaces). (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 81–93, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:32012** 32C15 (32F05)

Jurčo, Branislav (*with* Šlovíček, Pavel) Coherent states for quantum compact groups. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 221–251. (Timothy J. Hodges) **98i:81105** 81R50 (17B37, 81R30)

— (*with* Schlieker, Michael) Quantized Lax equations and their solutions. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 397–410. (Andrey V. Tsiganov) **98g:58078** 58F07 (81R50, 82B23)

— (*with* Schupp, Peter[†]) Twisted quantum Lax equations. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5735–5752. (Tomasz Brzeziński) **98m:58055** 58F07 (17B37, 81R50)

Jurdjevic, Velimir ★ Geometric control theory. (English summary) Cambridge Studies in Advanced Mathematics, 52. *Cambridge University Press, Cambridge*, 1997. xviii+492 *pp. ISBN* 0-521-49502-4 (Heinz Schättler) **98a:93002; EA 98m** 93–02 (58E25, 93B27)

Jurečková, Jana (*with* Dodge, Yadolah) Adaptive choice of trimming proportion in trimmed least-squares estimation. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 167–176. (Summary) **98g:62053** 62F35 (62J05)

Jurečková, Mária Ergodic theory on D-posets. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 267–272. (Summary) **98d:03064** 03G12 (81P10)

— (*with* Riečan, Beloslav) Weak law of large numbers for weak observables in MV algebras. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 221–228. (Summary) **98j:03090** 03G12 (81P10, 81S25)

Jurek, Zbigniew J. Series of independent exponential random variables. *Probability theory and mathematical statistics (Tokyo, 1995)*, 174–182, *World Sci. Publishing, River Edge, NJ*, 1996. (Jerry Alan Veeh) **98j:60020** 60E07 (60F05)

Jurga, Rastislav The cross-ratio in Hjelmslev planes. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 243–247. (Günter Törner) **98k:51010** 51C05

Jürgens, Hartmut (*with* Gerling, Jürgen; Peitgen, Heinz-Otto) Bifurcation of homoclinic structures. I. Finite difference approximation and mechanisms for spurious solutions. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 287–317. (Jörg M. Härterich) **98f:34068** 34C37 (34A45, 34C23, 58F14)

— (*with* Gerling, Jürgen; Peitgen, Heinz-Otto) Bifurcation of homoclinic structures. II. The asymptotic fate of periodic points, collocation, and finite element approximation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 527–549. (Jörg M. Härterich) **98g:58123** 58F14 (34C23, 34C37)

Jürgensen, Helmut (*with* Konstantinidis, S.) Variable-length codes for error correction. (English summary) *Automata, languages and programming (Szeged, 1995)*, 581–592, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Italo José Dejter) **98j:94009** 94A45

— (*with* Dassow, Jürgen) The transition monoids of soliton trees. (English summary) *Mathematical linguistics and related topics*, 76–87, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:68113** 68Q70 (20M35, 68Q45)

— (*with* Konstantinidis, S.) Error correction for channels with substitutions, insertions, and deletions. (English summary) *Information theory and applications, II (Lac Delage, PQ,*

1995), 149–163, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (Summary) **98g:94018** 94A45

— (*with* Salomaa, Kai) Block-synchronization context-free grammars. (English summary) *Advances in algorithms, languages, and complexity*, 111–137, *Kluwer Acad. Publ., Dordrecht*, 1997. (P. Turakainen) **98b:68107** 68Q50 (68Q45)

Juriaans, Stanley O. (*with* de Barros, Luiz G. X.) Some loops whose loop algebras are flexible. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 2, 189–205. (Miklós Csikós) **98d:20076** 20N05 (17D05)

— (*with* Dokuchaev, M. A.; Polcino Milies, César) Integral group rings of Frobenius groups and the conjectures of H. J. Zassenhaus. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2311–2325. (Jürgen Ritter) **98e:20010** 20C10 (16U60)

— (*with* de Barros, Luiz G. X.) Units in alternative integral loop rings. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 266–281. (Harry F. Smith) **98d:17037** 17D05 (20N05)

Juriev, Denis V. *see* **Yur'ev, Denis V.**

Jurisch, Bernd (*with* Brucker, Peter; Krämer, Andreas) Complexity of scheduling problems with multi-purpose machines. (English summary) *Ann. Oper. Res.* **70** (1997), 57–73. (Feng-Sheng Tu) **98f:90027** 90B35 (68Q25)

— (*with* Brucker, Peter; Hurink, Johann; Wöstmann, Birgit) A branch & bound algorithm for the open-shop problem. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 43–59. (Summary) **98e:90124** 90C27 (05C90, 90B35)

Jurišić, Aleksandar (*with* Araya, Makoto; Hiraki, Akira) Distance-regular graphs with $b_2 = 1$ and antipodal covers. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 243–248. (Sung-Yell Song) **98c:05169** 05E30

— Antipodal covers of strongly regular graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 177–189. (Summary) **98i:05167** 05E30 (05C70)

Jurkiewicz, J. *see* **Jurkiewicz, Jerzy Władysław**

Jurkiewicz, Jerzy Maciej (*with* Konarski, Jerzy) On linearizing $\mathbf{C}^*$ and Z_2 actions of degree 3 on 3-spaces. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 87–94. (Dmitri I. Panyushev) **98h:14057** 14L30

Jurkiewicz, Jerzy Władysław (*with* Krzywicki, A.) Branched polymers with loops. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 291–297. (Summary) **98a:82049** 82B27 (81T27, 82D60, 83C45)

Jurkowski, J. (*with* Karwowski, Jacek; Bielińska-Wąż, D.) Statistical properties of spectra of finite systems. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 67–76, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:81222** 81V70 (82B99)

Jurlewicz, A. (*with* Weron, Karina; Kosmulski, K.; Mercik, S.) Lévy-stable and extreme value distributions in modelling of dynamical phenomena in complex physical systems. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 545–558, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98b:60030** 60E07 (76F99)

Jury, Eliahu I. In memoriam—Yakov Zalmanovitch Tsypkin (19 September 1919–2 December 1997): a life in feedback control. *Automatica J. IFAC* **34** (1998), *no.* 5, 529–530. 01A70

— In memoriam—Yakov Zalmanovitch Tsypkin: a life in feedback control. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 455–456. 01A70

— *see also* **Bozorg, Mohammad**, **98d:93070**

Jushchenko, E. *see* **Yushchenko, E. L.**

Just, Andrzej (*with* Dębińska-Nagórska, Anna; Stempień, Zdzisław) A non-linear parabolic control problem with non-homogeneous boundary condition—convergence of Galerkin approximation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1365–1377. (Fredi Tröltzsch) **98h:49004** 49J20 (49M15)

— (*with* Dębińska-Nagórska, Anna; Stempień, Zdzisław) Analysis and semidiscrete Galerkin approximation of a class of nonlinear parabolic optimal control problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 95–103. (Summary) **98m:49049** 49M15 (49J20, 65M60)

Just, Henrik (*with* Dupont, Johan L.) Simplicial currents. *Illinois J. Math.* **41** (1997), *no.* 3, 354–377. (J. E. Brothers) **98m:58003** 58A25 (57Q99)

Just, Winfried (*with* Arkhangel'skiĭ, A. V.; Plebanek, Grzegorz) Sequential continuity on dyadic compacta and topological groups. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 775–790. (M. Hušek) **98f:54014** 54C08 (03E35, 03E55, 54A25, 54D30, 54H11)

— (*with* Miller, Arnold W.; Scheepers, Marion; Szeptycki, Paul J.) The combinatorics of open covers. II. (English summary) *Topology Appl.* **73** (1996), *no.* 3, 241–266. (J. M. Aarts) **98g:03115a** 03E05 (04A20, 05D10, 54D20, 90D44)

— (*with* Tanner, Andreas) Splitting ω-covers. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 375–378. (Klaas Pieter Hart) **98e:54004** 54A25 (03E35, 04A20)

— (*with* Scheepers, Marion; Steprāns, Juris; Szeptycki, Paul J.) G_δ-sets in topological spaces and games. (English summary) *Fund. Math.* **153** (1997), *no.* 1, 41–58. (Julian Revalski) **98k:54064** 54H05 (90D44)

Justel, Ana (*with* Peña, Daniel; Zamar, Ruben H.) A multivariate Kolmogorov-Smirnov test of goodness of fit. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 251–259. (Summary) **98k:62087** 62G10

Justesen, Jørn (*with* Shtar'kov, Yu. M.) Combinatorial entropy of images. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 1, 3–11; *translation in Problems Inform. Transmission* **33** (1997), *no.* 1, 1–8. (I. Vajda) **98k:94004** 94A17 (94A29)

Justin, J. (*with* Pirillo, Giuseppe) On some factorizations of infinite words by elements of codes. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 6, 289–294. (Summary) **98b:68156** 68R15 (68Q45, 94B99)

zinn-Justin, P. *see* **Zinn-Justin, P.**

Juszczak, C. Contractions of bialgebras and super-bialgebras. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 25–31. (*see* **98a:00008**) 16W30 (81R50)

Jutila, Matti The additive divisor problem and its analogs for Fourier coefficients of cusp forms. I. *Math. Z.* **223** (1996), *no.* 3, 435–461. (Pavel Guerzhoy) **98b:11046** 11F30 (11F37)

— The additive divisor problem and its analogs for Fourier coefficients of cusp forms. II. *Math. Z.* **225** (1997), *no.* 4, 625–637. (B. Ramakrishnan) **98i:11026** 11F30 (11F37)

van benthem Jutting, L. S. *see* **van Benthem Jutting, L. S.**

Jüttler, Bert A vegetarian approach to optimal parameterizations. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 887–890. 41A20 (65D17)

— Surface fitting using convex tensor-product splines. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 23–44. (Yu Yu Feng) **98j:65009** 65D07 (41A15, 65D17, 68U05, 90C20)

Juvan, Martin (*with* Malnič, Aleksander; Mohar, Bojan) Systems of curves on surfaces. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 7–22. (Summary) **98g:57004** 57M15 (05C10)

— Introduction to list colorings. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **44** (1997), *no.* 3, 65–73. 05C15

— (*with* Mohar, Bojan) Obstructions for 2-Möbius band embedding extension problem. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 57–72. (V. R. Kulli) **98g:05047** 05C10 (68R10)

Juyumaya, Jesús Opérateurs de type Fourier-Grassmann sur $\mathbf{I}_U^{\mathrm{GL}_\infty}(\mathbf{F}_q)$. [Fourier-Grassmann-type operators over $\mathbf{I}_U^{\mathrm{GL}_\infty}(\mathbf{F}_q)$] *J. Algebra* **185** (1996), *no.* 3, 796–819. (James E. Humphreys) **98b:20019** 20C33 (20C30)

Jużyniec, Mariusz Weak solutions of evolution equations with parameter. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 189–204. (Yuri Sil'chenko) **98e:34101** 34G10 (47D06, 47N20)

–K–

Kâârik, E. Matrices of higher moments: some problems of representation. *Distributions with given marginals and moment problems* (*Prague*, 1996), 27–33, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 62H10 (60E05)

Kaarli, Kalle On non-zerosymmetric near-rings with minimum condition. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 21–33, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (David John) **98m:16057** 16Y30

— Locally finite affine complete varieties. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 141–159. (Ágnes Szendrei) **98d:08008** 08B10 (08A40)

munthe-Kaas, Hans *see* **Munthe-Kaas, Hans**

Kaas, R. (*with* De Schepper, A.; Goovaerts, M. J.) A recursive scheme for perpetuities with random positive interest rates. I. Analytical results. (English summary) *Scand. Actuar. J.* **1997**, *no.* 1, 1–10. (Jan Beirlant) **98e:62146** 62P05

Kaashoek, Johan F. (*with* Paelinck, Jean H. P.) Potentialised partial differential equations in economic geography and spatial economics: multiple dimensions and control. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 1–23. 90A16 (35Q80)

Kaashoek, M. A. (*with* Bart, H.; Gohberg, Israel) Wiener-Hopf equations and linear systems. (English summary) *Proceedings of the Norbert Wiener Centenary Congress, 1994* (*East Lansing, MI, 1994*), 115–128, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:47026** 47B35 (45E10, 47G10, 47N70, 93B28)

— (*with* Ball, Joseph A.; Gohberg, Israel) Nudelman interpolation and the band method. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 3, 253–284. (Hugo Jan Woerdeman) **98b:47020** 47A57 (15A48, 30E05, 42A70)

— (*with* Foias, C.; Frazho, A. E.; Gohberg, Israel) A time-variant version of the commutant lifting theorem and nonstationary interpolation problems. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 158–190. (Dmitriy S. Kalyuzhniy) **98f:47008** 47A20 (30E05, 47A57)

— (*with* Foias, C.; Frazho, A. E.; Gohberg, Israel) Errata: "Discrete time-variant interpolation as classical interpolation with an operator argument" [Integral Equations Operator Theory **26** (1996), no. 4, 371–403; MR 97k:47012]. *Integral Equations Operator Theory* **28** (1997), *no.* 4, 500. 47A57 (30E05, 47A20)

— (*with* Arov, Damir Zyamovich; Pik, D. R.) Minimal and optimal linear discrete time-invariant dissipative scattering systems. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 127–154. (Dmitriy S. Kalyuzhniy) **98h:47015** 47A45 (47A56, 47N60, 93B17)

— (*with* Foias, C.; Frazho, A. E.; Gohberg, Israel) Parameterization of all solutions of the three chains completion problem. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 455–490. (Mark A. Nudel′man) **98k:47031** 47A57 (30E05, 47A20, 93B28, 93C50)

— (*with* Foias, C.; Frazho, A. E.; Gohberg, Israel) The maximum principle for the three chains completion problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 67–82. (Joseph A. Ball) **98m:47006** 47A20 (47A57)

— (*with* Gohberg, Israel; van Schagen, F.) Operator blocks and quadruples of subspaces: classification and the eigenvalue completion problem. (English summary) *Linear Algebra Appl.* **269** (1998), 65–89. (Hugo Jan Woerdeman) **98j:15001** 15A03 (15A18, 47A20)

Kaashoek, M. Frans (*with* Fekete, Alan; Lynch, Nancy) Implementing sequentially consistent shared objects using broadcast and point-to-point communication. (English summary) *J. ACM* **45** (1998), *no.* 1, 35–69. (Summary) **98m:68007** 68M10 (68Q60)

Kabadi, S. N. (*with* Aneja, Y. P.) An efficient, strongly polynomial, ε-approximation parametric optimization scheme. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 4, 173–177. (Summary) **98k:90086** 90C27

— (*with* Aneja, Y. P.; Nagar, Amit) Minimizing weighted mean absolute deviation of flow times in single machine systems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 3, 297–311. (Summary) **98k:90039** 90B35

Kabaila, Paul Admissible variable-selection procedures when fitting misspecified regression models by least squares. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2303–2306. (Summary) **98j:62054** 62J05

Kabanets, Valentine Recognizability equals definability for partial k-paths. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 805–815, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68212** 68R10 (03B15, 68Q68)

Kabanikhin, S. I. (*with* Abdiev, K. S.) Projection-difference method for solving a three-dimensional inverse problem of geoelectrics. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 61–72, 170, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 86A25

— (*with* Bakanov, G. B.) The optimizational method for solving the discrete inverse problem for hyperbolic equation. (English summary) *J. Inverse Ill-Posed Probl.* **4** (1996), *no.* 6, 513–530. (Peter B. Monk) **98e:65074** 65M30 (35L05, 35R30)

— (*with* Bakanov, G. B.) A discrete analogue of the Gel′fand-Levitan method. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 157–160. (Rémi Vaillancourt) **98k:35205** 35R30 (34A55, 35L05, 39A12, 65M30)

— (*with* Romanov, V. G.; Gottlieb, Johannes; Martakov, S. V.) An inverse problem for special dispersive media arising from ground penetrating radar. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 175–192. (Tom Roberts) **98c:78015** 78A40 (35R30, 86A22)

Kabanov, S. A. (*with* Evstratov, I. Yu.) Control of a stabilization process using an optimal adaptive controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 135–143; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 996–1002. 93D15 (93D21)

Kabanov, V. V. (*with* Makhnev, Aleksandr A.) On separable graphs with some regularity conditions. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 73–86; *translation in Sb. Math.* **187** (1996), *no.* 10, 1487–1501. (Dmitri Fon-Der-Flaass) **98d:05154** 05E30 (05C12)

Kabanovich, V. I. (*with* Khachaturov, V. R.; Abgaryan, K. K.; Bakaev, A. V.; Galiulin, R. V.) A system for predicting the properties of materials with a given chemical formula on a personal computer. (Russian) *Mathematical modeling of composite objects* (*Russian*), 113–131, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25

Kabanza, F. (*with* Barbeau, M.; St-Denis, R.) An efficient algorithm for controller synthesis under full observation. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 144–161. (Summary) **98f:93010** 93C83 (68Q45)

Kabashima, Yoshiyuki (*with* Inoue, Jun-ichi) Learning of non-monotonic rules by simple perceptrons. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 123–144. 82C32

Kabatyanskiĭ, G. A. (*with* Blakley, G. R.) Generalized ideal secret sharing schemes, and matroids. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 102–110; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 277–284 (1998). (Ivan Landgev) **98m:94031** 94A60 (05B35, 94A17)

— (*with* Burmester, Mike; Desmedt, Yvo G.) Trust and security: a new look at the Byzantine generals problem. (English summary) *Network threats* (*New Brunswick, NJ, 1996*), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 38, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:68030** 68Q10 (68Q25, 90B12, 94A60)

Kabbaj, Salah-Eddine (*with* Barucci, Valentina; Izelgue, Lahoucine) Some factorization properties of $A + XB[X]$ domains. *Commutative ring theory* (*Fès*, 1995), 69–78, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Muhammad Zafrullah) **98a:13031** 13G05 (13B25, 13F15)

— (*with* Bouchiba, Samir; Girolami, Florida) The dimension of tensor products of AF-rings. *Commutative ring theory* (*Fès*, 1995), 141–153, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (David F. Anderson) **98b:13009** 13C15 (13A15)

— (*with* Dobbs, David E.; Mahdou, Najib) n-coherent rings and modules. (English summary) *Commutative ring theory* (*Fès*, 1995), 269–281, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (J. W. Brewer) **98b:13018** 13E15

— (*with* Houston, Evan; Lucas, Thomas G.; Mimouni, A.) Duals of ideals in polynomial rings. *Commutative ring theory* (*Fès*, 1995), 349–358, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Marco Fontana) **98f:13021** 13F20 (13A15)

— (*with* Fontana, Marco; Izelgue, Lahoucine; Tartarone, Francesca) On the Krull dimension of domains of integer-valued polynomials. *Exposition. Math.* **15** (1997), *no.* 5, 433–465. (Jean-Luc Chabert) **98m:13027** 13F20 (13C15)

Kabe, D. G. On a quadratic programming problem of finite sampling theory. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 2, 1–8. 62D05 (90C20)

— (*with* Gupta, Arjun K.) An n-variate characterization of the gamma and the complex Wishart densities. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 119–122. (Summary) **98g:62022** 62E10 (62H05)

— (*with* Gupta, Arjun K.) Elliptically contoured model and factorization of Wilks' Λ. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 805–811. 62H12

— (*with* Gupta, Arjun K.) Linear restrictions and two step multivariate least squares with applications. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 413–416. 62J05 (62H12)

— (*with* Gupta, Arjun K.) Moments of ratios of quadratic forms. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 69–71. 62H10 (62H20)

Kabeya, Yoshitsugu (*with* Yanagida, Eiji; Yotsutani, Shoji) Number of zeros of solutions to singular initial value problems. (English summary) *Tôhoku Math. J.* (2) **50** (1998), *no.* 1, 1–22. (Yi Li) **98m:34005** 34A12 (34C10, 35J99)

Kabir, H. (*with* Madenci, E.; Ortega, Alfonso) Numerical solution of integral equations with logarithmic-, Cauchy- and Hadamard-type singularities. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 4, 617–638. 65R20 (45E05)

Kabulov, R. V. A method for constructing quadrature formulas for Fourier-type integrals. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 61–66, 143. 65D32

Kabulov, V. K. (*with* Nazirov, Sh. A.; Rakhmanov, M. M.) Algorithmization of the computation of MHD-processes. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 78–92, 144. 76W05 (76M25)

Kabulov, V. K. (*with* Tolok, V. A.) Determination of the limit points of a given topological space (X, T) on a finite set. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 103 (1997), 4–10, 150. 54A99

Kaburaki, Hideo (*with* Atobe, Takashi; Watanabe, Tadashi[2]) Fluctuation and chaos of velocity fields in homogeneous isotropic turbulence (geometric structure of vortex fields). (Japanese. Japanese summary) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 78–86. (*see* **98e:76004**) 76F05

Kabutoya, Naohisa (*with* Nagamochi, Hiroshi; Zeng, Dao-Zhi; Ibaraki, Toshihide) Complexity of the minimum base game on matroids. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 146–164. (Rong Si Chen) **98b:90184** 90D12 (68Q25)

Kabziński, J. Robust stabilization of nonlinear systems by optimal controllers. (English summary) *System modelling and optimization* (*Prague*, 1995), 91–98, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93D21

Kac, Michael B. The proper treatment of singular terms in ordinary English. (English summary) *Mind* **106** (1997), *no.* 424, 661–696. 03B65

Kac, Victor G. (*with* Cheng, Shun-Jen) Conformal modules. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 181–193. (Christoph Schweigert) **98j:17026** 17B68 (17B66, 81R10)

— (*with* Todorov, Ivan T.) Affine orbifolds and rational conformal field theory extensions of $W_{1+\infty}$. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 57–111. (Christoph Schweigert) **98j:81119** 81R10 (11F22, 17B67, 81T40)

Kacar, Ahmet (*with* Yildiz, Bünyamin) Two methods for solution of a linear boundary value problem of order $2n$. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 215–233. (Martin Hermann) **98h:34026** 34A45 (34B05)

Kachanov, M. (*with* Shafiro, B.) Materials with fluid-filled pores of various shapes: effective elastic properties and fluid pressure polarization. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 27, 3517–3540. (Summary) **98h:73019** 73B99 (73M25, 73N20, 76S05)

Kachanovskiĭ, N. A. The dual Appell system and Kondrat′ev spaces in analysis on Schwartz spaces. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 4, 527–534; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 581–589 (1998). (A. V. Uglanov) **98j:46039** 46F25 (35R15, 46G12)

Kachi, Hideyuki Central extensions of H-spaces. *Kyushu J. Math.* **50** (1996), *no.* 1, 249–262. (Ken-ichi Maruyama) **98d:55015** 55P45

Kachi, Yasuyuki Extremal contractions from 4-dimensional manifolds to 3-folds. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 63–131. (Marco Andreatta) **98j:14016** 14E30 (14J40)

Kachroo, P. (*with* Batra, R. C.; Liang, X. Q.) Shape control of a nonlinear smart plate. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 518–525, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 49Q10 (73K10, 73K50, 93C90)

Kachru, Shamit Duality and 4D string dynamics. (English summary) *Frontiers in quantum field theory* (*Osaka*, 1995), 21–34, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **98c:81169** 81T30 (81–02)

— (*with* Klemm, Albrecht Otto; Lerche, Wolfgang; Mayr, Peter; Vafa, Cumrun) Non-perturbative results on the point particle limit of $N = 2$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **459** (1996), *no.* 3, 537–555. (Clifford V. Johnson) **98c:81170** 81T30 (32J81, 81T60, 83E30)

— (*with* Seiberg, Nathan; Silverstein, Eva) SUSY gauge dynamics and singularities of 4d $N = 1$ string vacua. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 170–184. (Summary) **98j:81281** 81T30 (81T40)

— (*with* Vafa, Cumrun) Exact results for $N = 2$ compactifications of heterotic strings. (English summary) S-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 210–224. (Miguel A. Vázquez-Mozo) **98b:81198** 81T30 (11F11, 14J32, 32G81)

— (*with* Aharony, Ofer; Silverstein, Eva) New $\mathcal{N} = 1$ superconformal field theories in four dimensions from D-brane probes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 159–176. (Summary) **98b:81219** 81T40 (14J32, 81T30)

— Lectures on duality and string dynamics. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 65–82. (Gerardo Marcelo Aldazabal) **98i:81206** 81T30 (14J32, 32G81)

— (*with* Silverstein, Eva) On gauge bosons in the matrix model approach to M theory. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 70–76. (Daniel N. Kabat) **98d:81086** 81T30

Kachurik, I. I. (*with* Groza, V. A.; Klimyk, A. U.) q-deformed Euclidean algebras and their representations. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 467–475; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 706–712. (Michèle Irac-Astaud) **98h:17015** 17B37 (17B10, 81R50)

— Representations of the q-deformed Euclidean algebra $U_q(\mathrm{iso}_3)$ and spectra of their operators. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 516–524. (Shao-Ming Fei) **98j:17014** 17B37 (33C80)

el Kacimi Alaoui, Aziz *see* **El Kacimi Alaoui, Aziz**

Kacir, M. (*with* Bougourzi, A. Hamid; Couture, Michel Josaphat) From quantum affine groups to the exact dynamical correlation function of the Heisenberg model. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 103–107. (Summary) **98f:82043** 82B23 (81R10, 81R50)

Kaçıranlar, Selahattin (*with* Sakallıoğlu, Sadullah; Akdeniz, Fikri) Mean squared error comparisons of the modified ridge regression estimator and the restricted ridge regression estimator. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 131–138. 62J07

Kacprzyk, Janusz Multistage control under fuzziness using genetic algorithms. (English summary) *Control Cybernet.* **25** (1996), *no.* 6, 1181–1215. (Summary) **98d:93061** 93C42 (04A72, 90C27)

— (*with* Patra, Kartik Chandra; Pati, Bibhuti Bhusan) Signal stabilisation of two-dimensional nonlinear relay control systems. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 1-2(42), 89–101. 93D15

— A genetic algorithm for the multistage control of a fuzzy system in a fuzzy environment. (English summary) Third Hispano-Polish Symposium on System Analysis and Computer Science (Barcelona, 1995). *Mathware Soft Comput.* **4** (1997), *no.* 3, 219–232. (*see* **98k:93007**) 93C42 (90C39)

— (*with* Atanassov, Krassimir Todorov; Dimitrov, Dinko; Kim, Soon-Ki; Shannon, Anthony; Szmidt, Eulalia) Applications of operators over intuitionistic fuzzy sets in analysis of asymmetric information. (English summary) *Notes IFS* **3** (1997), *no.* 1, 29–34. 03E72

— (*with* Szmidt, Eulalia) A concept of entropy for intuitionistic fuzzy sets. (English summary) *Notes IFS* **3** (1997), *no.* 2, 41–52. 03E72

— (*with* Szmidt, Eulalia) On measuring distances between intuitionistic fuzzy sets. (English summary) First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 1–13. (*see* **98e:03031**) 03E72

Kacsó, Daniela P. (*with* Gonska, Heinz H.) Simultaneous approximation by $(0, \cdots, R-2, R)$ interpolators. (English summary) *Calcolo* **32** (1995), *no.* 3-4, 177–191 (1997). (Juan José Torrens) **98i:41021** 41A28 (41A05)

— (*with* Gavrea, Ioan; Gonska, Heinz H.) On the variation-diminishing property. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 96–105. (Summary) **98i:41038** 41A36

Kačur, Jozef Solution of degenerate parabolic problems by relaxation schemes. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 217–230, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Summary) **98h:65038** 65M12

— (*with* Van Keer, R.) On the numerical solution of a class of nonlinear parabolic problems with Volterra operators by a Rothe-Galerkin finite element method. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 2, 239–269. (G. Albinus) **98b:65115** 65M60 (65M20)

— Solution of degenerate parabolic systems by relaxation schemes. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4629–4636. (*see* **98i:00032**) 65M12

Kaczmarek, Jarosław A formulation of continuum mechanics as a dimensional reduction of a finite-dimensional dynamical system. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 1, 49–66. (Victor A. L'vov) **98e:73022** 73B99 (34C35, 70H05, 73B05)

— A thermodynamical description of the martensitic transformation. A model with small volume of averaging. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 1, 53–81. 73B30

Kaczor, Wiesława (*with* Budzyńska, Monika; Koter-Mórgowska, Małgorzata) Asymptotic normal structure, semi-Opial property and fixed points. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 33–41. (Brailey Sims) **98g:47048** 47H10 (46B20, 47H09)

— (*with* Koter-Mórgowska, Małgorzata) Firmly Lipschitzian mappings. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 77–85. (Summary) **98g:47046** 47H09 (47H10)

— (*with* Budzyńska, Monika; Koter-Mórgowska, Małgorzata; Kuczumow, Tadeusz) Asymptotic normal structure and the semi-Opial property. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3505–3515. (Introduction) **98m:46011** 46B20 (47H09, 47H10)

Kaczorek, Tadeusz Local reachability, local controllability and observability of a class of 2-D bilinear systems. (English summary) *Neural adaptive control technology* (*Glasgow*, 1995), 153–175, *World Sci. Ser. Robot. Intell. Systems*, 15, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98j:93010** 93B05 (93C30)

— Pole assignment by state-feedback for descriptor linear systems with nonsquare matrix pencils. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 2, 23–32. (Srinivasu Maka) **98c:93051** 93B55 (93B52)

— Realization problem for discrete-time positive linear systems. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 117–124. (Vimal Singh) **98d:93032** 93B17

Kaczorowski, Jerzy (*with* Szydło, Bogdan) Some Ω-results related to the fourth power moment of the Riemann zeta-function and to the additive divisor problem. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 41–50. (S. W. Graham) **98m:11090** 11M06 (11N37)

Kada, Masaru (*with* Eda, Katsuya; Yuasa, Yoshifumi) The tightness about sequential fans and combinatorial properties. *J. Math. Soc. Japan* **49** (1997), *no.* 1, 181–187. (Gary Gruenhage) **98d:54009** 54A25 (03E35, 54A35, 54D99)

Kada, Osamu (*with* Lau, Anthony T. M.; Takahashi, Wataru) Asymptotically invariant net and fixed point set for semigroup of nonexpansive mappings. *Nonlinear Anal.* **29** (1997), *no.* 5, 539–550. (Behzad Djafari-Rouhani) **98d:47156** 47H20 (47H09, 47H10)

Kadach, A. V. Text compression in hypertexts. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 4, 47–56; *translation in Program. Comput. Software* **23** (1997), *no.* 4, 212–219. 68P99 (94B35)

Kadakal, Ercan (*with* Acker, Andrew F.; Miller, Kenneth G.) A trial-free-boundary method for computing Batchelor flows. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 31–48. (Nikolay P. Moshkin) **98d:76122** 76M25 (65M99, 65N99, 76C05)

Kadalbajoo, Mohan K. (*with* Rao, A. Appaji) Parallel group explicit method for two-dimensional parabolic equations. (English summary) *Parallel Comput.* **23** (1997), *no.* 6, 649–666. (Summary) **98b:65150** 65Y05

Kadane, Joseph B. (*with* Srinivasan, Cidambi) Bayesian robustness and stability. (English summary) With a discussion by G. Salinetti and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 81–100, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98e:62012** 62A15 (62F15)

— (*with* Schervish, Mark J.; Seidenfeld, Teddy) Reasoning to a foregone conclusion. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1228–1235. (Yukio Suzuki) **98g:62009** 62A15 (62F15)

— (*with* Girón, Francisco J.; Moreno, Elías) Independence issues in imprecise data models: a Bayesian approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1149–1153. (Summary) **98a:62005** 62A15 (62F15)

— (*with* Berry, Scott M.) Optimal Bayesian randomization. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 813–819. 62A15 (62F15)

— *see also* **Sargent, Daniel J.**, (**98e:62007**)

Kadankov, V. F. (*with* Ezhov, I. I.) The investigation of the $G_n/G_2/1$ system in terms of Spitzer's series. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 55–67. (Summary) **98a:60134** 60K25 (68M20, 90B22)

Kadanoff, Leo P. (*with* Chhabra, Ashvin B.; Feigenbaum, Mitchell J.; Kolan, Amy J.; Procaccia, Itamar) Sandpiles, avalanches, and the statistical mechanics of nonequilibrium stationary states. (English summary) *Phys. Rev. E* (3) **47** (1993), *no.* 5, 3099–3121. (Manfred Requardt) **98e:82039** 82C27 (93E30)

Kadeishvili, A. A. Vertex operators for deformed Virasoro algebra. *JETP Lett.* **63** (1996), *no.* 11, 917–923; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **63** (1996), *no.* 11, 876–881 (*Russian*). (Jun'ichi Shiraishi) **98e:81052** 81R10 (17B68, 17B69, 81T10)

Kadeishvili, T. V. ★ Структура $A(\infty)$-алгебры в когомологиях и рациональный гомотопический тип. (Russian. English and Russian summaries) [The $A(\infty)$-algebra structure in cohomology, and rational homotopy type] T'bilisis A. Razmadzis Saxelobis Mat'ematikis Institutis Shromebi [Tbilisi A. Razmadze Mathematics Institute Works], 107. "*Metsniereba*", *Tbilisi*, 1993. 96 *pp. ISBN* 5-520-01178-8 (Stanisław Betley) **98j:55013** 55P62 (16W99, 55P15)

Kadeisvili, J. V. An introduction to the Lie-Santilli isotopic theory. (English summary) *Math. Methods Appl. Sci.* **19** (1996), *no.* 17, 1349–1395. (Ioannis Tsohantjis) **98e:58076** 58F05 (70A05, 70G99, 70H33)

Kadelburg, Zoran (*with* Radenović, Stojan) Three-space-problem for some classes of linear topological spaces. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 3, 507–514. (Paweł Domański) **98a:46003** 46A03 (46A04)

— (*with* Radenović, Stojan) Weak topology in locally convex spaces with a fundamental sequence of bounded subsets. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 225–227. (*see* **98k:00020**) 46A03 (46A20)

Kadell, Kevin W. J. The Selberg-Jack symmetric functions. (English summary) *Adv. Math.* **130** (1997), *no.* 1, 33–102. (Andrew P. Mathas) **98k:05141** 05E05 (33C45, 33C80)

— Schützenberger's jeu de taquin and plane partitions. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 1, 110–133. (George E. Andrews) **98a:05153** 05E10 (05A15, 05A17)

abd el-Kader, Z. *see* **Abd El-Kader, Z.**

Kadets, Mikhail I. (*with* Kadets, Vladimir M.) ★ Series in Banach spaces. (English summary) Conditional and unconditional convergence. Translated from the Russian by Andrei Iacob. Operator Theory: Advances and Applications, 94. *Birkhäuser Verlag, Basel*, 1997. viii+156 *pp. ISBN* 3-7643-5401-1 (G. J. O. Jameson) **98a:46016** 46B15

— A sufficient condition for strong almost periodicity of scalarly almost periodic representations of the group of real numbers. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 523–526; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 576–580 (1998). (Summary) **98e:46009** 46B20 (43A60)

— On absolute, perfect and unconditional convergence of double series in Banach spaces. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 8, 1032–1041; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1158–1168 (1998). (Anatolij M. Plichko) **98m:46009** 46B15

Kadets, Vladimir M. (*with* Kadets, Mikhail I.) ★ Series in Banach spaces. (English summary) Conditional and unconditional convergence. Translated from the Russian by Andrei Iacob. Operator Theory: Advances and Applications, 94. *Birkhäuser Verlag, Basel*, 1997. viii+156 *pp. ISBN* 3-7643-5401-1 (G. J. O. Jameson) **98a:46016** 46B15

— (*with* Shvidkoy, Roman V.; Sirotkin, Gleb G.; Werner, Dirk) Espaces de Banach ayant la propriété de Daugavet. (English and French summaries) [Banach spaces with the Daugavet property] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1291–1294. (Summary) **98i:46011** 46B20 (47B07)

— Generalization of a theorem of Daugavet with applications to the geometry of the space *C*. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 74–76; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 207–209 (1998). (M. M. Popov) **98k:46023** 46B20 (46B04, 47B38)

— (*with* Chervoneva, Inna; Yampolsky, Michael) On the upper majorant property. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 29–43. (Gilles Godefroy) **98h:46007** 46B15 (43A77)

Kadianakis, N. Geometric aspects of the co-rotational derivative of a continuous motion. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 137–142. (Marek Elżanowski) **98h:73016** 73B99 (53B50)

Kadıoğlu, Ekrem (*with* Bayraktar, Mustafa) On the subrings of the ring of analytic functions and conformally equivalence. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 55–60 (1997). (Summary) **98k:30011** 30C35

— (*with* Kamalı, Muhammet) A characterization on the conformal mapping. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 2, 175–179. (Daniel Girela) **98c:30008** 30C20

— (*with* Kamalı, Muhammet) On the coefficients of certain analytic functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 169–176. (Summary) **98g:30023** 30C45

el Kadiri, Mohamed *see* **El Kadiri, Mohamed**

Kadirkamanathan, Visakan (*with* Fabri, Simon) Dual adaptive control of nonlinear stochastic systems using neural networks. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 245–253. 93E24 (93C83)

Kadison, Lars On split, separable subalgebras with counitality condition. (English summary) *Hokkaido Math. J.* **24** (1995), *no.* 3, 527–549. (Yasuyuki Kawahigashi) **98b:46081** 46L37 (16S20)

— The Jones polynomial and certain separable Frobenius extensions. *J. Algebra* **186** (1996), *no.* 2, 461–475. (J. S. Birman) **98d:16029** 16H05 (16L60, 57M25)

Kadison, Richard V. (*with* Hansen, Mogens L.) Banach algebras with unitary norms. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 535–552. (T. W. Palmer) **98g:46080** 46L05 (46H20, 46K05)

— (*with* Ringrose, John R.) ★ Fundamentals of the theory of operator algebras. Vol. I. Elementary theory. Reprint of the 1983 original. Graduate Studies in Mathematics, 15. *American Mathematical Society, Providence, RI*, 1997. xvi+398 *pp. ISBN* 0-8218-0819-2 (Editors) **98f:46001a** 46–01 (46–02, 46Lxx, 47–01, 47–02, 47Dxx)

— (*with* Ringrose, John R.) ★ Fundamentals of the theory of operator algebras. Vol. II. Advanced theory. Corrected reprint of the 1986 original. Graduate Studies in Mathematics, 16. *American Mathematical Society, Providence, RI*, 1997. *pp.* i–xxii *and* 399–1074. *ISBN* 0-8218-0820-6 (Editors) **98f:46001b** 46–01 (46–02, 46Lxx, 47–01, 47–02, 47Dxx)

Kadja, M. (*with* Anagnostopoulos, J. S.; Bergeles, G. C.) Implementation of newly developed algorithms in the simulation of atmospheric turbulent transports. (English summary) *Comput. & Fluids* **26** (1997), *no.* 5, 489–504. (Summary) **98f:86002** 86A10 (86–08)

Kadlec, Jiří (*with* Gaston, F. M. F.; Irwin, G. W.) A parallel fixed-point predictive controller. (English summary) Parallel algorithms for control. *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 5, 415–430. (*see* **98e:93001**) 93B40 (65Y05, 93C40)

Kado, Shingo (*with* Parihar, Champa Lal; Raffee, Vadla Mohammad; Tsuji, Miki) Numerical analysis of pseudozeros and pseudospectra. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 165–172, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 65F15

Kadomtsev, B. B. (*with* Kadomtsev, M. B.) Brownian motion of a quantum particle. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 52–60. (Summary) **98f:82069** 82B41

Kadomtsev, M. B. (*with* Kadomtsev, B. B.) Brownian motion of a quantum particle. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 52–60. (Summary) **98f:82069** 82B41

Kadota, Yoshinobu (*with* Kurano, Masami; Yasuda, Masami) A utility deviation in discounted Markov decision processes with general utility. (English summary) *Bull. Inform. Cybernet.* **28** (1996), *no.* 1, 71–78. (D. Kalin) **98a:90129** 90C40

— (*with* Kurano, Masami; Yasuda, Masami) A utility deviation in discounted Markov decision processes with general utility. (English summary) Optimization theory in mathematical models (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 947 (1996), 22–30. (Gerhard Hübner) **98e:90210** 90C40 (90A10)

— Risk-aversion for stopping times on Markov chains. (English summary) *Bull. Fac. Ed. Wakayama Univ. Natur. Sci. No.* 47 (1997), 1–6. (Summary) **98b:90040** 90A43 (90C40)

— A minimum average-variance in Markov decision processes. (English summary) *Bull. Inform. Cybernet.* **29** (1997), *no.* 1, 83–89. (Robert Kertz) **98i:90123** 90C40

— A minimum average-variance in Markov decision processes. (English summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 128–135. (*see* **98h:90004**) 90C40

Kadowaki, Mitsuteru Asymptotic completeness for acoustic propagators in perturbed stratified media. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 4, 432–459. (Alexei Yu. Konstantinov) **98a:35103** 35P25 (47A40, 47N20, 76Q05)

Kadoya, A. (*with* Kato, Nobuaki; Kenmochi, N.; Shirohzu, J.) Optimal control on the lateral boundary for a phase separation model with constraint. (English summary) *Free boundary problems, theory and applications (Zakopane, 1995)*, 98–110, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Florin Iacob) **98g:49002** 49J20 (35K55, 35R35, 80A15)

Kadoyoshi, Tomoko (*with* Nojiri, Shin'ichi) $N = 3$ and $N = 4$ two-form supergravities. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 16, 1165–1174. (J. A. H. Samtleben) **98c:83107** 83E50 (81R10, 81T40)

el-Kady, M. A. *see* **El-Kady, M. A.**

Kadyrov, R. R. On estimates of Nash-De Giorgi type for generalized solutions of nonlocal boundary value problems for elliptic-parabolic equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1995), 40–50. (Andreas Müller-Rettkowski) **98d:35157** 35M10 (35B45, 35D99, 35J70, 46E35)

— (*with* Dzhuraev, T. D.) On the behavior at infinity of the solution of nonlocal boundary value problems for elliptic-parabolic equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1995), 66–72. (Andreas Müller-Rettkowski) **98d:35158** 35M10 (35B40, 35D99, 35J70)

Kaestner, Celso A. A. *see* **Advances in artificial intelligence, 98k:68002**

Kaftal, Victor G. (*with* Bakonyi, Mihály; Weiss, Gary; Woerdeman, Hugo J.) Bounds for operator/Hilbert-Schmidt norm minimization using entropy. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 405–425. (Joseph A. Ball) **98j:47034** 47A57 (47B10, 47N70, 93B36)

Kafura, Dennis (*with* Mukherji, Manibrata) A process-calculus-based abstraction for coordinating multi-agent groups. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 287–314. (*see* **98k:68014**) 68Q10 (68Q55, 68Q60)

Kagaku, Naoko (*with* Nakayama, Hirotaka) Pattern classification by linear goal programming and its applications. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 38–47, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

Kagan, Abram (*with* Rohatgi, Vijay) A class of random polynomials with an invariance property. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 215–222. (Aart J. Stam) **98m:60019** 60E05 (60E15, 62B10, 62E99)

— (*with* Landsman, Zinoviy) Statistical meaning of Carlen's superadditivity of the Fisher information. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 175–179. (J. A. Melamed) **98c:62007** 62B10

Kaganovich, A. B. (*with* Guendelman, E. I.) Gravitational theory without the cosmological constant problem. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5970–5980. (Summary) **98c:83011** 83C05 (83C99, 83D05, 83E15)

— (*with* Guendelman, E. I.) Gravitational theory without the cosmological constant problem, symmetries of space-filling branes, and higher dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3548–3554. (Summary) **98e:83108** 83E15 (83E30)

Kaganovich, B. M. (*with* Filippov, S. P.) ★ Равновесная термодинамика и математическое программирование. (Russian. Russian summary) [Equilibrium thermodynamics and mathematical programming] *"Nauka" Sibirskaya Izdatel'skaya Firma Rossiĭskoĭ Akademii Nauk, Novosibirsk*, 1995. 236 *pp. ISBN* 5-02-030848-X (Publisher's description) **98j:80005** 80A10 (90C90)

Kagaris, Dimitrios (*with* Pantziou, Grammati E.; Tragoudas, Spyros; Zaroliagis, Christos D.) On the computation of fast data transmissions in networks with capacities and delays. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 291–302, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 90B12 (68M10, 68Q25)

Kagarmanov, A. A. On the nonexistence of a polynomial that reconstructs a function ring in a Lie algebra of vector fields over fields of positive characteristic. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 217–218; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 212–213. 17B66

Kagawa, Takaaki Determination of elliptic curves with everywhere good reduction over $\mathbf{Q}(\sqrt{37})$. *Acta Arith.* **83** (1998), *no.* 3, 253–269. (Masanari Kida) **98k:11068** 11G05

Kagawa, Y. (*with* Tsuchiya, Takao; Yamaguchi, H.) Design optimization of wire array for electromagnetic wave scattering using Mathematica. (English summary) *Innovation in mathematics (Rovaniemi, 1997)*, 291–298, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 78–08 (78–04)

Kågedal, Andreas (*with* Debray, Saumya) A practical approach to structure reuse of arrays in single assignment languages. (English summary) *Logic programming (Leuven, 1997)*, 18–32, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N15 (68N17)

Kagei, Yoshiyuki (*with* von Wahl, Wolf) The Eckhaus criterion for convection roll solutions of the Oberbeck-Boussinesq equations. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 3, 563–620. (Alexander Mielke) **98c:76023** 76D05 (35Q35, 76E15, 76E99)

Kageyama, Akira (*with* Sato, Tetsuya) Velocity and magnetic field structures in a magnetohydrodynamic dynamo. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1569–1575. (*see* **98b:76003**) 76W05 (76U05)

— (*with* Sato, Tetsuya) Generation mechanism of a dipole field by a magnetohydrodynamic dynamo. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4617–4626. (Summary) **98c:76121** 76W05 (76M25)

Kageyama, Sanpei (*with* Miao, Ying) Some methods of construction of rectangular PB1B designs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 186–198, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05023** 05B05 (05E30)

— (*with* Miao, Ying) Some constructions of semiframes. (English summary) *Ars Combin.* **43** (1996), 17–31. (Summary) **98f:05036** 05B30

— (*with* Miao, Ying) Nested directed BIB designs with block size three or four. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 99–110, vi. (Damaraju Raghavarao) **98j:62059** 62K10

— (*with* Miao, Ying; Duan, Xiaoping) Further constructions of nested group divisible designs. (English summary) *J. Japan Statist. Soc.* **26** (1996), *no.* 2, 231–239. (Bronisław Ceranka) **98f:05025** 05B05 (62K10)

— (*with* Pal, Satyabrata; Majumder, Anurup) General methods of construction of balanced designs. (English summary) *Bull. Fac. School Ed. Hiroshima Univ. Part II* **19** (1997), 57–64. (Bronisław Ceranka) **98a:05019** 05B05 (62K10)

— (*with* Miao, Ying) Note on a paper: "1-rotational designs with block size 4" [Bull. Inst. Combin. Appl. **13** (1995), 91–98; MR 96b:05027] by Y. S. Liaw. (English summary) *Bull.*

Inst. Combin. Appl. **20** (1997), 82–84. (Summary) **98a:05041** 05B30
— (*with* Duan, Xiaoping) Some characteristic of partially balanced incomplete block designs. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 17–21. (Summary) **98d:05025** 05B05 (05E30)
— (*with* Sinha, Kishore; Jones, Byron) Constructions of pairwise- and variance-balanced designs. (English summary) *Statistics* **29** (1997), *no.* 3, 241–250. (Summary) **98c:62149** 62K10
— (*with* Mohan, R. N.) New series of α-resolvable and almost α-resolvable PB1B designs. (English summary) *Util. Math.* **51** (1997), 21–26. (Summary) **98i:05015** 05B05 (62K10)
— (*with* Philip, Jose; Banerjee, Shakti) Construction of nested t-associate PB1B designs under restricted dualization. (English summary) *Util. Math.* **51** (1997), 27–32. (Summary) **98h:05027** 05B05 (62K10)
Kahale, Nabil Large deviation bounds for Markov chains. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 465–474. (Summary) **98g:60120** 60J10 (60F10)
— (*with* Alon, Noga) A spectral technique for coloring random 3-colorable graphs. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1733–1748. (Zbigniew Palka) **98i:05066** 05C15 (05C80, 05C85, 68R10)
Kahan, William (*with* Li, Ren Cang) Unconventional schemes for a class of ordinary differential equations—with applications to the Korteweg-de Vries equation. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 316–331. (Summary) **98b:65078** 65L05 (65M99)
Kahane, Jean-Pierre Une formule de Fourier pour les nombres premiers. Application aux nombres premiers généralisés de Beurling. (English and French summaries) [A Fourier formula for primes. Application to Beurling generalized primes] *Harmonic analysis from the Pichorides viewpoint* (*Anogia*, 1995), 41–49, *Publ. Math. Orsay*, 96-01, *Univ. Paris XI, Orsay*, 1996. (Don Redmond) **98c:11103** 11N80
— Quelques points d'histoire des séries de Fourier. [Some points of the history of Fourier series] *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 201–213, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:01029** 01A55 (01A60)
— A Fourier formula for prime numbers. *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 89–102, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Matti Jutila) **98f:11099** 11N05 (11N80, 42A38)
— (*with* Queffelec, Hervé) Ordre, convergence et sommabilité de produits de séries de Dirichlet. (English summary) [Order, convergence and summability of products of Dirichlet series] *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 2, 485–529. (Gérald Tenenbaum) **98g:11102** 11M41 (30B50, 40Gxx)
— A century of interplay between Taylor series, Fourier series and Brownian motion. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 3, 257–279. (Tao Qian) **98a:01015** 01A60 (30–03, 42–03, 42A61, 60–03, 60J65)
— Le rôle de l'algèbre H^1 de Sobolev dans la théorie des nombres premiers généralisés de Beurling. (English and French summaries) [The role of the Sobolev algebra H^1 in Beurling's generalized prime number theory] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1117–1120. (H. G. Diamond) **98d:11117** 11N80
— General properties of Taylor series 1896–1996. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 907–911. (*see* **98i:00025**) 01A60 (30–03, 30B10)
— *see also* **Hahn, Hans**, **98h:01035**
Kahl, Patrick (*with* Kreinovich, Vladik; Lakeev, A. V.; Rohn, Jiří) ★ Computational complexity and feasibility of data processing and interval computations. (English summary) Applied Optimization, 10. *Kluwer Academic Publishers, Dordrecht*, 1998. xii+459 *pp. ISBN* 0-7923-4865-6 (G. Alefeld) **98m:65080** 65G10 (65–02, 65Y20, 68Q25)
Kahl, Wolfram Algebraic graph derivations for graphical calculi. *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 224–238, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (*see* **98e:68005**) 68Q42 (03B70, 68R10)
— Relational treatment of term graphs with bound variables. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 259–303. (Summary) **98m:68138** 68Q42 (68N15)
Kahle, Dietrich Zur Rolle des Erlanger Programms im Geometrieunterricht. (German summary) [On the role of the Erlangen Program in the teaching of geometry] *Math. Semesterber.* **43** (1996), *no.* 1, 1–20. 00A35 (01A99, 51–03)
Kähler, Uwe (*with* Gürlebeck, Klaus; Ryan, John; Sprößig, Wolfgang) Clifford analysis over unbounded domains. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 2, 216–239. (Bernd A. Schmeikal) **98h:30069** 30G35 (35C99, 35J45)
— (*with* Gürlebeck, Klaus) On a boundary value problem of the biharmonic equation. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 10, 867–883. (Michael V. Shapiro) **98f:35037** 35J40 (30G35, 35C99)
Kahlert, Uwe (*with* Berghaus, Claudia; Schnakenberg, Jürgen) Current reversal induced by a cyclic stochastic process. (English summary) *Phys. Lett. A* **224** (1997), *no.* 4-5, 243–248. (Summary) **98a:82096** 82C99
Kahlig, Peter (*with* Matkowski, Janusz) Envelopes of special class of one-parameter families of curves. *Demonstratio Math.* **29** (1996), *no.* 4, 799–806. (L. Berg) **98f:39017** 39B22
Kahlon, Vineet View obstruction problem. *Res. Bull. Panjab Univ. Sci.* **45** (1995), *no.* 1-4, 175–180. (Thomas W. Cusick) **98h:52014** 52A37
Kahn, Bruno Applications of weight-two motivic cohomology. (English summary) *Doc. Math.* **1** (1996), *No.* 17, 395–416. (Klaus Künnemann) **98b:14007** 14C35 (19E20)
— (*with* Colliot-Thélène, Jean-Louis; Hoobler, Raymond T.) The Bloch-Ogus-Gabber theorem. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 31–94, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Gennady Lyubeznik) **98j:14021** 14F20 (14F40, 19F27)
— A characterisation of powerfully embedded normal subgroups of a p-group. (English summary) *J. Algebra* **188** (1997), *no.* 2, 401–408. (Avinoam Mann) **98c:20035** 20D15
— Bott elements in algebraic K theory. *Topology* **36** (1997), *no.* 5, 963–1006. (Burt Totaro) **98d:19004** 19F27 (55P42)
— (*with* Esnault, Hélène; Levine, Marc; Viehweg, Eckart) The Arason invariant and mod 2 algebraic cycles. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 73–118. (Burt Totaro) **98d:14010** 14C25 (11E72, 14C35)
Kahn, Donald W. (*with* Hakim-Hashemi, Mehdi) A generalization of the Atiyah-Hirzebruch spectral sequence. (English summary) *K-Theory* **11** (1997), *no.* 3, 241–257. (Richard John Steiner) **98b:55019** 55T25 (55N20)
Kahn, Gilles (*with* Coscoy, Yann; Théry, Laurent) Extracting text from proofs. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 109–123, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (03B35, 68T15)
Kahn, Jeff (*with* Linial, Nathan; Samorodnitsky, Alex) Inclusion-exclusion: exact and approximate. (English summary) *Combinatorica* **16** (1996), *no.* 4, 465–477. (Giuseppe Pellegrino) **98b:05008** 05A15
— (*with* Kayll, P. Mark) Fractional v. integral covers in hypergraphs of bounded edge size. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 199–235. (Nigel Martin) **98b:05071** 05C65 (05C70)
Kahn, Peter B. (*with* Zarmi, Yair) ★ Nonlinear dynamics. (English summary) Exploration through normal forms. Wiley Series in Nonlinear Science. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xiv+401 *pp. ISBN* 0-471-17682-6 (Sergei A. Dovbysh) **98m:58121** 58F36 (34A45, 34C20, 34E05, 70K10, 70K30)
Kahng, Andrew B. (*with* Alpert, Charles J.) Splitting an ordering into a partition to minimize diameter. (English summary) *J. Classification* **14** (1997), *no.* 1, 51–74. (Summary) **98c:62116** 62H30
Kai, Hiroshi (*with* Minakuchi, Hiroyuki; Noda, Matu-Tarow) Calculation of generalized matrix inverses using Risa/Asir and their application to associative memory. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 166–173. (*see* **98h:00039**) 65F20
Kaidi, El Amin (*with* Idelhadj, Abdelouahab) The dual of the socle-fine notion and applications. *Commutative ring theory* (*Fès*, 1995), 359–367, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (K. R. Fuller) **98d:16005** 16D80 (16L60)
Kaigh, W. D. Random partition indicator and spacing statistics. (English summary) Proceedings from the Institute of Mathematical Statistics Central Regional Meeting: A Meeting in Honor of Robert V. Hogg (Iowa City, IA, 1995). *Comm. Statist. Theory Methods* **25** (1996), *no.* 11, 2699–2722. (Edgar Brunner) **98a:62066** 62G30 (62G10)
Kaiho, Takesi (*with* Iida, Koji; Hohzaki, Ryusuke) Optimal investigating search maximizing the detection probability. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 294–309. (Summary) **98e:90085** 90B40 (90C15)
Kaijser, S. On Banach modules. II. Pseudodeterminants and traces. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 325–341. (T. W. Palmer) **98e:46060** 46H25 (46Mxx, 47D30)
Kaikkonen, Markku K. (*with* Nurmela, Kari J.; Östergård, Patric R. J.) New constant weight codes from linear permutation groups. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1623–1630. (Summary) **98i:94047** 94B60
— (*with* Östergård, Patric R. J.) New upper bounds for binary covering codes. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 165–179. (Summary) **98k:94018** 94B65 (94B75)
Kail, Renaud (*with* Léné, Françoise; de Roeck, Yann-Hervé) An asymptotic model of laminated plates. (English and French summaries) *Rev. Européenne Élém. Finis* **6** (1997), *no.* 1, 23–42. (Summary) **98c:73052** 73K10 (73K20, 73V05, 73V20)
Kailasam, M. (*with* Ponte Castañeda, P.) Nonlinear electrical conductivity in heterogeneous media. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1959, 793–816. (David J. Bergman) **98h:73009a** 73B27 (73C50, 73K20, 78A99)
— (*with* Ponte Castañeda, P.) Errata: "Nonlinear electrical conductivity in heterogeneous media". *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1963, 1791. (David J. Bergman) **98h:73009b** 73B27 (73C50, 73K20, 78A99)
Kailath, Thomas Norbert Wiener and the development of mathematical engineering. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 93–116, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (M. P. Moklyachuk) **98i:01023** 01A60 (01A70, 60–03, 60G10, 60G25, 62M20, 93–03)
— (*with* Park, PooGyeon) Convergence of the DRE solution to the ARE strong solution. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 573–578. (Vladimir B. Larin) **98b:93032** 93C05 (93B40)
— (*with* Olshevsky, Vadim) Diagonal pivoting for partially reconstructible Cauchy-like matrices, with applications to Toeplitz-like linear equations and to boundary rational matrix interpolation problems. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 251–302. (Alan L. Andrew) **98c:65038** 65F05 (15A57)
— (*with* Olshevsky, Vadim) Displacement-structure approach to polynomial Vandermonde and related matrices. (English summary) *Linear Algebra Appl.* **261** (1997), 49–90. (Luis Verde-Star) **98j:15005** 15A09 (15A24)
— (*with* Park, PooGyeon; Banjerdpongchai, David) The asymptotic stability of nonlinear (Lur'e) systems with multiple slope restrictions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 979–982. 93D20
Kaimanovich, Vadim A. Harmonic functions on discrete subgroups of semi-simple Lie groups. (English summary) *Harmonic functions on trees and buildings* (*New York*, 1995), 133–136, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 22E40 (22D40, 60J50)
— Amenability, hyperfiniteness, and isoperimetric inequalities. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 999–1004. (Summary) **98j:28014** 28D15 (22D40, 43A07, 46L99)
Kaindl, Hermann (*with* Kainz, Gerhard) Bidirectional heuristic search reconsidered. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 283–317 (*electronic*). (Summary) **98m:68242** 68T20
— (*with* Scheucher, Anton) Benefits of using multivalued functions for minimaxing. (English summary) *Artificial Intelligence* **99** (1998), *no.* 2, 187–208. (Summary) **98m:68244** 68T20
Kainz, Gerhard (*with* Kaindl, Hermann) Bidirectional heuristic search reconsidered. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 283–317 (*electronic*). (Summary) **98m:68242** 68T20
Kaio, Naoto (*with* Dohi, Tadashi; Osaki, Shunji) Mathematical models of product warranties with age-dependent cost structures. (Japanese) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 41–52. (*see* **98h:90004**) 90B70
Kaipainen, Yrjö (*with* Honkala, Iiro S.; Tietäväinen, Aimo) Long binary narrow-sense BCH codes are normal. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 49–55. (Summary) **98e:94040** 94B15

— (*with* Suominen, Kalle-Antti) On the covering radius of long 5-ary BCH codes with minimum distance 7. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 403–410. (Summary) **98d:94049** 94B75

Kairies, Hans-Heinrich (*with* Rose, Michael Hugo) Funktionalgleichungen und Charakterisierungen für die Riemannsche Funktion. (English summary) [Functional equations and characterizations for the Riemann function] *Period. Math. Hungar.* **32** (1996), *no.* 3, 199–207. (Witold Jarczyk) **98b:39020** 39B22 (26A27, 26A30, 39B62)

Kaiser, András (*with* Chodos, Alan) Zeta function regularization in de Sitter space: the Minkowski limit. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4771–4782. (Alfred Actor) **98j:81217** 81T16 (11M41, 58G26, 81T20)

Kaiser, Dan (*with* Gross, John) Two simple algorithms for generating a subset of data consistent with WARP and other binary relations. (English summary) *J. Bus. Econom. Statist.* **14** (1996), *no.* 2, 251–255. 62P20

Kaiser, H. K. Interpolation and order polynomially complete lattices. *Contributions to general algebra*, 9 (*Linz*, 1994), 13–18, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Joel Berman) **98m:08006** 08A40 (06A07, 06B05, 08B05)

— (*with* Rosenberg, Ivo G.) A remark on algebras with the interpolation property. *Contributions to general algebra*, 9 (*Linz*, 1994), 213–218, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Miroslav Haviar) **98m:08007** 08A40

Kaiser, Hans-Christoph (*with* Rehberg, Joachim) On stationary Schrödinger-Poisson equations modelling an electron gas with reduced dimension. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1283–1312. (Summary) **98g:35049** 35J10 (35Q40, 47F05, 82B10)

Kaiser, Mark J. The critical point and related symmetry measures of a planar convex set. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 9, 79–98. (Robert Connelly) **98i:52002** 52A10 (65Y25, 68U05)

— A bird's eye-view of min-max and max-min functionals. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 9, 49–61. (Gerard Sierksma) **98c:90136** 90C30 (49J35, 65Y25)

— (Deterministic) algorithms that compute the volume of polytopes. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 39–67. (Igor Rivin) **98h:52017** 52A38 (68U05)

— (*with* Trietsch, Dan) The distribution of points in measurement precision charts. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 117–121. 62N10

— The geometry of an eigenvalue problem. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 111–119. 65N25 (35J25, 53C80)

— Some thoughts on generalized Weber location models. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 121–126. 90B85 (52A40, 90C90)

— Minimum zone separation functionals: the spatial case. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 539–561. 65Y25 (90C25)

Kaiser, Ralf (*with* von Wahl, Wolf) A new functional for the Taylor-Couette problem in the small-gap limit. *Mathematical theory in fluid mechanics* (*Paseky*, 1995), 114–134, *Pitman Res. Notes Math. Ser.*, 354, *Longman, Harlow*, 1996. (Mariarosaria Padula) **98c:76045** 76E99 (35Q35)

Kaiser, Tomás Transversals of d-intervals. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 2, 195–203. (András Gyárfás) **98e:52004** 52A37 (05C65, 55M20)

Kaiser, Uwe ★ Link theory in manifolds. Lecture Notes in Mathematics, 1669. *Springer-Verlag, Berlin*, 1997. xiv+167 *pp. ISBN* 3-540-63435-5 (Vyacheslav S. Krushkal) **98j:57010** 57M25 (57N10, 57Q45, 57Q60)

— (*with* Habegger, N.) Link homotopy in the 2-metastable range. *Topology* **37** (1998), *no.* 1, 75–94. (Laurence R. Taylor) **98h:57050** 57Q45 (55Q52)

Kaiser, Valerius Ricci curvatures of left invariant metrics on Lie groups with one-dimensional commutator-groups. (English summary) *Note Mat.* **14** (1994), *no.* 2, 209–215 (1997). (Maura B. Mast) **98f:53045** 53C30 (53C21)

Kaivola, Roope Fixpoints for Rabin tree automata make complementation easy. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 312–323, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68183** 68Q68 (03B45, 03D05, 68Q60)

Kaizu, Satoshi (*with* Tomimori, Satoshi) Narrow gap computations for the Taylor-Couette flow. *Advances in numerical mathematics*; *Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 261–264, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 76U05

Kaji, Hajime (*with* Noma, Atsushi) On the generic injectivity of the Gauss map in positive characteristic. (English summary) *J. Reine Angew. Math.* **482** (1997), 215–224. (Ragni Piene) **98h:14065** 14N05 (14F10, 14J60)

Kajii, Atsushi On the role of options in sunspot equilibria. *Econometrica* **65** (1997), *no.* 4, 977–986. (From the introduction) **98b:90016** 90A09

— (*with* Morris, Stephen Edward) Common p-belief: the general case. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 73–82. (Summary) **98j:90006** 90A05

— Sunspots and the sequential regularity of competitive equilibria. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 187–194. (Summary) **98k:90025** 90A56

Kajikiya, Ryuji Existence of group invariant solutions for semilinear elliptic equations. (Japanese) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 24–31. (*see* **98f:00031**) 35J65 (35A30)

Kajima, Yasuhiro Spherical functions on orthogonal groups. *Nagoya Math. J.* **141** (1996), 157–182. (David Goldberg) **98a:22005** 22E35 (33C55, 33C80, 43A90)

Kajimoto, Hiroshi A family of Yang-Mills connections on 4-dimensional pseudo-Riemannian spaces. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 1, 47–75. (Jan Segert) **98e:53037** 53C07 (58E15)

— The Poincaré duality and the Gysin homomorphism for flag manifolds. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 189–207. (V. P. Snaith) **98i:57071** 57T15 (14L40, 55R40)

Kajinaga, Yasumasa (*with* Tsuchida, Takayuki; Wadati, Miki) Tri-Hamiltonian structure and complete integrability of Volterra model. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 9, 2608–2617. (Summary) **98f:58119** 58F07 (70H05, 70K99, 92D25)

— (*with* Wadati, Miki) Integrable boundary conditions of the modified Volterra model. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 10, 3021–3025. (Summary) **98k:58112** 58F07 (34K99, 35Q99, 39A10)

— (*with* Tsuchida, Takayuki; Wadati, Miki) Coupled nonlinear Schrödinger equations for two-component wave systems. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 5, 1565–1568. 35Q55

Kajiwara, Joji Global existence of holomorphic solutions of differential equations with complex parameters. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 119–132, *VSP, Utrecht*, 1993. (Summary) **98d:35006** 35A20 (32A10)

— Localization of global existence of holomorphic solutions of differential equations with complex parameters. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 147–156, *VSP, Utrecht*, 1994. (Finnur Lárusson) **98d:35007** 35A20 (32E10)

— (*with* Li, Lin) Reproducing kernels for infinite-dimensional domains. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 153–162, *VSP, Utrecht*, 1995. (Kazimierz Włodarczyk) **98i:46036** 46E50 (46E22, 46G12, 46G20)

— (*with* Tsuji, Miki) Inverse formula for Laplace transform. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 163–172, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 65R10 (65R30)

— Reproducing kernels for abstract Wiener spaces. *Geometric complex analysis* (*Hayama*, 1995), 317–321, *World Sci. Publishing, River Edge, NJ*, 1996. (Richard M. Aron) **98e:46033** 46E22 (46E50, 46G12)

— (*with* Li, Xia Dong; Ohgai, Seiko; Zhou, Dong Guo) Characterization of the holomorphy of infinite-dimensional domains by Oka's principle. *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 173–180, *VSP, Utrecht*, 1997. (Roberto Luiz Soraggi) **98k:32041** 32K99 (32D05, 46G20, 58B12)

— (*with* Parihar, Champa Lal; Raffee, Vadla Mohammad; Tsuji, Miki) Numerical analysis on $\overline{\partial}$-problem and extension of holomorphic functions from lower-dimensional subvarieties. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 181–188, *VSP, Utrecht*, 1997. (Der-Chen E. Chang) **98e:32024** 32F20

— *see also* **Geometric complex analysis**, **98a:32001** *and* **Kazama, Hideaki**, **98f:01071**

Kajiwara, Kenji (*with* Nijhoff, F.; Satsuma, J.; Grammaticos, B.; Ramani, A.) A study of the alternate discrete Painlevé II equation. (English summary) *Inverse Problems* **12** (1996), *no.* 5, 697–716. (Alexei Zhedanov) **98a:39020** 39A12 (35Q58, 58F37)

— (*with* Yamamoto, Kazushi; Ohta, Yasuhiro) Rational solutions for the discrete Painlevé II equation. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 189–199. (Summary) **98m:39046** 39A12 (33E20)

— (*with* Nagai, A.; Tokihiro, Tetsuji; Satsuma, J.; Willox, Ralph) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 301–309. 58F08

Kajiwara, Takeshi The functor of a toric variety with enough invariant effective Cartier divisors. (English summary) *Tôhoku Math. J.* (2) **50** (1998), *no.* 1, 139–157. (Mina Teicher) **98k:14073** 14M25

Kajiwara, Tsuyoshi (*with* Watatani, Yasuo) Crossed products of Hilbert C^*-bimodules by bundles. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 119–135. (Michael Frank) **98m:46084** 46L55 (46H25, 46L05, 46M20)

— (*with* Watatani, Yasuo) Crossed products of Hilbert C^*-bimodules by countable discrete groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 841–851. (Michael Frank) **98e:46070** 46L05 (46L37, 46L55)

Kajiwara, Yuka (*with* Iwasaki, Yukihiro; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 431–440, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68210** 68R10 (68M10)

— (*with* Iwasaki, Yukihiro; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 82–89. (*see* **98k:68015**) 05C05

Kakarala, Ramakrishna (*with* Watson, Geoffrey S.) Lower bounds for the divergence of directional and axial estimators. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 253–260. 62H11

— (*with* Verrall, Steven C.) Disk-harmonic coefficients for invariant pattern recognition. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 2, 389–401. 78A55 (78A10)

Kakas, Antonios C. (*with* Toni, Francesca) Computing the acceptability semantics. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 401–415, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55)

— (*with* Miller, Robert Simon) A simple declarative language for describing narratives with actions. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 157–200. (Summary) **98c:68191** 68T25 (03B70, 68N17)

Kakazu, Yukinori (*with* Matsuura, Kenichi) Organized behavior on heterogeneous agents systems: a case study on pursuit problems. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 6, 1083–1093. 68T05

Kakei, S. Common algebraic structure for the Calogero-Sutherland models. (English summary) *J. Phys. A* **29** (1996), *no.* 24, L619–L624. (Kazuhiro Hikami) **98c:81252** 81V70 (33C80)

— An orthogonal basis for the B_N-type Calogero model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L535–L541. (Tim H. Baker) **98k:81332** 81V70 (33C50, 39A99)

Kakichev, V. A. (*with* Thao, Nguyen Xuan; Nguyễn Thanh Hải) Composition method for constructing convolutions for integral transforms. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 235–242. 33C10 (44A35)

Kakihara, Yûichirô Dilations of Hilbert-Schmidt class operator-valued measures and applications. (English summary) *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 123–135, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Randall James Swift) **98j:28007** 28B05 (46G10, 47N30, 60G12)

Kakimoto, F. (*with* Ezawa, Yasuo; Soda, J.; Yano, Tadashi) Semiclassical approach to stability of extra-dimensional spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 257–268. (Ilya Shapiro) **98a:83055** 83C45 (83E15)

Kakiuchi, Nobuhiko (*with* Tchizawa, Kiyoyuki) On an explicit duck solution and delay in the FitzHugh-Nagumo equation. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 327–339. (Tewfik Sari) **98m:34081** 34C23 (03H05, 34E15)

Kakizawa, Yoshihide Higher order monotone Bartlett-type adjustment for some multivariate test statistics. (English summary) *Biometrika* **83** (1996), *no.* 4, 923–927. (Summary) **98e:62086** 62H10

— Approximation for density of estimators in Gaussian AR(1) process. (English summary) *J. Japan Statist. Soc.* **26** (1996), *no.* 2, 161–172. (Raúl Pedro Mentz) **98g:62167** 62M10
— Third-order asymptotic properties of estimators in Gaussian ARMA processes with unknown mean. (English summary) *J. Time Ser. Anal.* **17** (1996), *no.* 4, 367–377. (B. M. Pötscher) **98a:62115** 62M10 (62F12)
— Higher order asymptotic theory for discriminant analysis in Gaussian stationary processes. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 19–35. (Jiří Anděl) **98h:62146** 62M15
— Parameter estimation and hypothesis testing in stationary vector time series. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 3, 225–234. (Summary) **98b:62161** 62M10
— (*with* Shumway, Robert H.; Taniguchi, Masanobu) Discrimination and clustering for multivariate time series. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 328–340. 62M10 (62H30)

Kaklamanis, Christos (*with* Persiano, Pino) Efficient wavelength routing on directed fiber trees. (English summary) *Algorithms—ESA '96 (Barcelona)*, 460–470, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68M10 (90B12)
— (*with* Persiano, Pino; Erlebach, Thomas; Jansen, Klaus) Constrained bipartite edge coloring with applications to wavelength routing. (English summary) *Automata, languages and programming (Bologna, 1997)*, 493–504, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (68M10, 90B12)

Kaklis, P. D. (*with* Karavelas, M. I.) Shape-preserving interpolation in $\mathbf{R}^3$. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 373–419. (Marshall Walker) **98h:41002** 41A05 (41A29, 65D05)

Kako, Fujio (*with* Sasaki, Tateaki) Some approximate procedures for algebraic computation in GAL. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 9–15. (*see* **98h:00039**) 14Q99

Kako, Takashi (*with* Deng, L.) Finite element approximation of eigenvalue problem for a coupled vibration between acoustic field and plate. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 265–278. (Summary) **98f:73036** 73V05 (73D30, 73K70, 76Q05)
— *see also* **Advances in numerical mathematics, 98c:65005**

Kąkol, Jerzy A strong barrelledness property for spaces $C(X, E)$. (English summary) *Note Mat.* **14** (1994), *no.* 2, 199–202 (1997). (P. Pérez Carreras) **98e:46041** 46E40 (46A08)
— (*with* Gilsdorf, Thomas E.) On some non-Archimedean closed graph theorems. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 153–158, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Dinamérico P. Pombo, Jr.) **98k:46128** 46S10 (46A30)
— (*with* De Grande-De Kimpe, Nicole; Pérez-García, Cristina; Schikhof, W. H.) p-adic locally convex inductive limits. *p-adic functional analysis (Nijmegen, 1996)*, 159–222, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Dinamérico P. Pombo, Jr.) **98i:46077** 46S10 (46A13)
— On Baire-like spaces of spaces of continuous vector-valued functions. *Acta Math. Hungar.* **74** (1997), *no.* 3, 203–209. (J. Schmets) **98c:46071** 46E40 (46A08)
— (*with* De Grande-De Kimpe, Nicole; Pérez-García, Cristina) On compactoids in (LB)-spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 313–321. (Dinamérico P. Pombo, Jr.) **98m:46097** 46S10 (46A13)
— (*with* Pérez-García, Cristina; Śliwa, Wiesław) Remarks on quasi-Banach spaces over valued fields. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 173–179. (Dinamérico P. Pombo, Jr.) **98m:46098** 46S10 (46A20, 46A22)
— *see also* **p-adic functional analysis, 98b:46006**

Kaku, Michio How unstable are fundamental quantum supermembranes? (English summary) *Frontiers in quantum field theory (Osaka, 1995)*, 96–110, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81171** 81T30

Kakuda, Yuzuru Existence and consistence. *Ann. Japan Assoc. Philos. Sci.* **9** (1997), *no.* 2, 69–77. (G. E. Mints) **98g:03153** 03H05 (03F05)

Kakuhata, Hiroshi (*with* Konno, Kimiaki) Inverse problem, linearization and related topics of a coupled integrable, dispersionless system. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 185–192, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98d:35234** 35R30 (35Q51, 58F07)
— (*with* Konno, Kimiaki) Canonical formulation of a generalized coupled dispersionless system. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L401–L407. 35Q51 (35A30, 58F37)

Kakushadze, Zurab (*with* Tye, S.-H. Henry) Asymmetric orbifolds and grand unification. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7520–7544. (Angel Maria Uranga) **98h:81127** 81V22 (81T30)
— (*with* Shiu, Gary; Tye, S.-H. Henry) Asymmetric non-abelian orbifolds and model building. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7545–7560. (Angel Maria Uranga) **98i:81207** 81T30 (81V22)
— (*with* Shiu, Gary; Tye, S.-H. Henry) Couplings in asymmetric orbifolds and grand unified string models. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 547–597. (Angel Maria Uranga) **98k:81314** 81V22 (81T30)
— (*with* Tye, S.-H. Henry) Three-family SU(5) grand unification in string theory. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 335–342. (Summary) **98b:81199** 81T30 (81V22)
— (*with* Tye, S.-H. Henry) Classification of three-family grand unification in string theory. I. The SO(10) and E_6 models. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7879–7895. (Gerardo Marcelo Aldazabal) **98e:81200a** 81V22 (81T30)
— (*with* Tye, S.-H. Henry) Classification of three-family grand unification in string theory. II. The SU(5) and SU(6) models. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7896–7908. (Gerardo Marcelo Aldazabal) **98e:81200b** 81V22 (81T30)
— (*with* Shiu, Gary) A chiral $N = 1$ type I vacuum in four dimensions and its heterotic dual. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3686–3697. (Gerardo Marcelo Aldazabal) **98g:81172** 81T30 (83E30)

Kala, Radosław Missing observations in designed experiments revisited. (English summary) *Biom. J.* **40** (1998), *no.* 1, 99–105. 62K10

Kala, V. N. (*with* Negi, Darwan Singh) Some decomposition in a Kaehlerian space. *Acta Cienc. Indica Math.* **21** (1995), *no.* 2, 245–248. (Andrew Bucki) **98e:53025** 53B35

el-Kalaawy, O. H. *see* **El-Kalaawy, O. H.**

Kalaba, Robert E. (*with* Udwadia, Firdaus E.) ★ Analytical dynamics. (English summary) A new approach. *Cambridge University Press, Cambridge*, 1996. x + 262 *pp. ISBN* 0-521-48217-8 (A. Sumbatov) **98j:70007** 70Fxx (70-01, 70H30)
— (*with* Udwadia, Firdaus E.) Response to: R. S. Bucy's "Comments on a paper by F. E. Udwadia and R. E. Kalaba: 'A new perspective on constrained motion' " [Proc. Roy. Soc. London Ser. A **444** (1994), no. 1920, 253–255; MR 95c:70024]. *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1948, 1055–1056. (Naseer Ahmed) **98d:70020** 70H30 (70F25, 70H35)
— (*with* Udwadia, Firdaus E.) An alternative proof of the Greville formula. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 23–28. (Summary) **98a:65045** 65F10
— (*with* Udwadia, Firdaus E.; Eun, Hee-Chang) Equations of motion for constrained mechanical systems and the extended d'Alembert's principle. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 321–331. (Edwin J. Kreuzer) **98f:70016** 70F25 (70E99, 70F20)

Kalachinskaya, I. S. (*with* Elenin, G. G.; Kurkina, E. S.) Stationary dissipative structures in three-component systems of reaction-diffusion type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 54–62. 35K57 (92E20)

Kaladze, T. D. (*with* Tsamalashvili, L. V.) Solitary dipole vortices in the Earth's ionosphere. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 269–274. (Summary) **98f:86007** 86A25

Kalai, Ehud (*with* Jackson, Matthew O.) Social learning in recurring games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 102–134. (Vivek S. Borkar) **98m:90205** 90D20 (90D10, 90D35, 93E35)
— (*with* Fershtman, Chaim) Unobserved delegation. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 763–774. 90A09 (90A14)

Kalai, Gil (*with* Bourgain, Jean) Influences of variables and threshold intervals under group symmetries. *Geom. Funct. Anal.* **7** (1997), *no.* 3, 438–461. (Wolfgang Lusky) **98j:20005** 20B35 (05C80, 20B15)
— (*with* Matoušek, Jiří) Guarding galleries where every point sees a large area. (English summary) *Israel J. Math.* **101** (1997), 125–139. (Hans-Dietrich Hecker) **98m:68274** 68U05 (28A99)
— Linear programming, the simplex algorithm and simple polytopes. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 217–233. (Summary) **98c:90065** 90C05

Kalaidin, Evgeny (*with* Chang, Hsueh-Chia; Demëkhin, E. A.) Generation and suppression of radiation by solitary pulses. (English summary) *Differential equations (Bandung, 1996)*, 17–50, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:00012**) 35Q53 (65M99)

Kalamajska, Agnieszka On lower semicontinuity of multiple integrals. (English summary) *Colloq. Math.* **74** (1997), *no.* 1, 71–78. (Paolo Marcellini) **98e:49031** 49J45 (49J10)

Kalamidas, N. A pseudocompact space with Kelley's property has a strictly positive measure. (English summary) *Rend. Sem. Mat. Univ. Padova* **97** (1997), 17–21. (Summary) **98h:54022** 54C35 (54A25)

Kalamkarov, A. L. (*with* Drozdov, A. D.) Explicit stability conditions for viscoelastic structural members. (English summary) *J. Vib. Control* **3** (1997), *no.* 2, 161–182. (Summary) **98c:73043** 73F15 (73H10, 73K12, 73K70)

Kalantari, Bahman (*with* Imielińska, C.) A general class of heuristics for minimum weight perfect matching and fast special cases with doubly and triply logarithmic errors. (English summary) *Algorithmica* **18** (1997), *no.* 4, 544–559. (Summary) **98d:68166** 68R10 (68Q25)
— (*with* Kalantari, Iraj; Zaare-Nahandi, Rahim) A basic family of iteration functions for polynomial root finding and its characterizations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 209–226. (Nikolay Vesselinov Kyurkchiev) **98d:65066** 65H05
— (*with* Emamy-K., M. Reza) On linear programming and matrix scaling over the algebraic numbers. (English summary) *Linear Algebra Appl.* **262** (1997), 283–306. (Florica Luban) **98c:90066** 90C05 (65F35)
— (*with* Khachiyan, Leonid; Shokoufandeh, A.) On the complexity of matrix balancing. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 450–463. (D. Bini) **98m:68120** 68Q25 (65F35)

Kalantari, Iraj (*with* Kalantari, Bahman; Zaare-Nahandi, Rahim) A basic family of iteration functions for polynomial root finding and its characterizations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 209–226. (Nikolay Vesselinov Kyurkchiev) **98d:65066** 65H05

Kalantarov, V. K. (*with* Eden, Alp) Finite-dimensional attractors for a class of semilinear wave equations. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 425–450. (Summary) **98j:34118** 34G20 (35L70, 35Q53, 46N20, 47H20, 58F39)
— (*with* Tiryaki, Aydın) On the stability results for third order differential-operator equations. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 179–186. (Ludwik Byszewski) **98h:34104** 34G10 (34D20, 35B35, 47N20)
— (*with* Kurt, A.) The long-time behavior of solutions of a nonlinear fourth order wave equation, describing the dynamics of marine risers. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 209–215. (Alberto Valli) **98h:35173** 35L75 (35B40, 35Q72, 73K70, 76B15)
— (*with* Eden, Alp; Foias, C.) A remark on two constructions of exponential attractors for α-contractions. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 37–45. (Igor D. Chueshov) **98m:58125** 58F39 (34G20, 47H09, 47H20, 58F12)

Kalas, Josef[1] General nonuniqueness theorem for ordinary differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 1, 97–111. (From the text) **98e:34008** 34A12

Kalashnik, M. V. (*with* Svirkunov, P. N.) On the symmetric stability of the states of cyclostrophic and geostrophic balance in a stratified medium. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 6, 811–813. (Radyadour Kh. Zeytounian) **98c:76040** 76E20 (76V05, 86A10)

Kalashnikov, A. S. On an initial jump of the free boundary in a boundary value problem for a semilinear heat equation with absorption. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 163–164; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1300–1301. 35R35 (35K60)

Kalashnikov, V. *see* **Kalashnikov, Vyacheslav Vital'evich**

Kalashnikov, V. V. *see* **Kalashnikov, Vyacheslav Vladimirovich**

Kalashnikov, Vladimir (*with* Cocozza-Thivent, Christiane) The failure rate in reliability: approximations and bounds. (English summary) *J. Appl. Math. Stochastic Anal.* **9**

(1996), *no.* 4, 497–530. (Richard F. Serfozo) **98e:60146** 60K20 (90B25)

— ★ Geometric sums: bounds for rare events with applications. (English summary) Risk analysis, reliability, queueing. Mathematics and its Applications, 413. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xviii+265 *pp. ISBN* 0-7923-4616-5 (Paul Embrechts) **98k:60158** 60K10 (62P05)

Kalashnikov, Vyacheslav Vital'evich (*with* Isac, George; Bulavskiĭ, V. A.) Exceptional families, topological degree and complementarity problems. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 207–225. (Sehie Park) **98d:90124** 90C33 (47H11, 47N10, 49J40)

Kalashnikov, Vyacheslav Vladimirovich Topological analysis of some systems of the intramolecular dynamics of matter. (Russian) *Trudy Mat. Inst. Steklov.* **205** (1994), *Novye Rezul't. v Teor. Topol. Klassif. Integr. Sistem*, 91–97; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 4 (205), 79–85. (From the text) **98g:58079** 58F07 (58F05, 70H05, 81V55, 92E99)

Kalashnikova, N. V. (*with* Kurdachenko, Leonid A.) Groups which are dual to layer-finite. *Infinite groups* 1994 (*Ravello*), 103–109, *de Gruyter, Berlin*, 1996. (A. Peluso) **98i:20030** 20E26

Kalashnikova, T. V. (*with* Terpugova, N. S.) Estimation of the correlation function of a control process for the variance of nonstationary white Gaussian noise. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 4, 45–50; *translation in Russian Phys. J.* **40** (1997), *no.* 4, 351–356. 94A12 (62M09)

Kalau, W. (*with* Walze, M.) Supersymmetry and noncommutative geometry. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 1, 77–102. (Thomas Ackermann) **98d:58007** 58B30 (46L60, 46L87, 81T13, 81T60)

Kalaycı, J. (*with* Nutku, Y.) Bi-Hamiltonian structure of a WDVV equation in 2-d topological field theory. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 177–182. (Summary) **98b:58032** 58D29 (58F07, 81T40)

Kalderon, Mark Eli The transparency of truth. (English summary) *Mind* **106** (1997), *no.* 423, 475–497. 03A05

Kale, B. K. (*with* Sebastian, G.) On a class of symmetric nonnormal distributions with a kurtosis of three. (English summary) *Statistical theory and applications*, 55–63, *Springer, New York*, 1996. (Summary) **98c:62024** 62E15

Kale, Mohan (*with* Ramanathan, T. V.) A test for randomness of the environments in a branching process. (English summary) *Statist. Papers* **38** (1997), *no.* 4, 409–421. (Summary) **98h:62128** 62M07

Kaleck, A. (*with* Abdullaev, S. S.; Finken, K. H.; Spatschek, K. H.) Twist mapping for the dynamics of magnetic field lines in a tokamak ergodic divertor. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 196–210. 76X05

Kalenda, Ondřej (*with* Holický, Petr) Remark on the point of continuity property. II. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 2, 105–111. (Summary) **98j:54063** 54H05

— Note on connections of the point of continuity property and Kuratowski problem on function having the Baire property. (English summary) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 3–12. (Vinodkumar) **98k:54019** 54C10 (03E35, 03E55, 54C05)

Kalfagianni, Efstratia Homology spheres with the same finite type invariants of bounded orders. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 341–347. (Nikolai N. Saveliev) **98h:57033** 57N10 (57M25)

Kalhoff, Franz B. On formally real division algebras and quasifields of rank two. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 214–220, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (*see* **98d:53003**) 12K99 (12E15)

— On projective embeddings of partial planes and rank-three matroids. (English summary) *Discrete Math.* **163** (1997), *no.* 1-3, 67–79. (Horst Struve) **98c:51010** 51E14 (05B35)

— On formally real division algebras and quasifields of finite rank. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 74–82. (Summary) **98i:12001** 12D15 (12E15)

— *see also* **Errata: "Matchings and Δ-matroids with coefficients"**

Kalická, J. Some limit properties of an approximate least squares estimator in a nonlinear regression model with correlated nonzero mean errors. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 1, 141–148. (Alexander G. Kukush) **98d:62176** 62M20 (62J02, 62M10)

Kaliev, I. A. Mathematical modeling of phase transitions in elastic media. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **37** (1996), *no.* 1, 64–72; *translation in J. Appl. Mech. Tech. Phys.* **37** (1996), *no.* 1, 54–61. (From the text) **98c:73012** 73B30

Kaliman, Shulim (*with* Koras, M.; Makar-Limanov, Leonid; Russell, Peter) $\mathbf{C}^*$-actions on $\mathbf{C}^3$ are linearizable. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 63–71 (*electronic*). (Dmitri I. Panyushev) **98i:14046** 14L30

— (*with* Makar-Limanov, Leonid) On the Russell-Koras contractible threefolds. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 2, 247–268. (Gene Freudenburg) **98m:14041** 14J30 (13B10)

— (*with* Makar-Limanov, Leonid) Affine algebraic manifolds without dominant morphisms from Euclidean spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 601–610. (Gene Freudenburg) **98i:14042** 14J70 (14E07)

Kalina, Jerzy (*with* Ørsted, Bent; Pierzchalski, Antoni; Walczak, Paweł; Zhang, Gen Kai) Elliptic gradients and highest weights. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 4, 527–535. (D. Miličić) **98f:22020** 22E45

— (*with* Pierzchalski, Antoni; Walczak, Paweł) Only one of generalized gradients can be elliptic. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 111–120. (John W. Rice) **98c:53031** 53C05

Kalina, Martin On the ergodic theorem within nonstandard models. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 87–93. (Summary) **98k:28024** 28D05 (03H05, 26E35, 60F15)

— Derivatives of fuzzy functions and fuzzy derivatives. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 27–34. (*see* **98i:00019**) 26E50

Kalinay, P. (*with* Šamaj, L.; Markoš, P.; Travěnec, I.) The t-expansion study of critical phenomena in quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1471–1482. (Summary) **98d:82014** 82B20 (82B27)

Kalinde, A. K. (*with* Mishra, Swami Nath) Iterative construction of fixed points. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 5-6, 639–647. (Hong Kun Xu) **98a:54036** 54H25 (47H10)

Kalinichenko, L. I. (*with* Oskolkov, V. A.) Growth of entire functions represented by Dirichlet series. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 129–144; *translation in Sb. Math.* **187** (1996), *no.* 10, 1545–1560. (Jia Rong Yu) **98d:30041** 30D15 (30B50)

Kalinichenko, M. I. (*with* Polyakov, S. V.) Numerical methods for a two-dimensional model of laser radiation propagation in a chemically active gas in the case of developed thermodiffusion. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 334–347. (Summary) **98b:65098** 65M06 (76M20, 76N99, 80A32)

Kalinin, A. I. (*with* Gribkovskaya, I. V.) Asymptotic behavior of the solution of the time optimality problem for a linear singularly perturbed system that contains parameters of variable orders of smallness at the derivatives. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1275–1284, 1436; *translation in Differential Equations* **31** (1995), *no.* 8, 1219–1228 (1996). (Iordan I. Slavov) **98a:49040** 49K40 (34E15)

— (*with* Gribkovskaya, I. V.) Asymptotic optimization of linear dynamical systems containing parameters of different orders of smallness multiplying the derivatives. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 3, 52–55, 81. 49K40 (49M05)

— (*with* Kirillova, F. M.; Kostyukova, O. I.) Stabilization of linear dynamical systems by means of low-inertia controls. I. The accompanying optimal control problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 14–21; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 528–534. (M. Krastanov) **98e:93087** 93D15 (49N05)

— (*with* Kirillova, F. M.; Kostyukova, O. I.) Stabilization of linear dynamical systems by means of low-inertia controls. II. Continuous stabilizer. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 45–52; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 749–755. (M. Krastanov) **98k:93096** 93D15 (49N05)

— (*with* Kirillova, F. M.) Asymptotic minimization of the total impulse of control actions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1427–1438. (Summary) **98j:49047** 49N25 (49J15)

Kalinin, D. A. Trajectories of charged particles in Kähler magnetic fields. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 299–309. (Sorin Dragomir) **98k:53089** 53C55 (53C80, 70H05, 78A35)

Kalinin, G. V. (*with* Il'inskiĭ, K. N.; Stepanenko, A. S.) q-functional Wick's theorems for particles with exotic statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5299–5310. (Władysław Marcinek) **98j:81155** 81R50 (81S05)

— (*with* Il'inskiĭ, K. N.; Stepanenko, A. S.) q-functional field theory for particles with exotic statistics. (English summary) *Phys. Lett. A* **232** (1997), *no.* 6, 399–408. (Władysław Marcinek) **98j:81156** 81R50 (81S05, 81T15)

Kalinina, N. I. (*with* Bukhgeim, A. L.) Inverse problems of memory reconstruction. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 727–729. (From the text) **98e:45009** 45K05 (35R30, 45L05, 47D06, 47N20)

— (*with* Bukhgeim, A. L.) Global convergence of the Newton method in inverse problems of memory reconstruction. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1018–1033, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 881–895. (Jaan Janno) **98h:45008** 45J05 (34K30, 47D06, 47D09)

Kalinovich, V. N. On the equations of motion of horizontalized gyrostabilized and analytic platforms of inertial navigational systems. (Russian. Russian summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 21, 14 *pp.* 70M20 (70F05)

Kalinowski, M. W. (*with* Piechocki, W.) Symplectic structure for field theory. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2735–2740. (Jaime Muñoz Masqué) **98f:58082** 58F05 (58E30, 70G50)

Kalinski, Jörgen Stable classes and operator pairs for disjunctive programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 358–371, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q55)

Kaliszewski, I. (*with* Michalowski, W.) Efficient solutions and bounds on tradeoffs. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 381–394. (Tetsuzo Tanino) **98j:90059** 90C29

Kaliszewski, S. Induced representations of twisted C^*-dynamical systems. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 67–89. (Claire Anantharaman-Delaroche) **98c:46143** 46L55

— (*with* Quigg, John; Raeburn, Iain) Duality of restriction and induction for C^*-coactions. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 2085–2113. (Yoshikazu Katayama) **98a:46083** 46L55

Kalita, E. A. Solvability of nonlinear elliptic systems with a measure. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 7, 925–939; *translation in Ukrainian Math. J.* **48** (1996), *no.* 7, 1045–1062 (1997). (Zi Qian Yan) **98e:35063** 35J60 (35D05, 35R05)

— Solvability of nonlinear elliptic systems in spaces that are weaker than the natural energy space. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 53–80; *translation in Izv. Math.* **61** (1997), *no.* 2, 285–315. (P. Szeptycki) **98k:35057** 35J60 (46E35)

Kalitin, B. S. Pseudoprolongation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1043–1050, 1149; *translation in Differential Equations* **32** (1996), *no.* 8, 1048–1054 (1997). (Krzysztof Ciesielski) **98k:54079** 54H20 (34C35, 34D20)

— (*with* Iggidr, Abderrahman; Outbib, R.) Semidefinite Lyapunov functions: stability and stabilization. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 2, 95–106. (Summary) **98b:93047** 93D05 (34D20, 34H05, 93D15)

Kalitkin, Nikolai Nikolaevich (*with* Kuz'mina, L. V.) On the canceling of mutual business debts. (Russian. Russian summary) *Mat. Model.* **7** (1995), *no.* 4, 64–72. 90A11

— (*with* Guzhev, D. S.) The Burgers equation is a test for numerical methods. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 4, 99–127. 65M12 (65M06)

— (*with* Kuz'mina, L. V.) Convergence of parabolic interpolation splines. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 77–94. (Summary) **98j:65010** 65D07

— (*with* Kuz'mina, L. V.) Natural interpolation splines of arbitrary degree. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 738–742. 41A15 (65D07)

— (*with* Samarskiĭ, A. A.; Gol'din, V. Ya.; Rozhdestvenskiĭ, B. L.) Sobol' Il'ya Meerovich (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **8** (1996), *no.* 12, 125–127. 01A70

— (*with* Kuz′mina, L. V.) Natural higher-degree interpolation splines. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 6, 67–81. 65D07

— (*with* Litvintseva, S. P.) Gradient descent with random steps. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 7, 63–70. (Summary) **98f:65053** 65F50 (65F30)

— (*with* Kuz′mina, L. V.) Mean-square approximation by splines. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 107–116. 65D07 (41A15)

— *see also* **Samarskiĭ, A. A. et al.**

Kalitvin, A. S. (*with* Appell, Jürgen; De Pascale, Espedito; Zabreĭko, Petr Petrovich) On the application of the Newton-Kantorovich method to nonlinear partial integral equations. (English summary) *Z. Anal. Anwendungen* **15** (1996), *no.* 2, 397–418. (Nguyễn Hồng Thái) **98a:65184** 65R20 (45G10, 45L05, 46E30, 47H30)

— (*with* Appell, Jürgen; Frolova, Elena Valer′evna; Zabreĭko, Petr Petrovich) Partial integral operators on $C([a,b]\times[c,d])$. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 2, 125–140. (Anton Schep) **98f:47037** 47B38 (45P05, 47G10, 47N20)

— Nonlinear operators with partial integrals. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 521–526. (*see* **98i:00027**) 47H30 (45P05)

Kaljević, Igor (*with* Saigal, Sunil) An improved element free Galerkin formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 2953–2974. 65N30 (73V20)

Kalka, Morris (*with* Mann, Elizabeth; Yang, DaGang; Zinger, Aleksey) The exponential decay rate of the lower bound for the first eigenvalue of compact manifolds. (English summary) *Internat. J. Math.* **8** (1997), *no.* 3, 345–355. (Tanya J. Christiansen) **98e:58172** 58G25 (35P15)

Kalkbrener, Michael Implicitization by Gröbner basis conversion. *Euromath Bull.* **2** (1996), *no.* 1, 197–204. (Francisco Jesús Castro-Jiménez) **98c:13033** 13P10 (68Q40)

— On the stability of Gröbner bases under specializations. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 1, 51–58. (Alessandro Logar) **98i:13052** 13P10

— (*with* Collart, Stéphane; Mall, Daniel) Converting bases with the Gröbner walk. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 465–469. (*see* **98f:68006**) 13P10 (68Q40)

— An upper bound on the number of monomials in determinants of sparse matrices with symbolic entries. (English summary) *Math. Pannon.* **8** (1997), *no.* 1, 73–82. (Alessandro Logar) **98d:13029** 13P05 (15A15)

Kalker-Kalkman, C. M. A general multi-objective optimization program for mixed continuous/integer variables based on genetic algorithms. (English summary) *Progress in industrial mathematics at ECMI* 96 (*Lyngby*, 1996), 348–355, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 90C29 (90C10)

Kalkkinen, Jussi Dimensionally reduced Yang-Mills theories in noncommutative geometry. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 243–249. (Raimar Wulkenhaar) **98c:81135** 81T13 (58B30, 81T30)

— (*with* Danielsson, Ulf H.; Ferretti, Gabriele; Stjernberg, Pär) Supersymmetric gauge theories in five and six dimensions. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 265–270. (Summary) **98f:81319** 81T60

kalker-Kalkman, C. M. *see* **Kalker-Kalkman, C. M.**

Kall, Peter (*with* Mayer, János) SLP-IOR: an interactive model management system for stochastic linear programs. (English summary) Approximation and computation in stochastic programming. *Math. Programming* **75** (1996), *no.* 2, *Ser. B*, 221–240. (A. H. Žilinskas) **98a:90068** 90C15

Kalla, Shyam L. (*with* Urribarri, E.) Hankel transform to the diffusion of dust problem. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 173–179, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 44A15 (35A22, 76R50)

— (*with* Ali, Ismail) Fractional calculus and its applications to differential equations. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 389–405, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (K. S. Miller) **98g:34017** 34A25 (26A33, 35C99)

— (*with* Galue, Leda; Kiryakova, Virginia S.) Single term approximations of hypergeometric functions. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 417–439, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **98k:33005** 33C05 (33–04, 33C20)

— (*with* Al-Musallam, Fadhel) Asymptotic expansions for generalized gamma and incomplete gamma functions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 173–187. (Summary) **98m:33003** 33B15

— (*with* Khajah, H. G.) Tau method approximation of some integrals related to radiation field problems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 21–27. (Summary) **98c:65028** 65D20 (65D30)

— (*with* Boyadzhiev, L. I.; Khajah, H. G.) Analytical and numerical treatment of a fractional integro-differential equation of Volterra-type. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 1–9. (Summary) **98g:45008** 45J05 (45L05, 65R20)

— (*with* Al-Zamel, Ali) Solution of a diffusion of dust problem in terms of hypergeometric functions. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 87–93. 76R50 (33C90)

Kallast, Siim (*with* Kivinukk, Andi) Summation methods of Fourier series of antiperiodic functions. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 265–274, *Transilvania, Cluj-Napoca*, 1997. (Qi Hong Fan) **98m:41041** 41A36 (42A10)

Kallel, Leila (*with* Ammari, Habib) Sur un problème inverse pour les équations de Maxwell dans un réseau doublement périodique. (English and French summaries) [An inverse scattering problem for the Maxwell equations in a doubly periodic grating] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 187–190. (Summary) **98b:78029** 78A45 (35Q60)

Kallel, Sadok (*with* Milgram, R. James) The geometry of the space of holomorphic maps from a Riemann surface to a complex projective space. *J. Differential Geom.* **47** (1997), *no.* 2, 321–375. (T. Arleigh Crawford) **98m:58014** 58D15 (32G13, 55P15)

— Divisor spaces on punctured Riemann surfaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 135–164. (Don Shimamoto) **98b:55025** 55S15 (55P35, 57T35)

Kallel, Samir (*with* Li, Kaiping) Bidirectional sequential decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1319–1326. 94B35

Källén, Erland (*with* Yang, Shuting; Reinhold, Brian) Multiple weather regimes and baroclinically forced spherical resonance. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 11, 1397–1409. (Summary) **98b:86011** 86A10 (76C20)

Kallenberg, L. C. M. *see* **Ten years LNMB, 98b:90006**

Kallenberg, Olav Some linear random functionals characterized by L^p-symmetries. (English summary) *Stochastic processes*, 171–180, *Springer, New York*, 1993. (Summary) **98a:60047** 60G20 (60G10, 60J30)

Kallenberg, Wilbert C. M. (*with* Inglot, Tadeusz; Ledwina, Teresa) Data driven smooth tests for composite hypotheses. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1222–1250. (Zuzana Prášková) **98f:62134** 62G10 (62F03, 62G20)

— (*with* Ledwina, Teresa) Data-driven smooth tests when the hypothesis is composite. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1094–1104. (Summary) **98f:62136** 62G10

— (*with* Albers, Willem) Addendum: "A simple approximation to the bivariate normal distribution with large correlation coefficient" [J. Multivariate Anal. **49** (1994), no. 1, 87–96; MR 95m:62025]. *J. Multivariate Anal.* **62** (1997), *no.* 2, 310. (From the text) **98i:62007** 62E17

— (*with* Ledwina, Teresa) Data driven smooth tests for composite hypotheses: comparison of powers. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 2, 101–121. (Summary) **98h:62081** 62G10

— (*with* Albers, Willem; Arts, Gerda R. J.) Accurate test limits under prescribed consumer risk. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 141–149. 62N10

— (*with* Albers, Willem; Boon, Pieta C.) Testing equality of two normal means using a variance pre-test. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 221–227. 62F05 (62F03)

Kaller, Damon (*with* Gupta, Arvind; Shermer, Thomas C.) Regular-factors in the complements of partial k-trees. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 403–414, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98e:68203** 68R10 (05C70, 05C85, 68Q25)

— (*with* Gupta, Arvind; Mahajan, Sanjeev; Shermer, Thomas C.) Vertex partitioning problems on partial k-trees. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 161–172, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68126** 68R10 (05C05, 05C85, 68Q25)

— Definability equals recognizability of partial 3-trees. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 239–253, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68215** 68R10 (03B70, 05C85, 68Q25)

— (*with* Bhattacharya, Binay K.) An $O(m+n\log n)$ algorithm for the maximum-clique problem in circular-arc graphs. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 336–358. (Václav Koubek) **98g:05139** 05C85 (68Q25, 68R10)

Kallianpur, Gopinath (*with* Budhiraja, A.) Hilbert space valued traces and multiple Stratonovich integrals with statistical applications. *Stochastic analysis on infinite-dimensional spaces* (*Baton Rouge, LA*, 1994), 26–32, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Introduction) **98h:60072** 60H05 (62G20)

— (*with* Xiong, Jie) ★ Stochastic differential equations in infinite-dimensional spaces. Expanded version of the lectures delivered as part of the 1993 Barrett Lectures at the University of Tennessee, Knoxville, TN, March 25–27, 1993. With a foreword by Balram S. Rajput and Jan Rosinski. Institute of Mathematical Statistics Lecture Notes—Monograph Series, 26. *Institute of Mathematical Statistics, Hayward, CA*, 1995. vi+342 *pp. ISBN* 0-940600-38-2 (Richard B. Sowers) **98h:60001** 60–02 (60F10, 60H05, 60H15, 60H20)

— Some recent developments in nonlinear filtering theory. *Itô's stochastic calculus and probability theory*, 157–170, *Springer, Tokyo*, 1996. (Michael A. Kouritzin) **98k:60063** 60G35 (60H30, 93E11)

— (*with* Oleĭnik, Ol′ga Arsen′evna) On problems with a free boundary that arise in probability theory (uniqueness theorems). (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 205–206; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1203–1205. (Nguyễn Hồng Thái) **98h:35241** 35R35

— Stochastic filtering: a part of stochastic nonlinear analysis. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 371–385, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Kouritzin) **98f:60079** 60G35 (60H25, 93E11)

— (*with* Budhiraja, A.) The generalized Hu-Meyer formula for random kernels. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 2, 177–202. (Daniel Ocone) **98e:60081** 60H05 (60G15)

— (*with* Bhatt, Abhay G.; Karandikar, R. L.; Xiong, Jie) On interacting systems of Hilbert-space-valued diffusions. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 151–188. (Constantin Tudor) **98m:60123** 60J60 (60B10, 60H15)

Kalligas, Dimitri (*with* Wesson, Paul S.) Light repulsion in higher-dimensional relativity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 259–262, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Mark D. Roberts) **98f:83096** 83E15 (83C10)

Kalliongis, John (*with* McCullough, Darryl) Isotopies of 3-manifolds. (English summary) *Topology Appl.* **71** (1996), *no.* 3, 227–263. (Summary) **98g:57051** 57R52 (57N10)

Kallivokas, Loukas F. (*with* Bielak, Jacobo; MacCamy, Richard C.) A simple impedance-infinite element for the finite element solution of the three-dimensional wave equation in unbounded domains. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 235–262. (Summary) **98e:76066** 76M10 (73K70, 76Q05)

Kallosh, Renata (*with* Behrndt, Klaus) *F&H* monopoles. (English summary) *Nuclear Phys. B* **468** (1996), *no.* 1-2, 85–112. (Clifford V. Johnson) **98c:81155** 81T30 (81T60, 83E30)

— (*with* Chou, Aaron; Rahmfeld, J.; Rey, Soo-Jong; Shmakova, Marina; Wong, Wing Kai) Critical points and phase transitions in 5d compactifications of M-theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 147–180. (Summary) **98m:81136** 81T30 (14J32, 32J81, 83E30)

— Bound states of branes with minimal energy. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, R3241–R3245. (Summary) **98d:81087** 81T30 (83E30)

— (*with* Rajaraman, Arvind; Wong, Wing Kai) Supersymmetric rotating black holes and attractors. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, R3246–R3249. (Summary) **98c:83063** 83C57 (83E30, 83E50)

— (*with* Chamseddine, Ali H.; Ferrara, Sergio; Gibbons, Gary W.) Enhancement of supersymmetry near a 5D black hole horizon. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3647–3653. (Summary) **98d:83049** 83C57 (83E30)

— Covariant quantization of D-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3515–3522. (Summary) **98g:81173** 81T30

— (*with* Kumar, Jason) Supersymmetry enhancement of D-p-branes and M-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4934–4941. (Summary) **98f:83107** 83E30 (81T30)

— (*with* Rahmfeld, J.; Wong, Wing Kai) One-loop supergravity corrections to black hole entropy and residual supersymmetry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1063–1067. (Summary) **98j:83060** 83C57 (81T20, 81T60, 81V17, 83E50)

Kalirath, Josef (*with* Dvorak, Rudolf; Schlöder, Johannes P.) Periodic orbits in the Sitnikov problem. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 415–428, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70F07 (70F15)

Kalman, Dan ★ Elementary mathematical models. (English summary) Order aplenty and a glimpse of chaos. Classroom Resource Materials Series. *Mathematical Association of America, Washington, DC*, 1997. xvi+345 *pp. ISBN* 0-88385-707-3 00A71 (00A69, 58F13)

— (*with* Krinik, Alan; Marcus, Daniel A.; Cheng, Terry) Transient solution of the $M/M/1$ queueing system via randomization. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 137–145, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (P. R. Parthasarathy) **98e:60152** 60K25

Kalman, R. E. Probability in the real world as a system attribute. Special issue on control and system theory. *CWI Quarterly* **9** (1996), *no.* 3, 181–203. (Zeno G. Swijtink) **98d:60005** 60A05 (00A30, 00A69, 03B48)

Kalmykov, M. Yu. (*with* Kazakov, D. I.) Calculation of the off-shell renormalization functions in R^2 gravity. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 253–258. (Summary) **98f:81218** 81T17 (81V17, 83D05)

Kalmykov, S. Yu. (*with* Veĭsman, M. E.) Correlated coherent states of a two-dimensional quantum oscillator with nonstationary mode coupling. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 304–311; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 633–638. (Summary) **98j:81131** 81R30

Kalnins, Ernest G. Models of Q algebra representations. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1345–1352. (*see* **98c:17001**) 17B37 (33D80)

— (*with* Benenti, S.; Miller, Willard, Jr.) Integrability, Stäckel spaces, and rational potentials. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2345–2365. (Gerard Thompson) **98c:58072** 58F07 (58F17, 70H05, 70H20)

— (*with* Miller, Willard, Jr.; Pogosyan, G. S.) Superintegrability on the two-dimensional hyperboloid. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5416–5433. (Christian Grosche) **98j:81065** 81Q05 (33C05, 58G03)

— Special functions, Lie theory and partial differential equations. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 1, 1–36. (A. U. Klimyk) **98i:33001** 33–02 (22E70, 33C80, 35A30, 35C99)

Kal'nitskiĭ, V. S. Algebra of generalized Jacobi fields. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **231** (1995), *Issled. po Topol.* 8, 222–244, 326–327 (1996). (Pavel Grushko) **98b:53033** 53C22

Kalofonos, D. (*with* Paraskevopoulos, P. N.; Tsirikos, A. S.) A complete characterization of the feedback-linearized input–output response. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 155–183. 93B52 (93C10)

Kalogeropoulos, Grigoris (*with* Arvanitis, Kostas G.) Guaranteed stability margins for discrete-time LQ optimal regulators for the performance index with cross-product terms. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 6, 663–701. (K. B. Datta) **98i:93063** 93D09

— (*with* Arvanitis, Kostas G.) A new periodic multirate model reference adaptive controller for possibly nonstably invertible plants. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 203–220. (Summary) **98e:93062** 93C40 (93D21)

Kaloni, P. N. (*with* Qin, Yu) Spatial decay estimates for plane flow in Brinkman-Forchheimer model. *Quart. Appl. Math.* **56** (1998), *no.* 1, 71–87. (Adrian Carabineanu) **98m:35175** 35Q35 (35B45, 76S05)

Kaloper, Nemanja Three-dimensional black holes and four-dimensional black strings as nonlinear sigma models. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 412–416, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83E30 (83C57)

— A no-go theorem in string cosmology. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 263–267, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Ilya Shapiro) **98e:83119** 83E30 (83F05)

— Stringy Toda cosmologies. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3394–3402. (Summary) **98c:83090** 83E15 (83E30)

— (*with* Myers, Robert C.; Roussel, Harold) Wavy strings: black or bright? (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7625–7644. (Summary) **98b:83088** 83E30 (81T30, 83C57)

— (*with* Meissner, Krzysztof A.) Duality beyond the first loop. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7940–7953. 81T30

— (*with* Olive, Keith A.) Singularities in scalar-tensor cosmologies. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 811–822. 83D05 (83C75, 83F05)

Kalosakas, G. (*with* Tsironis, G. P.; Aubry, Serge) Polaron solutions in the two-dimensional Holstein model. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 313–316, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 81V70 (35Q55)

Kaloshin, Vadim Yu. Prevalence in spaces of smooth mappings and a prevalent Kupka-Smale theorem. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 306–307. 58C27

— Prevalence in spaces of finitely smooth mappings. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 27–33, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 95–99. (M. Craioveanu) **98i:58040** 58D15 (58C25)

— (*with* Hunt, Brian R.) How projections affect the dimension spectrum of fractal measures. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1031–1046. (Summary) **98k:28010** 28A80 (31A15, 58F11, 94A17)

Kalouptsidis, N. (*with* Papadakis, Manos; Stavropoulos, Theodoros) An equivalence relation between multiresolution analyses of $L^2(\mathbf{R})$. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 309–316, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42039** 42C15

Kalouti, Hakam (*with* Lazic, Dejan E.; Beth, Thomas) Spectra of long primitive binary BCH codes cannot approach the binomial distribution. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 294–295. (Summary) **98m:94058** 94B60

Kaloyerou, P. N. An ontological interpretation of boson fields. *Bohmian mechanics and quantum theory: an appraisal*, 155–167, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05 (81T99)

Kalpakidis, V. K. (*with* Foutsitzi, G.; Massalas, C. V.) On the existence and uniqueness in linear thermoviscoelasticity. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 1, 33–43. (Mircea Sofonea) **98a:73030** 73F15 (35B45, 35Q72, 73B30)

Kalpakis, K. (*with* Yesha, Yaacov) Scheduling tree dags on parallel architectures. (English summary) *Algorithmica* **15** (1996), *no.* 4, 373–396. (Summary) **98d:68032** 68M20 (68M10, 68Q25, 68R10)

Kalpazidou, Sofia (*with* Cohen, Joel E.) Orthogonal cycle transforms of stochastic matrices. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 3, 363–374. (Min Ping Qian) **98c:60079** 60J10 (05C38, 15A51, 42C15, 94C99)

— From network problem to cycle processes. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2041–2049. (*see* **98i:00030**) 60J10 (90B10)

Kalro, V. (*with* Tezduyar, T. E.) Parallel 3D computation of unsteady flows around circular cylinders. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1235–1248. (*see* **98f:76004**) 76M10 (65M55, 65Y05)

— (*with* Tezduyar, T. E.; Garrard, W.) Parallel computational methods for 3D simulation of a parafoil with prescribed shape changes. (English summary) Parallel computing methods in applied fluid mechanics. *Parallel Comput.* **23** (1997), *no.* 9, 1349–1363. (*see* **98f:76004**) 76M25 (65M60, 65Y05, 76D05, 76G25)

Kalsi, Marie-Luise Schubert Incompleteness and the tertium non datur. (English and German summaries) *Conceptus* **27** (1994), *no.* 71, 203–218. (Philip L. Quinn) **98e:03005** 03A05

Klaschke-Kaltenbacher, Barbara *see* **Blaschke-Kaltenbacher, Barbara**

Kaltenbäck, Michael (*with* Woracek, Harald) Selfadjoint extensions of symmetric operators in degenerated inner product spaces. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 3, 289–320. (Aad Dijksma) **98g:47028** 47B50 (47A57, 47B25)

— (*with* Hassi, Seppo; de Snoo, H. S. V.) Triplets of Hilbert spaces and Friedrichs extensions associated with the subclass $\mathbf{N}_1$ of Nevanlinna functions. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 155–181. (Vladimir Derkach) **98c:47013** 47A55

Kalton, Nigel J. (*with* Pełczyński, A.) Kernels of surjections from $\mathscr{L}_1$-spaces with an application to Sidon sets. *Math. Ann.* **309** (1997), *no.* 1, 135–158. (Gilles Godefroy) **98b:46013** 46B20 (43A46)

— (*with* Henson, C. Ward; Peck, N. Tenney; Terenčák, Ignác; Zlatoš, Pavol) Some Ramsey type theorems for normed and quasinormed spaces. (English summary) *Studia Math.* **124** (1997), *no.* 1, 81–100. (W. A. J. Luxemburg) **98a:46010** 46A16 (05D10, 46B20, 46S20)

— (*with* Mitrea, Marius) Stability results on interpolation scales of quasi-Banach spaces and applications. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3903–3922. (Mieczysław Mastyło) **98m:46094** 46M35 (35J25, 47A53, 47F05)

Kalugin, A. G. (*with* Golubyatnikov, A. N.) On the stability of incompressible continuous media with high affine symmetry. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 59–62, 105. 73B40 (73D15)

Kalugin, P. A. Low-lying excitations in the square-triangle random tiling model. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7077–7087. 82B41 (82–04)

Kalulumia, Pene (*with* Bolduc, Denis) Generalized mixed estimator for nonlinear models: a maximum likelihood approach. (English summary) *Econometric Rev.* **16** (1997), *no.* 1, 93–107. (A. L. Nagar) **98f:62196** 62J05 (62P20)

Kaluski, Jan Game-theoretical model of the assembly line balancing problem. *Game theory and applications, III*, 39–51, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D40 (90B60)

— Game-theoretical model of the assembly line balancing problem. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 113–125. 90D40

Kaluszka, Marek (*with* Gajek, L.; Lenic, A.) The law of the iterated logarithm for L_p-norms of empirical processes. (English summary) *Statist. Probab. Lett.* **28** (1996), *no.* 2, 107–110. (M. Csörgő) **98a:60038** 60F25 (62G30)

— (*with* Krysicki, Włodzimierz) On decompositions of some random variables. (English summary) *Metrika* **46** (1997), *no.* 2, 159–175. (A. M. Mathai) **98h:62016** 62E15 (33B15, 62E10)

Kalutskiĭ, S. A. (*with* Samoĭlenko, Yu. S.) Periodic groups are not $*$-wild. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 5, 729–730; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 816–817 (1998). (F.-H. Vasilescu) **98h:46081** 46L99 (20F99, 46K10)

Kalvo Redondo, A. (*with* Seco Santos, J.; Kazimirovskiĭ, È. S.) A generalization of Ertel's hydrodynamic theorem. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 106–107. (Radyadour Kh. Zeytounian) **98g:76076** 76U05

Kalyabin, G. A. On two-weight inequalities of gradient-Laplacian type for functions with zero boundary values. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 731–733. (Vadim D. Kryakvin) **98m:35077** 35J99 (26D10, 35B45)

— The uniform norming of retractions on short intervals for certain function spaces. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 443–450. (B. S. Rubin) **98k:31011** 31C15 (46E35)

Kalyagin, V. A. (*with* Aptekarev, A. I.; Kozlov, Valeriĭ V.; Potapov, M. K.; Sorokin, Vladimir N.; Ul'yanov, P. L.; Fomenko, A. T.; Shidlovskiĭ, A. B.) Evgeniĭ Mikhaĭlovich Nikishin. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 110–111. 01A70

Kalyakin, L. A. (*with* Maslennikov, S. I.) The method of asymptotic approximations in the mathematical modeling of problems in chemical kinetics. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 8, 60–69. 92E20 (34E05)

— (*with* Lazarev, Vladimir Anatol'evich) Perturbation of the two-soliton solution of the Korteweg-de Vries equation. (Russian. English and Russian summaries) *Teoret. Mat.*

Fiz. **112** (1997), *no.* 1, 92–102; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 866–874 (1998). 35Q53 (76B25)

— *see also* **Integrability in dynamical systems**, **98k:00007**

Kalyana Rama, S. *see* **Rama, S. Kalyana**

Kalyanasundaram, Bala (*with* Pruhs, Kirk R.) The online transportation problem. (English summary) *Algorithms—ESA '95* (*Corfu*), 484–493, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q25

— (*with* Pruhs, Kirk R.) An optimal deterministic algorithm for online b-matching. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 193–199, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68Q25 (68R10)

— (*with* Azar, Yossi; Plotkin, Serge; Pruhs, Kirk R.; Waarts, Orli) On-line load balancing of temporary tasks. (English summary) *J. Algorithms* **22** (1997), *no.* 1, 93–110. (Summary) **98g:68014** 68M20 (68Q25)

Kamada, H. (*with* Hüber, Dirk; Witala, H.; Nogga, A.; Glöckle, Walter) A new look into the partial-wave decomposition of three-nucleon forces. (English summary) *Few-Body Systems* **22** (1997), *no.* 3, 107–134. (A. Ventura) **98k:81319** 81V35 (81–08)

Kamada, Seiichi Crossing changes for singular 2-dimensional braids without branch points. *Kobe J. Math.* **13** (1996), *no.* 2, 177–182. (Masahico Saito) **98b:57038** 57Q45

Kamae, Teturo Deterministic Brownian motions. Various problems in stochastic numerical analysis, II (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 932 (1995), 103–117. (*see* **97b:00026**) 28A80 (28D99, 60J65)

— (*with* Mendès France, Michel) A continuous family of automata: the Ising automata. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **64** (1996), *no.* 3, 349–372. (Jean-Paul Allouche) **98b:82015** 82B20 (68Q68)

Kamakoti, V. (*with* Graf, Thorsten) Sparse dominance queries for many points in optimal time and space. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 6, 287–291. (Summary) **98k:68165** 68U05

Kamakura, Toshinari Trend analysis of multiple counting processes. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 149–156, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62151** 62M09 (62N05)

Kamal, Aref The similarity between the best approximation and the best copositive approximation. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 789–803. (Alexey R. Alimov) **98i:41022** 41A29 (41A50)

— L_1 spaces fail a certain approximative property. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 159–164. (Summary) **98h:46016** 46B25

anwar Kamal, Muhammad *see* **Anwar Kamal, Muhammad**

Kamalı, Muhammet (*with* Kadıoğlu, Ekrem) A characterization on the conformal mapping. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 2, 175–179. (Daniel Girela) **98c:30008** 30C20

— (*with* Kadıoğlu, Ekrem) On the coefficients of certain analytic functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 169–176. (Summary) **98g:30023** 30C45

Kamarujjama, M. (*with* Hussain, Md. Azhar; Hussain, Md. Raghib) On certain integral transforms. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 4, 239–242. (R. G. Buschman) **98c:44007** 44A15 (33C70)

— (*with* Pathan, M. A.) Generating relations for the generalized Horn's function ${}^{(k)}H_4^{(n)}$. (English summary) *Soochow J. Math.* **23** (1997), *no.* 1, 31–40. (Harold Exton) **98i:33017** 33C70

— (*with* Hussain, Md. Azhar; Aftab, Faizi) On partly bilateral and partly unilateral generating relations. (English summary) *Soochow J. Math.* **23** (1997), *no.* 4, 359–363. (Summary) **98m:33022** 33C45

Kamata, Masayoshi On multiple points of a self-transverse immersion. *Kyushu J. Math.* **50** (1996), *no.* 2, 275–283. (J. M. Boardman) **98f:57053** 57R42 (57R20)

Kamath, J. (*with* Lough, M. F.; Lee, Seong Hee) An efficient boundary integral formulation for flow through fractured porous media. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 462–483. 76M15 (76S05)

Kamath, S. G. Zeta-function regularization and scale and conformal anomalies for the Landau problem. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2631–2640. 81T16 (81T50)

Kambara, Hiroshi (*with* Matsushita, Yutaka[2]) Partition type fuzzy integral model for evaluation process. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 5, 531–545. 28E10

— (*with* Matsushita, Yutaka[2]) Errata: "Partition type fuzzy integral model for evaluation process" [Internat. J. Uncertain. Fuzziness Knowledge-Based Systems **5** (1997), no. 5, 531–545]. *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 6, 735. 28E10

Kambe, Tsutomu (*with* Suzuki, Katsuhiro) A Riemannian geometrical analysis of the filament equation. (English summary) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 269–276. (Yu. E. Gliklikh) **98k:76022** 76C05 (58D15, 58F05, 76E99)

— (*with* Hatakeyama, Nozomu) Strained vortex and statistical law of turbulence. (English summary) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 55–66. (*see* **98g:76052**) 76F05 (76M25, 76M35)

Kambourova, V. (*with* Zheleva, I.; Dimitrov, P.; Rusev, R.) Numerical algorithm for studying heat transfer in a glass melting furnace. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 589–595, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 80–08 (65M70, 80A20)

— (*with* Zheleva, I.; Dimitrov, P.; Rusev, R.) Identification of the heat-transfer in a glass melting furnace. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 596–605, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 80A20 (80–08)

Kambulov, V. F. (*with* Kolesov, A. Yu.; Rozov, Nikolaĭ Khristovich) Theoretical and experimental analysis of the buffer phenomenon in a long line with a tunnel diode. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 638–645, 718; *translation in Differential Equations* **33** (1997), *no.* 5, 641–648 (1998). (Summary) **98k:34048** 34C05 (34D99, 78A55)

— (*with* Kolesov, A. Yu.) The phenomenon of buffering in a long line with a tunnel diode. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 744–746. (From the text) **98k:78047** 78A55 (34C99)

Kamchatnov, A. M. (*with* Krylov, A. L.; Êl', G. A.) On the asymptotic evolution of a localized perturbation in the case of the one-dimensional Landau-Lifshits equation with uniaxial anisotropy. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 128–136; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1345–1351 (1997). 35Q55 (82B21)

— (*with* Steudel, H.; Zabolotskiĭ, A. A.) The Thirring model as an approximation to the theory of two-photon propagation. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7485–7499. (Summary) **98i:81295** 81V80 (81T10)

Kamchatnyĭ, V. V. (*with* Belokurov, V. V.) The renormalization group method for functions of several variables. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1996**, *no.* 2, 17–23. (A. L. Rebenko) **98b:81148** 81T17 (82B28)

Kamecke, Ulrich Rotations: matching schemes that efficiently preserve the best reply structure of a one shot game. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 409–417. (Summary) **98e:90233** 90D12 (90D20)

— Wage formation in a centralized matching market. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 1, 33–53. 90A60 (90A16)

Kameda, Hisao (*with* Li, Jie) Load balancing problems for multiclass jobs in distributed/parallel computer systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 322–332. (Summary) **98m:68018** 68M20

Kameda, Tsunehiko (*with* Suzuki, Ichiro[1]; Yamashita, Masafumi; Umemoto, Hideki) Bushiness and a tight worst-case upper bound on the search number of a simple polygon. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 49–52. (Summary) **98m:68280** 68U05

— (*with* Yamashita, Masafumi) Erratum: "Computing functions on asynchronous anonymous networks" [Math. Systems Theory **29** (1996), no. 4, 331–356; MR 97a:68020]. *Theory Comput. Syst.* **31** (1998), *no.* 1, 109. (From the text) **98k:68024** 68M10 (68Q05, 68Q25)

Kamei, Eizaburo (*with* Fujii, Masatoshi; Jiang, Jian Fei) Applications of Furuta inequality based on a simple characterization of chaotic order. Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 98–105. (*see* **98e:00020**) 47A63

— Furuta inequality unifies chaotic order and usual order among positive operators. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 106–115. (*see* **98e:00020**) 47A63

— (*with* Fujii, Masatoshi; Jiang, Jian Fei) Complements to the Furuta inequality. IV. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 511–518. (Frank Hansen) **98i:47015** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Jiang, Jian Fei) A characterization of orders defined by $A^{\flat} \geq B^{\flat}$ via Furuta inequality. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 519–525. (Frank Hansen) **98g:47016** 47A63 (47B15)

— (*with* Jiang, Jian Fei; Fujii, Masatoshi) The monotonicity of operator functions associated with the Furuta inequality. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 337–343. (Frank Hansen) **98j:47039** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Jiang, Jian Fei) A geometrical structure in the Furuta inequality. II. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 37–46. (Frank Hansen) **98f:47020** 47A63 (47B15)

— (*with* Fujii, Masatoshi; Jiang, Jian Fei) Characterization of chaotic order and its application to Furuta inequality. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3655–3658. (Frank Hansen) **98b:47023** 47A63 (47B15)

— Furuta inequality and its complementary domain. (Japanese) Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 15–21. (*see* **98h:47004**) 47A63

— (*with* Fujii, Masatoshi; Jiang, Jian Fei) Characterization of chaotic order and its applications to Furuta's type operator inequalities. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 339–349. (Summary) **98m:47020** 47A63 (47B15)

Kamei, Katsuari (*with* Inoue, Hiroyuki; Inoue, Kazuo) Automatic generation of fuzzy if-then rules using genetic algorithms and hyper-cone membership functions. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 6, 957–975 (1997). 03B52

Kamei, Toshiyuki (*with* Hatano, Kenji; Tanaka, Katsumi[3]) Authoring and retrieval of video scenes by multi-level self-organizing maps. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 933–942. 68P20

Kamejima, Kohji Stochastic design of imaging parameters for self-similar patterns. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2231–2236. (*see* **98i:00030**) 65U05 (65Y25)

Kamel, Ibrahim (*with* Faloutsos, Christos) Relaxing the uniformity and independence assumptions using the concept of fractal dimension. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 229–240. (Summary) **98i:68065** 68P15

Kamen, Edward W. (*with* Qu, Zhihua; Dorsey, John F.) Continuous I/O robust control of SISO time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 533–550. (Long Wang) **98d:93044** 93B36 (93C50)

Kamenarović, Ivan Quadrics in the Galilean space G_3. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 139–156. 53A04

Kamenjarzh, Jacov A. *see* **Kamenyarzh, Ya. A.**

Kamenov, Ognyan On one exact, two-phase biperiodic solution of the intermediate long-wave equation (ILW). *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 6, 33–36. (Willy Hereman) **98f:76013** 76B15 (35Q35, 76B25)

— Stability of the solitary waves in the generalized equation of KDV (GKDV). *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 23–26. 35Q53 (35B35)

— Stationary-periodic waves in discrete media with cubic nonlinearity. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 115–123. (Elena Medina Reus) **98m:35183** 35Q53

Kamenshchik, A. Yu. Zeta-function technique on manifolds with boundaries and its applications in quantum cosmology. (English summary) *Heat kernel techniques and quantum gravity* (*Winnipeg, MB*, 1994), 23–34, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Guido Cognola) **98b:83039** 83C45 (58G26, 81T20)

— (*with* Barvinskiĭ, A. O.) Quantum origin of the energy scale of inflation: no-boundary vs. tunnelling wavefunctions. (English summary) The Sixth Moscow Quantum Gravity

Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 825–843. (Summary) **98e:83128** 83F05 (81V17, 83C45)
— (*with* Esposito, Giampiero V. M.; Kirsten, Klaus) One-loop effective action for Euclidean Maxwell theory on manifolds with a boundary. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7328–7337. (Summary) **98i:81168** 81T20 (58G26, 81T16)
— (*with* Esposito, Giampiero V. M.) Axial gauge in quantum supergravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 299–303, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83E50 (58G26)
— (*with* Khalatnikov, I. M.; Toporensky, A. V.) Complex inflation field in quantum cosmology. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 649–671. 83C45 (81V17, 83F05)
— (*with* Khalatnikov, I. M.; Toporensky, A. V.) Simplest cosmological model with the scalar field. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 673–691. 83C45 (83F05)
— (*with* Lyakhovich, S. L.) Hamiltonian BFV-BRST theory of closed quantum cosmological models. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 309–338. (Ion V. Vancea) **98c:83034** 83C45 (81T70, 81V17)
— (*with* Avramidi, Ivan G.; Esposito, Giampiero V. M.) Axial gauge in Euclidean quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 245–246. (Summary) **98g:83031** 83C45
— (*with* Lyakhovich, S. L.) Hamiltonian BFV-BRST theory of closed quantum cosmological models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 303–306. (Summary) **98g:83042** 83C45 (81T70)
— (*with* Khalatnikov, I. M.; Martellini, Maurizio) Singularities in solutions of Burgers' equation. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 87–90. 35Q53
— (*with* Esposito, Giampiero V. M.; Miele, Gennaro) Unified gauge models and one-loop quantum cosmology. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1328–1331. (Summary) **98c:83032** 83C45 (81T20)
— (*with* Khalatnikov, I. M.; Toporensky, A. V.) Simplest cosmological model with the scalar field. II. Influence of cosmological constant. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 129–138. 83C45 (83F05)

Kamenski, Mikhail *see* **Kamenskiĭ, Mikhail**

Kamenskiĭ, G. A. (*with* Myshkis, A. D.) Periodic solutions of linear inhomogeneous mixed functional-differential equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 81–90 (1998). (Hana Petzeltová) **98j:35180** 35R10 (35B10, 45K05)

Kamenskiĭ, Mikhail (*with* Obukhovskiĭ, Valeri) On the operator of translation along the trajectories of semilinear controlled systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 747–754, 860; *translation in Differential Equations* **32** (1996), *no.* 6, 755–762 (1997). (L. Górniewicz) **98c:34020** 34A60 (34C25, 34G20, 34H05, 47H11, 47N20, 55M25)
— (*with* Nistri, Paolo; Zecca, Pietro) On the periodic solutions problem for parabolic inclusions with a large parameter. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 57–77. (Giovanni Colombo) **98j:34122** 34G20 (34A60, 35K55, 35R70, 47H09, 47N20)
— (*with* Johnson, Russell Allen; Nistri, Paolo) On periodic solutions of a damped wave equation in a thin domain using degree-theoretic methods. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 186–208. (Eduard Feireisl) **98j:35013** 35B10 (35L70, 47H11, 47N20)

Kamenyarzh, Ya. A. (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part I. (English summary) Theory and problems. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+270 *pp. ISBN* 981-02-2962-3 (Gérard A. Maugin) **98f:73001a** 73–01 (76–01, 78–01, 80–01)
— (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Karlikov, Vladimir P.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part II. (English summary) Answers and solutions. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+253 *pp. ISBN* 981-02-2963-1 (Gérard A. Maugin) **98f:73001b** 73–01 (76–01, 78–01, 80–01)

Kameoka, K. (*with* Katori, Makoto; Inui, Norio; Komatsu, Genichi) Hypergeometric series in a series expansion of the directed-bond percolation probability on the square lattice. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 37–55. (Roberto Fernández) **98f:82074** 82B43 (33C05, 60K35, 82–04)

Kametani, Makoto (*with* Ashino, Ryuichi) A lemma on matrices and a construction of multi-wavelets. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 267–287. (Hans W. Volkmer) **98c:42025** 42C10 (15A54)

Kameyama, Atsushi The dynamics of self-similar sets on S^2 and complex dynamics. *Algorithms, fractals, and dynamics* (*Okayama/Kyoto*, 1992), 117–123, *Plenum, New York*, 1995. (I. N. Baker) **98a:58133** 58F23 (58F08)
— The Mandelbrot set and the space of self-similar sets. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 126–127, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F23
— Julia sets of postcritically finite branched coverings. (Japanese) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 29–34. (*see* **98h:58002**) 57M12 (54H20, 58F23)

Kameyama, Yukiyoshi (*with* Hirokawa, Sachio; Baba, Kensuke) Calculations of λ_C and of λ_P and their applications. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 167–174. (*see* **98k:68015**) 68N15

Kamibayashi, Shiori (*with* Hirayama, Minoru) Fermion representation of quantum group. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 4, 691–702. (Mathias Pillin) **98e:81076** 81R50

Kamidoi, Yoko (*with* Wakabayashi, Shin'ichi) A divide and conquer approach to the minimum k-way cut problem. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 20–27. (Summary) **98m:05179** 05C85 (68R10)

Kamien, Randall D. (*with* Nelson, David R.) Polymer braids and iterated moiré maps. (English summary) *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 261–271, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:82145** 82D60 (82D30)
— (*with* Moroz, J. David) Self-avoiding walks with writhe. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 695–710. (Summary) **98h:82025** 82B41 (81T13, 82B27)

Kamieniarz, G. (*with* Pawlicki, P.; Musiał, G.; Rogiers, J.) Extended Ising-like models in two dimensions. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 116–124, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 82B20

Kamilli, F. *see* **Camilli, Fabio**

Kamilya, D. (*with* De, U. C.) On generalized pseudoconcircular symmetric manifolds. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 203–206. (Andrew Bucki) **98f:53039** 53C25

Kamimoto, Joe Singularities of the Bergman kernel for certain weakly pseudoconvex domains. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 86–93. (Gregor Herbort) **98i:32039** 32H10 (46E22)
— Asymptotic expansion of the Bergman kernel for weakly pseudoconvex tube domains. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 22–32. (Gregor Herbort) **98k:32035** 32H10 (32A07)

Kamimura, Kiyoshi (*with* Gomis, Joaquim; Pons, Josep M.; Zamora, F.) One-loop anomalies and Wess-Zumino terms for general gauge theories. (English summary) *Nuclear Phys. B* **458** (1996), *no.* 1-2, 387–402. (Summary) **98a:81207** 81T50 (81T15)
— (*with* Gomis, Joaquim; Kuriki, Rie) Nambu-Goldstone fields, anomalies and WZ terms. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 465–485. (Liviu Tătar) **98e:81163** 81T50 (81T13)
— (*with* Igarashi, Yuji; Itoh, Katsumi; Kuriki, Rie) Canonical equivalence between super D-string and type IIB superstring. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **98k:81220** 81T30 (83E30)

Kamimura, Yutaka (*with* Iwasaki, Katsunori) An inverse bifurcation problem and an integral equation of the Abel type. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1015–1031. (Alfredo Lorenzi) **98e:34038** 34B15 (34A47, 34A55, 45B05, 47H15, 47N20)

Kaminaga, Yasuhito (*with* Saito, Yoshio[1]) Chaos-order transition in pure SU(2) Yang-Mills theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 347–350. 81T13 (58F40)

Kaminker, Jerome (*with* Putnam, Ian F.) K-theoretic duality of shifts of finite type. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 509–522. (John Roe) **98f:46056** 46L55 (46L80, 55P42)
— (*with* Douglas, Ronald G.) Induced cyclic cocycles and higher eta invariants. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 301–326. (Vicumpriya S. Perera) **98h:58186** 58G12 (19K56, 46L89)

Kaminogo, Takashi Topological properties of solution mappings in functional-differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 871–876. (*see* **98i:00028**) 34K30 (34K15, 35R10)

Kamińska, Anna (*with* Hudzik, Henryk; Mastyło, Mieczysław) Local geometry of $L^1 \cap L^\infty$ and $L^1 + L^\infty$. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 2, 159–168. (Ting Fu Wang) **98a:46038** 46E30 (46B20)
— (*with* Hudzik, Henryk; Mastyło, Mieczysław) On geometric properties of Orlicz-Lorentz spaces. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 316–329. (Summary) **98d:46032** 46E30 (46B20)
— (*with* Drewnowski, Lech; Lin, Pei-Kee) On multipliers and L- and M-projections in Banach lattices and Köthe function spaces. *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 83–102. (W. A. J. Luxemburg) **98c:46034** 46B42 (46E30, 47B60)

tyran-Kamińska, Marta *see* **Tyran-Kamińska, Marta**

Kamiński, Bruno (*with* Kowalski, Zbigniew S.; Liardet, Pierre) On extremal and perfect σ-algebras for $\mathbf{Z}^d$-actions on a Lebesgue space. (English summary) *Studia Math.* **124** (1997), *no.* 2, 173–178. (N. N. Ganikhodzhaev) **98h:28011** 28D15 (28D20)

Kaminski, Michael (*with* Makowsky, Johann A.; Tiomkin, Michael) Extensions for open default theories via the domain closure assumption. (English summary) *Logics in artificial intelligence* (*Évora*, 1996), 373–387, *Lecture Notes in Comput. Sci.*, 1126, *Springer, Berlin*, 1996. (Summary) **98d:68187** 68T27 (03B70)
— A note on the stable model semantics for logic programs. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 467–479. (Summary) **98j:68012** 68N17 (03B70)
— (*with* Cheng, Siu Wing; Zaks, Shmuel) Minimum dominating sets of intervals on lines. (English summary) *Algorithmica* **20** (1998), *no.* 3, 294–308. (Summary) **98k:68135** 68R10 (05C85, 68P10, 68Q25)
— (*with* Makowsky, Johann A.; Tiomkin, Michael) Extensions for open default theories via the domain closure assumption. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 169–187. (Summary) **98m:03058** 03B60 (03B70, 68T27)

Kaminskiĭ, A. B. Extended stochastic calculus for the Poisson random measures. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996**, *no.* 15, i+16 *pp.* (Summary) **98d:60103** 60H05 (60G57)

Kamitane, Yoshiyuki (*with* Masubuchi, Izumi; Ohara, Atsumi; Suda, Nobuhide) H_∞ control for descriptor systems: a matrix inequalities approach. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 669–673. (Summary) **98c:93039** 93B36 (93C30)

Kamiya, Hidehiko (*with* Takemura, Akimichi) On rankings generated by pairwise linear discriminant analysis of m populations. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 1, 1–28. (Franz Streit) **98f:62180** 62H30

Kamiya, Kazuya (*with* Ichimura, Hidehiko) Nonparametric restrictions of dynamic optimization behavior under risk: the case of time-additive expected utility. (English summary) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 214–244. (*see* **98i:90007**) 90A46 (90A43)

Kamiya, Noriaki (*with* Santilli, Ruggero Maria) Embedding of Lie algebras in generalized structurable algebras. (English summary) *New frontiers in algebras, groups and geometries* (*Monterodunі*, 1995), 506–521, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Oleg Smirnov) **98f:17003** 17A99 (17B99)

— On Santilli's isotopies of the theory of real numbers, complex numbers, quaternions and octonions. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 523–551, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Oleg Smirnov) **98f:17004** 17A99

— (*with* Santilli, Ruggero Maria) A characterization of pseudoisofields [Algebras Groups Geom. **13** (1996), no. 3, 283–294; MR 97k:35255]. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 559–570, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98d:00020**) 12K99

— (*with* Okubo, Susumu) On triple systems and Yang-Baxter equations. *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 189–196, *VSP, Utrecht*, 1997. (Plamen Koshlukov) **98m:17007** 17A40 (17B37, 81R50, 82B23)

— On the Peirce decompositions for Freudenthal-Kantor triple systems. (English summary) *Comm. Algebra* **25** (1997), no. 6, 1833–1844. (Nora C. Hopkins) **98j:17002** 17A40 (17C27, 17C50)

— (*with* Santilli, Ruggero Maria) Embedding of Lie algebras in isogeneralized structurable algebras. (English summary) *Acta Appl. Math.* **50** (1998), no. 1-2, 167–175. 17A30 (17B60)

Kamiya, Norifumi On acceptance criterion for efficient successive errors-and-erasures decoding of Reed-Solomon and BCH codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), no. 5, 1477–1488. (Michael Klemm) **98m:94053** 94B35

Kamiya, Shigeyasu Parabolic elements of $U(1,n;\mathbf{C})$. (English summary) Travaux de la Conférence Internationale d'Analyse Complexe et du 7e Séminaire Roumano-Finlandais (1993). *Rev. Roumaine Math. Pures Appl.* **40** (1995), no. 1, 55–64. (Gerd Dethloff) **98j:22015** 22E40 (20H10, 30F40)

— Heisenberg translations of discrete subgroups of the unitary group $\tilde{U}(1,n;\mathbf{C})$. (Japanese) Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 188–195. (*see* **98e:00014**) 22E40

Kamliya, R. A. (*with* Kazakov, A. V.; Maksimov, M. Z.) A comparison of versions of an algorithm for sorting by the exchange method. (Russian. Russian summary) *Programmirovanie* **1995**, no. 4, 33–37; *translation in Program. Comput. Software* **21** (1995), no. 4, 186–189. 68Q25

Kamm, Julie (*with* Nagy, James G.) Least squares and total least squares methods in image restoration. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 212–219, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (65F40)

Kammash, Terry (*with* Aslan, Necdet) A new scheme for the solutions of multidimensional MHD equations. (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 315–333, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M20 (76W05)

Kammer, Leonardo C. (*with* Bitmead, Robert R.; Bartlett, Peter L.) Optimal controller properties from closed-loop experiments. (English summary) *Automatica J. IFAC* **34** (1998), no. 1, 83–91. 93B50 (93D15)

Kamo, Shizuo Ineffability and partition property on $\mathscr{P}_\kappa\lambda$. *J. Math. Soc. Japan* **49** (1997), no. 1, 125–143. (Carlos A. Di Prisco) **98a:03074** 03E05 (03E55)

Kamoi, Yuji Complete intersections which are abelian extensions of a factorial domain. *Tokyo J. Math.* **19** (1996), no. 1, 57–74. (N. Mohan Kumar) **98c:13018** 13C40 (13B22)

Kamont, Anna (*with* Ciesielski, Z.) On the fractional Levy's random field on the sphere. (English summary) *East J. Approx.* **1** (1995), no. 1, 111–123. (N. M. Zinchenko) **98a:60063** 60G60 (60G15, 60G17)

— On the fractional anisotropic Wiener field. (English summary) *Probab. Math. Statist.* **16** (1996), no. 1, 85–98. (N. M. Zinchenko) **98a:60064** 60G60 (60G15, 60G17)

— Discrete characterization of Besov spaces and its applications to stochastics. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 89–98, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Stanisław Wędrychowicz) **98k:46059** 46E39 (46E35, 46N30, 60G17)

— (*with* Boufoussi, B.) Temps local brownien et espaces de Besov anisotropiques. (English and French summaries) [Brownian local time and anisotropic Besov spaces] *Stochastics Stochastics Rep.* **61** (1997), no. 1-2, 89–105. (Summary) **98e:60132** 60J65 (60G17, 60J55)

Kamont, Zdzisław Finite-difference approximation of first-order partial differential-functional equations. (English summary) *Ukrainian Math. J.* **46** (1994), no. 8, 1079–1092 (1996). (Wu Zhang) **98a:65118** 65M06 (65M12)

— (*with* Bainov, Drumi D.; Minchev, Emil; Pączkowska-Prządka, Katarzyna) Difference methods for impulsive partial differential equations. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 23–38, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 65L05

— (*with* Leszczyński, Henryk) Stability of difference equations generated by parabolic differential-functional problems. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), no. 2, 265–287. (B. Choczewski) **98d:65163** 65Q05 (35R10, 39A11, 65M12, 65N12)

— (*with* Człapiński, Tomasz) On the local Cauchy problem for quasi-linear hyperbolic functional-differential systems. (English summary) *Appl. Anal.* **64** (1997), no. 3-4, 329–342. (Summary) **98b:35210** 35R10 (35B30, 35D05, 35L45)

— (*with* Salvadori, Anna) Uniqueness of solutions to hyperbolic functional-differential problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), no. 7, 4585–4594. (I. P. Stavroulakis) **98m:35213** 35R10 (35L99)

— (*with* Leszczyński, Henryk) Numerical solutions to the Darboux problem with functional dependence. (English summary) *Georgian Math. J.* **5** (1998), no. 1, 71–90. (Yun Kang Liu) **98m:65143** 65M06 (65M12)

Kamornikov, S. F. On some properties of totally local formations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), no. 1, 24–29, 157; *translation in Math. Notes* **60** (1996), no. 1-2, 18–21 (1997). (Ĭ. Ya. Subbotin) **98b:20051** 20F17 (20D10)

Kamotskiĭ, I. V. On the diffraction of a plane wave by a periodic curve. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **230** (1995), *Mat. Vopr. Teor. Rasprostr. Voln.* 25, 75–85, 295. (Youri G. Smirnov) **98b:35035** 35J05

Kampana, F. *see* **Campana, Frédéric**

van Kampen, N. G. (*with* Oppenheim, I.) Langevin and master equation in quantum mechanics. (English summary) *J. Statist. Phys.* **87** (1997), no. 5-6, 1325–1334. (Robert Alicki) **98j:82039** 82C10

Kamps, K. H. (*with* Porter, Timothy) ★ Abstract homotopy and simple homotopy theory. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+462 *pp. ISBN* 981-02-1602-5 (Donald M. Davis) **98k:55021** 55U35

— (*with* Baues, Hans-Joachim; Hardie, K. A.) The self-equivalence groups in certain coherent homotopy categories. (English summary) *Tsukuba J. Math.* **21** (1997), no. 1, 213–228. (A. H. Copeland, Jr.) **98g:55016** 55Q05 (55P10)

Kamps, Udo (*with* Cramer, Erhard) Sequential order statistics and k-out-of-n systems with sequentially adjusted failure rates. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), no. 3, 535–549. (Richard A. Johnson) **98m:62051** 62F10 (62F11, 62N05)

— (*with* Cramer, Erhard) A note on the UMVUE of $\Pr(X<Y)$ in the exponential case. Comment: "Estimation of $\Pr(X<Y)$ in the exponential case with common location parameter" [Comm. Statist. Theory Methods **21** (1992), no. 1, 269–282; MR 93c:62036] by D. S. Bai and Y. W. Hong. *Comm. Statist. Theory Methods* **26** (1997), no. 4, 1051–1055. (Editors) **98c:62035** 62F10

— (*with* Cramer, Erhard) The UMVUE of $P(X<Y)$ based on type-II censored samples from Weinman multivariate exponential distributions. (English summary) *Metrika* **46** (1997), no. 2, 93–121. (I. D. Dhariyal) **98m:62052** 62F10 (62N05)

— (*with* Herff, W.; Jochems, B.) The inspection paradox with random time. (English summary) *Statist. Papers* **38** (1997), no. 1, 103–110. (Summary) **98m:60140** 60K05 (62L10, 62N05)

Kamran, Niky (*with* Finkel, Federico; González-López, Artemio; Olver, Peter J.; Rodríguez, Miguel Angel[2]) Lie algebras of differential operators and partial integrability. (English summary) *Differential geometry and its applications (Santiago de Compostela, 1995)*, 29–53, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Zoya I. Symenoh) **98c:58180** 58G35 (17B99)

— (*with* Robart, Thierry) Sur les pseudogroupes abstraits de type F. (French summary) [Abstract pseudogroups of type F] *Harmonic analysis and number theory (Montreal, PQ, 1996)*, 153–180, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Kazushige Ueno) **98j:22031** 22E65 (58A15, 58H05)

— (*with* Robart, Thierry) Abstract structure for Lie pseudogroups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), no. 12, 1395–1399. (Valentin V. Lychagin) **98d:58202** 58H05

— (*with* Anderson, Ian M.) The variational bicomplex for hyperbolic second-order scalar partial differential equations in the plane. *Duke Math. J.* **87** (1997), no. 2, 265–319. (Valentin V. Lychagin) **98e:58183** 58H99 (35L70, 58A20)

— (*with* Robart, Thierry) Perspectives sur la théorie des pseudogroupes de transformations analytiques de type infini. (English and French summaries) [Perspectives on the theory of pseudogroups of analytic transformations of infinite type] *J. Geom. Phys.* **23** (1997), no. 3-4, 308–318. (Kazushige Ueno) **98m:22026** 22E65 (17B65, 58H05)

— (*with* Finkel, Federico) On the equivalence of matrix differential operators to Schrödinger form. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), no. 3-4, 278–286. (Zoya I. Symenoh) **98k:35009** 35A30 (35Q40, 58G35)

— (*with* Robart, Thierry) Sur la théorie locale des pseudogroupes de transformations continus infinis. I. [Local theory of infinite-dimensional continuous transformation pseudogroups. I] *Math. Ann.* **308** (1997), no. 4, 593–613. (Kazushige Ueno) **98h:58208** 58H05 (17B66, 22E65, 58B25)

— (*with* Tenenblat, K.) Periodic systems for the higher-dimensional Laplace transformation. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), no. 2, 359–378. (Summary) **98m:35139** 35N10 (35G05, 58G35)

Kamskiĭ, V. L. (*with* Medvedev, Yu. V.; Filinov, V. S.) A method of stochastic dynamics in the Wigner formulation of quantum mechanics. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), no. 7, 119–134; *translation in Comput. Math. Math. Phys.* **36** (1996), no. 7, 923–934. (Yu. P. Virchenko) **98a:81095** 81S20

Kamvissis, Spyridon Inverse scattering as an infinite period limit. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), no. 9, 969–974. (Summary) **98g:34133** 34L25 (34A55, 35Q53)

Kamynin, L. I. (*with* Khimchenko, B. N.) Necessary and sufficient conditions for satisfying the weak extremum principle for second-order, elliptic systems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), no. 6, 1314–1334, ii–iii; *translation in Siberian Math. J.* **37** (1996), no. 6, 1153–1170. (Ya. A. Roĭtberg) **98b:35048** 35J55 (35B50)

Kamynin, V. L. On the passage to the limit in inverse problems for parabolic equations with the integral overdetermination condition. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), no. 5, 620–626, 717; *translation in Differential Equations* **32** (1996), no. 5, 624–630. (Mikhail Lavrentiev, Jr.) **98a:35143** 35R30 (35B20, 35K99, 35N10)

— (*with* Vasin, I. A.) Asymptotic behavior of solutions of inverse problems for parabolic equations with irregular coefficients. (Russian. Russian summary) *Mat. Sb.* **188** (1997), no. 3, 49–64; *translation in Sb. Math.* **188** (1997), no. 3, 371–387. (Krystyna Twardowska) **98k:35208** 35R30 (35B40, 35K55)

Kan, Heng-Chuan (*with* Udaykumar, H. S.; Shyy, Wei; Tran-Son-Tay, Roger) Multiphase dynamics in arbitrary geometries on fixed Cartesian grids. (English summary) *J. Comput. Phys.* **137** (1997), no. 2, 366–405. 76M25 (76T05)

Kan, Jia Hai (*with* Shan, Zun) On the divisor function $d(n)$. *Mathematika* **43** (1996), no. 2, 320–322 (1997). (Lutz Gerhard Lucht) **98b:11101** 11N36

— (*with* Shan, Zun) A generalization of Goldbach's problem. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), no. 2, 236–239. (Kee Wai Lau) **98g:11116** 11P32 (11P55)

Kan, Pui Tak (*with* dos Santos, Marcelo Martins; Xin, Zhouping) Initial-boundary value problem for conservation laws. (English summary) *Comm. Math. Phys.* **186** (1997), no. 3, 701–730. (Summary) **98f:35097** 35L65 (65M06)

Kan, Su-Jen On the characterization of Grauert tubes covered by the ball. *Math. Ann.* **309** (1997), no. 1, 71–80. (Matthew B. Stenzel) **98j:32010** 32F07

bar-Kana, Izhak *see* **Bar-Kana, Izhak**

Kanada, Yasumasa (*with* Takahashi, Daisuke) Improvement of the algorithms for π calculation: the Gauss-Legendre algorithm and the Borwein's quartically convergent algorithm. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), no. 11, 2406–2409. 65A05

— (*with* Tomimatsu, Tsuyoshi) A generalized numerical representation based on double exponential cut. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), no. 3, 511–518. 68M07

— (*with* Takahashi, Daisuke) Implementation and evaluation of radix-2, 3 and 5 1-D FFT on distributed memory parallel computers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 519–528. 68M07

Kanaga Vel, S. (*with* Tamizhmani, K. M.) Lax pairs, symmetries and conservation laws of a differential-difference equation—Sato's approach. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 6, 917–931. (Luigi Martina) **98e:58096** 58F07 (35L65, 39A12)

Kanagawa, Akihiro (*with* Tamaki, Futoshi; Ohta, Hiroshi[1]) Identification of membership functions based on fuzzy observation data. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 311–318. 68T99 (04A72)

Kanai, M. A new approach to the rigidity of discrete group actions. *Geom. Funct. Anal.* **6** (1996), *no.* 6, 943–1056. (Vadim A. Kaĭmanovich) **98a:58025** 58D19 (22E40, 58A12, 58G32, 60H30)

Kanai, N. Proof of the embedding of Aristotle's syllogistics into propositional logic. (Russian) *Logical investigations, No.* 2 (*Russian*), 279–284, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B20 (03–03)

Kanal, L. N. (*with* Mahanti, A.; Ghosh, Subrata; Nau, D. S.; Pal, Asim Kumar) On the asymptotic performance of IDA*. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 161–193. (Florica Luban) **98i:68250** 68T20

Kanamori, Akihiro The mathematical import of Zermelo's well-ordering theorem. *Bull. Symbolic Logic* **3** (1997), *no.* 3, 281–311. (Yehuda Rav) **98k:01013** 01A60 (00A35, 01A55, 03A05, 04–03)

— (*with* Dreben, Burton) Hilbert and set theory. A Symposium on David Hilbert (Boston, MA, 1993). *Synthese* **110** (1997), *no.* 1, 77–125. (Ignacio Angelelli) **98h:01019** 01A60 (03–03, 03A05, 04–03)

— *see also* **Proof and progress in mathematics**, **98c:00014** *and* **Meeting: Association for Symbolic Logic**, **98e:03002**

Kananthai, Amnuay On the solutions of the n-dimensional diamond operator. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 1, 27–37. (Summary) **98i:35133** 35L99 (35D05, 35G05, 46F10)

— On the distribution related to the ultra-hyperbolic equations. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 101–106. (Summary) **98h:46038** 46F10 (35L99)

Kanarek, Przemysława (*with* Czumaj, Artur; Kutyłowski, Mirosław; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) *Algorithms—ESA '96* (*Barcelona*), 246–260, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68R05 (68Q22, 68Q25)

Kanasugi, Hirotaka Symmetry of general time-dependent harmonic oscillator. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 4, 617–633. (Violeta V. Tretynyk) **98k:70006** 70H33 (22E05, 22E60, 81Q05, 81R99)

Kanaun, Sergei Propagation of scalar waves through matrix composite materials: effective medium approach. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 6, 1041–1066. (Summary) **98g:73009** 73D15 (73B27, 73K20)

— A variational principle of the scalar wave diffraction problem and its applications. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 3, 395–411. (Summary) **98f:78022** 78A45

Kanaya, Fumio (*with* Muramatsu, Jun) Complexity with fixed distortion level and rate-distortion function. (Japanese. Japanese summary) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 28–42. (*see* **98e:00020**) 94A34

Kanazawa, Masanori (*with* Yoda, Kunikazu; Okabe, Yasuo) An unbiased global coin flipping protocol on synchronous distributed systems. (English summary) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 63–70. (Summary) **98b:68052** 68Q10

— (*with* Yoda, Kunikazu; Okabe, Yasuo) An optimal early stopping algorithm with one-bit messages for distributed consensus. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 1, 11–16. 68Q10

khe Kan Cher *see* **Khe Kan Cher**

Kanchi, Saroja P. (*with* Chen, Jianer; Kanevsky, Arkady) A note on approximating graph genus. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 6, 317–322. (Summary) **98a:68092** 68Q25 (05C10, 05C85, 68R10)

al-Kandari, Noriah M. *see* **Al-Kandari, Noriah M.**

vasantha Kandasamy, W. B. *see* **Vasantha Kandasamy, W. B.**

Kandasamy, W. B. Vasantha *see* **Vasantha Kandasamy, W. B.**

Kandel, Abraham (*with* Friedman, Menahem; Ma, Ming) On the validity of the Peano theorem for fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 331–334. (Summary) **98c:34005** 34A12 (04A72)

— (*with* Ding, Zuo Hua; Ma, Ming) Existence of the solutions of fuzzy differential equations with parameters. (English summary) *Inform. Sci.* **99** (1997), *no.* 3-4, 205–217. (Osmo Kaleva) **98c:34024** 34A99 (04A72, 47H11, 47N20)

— (*with* Ding, Zuo Hua) Existence and stability of fuzzy differential equations. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 681–697. (Peter E. Kloeden) **98k:34003** 34A12 (34A60, 34D99)

— (*with* Friedman, Menahem; Ma, Ming) Fuzzy linear systems. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 201–209. (Summary) **98k:15051** 15A99

— (*with* Ma, Ming; Turksen, I. B.) Fuzzy partition and fuzzy rule base. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 109–121. 93C41 (90C70, 93A05)

Kandil, Ali (*with* Gähler, Werner; Bayoumi, Fatma; Nouh, Ali) On global fuzzy neighborhood structures. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 151–180. (Summary) **98m:54013** 54A40

Kandilakis, Dimitrios A. (*with* Papageorgiou, Nikolaos S.) Periodic solutions for nonlinear Volterra integrodifferential equations in Banach spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 283–296. (Summary) **98a:45009** 45J05 (34K30, 47H17, 47N20)

Kando, Hisashi State estimation of stochastic singularly perturbed discrete-time systems. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 1, 15–28. (Zoran Gajic) **98b:93063** 93E11 (93C70)

Kandoba, I. N. On a numerical solution of domain optimization problems for a class of elliptic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 533–542. (Summary) **98a:49065** 49Q10 (49M99, 65K10)

Kandori, Michihiro (*with* Rob, Rafael) Bandwagon effects and long run technology choice. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 30–60. (Summary) **98m:90027** 90A11

Kandrup, Henry E. Hamiltonian approach to collisionless stellar dynamics in general relativity. *Nonlinear problems in relativity and cosmology* (*Gainesville, FL*, 1990), 88–96, *Ann. New York Acad. Sci.*, 631, *New York Acad. Sci., New York*, 1991. (*see* **98g:83001**) 83C55

— (*with* Mahon, M. Elaine) Stochastic processes and the gravitational N-body problem. *Stochastic processes in astrophysics* (*Gainesville, FL*, 1993), 81–99, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (Florin N. Diacu) **98j:70012** 70F15 (70F10)

— (*with* Siopis, Christos; Contopoulos, G.; Dvorak, Rudolf) Universal properties of escape in dynamical systems. (English summary) The dynamical behaviour of our planetary system (Ramsau, 1996). *Celestial Mech. Dynam. Astronom.* **65** (1996/97), *no.* 1-2, 57–68. (Summary) **98h:70026** 70K99 (58F40, 70–08, 70F15, 70H05)

— (*with* Eckstein, Barbara L.) Transitional dynamics of chaotic orbits. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 139–159, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 85A05 (58F13, 70F15)

— Geometric interpretation of chaos in two-dimensional Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2722–2732. (Summary) **98h:58118** 58F13 (58F17, 70H05, 70K50)

— *see also* **Three-dimensional systems**, **98b:70018**; **Stochastic processes in astrophysics**, **98f:00030** *and* **Nonlinear signal and image analysis**, **98k:58003**

Kandulski, Maciej On generalized Ajdukiewicz and Lambek calculi and grammars. (English summary) *Fund. Inform.* **30** (1997), *no.* 2, 169–181. (B. H. Mayoh) **98i:68231** 68S05 (03B65, 03D05)

Kane, Couro (*with* Schoenauer, Marc) Topological optimum design using genetic algorithms. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1059–1087. (*see* **98b:49004**) 73K40 (49Q10, 90C90)

Kane, J. H. (*with* Layton, Jeffrey B.; Ganguly, Snehasis; Balakrishna, C.) A symmetric Galerkin multi-zone boundary element formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 2913–2931. 73V10

Kaneda, Eiji (*with* Kiso, Kazuhiro; Kawai, Ei-ichiro) Hierarchies of evolution equations associated with certain symmetric spaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5183–5189. (Summary) **98i:58118** 58F07 (35Q55)

Kaneda, Masaharu A survey of H. H. Andersen, J. C. Jantzen and W. Soergel, "Representations of quantum groups at a pth root of unity and of semisimple groups in characteristic p: independence of p" [Astérisque No. 220 (1994); MR 95j:20036]. Lusztig program (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 954 (1996), 80–119. (From the text) **98d:17024** 17B37 (20G05)

Kaneda, Masahiro[3] (*with* Oki, Toshitaka; Yamamoto, Toru) A design method of self-tuning pole-assignment controllers with a parallel feedforward compensator. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 7, 351–360. 93B55 (93C40)

Kaneda, T. (*with* Hosaka, K.; Takenaga, Yasuhiko; Yajima, Shuzo) Size of ordered binary decision diagrams representing threshold functions. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 47–60. (Summary) **98a:68097** 68Q25 (68Q05, 94C10)

Kaneda, Yukio (*with* Ishihara, Takashi[2]) Singularity formation in the shape of a vortex sheet in three dimensions—numerical simulation. (English summary) *Vortex flows and related numerical methods, II* (*Montreal, PQ*, 1995), 463–479, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Summary) **98b:76017** 76C05 (76M25)

— (*with* Ishihara, Takashi[2]) Analytic structure of vortex layers within uniform strain fluids. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 248–259. (*see* **98g:76052**) 76C05 (76D99)

Kaneko, Akira On the global solvability of linear partial differential equations with constant coefficients in the space of real analytic functions. (English summary) *Singularities and differential equations* (*Warsaw*, 1993), 149–160, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Paulo Domingos Cordaro) **98b:35033** 35E20 (35A05, 35A27)

Kaneko, Atsushi On decomposition of triangle-free graphs under degree constraints. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 7–9. (Summary) **98h:05151** 05C70

Kaneko, Hideaki (*with* Noren, Richard D.; Padilla, Peter A.) Superconvergence of the iterated collocation methods for Hammerstein equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 335–349. (Ezio Venturino) **98g:65129** 65R20 (45G10, 45L05, 65B05, 65J15)

Kaneko, Hiroshi[2] Liouville theorems based on Dirichlet integrals. *Geometric complex analysis* (*Hayama*, 1995), 323–330, *World Sci. Publishing, River Edge, NJ*, 1996. (Emil Popescu) **98f:31015a** 31C25

— Liouville theorems based on Dirichlet space theory. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 257–269, *World Sci. Publishing, River Edge, NJ*, 1996. (Emil Popescu) **98f:31015b** 31C25

— Liouville theorems based on symmetric diffusions. (English and French summaries) *Bull. Soc. Math. France* **124** (1996), *no.* 4, 545–557. (Zhongmin Qian) **98a:31005** 31C25 (31B10)

Kaneko, Jyoichi q-Selberg integrals and Macdonald polynomials. (English summary) *Ann. Sci. École Norm. Sup.* (4) **29** (1996), *no.* 5, 583–637. (Summary) **98k:33026** 33C80 (05A30, 05E05, 33D20, 33D45)

Kaneko, Kan On the cubic fields $\mathbf{Q}(\theta)$ defined by $\theta^3 - 3\theta + b^3 = 0$. (English summary) *SUT J. Math.* **32** (1996), *no.* 2, 141–147. (Jean-Daniel Thérond) **98a:11141** 11R16 (11R27, 11R29)

Kaneko, Mamoru (*with* Nagashima, Takashi) Game logic and its applications. I. (English summary) *Studia Logica* **57** (1996), *no.* 2-3, 325–354. (Henry Africk) **98g:03052** 03B45 (03C75)

— (*with* Nagashima, Takashi) Game logic and its applications. II. (English summary) *Studia Logica* **58** (1997), *no.* 2, 273–303. (Henry Africk) **98g:03053** 03B45 (03C75, 90D35)

Kaneko, Masanobu On Itô's observation on coefficients of the modular polynomial. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 5, 95–96. (Alexis Michel) **98a:11052** 11F22 (11F03, 11G20)

— The Fourier coefficients and the singular moduli of the elliptic modular function $j(\tau)$. (English summary) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 172–177. (B. Ramakrishnan) **98h:11053** 11F30 (11F03)

— (*with* Asai, Tetsuya; Ninomiya, Hirohito) Zeros of certain modular functions and an application. *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 1, 93–101. (Michael C. Berg) **98e:11052** 11F03 (11F11)

— Poly-Bernoulli numbers. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 221–228. (L. Skula) **98k:11013** 11B68

Kaneko, Toshimitsu (*with* Nishijima, Toshihisa; Hirasawa, Shigeichi) An improvement of soft-decision maximum-likelihood decoding algorithm using hard-decision bounded-distance decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1314–1319. 94B35

Kanel, Ya. I. (*with* Zhou, Li[1]) A new proof of existence of the wave front solutions for a kind of reaction-diffusion system. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 469–481, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98g:35110** 35K57

Kanellakis, Paris Christos (*with* Hillebrand, Gerd) On the expressive power of simply typed and let-polymorphic lambda calculi. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 253–263, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98f:68101** 68Q15 (03B40, 03D15, 68N15)

— (*with* Ramaswamy, Sridhar; Vengroff, Darren E.; Vitter, Jeffrey Scott) Indexing for data models with constraints and classes. (English summary) 12th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Washington, DC, 1993). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 2, 589–612. (Armin Cremers) **98g:68034** 68P15 (68P05)

— (*with* Shvartsman, Alex Allister) ★ Fault-tolerant parallel computation. (English summary) With a foreword by Franco P. Preparata. The Kluwer International Series in Engineering and Computer Science, 401. *Kluwer Academic Publishers, Boston, MA*, 1997. xxx+183 *pp. ISBN* 0-7923-9922-6 (Behrooz Parhami) **98m:68072** 68Q10 (65Y05, 68M15, 68Q22)

Kanellakopoulos, Ioannis (*with* Lin, Jung-Shan) Nonlinearities enhance parameter convergence in output-feedback systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 204–222. 93C40 (93C10)

— (*with* Zhao, Jiaxiang) Flexible backstepping design for tracking and disturbance attenuation. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 331–348. (*see* **98k:93004**) 93D15 (70K99, 70Q05, 93C85)

Kanemaru, Tadayoshi Invariant distances and metrics in $\mathbf{C}^n$. Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 33–38. (Marek Jarnicki) **98i:32040** 32H15

Kanemitsu, Hideo (*with* Murai, Tetsuya; Shimbo, Masaru) Fuzzy sets and binary-proximity-based rough sets. (English summary) From rough sets to soft computing (Wrightsville Beach, NC, 1995). *Inform. Sci.* **104** (1998), *no.* 1-2, 49–80. (Summary) **98h:04011** 04A72

Kanemitsu, Mitsuo (*with* Matsuda, Ryûki) Note on seminormal overrings. (English summary) *Houston J. Math.* **22** (1996), *no.* 1, 217–224. (David F. Anderson) **98a:13029** 13F45 (13G05)

— (*with* Matsuda, Ryûki) Remarks on seminormal oversemigroups. (Japanese) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 77–84. (*see* **98d:00023**) 20M14

— (*with* Matsuda, Ryûki) On seminormal semigroups. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 4, 279–285. (Attila Nagy) **98f:20043** 20M14

— (*with* Yoshida, Ken-ichi[1]) Some properties of certain simple flat extensions. *Math. J. Ibaraki Univ.* **29** (1997), 25–29. (J.-P. Lafon) **98m:13016** 13B99

Kanenaga, M. (*with* Zav'yalov, O. I.; Kirillov, A. I.; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.) On the quantization of systems with action that is unbounded from below. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 2, 175–186; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 2, 1379–1387 (1997). (Summary) **98g:81104** 81S20

Kanenobu, Taizo Weak unknotting number of a composite 2-knot. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 2, 161–166. (Summary) **98f:57041** 57Q45

Kaņeps, Jānis (*with* Geidmanis, Dainis; Apsītis, Kalvis; Taimiņa, Daina; Calude, Elena) Tally languages accepted by alternating multitape finite automata. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 422–430, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q68 (68Q45)

— (*with* Geidmanis, Dainis; Freivalds, Rūsiņš) Tally languages accepted by Monte Carlo pushdown automata. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 187–195, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98l:68013**) 68Q68

Kaneta, H. (*with* Chao, J. M.) A complete 24-arc in PG(2, 29) with the automorphism group PSL(2, 7). (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 537–544. (J. W. P. Hirschfeld) **98f:51011** 51E21 (51E22, 94B27)

— (*with* Chao, J. M.) Classical arcs in PG(r, q) for $11 \le q \le 19$. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 87–94. (Summary) **98f:05034** 05B25

Kanev, Vasil Special line bundles on curves with involution. *Math. Z.* **222** (1996), *no.* 2, 213–229. (Montserrat Teixidor i Bigas) **98a:14011** 14C20 (14C22, 14D20, 14H40)

Kaneva, E. Yu. (*with* Korolyuk, V. S.) Random permanents of mixed sample matrices. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 1, 44–49; *translation in Ukrainian Math. J.* **48** (1996), *no.* 1, 48–55. (Boris A. Khoruzhenko) **98e:60032** 60F05 (15A15)

Kanevsky, Arkady (*with* Chen, Jianer; Kanchi, Saroja P.) A note on approximating graph genus. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 6, 317–322. (Summary) **98a:68092** 68Q25 (05C10, 05C85, 68R10)

Kaneyoshi, Takahito Thermodynamics of a mixed spin Ising chain. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 407–416. (Summary) **98c:82013** 82B20 (82B23)

Kaneyuki, Soji Signatures of roots and a new characterization of causal symmetric spaces. *Topics in geometry*, 213–229, *Progr. Nonlinear Differential Equations Appl.*, 20, *Birkhäuser Boston, Boston, MA*, 1996. (Gestur Ólafsson) **98a:53074** 53C35 (22E15, 57S30)

Kang, B. G. *see* **Kang, Byung Gai**

Kang, Bu Hyeon On the H^{λ}_{α}-wave front sets. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 273–280. (Norbert Ortner) **98e:35010** 35A27 (46E35, 47F05)

— Local generalized Sobolev spaces. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 481–494. (P. Szeptycki) **98b:46043** 46E35 (46F05)

Kang, Byung Gai Fixed point property and completeness of ordered sets. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 19–26. (Summary) **98g:06004** 06A06 (06A23)

— (*with* Kirk, W. A.) A fixed point theorem revisited. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 285–291. (Salvatore Sessa) **98e:47092** 47H10 (54H25)

— (*with* Park, Sehie) Generalized variational inequalities and fixed point theorems. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 207–216. (Hassan Riahi) **98k:47130** 47H19 (47H10, 49J40)

Kang, Byung Gyun (*with* Oh, Dong Yeol) Lifting up an infinite chain of prime ideals to a valuation ring. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 645–646. (Daniel D. Anderson) **98e:13003** 13A15 (13F30)

Kang, Chul (*with* Kim, Byung Chun) The general moment of non-central Wishart distribution. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 393–406. (Summary) **98f:62159** 62H10

Kang, Chunghyuk (*with* Kim, Sung-Yeon) Some examples of analytic irreducible plane curve singularities. *Bull. Korean Math. Soc.* **33** (1996), *no.* 2, 267–275. (Vasile Brînzănescu) **98a:32047** 32S15 (14H20)

— Some analytic irreducible plane curve singularities. *J. Korean Math. Soc.* **33** (1996), *no.* 2, 367–379. (Vasile Brînzănescu) **98a:32048** 32S15 (14H20)

Kang, Dong Sheng Traveling wave solutions for a class of Nagumo equations. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 3, 260–262. (Summary) **98j:35089** 35K55 (35Q80)

Kang, Dongshik (*with* Ko, Bongsoo; Ko, Younhee; Bang, Eunsook) Strong-equiasymptotic stability of perturbed linear differential equations when the perturbation is large and depends on time. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 407–426. (T. A. Burton) **98j:34095** 34D05

Kang, Eun-Hee (*with* Ki, U-Hang) On real hypersurfaces of a complex hyperbolic space. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 173–184. (Jürgen Berndt) **98e:53093** 53C40

Kang, Eun Sook (*with* Lee, Kyung Bai) Fixed point theory on Seifert manifolds modeled on $S^2 \times \mathbf{R}$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 123–134. (Darryl McCullough) **98d:57023** 57M50 (55M20, 55M35)

— (*with* Ko, Ki Hyoung; Lee, Sang Jin) Band-generator presentation for the 4-braid group. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 39–60. (Summary) **98f:57012** 57M25 (20F10)

Kang, Eunju On the corank of a Wahl map on smooth curves with a plane model. *Kyushu J. Math.* **50** (1996), *no.* 2, 471–492. (James N. Brawner) **98d:14043** 14H45 (14H20)

Kang, Gungwon Quantum aspects of ergoregion instability. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7563–7573. (Summary) **98b:83045** 83C47 (81T20, 83C57)

Kang, H. S. Game of pursuit with zero stop probability. (English summary) *System modelling and optimization (Prague, 1995)*, 292–299, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90D15 (90D26)

Kang, Hee-Jeong Bootstrap of LAD estimate in infinite variance AR(1) processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 383–395. (Summary) **98m:62131** 62G09 (62M10)

Kang, Hye-Jung (*with* Chung, Won-Sang; Choi, Nan-Young) Theory of q-deformed forms. I. q-deformed alternating tensor and q-deformed wedge product. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 6, 1069–1091. (Axel Schüler) **98a:58011** 58B30 (17B37, 81R50)

Kang, Hyeonbae (*with* Seo, Jin Keun) On the inverse conductivity problem with finite measurements. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 8 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (*see* **98h:35001**) 35R30 (35J25)

— (*with* Seo, Jin Keun; Sheen, Dongwoo) Numerical identification of discontinuous conductivity coefficients. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 113–123. (Summary) **98k:78052** 78A99 (35R30, 65N99, 78–08)

— (*with* Seo, Jin Keun) On stability of a transmission problem. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 695–706. (Jan Koroński) **98g:35056** 35J25 (35B35, 35R30)

— (*with* Seo, Jin Keun; Sheen, Dongwoo) The inverse conductivity problem with one measurement: stability and estimation of size. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1389–1405. (Alexander S. Denisjuk) **98k:86021** 86A20 (31A25, 35R30)

Kang, Jeong Heung Complemented sublattices of wL_1 isomorphic to classical Banach lattices. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1015–1030. (Yu. A. Abramovich) **98h:46028** 46E30 (46B42)

Kang, Jin Sook (*with* Owa, Shigeyoshi; Srivastava, Hari M.) Quasi-convolution properties of certain subclasses of analytic functions. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 5, 603–608. (Herb Silverman) **98b:30013** 30C45

Kang, Joo Ho (*with* Jo, Young Soo) Isomorphisms of $\mathrm{Alg}\mathscr{L}_{2n(k)}$. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 211–228. (Alan Hopenwasser) **98d:47096** 47D25

Kang, Ju-Sung (*with* Wee, In-Suk) On the weak invariance principle for ranges of recurrent random walks with infinite variance. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 295–303. (Allan Gut) **98j:60049** 60F17 (60J15)

Kang, K. H. *see* **Kang, Kee H.**

Kang, Kab Seok (*with* Kwak, Do Young; Yon, Yoon Jung) The analysis of multigrid method for nonconforming method for the stationary Stokes equations. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 343–357. (Jan Mandel) **98e:65096** 65N30 (65F10)

Kang, Kee H. (*with* Kim, Woo Chul; Park, Byeong U.) On bias reduction methods in nonparametric regression estimation. (English summary) *Advances in statistical decision theory and applications*, 179–187, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62G05

Kang, Koo Tae (*with* Kwak, Byung Man) Optimization of finite element grids using shape sensitivity analysis in terms of nodal positions. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 1, 1–19. (Summary) **98a:73054** 73V05 (73K40)

Kang, Kyehong (*with* Herdman, Terry L.) A structured sequential quadratic programming and its application to a flow matching problem. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 255–261, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 1997. (*see* **98b:00023**) 90C20 (76G25, 76M99)

Kang, Kyung-Keun (*with* Lee, June-Yub; Seo, Jin Keun) Identification of a free boundary arising in a magnetohydrodynamics system. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1301–1309. (Lisa Santos) **98i:35215** 35R35 (35J05, 35Q35, 76W05)

Kang, Li Ying (*with* Shan, Er Fang) On connected domination number of a graph. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 199–204, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:05101** 05C35

— (*with* Shan, Er Fang) The domination numbers of products of graphs. (Chinese) *Math. Appl.* **9** (1996), *no.* 4, 526–528. (Yong Bing Shi) **98f:05089** 05C35

— (*with* Cai, Mao-cheng) Minus domination number in cubic graph. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 444–447. (Summary) **98m:05149** 05C70

Kang, Lishan (*with* He, Qi Ming[2]; Evans, David J.) Schwarz domain decomposition method for multidimensional and nonlinear parabolic equations: multidimensional subdomains with overlaps. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 101–119. (Beny Neta) **98k:65056** 65M55

— (*with* Ding, Lixin; Chen, Yuping; Pan, Zhengjun) Using evolutionary computation to solve problems in nonparametric regression. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 27–31. 62G05 (62–04)

Kang, Mee Kwang (*with* Huang, Nan Jing; Lee, Byung Soo) Fixed point theorems for compatible mappings with applications to the solutions of functional equations arising in dynamic programmings. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 673–680. (Summary) **98h:54058** 54H25 (47H10, 47N10, 90C39)

Kang, Ming-chang Group actions of some subgroups of parabolic subgroups. (English summary) *J. Algebra* **185** (1996), *no.* 1, 175–183. (Haruhisa Nakajima) **98c:13008** 13A50 (20G40)

— (*with* Hajja, Mowaffaq) Twisted actions of symmetric groups. (English summary) *J. Algebra* **188** (1997), *no.* 2, 626–647. (Frank D. Grosshans) **98b:13003** 13A50 (12F20)

Kang, Myong (*with* Wright, Gordon P.; Worobetz, N. Dan; Moorkerjee, Radha V.; Chandrasekharan, Radha) OR/SM: a prototype integrated modeling environment based on structured modeling. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 134–153. 90C90 (90–04)

Kang, Qing-De (*with* Liang, Zhi-He) Coverings of the complete directed graph with k-circuits. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 231–253. (Frank E. Bennett) **98m:05150** 05C70 (05C38)

— Large sets of three types of oriented triple systems. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 1, 151–176. (Luc Teirlinck) **98e:05013** 05B07

Kang, S. *see* **Kang, Sungkwon**

Kang, S. M. *see* **Kang, Shin Min**

Kang, Seok-Jin (*with* Jeong, Kyeonghoon; Lee, Hyeonmi) Lie-admissible algebras and Kac-Moody algebras. (English summary) *J. Algebra* **197** (1997), *no.* 2, 492–505. (Kaiming Zhao) **98k:17037** 17D25 (17B67)

Kang, Seung-ho The Bahadur efficiency of the power-divergence statistics conditional on margins for testing homogeneity with equal sample size. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 453–465. (Summary) **98m:62041** 62F03

Kang, Sheng Liang Singular perturbations for a class of nonlinear boundary value problems with a concentrated excitation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 255–261. (Qinde Zhou) **98d:34086** 34E15 (34B15, 34E05, 73K15)

Kang, Shin Min (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo; Jung, Jong Soo) Coincidence point theorems and minimization theorems. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994)*, 27–39, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:54058** 54H25 (49J27, 54A40, 54C60, 54E70, 90C48)

— (*with* Choi, Yong-Kab; Cho, Yeol Je) On inferior limits for the increments of Gaussian processes. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 813–822. (Qi Man Shao) **98h:60036** 60F15 (60G15)

— (*with* Pathak, H. K.; Cho, Yeol Je; Zhang, Shi Sheng) Compatible mappings of type (P) and fixed point theorems in metric spaces and probabilistic metric spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 87–109. 54H25 (54E70)

— (*with* Cho, Yeol Je; Pathak, H. K.; Jung, Jong Soo) Common fixed points of compatible maps of type (β) on fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 99–111. 54H25 (04A72, 54A40)

— (*with* Pathak, H. K.; Cho, Yeol Je) Topological contractions for set-valued mappings. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 2, 7–14. 54C60 (54H25)

Kang, Shixiang (*with* Wen, Guo Chun) Initial-Neumann boundary value problem for nonlinear parabolic systems of several second order equations with measurable coefficients. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 1–7. (Summary) **98d:35114** 35K60 (35R05)

Kang, Si Ho (*with* Chung, Dong Myung; Kang, Soon Ja) A class of conditional analytic Feynman integrals. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 175–190. (Summary) **98e:28018** 28C20

Kang, Sin Duk (*with* Choi, Won) On the option valuation for a combined diffusion/point process model. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 319–325. (Summary) **98e:90025** 90A09 (60J70)

Kang, Soon Ja (*with* Chung, Dong Myung; Kang, Si Ho) A class of conditional analytic Feynman integrals. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 175–190. (Summary) **98e:28018** 28C20

Kang, Soon-Yi A new proof of Winquist's identity. *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 313–318. (Christian Krattenthaler) **98c:11111** 11P83 (05A19, 05A30, 11P82)

Kang, Suk-Bok (*with* Cho, Young-Suk) Estimation of the parameters in a Pareto distribution by jackknife and bootstrap method. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 289–300. 62G09

— (*with* Cho, Young-Suk) Estimation of Gini index of the Pareto distribution. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 383–392. 62F10 (62P20)

— (*with* Cho, Young-Suk) Distribution and moments for estimators of Gini index in an exponential distribution. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 213–222. 62F10

Kang, Sungkwon (*with* Cho, Chung-Ki; Kwon, Yonghoon) Estimation of soil water distribution: identifiability and observation design. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 105–120. (C. R. Hadlock) **98k:86030** 86A99 (76S05)

— A robust estimator for interpolating regionalized variables. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 359–372. (Summary) **98d:86013** 86A32 (65U05)

— (*with* Jun, S.-R.; Kwon, Yonghoon) A variational spectral method for the two-dimensional Stokes problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 1–17. (Summary) **98k:76106** 76M25 (65M60, 76D07)

Kang, Sungyeol (*with* Serfozo, Richard F.) Maxima of sojourn times in acyclic Jackson queueing networks. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1085–1095. (Summary) **98d:90052** 90B22 (90B10)

Kang, Tae Ho (*with* Nam, Hyo Chang) Submanifolds of an almost quaternionic Kaehler product manifold. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 653–665. (Andrew Bucki) **98g:53051** 53C15 (53C40)

— (*with* Pak, Hong Kyung; Pak, Jin Suk) Laplacian on a totally geodesic foliation. *J. Geom.* **60** (1997), *no.* 1-2, 74–79. (Haruo Kitahara) **98k:58207** 58G03 (53C12, 58G25)

Kang, Wei (*with* Byrnes, Christopher I.; Delli Priscoli, Francesco; Isidori, Alberto) Structurally stable output regulation of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 369–385. (John Tsinias) **98c:93087** 93D15 (93B52)

Kang, Weon-Kee (*with* Park, Jong Yeoul; Park, Dong-Gun; Kwun, Young Chel) Controllability for nonlinear integrodifferential equations with delay. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 3, 371–394. (Jerzy Klamka) **98i:93007** 93B05 (45K05, 93C10, 93C20, 93C25)

— (*with* Park, Dong-Gun; Kwun, Young Chel) The existence and uniqueness of solutions for Volterra type integro-differential equation in a Hilbert space. (English summary) *Far East J. Math. Sci.* **1996**, *Special Volume, Part II*, 195–205. (Hans Engler) **98c:45012** 45K05 (34K30, 47G20, 47N20)

Kang, Young Yug (*with* Yim, Sang Gyou) Finitely based lattice varieties. I. *J. Korean Math. Soc.* **33** (1996), *no.* 2, 439–453. (K. A. Baker) **98a:06016** 06B20 (06C05, 08B15)

Kang, Zheng Jiu (*with* Hu, Bao Sheng) A systolic algorithm for the triangular Stein equation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 40–45. 65F30 (68Q22)

Kangni, Kinvi (*with* Touré, Saliou) Représentation unitaire sphérique de type δ. (English summary) [Spherical unitary representation of type δ] *Afrika Mat.* (3) **7** (1997), 95–104. (A. Derighetti) **98k:22024** 22D10 (22D12, 43A90)

Kangro, Urve (*with* Nicolaides, Roy A.) Asymptotic behavior of solutions of two-dimensional periodic scattering problems in electromagnetics. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1406–1419. (Youri G. Smirnov) **98m:78026** 78A45 (35B40, 35Q60)

Kanguzhin, B. E. (*with* Imanbaev, N. S.) On zeros of entire functions that have an integral representation. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1995**, *no.* 3, 47–51. (Summary) **98i:30038** 30D10 (30D15)

Kani, Ernst The existence of curves of genus two with elliptic differentials. *J. Number Theory* **64** (1997), *no.* 1, 130–161. (Ian Kiming) **98b:11065** 11G30 (11F11, 11G05, 14H52)

— The number of curves of genus two with elliptic differentials. *J. Reine Angew. Math.* **485** (1997), 93–121. (H. Lange) **98g:14025** 14H30

— (*with* Schanz, Wolfgang) Diagonal quotient surfaces. (English summary) *Manuscripta Math.* **93** (1997), *no.* 1, 67–108. (Rafael Hernandez) **98d:14048** 14J10 (14J17)

Kania-Bartoszyńska, Joanna (*with* Frohman, Charles) SO(3)-topological quantum field theory. (English summary) *Comm. Anal. Geom.* **4** (1996), *no.* 4, 589–679. (Ruth Lawrence) **98b:57028** 57N10 (33D90, 81R50)

Kaniadakis, G. (*with* Lavagno, A.; Quarati, P.) Kinetic model for q-deformed bosons and fermions. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 227–231. (Summary) **98a:82008** 82B10 (81R50)

Kanibir, Alev (*with* Ganster, Maximilian) On pairwise S-closed spaces. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 129–136. (Summary) **98g:54067** 54E55 (54D20, 54G05)

— (*with* Ganster, Maximilian) An answer to a question of Dorsett. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 33–36. (Summary) **98j:54003** 54A10 (54G05)

Kaniuth, Eberhard Ideal theory in C^*-algebras of discrete groups. (English summary) *Infinite-dimensional harmonic analysis (Tübingen, 1995)*, 128–137, *Gräbner, Tübingen*, 1996. (Keith Taylor) **98c:46115** 46L05 (22D25, 43A40)

— (*with* Archbold, Robert J.) On the primitive ideal space of a finitely generated nilpotent group. (English summary) *Forum Math.* **9** (1997), *no.* 2, 193–210. (Sze-Kai Tsui) **98d:46061** 46L05 (20F18, 22D10)

— (*with* Baggett, Lawrence W.; Moran, William) Primitive ideal spaces, characters, and Kirillov theory for discrete nilpotent groups. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 175–203. (Siegfried Echterhoff) **98k:22025** 22D15 (46L05)

— (*with* Bekka, Mohammed El Bachir; Lau, Anthony T. M.; Schlichting, G.) Weak*-closedness of subspaces of Fourier-Stieltjes algebras and weak*-continuity of the restriction map. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2277–2296. (Siegfried Echterhoff) **98b:22004** 22D10 (43A30)

Kanji, G. K. (*with* Fosam, E. B.) Applications of characterization theory to mixture distributions. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 23–28. 62E10

Kanjin, Yuichi Hardy's inequalities for Hermite and Laguerre expansions. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 3, 331–337. (F. Móricz) **98f:42024** 42C10 (33C45)

Kankaanpää, Jouni On Picard-type theorems and boundary behavior of quasiregular mappings. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 110 (1997), 38 *pp.* (D. Drasin) **98e:30026** 30C65 (30D40)

Kaňková, Vlasta A note on objective functions in multistage stochastic nonlinear programming problems. (English summary) *System modelling and optimization (Prague, 1995)*, 582–589, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C15

— On an ε-solution of minimax problem in stochastic programming. *Distributions with given marginals and moment problems (Prague, 1996)*, 211–216, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 90C15

— On the stability in stochastic programming: the case of individual probability constraints. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 5, 525–546. (V. V. Kolbin) **98m:90095** 90C15 (90C31)

Kann, Viggo Strong lower bounds on the approximability of some NPO PB-complete maximization problems. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 227–236, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q25

— (*with* Alimonti, Paola) Hardness of approximating problems on cubic graphs. (English summary) *Algorithms and complexity (Rome, 1997)*, 288–298, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98h:68105** 68Q25 (05C85, 68R10)

— (*with* Crescenzi, Pierluigi) Approximation on the web: a compendium of NP optimization problems. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 111–118, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68083** 68Q25 (68Q15)

— (*with* Lagergren, Jens; Panconesi, Alessandro) Approximate Max k-Cut with subgraph guarantee. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 145–150. (Summary) **98k:68137** 68R10 (05C15, 05C85)

Kannan, D. Asymptotic volume nullification of singular diffusions. *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 181–185, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 60J60 (60F15, 60H10)

— (*with* Basak, Gopal K.; Zhang, Hong) Stability in distribution and volume nullification of Levy flow. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 2, 151–186. (Summary) **98d:60154** 60J60 (60H10)

— (*with* Tsoi, Allanus H.; Zhang, Bo) Practical stability in pth mean and controllability of Lévy flow. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 65–80. (Summary) **98k:60097** 60H10 (93E15)

Kannan, Nandini (*with* Kundu, Debasis) Constrained maximum likelihood estimators for superimposed exponential signals. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 733–764. (Summary) **98g:62182** 62M15

Kannan, Ravindran Markov chains and polynomial time algorithms. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 656–671, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (68R05)

— (*with* Blum, Avrim L.) Learning an intersection of a constant number of halfspaces over a uniform distribution. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 371–380. (Peter Auer) **98g:68138** 68T05 (68Q99)

— (*with* Dyer, Martin) On Barvinok's algorithm for counting lattice points in fixed dimension. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 545–549. (Uwe Schnell) **98i:52021** 52C07 (90C27)

— (*with* Dyer, Martin; Mount, John) Sampling contingency tables. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 487–506. (Summary) **98i:68124** 68Q25 (60J10, 62H17, 68R05)

Kannan, Sampath (*with* Biswas, Sandip K.) Minimizing space usage in evaluation of expression trees. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 377–390, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68020** 68N15 (68N20, 68Q25)

— (*with* Cowen, Lenore J.; Feigenbaum, Joan) A formal framework for evaluating heuristic programs. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 634–645, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98i:68057** 68N99 (68Q99)

— (*with* Gore, Vivek; Jerrum, Mark; Sweedyk, Z.; Mahaney, Stephen R.) A quasi-polynomial-time algorithm for sampling words from a context-free language. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 59–74. (Peter Kirschenhofer) **98b:68075** 68Q25 (68Q45)

— (*with* Sweedyk, Z.) Consensus of trees—desirable properties and computational methods. *J. Indian Inst. Sci.* **77** (1997), *no.* 4, 353–364. 90A05 (05C05, 68R05)

Kannappan, Palaniappan On inner product spaces. II. (English summary) *Mathware Soft Comput.* **2** (1995), *no.* 1, 61–70. (Alexandru Leonte) **98g:46026** 46C15 (15A63, 39B52)

— (*with* Zhong, Ju Kang; Sahoo, Prasanna K.) On trigonometric functional equations of rectangular type. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 36–53. (László Székelyhidi) **98i:39009** 39B52

— (*with* Ebanks, Bruce R.; Sahoo, Prasanna K.; Sander, Wolfgang) Characterizations of sum form information measures on open domains. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 1–30. (Summary) **98m:39057** 39B05 (39–02, 39B52, 94A17)

— On inner product spaces. I. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 289–296. (Alexandru Leonte) **98g:46025** 46C15 (15A63, 39B22, 39B32)

Kanniappan, P. (*with* Pandian, P.) Proper efficiency and generalized nonconvex duality for vector minimization problems. (English summary) *Opsearch* **34** (1997), *no.* 2, 105–115. (Đinh Thế Luc) **98h:90068** 90C29

Kanno, Hiroaki (*with* Inami, Takeo; Ueno, Tatsuya) Higher-dimensional WZW model on Kähler manifold and toroidal Lie algebra. *Modern Phys. Lett. A* **12** (1997), *no.* 36, 2757–2764. (Summary) **98i:58047** 58D27 (53C55, 81T40)

— (*with* Inami, Takeo; Ueno, Tatsuya; Xiong, Chuan-Sheng) Two-toroidal Lie algebra as current algebra of the four-dimensional Kähler WZW model. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 97–104. (Michael A. I. Flohr) **98j:81118** 81R10 (17B65, 81T40)

Kano, Mikio (*with* Egawa, Yoshimi; Kelmans, Alexander K.) Star partitions of graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 185–190. (Martin Bača) **98e:05087** 05C70

Kano, Tadayoshi (*with* Komatsu, Yukie; Matsumura, Akitaka) A bifurcation phenomenon for the periodic solutions of the Duffing equation. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 191–209. (Sergei A. Dovbysh) **98e:34073** 34C23 (34C15, 34C25, 70K40)

Kano, Yutaka[1] Fourth and fifth order efficiency: Fisher information. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 193–200, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:62040** 62F12 (62B10)

— (*with* Aoshima, Makoto) A note on robustness of two-stage procedure for a multivariate compounded normal distribution. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 175–187. (Peter Watts Jones) **98k:62143** 62L12 (62H12)

Kanoh, Hideaki (*with* Itoh, Takayuki; Abe, Naoto[2]) Nonlinear H_∞ control for heat exchangers controlled by the manipulation of flow rate. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2237–2248. (*see* **98i:00030**) 93B36

Kan-on, Yukio Instability of stationary solutions for a Lotka-Volterra competition model with diffusion. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 158–170. (N. F. Britton) **98h:35117** 35K57 (35B35, 35Q80, 92D40)

— Fisher wave fronts for the Lotka-Volterra competition model with diffusion. *Nonlinear Anal.* **28** (1997), *no.* 1, 145–164. (N. F. Britton) **98b:35200** 35Q80 (35K57, 92D25, 92D40)

Kanovei, Vladimir (*with* Reeken, Michael) Isomorphism property in nonstandard extensions of the ZFC universe. (English summary) *Ann. Pure Appl. Logic* **88** (1997), *no.* 1, 1–25. (Pavol Zlatoš) **98m:03111** 03E70 (03H05)

— Two dichotomy theorems on colourability of non-analytic graphs. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 183–201. (Miroslav Repický) **98m:03103** 03E15 (03E35, 04A15)

— (*with* van Lambalgen, Michiel) On a Spector ultrapower for the Solovay model. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 389–395. (Jakub Jasiński) **98m:03108** 03E40 (03C62, 03E25, 03E45, 03E55, 03E60)

Kanovich, M. I. Simulating computations in second order non-commutative linear logic (preliminary report). (English summary) *Linear logic* 96 (*Tokyo*), 11 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03D35 (03F50)

— (*with* Okada, Mitsuhiro; Scedrov, Andre) Phase semantics for light linear logic (extended abstract). (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (*see* **98f:68012**) 03F50

Kansa, E. J. (*with* Galperin, E. A.; Makroglou, Athena; Nelson, S. A.) Mathematical programming methods in the numerical solution of Volterra integral and integro-differential equations with weakly-singular kernel. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1505–1513. (*see* **98i:00029**) 65R20 (45E05, 45L05)

Kanschat, G. (*with* Führer, Christian) A posteriori error control in radiative transfer. (English and German summaries) *Computing* **58** (1997), *no.* 4, 317–334. (Carl T. Kelley) **98g:85001** 85A25 (45K05, 45L05, 65R20, 82C70, 85–08)

Kansu, Hacer (*with* Özçag, Emin) A result of neutrix convolution of distributions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1399–1411. (Summary) **98k:46068** 46F10

Kant, Goos (*with* Biedl, Therese C.; Kaufmann, Michael) On triangulating planar graphs under the four-connectivity constraint. (English summary) *Algorithmica* **19** (1997), *no.* 4, 427–446. (Summary) **98e:68195** 68R10 (05C10, 05C85)

— (*with* Bodlaender, Hans L.) Triangulating planar graphs while minimizing the maximum degree. (English summary) *Inform. and Comput.* **135** (1997), *no.* 1, 1–14. (Gary MacGillivray) **98m:68213** 68R10 (05C10, 05C85, 68Q25)

— (*with* Chrobak, Marek) Convex grid drawings of 3-connected planar graphs. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 211–223. (Summary) **98a:68179** 68U05 (05C10, 05C85, 68R10)

— (*with* He, Xin[1]) Regular edge labeling of 4-connected plane graphs and its applications in graph drawing problems. (English summary) *Theoret. Comput. Sci.* **172** (1997), *no.* 1-2, 175–193. (Peter Eades) **98b:68152** 68R10 (05C78, 05C85)

— (*with* Biedl, Therese C.) A better heuristic for orthogonal graph drawings. (English summary) *Comput. Geom.* **9** (1998), *no.* 3, 159–180. (Summary) **98j:68161** 68U05 (05C10, 05C85, 68R10)

Kant, Immanuel *see* **Malzkorn, Wolfgang. 98d:01020**; **Bacon, John**; **Forster, Paul**; **Nagai, Hiroshi** *and* **Smirnova, E. D., (98i:03005)**

Kanta, M. (*with* Arnold, André; Krob, Daniel) Recognizable subsets of the two letter plactic monoid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 53–59. (Summary) **98f:68149** 68Q45 (68Q70)

Kanter, Marek Can a quantum process be oblivious to observation? (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5590–5604. (M. J. Mączyński) **98j:81038** 81P15

— Unimodal spectral windows. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 403–411. (Summary) **98e:60025** 60E10

Kanter, Yakov (*with* Greene, Brian R.) Small volumes in compactified string theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 127–145. (Angel Maria Uranga) **98h:81095** 81T30 (32J81, 83E30)

Kanti, P. (*with* Tamvakis, K.) Coloured black holes in higher curvature string gravity. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 30–38. (Summary) **98b:83089** 83E30 (81T30, 81V17, 83C57)

Kantor, I. L. (*with* Trishin, I. M.) The algebra of polynomial invariants of the adjoint representation of the Lie superalgebra $\mathrm{gl}(m, n)$. *Comm. Algebra* **25** (1997), *no.* 7, 2039–2070. (Hedi Benamor) **98c:17007** 17B10

Kantor, Jean-Michel Triangulations of integral polytopes, examples and problems. (English summary) Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 133–144. (Michel Brion) **98e:52009** 52B20 (52B45)

Kantor, Jeffrey C. (*with* Lee, Jay H.; Chikkula, Yugender; Yu, Zhenghong) Improving computational efficiency of model predictive control algorithm using wavelet transformation. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 859–883. 93B40 (65D15, 65T99)

Kantor, William M. (*with* Cameron, Peter J.) Random permutations: some group-theoretic aspects [MR 95b:20006]. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 139–144, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 20B35 (05E99)

— (*with* Babai, László; Goodman, Albert J.; Luks, E. M.; Pálfy, P. P.) Short presentations for finite groups. (English summary) *J. Algebra* **194** (1997), *no.* 1, 79–112. (Colin M. Campbell) **98h:20044** 20F05 (20D08)

— (*with* Calderbank, A. R.; Cameron, Peter J.; Seidel, Johan Jacob) Z_4-Kerdock codes, orthogonal spreads, and extremal Euclidean line-sets. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 2, 436–480. (Jonathan I. Hall) **98i:94039** 94B27 (51E23)

Kantorovich, L. V. *see* **Conference: Applied and Industrial Mathematics in Memory of the Nobel Laureate L. V. Kantorovich**

Kantorovitz, Shmuel Analytic families of semigroups. (English summary) *Semigroup Forum* **54** (1997), *no.* 3, 356–363. (Paolo Acquistapace) **98a:47039** 47D06

Kantowski, R. (*with* Cho, Hing Tong; Dick, Adel) Dirac's field operator Ψ. (English summary) *Clifford algebras and spinor structures*, 257–263, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Jayme Vaz, Jr.) **98i:81090** 81R25

Kantz, Holger (*with* Schreiber, Thomas[2]) ★ Nonlinear time series analysis. (English summary) Cambridge Nonlinear Science Series, 7. *Cambridge University Press, Cambridge*, 1997. xvi+304 *pp. ISBN* 0-521-55144-7 (Publisher's description) **98e:62132** 62M10 (58F13, 58F40)

— (*with* Hegger, R.) Embedding of sequences of time intervals. (English summary) *Europhys. Lett.* **38** (1997), *no.* 4, 267–272. (Hans-Peter Herzel) **98c:58159** 58F40 (92C50)

— (*with* Jaeger, Lars) Structure of generating partitions for two-dimensional maps. (English summary) *J. Phys. A* **30** (1997), *no.* 16, L567–L576. (Alexander Loskutov) **98j:58075** 58F13 (58F08, 82C05)

— (*with* Jaeger, Lars) Homoclinic tangencies and non-normal Jacobians—effects of noise in nonhyperbolic chaotic systems. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 79–96. (Remo Badii) **98c:58109** 58F13 (58F15)

— (*with* Olbrich, Eckehard) Inferring chaotic dynamics from time-series: on which length scale determinism becomes visible. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 63–69. (Hans-Peter Herzel) **98h:58120** 58F13 (82C05)

Kanwal, Ram P. ★ Linear integral equations. (English summary) Second edition. *Birkhäuser Boston, Inc., Boston, MA*, 1997. x+318 *pp. ISBN* 0-8176-3940-3 (K. N. Srivastava) **98c:45001** 45–01

— ★ Generalized functions. (English summary) Theory and technique. Second edition. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xii+462 *pp. ISBN* 0-8176-4006-1 (From the preface) **98i:46001** 46–01 (00A06, 46Fxx, 46N20)

Kanwar, Vinay (*with* Banerjee, Mihir B.; Shandil, R. G.) A proof of Howard's conjecture in homogeneous parallel shear flows. II. Limitations of Fjortoft's necessary instability criterion. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **105** (1995), *no.* 2, 251–257. (Summary) **98b:76028** 76E05

— (*with* Banerjee, Mihir B.; Shandil, R. G.; Prakash, Jyoti; Bandral, Balraj Singh; Lal, Prem) On Howard's conjecture in heterogeneous shear flows instability of modified *s*-waves. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 825–834. (Nikolai A. Belov) **98f:76031** 76E05

Kanzawa, Yuchi (*with* Oishi, Shin'ichi) Approximate singular solutions of nonlinear equations and a numerical method of proving their existence. (English summary) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 216–223. (*see* **98j:65001**) 65H05

Kanzieper, E. (*with* Freilikher, V.) Novel universal correlations in invariant random-matrix models. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 20, 3806–3809. (Summary) **98c:82029** 82B41

Kanzow, Christian (*with* Facchinei, Francisco; Fischer, Andreas[1]) A semismooth Newton method for variational inequalities: the case of box constraints. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 76–90, *SIAM, Philadelphia, PA*, 1997. (Wan Tao Fu) **98d:90122** 90C33 (65H05)

— (*with* Facchinei, Francisco) On unconstrained and constrained stationary points of the implicit Lagrangian. (English summary) *J. Optim. Theory Appl.* **92** (1997), *no.* 1, 99–115. (S. R. Mohan) **98b:90142** 90C33 (90C30)

— (*with* Yamashita, Nobuo; Fukushima, Masao F.) New NCP-functions and their properties. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 115–135. (Michael M. Kostreva) **98e:90193** 90C33

— (*with* Facchinei, Francisco) A nonsmooth inexact Newton method for the solution of large-scale nonlinear complementarity problems. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 493–512. (Zun Quan Xia) **98c:90159** 90C33 (65K05)

— A new approach to continuation methods for complementarity problems with uniform *P*-functions. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 2, 85–92. (Jos F. Sturm) **98b:90146** 90C33

Kao, Chiang (*with* Tang, H. C.) Systematic searches for good multiple recursive random number generators. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 10, 899–905. (Summary) **98d:65011** 65C10

Kao, David T. (*with* de la Torre, Pilar) A uniform analysis of trie structures that store prefixing-keys with application to doubly-chained prefixing-tries. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 542–553, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98g:68027** 68P05

— (*with* de la Torre, Pilar) A uniform approach to the analysis of trie structures that store prefixing-keys. (English summary) *J. Algorithms* **22** (1997), *no.* 2, 270–295. (Summary) **98e:68041** 68P05 (68Q25)

Kao, Hsien-Chung (*with* Lee, Shih-Chang; Tzeng, Wen-Jer) Frenkel-Kontorova model with pinning cusps. (English summary) *Phys. D* **107** (1997), *no.* 1, 30–42. (Summary) **98g:58160** 58F40 (58F27, 82B99)

— (*with* Lee, Kimyeong; Lee, Taejin) BPS domain wall solutions in self-dual Chern-Simons-Higgs systems. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6447–6453. (Summary) **98d:81053** 81T13

Kao, L.-H. (*with* Chakraborti, S.) One-sided sign-type non-parametric procedures for comparing treatments with a control in a randomized complete block design. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 3, 251–264. 62G10

— (*with* Chakraborti, S.) Nonparametric procedures for comparing treatments with a control in a randomized complete block design. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 687–704. 62G10 (62K10)

Kao, Lie-Jane (*with* Notz, W. I.; Dean, Angela M.) Efficient block designs for estimating conditional main effects contrasts. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 249–258, xiii. 62K10

Kao, Ming-Yang (*with* Hsu, Tsan-sheng) Optimal augmentation for bipartite componentwise biconnectivity in linear time (extended abstract). (English summary) *Algorithms and computation (Osaka, 1996)*, 213–222, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Hsu, Tsan-sheng) Optimal bi-level augmentation for selectively enhancing graph connectivity with applications. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 169–178, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05137** 05C85 (05C40)

— Tree contractions and evolutionary trees. (English summary) *Algorithms and complexity (Rome, 1997)*, 299–310, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98b:68004**) 68Q20 (68R10, 92D15)

— (*with* Qi, Junfeng; Tan, Lei) Optimal bidding algorithms against cheating in multiple-object auctions. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 192–201, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:90046** 90A60

— Efficient detection and protection of information in cross tabulated tables. II. Minimal linear invariants. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 187–202. (Summary) **98k:68052** 68P99 (68R10)

— Total protection of analytic-invariant information in cross-tabulated tables. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 1, 231–242. (Editors) **98a:94023** 94A60 (05C90, 68Q22, 68Q25)

— (*with* Feldmann, Anja; Sgall, Jiří; Teng, Shang-Hua) Optimal on-line scheduling of parallel jobs with dependencies. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 393–411. (Summary) **98k:68026** 68M20 (90B35)

Kaper, Hans G. (*with* Garbey, Marc) Heterogeneous domain decomposition for singularly perturbed elliptic boundary value problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1513–1544. (Zheng Hui Xie) **98d:65158** 65N55 (35B25, 35J99)

Kaper, T. J. (*with* Weibel, S.; Baillieul, J.) Global dynamics of a rapidly forced cart and pendulum. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 2, 131–170. (Summary) **98b:70027** 70K40 (34C15, 34H05, 70Q05, 93C15)

Kapila, Vikram (*with* Haddad, Wassim M.) Discrete-time extensions of mixed-μ bounds to monotonic and odd monotonic nonlinearities. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 423–441. 93D15 (93C10)

— (*with* Haddad, Wassim M.) Fixed-architecture controller synthesis for systems with input-output time-varying nonlinearities. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 7, 675–710. (Alexander M. Kovalev) **98h:93011** 93B50 (93D15)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar) Guaranteed domains of attraction for multivariable Lur′e systems via open Lyapunov surfaces. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 935–949. (Xiao Liang He) **98i:93071** 93D10 (93D05)

— (*with* Haddad, Wassim M.) Robust stabilization for continuous-time systems with slowly time-varying uncertain real parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 987–992. 93D09 (93C60)

— (*with* Haddad, Wassim M.; Erwin, Richard S.; Bernstein, Dennis S.) Robust controller synthesis via shifted parameter-dependent quadratic cost bounds. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1003–1007. 93B51

Kapitaniak, Tomasz (*with* Wojewoda, Jerzy) Strange attractors in higher-dimensional phase space. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 169–177, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98b:58114** 58F13

— (*with* Chua, Leon O.) Strange nonchaotic trajectories on torus. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 423–429. (Yong Nian Huang) **98e:58114** 58F12 (58F13)

— (*with* Astakhov, V. V.; Anishchenko, V. S.; Shabunin, A. V.) Synchronization of chaotic oscillators by periodic parametric perturbations. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 11–16. (*see* **98k:58004**) 58F13 (70K50)

— (*with* Maistrenko, Yuriĭ L.; Szuminski, P.) Locally and globally riddled basins in two coupled piecewise-linear maps. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6393–6399. (Summary) **98i:58160** 58F13

— (*with* Maistrenko, Yuriĭ L.) Chaos synchronization and riddled basins in two coupled one-dimensional maps. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 271–282. (*see* **98k:58002**) 58F13 (58F03)

— (*with* Brindley, J.) Preserving transient chaos. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 41–45. 58F13 (34D45)

— *see also* **Applications of chaos**, **98k:58002**

Kapitanskiĭ, L. V. (*with* Rodnianski, Igor; Yajima, Kenji) On the fundamental solution of a perturbed harmonic oscillator. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 77–106. (Jialin Hong) **98m:35033** 35J10 (35A08, 35B20, 81Q05)

Kapitonov, Boris V. Uniform stabilization and exact controllability for a class of coupled hyperbolic systems. (English and Portuguese summaries) *Mat. Apl. Comput.* **15** (1996), *no.* 3, 199–212. (Enrique Zuazua) **98a:93038a** 93C20 (35L05, 93B05, 93D15)

— Stabilization and simultaneous boundary controllability for a pair of Maxwell's equations. (English and Portuguese summaries) *Mat. Apl. Comput.* **15** (1996), *no.* 3, 213–225. (Enrique Zuazua) **98a:93038b** 93C20 (35L05, 93B05, 93D15)

Kapitonov, V. S. (*with* Il′inskiĭ, K. N.) A functional representation for correlators of spin chains. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **224** (1995), *Voprosy Kvant. Teor. Polya i Statist. Fiz.* 13, 192–207, 339; *translation in J. Math. Sci. (New York)* **88** (1998), *no.* 2, 233–243. (Nicolae Angelescu) **98a:82009** 82B10 (82B23)

— (*with* Malyshev, K. L.; Popov, V. N.; Sevast′yanov, P. A.) Path integration and Bose spectrum in the antiferromagnetic state of the two-dimensional weakly repulsive Hubbard model. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 89–96. 82D55

— (*with* Malyshev, K. L.; Popov, V. N.; Sevast′yanov, P. A.) Effective action and the spectrum of collective modes in the antiferromagnetic phase of the three-band repulsive Hubbard model. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 216–230, 286. 82B20

Kapitsa, Petr Leonidovich P. Kapitsa—in defense of Luzin. (Russian) *Priroda* **1997**, *no.* 9, 111–112. 01A80 (01A70)

— *see also* **Rubinin, P. E.**, **98f:01085a**; **Monologues about Kapitsa**, **98f:01085b**; **Esakov, V. D.** *and* **Felenberg, E. L.**

Kaplan, A. A. (*with* Tichatschke, Rainer) On a class of terminal variational problems. (English summary) *Parametric optimization and related topics, IV (Enschede, 1995)*,

185–199, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Alexander Shapiro) **98c:90174** 90C34 (90C31, 90C48)

— (*with* Tichatschke, Rainer) Multi-step proximal method for variational inequalities with monotone operators. (English summary) *Recent advances in optimization* (*Trier*, 1996), 138–153, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (M. Teboulle) **98i:90102** 90C33 (47H19, 47N10, 49J40)

— (*with* Tichatschke, Rainer) Prox-regularization and solution of ill-posed elliptic variational inequalities. (English summary) *Appl. Math.* **42** (1997), *no.* 2, 111–145. (Daniel Goeleven) **98b:49009** 49J40 (35J85, 47H19, 49M99, 65K10)

— (*with* Hettich, R.; Tichatschke, Rainer) Regularized penalty methods for ill-posed optimal control problems with elliptic equations. I. Distributed control with bounded control set and state constraints. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 5–27. (Fredi Tröltzsch) **98h:49035** 49M30 (49K20)

— (*with* Hettich, R.; Tichatschke, Rainer) Regularized penalty methods for ill-posed optimal control problems with elliptic equations. II. Distributed and boundary control with unbounded control set and state constraints. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 29–43. (Fredi Tröltzsch) **98h:49036** 49M30 (49K20)

— (*with* Tichatschke, Rainer) On the numerical treatment of a class of semi-infinite terminal problems. (English summary) *Optimization* **41** (1997), *no.* 1, 1–36. (Summary) **98d:90127** 90C34 (65J15)

Kaplan, Annie (*with* Casey, James) Adhémar-Jean-Claude Barré de Saint-Venant: 23 August 1797–6 January 1886. *Math. Mech. Solids* **2** (1997), *no.* 4, 371–378. 01A70 (01A55)

Kaplan, David Dthat. *The philosophy of language*, 292–305, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— Quantifying in. *The philosophy of language*, 347–368, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05 (03B65)

Kaplan, David B. (*with* Schmaltz, Martin) Domain wall fermions and the η-invariant. (English summary) *Phys. Lett. B* **368** (1996), *no.* 1-2, 44–52. (Summary) **98f:81215** 81T16 (58G26)

Kaplan, David M. (*with* Michelson, Jeremy) Scattering of several multiply charged extremal $D = 5$ black holes. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 125–130. (C. Gauthier) **98i:83078** 83E30 (81T30, 83C57, 83E50)

— (*with* Lowe, David A.; Maldacena, Juan M.; Strominger, Andrew) Microscopic entropy of $N = 2$ extremal black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4898–4902. (C. Gauthier) **98g:83105** 83E30 (81T30, 83C57)

Kaplan, Gil On groups admitting a disconnected common divisor graph. (English summary) *J. Algebra* **193** (1997), *no.* 2, 616–628. (Cheryl E. Praeger) **98g:20010** 20B25 (05C25, 20B05, 20B27)

Kaplan, Pierre (*with* Mimura, Yoshio) Développement en fraction continue à l'entier supérieur, idéaux 0-réduits et un problème d'Eisenstein. [Highest-integer continued fraction expansion, 0-reduced ideals and a problem of Eisenstein] *Acta Arith.* **78** (1997), *no.* 3, 275–285. (Franz Halter-Koch) **98e:11125** 11R11 (11A55, 11D09)

Kaplan, Samuel R. Dynamics of the collinear one-bumper two-body problem. *J. Differential Equations* **140** (1997), *no.* 2, 378–414. (Josefina Casasayas) **98m:70013** 70F05 (70F07, 70F15, 70F35)

Kaplan, W. On close-to-convex-Schwarz-Christoffel mappings. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 137–143. (Summary) **98m:30016** 30C45

Kaplansky, Irving (*with* Bussemaker, Frans; McKay, Brendan D.; Seidel, Johan Jacob) Determinants of matrices of the conference type. (English summary) *Linear Algebra Appl.* **261** (1997), 275–292. (Jorma Kaarlo Merikoski) **98d:15009** 15A15 (15A36)

Kaplunovsky, Vadim S. (*with* Cáceres, Elena; Mandelberg, I. Michael) Large-volume string compactifications, revisited. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 73–100. (Angel Maria Uranga) **98f:81243** 81T30 (83E30)

— (*with* Brandhuber, A.; Itzhaki, N.; Sonnenschein, Jacob; Yankielowicz, Shimon) Comments on the M theory approach to $N = 1$ SQCD and brane dynamics. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 27–35. 81V05 (81T30)

Kapoor, A. K. (*with* Bhalla, R. S.; Panigrahi, P. K.) Quantum Hamilton-Jacobi analysis of phases of supersymmetry in quantum mechanics. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 10, 1875–1894. (Summary) **98i:81064** 81Q60

— (*with* Bhalla, R. S.; Panigrahi, P. K.) Energy eigenvalues for a class of one-dimensional potentials via quantum Hamilton-Jacobi formalism. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 5, 295–306. (Summary) **98a:81023** 81Q05

Kapoor, Ajai (*with* Conforti, Michele; Cornuéjols, Gérard; Vušković, Kristina) Universally signable graphs. (English summary) *Combinatorica* **17** (1997), *no.* 1, 67–77. (Dalibor Fronček) **98g:05134** 05C78

Kapoor, Sanjiv (*with* Hariharan, Ramesh; Kumar, Vijay[3]) Faster enumeration of all spanning trees of a directed graph. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 428–439, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C05, 05C20, 05C85)

— (*with* Das, Gautam; Smid, Michiel) On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 64–75, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98k:68084** 68Q25 (90C27)

— (*with* Singh, Tripurari) Dynamic maintenance of shortest path trees in simple polygons. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 123–134, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68U05

— On minimum 3-cuts and approximating k-cuts using cut trees. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 132–146, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98b:90112** 90C27 (90C35)

— (*with* Maheshwari, Sachindra Nath; Mitchell, Joseph S. B.) An efficient algorithm for Euclidean shortest paths among polygonal obstacles in the plane. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 377–383. (Rade Živaljević) **98k:52035** 52B55 (52B05, 68U05)

Kapor, D. (*with* Škrinjar, M.; Budinčević, Mirko) The solution of the system of difference equations appearing in the theory of surface magnetism. (English summary) *PRIM '96* (*Budva*), 399–409, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 86A25 (65F30)

Kapoudjian, C. (*with* El Karoui, Nicole; Pardoux, Etienne; Peng, Shi Ge; Quenez, M. C.) Reflected solutions of backward SDE's, and related obstacle problems for PDE's. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 702–737. (Philip Protter) **98k:60096** 60H10 (35K85, 35R60, 60H30)

Kapouleas, Nicolaos On desingularizing the intersections of minimal surfaces. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 34–41, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Fei-Tsen Liang) **98k:53010** 53A10

Kapoulitsas, G. M. On the equilibrium of fluids in accelerating frames. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 123–136. (From the introduction) **98d:76029** 76B99 (76U05)

Kapovich, Ilya (*with* Short, Hamish) Greenberg's theorem for quasiconvex subgroups of word hyperbolic groups. (English summary) *Canad. J. Math.* **48** (1996), *no.* 6, 1224–1244. (Tadeusz Januszkiewicz) **98g:20060** 20F32 (57M07)

— Amalgamated products and the Howson property. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 330–340. (D. E. Cohen) **98i:20022** 20E06 (20F32)

— Quasiconvexity and amalgams. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 771–811. (Athanase Papadopoulos) **98k:20057** 20F32 (20E06, 57M07)

Kapovich, M. È. (*with* Millson, John J.) On the moduli space of polygons in the Euclidean plane. (English summary) *J. Differential Geom.* **42** (1995), *no.* 1, 133–164. (Summary) **98b:52019** 52B99 (57M99)

— (*with* Millson, John J.) The symplectic geometry of polygons in Euclidean space. (English summary) *J. Differential Geom.* **44** (1996), *no.* 3, 479–513. (Athanase Papadopoulos) **98a:58027** 58D29 (58F05)

— (*with* Leeb, Bernhard) Actions of discrete groups on nonpositively curved spaces. *Math. Ann.* **306** (1996), *no.* 2, 341–352. (Ricardo F. Vila Freyer) **98j:57022** 57M50 (20F32, 53C21, 57S30)

— (*with* Millson, John J.) Artin groups, projective arrangements, and fundamental groups of smooth complex algebraic varieties. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 871–876. (Summary) **98i:20040** 20F36 (14F35)

— (*with* Leeb, Bernhard) Quasi-isometries preserve the geometric decomposition of Haken manifolds. (English summary) *Invent. Math.* **128** (1997), *no.* 2, 393–416. (Athanase Papadopoulos) **98k:57029** 57N10 (53C23, 57M50)

— (*with* Millson, John J.) Hodge theory and the art of paper folding. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 1, 1–31. (Athanase Papadopoulos) **98a:58028** 58D29 (32G20)

— On the dynamics of pseudo-Anosov homeomorphisms on representation varieties of surface groups. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 83–100. (Feng Luo) **98k:57019** 57M50 (30C65, 30F40, 58F15)

Kappe, Luise-Charlotte (*with* Garrison, David J.) Metabelian groups with all cyclic subgroups subnormal of bounded defect. (English summary) *Infinite groups* 1994 (*Ravello*), 73–85, *de Gruyter, Berlin*, 1996. (H. Heineken) **98i:20033** 20F14 (20F45)

— (*with* Bell, Howard E.; Klein, Abraham A.) An analogue for rings of a group problem of P. Erdös and B. H. Neumann. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 57–67. (Yasuyuki Hirano) **98k:16047** 16U80 (16P10, 16U50)

— (*with* Bacon, Michael R.; Morse, Robert Fitzgerald) On the nonabelian tensor square of a 2-Engel group. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 353–364. (D. L. Johnson) **98i:20042** 20F45 (20F19)

Kappel, Franz (*with* Ito, Kazufumi) The Trotter-Kato theorem and approximation of PDEs. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 21–44. (Paolo Acquistapace) **98e:47060** 47D06 (35A35, 47N20, 65M06)

Kappeler, T. (*with* Grébert, B.; Mityagin, B.) Gap estimates of the spectrum of the Zakharov-Shabat system. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 95–97. 35Q55 (34L05)

Kappert, M. On the zeros of the partial sums of $\cos(z)$ and $\sin(z)$. (English summary) *Numer. Math.* **74** (1996), *no.* 4, 397–417. (Miodrag Petković) **98e:30004** 30C15

Kappmeier, H. (*with* Barrett, John W.; Knabner, Peter) Lagrange-Galerkin approximation for advection-dominated contaminant transport with nonlinear equilibrium or non-equilibrium adsorption. (English summary) *Modeling and computation in environmental sciences* (*Stuttgart*, 1995), 36–48, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98j:76103** 76M25

Kappos, Efthimios (*with* Sánchez-Garduño, Faustino; Maini, Philip K.) A review on travelling wave solutions of one-dimensional reaction-diffusion equations with non-linear diffusion term. (English summary) *Forma* **11** (1996), *no.* 1, 45–59. (Arnaldo do Nascimento) **98h:35119** 35K57 (92C20, 92E20)

— The Conley index and global bifurcations. II. Illustrative applications. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2491–2505. (Christopher K. McCord) **98d:58129** 58F14 (34C23, 34C35, 58F25)

Kapralov, Stoyan (*with* Boukliev, Iliya; Daskalov, Rumen N.) Optimal quaternary linear codes of dimension five. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1228–1235. (Summary) **98b:94017** 94B05

— (*with* Boukliev, Iliya; Maruta, Tatsuya; Fukui, Masaharu) Optimal linear codes of dimension 4 over F_5. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 308–313. (Summary) **98m:94042** 94B05

— (*with* Topalova, Svetlana) Enumeration of 2-(21, 6, 3) designs with automorphisms of order 7 or 5. (English summary) *Ars Combin.* **48** (1998), 135–146. (Summary) **98m:05016** 05B05

Kapranov, Mikhail (*with* Ginzburg, V. A.; Vasserot, Eric) Residue construction of Hecke algebras. (English summary) *Adv. Math.* **128** (1997), *no.* 1, 1–19. (Andrew Pressley) **98k:20074** 20G05 (20C15)

— Eisenstein series and quantum affine algebras. Algebraic geometry, 7. *J. Math. Sci. (New York)* **84** (1997), *no.* 5, 1311–1360. (I. Dolgachev) **98i:11033** 11F55 (11F22, 14F05, 17B37)

Kapron, B. M. (*with* Gurov, Dilian; Berezin, S.) A modal μ-calculus and a proof system for value passing processes. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68165** 68Q60 (03B45, 03B70, 68Q10)

Kaps, Peter (*with* Engstler, Christian) A comparison of one-step methods for multibody system dynamics in descriptor and state space form. (English summary) *Appl. Numer.*

Math. **24** (1997), *no.* 4, 457–468. (Summary) **98c:70002** 70–08 (34A09, 65L06, 70E99, 70F25)

Kaptsov, O. V. Construction of exact solutions of systems of diffusion equations. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 107–115. 35C05 (35K55)

Kapur, Arjun (*with* de Alfaro, Luca; Manna, Zohar) Hybrid diagrams: a deductive-algorithmic approach to hybrid system verification. (English summary) *STACS* 97 (*Lübeck*), 153–164, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q60

Kapur, Deepak (*with* Sivakumar, G.) Maximal extensions of simplification orderings. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 225–239, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98b:68095** 68Q42

— (*with* Subramaniam, Mahadevan) Automating induction over mutually recursive functions. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 117–131, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68T15 (03B35)

— Shostak's congruence closure as completion. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 23–37, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68Q42 (03B35, 03C05, 68T15)

— (*with* Sivakumar, G.) A total, ground path ordering for proving termination of AC-rewrite systems. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 142–156, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Summary) **98j:68075** 68Q42

— (*with* Van Hentenryck, Pascal; McAllester, David A.) Solving polynomial systems using a branch and prune approach. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 797–827. (Ljiljana Petković) **98g:65050** 65H10 (65G10)

— (*with* Krishna Rao, M. R. K.; Shyamasundar, R. K.) Transformational methodology for proving termination of logic programs. (English summary) *J. Logic Programming* **34** (1998), *no.* 1, 1–41. (Summary) **98i:68048** 68N17

Kapur, J. N. Some new measures of fuzziness or how fuzzy is a fuzzy set? *Bull. Allahabad Math. Soc.* **5** (1990), 1–19 (1991). (Claudi Alsina) **98c:04005** 04A72

— ★ Transformation geometry. (English summary) Second edition. *Mathematical Sciences Trust Society, New Delhi*, 1995. viii+257 *pp.* (From the preface) **98m:51001** 51–02

— ★ Fascinating world of mathematical sciences. Vol. XVI. (English summary) Culture, history, education, excitement and relevance of mathematics. VI. *Mathematical Sciences Trust Society, New Delhi*, 1997. xvi+240 *pp.* (Michael A. B. Deakin) **98j:00001a** 00A05

— ★ Fascinating world of mathematical sciences. Vol. XVII. (English summary) Culture, history, education, excitement and relevance of mathematics. VII. *Mathematical Sciences Trust Society, New Delhi*, 1997. viii+200 *pp.* (Michael A. B. Deakin) **98j:00001b** 00A05

— ★ Fascinating world of mathematical sciences. Vol. XVIII. (English summary) Culture, history, excitement, education and relevance of mathematics. VIII. *Mathematical Sciences Trust Society, New Delhi*, 1997. viii+236 *pp.* (Michael A. B. Deakin) **98j:00001c** 00A05

— ★ A life with mathematics and education. (English summary) An autobiography. *Mathematical Sciences Trust Society, New Delhi*, 1997. viii+308 *pp.* (Jeremy Gray) **98j:01035** 01A70

— ★ Measures of fuzzy information. (English summary) *Mathematical Sciences Trust Society, New Delhi*, 1997. vi+138 *pp.* (Leandro Pardo) **98m:94013** 94A15 (94A17, 94D05)

— ★ 1000 mathematical challenges. From mathematical olympiads. *Mathematical Sciences Trust Society, New Delhi*, 1997. vi+177 *pp.* 00A07

— ★ Ramanujan's miracles. (English summary) A drama to demystify mathematics. *Mathematical Sciences Trust Society, New Delhi*, 1997. vi+98 *pp.* 01A70 (11–03)

— ★ Research methodology for scientists and engineers. (English summary) *Mathematical Sciences Trust Society, New Delhi*, 1997. viii+152 *pp.* 00A35 (01A99)

— ★ Counting without counting. (English summary) Some glimpses into the fascinating world of combinatorial mathematics. *Mathematical Sciences Trust Society, New Delhi*, 1997. vi+106 *pp.* 05–01 (05A15)

— *see also* **Some eminent Indian mathematicians of the twentieth century**, **98m:01037**

Kapur, Sharad (*with* Rokhlin, Vladimir V.) High-order corrected trapezoidal quadrature rules for singular functions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1331–1356. (S. Dubuc) **98k:65011** 65D32 (41A55)

Kapurkin, Andrei (*with* Lube, Gert) A domain decomposition method for singularly perturbed elliptic problems. (English summary) *Fast solvers for flow problems* (*Kiel*, 1994), 151–162, *Notes Numer. Fluid Mech.*, 49, *Vieweg, Braunschweig*, 1995. (Alberto Valli) **98b:65137** 65N55 (65N30, 76M25)

Kapustin, N. Yu. On spectral problems that arise in the theory of the parabolic-hyperbolic heat equation. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 6, 736–739. (Nickolai A. Lar'kin) **98d:35159** 35M10 (34B05, 34L05)

— (*with* Moiseev, E. I.) On a spectral problem from the theory of the parabolic-hyperbolic heat equation. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 451–454. (Zoran Kadelburg) **98c:34132** 34L10 (34L40, 35K65, 35M10)

Kapustin, V. V. One-dimensional perturbations of singular unitary operators. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 118–122, 216. (From the text) **98f:47013** 47A55 (47A45, 47B15, 47B38)

Kapusto, A. V. The Bernoulli equation with generalized coefficients. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1561–1562, 1583; *translation in Differential Equations* **32** (1996), *no.* 11, 1558–1559 (1997). (Summary) **98i:34013** 34A30

Kar, B. K. *see* **Blackburn, Simon R. et al.**, **98b:94011**

Kar, Guruprasad (*with* Home, Dipankar) Collapse-induced quantum nonlocal effect. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1765–1770. 81P05

— Hardy's nonlocality for mixed states. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 119–120. (Summary) **98f:81017** 81P05

— Testing Hardy's nonlocality with n spin-1/2 particles. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 1023–1024. (Kang-Jie Shi) **98f:81032** 81P15

— (*with* Ghosh, Sibasish) Hardy's nonlocality for two spin-s particles. (English summary) *Phys. Lett. A* **240** (1998), *no.* 4-5, 191–195. 81P10

Kar, I. N. (*with* Saha, S.) A procedure to compute a common Lyapunov function for a class of stable LTI systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 4, 21–27 (1997). 93B40 (93D05)

Kar, Sayan Focusing of timelike world sheets in a theory of strings. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7921–7925. (Summary) **98f:81264** 81T30 (83E30)

— (*with* Bose, Sukanta) Exact solutions in two-dimensional string cosmology with back reaction. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, R4444–R4448. (Summary) **98g:83117** 83F05 (83C15)

Kar, Supriya D-branes and twelve dimensions. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 110–126. (Miguel A. Vázquez-Mozo) **98i:81208** 81T30 (83E30)

Kar, T. K. (*with* Lahiri, Abhijit; Ghosh, Gautam) Action-angle variables in quantum mechanics. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 239–243. (Summary) **98m:81087** 81S99

Kara, A. H. (*with* Ibragimov, N. Kh.; Mahomed, F. M.) Lie-Bäcklund and Noether symmetries with applications. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 2, 115–136. (Frans Cantrijn) **98m:58124** 58F37 (35A30, 58F05, 58G37)

Kara, H. Generalized sequence spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 19–24. 46A45 (40J05)

Karaa, Samir Isoperimetric upper bounds for the eigenvalues of the Sturm-Liouville type. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 835–840. (Gianni Arioli) **98j:34169** 34L15 (34B24)

Karaata, M. H. (*with* Chaudhuri, Pranay) A self-stabilizing algorithm for strong fairness. (English summary) *Computing* **60** (1998), *no.* 3, 217–228. (Summary) **98m:68010** 68M10 (68Q22)

Karabali, Dimitra (*with* Nair, V. P.) A gauge-invariant Hamiltonian analysis for non-abelian gauge theories in (2 + 1) dimensions. (English summary) *Nuclear Phys. B* **464** (1996), *no.* 1-2, 135–152. (George K. Savvidy) **98b:81143** 81T13 (81T20, 81T70)

— (*with* Nair, V. P.) Gauge invariance and mass gap in (2 + 1)-dimensional Yang-Mills theory. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1161–1171. (Luigi Martina) **98k:81249** 81T40 (81T13)

Karaballi, A. A. (*with* Sallam, Samir Mohamed) Lacunary interpolation by quartic splines on uniform meshes. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 97–104. (Peter Alfeld) **98d:41012** 41A15 (65D07)

Karabed, Razmik (*with* Ashley, Jonathan J.; Siegel, Paul H.) Complexity and sliding-block decodability. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1925–1947. (J. C. Hwang) **98i:94040** 94B35 (05C90, 68Q25)

Karabegov, A. V. Berezin's quantization on flag manifolds and spherical modules. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1467–1479. (Albert Jeu-Liang Sheu) **98i:58106** 58F06 (22E46, 22E47)

Karabelas, A. J. (*with* Kostoglou, M.) An explicit relationship between steady-state size distribution and breakage kernel for limited breakage processes. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L685–L691. 82B99

Karabulut, I. (*with* Lahiri, Soumendra Nath) Two-term Edgeworth expansion for M-estimators of a linear regression parameter without Cramér-type conditions and an application to the bootstrap. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 361–370. (Lin-Cheng Zhao) **98g:62046** 62F12 (62G09, 62J05)

Karabut, E. A. A family of exact solutions that are close to gravitational waves of maximum amplitude. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 623–626; *translation in Phys. Dokl.* **40** (1995), *no.* 10, 534–537. 76B15

Karabutov, N. N. Identification of uncertain systems. I. Adaptive proportionally integral algorithms with uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 118–130; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 2, 1795–1805 (1998). 93B30 (93B40)

Karachik, V. V. On a problem for the Poisson equation with higher-order normal derivatives on the boundary. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 3, 416–418, 431; *translation in Differential Equations* **32** (1996), *no.* 3, 421–424. (Galina P. Lopushanska) **98a:35023** 35J25 (35J05)

— Continuity of polynomial solutions with respect to the coefficient of the higher derivative. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1229–1234. 35C10 (35E20)

— (*with* Bondarenko, B. A.) Normalized systems of polyharmonic polynomials and their application to the solution of the Riquier problem. (Russian. English, Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 103 (1997), 87–96, 152. 31B35 (35J99)

Karadayi, H. R. (*with* Gungormez, M.) An explicit construction of Casimir operators and eigenvalues. I. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5976–5990. (Stephen Slebarski) **98m:17014** 17B20

— (*with* Gungormez, M.) An explicit construction of Casimir operators and eigenvalues. II. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5991–6007. (Stephen Slebarski) **98m:17015** 17B10 (17B20)

Karaesmen, Fikri (*with* Gupta, Surendra M.) Duality relations for queues with arrival and service control. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 529–538. (Summary) **98a:90048** 90B22

Karafiat, Andrzej (*with* Sławik, Lech) A posteriori error estimates for operator equations. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 241–248, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:65079** 65J15 (47H17)

— On hp-error estimation in the BEM for a three-dimensional Helmholtz exterior problem. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 199–214. (G. W. Hedstrom) **98h:76089** 76M15 (65N38, 76Q05)

Karageorghis, Andreas Conforming spectral domain decomposition schemes. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 220–226, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65N55

— (*with* Paprzycki, Marcin) High performance solution of linear systems arising from conforming spectral approximations for non-conforming domain decompositions. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 373–379, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65N55 (65F30)

— (*with* Paprzycki, Marcin) Direct methods for spectral approximations in nonconforming domain decompositions. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 75–82. 65N55

— (*with* Poullikkas, A.; Georgiou, Georgios C.) Methods of fundamental solutions for harmonic and biharmonic boundary value problems. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 416–423. 65N30 (65N35)

— (*with* Poullikkas, A.; Georgiou, Georgios C.) The method of fundamental solutions for Signorini problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 273–285. (Summary) **98m:65210** 65N38 (73V05, 76M10)

Karagueuzian, Dikran (*with* Adem, Alejandro) Essential cohomology of finite groups. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 101–109. (Carl Riehm) **98f:20038** 20J06

Karagulyan, G. A. On the convergence in L^p of orthogonal series on sets of almost full measure. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 2, 59–66 (1996). (Kazaros Kazarian) **98b:42050** 42C15

— On the growth of integral means of functions from $L^1(\mathbf{R}^n)$. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 1–12. (Sorin Gheorghe Gal) **98d:41044** 41A65 (41A63, 42B08)

Karaivanova, A. N. (*with* Dimov, Ivan T.) Iterative Monte Carlo algorithms for linear algebra problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 150–160, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65C05 (65F10)

Karakashian, Ohannes (*with* Makridakis, Charalambos) A space-time finite element method for the nonlinear Schrödinger equation: the discontinuous Galerkin method. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 479–499. (Do Young Kwak) **98i:65078** 65M60

Karakhanyan, D. R. Erratum: "Area-preserving algebra structure of two-dimensional supergravity" [Phys. Lett. B **365** (1996), no. 1-4, 56–58; MR 96m:81200]. *Phys. Lett. B* **402** (1997), *no.* 3-4, 384. 81T40 (81T60, 83E50)

— The effective action of W_3-gravity. *J. Experiment. Theoret. Phys.* **84** (1997), *no.* 5, 843–850; *translated from Zh. Èksper. Teoret. Fiz.* **111** (1997), *no.* 5, 1537–1553 (*Russian*). (Summary) **98e:81116** 81T16 (81R10, 81T50)

Karakhanyan, M. I. Asymptotic properties of commutators. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 1, 50–58 (1996). (E. A. Gorin) **98b:46064** 46H05 (46L99, 47B47)

Karakisawa, Takao (*with* Bekki, Naoaki) Bifurcation in 2-dimensional Boussinesq magnetic field convection. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 242–247. (*see* **98g:76052**) 76W05 (76E25)

Karakostas, George A local attractor for the planar system $\dot{x} = y$, $\dot{y} = -F(x, y)$. *Advances in nonlinear dynamics*, 71–77, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Wenxian Shen) **98j:34105** 34D45 (34C25)

Karakostas, K. X. (*with* Papageorgiou, Ioulia) Exact optimum sampling designs for autocorrelated finite populations: the moving average case. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 161–178. (Summary) **98m:62210** 62K05 (62D05)

Karakostas, Vassilios The conventionality of simultaneity in the light of the spinor representation of the Lorentz group. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 2, 249–276. (Peter R. Law) **98m:83003** 83A05 (22E43, 83–03)

Karami, G. (*with* Hematiyan, M. R.) Field boundary element formulation of materially nonlinear and large deformation analysis. (English and Farsi summaries) *Iranian J. Sci. Tech.* **21** (1997), *no.* 3, *Trans. B Tech.*, 229–255, 345. 73V10 (73C50, 73G05)

Karamikhova, Rossitza Finite element analysis and approximations of a Ginzburg-Landau model of superconductivity. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1893–1904. (*see* **98i:00029**) 82D55 (65M70)

Karampetakis, N. P. Generalized inverses of two-variable polynomial matrices and applications. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 439–453. (Guo Rong Wang) **98i:15008** 15A09 (39B42, 65F20, 93C35)

— Comments on: "Reachability of polynomial matrix descriptions (PMDs)" [Circuits Systems Signal Process. **14** (1995), no. 6, 787–815; MR 97c:93015] by G. F. Fragulis and A. I. G. Vardulakis. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 559–568. (Summary) **98i:93003** 93B05 (15A09, 93C05)

— Computation of the generalized inverse of a polynomial matrix and applications. (English summary) *Linear Algebra Appl.* **252** (1997), 35–60. (A. M. Galperin) **98c:65066** 65F20 (93C05)

— (*with* Jones, Jon; Pugh, A. C.) The computation and application of the generalized inverse via Maple. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 99–124. 65–04 (65F10)

Karamyshev, V. B. (*with* Kukartseva, O. V.) On the optimization of the relaxation method for solving the three-dimensional problems of transonic aerodynamics. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 151–162. (Summary) **98a:76062** 76M20 (65M06, 76H05)

Karamzadeh, O. A. S. On a question of Matlis. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2717–2726. (John Dauns) **98f:16005** 16D50 (16D40, 16E50)

Karamzin, Yu. N. (*with* Zakharova, I. G.) New additive difference method for solving semiconductor problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **11** (1996), *no.* 6, 477–485. (Luis Vázquez) **98d:65110** 65M06 (78A55, 82D99)

Karanasios, Sotirios Factorizations with respect to a commutative subspace lattice. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 209–216. (Allan P. Donsig) **98m:47021** 47A68 (47D25)

Karandikar, R. L. (*with* Bhatt, Abhay G.; Kallianpur, Gopinath; Xiong, Jie) On interacting systems of Hilbert-space-valued diffusions. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 151–188. (Constantin Tudor) **98m:60123** 60J60 (60B10, 60H15)

Karandzhulov, Lyudmil I. Generalized Green's matrix for linear pulse boundary-value problems. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 7, 929–937 (1995). (A. S. Vatsala) **98a:34014** 34A37 (34A30, 34B05, 34B27)

Karanikas, C. (*with* Bisbas, A.; Proios, G.) On the distribution of digits in dyadic expansions. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 40–49. (V. Drobot) **98m:11084** 11K55 (28D99)

Karapetian, I. *see* **Karapetyan, I. A.**

Karapetyan, A. G. On the minimum modulus of trigonometric polynomials with random coefficients. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 451–455; *translation in Math. Notes* **61** (1997), *no.* 3-4, 369–373. 60G17 (42A05)

— On the values of random polynomials in a neighborhood of the unit circle. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 142–145; *translation in Math. Notes* **63** (1998), *no.* 1-2, 127–130. 60G99 (42A05, 42A61)

Karapetyan, A. V. Invariant sets of mechanical systems with symmetry. (Russian) *Computational mathematics and information science* (*Russian*) (*Moscow*, 1995), 74–86, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (Igor Gashenenko) **98g:70014** 70H33 (58F10, 70E15, 70F25, 70K20)

— *see also* **Computational mathematics and information science**, **98b:00022**

Karapetyan, I. A. (*with* Markosyan, S. E.; Gasparyan, G. S.; Markosyan, A. S.) On essential components and critical sets of a graph. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 137–153. (Olivia M. Carducci) **98m:05167** 05C75

Karapetyants, A. N. (*with* Nogin, Vladimir A.) Description of functions in anisotropic spaces of complex order, and its application. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 13–15. (Zinovi Sheftel) **98b:46044** 46E35

— (*with* Nogin, Vladimir A.) Complex powers of second-order elliptic differential operators with degenerate symbols in the spaces $L_p(\mathbf{R}^n)$. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 10–12. 35J15 (47G30)

Karapetyants, Nikolai K. On an isomorphism between generalized Hölder spaces implemented by the fractional integration operator. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 221–225, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 46E15

— (*with* Mussalaeva, Z. U.) On the solvability of an integral equation of fractional order in generalized Hölder classes. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1102–1109, 1150; *translation in Differential Equations* **32** (1996), *no.* 8, 1107–1114 (1997). (Yuri I. Cherskiĭ) **98j:45001** 45A05 (26A33)

— (*with* Ochirova, V. L.) On a necessary condition for convergence of averages at Lebesgue p-points of a function in L_p. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 9, 27–32; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 9, 24–29 (1997). (Song Ping Zhou) **98e:42009** 42A85

— (*with* Kilbas, A. A.; Saĭgo, Megumi) On the solution of nonlinear Volterra convolution equation with power nonlinearity. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 4, 429–445. (S. N. Askhabov) **98c:45007** 45G10 (47G10, 47N20)

— (*with* Ginzburg, A. I.) Lebesgue points and fractional integrals. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 163–166. (Anatoly Kilbas) **98f:26005** 26A33 (47G10)

— Local estimates for fractional integral operators and potentials. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 137–142, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:47113** 47G10 (26A33)

Karaś, Marek An estimate of the geometric degree of an extension of some polynomial proper mappings. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 131–135. (M. Kh. Gizatullin) **98e:14014** 14E99 (32H35)

Karas, Vladimír (*with* Dovčiak, M.) Region of magnetic dominance near a rotating black hole. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 1011–1022. (Summary) **98d:83054** 83C57

Karásek, Jiří Rotations of λ-lattices. (English summary) *Math. Bohem.* **121** (1996), *no.* 3, 293–300. (E. Fried) **98a:06002** 06A06 (06A15, 06B05)

— Double n-ary relational structures. (English summary) *Math. Bohem.* **122** (1997), *no.* 2, 169–174. (Branimir Šešelja) **98k:04001** 04A05 (08A02)

Karasev, Mikhail Quantization by membranes and integral representations of wave functions. (English summary) *Quantization and infinite-dimensional systems* (*Bialowieza*, 1993), 9–19, *Plenum, New York*, 1994. (Summary) **98a:81092** 81S10 (58F06, 81R30)

— (*with* Pereskokov, A. V.) Turning points, phase shifts, and quantization rules in ordinary differential equations with a local rapidly decreasing nonlinearity. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **56** (1995), 107–176, 350; *translation in Trans. Moscow Math. Soc.* **1995**, 81–135. (Peter N. Zhevandrov) **98e:34098** 34E05 (34E20, 34L30)

— (*with* Vorob'ev, Yu. M.) Symplectic curvature and the Arnold form over an isotropic submanifold. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3789–3799. (Raúl Ibáñez) **98d:58061** 58F05 (53C15)

— (*with* Novikova, E. M.) Representation of exact and quasiclassical eigenfunctions in terms of coherent states. The hydrogen atom in a magnetic field. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 3, 339–387; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 3, 1119–1159 (1997). (Summary) **98b:81083** 81R30 (33C90, 47N50, 81V45)

Karasëv, V. P. sl(2) variational schemes for solving one class of nonlinear quantum models. (English summary) *Phys. Lett. A* **238** (1998), *no.* 1, 19–28. (Summary) **98k:81088** 81R05 (81Q05)

Karaseva, E. Yu. (*with* Zakharov, E. V.) Numerical experiments with hemodynamics of the arterial part of the myocardium. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 288–296. (*see* **98d:00029**) 92C35 (92–04)

— (*with* Zakharov, E. V.) Numerical solution of the problem of the synthesis of the state of a system for the blood supply to the myocardium. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 26–31, 52. 92C30

Karasick, M. S. (*with* Lieber, D.; Nackman, L. R.; Rajan, V. T.) Visualization of three-dimensional Delaunay meshes. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 114–128. (Summary) **98b:65152** 65Y25 (52B55)

Karasözen, B. (*with* Ergenç, T.) Runge-Kutta collocation methods for rigid body Lie-Poisson equations. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 1-2, 63–71. (Summary) **98b:70006** 70E15 (65M60, 70–08)

— (*with* Hankel, M.; Rentrop, P.; Schmitt, U.) A molecular dynamics model for symplectic integrators. (English summary) *Math. Model. Systems* **3** (1997), *no.* 4, 286–296. (Summary) **98b:70001** 70–08 (70H05, 82C80)

Karassiov, V. P. *see* **Karasëv, V. P.**

Karasso, P. S. (*with* Mungal, M. G.) Mixing and reaction in curved liquid shear layers. (English summary) *J. Fluid Mech.* **334** (1997), 381–409. 76F10 (76–05)

Karasu, Ayşe The Burgers-Hlavaty equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 10, 1373–1380. 35Q53

Karst, E. (*with* Schulz, Michael Brian) Self-adjoint extensions of the Pauli equation in the presence of a magnetic monopole. (English summary) *Ann. Physics* **254** (1997), *no.* 1,

11–24. (Peter D. Hislop) **98h:81022** 81Q10 (35Q40)

Karataeva, I. Yu. (*with* Lyakhovich, S. L.) Chiral and axial anomalies in the formalism of generalized canonical quantization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 55–76; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1231–1248 (1996). 81S05

Karataeva, T. V. On the existence of a mixed sum of additive systems. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 6, 756–764 (1995). (Jaroslav Zemánek) **98c:46092** 46H05

Karatchentzeff, Michel (*with* Casier, Yves) Barrières de potentiel et hydrodynamique quantique. (English and French summaries) [Potential barriers and quantum hydrodynamics] *Ann. Fond. Louis de Broglie* **20** (1995), *no.* 4, 491–511. (Summary) **98a:81003** 81P05

— *see also* **de Broglie, Louis, 98a:70001**

ivanova-Karatopraklieva, Ivanka *see* **Ivanova-Karatopraklieva, Ivanka**

Karatsobanis, J. N. (*with* Xenos, Ph. J.) On 3-dimensional contact metric manifolds. (English summary) *New frontiers in algebras, groups and geometries* (*Monterodunì*, 1995), 307–315, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Luis A. Cordero) **98g:53058** 53C15

Karátson, J. The gradient method for a class of nonlinear operators in Hilbert space and applications to quasilinear differential equations. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 2-3, 191–201. (Alexei I. Filinkov) **98g:47052** 47H15 (35J65, 47H17, 47N20, 49M10)

Karatsuba, Anatolii A. I. M. Vinogradov and his method of trigonometric sums. (Russian) *Trudy Mat. Inst. Steklov.* **207** (1994), 3–20; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 6 (207), 1–19. (Matti Jutila) **98a:11004** 11–03 (01A60, 01A70)

— A new approach to the problem of the zeros of some Dirichlet series. (Russian) *Trudy Mat. Inst. Steklov.* **207** (1994), 180–196; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 6 (207), 163–177. (Don Redmond) **98b:11092** 11M41

— Sums of fractional parts of functions of a special type. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 3, 302. (Eugene M. Matveev) **98f:11072** 11J71 (11K38, 11L05, 11L07)

— On the function $S(t)$. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 5, 27–56; *translation in Izv. Math.* **60** (1996), *no.* 5, 901–931. (Matti Jutila) **98a:11114** 11M06

— A density theorem and the behavior of the argument of the Riemann zeta function. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 448–449; *translation in Math. Notes* **60** (1996), *no.* 3-4, 333–334 (1997). (Matti Jutila) **98a:11115** 11M06

— Additive congruences. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 81–94; *translation in Izv. Math.* **61** (1997), *no.* 2, 317–329. (Yuri Bilu) **98h:11018** 11B13 (11B50, 11D79)

— Analogues of incomplete Kloosterman sums and their applications. (Russian. English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 89–120. (Matti Jutila) **98j:11062** 11L05 (11K06)

Karatsuba, E. A. On the fast calculation of the Riemann zeta function for integer argument. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 463. (Pavel Guerzhoy) **98a:11190** 11Y60 (11M06)

Karatzas, Ioannis (*with* Pikovsky, Igor) Anticipative portfolio optimization. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 4, 1095–1122. (Walter Schachermayer) **98b:90020** 90A09 (60G99)

— ★ Lectures on the mathematics of finance. (English summary) CRM Monograph Series, 8. *American Mathematical Society, Providence, RI*, 1997. xii+148 *pp. ISBN* 0-8218-0637-8 (John P. Lehoczky) **98h:90001** 90–02 (60–02, 60G99, 60H99, 90A09)

— (*with* Shubik, Martin; Sudderth, William D.) A strategic market game with secured lending. (English summary) *J. Math. Econom.* **28** (1997), *no.* 2, 207–247. (Rüdiger Kiesel) **98d:90038** 90A19 (90C40, 90D15)

Karavelas, M. I. (*with* Kaklis, P. D.) Shape-preserving interpolation in $\mathbf{R}^3$. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 373–419. (Marshall Walker) **98h:41002** 41A05 (41A29, 65D05)

Karayan, Kh. H. (*with* Airapetyan, Ruben G.; Pogosyan, G. S.; Sisakyan, A. N.; Zaslavsky, D. I.) ★ Quantum motion on the three-dimensional sphere. (English and Russian summaries) Ellipsoidal basis. Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-117. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1996. 13 *pp.* (Patrick J. Moylan) **98h:81017** 81Q05 (33C99, 35Q40)

— (*with* Grosche, Christian; Pogosyan, G. S.; Sisakyan, A. N.) Quantum motion on the three-dimensional sphere: the ellipso-cylindrical bases. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1629–1657. (Summary) **98j:81059** 81Q05 (33C90)

Karazeeva, N. A. (*with* Oskolkov, A. P.) On an estimate for the Hausdorff dimension of attractors for two-dimensional equations of Oldroyd fluids. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **226** (1996), *Anal. Teor. Chisel i Teor. Funktsii*. 13, 109–119, 238; *translation in J. Math. Sci.* (*New York*) **89** (1998), *no.* 1, 988–995. (Radyadour Kh. Zeytounian) **98a:58142** 58F39 (35Q35, 47H20, 58F12, 76A10)

Karazeris, Panagis Compact topologies on locally presentable categories. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 3, 227–255. (Summary) **98e:18003** 18B25 (18E15, 18F10, 18F20)

Karbuz, Sohbet (*with* Neck, Reinhard) Towards constructing an objective function for Austrian fiscal policy-making: an optimum control approach. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 227–252, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (*see* **98d:90006**) 90A09 (49N55)

Karcanias, N. (*with* Leventides, J.) Sufficient conditions for arbitrary pole assignment by constant decentralized output feedback. (English summary) *Math. Control Signals Systems* **8** (1995), *no.* 3, 222–240. (Yun Qing Shi) **98f:93008** 93B55 (93A14)

— (*with* Vafiadis, D.) Canonical forms for descriptor systems under restricted system equivalence. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 955–958. (Summary) **98d:93025** 93B10

— (*with* Vafiadis, D.) Decoupling and pole assignment of singular systems: a frequency domain approach. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1555–1560. 93B55

— (*with* Vafiadis, D.) Model matching under external and input-output equivalence. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 429–438. (Summary) **98g:93014** 93B30 (93A30)

— (*with* Leventides, J.) The decentralized Markov parameters and the selection of control structures. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 815–830. 93B55 (93A14)

— (*with* Leventides, J.) Dynamic pole assignment using global, blow up linearization: low complexity solutions. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 57–86. (T. Kaczorek) **98m:93051** 93B55

Karch, Andreas (*with* Distler, Jacques) $N = 1$ dualities for exceptional gauge groups and quantum global symmetries. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 6, 517–533. (Summary) **98i:81244** 81T60 (81T13)

— Seiberg duality in three dimensions. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 79–84. (C. Gauthier) **98g:81129** 81T13 (81T60)

— (*with* Brunner, Ilka) Branes and six-dimensional fixed points. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 109–116. (C. Gauthier) **98i:81194** 81T30 (81T50, 81T60)

Karch, Grzegorz L^p-decay of solutions to dissipative-dispersive perturbations of conservation laws. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 1, 65–86. (Summary) **98b:35082** 35K55 (35B40, 35L65)

Karcher, Hermann (*with* Hoffman, David A.) Complete embedded minimal surfaces of finite total curvature. *Geometry, V*, 5–93, 267–272, *Encyclopaedia Math. Sci.*, 90, *Springer, Berlin*, 1997. (Rabah Souam) **98m:53012** 53A10

Karchevskiĭ, E. M. Determination of the propagation constants of natural waves in dielectric waveguides by the methods of potential theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 136–140. 78A50

Karchevskiĭ, M. M. (*with* Lyashko, A. D.; Palmushin, V. N.) On mathematical problems in the theory of multilayer shells with transversally soft fillings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 66–76; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 4, 64–74. (Petr E. Tovstik) **98k:73050** 73K15 (35Q72, 73H05, 73K20)

— On the mixed finite-element method in the nonlinear theory of thin shells. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 324–329. (Summary) **98j:73089** 73V05 (73K15)

Karchevsky, A. L. Properties of the misfit functional for a nonlinear one-dimensional coefficient hyperbolic inverse problem. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 139–163. (G. Albinus) **98g:65060** 65K10 (35L10, 35R30, 65M30)

Karciga, Y. (*with* Arrigo, D. J.; Broadbridge, P.; Tritscher, P.) The depth of a steep evaporating grain boundary groove: application of comparison theorems. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 1–8. (Summary) **98c:80010** 80A99 (35K99, 35R35)

Karczewska, Anna (*with* Wędrychowicz, Stanisław) Existence of mild solutions for semilinear equation of evolution. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 695–706. (Piermarco Cannarsa) **98i:34088** 34G20 (49J24)

Kardar, Mehran Lectures on directed paths in random media. *Géométries fluctuantes en mécanique statistique et en théorie des champs* (*Les Houches*, 1994), 1–75, *North-Holland, Amsterdam*, 1996. (Aernout C. D. van Enter) **98a:82062** 82B44 (82–02, 82B41, 82D30)

Kardel, Troels *see* **Bernoulli, Johann, 98g:01071**

Karev, G. P. On the ergodic hypothesis in biocenology. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 4, 572–574. 92D40

Karevski, Dragi Aperiodic Ising quantum chain and its relation with a classical Ising chain in an inhomogeneous field. (English summary) *J. Phys. A* **30** (1997), *no.* 13, L433–L435. (Summary) **98k:82041** 82B20

Karg, Christoph (*with* Köbler, Johannes; Schuler, Rainer) The complexity of generating test instances. (English summary) *STACS* 97 (*Lübeck*), 375–386, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68066** 68Q25 (68Q15)

Kargaev, Pavel (*with* Korotyaev, E. L.) The inverse problem for the Hill operator, a direct approach. *Invent. Math.* **129** (1997), *no.* 3, 567–593. (Boris M. Levitan) **98i:34024** 34A55 (34L40)

— (*with* Zhiglyavskiĭ, A. A.) Asymptotic distribution of the distance function to the Farey points. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 130–149. (Gérald Tenenbaum) **98m:11077** 11J83 (11K60)

Kargas, B. (*with* Fournou, E.; Argyrakis, P.; Anninos, Photios A.) Hybrid neural nets with Poisson and Gaussian connectivities. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 847–867. (Dimitri Petritis) **98k:82136** 82C32 (92B20)

von Karger, Burghard Formal derivation of a protocol in CSP. (English summary) *Mathematical methods in program development* (*Marktoberdorf*, 1996), 201–212, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (*see* **98k:68010**) 68Q60 (68Q10)

— (*with* Berghammer, Rudolf) Computing kernels in directed bichromatic graphs. *Inform. Process. Lett.* **62** (1997), *no.* 1, 5–11. (D. Rosenblatt) **98d:68167** 68R10 (03G15, 05C15, 90D43)

— (*with* Doornbos, Hendrik) On the union of well-founded relations. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 195–201. (*see* **98k:68018**) 04A05 (68Q42)

Karger, David R. (*with* Klein, Philip N.; Tarjan, Robert E.) A randomized linear-time algorithm to find minimum spanning trees. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 321–328. (Peter B. Gibbons) **98b:68153** 68R10 (05C85, 68Q25)

— (*with* Motwani, Rajeev; Ramkumar, G. D. S.) On approximating the longest path in a graph. (English summary) *Algorithmica* **18** (1997), *no.* 1, 82–98. (Summary) **98a:68098** 68Q25 (05C85, 68R10)

Karger, Elizabeth Some 15th and early 16th century logicians on the quantification of categorical sentences. Medieval supposition theory. *Topoi* **16** (1997), *no.* 1, 65–76. (*see* **98d:01013**) 01A35 (01A40, 03–03, 03A05, 03B65)

Karhumäki, Juhani (*with* Harju, Tero; Plandowski, Wojciech) Compactness of systems of equations in semigroups. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 444–454, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Wit Foryś) **98e:20069** 20M99 (68Q45)

— (*with* Plandowski, Wojciech) On the size of independent systems of equations in semigroups. 19th International Symposium on Mathematical Foundations of Computer Science (Košice, 1994). *Theoret. Comput. Sci.* **168** (1996), *no.* 1, 105–119. (P. M. Higgins) **98b:20092** 20M05 (20D15, 20M14)

— (*with* Plandowski, Wojciech; Mignosi, Filippo) The expressibility of languages and relations by word equations. (English summary) *Automata, languages and programming*

(*Bologna*, 1997), 98–109, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68R15)
— (*with* Plandowski, Wojciech; Rytter, Wojciech) Pattern-matching problems for 2-dimensional images described by finite automata. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 245–256, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (From the summary) **98m:68099** 68Q20 (68P99, 68Q68, 94A12)
— (*with* Choffrut, Christian) Combinatorics of words. *Handbook of formal languages, Vol. 1*, 329–438, *Springer, Berlin*, 1997. (Patrice Séébold) **98k:68141** 68R15 (03D05)
— (*with* Harju, Tero) Morphisms. *Handbook of formal languages, Vol. 1*, 439–510, *Springer, Berlin*, 1997. (G. J. Lallement) **98k:68102** 68Q45 (03D05, 20M05, 20M35)
— (*with* Hromkovič, Juraj) Two lower bounds on computational complexity of infinite words. (English summary) *New trends in formal languages*, 366–376, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98j:68081** 68Q45 (68Q25)
— (*with* Cassaigne, Julien) Toeplitz words, generalized periodicity and periodically iterated morphisms. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 497–510. (Jean-Paul Allouche) **98g:68131** 68R15 (11B85)
— (*with* Harju, Tero; Plandowski, Wojciech) Compactness of systems of equations in semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 457–470. (G. J. Lallement) **98g:20090** 20M05 (03C05, 08B05, 20M07)
— (*with* Choffrut, Christian; Harju, Tero) A note on decidability questions on presentations of word semigroups. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 83–92. (G. J. Lallement) **98h:20097** 20M05 (20M35, 68Q70)
Kari, Jarkko (*with* Culik, Karel, II) Finite state transformations of images. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 51–62, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q68 (68U10)
— (*with* Niemi, Valtteri) Colored Gauss and tangent codes. (English summary) *Mathematical linguistics and related topics*, 200–211, *Ed. Acad. Române, Bucharest*, 1995. (Dong Yang Long) **98i:68155** 68Q45
— (*with* Niemi, Valtteri) Colored Gauss and tangent codes on the torus. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 54–63, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68141** 68Q45
— (*with* Culik, Karel, II) An aperiodic set of Wang cubes. (English summary) *STACS 96* (*Grenoble*, 1996), 137–146, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98d:68152** 68Q80 (05B45, 52B55)
— (*with* Culik, Karel, II) Digital images and formal languages. (English summary) *Handbook of formal languages, Vol. 3*, 599–616, *Springer, Berlin*, 1997. (Summary) **98e:68179** 68Q68 (68U10)
— (*with* Culik, Karel, II) Computational fractal geometry with WFA. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 151–166. (Henning Fernau) **98k:68176** 68U10 (28A80, 68Q68)
Kari, Lila (*with* Thierrin, Gabriel) Languages and compatible relations on monoids. (English summary) *Mathematical linguistics and related topics*, 212–220, *Ed. Acad. Române, Bucharest*, 1995. (Summary) **98g:68085** 68Q45 (68Q70)
— (*with* Thierrin, Gabriel) Morphisms and associated congruences. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 119–128, *World Sci. Publishing, River Edge, NJ*, 1996. (Pedro V. Silva) **98k:20102** 20M15 (68Q45)
— (*with* Csuhaj-Varjú, Erzsébet; Păun, Gheorghe) Test tube distributed systems based on splicing. (English summary) Grammar systems. *Comput. Artificial Intelligence* **15** (1996), *no.* 2-3, 211–232. (Rani Siromoney) **98b:68105** 68Q50
— (*with* Theirrin, Gabriel) Omega-syntactic congruences. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 1, 13–26. (I. Meznik) **98e:68142** 68Q45 (20M35, 68Q70)
— (*with* Thierrin, Gabriel) Maximal and minimal solutions to language equations. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 487–496. (Friedrich Otto) **98e:68143** 68Q45 (68R15)
— DNA computing: arrival of biological mathematics. *Math. Intelligencer* **19** (1997), *no.* 2, 9–22. 92-01 (92D20)
— (*with* Ito, Masami[1]; Thierrin, Gabriel) Insertion and deletion closure of languages. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 3–19. (Dong Yang Long) **98h:68140** 68Q45
Karia, S. R. (*with* Deshpande, Jayant V.) Competing risks in bioassay: a nonparametric Bayesian approach. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 79–94, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G99 (62F15, 62P10)
— (*with* Deshpande, Jayant V.) Bounds for the joint survival and incidence functions through coherent system data. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 478–497. (Philip J. Boland) **98h:62150** 62N05 (90B25)
Karigl, Günther On a graph-theoretic description of regular Markov chains and positive linear systems. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 937–944. 60J10
Karim, M. A. *see* **Karim, Mohammad Abdul**
Karim, M. Nazmul (*with* Al-Duwaish, H.) A new method for the identification of Hammerstein model. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1871–1875. 93E12 (93B30)
Karim, M. R. *see* **Karim, Mohammed Rezaul**
Karim, Mohammad Abdul (*with* Shamsuddin, M. D.) Diagonal fraction of 4^n factorial. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **20** (1996), *no.* 1, 45–52. (Summary) **98b:05013** 05B05
Karim, Mohammed Rezaul (*with* Ali, S. Twareque; Gazeau, Jean Pierre) Frames, the β-duality in Minkowski space and spin coherent states. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5529–5549. (J.-P. Antoine) **98c:81092** 81R30 (22E70)
Karimi, Alireza (*with* Landau, Ioan Dorè) Recursive algorithms for identification in closed loop: a unified approach and evaluation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1499–1523. 93B30 (93B40)
— (*with* Landau, Ioan Dorè) Robust digital control using pole placement with sensitivity function shaping method. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 191–210. (Summary) **98m:93077** 93C62 (93B55)
Karimi, H. R. (*with* Manikas, A.) Cone-angle parametrization of the array manifold in DF systems. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 375–394. (Summary) **98m:78028** 78A50
Karimipour, V. A solvable Hamiltonian system: integrability and action-angle variables. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1577–1582. (Efthymia Meletlidou) **98b:58074** 58F07 (58F05, 70H05, 70H15)
— (*with* Langari, A.) Quantum renormalization group for one-dimensional fermion systems: a modified scheme. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 106–112. 82B28 (82B20)
— (*with* Ghezelbash, A. M.) Global conformal invariance in D dimensions and logarithmic correlation functions. (English summary) *Phys. Lett. B* **402** (1997), *no.* 3-4, 282–289. (Summary) **98e:81102** 81T10 (81T40)
— Integrable structure of the new Calogero models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 913–920. (Kazuhiro Hikami) **98m:58056** 58F07 (70F10, 70H05, 82B05)
Karimkulov, G. D. Smoothed estimates in a model of proportional intensities of random censorship. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1995), 50–58. (Jack Cuzick) **98i:62030** 62G05 (62N05)
— (*with* Abdushukurov, A. A.) Nonparametric kernel estimation of density function under random censorship from both sides. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 1, 23–29. (Summary) **98f:62079** 62G05
Karimov, U. Kh. (*with* Repovš, Dušan D.) On $\hat{H}^n$-bubbles in n-dimensional compacta. *Colloq. Math.* **75** (1998), *no.* 1, 39–51. (S. Mardešić) **98k:55002** 55N05 (54C55, 55M10, 57P05)
Karimpour, Rahim G. A characterization of ultrafilters in complementary topologies. (English summary) *Missouri J. Math. Sci.* **9** (1997), *no.* 2, 95–101. (Summary) **98b:54049** 54G05
Karisch, Stefan E. (*with* Rendl, Franz) Semidefinite programming and graph equipartition. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 77–95, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98k:90087** 90C27 (90C35)
— (*with* Clausen, Jens; Perregaard, Michael; Rendl, Franz) On the applicability of lower bounds for solving rectilinear quadratic assignment problems in parallel. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 127–147. 90C27 (65Y05, 68Q25)
Kariya, Takeaki (*with* George, Edward I.) Locally best invariant tests for multivariate normality in curved families with μ known. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 311–322, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15
— (*with* Tsuda, Hiroshi) Prediction of individual bond prices via the TDM model. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 350–361, *Springer, New York*, 1996. (*see* **98a:62002**) 62P20 (62M20, 90A09)
— (*with* Kurata, Hiroshi) Least upper bound for the covariance matrix of a generalized least squares estimator in regression with applications to a seemingly unrelated regression model and a heteroscedastic model. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1547–1559. (Luis Firinguetti) **98b:62163** 62M10 (62J05, 62P20)
— ★ Quantitative methods for portfolio analysis. (English summary) MTV model approach. Reprint of the 1993 edition. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 23. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+308 *pp. ISBN* 0-7923-2254-1 (Lorenzo Peccati) **98j:90010** 90A09 (62P20, 90A19, 90A20)
— *see also* **Usami, Yoshihiro**, **98g:62133**
Karkar, M. Taoufik The characters of a Sylow p-subgroup of the group $G_2(p^n)$, $p \neq 2, 3$. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 2, 135–142. (Jochen Gruber) **98h:20017** 20C33
Kärki, Topi (*with* Niemi, Antti J.) Supersymmetric quantum mechanics and the DeWitt effective action. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2080–2085. (Summary) **98j:81101** 81Q60 (81T50)
Karkishchenko, A. N. (*with* Bronevich, A. G.) Generalization of the concept of a statistical class and the measure of possibility inclusion. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 84–94; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 952–960. 28E10 (04A72, 60A99)
Kärkkäinen, Juha Suffix cactus: a cross between suffix tree and suffix array. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 191–204, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68P05
— (*with* Sutinen, Erkki) Lempel-Ziv index for q-grams. (English summary) *Algorithms—ESA '96* (*Barcelona*), 378–391, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:68084** 68Q20 (68P20)
— (*with* Das, Gautam; Fleischer, Rudolf; Gąsieniec, Leszek; Gunopulos, Dimitris) Episode matching. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 12–27, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98j:68040** 68Q20
Kärkkäinen, Kari (*with* Tiihonen, Timo) Trial methods for nonlinear Bernoulli problem. *Progress in industrial mathematics at ECMI 96* (*Lyngby*, 1996), 260–267, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76B10 (49Q10, 76B20, 76M25, 76M30)
Kärkkäinen, Tommi Distributed parameter identification with equation error method. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 637–650. (Mourad Choulli) **98i:35206** 35R30 (35J25, 49J20, 65N30, 93C20)
— Error estimates for distributed parameter identification in parabolic problems with output least squares and Crank-Nicolson method. (English summary) *Appl. Math.* **42** (1997), *no.* 4, 259–277. (Serge Nicaise) **98d:65118** 65M30 (35R30, 65M60)
— (*with* Räisänen, T.) Abstract estimates of the rate of convergence for optimal control problems. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 1, 109–123. (Gargi Chakraborty) **98e:49076** 49M30 (49K20)
— An equation error method to recover diffusion from the distributed observation. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1033–1051. (Ulrich Tautenhahn) **98g:35214** 35R30 (35J15, 65M30)
Karl, Harald (*with* Junker, Georg; Leschke, Hajo) Classical and quantum dynamics of the n-dimensional kicked rotator. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 155–166. (Fausto Borgonovi) **98b:81048** 81Q50 (58F13)
Karlikov, Vladimir P. (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part I. (English summary) Theory and problems. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey

H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+270 pp. *ISBN* 981-02-2962-3 (Gérard A. Maugin) **98f:73001a** 73-01 (76-01, 78-01, 80-01)

— (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Kulikovskiĭ, A. G.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part II. (English summary) Answers and solutions. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+253 pp. *ISBN* 981-02-2963-1 (Gérard A. Maugin) **98f:73001b** 73-01 (76-01, 78-01, 80-01)

Karlin, Samuel (*with* Ziegler, Zvi) Some inequalities of total positivity in pure and applied mathematics. (English summary) *Total positivity and its applications (Jaca, 1994)*, 247–261, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Reinhard Bürger) **98d:15019** 15A48 (60E15, 92D10)

— New directions and problems of multivariate total positivity motivated by genetic recombination probabilities. (English summary) *Total positivity and its applications (Jaca, 1994)*, 263–274, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Reinhard Bürger) **98d:92006** 92D10 (60E15)

Karlin, Vladimir (*with* Maz'ya, Vladimir G.) Time-marching algorithms for nonlocal evolution equations based upon "approximate approximations". (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 736–752. (Hong Yuan Fu) **98c:65159** 65M20

Karlof, John K. (*with* Chang, Yaw O.) Optimal permutation codes for the Gaussian channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 356–358. (Summary) **98j:94005** 94A24

Karloff, Howard (*with* Mansour, Yishay) On construction of k-wise independent random variables. (English summary) *Combinatorica* **17** (1997), *no.* 1, 91–107. (Summary) **98h:68177** 68Q99 (60C05, 68R05)

Karlov, M. I. Approximative properties of compact C^2-manifolds in Hilbert spaces. (English summary) Proceedings of the XX Workshop on Function Theory (Moscow, 1995). *East J. Approx.* **2** (1996), *no.* 2, 197–203. (Luděk Zajíček) **98a:41048** 41A65 (46B20, 46C05)

Karlovich, A. Yu. Singular integral operators with piecewise-continuous coefficients in reflexive Orlicz spaces. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 10–12. (I. Spitkovsky) **98d:47109** 47G10 (45E10, 46E30, 47A53)

— Singular integral operators with regulated coefficients in reflexive Orlicz spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 297–311, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 253–266. (Luboš Pick) **98i:47048** 47G10 (45E05, 47A53, 47B38)

Karlovich, Yu. I. (*with* Böttcher, Albrecht) Submultiplicative functions and spectral theory of Toeplitz operators. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 181–202. (Richard Rochberg) **98m:47032** 47B35 (26A12, 45E10, 47A50)

— (*with* Böttcher, Albrecht) ★ Carleson curves, Muckenhoupt weights, and Toeplitz operators. (English summary) Progress in Mathematics, 154. *Birkhäuser Verlag, Basel*, 1997. xvi+397 pp. *ISBN* 3-7643-5796-7 (Richard Rochberg) **98m:47031** 47B35 (45E10, 47A50)

Karlsen, Kenneth Hvistendahl (*with* Risebro, Nils Henrik) An operator splitting method for nonlinear convection-diffusion equations. (English summary) *Numer. Math.* **77** (1997), *no.* 3, 365–382. (Srinivasan Kesavan) **98i:65073** 65M12 (35A35, 35L35, 65L05)

— (*with* Evje, Steinar) ★ Monotone difference approximation of BV solutions to degenerate convection-diffusion equations. (English summary) Report, 115. *University of Bergen, Department of Applied Mathematics, Bergen*, 1998. ii+21 pp. (Summary) **98m:65140** 65M06 (35A35)

Karlson, Rune (*with* Waldén, Bertil) Estimation of optimal backward perturbation bounds for the linear least squares problem. (English summary) *BIT* **37** (1997), *no.* 4, 862–869. (Summary) **98g:65034** 65F20

Karlsson, Anders (*with* Åberg, Ingegerd) "The source problem"—transient waves propagating from internal sources in non-stationary media. (English summary) *Wave Motion* **26** (1997), *no.* 1, 43–68. (John A. DeSanto) **98f:78014** 78A40 (73D25, 76Q05)

— (*with* Rikte, Sten) Time-domain theory of forerunners. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 2, 487–502. (Summary) **98k:78025** 78A40

Karlsson, Johan (*with* Barrlund, A.; Wallin, Hans) Iteration of Möbius transformations and attractors on the real line. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 1–12. (Tadashi Kuroda) **98d:30037** 30D05 (30B70, 40A15, 58F23)

Karlsson, Per W. Erratum to: "Reduction of double Clausenian hypergeometric functions" [Int. J. Math. Stat. Sci. **5** (1996), no. 1, 33–49; MR 97k:33020]. *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 235. 33C70

Karlsson, Rolf *see* **Algorithm theory—SWAT '96, 98d:68006**

Karlykhanov, N. G. A method for computing radiation transfer problems using equations that are averaged over the spectrum. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1370–1375. 85A25

Karma, H. (*with* Jiménez-Morales, F.) Non-trivial collective behavior in three-dimensional totalistic illegal cellular automata with high connectivity. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 151–159. 82C20 (58F08, 68Q80)

Karma, Otto Approximation in eigenvalue problems for holomorphic Fredholm operator functions. I. (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 3-4, 365–387. (From the summary) **98e:47030** 47A75 (47A50, 47A56, 65J10)

— Approximation in eigenvalue problems for holomorphic Fredholm operator functions. II. (Convergence rate). (English summary) *Numer. Funct. Anal. Optim.* **17** (1996), *no.* 3-4, 389–408. (From the summary) **98e:47031** 47A75 (47A50, 47A56, 65J10)

Karmarkar, Sneha (*with* Gutman, Ivan M.; Popović, Ljiljana; Khadikar, Padmakar V.; Joshi, Shoba; Mandloi, Manorama) Relations between Wiener and Szeged indices of monocyclic molecules. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 91–103. (Rong Si Chen) **98i:92048** 92E10 (05C90)

Karn, Anil Kumar (*with* Vasudevan, R.) Matrix norms in matrix ordered spaces. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 87–97. (Introduction) **98i:46054** 46L05

— (*with* Vasudevan, R.) Approximate matrix order unit spaces. *Yokohama Math. J.* **44** (1997), *no.* 2, 73–91. (From the introduction) **98c:46116** 46L05

Karnakov, B. M. (*with* Popov, V. S.; Mur, V. D.) $1/n$-expansion for asymptotic coefficients of radial wave functions in quantum mechanics. (English summary) *Phys. Lett. A* **224** (1996), *no.* 1-2, 15–21. (Summary) **98a:81042** 81Q20

Karnaukhov, V. G. (*with* Senchenkov, I. K.) On chaos in statically deformable elastic systems. (Russian. English and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 65–69. 73K12 (58F13)

Karner, Georg (*with* Man'ko, Vladimir I.; Streit, Ludwig) Quantum kicks, quasi-energy and chaos. (English summary) *Nova J. Theor. Phys.* **4** (1996), *no.* 1, 75–99. (M. Combescure) **98c:81071** 81Q50 (58F13)

Karner, Gunther (*with* Mukherjee, Manash) Irrational numbers of constant type—a new characterization. (English summary) *New York J. Math.* **4** (1998), 31–34 (*electronic*). (Christoph Baxa) **98k:11101** 11J71 (11J70)

Karni, Smadar (*with* Čanić, Sunčica) Computations of slowly moving shocks. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 132–139. (Summary) **98c:76058** 76L05 (76M25)

Karniadakis, George Em. (*with* Bangia, Anil K.; Batcho, Paul F.; Kevrekidis, Ioannis G.) Unsteady two-dimensional flows in complex geometries: comparative bifurcation studies with global eigenfunction expansions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 775–805. (Summary) **98h:76022** 76D05 (35B32, 58F40, 76E30, 76F20, 76M25)

Karno, Zbigniew On a theorem of P. S. Aleksandrov. *Colloq. Math.* **72** (1997), *no.* 1, 39–51. (Vladimir T. Todorov) **98b:54047** 54F45 (54C10, 54C50)

Kárný, Miroslav *see* **Computer-intensive methods in control and signal processing. 98c:94002**

Karolinskiĭ, E. A. Classification of Poisson homogeneous spaces of a compact Poisson-Lie group. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 274–289. (Roman G. Smirnov) **98k:58091** 58F05

— On the classification of Lagrangian subalgebras in $\mathfrak{g} \times \mathfrak{g}$, where $\mathfrak{g}$ is a complex reductive Lie algebra. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 65–74. (Serge M. Skryabin) **98i:17005** 17B05

Károlyi, G. (*with* Péntek, Á.; Tél, Tamás; Toroczkai, Z.) Chaotic tracer dynamics in open hydrodynamical flows. (English summary) *Nonlinear dynamics, chaotic and complex systems (Zakopane, 1995)*, 24–38, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98j:76066** 76F20 (58F13, 58F40)

Károlyi, Gyula (*with* Pach, János; Tardos, Gábor; Tóth, Géza) An algorithm for finding many disjoint monochromatic edges in a complete 2-colored geometric graph. (English summary) *Intuitive geometry (Budapest, 1995)*, 367–372, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Summary) **98g:05142** 05C85 (05C15)

— (*with* Pach, János; Tóth, Géza) Ramsey-type results for geometric graphs. I. (English summary) ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Discrete Comput. Geom.* **18** (1997), *no.* 3, 247–255. (András Gyárfás) **98m:05129** 05C55

Karoński, Michał (*with* Łuczak, Tomasz) The number of connected sparsely edged uniform hypergraphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 153–167. (T. T. Raghunathan) **98g:05072** 05C30 (05C65)

Karotkin, Drora (*with* Nitzan, Shmuel) On two properties of the marginal contribution of individual decisional skills. (English summary) *Math. Social Sci.* **34** (1997), *no.* 1, 29–36. (Summary) **98d:90016** 90A05 (90A08)

Karoubi, Max Sur la K-théorie multiplicative. (English summary) [Multiplicative K-theory] *Cyclic cohomology and noncommutative geometry (Waterloo, ON, 1995)*, 59–77, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Charles Weibel) **98j:19003** 19D55 (19D25, 19K99, 46L80)

— Produit cyclique d'espaces et opérations de Steenrod. [Cyclic product of spaces and Steenrod operations] *The Arnold-Gelfand mathematical seminars*, 281–323, *Birkhäuser Boston, Boston, MA*, 1997. (Edgar H. Brown, Jr.) **98c:55018** 55S05 (55P42, 55Q35)

el Karoui, Nicole *see* **El Karoui, Nicole**

Karowski, M. (*with* Schrader, Robert) A lattice model of local algebras of observables and fields with braid group statistics. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 192–246. (Summary) **98f:81132** 81R50 (46L60, 81T05, 82B20, 82B23)

Karp, Alan H. *see* **Proceedings: Conference on Parallel Processing for Scientific Computing. 98h:65004**

Karp, I. V. (*with* Daletskiĭ, Yuriĭ L'vovich) The solution manifold for a nonlinear differential equation. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 7–12 (1997). (A. Morimoto) **98h:34108** 34G20 (35A30, 58F39)

Karp, Lavi (*with* Margulis, Avmir S.) Newtonian potential theory for unbounded sources and applications to free boundary problems. *J. Anal. Math.* **70** (1996), 1–63. (Henrik Shahgholian) **98c:35166** 35R35 (31B20, 35J25)

Karp, R. L. (*with* Horváth, Zalán; Palla, L.) On quantum equivalence of dual sigma models: SL(3) examples. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 1-2, 435–456. (Yolanda Lozano) **98f:81258** 81T30

Karp, Richard M. (*with* Adler, Micah; Byers, John W.) Scheduling parallel communication: the h-relation problem. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 1–20, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98f:68026** 68M20 (68Q22)

Karpelevich, F. I. (*with* Sukhov, Yu. M.) On the boundedness of nonhomogeneous branching diffusion on the line. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 449–450. 60J80 (60J60)

— (*with* Pecherskiĭ, E. A.; Sukhov, Yu. M.) Dobrushin's approach to queueing network theory. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 373–397. (Peter Gerrard Taylor) **98d:60182** 60K25 (01A60, 90B22)

Karpenko, A. P. (*with* Lyakhov, V. N.; Protasov, I. N.; Fortov, V. E.) Numerical modeling of an unsteady three-dimensional gas flow with shock waves and flow separation from the surface. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 8, 36–59. 76M20 (76L05, 76N15)

Karpenko, A. S. Jan Łukasiewicz on determinism and logic. (Russian) *Logical investigations, No. 2 (Russian)*, 206–223, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03A05

— Implicational logics: lattices and constructions. (Russian) *Logical investigations, No. 2 (Russian)*, 224–258, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03B20

— Sheffer's stroke for prime numbers. (Russian. Russian summary) *Logical investigations, No. 3 (Russian)*, 292–313, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B50

— (*with* Popov, Vladimir M.) BCKX is the axiomatization of [the] implicational fragment of Łukasiewicz's infinite-valued logic $Ł_\omega$. *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 3, 112–117. 03B50

Karpenko, N. A. Cycles de codimension 2 en produits de variétés de Severi-Brauer. (French summary) [Codimension-two cycles on products of Severi-Brauer varieties] *Théorie des nombres, Années* 1994/95–1995/96, 17 *pp., Publ. Math. Fac. Sci. Besançon, Univ. Franche-Comté, Besançon*, 1997. (Dan Edidin) **98d:14011** 14C25 (16E20)

Karpenko, Vladimir ★ Tajemství magických čtverců. (Czech) [The secret of magic squares] *Půdorys, Prague*, 1997. 200 *pp. ISBN* 80-86018-03-2 05B15

Karpeshina, Yu. E. Perturbation series for the Schrödinger operator with a periodic potential near planes of diffraction. (English summary) *Comm. Anal. Geom.* **4** (1996), *no.* 3, 339–413. (H. Hogreve) **98f:81070** 81Q15 (35J10)

Karpilovsky, Gregory ★ Group representations. Vol. 5. North-Holland Mathematics Studies, 183. *North-Holland Publishing Co., Amsterdam*, 1996. xvi+971 *pp. ISBN* 0-444-89261-3 (Roderick Gow) **98b:20002** 20–02 (20C20)

Karpinski, Marek (*with* Freivalds, Rūsiņš) Lower time bounds for randomized computation. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 183–195, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98g:68046** 68Q15

— (*with* Rytter, Wojciech; Shinohara, Ayumi) Pattern-matching for strings with short descriptions. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 205–214, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q25 (68R15)

— (*with* Ablaev, Farid M.) On the power of randomized branching programs. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 348–356, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68068** 68Q05 (68Q15)

— (*with* von zur Gathen, Joachim; Shparlinski, I. E.) Counting curves and their projections. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 1, 64–99. (Joos Heintz) **98d:68111** 68Q40 (14Q05, 68Q15, 68Q25)

— (*with* Berman, Piotr; Larmore, Lawrence L.; Plandowski, Wojciech; Rytter, Wojciech) On the complexity of pattern matching for highly compressed two-dimensional texts. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 40–51, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98k:68080** 68Q25

— Polynomial time approximation schemes for some dense instances of NP-hard optimization problems. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 1–14, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68089** 68Q25 (68Q15)

— (*with* Ambainis, Andris; Freivalds, Rūsiņš) Weak and strong recognition by 2-way randomized automata. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 175–185, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98k:68116** 68Q68

— (*with* Grigor′ev, D. Yu.; Vorob′ev, N. N., Jr.) Lower bound on testing membership to a polyhedron by algebraic decision and computation trees. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 2, 191–215. (Alexander I. Barvinok) **98c:68090** 68Q25 (14P10, 14Q15, 52B55, 68Q40)

— (*with* Macintyre, Angus) Polynomial bounds for VC dimension of sigmoidal and general Pfaffian neural networks. (English summary) 1st Annual Dagstuhl Seminar on Neural Computing (1994). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 2, 169–176. (Summary) **98m:68231** 68T05 (92B20)

— (*with* Larmore, Lawrence L.; Rytter, Wojciech) Correctness of constructing optimal alphabetic trees revisited. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 309–324. (Summary) **98b:68025** 68P10 (68P05)

Karpman, V. I. (*with* Shagalov, A. G.) Solitons and their stability in high dispersive systems. I. Fourth-order nonlinear Schrödinger-type equations with power-law nonlinearities. (English summary) *Phys. Lett. A* **228** (1997), *no.* 1-2, 59–65. (Summary) **98a:35123** 35Q55

— Whistler wave leakage from plasma ducts and solitons. (English summary) *Phys. Plasmas* **5** (1998), *no.* 1, 156–166. 76X05

— Modification of Langmuir solitons due to ion sound dispersion. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 932–937. (Summary) **98m:76169** 76X05

Karpov, V. Ya. Solution of the Poisson equation on a multiprocessor computer. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 18–26. 65N06

Karpova, S. A. (*with* Loginov, B. V.; Trenogin, V. A.) Bifurcation, symmetry and parameter continuation in some problems about capillary-gravity waves. (English summary) *Progress in industrial mathematics at ECMI* 96 (*Lyngby*, 1996), 432–439, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76B15 (47H15, 76B45, 76W05)

Karpushkin, Vladimir Nikolaevich Projectivization of zeros of parabolic polynomials. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 307–308. (Maïdo Rahula) **98m:35021** 35E20 (35K99, 58C99)

Karrakchou, J. (*with* Rachik, Mostafa) Estimation de l'état initial d'un système distribué avec retard sur la variable d'observation. (French summary) [Estimation of the initial state of a distributed system with delayed observation variable] *Facta Univ. Ser. Math. Inform. No.* 10 (1995), 87–95. (Vilmos Komornik) **98d:93022** 93B07 (93C20)

— (*with* Rachik, Mostafa; Abdelhak, Ahmed) Discrete systems with delays in state, control and observation: the maximal output sets with state and control constraints. (English summary) *Optimization* **42** (1997), *no.* 2, 169–183. (Summary) **98g:93028** 93C55 (93D09)

Karro, John (*with* Pfaltz, John L.; McCulloch, Sean) Distance in anti-matroids. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 5–22. (Summary) **98i:05044** 05B35

Karsai, János (*with* Graef, John R.) Asymptotic properties of nonoscillatory solutions of impulsively damped nonlinear oscillator equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 151–165. (Zvi Artstein) **98b:34025** 34A37 (34C99, 34D05)

— On the existence of a solution tending to zero of nonlinear differential equations (a nonlinear extension of a theorem by Milloux, Prodi, Trevisan and Hartman). (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 429–439. (Summary) **98h:34096** 34D20 (34D05)

— Asymptotic behavior and its visualization of the solutions of intermittently and impulsively damped nonlinear oscillator equations. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 161–172. (Summary) **98j:34094** 34D05 (34A37, 34C15)

Karshon, Yael Periodic Hamiltonian flows on four-dimensional manifolds. (English summary) *Contact and symplectic geometry* (*Cambridge*, 1994), 43–47, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Hansjörg Geiges) **98a:58069** 58F05 (57R15, 58F22)

— Hamiltonian torus actions. *Geometry and physics* (*Aarhus*, 1995), 221–230, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Kazushi Ahara) **98f:57059** 57S15 (58F05)

— (*with* Lerman, Eugene) The centralizer of invariant functions and division properties of the moment map. *Illinois J. Math.* **41** (1997), *no.* 3, 462–487. (Ágúst Sverrir Egilsson) **98e:58077** 58F05 (57S15, 57S25)

Kartashov, È. M. The method of Green functions in solving boundary value problems for equations of parabolic type in noncylindrical domains. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 32–36. (Stepan D. Ivasyshen) **98e:35069** 35K20 (35K05)

Kartashov, N. V. (*with* Korolyuk, V. S.; Yadrenko, M. I.; Moskal′tsova, N. V.) On the creative mathematical activity of Valentin Mikhailovich Shurenkov. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 1–8. (Editors) **98f:01073a** 01A70

Kartashova, S. S. L_p-estimates for the quadratic variation of two-parameter martingales. (English summary) *Theory Probab. Math. Statist. No.* 49 (1994), 77–81 (1995). (Summary) **98a:60058** 60G42

Kartha, G. Neelakantan (*with* Giunchiglia, Enrico; Lifschitz, Vladimir) Representing action: indeterminacy and ramifications. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 409–438. (Olga M. Kosheleva) **98m:68256** 68T30 (68T25)

Kartsatos, Athanassios G. (*with* Zigler, William R.) Some properties of differential equations in the weak topology of a reflexive Banach space. *Advances in nonlinear dynamics*, 297–306, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Józef Banaś) **98j:34123** 34G20 (34A12, 34K05, 34K30)

— (*with* Guan, Zhengyuan) Ranges of generalized pseudo-monotone perturbations of maximal monotone operators in reflexive Banach spaces. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 107–123, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Vesa Mustonen) **98c:47062** 47H05 (47H11, 47H17)

— On conditions for a saddle point in the theory of perturbations of nonlinear maximally monotone operators in a Hilbert space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 66–74; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 2, 61–68. (D. Pascali) **98m:47087** 47H05

— (*with* Liu, Xiaoping) On the construction and the convergence of the method of lines for quasi-nonlinear functional evolutions in general Banach spaces. *Nonlinear Anal.* **29** (1997), *no.* 4, 385–414. (Ivan Straškraba) **98k:34130** 34K30 (34A45, 34G20, 47H17, 47N20)

— On the connection between the existence of zeros and the asymptotic behavior of resolvents of maximal monotone operators in reflexive Banach spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3967–3987. (Claudio H. Morales) **98m:47096** 47H10 (47H05, 47H17)

Karunamuni, Rohana J. (*with* Zhang, Shunpu) Empirical Bayes detection of a change in distribution. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 2, 229–246. (Robert Kertz) **98e:62117** 62L15 (60G40, 62C12)

— Empirical Bayes sequential estimation for exponential families: the untruncated component. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 711–730. (I. N. Volodin) **98f:62014** 62C12 (62F15, 62L12)

— (*with* Jones, Michael C.) Fourier series estimation for length biased data. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 57–68. (Ewaryst Rafajłowicz) **98m:62100** 62G05

— (*with* Zhang, Shunpu) Bayes and empirical Bayes estimation with errors in variables. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 23–34. (Françoise Garcia-Brouaye) **98g:62050** 62F15 (62C12)

Karuno, Yoshiyuki (*with* Nagamochi, Hiroshi; Ibaraki, Toshihide) Vehicle scheduling on a tree to minimize maximum lateness. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 3, 345–355. (Summary) **98b:90069** 90B35

— (*with* Nagamochi, Hiroshi; Ibaraki, Toshihide) Computational complexity of the traveling salesman problem on a line with deadlines and general handling times. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **45** (1996), 19–22. (Summary) **98e:90067** 90B22 (68Q25, 90C60)

— (*with* Cheng, Jin-Liang; Kise, Hiroshi) Optimal scheduling for an automated m-machine flowshop. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 356–372. (Edward J. Anderson) **98i:90045** 90B35

Karur, S. R. (*with* Ramachandran, P. A.) Multidimensional interpolation using osculatory radial basis functions. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 63–73. 65D05 (41A05)

Karwowski, Andrzej Shallow arch models. An asymptotic approach. (English summary) *J. Elasticity* **43** (1996), *no.* 1, 1–29. (Summary) **98e:73039** 73C50 (73G05, 73K99)

— Elastic arches with large elevation. Singularly perturbed problem of nonlinear elasticity. (English summary) *J. Elasticity* **45** (1996), *no.* 3, 153–214. (Summary) **98m:73034** 73C50 (73K05)

Karwowski, Jacek (*with* Bielińska-Wąż, D.; Jurkowski, J.) Statistical properties of spectra of finite systems. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 67–76, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:81222** 81V70 (82B99)

— (*with* Planelles, Josep) Traces of the reduced density operators revisited: closed-form formulae. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3219–3227. (Summary) **98e:81049** 81R05 (81V45)

Karybakas, C. A. (*with* Barbargires, C. A.) Optimal control of first-order plants by dead-beat techniques. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 355–362. 49N55 (93C10)

Karypis, George (*with* Kumar, Vipin) A coarse-grain parallel formulation of multilevel k-way graph partitioning algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN, 1997*), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68R10 (05C85, 68Q35)

Karzanov, A. V. (*with* Goldberg, Andrew V.) Maximum skew-symmetric flows. (English summary) *Algorithms—ESA '95* (*Corfu*), 155–170, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (Ştefan Ţigan) **98h:90103** 90C35 (05C85)

— Multiflows and disjoint paths of minimum total cost. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 219–242. (Xue Liang Li) **98i:90115** 90C35 (05C85, 05C90, 90C27)

— (*with* Frank, András; Sebő, András) On integer multiflow maximization. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 158–170. (Nikolay N. Ivanov) **98b:90155** 90C35 (05C85, 90B10)

— (*with* Burlet, Michel) Minimum weight (T, d)-joins and multi-joins. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 65–76. (David Burns) **98k:05097** 05C38

Karzel, Helmut (*with* Fisher, J. Chris; Kiechle, Hubert) Bundles of conics derived from planar projective incidence groups. *J. Geom.* **59** (1997), *no.* 1-2, 34–45. (Gary L. Ebert) **98f:51026** 51J10 (51A30)

— (*with* Gabrieli, Elisabetta) Reflection geometries over loops. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 61–65. (Horst Struve) **98f:51017a** 51F15 (20N05, 51J99)

— (*with* Gabrieli, Elisabetta) Point-reflection geometries, geometric K-loops and unitary geometries. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 66–72. (Horst Struve) **98f:51017b** 51F15 (20N05, 51J99)

— (*with* Gabrieli, Elisabetta) The reflection structures of generalized co-Minkowski spaces leading to K-loops. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 73–79. (Horst Struve) **98f:51017c** 51F15 (20N05, 51J99)

— Survey on the papers and personal memories of Giuseppe Tallini. *Results Math.* **32** (1997), *no.* 3-4, 260–271. (J. W. P. Hirschfeld) **98k:01032** 01A70 (51-03, 51A05, 51E20)

Kasahara, Masao (*with* Satake, Kenji) Notes on decoding method for high-order superimposed codes and its performance. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **45** (1996), 33–42. 94B35

— (*with* Wadayama, Tadashi; Wakasugi, Koichiro) On weight distribution for Euclidean image of binary linear codes. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **45** (1996), 43–54. (Antoine Lobstein) **98g:94036** 94B05 (94B65)

Kasahara, Yuji (*with* Matsumoto, Yuki) On Kallianpur-Robbins law for fractional Brownian motion. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 815–824. (Zheng Yan Lin) **98e:60125** 60J55 (60F05)

— (*with* Kosugi, N.) A limit theorem for occupation times of fractional Brownian motion. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 161–175. (Qi Man Shao) **98i:60020** 60F05 (60G15)

Kasai, Hironori (*with* Tsutsumi, Masayoshi; Ōishi, Takeshi) The Meissner effect and the Ginzburg-Landau equations in the presence of an applied magnetic field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3046–3054. (Yisong Yang) **98d:82050** 82D55 (35Q55)

Kasai, Takumi (*with* Fujiyoshi, Akio; Kurokawa, Kouichi) Multilevel tree transformation machines. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 214–220. (*see* **98a:68008**) 68Q68

Kasala, Subramanyam (*with* Rao, M. Bhaskara) Analysis of regression dependence in $2 \times n$ bivariate distributions and some applications in contingency tables. (English summary) *Total positivity and its applications* (*Jaca*, 1994), 385–400, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Graham J. G. Upton) **98a:62078** 62H17

Kasami, Tadao (*with* Desaki, Yoshihisa; Fujiwara, Toru) The weight distributions of extended binary primitive BCH codes of length 128. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1364–1371. 94B15

— (*with* Fujiwara, Toru; Yamamoto, Hiroshi[2]; Lin, Shu) A trellis-based recursive maximum-likelihood decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 714–729. (Summary) **98j:94026** 94B05 (94B12, 94B35)

Kasap, R. Using CFA for the identification of the order and the estimation of the parameters of the AR(p) models. (Turkish. English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 195–205. 62M10

Kasch, Friedrich (*with* Schneider, Wolfgang Manfred) ★ The total of modules and rings. Algebra Berichte [Algebra Reports], 69. *Verlag Reinhard Fischer, Munich*, 1992. *ii*+85 *pp. ISBN* 3-88927-112-X (From the introduction) **98m:16002** 16D10

Kaschenko, S. A. *see* **Kashchenko, S. A.**

Kaschiev, M. (*with* Koulova-Nenova, D.) Newton's method for solution of one complex eigenvalue problem. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 227–235, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L15 (65F15, 65J10)

Kaschieva, V. A. Calculation of bifurcation states in the circle: Josefsson's conversion. *Numerical analysis and its applications* (*Rousse*, 1996), 236–242, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M60 (65H17, 65L10)

Kasenally, Ebrahim M. (*with* Simoncini, Valeria) Analysis of a minimum perturbation algorithm for nonsymmetric linear systems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 48–66. (Jin Yun Yuan) **98a:65040** 65F10 (65F15, 65F50)

Kaser, Owen Optimal height reduction problems for tree-structured hierarchies. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 357–379. (Summary) **98i:68222** 68R10 (05C85, 68Q25)

Kashaev, R. M. The algebraic nature of quantum dilogarithm. (English summary) *Geometry and integrable models* (*Dubna*, 1994), 32–51, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrey V. Tsiganov) **98a:81081** 81R50 (17B37, 82B23)

— (*with* Reshetikhin, N. Yu.) Affine Toda field theory as a 3-dimensional integrable system. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 251–266. (Henrik Aratyn) **98f:81178** 81T10 (58F07, 81T40)

— The hyperbolic volume of knots from the quantum dilogarithm. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 3, 269–275. (Colin C. Adams) **98b:57012** 57M25 (33E20, 57N10)

Kashani, S. M. B. Hypersurfaces in $\mathbf{R}^N_1$ satisfying $\Delta x = Ax + B$. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 1, 81–91. (Summary) **98e:53094** 53C40 (53C50)

— (*with* Hesaaraki, Mahmoud) On the existence of MFD intermediate shock waves for rectilinear motion in some models of plasma. (English and Persian summaries) *Bull. Iranian Math. Soc.* **22** (1996), *no.* 2, 1–18. (James F. Reineck) **98m:76157** 76W05 (34C37, 35Q35, 58F40, 76L05)

Kashchenko, S. A. (*with* Malorov, V. V.; Myshkin, I. Yu.) Wave propagation in the simplest ring neural structures. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 12, 3–18. 92C20 (92C05)

— Normalization in the systems with small diffusion. (English summary) Nonlinear dynamics, bifurcations and chaotic behavior. *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 6, 1093–1109. (V. N. Razzhevaikin) **98c:35088** 35K57 (35B32, 35C20)

— (*with* Malorov, V. V.; Myshkin, I. Yu.) Wave structures in ring neuron systems. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 29–39. (Summary) **98m:92012** 92C05 (92C20, 92J30)

— The Ginzburg-Landau equation as the normal form for a second-order differential-difference equation with large delay. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 457–465. (Summary) **98m:34138** 34K15 (34C15, 34C20, 34C35, 35Q55)

Kashem, Md. Abul (*with* Zhou, Xiao; Nishizeki, Takao) Generalized vertex-rankings of partial k-trees (extended abstract). (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 212–221, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R10 (05C05)

Kashevarov, A. A. (*with* Antontsev, S. N.) Localization of solutions of nonlinear parabolic equations that are degenerate on a surface. (Russian. Russian summary) *Dinamika Sploshn. Sredy No.* 111 (1996), 7–14, 128. (Si Ning Zheng) **98h:35131** 35K65 (35K55)

al-Kāshī, Ghiyāth al-Dīn Jamshīd Mas'ūd *see* **Kennedy, E. S., 98b:01010**; **Bagheri, Mohammad, 98d:01007** *and* **Doid-Samplonius, Yvonne, 98g:01018**

Kashima, Hiroyuki (*with* Akahira, Masafumi; Takahashi, Kunihiko) A generalized binomial distribution determined by a two-state Markov chain and a distribution by the Bayesian approach. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 27–42. 62E15 (60J10, 62E20)

Kashima, Ryo Contraction-elimination for implicational logics. (English summary) Fifth Asian Logic Conference (Singapore, 1993). *Ann. Pure Appl. Logic* **84** (1997), *no.* 1, 17–39. (Branislav Boričić) **98c:03113** 03F05 (03B20, 03B60)

Kashiwa, Taro (*with* Tanimura, Naoki) Proof for gauge independence of the energy-momentum tensor in quantum electrodynamics. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 5, 381–409. (A. L. Rebenko) **98k:81308** 81V10

Kashiwabara, Kenji Nonadditive set functions on a finite set and linear inequalities. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 564–584. (Endre Pap) **98m:28004** 28A10

Kashiwabara, Takuji (*with* Strickland, Neil P.; Turner, Paul R.) The Morava K-theory Hopf ring for BP. *Algebraic topology: new trends in localization and periodicity* (*Sant Feliu de Guixols*, 1994), 209–222, *Progr. Math.*, 136, *Birkhäuser, Basel*, 1996. (W. Stephen Wilson) **98c:55006** 55N15 (55N20, 55N22)

Kashiwada, Toyoko Curvature properties in a generalized Hopf manifold. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 221–227, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Luis Guijarro) **98d:53043** 53C15 (53C56)

Kashiwagi, N. (*with* Hossain, Md. Forhad; Hirano, Katuomi) A generalization of the power inverse Gaussian distribution and some of its properties. (English summary) *Advances in the theory and practice of statistics*, 315–324, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62E15 (62E25, 62F10)

Kashiwara, Masaki The flag manifold of Kac-Moody Lie algebra. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 161–190, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Venkatramani Lakshmibai) **98i:17030** 17B67 (14M15, 20G15)

— (*with* Miwa, Tetsuji; Petersen, Jens-Ulrik H.; Yung, C. M.) Perfect crystals and q-deformed Fock spaces. (English summary) *Selecta Math. (N.S.)* **2** (1996), *no.* 3, 415–499. (Kailash C. Misra) **98f:17012** 17B37 (17B10, 81R10, 81R50)

— (*with* Schapira, Pierre) Laplace transform and Fourier-Sato transform. *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* XIV, 5 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 32C38 (58G07)

— Erratum: "Algebraic study of systems of partial differential equations" [Mém. Soc. Math. France (N.S.) No. 63 (1995); MR 97f:32012]. (French) *Bull. Soc. Math. France* **125** (1997), *no.* 2, 313. 32C38 (01A75, 35A27, 58G07)

— (*with* Schapira, Pierre) Integral transforms with exponential kernels and Laplace transform. (English summary) *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 939–972. (Andrea D'Agnolo) **98d:32013** 32C38 (14F10, 46F12)

Kashnikova, I. V. Approximation of solutions of Itô stochastic differential equations by solutions of finite-difference equations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 2, 72–74, 80. 35R60 (35A35, 65U05)

Kashpur, E. F. A matrix modification of formulas for the Hermite interpolation of operators in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1227–1232. (Galimzian G. Islamov) **98e:41045** 41A65 (41A35, 47A99)

— (*with* Makarov, Vladimir Leonidovich; Khlobystov, V. V.) On the problem of Hermite interpolation of operators in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1233–1239. (Galimzian G. Islamov) **98g:41039** 41A65 (41A35, 47A99)

— (*with* Khlobystov, V. V.) Interpolation of polynomial operators in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 1, 2455–2458. (Victor S. Rykhlov) **98i:41031** 41A35 (41A65, 46G20, 47H15)

Kashtan, B. M. (*with* Petrashen', G. I.) On applied aspects of the investigation of the roots of dispersion equations on nonphysical sheets of the complex plane. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **225** (1996), *Interfer. Volny v Sluist. Sred.* 2, 62–90, 263–264. (Summary) **98a:73023** 73D15 (73D25, 86A15)

Kashtanov, V. A. (*with* Yanishevskiĭ, I. M.) Joint distribution of catastrophe time and of the additive functional of profits. (Russian. Russian summary) *Teor. Veroyatnost. i*

Primenen. **41** (1996), *no.* 3, 650–655; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 555–560 (1997). (P. Neumann) **98f:90072** 90C40 (60K15)

Kashtanov, Yu. N. The method of generations for estimating the first eigenvalue of the Neumann problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1105–1111. (Summary) **98f:65010** 65C05 (65N25)

Kashu, A. I. Lattices of submodules and Galois connections. (English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992,** *no.* 2, 74–81. 16D90 (18B99)

— Torsion theories and dualities in Morita contexts. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995,** *no.* 2-3, 43–51, 113, 116. (Summary) **98k:16045** 16S90 (16D90)

— A short survey on torsion theories in modules. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 1, 63–69, 132, 134. 16S90

Kashyap, Sadhana (*with* Sharma, Manisha) On absolute Nörlund summability of factored Jacobi series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **39** (1996), *no.* 4, 233–242. (Summary) **98c:40008** 40G05 (33C45)

Kasikova, Anna (*with* Shult, Ernest E.) A new infinite family of extended generalized quadrangles. *Mostly finite geometries (Iowa City, IA, 1996)*, 325–330, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Antonio Pasini) **98h:51021** 51E24 (51E12)

— Distance-regular graphs with strongly regular subconstituents. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 247–252. (Jack H. Koolen) **98m:05202** 05E30 (05C12)

mir-Kasimov, R. M. *see* **Mir-Kasimov, R. M.**

Kasim-Zade, O. M. On the complexity of circuits in an infinite basis. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1994,** *no.* 6, 40–44, 94; *translation in Moscow Univ. Math. Bull.* **49** (1994), *no.* 6, 37–40 (1995). (Summary) **98b:94026** 94C10 (68Q25)

— On the synthesis of networks composed of functional elements. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 2, 159–161. (S. Rudeanu) **98h:94032** 94C15 (03G05, 06E30, 68Q99)

— Implicit expressibility in two-valued logic and crypto-isomorphisms of two-element algebras. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 3, 299–301. (S. Rudeanu) **98h:94033** 94C15 (03B05, 03G05, 06E30, 08A40, 68Q99)

Kasjan, Stanisław (*with* Simson, Daniel) A peak reduction functor for socle projective representations. *J. Algebra* **187** (1997), *no.* 1, 49–70. (V. V. Sergeichuk) **98d:16020** 16G20 (16G60)

— (*with* Simson, Daniel) Tame prinjective type and Tits form of two-peak posets. II. *J. Algebra* **187** (1997), *no.* 1, 71–96. (Otto Kerner) **98h:16020** 16G20 (16G60)

Kask, Üllar (*with* Matzner, Richard A.; Huq, Mijan; Botero, Alonso; Choi, Dae Il; Lara, Juan; Liebling, Steven; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05

— (*with* Tammelo, Risto) On the local detectability of the passage through the Schwarzschild horizon. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 997–1009. (Victor G. LeBlanc) **98i:83012** 83C10 (83C57)

Kasman, Alex Darboux transformations from n-KdV to KP. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 2, 179–197. (Chuu Lian Terng) **98j:35156** 35Q53 (58F07)

— Orthogonal polynomials and the finite Toda lattice. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 247–254. (Summary) **98b:33022** 33C45 (33C90, 46F10, 81R10)

— (*with* Rothstein, Mitchell) Bispectral Darboux transformations: the generalized Airy case. (English summary) *Phys. D* **102** (1997), *no.* 3-4, 159–176. (Emma Previato) **98g:33005** 33C10 (14M15, 34L99, 35A30, 35Q99, 47G30, 58F07, 58F19)

— *see also* **Bispectral problem**, **98k:00011**

Kasoro, N. M. (*with* Luhandjula, Monga K.; Djungu, A. O.) On fuzzy probabilistic linear programming. (English summary) *Problèmes variationnels en mathématiques appliquées (Kinshasa, 1995)*, 45–60, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (*see* **98g:00032**) 90C70 (04A72)

Kasper, Eric P. (*with* Panahandeh, Mohammad; Cui, Y. Lawrence) Simulation of coupled systems in smart structures. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA)*, 292–304, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93A30 (73K50, 73V05, 93C20)

Kasper, U. Finding the Hamiltonian for cosmological models in fourth-order gravity theories without resorting to the Ostrogradski or Dirac formalism. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 2, 221–233. (Edson Stédile) **98a:83107** 83D05

— (*with* Gavrilov, V. R.; Ivashchuk, V. D.; Melnikov, V. N.) Integrability of multicomponent models in multidimensional cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 599–612. (Oscar Sergio Zandron) **98b:83081** 83E15

— (*with* Rainer, M.; Zhuk, A. I.) Integrable multicomponent perfect fluid multidimensional cosmology. II. Scalar fields. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1123–1162. (Guillermo A. Mena Marugán) **98g:83094** 83E15 (83C45, 83E05)

Kasperkovitz, P. (*with* Peev, M.) Action and angle variables in quantum mechanics: a phase space approach. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 109–112, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81S30 (81Q20)

Kaspi, Haya (*with* Eisenbaum, Nathalie) A counterexample for the Markov property of local time for diffusions on graphs. *Séminaire de Probabilités, XXIX*, 260–265, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Paul McGill) **98k:60140** 60J65 (60J55)

— (*with* Kella, Offer; Perry, David) Dam processes with state dependent batch sizes and intermittent production processes with state dependent rates. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 37–57 (1997). (John P. Lehoczky) **98g:60176** 60K30 (90B30)

Kass, Robert E. (*with* DiCiccio, Thomas J.; Raftery, Adrian E.; Wasserman, Larry) Computing Bayes factors by combining simulation and asymptotic approximations. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 903–915. (Summary) **98k:62035** 62F15

— (*with* Carlin, Bradley P.; Gelman, Andrew; Neal, Radford M.) Markov chain Monte Carlo in practice: a roundtable discussion. (English summary) *Amer. Statist.* **52** (1998), *no.* 2, 93–100. 62F15 (60J10, 62C05, 62E25)

— *see also* **Case studies in Bayesian statistics**, **98g:62005**

Kassabov, Ognian Values of the sectional curvature of manifolds of indefinite metrics. *Conf. Semin. Mat. Univ. Bari No.* 263 (1996), ii+9 *pp.* (Luis M. Hervella) **98h:53103** 53C50

Kassay, Gábor (*with* Kolumbán, Iosif) On the generalized Minty's inequality. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 4, 37–45. (Sehie Park) **98b:49008** 49J35 (47N10)

— (*with* Breckner, Wolfgang W.) A systematization of convexity concepts for sets and functions. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 109–127. (Constantin Zălinescu) **98h:52002** 52A07 (26B25, 46N10, 52A41, 90C29)

Kassel, Helen (*with* Ait-Bouziad, Ahmed) An improved algorithm for retrieving fuzzy information from two systems. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 63–66. 68P15

Kassels, C. G. M. (*with* Wesseling, P.; Zijlema, M.; Segal, August) Computation of turbulent flow in general domains. (English summary) IMACS-COST Conference on Computational Fluid Dynamics, Three-dimensional Complex Flows (Lausanne, 1995). *Math. Comput. Simulation* **44** (1997), *no.* 4, 369–385. (Summary) **98j:76116** 76M25 (76F05)

Kassem, M. S. Multipliers of alternative H^*-algebras. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 1, 45–50. (Summary) **98c:46106** 46K70 (17D05)

Kassem, Mohamed Abd El-Hady Stability of general fuzzy parametric multiobjective nonlinear programming problems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 111–118. 90C29 (90C70)

Kastler, Daniel (*with* Mebkhout, M.) Linear endomorphisms of Clifford algebras. (English summary) *Geometry and nature (Madeira, 1995)*, 37–38, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Bertfried Fauser) **98b:15029** 15A66 (11E88)

— (*with* Madore, John; Masson, Thierry) On finite differential calculi. (English summary) *Geometry and nature (Madeira, 1995)*, 135–144, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Jacek Brodzki) **98b:58018** 58B30 (46L89)

— (*with* Madore, John; Testard, D.) Connections of bimodules in non-commutative geometry. (English summary) *Geometry and nature (Madeira, 1995)*, 159–164, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Jacek Brodzki) **98c:58008** 58B30 (46L05, 46L87)

— (*with* Iochum, Bruno; Schücker, Thomas) Riemannian and non-commutative geometry in physics. (English summary) *Geometry and nature (Madeira, 1995)*, 165–174, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:81128** 81V25 (58B30)

— (*with* Iochum, Bruno; Schücker, Thomas) Spectral model and fuzzy mass relations. (English summary) *Geometry and nature (Madeira, 1995)*, 175–189, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:81273** 81V22 (58B30, 58G40, 81T13)

— *see also* **Operator algebras and quantum field theory**, **98h:00032**

Kastner, Christian (*with* Ziegler, Andreas; Blettner, Maria) The generalised estimating equations: an annotated bibliography. (English summary) *Biom. J.* **40** (1998), *no.* 2, 115–139. 62-00 (62F10)

Kastner, R. (*with* Fidel, B.; Heyman, Ehud; Ziolkowski, Richard W.) Hybrid ray-FDTD moving window approach to pulse propagation. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 480–500. (Summary) **98j:78004** 78–08 (78A40)

Kastner, S. O. Symbolic evaluation of total transition probabilities in kinetic systems; potential applications. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 371–384. 65U05

Kastner, T. M. (*with* Goldsman, D. M.; Hayter, A. J.) A sequential multinomial selection procedure with elimination. (English summary) *Advances in statistical decision theory and applications*, 265–275, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62L10 (62F07)

Kastor, David (*with* Win, K. Z.) Non-extreme Calabi-Yau black holes. (English summary) *Phys. Lett. B* **411** (1997), *no.* 1-2, 33–38. (Summary) **98f:83071** 83C57 (32G81, 83E30, 83E50)

Kastrup, H. A. (*with* Wissowski, H.) Back reaction and semiclassical approximation of cosmological models coupled to matter. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 299–302. (*see* **98f:83002**) 83C45

— Canonical quantum statistics of an isolated Schwarzschild black hole with a spectrum $E_n = \sigma\sqrt{n}E_P$. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 267–273. (Summary) **98k:83054** 83C57 (81T20)

Kasue, Atsushi (*with* Kumura, Hironori; Ogura, Yukio) Convergence of heat kernels on a compact manifold. *Kyushu J. Math.* **51** (1997), *no.* 2, 453–524. (Zhongmin Qian) **98e:58178** 58G32 (58G11, 60J35)

Kas'yanov, V. I. Optimization of direct methods for solving singular integral equations in unbounded domains. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1995,** *no.* 2, 37–46; *translation in Russian Math. (Iz. VUZ)* **39** (1995), *no.* 2, 34–43. (Summary) **98c:45005** 45E10 (45L05, 65R20)

Kaszlikowski, Dagomir (*with* Żukowski, Marek) Critical visibility for N-particle Greenberger-Horne-Zeilinger correlations to violate local realism. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 3, R1682–R1685. (Summary) **98i:81025** 81P15

Kászonyi, L. (*with* Katsura, Masashi) On the context-freeness of a class of primitive words. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 1–11. (Summary) **98i:68156** 68Q45

Katafiasz, Aleksandra Improvable discontinuous functions. (English summary) *Real Anal. Exchange* **21** (1995/96), *no.* 2, 407–423. (Summary) **98h:26005** 26A15

— (*with* Natkaniec, Tomasz) A new variant of Blumberg's theorem. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 806–813. (Summary) **98d:54032** 54C30 (26A15)

Katafygiotis, Lambros (*with* Tsar'kov, E. F.) Mean square stability of linear dynamical systems with small Markov perturbations. I. Bounded coefficients. (English summary) *Random Oper. Stochastic Equations* **4** (1996), *no.* 2, 133–154. (Summary) **98h:60084** 60H10

— (*with* Tsar'kov, E. F.) Mean square stability of linear dynamical systems with small Markov perturbations. II. Diffusion coefficients. (English summary) *Random Oper. Stochastic Equations* **4** (1996), *no.* 3, 251–272. (Summary) **98h:60085** 60H10

— (*with* Tsar'kov, E. F.) Mean square stability of linear dynamical systems with small Markov perturbations. III. Markov impulse perturbations. (English summary) *Random Oper. Stochastic Equations* **4** (1996), *no.* 4, 315–338. (Summary) **98h:60086** 60H10

Katagiri, Hideki (*with* Ishii, Hiroaki[1]; Itoh, Takeshi) Fuzzy random variables and their applications. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 95–103. (*see* **98g:90004**) 60A99 (04A72)

Kátai, Imre Research problems in number theory. II. *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 223–251. (Adolf Hildebrand) **98m:11002** 11–02 (11A63, 11N37)

— (*with* De Koninck, Jean-Marie; Bui Minh Phong) A new characteristic of the identity function. *J. Number Theory* **63** (1997), *no.* 2, 325–338. (D. Wolke (Zbl 871.11063)) **98m:11097** 11N36 (11A25)

— (*with* Bassily, Nader L.) On the pairs of multiplicative functions satisfying some relations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 1–14. (Adolf Hildebrand) **98k:11125** 11N37 (11A25)

— *see also* **Dedicated to Professors Zoltán Daróczy and Imre Kátai**

Katajainen, Jyrki (*with* Moffat, Alistair) In-place calculation of minimum-redundancy codes. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 393–402, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 94B99 (68P10)

— (*with* Pasanen, Tomi; Titan, George) Asymptotically efficient in-place merging. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 211–220, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98e:68043** 68P10

— (*with* Träff, Jesper Larsson) A meticulous analysis of mergesort programs. (English summary) *Algorithms and complexity (Rome, 1997)*, 217–228, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68P10 (68Q25)

— (*with* Dietzfelbinger, Martin; Hagerup, Torben; Penttonen, Martti) A reliable randomized algorithm for the closest-pair problem. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 19–51. (Summary) **98h:68223** 68U05 (68P10, 68Q25)

Katajamäki, Kari Value distribution of certain differential polynomials of algebroid functions. *Arch. Math. (Basel)* **67** (1996), *no.* 5, 422–429. (From the introduction) **98g:30055** 30D35

— Value distribution of some monomials of entire algebroid functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 415–420. (Summary) **98m:30047** 30D35

— Value distribution of certain monomials of algebroid functions. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 398–404. (Yu Zan He) **98d:30048** 30D35

Katamachi, Kentaro The arithmetic of multivariable Puiseux series and its applications. II. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 100–104. (*see* **98h:00039**) 14Q05

Katambe, Issoufou (*with* Micali, Artibano; Rodary, Jacques; Ouattara, Moussa) Sur les algèbres quasi-constantes. (English and French summaries) [On quasiconstant algebras] *Afrika Mat.* (3) **8** (1997), 93–100. 17D92

Katanaev, M. O. Euclidean two-dimensional gravity with torsion. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 946–980. (Serguey M. Pokas') **98c:83082** 83D05 (53A10, 53C80)

— (*with* Kummer, W.; Liebl, H.) On the completeness of the black hole singularity in 2D dilaton theories. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 353–370. (Summary) **98f:83072** 83C57 (81T20)

Katano, Keiko (*with* Bao, Feng; Igarashi, Yoshihide) Broadcasting in hypercubes with randomly distributed Byzantine faults. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 215–229, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15)

Kataoka, H. (*with* Hashimoto, Hiroaki) A solution to a class of nonlinear optimal control problems derived from Noether's theorem. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 389–392, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 49K15

Kataoka, Kiyōmi Microlocal analysis of boundary value problems with regular or fractional power singularities. (English summary) *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 215–225, *World Sci. Publishing, River Edge, NJ*, 1996. (Jean-Marc Delort) **98c:58160** 58G07 (35A27, 58G20)

Katavolos, Aristides Reflexivity, supports and spectral synthesis. *Operator algebras and applications (Samos, 1996)*, 225–243, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (From the text) **98e:47067** 47D25 (46B28, 46L05, 47A15, 47D15)

— (*with* Power, Stephen C.) The Fourier binest algebra. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 525–539. (Timothy D. Hudson) **98d:47097** 47D25 (47A15, 47G30)

— *see also* **Operator algebras and applications, 98b:46004**

Katayama, Soichiro A note on the global existence of solutions to nonlinear Klein-Gordon equations. (Japanese) Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 168–177. (*see* **98f:35006**) 35Q53 (35L70)

— Global existence for nonlinear wave equations in two space dimensions. (English summary) *Nonlinear waves (Sapporo, 1995)*, 209–214, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Summary) **98h:35160** 35L70 (35B60)

Katayama, Tohru Subspace-based system identification—a view from realization theory. (Japanese) *Systems Control Inform.* **41** (1997), *no.* 9, 380–387. 93B30 (93B15)

— (*with* Kawamoto, Atsushi) The dissipation inequality and generalized algebraic Riccati equation for the linear quadratic control problem of a descriptor system. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 8, 412–421. (Summary) **98d:49041** 49N10 (93B52)

— (*with* Varga, András) Computation of J-inner-outer factorizations of rational matrices. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 245–263. (Summary) **98k:93040** 93B40 (93B10, 93B55)

Katayama, Yoshikazu (*with* Sutherland, Colin E.; Takesaki, Masamichi) The structure of the automorphism group of a factor and cocycle conjugacy of discrete group actions. *Operator algebras and quantum field theory (Rome, 1996)*, 166–198, *Internat. Press, Cambridge, MA*, 199?. (Erik Bédos) **98k:46104** 46L40 (46L55)

Katbab, A. *see* **Bozorg, Mohammad, 98d:93070**

Katebi, M. R. (*with* Zhang, Y.) H_∞ control analysis and design for nonlinear systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 459–474. 93B36

Katehakis, Michael N. (*with* Burnetas, Apostolos N.) On confidence intervals from simulation of finite Markov chains. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 241–250. 62F25

— (*with* Burnetas, Apostolos N.) Optimal adaptive policies for Markov decision processes. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 222–255. (Peter Köchel) **98c:90180** 90C40

Kateri, Maria (*with* Papaioannou, Takis) Asymmetry models for contingency tables. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1124–1131. (Summary) **98g:62114** 62H17

Katerinochkina, N. N. A local search algorithm for a class of integer linear programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 250–256. (Jürgen Köhler) **98c:90078** 90C09

— Local methods for solving a class of integer linear programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 169–173. 90C10 (90C08)

Katětov, Miroslav *see* **Balcar, Bohuslav, 98c:01038**

Kath, I. (*with* Friedrich, Thomas; Moroianu, Andrei; Semmelmann, U.) On nearly parallel G_2-structures. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 259–286. (Francisco M. Cabrera) **98j:53053** 53C25 (53C10, 57R15)

Kath, William L. Phase-sensitive amplification of pulses in nonlinear optical fibers. (English summary) *Computational wave propagation (Minneapolis, MN, 1994/1995)*, 75–95, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Summary) **98m:78030** 78A60 (35Q55, 78–08)

Kathal, P. D. (*with* Bhatt, S. K.) Criterion for $(S_\theta)(C,1)$ summability of Fourier series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 1, 31–39. 42A24

Kathuria, O. P. (*with* Singh, Jagbir[2]) Estimation of parametric functions in repeat surveys. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 1, 18–28, *ii*. 62D05

Katkova, Olga M. Zero sets of entire Fourier transforms of multiply positive density functions. (English summary) *Total positivity and its applications (Jaca, 1994)*, 335–356, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Valentin Napalkov) **98a:30035** 30D15 (30D10, 42A38, 60E10)

Katkovnik, V. Ya. Nonparametric identification of essentially nonstationary dynamics: methods of local approximation. *J. Comput. Systems Sci. Internat.* **32** (1994), *no.* 4, 61–66; *translated from Izv. Ross. Akad. Nauk Tekhn. Kibernet.* **1993**, *no.* 2, 52–57 (*Russian. Russian summary*). (Summary) **98c:93029** 93B30

— Kernel high-order approximation of time-varying parameters of harmonics. (English summary) *Comput. Statist.* **12** (1997), *no.* 1, 67–91. (Vladimir Zaiats) **98d:62160** 62M10

— Nonparametric estimation of instantaneous frequency. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 183–189. 62G05

— Nonparametric estimation of the time-varying frequency and amplitude. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 307–315. (Summary) **98j:62032** 62G05 (62M10)

Kato, Akiko (*with* Han, Te Sun; Nagaoka, Hiroshi) Huffman coding with an infinite alphabet. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 977–984. (Andrea Sgarro) **98c:94010** 94A29 (94A17, 94A24)

Kato, Akio Cyclic monotonically normal spaces from Cantor sets. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 283–298. (G. D. Dimov) **98b:54002** 54A10 (54D15, 54D80, 54G20)

Kato, Hisako Existence of periodic solutions of the Navier-Stokes equations. *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 141–157. (Vladimir V. Shelukhin) **98d:35177** 35Q30 (35B10, 76D05)

Kato, Hisao Chaotic homeomorphisms in dynamical systems and continuum theory. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 128–136, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F13 (54H20)

— On scrambled sets and a theorem of Kuratowski on independent sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2151–2157. (Beverly Diamond) **98b:54055** 54H20 (26A18, 58F13)

Kato, Junji Mourning Professor Taro Yoshizawa. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 209–214. (*see* **98h:00040**) 01A70

Kato, Kazuhisa A note on definition of chaos. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 123–127. (Beverly Diamond) **98b:54053** 54H20 (58F13)

Katō, Kazuya Achievements of Shūji Saitō. (Japanese) *Sūgaku* **49** (1997), *no.* 2, 182–185. 01A70

Kato, Keiichi (*with* Taniguchi, Kazuo) Gevrey regularizing effect for nonlinear Schrödinger equations. *Osaka J. Math.* **33** (1996), *no.* 4, 863–880. (R. G. Airapetyan) **98b:35181** 35Q55 (35B65)

— Interaction of analytic singularities for semilinear wave equations. (English summary) *Nonlinear waves (Sapporo, 1995)*, 215–220, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Jean-Marc Delort) **98m:35134** 35L70 (35A20)

— (*with* Hayashi, Nakao) Analyticity in time and smoothing effect of solutions to nonlinear Schrödinger equations. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 273–300. (Thierry Cazenave) **98g:35185** 35Q55 (35B65)

— (*with* Hayashi, Nakao) Global existence of small analytic solutions to Schrödinger equations with quadratic nonlinearity. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 773–798. (Summary) **98c:35153** 35Q55 (35J60)

— Regularity of solutions to the wave equation with a nonsmooth coefficient. (English summary) *SUT J. Math.* **33** (1997), *no.* 1, 105–113. (Reinhard Racke) **98g:35128** 35L05 (35B65, 35R05)

Kato, Kentaro (*with* Sasaki, Masahide; Izutsu, Masayuki; Hirota, Osamu) A demonstration of superadditivity in the classical capacity of a quantum channel. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 1–4. (Summary) **98i:81033** 81P99 (94A40)

Kato, Kosuke (*with* Sakawa, Masatoshi) An interactive fuzzy satisficing method for large-scale multiobjective linear programming problems with fuzzy parameters. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 3, 455–469. 90C29 (90C70)

— (*with* Sakawa, Masatoshi; Kubota, Keiichi) Interactive decision making for large-scale multiobjective block-angular linear fractional programming problems with fuzzy

parameters. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 709–720 (1997). 90C29 (04A72, 90C70)

— (*with* Sakawa, Masatoshi; Inuiguchi, Masahiro; Ikeda, Tomohiro) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 721–735 (1997). 90C29 (04A72, 49N55, 90C70)

— (*with* Sakawa, Masatoshi; Ikegame, Toshinori) Interactive decision making for multiobjective block angular 0-1 programming problems with fuzzy parameters through genetic algorithms. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 49–59. 90A05 (90C09, 90C29, 90C70)

— (*with* Sakawa, Masatoshi) Interactive decision-making for multiobjective linear fractional programming problems with block angular structure involving fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 19–31. 90C70 (90A05, 90C29)

Kato, Masahide[1] Compact quotient manifolds of domains in a complex 3-dimensional projective space and the Lebesgue measure of limit sets. (English summary) *Tokyo J. Math.* **19** (1996), *no.* 1, 99–119. (Yoichi Imayoshi) **98a:32038** 32J17 (32C10)

Kato, Mikio (*with* Takahashi, Yasuji) On random Clarkson inequalities. (English summary) *Hiroshima Math. J.* **26** (1996), *no.* 2, 295–300. (G. M. Ustinov) **98e:46020** 46B28 (47A30)

— (*with* Takahashi, Yasuji) Clarkson, random Clarkson inequalities and Rademacher type for Banach spaces. Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 91–97. (*see* **98e:00020**) 46B20

— (*with* Takahashi, Yasuji) Type, cotype constants and Clarkson's inequalities for Banach spaces. (English summary) *Math. Nachr.* **186** (1997), 187–196. (Oscar Blasco) **98d:46011** 46B20

— (*with* Takahashi, Yasuji) Some characterizations of uniformly non-square Banach spaces. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 58–64. (*see* **98g:00027**) 46B20

Kato, Mitsuhiro (*with* Okada, Tomoharu) D-branes on group manifolds. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 583–595. (Daniel N. Kabat) **98m:81147** 81T30 (81R10, 81T40)

— (*with* Hirano, Shinji) Topological matrix model. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 6, 1371–1384. (Summary) **98k:81217** 81T30

Kato, Mitsuo Appell's F_4 with finite irreducible monodromy group. *Kyushu J. Math.* **51** (1997), *no.* 1, 125–147. (Takeshi Sasaki) **98f:33023** 33C65 (32S40)

Kato, Nobuaki (*with* Kadoya, A.; Kenmochi, N.; Shirohzu, J.) Optimal control on the lateral boundary for a phase separation model with constraint. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 98–110, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Florin Iacob) **98g:49002** 49J20 (35K55, 35R35, 80A15)

Kato, Nobuyuki On a stability property of equilibrium of semilinear Volterra integral equations. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 37–44. (Gustaf Gripenberg) **98e:45014** 45M05 (45D05, 45N05)

Kato, Shin (*with* Umehara, Masaaki; Yamada, Kotaro) An inverse problem of the flux formula. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 228–233, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Christos Baikoussis) **98g:53010** 53A10

— (*with* Umehara, Masaaki; Yamada, Kotaro) An inverse problem of the flux for minimal surfaces. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 529–559. (Yi Fang) **98i:53014** 53A10

— Structure theorems of the scalar curvature equation on subdomains of a compact Riemannian manifold. *Tsukuba J. Math.* **21** (1997), *no.* 1, 153–168. (Robert McOwen) **98h:53061** 53C21 (35J60, 58G30)

Kato, Shin-ichi (*with* Murase, Atsushi; Sugano, Takashi) Spherical functions on spherical homogeneous spaces and Rankin-Selberg convolution. (English summary) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 12–22. (Takao Watanabe) **98f:11040** 11F55 (11F70, 22E50)

— Hecke algebras and quantum general linear groups. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 241–249. (Robert Bédard) **98k:20076** 20G05 (17B37, 81R50)

Kato, T. (*with* Hotta, M.; Nagata, K.) A comment on geometric entropy and conical spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1917–1925. (Maria E. X. Guimarães) **98i:83040** 83C47 (81T20)

Kato, Takao (*with* Coppens, Marc) The Weierstrass gap sequence at an inflection point on a nodal plane curve, aligned inflection points on plane curves. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 1, 1–33. (R. F. Lax) **98d:14046** 14H55

— (*with* Keem, Changho; Ohbuchi, Akira) On triple coverings of irrational curves. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 421–441. (Allen B. Altman) **98m:14031** 14H45 (14C20, 14H10)

Kato, Takashi (*with* Wu, Li-Ming[2]; Yanagihara, Niro) On the lattice structure of pseudo-random numbers generated by the modified inversive congruential generator with modulus 2^{α}. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 1, 33–38. (Milan Paštéka) **98c:11079** 11K45 (65C10)

Kato, Toru (*with* Murakami, Masaki) A domain for a semantics of guarded Horn clauses for programs on a distributed environment. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1352–1360. 68N17 (68Q10, 68Q55)

Kato, Tosio On nonlinear Schrödinger equations. II. H^s-solutions and unconditional well-posedness. (English summary) *J. Anal. Math.* **67** (1995), 281–306. (Gustavo Perla Menzala) **98a:35124a** 35Q55

— Correction to: "On nonlinear Schrödinger equations. II. H^s-solutions and unconditional well-posedness". *J. Anal. Math.* **68** (1996), 305. (Gustavo Perla Menzala) **98a:35124b** 35Q55

Kato, Tsuyoshi The asymptotic method in the Novikov conjecture. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 2, 51–62. (Erik K. Pedersen) **98k:57049** 57R67 (19K56, 58G12)

Kato, Yoshio Free boundary problems for the heat equation and application to a Bingham flow. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 235–253. (Antonio Fasano) **98m:35229** 35R35 (35K20, 35Q35, 76A05)

Katounga, Tui L. (*with* Hill, James M.) On a family of axially symmetric kinematically determined plastic flows. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 3, 275–290. (Summary) **98e:73062** 73E05 (73E99, 73Q05, 76A99)

Katoen, Joost-Pieter Causal behaviours and nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 258–277, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10, 68Q60)

— (*with* Langerak, Rom; Brinksma, Ed) Causal ambiguity and partial orders in event structures. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 317–331, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q55)

— (*with* Nymeyer, A.) Code generation based on formal BURS theory and heuristic search. (English summary) *Acta Inform.* **34** (1997), *no.* 8, 597–635. 68N20 (68Q42)

Katoh, Makoto Classification of distance-regular graphs. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 206–209. (*see* **98h:00039**) 05E30

Katoh, Naoki (*with* Cheng, Siu Wing; Sugai, Manabu) A study of the LMT-skeleton. (English summary) *Algorithms and computation* (*Osaka*, 1996), 256–265, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Aichholzer, Oswin; Aurenhammer, F.; Cheng, Siu Wing; Rote, Günter; Taschwer, M.; Xu, Yin-Feng) Triangulations intersect nicely. (English summary) Eleventh Annual Symposium on Computational Geometry (Vancouver, BC, 1995). *Discrete Comput. Geom.* **16** (1996), *no.* 4, 339–359. (Summary) **98f:68260** 68U05 (52B55)

— (*with* Dai, Yang; Iwano, Kazuo) A new probabilistic analysis of Karger's randomized algorithm for minimum cut problems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 5, 255–261. (Summary) **98h:68108** 68Q25 (05C85, 68R10, 90C27)

Katok, Anatole Hyperbolic measures and commuting maps in low dimension. (English summary) *Discrete Contin. Dynam. Systems* **2** (1996), *no.* 3, 397–411. (Summary) **98f:58125** 58F11

— (*with* Thouvenot, Jean-Paul) Slow entropy type invariants and smooth realization of commuting measure-preserving transformations. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 3, 323–338. (Jérôme Buzzi) **98h:28012** 28D15 (28D20, 58F11)

Katona, G. O. H. Extremal problems for finite sets and convex hulls—a survey. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 175–185. (Konrad Engel) **98a:05148** 05D05 (52A20, 90C27)

Katona, Gabriel (*with* Diudea, Mircea V.; Minailiuc, Ovidiu M.; Gutman, Ivan M.) Szeged matrices and related numbers. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 129–143. (Haruo Hosoya) **98i:05152** 05C90 (05C50, 92E10)

Katona, Gyula Y. Edge disjoint polyp packing. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 133–152. (Summary) **98f:68126** 68Q25 (05C85, 68R10)

— Toughness and edge-toughness. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 187–196. (Akira Saito) **98b:05063** 05C40 (05C38)

Katori, Kaoru (*with* Otake, Masamitu; Manome, Yoichi; Mishima, Taketoshi) Convergence properties of periodic solutions on a piecewise linear differential equation. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 205–212, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 34C25 (94C05)

Katori, Makoto (*with* Inui, Norio) Ballot number representation of the percolation probability series for the directed square lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 2975–2994. (Mathew D. Penrose) **98i:82028** 82B43 (60K35)

— (*with* Inui, Norio; Komatsu, Genichi; Kameoka, K.) Hypergeometric series in a series expansion of the directed-bond percolation probability on the square lattice. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 37–55. (Roberto Fernández) **98f:82074** 82B43 (33C05, 60K35, 82-04)

— Irreversible stationary states in particle systems. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 112–119. (*see* **98h:00037**) 82C05

Katrechko, S. L. Intelligent backtracking. (Russian. Russian summary) *Logical investigations, No.* 3 (*Russian*), 187–204, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03B35

Katriel, Jacob (*with* Quesne, Christianne) Recursively minimally-deformed oscillators. (English summary) *J. Math. Phys.* **37** (1996), *no.* 4, 1650–1661. (Summary) **98b:81109** 81S05 (81R50)

— Minimal set of class-sums characterizing the ordinary irreducible representations of the symmetric group, and the Tarry-Escott problem. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 91–95. (Summary) **98i:05165** 05E10 (20C30)

— Class-sum products in the symmetric group: minimally-connected reduced class coefficients. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 161–167. (*see* **98h:00025**) 20B30 (81R05)

Katriňák, Tibor Milan Kolibiar (1922–1994). *Math. Slovaca* **46** (1996), *no.* 4, 297–304. (Editors) **98f:01069** 01A70

— (*with* Hedlíková, Jarmila) Lattice betweenness relation and a generalization of König's lemma. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 343–354. (Yehuda Rav) **98m:06001** 06A06 (05C20, 06B05, 08A02)

— Congruence lattices of pseudocomplemented semilattices. *Semigroup Forum* **55** (1997), *no.* 1, 1–23. (Wiesław A. Dudek) **98e:06004** 06A12 (06B10)

Katrnoška, František (*with* Flachsmeyer, Jürgen) On the number of the idempotents of some matrix rings. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 129–132. (Summary) **98f:15012** 15A30

Kats, I. S. (*with* Nudelman, Adolf Abramovich) The Stieltjes strong moment problem. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 6, 26–56; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 6, 931–950. (Boris Petrovich Osilenker) **98e:44006** 44A60 (30E05, 34L05)

— Power moments of negative orders of the principal spectral function of a string. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 9, 1209–1222; *translation in Ukrainian Math. J.* **48** (1996), *no.* 9, 1371–1387 (1997). (Valeri Kaliaguine) **98f:44004** 44A60 (34L05)

Kats, I. Ya. (*with* Timofeeva, G. A.) A bicriterial problem of stochastic optimization. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 116–123. (Summary) **98a:90069** 90C15 (90A09, 90C29)

Kats, Vladimir (*with* Levner, E. V.) A strongly polynomial algorithm for no-wait cyclic robotic flowshop scheduling. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4,

171–179. (Summary) **98m:90073** 90B35 (93C85)

Katsaras, A. K. (*with* Beloyiannis, A.) Non-Archimedean weighted spaces of continuous functions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 4, 545–562. (Ann Verdoodt) **98e:46094** 46S10 (46E10)

— (*with* Beloyiannis, A.) On non-Archimedean weighted spaces of continuous functions. (English summary) *p-adic functional analysis (Nijmegen, 1996)*, 237–252, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (E. Beckenstein) **98h:46083** 46S10 (46E10, 46E40)

— (*with* Pérez-García, Cristina) A_0-nuclear operators and A_0-nuclear spaces in p-adic analysis. (English summary) *Georgian Math. J.* **4** (1997), *no.* 1, 27–40. (N. De Grande-De Kimpe) **98f:46063** 46S10 (46A99, 47B10, 47S10)

Katsevich, Alexander I. Local tomography for the limited-angle problem. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 160–182. (Serge Lvin) **98k:44002** 44A12 (35S99, 47G30, 92C55)

— Local tomography for the generalized Radon transform. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1128–1162. (B. P. Parashar) **98h:65061** 65R10 (44A12, 92C55)

— Range of the Radon transform on functions which do not decay fast at infinity. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 852–866. (Fritz Keinert) **98g:44001** 44A12 (65R10, 92C55)

Katsikas, Sokratis K. (*with* Lainiotis, Demetrios G.) Lainiotis filters applications in seismic signal processing. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2385–2395. (*see* **98i:00030**) 94A12

— (*with* Giannakopoulos, P. K.) Partitioning nonlinear filters for non-Gaussian initial conditions and correlated noises. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2397–2407. (*see* **98i:00030**) 94A12

Katsman, Caroline A. (*with* Dijkstra, Henk A.) Temporal variability of the wind-driven quasi-geostrophic double gyre ocean circulation: basic bifurcation diagrams. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 3-4, 195–232. (Summary) **98d:86005** 86A05 (76E20)

Katsnelson, Victor Emanuelovich Interpolation "on the spectrum" in the class of Stieltjes functions (the single node case). (Russian) *Functional analysis and applied mathematics (Russian)*, 33–43, 213, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 30E05 (47A57)

— Sampling and interpolation for functions with multi-band spectrum: the mean-periodic continuation method. (English summary) *Wiener-Symposium (Grossbothen, 1994)*, 91–132, *Synerg. Syntropie Nichtlineare Syst.*, 4, *Verlag Wiss. Leipzig, Leipzig*, 1996. (Kristian Seip) **98c:42038** 42C30 (94A05, 94A11)

— Fuchsian differential systems related to rational matrix functions in general position and the joint system realization. *Proceedings of the Ashkelon Workshop on Complex Function Theory (1996)*, 117–143, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Andrei A. Kapaev) **98f:34007** 34A20 (34A30)

— (*with* Livšic, Moshe S.; Arov, Damir Zyamovich; Sakhnovich, Lev Aronovich; Nudelman, Adolf Abramovich; Dubovoĭ, V. K.) Vladimir Petrovich Potapov as remembered by colleagues, friends and former students. *Topics in interpolation theory (Leipzig, 1994)*, 1–18, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 01A70 (47–03)

— On transformations of Potapov's fundamental matrix inequality. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 253–281, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Adolf A. Nudelman) **98j:47035** 47A57 (30E05, 30E20, 44A60)

— (*with* Kheĭfets, A. Ya.; Yuditskiĭ, P. M.) An abstract interpolation problem and the extension theory of isometric operators [MR 90b:47015]. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 283–298, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 47A57 (47A20, 47A45, 47A56, 47B99)

— (*with* Kirstein, Bernd) On the theory of matrix-valued functions belonging to the Smirnov class. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 299–350, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Sergei Treil) **98m:47016** 47A57 (30D50, 47A56)

— *see also* **Topics in interpolation theory**, **98f:47001**

Katsoulakis, Markos A. From microscopic to macroscopic models for phase transitions. Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 107–119. (*see* **98f:00031**) 82C26 (82C20)

— (*with* Jin, Shi) Relaxation approximations to front propagation. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 380–387. (Shigeaki Koike) **98j:35088** 35K55 (35L65, 35Q72)

— (*with* Souganidis, Panagiotis E.) Stochastic Ising models and anisotropic front propagation. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 63–89. (Pablo A. Ferrari) **98k:82118** 82C20 (82C24)

Katsoulis, E. G. (*with* Anoussis, M.) Compact operators and the geometric structure of nest algebras. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1175–1191. (Baruch Solel) **98e:47066a** 47D25

— (*with* Anoussis, M.) Compact operators and the geometric structure of nest algebras. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 319–335. (Baruch Solel) **98e:47066b** 47D25

Katsov, Yefim Model theory of functors: axiomatizability problems. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 3, 285–296. (Mike Prest) **98m:03074** 03C60 (03C07, 03C65, 03G30, 18A25, 18E15)

Katsuhiro, Sakai A new finite variable difference method with application to nonlinear Burgers' equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2169–2180. (*see* **98i:00030**) 65L06 (65M06)

Katsulai, Hiroshi (*with* Jin, Weiqi) Restoration of gray-scale images using genetic algorithm with consideration of pixel correlationship. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1155–1164. 68U10

Katsuno, Hirofumi (*with* Satoh, Ken) A unified view of consequence relation, belief revision, and conditional logic. *Conditionals: from philosophy to computer science*, 33–65, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B45 (03B70, 68T27, 68T30)

Katsura, Koichi (*with* Ogata, Yosihiko; Kobayashi, Akio; Mikami, Naoya; Murata, Yasuaki) Correction of earthquake location estimation in a small-seismic-array system. (English summary) *Bernoulli* **4** (1998), *no.* 2, 167–184. 86A15 (62G99, 62M30)

Katsura, Masashi (*with* Shikishima-Tsuji, Kayoko; Kobayashi, Yuji) On termination of one-rule string rewriting systems. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 85–87. (*see* **98d:00023**) 68Q42

— (*with* Ţiplea, Ferucio Laurenţiu; Ito, Masami[1]) On replacement of Petri nets and some applications. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 178–190. (*see* **98d:00023**) 68Q90

— (*with* Ţiplea, Ferucio Laurenţiu; Ito, Masami[1]) Processes and vectorial characterizations of parallel communicating grammar systems. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 1, 47–73. (Wiesław Zielonka) **98k:68111** 68Q50 (68Q90)

— (*with* Kászonyi, L.) On the context-freeness of a class of primitive words. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 1–11. (Summary) **98i:68156** 68Q45

— (*with* Imaoka, Teruo) Representations of locally inverse $*$-semigroups. II. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 247–255. (P. R. Jones) **98h:20108** 20M18

Katsurada, Hidenori (*with* Ibukiyama, Tomoyoshi) An explicit form of Koecher Maass Dirichlet series associated with Siegel Eisenstein series. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 41–51. (Hiroshi Saito) **98i:11029** 11F46 (11F66)

— (*with* Hisasue, Masaki) A recursion formula for local densities. (English summary) *J. Number Theory* **64** (1997), *no.* 2, 183–210. (Martin Epkenhans) **98d:11042** 11E08

— A remark on Kitaoka formal power series attached to local densities. (English summary) *Manuscripta Math.* **92** (1997), *no.* 4, 477–486. (Martin Epkenhans) **98c:11030** 11E08

— An explicit formula for the Fourier coefficients of Siegel-Eisenstein series of degree 3. (English summary) *Nagoya Math. J.* **146** (1997), 199–223. (B. Ramakrishnan) **98g:11051** 11F30 (11F46)

Katsurada, Masanori An application of Mellin-Barnes' type integrals to the mean square of Lerch zeta-functions. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 137–153. (Matti Jutila) **98d:11102** 11M35

— On Mellin-Barnes type of integrals and sums associated with the Riemann zeta-function. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 13–25. (Alessandro Languasco) **98k:11117** 11M06 (11M41)

Katsylo, P. Rationality of the moduli variety of curves of genus 3. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 507–524. (From the introduction) **98h:14031** 14H10 (14M20)

Kattan, A. K. A. (*with* Samiuddin, M.; Hanif, Muhammad; Khan, Israr) Lower bound to mean square error of estimator in unequal probability sampling. (English summary) *Applied statistical science, II (Malang, 1996)*, 99–112, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62D05

Katti, Raj S. (*with* Hu, Longfei) A parallel algorithm to solve continuous time Markov processes that model the performance of parallel computers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 4 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65Y05 (65U05)

Katti, S. K. (*with* Betne, P.; Chandramouleeswaran, M. P.) Computing formulae in Fisherian designs through a three line APL-program. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 37–45. 62K10

Katulev, A. N. (*with* Vilenchik, L. S.; Malevinskiĭ, M. F.) A method for reconstructing the spectrum of a function from a finite sample. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 42–49; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 918–923. (Summary) **98e:93099** 93E10 (93B30, 93C80)

Katulska, Krystyna (*with* Pomianowska, Joanna) Robustness of incomplete block designs against missing data. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 183–189. (Rahul Mukerjee) **98f:62228** 62K10 (05B05)

Katyushina, V. A. (*with* Il'inskiĭ, A. S.) Galerkin method for the linear-radiator integral equation. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 385–392. (*see* **98i:00039**) 65R20

Katz, Daniel (*with* Ratliff, L. J., Jr.) Sequences and $\operatorname{Ker}(R[X_1, \cdots, X_n] \to R[tI])$. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 265–275. (C. P. L. Rhodes) **98i:13004** 13A30 (13B22)

Katz, I. Norman (*with* Panteliou, S. D.; Dimarogonas, A. D.) Direct and inverse interpolation for Jacobian elliptic functions, zeta function of Jacobi and complete elliptic integrals of the second kind. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 8, 51–57. (Summary) **98b:33041** 33E05 (33C90, 65D05, 92C05)

— (*with* Hu, Ning[3]; Guo, Xian-Zhong) Multi-p preconditioners. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1676–1697. (Jin Xi Zhao) **98i:65038** 65F35 (65N30)

Katz, Irving J. (*with* Hartwig, Robert E.) On products of EP matrices. (English summary) *Linear Algebra Appl.* **252** (1997), 339–345. (Gong Ning Chen) **98a:15050** 15A57

Katz, Jerrold J. ★ Realistic rationalism. (English summary) Representation and Mind. A Bradford Book. *MIT Press, Cambridge, MA*, 1998. xxxiv+226 *pp. ISBN* 0-262-11229-9 (Paul Ernest) **98m:00010** 00A30

Katz, Joseph Integral constraints in cosmology. (English summary) *Gravitation and cosmology (Pune, 1995)*, 145–155, *Astrophys. Space Sci. Lib.*, 211, *Kluwer Acad. Publ., Dordrecht*, 1997. (Alicia M. Sintes) **98h:83022** 83C40

— (*with* Deruelle, Nathalie; Uzan, Jean-Philippe) Integral constraints on cosmological perturbations and their energy. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 421–433. (Jürgen Tolksdorf) **98a:83049** 83C40 (83C25)

— (*with* Lerer, Dorit) On global conservation laws at null infinity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2249–2266. (Simonetta Frittelli) **98f:83036** 83C40 (83C30)

— (*with* Dong, Ronald R.; Huang, Thomas T.) On the structure of bow waves on a ship model. (English summary) *J. Fluid Mech.* **346** (1997), 77–115. 76B20

— (*with* Bičák, Jiří; Lynden-Bell, Donald) Relativistic conservation laws and integral constraints for large cosmological perturbations. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5957–5969. (Alexander N. Petrov) **98m:83025** 83C40

Katz, Matthew J. (*with* Devillers, Olivier) Optimal line bipartitions of point sets. (English summary) *Algorithms and computation (Osaka, 1996)*, 45–54, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Efrat, Alon) Computing fair and bottleneck matchings in geometric graphs. (English summary) *Algorithms and computation (Osaka, 1996)*, 115–125, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:05177** 05C85 (68R10, 68U05)

— (*with* Sharir, Micha) An expander-based approach to geometric optimization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1384–1408. (J. Sándor) **98k:90092** 90C28 (52B55)

Katz, Mikhail A proof via the Seiberg-Witten moduli space of Donaldson's theorem on smooth 4-manifolds with definite intersection forms. *R.C.P.* 25, *Vol.* 47 (*Strasbourg, 1993–1995*), 269–274, *Prépubl. Inst. Rech. Math. Av., 1995/24, Univ. Louis Pasteur, Strasbourg*, 1995. (Paolo Lisca) **98d:57056** 57R57 (57N13, 57R55)

Katz, Nets Hawk A counterexample for maximal operators over a Cantor set of directions. (English summary) *Math. Res. Lett.* **3** (1996), *no.* 4, 527–536. (Javier Duoandikoetxea) **98b:42032** 42B25

— (*with* Geshwind, Frank) Pseudodifferential operators on SU(2). (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 193–205. (Gerald B. Folland) **98b:43016** 43A75 (22E30, 35S05, 47G30, 58G15)

— (*with* Jones, Peter Wilcox; Vargas, Ana M.) Checkerboards, Lipschitz functions and uniform rectifiability. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 189–210. (U. D'Ambrosio) **98j:49057** 49Q15

Katz, Nicholas Correction to: "On the monodromy groups attached to certain families of exponential sums" [Duke Math. J. **54** (1987), no. 1, 41–56; MR 88i:11053]. *Duke Math. J.* **89** (1997), *no.* 1, 201. 11L05 (12H25, 14D10, 14L17)

Katz, Sheldon H. (*with* Mayr, Peter; Vafa, Cumrun) Mirror symmetry and exact solution of 4D $N = 2$ gauge theories. I. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 53–114. (Angel Maria Uranga) **98m:81148** 81T30 (14J32, 32J81, 81T13, 81T60)

— (*with* Berglund, Per; Klemm, Albrecht Otto; Mayr, Peter) New Higgs transitions between dual $N = 2$ string models. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 209–228. (Summary) **98e:81130** 81T30 (14J32, 32J81, 83E30)

— (*with* Vafa, Cumrun) Matter from geometry. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 146–154. (Bruce Hunt) **98i:81209** 81T30 (32J81, 81T13, 81T60)

— (*with* Douglas, Michael R.; Vafa, Cumrun) Small instantons, del Pezzo surfaces and type I′ theory. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 155–172. (Bruce Hunt) **98k:81204** 81T30 (14J26, 83E30)

— (*with* Klemm, Albrecht Otto; Vafa, Cumrun) Geometric engineering of quantum field theories. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 173–195. (Bruce Hunt) **98h:81097** 81T30 (14J32, 32J81, 81T60)

— (*with* Vafa, Cumrun) Geometric engineering of $N = 1$ quantum field theories. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 196–204. (Bruce Hunt) **98h:81098** 81T30 (14J32, 32J81, 81T60)

Katz, Shmuel Refinement with global equivalence proofs in temporal logic. (English summary) *Partial order methods in verification (Princeton, NJ, 1996)*, 59–78, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 29, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:68113** 68Q60 (03B45, 03B70)

Katz, Victor J. Essay review of *Companion encyclopedia of the history and philosophy of the mathematical sciences. Vol. 1, 2* [Routledge, London, 1994; MR 98g:01003] edited by I. Grattan-Guinness. *Historia Math.* **24** (1997), *no.* 4, 445–453. 01–00 (00A20)

Katzarkov, L. Nilpotent groups and universal coverings of smooth projective varieties. *J. Differential Geom.* **45** (1997), *no.* 2, 336–348. (Shūichi Yamamoto) **98g:14015** 14E20 (14D07, 32J27)

Katzenbeisser, Walter (*with* Panny, Wolfgang) Lattice path counting, simple random walk statistics, and randomization: an analytic approach. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 59–76, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Jagdish Saran) **98g:60126** 60J15 (05A15, 62G10)

Katzman, Mordechai The cohomological dimension of a resultant variety in prime characteristic *p*. *J. Algebra* **191** (1997), *no.* 2, 510–517. (J.-P. Lafon) **98a:13023** 13D05 (13C40)

Katznelson, Yitzhak (*with* Ornstein, D. S.) Twist maps and Aubry-Mather sets. (English summary) *Lipa's legacy (New York, 1995)*, 343–357, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98j:58067** 58F10 (58F11)

Kaučikas, A. On centred and integral homomorphisms. (Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 353–358; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 3, 264–268 (1998). (T. Albu) **98k:16037** 16S20

Kauermann, Göran A note on multivariate logistic models for contingency tables. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 261–276. 62H17

— (*with* Müller, Marlene; Carroll, Raymond J.) The efficiency of bias-corrected estimators for nonparametric kernel estimation based on local estimating equations. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 41–47. 62G05

Kauffman, Louis H. (*with* Magarshak, Yuri) Graph invariants and the topology of RNA folding. (English summary) *Random knotting and linking (Vancouver, BC, 1993)*, 1–13, *Ser. Knots Everything*, 7, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:57011** 57M25 (92C40, 92D20)

— Tangle complexity and the topology of the Chinese rings. (English summary) *Mathematical approaches to biomolecular structure and dynamics (Minneapolis, MN, 1994)*, 1–10, *IMA Vol. Math. Appl.*, 82, *Springer, New York*, 1996. (Theodore C. Enns) **98b:57013** 57M25 (05C10, 94B25)

— An introduction to knot theory and functional integrals. (English summary) *Functional integration (Cargèse, 1996)*, 247–308, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (Răzvan Gelca) **98i:57011** 57M25 (58D30)

— (*with* Goldman, Jay R.) Rational tangles. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 300–332. (Summary) **98c:57005** 57M25

— Knot theory and statistical mechanics. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 39–49. (Maria J. Rodríguez-Plaza) **98c:82019** 82B23 (57M25)

— (*with* Saito, Masahico; Sawin, Stephen F.) On finiteness of certain Vassiliev invariants. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 291–297. (Summary) **98b:57014** 57M25

Kauffmann, R. (*with* Saint Jean Paulin, Jeannine) Elasticity of a perforated plate with very different elasticity coefficients. (English summary) *Homogenization and applications to material sciences (Nice, 1995)*, 225–239, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Dan Poliševski) **98k:73006** 73B27 (35Q72, 73K10)

Kaufman, E. H., Jr. (*with* Leeming, David J.; Taylor, G. D.) Monotone rational approximation on finite sets. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 265–272, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A29 (41A20)

Kaufman, Howard (*with* Bar-Kana, Izhak; Sobel, Kenneth) ★ Direct adaptive control algorithms. (English summary) Theory and applications. Case studies contributed by David S. Bayard and Gregory W. Neat. Second edition. Communications and Control Engineering Series. *Springer-Verlag, New York*, 1998. xxviii+424 *pp. ISBN* 0-387-94884-8 (From the preface) **98h:93001** 93–02 (93B40, 93C40)

Kaufman, Linda (*with* Neumaier, Arnold) Regularization of ill-posed problems by envelope guided conjugate gradients. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 4, 451–463. (Summary) **98m:65106** 65K10 (49M07, 90C29)

Kaufman, Robert (*with* Langley, J. K.) Steven Barry Bank (1939–1994). *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 1–5. (Editors) **98f:01070** 01A70

— Note on differential equations in Banach spaces. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 141–144. (S. A. Brykalov) **98h:34111** 34G20 (28A05)

Kaufmann, Eric R. (*with* Eloe, Paul W.; Henderson, Johnny) Multiple positive solutions for difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 219–229. (Summary) **98m:39011** 39A10

Kaufmann, Michael (*with* Sibeyn, Jop F.; Suel, Torsten) Beyond the worst-case bisection bound: fast sorting and ranking on meshes. (English summary) *Algorithms—ESA '95 (Corfu)*, 75–88, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68Q22 (68P10)

— (*with* Sibeyn, Jop F.) Solving cheap graph problems on meshes. (English summary) *Mathematical foundations of computer science 1995 (Prague)*, 412–422, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68M10 (68R10)

— (*with* Fößmeier, Ulrich) Nice drawings for planar bipartite graphs. (English summary) *Algorithms and complexity (Rome, 1997)*, 122–134, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68R10 (68U05)

— (*with* Sibeyn, Jop F.) BSP-like external-memory computation. (English summary) *Algorithms and complexity (Rome, 1997)*, 229–240, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (*see* **98h:68004**) 68Q22

— (*with* Raman, Rajeev; Sibeyn, Jop F.) Routing on meshes with buses. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 417–444. (Summary) **98e:68010** 68M10 (68Q25)

— (*with* Biedl, Therese C.; Kant, Goos) On triangulating planar graphs under the four-connectivity constraint. (English summary) *Algorithmica* **19** (1997), *no.* 4, 427–446. (Summary) **98e:68195** 68R10 (05C10, 05C85)

— (*with* Meyer, Ulrich; Sibeyn, Jop F.) Matrix transpose on meshes: theory and practice. (English summary) Special issue on parallel and distributed computing (Bratislava, 1996). *Comput. Artificial Intelligence* **16** (1997), *no.* 2, 107–140. (Summary) **98d:68088** 68Q22 (15A99, 68P10)

— (*with* Fößmeier, Ulrich; Zelikovsky, A.) Faster approximation algorithms for the rectilinear Steiner tree problem. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 93–109. (Ding Zhu Du) **98c:05046** 05C05 (05C85, 68U05)

Kaufmann, Ralph Martin (*with* Manin, Yuriĭ Ivanovich; Zagier, Don) Higher Weil-Petersson volumes of moduli spaces of stable *n*-pointed curves. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 3, 763–787. (Kai A. Behrend) **98i:14029** 14H10 (14H15, 32G15)

— The intersection form in $\mathscr{H}^*(\overline{\mathscr{M}}_{0n})$ and the explicit Künneth formula in quantum cohomology. *Internat. Math. Res. Notices* **1996**, *no.* 19, 929–952. (Kai A. Behrend) **98c:14006** 14C17 (14D20, 14N10)

Kaufmann, Susanne (*with* Stephan, Frank C.) Robust learning with infinite additional information. (English summary) *Computational learning theory (Jerusalem, 1997)*, 316–330, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68178** 68Q99 (68T05)

— (*with* Case, John; Kinber, Efim; Kummer, Martin Walter) Learning recursive functions from approximations. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 183–196. (Sanjay Jain) **98k:68131** 68Q99 (03D20, 68T05)

Kaufmann, Zoltán (*with* Bene, Julius; Lustfeld, Hans) New approach to the correlation spectrum near intermittency: a quantum mechanical analogy. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 605–632. 81Q50 (58F13)

Kaul, Saroop K. Vector Lyapunov functions in impulsive variable-time differential systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2695–2698. (*see* **98i:00031**) 34A37 (34K20)

Kaunzner, Wolfgang Neues zu Adam Ries aus Staffelstein und zu Andreas Alexander aus Regensburg. (English summary) [New information on Adam Ries from Staffelstein and on Andreas Alexander from Regensburg] *Sudhoffs Arch.* **81** (1997), *no.* 2, 211–226. (Warren Van Egmond) **98i:01009** 01A40

Kaup, D. J. (*with* Lakoba, T. I.) How the variational method can give rise to false instabilities. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 169–176, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35182** 35Q55 (35A15)

— (*with* Rupasov, V. I.) Exactly solvable 3D model of resonance energy transfer. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6911–6923. (Armin Kargol) **98a:81271** 81V45

— (*with* Matsuno, Y.) Initial value problem of the linearized Benjamin-Ono equation and its applications. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5198–5224. (Vladislav G. Dubrovsky) **98i:35160** 35Q51 (35Q35, 76B25)

— (*with* Lakoba, T. I.; Malomed, Boris A.) Solitons in nonlinear fiber couplers with two orthogonal polarizations. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part B*, 6107–6120. (Summary) **98d:78012** 78A60 (35Q55, 78A10)

— (*with* Lakoba, T. I.) Stability of solitons in nonlinear fiber couplers with two orthogonal polarizations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4791–4802. (Summary) **98i:78020** 78A60

— (*with* Lakoba, T. I.) Perturbation theory for the Manakov soliton and its applications to pulse propagation in randomly birefringent fibers. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 6147–6165. (Summary) **98j:78008** 78A10 (35Q55)

— (*with* Lakoba, T. I.; Matsuno, Y.) Complete integrability of the Benjamin-Ono equation by means of action-angle variables. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 123–133. (Summary) **98j:35157** 35Q53 (58F07)

Kaup, Ludger (*with* Barthel, Gottfried; Brasselet, Jean-Paul; Fieseler, Karl-Heinz) Invariante Divisoren und Schnitthomologie von Torischen Varietäten. (English summary) [Invariant divisors and intersection homology of toric varieties] *Parameter spaces* (*Warsaw*, 1994), 9–23, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Joseph Gubeladze) **98j:14024** 14F32 (14M25)

— (*with* Brasselet, Jean-Paul; Fieseler, Karl-Heinz) Caractérisation des variétés homologiques à l'aide des invariants d'homologie d'intersection. (French summary) [Characterization of homology manifolds using intersection homology invariants] *Singularities and differential equations* (*Warsaw*, 1993), 19–22, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (J. S. Joel) **98d:55008** 55N33 (57N65)

— (*with* Barthel, Gottfried; Brasselet, Jean-Paul; Fieseler, Karl-Heinz) Diviseurs invariants et homomorphisme de Poincaré de variétés toriques complexes. (English and French summaries) [Invariant divisors and Poincaré homomorphism of complex toric varieties] *Tôhoku Math. J.* (2) **48** (1996), *no.* 3, 363–390. (Alicia Dickenstein) **98c:14044** 14M25 (14C20, 14F25)

— *see also* **Hahn, Hans**, **98h:01035**

singh Kaurav, Prahlad *see* **Singh Kaurav, Prahlad**

Kausch, Horst (*with* Takács, Gábor; Watts, G. M. T.) On the relation between $\Phi_{(1,2)}$ and $\Phi_{(1,5)}$ perturbed minimal models and unitarity. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 3, 557–579. (Andrei Babichenko) **98d:81103** 81T40 (82B20, 82B23)

Kaushal, Anil (*with* Singh, Sukhminder) Improved estimation in overlapping clusters. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 121–127. 62D05

Kaushal, R. S. Wigner functions, Schrödinger quantum mechanics and multidimensional Ermakov theory. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 131–135, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98j:81191** 81S30

— (*with* Parashar, D.; Gupta, Shalini; Mishra, S. C.) Construction of exact invariants for classical dynamical systems in three dimensions. (English summary) *Ann. Physics* **259** (1997), *no.* 2, 233–252. (Mircea Crasmareanu) **98i:70012** 70H05 (34A26, 58F05)

— (*with* Parashar, D.) Time-dependent-harmonic plus inverse-harmonic potential in quantum mechanics. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 4, 2610–2614. (Summary) **98f:81058** 81Q05 (81R10, 81R30)

— Existence of a space invariant in the Tolman-Oppenheimer-Volkoff theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 197–201. 83C55 (83F05)

Kaushik, V. P. (*with* Rana, Anita) Transmission of SH waves through a linear viscoelastic layer sandwiched between two anisotropic inhomogeneous elastic halfspaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 851–863. 73D15 (73F15)

— (*with* Tomar, S. K.; Kumar, Rajneesh) Wave propagation of micropolar elastic medium with stretch. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 683–698. 73D15 (73B25)

Kauta, John S. Integral semihereditary orders, extremality, and Henselization. (English summary) *J. Algebra* **189** (1997), *no.* 2, 226–252. (Hidetoshi Marubayashi) **98d:16030** 16H05 (16E60)

— Integral semihereditary orders inside a Bézout maximal order. (English summary) *J. Algebra* **189** (1997), *no.* 2, 253–272. (Hidetoshi Marubayashi) **98d:16031** 16H05 (16E60)

— On semihereditary maximal orders. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 251–257. (Ellen E. Kirkman) **98k:16023** 16H05

Kauthen, J.-P. A survey of singularly perturbed Volterra equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 95–114. (Summary) **98e:45003** 45G05 (34E15, 45D05, 45J05, 45L05)

— (*with* Brunner, Hermann) Continuous collocation approximations to solutions of first kind Volterra equations. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1441–1459. (Summary) **98f:65128** 65R20 (45L05)

Kautz, Henry (*with* Gogić, Goran; Papadimitriou, Christos H.; Selman, Bart) The comparative linguistics of knowledge representation. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 862–869, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30

— (*with* Selman, Bart) Knowledge compilation and theory approximation. (English summary) *J. ACM* **43** (1996), *no.* 2, 193–224. (M. I. Dekhtyar) **98a:68163** 68T15 (03B35, 03B70, 03F20, 68Q25)

— (*with* Selman, Bart; Jiang, Yueyen) A general stochastic approach to solving problems with hard and soft constraints. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 573–586, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C09 (68R05, 68R10, 68T15, 68T20, 90C15, 90C27)

Kautz, Steven M. (*with* Miltersen, Peter Bro) Relative to a random oracle, NP is not small. (English summary) Ninth Annual Structure in Complexity Theory Conference (Amsterdam, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 2, *part* 2, 235–250. (Gerhard Lischke) **98c:68073** 68Q15

— An improved zero-one law for algorithmically random sequences. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 185–192. (Summary) **98m:68091** 68Q15 (68Q30)

Kavalieris, L. Estimation of the number of spectral lines. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 246–258, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (*see* **98f:62003**) 62M15

Kavalov, An. (*with* Sakita, B.) W_∞ and w_∞ gauge theories and contraction. (English summary) *Ann. Physics* **255** (1997), *no.* 1, 1–18. (Bani Mitra Södermark) **98f:81098** 81R10 (17B68, 81T13)

Kaveh, Moshe (*with* Kogan, Eugene) Intensity distributions of waves in a random medium: random matrix theory approach. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 338–341, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 82B44

— (*with* Freilikher, V.; Pustilnik, M.; Yurkevich, I.; Sanches-Gil, J.; Maradudin, A. A.; Lu, Jun Q.) Coherent effects in scattering from bounded random systems with discrete spectrum. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 49–74, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:78034** 78A45

Kavian, Otared (*with* Cazenave, Thierry; Dickstein, Flavio) A parameter determination problem for a linearized model of well-reservoir coupling. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part I (Rio de Janeiro, 1995). *Mat. Contemp.* **10** (1996), 87–97. (Hamid Bellout) **98b:35203** 35Q99 (35R30, 76S05, 86A22)

Kavvadias, Dimitris (*with* Sideri, Martha) The inverse satisfiability problem. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 250–259, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:03065** 03D15 (03B05, 68Q25)

Kawa, Wojciech (*with* Zając, Jacek) Dynamical approximation of the distortion function Φ_K. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, II (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **20** (1995), 39–48. (M. K. Vamanamurthy) **98d:30026** 30C62 (33C55)

Kawabata, Toshihiro (*with* Takeda, Masayoshi) On uniqueness problem for local Dirichlet forms. *Osaka J. Math.* **33** (1996), *no.* 4, 881–893. (Zhen-Qing Chen) **98e:31009** 31C25 (46N20)

Kawabe, Tatsuya (*with* Ogose, Satoshi; Watabe, Tsuyoshi) A note on polysurface groups. *Nihonkai Math. J.* **8** (1997), *no.* 1, 7–18. (F. E. A. Johnson) **98i:22017** 22E40 (20H10, 57M05)

Kawada, Koichi On a zero density estimate for Dedekind zeta functions of the fields $\mathbf{Q}(n^{1/6})$. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 103–111. (*see* **98c:11002**) 11R42

— Note on the sum of cubes of primes and an almost prime. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 13–19. (Jie Wu) **98f:11105** 11P32 (11N36, 11P55)

Kawaguchi, Akitsugu *see* **Celebration of the 90th anniversary of Akitsugu Kawaguchi's birth**, **98d:53002**

Kawaguchi, Hiroaki (*with* Anastasiei, Mihai) Absolute energy of a Finsler space. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 108–113. (József Szilasi) **98d:53027** 53B40

Kawaguchi, Kimio (*with* Chen, Danny Z.; Chen, Wei[3]; Wada, Koichi) Parallel algorithms for partitioning sorted sets and related problems. (English summary) *Algorithms—ESA '96* (*Barcelona*), 234–245, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (68P10)

— (*with* Chen, Wei[3]; Deng, Xiao Wen; Wada, Koichi) Constructing a strongly convex superhull of points. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 42–51, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05

Kawaguchi, Michiaki (*with* Ohnishi, Shin-ichi; Imai, Hideyuki) Evaluation of the stability on weights of fuzzy analytic hierarchy process using sensitivity analysis. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 147–160. 90C70 (90C31)

Kawaguchi, Tomoaki (*with* Miron, Radu) Higher order relativistic geometrical optics. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor* (*N.S.*) **53** (1993), *Commemoration Volume I*, 24–38. (Stanisław Janeczko) **98g:78002** 78A05 (53B50)

— (*with* Hayama, Eriko; Ivanova, Raina) A Riemannian approach to the *J*-divergence. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 282–293. (Introduction) **98g:62013** 62B10 (53B99)

— (*with* Ivanova, Raina) An interpretation of the Riemannian curvature in a statistical parameter space. *Tensor* (*N.S.*) **57** (1996), *no.* 3, 300–305. (Introduction) **98e:62014** 62B10 (53B20, 62A99, 62F99)

— (*with* Miron, Radu) New metrics in the higher-order relativistic optics. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 293–301, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Tadashi Aikou) **98i:53030** 53B50 (78A10)

— (*with* Miyata, Manabu; Yamada, Masashi) On a unification of divergences by means of information amounts. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 19–31. (Leandro Pardo) **98m:62012** 62B10 (94A17)

— (*with* Ivanova, Raina; Yamada, Masashi; Miyata, Manabu; Sasahara, Yasutaka) On the statistical parameter space constituted by the logistic density function. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 71–82. 62B10 (62F99)

Kawaguchi, Tsuyoshi (*with* Hoogeveen, Johannes Adzer) Minimizing total completion time in a two-machine flowshop: analysis of special cases. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 374–388, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (M. M. Syslo) **98g:90021** 90B35 (90C27)

Kawahara, Genta (*with* Tanaka, Mitsuru[2]; Yanase, Shinichiro; Kida, Shigeo) A mechanism for the generation of vortex tubes—elimination of structural normal vorticity. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 117–133. (*see* **98e:76004**) 76C05

— (*with* Kiyama, Hiroshi; Ayukawa, Kyozo) Vortex stretching and elimination in a vortex tube within a uniform shear flow. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 134–143. (*see* **98e:76004**) 76D99

Kawahara, Mutsuto (*with* Okamoto, Takashi) 3-D sloshing analysis by an arbitrary Lagrangian-Eulerian finite element method. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 2, 129–146. (From the summary) **98h:76086** 76M10 (65M60, 76B10)

— (*with* Marin, Maxim) Optimal control of vorticity in Rayleigh-Bernard convection by finite element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 9–22. 76M10 (49N55, 65M60, 76R10)

— (*with* Ding, Yan) Analysis of dynamic response of prey-predator system with nonlinear diffusion-reaction equations by using superposition. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 375–388. 92D40 (35K57, 35Q80, 65L06, 65N30)

— (*with* Ding, Yan) Linear stability of incompressible fluid flow in a cavity using finite element method. (English summary) Finite elements in fluids. *Internat. J. Numer.*

Methods Fluids **27** (1998), *no.* 1-4, *Special Issue*, 139–157. (Summary) **98k:76086** 76M10 (76E99)

— (*with* Ding, Yan) Linear stability of incompressible flow using a mixed finite element method. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 243–273. (Summary) **98m:76103** 76M10 (76D05, 76E99)

Kawahara, Yasuo Relational set theory. (English summary) *Category theory and computer science* (*Cambridge*, 1995), 44–58, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Summary) **98c:03101** 03E30 (03E65)

— (*with* Inokuchi, Shuichi) On product formula of tree expressions. (Japanese) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 134–137. (*see* **98k:68015**) 68Q80

Kawahigashi, Yasuyuki Classification of approximately inner automorphisms of subfactors. *Math. Ann.* **308** (1997), *no.* 3, 425–438. (Carl Winsløw) **98i:46063** 46L37 (46L40)

Kawai, Ei-ichiro (*with* Kiso, Kazuhiro; Kaneda, Eiji) Hierarchies of evolution equations associated with certain symmetric spaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5183–5189. (Summary) **98i:58118** 58F07 (35Q55)

Kawai, Hajime (*with* Koyanagi, Junji) Optimal control policies for queueing systems that reduce arrival rates. (Japanese) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 34–40. (*see* **98h:90004**) 90B22

Kawai, Hikaru (*with* Aoki, Hajime; Nishimura, Jun; Tsuchiya, Asato) Operator product expansion in two-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **474** (1996), *no.* 2, 512–528. (Summary) **98f:81290** 81T40

— (*with* Ishibashi, Nobuyuki; Kitazawa, Yoshihisa; Tsuchiya, Asato) A large-N reduced model as superstring. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 467–491. (Daniel N. Kabat) **98k:81221** 81T30

Kawai, Shingo The symplectic nature of the space of projective connections on Riemann surfaces. Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 16–27. (Jonathan A. Poritz) **98h:32034** 32G15 (58D27)

Kawai, Takahiro (*with* Berenstein, Carlos A.; Struppa, Daniele C.; Takei, Yoshitsugu) Exponential representation of a holomorphic solution of a system of differential equations associated with the theta-zerovalue. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 89–102, *World Sci. Publishing, River Edge, NJ*, 1996. (Jacques Vauthier) **98h:35028** 35C99 (32N10, 35A20)

— (*with* Berenstein, Carlos A.; Struppa, Daniele C.) Interpolating varieties and the Fabry-Ehrenpreis-Kawai gap theorem. *Adv. Math.* **122** (1996), *no.* 2, 280–310. (Alex Méril) **98e:32018** 32E30 (35R50)

— (*with* Takei, Yoshitsugu) On the structure of Painlevé transcendents with a large parameter. II. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 7, 144–147. (Alexander Vladimirovich Kitaev) **98b:34012** 34A20 (34E20)

— (*with* Takei, Yoshitsugu) On the structure of multiple-scale solutions of the Painlevé equations with a large parameter. Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 49–59. (From the introduction) **98j:34008** 34A20 (34E05)

Kawai, Toshiya String duality and modular forms. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 51–62. (Bruce Hunt) **98b:81200** 81T30 (11F30, 32J81)

Kawakami, Hajime Details of a construction of the fundamental solution to the nonhomogeneous oblique derivative problem for a diffusion equation on a Riemannian domain. *Mem. College Ed. Akita Univ. Natur. Sci. No.* 50 (1996), 1–37. (You-Shi Lou) **98i:35005** 35A08 (35K99)

— Some global geodesical coordinate systems over a nonpositively curved manifold with boundary and a wave equation. *Mem. College Ed. Akita Univ. Natur. Sci. No.* 51 (1997), 1–3. (Hideo Soga) **98g:58176** 58G16 (53C22, 58F17)

Kawakami, Hiroshi (*with* Yoshinaga, Tetsuya) Codimension-two bifurcation in a forced oscillator. (English summary) *Dynamical systems and chaos, Vol.* 1 (*Hachioji*, 1994), 347–350, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 34C15 (34C23, 58F13)

— (*with* Mira, Christian) Qualitative modifications of the "lip" bifurcation structure. (English summary) *Iteration theory* (*Batschuns*, 1992), 199–206, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Loskutov) **98d:58131** 58F14

Kawakami, Norio (*with* Fukui, Takahiro) SU(v) generalization of the twisted Haldane-Shastry model. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 3, 663–680. (Yu Kui Zhou) **98f:82047** 82B23 (82B20)

Kawakami, Tomohiro Nash structures of equivariant smooth manifolds and equivariant smooth vector bundles. *Real and complex singularities* (*São Carlos*, 1994), 75–83, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Karl Heinz Dovermann) **98i:58006** 58A07 (14P20)

— Definable G vector bundles over a definable G set and its quotient space. (English summary) *Bull. Osaka Prefect. College Tech.* **31** (1997), 61–67. (M. A. Taĭtslin) **98i:03050** 03C60 (14F05)

— A note on exponentially Nash G manifolds and vector bundles. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997,** *Special issue no.* 2, 63–75. (Karl Heinz Dovermann) **98c:58002** 58A07 (14P10, 14P20, 57S15)

— Equivariant exponentially Nash vector bundles. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 2, 217–229. (Karl Heinz Dovermann) **98f:14045** 14P20 (14P15, 57S15, 58A07)

Kawakami, Toshikazu (*with* Yoshihiro, Yoshida) Collusion under financial constraints: collusion or predation when the discount factor is near one? (English summary) *Econom. Lett.* **54** (1997), *no.* 2, 175–178. 90D05 (90A12)

Kawamata, Yujiro Divisorial contractions to 3-dimensional terminal quotient singularities. (English summary) *Higher-dimensional complex varieties* (*Trento*, 1994), 241–246, *de Gruyter, Berlin*, 1996. (Tomasz Szemberg) **98g:14005** 14B05 (14J30)

— On the cone of divisors of Calabi-Yau fiber spaces. *Internat. J. Math.* **8** (1997), *no.* 5, 665–687. (Mark Gross) **98g:14043** 14J32

— Erratum on: "Unobstructed deformations. A remark on a paper of Z. Ran: 'Deformations of manifolds with torsion or negative canonical bundle'" [J. Algebraic Geom. **1** (1992), no. 2, 183–190; MR 93e:14016]. *J. Algebraic Geom.* **6** (1997), *no.* 4, 803–804. (Bruce Hunt) **98k:14009** 14D15 (14J40, 32G05, 32J18)

— *see also* **Birational algebraic geometry, 98b:00037**

Kawamoto, Atsushi (*with* Katayama, Tohru) The dissipation inequality and generalized algebraic Riccati equation for the linear quadratic control problem of a descriptor system. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 8, 412–421. (Summary) **98d:49041** 49N10 (93B52)

Kawamoto, Fuminori Nonexistence of a normal basis for ramified abelian extensions of S-integer rings. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 24–29. (Noriaki Kimura) **98m:11122** 11R33 (11R80)

— On normal bases of some ring extensions in number fields. I. *Tokyo J. Math.* **19** (1996), *no.* 1, 129–146. (R. Gillard (Zbl 871.11079)) **98m:11121** 11R33 (11R18)

Kawamoto, Hiroshi Single-valued wave function of Aharonov-Bohm problem. (English summary) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 162–170. (*see* **98h:00037**) 81Q05

— Quantization of the Aharonov-Bohm flux threading through a charge density wave loop. (English summary) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 234–239. (*see* **98h:00038**) 81Q99

Kawamoto, N. *see* **Kawamoto, Noboru**

Kawamoto, Naoki Derivations of group algebras of the infinite dihedral group. (English summary) *Groups—Korea '94* (*Pusan*), 163–171, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 16W25 (20C07)

Kawamoto, Noboru (*with* Ozawa, Eisaku; Suehiro, Kazuhiko) Quantization of $\mathrm{gl}(1, \mathbf{R})$ generalized Chern-Simons theory in $1 + 1$ dimensions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 219–231. (María A. Lledó) **98m:81192** 81T70 (81T13)

— (*with* Ambjørn, Jan; Anagnostopoulos, K. N.; Ichihara, T.; Jensen, Lars Gerhard; Watabiki, Y.; Yotsuji, K.) Quantum geometry of topological gravity. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 177–184. (Summary) **98a:83037** 83C27 (83C45)

— (*with* Ambjørn, Jan; Anagnostopoulos, K. N.; Ichihara, T.; Jensen, Lars Gerhard; Watabiki, Y.; Yotsuji, K.) The quantum space-time of $c = -2$ gravity. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 673–710. 81T80 (81T40)

Kawamoto, Pauline N. (*with* Trybulec, Andrzej) The concept of a many sorted algebra and a model of digital circuits. (English summary) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 176–184. (*see* **98e:00020**) 08A70 (08A02, 94C05)

Kawamoto, Shunji (*with* Tsubata, Toshihide) The Weierstrass function of chaos map with exact solution. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 8, 2209–2210. 58F13 (39B12)

— A new approach on fuzzy system and stability analysis for nonlinear control systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3011–3018. (*see* **98i:00031**) 93C42 (04A72)

Kawamoto, Takuji The convergency of some routing protocols. *Nagoya Math. J.* **143** (1996), 13–29. (From the text) **98m:68011** 68M10

Kawamoto, Yusuke (*with* Imaoka, Mitsunori) Symmetricity of the Whitehead element. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 221–228. (Donald M. Davis) **98d:55020** 55Q15 (55S10)

Kawamuko, Hiroyuki Conversion of Painlevé type IV equations to multivariate form. (Japanese) Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 49–57. (*see* **98f:35006**) 34A20 (34A34)

— On the holonomic deformation of linear differential equations. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 8, 152–154. (From the introduction) **98k:34006** 34A20 (32G34)

— On the polynomial Hamiltonian structure associated with the $L(1, g + 2; g)$ type. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 8, 155–157. (V. V. Chueshev) **98m:34013** 34A20 (32G34, 34A34)

Kawamura, Katsuyuki (*with* Watanabe, Shinsuke; Ishiwata, Shingo; Oh, Heung Geun) Higher order solution of nonlinear waves. II. Shock wave described by Burgers equation. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 4, 984–987. (Summary) **98e:35135** 35Q35 (76B15, 76B25, 76X05)

Kawamura, Kazuhiro Proper n-homotopy equivalences of locally compact polyhedra. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 471–478. (Ross Geoghegan) **98i:55012** 55P55 (54C56)

Kawamura, Miyuki (*with* Maeda, Kayoko; Sakamoto, Makoto[1]) Vacuum wave functional of pure Yang-Mills theory and dimensional reduction. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 6, 939–947. 81T13 (81S40)

Kawamura, Shinzo Linear operators and c.o.n.s. in Hilbert spaces associated with chaotic dynamical systems. Recent topics in operator theory concerning the structure of operators (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 979 (1997), 29–33. (*see* **98h:47004**) 58F13 (47A99)

— Covariant representations associated with chaotic dynamical systems. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 1, 205–217. (P. J. Stacey) **98e:46084** 46L55 (26A18, 28D99)

Kawamura, Yoshiharu (*with* Kobayashi, Tatsuo) Flat directions in Z_{2n} orbifold models. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 3, 539–576. (Angel Maria Uranga) **98b:81201** 81T30 (81T60, 83E30)

— (*with* Kobayashi, Tatsuo; Komatsu, Tohru) Specific scalar mass relations in SU(3) × SU(2) × U(1) orbifold model. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 284–294. (Summary) **98e:81140** 81T30 (81V22)

— (*with* Kobayashi, Tatsuo; Watanabe, Manabu) Probing μ-term generation mechanism in string models. *Phys. Lett. B* **419** (1998), *no.* 1-4, 157–166. 81T30

Kawanago, Tadashi Existence and behaviour of solutions for $u_t = \Delta(u^m) + u^l$. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 367–400. (Alan V. Lair) **98d:35108** 35K57 (35B40, 35K65)

Kawano, Kiyotaka (*with* Maekawa, Takayoshi; Taira, Hideo) Representation of U(n, 1) in space of functions on U(n) and Iwasawa decomposition. (English summary) *Phys. Rep. Kumamoto Univ.* **10** (1996), *no.* 1, 19–28. (Zoltán Magyar) **98b:22031** 22E46 (22E70)

Kawarada, Hideo (*with* Fujita, Hiroshi[1]; Sasamoto, Akira) Analytical and numerical approaches to stationary flow problems with leak and slip boundary conditions. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 17–31, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Michael Fröhner) **98g:76021** 76D05 (65M60, 76D07, 76M10)

— (*with* Suito, Hiroshi) An optimization problem using fuzzy averages and its application to flow control. (Japanese) Mathematical problems connected with computational fluid dynamics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 974 (1996), 43–54. (*see* **98g:76052**) 90C90 (76M25, 90C70)

Kawasaki, Hidefumi First- and second-order directional derivatives of a max-type function induced from an inequality state constraint. (English summary) *Bull. Inform. Cybernet.* **29** (1997), *no.* 1, 41–49. (Vera Zeidan) **98d:49023** 49J52 (49K40)

— Optimization and best approximation [translation of Sūgaku **46** (1994), no. 2, 112–123]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 1, 1–17. (*see* **98f:00033**) 41–02

— One-sided phase constraint $x(t) \geq 0$ forms an envelope. Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 193–198. (*see* **98g:90004**) 49J52 (49J15, 49K15)

Kawasaki, Ken-Ichiroh Cofiniteness of local cohomology modules for principal ideals. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 241–246. (Gennady Lyubeznik) **98m:13025** 13D45

Kawasaki, Kyozi Generalized irreducible memory function. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 981–988. (Paul Krapivsky) **98h:82036** 82C05

Kawasaki, Masahiro (*with* Izawa, K.-I.; Yanagida, Tsutomu) Dynamical tuning of the initial condition for new inflation in supergravity. (English summary) *Phys. Lett. B* **411** (1997), *no.* 3-4, 249–255. 83E50

— (*with* Yanagida, Tsutomu) Are isocurvature fluctuations of the M-theory axion observable? (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 5, 809–811. 81T30

Kawasaki, Toshiharu Order derivative of operators in vector lattices. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 79–84. (Cho Ho Chu) **98k:46008** 46A40 (46G05, 47B65)

— On Newton integration in vector spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 85–90. (Cho Ho Chu) **98k:46009** 46A40 (46G12, 47B65)

Kawase, Shin (*with* Chen, Qihao; Yanagihara, Niro) On relations between several methods in fuzzy reasoning. (English summary) *Japanese J. Fuzzy Theory Systems* **7** (1995), *no.* 6, 763–773 (1996). (Summary) **98g:03073** 03B52

Kawashima, Shuichi (*with* Hattori, Harumi) Smooth shock profiles in viscoelasticity with memory. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 271–281, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 73F15 (35L60, 35Q72, 45K05)

Kawauchi, Akio Topological imitations. *Lectures at KNOTS '96* (*Tokyo*), 19–37, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (Daniel Ruberman) **98k:57030** 57N10

Kawazoe, Mitsuru Projectivity of torus fibre spaces over curves and multiple fibres. (English summary) *Internat. J. Math.* **7** (1996), *no.* 2, 183–192. (A. Aeppli (Zbl 868.32034)) **98g:32054** 32L05 (14F05, 32J20)

Kawazoe, Takeshi Wavelet transform associated to an induced representation of $SL(n+2, \mathbf{R})$. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **65** (1996), *no.* 1, 1–13. (G. C. Bohnké) **98g:22009** 22E70 (43A80, 81R30)

Kawazu, Kiyoshi Random walks in a random medium and diffusion processes. (Japanese) *Sūgaku* **48** (1996), *no.* 2, 162–183. (Mamoru Kanda) **98c:60088** 60J15 (60J60, 82B41, 82B44)

Kawazumi, Nariya (*with* Morita, Shigeyuki) The primary approximation to the cohomology of the moduli space of curves and cocycles for the stable characteristic classes. (English summary) *Math. Res. Lett.* **3** (1996), *no.* 5, 629–641. (Gheorghe Ionesei) **98c:14018** 14H10 (14F99, 57R20)

— A generalization of the Morita-Mumford classes to extended mapping class groups for surfaces. (English summary) Topology of holomorphic dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 955 (1996), 28–38. (Darryl McCullough) **98f:57048** 57R20 (20F34, 57M99)

— Abelian differentials of the third kind and mapping class groups. (Japanese) Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 25–41. (*see* **98e:00014**) 20F38 (14H10, 30F30)

— Homology of hyperelliptic mapping class groups for surfaces. (English summary) *Topology Appl.* **76** (1997), *no.* 3, 203–216. (Shigeyuki Morita) **98k:57025** 57N05 (14H15, 20F36, 20F38)

Kawczyński, Andrzej L. Periodic perturbations of chaotic dynamics. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 451–456, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Introduction) **98b:80020** 80A32 (58F13, 58F40)

Kawohl, Bernhard The opaque square and the opaque circle. *General inequalities*, 7 (*Oberwolfach*, 1995), 339–346, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (G. D. Chakerian) **98f:52006** 52A40 (49Q20, 51M25)

— (*with* Belloni, Marino) On Newton's problem under side constraints. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 23–30, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 49N55 (70D99)

— (*with* Belloni, Marino) A paper of Legendre revisited. (English summary) *Forum Math.* **9** (1997), *no.* 5, 655–667. (Niccolò Guicciardini) **98j:01017** 01A50 (49–03)

— (*with* Schwab, Christopher) Convergent finite elements for a class of nonconvex variational problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 133–149. (Ruxandra Stavre) **98k:49045** 49M30 (65K10, 76M30)

Kay, Anthony Advection-diffusion in reversing and oscillating flows. II. Flows with multiple reversals. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 185–210. (Summary) **98i:76081** 76R50 (86A05)

— Particle dynamics in deep cold water. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 1, 11–16. (Summary) **98m:76071** 76E20 (76M25, 86A05)

Kay, Bernard S. Quantum fields in curved spacetime: nonglobal hyperbolicity and locality. *Operator algebras and quantum field theory* (*Rome*, 1996), 578–588, *Internat. Press, Cambridge, MA*, 1997. (*see* **98h:00032**) 81T20

— (*with* Cramer, Claes R.) Stress-energy must be singular on the Misner space horizon even for automorphic fields. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 12, L143–L149. (Michael Keyl) **98b:81154** 81T20 (83C47)

— (*with* Radzikowski, Marek J.; Wald, Robert M.) Quantum field theory on spacetimes with a compactly generated Cauchy horizon. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 533–556. (Michael Keyl) **98i:81170** 81T20 (58G16, 81T05, 83C47)

Kay, Leslie *see* **Remmert, Reinhold**, **98g:30002**

Kay, Ritchie J. (*with* Wilkinson, Michael) Conserved and broken symmetries in the renormalization of the phase space lattice Hamiltonian. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5551–5568. 82D35 (82B28)

Kaya, Arif (*with* Kuzucuoğlu, F.) On strongly regular rings. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 395–398. 16E50

— On a generalisation of Lie ideals in prime rings. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 285–294. (Summary) **98k:16028** 16N60

yalçin Kaya, C. *see* **Yalçin Kaya, C.**

Kaya, Meryem (*with* Altın, Abdullah) The extension of Bateman theorem for an ultrahyperbolic equation. (English summary) *Bull. Calcutta Math. Soc.* **87** (1995), *no.* 6, 581–588. (Editors) **98a:35092** 35L80 (35C05, 35C10, 35L99)

— (*with* Altın, Abdullah) Some extensions of Brill's theorem. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 57–66. (Summary) **98m:35110** 35K65 (35M10)

Kayashima, Takahiro Construction of compact 4-manifolds with infinite cyclic fundamental groups. *Kyushu J. Math.* **50** (1996), *no.* 1, 241–248. (Marko Kranjc) **98d:57034** 57N13

Kaye, Richard William The quantifier complexity of NF. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 3, 301–312. (M. Randall Holmes) **98b:03072** 03E70 (03B25)

— (*with* Wilson, Robert A.) ★ Linear algebra. (English summary) Oxford Science Publications. *Oxford University Press, Oxford*, 1998. *xii*+230 *pp. ISBN* 0-19-850238-9; 0-19-850237-0 05–01

Kaye, S. R. (*with* Phillips, C. G.) The initial transient of concentration during the development of Taylor dispersion. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2669–2688. (Summary) **98b:76124** 76R50

Kaykayoğlu, Celalettin Ruhi Computational aspects of three-dimensional vortex element methods: applications with vortex rings. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 207–222, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Summary) **98k:76107** 76M25

Kayll, P. Mark Asymptotically good colourings of graphs and multigraphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 83–96. (Summary) **98m:05068** 05C15

— (*with* Kahn, Jeff) Fractional v. integral covers in hypergraphs of bounded edge size. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 199–235. (Nigel Martin) **98b:05071** 05C65 (05C70)

Kaynak, Okyay (*with* Tunay, İlker) A new variable structure controller for affine nonlinear systems with non-matching uncertainties. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 917–939. 93B12 (93C10)

Kayumov, I. R. (*with* Starkov, Viktor V.) Estimates for logarithmic coefficients of locally univalent functions. *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 239–245, *de Gruyter, Berlin*, 1996. (Paul Eenigenburg) **98a:30020** 30C50

— (*with* Avkhadiev, F. G.) Estimates in the Bloch class and their generalizations. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 583–585. (Miroljub Jevtić) **98b:30032** 30D45

Kayvanfar, Saeed (*with* Moghaddam, Mohammad Reza R.; Mashayekhy, Behrooz) V-perfect groups. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 465–469, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20F18

— (*with* Moghaddam, Mohammad Reza R.) A new notion derived from varieties of groups. (English summary) *Algebra Colloq.* **4** (1997), *no.* 1, 1–11. (J. J. Woeppel) **98a:20027** 20E10 (20F14, 20F18)

Kazakos, Demosthenes (*with* Apostolou, Nikolaos) On local observability for invariant systems on Lie groups and coset spaces. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1955, 2801–2805. (Wei Kang) **98d:93020** 93B07 (93B27)

— (*with* Apostolou, Nikolaos) An infinitesimal observability test for invariant systems on Lie groups. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 17–25. (Fernand Pelletier) **98d:93021** 93B07 (93B27, 93C10)

— (*with* Apostolou, Nikolaos) Locally distinguishing inputs for systems on Lie groups and parallelism. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2391–2395. (Carlos José Braga Barros) **98k:93017** 93B07 (22E20, 58E25, 93B27)

Kazakov, A. L. (*with* Bautin, S. P.) Gas flows with shock waves that diverge from the axis or center of symmetry with finite velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 3, 465–474; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 3, 463–472. (Corneliu Berbente) **98h:76076** 76L05 (76N15)

Kazakov, A. V. (*with* Kamliya, R. A.; Maksimov, M. Z.) A comparison of versions of an algorithm for sorting by the exchange method. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 4, 33–37; *translation in Program. Comput. Software* **21** (1995), *no.* 4, 186–189. 68Q25

Kazakov, A. Ya. A level-zone quantum system in a strong deeply modulated quasiresonance field. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **230** (1995), *Mat. Vopr. Teor. Rasprostr. Voln.* 25, 52–74, 294–295. (Summary) **98a:81051** 81Q99

— An atom in a superstrong laser field. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3019–3039. 81V80

Kazakov, D. I. (*with* Kalmykov, M. Yu.) Calculation of the off-shell renormalization functions in R^2 gravity. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 253–258. (Summary) **98f:81218** 81T17 (81V17, 83D05)

— (*with* Avdeev, L. V.; Kondrashuk, I. N.) Renormalizations in softly broken SUSY gauge theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 289–312. (Summary) **98k:81166** 81T15 (81T17, 81T60)

Kazakov, I. E. Optimal linear robust filters of reduced order. *J. Comput. Systems Sci. Internat.* **32** (1994), *no.* 4, 49–53; *translated from Izv. Ross. Akad. Nauk Tekhn. Kibernet.* **1993**, *no.* 2, 47–51 (*Russian. Russian summary*). 93E11

Kazakov, V. A. On the formation of spikes in the growing waves for a laminar boundary layer. (English summary) *Transitional boundary layers in aeronautics* (*Amsterdam*, 1995), 361–369, *Konink. Nederl. Akad. Wetensch. Verh. Afd. Natuurk. Eerste Reeks*, 46, *North-Holland, Amsterdam*, 1996. (*see* **98k:76003**) 76D10 (76E05, 76F99)

Kazakov, V. Yu. (*with* Pelgin, S. V.; Timchenko, S. V.) Solution of equations of a nonequilibrium viscous shock layer for blunt bodies with a catalytic surface. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 860–869. 76J20 (76L05)

Kazakov, Vladimir Aleksandrovich[1] R^2 2D quantum gravity and dually weighted graphs. (English summary) *Frontiers in quantum field theory (Osaka, 1995)*, 113–125, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:81200** 81T40 (83C45)

— (*with* Staudacher, Matthias; Wynter, Thomas) Almost flat planar diagrams. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 1, 235–256. (Summary) **98e:82032** 82B44 (05C90, 81T40)

— (*with* Staudacher, Matthias; Wynter, Thomas) Exact solution of discrete two-dimensional R^2 gravity. (English summary) *Nuclear Phys. B* **471** (1996), *no.* 1-2, 309–333. (Tsou Sheung Tsun) **98h:81111** 81T40 (81T27)

— (*with* Tsirlin, A. M.; Mironova, Valentina A.; Amelkin, Sergei A.) Finite-time thermodynamics: conditions of minimal dissipation for thermodynamic process with given rate. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 215–223. 80A10

Kazakov, Vladimir Aleksandrovich[2] (*with* Lavrov, A. M.) On the relationship between various types of kinetic equations. *Radiophys. and Quantum Electronics* **36** (1993), *no.* 10, 725–728 (1994). (Reinhard Illner) **98d:82042** 82C40

— (*with* Lavrov, A. M.) A kinetic equation for non-Markov processes with Pearson distributions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **38** (1995), *no.* 7, 695–704; *translation in Radiophys. and Quantum Electronics* **38** (1995), *no.* 7, 462–468 (1996). (W. A. Woyczyński) **98b:82070** 82C40 (60G99, 82C31)

Kazakova-Frehse, N. (*with* Frick, K.) The estimation of a robust domain of attraction using Gershgorin theorem. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 295–303. (Summary) **98k:93084** 93D09

Kazakyavichyus, V. Limit distributions of finite Markov chains, and semigroups of stochastic matrices. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 1, 55–62; *translation in Lithuanian Math. J.* **36** (1996), *no.* 1, 45–50. (M. Iosifescu) **98d:60130** 60J10 (15A51)

Kazama, Hideaki (*with* Ohta, Tomoaki; Shon, Kwang Ho) Vanishing, non-vanishing and imbedding theorems on weakly pseudoconvex complex spaces. *Kyushu J. Math.* **49** (1995), *no.* 2, 243–252. (Kensho Takegoshi) **98g:32056** 32L20 (32C15, 32F05)

— [Joji Kajiwara, on the occasion of his retirement]. *Kyushu J. Math.* **51** (1997), *no.* 2, i–ix. (Editors) **98f:01071** 01A70

Kazama, Yoichi (*with* Hirano, Shinji) Scattering of closed string states from a quantized D-particle. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 495–515. (Summary) **98g:81168** 81T30

— Scattering of quantized Dirichlet particles. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 285–325. (Summary) **98k:81223** 81T30

Kazanas, Demosthenes (*with* Spyrou, Nicholas K.; Esteban, Ernesto P.) Steadily rotating perfect-fluid gravitating prolate spheroids in Weyl gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2663–2671. (R. N. Tiwari) **98k:83050** 83C55 (83D05)

Kazantsev, S. G. Integral formulas of Cauchy type for generalized A-analytic functions. (Russian) *Group and metric properties of mappings (Russian)*, 126–141, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (From the text) **98d:30058** 30G30 (30E20)

Kazantsev, V. B. (*with* Nekorkin, V. I.; Chua, Leon O.) Chaotic attractors and waves in a one-dimensional array of modified Chua's circuits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 7, 1295–1317. (Yong-In Kim) **98d:58119** 58F13

— (*with* Nekorkin, V. I.; Velarde, M. G.) Pulses, fronts and chaotic wave trains in a one-dimensional Chua's lattice. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1775–1790. 58F13 (58F40)

Kazantzis, P. G. (*with* Desiniotis, C. D.) Three-dimensional periodic orbits in three dipole problem. (English summary) *Astrophys. Space Sci.* **241** (1996), *no.* 2, 249–262 (1997). (Summary) **98b:78018** 78A35

ter-Kazarian, G. T. *see* **Ter-Kazarian, G. T.**

Kazarian, Levon S. (*with* Cronshaw, Mark B.) Some bounds for Markov chains. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 579–582. (Summary) **98k:90171** 90D40 (60J10)

Kazarian, M. È. *see* **Kazaryan, M. È.**

Kazarian, Maxim *see* **Kazaryan, M. È.**

Kazarian, Maxim È. *see* **Kazaryan, M. È.**

Kazarin, Lev S. (*with* Amberg, Bernhard) On the rank of a finite product of two p-groups. *Groups—Korea '94 (Pusan)*, 1–8, *de Gruyter, Berlin*, 1995. (Czeslaw Bagiński) **98m:20023** 20D15

— Soluble products of groups. (English summary) *Infinite groups 1994 (Ravello)*, 111–123, *de Gruyter, Berlin*, 1996. (R. Bryce) **98k:20029** 20D40

Kazarnovskiĭ, B. Ya. Exponential analytic sets. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 15–26, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 86–94. (S. Dimiev) **98j:32002** 32B99 (14M25)

Kazarnovski-Krol, A. Value of generalized hypergeometric function at unity. (English summary) *The Arnold-Gelfand mathematical seminars*, 341–345, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98g:33033** 33D80

— Harish-Chandra decomposition for zonal spherical function of type A_n. *The Arnold-Gelfand mathematical seminars*, 347–359, *Birkhäuser Boston, Boston, MA*, 1997. (Laurent Habsieger) **98f:22015** 22E30 (32G34, 33C80)

Kazaryan, K. S. (*with* Soria, Fernando; Spitkovsky, Ilya M.) The Riemann boundary value problem in spaces with a weight that admits singularities. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 717–719. (Petras Alekna) **98j:30046** 30E25 (45E05, 47G10)

Kazaryan, M. È. Umbilical characteristic number of Lagrangian mappings of 3-dimensional pseudo-optical manifolds. (English summary) *Singularities and differential equations (Warsaw, 1993)*, 161–170, *Banach Center Publ., 33, Polish Acad. Sci., Warsaw*, 1996. (Maria Carmen Romero-Fuster) **98h:57053** 57R45 (57R15, 58C27)

— Umbilical characteristic number of Lagrangian mappings of a 3-dimensional pseudo-optical manifold. Topology, 3. *J. Math. Sci.* **82** (1996), *no.* 5, 3672–3679. (Oleg M. Myasnichenko) **98a:57040** 57R45 (57R52)

— Relative Morse theory of one-dimensional foliations, and cyclic homology. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 20–31, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 16–24. (Alexander Fel'shtyn) **98j:57042** 57R30 (19D55, 57R70, 58E05)

— (*with* Montgomery, Richard; Shapiro, Boris Z.) Characteristic classes for the degenerations of two-plane fields in four dimensions. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 355–370. (Francisco Gómez Ruiz) **98d:57046** 57R20 (57N13, 57R25, 58A30)

Kazez, William H. (*with* Gabai, David) Homotopy, isotopy and genuine laminations of 3-manifolds. *Geometric topology (Athens, GA, 1993)*, 123–138, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Allan Edmonds) **98k:57026** 57N10 (57R30, 57R52)

— (*with* Gabai, David) Order trees and laminations of the plane. *Math. Res. Lett.* **4** (1997), *no.* 4, 603–616. (Allan Edmonds) **98k:57024** 57N05 (57R30)

— *see also* **Geometric topology, 98d:57001** *and* **98f:57001**

Kazhdan, David A. "Forms" of the principal series for GL_n. *Functional analysis on the eve of the 21st century, Vol. 1 (New Brunswick, NJ, 1993)*, 153–171, *Progr. Math.*, 131, *Birkhäuser Boston, Boston, MA*, 1995. (Introduction) **98c:22015** 22E50

— (*with* Gelfand, Sergei I.) Invariants of three-dimensional manifolds. *Geom. Funct. Anal.* **6** (1996), *no.* 2, 268–300. (V. Abramov (Zbl 870.57017)) **98g:57026** 57N10 (18D10)

Kazhikhov, A. V. Some new statements for initial-boundary value problems for Navier-Stokes equations of viscous gas. *Progress in theoretical and computational fluid mechanics (Paseky, 1993)*, 33–72, *Pitman Res. Notes Math. Ser.*, 308, *Longman Sci. Tech., Harlow*, 1994. (Alberto Valli) **98b:76061** 76N10 (35Q30, 76N15, 93C20)

— ★ Recent developments in the global theory of two-dimensional compressible Navier-Stokes equations. (English summary) Seminar on Mathematical Sciences, 25. *Keio University, Department of Mathematics, Yokohama*, 1998. ii+52 *pp.* (Vladimir V. Shelukhin) **98k:35150** 35Q30 (76N10)

Kazimirovskiĭ, È. S. (*with* Seco Santos, J.; Kalvo Redondo, A.) A generalization of Ertel's hydrodynamic theorem. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 1, 106–107. (Radyadour Kh. Zeytounian) **98g:76076** 76U05

Kazlauskas, Kazys Pipelined-block models of linear discrete-time systems. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 2, 215–236. (Nicholas P. Karampetakis) **98k:93065** 93C55 (93A30, 93B05)

— Statistical properties of pipelined-block linear time-varying discrete-time systems in state space. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 3, 345–366. 93E30 (93C55)

Kazmi, K. R. Quasi-complementarity problems in Hilbert spaces. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 29–35 (1997). (Summary) **98m:90158** 90C33 (47N10, 49J40)

— (*with* Siddiqi, Abul Hasan; Husain, Shamshad) On extended generalized variational-like inequalities. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 121–129. (Sehie Park) **98m:49026** 49J40

— (*with* Ahmad, Khalil; Siddiqui, Z. A.) On a class of generalized variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 487–499. (M. Joshi) **98i:49008** 49J40 (47H19)

— Mann and Ishikawa type perturbed iterative algorithms for generalized quasivariational inclusions. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 572–584. (Summary) **98h:47085** 47H19 (47H10, 47H17, 49J40)

— (*with* Ahmad, Khalil; Rehman, N.) Fixed-point technique for implicit complementarity problem in Hilbert lattice. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 1, 67–72. (Muhammad Aslam Noor) **98e:90188** 90C33 (47H10, 47N10, 49K40)

— Generalized quasivariational inequality problems in Hilbert spaces. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 1–5. 47H19 (49J40, 90C33)

Kazmierczak, A. A self-stabilizing algorithm for shortest path trees. (English summary) *Texas J. Sci.* **49** (1997), *no.* 3, 223–234. (Luisa Gargano) **98j:68001** 68M10 (68Q22)

Kaźmierczak, Bogdan Travelling waves in laser sustained plasma constant coefficient case. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **48** (1996), *no.* 5, 869–892. (Paul Urbach) **98c:76129** 76X05 (35Q35, 76W05, 78A60)

— Travelling waves in plasma sustained by a laser beam. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 13, 1089–1109. (Hideo Ikeda) **98h:35118** 35K57 (58F39, 76X05, 82D10)

— Heteroclinic connections in a realistic model of laser sustained plasma. *Nonlinear Anal.* **29** (1997), *no.* 3, 247–264. (James F. Reineck) **98g:35126** 35K99 (34C37, 35Q99, 82D10)

Kazumi, Tetsuya (*with* Shigekawa, Ichiro) Differential calculus on a submanifold of an abstract Wiener space. I. Covariant derivative. *Stochastic analysis on infinite-dimensional spaces (Baton Rouge, LA, 1994)*, 117–140, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Hélène Airault) **98e:60086** 60H07 (46G05, 58G32)

— (*with* Shigekawa, Ichiro) Differential calculus on a submanifold of an abstract Wiener space. II. Weitzenböck formula. (English summary) *Dirichlet forms and stochastic processes (Beijing, 1993)*, 235–251, *de Gruyter, Berlin*, 1995. (Hélène Airault) **98e:60087** 60H07 (46G05, 58G32)

— Le processus d'Ornstein-Uhlenbeck sur l'espace des chemins riemanniens et le problème des martingales. (English summary) [The Ornstein-Uhlenbeck process on a Riemannian path space and the martingale problem] *J. Funct. Anal.* **144** (1997), *no.* 1, 20–45. (Daniel Ocone) **98b:58173** 58G32 (60H07)

Ke, Sheng Zhi (*with* Cao, Li[1]; Wu, Da Jin) The Fokker-Planck equation for a multidimensional system driven by correlated white noises. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 68–69, 74. 60H10

Ke, Wen-Fong (*with* Beidar, K. I.; Fong, Yuen) On the simplicity of centralizer nearrings. *First International Tainan-Moscow Algebra Workshop (Tainan, 1994)*, 139–146, *de Gruyter, Berlin*, 1996. (Geoffrey L. Booth) **98c:16059** 16Y30

— (*with* Fong, Yuen; Lee, Ting-Tsung) On weakly syntactic near-rings. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994)*, 77–82, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:00006**) 16Y30

— (*with* Bouchard, P.; Fong, Yuen; Yeh, Yeong Nan) Counting f such that $f \circ g = g \circ f$. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 14–27. (Stanley Gill Williamson) **98c:05003** 05A15 (20D99)

Ke, Yi Hua (*with* Yuan, Xiao Feng; Guo, Rui Hai; Liu, Shi Ze) Qualitative analysis of a mathematical model of the ecology of a population of three species of microbes in an anaerobic digestion process. (Chinese) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 373–376. 92D40 (34C99)

Ke, Yun Quan The order of approximation by Szász-Mirakyan-Durrmeyer operators in Besov spaces. (Chinese. English and Chinese summaries) *J. Math. Study* **28** (1995), *no.* 4, 87–90. (Summary) **98e:41033** 41A35

Ke, Zhao *see* **Bai, Su Hua**

Keady, G. (*with* Hurley, D. G.) The generation of internal waves by vibrating elliptic cylinders. II. Approximate viscous solution. (English summary) *J. Fluid Mech.* **351** (1997), 119–138. (From the summary) **98k:76023b** 76C10

Keane, M. *see* **Keane, Michael S.**

Keane, Michael *see* **Keane, Michael S.**

Keane, Michael P. (*with* Geweke, John F.; Runkle, David E.) Statistical inference in the multinomial multiperiod probit model. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 125–165. 62P20

Keane, Michael S. The essence of the law of large numbers. *From universal morphisms to megabytes: a Baayen space odyssey*, 377–381, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 60F05 (60F15)

— Mathematical classification of complete chaos. *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 179–182, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98b:58115** 58F13

— (*with* Fujita, Takahiko; Ito, Shunji; Ohtsuki, M.) On almost everywhere exponential convergence of the modified Jacobi-Perron algorithm: a corrected proof. *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 6, 1345–1352. (Roger Paysant-Le Roux) **98a:11105** 11K60

— (*with* Hooghiemstra, Gerard) A central limit theorem for sums of correlated products. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 23–34. (Gutti J. Babu) **98c:60021** 60F05 (60G09)

Kearfott, R. B. (*with* Ning, Shiying) A comparison of some methods for solving linear interval equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1289–1305. (H. Ratschek) **98m:65081** 65G10 (65F05)

Kearnes, Keith A. Critical algebras and the Frattini congruence. II. (English summary) *Bull. Austral. Math. Soc.* **53** (1996), *no.* 1, 91–100. (H. Peter Gumm) **98g:08010** 08B10 (08A30)

— (*with* Csákány, Béla) Algebras whose subalgebras and reducts are trivial. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 379–381. (Ewa Graczyńska) **98m:08003** 08A30 (08A40)

— A Hamiltonian property for nilpotent algebras. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 403–421. (Jaromír Duda) **98k:08001** 08A30 (20F18)

— (*with* Szendrei, Ágnes) Self-rectangulating varieties of type 5. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 511–540. (Summary) **98b:08001** 08A05 (08A40)

— The class of prime semilattices is not finitely axiomatizable. *Semigroup Forum* **55** (1997), *no.* 1, 133–134. (Title) **98c:06003** 06A12 (03C60, 03G10)

— (*with* Kiss, Emil W.; Valeriote, Matthew A.) Minimal sets and varieties. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 1–41. (Ágnes Szendrei) **98d:08001** 08A05 (08A40, 08B99)

Kearney, Michael J. (*with* Dwyer, Vincent M.; Bressloff, Paul C.) On the convergence of a class of random geometric series with application to random walks and percolation theory. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L409–L414. (Stuart G. Whittington) **98k:82078** 82B41 (60J15, 82B43)

— (*with* Bressloff, Paul C.; Dwyer, Vincent M.) Classical localization and percolation in random environments on trees. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6765–6775. (Summary) **98f:82118** 82C70 (82C43, 82C44)

Kearney, Paul E. (*with* Hayward, Ryan B.; Meijer, Henk) Inferring evolutionary trees from ordinal data. (English summary) *Proceedings of the Eighth Annual ACM-SIAM Symposium on Discrete Algorithms* (*New Orleans, LA*, 1997), 418–426, *ACM, New York*, 1997. (Summary) **98b:92011** 92D15 (68Q20, 68Q25, 68T99, 92B10)

Kearsley, Anthony J. (*with* Tapia, Richard A.; Trosset, Michael W.) An approach to parallelizing isotonic regression. (English summary) *Applied mathematics and parallel computing*, 141–147, *Physica, Heidelberg*, 1996. (*see* **98c:65006**) 65D30 (65Y05)

— (*with* Boggs, Paul T.; Tolle, Jon W.) On the convergence of a trust region SQP algorithm for nonlinearly constrained optimization problems. (English summary) *System modelling and optimization* (*Prague*, 1995), 3–12, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C30 (65K05)

— (*with* Gockenbach, Mark S.; Symes, William W.) An infeasible point method for minimizing the Lennard-Jones potential. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 3, 273–286. (J. Mockus) **98e:90156** 90C30 (65K05)

Kearton, C. (*with* Wilson, S. M. J.) Alexander ideals of classical knots. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 489–494. (Hale F. Trotter) **98m:57009** 57M25

Keating, Jonathan P. (*with* Connors, R. D.) Two-point spectral correlations for the square billiard. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1817–1830. (Christian Grosche) **98e:81036** 81Q50

— (*with* Robbins, J. M.) Discrete symmetries and spectral statistics. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L177–L181. (Christian Grosche) **98f:81076** 81Q50 (82B10)

— (*with* Fishman, Shmuel) The diagonal approximation for non-time-reversal-symmetric systems. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L313–L319*. 81Q50 (82B44)

Keating, Kevin (*with* King, Jonathan L.) Shape tiling. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 12, *approx.* 5 *pp.* (*electronic*). (Denis Richard) **98e:52023** 52C20 (05B45)

Keating, M. E. (*with* Berrick, A. J.) Rectangular invertible matrices. *Amer. Math. Monthly* **104** (1997), *no.* 4, 297–302. (George D. Poole) **98c:15013** 15A09 (15A33)

Kebbour, Rabah (*with* Crouzeix, Jean-Pierre) On the convexity of some simple functions of ordered samples. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **36** (1996), *no.* 1, 11–25 (1997). (Juan-Enrique Martínez-Legaz) **98b:90107** 90C26 (26B25, 49J52)

Kebir, Y. Laplace transforms and the renewal equation. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 395–403. (Rudolf Grübel) **98f:60175** 60K05 (60E10)

Kececioglu, John D. (*with* Ravi, R.) Approximation algorithms for multiple sequence alignment under a fixed evolutionary tree. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 330–339, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92013** 92D20 (68Q20, 68Q25)

Kechagias, Nondas E. A note on $U_n \times U_m$ modular invariants. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 54–59. (Joseph P. Brennan) **98c:13009** 13A50 (20H30)

Kechkin, Oleg (*with* Yurova, Maria) Kramer-Neugebauer transformation for Einstein-Maxwell-dilaton-axion theory. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6132–6135. (Summary) **98g:83017** 83C22

— (*with* Herrera-Aguilar, Alfredo) O(d, d)-symmetry and Ernst formulation of Einstein-Kalb-Ramond theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 21, 1573–1582. (Ilya Shapiro) **98f:83095** 83E15 (83E30)

— (*with* Herrera-Aguilar, Alfredo) Double-Ernst solution in Einstein-Kalb-Ramond theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1629–1636. (Mark D. Roberts) **98g:83093** 83E15 (83E30)

— (*with* Herrera-Aguilar, Alfredo) Matrix Ernst potentials and orthogonal symmetry of low energy heterotic string theory reduced to three dimensions. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 393–402. 81T30

Kechris, Alexander S. (*with* Becker, Howard) ★ The descriptive set theory of Polish group actions. (English summary) London Mathematical Society Lecture Note Series, 232. *Cambridge University Press, Cambridge*, 1996. xii+136 *pp. ISBN* 0-521-57605-9 (Klaas Pieter Hart) **98d:54068** 54H05 (04A15, 04A20, 28A05)

— (*with* Hjorth, Greg) New dichotomies for Borel equivalence relations. *Bull. Symbolic Logic* **3** (1997), *no.* 3, 329–346. (Miroslav Repický) **98m:03101** 03E15 (54E50, 54H11)

— *see also* **Meeting: Association for Symbolic Logic, 98e:03002**

Kečkić, Jovan Some remarks on possible generalized inverses in semigroups. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 33–40. (M. P. Drazin) **98h:20098** 20M05 (15A09)

Kecs, W. W. (*with* Toma, Antonela) The longitudinal vibrations in viscoelastic rods of Maxwell type. (English summary) *Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* **41** (1996), *no.* 3-4, 273–280. (Summary) **98a:73031** 73F15 (73D30, 73K05, 73K12)

Kecskeméthy, A. (*with* Krupp, T.; Hiller, Manfred) Symbolic processing of multiloop mechanism dynamics using closed-form kinematics solutions. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 1, 23–45. 70–04 (70–08, 70B15, 70E99)

rom-Kedar, Vered *see* **Rom-Kedar, Vered**

Kedem, Benjamin (*with* De Oliveira, Victor; Short, David A.) Bayesian prediction of transformed Gaussian random fields. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1422–1433. 62M20 (62M40)

— (*with* Li, Ta-Hsin) Tracking abrupt frequency changes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 69–82. 62M15

Kedem, Klara (*with* Chew, L. Paul; Dor, Dorit; Efrat, Alon) Geometric pattern matching in d-dimensional space. (English summary) *Algorithms—ESA '95* (*Corfu*), 264–279, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Segal, Michael) Enclosing k points in the smallest axis parallel rectangle. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 95–99. 68U05

Kedem, Rinat (*with* McCoy, Barry M.) Quasi-particles in the chiral Potts model. (English summary) *Perspectives on solvable models*, 153–173, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 82B23 (82B20)

— (*with* Jimbo, Michio; Konno, Hitoshi; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) New level-0 action of $U_q(\widehat{\mathrm{sl}}_2)$ on level-1 modules. (English summary) *Recent progress in statistical mechanics and quantum field theory* (*Los Angeles, CA*, 1994), 169–193, *World Sci. Publishing, River Edge, NJ*, 1995. (Jun'ichi Shiraishi) **98f:81131** 81R50 (17B37)

— (*with* Jimbo, Michio; Konno, Hitoshi; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) Level-0 structure of level-1 $U_q(\widehat{\mathrm{sl}}_2)$-modules and Macdonald polynomials. (English summary) *J. Phys. A* **28** (1995), *no.* 19, 5589–5606. (Alexander Balinsky) **98b:17015** 17B37 (33D80, 81R50)

— Singular R-matrices and Drinfeld's comultiplication. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 2, 149–160. (Richard M. Green) **98e:17025** 17B37 (16W30)

Kedlaya, Kiran S. Outerplanar partitions of planar graphs. (English summary) *J. Combin. Theory Ser. B* **67** (1996), *no.* 2, 238–248. (Summary) **98a:05057** 05C10

— Solving constrained Pell equations. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 833–842. (Duncan A. Buell) **98g:11147** 11Y50 (11D09)

Kędra, Jarosław (*with* Tralle, A. E.) On symplectic fat bundles. (English summary) *Bull. Polish Acad. Sci. Math.* **43** (1995), *no.* 2, 161–167. (Keizo Hasegawa) **98b:53027** 53C15 (58F05)

— (*with* Tralle, A. E.) Compact completely solvable Kähler solvmanifolds are tori. *Internat. Math. Res. Notices* **1997**, *no.* 15, 727–732. (Chal Benson) **98h:53108** 53C55 (53C56, 57T20)

Kedrinskiĭ, V. K. Wave processes and the dynamics of the structure of inhomogeneous media under impulse loading. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 4, 111–139; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 4, 598–624 (1998). 76L05 (73–03, 73D05, 76–03)

Keedwell, A. D. The finite alternating groups are C-groups: an elementary proof. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 3-4, 283–291. (Robert M. Guralnick) **98d:20019** 20D06 (20B30)

— Critical sets for orthogonal Latin squares of small order. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 51–64. (*see* **98h:05004**) 05B15

Keef, Patrick Slenderness, completions, and duality for primary abelian groups. (English summary) *J. Algebra* **187** (1997), *no.* 1, 169–182. (Doyle O. Cutler) **98b:20085** 20K10

— An equivalence for categories of modules over a complete discrete valuation domain. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 843–860. (Paolo Zanardo) **98m:16009** 16D90 (13C05)

— (*with* Goeters, H. Patrick) When must pure extensions of countable abelian groups necessarily split? (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1321–1329. (P. L. Sperry) **98j:20082** 20K40 (20K35)

Keel, L. H. (*with* Bhattacharyya, Shankar Prashad) Robust, fragile, or optimal? (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1098–1105. (Summary) **98c:93038** 93B36 (93D09)

Keeling, M. J. (*with* Grenfell, B. T.) Effect of variability in infection period on the persistence and spatial spread of infectious diseases. (English summary) *Math. Biosci.* **147** (1998), *no.* 2, 207–226. 92C60 (92D30)

Keem, Changho (*with* Kato, Takao; Ohbuchi, Akira) On triple coverings of irrational curves. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 421–441. (Allen B. Altman) **98m:14031** 14H45 (14C20, 14H10)

Keen, Bertus *see* **Engel, Bas**

Keen, Linda (*with* Series, Caroline) How to bend pairs of punctured tori. *Lipa's legacy* (*New York*, 1995), 359–387, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*,

1997. (I. Kra) **98m:30063** 30F40 (32G15)

— (*with* Kotus, Janina) Dynamics of the family $\lambda \tan z$. (English summary) *Conform. Geom. Dyn.* **1** (1997), 28–57 (*electronic*). (I. N. Baker) **98h:58159** 58F23 (30D05)

— *see also* **Lipa's legacy, 98e:00027**

Keenan, Daniel M. A central limit theorem for $m(n)$ autocovariances. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 61–78. (Zuzana Prášková) **98e:62133** 62M10 (60F05, 60G10)

Keenan, Philip T. (*with* Arbogast, Todd; Dawson, Clint N.; Wheeler, Mary F.; Yotov, Ivan) The application of mixed methods to subsurface simulation. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 1–12, *Notes Numer. Fluid Mech., 59, Vieweg, Braunschweig*, 1997. (Summary) **98i:76049** 76M10 (76M20, 76S05, 76T05)

Keeping, B. R. (*with* Pantelides, C. C.) A distributed memory parallel algorithm for the efficient computation of sensitivities of differential-algebraic systems. (English summary) *Math. Comput. Simulation* **44** (1998), *no.* 6, 545–558. (Summary) **98k:65045** 65L99

van Keer, R. *see* **Van Keer, R.**

Keesling, James (*with* Duvall, P.) The dimension of the boundary of the Lévy dragon. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 627–632. 28A80 (28A78, 54E40, 54F45)

— Subcontinua of the Higson corona. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 155–160. (Summary) **98i:54011** 54D35

Keesmaat, N. W. (*with* Kleijn, H. C. M.) Net-based control versus rational control. The relation between ITNC vector languages and rational relations. (English summary) *Acta Inform.* **34** (1997), *no.* 1, 23–57. (Hideki Yamasaki) **98c:68059** 68Q10 (68Q45, 68Q90)

— (*with* Kleijn, H. C. M.) Restrictions and representations of vector controlled concurrent system behaviours. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 61–102. (Anna Bagyinszkiné-Orosz) **98h:68074** 68Q10 (68Q45)

Keesman, K. J. Weighted least squares set estimation from l_∞-norm bounded noise data. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1456–1459. 93E10 (93B40)

Keeve, Michael Symplectic matrix structure in numerical integration. (English summary) *African Americans in mathematics (Piscataway, NJ, 1996)*, 111–116, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:00012**) 65D32 (34A45, 70–08)

Keglević, Ivan Linear property in $\mathbf{R}^n$. (English summary) *Glas. Mat. Ser. III* **31(51)** (1996), *no.* 2, 277–282. (Summary) **98d:31003** 31C05 (35J25)

— On the unsteady potential plane flow past a porous circle. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 4, 259–265. (Summary) **98c:76018** 76B99 (35Q35)

Kehagias, Alexandros A. (*with* Förste, Stefan; Schwager, Stefan) Non-abelian duality for open strings. (English summary) *Nuclear Phys. B* **478** (1996), *no.* 1-2, 141–155. (Javier Borlaf González) **98b:81189** 81T30 (81T40)

— (*with* Förste, Stefan; Schwager, Stefan) Nonabelian T-duality for open strings. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 36–41. (Summary) **98f:81253** 81T30

— (*with* Förste, Stefan) Three-dimensional solitonic solutions. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 102–107. (Summary) **98g:81206** 81T60 (32G81)

Kehayopulu, Nlovi (*with* Lajos, Sándor) A note on semigroups, ordered semigroups. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 51–56. (Editors) **98b:06021** 06F05 (20M99)

— Remarks on ordered semigroups, semigroups. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 111–128. (From the text) **98b:06023** 06F05 (20M12)

— A note on ordered semigroups, semigroups. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 3-4, 293–299. (R. B. McFadden) **98h:06031** 06F05 (20M99)

— On regular ordered semigroups. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 549–553. (R. B. McFadden) **98i:06006** 06F05 (20M99)

— (*with* Lepouras, George; Tsingelis, Michael) On right regular and right duo ordered semigroups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 311–315. (Alexey Vernitskiĭ) **98m:06019** 06F05 (20M99)

— (*with* Lajos, Sándor; Lepouras, George) A note on bi- and quasi-ideals of semigroups, ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 75–81. 20M12 (06F05)

— (*with* Lajos, Sándor; Tsingelis, Michael) A note on filters in ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 83–93. 06F05 (20M05)

— A note on left regular and left duo poe-semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 85–86. 06F05

— (*with* Tsingelis, Michael) On intra-regular ordered semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 138–141. 06F05 (20M99)

Kehr, K. W. (*with* Murthy, K. P. N.) Relaxation at late stages in an entropy barrier model for glassy systems. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6671–6677. (Summary) **98k:82170** 82C44

Kehrein, Stefan K. (*with* Mielke, Andreas) Low temperature equilibrium correlation functions in dissipative quantum systems. (English summary) *Ann. Physik* (8) **6** (1997), *no.* 2, 90–135. (Robert Alicki) **98c:82042** 82C10

— (*with* Derkachev, S. È.; Manashov, A. N.) High-gradient operators in the N-vector model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 660–682. (Summary) **98e:81101** 81T10 (81T15)

Keiding, Hans On the maximal number of Nash equilibria in an $n \times n$ bimatrix game. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 148–160. (Han Sheng Wu) **98m:90191** 90D10

Keiding, Niels Historical controls and modern survival analysis. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 157–165, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62191** 62P10 (62N05)

Keigher, William F. On the ring of Hurwitz series. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1845–1859. (David E. Dobbs) **98e:13022** 13F25 (13A15, 13A35, 13N99)

Keil, Harald Nachruf auf Professor Karl Wieghardt: 20. November 1913–26. November 1996. [Obituary for Karl Wieghardt (11.20.1913–11.26.1996)] *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 1, 15–17. 01A70

Keil, J. Mark (*with* Dickerson, Matthew T.; Montague, M. H.) A large subgraph of the minimum weight triangulation. (English summary) ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Discrete Comput. Geom.* **18** (1997), *no.* 3, 289–304. (Stanislav Jendrol') **98k:52032** 52B55 (05C85, 68Q25, 90C35)

— Covering orthogonal polygons with non-piercing rectangles. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 473–484. (Rade Živaljević) **98f:52016** 52B55 (68U05)

— (*with* Cai, Leizhen) Computing visibility information in an inaccurate simple polygon. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 515–537. (Stelian S. Dumitrascu) **98h:52026** 52B55 (68U05)

van Keilegom, Ingrid *see* **Van Keilegom, Ingrid**

Keilman, Yuri Special relativity: length contraction, time dilation, and rotating coordinate systems. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 389–393. 83A05

Keilson, Julian (*with* Masuda, Yasushi) Transient probabilities of homogeneous row-continuous bivariate Markov chains with one or two boundaries. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 390–400. (Summary) **98e:60108** 60J10

Keiser, James M. (*with* Beylkin, Gregory) An adaptive pseudo-wavelet approach for solving nonlinear partial differential equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 137–197, *Wavelet Anal. Appl., 6, Academic Press, San Diego, CA*, 1997. (Andreas Rathsfeld) **98i:65124** 65T20 (42C15)

Keisler, H. Jerome Rich and saturated adapted spaces. *Adv. Math.* **128** (1997), *no.* 2, 242–288. (David Ross) **98i:60002** 60A05 (03H05, 28E05, 60G05)

Keister, B. D. (*with* Polyzou, W. N.) Useful bases for problems in nuclear and particle physics. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 231–235. 81V05 (81–08)

Keister, Todd (*with* Antinolfi, Gaetano) Options and sunspots in a simple monetary economy. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 295–315. 90A09

Keitel, Christine *see* **Handbook: Mathematics education, 98a:00004**

matić-Kekić, Snežana *see* **Matić-Kekić, Snežana**

Kekre, H. B. (*with* Khalid, Mohammed; Vyavahare, P. D.) Analysis of an asymmetric polling system. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 4, 317–333. (Summary) **98a:90049** 90B22 (68M10)

Kelarev, A. V. (*with* Pirillo, Giuseppe) A note on rewritable products in groups and semigroups. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 667–670. 20F05 (20M05)

— On classical Krull dimension of group-graded rings. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 255–259. (J. C. Robson) **98h:16030** 16P60 (16W50)

— (*with* Dăscălescu, S.; Torrecillas Jover, Blas) FBN Hopf module algebras. *Comm. Algebra* **25** (1997), *no.* 11, 3521–3529. (Walter R. Ferrer Santos) **98i:16036** 16W30

— (*with* Gardner, B. J.) Invariant radicals. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 773–780. (E. Jespers) **98g:16032** 16W50 (16N80)

— Generalized radical semigroup rings. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 85–90. 16S36 (20M25)

Kelber, Kristina (*with* Götz, Marco; Schwarz, Wolfgang Johannes) Discrete-time chaotic encryption systems. I. Statistical design approach. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 963–970. (*see* **98g:93002**) 94B50 (94A60)

Kel'bert, M. Ya. (*with* Duffield, N. G.; Sukhov, Yu. M.) A branching diffusion approximation for a class of queueing networks. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 201–220, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:60186** 60K25 (60J60)

— (*with* Bleher, Pavel M.) All sorts of sorting. *Quantum* **7** (1997), *no.* 6, 13–17. (Jan W. Owsiński) **98g:68151** 68T10

— (*with* Veretennikov, A. Yu.) On the estimation of mixing coefficients for a multiphase service system. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 325–337. (W. Szczotka) **98h:60136** 60K25

Kelemen, Jozef Agents, grammars, and rationality. (English summary) *Mathematical linguistics and related topics*, 221–233, *Ed. Acad. Române, Bucharest*, 1995. (*see* **98f:68013**) 68T27 (68Q45)

— (*with* Csuhaj-Varjú, Erzsébet; Păun, Gheorghe) Grammar systems with wave-like communication. (English summary) *Comput. Artificial Intelligence* **15** (1996), *no.* 5, 419–436. (Juhani Karhumäki) **98f:68162** 68Q50

— Colonies as models of reactive systems. *New trends in formal languages*, 220–235, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q50 (68Q10, 68T99)

Keles, Sadik (*with* Kilic, Erol) The pedal of hypersurface with of a constant support function. *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 11–15. (Thomas Hasanis) **98h:53010** 53A07

Keleti, T. On the differences and sums of periodic measurable functions. *Acta Math. Hungar.* **75** (1997), *no.* 4, 279–286. (Miroslav Repický) **98e:26007** 26A30 (42A16)

Kelin, Wang *see* **Wang, Ke Lin**

Kelkar, K. (*with* Bai, Runyuan; Joseph, Daniel D.) Axisymmetric wavy core flow in a heavy viscous oil. (English summary) *IUTAM Symposium on Lubricated Transport of Viscous Materials (Tobago, 1997)*, 85–130, *Fluid Mech. Appl.*, 43, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:76002**) 76D08

Kella, Offer (*with* Whitt, Ward) Stability and structural properties of stochastic storage networks. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1169–1180. (Haya Kaspi) **98a:60137** 60K25

— (*with* Kaspi, Haya; Perry, David) Dam processes with state dependent batch sizes and intermittent production processes with state dependent rates. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 37–57 (1997). (John P. Lehoczky) **98g:60176** 60K30 (90B30)

— (*with* Denardo, Eric V.; Feinberg, Eugene A.) Stochastic monotonicity for stationary recurrence times of first passage heights. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 326–339. (Stergios B. Fotopoulos) **98e:60143** 60K05 (60J40, 60K20, 60K25)

— Stochastic storage networks: stationarity and the feedforward case. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 498–507. (Summary) **98a:60106** 60J30 (60K30, 90B10)

— (*with* Chen, Hong^3; Weiss, Gideon) Fluid approximations for a processor-sharing queue. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 99–125. (Summary) **98h:60130** 60K25

Kellendonk, Johannes Integer groups of coinvariants associated to octagonal tilings. (English summary) *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 155–169, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (G. A. Noskov) **98b:46094** 46L87 (19K14, 52C22)

— The local structure of tilings and their integer group of coinvariants. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 115–157. (G. A. Noskov) **98m:46090** 46L87 (52C22)

— Topological equivalence of tilings. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 1823–1842. (G. A. Noskov) **98k:52053** 52C22 (19A99, 46L87)

— (*with* Dranov, A.; Seiler, R.) Discrete time adiabatic theorems for quantum mechanical systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1340–1349. (Péter Pál Lévay) **98m:81019** 81Q05 (47N50, 81Q15)

Keller, A. V. (*with* Sviridyuk, G. A.) Invariant spaces and dichotomies of solutions of a class of linear equations of Sobolev type. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 60–68; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 57–65. (Uljana A. Anufrieva) **98k:34097** 34G10 (34C11, 34D99)

Keller, Bernhard Derived categories and their uses. *Handbook of algebra, Vol.* 1, 671–701, *North-Holland, Amsterdam*, 1996. (Jeremy Rickard) **98h:18013** 18E30

— Basculement et homologie cyclique. (English and French summaries) [Tilting and cyclic homology] *Algèbre non commutative, groupes quantiques et invariants (Reims*, 1995), 13–33, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Summary) **98h:16013** 16E40 (18E30)

— *see also* **Gabriel, Peter**, **98e:16014**

Keller, Georg (*with* Kopper, Christoph; Schophaus, Clemens) Perturbative renormalization with flow equations in Minkowski space. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 247–274. (A. L. Rebenko) **98c:81144** 81T17 (81T15)

Keller, Gerhard (*with* Bruin, Henk; St. Pierre, Matthias) Adding machines and wild attractors. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1267–1287. (Peter J. Grabner) **98m:58083** 58F12 (11A63, 58F13)

— (*with* Blank, Michael) Stochastic stability versus localization in one-dimensional chaotic dynamical systems. (English summary) *Nonlinearity* **10** (1997), *no.* 1, 81–107. (Takehiko Morita) **98a:58101** 58F11 (28D05, 58F13, 58F19)

Keller, Gordon E. (*with* Costa, Douglas L.) Abstract radices. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2099–2104. (Chong Guang Cao) **98e:20053** 20G35

Keller, H. B. (*with* Lui, S. H.; Kwok, T. W. C.) Homotopy method for the large, sparse, real nonsymmetric eigenvalue problem. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 312–333. (T. Y. Li) **98b:65041** 65F15 (65N99)

Keller, J. Y. (*with* Darouach, M.) Optimal two-stage Kalman filter in the presence of random bias. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1745–1748. (Summary) **98j:93082** 93E11

Keller, Jaime Twistors as geometric objects in spacetime. (English summary) *Clifford algebras and spinor structures*, 133–135, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (*see* **98e:00026**) 81R25 (15A66)

— (*with* Rodriguez, Adán; Yamaleev, Robert M.) An algebraic linear relativistic equation over twistor fields with confined states. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 275–300. (Jorge Goncalves Cardoso) **98e:81059** 81R25

— On the electron theory. The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 3–26. (H. S. Green) **98j:81368** 81V10 (81–03)

— Spinors, twistors, screws, mexors and the massive spinning electron. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 439–455. (Andreas Bette) **98m:81064** 81R25 (15A66)

— *see also* **Theory of the electron**, **98h:81004**

Keller, Joseph B. Wave propagation. *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 106–119, *Birkhäuser, Basel*, 1995. (Alan Jeffrey) **98a:35081** 35L05 (35–02)

— (*with* Grote, Marcus J.) Nonreflecting boundary conditions for time-dependent scattering. (English summary) *J. Comput. Phys.* **127** (1996), *no.* 1, 52–65. (Summary) **98e:76062** 76M10 (65M06, 65M60, 76M20)

— (*with* Ryzhik, Leonid; Papanicolaou, George C.) Transport equations for elastic and other waves in random media. (English summary) *Wave Motion* **24** (1996), *no.* 4, 327–370. (Summary) **98k:35199** 35Q99 (35R60, 73B35, 73D15, 76Q05, 78A45)

— (*with* Giladi, Eldar) Iterative solution of elliptic problems by approximate factorization. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 287–313. (Juhani Pitkäranta) **98k:65028** 65J10 (65F10, 65N22)

— (*with* Vanden-Broeck, Jean-Marc) An axisymmetric free surface with a 120 degree angle along a circle. (English summary) *J. Fluid Mech.* **342** (1997), 403–409. (Summary) **98d:76009** 76B10

— (*with* Weinberger, Hans F.) Boundary and initial-boundary value problems for separable backward-forward parabolic problems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4343–4353. (Galina P. Lopushanska) **98g:35090** 35K35

— (*with* Milewski, Paul A.; Vanden-Broeck, Jean-Marc) Singularities on free surfaces of fluid flows. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 3, 245–267. (Sam D. Howison) **98m:76014** 76B10

Keller, Karsten A note on the structure of quadratic Julia sets. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 395–406. (Walter Bergweiler) **98d:58153** 58F23 (30D05)

Keller, Olivier ★ Préhistoire de la géométrie. (French) [Prehistory of geometry] Premiers éléments d'enquête, premières conclusions. [Preliminary research, preliminary conclusions] With a loose booklet of figures. Sciences et Techniques en Perspective [Science and Technology in Perspective], 33. *Université de Nantes, Centre Françoise Viète d'Histoire et Philosophie des Sciences et des Techniques, Nantes*, 1995. iv+80 *pp. ISBN* 2-86939-090-4 (Victor J. Katz) **98d:01005** 01A10

Keller, Thomas Michael On the asymptotic Taketa bound for A-groups. *J. Algebra* **191** (1997), *no.* 1, 127–140. (David Gluck) **98b:20008** 20C15

Kellerer, Hans² (*with* Dell'Olmo, Paolo; Speranza, Maria Grazia; Tuza, Zsolt) A 13/12 approximation algorithm for bin packing with extendable bins. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 229–233. 68Q25

Kellerman, A. Yu. Extension of uniformly convex norms. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 312–318. (Anna H. Kamińska) **98k:46024** 46B20

Kellersch, Peter (*with* Meyberg, Kurt) On a Casimir element of a finite group. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1695–1702. (Alberto Espuelas) **98e:20013** 20C15

Kelley, D. Lynn (*with* Sawilowsky, Shlomo S.) Nonparametric alternatives to the F statistic in analysis of variance. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 4, 343–359. 62G10 (62J10)

Kelley, Dean (*with* Wan, Peng-Jun; Yang, Qi Fan) A $\frac{3}{2}\log 3$-competitive algorithm for the counterfeit coin problem. (English summary) *Computing and combinatorics (Xi'an*, 1995), 436–445, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98c:68091** 68Q25 (05A99)

— (*with* Wan, Peng-Jun; Yang, Qi Fan) A $\frac{3}{2}\log 3$-competitive algorithm for the counterfeit coin problem. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 347–356. (Editors) **98i:68129** 68Q25 (05A99, 68R05)

Kellogg, R. Bruce (*with* Liu, Biyue) A penalized finite-element method for a compressible Stokes system. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1093–1105. (Long An Ying) **98b:65129** 65N30 (76M10, 76N10)

— (*with* Stynes, Martin) Optimal approximability of solutions of singularly perturbed two-point boundary value problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1808–1816. (George W. Reddien) **98i:65061** 65L10 (34B05, 34E15, 65L70)

Kelly, B. P. (*with* Asmar, Nakhlé H.; Montgomery-Smith, Stephen J.) A note on UMD spaces and transference in vector-valued function spaces. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 3, 485–490. (Aleš Založnik) **98b:43008** 43A17 (46E40, 60G46)

Kelly, D. W. (*with* Ainsworth, Mark; Sloan, I. H.; Wang, Song) Post-processing with computable error bounds for the finite element approximation of a nonlinear heat conduction problem. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 4, 547–561. (Summary) **98f:65105** 65N30

— (*with* Bigdeli, B.) C^*-convergence in the finite element method. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 23, 4405–4425. (Summary) **98i:73055** 73V05

Kelly, E. D. (*with* Hinch, E. J.) Numerical simulations of sink flow in the Hele-Shaw cell with small surface tension. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 533–550. (Summary) **98m:76063** 76D99 (76D45, 76M25, 76S05)

— (*with* Hinch, E. J.) Numerical solution of Hele-Shaw flows driven by a quadrupole. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 551–566. (Summary) **98m:76064** 76D99 (76D45, 76M25, 76S05)

Kelly, E. J., Jr. *see* **Khinchin, Aleksandr Yakovlevich**

Kelly, F. P. (*with* Bean, N. G.; Taylor, Peter G.) Braess's paradox in a loss network. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 155–159. (Shaler Stidham, Jr.) **98e:60155** 60K30 (68M20, 90B12)

Kelly, G. M. (*with* Carboni, Aurelio; Janelidze, George; Paré, R.) On localization and stabilization for factorization systems. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 1, 1–58. (Walter Tholen) **98k:18001** 18A32 (12F10, 18A20, 18E40)

— (*with* Le Creurer, I. J.) On the monadicity over graphs of categories with limits. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 3, 179–191. (Summary) **98e:18002** 18A35

— (*with* Janelidze, George) The reflectiveness of covering morphisms in algebra and geometry. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 6, 132–159 (*electronic*). (Walter Tholen) **98k:18002** 18A40 (08C05, 13B05, 18B25, 18C10)

— (*with* Lack, Stephen) On property-like structures. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 9, 213–250 (*electronic*). (R. H. Street) **98h:18005** 18C10 (18C15, 18D05)

Kelly, Jerry S. (*with* Campbell, Donald E.) Preference aggregation. (English summary) *Math. Japon.* **45** (1997), *no.* 3, 573–593. (Reinhard Suck) **98k:90002** 90A08 (90A07, 92J45)

— (*with* Fishburn, Peter C.) Super Arrovian domains with strict preferences. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 1, 83–95. (Maurice Salles) **98e:90016** 90A08

Kelly, Joy H. (*with* Ydstie, B. Erik) Adaptive H_∞ control with application to systems with structural flexibility. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1358–1369. 93B36 (93C40)

Kelly, Kevin T. ★ The logic of reliable inquiry. Logic and Computation in Philosophy. *The Clarendon Press, Oxford University Press, New York*, 1996. xiv+434 *pp. ISBN* 0-19-509195-7 (Roman Murawski) **98f:00013** 00A35 (00A30, 03B30, 03D80)

— (*with* Schulte, Oliver; Juhl, Cory) Learning theory and the philosophy of science. (English summary) *Philos. Sci.* **64** (1997), *no.* 2, 245–267. 03B48

— *see also* **Hellman, Geoffrey**

Kelly, Michael R. A bound on the fixed-point index for surface mappings. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1393–1408. (Peter Wong) **98m:55004** 55M20 (57N05)

Kelly, R. E. *see* **Kelly, Robert Edward**

Kelly, Rafael (*with* Loría, Antonio; Ortega, Romeo; Santibáñez, Víctor) On global output feedback regulation of Euler-Lagrange systems with bounded inputs. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1138–1143. (Summary) **98c:93048** 93B52 (93C85)

— Global positioning of robot manipulators via PD control plus a class of nonlinear integral actions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 934–938. 93C85 (70B15, 70Q05)

— (*with* Santibáñez, Víctor; Reyes, Fernando) A class of adaptive regulators for robot manipulators. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 1, 41–62. 93C85 (93C40)

Kelly, Robert Edward (*with* Or, A. C.) Thermocapillary and oscillatory-shear instabilities in a layer of liquid with a deformable surface. (English summary) *J. Fluid Mech.* **360** (1998), 21–39. 76E15 (76D45)

Kelmans, Alexander K. (*with* Hammer, Peter L.) On universal threshold graphs [MR 95h:05131]. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993), 375–392, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C75

— Optimal packing of induced stars in a graph. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 97–127. (Stanislav Jendrol') **98g:05108** 05C70

— Transformations of a graph increasing its Laplacian polynomial and number of spanning trees. (English summary) *European J. Combin.* **18** (1997), *no.* 1, 35–48. (Martin Funk) **98a:05051** 05C05 (05C30, 05C35, 05C50)

— (*with* Egawa, Yoshimi; Kano, Mikio) Star partitions of graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 185–190. (Martin Bača) **98e:05087** 05C70

Kelmanson, Mark A. Truncation errors in a 2-D hyperbolic PDE integration scheme. (English summary) *Math. Engrg. Indust.* **6** (1997), *no.* 3, 171–183. (Summary) **98e:65070** 65M15 (73V15)

Kelsen, Pierre (*with* Mahajan, Sanjeev; Ramesh, Hariharan) Approximate hypergraph coloring. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 41–52, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98g:68128** 68R10 (68Q25)

— Neighborhood graphs and distributed $\Delta + 1$-coloring. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 223–233, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98d:68168** 68R10 (68Q25)

— Ranking and unranking trees using regular reductions. (English summary) *STACS 96* (*Grenoble*, 1996), 581–592, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68R05 (68P05)

Kelsey, David (*with* Milne, Frank) Induced preferences and decision-making under risk and uncertainty. (English summary) *Economic and environmental risk and uncertainty* (*Oslo*, 1994), 207–217, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 35, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98d:90007**) 90A46 (90A05)

Kelsey, John (*with* Schneier, Bruce; Wagner, David) Key-schedule cryptanalysis of IDEA, G-DES, GOST, SAFER, and triple-DES. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 237–251, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Kel'zon, A. A. On the trigonometric interpolation of functions of m-harmonic bounded variation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 44–47; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 42–45 (1998). 42A15

Kember, G. (*with* Fowler, A. C.; Evans, H. B.) Local nonlinear filtering. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 5, 411–425. (Summary) **98c:93111** 93E11 (34C99, 58F40, 70K50)

Kemer, A. R. Remarks on the prime varieties. (English summary) *Israel J. Math.* **96** (1996),, *part B*, 341–356. (Vesselin Drensky) **98h:16034** 16R30 (15A75, 16R10, 20C30)

Kemmell, Bruce M. A unified metric. (English summary) *Clifford algebras and spinor structures*, 379–385, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Dominique Lambert) **98k:53018** 53A50 (15A66, 15A75)

Kemmoku, Ryuji Difference operator approach to the Moyal quantization and its application to integrable systems. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 1, 51–59. (Summary) **98i:58107** 58F06 (39A12, 58F07, 81S30)

Kemnitz, Arnfried (*with* Möller, Meinhard) On the Newton number of rectangles. (English summary) *Intuitive geometry* (*Budapest*, 1995), 373–381, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Uwe Schnell) **98h:52035** 52C17

— (*with* Dolff, Susanne) Score sequences of multitournaments. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 85–95. (Summary) **98j:05072** 05C20

Kemoto, Nobuyuki (*with* Nogura, Tsugunori; Smith, Kerry D.; Yajima, Yukinobu) Normal subspaces in products of two ordinals. (English summary) *Fund. Math.* **151** (1996), *no.* 3, 279–297. (Douglas E. Cameron) **98b:54011** 54B10 (54D15)

— (*with* Smith, Kerry D.) Hereditary countable metacompactness in finite and infinite product spaces of ordinals. (English summary) *Topology Appl.* **77** (1997), *no.* 1, 57–63. (Judith Roitman) **98j:54041** 54D20 (54B10)

Kemp, Adrienne W. On modified q-Bessel functions and some statistical applications. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 451–463, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Mizan Rahman) **98g:33026** 33D10 (33D90, 60C05, 62E15)

— (*with* Kemp, C. David) Aspects of the Skellam-Haldane distribution. (English summary) *Advances in the theory and practice of statistics*, 325–338, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62E15 (62F10, 62P05)

— Characterizations of a discrete normal distribution. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 223–229. (Summary) **98k:62012** 62E10

Kemp, C. David A q-logarithmic distribution. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 465–470, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Mizan Rahman) **98f:33036** 33D90 (60C05, 62E15)

— (*with* Kemp, Adrienne W.) Aspects of the Skellam-Haldane distribution. (English summary) *Advances in the theory and practice of statistics*, 325–338, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (*see* **98e:62006**) 62E15 (62F10, 62P05)

Kemp, Paula A. (*with* Abian, Alexander) A theorem equivalent to Picard's Little theorem and a derivation of the fundamental theorem of algebra. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 623–626. 30C15 (30D15)

— (*with* Abian, Alexander) An example of a commutative C^*-algebra. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 1–6. (Summary) **98h:46058** 46L05 (46J99)

— On the representation of partially ordered sets. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 119–122. (James W. Lea, Jr.) **98h:06004** 06A06

Kemp, Rainer On prefixes of formal languages and their relation to the average-case complexity of the membership problem. (English summary) *J. Autom. Lang. Comb.* **1** (1996), *no.* 4, 259–303. (Etsuro Moriya) **98c:68115** 68Q45 (03D05, 03D15, 68Q25)

— On the average minimal prefix-length of the generalized semi-Dyck language. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 6, 545–561. (Summary) **98b:68100** 68Q45 (68R15)

Kemp, Rowan Tableaux and rank-selection in Fibonacci lattices. (English summary) *European J. Combin.* **18** (1997), *no.* 2, 179–193. (Miklós Bóna) **98a:05154** 05E10 (06A07)

Kempa, W. On the description of the consolidation phenomenon by means of a two-component continuum. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 5, 893–917. (Summary) **98i:73007** 73B99 (76S05)

Kemper, Gregor Calculating invariant rings of finite groups over arbitrary fields. (English summary) *J. Symbolic Comput.* **21** (1996), *no.* 3, 351–366. (Summary) **98f:13005** 13A50

— (*with* Malle, Gunter) The finite irreducible linear groups with polynomial ring of invariants. (English summary) *Transform. Groups* **2** (1997), *no.* 1, 57–89. (Frank D. Grosshans) **98a:13012** 13A50 (20C20)

Kemper, Peter Reachability analysis based on structured representations. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 269–288, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q90 (68Q75)

Kemper, Ralf (*with* Börger, Reinhard) A cogenerator for preseparated superconvex spaces. (English summary) *Appl. Categ. Structures* **4** (1996), *no.* 4, 361–370. (D. Pumplün) **98g:46108** 46M15 (18A20, 18C05, 46B99, 52A05)

Kemperman, J. (*with* Diaconis, Persi) Some new tools for Dirichlet priors. (English summary) *Bayesian statistics*, 5 (*Alicante*, 1994), 97–106, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (James M. Dickey) **98i:62021** 62F15 (62G05)

Kempf, Achim Noncommutative geometric regularization. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 5174–5178. (Kamran Kaviani) **98d:81064a** 81T15

— On path integration on noncommutative geometries. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 379–386, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Gianpiero Mangano) **98i:81133** 81S40 (58D30, 81S05, 83C47)

— On nonlocality, lattices and internal symmetries. (English summary) *Europhys. Lett.* **40** (1997), *no.* 3, 257–261. (Summary) **98j:81110** 81R05 (81R99)

— On quantum field theory with nonzero minimal uncertainties in positions and momenta. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1347–1372. (Aleksei P. Isaev) **98b:81135** 81T10 (17B37, 81R50, 81S99, 81T16)

— Non-pointlike particles in harmonic oscillators. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2093–2101. (Peter Prešnajder) **98j:81012** 81P05 (81S05)

— Erratum: "Noncommutative geometric regularization". *Phys. Rev. D* (3) **55** (1997), *no.* 2, 1114. (Kamran Kaviani) **98d:81064b** 81T15 (58B30)

Kempf, George R. Projective coordinate rings of abelian varieties. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 225–235, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (From the text) **98m:14047** 14K05

Kempner, Y. (*with* Mirkin, Boris G.; Muchnik, I. B.) Monotone linkage clustering and quasi-concave set functions. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 19–24. 68T10 (65K05, 90C27)

Kempson, Ruth (*with* Finger, Marcelo; Kibble, Rodger; Gabbay, Dov M.) Parsing natural language using LDS: a prototype. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 647–671 (*electronic*). (Neculai Curteanu) **98m:03059** 03B65 (68Q52, 68S05, 68T27, 68T30, 92K20)

Kendall, David (*with* Sukhov, Yu. M.) Boris Vladimirovitch Gnedenko (1912–1995). *Bernoulli* **3** (1997), *no.* 1, 121–122. 01A70

— *see also* **Switzer, Paul**

Kendall, W. S. (*with* Cranston, M.; Kifer, Yuri) Gromov's hyperbolicity and Picard's little theorem for harmonic maps. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 139–164, *World Sci. Publishing, River Edge, NJ*, 1996. (Elton Pei Hsu) **98h:58197** 58G32 (58E20, 60J65)

Kenderov, P. S. (*with* Moors, Warren B.) Fragmentability of Banach spaces. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 2, 9–12. (Gabriel Debs) **98k:46025** 46B20 (54H05)

— (*with* Moors, Warren B.; Sciffer, Scott) Norm attaining functionals on $C(T)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 153–157. (H. E. Lacey) **98c:46051** 46E15

Kendrick, David A. Sectoral economics. *Handbook of computational economics, Vol. I*, 295–332, *Handbooks in Econom.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **98b:90001**) 90A17

— *see also* **Handbook: Computational economics, 98b:90001**

Kenenbaeva, G. M. (*with* Imanaliev, M. I.; Pankov, P. S.) An algorithm for guaranteed bounds of solutions of singularly perturbed ordinary differential equations and autonomous systems of the second order, and the singular cycle phenomenon. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 733–735. (Yuri V. Rogovchenko) **98h:34099** 34E15 (34C05, 34C11)

Kengne, E. On the narrow stripe of correctness of boundary value problems. (English summary) *Afrika Mat.* (3) **7** (1997), 35–53. (Charles Bu) **98h:35233** 35R30 (35E20)

Kenig, Carlos E. (*with* Ponce, Gustavo; Vega, Luis) On the Cauchy problem for linear Schrödinger systems with variable coefficient lower order terms. *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 205–227, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Perel'muter) **98h:35042** 35J10

— (*with* Ponce, Gustavo; Vega, Luis) On the smoothing properties of some dispersive hyperbolic systems. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 221–229, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Anton S. Mureşan) **98k:35117** 35L60 (35B45)

— (*with* Dahlberg, B. E. J.; Pipher, Jill C.; Verchota, G. C.) Area integral estimates for higher order elliptic equations and systems. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1425–1461. (G. Albinus) **98m:35045** 35J30 (35B50, 35J50, 42B25)

— (*with* Toro, Tatiana) Harmonic measure on locally flat domains. *Duke Math. J.* **87** (1997), *no.* 3, 509–551. (Vladimir Eiderman) **98k:31010** 31B99 (31A15, 31B05)

— (*with* Staffilani, Gigliola) Local well-posedness for higher order nonlinear dispersive systems. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 417–433. (You-Shi Lou) **98i:35022** 35G20 (35Q99)

— (*with* Stroock, Daniel W.) Eugene Barry Fabes (1937–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 6, 706–708. 01A70

Kenkre, V. M. (*with* Raghavan, Srikanth; Bishop, Alan R.) Phase-nonlinearity interplay in small quantum systems. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 73–78. 81Q99

Kenmochi, N. (*with* Kadoya, A.; Kato, Nobuaki; Shirohzu, J.) Optimal control on the lateral boundary for a phase separation model with constraint. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 98–110, *Pitman Res.*

Notes Math. Ser., 363, *Longman, Harlow*, 1996. (Florin Iacob) **98g:49002** 49J20 (35K55, 35R35, 80A15)
— Global attractor of the semigroup associated to a phase-field model with constraint. (English summary) *Free boundary problems, theory and applications* (*Zakopane*, 1995), 111–125, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Barbara E. E. Stoth) **98h:35104** 35K55 (34G20, 35B40, 35R35, 47H20, 47N20)
Kenmochi, Yukiko (*with* Imiya, Atsushi; Ezquerra, Norberto F.) Polyhedra generation from lattice points. (English summary) *Discrete geometry for computer imagery* (*Lyon*, 1996), 127–138, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 52B55 (68U10)
Kenmotsu, K. On Veronese-Borůvka spheres. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 1-2, 37–40. (G. R. Jensen) **98h:53093** 53C42
Kennaway, J. Richard (*with* Clark, David John) Some properties of non-orthogonal term graph rewriting. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)
— Infinitary rewriting and cyclic graphs. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (68R10)
— (*with* van Oostrom, Vincent; de Vries, Fer-Jan) Meaningless terms in rewriting. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 254–268, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68115** 68Q42 (03B40)
— (*with* Clark, David John) Event structures and non-orthogonal term graph rewriting. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 545–578. (Andrea Maggiolo-Schettini) **98a:68109** 68Q42 (68N15, 68R10)
— (*with* Klop, Jan Willem; Sleep, M. R.; de Vries, Fer-Jan) Infinitary lambda calculus. (English summary) Non-standard logics and logical aspects of computer science (Kanazawa, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 1, 93–125. (Summary) **98c:03038** 03B40 (68Q42)
Kenne, J. P. (*with* Boukas, E. K.) Maintenance and production control of manufacturing systems with setups. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 55–70, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (George Yin) **98e:90070** 90B30 (93E20)
Kennedy, Christopher A. (*with* Chen, Jacqueline H.) Mean flow effects on the linear stability of compressible planar jets. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 615–626. (Summary) **98k:76036** 76D25 (76E99)
Kennedy, D. P. (*with* Kertz, R. P.) A prophet inequality for independent random variables with finite variances. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 945–958. (U. Krengel) **98m:60069** 60G40
Kennedy, E. S. Treatise V of Kāshī's Khāqānī zīj: determination of the ascendent. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **10** (1995/96), 123–145, 9 (*Arabic paging*). (George Saliba) **98b:01010** 01A30
— The astrological houses as defined by medieval Islamic astronomers. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II* (*Zaragoza*, 1993), 535–578, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (Julio Samsó-Moya) **98i:01004** 01A30
— The astronomical tables of Ibn al-Raqqām a scientist of Granada. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **11** (1997), 35–72, 8 (*Arabic paging*). 01A30
— (*with* van Dalen, Benno; Saiyid, Mustafa K.) The Chinese-Uighur calendar in Tūsī's *Zīj-i Īlkhānī*. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **11** (1997), 111–152, 9 (*Arabic paging*). 01A30 (01A25)
— *see also* **North, John D., 98i:01005**
Kennedy, James Robert, Jr. (*with* Goldberg, Andrew V.) Global price updates help. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 551–572. (András Faragó) **98j:90091** 90C35 (68R10, 90C08)
Kennedy, Janie Ailor Minimum coverings of K_n with hexagons. (English summary) *Australas. J. Combin.* **16** (1997), 295–303. (Summary) **98e:05089** 05C70
Kennedy, John W. (*with* Gargano, Michael L.) Zigzag graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 15–31. (Summary) **98i:05137** 05C75
— (*with* Christopher, Peter R.) Binomial graphs and their spectra. *Fibonacci Quart.* **35** (1997), *no.* 1, 48–53. (E. J. Farrell) **98d:05120** 05C75 (05C10, 05C50)
Kennedy, Judy A. (*with* Yorke, James A.) Pseudocircles, diffeomorphisms and perturbable dynamical systems. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 5, 1031–1057. (Yu. Kifer (Zbl 862.54034)) **98g:58153** 58F30 (57R50)
— (*with* Fernández Sanjuán, Miguel Angel; Grebogi, Celso; Yorke, James A.) Indecomposable continua in dynamical systems with noise: fluid flow past an array of cylinders. (English summary) *Chaos* **7** (1997), *no.* 1, 125–138. (Summary) **98a:76027** 76D99 (58F40, 76F20)
Kennedy, Michael Peter (*with* Kolumbán, Géza; Chua, Leon O.) The role of synchronization in digital communications using chaos. I. Fundamentals of digital communications. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 927–936. (*see* **98g:93002**) 93D15 (94A05, 94A12)
— (*with* O'Cairbre, Fiacre; Maggio, Gian Mario) Devaney chaos in an approximate one-dimensional model of the Colpitts oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2561–2568. 34C15 (58F13)
— *see also* **Special Issue: Chaos synchronization, control, and applications, 98g:93002**
Kennedy, Robert *see* **Kennedy, James Robert, Jr.**
Kennedy, Robert E. (*with* Cooper, Curtis) On the set of positive integers which are relatively prime to their digital sum and its complement. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 173–180. (Jeffrey O. Shallit) **98m:11008** 11A63 (11B05)
Kennedy, T. A. B. (*with* Villain, P.; Lewenstein, M.; Dum, R.; Castin, Y.; You, Li; Imamoğlu, A.) Quantum dynamics of the phase of a Bose-Einstein condensate. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1775–1799. 82C10
Kennedy, Thomas Garrett Some rigorous results on the ground states of the Falicov-Kimball model. (English summary) *The state of matter* (*Copenhagen*, 1992), 42–80, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B10 (82B20, 82B23)
— Majority rule at low temperatures on the square and triangular lattices. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1089–1107. (Aernout C. D. van Enter) **98f:82024** 82B20 (60K35, 82B28)
Kenney, Charles (*with* Gudmundsson, Thorkell; Laub, Alan J.) Small-sample statistical estimates for the sensitivity of eigenvalue problems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 868–886. (Dao Sheng Zheng) **98m:65052** 65F15 (15A12, 65F30, 65F35)
— (*with* Laub, Alan J.; Reese, M. S.) Statistical condition estimation for linear systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 566–583 (*electronic*). (Summary) **98m:65074** 65F35 (15A06, 15A12, 65F05)
Kennington, Jeffery L. (*with* Helgason, Richard V.) Primal simplex algorithms for minimum cost network flows. *Network models*, 85–133, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 90C35 (90B10)
— (*with* Mohammadi, Farin) A truncated exponential algorithm for the lightly constrained assignment problem. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 3, 287–299. 90C27 (90C10)
Kenny, B. G. (*with* Dixon, T. W.; Briggs, K. M.) On the universality of singular circle maps. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 359–366. 58F13
Kent, Adrian Remarks on consistent histories and Bohmian mechanics. *Bohmian mechanics and quantum theory: an appraisal*, 343–352, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05
— Quasiclassical dynamics in a closed quantum system. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 6, 4670–4675. (Markku Lehto) **98b:81010** 81P05 (83C45, 83F05)
— (*with* McElwaine, Jim) Quantum prediction algorithms. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, 1703–1720. (S. Gudder) **98c:81013** 81P10 (81P15)
— Comment on: "Spacetime information" [Phys. Rev. D (3) **51** (1995), no. 4, 1800–1817; MR 96a:81017] by J. B. Hartle. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2469–2472. (Summary) **98j:83042** 83C45 (83C47, 83C57)
Kent, C. M. (*with* Grove, E. A.; Ladas, G.) Boundedness and persistence of the nonautonomous Lyness and max equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 241–258. (Summary) **98m:39013** 39A10
Kent, Darrell (*with* Rath, Nandita) On completions of filter spaces. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 97–107, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (A. H. Stone) **98h:54034** 54D35 (54A20, 54B30, 54E15)
— (*with* Richardson, Gary D.) Diagonal Cauchy spaces. (English summary) *Bull. Austral. Math. Soc.* **54** (1996), *no.* 2, 255–265. (Ivan L. Reilly) **98h:54037** 54E15 (54A20, 54D10, 54D35)
— (*with* Richardson, Gary D.) Convergence spaces and diagonal conditions. (English summary) Proceedings of the International Conference on Convergence Theory (Dijon, 1994). *Topology Appl.* **70** (1996), *no.* 2-3, 167–174. (Introduction) **98h:54004** 54A20 (54D10)
— (*with* Brock, Paul William) Approach spaces, limit tower spaces, and probabilistic convergence spaces. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 99–110. (Summary) **98b:54017** 54B30 (18B30, 54A05, 54E70)
— (*with* Brock, Paul William) Probabilistic convergence spaces and regularity. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 637–646. (Summary) **98h:54042** 54E70 (54A20, 54D10)
— (*with* Brock, Paul William) On convergence approach spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 117–125. (Summary) **98m:54007** 54A20 (18B30, 54B30)
Kent, John T. (*with* Mardia, Kanti V.; Goodall, C. R.; Little, John Andrew) Kriging and splines with derivative information. (English summary) *Biometrika* **83** (1996), *no.* 1, 207–221. (Girdhar G. Agarwal) **98d:65017** 65D10 (65D07)
— (*with* Mardia, Kanti V.) Consistency of Procrustes estimators. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 281–290. (Michael James Prentice) **98b:62098** 62H12 (62H11)
Kent, Robert D. (*with* Schlesinger, Mordechay) Multibody operator matrix elements and subduction coefficients in U(*n*). II. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1700–1709. (A. M. Gavrilik) **98d:81025** 81R05 (22E70)
Kenyon, Claire (*with* Chaboud, Thomas) Planar Cayley graphs with regular dual. *Internat. J. Algebra Comput.* **6** (1996), *no.* 5, 553–561. (Martin Škoviera) **98a:05077** 05C25 (05C10)
— (*with* Louchard, G.; Schott, René) Data structures' maxima. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1006–1042. (Robert P. Dobrow) **98m:68045** 68P05 (68Q25)
Kenyon, James R. (*with* Glaz, Joseph) Probability approximations and inequalities for sequential tests. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 99–106, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62142** 62L10 (62N05)
Kenyon, Richard (*with* Peres, Yuval) Measures of full dimension on affine-invariant sets. (English summary) *Ergodic Theory Dynam. Systems* **16** (1996), *no.* 2, 307–323. (F. M. Dekking) **98m:28042** 28D20 (28A80, 58F11)
— Tiling a rectangle with the fewest squares. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 272–291. (Summary) **98d:05040** 05B45
— Tilings of convex polygons. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 3, 929–944. (Athanase Papadopoulos) **98h:52037** 52C20
— Projecting the one-dimensional Sierpinski gasket. (English summary) *Israel J. Math.* **97** (1997), 221–238. (Run Sheng Yang) **98i:28002** 28A05 (28A80)
Kenzhebaev, K. (*with* Laptinskiĭ, V. N.) Analytic representation of periodic solutions of linear differential systems. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 5, 731–735; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 818–823 (1998). (W. S. Loud) **98h:34081** 34C25
Kepert, Andrew G. The range of group algebra homomorphisms. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 183–192. (G. V. Wood) **98m:43005** 43A22 (22B10, 43A25, 46J40)
Kepka, Tomáš (*with* Němec, Petr) Simple balanced groupoids. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 53–60 (1997). 20N02

— (*with* Trch, M.) Groupoids and the associative law. VI. Szász-Hájek groupoids of type (a, b, c). (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 13–22. 20N02

— (*with* Drápal, Aleš) Groupoids and the associative law. VIII. Diagonally non-associative groupoids. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 23–37. 20N02

— (*with* Drápal, Aleš; Ježek, Jaroslav) Groupoids and the associative law. IX. Associative triples in some classes of groupoids. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 39–52. 20N02

— (*with* Jančařík, A.) Multiplication groups of quasigroups and loops. III. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 1, 53–62. 20N05

— (*with* El Bashir, Robert) On when commutative Noetherian rings are slender. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2585–2591. (Luigi Salce) **98h:13011** 13C13

— (*with* Phillips, Jon D.) Connected transversals to subnormal subgroups. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 223–230. 20F22

— (*with* Ježek, Jaroslav) Selfdistributive groupoids of small orders. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 463–468. (Norbert Endres) **98g:20102** 20N02 (20N05)

— On the abelian inner permutation groups of loops. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 857–861. (Krasarm K. Shchukin) **98m:20081** 20N05

— *see also* **Algebraic hyperstructures and applications, 98c:20002**

Kepler, Johannes *see* **Field, J. V., 98f:01016**; **Grigull, Ulrich, 98m:01006** *and* **Job Kozhamthadam, S. J.**

Kepner, James L. (*with* Wackerly, Dennis D.) On rank transformation techniques for balanced incomplete repeated-measures designs. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1619–1625. (James N. Adichie) **98e:62076** 62G10 (62G20, 62J10)

Keppelmann, Ed (*with* Heath, Philip R.) Fibre techniques in Nielsen periodic point theory on nil and solvmanifolds. I. (English summary) *Topology Appl.* **76** (1997), *no.* 3, 217–247. (Peter Wong) **98e:55004** 55M20

Keprta, Stanislav A note on supremum of a Kiefer process. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 59–63. (Lajos Horváth) **98h:60050** 60G15 (60F15, 60G60, 60J65)

Keränen, V. *see* **Innovation in mathematics, 98g:00025**

Kerbal, S. (*with* Ahmed, N. U.) Necessary conditions of optimality for systems governed by B-evolutions. (English summary) *Proceedings of Dynamic Systems and Applications, Vol. 2* (*Atlanta, GA*, 1995), 293–300, *Dynamic, Atlanta, GA*, 1996. (Summary) **98i:49029** 49K27

— (*with* Ahmed, N. U.) Stochastic systems governed by *B*-evolutions on Hilbert spaces. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 903–920. (Krystyna Twardowska) **98k:60099** 60H15 (34F05, 34G10, 35R60, 47D06)

Kerber, Adalbert (*with* Benecke, Ch.; Grund, R.; Hohberger, R.; Laue, Reinhard; Wieland, Thomas) Chemical isomerism, a challenge for algebraic combinatorics and for computer science. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 4–20, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the summary) **98a:92009** 92E10

— (*with* Betten, Anton; Kohnert, Axel; Laue, Reinhard; Wassermann, Alfred) The discovery of simple 7-designs with automorphism group $P\Gamma L(2, 32)$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 131–145, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Dobromir Todorov) **98f:05021** 05B05 (20B25)

— (*with* Kohnert, Axel) SYMMETRICA, an object oriented computer algebra system for representations, combinatorics and applications of symmetric groups. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 494–503, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:20001** 20–04 (20C40)

— Endliche Strukturen, ihre Theorie, ihre Konstruktion und Anwendungen. (German summary) [Finite structures, their theory, their construction and applications] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 4, 181–195. (Michael Klemm) **98k:05035** 05B30

— *see also* **Festschrift: Foata, Dominique C., 98g:05003**

Kérchy, László On the multiplicity of the commutant of operators. II. (English summary) *Topics in operator theory, operator algebras and applications* (*Timişoara*, 1994), 169–192, *Rom. Acad., Bucharest*, 1995. (Warren R. Wogen) **98m:47022** 47A99 (47B15)

Kerdid, N. Modeling the vibrations of a multi-rod structure. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 891–925. (Juan M. Viaño Rey) **98m:73057** 73K05 (73D30, 73K12)

Kerdiles, Gwen Projection: a unification procedure for tableaux in conceptual graphs. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 216–230, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 68T30

Kerekesha, P. V. A proper mixed problem of the bending of a thin elastic plate in the shape of a segment. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 491–498; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 475–482. 73C35

— (*with* Khachaturov, S. Yu.) The Carleman problem in an annulus for two pairs of functions. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 662–671; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 735–746 (1998). (Zbigniew Binderman) **98h:30059** 30E25 (45E05)

Keremedis, Kyriakos Continuous real-valued functions in T_4 spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 503–508. (C. R. Borges) **98k:54033** 54D15

Keren, Osnat (*with* Litsyn, Simon N.) A class of array codes correcting multiple column erasures. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1843–1851. (Summary) **98k:94015** 94B20

de Kerf, E. A. (*with* Bäuerle, G. G. A.; ten Kroode, A. P. E.) ★ Lie algebras. Part 2. Finite and infinite dimensional Lie algebras and applications in physics. Edited and with a preface by E. M. de Jager. Studies in Mathematical Physics, 7. *North-Holland Publishing Co., Amsterdam*, 1997. x+554 *pp. ISBN* 0-444-82836-2 (Joris Van der Jeugt) **98k:17002** 17Bxx (17B67, 17B68, 17B81, 81R05, 81R10)

Kerimov, G. A. New algebraic approach to scattering problems. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 14, 2976–2979. (Summary) **98m:81204** 81U20

Kerimov, Kerim R. (*with* Bashirov, A. Ė.) On controllability conception for stochastic systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 384–398. (Summary) **98k:93012** 93B05 (93E03)

Kerimov, M. K. Special functions in the works of A. A. Dorodnitsyn. (Russian) *Computational mathematics and information science* (*Russian*) (*Moscow*, 1995), 35–43, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (*see* **98b:00022**) 34C99 (33C90)

— Special functions that arise in the theory of nonlinear oscillations. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 8, 57–72; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 8, 1027–1039 (1997). (Alexander Tovbis) **98g:34048** 34C05 (33C90, 34E05)

Kerimov, N. B. On the basis property of systems of eigen- and associated functions of a second-order differential operator. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 596–597. (Zoran Kadelburg) **98c:34133** 34L10 (47E05)

— On necessary conditions for the basis property and the uniform minimality in $L_p(G)$ of systems of root functions. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 13–15. 34L10 (47E05)

Kerkyacharian, Gérard (*with* Picard, Dominique) Limit of the quadratic risk in density estimation using linear methods. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 299–312. (Uttara V. Naik-Nimbalkar) **98f:62099** 62G05 (62G20)

Kerler, Thomas Genealogy of non-perturbative quantum-invariants of 3-manifolds: the surgical family. (English summary) *Geometry and physics* (*Aarhus*, 1995), 503–547, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Summary) **98g:57027** 57N10 (18D10, 57R57)

Kerlick, G. David Four lectures on computer graphics and data visualization. (English summary) *Relativity and scientific computing*, 287–313, *Springer, Berlin*, 1996. (*see* **98i:83003**) 65Y25 (68U05)

Kerman, R. A. (*with* Huang, Mei Ling; Weit, Yitzhak) Abel summability of the autoregressive series for the best linear least squares predictors. *Illinois J. Math.* **41** (1997), *no.* 4, 577–588. (Mohsen Pourahmadi) **98j:42006** 42A24 (30D55, 60G25, 62M10)

— Strong and weak weighted convergence of Jacobi series. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 1–27. (Walter Trebels) **98c:42027** 42C10 (33C45)

Kern, Walter (*with* Faigle, Ulrich; Spieker, Boris) On the communication complexity of t-intersection problems in generalized Boolean algebras. (English summary) Discrete optimization. *Math. Methods Oper. Res.* **43** (1996), *no.* 2, 239–254. (Summary) **98c:68088** 68Q25 (68Q10, 90D46)

— (*with* Faigle, Ulrich; Fekete, Sándor P.; Hochstättler, Winfried) On the complexity of testing membership in the core of min-cost spanning tree games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 361–366. (Summary) **98e:90250** 90D43 (65Y20)

— (*with* Faigle, Ulrich; Hunting, M.; Prakash, Ravi; Supowit, K. J.) Simplices by point-sliding and the Yamnitsky-Levin algorithm. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 131–142. (F. Pickel) **98m:90082** 90C05

Kerner, Otto (*with* Happel, Dieter; Hartlieb, Silke; Unger, Luise) On perpendicular categories of stones over quiver algebras. *Comment. Math. Helv.* **71** (1996), *no.* 3, 463–474. (D. Zacharia) **98b:16013** 16G70 (16G20)

— (*with* Lukas, Frank) Elementary modules. *Math. Z.* **223** (1996), *no.* 3, 421–434. (From the introduction) **98f:16011** 16G60 (16G10)

— Wild tilted algebras revisited. *Colloq. Math.* **73** (1997), *no.* 1, 67–81. (Dieter Happel) **98b:16011** 16G20

Kerner, Richard Z_3-grading and ternary algebraic structures. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 375–394, *World Sci. Publishing, River Edge, NJ*, 1994. (Joris Van der Jeugt) **98f:81090** 81R05 (17B70)

— (*with* Dubois-Violette, Michel) Universal q-differential calculus and q-analog of homological algebra. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 2, 175–188. (Kevin P. Knudson) **98h:16012** 16E40 (81R50)

— Z_n-graded differential calculus. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 33–40. (Andreas Cap) **98h:58013** 58B30 (16E99)

— (*with* Dubois-Violette, Michel) Universal Z_N-graded differential calculus. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 235–246. (Ludwig Pittner) **98j:58012** 58B30 (16E99)

— (*with* Abramov, Viktor; Le Roy, Bertrand) Hypersymmetry: a Z_3-graded generalization of supersymmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1650–1669. (Summary) **98i:58013** 58A50 (17A40, 58B30, 81R99)

— (*with* Dubois-Violette, Michel; Madore, John) Shadow of noncommutativity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 730–738. (Florian Scheck) **98m:58007** 58B30 (81R50)

Kern-Isberner, Gabriele A conditional-logical approach to minimum cross-entropy. (English summary) *STACS* 97 (*Lübeck*), 237–248, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68T27 (68T30)

— Characterizing the principle of minimum cross-entropy within a conditional-logical framework. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 169–208. (Summary) **98m:68257** 68T30 (68T35)

Kerr, Gilbert (*with* Melrose, G.; Tweed, John) Antiplane shear of a strip containing a staggered array of rigid line inclusions. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 11–18. 73C99 (73B27)

Kerr, Jeanne Wald (*with* Hadwin, Don) Local multiplications on algebras. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 3, 231–239. (W. K. Nicholson) **98b:16006** 16D99 (46L05)

Kerr, Megan M. Homogeneous Einstein-Weyl structures on symmetric spaces. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 437–445. (Henrik Pedersen) **98k:53063** 53C25 (53C35)

Kerr, R. M. (*with* Molla-Hosseini, M.; Randall, R. B.; Platfoot, R. B.) An inspection model with minimal and major maintenance for a flexible manufacturing cell using generalized stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 335–356, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 90B70 (68Q90)

Kerr, Ross C. (*with* Bloomfield, Lynn J.) Turbulent fountains in a stratified fluid. (English summary) *J. Fluid Mech.* **358** (1998), 335–356. (Summary) **98m:76151** 76V05 (76–05, 76F99, 86A60)

Kerr, Thomas H. Comments on: "An algorithm for real-time failure detection in Kalman filters" [IEEE Trans. Automat. Control **41** (1996), no. 10, 1537–1539] by A. Zolghadri. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 682–683. 93E11

Kerres, U. (*with* Mack, Gerhard; Palma, Guillermo) Perfect 3-dimensional lattice actions for 4-dimensional quantum field theories at finite temperature. (English summary) *Nuclear Phys. B* **467** (1996), *no.* 3, 510–538. (Claus Montonen) **98b:81165** 81T25 (81T17, 81T80)

Kerschen, E. J. (*with* Hammerton, P. W.) Boundary-layer receptivity for a parabolic leading edge. II. The small-Strouhal-number limit. (English summary) *J. Fluid Mech.* **353** (1997), 205–220. (Summary) **98k:76117** 76N20 (76D10)

Kersner, Robert (*with* Biro, Zsolt) On the compactly supported solutions of KPP or Fischer type equations. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 129–137, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **98h:35095** 35K55 (35Q53)

— (*with* Vicsek, Mária) Travelling waves and dynamic scaling in a singular interface equation: analytic results. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2457–2465. (Summary) **98d:35193** 35Q53 (35K55)

Kersten, Gregory E. (*with* Szpakowicz, Stan) Formal account of sequential decision-making in a co-operative setting. (English summary) Intelligent information systems. *Fund. Inform.* **30** (1997), *no.* 3-4, 269–281. (*see* **98f:68008**) 90A05 (68T20, 90D12)

Kersten, P. H. M. (*with* van Bemmelen, T.; Gragert, P. K. H.) Symmetries and conservation laws of the system: $u_x = vw_x$, $v_y = uw_y$, $uv + w_{xx} + w_{yy} = 0$. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 79–99. (Juha Pohjanpelto) **98b:35113** 35L65 (35A30, 58G37)

— (*with* Gragert, P. K. H.) Differential geometric computations and computer algebra. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 11–24. (I. S. Krasil′shchik) **98d:58001** 58–04 (35–04, 58F07, 68Q40)

Kersting, G. (*with* Klebaner, Fima Chaim) Explosions in Markov processes and submartingale convergence. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 127–136, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (M. Iosifescu) **98m:60134** 60J75

— Harmonic coordinates for diffusions in the plane. (English summary) *Ann. Probab.* **24** (1996), *no.* 3, 1239–1268. (Michael Cranston) **98i:60061** 60H30 (58G32, 60J60)

— (*with* Geiger, Jochen) Depth-first search of random trees, and Poisson point processes. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 111–126, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60120** 60J80 (60C05, 60G55)

Kerswell, R. R. *see* **McAlpine, A., 98m:76066**

Kertész, G. (*with* Heppes, A.) Packing circles of two different sizes on the sphere. (English summary) *Intuitive geometry (Budapest, 1995)*, 357–365, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (R. Blind) **98g:52027** 52C15

Kertész, V. Stability investigation of a nonlinear parabolic equation. *Differential equations and its applications (Budapest, 1991)*, 179–192, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 65M12 (80A25)

Kertz, R. P. (*with* Kennedy, D. P.) A prophet inequality for independent random variables with finite variances. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 945–958. (U. Krengel) **98m:60069** 60G40

Kervaire, Michel (*with* Eliahou, Shalom) A note on the equation $\theta\overline{\theta} = n + \lambda\Sigma$. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 21–34. (Surinder K. Sehgal) **98k:05027** 05B10

— (*with* Eckmann, Alain; Eliahou, Shalom) Compressible difference lists. An appendix to: "A note on the equation $\theta\overline{\theta} = n + \lambda\Sigma$" [J. Statist. Plann. Inference **62** (1997), no. 1, 21–34] by Eliahou and Kervaire. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 35–38. (Summary) **98g:05022** 05B10 (62K05)

Kesavan, S. Comparison theorems via symmetrization: revisited. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 1, 163–172. (Norbert Weck) **98b:35041** 35J25 (35B05)

— (*with* Saint Jean Paulin, Jeannine) Homogenization of an optimal control problem. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1557–1573. (Dan Polišević) **98k:49010** 49J20 (35B27, 49J45)

Keselman, Dmitry (*with* Amir, Amihood) Maximum agreement subtree in a set of evolutionary trees: metrics and efficient algorithms. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1656–1669. (Summary) **98i:68109** 68Q20 (68Q25, 92D15)

Keskin, D. A note on left perfect rings. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 67–70. 16L30

Keski-Vakkuri, Esko (*with* Kraus, Per) Microcanonical D-branes and back reaction. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 249–262. (Summary) **98c:81172** 81T30 (83C57, 83E30)

Kesner, Delia (*with* Ferreira, Maria C. F.; Puel, Laurence) λ-calculi with explicit substitutions and composition which preserve β-strong normalization (extended abstract). (English summary) *Algebraic and logic programming (Aachen, 1996)*, 284–298, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 03B40 (68N15)

— (*with* Di Cosmo, Roberto) Rewriting with extensional polymorphic λ-calculus. (English summary) *Computer science logic (Paderborn, 1995)*, 215–232, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03037** 03B40 (03B45, 68Q42)

— (*with* Puel, Laurence; Breazu-Tannen, Val) A typed pattern calculus. (English summary) *Inform. and Comput.* **124** (1996), *no.* 1, 32–61. (Summary) **98b:68008** 68N15 (68Q55)

— (*with* Di Cosmo, Roberto) Combining algebraic rewriting, extensional lambda calculi, and fixpoints. (English summary) ICALP '94 (Jerusalem, 1994). *Theoret. Comput. Sci.* **169** (1996), *no.* 2, 201–220. (Mariangiola Dezani-Ciancaglini) **98g:03041** 03B40 (03B15, 03B70, 68N15, 68Q65)

Kessar, Radha Blocks and source algebras for the double covers of the symmetric and alternating groups. *J. Algebra* **186** (1996), *no.* 3, 872–933. (Karin Erdmann) **98f:20001** 20C20 (16D90, 20C30)

Keßler, Christoph W. (*with* Rauber, Thomas) Optimal contiguous expression DAG evaluations. (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 293–302, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68N20 (68Q25)

Kesten, Harry Detecting a single defect in a scenery by observing the scenery along a random walk path. (English summary) *Itô's stochastic calculus and probability theory*, 171–183, *Springer, Tokyo*, 1996. (Neal Madras) **98i:60066** 60J15 (28A99)

— (*with* Ferrari, Pablo A.; Martínez, Servet A.) R-positivity, quasi-stationary distributions and ratio limit theorems for a class of probabilistic automata. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 2, 577–616. (Pierre Picco) **98f:60131** 60J10 (60F05, 60K35)

— On the non-convexity of the time constant in first-passage percolation. (English summary) *Electron. Comm. Probab.* **1** (1996), *no.* 1, 1–6 (*electronic*). (John C. Wierman) **98c:60142** 60K35 (82B43)

— (*with* Benjamini, Itai) Distinguishing sceneries by observing the scenery along a random walk path. (English summary) *J. Anal. Math.* **69** (1996), 97–135. (Alexandre S. Gajrat) **98f:60134** 60J15

— (*with* Pittel, Boris) A local limit theorem for the number of nodes, the height, and the number of final leaves in a critical branching process tree. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 4, 243–299. (David J. Aldous) **98m:60137** 60J80 (60F05)

— (*with* Maller, Ross A.) Divergence of a random walk through deterministic and random subsequences. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 395–427. (N. H. Bingham) **98d:60140** 60J15 (60F15)

Kestenboim, Kh. S. (*with* Entov, V. M.; Pokrovskiĭ, S. V.; Shugai, G. A.) One-dimensional dynamics of jet flows of elastic fluids. *Fluid Dynam.* **32** (1997), *no.* 6, 761–771 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 3–15 (*Russian. Russian summary*). 76A10 (76D25)

Ketov, Sergei V. The OSp(32|1) versus OSp(8|2) supersymmetric M-brane action from self-dual (2, 2) strings. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 29, 2369–2379. (Javier Borlaf González) **98b:81202** 81T30 (83E30, 83E50)

— (*with* Unkmeir, Christine; Moch, Sven-Olaf) (4, 4) superfield supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 285–307. (Summary) **98c:83108** 83E50 (81T60, 81V17)

— From $N = 2$ strings to M-theory. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 335–338. (*see* **98g:81005**) 81T30 (81–02)

— (4, 4) supergravity and (4, 4) super-Liouville action in superspace. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 229–240. (Summary) **98c:83109** 83E50 (81T60)

— Mixed (open/closed) $N = (2, 2)$ string theory as an integrable deformation of self-duality. (English summary) *Phys. Lett. B* **395** (1997), *no.* 1-2, 48–53. (Javier Borlaf González) **98e:81141** 81T30 (81T13, 81T60)

— The effective hyper-Kähler potential in the $N = 2$ supersymmetric QCD. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 83–91. (Summary) **98c:81219** 81T60 (81T13)

— Next-to-leading-order correction to the effective action in $N = 2$ gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1277–1283. (Summary) **98j:81337** 81T60 (81T13, 81T15)

Kettani, Ossama (*with* Aouni, Belaïd; Martel, Jean-Marc) Estimation through the imprecise goal programming model. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 120–128, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C90 (90C29)

Kettemann, S. (*with* Klakow, D.; Smilansky, Uzy) Characterization of quantum chaos by the autocorrelation function of spectral determinants. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3643–3662. (N. L. Balazs) **98i:81058** 81Q50 (82B05)

Kettenis, M. M. (*with* Banning, E. J.; van der Weele, J. P.; Ross, J. C.; de Kleine, E.) Mode competition in a system of two parametrically driven pendulums; the dissipative case. (English summary) *Phys. A* **245** (1997), *no.* 1-2, 11–48. (Peter Ashwin) **98k:70009** 70K28 (34C15, 70K40, 70K50)

— (*with* Banning, E. J.; van der Weele, J. P.; Ross, J. C.) Mode competition in a system of two parametrically driven pendulums with nonlinear coupling. (English summary) *Phys. A* **245** (1997), *no.* 1-2, 49–98. (Peter Ashwin) **98k:70010** 70K28 (34C15, 70K40, 70K50)

Kettunen, Lauri (*with* Forsman, Kimmo; Bossavit, Alain) Formulation of the eddy current problem in multiply connected regions in terms of h. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 935–954. (Summary) **98m:78007** 78–08

Ketzmerick, R. (*with* Kruse, Karsten; Kraut, S.; Geisel, T.) What determines the spreading of a wave packet? (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1959–1963. (Summary) **98g:81012** 81P05

van Keulen, Fred (*with* de Boer, Henk) Padé approximants applied to a non-linear finite element solution strategy. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 7, 593–602. 65D15 (41A21)

Keum, Jong Hae (*with* Lee, Man Keun) Teichmüller extremal mappings on the unit disk. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 359–366. (L. A. Aksent′ev) **98b:30025** 30C75 (30C62, 30F60)

— Automorphisms of Jacobian Kummer surfaces. (English summary) *Compositio Math.* **107** (1997), *no.* 3, 269–288. (Shigeyuki Kondo) **98e:14039** 14J28 (14J50, 32J15)

— A note on weighted projective spaces. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 315–335. (From the summary) **98k:14022** 14F10 (14M99)

— Erratum to: "Two extremal elliptic fibrations on Jacobian Kummer surfaces" [Manuscripta Math. **91** (1996), no. 3, 369–377; MR 97h:14053]. *Manuscripta Math.* **94** (1997), *no.* 4, 543. (From the text) **98m:14038** 14J28 (14J05)

— (*with* Chung, I. J.) On fundamental groups of fibered complex manifolds. *Michigan Math. J.* **44** (1997), *no.* 2, 293–298. (G. K. Sankaran) **98e:32032** 32G05 (32C18)

Keune, Frans Quadratic number fields having $\{-1, -1\}$ as a non-trivial element of their wild kernel. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 30–33. (Jurgen Hurrelbrink) **98d:19003** 19F15 (11R70, 19C20)

Keung, Tsz-Kit (*with* Chan, Nai Ng) Linear hypotheses made explicit. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 387–400. (R. Kala) **98e:62097** 62J05 (62J10)

Keung, Wai-Yee (*with* Hruška, Marina; Sukhatme, Uday P.) Accuracy of semiclassical methods for shape-invariant potentials. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3345–3350. (Summary) **98d:81019** 81Q20

Kevlahan, N. K.-R. (*with* Hunt, J. C. R.) Nonlinear interactions in turbulence with strong irrotational straining. (English summary) *J. Fluid Mech.* **337** (1997), 333–364. (Summary) **98c:76051** 76F99
— The vorticity jump across a shock in a non-uniform flow. (English summary) *J. Fluid Mech.* **341** (1997), 371–384. (Summary) **98d:76099** 76L05 (76N15)
— (*with* Farge, Marie) Vorticity filaments in two-dimensional turbulence: creation, stability and effect. (English summary) *J. Fluid Mech.* **346** (1997), 49–76. (Summary) **98f:76042** 76F99 (76D99)
Kevorkyants, S. S. On the tensor normalization of the Green function in boundary integral equations of the electrodynamics of layered uniaxially anisotropic media. (Russian) *Fiz. Zemli* **1995**, *no.* 10, 52–60. 78A99
Kevrekidis, Ioannis G. (*with* Frouzakis, Christos E.; Gardini, Laura; Millerioux, Gilles; Mira, Christian) On some properties of invariant sets of two-dimensional noninvertible maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1167–1194. (Mikhail Zaks) **98m:58085** 58F12 (58F08)
— (*with* Weisberg, Arel Y.; Smits, Alexander J.) Delaying transition in Taylor-Couette flow with axial motion of the inner cylinder. (English summary) *J. Fluid Mech.* **348** (1997), 141–151. 76E10
— (*with* Johnson, Mark E.; Jolly, Michael S.) Two-dimensional invariant manifolds and global bifurcations: some approximation and visualization studies. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 125–140. (Andrew C. Fowler) **98j:58079** 58F14 (34C23, 34C30, 58F21, 65L06)
— (*with* Zimmermann, Martin G.; Firle, Sascha O.; Natiello, Mario A.; Hildebrand, Michael; Eiswirth, Markus; Bär, Markus; Bangia, Anil K.) Pulse bifurcation and transition to spatiotemporal chaos in an excitable reaction-diffusion model. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 92–104. 35B32 (35K57, 92E20)
— (*with* Bangia, Anil K.; Batcho, Paul F.; Karniadakis, George Em.) Unsteady two-dimensional flows in complex geometries: comparative bifurcation studies with global eigenfunction expansions. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 775–805. (Summary) **98b:76022** 76D05 (35B32, 58F40, 76E30, 76F20, 76M25)
Key, J. D. (*with* Shobe, F. D.) Some transitive Steiner triple systems of Bagchi and Bagchi. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 1, 79–86. (Summary) **98i:05020** 05B07
— (*with* de Resmini, Marialuisa J.) Small sets of even type and codewords. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 83–104. (Summary) **98k:51024** 51E22 (05B30, 94B27)
Keyes, D. E. (*with* Cai, X.-C.; Gropp, William D.; Tidriri, Moulay D.) Parallel implicit methods for aerodynamics. (English summary) *Domain decomposition methods in scientific and engineering computing* (*University Park, PA*, 1993), 465–470, *Contemp. Math.*, 180, *Amer. Math. Soc., Providence, RI*, 1994. (*see* **95i:65008**) 76M25 (76G25)
Keyes, T. K. (*with* Levy, M. S.) On consistency of some predicting densities for the multivariate linear model. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 491–504. (Khursheed Alam) **98g:62108** 62H12 (62J02)
Keyfitz, Barbara Lee (*with* Čanić, Sunčica; Wagner, David H.) A bifurcation diagram for oblique shock interactions in the unsteady transonic small disturbance equation. (English summary) *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 178–187, *World Sci. Publishing, River Edge, NJ*, 1996. (Philippe G. LeFloch) **98e:76059** 76L05 (35L67, 35Q35, 76H05)
— (*with* Keyfitz, N.) The McKendrick partial differential equation and its uses in epidemiology and population study. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 1–9. (*see* **98i:92052**) 92D25 (92–02, 92D30, 92H20)
Keyfitz, N. (*with* Keyfitz, Barbara Lee) The McKendrick partial differential equation and its uses in epidemiology and population study. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 1–9. (*see* **98i:92052**) 92D25 (92–02, 92D30, 92H20)
Keyl, Michael Quantum field theory and the geometric structure of Kaluza-Klein spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 629–652. (Rainer Verch) **98f:81221** 81T20 (81T05, 83E15)
— (*with* Trucks, Mathias) The free Bose gas on Robertson-Walker spacetimes. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 223–226. (Enric Verdaguer) **98i:81176** 81T20 (81T05, 83C47)
Keys, R. G. (*with* Foster, D. J.; Schmitt, D. P.) Detecting subsurface hydrocarbons with elastic wavefields. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 195–218, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (*see* **98g:00026**) 86A15 (73D50)
Keysell, M. (*with* Sackfield, A.) The elastic contact problem for sliding cylinders. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 297–301, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 73T05
Kézdy, André E. (*with* Kubicki, Grzegorz) K_{12} is not a closed sphere-of-influence graph. (English summary) *Intuitive geometry* (*Budapest*, 1995), 383–397, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Bojan Mohar) **98g:05147** 05C99
— (*with* Jacobson, Michael S.; Lehel, Jenő) Recognizing intersection graphs of linear uniform hypergraphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 359–367. (Jean-Claude Bermond) **98k:05118** 05C75 (05C65)
— (*with* Snevily, Hunter S.) On extensions of a conjecture of Gallai. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 317–324. (H. L. Abbott) **98h:05077** 05C15
— (*with* Jacobson, Michael S.; Lehel, Jenő) Recognizing triangle-free graphs with induced path-cycle double covers is NP-complete. (English summary) *Networks* **31** (1998), *no.* 1, 1–10. (Summary) **98k:05130** 05C85 (68Q25)
— (*with* Chen, Guantao; Jacobson, Michael S.; Lehel, Jenő) Tough enough chordal graphs are Hamiltonian. (English summary) *Networks* **31** (1998), *no.* 1, 29–38. (Dieter Kratsch) **98m:05118** 05C45 (05C38)
Kezlan, Thomas P. On a theorem of Yen. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 47–50. (Summary) **98d:16047** 16U80
Kfoury, A. J. (*with* Stolboushkin, A. P.) An infinite pebble game and applications. (English summary) *Inform. and Comput.* **136** (1997), *no.* 1, 53–66. (Summary) **98b:68114** 68Q60 (05C90, 68Q50, 90D43)
Khabazi, M. Metric properties of Fourier series in weighted function classes. *Proc. A. Razmadze Math. Inst.* **112** (1997), 133–137. 42B25 (26D15, 46E30)
Khabibullin, B. N. On nullsets for classes of entire functions and on a representation of meromorphic functions. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 611–617, 640; *translation in Math. Notes* **59** (1996), *no.* 3-4, 440–444. (J. Siciak) **98c:32001** 32A15
Khabibullin, I. T. (*with* Sokolov, Vladimir V.; Yamilov, R. I.) Multi-component integrable systems and nonassociative structures. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 139–168, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander V. Shapovalov) **98e:58097** 58F07 (35Q53)
— (*with* Adler, V. È.) Boundary conditions for integrable chains. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 1–14, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 75–85. (Victor V. Zharinov) **98h:35219** 35Q58 (58F37)
— (*with* Adler, V. È.; Gürel, T. Burak; Gürses, M.) Boundary conditions for integrable equations. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3505–3513. (Summary) **98b:35150** 35Q53 (58F07)
— (*with* Gürel, T. Burak) Boundary conditions for two-dimensional integrable chains. (English summary) *Phys. Lett. A* **233** (1997), *no.* 1-2, 68–72. (Summary) **98h:82013** 82B20 (58F07)
— (*with* Adler, V. È.; Shabat, A. B.) A boundary value problem for the KdV equation on a half-line. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 98–113; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 78–90. (Vladislav G. Dubrovsky) **98g:35174** 35Q53 (35C99)
Khachai, M. Yu. On the existence of a majority committee. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 82–95. (Summary) **98g:90037** 90C35 (90C08)
— On an estimate for the number of members in the minimal committee of a system of linear inequalities. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1399–1404. (Summary) **98h:90045** 90C08 (65Y25)
Khachatryan, L. G. (*with* Ahlswede, Rudolf) Counterexample to the Frankl-Pach conjecture for uniform, dense families. (English summary) *Combinatorica* **17** (1997), *no.* 2, 299–301. (Martin Klazar) **98j:05126** 05D05
— (*with* Ahlswede, Rudolf) Number-theoretic correlation inequalities for Dirichlet densities. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 34–46. (V. Siva Rama Prasad) **98g:11008** 11B05
Khachaturov, S. Yu. (*with* Kerekesha, P. V.) The Carleman problem in an annulus for two pairs of functions. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 662–671; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 735–746 (1998). (Zbigniew Binderman) **98h:30059** 30E25 (45E05)
Khachaturov, V. R. Methods for the mathematical modeling of composite objects. (Russian) *Mathematical modeling of composite objects* (*Russian*), 9–31, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 00A71 (73B99)
— (*with* Galiulin, R. V.) An algorithm for determining crystalline structures with a given chemical formula. (Russian) *Mathematical modeling of composite objects* (*Russian*), 32–89, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25
— (*with* Abgaryan, K. K.; Bakaev, A. V.; Galiulin, R. V.; Kabanovich, V. I.) A system for predicting the properties of materials with a given chemical formula on a personal computer. (Russian) *Mathematical modeling of composite objects* (*Russian*), 113–131, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98m:82071**) 82D25
— *see also* **Mathematical modeling of composite objects, 98m:82071**
Khachiyan, Leonid (*with* Gurvich, Vladimir A.) On the frequency of the most frequently occurring variable in dual monotone DNFs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 245–248. (Summary) **98b:06020** 06E30
— (*with* Porkolab, Lorant) On the complexity of semidefinite programs. (English summary) *J. Global Optim.* **10** (1997), *no.* 4, 351–365. (Alexander I. Barvinok) **98e:90168** 90C30 (14Q15, 52A41, 90C60)
— (*with* Kalantari, Bahman; Shokoufandeh, A.) On the complexity of matrix balancing. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 450–463. (D. Bini) **98m:68120** 68Q25 (65F35)
nguyen Khac Viet *see* **Nguyen Khac Viet**
Khaddad, M. *see* **Haddad, Michel**
Khadkar, Tripti (*with* Gutman, Ivan M.; Khadikar, Padmakar V.) Wiener and Szeged indices of benzenoid hydrocarbons containing a linear polyacene fragment. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 105–116. (E. Keith Lloyd) **98j:92022** 92E10 (05C90)
Khademi, Peyvand M. (*with* Bischof, Christian H.; Bouaricha, Ali; Moré, Jorge J.) Computing gradients in large-scale optimization using automatic differentiation. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 185–194. 90C30 (90–04)
Khadikar, Padmakar V. (*with* Gutman, Ivan M.; Popović, Ljiljana; Karmarkar, Sneha; Joshi, Shoba; Mandloi, Manorama) Relations between Wiener and Szeged indices of monocyclic molecules. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 91–103. (Rong Si Chen) **98i:92048** 92E10 (05C90)
— (*with* Gutman, Ivan M.; Khaddar, Tripti) Wiener and Szeged indices of benzenoid hydrocarbons containing a linear polyacene fragment. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 105–116. (E. Keith Lloyd) **98j:92022** 92E10 (05C90)
Khadzhiev, Dzh. (*with* Shamilev, T. M.) Complete l-groupoids and their prime spectra. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 341–355, 359; *translation in Algebra and Logic* **36** (1997), *no.* 3, 204–211. 20N02
Khadzhivanov, L. K. (*with* Furlan, Paolo; Todorov, Ivan T.) A quantum gauge group approach to the 2D SU(n) WZNW model. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 23–32. (Satoru Saito) **98g:81192** 81T40 (81R10, 81R50)
Khagen, Khans *see* **Hagen, Hans**
Khaidukov, V. G. (*with* Kostin, V. I.; Cheverda, V. A.) The r-solution and its applications in linearized waveform inversion for a layered background. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 277–294, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98j:35185** 35R30 (35L05, 65M12, 76Q05)
— (*with* Kostin, V. I.; Cheverda, V. A.) r-solutions of equations of the first kind with a compact operator in Hilbert spaces: existence and stability. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 308–312. (Anton Suhadolc) **98j:47021** 47A50 (65J10, 65J20)
Khalfov, E. N. On the switching times of extremal controls in a linear time-optimality problem. (Russian. English and Russian summaries) *Proceedings of the Institute of*

Mathematics and Mechanics, Vol. 4 (Russian), 255–265, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Vũ Ngoc Phát) **98j:49003** 49J15 (49K30)

Khairat, M. K. (*with* El-Zahar, Mohamed H.; Bahig, H. M.) An exact graph coloring algorithm using color exchange. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 65–71. (Summary) **98g:05061** 05C15

Khaĭretdinov, È. F. (*with* Grigoryan, S. S.) Solution to the equations of the flow of a thin layer of heavy viscous fluid on a curvilinear surface. (Russian. Russian summary) Pafnutiĭ L'vovich Chebyshev (on the 175th anniversary of his birth) (Russian). *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 6, 32–36, 110. (*see* **98f:00032**) 76D99

— Self-similar solutions of landslide equations. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 767–769; *translation in Phys. Dokl.* **42** (1997), *no.* 6, 334–336. 73N20 (35Q72, 86A60)

Khaĭrullin, N. Kh. Multidimensional centered waves of quasilinear systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 3, 78–81. (Introduction) **98m:35003** 35A20

Khajah, H. G. (*with* Ortiz, E. L.) On a differential-delay equation arising in number theory. (English summary) *Appl. Numer. Math.* **21** (1996), *no.* 4, 431–437. (Daniel A. Goldston) **98d:11160** 11Y35 (11N35, 34K99, 65L99)

— (*with* Kalla, Shyam L.) Tau method approximation of some integrals related to radiation field problems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 21–27. (Summary) **98c:65028** 65D20 (65D30)

— (*with* Boyadzhiev, L. I.; Kalla, Shyam L.) Analytical and numerical treatment of a fractional integro-differential equation of Volterra-type. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 12, 1–9. (Summary) **98g:45008** 45J05 (45L05, 65R20)

Khajdukov, V. G. *see* **Khaĭdukov, V. G.**

Khakhanyan, V. Kh. Admissibility of Markov's rule in an intuitionistic set theory. (Russian) *Logical investigations, No. 3 (Russian)*, 174–177, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03E70 (03F55)

— Markov's rule is admissible in the set theory with intuitionistic logic. (English summary) *Computational logic and proof theory (Vienna*, 1997), 167–171, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:03072** 03E70 (03F55)

Khakimdjanov, Y. (*with* Gómez Martin, José Ramón; Jiménéz-Merchán, A.) On the variety of nilpotent Lie algebra laws of dimension 11. (English summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 2, 137–142. (From the introduction) **98k:17010** 17B30

— (*with* Gómez Martin, José Ramón; Jimenéz-Merchán, A.) Classifying filiform Lie algebras with Mathematica. (English summary) *Innovation in mathematics (Rovaniemi*, 1997), 169–176, *Comput. Mech., Southampton*, 1997. (*see* **98g:00025**) 17B30

Khakimullin, E. R. (*with* Ènat-skaya, N. Yu.) Limit theorems for the number of empty cells. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 120–130; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 209–219. (Lyuben R. Mutafchiev) **98j:60010** 60C05 (60F05)

Khakimzyanov, G. S. (*with* Barakhnin, V. B.) Numerical modelling of fluid flows in the framework of a two-dimensional shallow-water model with the use of adaptive grids. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 95–110. (F. Milinazzo) **98e:76070** 76M20 (65M55, 76B15)

— (*with* Barakhnin, V. B.) On the algorithm for one nonlinear dispersive shallow-water model. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 293–317. (I. Christie) **98j:76092** 76M20 (65N50, 76B15, 76B25)

— (*with* Shokina, N. Yu.) Numerical modelling of the steady fluid flows in the framework of a shallow-water model. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 335–348. (Summary) **98j:76097** 76M20 (65M06, 76B15, 86A05)

torres Khakome, Kh. *see* **Torres Khakome, Kh.**

Khalatnikov, I. M. (*with* Kamenshchik, A. Yu.; Toporensky, A. V.) Complex inflation field in quantum cosmology. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 649–671. 83C45 (81V17, 83F05)

— (*with* Kamenshchik, A. Yu.; Toporensky, A. V.) Simplest cosmological model with the scalar field. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 673–691. 83C45 (83F05)

— (*with* Kamenshchik, A. Yu.; Martellini, Maurizio) Singularities in solutions of Burgers' equation. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 87–90. 35Q53

— (*with* Kamenshchik, A. Yu.; Toporensky, A. V.) Simplest cosmological model with the scalar field. II. Influence of cosmological constant. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 129–138. 83C45 (83F05)

Khalchev, V. F. (*with* Aksenova, G. P.) Generation of an exhaustive test for automata with finite memory. I. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 4, 213–226; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 695–704. (Summary) **98e:68177** 68Q68 (68Q35, 94B05)

— (*with* Aksenova, G. P.) Generation of an exhaustive test for automata with finite memory. II. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 5, 142–152; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 829–837. (Summary) **98e:68178** 68Q68 (68Q35, 94B05)

abdel-Khalek, Khaled *see* **Abdel-Khalek, Khaled**

Khalfin, Igor (*with* Figotin, Alexander) Bound states of a one-band model for 3D periodic medium. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 153–170. (Summary) **98k:82183** 82D20

Khalfin, L. A. (*with* Klebanov, Lev B.) What information about a wave function follows from its "measurement" by the tomograph method of Wigner distribution restoration? (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 189–200, 360. (K. Wódkiewicz) **98e:81092** 81S30 (60E99)

Khalid, Mohammed (*with* Vyavahare, P. D.; Kekre, H. B.) Analysis of an asymmetric polling system. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 4, 317–333. (Summary) **98a:90049** 90B22 (68M10)

Khalifa, M. E. (*with* Hanna, L. A.-M.; Hassan, S. S.) On representations of Lie algebras for quantized Hamiltonians. (English summary) *Linear Algebra Appl.* **266** (1997), 69–79. (Chon Hu Cheng) **98i:17009** 17B10 (15A69, 17B20)

Khalil, Hassan K. (*with* Oh, Seungrohk) Output feedback stabilization using variable structure control. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 831–848. 93D15 (93B12)

— (*with* Oh, Seungrohk) Nonlinear output-feedback tracking using high-gain observer and variable structure control. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1845–1856. (Summary) **98j:93044** 93B52 (93A25, 93B12)

— (*with* Aloliwi, Bader) Robust adaptive output feedback control of nonlinear systems without persistence of excitation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2025–2032. (O. A. Sebakhy) **98k:93045** 93B52 (93C40, 93D21)

— (*with* Aloliwi, Bader) Adaptive output feedback regulation of a class of nonlinear systems: convergence and robustness. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1714–1716. 93C40 (93C10)

Khalil, Roshdi (*with* Saidi, Fathi B.) Extreme nuclear-valued continuous maps. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 127–135. (Dirk Werner) **98c:46072** 46E40 (46B20, 47A56, 47D20)

Khalileev, P. A. A white spot in the field of classical electrodynamics. (Russian) *Radio age (Russian)*, 259–282, 293, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (*see* **98b:00019**) 78A25

Khalili, N. (*with* Valliappan, S.; Yazdi, J. Tabatabaee; Yazdchi, M.) 1D infinite element for dynamic problems in saturated porous media. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 9, 727–738. 65M70 (76M10, 76S05)

— (*with* Valliappan, S.; Tandjiria, V.) Design sensitivity and constraint approximation methods for optimization in non-linear analysis. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 999–1008. 90C90 (93C95)

Khalkhali, Masoud A survey of entire cyclic cohomology. (English summary) *Cyclic cohomology and noncommutative geometry (Waterloo, ON*, 1995), 79–89, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Guoliang Yu) **98j:46081** 46L85 (19D55, 46M20)

— On Cartan homotopy formulas in cyclic homology. *Manuscripta Math.* **94** (1997), *no.* 1, 111–132. (Jerry Lodder) **98k:19003** 19D55 (18G60)

— *see also* **Cyclic cohomology and noncommutative geometry**, **98c:00017**

Khamayseh, Ahmed (*with* Elnagar, Gamal N.) On the optimal spectral Chebyshev solution of a controlled nonlinear dynamical system. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 2, 147–157. (Summary) **98d:65096** 65L06 (49M30, 49N55, 70Q05)

al-Khamees, Yousif *see* **Al-Khamees, Yousif**

Khamis, Harry J. (*with* McKee, Terry A.) Multigraph representations of hierarchical loglinear models. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 1, 63–74. (Hugo S. Sun) **98c:62137** 62J12 (05C75)

— (*with* McKee, Terry A.) Chordal graph models of contingency tables. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 89–97. (*see* **98f:05002**) 62H17 (05C90)

— The δ-corrected Kolmogorov-Smirnov test for the two-parameter Weibull distribution. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 3, 301–317. 62G10

Khamis, S. M. (*with* Bayoumi, B. I.; El-Zahar, Mohamed H.) Algorithmic counting of types of UPO graphs and posets. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 117–122. (Summary) **98j:05002** 05A15 (05C30, 06A07)

— (*with* Mokhlis, N.) An algorithm for computing the reliability of connected $(1,2)$ or $(2,1)$ out of (m,n): F lattice system. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 143–154. (*see* **98h:05006**) 15A99 (62N05)

Khammash, Ahmed A. Hecke algebras and the socle of the projective indecomposable modules. *J. Algebra* **192** (1997), *no.* 1, 294–302. (Stuart Martin) **98b:20016** 20C20 (20C30)

Khammash, Mustafa H. Robust performance: unknown disturbances and known fixed inputs. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1730–1734. 93C35

— (*with* Georgiou, Tryphon T.; Megretskiĭ, A. V.) On a large-gain theorem. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 231–234. (Jacob Hammer) **98m:93101** 93D15

Khamsi, Mohamed A. KKM and Ky Fan theorems in hyperconvex metric spaces. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 1, 298–306. (Simeon Reich) **98h:54059** 54H25 (47H10)

— (*with* Misane, Driss) Fixed point theorems in logic programming. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 231–243. (Summary) **98k:68035** 68N17

sujit kumar Khan *see* **Sujit Kumar Khan**

khodadad Khan, A. F. M. *see* **Khodadad Khan, A. F. M.**

Khan, A. F. M. K. *see* **Khodadad Khan, A. F. M.**

Khan, A. F. M. Khodadad *see* **Khodadad Khan, A. F. M.**

Khan, A. R. (*with* Pal Choudhury, Pabitra; Dihidar, K.; Mitra, Subrata; Sarkar, Palash) VLSI architecture of a cellular automata machine. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 79–94. (Summary) **98b:68138** 68Q80 (68Q35)

Khan, A. Rauf (*with* Ahmad, Aqeel) Some common fixed point theorems for non-self-hybrid contractions. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 275–286. 54H25 (47H09, 47H10)

Khan, Abdul Rahim (*with* Aslam, Muhammad^2; Hussain, Nawab) Some best approximation results in locally convex spaces. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 3, 29–36. (J. B. Prolla) **98h:41041** 41A65 (46A03, 46E40)

— (*with* Hussain, Nawab; Aslam, Muhammad^2) Mann iterative construction of fixed points in locally convex spaces. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 155–159. 47H10

Khan, E. A. (*with* Khan, M. G. M.; Jahan, Nujhat) Optimum number of strata for surveys with small sample size. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 27–34. 62D05

Khan, F. M. (*with* Khan, Mushir A.) $\sigma(A)$-boundedness and absolute σ-summability. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 115–119 (1996). 46A45 (40H05)

Khan, I. H. (*with* Huda, S.) Further results on A-optimal second-order designs over cubic regions. (English summary) *Arab J. Math. Sci.* **1** (1995), *no.* 1, 41–53. (Summary) **98k:62132** 62K05

Khan, Israr (*with* Samiuddin, M.; Hanif, Muhammad; Kattan, A. K. A.) Lower bound to mean square error of estimator in unequal probability sampling. (English summary) *Applied statistical science, II (Malang, 1996)*, 99–112, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62D05

Khan, K. A. *see* **Khan, Khushnood A.**

Khan, K. H. (*with* Bunday, B. D.; Bokhari, S. M. Husnain) A new algorithm for the normal distribution function. (English summary) *Test* **6** (1997), *no.* 2, 369–377. 65U05

Khan, Khushnood A. (*with* Tracy, Derrick S.) MRBP rank tests with three treatments. (English summary) *Parisankhyan Samikkha* **2** (1995), *no.* 1, 59–62. 62G10 (62K10)

Khan, Liaqat Ali[1] Mean value theorem in topological vector spaces. (English summary) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 1, 24–27. (Jean-Noël Corvellec) **98k:58023** 58C20 (26E20, 46G05)

— (*with* Thaheem, A. B.) On automorphisms of prime rings with involution. *Demonstratio Math.* **30** (1997), *no.* 2, 307–311. 16W20 (16N60)

— (*with* Thaheem, A. B.) Multiplication operators on weighted spaces in the non-locally convex framework. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 75–79. (James T. Campbell) **98b:47042** 47B38 (46A16, 46E40)

firdosh Khan, M. *see* **Firdosh Khan, M.**

Khan, M. A. *see* **Khan, Mumtaz Ahmad**

Khan, M. F. *see* **Khan, Mohammad Firdosh**

Khan, M. G. M. (*with* Khan, E. A.; Jahan, Nujhat) Optimum number of strata for surveys with small sample size. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 27–34. 62D05

— (*with* Jahan, Nujhat; Ahsan, M. J.) Determining the optimum cluster size. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 2, 121–129. 62D05

Khan, M. S. *see* **Khan, Mohammad S.**

Khan, M. Sekander Hayat A. K. Md. Ehsanes Saleh: a world class statistician of Bangladesh. *J. Statist. Res.* **31** (1997), *no.* 1, 137–140. 01A70

Khan, Md. Mozammel Huq Azad (*with* Alam, Md. Shamsul) Algorithms for conversion of minterms to positive polarity Reed-Muller coefficients and vice versa. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 223–230. 94B99

Khan, Mohammad Firdosh (*with* Siddiqi, Abul Hasan; Ahmad, Rais) Existence of solution for generalized multivalued vector variational inequalities without convexity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1057–1060. 49J40 (90C29)

— (*with* Siddiqi, Abul Hasan; Ahmad, Rais) Wiener-Hopf equations and general mildly nonlinear variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1317–1325. (Summary) **98k:47131** 47H19 (47H15, 47H17, 49J40, 49M99)

Khan, Mohammad S. (*with* Abujabal, Hamza A. S.; Khan, Moharram A.; Samman, M. S.) On commutativity of rings with constraints on subsets. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 43–54. 16U80

— (*with* Rao, K. P. R.) A coincidence point theorem for densifying mapping[s]. (English summary) *Caribbean J. Math. Comput. Sci.* **4** (1994), *no.* 1-2, 37–42. 54H25

— (*with* Liu, Ze Qing) On coincidence points of densifying mappings. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 269–276. 54H25

— (*with* Pathak, H. K.) Fixed points of fuzzy mappings under Caristi-Kirk type condition. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 119–126. 54H25 (54A40)

Khan, Moharram A. (*with* Abujabal, Hamza A. S.; Khan, Mohammad S.; Samman, M. S.) On commutativity of rings with constraints on subsets. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 43–54. 16U80

Khan, Moizuddin (*with* Ahmad, B.) A note on almost s-continuous mappings. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 2, 51–56. 54C08

— (*with* Noiri, Takashi; Ahmad, B.) On P_Σ and weakly-P_Σ spaces. (English summary) *Mat. Vesnik* **48** (1996), *no.* 3-4, 87–93. (Mohan L. Tikoo) **98c:54016** 54D10 (54B05, 54C08)

— (*with* Ahmad, B.) On P-regular spaces. II. (English summary) *Math. Today (Ahmedabad)* **15** (1997), 47–50. 54D15

Khan, Mumtaz Ahmad Discrete hypergeometric functions and their properties. (English summary) *Comm. Fac. Sci. Univ. Ankara Ser. A_1 Math. Statist.* **43** (1994), *no.* 1-2, 31–40 (1996). (Summary) **98c:33019** 33D15

— (*with* Ahmad, Khursheed) On some Rodrigues type fractional derivative formulae. (English summary) *Demonstratio Math.* **29** (1996), *no.* 4, 749–754. (R. K. Saxena) **98f:33016** 33C45

— On an algebraic study of a class of discrete analytic functions. *Demonstratio Math.* **30** (1997), *no.* 1, 183–188. (Shigeru Haruki) **98h:30065** 30G25

— Discrete hypergeometric functions and their properties. *Demonstratio Math.* **30** (1997), *no.* 3, 537–544. 33D15 (33–01)

— (*with* Shukla, Ajay Kumar) Transformations for q-Lauricella functions. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 155–161. 33D70

— (*with* Pathan, M. A.) Transformations and reductions of certain hypergeometric functions. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 2, 175–183. 33C65

Khan, Mushir A. (*with* Khan, F. M.) $\sigma(A)$-boundedness and absolute σ-summability. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 115–119 (1996). 46A45 (40H05)

— (*with* Qamaruddin) Some generalized sequence spaces and related matrix transformations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 243–252. (Enno Kolk) **98g:46010** 46A45 (40C05, 40H05)

Khan, Q. A. (*with* Ahmad, Z. U.) Generalized almost convergence and Knopp's core theorem. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 245–253. (L. Loone) **98b:40001** 40C05 (40J05, 46A45)

Khan, Q. J. A. (*with* Bhatt, B. S.) Stability of an epidemic model with density dependent transmission coefficient and death rate. (English summary) *Math. Japon.* **43** (1996), *no.* 3, 487–495. (H. R. Thieme) **98a:92008** 92D30

Khan, Rasul A. A simple proof of the distribution of the correlation coefficient. (English summary) *Aligarh J. Statist.* **14** (1994), 1–5. 62H10

Khan, S. *see* **Khan Ghori, S. A.**

Khan, S. U. (*with* Ahmad, M. S.; Tripathi, T. P.) Model based regression estimator of a finite population mean using multi-phase sampling. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 69–74. 62D05

Khan, Shahjahan Predictive inference for the heteroscedastic multiple regression model with a class of spherical errors. (English summary) *Aligarh J. Statist.* **15/16** (1995/96), 1–17. 62J05 (62F99)

— (*with* Saleh, A. K. Md. Ehsanes) Shrinkage pre-test estimator of the intercept parameter for a regression model with multivariate Student-t errors. (English summary) *Biometrical J.* **39** (1997), *no.* 2, 131–147. (Summary) **98a:62092** 62J05

Khan, Y. U. (*with* Lawson, D. A.; Tucker, R. J.) Banded radiative heat transfer analysis. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 803–813. 80A20

Khan, Zulfiqar Ali On invexity and duality in nondifferentiable multiobjective programming. (English summary) *Aligarh J. Statist.* **14** (1994), 25–40. 90C29 (49N15)

— (*with* Hanson, Morgan A.) On ratio invexity in mathematical programming. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 2, 330–336. (Alberto Cambini) **98a:90113** 90C32 (90C26)

Khanduja, Sudesh K. (*with* Saha, Jayanti) A uniqueness problem in valued function fields of conics. (English summary) *Bull. London Math. Soc.* **28** (1996), *no.* 5, 455–462. (Francis J. Rayner) **98a:12008** 12F20 (13A18)

— On residually transcendental valued function fields of conics. *Glasgow Math. J.* **38** (1996), *no.* 2, 137–145. (Francis J. Rayner) **98a:12007** 12F20 (13A18)

— On extensions of valuations with prescribed value groups and residue fields. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 57–60. (Ron Brown) **98c:12013** 12J10 (12F20)

— (*with* Saha, Jayanti) On a generalization of Eisenstein's irreducibility criterion. (English summary) *Mathematika* **44** (1997), *no.* 1, 37–41. (Summary) **98f:12002** 12E05 (12J10)

Khanedani, Bahman (*with* Suwa, Tatsuo) First variation of holomorphic forms and some applications. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 323–335. (M. G. Soares) **98i:32052** 32L30 (32S65, 34A20)

Khan Ghori, S. A. (*with* Abujabal, Hamza A. S.; Obaid, M. A.; Zaidi, S. M. A.) A categorical study of p-semisimple BCI-algebras. (English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 1, 21–28. (From the summary) **98b:06028** 06F35 (03G25, 18B99)

le Khanh Chau *see* **Le Khanh Chau**

Khaniev, Tahir A. (*with* Ünver, Ihsan) The study of the level zero crossing time of a semi-Markovian random walk with delaying screen. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 257–268. (O. K. Zakusilo) **98m:60142** 60K15

Khanin, K. M. Rigidity in one-dimensional dynamics. *Internat. J. Modern Phys. B* **10** (1996), *no.* 18-19, 2311–2324. (From the text) **98e:58072** 58F03 (58F27)

— (*with* Dzhalilov, A. A.) On an invariant measure for homeomorphisms of the circle with one break point. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 201–202; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1198–1199. 28D05

Khani Robati, B. (*with* Seddighi, K.) On the commutant of the direct sum of operators on spaces of functions. (English and Persian summaries) *Bull. Iranian Math. Soc.* **21** (1995), *no.* 2, 45–57. (William Thomas Ross) **98h:47044** 47B38 (47B20)

Khanna, F. C. (*with* Santana, Ademir E.; Chu, Hanyou; Chang, Yia-Chung) Thermal Lie groups, classical mechanics, and thermofield dynamics. (English summary) *Ann. Physics* **249** (1996), *no.* 2, 481–498. (J. A. Brooke) **98c:81079** 81R05 (81T99)

— (*with* Matos Neto, A.; Vianna, J. D. M.; Santana, Ademir E.) The Tomita-Takesaki representation of W^*-algebras, Lie groups, and thermofield dynamics. (English and French summaries) *Phys. Essays* **9** (1996), *no.* 4, 596–603. (Władysław Adam Majewski) **98b:81272** 81T99 (46L10, 46L35, 46L60, 82C10)

— (*with* Kopf, Tomáš; Santana, Ademir E.) Thermal field dynamics and bialgebras. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4971–4979. (Silvio De Siena) **98j:81158** 81R50 (17B81, 81T99)

Khanna, G. (*with* Mukhopadhyay, Subir; Simon, Rajiah; Mukunda, N.) Geometric phases for SU(3) representations and three level quantum systems. (English summary) *Ann. Physics* **253** (1997), *no.* 1, 55–82. (Summary) **98c:81077** 81R05 (22E70)

Khanna, Samir (*with* Brasseur, James G.) Analysis of Monin-Obukhov similarity from large-eddy simulation. (English summary) *J. Fluid Mech.* **345** (1997), 251–286. 76F05

Khapaev, A. M. (*with* Tsygankov, A. A.) An integral representation of solutions of the Klein-Gordon equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 975–978. 35L70 (35C15, 35Q53)

Khapaev, M. M. *see* **Khapaev, Mikhail Mikhallovich**

Khapaev, M. M., Jr. The method of boundary integral equations for a model of electric current in superconductors. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 115–121. 78A55

Khapaev, Mikhail Mikhallovich (*with* Pakhomova, I. Yu.; Suvorinov, A. V.) The boundary element method for computing unsaturated magnetic lenses. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 9, 37–47; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 9, 34–44 (1997). (D. Stanomir) **98f:78011** 78A30 (65N38)

— (*with* Tsygankov, A. A.) An algorithm for the constrained extremum problem. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 322–325. (*see* **98i:00039**) 90C30 (65K05)

Khapalov, A. Y. Exponential decay for the one-dimensional wave equation with internal pointwise damping. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1171–1183. (A. Borzymowski) **98i:35112** 35L05 (35B05, 35B40)

— (*with* Mohler, R. R.) Asymptotic stabilization of the bilinear time-invariant system via piecewise-constant feedback. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 47–54. (John Tsinias) **98m:93102** 93D15 (93D20)

Khapalyuk, A. P. A new definition of the Dirac δ-function. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 2, 9–14, 76. (Stevan Pilipović) **98d:46041** 46F10

Khaparde, M. V. (*with* Buche, A. B.) Non-Markov functional equations. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **15** (1996), *no.* 2, 237–249. (Summary) **98b:60177** 60K99 (39B99, 47D07, 60J99)

Kharab, A. Use of multiple sheets for the solution of a three-dimensional transient heat conduction problem. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 1, 71–79. 65–04 (65M06)

Kharab, Rachid A linear theory for Ekman's boundary layer according to a triple deck. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 11, 1211–1223. (Summary) **98a:76025** 76D10

Kharaghani, H. (*with* Craigen, R.) Hadamard matrices from weighing matrices via signed groups. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 1, 49–58. (K. C. Prasad) **98m:05029** 05B20

Kharazishvili, A. B. A note on the Sierpiński partition. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 1, 41–48. (Jakub Jasiński) **98c:28002** 28A05 (04A10, 28A35)
— On nonmeasurable subgroups of the real line. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 2, 171–181. (Marek Balcerzak) **98d:28001** 28A05 (20K99, 54E52)
— On selectors nonmeasurable with respect to quasi-invariant measures. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 177–183. (Summary) **98f:28002** 28A05 (28A20)
— On some subsets of spaces equipped with transformation groups. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 818–832. (Summary) **98m:28003** 28A05 (28A20)
Kharchenko, Vladislav K. (*with* Borowiec, Andrzej) First order optimum calculi. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, I (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **19** (1995), 75–88. (Summary) **98i:58020** 58B30 (16W25)
— ★ Некоммутативная теория Галуа. (Russian. Russian summary) [Noncommutative Galois theory] With a biography of E. Galois in French. *Nauchnaya Kniga (NII MIOONGU), Novosibirsk*, 1996. viii+370 *pp. ISBN* 5-88119-014-9 (Vesselin Drensky) **98a:16038** 16W20 (16–02, 16N60, 16W25)
— (*with* Andreeva, T. A.; L′vov, I. V.) On rings of quotients of free algebras. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 6, 655–662, 751; *translation in Algebra and Logic* **35** (1996), *no.* 6, 366–370. (Vesselin Drensky) **98h:16035** 16S10 (16S90)
— (*with* Borowiec, Andrzej; Oziewicz, Zbigniew) First order calculi with values in right-universal bimodules. (English summary) *Quantum groups and quantum spaces (Warsaw, 1995)*, 171–184, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98k:16002** 16D20 (16W25)
— Finiteness in the sense of Shirshov over rings of constants. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 2, 219–238, 241; *translation in Algebra and Logic* **36** (1997), *no.* 2, 133–144. (V. A. Artamonov) **98k:16051** 16W25 (16L60)
Kharchev, S. (*with* Gerasimov, A. A.; Morozov, A. Yu.; Ol′shanetskiĭ, M. A.; Marshakov, A. V.; Mironov, A. D.) Liouville type models in the group theory framework. I. Finite-dimensional algebras. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 14, 2523–2583. (Henrik Aratyn) **98e:81156** 81T40 (81–01, 81R05, 81T10)
— (*with* Mironov, A. D.; Zhedanov, A. S.) Faces of relativistic Toda chain. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 15, 2675–2724. (Andrey V. Tsiganov) **98d:58084** 58F07 (33C50, 33C80, 35Q58)
Khardon, Roni (*with* Roth, Dan) Default-reasoning with models. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 319–325, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B70)
Khare, Avinash (*with* Bhaduri, R. K.; Reimann, S. M.; Tomusiak, E. L.) The Riemann zeta function and the inverted harmonic oscillator. (English summary) *Ann. Physics* **254** (1997), *no.* 1, 25–40. (Christian Grosche) **98b:11131** 11Z05 (11M06, 81Q50)
— Complete energy spectrum of a N-body problem in one dimension. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 63–70. (Kazuhiro Hikami) **98c:81253** 81V70 (81R50, 82B20)
— (*with* Bhaduri, R. K.; Law, Jimmy; Murthy, M. V. N.; Sen, Diptiman) Novel correlations in two dimensions: two-body problem. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2557–2576. (Summary) **98d:81008** 81Q05 (81V70)
— (*with* Ray, Koushik) A quantum many-body problem in two dimensions: ground state. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 139–143. (Kazuhiro Hikami) **98f:81386** 81V70 (82B20)
— (*with* Sukhatme, Uday P.; Rasinariu, Constantin) Cyclic shape invariant potentials. (English summary) *Phys. Lett. A* **234** (1997), *no.* 6, 401–409. (Jules Beckers) **98k:81070** 81Q60 (81Q50)
— (*with* Habib, Salman; Saxena, Avadh) Exact thermodynamics of the double sinh-Gordon theory in 1 + 1 dimensions. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 20, 3797–3801. (Summary) **98j:81203** 81T10
Khare, B. B. (*with* Tripathi, T. P.; Das, Ajit Kumar) Use of auxiliary information in sample surveys—a review. (English summary) *Aligarh J. Statist.* **14** (1994), 79–134. 62D05
— (*with* Srivastava, S. Rani) Transformed ratio type estimators for the population mean in the presence of nonresponse. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1779–1791. 62D05
— (*with* Tripathi, T. P.) Estimation of mean vector in presence of non-response. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2255–2269. 62D05
Khare, Chandrashekhar Maps between Jacobians of modular curves. (English summary) *J. Number Theory* **62** (1997), *no.* 1, 107–114. (Glenn Stevens) **98a:11057** 11F33 (11F75, 11G18)
— Base change, lifting, and Serre's conjecture. *J. Number Theory* **63** (1997), *no.* 2, 387–395. (Núria Vila) **98b:11057** 11F80 (11R32)
— Mod p modular forms. *Number theory (Tiruchirapalli, 1996)*, 135–149, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (M. Ram Murty) **98j:11034** 11F33 (11F11, 11F85)
— Multiplicities of mod p Galois representations. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 181–188. (Ian Kiming) **98m:11046** 11F80 (11F33, 11G18)
Khare, Mona (*with* Srivastava, Pramila) Pointwise compatibility, lattices of f-proximities and counterexamples. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 132–142, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54049** 54E05 (54A05, 54G20)
— A relationship between classical and fuzzy proximities. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 55–59. (Summary) **98j:54008** 54A40 (04A72)
Khare, S. S. (*with* Das, Ashish Kumar) On Milnor's theorem and G-bordism. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 229–240. (David C. Johnson) **98h:57060** 57R85
Kharibegashvili, S. Goursat and Darboux type problems for linear hyperbolic partial differential equations and systems. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **4** (1995), 127 *pp.* (Takeshi Mandai) **98d:35129** 35L55
— On the solvability of the multidimensional version of the first Darboux problem for a model second-order degenerating hyperbolic equation. (English summary) *Georgian Math. J.* **4** (1997), *no.* 4, 341–354. (Jia Xing Hong) **98h:35175** 35L80
Kharin, K. V. On an algebra of images. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 149–156; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 627–634. (János Demetrovics) **98j:06008** 06E30 (03B50, 68U10, 94C10)
Kharin, Yurii ★ Robustness in statistical pattern recognition. (English summary) Translated from the 1992 Russian original. Revised by the author. Mathematics and its Applications, 380. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xiv+302 *pp. ISBN* 0-7923-4267-4 (Publisher's description) **98m:62177** 62H30
— Robustness in discriminant analysis. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 225–234, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98h:62108** 62H30
Kharitonov, V. L. Interval uncertainty structure: conservative but simple. (English summary) *Uncertainty: models and measures (Lambrecht, 1996)*, 231–243, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (Summary) **98j:93066** 93D09 (93C41)
— (*with* Hinrichsen, Diederich) On convex directions for stable polynomials. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 81–92. (B. T. Polyak) **98i:93066** 93D09
— (*with* Atanassova, Lidiya Y.) On stability of a weighted diamond of real quasi-polynomials. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 831–835. (B. T. Polyak) **98i:93067** 93D09
— (*with* Paice, A. D. B.) Robust stability of a class of neural networks with time delays. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 1, 67–91. (Andrzej W. Olbrot) **98j:93067** 93D09 (34K20, 92B20)
Kharitonov, Yu. I. (*with* Asherova, R. M.; Draayer, J. P.; Smirnov, Yu. F.) The Biedenharn-Louck-Hecht resolution of the outer multiplicity problem for the U(3) and $U_q(3)$ groups. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 1035–1046. (A. U. Klimyk) **98i:81097** 81R50 (17B37, 81R05)
Kharlamov, B. P. Uniform distribution of the point of first exit for a two-dimensional anisotropic diffusion process: asymptotics of a neighborhood of the initial point. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 333–348, 363. (Constantin Tudor) **98j:60107** 60J60
Kharlamov, S. N. (*with* Bubenchikov, A. M.; Komarovskiĭ, L. V.) ★ Математические модели течения и теплообмена во внутренних задачах динамики вязкого газа. (Russian. English and Russian summaries) [Mathematical models of flow and heat exchange in interior problems of the dynamics of a viscous gas] *Izdatel′stvo Tomskogo Universiteta, Tomsk*, 1993. 184 *pp. ISBN* 5-7511-0048-8 (Corneliu Berbente) **98j:76122** 76N15 (76F99, 80A32)
Kharlamov, Viatcheslav (*with* Turaev, Vladimir G.) On the definition of the 2-category of 2-knots. *Mathematics in St. Petersburg*, 205–221, *Amer. Math. Soc. Transl. Ser. 2*, 174, *Amer. Math. Soc., Providence, RI*, 1996. (R. H. Street (Zbl 851.18003)) **98g:18006** 18D05 (57M25)
— (*with* Degtyarëv, Aleksandr Igorevich) Halves of a real Enriques surface. (English summary) *Comment. Math. Helv.* **71** (1996), *no.* 4, 628–663. (Summary) **98g:14037** 14J28 (14P05, 57S25)
— (*with* Degtyarëv, Aleksandr Igorevich) On the moduli space of real Enriques surfaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 317–322. (I. Dolgachev) **98f:14028** 14J28 (14K10)
— (*with* Degtyarëv, Aleksandr Igorevich) Around real Enriques surfaces. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 93–109. (P. Abellanas) **98j:14049** 14J28 (14P25)
Kharlampovich, O. (*with* Myasnikov, A. G.) Hyperbolic groups and free constructions. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 571–613. (Michael L. Mihalik) **98d:20041** 20F32 (20E06)
Kharlanov, Yu. Ya. (*with* Zakharov, E. V.; Levchenko, S. N.) Axisymmetric excitation of a dielectric torus: numerical solution. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 282–287. (*see* **98d:00029**) 78A50 (78–04)
mokhtar-Kharroubi, Mustapha *see* **Mokhtar-Kharroubi, Mustapha**
al-Kharsani, H. A. *see* **Al-Kharsani, H. A.**
Khartli, B. *see* **Hartley, Brian**
Kharytonov, A. (*with* Friedmann, A.) Solving of nonlinear differential equations by a method of successive approximations. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 97–100, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65L99 (34A34)
Khasanov, A. B. (*with* Yakhshimuratov, A. B.) Almost periodicity of infinite-gap potentials of the Dirac operator. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 6, 746–748. (Boris M. Levitan) **98c:34136** 34L40 (47E05)
Khasanov, T. Application of a bilinear function for solving some problems in physics and technology. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 602–603. (Jan Stankiewicz) **98k:30030** 30C99
Khasawneh, M. A. (*with* Haddad, T. F.) A fast robust LMS algorithm utilizing the dynamics of a damped pendulum. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 563–577. 93B40 (93D15)
Khashin, Serge I. Projective theory of graphs, and configurations of lines. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **231** (1995), *Issled. po Topol.* 8, 309–322, 328 (1996). (Alexander I. Barvinok) **98c:51004** 51A20 (05E25)
Khashyarmanesh, K. (*with* Salarian, Sh.) Minimal injective resolutions of modules over Cohen-Macaulay rings. *Honam Math. J.* **19** (1997), *no.* 1, 53–59. (Nguyễn Tự Cường) **98j:13020** 13H10 (13C11, 13D25)
— (*with* Salarian, Sh.) Exactness theorem and poor M-cosequences. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 949–957. (P. Schenzel) **98k:13019** 13D45 (14B15)
Khasidashvili, Zurab (*with* van Oostrom, Vincent) Context-sensitive conditional expression reduction systems. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95)* (*Volterra*, 1995), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42
— (*with* Glauert, John) Discrete normalization and standardization in deterministic residual structures. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 135–149, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98d:68116** 68Q42 (68Q55)

— (*with* Glauert, John) The geometry of orthogonal reduction spaces. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 649–659, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q42

Khasminskii, Rafail Z. (*with* Hübner, M.; Rozovskii, Boris L.) Two examples of parameter estimation for stochastic partial differential equations. (English summary) *Stochastic processes*, 149–160, *Springer, New York*, 1993. (Michael A. Kouritzin) **98b:62042** 62F12 (35R60, 60H15, 62M05)

— (*with* Yin, Gang George) On transition densities of singularly perturbed diffusions with fast and slow components. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1794–1819. (Věra Lánská) **98d:60158** 60J60 (35C20, 41A60)

— (*with* Ibragimov, I. A.) Some estimation problems in infinite-dimensional Gaussian white noise. *Festschrift for Lucien Le Cam*, 259–274, *Springer, New York*, 1997. (Mamikon S. Ginovian) **98f:62242** 62M09 (62G05)

— (*with* Chow, Pao-Liu) Statistical approach to dynamical inverse problems. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 521–531. (Summary) **98j:65041** 65J15 (62G05)

— (*with* Chow, Pao-Liu) Stationary solutions of nonlinear stochastic evolution equations. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 671–699. (Bohdan Maslowski) **98i:60058** 60H15

— (*with* Chow, Pao-Liu; Liptser, R. Sh.) Tracking of signal and its derivatives in Gaussian white noise. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 259–273. (Uttara V. Naik-Nimbalkar) **98m:60065** 60G35 (62G05, 62M20, 93E10)

Khater, A. H. (*with* El-Kalaawy, O. H.; Helal, M. A.) Two new classes of exact solutions for the KdV equation via Bäcklund transformations. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 12, 1901–1909. 35Q53 (58F37)

— (*with* Ibrahim, R. S.; Shamardan, A. B.; Callebaut, D. K.) Bäcklund transformations and Painlevé analysis: exact solutions for a Grad-Shafranov-type magnetohydrodynamic equilibrium. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 51–69. (Summary) **98c:76122** 76W05 (35Q35, 58G37, 85A30)

— (*with* Callebaut, D. K.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact solutions for the nonlinear isothermal magnetostatic atmospheres. (English summary) *Phys. Plasmas* **4** (1997), *no.* 8, 2853–2863. (Summary) **98e:76112** 76X05 (85A15, 85A30)

— (*with* Callebaut, D. K.; Shamardan, A. B.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for strongly rarefied relativistic cold plasma. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3910–3922. (Summary) **98j:76152** 76X05 (35Q35, 76Y05)

— (*with* Callebaut, D. K.; Ibrahim, R. S.) Bäcklund transformations and Painlevé analysis: exact soliton solutions for the unstable nonlinear Schrödinger equation modeling electron beam plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 2, 395–400. (Summary) **98i:35179** 35Q55 (76X05)

Khatib, Lina (*with* Wetprasit, R.; Sattar, A.) Reasoning with multi-point events. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 26–40, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T27

— (*with* Morris, Robert Allen; Shoaff, William D.) Domain-independent temporal reasoning with recurring events. (English summary) *Comput. Intelligence* **12** (1996), *no.* 3, 450–477. (Summary) **98g:68156** 68T27 (03B35, 03B45, 03B70)

Khatskevich, V. A. (*with* Reich, Simeon; Shoikhet, David) Null points of holomorphic generators in the Hilbert ball. (English summary) *Recent advances on metric fixed point theory* (*Seville*, 1995), 59–72, *Ciencias*, 48, *Univ. Sevilla, Seville*, 1996. (Marco Abate) **98c:47083** 47H20 (47H10, 58C10)

— (*with* Reich, Simeon; Shoikhet, David) Ergodic methods for the construction of holomorphic retractions. (English summary) *New results in operator theory and its applications*, 145–152, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Marco Abate) **98j:47130** 47H10 (46G20, 58C10)

— (*with* Reich, Simeon; Shoikhet, David) Complex dynamical systems on bounded symmetric domains. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 19, 9 *pp.* (*electronic*). (Marco Abate) **98h:47086** 47H20 (32H50, 34G20, 46G20, 58B12)

— (*with* Reich, Simeon; Shoikhet, David) Asymptotic behavior of solutions of evolution equations and the construction of holomorphic retractions. (English summary) *Math. Nachr.* **189** (1998), 171–178. (Marco Abate) **98k:47137** 47H20 (46G20, 47H10, 58C10)

Khatsymovsky, V. Ashtekar constraint surface as projection of the Hilbert-Palatini one. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 57–61. (José A. Zapata) **98a:83014** 83C05 (83C45)

— Towards the possibility of a self-maintained vacuum-traversable wormhole. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 215–222. (Summary) **98a:83063** 83C47

Khattree, Ravindra Multivariate statistical inference involving circulant matrices: a review. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 101–109, *VSP, Utrecht*, 1996. (Summary) **98c:62111** 62H15

Khavin, Viktor Petrovich (*with* Jöricke, B.) The uncertainty principle in harmonic analysis [MR 93e:42001]. *Commutative harmonic analysis, III*, 177–259, 261–266, *Encyclopaedia Math. Sci.*, 72, *Springer, Berlin*, 1995. (*see* **98b:42001**) 42–02 (30E99, 42A38)

— *see also* **Commutative harmonic analysis, 98b:42001** *and* **Complex analysis, 98d:30002**

Khavinson, Dmitry (*with* Gustafsson, Björn) On annihilators of harmonic vector fields. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 90–108, 215. (Arturo Presa Saguê) **98f:58010; EA 98m** 58A12 (31B05)

— Cauchy's problem for harmonic functions with entire data on a sphere. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 60–66. (Lavi Karp) **98f:31009** 31B20 (35J15)

— (*with* Duren, Peter) Boundary correspondence and dilatation of harmonic mappings. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 105–111. (Summary) **98m:30039** 30C99 (30C62)

— (*with* Berenstein, Carlos A.) Do solid tori have the Pompeiu property? *Exposition. Math.* **15** (1997), *no.* 1, 87–93. 35A20 (31A99, 35J99, 43A85)

— (*with* Boas, Harold P.) Bohr's power series theorem in several variables. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 2975–2979. (Richard M. Timoney) **98i:32002** 32A05

Khavinson, Semen Yakovlevich *see* **Vitushkin, A. G. et al.**

Khazanov, V. B. On the spectral properties of multiparameter polynomial matrices. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **229** (1995), *Chisl. Metody i Voprosy Organ. Vychisl.* 11, 284–321, 325; *translation in J. Math. Sci.* (*New York*) **89** (1998), *no.* 6, 1775–1800. (Summary) **98i:15025** 15A48 (47A56)

Kha Zuĭ Bang *see* **Ha Huy Bang**

Khe, Kan Cher *see* **Khe Kan Cher**

Khechichine-Mourtada, F. Z. (*with* Jacquemard, Alain; Mourtada, Abderaouf) Algorithmes formels appliqués à l'étude de la cyclicité d'un polycycle algébrique générique à quatre sommets hyperboliques. (English and French summaries) [Formal algorithms applied to the study of the cyclicity of a generic algebraic polycycle with four hyperbolic apices] *Nonlinearity* **10** (1997), *no.* 1, 19–53. (Sergeĭ Yu. Yakovenko) **98b:58142** 58F21 (13P99, 34C05, 34C35)

Khedr, F. H. (*with* Al-Shibani, A. M.; Noiri, Takashi) On δ continuity in bitopological spaces. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 57–63. (*see* **98g:00017**) 54E55

— (*with* Zeyada, F. M.) A classification of types of extensions from TOP to QFTOP. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 109–112. 54A40

Kheifets, A. Ya. Nehari's interpolation problem and exposed points of the unit ball in the Hardy space H^1. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 145–151, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (George L. Csordas) **98j:30040** 30D55 (30E05, 47A57, 47B35)

— (*with* Katsnelson, Victor Emanuelovich; Yuditskiĭ, P. M.) An abstract interpolation problem and the extension theory of isometric operators [MR 90b:47015]. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 283–298, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 47A57 (47A20, 47A45, 47A56, 47B99)

Kheirandish, Elaheh The Arabic "version" of Euclidean optics: transformations as linguistic problems in transmission. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 227–245, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (From the introduction) **98f:01011** 01A30 (01A20)

Khe Kan Cher (*with* Jeon, Jong Duek; Park, Ji Hyun; Jeon, Yong Hee; Choi, Jong Bae) Protter's conjugate boundary value problems for the two-dimensional wave equation. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 857–863. (A. Borzymowski) **98c:35103** 35L05 (35L20)

Kheldouni, Abdelaziz (*with* Lamrini, Fayçal) Chern-Dold character in elliptic cohomology. *Extracta Math.* **11** (1996), *no.* 2, 268–275. (Mark Hovey) **98b:57042** 57R20 (11F11, 55P99)

Khelemskiĭ, A. Ya. Approximately finite-dimensional C^*-algebras with projective Hilbert modules, their Bratteli diagrams and K_0-groups. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 10, 131–148; *translation in Sb. Math.* **188** (1997), *no.* 10, 1543–1560. (Michael Frank) **98m:46071** 46L05 (16E99, 46L35, 46L80)

— The structure of a C^*-algebra and the wealth of its projective Hilbert modules. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 221–222; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 834–835. 46L05

Khellaf, A. (*with* Chikouche, D.; Daniel, J. P.) Calculation of electric and magnetic energy stored in a rectangular patch. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 617–626. (Summary) **98f:78030** 78A50

Khelling, Kh. *see* **Helling, Heinz**

Khendek, Ferhat (*with* Hamid, Issam A.) A dynamic extension for the specifications of distributed systems. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1425–1440. (Summary) **98d:68140** 68Q60 (68Q10)

Khenkin, G. M. (*with* Epstein, Charles L.) Extension of CR-structures for 3-dimensional pseudoconcave manifolds. (English summary) *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 51–67, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (John M. Lee) **98h:32012** 32C16 (32F25, 32G07)

— (*with* Dolbeault, Pierre) Chaînes holomorphes de bord donné dans $\mathbf{CP}^n$. (English and French summaries) [Holomorphic chains with given boundary in $\mathbf{CP}^n$] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 383–445. (Mongi Blel) **98m:32014** 32C30

— (*with* Iordan, Andrei) Compactness of the Neumann operator for hyperconvex domains with non-smooth B-regular boundary. *Math. Ann.* **307** (1997), *no.* 1, 151–168. (Der-Chen E. Chang) **98a:32018** 32F20

— (*with* Gromov, Mikhael L.; Shubin, Mikhail) L^2 holomorphic functions on pseudo-convex coverings. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 81–94, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Nicolae Anghel) **98m:32028** 32F30 (32F20, 46H25, 46M20)

Khersh, R. *see* **Hersh, Reuben**

Khesin, Boris A. (*with* Frenkel, Igor B.) Four-dimensional realization of two-dimensional current groups. (English summary) *Comm. Math. Phys.* **178** (1996), *no.* 3, 541–562. (C. J. Atkin) **98c:22018** 22E65 (58B25, 81R10)

— (*with* Roger, Claude) On cohomology of the Lie algebra of pseudodifferential symbols on a circle. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3800–3806. (J. S. Joel) **98b:17028** 17B66 (17B56, 57R32)

— (*with* Lyubashenko, V. V.; Roger, Claude) Extensions and contractions of the Lie algebra of q-pseudodifferential symbols on the circle. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 1, 55–97. (Stanislav Z. Pakuliak) **98f:58104** 58F07 (17B66)

Khibnik, A. (*with* Govaerts, W.; Guckenheimer, John) Defining functions for multiple Hopf bifurcations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1269–1288. (George W. Reddien) **98e:65049** 65H17 (34C23, 58F14, 65L15)

Khidirov, Yu. È. Variational inequalities in complementary systems of spaces, and the theory of K-rotation. (Russian) *Mathematics at Yaroslavl' University* (*Russian*), 179–188, *Yaroslav. Gos. Univ., Yaroslavl'*, 1996. (A. B. Németh) **98b:90147** 90C33 (47H19, 47N10, 49J40, 90C48)

Khimchenko, B. N. (*with* Kamynin, L. I.) Necessary and sufficient conditions for satisfying the weak extremum principle for second-order, elliptic systems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 6, 1314–1334, ii–iii; *translation in Siberian Math. J.* **37** (1996), *no.* 6, 1153–1170. (Ya. A. Roĭtberg) **98b:35048** 35J55 (35B50)

Khimshiashvili, G. Remarks on Calkin PI-algebras and category-like invariants. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **104** (1994), 95–109. (Boris A. Plamenevsky) **98b:58164** 58G15 (47D99, 47G10, 58E05)

Khin Aye Aye (*with* Dierolf, Susanne) On projective limits of Moscatelli type. (English summary) *Functional analysis (Trier, 1994)*, 105–118, *de Gruyter, Berlin*, 1996. (Paweł Domański) **98a:46008** 46A13

Khinchin, Aleksandr Yakovlevich ★ Continued fractions. (English summary) With a preface by B. V. Gnedenko. Translated from the third (1961) Russian edition. Reprint of the 1964 translation. *Dover Publications, Inc., Mineola, NY*, 1997. xii+95 *pp. ISBN* 0-486-69630-8 (Editors) **98c:11008** 11A55 (01A75, 11-03, 11J70)

— ★ Three pearls of number theory. (English summary) Translated from the Russian by F. Bagemihl, H. Komm, and W. Seidel. Reprint of the 1952 translation. *Dover Publications, Inc., Mineola, NY*, 1998. 64 *pp. ISBN* 0-486-40026-3 (Editors) **98k:11001** 11-01 (01A75)

— ★ Mathematical foundations of quantum statistics. (English summary) Translated from the Russian by E. J. Kelly, Jr., M. D. Friedman, W. H. Furry and A. H. Halperin. Translation edited and with a preface by Irwin Shapiro. Reprint of the 1960 English edition. *Dover Publications, Inc., Mineola, NY*, 1998. *xii*+232 *pp. ISBN* 0-486-40025-5 82-01 (46N50, 82B03)

Khinrichsen, D. *see* **Hinrichsen, Diederich**

Khisamutdinov, A. I. (*with* Shishmareva, S. O.; Voronin, A. F.) Estimates from the "zero" class in Monte Carlo methods for computing particle flows. (Russian) *Conditionally well-posed problems in mathematical physics and analysis (Russian)*, 217–226, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (*see* **97m:35003**) 65C05 (82C80)

Khiyal, M. S. H. (*with* Thomas, Ruth Margaret) Efficient eighth order P-stable methods for second order initial value problems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 119–151. (Summary) **98d:65085** 65L05

— (*with* Thomas, Ruth Margaret) Variable-order, variable-step methods for second-order initial-value problems. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 263–276. (Summary) **98b:65079** 65L05

Khlabystova, M. A. (*with* Dmitrieva, L. A.) Scheme of constructing soliton-type solutions of the (2 + 1)-dimensional Harry Dym equation. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 75–93. (Summary) **98f:35127** 35Q53 (65N30)

— (*with* Dmitrieva, L. A.) Spectral properties and identities for the polar operator with nonsmooth periodic density. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 355–366. (Alexander A. Kiselev) **98e:34147** 34L05 (34L40, 47B25, 47E05)

— (*with* Dmitrieva, L. A.) Multisoliton solutions of the (2 + 1)-dimensional Harry Dym equation. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 369–380. 35Q53

Iazraq Khlass, A. *see* **Lazraq Khlass, A.**

Khlobystov, V. V. (*with* Kashpur, E. F.; Makarov, Vladimir Leonidovich) On the problem of Hermite interpolation of operators in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1233–1239. (Galimzian G. Islamov) **98g:41039** 41A65 (41A35, 47A99)

— (*with* Lytsenko, E. F.) A comparative analysis of two methods of polynomial operator interpolation in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1240–1243. (Galimzian G. Islamov) **98m:41052** 41A65 (41A35, 47A58)

— (*with* Makarov, Vladimir Leonidovich) Polynomial interpolation of operators. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1244–1290. (Galimzian G. Islamov) **98h:41042** 41A65 (41A35, 46B28, 46G99, 47A58)

— (*with* Kashpur, E. F.) Interpolation of polynomial operators in a Hilbert space. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 1, 2455–2458. (Victor S. Rykhlov) **98i:41031** 41A35 (41A65, 46G20, 47H15)

— (*with* Makarov, Vladimir Leonidovich) Polynomial interpolation of operators. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 1, 2459–2521. (Grzegorz Lewicki) **98k:41007** 41A05 (41A35, 47H15)

Khludnev, A. M. On equilibrium problem for a plate having a crack under the creep condition. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1015–1029. (Summary) **98f:73026** 73K10 (35Q72, 49J20, 73C02, 73V25)

— (*with* Sokołowski, Jan) ★ Modelling and control in solid mechanics. (English summary) International Series of Numerical Mathematics, 122. *Birkhäuser Verlag, Basel*, 1997. xiv+366 *pp. ISBN* 3-7643-5238-8 (Tomasz Lewiński) **98c:93004** 93-02 (73-02, 73K50, 93C20)

— Extreme crack shapes in a shallow shell. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 215–223. (Giovanni Crosta) **98e:73089** 73K15 (73M25)

— A problem on the equilibrium of an elastic plate containing an oblique crack. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 5, 117–121; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 5, 757–761 (1998). (From the text) **98k:73042** 73K10 (73M25)

Khlyamkov, A. V. A remark on the convergence of the parabola method. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 309; *translation in Math. Notes* **63** (1998), *no.* 1-2, 271–272. 65H05

Khmaladze, Ė. V. (*with* Nadareishvili, M.; Nikabadze, A.) Asymptotic behaviour of a number of repeated records. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 49–58. (Summary) **98e:60074** 60G70

Khmelevskiĭ, Yuriĭ Il'ich *see* **Adyan, S. I. et al., 98f:01052**

Khmelnitsky, Eugene (*with* Kogan, Konstantin) Tracking demands in optimal control of managerial systems with continuously-divisible, doubly constrained resources. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 43–59. 49N55 (90C30)

ha huy Khoai *see* **Ha Huy Khoai**

Khobalatte, Brahim (*with* Leyland, Pénélope) New finite-element-based fluctuation-splitting kinetic schemes. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 229–239. (Summary) **98k:76090** 76M10 (65N30, 76P05)

Khodadad Khan, A. F. M. (*with* Mostafa, M.; Matin, M. A.) Study of infinite delay integro-differential equation with non-linear perturbation. (English summary) *Ganit* **15** (1995), 21–29. (Józef Banaś) **98d:45006** 45J05 (34K15, 47N20)

— (*with* Banu, S.; Banik, K. K.) L-fuzzy sets on semigroups. (English summary) *Ganit* **15** (1995), 73–82. (Branimir Šešelja) **98h:20119** 20M99 (04A72)

ammar Khodja, Farid *see* **Ammar Khodja, Farid**

Khodja, Mohamed (*with* Zumbrun, Kevin) Stabilité de profils de choc pour une équation dispersive. (English and French summaries) [Nonlinear stability of shock profiles for a dispersive equation] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 163–166. 35L67

Khodkar, A. (*with* Adams, Peter; Bryant, Darryn E.) Uniform 3-factorisations of K_{10}. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 23–32. (Summary) **98i:05125** 05C70

— (*with* Bryant, Darryn E.) On orthogonal double covers of graphs. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 103–105. (Summary) **98m:05141** 05C70

— (*with* Adams, Peter; Bryant, Darryn E.) 3, 5-cycle decompositions. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 91–110. (Jaroslav Ivančo) **98k:05111** 05C70

Khodzhabagyan, S. S. (*with* Nagaev, S. V.) On an estimate for the concentration function of sums of independent random variables. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 655–665; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 560–569 (1997). (Zdzisław Rychlik) **98f:60029** 60E15

Khodzhaev, N. M. The divisor problem on short intervals. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 80–81; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 39–40. 11N37

Khokhar, A. A. (*with* Dehne, Frank; Deng, Xiao Tie; Dymond, P.; Fabri, A.) A randomized parallel three-dimensional convex hull algorithm for coarse-grained multicomputers. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 547–558. (Summary) **98f:68263** 68U05 (68Q22)

Khokhlov, A. M. Fully threaded tree algorithms for adaptive refinement fluid dynamics simulations. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 519–543. 76M25

Khokhlov, A. Yu. On the maximum principle in the sense of L_p. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 4, 452–454. (Zi Qian Yan) **98c:35018** 35B50 (35J15)

Khokhlov, Yu. E. (*with* Kleinbock, Dmitry Y.) Inverse problems for fluid flows with a moving boundary. (English summary) *Lipa's legacy (New York, 1995)*, 297–317, *Contemp. Math., 211, Amer. Math. Soc., Providence, RI*, 1997. (Sam D. Howison) **98k:76134** 76S05 (35Q35, 35R30, 76D05)

Khokhlov, Yu. S. Multiparameter Shimizu equation. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan', 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1113–1116. (Summary) **98g:60025** 60E05 (62E10)

Khokhlyuk, V. I. (*with* Pyarnpuu, A. A.) ★ Вопросы алгоритмизации в некоторых прикладных задачах. (Russian. Russian summary) [Algorithmization questions in some applied problems] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 28 [illegible] description) **98b:65069** 65K05 (15A06, 15A21)

— Groups in classes of integer narrow-block optimization pr[illegible] (Russian) *Group and metric properties of mappings (Russian)*, 62–75, *Novosib[illegible] Univ., Novosibirsk*, 1995. (From the text) **98d:90075** 90C10

— (*with* Pyarnpuu, A. A.) ★ Использование групповых свойств для повышения вычислительной эффективности алгоритмов. (Russian. Russian summary) [The use of group properties for increasing the computational efficiency of algorithms] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. 36 *pp.* (Publisher's description) **98a:65084** 65K10 (65Y20)

Kholevo, A. S. Excessive mappings, "arrival times", and perturbations of dynamical semigroups. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **59** (1995), *no.* 6, 207–222; *translation in Izv. Math.* **59** (1995), *no.* 6, 1311–1325. (Kalyanapuram R. Parthasarathy) **98k:47085** 47D07 (46N50, 47N50, 81S25)

— The structure of classical noise. *Analysis, geometry and probability*, 73–86, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (*see* **98e:00025**) 60G99 (60J99)

— Stochastic differential equations in Hilbert space and quantum Markovian evolutions. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 122–131, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:60111** 60H10 (46N50, 81S25)

— On dissipative stochastic equations in a Hilbert space. (English summary) *Probab. Theory Related Fields* **104** (1996), *no.* 4, 483–500. (Stéphane Attal) **98c:60068** 60H15 (60J25, 81S25)

— A nonstandard dynamical semigroup exists on $\mathfrak{L}(\mathscr{F})$. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 225–226; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1206–1207. (Wolfgang Freudenberg) **98f:46057** 46L55 (35B25, 35Q99, 47D07, 47N50, 81S25, 82C10)

— The capacity of the quantum channel with general signal states. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 269–273. (Summary) **98m:94023** 94A40

— Radon-Nikodým derivatives of quantum instruments. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1373–1387. (S. Gudder) **98k:81025** 81P15 (46L60, 47N50)

Kholmyanskiĭ, M. L. Boundary element method implementation for linear boundary conditions of a general type. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 114–118, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 73V10

Kholodenko, Arkady L. Statistical mechanics of the deformable droplets on flat surfaces. (English summary) *J. Math. Phys.* **37** (1996), *no.* 3, 1287–1313. (Summary) **98b:82046** 82B99 (58Z05, 81Q50)

— Statistical mechanics of the deformable droplets on Riemannian surfaces: applications to reptation and related problems. (English summary) *J. Math. Phys.* **37** (1996), *no.* 3, 1314–1335. (Summary) **98b:82047** 82B99 (58Z05, 81Q50)

Kholodov, A. N. The group of formal diffeomorphisms of the line and iteration theory. (English summary) *Iteration theory (Batschuns, 1992)*, 152–164, *World Sci. Publishing, River Edge, NJ*, 1996. (J. Aczél) **98g:39016** 39B12 (13J05, 58F08)

Kholodovskiĭ, S. E. On the flow in piecewise-homogeneous porous media containing fractures and barriers located along a straight line. *Fluid Dynam.* **31** (1996), *no.* 6, 868–873 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996**, *no.* 6, 85–91 (*Russian. Russian summary*). (Summary) **98b:76071** 76S05

el-Kholy, E. M. *see* **El-Kholy, E. M.**

el-Kholy, N. A. *see* **El-Kholy, N. A.**

Khoma, G. P. (*with* Mitropol'skiĭ, Yuril Alekseevich; Gromyak, M.) ★ Asymptotic methods for investigating quasiwave equations of hyperbolic type. (English summary) Translated from the 1991 Russian original by Andrei Khruzin and revised by the authors. Mathematics and its Applications, 402. *Kluwer Academic Publishers Group, Dordrecht*,

1997. x+206 *pp.* *ISBN* 0-7923-4529-0 (Valery Covachev) **98g:35131** 35L10 (35B40, 35C20, 35Gxx, 35L70)

— (*with* Petrīvs'kiĭ, Ya. B.) Solvability of a periodic boundary value problem. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 296–301; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 327–333. (Summary) **98k:35011** 35B10 (35C15, 35L20)

— (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Tsinaĭko, P. V.) A periodic problem for an inhomogeneous equation of string vibration. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 558–565; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 618–627 (1998). (Summary) **98h:35144** 35L20 (35B10, 73D30)

Khoma, I. Yu. (*with* Perkataya, I. G.) General representation of solutions of equations of the equilibrium of a nonhomogeneously transversally isotropic spherical shell. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 70–74. 73K15

Khoma, L. G. (*with* Khoma, N. G.; Botyuk, A. O.) Existence of Vejvoda-Stedry spaces. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 302–308; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 334–341. (Summary) **98h:35011** 35B10 (35L20, 46E99)

Khoma, N. G. (*with* Khoma, L. G.; Botyuk, A. O.) Existence of Vejvoda-Stedry spaces. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 2, 302–308; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 334–341. (Summary) **98h:35011** 35B10 (35L20, 46E99)

Khomin, Alexander (*with* Chiarella, Carl) An analysis of the complex dynamic behaviour of nonlinear oligopoly models with time delays. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2049–2065. (Summary) **98b:90041** 90A53

Khorasani, K. (*with* Hashtrudi-Zaad, K.) An integral manifold approach to tracking control for a class of non-minimum phase linear systems using output feedback. (English summary) *Automatica J. IFAC* **32** (1996), *no.* 11, 1533–1552. (H. A. Nour Eldin) **98b:93031** 93C05 (93B29, 93B50, 93C70)

— (*with* Rokui, M. Reza) An indirect adaptive control for fully feedback linearizable discrete-time non-linear systems. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 8, 665–680. (Summary) **98i:93051** 93C40 (93C55)

Khorashad, A. S. (*with* Fouladvand, M. E.) Thermodynamics properties of one-dimensional Z_3 quantum Potts chain. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 18, 785–793. (Takeo Kojima) **98m:82020** 82B23 (81R50, 82B20)

Khoromskiĭ, B. N. (*with* Schmidt, Gunther) Asymptotically optimal interface solvers for the biharmonic Dirichlet problem on convex polygonal domains. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 231–234. (*see* **98b:65005**) 65N12 (65N30)

— On a sparse finite element approximation to the Poincaré-Steklov operators of planar elasticity. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 122–126, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 65N30 (73C02, 73V05)

Khoroshkin, Sergeĭ (*with* Tolstoĭ, V. N.) Twisting of quantum (super-) algebras. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 42–54, *World Sci. Publishing, River Edge, NJ*, 1994. (Anatol Nowicki) **98j:81157** 81R50 (17B37)

— (*with* Lebedev, D. R.; Pakulyak, S. Z.) Intertwining operators for the central extension of the Yangian double. (English summary) *Phys. Lett. A* **222** (1996), *no.* 6, 381–392. (Andrey V. Tsiganov) **98b:81076** 81R10 (17B37, 81T10)

— Central extension of the Yangian double. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 119–135, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Andrei G. Bytsko) **98j:17015** 17B37

— (*with* Lebedev, D. R.; Pakulyak, S. Z.) Traces of intertwining operators for the Yangian double. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 31–47. (Summary) **98d:17025** 17B37 (16W30, 81R50, 81T10, 82B23)

— (*with* Lebedev, D. R.; Pakulyak, S. Z.) The Zamolodchikov-Faddeev algebra for the Yangian double at level 1. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 25–45; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 18–34. (Tomasz Brzeziński) **98i:81109** 81R50 (17B37)

Khoroshun, Leonid Petrovich *see* **Birthday: Khoroshun, Leonid Petrovich**

Khorozov, E. I. (*with* Iliev, I. D.) Hilbert-Arnold problem for cubic Hamiltonians and limit cycles. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 115–124, *VSP, Utrecht*, 1994. (Summary) **98d:34055** 34C05 (58F21)

— (*with* Bakalov, B.; Yakimov, M.) Bäcklund-Darboux transformations in Sato's Grassmannian. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 571–586. (Alexander V. Shapovalov) **98i:58111** 58F07 (58F37)

Khorrami, Farshad (*with* Jain, Sandeep) Decentralized adaptive control of a class of large-scale interconnected nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 136–154. (Kimio Kanai) **98d:93003** 93A14 (93C40, 93D15)

— (*with* Jain, Sandeep) Robust adaptive control of flexible joint manipulators. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 609–615. 93C85 (70B15)

Khorrami, Mohammad Symmetries in discrete-time mechanics. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 357–361. (Phillial Oh) **98a:81104** 81S99 (81R40)

— (*with* Mansouri, R.) The equivalence of Darmois-Israel and distributional method for thin shells in general relativity. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5672–5683. (Enric Verdaguer) **98g:83006** 83C05 (83C15, 83C20)

— (*with* Aghamohammadi, A.; Shariati, A.) Toda theories as contractions of affine Toda theories. (English summary) *Phys. Lett. B* **389** (1996), *no.* 2, 260–263. (Henrik Aratyn) **98a:81194** 81T40 (58F07)

— (*with* Alimohammadi, M.) n-point functions of 2d Yang-Mills theories on Riemann surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 1959–1965. (Ambar Sengupta) **98e:81151** 81T40 (58D30, 81T13)

— (*with* Shariati, A.; Aghamohammadi, A.) $SL_h(2)$-symmetric torsionless connections. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 95–99. (Peter Prešnajder) **98f:58027** 58B30 (81R50)

— (*with* Aghamohammadi, A.; Alimohammadi, M.) A pseudo-conformal representation of the Virasoro algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1349–1353. (Summary) **98b:81073** 81R10 (17B68)

— (*with* Shafiekhani, A.) Exactly and quasi-exactly solvable models on the basis of OSp(2|1). (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1655–1661. (Summary) **98g:81054** 81R05 (81Q99)

— (*with* Alimohammadi, M.) Observables of the generalized 2-D Yang-Mills theories on arbitrary surfaces: a path integral approach. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 30, 2265–2270. (Bogusław Broda) **98j:58025** 58D29 (81T13, 81T70)

— (*with* Rahimi Tabar, M. R.; Aghamohammadi, A.) The logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 555–566. (Isabel P. Ennes) **98i:81238** 81T40

— (*with* Alimohammadi, M.) Green's functions of 2-dimensional Yang-Mills theories on nonorientable surfaces. (English summary) *Z. Phys. C* **76** (1997), *no.* 4, 729–731. 81T13

— (*with* Alimohammadi, M.; Aghamohammadi, A.) Large-N limit of the generalized two-dimensional Yang-Mills theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 313–323. (Summary) **98k:81244** 81T40 (81T13)

Khorunzhiĭ, A. M. (*with* Boutet de Monvel-Berthier, Anne-Marie; Vasilchuk, V.) Limiting eigenvalue distribution of random matrices with correlated entries. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 4, 607–636. (V. L. Girko) **98g:60060** 60F15 (62H99, 82B44)

— (*with* Rodgers, G. J.) Eigenvalue distribution of large dilute random matrices. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3300–3320. (Summary) **98c:82035** 82B44 (15A52, 47B80, 60F99)

Khoruzhenko, Boris A. (*with* Fedorov, Ya. V.; Sommers, Hans-Jürgen) Almost-Hermitian random matrices: eigenvalue density in the complex plane. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 46–52. (Estelle L. Basor) **98b:82004** 82B05 (82B44)

— (*with* Fedorov, Ya. V.; Sommers, Hans-Jürgen) Almost Hermitian random matrices: crossover from Wigner-Dyson to Ginibre eigenvalue statistics. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 4, 557–560. (Summary) **98f:82067** 82B41

Khoruzhiĭ, S. S. (*with* Voronin, A. V.) Representations of the BRST algebra and unsolvable algebraic problems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4301–4322. (Victor O. Rivelles) **98d:17013** 17B10 (81R10)

Khoshkam, M. (*with* Skandalis, G.) Toeplitz algebras associated with endomorphisms and Pimsner-Voiculescu exact sequences. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 315–331. (Vladimir Manuilov) **98k:46088** 46L05 (46L80)

— (*with* Mashood, B.) On the relative commutants of subfactors. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2725–2732. (Jeong Hee Hong) **98k:46101** 46L37

Khoshnevisan, Davar The gap between the past supremum and the future infimum of a transient Bessel process. (English summary) *Séminaire de Probabilités, XXIX*, 220–230, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Zhan Shi) **98m:60132** 60J65 (60G17)

— (*with* Burdzy, Krzysztof) The level sets of iterated Brownian motion. (English summary) *Séminaire de Probabilités, XXIX*, 231–236, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Zhan Shi) **98k:60138** 60J65 (60G17)

— Deviation inequalities for continuous martingales. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 17–30. (Paul McGill) **98c:60048** 60G44 (60G15, 60J65)

— Escape rates for Lévy processes. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 177–183. (Mamoru Kanda) **98g:60135** 60J30 (60G17, 60J40)

— (*with* Shi, Zhan) Chung's law for integrated Brownian motion. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4253–4264. (Qi Man Shao) **98m:60056** 60G15 (60F15, 60J55, 60J65)

Khosravani, Azar (*with* Earnest, A. G.) Representation of integers by positive definite binary Hermitian lattices over imaginary quadratic fields. (English summary) *J. Number Theory* **62** (1997), *no.* 2, 368–374. (Detlev W. Hoffmann) **98a:11047** 11E39 (11E41, 11H50)

— (*with* Earnest, A. G.) Universal binary Hermitian forms. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1161–1168. (Parvati Shastri) **98a:11048** 11E39

Khosrovshahi, G. B. (*with* Nowzari-Dalini, A.; Torabi, R.) Trading signed designs and some new 4-(12, 5, 4) designs. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 279–288. (Summary) **98c:05022** 05B05

— (*with* Singhi, N. M.) Further characterization of basic trades. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 1, 87–92. (J. E. Graver) **98b:05012** 05B05

— (*with* Yousefi-Azari, H.) Octahedrals in Steiner quadruple systems. (English summary) *Util. Math.* **51** (1997), 33–39. (Summary) **98h:05049** 05B30

nāṣer-e Khosrow *see* **Nāṣer-e Khosrow**

Khot, N. S. (*with* Yedavalli, R. K.; Tseng, Yuan-Wei; Veley, D.) Aeroelastic control using smart structures and acceleration feedback. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 362–372, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K50, 73K70, 93C40)

— (*with* Öz, H.) Structural-control optimization with H_2- and H_∞-norm bounds. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 297–311. 93B36 (93C41)

Khoudeir, A. (*with* Aragone, C.) Two gravitationally Chern-Simons terms are too many. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 261–265, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98d:83065** 83C99 (81T20)

Khouk, K. (*with* Arino, O.) The delay effects on the behavior of solutions of reaction diffusion equations with delay. *Appl. Anal.* **61** (1996), *no.* 3-4, 195–208. 35R10 (35K57)

Khoury, B. N. (*with* Pardalos, Panos M.) An exact branch and bound algorithm for the Steiner problem in graphs. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 582–590, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:05138** 05C85 (90C35)

Khoussainov, Bakhadyr *see* **Khusainov, B. M.**

Khovanskiĭ, A. G. (*with* Kozlova, E. G.; Khovanskiĭ, G. S.) ★ Некоторые вопросы теоретической и практической номографии. (Russian. Russian summary) [Some problems in theoretical and applied nomography] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. 97 *pp.* (Publisher's description) **98a:65194** 65S05

— (*with* Gel'fond, O. A.) Newton polyhedra and Grothendieck residues. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 298–300. (Alexandr M. Kytmanov) **98b:32004** 32A27 (14M25)

Khovanskiĭ, A. V. The regularized Greville method and its applications in transmission computer tomography. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 11, 109–118. 44A12 (65R10)

Khovanskiĭ, G. S. (*with* Kozlova, E. G.; Khovanskiĭ, A. G.) ★ Некоторые вопросы теоретической и практической номографии. (Russian. Russian summary) [Some problems in theoretical and applied nomography] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. 97 *pp.* (Publisher's description) **98a:65194** 65S05

Khoze, Valentin V. (*with* Dorey, Nicholas; Mattis, Michael P.) Multi-instanton calculus in $N = 2$ supersymmetric gauge theory. II. Coupling to matter. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7832–7848. (Katsushi Ito) **98b:81246** 81T60 (81T13)

— (*with* Dorey, Nicholas; Mattis, Michael P.) On $N = 2$ supersymmetric QCD with four flavors. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 3, 607–622. (Summary) **98e:81168** 81T60 (14H52, 81T13, 81V05)

— (*with* Dorey, Nicholas; Mattis, Michael P.) On mass-deformed $N = 4$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 141–149. (Summary) **98m:81178** 81T60 (81T13)

— (*with* Dorey, Nicholas; Mattis, Michael P.; Slater, M. J.; Weir, W. A.) Instantons, higher-derivative terms, and nonrenormalization theorems in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 213–221. (Summary) **98j:81328** 81T60 (81T13, 81T15)

Khranovich, I. L. (*with* Levitin, E. S.) A search for the global minimum in nonconvex programming problems with dependencies that are biseparable superpositions of convex functions. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 166–169. (Stephan Dempe) **98c:90099** 90C26 (49M37)

Khrennikov, Andrei p-adic stochastics with applications to the Einstein-Podolsky-Rosen paradox. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 457–460, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Evgenii I. Zelenov) **98e:81023** 81P99 (11Z05, 81P15)

— A noncommutative analogue of functional superanalysis. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 233–245; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 525–534. (J. S. Joel) **98g:58015** 58C50 (46N50, 46S99, 81S99)

— p-adic description of chaos. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 177–184, *World Sci. Publishing, River Edge, NJ*, 1996. (Evgenii I. Zelenov) **98f:82003** 82B05 (11Z05, 46S10, 58F13)

— The Einstein-Podolsky-Rosen paradox and p-adic probability theory. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 5, 605–608. (Evgenii I. Zelenov) **98f:81047** 81P99 (46S10, 60A99, 81P15)

— The ultrametric Hilbert-space description of quantum measurements with a finite exactness. (English summary) *Found. Phys.* **26** (1996), *no.* 8, 1033–1054. (Evgenii I. Zelenov) **98a:81016** 81P15 (81P05)

— (*with* Escassut, Alain) Nonlinear differential equations over the field of the complex p-adic numbers. (English summary) *p-adic functional analysis* (*Nijmegen*, 1996), 143–151, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Nobuo Tsuzuki) **98f:12007** 12H25 (34A34)

— (*with* De Smedt, Stany) Dynamical systems and theory of numbers. (English summary) *Comment. Math. Univ. St. Paul.* **46** (1997), *no.* 2, 117–132. (Evgenii I. Zelenov) **98g:58161** 58F99 (11S99, 11Z05, 58F12)

— The Bernoulli theorem for probabilities that take p-adic values. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 461–464. 60F99 (11K41)

— (*with* Albeverio, Sergio; Cianci, Roberto) On the spectrum of the p-adic position operator. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 881–889. (Evgenii I. Zelenov) **98g:81027** 81Q10 (11Z05, 47N50, 47S10)

— (*with* Albeverio, Sergio; Cianci, Roberto) On the Fourier transform and the spectral properties of the p-adic momentum and Schrödinger operators. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5767–5784. (Evgenii I. Zelenov) **98j:81054** 81Q05 (11Z05)

— p-adic quantum-classical analogue of the Heisenberg uncertainty relations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 4, 555–560. (Summary) **98j:81013** 81P05 (81P99)

— p-adic stochastic hidden variable model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1388–1401. (S. Gudder) **98m:81010** 81P10 (11Z05, 46S10, 60A99)

Khrimpach, M. V. A property of ladder pairs under small perturbations of a recurrent random walk. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1995), 89–95. (D. V. Gusak) **98c:60089** 60J15

Khriptun, M. D. Some improper integrals that contain generalized Bessel functions satisfying a third-order ordinary differential equation. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 136–150, 172–173, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 34B30 (33C10)

Khripunov, A. P. (*with* Ivanov, Valerii Alexandrovich; Taras′ev, A. M.; Ushakov, Vladimir N.) Extremal controls in the "toreador" problem. (Russian) *Radio age* (*Russian*), 160–171, 288, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (*see* **98b:00019**) 90D25 (93C15)

Khripunova, M. B. (*with* Timofeev, Nikolai M.) The Titchmarsh problem with numbers that have a given number of prime factors. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 586–603, 640; *translation in Math. Notes* **59** (1996), *no.* 3-4, 421–434. (Ognian Trifonov) **98c:11097** 11N37

Khristov, Nikolaĭ D. (*with* Petkov, Petko Khr.; Konstantinov, Mikhail M.) Numerical solution of high order matrix Riccati equations. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 388–395, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (93B40)

— (*with* Konstantinov, Mikhail M.; Petkov, Petko Khr.) Sensitivity analysis of the feedback synthesis problem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 568–573. (Summary) **98m:93078** 93C73 (93B35, 93B50, 93B55)

Khristova, S. G. (*with* Bainov, Drumi D.; Dishliev, A. B.) Monotone iterative technique for impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 13–27, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Eduardo Liz) **98h:34116** 34K05 (34A37, 34A45)

— (*with* Bainov, Drumi D.; Simeonov, Pavel) Linear integro-summation inequalities for scalar functions of two variables. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 521–524. (Summary) **98a:26016** 26D10

— (*with* Bainov, Drumi D.) Integral inequalities of Gronwall type for piecewise continuous functions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 1, 89–94. (Jerzy Popenda) **98a:26017** 26D10

Khruslov, Evgenii Yakovlevich (*with* Goncharenko, M.) Homogenization of electrostatic problems in domains with nets. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 215–223, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98f:78010** 78A30 (35B27, 73B27)

— (*with* Ostapenko, D. Yu.; Pal′-Val′, A. P.) Uniform asymptotic formulas for curvilinear solitons of the Kadomtsev-Petviashvili equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 2, 205–211; *translation in Theoret. and Math. Phys.* **108** (1996), *no.* 2, 1013–1018 (1997). (Leonid V. Bogdanov) **98b:35163** 35Q53 (35C20)

— (*with* Vorob′eva, G. I.) Averaging of the Neumann problem for higher-order elliptic operators. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 43–47. (Summary) **98i:35017** 35B27 (35J40)

— (*with* Boutet de Monvel-Berthier, Anne-Marie; Egorova, I. E.) Soliton asymptotics of the Cauchy problem solution for the Toda lattice. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 223–237. (Elena Medina Reus) **98f:35141** 35Q58 (34L25, 39A12, 47B99)

— (*with* Anders, I. A.; Kotlyarov, V. P.) Soliton asymptotics of non-localized solutions of non-linear evolutionary equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 3951–3961. (*see* **98i:00032**) 35Q53 (35Q51)

— *see also* **Biography: Khruslov, Evgenii Yakovlevich** *and* **Ladyzhenskaya, O. A. et al.**

Khrustalev, O. A. (*with* Chichikina, M. V.) Bogolyubov group variables in relativistic field theory. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 242–251; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 583–591. (Summary) **98j:81351** 81T99

Khruzin, Andrei *see* **Mitropol′skiĭ, Yuriĭ Alekseevich et al., 98g:35131**

Khryashchëv, S. V. The density of states of the spectrum of the Schrödinger operator with a radial potential. (Russian) *Algebra i Analiz* **9** (1997), *no.* 1, 201–212; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 1, 147–155. (Evgeni L. Korotyaev) **98m:81029** 81Q10 (47F05, 47N50)

Khuat-Duy, David A semi-classical trace formula for Schrödinger operators in the case of a critical energy level. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 2, 299–351. (B. Hellwig) **98j:35134** 35P20 (35J10, 47F05, 81Q10)

Khudaĭgulyev, B. A. The heat equation with a singular potential. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 567–569, 576; *translation in Differential Equations* **33** (1997), *no.* 4, 575–578. (Summary) **98k:35083** 35K05

Khudaverdyan, O. M. Batalin-Vilkovisky formalism and odd symplectic geometry. (English summary) *Geometry and integrable models* (*Dubna*, 1994), 144–181, *World Sci. Publishing, River Edge, NJ*, 1996. (Ion V. Vancea) **98m:81193** 81T70 (58F05, 58Z05)

Khudiĭ, M. I. (*with* Zelisko, V. R.; Petrichkovich, V. M.) On the study of the decomposition of matrix polynomials into factors. (English summary) *J. Math. Sci.* **81** (1996), *no.* 6, 3005–3012. (Valeriu Prepeliță) **98c:15043** 15A23

Khukhro, E. I. (*with* Makarenko, N. Yu.) Nilpotent groups that admit an almost regular automorphism of order four. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 314–333, 372–373; *translation in Algebra and Logic* **35** (1996), *no.* 3, 176–187. (Alla S. Detinko) **98c:20067** 20F19

— Almost regular automorphisms of finite groups of bounded rank. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 6, 1407–1412, iv; *translation in Siberian Math. J.* **37** (1996), *no.* 6, 1237–1241. (A. A. Makhnev) **98d:20027** 20D45

— (*with* Cutolo, G.; Lennox, John C.; Rinauro, S.; Smith, Howard; Wiegold, James) Locally finite groups all of whose subgroups are boundedly finite over their cores. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 563–570. (John S. Wilson) **98j:20020** 20D15 (20D60, 20F50)

— (*with* Cutolo, G.; Lennox, John C.; Wiegold, James; Rinauro, S.; Smith, Howard) Finite core-p p-groups. (English summary) *J. Algebra* **188** (1997), *no.* 2, 701–719. (Patrizia Longobardi) **98g:20065** 20F50 (20D15)

Khukhryanskiĭ, Yu. P. (*with* Repnikov, V. D.; Bordakov, E. V.) On some function series containing roots of a transcendental equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 568–569, 576; *translation in Differential Equations* **32** (1996), *no.* 4, 575–577. (Eugene M. Matveev) **98b:35023** 35C10 (11Y99, 35K99, 44A10)

Khuller, Samir (*with* Rivlin, Ehud; Rosenfeld, Azriel) Graphbots: mobility in discrete spaces. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 593–604, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68R10

— (*with* Guha, Sudipto) Approximation algorithms for connected dominating sets. (English summary) *Algorithms—ESA '96* (*Barcelona*), 179–193, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98g:68125** 68R10 (05C85, 68Q25)

— (*with* Fekete, Sándor P.; Klemmstein, Monika; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 105–117, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael A. Trick) **98i:90112** 90C35 (05C05)

— (*with* Fekete, Sándor P.; Klemmstein, Monika; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 310–324. (Summary) **98h:68181** 68R10 (05C85, 68Q25, 90C35)

— (*with* Guha, Sudipto) Connected facility location problems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 179–190, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98m:68206** 68R10 (05C85, 90B80)

— (*with* Guha, Sudipto) Approximation algorithms for connected dominating sets. (English summary) *Algorithmica* **20** (1998), *no.* 4, 374–387. (Summary) **98m:68207** 68R10 (68Q25)

chan van Khung *see* **Chan Van Khung**

Khurana, Surjit Singh (*with* Garrido, José Aguayo) Vector-valued uniformly continuous functions and uniform measures. *An. Univ. Bucureşti Mat.* **45** (1996), 17–23. 54C35 (54E15)

— Vector-valued continuous functions and nuclear spaces. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996)*, 95–97, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:46051** 46E40 (46A11, 54C35, 54F65)

Khuri, André I. (*with* Cornell, John A.) ★ Response surfaces. (English summary) Designs and analyses. Second edition. Statistics: Textbooks and Monographs, 152. *Marcel Dekker, Inc., New York*, 1996. xvi+510 *pp. ISBN* 0-8247-9741-8 (Editors) **98c:62153** 62K99 (62–01)

— Minimal sufficient statistics for a general class of mixed models. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 1–7. (Rainer Schwabe) **98h:62116** 62J10 (62F10)

Khuri, Ramzi R. (*with* Johnson, Clifford V.; Myers, Robert C.) Entropy of 4D extremal black holes. (English summary) *Phys. Lett. B* **378** (1996), *no.* 1-4, 78–86. (Edward Teo) **98a:83086** 83C57 (81T30, 83E30)

— (*with* Myers, Robert C.) Low-energy scattering of extreme black holes in string theory. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 273–277, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83089** 83E30 (83C57)

— Solitons, black holes and duality in string theory. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 99–110. (Summary) **98k:83084** 83E30 (81–02, 81T30, 83–02, 83C57)

Khuri, S. A. (*with* Wazwaz, Abdul-Majid) On the solution of a partial differential equation arising in Stokes flow. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 139–147. (Summary) **98d:76041** 76D07 (35C99, 35Q30)

— (*with* Wang, Chang Yi) Stokes flow around a bend. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 573–600. (Summary) **98d:76042** 76D07

— (*with* Wazwaz, Abdul-Majid) New ideas for solving size-structured population models. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 91–96. 92D25

— (*with* Deeba, E. Y.) The solution of a two-compartment model. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 1–6. 92D25

Khurshid, Anwer (*with* Sahai, Hardeo; Ageel, Mohammad I.) A selected bibliography on forecasting. *Egyptian Statist. J.* **40** (1996), *no.* 2, *Appendix*, 220–328. 62–00 (62M20, 62P20)

Khusainov, A. A. Sums of copies of acyclic spectra. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 176–177. 20K40

Khusainov, B. M. (*with* Goncharov, Sergeĭ S.) On the spectrum of the degrees of decidable relations. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 301–303. (Andrzej Orlicki) **98b:03062** 03D45

— Randomness, computability, and algebraic specifications. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 1, 1–15. (Cristian Calude) **98k:03098** 03D40 (03D80, 68Q30, 68Q65)

Khusainov, D. Ya. (*with* Davydov, V. F.) Solution estimates of quadratic systems with delay. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 345–356 (1997). (Tibor Krisztin) **98f:34111** 34K20

— (*with* Martsenyuk, V. P.) An optimization method for studying the stability of linear systems with delay. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 4, 88–93, 187; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 4, 534–538 (1997). (Alexander I. Domoshnitsky) **98b:34099** 34K20 (90C90)

Khusnutdinov, N. R. A charged particle in space-time of a supermassive cosmic string. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 339–350; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 603–611. (Gheorghe Zet) **98g:83106** 83E30 (83F05)

Khutoryanskiĭ, N. M. (*with* Sosa, Horacio) New regularization formulas in the boundary element method for anisotropic elasticity. *Mech. Res. Comm.* **24** (1997), *no.* 4, 391–397. (Xiaoguang Allan Zhong) **98e:73145** 73V10 (73B40)

Khvedelidze, A. M. (*with* Papoyan, V. V.; Palii, Yu. G.; Pervushin, V. N.) Description of Friedmann observables in quantum universe. (English summary) *Phys. Lett. B* **402** (1997), *no.* 3-4, 263–269. (Summary) **98b:83058** 83C57 (83F05)

Khvoles, A. A. (*with* Eidus, D.; Kresin, G.; Merzbach, Ely; Prössdorf, Siegfried; Shaposhnikova, T. O.; Sobolevskiĭ, P. E.) Mathematical work of Vladimir Maz'ya (on the occasion of his 60th birthday). *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 3–11 (1998). 01A70

al-Khwārizmī, Muḥammad ibn Mūsā *see* **van Dalen, Benno, 98h:01006**

Khynku, V. Reducibility of completely integrable linear quasiperiodic systems of triangular form. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 24–30, 113, 117. (From the text) **98g:34022** 34A30 (34C20, 34C27, 34C35)

Ki, U-Hang (*with* Suh, Young Jin) On semi-Kaehler manifolds whose totally real bisectional curvature is bounded from below. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 1009–1038. (Liviu Ornea) **98e:53120** 53C55 (53C50)

— (*with* Kang, Eun-Hee) On real hypersurfaces of a complex hyperbolic space. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 173–184. (Jürgen Berndt) **98e:53093** 53C40

— (*with* Suh, Young Jin; Pérez, Juan de Dios) Real hypersurfaces of type A in quaternionic projective space. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 1, 115–122. (Paolo Piccinni) **98f:53051** 53C40

Kiang, M. T. (*with* Tam, K. Kuen; Andonowati) Nonlinear eigenfunction expansion for a problem in microwave heating. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 3, 311–325. (Yi Hong Du) **98f:65104** 65N25 (35J25, 47H12, 80A20)

Kibble, Rodger (*with* Finger, Marcelo; Gabbay, Dov M.; Kempson, Ruth) Parsing natural language using LDS: a prototype. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 647–671 (*electronic*). (Necuiai Curteanu) **98m:03059** 03B65 (68Q52, 68S05, 68T27, 68T30, 92K20)

Kibble, T. W. B. Phase transitions in the early universe and defect formation. (English summary) *Formation and interactions of topological defects (Cambridge, 1994)*, 1–26, *NATO Adv. Sci. Inst. Ser. B Phys.*, 349, *Plenum, New York*, 1995. (Summary) **98f:83115** 83F05

— Early days of gauge theories: recollections from Imperial College. (English summary) *Nova J. Theor. Phys.* **5** (1997), *no.* 2-3, 109–116. 01A70 (81–03, 81T13)

Kibler, Maurice Miscellaneous physical applications of quantum algebras. (English summary) *Generalized symmetries in physics (Clausthal, 1993)*, 55–67, *World Sci. Publishing, River Edge, NJ*, 1994. (Alexei Zhedanov) **98g:81080** 81R50 (17B37, 81V55)

— On quadratic and nonquadratic forms: application to $\mathbf{R}^{2m} \to \mathbf{R}^{2m-n}$ nonbijective transformations. *Symmetries in science, IX (Bregenz, 1996)*, 153–165, *Plenum, New York*, 1997. (Kotik K. Lee) **98i:55017** 55R25 (11D09)

Kibria, B. M. Golam On preliminary test ridge regression estimators for linear restrictions in a regression model with non-normal disturbances. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 10, 2349–2369. (Girdhar G. Agarwal) **98f:62210** 62J07

— (*with* Haq, M. Safiul) Predictive inference for linear and multivariate linear models with MA(1) error processes. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 331–353. (Luis Firinguetti) **98d:62159** 62M10 (62F25, 62J05, 62M20)

Kibzun, A. I. (*with* Efremov, V. A.) Optimal extreme order estimates for quantiles. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 3–15; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1691–1700 (1997). 62G05

— (*with* Tret'yakov, G. L.) Differentiability of the probability function. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 159–161. 90C31 (49J52)

Kicey, C. J. (*with* Lennard, C. J.) Unique reconstruction of band-limited signals by a Mallat-Zhong wavelet transform algorithm. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 63–82. (Peter A. McCoy) **98k:94001** 94A12 (42C15)

Kichenassamy, Satyanad The Perona-Malik paradox. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1328–1342. (Jennifer Zhao) **98i:35088** 35K55 (35D05, 65M99, 68U10)

Kiciak, Przemysław Conditions for geometric continuity between polynomial and rational surface patches. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 709–741. (Yu Yu Feng) **98c:65027** 65D17 (41A63, 65D07, 68U05)

Kida, S. *see* **Kida, Sôsaburô**

Kida, Shigeo (*with* Araki, Keisuke; Kitauchi, Hideaki) Thermal convection dynamos in rotating spherical shells—the relationship between flow structure and magnetic field generation. (Japanese) Mathematics of thermal convection (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 970 (1996), 54–63. (*see* **98f:00025**) 76W05 (76R05)

— (*with* Tanaka, Mitsuru²; Kawahara, Genta; Yanase, Shinichiro) A mechanism for the generation of vortex tubes—elimination of structural normal vorticity. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 117–133. (*see* **98e:76004**) 76C05

— (*with* Beronov, Kamen N.) Scalar vorticity transitions in viscous two-dimensional stagnation flow. Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 144–152. (*see* **98e:76004**) 76D99 (76C05)

— (*with* Goto, Susumu) A Lagrangian direct-interaction approximation for homogeneous isotropic turbulence. (English summary) *J. Fluid Mech.* **345** (1997), 307–345. (Summary) **98g:76041** 76F05 (76M35)

— (*with* Kitauchi, Hideaki; Araki, Keisuke) Flow structure of thermal convection in a rotating spherical shell. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 885–904. (Summary) **98d:76154** 76R99 (76E15, 76U05, 76W05)

— (*with* Kitauchi, Hideaki) Intensification of magnetic field by concentrate-and-stretch of magnetic flux lines. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 457–468. (Summary) **98k:76148** 76W05

Kida, Sôsaburô (*with* Trimandalawati, E.; Ogawa, Shirô) Matrix expression of Hermite interpolation polynomials. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 11–13. (Summary) **98d:65014** 65D05 (41A10)

Kida, Teruhiko (*with* Nakanishi, Masato; Nakajima, Tomoya) Asymptotic solutions for two-dimensional low Reynolds number flow around an impulsively started circular cylinder. (English summary) *J. Fluid Mech.* **334** (1997), 31–59. (Jean-Luc Guermond) **98d:76037** 76D05 (76D07)

Kieboom, R. W. Stable homotopy monomorphisms. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 2, 131–142. (Summary) **98b:18001** 18A20 (55P99, 55R65)

Kiechle, Hubert (*with* Konrad, Angelika) The structure group of certain K-loops. *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 287–294, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 20N05

— (*with* Fisher, J. Chris; Karzel, Helmut) Bundles of conics derived from planar projective incidence groups. *J. Geom.* **59** (1997), *no.* 1-2, 34–45. (Gary L. Ebert) **98f:51026** 51J10 (51A30)

Kiefer, Claus Irreversibility in quantum field theory. (English summary) *Nonlinear, deformed and irreversible quantum systems (Clausthal, 1994)*, 91–97, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98c:81230** 81T99 (81V10)

— Does time exist at the most fundamental level? (English summary) *Time, temporality, now (Tegernsee, 1996)*, 227–240, *Springer, Berlin*, 1997. (Lukas Ziewer) **98e:83054** 83C45 (81P15, 81Q20, 81V17)

— Semiclassical quantum states for black holes. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 173–176. (Summary) **98g:83064** 83C57 (81T20, 83C45)

— (*with* Dąbrowski, Mariusz P.) Boundary conditions in quantum string cosmology. (English summary) *Phys. Lett. B* **397** (1997), *no.* 3-4, 185–192. (Orfeu Bertolami) **98c:83029** 83C45 (83E30)

Kiefer, Matthew (*with* Schättler, Heinz) On singularities in solutions to the Hamilton-Jacobi-Bellman equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2469–2480. (*see* **98i:00030**) 49J25

Kiefer, Nicholas M. (*with* Christensen, Bent Jesper) Inference in non-linear panel models with partially missing observations. The case of the equilibrium search model. (English summary) *J. Econometrics* **79** (1997), *no.* 2, 201–219. 62P20

— (*with* Steel, Mark F. J.) Bayesian analysis of the prototypal search model. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 2, 178–186. 62F15

Kieffer, John C. (*with* Yang, En-hui) Ergodic behavior of graph entropy. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 11–16 (*electronic*). (Summary) **98a:28016** 28D99 (60G10, 94A15, 94A29)

— (*with* Yang, En-hui) On the redundancy of the fixed-database Lempel-Ziv algorithm for φ-mixing sources. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1101–1111. (Francesco Fabris) **98f:94009** 94A29 (94A45)

Kiehn, Astrid (*with* Hennessy, Matthew) On the decidability of non-interleaving process equivalences. (English summary) *Fund. Inform.* **30** (1997), *no.* 1, 11–30. (Summary)

98i:68085 68Q10 (68Q55)

Kiel, D. (*with* Killgrove, R.; Roberts, Charles E., Jr.; Sternfeld, R.; Tamez, R.; Derby, R.) Latin squares and other configurations. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 161–174. (Introduction) **98f:05030** 05B15 (05B07, 05B25)

Kielanowski, Piotr (*with* Loewe, Mark) Semigroup time-evolution and irreversible quantum mechanics. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 243–249, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81U99 (47N50, 82C10)

— (*with* Bohm, Arno) Time-reversal and irreversibility. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2295–2317. (Robert Alicki) **98f:81042** 81P99

Kielau, G. (*with* Maisser, P.; Enge, O.; Freudenberg, H.) Dynamics and control of discrete electromechanical systems. *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 215–222, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70Q05 (70E99, 93C95)

Kielek, Z. On the approximation scheme for the abstract Bernoulli multilinear equation. *Differential equations and its applications (Budapest, 1991)*, 193–200, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 34G20 (34A45)

Kielhöfer, Hansjörg (*with* Healey, Timothy J.) Free nonlinear vibrations for a class of two-dimensional plate equations: standing and discrete-rotating waves. *Nonlinear Anal.* **29** (1997), *no.* 5, 501–531. (Pavel Krejčí) **98d:35155** 35L75 (35B10, 47H15, 47N20, 73D35, 73K10)

— (*with* Fife, Paul C.; Maier-Paape, Stanislaus; Wanner, Thomas) Perturbation of doubly periodic solution branches with applications to the Cahn-Hilliard equation. (English summary) *Phys. D* **100** (1997), *no.* 3-4, 257–278. (Jing Xue Yin) **98a:35004** 35B10 (35J60, 82B26)

Kiely, Aaron B. (*with* Dolinar, Samuel J., Jr.; McEliece, Robert J.; Ekroot, Laura L.; Lin, Wei[3]) Trellis decoding complexity of linear block codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1687–1697. (*see* **98c:94001**) 94B35

— (*with* Coffey, John T.) The capacity of coded systems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 113–127. 94A40 (94A24)

Kiem, Youngjai (*with* Park, Dahl) Magnetically charged solutions via an analogue of electric-magnetic duality in $(2+1)$-dimensional gravity theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6112–6115. (Summary) **98c:83021** 83C22 (81V17)

— (*with* Lee, Chang-Yeong; Park, Dahl) s-wave sector of type IIB supergravity on $S^1 \times T^4$. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2381–2391. (Summary) **98j:83106** 83E50 (83C57, 83E30)

Kiendl, Harro D. *see* **Loskot, K. et al., 98m:34106**

Kiener, Stefan On the relationship between two types of effects caused by color adaptation: changes in color appearance and color discriminability. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 107–121. 92J30

Kienzler, R. (*with* Herrmann, G.) On the properties of the Eshelby tensor. (English summary) *Acta Mech.* **125** (1997), *no.* 1-4, 73–91. (Summary) **98j:73022** 73C02 (73M25)

Kiers, Henk A. L. (*with* ten Berge, Jos M. F.; Rocci, Roberto) Uniqueness of three-mode factor models with sparse cores: the $3 \times 3 \times 3$ case. (English summary) *Psychometrika* **62** (1997), *no.* 3, 349–374. (Summary) **98d:62105** 62H25 (62P15)

— *see also* **Cadima, Jorge**

Kierstead, H. A. (*with* Fan, Genghua) Hamiltonian square-paths. (English summary) *J. Combin. Theory Ser. B* **67** (1996), *no.* 2, 167–182. (Hansjoachim Walther) **98c:05104** 05C45

— (*with* Milner, Eric Charles) The dimension of the finite subsets of κ. (English summary) *Order* **13** (1996), *no.* 3, 227–231. (P. A. Biryukov) **98a:06003** 06A06 (04A20, 06A07)

— Classes of graphs that are not vertex Ramsey. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 3, 373–380. (András Gyárfás) **98j:05085** 05C35 (05C55)

Kieseppä, I. A. ★ Truthlikeness for multidimensional, quantitative cognitive problems. (English summary) Synthese Library, 254. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xii+223 *pp. ISBN* 0-7923-4005-1 (N. C. A. da Costa and Otávio Bueno) **98b:03018** 03B30 (03-02, 03A05)

Kiess, T. E. Three-particle Bell inequalities. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 641–645, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (Emilio Santos) **98i:81012** 81P10 (81P05)

Kiêu, K. ★ Three lectures on systematic geometric sampling. Memoirs, 13. *Aarhus University, Institute of Mathematics, Department of Theoretical Statistics, Aarhus*, 1997. iv+99 *pp.* (Ilya S. Molchanov) **98m:62270** 62M30 (60D05, 62D05)

Kifer, Yuri (*with* Cranston, M.; Kendall, W. S.) Gromov's hyperbolicity and Picard's little theorem for harmonic maps. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 139–164, *World Sci. Publishing, River Edge, NJ*, 1996. (Elton Pei Hsu) **98h:58197** 58G32 (58E20, 60J65)

— (*with* Kunita, Hiroshi) Random positive semigroups and their random infinitesimal generators. *Stochastic analysis and applications (Powys, 1995)*, 270–285, *World Sci. Publishing, River Edge, NJ*, 1996. (Jan I. Seidler) **98j:60087** 60H15 (35R60, 47D06)

— Computations in dynamical systems via random perturbations. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 457–476. (Boris Hasselblatt) **98f:58148** 58F15 (34F05, 58F11, 65L99)

— Limit theorems for random transformations and processes in random environments. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1481–1518. (Thomas Bogenschütz) **98i:60021** 60F05 (58F15, 60J05, 60J99)

Kigami, Jun (*with* Yamaguti, Masaya; Hata, Masayoshi) ★ Mathematics of fractals. (English summary) Translated from the 1993 Japanese original by Kiki Hudson. Translations of Mathematical Monographs, 167. *American Mathematical Society, Providence, RI*, 1997. xii+78 *pp. ISBN* 0-8218-0537-1 (Peter R. Massopust) **98j:28006** 28A80 (58F13)

Kiguradze, Ivan Tarielovich (*with* Sokhadze, Z. P.) On the uniqueness of the solution of the Cauchy problem for functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 12, 1977–1988, 2108; *translation in Differential Equations* **31** (1995), *no.* 12, 1947–1958 (1996). (Oleg M. Odarich) **98a:34066** 34K05

— (*with* Domshlak, Yu. I.; Drakhlin, Mikhail E.; Litsyna, E. M.; Maksimov, V. P.) Professor Nikolai Viktorovich Azbelev (on the occasion of his 75th birthday). *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 259–264 (1997). (Editors) **98f:01061** 01A70

— (*with* Půža, Bedřich) On the Vallée-Poussin problem for singular differential equations with deviating arguments. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 127–138. (Evgeniy I. Bravyi) **98f:34097** 34K10 (34B10)

— (*with* Půža, Bedřich) On periodic solutions of systems of linear functional-differential equations. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 3, 197–212. (Pedro Martínez-Amores) **98i:34103** 34K15 (34C25, 34K10)

— (*with* Půža, Bedřich) On a certain singular boundary value problem for linear differential equations with deviating arguments. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 233–244. (John W. Mooney) **98i:34098** 34K10

— (*with* Půža, Bedřich) On boundary value problems for systems of linear functional-differential equations. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 341–373. (John W. Mooney) **98i:34097** 34K10

— (*with* Půža, Bedřich) Theorems of Conti-Opial type for nonlinear functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 185–194, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 184–193. (From the text) **98m:34130** 34K10

— (*with* Sokhadze, Z. P.) On singular functional-differential inequalities. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 259–278. (Zai-Feng Song) **98c:34101** 34K05 (34A40)

— (*with* Sokhadze, Z. P.) On the global solvability of the Cauchy problem for singular functional differential equations. (English summary) *Georgian Math. J.* **4** (1997), *no.* 4, 355–372. (S. K. Ntouyas) **98d:34100** 34K05 (34A12)

— *see also* **Azbelev, Nikolai Viktorovich et al., 98k:01016**

Kihara, Shoichi On an infinite family of elliptic curves with rank ≥ 14 over $\mathbf{Q}$. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 2, 32. (From the text) **98d:11059** 11G05 (11D25)

— On the rank of elliptic curves with three rational points of order 2. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 77–78. (Hwasin Park) **98g:11062** 11G05 (11D25)

— On the rank of elliptic curves with three rational points of order 2. II. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 8, 151. (Hwasin Park) **98m:11050** 11G05 (11D25)

— Construction of high-rank elliptic curves with a non-trivial rational point of order 2. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 9, 165. (Joe P. Buhler) **98m:11051** 11G05

Kiikeri, Mika On the logical structure of learning models. *Knowledge and inquiry: essays on Jaakko Hintikka's epistemology and philosophy of science*, 287–307, *Poznań Stud. Philos. Sci. Humanities*, 51, *Rodopi, Amsterdam*, 1997. (*see* **98h:03005**) 92J40 (68T05)

Kilko, I. A. (*with* Algazin, S. D.) Numerical-analytic investigation of the flutter of a panel of arbitrary shape in a design. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 171–174; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 169–172. 73K70

Kijima, Masaaki (*with* van Doorn, Erik A.) Weighted sums of orthogonal polynomials with positive zeros. (English summary) Proceedings of the International Conference on Orthogonality, Moment Problems and Continued Fractions (Delft, 1994). *J. Comput. Appl. Math.* **65** (1995), *no.* 1-3, 195–206. (Summary) **98b:42040** 42C05 (60J80)

— ★ Markov processes for stochastic modeling. (English summary) Stochastic Modeling Series. *Chapman & Hall, London*, 1997. x+341 *pp. ISBN* 0-412-60660-7 (P. R. Parthasarathy) **98d:60183** 60K25

— (*with* Tamura, Akihisa) On the greedy algorithm for stochastic optimization problems. (English summary) *Stochastic modelling in innovative manufacturing (Cambridge, 1995)*, 19–29, *Lecture Notes in Econom. and Math. Systems*, 445, *Springer, Berlin*, 1997. (Summary) **98a:90070** 90C15 (90C27)

— (*with* Nair, M. G.; Pollett, P. K.; van Doorn, Erik A.) Limiting conditional distributions for birth-death processes. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 185–204. (E. Seneta) **98a:60122** 60J80 (60J27)

— The generalized harmonic mean and a portfolio problem with dependent assets. (English summary) *Theory and Decision* **43** (1997), *no.* 1, 71–87. (Summary) **98d:90031** 90A09

Kijowski, B. A. (*with* Palekar, U. S.) Optimal resource assignment of preemptive periodic tasks on multiple processors. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 363–373. (Summary) **98i:68032** 68M20

Kijowski, Jerzy (*with* Chruściński, Dariusz) A gauge-invariant theory of motion of charged test particles. (English summary) *Gravity, particles and space-time*, 29–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Adam Bechler) **98e:78003** 78A35 (83C10)

— (*with* Chruściński, Dariusz) Equations of motion of charged test particles from field equations. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2727–2733. (Summary) **98e:78004** 78A35

— (*with* Iacoviello, Daniela; Magli, Giulio) The dynamical structure of the A.D.M. equations for general relativistic, isotropic elastic media. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 341–345, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C55

— (*with* Rudolph, Gerd; Thielmann, A.) Algebra of observables and charge superselection sectors for QED on the lattice. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 535–564. (Giovanni Morchio) **98k:81183** 81T25 (81T05, 81V10)

— (*with* Magli, Giulio) Unconstrained variational principle and canonical structure for relativistic elasticity. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 99–112. (Hans P. Künzle) **98j:83048** 83C55 (73B99)

— (*with* Rudolph, Gerd; Rudolph, Michael) Gauge theories in terms of invariants. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 565–578. (Summary) **98m:81098** 81T13 (58E50, 81V05, 81V10)

— (*with* Rudolph, Gerd; Rudolph, Michael) Gauge invariant formulation and bosonisation of the Schwinger model. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 285–290. (Summary) **98m:81094** 81T10

Kikkawa, Keiji (*with* Hotta, Kenji; Kunitomo, Hiroshi) Correlation between momentum modes and winding modes in Brandenberger-Vafa's string cosmological model. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 687–706. (Summary) **98j:83097** 83E30 (81T30)

Kikkawa, Michihiko Generalization of Lie triple algebra. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **30** (1997), 37–47. (J. Lõhmus) **98f:17002** 17A40 (20N05)

Kikuchi, Fumio (*with* Fukuhara, Makoto) An iteration method for finite element analysis of magnetostatic problems. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 93–105, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Philip Huddleston) **98m:78008** 78–08 (65M60, 78A30)

Kikuchi, Katsuhiko K-spherical representations for Gelfand pairs associated to solvable Lie groups. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 469–486. (Chal Benson) **98i:22013** 22E27 (22E30, 43A90)

Kikuchi, Kazuo (*with* Tamura, Atsuhiro; Takahashi, Tadayasu) Residual cutting method for elliptic boundary value problems: application to Poisson's equation. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 2, 247–264. 65N30 (65N12)

Kikuchi, Macoto (*with* Yukawa, Satoshi; Tatara, Gen; Matsukawa, Hiroshi) Quantum ratchets. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 10, 2953–2956. 81P99

— (*with* Yukawa, Satoshi; Tatara, Gen; Matsukawa, Hiroshi) Errata: "Quantum ratchets" [J. Phys. Soc. Japan **66** (1997), no. 10, 2953–2956]. *J. Phys. Soc. Japan* **66** (1997), *no.* 12, 4055. 81P99

Kikuchi, Makoto On Buss and Turán's extensions of Haken's results. Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 34–37. (*see* **98f:03001**) 03F20 (03B35, 03D15, 03F30, 68Q15)

Kikuchi, Noboru (*with* Nishiwaki, Shinji; Fonseca, Jun S. Ono; Silva, Emílio C. Nelli) Design optimization method for compliant mechanisms and material microstructure. (English summary) Symposium on Advances in Computational Mechanics, Vol. 4 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 3-4, 401–417. (*see* **98i:73002**) 73K40 (73K20, 73S10)

— (*with* Terada, K.; Ito, Takashi) Characterization of the mechanical behaviors of solid-fluid mixture by the homogenization method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 3-4, 223–257. (Summary) **98k:73007** 73B27 (73K70, 76S05)

— (*with* Alves, M. K.) Damage theory applied to the analysis of composite materials subjected to a loss of adherence between its constituents. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 1, 53–69. (Summary) **98m:73067** 73K20 (73T05, 73V05, 73V15)

Kikuchi, Norio Construction of Morse flows. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 164–168. (*see* **98i:90007**) 49J45 (35K55)

Kikuchi, Seiji (*with* Tomizawa, Sadao; Seo, Takashi) Normal approximation of a discrete distribution on exact test of uniform association in a 2×3 table. (English summary) *Biometrical J.* **38** (1996), *no.* 6, 711–715. (Zuzana Prášková) **98f:62173** 62H17 (62E20, 62H20)

Kikuchi, Shigeki (*with* Yahagi, Haruka) A summary of immersions up to cobordism. *Transformation group theory (Taejŏn, 1996)*, 62–67, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (*see* **98b:57002**) 57R42 (57R45, 57R75, 57R85)

Kikuchi, Yoshiyuki (*with* Ito, Kenji; Furukawa, Yasu) Rudolf Clausius' copy of Sadi Carnot's *Réflexions*: a new look at Clausius' access to Carnot's work. *Historia Sci.* (2) **6** (1996), *no.* 1, 31–36. 01A55 (80–03, 82–03)

Kikukawa, Yoshio (*with* Neuberger, Herbert) Overlap in odd dimensions. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 735–757. (Summary) **98m:81119** 81T25 (81T50)

Kikuta, Kensaku The kernel for reasonable outcomes in a cooperative game. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 1, 51–59. (Edward M. Bolger) **98a:90151** 90D12 (90D06)

Kil, B. M. (*with* Jang, Lee-Chae; Kim, Yun Kyong; Kwon, Joong-Sung) Some properties of Choquet integrals of set-valued functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 95–98. 28E10 (04A72, 28B20)

Kilakos, K. (*with* Shepherd, F. B.) Face extensions in planar cubic graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 179–191. (Vladimir P. Korzhik) **98m:05053** 05C10 (05C38, 05C40, 05C75)

Kilbas, A. A. (*with* Saïgo, Megumi) Generalized fractional integrals with the Fox H-function in the spaces $F_{p,\mu}$ and $F'_{p,\mu}$. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 9–14, 123. (Summary) **98k:26010** 26A33 (33C60, 44A15)

— (*with* Karapetyants, Nikolai K.; Saïgo, Megumi) On the solution of nonlinear Volterra convolution equation with power nonlinearity. (English summary) *J. Integral Equations Appl.* **8** (1996), *no.* 4, 429–445. (S. N. Askhabov) **98c:45007** 45G10 (47G10, 47N20)

— (*with* Repin, Oleg A.; Saïgo, Megumi) Solution in closed form of boundary value problem for degenerate equation of hyperbolic type. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 261–273. (Hidetoshi Tahara) **98b:35121** 35L80 (26A33, 35C05, 35M10)

— (*with* Saïgo, Megumi) On solution in closed form of nonlinear integral and differential equations of fractional order. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 39–50. (Summary) **98i:45006** 45G10 (26A33, 34A34)

— (*with* Saïgo, Megumi) Solution in closed form of a class of linear differential equations of fractional order. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 195–204, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 194–204. (Summary) **98k:34011** 34A30 (34A05, 34A25)

— (*with* Glaeske, Hans-Jürgen; Saïgo, Megumi; Shlapakov, S. A.) $L_{\tau,\gamma}$-theory of integral transformations with the H-function in the kernel. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 10–15, 123. (Summary) **98m:44008** 44A20

Kiley, Michael T. Efficiency wages, nominal rigidities and the cyclical behavior of real wages and marginal cost. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 215–221. 90A09 (90A16)

Kilgore, Theodore Polynomial and function inequalities for derivatives. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 273–280, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41007** 41A17 (42A05)

— (*with* Prestin, Jürgen) Pointwise Gopengauz estimates for interpolation. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 253–261. (M. W. Müller) **98c:41003** 41A10

— (*with* Prestin, Jürgen; Selig, Kathi) Orthogonal algebraic polynomial Schauder bases of optimal degree. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 6, 597–610. (Margit Rösler) **98c:42032** 42C15 (41A65, 65D05)

— (*with* Prestin, Jürgen; Selig, Kathi) Polynomial wavelets and wavelet packet bases. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 419–431. (I. Ya. Novikov) **98m:42051** 42C15

Kilgour, D. Marc (*with* Brams, Steven J.) The truel. *Math. Mag.* **70** (1997), *no.* 5, 315–326. (G. A. Heuer) **98k:90145** 90D06 (00A08, 00A69)

Killian, Joe (*with* Rogaway, Phillip) How to protect DES against exhaustive key search. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 252–267, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (Summary) **98i:94021** 94A60

— (*with* Feige, Uriel) On limited versus polynomial nondeterminism. (English summary) *Chicago J. Theoret. Comput. Sci.* **1997**, *Article* 1, *approx.* 20 *pp.* (*electronic*). (William Gasarch) **98a:68069** 68Q15 (68Q10)

— (*with* Beaver, Donald; Feigenbaum, Joan; Rogaway, Phillip) Locally random reductions: improvements and applications. (English summary) *J. Cryptology* **10** (1997), *no.* 1, 17–36. (Claus-Peter Schnorr) **98g:94022** 94A60 (68Q15)

Kilibarda, G. (*with* Jovović, V.) Enumeration of labelled initially-finally connected digraphs. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 237–247. (Peter Kirschenhofer) **98b:05051** 05C30

Kilibarda, Vesna On the algebra of semigroup diagrams. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 3, 313–338. (Susan Hermiller) **98j:20085** 20M05 (57M07)

Kilic, Erol (*with* Keles, Sadik) The pedal of hypersurface with of a constant support function. *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 11–15. (Thomas Hasanis) **98h:53010** 53A07

Kilıçman, Adem (*with* Fisher, Brian; Pehlivan, Serpil) On the neutrix convolution product $\ln x_- \circledast \ln x_+$. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 132–138. (Summary) **98c:46078** 46F10

— (*with* Fisher, Brian) On the non-commutative neutrix product $x_+^{-r} \circ x_-^{-s}$. (English summary) *Punjab Univ. J. Math. (Lahore)* **28** (1995), 139–146. (Summary) **98c:46076** 46F10

— (*with* Fisher, Brian) A commutative neutrix product of ultradistributions. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 77–82. (Summary) **98j:46036** 46F10

Kiliam, Bart (*with* Bhattacharyya, B. B.) Time series modeling of SO_2 pollution data and the distribution of yearly maximum. (English summary) *J. Appl. Statist. Sci.* **4** (1996), *no.* 4, 285–303. 62M10

Killam, Eleanor Erratum: "A note on n-Jordan mappings" [Comm. Algebra **24** (1996), no. 13, 4239–4247; MR 97k:16051]. *Comm. Algebra* **25** (1997), *no.* 11, 3711. 16W20

Killesreiter, G. H. M. (*with* Kohler, Achim; Blümel, R.) Ray splitting in a class of chaotic triangular step billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2691–2701. (Roberto Markarian) **98f:58136** 58F13 (70D99, 81Q50, 82C05)

Killgrove, R. (*with* Roberts, Charles E., Jr.; Sternfeld, R.; Tamez, R.; Derby, R.; Kiel, D.) Latin squares and other configurations. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **117** (1996), 161–174. (Introduction) **98f:05030** 05B15 (05B07, 05B25)

Killingbergtrø, Hans Georg The rainbow, a phenomenon of outshining. (Norwegian. English summary) *Normat* **45** (1997), *no.* 4, 178–184, 188. 78A10

— *see also* **Marott, Søren Louis**

Kilmer, Shelby (*with* Sun, Xingping; Yu, Xiang Ming) Analytic monotone extension in two and three dimensions. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 131–141. (Summary) **98b:41032** 41A63 (41A05, 65D15)

Kilmister, C. W. *see* **Stein, Irving**, **98c:00007**

Kilp, Mati On absolutely flat monoids. (English summary) *Transformation semigroups (Colchester, 1993)*, 44–55, *Univ. Essex, Colchester*, 199?. (*see* **98h:20003**) 20M50

— (*with* Knauer, Ulrich; Mikhalëv, A. V.) On monoids in which right ideals are generators. (English summary) *Transformation semigroups (Colchester, 1993)*, 56–59, *Univ. Essex, Colchester*, 199?. (*see* **98h:20003**) 20M12

— (*with* Bulman-Fleming, Sydney) Flatness properties of acts: some examples. (English summary) *Semigroup Forum* **55** (1997), *no.* 2, 167–176. (Carl Droms) **98f:20049** 20M50

Kilpatrick, Jeremy *see* **Handbook: Mathematics education**, **98a:00004**

Kilpeläinen, T. Smooth approximation in weighted Sobolev spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 29–35. (Takahide Kurokawa) **98g:46043** 46E35 (41A65)

Kim, An-Hyun On Gardner's problem. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 649–655. (Cho Ho Chu) **98a:46069** 46L05

— (*with* Beasley, Leroy B.; Lee, Woo Young) On a positive linear map preserving absolute values. (English summary) *Linear Algebra Appl.* **260** (1997), 311–318. (Summary) **98c:46110** 46L05

Kim, Ann Chi (*with* Johnson, David Lawrence; Song, Hyun-Jong) The growth of the trefoil group. (English summary) *Groups—Korea '94 (Pusan)*, 157–161, *de Gruyter, Berlin*, 1995. (Summary) **98f:20007** 20E06

— (*with* Ha, Sang Jung) On a group presentation and 3-dimensional manifolds. *International Mathematics Conference '94 (Kaohsiung, 1994)*, 83–86, *World Sci. Publishing, River Edge, NJ*, 1996. (Carlo Petronio) **98b:57029** 57N10 (57M05)

— (*with* Kostrikin, Alekseĭ Ivanovich) Some balanced groups and 3-manifolds. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 2, 3–24; *translation in Sb. Math.* **188** (1997), *no.* 2, 173–194. (Ilya Kapovich) **98g:20049a** 20F05 (57M05, 57M07, 57N10)

— (*with* Kostrikin, Alekseĭ Ivanovich) Letter to the editors: "Some balanced groups and 3-manifolds". (Russian) *Mat. Sb.* **188** (1997), *no.* 9, 157; *translation in Sb. Math.* **188** (1997), *no.* 9, 1414–1415. (Ilya Kapovich) **98g:20049b** 20F05 (57M05, 57M07, 57N10)

— *see also* **Groups—Korea '94**, **98e:20003**

Kim, B. K. *see* **Kim, Byung Kyu**

Kim, Beom Sool (*with* Cho, Chong-Man) On M-ideal properties of certain spaces of compact operators. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 673–680. (Andreas Defant) **98c:46032** 46B28 (46B20, 47D15)

Kim, Bjong Ro (*with* John, Peter) Nonlinear local supersymmetric SU(5)-model. (English summary) *Z. Phys. C* **73** (1996), *no.* 1, 169–180. (Angel Maria Uranga) **98b:81250** 81T60 (81T20, 81V22, 83E50)

Kim, Bumsig On equivariant quantum cohomology. *Internat. Math. Res. Notices* **1996**, *no.* 17, 841–851. (Kai A. Behrend) **98h:14013** 14D20 (57R91, 58D10)

Kim, Byung Chun (*with* Kang, Chul) The general moment of non-central Wishart distribution. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 393–406. (Summary) **98f:62159** 62H10

— (*with* Jung, Kang-Mo; Kim, Myung Geun) Local influence in maximum likelihood factor analysis. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 483–491. 62H25

— (*with* Jung, Kang-Mo; Kim, Myung Geun) Second order local influence in linear discriminant analysis. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 1–11. 62H30

Kim, Byung-Doo On the projectively flat Finsler space with a special (α, β)-metric. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 407–413. (Tadashi Aikou) **98c:53026** 53B40

— (*with* Lee, Il Yong) On a Finsler space with a special (α, β)-metric. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 261–272. (László Kozma) **98g:53034** 53B40

Kim, Byung Hak (*with* Kim, In-Bae; Song, Hyunjung) On geodesic hyperspheres in a complex projective space. *Nihonkai Math. J.* **8** (1997), *no.* 1, 29–36. (Makoto Kimura) **98e:53095** 53C40

Kim, Byung Kyu (*with* Lee, Ho Woo; Park, Jong Geun; Yoon, Seung Hyun; Ahn, B. Y.; Park, N. I.) Queue length and waiting time analysis of a batch arrival queue with bilevel control. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 3, 191–205. 60K25

Kim, Byungsoo (*with* Cho, Sinsup; Park, Young Jin) Generalized Durbin-Watson statistics in the nonstationary seasonal time series model. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 365–382. 62M10

Kim, Chang-Ho (*with* Park, Young-Jai) Superalgebraic truncations from $D = 10$, $N = 2$ chiral supergravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 12, 851–859. (Summary) **98f:81099** 81R10 (83E30, 83E50)

Kim, Chang-Il Minimal CLOZ-covers of non-compact spaces. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 151–159. (J. R. Isbell) **98k:54044** 54D80 (54C10, 54G05)

— Minimal Wallman covers of Tychonoff spaces. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1009–1018. (Summary) **98j:54022** 54C10 (54D80, 54G05)

Kim, Chang Moh (*with* Lee, Dong Won^2; Oh, Sun Kun) Symplectic light-front quantization of topological field theories. (English summary) *Hak-sul Chi* **41** (1997), *no.* 2, 21–28. (Bani Mitra Södermark) **98g:81211** 81T70 (58Z05, 81T13)

Kim, Changhwa (*with* Lee, Mahnhoon) Some characterizations of doubly chordal graphs. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 65–71. (Summary) **98h:05169** 05C85 (05C75)

Kim, Chansoo (*with* Chung, Younshik) Simultaneous estimation of the multivariate normal mean under balanced loss function. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1599–1611. (Summary) **98k:62006** 62C15 (62H12)

Kim, Cheeha (*with* Kim, Seung-Hoon; Lim, Kyungshik) Efficient stream distribution algorithm for heterogeneous multimedia multicast with link capacity constraint. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 309–315. 90C27 (68M10)

Kim, Chi Yong (*with* Jeon, Jong Woo) Asymptotic Gaussian structures in a critical generalized Curie-Weiss mean field model: large deviation approach. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 515–527. (F. Papangelou) **98f:60208** 60K35 (60F05, 60F10)

Kim, Choi-Bu (*with* Sawaguchi, Manabu) Reality conditions for $(2 + 1)$-dimensional gravity coupled with the Dirac field. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 905–913. (Jorge A. Pullin) **98b:83043** 83C45 (83C05)

Kim, Chol On (*with* Lee, Yang; Kim, Hong Kee) On strongly II-regular rings. *Kyungpook Math. J.* **37** (1997), *no.* 2, 291–295. 16E50

Kim, Chong Sang (*with* Lee, Chang-Gun; Hahn, Joosun; Seo, Yang-Min; Min, Sang Lyul; Ha, Rhan; Hong, Seongsoo; Park, Chang Yun; Lee, Minsuk) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Kim, Chongam (*with* Xu, Kun; Martinelli, Luigi; Jameson, Antony) Analysis and implementation of the gas-kinetic BGK scheme for computational gas dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 1, 21–49. (Summary) **98d:76129** 76M25 (76N15)

Kim, Choongrak (*with* Hong, Changkon; Jeong, Meeseon; Yang, Meeyeong) Goodness-of-fit test for density estimation. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2725–2741. 62G05 (62G10)

Kim, Chul Eung (*with* Choi, ByoungSeon) The asymptotic distribution of the extended Yule-Walker estimates of a mixed ARMA process. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 47–55. (Summary) **98g:62168** 62M10

Kim, Chul-Ki Robust regression and stratified residuals for left-truncated and right-censored data. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 333–354. 62F35 (62G05, 62J05)

Kim, Chul Koo (*with* Choi, Taeseung; Ryu, Chang-Mo; Nahm, Kyun) Persistent currents of multi-anyons on a quasi-one-dimensional ring. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 17–21. (Summary) **98a:81278** 81V70 (81Q99)

Kim, D. *see* **Kim, Doochul**

Kim, D. G. *see* **Kim, Dong Geon**

Kim, D. S. *see* **Kim, Do Sang**

Kim, Dae Kyu On Hankel operator. *Geometric complex analysis* (*Hayama*, 1995), 331–336, *World Sci. Publishing, River Edge, NJ*, 1996. (Ke He Zhu) **98c:47036** 47B35 (32H10, 32M15)

Kim, Dae San Gauss sums for $O^-(2n, q)$. *Acta Arith.* **80** (1997), *no.* 4, 343–365. (Charles Helou) **98b:11087** 11L05 (11T24, 20H30)

— (*with* Park, Young Ho) Gauss sums for orthogonal groups over a finite field of characteristic two. *Acta Arith.* **82** (1997), *no.* 4, 331–357. (Charles Helou) **98j:11115** 11T24 (11T23, 20G40)

— Gauss sums for general and special linear groups over a finite field. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 4, 297–304. (Charles Helou) **98g:11139** 11T23 (11L05, 11T24, 20G40)

— Gauss sums for $U(2n + 1, q^2)$. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 871–894. (Charles Helou) **98j:11116** 11T24 (11T23, 20G40)

Kim, Dae Seoung (*with* Yoo, Kwan-Hee; Shin, Sung Yong; Chwa, Kyung-Yong) Linear-time algorithms for finding the shadow volumes from a convex area light source. (English summary) *Algorithmica* **20** (1998), *no.* 3, 227–241. (Summary) **98k:68172** 68U05

Kim, Daeyeoul (*with* Park, Hwa-Sin) Supersingular curves and sphere packings. *Honam Math. J.* **19** (1997), *no.* 1, 29–46. (Joseph H. Silverman) **98k:11079** 11G20 (11H31, 14G15)

Kim, Dal-Gyoung Constructive wavelet coefficients measuring smoothness through box splines. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 955–982. (Ewald Quak) **98e:65007** 65D17 (42C15, 65D05)

Kim, Dal Ho (*with* Ghosh, Malay) Bayes estimation of the finite population mean under heavy-tailed priors. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 181–195. (Summary) **98b:62011** 62D05 (62F15)

— (*with* Nangia, Narinder K.) On frequentist properties of some hierarchical Bayes predictors for small domain data in repeated surveys. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 245–259. (Summary) **98f:62019** 62D05

Kim, Do-Hyung (*with* Lee, Gyung-Ok) Characterization of extended LR(k) grammars. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 75–82. (From the introduction) **98i:68174** 68Q52 (68N20)

Kim, Do Sang (*with* Jo, Cheong Lai; Lee, Gue Myung) Duality relations for generalized fractional programming involving n-set functions. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 12, 1167–1173. (Bruce D. Craven) **98c:90156** 90C32 (49N15)

— (*with* Lee, Byung Soo; Lee, Gue Myung) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 33–41. (Sehie Park) **98d:49006** 49J40 (47H19)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Chen, Guang Ya) On vector variational inequalities for multifunctions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 633–639. (George Isac) **98g:47060** 47H19 (49J40)

— (*with* Lee, Gue Myung; Lee, Byung Soo) On multiobjective symmetric dual programs. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 113–120. (Gert Wanka) **98e:90139** 90C29 (49N15)

— (*with* Lee, Won Jung) Generalized symmetric duality with invexity in variational problems. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 337–348. (Summary) **98d:90103** 90C29 (49N15)

— (*with* Lee, Gue Myung; Lee, Won Jung) Symmetric duality for multiobjective variational problems with pseudo-invexity. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 106–117. (*see* **98g:00027**) 90C29 (49N15)

— (*with* Lee, Gue Myung; Jo, Cheong Lai) Duality for multiobjective variational problems with generalized invexity. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 13–23. 90C29 (49N15)

Kim, Dohan (*with* Chung, Jaeyoung; Chung, Soon-Yeong) Translation invariant and positive definite bilinear Fourier hyperfunctions. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 545–551. (From the introduction) **98g:46054** 46F15

— (*with* Kim, Sung Ki) Fourier transformations of W^{Φ}-spaces. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 483–489. 42A38 (46E30, 46F12)

— (*with* Chung, Soon-Yeong; Lee, Sungjin) Characterization for Beurling-Björck space and Schwartz space. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3229–3234. (Benito Juan González Rodríguez) **98c:46074** 46F05 (42B10)

Kim, Dong Geon (*with* Hahn, Sang-Geun; Kim, Yong Soo) A decoding algorithm for the 1st order Reed-Muller codes. (English summary) *Util. Math.* **51** (1997), 9–20. (Summary) **98j:94033** 94B35

Kim, Dong Kyue (*with* Park, Kunsoo) String matching in hypertext. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 318–329, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98e:68086** 68Q20 (68Q25, 68U15)

Kim, Dongryeol (*with* Kim, Jinsoo; Sheen, Dongwoo) Absorbing boundary conditions for wave propagation in viscoelastic media. (English summary) *J. Comput. Appl. Math.* **76** (1996), *no.* 1-2, 301–314. (Guenter Leugering) **98e:73067** 73F15 (35L99, 35Q72, 47G20, 73D99)

Kim, Dongsu Bi-Hermite polynomials and matchings in complete graphs. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 43–55. (P. N. Rathie) **98f:33017** 33C45 (05C70)

— On combinatorics of Konhauser polynomials. *J. Korean Math. Soc.* **33** (1996), *no.* 2, 423–438. (Luis Verde-Star) **98d:05156** 05E35 (33C45)

— On combinatorics of Al-Salam–Carlitz polynomials. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 295–302. (B. D. Agrawal) **98b:33036** 33D45 (05A05, 05E35, 33D80)

Kim, Doochul (*with* Noh, Jae Dong) Finite-size scalings in the asymmetric six-vertex model. (English summary) *STATPHYS* 19 (*Xiamen*, 1995), 128–136, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82B20

— (*with* Huang, Hsin Yi; Wu, F. Y.; Kunz, Hervé) Interacting dimers on the honeycomb lattice: an exact solution of the five-vertex model. (English summary) *Phys. A* **228** (1996), *no.* 1-4, 1–32. (Takeo Kojima) **98f:82050** 82B23 (81R50)

— Asymmetric XXZ chain at the antiferromagnetic transition: spectra and partition functions. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3817–3836. (Summary) **98f:82051** 82B23 (82B20)

— (*with* Lee, Ho Woo; Popkov, V. Yu.) Two-way traffic flow: exactly solvable model of traffic jam. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8497–8513. (Summary) **98m:82038** 82C05 (90B20)

— (*with* Popkov, V. Yu.; Huang, Hsin Yi; Wu, F. Y.) Lattice statistics in three dimensions: solution of layered dimer and layered domain wall models. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3999–4008. (Summary) **98i:82019** 82B20 (82B23, 82B26)

Kim, Duk-Hyeon (*with* Yeon, Kyu-Hwang; Um, Chung-In; George, Thomas F.; Pandey, Lakshmi N.) Relations of canonical and unitary transformations for a general

time-dependent quadratic Hamiltonian system. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 6, 4023–4029. (Summary) **98e:81044** 81Q99

Kim, Euhee Long-time behavior of solutions of a multi-dimensional electrophoretic model with a single reaction. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 135–144, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (Vitaly A. Volpert) **98b:80022** 80A99 (35Q99, 78A35)

Kim, Eun-jin (*with* Hughes, David W.) Flow helicity in a simplified statistical model of a fast dynamo. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 211–218. (Summary) **98i:86012** 86A25

Kim, Eun Suk (*with* Kim, Tae Hwa) Fixed point theorems for non-Lipschitzian mappings in Banach spaces. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 61–67. (K. Goebel) **98h:47076** 47H10 (47H09)

Kim, G. *see* **Kim, Goansu**

Kim, Gang-Eun (*with* Takahashi, Wataru) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. *Nihonkai Math. J.* **7** (1996), *no.* 1, 63–72. (Charles Ejike Chidume) **98m:47088** 47H09 (47H10, 47H17)

Kim, Gie-Whan (*with* Choi, In-Kyeong) The failure rate and likelihood ratio orderings of standby redundant systems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 41–50. 60K10 (62N05)

Kim, Goansu (*with* Tang, Francis C. Y.) Cyclic conjugacy separability of groups. (English summary) *Groups—Korea '94 (Pusan)*, 173–179, *de Gruyter, Berlin*, 1995. (Summary) **98f:20012** 20E26 (20E06, 20F10)

Kim, Guk Boh (*with* Sohn, Bang Yong) Detection of outliers in weighted least squares regression. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 441–452. (Summary) **98d:62123** 62J05

Kim, Gwangil (*with* Ahn, Taehoon; Kim, Seung-hwan) The separatrix map in Hamiltonian systems and anti-integrability. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 3–6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F05

Kim, H. *see* **Kim, Hongsu**

Kim, H. B. (*with* Muñoz, Carlos) Orbifolds with continuous Wilson lines and soft terms. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 5, 315–320. (Summary) **98b:81203** 81T30

— (*with* Muñoz, Carlos) An analysis of soft terms in Calabi-Yau compactifications. (English summary) *Z. Phys. C* **75** (1997), *no.* 2, 367–374. (Summary) **98d:81088** 81T30 (81R40, 81V22)

Kim, H. J. *see* **Kim, Hea-Jung**

Kim, H. S. *see* **Kim, Hee Sik**

Kim, Hae Kyung (*with* Choi, Seung Hoe; Jang, Sook Hee) The consistency estimation in nonlinear regression models with noncompact parameter space. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 377–383. (Jean Diebolt) **98b:62115** 62J02 (62F12, 62F35)

— (*with* Choi, Seung Hoe) The strong consistency of the L_1-norm estimators in censored nonlinear regression models. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 573–581. (Summary) **98k:62109** 62J02 (62G05)

Kim, Han-Doo (*with* Kim, Jae-Gyeom) Orders relative to TL-subgroups. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 163–168. 20N25

Kim, Han Soo (*with* Kim, Taekyun) A note on p-adic analogue of hypergeometric functions. *Number theory, geometry and related topics (Iksan City, 1995)*, 103–107, *Pyungsan Inst. Math. Sci., Seoul*, 1996. (Kaori Ota) **98a:11167** 11S80

— (*with* Kim, Taekyun) Some congruences for Bernoulli numbers. II. *Rep. Fac. Sci. Engrg. Saga Univ. Math.* **24** (1996), *no.* 2, 5 *pp.* (L. Skula) **98g:11018** 11B68 (11S80)

Kim, Hea-Jung (*with* Press, S. James) Bayesian hypothesis testing of equality of normal covariance matrices. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 323–330, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15 (62F15)

— On an information-theoretic diagnostic measure for detecting influential observations in LDA. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 289–301. 62H30 (62B10)

— On a constrained optimal rule for classification with unknown prior individual group membership. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 166–186. (Peter A. Lachenbruch) **98a:62084** 62H30

— (*with* Inada, Koichi) On shrinkage to interval estimators of the binomial p. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 95–112. (Kurt Hoffmann) **98f:62056** 62F10 (62F15)

— On information-theoretic index for measuring the stochastic dependence among sets of variates. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 131–146. 62B10

— On a Bayes criterion for the goodness-of-link test for binary response regression models: probit link versus logit link. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 261–276. 62J12 (62F15)

— A predictive two-group multinormal classification rule accounting for model uncertainty. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 477–491. 62H30

Kim, Hee Sik (*with* Hur, Chang Kyu) On fuzzy relations of near-rings. (English summary) *Far East J. Math. Sci.* **1997,** *Special Volume, Part II*, 245–252. 16Y30 (04A72)

— (*with* Meng, Jie; Jun, Young Bae) Fuzzy implicative ideals of BCK-algebras. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 243–248. (Summary) **98a:06033** 06F35 (04A72)

— (*with* Jun, Young Bae; Kim, Jong Youl) Hilbert algebras inherited from the posets. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 471–475. (Manuel Abad) **98c:06031** 06F99 (03G25)

— (*with* Jun, Young Bae; Kim, Jong Youl; Kim, Young-Hee) Fuzzy commutative $\mathcal{I}$-ideals in BCI-semigroups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 889–898. 06F35 (04A72)

— (*with* Kim, Jin Bai; Kim, Seung Dong) An adjoint matrix of a real indempotent matrix. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 335–339. (Summary) **98d:15022** 15A57

— (*with* Hong, Sung Min; Jun, Young Bae; Kim, Seung Dong) On fuzzy deductive systems in ortholattices. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 181–187. (Siegfried Gottwald) **98i:06005** 06C15 (03B52, 03E72, 03G25, 04A72)

— (*with* Baik, Seung Il; Kim, Jong Youl) Q-upper algebras with the condition (S). (English summary) *Math. Japon.* **46** (1997), *no.* 3, 419–425. (Summary) **98g:06029** 06F35 (06A06)

Kim, Henry H. (*with* Shahidi, Freydoon) Quadratic unipotent Arthur parameters and residual spectrum of symplectic groups. (English summary) *Amer. J. Math.* **118** (1996), *no.* 2, 401–425. (Gordan Savin) **98f:11048** 11F70 (20G30, 22E55)

Kim, Ho Il Exceptional bundles of higher rank and rational curves. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 149–156. (Summary) **98k:14058** 14J60 (14J28)

— *see also* **Proceedings: Workshop on Differential Geometry, 98b:53001**

Kim, Hoi Sub On the construction of a surface from discrete derivative data and its extended surface using the least squares method. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 327–336. (Summary) **98e:65008** 65D17 (65D10)

Kim, Hong-Jong Linear algebra of analytic torsion. (English summary) *Geometry and analysis on complex manifolds*, 96-112, *World Sci. Publishing, River Edge, NJ*, 1994. (Alexander Fel'shtyn) **98g:58185** 58G26

— Cohomology of flat vector bundles. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 391–405. (Patrick T. McDonald) **98f:57049** 57R22 (53C05, 55N20)

Kim, Hong Kee (*with* Hong, Chan Yong; Park, Jae Keol) Rings with restricted descending chain conditions. *Comm. Algebra* **25** (1997), *no.* 8, 2579–2584. 16P70

— (*with* Song, Seok-Zun; Hong, Sung Min; Jun, Young Bae; Kim, Seon Jeong) On the minimum permanents related with certain barycentric matrices. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 825–839. (Thomas H. Foregger) **98k:15008** 15A15

— (*with* Lee, Yang; Kim, Chol On) On strongly II-regular rings. *Kyungpook Math. J.* **37** (1997), *no.* 2, 291–295. 16E50

Kim, Hong Oh (*with* Lim, Jae Kun) New characterizations of Riesz bases. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 2, 222–229. (Anatolij M. Plichko) **98d:46020** 46C05 (46B15)

— (*with* Moon, S. Y.) Degree reduction of Bézier curves by L^1-approximation with endpoint interpolation. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 67–77. (Summary) **98a:41016** 41A15 (65D17)

— (*with* Ahn, Young Joon) Approximation of circular arcs by Bézier curves. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 145–163. (Summary) **98b:65017** 65D17

— (*with* Kim, Sang Dong; Lee, Yong Hun) Finite difference preconditioning cubic spline collocation method of elliptic equations. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 83–103. (Bruce A. Finlayson) **98h:65056** 65N35 (65F35)

Kim, Hongchul Approximation of mixed Lagrangian formulation associated with the stationary Navier-Stokes equations. (English summary) *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 145–168, *Lecture Notes Ser.*, 38, *Seoul Nat. Univ., Seoul*, 1997. (Lech Slawik) **98j:35143** 35Q30 (65N30, 76D05)

Kim, Hongsu (*with* Kim, Yongduk) Thermodynamics of black holes in Brans-Dicke gravity. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 329–338. (Summary) **98h:83074** 83D05 (83C57)

Kim, Hoonjoo (*with* Park, Sehie) Foundations of the KKM theory on generalized convex spaces. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 551–571. (Carlo Bardaro) **98j:47134** 47H10 (47H19, 47N10, 49J35)

Kim, Hoyong (*with* Hong, Dug Hun) A note to the sum of fuzzy variables. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 121–124. 28E10 (04A72, 60E99)

Kim, Hye Kyung (*with* Lim, Daekeun) Hamiltonians in Steinhaus graphs. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1137–1145. (A. G. Thomason) **98b:05087** 05C80 (05C45)

— (*with* Park, Young Kou) On estimation of root bounds of polynomials. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 77–85. (Miodrag Petković) **98m:65083** 65H05 (30C15)

Kim, Hyoungsoon Weak semicontinuity for unbounded operators. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 447–457. (Giuseppina Epifanio) **98g:46082** 46L05 (46L10, 47D40)

Kim, Hyuk Developing maps of affinely flat Lie groups. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 509–518. (Alberto Elduque) **98g:53092** 53C30

Kim, Hyun Jeong On certain class of meromorphically analytic functions with fixed finitely many coefficients. (English summary) *Soochow J. Math.* **23** (1997), *no.* 2, 173–185. (Herb Silverman) **98h:30014** 30C45

Kim, Hyune-Ju Tests for a change-point in linear regression. (English summary) *Change-point problems (South Hadley, MA, 1992)*, 170–176, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62F05 (62J05)

Kim, Hyungdo (*with* Choi, Kiwoon; Chun, Eung Jin) Supersymmetry hierarchy problems and anomalous horizontal U(1) symmetry. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 89–98. (Summary) **98b:81284** 81V22 (81T60)

Kim, In-Bae (*with* Kim, Byung Hak; Song, Hyunjung) On geodesic hyperspheres in a complex projective space. *Nihonkai Math. J.* **8** (1997), *no.* 1, 29–36. (Makoto Kimura) **98e:53095** 53C40

— (*with* Takahashi, Tsunero) Isoparametric hypersurfaces in a space form and metric connections. *Tsukuba J. Math.* **21** (1997), *no.* 1, 15–28. (Jürgen Berndt) **98i:53078** 53C40 (53C30)

Kim, In-Han (*with* Um, Chung-In; Yeon, Kyu-Hwang; George, Thomas F.; Pandey, Lakshmi N.) Wavefunctions and minimum uncertainty states of the harmonic oscillator with an exponentially decaying mass. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2545–2556. (Luciano Canton) **98e:81031** 81Q05

Kim, In Hyoun (*with* Lee, Woo Young) Semi-quasitriangularity of Toeplitz operators with quasicontinuous symbols. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 77–84. (Summary) **98k:47046** 47B35 (47A66)

Kim, In-Sook Extensions of the Borsuk-Ulam theorem. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 599–608. (V. V. Obukhovskiĭ) **98f:55003** 55M35 (11J72, 57R91, 58D19)

— Selection theorems with n-connectedness. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 165–175. (Summary) **98k:54031** 54C65 (54C60, 55M20)

— An index theory for Z-actions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2481–2491. (Thomas Bartsch) **98j:58097** 58F27 (34C35)

Kim, Inchul (*with* Sirignano, William A.) Diffusion flame in a two-dimensional, accelerating mixing layer. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2617–2630. (Summary) **98f:80006** 80A25 (76N15)

Kim, J. K. *see* **Kim, Jong Kyu**
Kim, J. S. *see* **Kim, Jong Soo**
Kim, J. W. *see* **Kim, Jong Wan**
Kim, J. Y. *see* **Kim, Jong Youl**
Kim, Jae-Gyeom (*with* Cho, Sung Jin; Kim, Seok-Tae) On T-generalized subsystems of T-generalized state machines. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 131–151. (Janusz J. Szuster) **98b:68132** 68Q70
— Meet-reducibility of fuzzy subgroups. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 389–397. 20N25 (04A72)
— (*with* Cho, Sung Jin; Kim, Seok-Tae) On TL-subsystems of TL-finite state machines. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 117–133. (Janusz J. Szuster) **98c:68142** 68Q70
— (*with* Kim, Han-Doo) Orders relative to TL-subgroups. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 163–168. 20N25
— (*with* Kim, Youn-Hee; Cho, Sung Jin) Products of T-generalized state machines and T-generalized transformation semigroups. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 87–97. (Summary) **98i:68201** 68Q68 (04A72)
— Some properties of TL-groups. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 243–250. 20N25
Kim, Jae Kwan (*with* Park, Dahl) General static axially symmetric solutions of $(2+1)$-dimensional Einstein-Maxwell-dilaton theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2616–2625. (Nora Bretón Báez) **98e:83035** 83C22 (83C20)
Kim, Jae Moon Class numbers of real quadratic fields. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 261–274. (Anitha Srinivasan) **98m:11117** 11R29 (11R11, 11R23)
Kim, Jae Woon Mapping theorems on $X_1 \oplus X_2$. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 115–119. (J. R. Isbell) **98k:54017** 54C08
Kim, Jai Heui (*with* Song, Jung Hoon) On stochastic evolution equations with state-dependent diffusion terms. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1019–1028. (Summary) **98h:60087** 60H10
Kim, Jeom-Keun (*with* Song, Seong-Ho) H_∞ control of discrete-time linear systems with norm-bounded uncertainties and time delay in state. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 137–139. 93B36 (93C55)
Kim, Jeong Gyoo (*with* Ahn, Jae Moon; Chang, Kun Soo; Ko, Jung Won; Ryu, Kun Sik) Existence theorems of an operator-valued Feynman integral as an $\mathscr{L}(L_1, C_0)$ theory. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 317–334. (Kun Sik Ryu) **98m:28027** 28C20 (46G12)
Kim, Jeong-Han (*with* Alon, Noga; Spencer, Joel) Nearly perfect matchings in regular simple hypergraphs. (English summary) *Israel J. Math.* **100** (1997), 171–187. (Italo José Dejter) **98k:05112** 05C70 (05C65)
Kim, Jeong-Heon Locations of fixed points of holomorphic maps. (English summary) *Math. Sci. Res. Hot-Line* **1** (1997), *no.* 12, 23–26. (Summary) **98j:47131** 47H10 (46G20, 58C10)
Kim, Jeong-Hoon A uniform diffusion limit for random wave propagation with turning point. (English summary) *J. Math. Phys.* **37** (1996), *no.* 2, 752–768. (Summary) **98b:35229** 35R60 (34E20, 34F05, 73B35, 78A40, 82B44)
Kim, Jeong-Ryeol (*with* Rachev, Svetlozar T.; Mittnik, Stefan) Econometric modeling in the presence of heavy-tailed innovations: a survey of some recent advances. (English summary) Heavy tails and highly volatile phenomena. *Comm. Statist. Stochastic Models* **13** (1997), *no.* 4, 841–866. (Summary) **98f:62306** 62P20
Kim, Jeongjin On the existence of mandatory representation designs. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 81–91. (Esther R. Lamken) **98c:05037** 05B30 (05B05)
Kim, Jeongook An inverse homogeneous interpolation problem for V-orthogonal rational matrix functions. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 717–734. (Daniel Alpay) **98a:47015** 47A57 (30E05)
— A minimal interpolation problem for symmetric rational matrix functions. *Honam Math. J.* **19** (1997), *no.* 1, 145–155. (V. A. Tkachenko) **98g:30064** 30E05
Kim, Ji A. (*with* Cho, Nak Eun) Angular estimations of certain analytic functions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 427–436. (S. L. Shukla) **98e:30010** 30C45
— (*with* Kwon, Oh Sang; Cho, Nak Eun) Hadamard products of certain meromorphic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 13–24. (W. C. Royster) **98m:30017** 30C45
— (*with* Owa, Shigeyoshi; Nunokawa, Mamoru; Saitoh, Hitoshi) Starlikeness of certain integrals. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 1, 23–26. 30C45
Kim, Jin Bai (*with* Choi, Kyu Hyuck) S_n-compatible fuzzy matrices. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 663–670. 15A99 (04A72)
— (*with* Kim, Hee Sik; Kim, Seung Dong) An adjoint matrix of a real indempotent matrix. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 335–339. (Summary) **98d:15022** 15A57
Kim, Jin Chun (*with* Jeon, In Ho; Lee, Woo Young) On a spectral property of analytic operators. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 379–385. (Marek Ptak) **98i:47003** 47A10 (47A15)
Kim, Jin Ho (*with* Song, Moon Sup) A study on a one-step pairwise GM-estimator in linear models. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 1–22. (Summary) **98g:62132** 62J05 (62F35)
Kim, Jin Hwan On causality in a space-time. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 783–788. (Paul E. Ehrlich) **98e:53113** 53C50 (83C75)
Kim, Jin S. *see* **Kim, Jin Suk**
Kim, Jin-Soo[2] (*with* Ha, Soonhoi; Jhon, Chu Shik) Relaxed barrier synchronization for the BSP model of computation on message-passing architectures. *Inform. Process. Lett.* **66** (1998), *no.* 5, 247–253. 68Q22 (68M10)
Kim, Jin Suk (*with* Maeng, Seung Ryoul; Yoon, H.) Ring embedding in hypercubes with faculty [faulty] nodes. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 3, 285–296. (Summary) **98h:68018** 68M10
Kim, Jin Yee On the McShane integrability. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 377–383. (R. G. Bartle) **98e:28013** 28B05
Kim, Jin Yong (*with* Birkenmeier, Gary F.; Park, Jae Keol) Splitting theorems and a problem of Müller. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 39–47, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (S. S. Page) **98m:16006** 16D70 (16N99)
Kim, Jin Young (*with* Lee, Hyung Won; Myung, Yun Soo) The classical stability of charged $(1+1)$-dimensional black holes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 759–774. (Summary) **98b:83059** 83C57
— (*with* Lee, Hyung Won; Myung, Yun Soo; Park, DaeKil) Propagating waves in an extremal black string. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 8, 545–551. (Summary) **98f:83108** 83E30 (81T30, 83C57)
— (*with* Lee, Hyung Won; Myung, Yun Soo) Classical instanton and wormhole solutions of type IIB string theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 32–36. (Summary) **98a:81176** 81T30
— (*with* Lee, Hyung Won; Myung, Yun Soo) Negative modes in four-dimensional stringy wormholes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6684–6687. (Summary) **98g:83107** 83E30
Kim, Jinsoo (*with* Kim, Dongryeol; Sheen, Dongwoo) Absorbing boundary conditions for wave propagation in viscoelastic media. (English summary) *J. Comput. Appl. Math.* **76** (1996), *no.* 1-2, 301–314. (Guenter Leugering) **98e:73067** 73F15 (35L99, 35Q72, 47G20, 73D99)
— (*with* Sheen, Dongwoo) Regularity of solutions to Helmholtz-type problems with absorbing boundary conditions in nonsmooth domains. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 135–146. (Igor Yu. Chudinovich) **98b:35036** 35J05 (35D10, 35L20)
Kim, Jong Heon (*with* Osipenko, G. S.; Ershov, E. K.) ★ Lectures on invariant manifolds of perturbed differential equations and linearization. (English summary) *St. Petersburg State Technical University, St. Petersburg*, 1996. 152 *pp.* (Stephen Schecter) **98d:58160** 58F30 (34C30, 34D99)
Kim, Jong-Hwan (*with* Myung, Hyun) A two-phase evolutionary programming for general constrained optimization problem. (English summary) *Evolutionary programming, V* (*San Diego, CA*, 1996), 295–304, *Complex Adapt. Systems, MIT Press, Cambridge, MA*, 1996. (*see* **98g:90007**) 90C30 (65K05)
Kim, Jong Jin (*with* Hwang, In-Gyu; Oh, Chun-Young; Park, Seoung-Hee) The relationships in pluricomplex Green function, Azukawa pseudometric and Sibony pseudometric. (English summary) *Bull. Honam Math. Soc.* **13** (1996), 127–137. (M. Klimek) **98g:32038** 32H15 (32F05)
— (*with* Park, Seoung-Hee) The boundary behavior between the Kobayashi-Royden and Carathéodory metrics on strongly pseudoconvex domain in $\mathbf{C}^n$. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 81–86. (Ian Graham) **98h:32043** 32H15
Kim, Jong Kyu (*with* Zhang, Shi Sheng; Cho, Yeol Je) Ekeland's variational principle and Caristi's coincidence theorem for set-valued mappings in probabilistic metric spaces. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 2, 83–92. (Summary) **98k:54082** 54H25 (47H10, 47S50, 49J40, 54C60, 54E70)
— (*with* Jin, B. J.) On the existence and uniqueness of solutions for nonlinear differential equations in probabilistic normed spaces. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 291–302. (Xian Zhi George Yuan) **98e:34110** 34G20 (47H15, 47N20, 47S50, 60B99)
Kim, Jong Soo (*with* Williams, F. A.) Extinction of diffusion flames with nonunity Lewis numbers. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 2-3, 101–118. (Summary) **98b:80010** 80A25
Kim, Jong Uhn On the propagation of Hölder regularity for the 3D Euler equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 251–268. (Joseph J. Roseman) **98m:35158** 35Q30 (35B35, 76C99)
Kim, Jong Wan (*with* Choi, Bong Dae) Discrete-time $\mathrm{Geo}_1, \mathrm{Geo}_2/G/1$ retrial queueing systems with two types of calls. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 79–88. 60K25 (90B22)
Kim, Jong Youl (*with* Jun, Young Bae; Kim, Hee Sik) Hilbert algebras inherited from the posets. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 471–475. (Manuel Abad) **98c:06031** 06F99 (03G25)
— (*with* Jun, Young Bae; Kim, Young-Hee; Kim, Hee Sik) Fuzzy commutative $\mathcal{J}$-ideals in BCI-semigroups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 889–898. 06F35 (04A72)
— (*with* Baik, Seung Il; Kim, Hee Sik) Q-upper algebras with the condition (S). (English summary) *Math. Japon.* **46** (1997), *no.* 3, 419–425. (Summary) **98g:06029** 06F35 (06A06)
Kim, Jongsu (*with* LeBrun, Claude; Pontecorvo, Massimiliano) Scalar-flat Kähler surfaces of all genera. (English summary) *J. Reine Angew. Math.* **486** (1997), 69–95. (Bernd Kreussler) **98m:32045** 32J27 (32G05, 32J15, 32L25, 53C25)
Kim, Ju-Young (*with* Chae, Younki; Choi, In Sim) The semigroup of compact subsets of a topological group. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 25–30. (Anne L. Hudson) **98g:22002** 22A15
Kim, K. H. *see* **Kim, Ki Hang**
Kim, K.-S. *see* **Kim, Kyung-Suk**
Kim, Kangkyun (*with* Foutz, Robert V.) Kolmogorov-type tests of goodness-of-fit against stochastic ordering. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 885–897. (Thomas W. Epps) **98c:62091** 62G10
Kim, Keehwan Use of steepest descent for certain quadratic constraints. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 3, 443–451. (C. Ilioi) **98f:65062** 65J15 (65K10)
— (*with* Ume, Jeong Sheok; Kim, Tae Hwa) Common fixed point theorems for a generalized contraction. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 387–392. (Summary) **98i:47055** 47H10 (47H09)
— (*with* Kim, Tae Hwa; Leem, Koung Hee; Ume, Jeong Sheok) Common fixed point theorems relating to the diameter of orbits. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 103–108. 54H25 (47H10)
Kim, Ki Hang (*with* Roush, F. W.) A dimension group for sofic shifts. (English summary) *Pure Math. Appl.* **7** (1996), *no.* 1-2, 129–138. (A. I. Danilenko) **98b:54054** 54H20
— (*with* Roush, F. W.; Wagoner, J. B.) Inert actions on periodic points. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 55–62 (*electronic*). (Manfred Denker) **98i:54021** 54H20 (19C99, 20F99, 57S99)
— (*with* Roush, F. W.) The Williams conjecture is false for irreducible subshifts. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 105–109 (*electronic*). (Doris Fiebig) **98i:58081** 58F03 (54H20)

Kim, Kiwon Harmonic doubling condition and John disks. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 145–153. (Susan G. Staples) **98g:30044** 30C65 (30C85)

— Circular distortion and the double disk property of curves. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 43–55. (Carsten Lunde Petersen) **98i:30004** 30C20 (30C62, 30C75)

Kim, Kwangjo *see* **Advances in cryptology—ASIACRYPT '96, 98g:94001**

Kim, Kyung-Eun (*with* Okada, Minoru; Yokoi, Shigeki; Toriwaki, Jun-ichiro) A description of a polyhedron based on half-space primitives and a three-element logical algebraic system. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1583–1592. (Summary) **98i:68269** 68U05 (03B50)

Kim, Kyung-Hwa A note on a general maximal operator. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 155–162. (Petr Gurka) **98f:42014** 42B25

Kim, Kyung-Suk (*with* McMeeking, R. M.; Johnson, K. L.) Adhesion, slip, cohesive zones and energy fluxes for elastic spheres in contact. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 2, 243–266. (Summary) **98m:73074** 73T05

Kim, M. (*with* Apabhai, M. Z.; Georgikopoulos, N. I.; Hasnip, D.; Jamie, R. K. D.; Wilmott, P.) A model for the value of a business, some optimization problems in its operating procedures and the valuation of its debt. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 273–285. 90A09

Kim, M. J. *see* **Kim, Min-Joon**

Kim, Mee-Kyoung On certain graded rings with minimal multiplicity. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 887–893. (Rüdiger Achilles) **98g:13001** 13A30 (13H10, 13H15)

— On the Cohen-Macaulayness of the associated graded ring of an equimultiple ideal. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 35–42. (J. K. Verma) **98j:13005** 13A30 (13H10)

— Factorization of an integrally closed ideal in two-dimensional regular local rings. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3509–3513. (Stephen McAdam) **98b:13001** 13A18 (13H05)

Kim, Mi-Kyung (*with* Park, Chan-Bong) A note on Hilbert Samuel polynomials. *Bull. Honam Math. Soc.* **13** (1996), 47–55. (Claudia Polini) **98b:13015** 13D40

Kim, Mi-Young² (*with* Iannelli, Mimmo; Park, Eun-Jae) Splitting methods for the numerical approximation of some models of age-structured population dynamics and epidemiology. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 1, 69–93. (Summary) **98c:65144** 65M06 (65M12, 92D25, 92D30)

Kim, Min-Joon (*with* Moon, H. T.) Significance of the tent map bifurcations in continuous media. (English summary) Nonlinear dynamics and chaos, Part II (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 5, 1141–1147. (Andrew C. Fowler) **98i:58208** 58F39 (58F14)

Kim, Minhyong Geometric height inequalities and the Kodaira-Spencer map. (English summary) *Compositio Math.* **105** (1997), *no.* 1, 43–54. (Atsushi Moriwaki) **98j:14029** 14G25 (14D10, 14H25)

— Pfaffian equations and the Cartier operator. *Compositio Math.* **105** (1997), *no.* 1, 55–64. (Abdellah Mokrane) **98j:14019** 14F10 (14F30, 14F40)

— On the Kodaira-Spencer map and stability. *Internat. Math. Res. Notices* **1997**, *no.* 9, 417–419. (Atsushi Moriwaki) **98j:14030** 14G25 (14D10, 14H25)

— Erratum: "On Poincaré polynomials for hyperplane arrangements in positive characteristic" [Comm. Algebra **21** (1993), no. 4, 1337–1346; MR 94a:52027]. *Comm. Algebra* **26** (1998), *no.* 1, 343. (From the text) **98m:52019** 52B30 (14F20)

Kim, Myong-Hi (*with* Pan, Victor Y.; Sadikou, Akimou; Huang, Xiao Han; Zheng, Ailong) On isolation of real and nearly real zeros of a univariate polynomial and its splitting into factors. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 572–594. (Miodrag Petković) **98e:65044** 65H05 (26C10)

Kim, Myung Geun (*with* Jung, Kang-Mo; Kim, Byung Chun) Local influence in maximum likelihood factor analysis. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 4, 483–491. 62H25

— (*with* Jung, Kang-Mo; Kim, Byung Chun) Second order local influence in linear discriminant analysis. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 1–11. 62H30

Kim, Myung-Hwan¹ (*with* Oh, Byeong-Kweon) Representations of positive definite senary integral quadratic forms by a sum of squares. (English summary) *J. Number Theory* **63** (1997), *no.* 1, 89–100. (Andrzej Sładek) **98a:11045** 11E25 (11E12, 11H55)

Kim, Myung Jae On structures of contractions in dual operator algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 899–906. (Alfredo Octavio) **98a:47049** 47D27 (47A20, 47A45)

— (*with* Kim, Tae Hwa; Cho, Nak Eun) Some applications of differential subordinations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 297–303. (Milutin Č. Obradović) **98h:30015** 30C45

Kim, MyungJin (*with* Park, YouSung) Some basic and asymptotic properties in INMA(q) processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 155–170. (Summary) **98f:62267** 62M10

Kim, Nakwoo (*with* Rey, Soo-Jong) M(atrix) theory on an orbifold and twisted membrane. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 189–213. (Jihad Mourad) **98k:81224** 81T30 (83E30)

— (*with* Kim, Yoonbai; Kimm, Kyoungtae) Charged black cosmic string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1513–1520. 83F05 (83C57)

Kim, Namkwon (*with* Chae, Dongho) Homogeneous statistical solutions and the vanishing interfacial energy limit of the Cahn-Hilliard equation. *Nonlinear Anal.* **29** (1997), *no.* 10, 1197–1216. (Jing Xue Yin) **98f:35068** 35K55 (35Q99, 82B24, 82B26, 82B31)

— (*with* Chae, Dongho) Axisymmetric weak solutions of the 3-D Euler equations for incompressible fluid flows. *Nonlinear Anal.* **29** (1997), *no.* 12, 1393–1404. (Emmanuel Grenier) **98i:35141** 35Q30 (35D05, 76C99)

Kim, Pan Soo Some results and problems arising from a question of Paul Erdős. *Groups—Korea '94 (Pusan)*, 181–188, *de Gruyter, Berlin*, 1995. (*see* **98e:20003**) 20F99

— (*with* Cho, Jung Rae; Ito, Noboru; Sim, Hyo-Seob) Hadamard 2-groups with arbitrarily large derived length. (English summary) *Australas. J. Combin.* **16** (1997), 83–86. 20D15

Kim, Pyeong-Ju (*with* Park, Won-Sun; Im, Bok-Hee) Centralizers of elements of the future cone in the Minkowski world. *Bull. Honam Math. Soc.* **13** (1996), 19–23. (Martin Funk) **98a:51003** 51B20 (20N05, 51P05)

ho-Kim, Q. *see* **Ho-Kim, Q.**

Kim, Rakjoong Unsolvability of some partial differential operator. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 73–76. (From the introduction) **98k:35005** 35A07 (35H05)

Kim, S. *see* **Kim, Seongyeon**

Kim, S. D. *see* **Kim, Seung Dong**

Kim, S. G. *see* **Kim, So Gu**

Kim, S. J. *see* **Kim, Seon Jeong**

Kim, S. S. *see* **Kim, Seong Sik**

Kim, Saeja Oh Projective resolutions of generic order ideals. *J. Algebra* **191** (1997), *no.* 1, 279–330. (Andrew Kustin) **98c:13021** 13D02 (13D25, 13H10)

Kim, Sam Myo An algorithm for identifying spliced languages. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 403–411, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68Q45

— Computational modeling for genetic splicing systems. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1284–1309. (Ronald E. Prather) **98i:92026** 92D20 (68Q45)

Kim, Sang Dong (*with* Parter, Seymour V.) Preconditioning Chebyshev spectral collocation method for elliptic partial differential equations. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2375–2400. (A. J. Meir) **98g:65116** 65N35 (65N25)

— (*with* Kim, Seokchan) Exponential decay of C^1-cubic splines vanishing at two symmetric points in each knot interval. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 479–488. (Hans-Jörg Wenz) **98d:41013** 41A15 (65D07)

— (*with* Kim, Hong Oh; Lee, Yong Hun) Finite difference preconditioning cubic spline collocation method of elliptic equations. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 83–103. (Bruce A. Finlayson) **98h:65056** 65N35 (65F35)

— (*with* Parter, Seymour V.) Preconditioning Chebyshev spectral collocation by finite-difference operators. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 939–958. (Bernard Bialecki) **98f:65116** 65N35 (39A12, 65N06)

Kim, Sang-Hoon Ideal Bose gas in fractal dimensions. (English summary) Nonlinear dynamics and chaos, Part II (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 5, 1053–1058. (Summary) **98k:82015** 82B10 (82B26)

Kim, Sang Pyo (*with* Kim, Sung Ku; Soh, Kwang-Sup; Yee, Jae Hyung) Remarks on renormalization of black hole entropy. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5223–5234. (Summary) **98h:83051** 83C57 (83C47)

— Problem of unitarity and quantum corrections in semiclassical quantum gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7511–7517. (Viqar Husain) **98c:83035** 83C45

— (*with* Ji, Jeong-Young; Shin, Hak-Soo; Soh, Kwang-Sup) Coherence and emergence of classical spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3756–3758. (Summary) **98e:83060** 83C47 (83C99)

Kim, Seok-Tae (*with* Cho, Sung Jin; Kim, Jae-Gyeom) On T-generalized subsystems of T-generalized state machines. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 131–151. (Janusz J. Szuster) **98b:68132** 68Q70

— (*with* Cho, Sung Jin; Kim, Jae-Gyeom) On TL-subsystems of TL-finite state machines. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 117–133. (Janusz J. Szuster) **98c:68142** 68Q70

Kim, Seokchan (*with* Kim, Sang Dong) Exponential decay of C^1-cubic splines vanishing at two symmetric points in each knot interval. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 479–488. (Hans-Jörg Wenz) **98d:41013** 41A15 (65D07)

Kim, Seon-Bu Volume problems on Lorentzian manifolds. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 163–173. (Eduardo García-Río) **98e:53114** 53C50

Kim, Seon Jeong (*with* Song, Seok-Zun; Hong, Sung Min; Jun, Young Bae; Kim, Hong Kee) On the minimum permanents related with certain barycentric matrices. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 825–839. (Thomas H. Foregger) **98k:15008** 15A15

— (*with* Song, Seok-Zun; Hong, Sung Min; Jun, Young Bae) Minimum permanents on a face of the polytope of doubly stochastic matrices. (English summary) *Linear Algebra Appl.* **259** (1997), 169–182. (Peter M. Gibson) **98k:15009** 15A15 (15A51)

— (*with* Ballico, Edoardo) Weierstrass multiple loci of n-pointed algebraic curves. *J. Algebra* **199** (1998), *no.* 2, 455–471. (Masaaki Homma) **98k:14044** 14H55

Kim, Seong-A On convex hyperbolic regions. *Japan. J. Math. (N.S.)* **23** (1997), *no.* 1, 157–162. (David Minda) **98h:30062** 30F45 (30C45)

Kim, Seong-Lyun (*with* Cho, Geon; Shaw, Dong X.) An efficient algorithm for a capacitated subtree of a tree problem in local access telecommunication networks. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 8, 737–748. (Summary) **98d:90049** 90B12 (94C05)

Kim, Seong-Pyo (*with* Han, Taisook) Fault-tolerant wormhole routing in mesh with overlapped solid fault regions. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 1937–1962. 68M10 (68M15)

Kim, Seong Sik (*with* Cho, Yeol Je) Strict convexity in linear n-normed spaces. *Demonstratio Math.* **29** (1996), *no.* 4, 739–744. (Paweł Domański) **98a:46011** 46A19 (46B99)

— (*with* Cho, Yeol Je; Narang, T. D.) Some remarks on orthogonality and best approximation. *Demonstratio Math.* **30** (1997), *no.* 2, 293–300. (S. Cobzaş) **98j:46016** 46B99 (41A65)

— (*with* Cho, Yeol Je; White, Albert George, Jr.) 2-pre-Hilbertian 2-norms and Gateaux derivatives. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 109–114. (Summary) **98j:46017** 46B99 (46A19)

Kim, Seongjai (*with* Symes, William W.) Multifrequency simulation for acoustics. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 47–52. 76Q05 (65N06, 76M25)

— (*with* Symes, William W.) Smooth detectors of linear phase. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 101–112. (Summary) **98k:46064** 46E99 (35R30, 46N10, 65N99)

Kim, Seongtag The Yamabe problem and applications on noncompact complete Riemannian manifolds. (English summary) *Geom. Dedicata* **64** (1997), *no.* 3, 373–381. (Robert McOwen) **98c:53052** 53C21 (35J60, 58G30)

Kim, Seongyeol (*with* Chung, Ilyong) Application of the special Latin square to a parallel routing algorithm on a recursive circulant network. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 141–147. 68M10 (05B15)

Kim, Seongyeon (*with* Cho, Sanghyun; Ahn, Heungju) Stability of Hölder estimates for $\bar{\partial}$ on pseudoconvex domains of finite type in $\mathbf{C}^2$. (English summary) *Nagoya Math. J.* **148** (1997), 23–38. (Der-Chen E. Chang) **98j:32014** 32F20 (42B20)

Kim, Seung Dong (*with* Kim, Jin Bai; Kim, Hee Sik) An adjoint matrix of a real indempotent matrix. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 335–339. (Summary) **98d:15022** 15A57
— (*with* Hong, Sung Min; Jun, Young Bae; Kim, Hee Sik) On fuzzy deductive systems in ortholattices. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 181–187. (Siegfried Gottwald) **98i:06005** 06C15 (03B52, 03E72, 03G25, 04A72)
Kim, Seung-Hoon (*with* Lim, Kyungshik; Kim, Cheeha) Efficient stream distribution algorithm for heterogeneous multimedia multicast with link capacity constraint. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 309–315. 90C27 (68M10)
Kim, Seung-hwan (*with* Ahn, Taehoon; Kim, Gwangil) The separatrix map in Hamiltonian systems and anti-integrability. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 3–6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F05
— (*with* Ahn, Taehoon) Chaotic transport and anomalous diffusion in a planar flow with a chain of vortices. (English summary) Nonlinear dynamics and chaos, Part II (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 5, 1025–1033. (Summary) **98g:76042** 76F20 (58F13, 58F40)
— Vortex motion in superconducting ladders. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 408–412. 82D55
— *see also* **Nonlinear dynamics and chaos**, **98f:58005** *and* **98f:58006**
Kim, Seung Jo (*with* Cho, Jin Yeon; Kim, Wie Dae) From the trapezoidal rule to higher-order accurate and unconditionally stable time-integration method for structural dynamics. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 73–88. (*see* **98f:73002**) 73V20 (73K12)
Kim, Seung Joo (*with* Park, Sung Jun; Won, Dong Ho) Convertible group signatures. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 311–321, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60
Kim, Seung-Yeon (*with* Creswick, Richard J.) Critical exponents of the four-state Potts model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8785–8786. 82B27 (82B20)
Kim, Si-Ju On convertible (0, 1) matrices. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 319–322. (Summary) **98h:15008** 15A15
Kim, So Gu (*with* Chen, Yun-tai; Wu, Z.-L.; Panza, G. F.) A mathematical theorem useful for the direct estimation of seismic source spectra. (English summary) *Bull. Seismol. Soc. Amer.* **87** (1997), *no.* 5, 1281–1287. (Summary) **98f:86005** 86A15
Kim, Song-Ho (*with* Kim, Tae-Sung) Some positive dependent orderings. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 243–253. (Jagdish Saran) **98a:62071** 62H05
— (*with* Kim, Tae-Sung) On the dependence structure of concomitants of order statistics. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 255–263. (Mir Masoom Ali) **98d:62089** 62G30
Kim, Soohwa (*with* Cho, Sinsup; Park, Young Jin) Test for parameter changes in the AR(1) process. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 417–427. 62M10
Kim, Soon-Ki (*with* Atanassov, Krassimir Todorov; Dimitrov, Dinko; Kacprzyk, Janusz; Shannon, Anthony; Szmidt, Eulalia) Applications of operators over intuitionistic fuzzy sets in analysis of asymmetric information. (English summary) *Notes IFS* **3** (1997), *no.* 1, 29–34. 03E72
— (*with* Shannon, Anthony; Kim, Young Hyun; Sorsich, Joseph; Atanassov, Krassimir Todorov; Georgiev, Peter Raikov) A possibility for implementation of elements of the intuitionistic fuzzy logic in decision making in medicine. First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 40–43. (*see* **98e:03031**) 03E72
Kim, Soon-kwi (*with* Huggins, Richard) Diagnostics for autocorrelated regression models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 65–71. 62J20
Kim, Soung Hie (*with* Cho, Kwun Ik) An improved interactive hybrid method for the linear multi-objective knapsack problem. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 991–1003. (Summary) **98h:90057** 90C27 (90C10)
Kim, Suh-Ryung (*with* Bak, Ok Boon; Park, Chang Hoon; Nam, Yunsun) On CCE-orientable graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 129–137. (Summary) **98k:05074** 05C20
— (*with* Roberts, Fred S.) Competition numbers of graphs with a small number of triangles. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 153–162. (Summary) **98h:05102** 05C35
Kim, Sukkeun (*with* Reichl, L. E.; Alpatov, Philip) The effect of symmetry breaking on stochastic processes. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 357–365, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50 (81S20)
Kim, Sung H. *see* **Kim, Sung Hyun**
Kim, Sung-Ho Iterative proportional fitting for nonhierarchical log-linear models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1443–1460. (Rainer Schwabe) **98d:62125** 62J12
— (*with* Shin, Chan-Su; Kim, Sung Kwon; Chwa, Kyung-Yong) Algorithms for drawing binary trees in the plane. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 133–139. 68U05 (68R10)
Kim, Sung Hyun Continuous Nash equilibria. (English summary) *J. Math. Econom.* **28** (1997), *no.* 1, 69–84. (Steven R. Williams) **98e:90224** 90D05 (90D10)
Kim, Sung Ki (*with* Kim, Dohan) Fourier transformations of W^{Φ}-spaces. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 483–489. 42A38 (46E30, 46F12)
Kim, Sung Ku (*with* Kim, Sang Pyo; Soh, Kwang-Sup; Yee, Jae Hyung) Remarks on renormalization of black hole entropy. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 29, 5223–5234. (Summary) **98h:83051** 83C57 (83C47)
Kim, Sung Kwon Logarithmic width, linear area upward drawing of AVL trees. *Inform. Process. Lett.* **63** (1997), *no.* 6, 303–307. 68U05 (68R10)
— Rectangulating rectilinear polygons in parallel. (English summary) *Parallel Comput.* **23** (1997), *no.* 3, 349–367. (Summary) **98a:68182** 68U05 (68Q22)
— (*with* Shin, Chan-Su; Kim, Sung-Ho; Chwa, Kyung-Yong) Algorithms for drawing binary trees in the plane. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 133–139. 68U05 (68R10)
Kim, Sung Lai Sequential confidence interval with β-protection for a linear function of two normal means. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 309–317. (Summary) **98m:62218** 62L12
Kim, Sung-Ock Picard group of a surface in $\mathbf{P}^3$. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 881–885. (Angelo Lopez) **98e:14033** 14J05 (14J10)
Kim, Sung Sook (*with* Shin, Joonkook) Isometry group of SO(1, 2). (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1055–1059. (Philippos J. Xenos) **98a:53070** 53C30
Kim, Sung-Yeon (*with* Kang, Chunghyuk) Some examples of analytic irreducible plane curve singularities. *Bull. Korean Math. Soc.* **33** (1996), *no.* 2, 267–275. (Vasile Brînzănescu) **98a:32047** 32S15 (14H20)
Kim, Sungsoon (*with* Duchamp, Gérard) Intertwining spaces associated with q-analogues of the Young symmetrizers in the Hecke algebra. (English and French summaries) *Parameter spaces (Warsaw, 1994)*, 61–70, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Richard M. Green) **98g:20025** 20C30 (05E10)
— The lattice of Pieri. (English summary) *European J. Combin.* **18** (1997), *no.* 4, 417–423. (Andrzej Daszkiewicz) **98c:05166** 05E10 (20C30)
— (*with* Geck, Meinolf) Bases for the Bruhat-Chevalley order on all finite Coxeter groups. *J. Algebra* **197** (1997), *no.* 1, 278–310. (Andrew P. Mathas) **98k:20066** 20F55 (06A07)
Kim, Susme (*with* Ardalan, Farhad; Mansouri, Freydoon) Can we have exact supersymmetry with undetected superpartners? Lessons from $2 + 1$ dimensions. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1183–1193. (Summary) **98h:81114** 81T60 (83E50)
— (*with* Mansouri, Freydoon) The structure of space-time emerging from the two-superbody problem in Chern Simons supergravity. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 81–87. (Summary) **98b:81251** 81T60 (83E50)
Kim, T. L. (*with* Serdyukov, A. V.) The quantum field renormalization group in the theory of developed turbulence: allowance for anisotropy and a passive admixture. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 412–422; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1525–1533 (1996). (Summary) **98m:76099** 76F99 (81T17)
Kim, T. S. *see* **Kim, Tae-Sung**
Kim, Tae Hwa (*with* Jung, Jong Soo) Convergence of approximate sequences for compositions of nonexpansive mappings in Banach spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 93–102. (Behzad Djafari-Rouhani) **98e:47087** 47H09 (47H10, 49J45)
— (*with* Kim, Myung Jae; Cho, Nak Eun) Some applications of differential subordinations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 297–303. (Milutin Č. Obradović) **98h:30015** 30C45
— (*with* Kim, Eun Suk) Fixed point theorems for non-Lipschitzian mappings in Banach spaces. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 61–67. (K. Goebel) **98h:47076** 47H10 (47H09)
— (*with* Ume, Jeong Sheok; Kim, Keehwan) Common fixed point theorems for a generalized contraction. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 387–392. (Summary) **98i:47055** 47H10 (47H09)
— (*with* Xu, Hong-Kun) Some Hilbert space characterizations and Banach space inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 113–121. (Wolfgang Lusky) **98m:46027** 46C15 (46B20, 47H09)
— (*with* Kim, Keehwan; Leem, Koung Hee; Ume, Jeong Sheok) Common fixed point theorems relating to the diameter of orbits. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 103–108. 54H25 (47H10)
Kim, Tae Sik (*with* Baek, In Soo; Lee, Hung Hwan) Dimensions of the perturbed random Cantor sets. *Kyungpook Math. J.* **37** (1997), *no.* 1, 53–59. (Hermann Haase) **98m:28016** 28A80 (28A78)
— Dimension matrix of the G-M fractal. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 13–22. (Summary) **98k:28011** 28A80
Kim, Tae-Sung (*with* Seo, Hye-Young) The invariance principle for linearly positive quadrant dependent random fields. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 801–811. (Rimas Norvaiša) **98a:60037** 60F17 (60G60)
— (*with* Kim, Song-Ho) Some positive dependent orderings. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 243–253. (Jagdish Saran) **98a:62071** 62H05
— (*with* Kim, Song-Ho) On the dependence structure of concomitants of order statistics. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 255–263. (Mir Masoom Ali) **98d:62089** 62G30
— The invariance principle for associated random fields. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1443–1454. (Zheng Yan Lin) **98g:60068** 60F17 (60F05, 60G60)
— (*with* Baek, Jong-Il; Seo, Hye-Young) A weak positive orthant dependence concept. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 109–123 (1998). 62H20
Kim, Tae Ung (*with* Lowe, Timothy J.; Tamir, Arie; Ward, James E.) On the location of a tree-shaped facility. (English summary) *Networks* **28** (1996), *no.* 3, 167–175. (Summary) **98j:90033** 90B80
Kim, Tae Yoon (*with* Cox, Dennis D.) A study on bandwidth selection in density estimation under dependence. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2, 190–203. (Patricia B. Cerrito) **98m:62101** 62G05 (62M10)
— Asymptotically optimal bandwidth selection rules for the kernel density estimator with dependent observations. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 321–336. (Alain F. Berlinet) **98j:62033** 62G05
Kim, Taejeong (*with* Han, Yong In) Randomized fusion rules can be optimal in distributed Neyman-Pearson detectors. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1281–1288. (Robert M. Gray) **98h:94013** 94A29 (94A13)
Kim, Taekyun (*with* Kim, Han Soo) A note on p-adic analogue of hypergeometric functions. *Number theory, geometry and related topics (Iksan City, 1995)*, 103–107, *Pyungsan Inst. Math. Sci., Seoul*, 1996. (Kaori Ota) **98a:11167** 11S80
— (*with* Kim, Han Soo) Some congruences for Bernoulli numbers. II. *Rep. Fac. Sci. Engrg. Saga Univ. Math.* **24** (1996), *no.* 2, 5 *pp.* (L. Skula) **98g:11018** 11B68 (11S80)
Kim, Taesung Revealed preference theory on the choice of lotteries. (English summary) *J. Math. Econom.* **26** (1996), *no.* 4, 463–477. (Andrzej Wieczorek) **98c:90009** 90A06
Kim, W. *see* **Kim, Won Gyu**
Kim, W. C. *see* **Kim, Woo Chul**

Kim, Wan Se Existence and multiple existence of doubly-periodic solutions of semilinear dissipative hyperbolic equations. *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995)*, 169–188, *Lecture Notes Ser., 38, Seoul Nat. Univ., Seoul*, 1997. (Pavel Krejčí) **98c:35115** 35L70 (35B10)

Kim, Wansoon Some properties of Verma modules over affine Lie algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 789–795. (Vladimir V. Bavula) **98a:17037** 17B67 (17B10)

— Some modules in category $\mathcal{O}$ and their decomposition over generalized Kac-Moody Lie algebras. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 519–524. 17B67 (17B10)

Kim, Wie Dae (*with* Kim, Seung Jo; Cho, Jin Yeon) From the trapezoidal rule to higher-order accurate and unconditionally stable time-integration method for structural dynamics. (English summary) Symposium on Advances in Computational Mechanics, Vol. 1 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **149** (1997), *no.* 1-4, 73–88. (*see* **98f:73002**) 73V20 (73K12)

Kim, Won Gyu (*with* West, Bruce J.) Chaotic properties of internal wave triad interactions. (English summary) *Phys. Fluids* **9** (1997), *no.* 3, 632–647. (Summary) **98a:76014** 76C10 (58F40, 76F20, 76U05, 76V05, 86A05)

Kim, Won Kyu (*with* Rim, Dong Il) On the existence of equilibrium price. *J. Korean Math. Soc.* **33** (1996), *no.* 1, 25–29. (From the introduction) **98b:90022** 90A12 (54C65, 54H25)

— (*with* Lee, Kyoung Hee) Existence of equilibrium and separation in generalized games. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 316–325. (Andrzej Wieczorek) **98c:90199** 90D13 (90A14)

— (*with* Lee, Kyoung Hee) Fuzzy fixed point and existence of equilibria in fuzzy games. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 193–202. 54H25 (54A40, 54C60)

Kim, Won Kyung (*with* Billard, Lynne) Existence condition for the stationary ergodic new Laplace autoregressive model of order p-NLAR(p). (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 521–530. 62M10

Kim, Won Tae (*with* Ho, Jeongwon; Park, Young-Jai; Shin, Hyeonjoon) Entropy in the Kerr-Newman black hole. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2617–2625. (Summary) **98h:83050** 83C57

— (*with* Yoon, Myung Seok) Graceful exit problem and stress-energy-momentum tensors revisited in the two-dimensional string cosmology. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 231–237. 83C45

Kim, Woo Chul (*with* Lee, Sang Ho; Jeon, Jong Woo) Dual limit theorems for the generalized Curie-Weiss model: multiple global minima case. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 215–233. (Barbara Gentz) **98h:60027** 60F05 (60K35, 82B20)

— (*with* Ko, Duk-Hyun; Lee, Kee-Won) On bootstrapping Bartlett adjusted empirical likelihood ratio statistic in regression analysis. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 205–216. (Gutti J. Babu) **98c:62126** 62J05 (62G09)

— (*with* Park, Byeong U.) On a transformation technique for nonparametric regression. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 217–233. (Ewaryst Rafajłowicz) **98c:62062** 62G05

— (*with* Park, Byeong U.; Kang, Kee H.) On bias reduction methods in nonparametric regression estimation. (English summary) *Advances in statistical decision theory and applications*, 179–187, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98e:62005**) 62G05

— (*with* Park, Byeong U.; Ruppert, David; Jones, Michael C.; Signorini, D. F.; Kohn, Robert Jacob) Simple transformation techniques for improved non-parametric regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 145–163. (Li-Xing Zhu) **98k:62066** 62G05 (62G20)

— (*with* Park, Byeong U.; Jones, Michael C.) On identity reproducing nonparametric regression estimators. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 279–290. (Lin-Cheng Zhao) **98g:62093** 62G20 (62G05)

Kim, Y. *see* **Kim, Yong-Cheol**

Kim, Y. C. *see* **Kim, Yong Chan**

Kim, Y. D. (*with* Lee, Hyun Young) The convergence of finite element Galerkin solution for the Roseneau equation. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 171–180. (Mohammad Asadzadeh) **98m:65158** 65M15 (65N30, 76D33)

Kim, Y. H. *see* **Kim, Young-Hee**

Kim, Y. J. (*with* Lee, Kyung-Hwa; Jue, C.) Representations of superfields. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 527–538. (Victor O. Rivelles) **98e:81172** 81T60 (58A50)

Kim, Y. K. *see* **Kim, Yun Kyong**

Kim, Y. S. *see* **Kim, Yong Soo**

Kim, Yangkok (*with* Rhemtulla, Akbar H.) On locally graded groups. (English summary) *Groups—Korea '94 (Pusan)*, 189–197, *de Gruyter, Berlin*, 1995. (Howard Smith) **98g:20056** 20F24 (20F19, 20F45)

— (*with* Vesnin, Andrei) On the Johnson's question about the Kim-Kostrikin group. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 933–936. (Hugh M. Hilden) **98d:20042** 20F34 (20F05)

— On 2-cardinally permutable groups. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 227–235. (A. H. Rhemtulla) **98c:20075** 20F50 (20E28)

Kim, Yangkon (*with* Koh, Seok-Hyun; Park, Dae-Shik) Levi components and their cuspidal representations. *Bull. Honam Math. Soc.* **13** (1996), 25–30. (Toshiaki Shoji) **98b:20065** 20G05 (20C33, 20G40)

— (*with* So, K. H.; Seo, Gyeong-Sig; Park, Dae Yeon; Choi, Seul Hee) On subregular points for some cases of Lie algebra. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 21–27. (Jörg Feldvoss) **98d:17029** 17B50 (17B45)

Kim, Yong Chan (*with* Choi, Jae Ho; Srivastava, Hari M.) Convex and starlike generalized hypergeometric functions associated with the Hardy space. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 4, 345–355. (Matti Vuorinen) **98i:33008** 33C20 (30C45)

— (*with* Srivastava, Hari M.) The Hardy space of α-convex functions associated with a certain integral operator. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 345–353. (Paul Eenigenburg) **98i:30010** 30C45

— (*with* Srivastava, Hari M.) Fractional integral and other linear operators associated with the Gaussian hypergeometric function. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 3, 293–312. (Summary) **98h:30016** 30C45 (26A33, 33C20)

— (*with* Jung, Il Bong) Subclasses of univalent functions subordinate to convex functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 243–247. (Paul Eenigenburg) **98b:30014** 30C45 (30C80)

— (*with* Nunokawa, Mamoru) On some radius results for certain analytic functions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 61–65. (H. M. Srivastava) **98d:30018** 30C45 (33C20)

— (*with* Owa, Shigeyoshi; Sekine, Tadayuki) A certain class of multivalent functions associated with the Hardy space. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 73–77. (Summary) **98g:30037** 30C55 (30D55)

— (*with* Choi, Jae Ho) Some properties of a certain one-parameter additive families of operators defined on multivalent functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 105–111. (Herb Silverman) **98h:30017** 30C45

Kim, Yong-Cheol (*with* Seeger, Andreas) A note on pointwise convergence of quasiradial Riesz means. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 1-2, 187–199. (Norman J. Weiss) **98c:42014** 42B25

— Weak type $L^1(\mathbf{R}^n)$-estimate for certain maximal operators. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1029–1036. (Javier Soria) **98k:42024** 42B25 (42B15)

Kim, Yong Hee (*with* Arnold, Barry C.) Conditional proportional hazards models. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 21–28, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62013** 62E10 (62N05)

Kim, Yong Il (*with* Chai, Y. D.) Geometric properties of curves in the Minkowski plane. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 107–116. (G. D. Chakerian) **98g:52003** 52A10 (52A39)

— (*with* Chai, Y. D.) Curves of constant relative breadth. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 365–370. (G. D. Chakerian) **98k:52010** 52A21 (52A10)

Kim, Yong-Jihn (*with* Kwon, Kil Hyun; Lee, J. K.) Orthogonal polynomials in two variables and second-order partial differential equations. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 239–260. (Summary) **98m:33031** 33C50 (35A25, 35C05)

Kim, Yong Soo (*with* Hahn, Sang-Geun; Kim, Dong Geon) A decoding algorithm for the 1st order Reed-Muller codes. (English summary) *Util. Math.* **51** (1997), 9–20. (Summary) **98j:94033** 94B35

Kim, Yong Sup On p-adic analogue of Kummer's theorem. (English summary) *Number theory, geometry and related topics (Iksan City, 1995)*, 117–122, *Pyungsan Inst. Math. Sci., Seoul*, 1996. (Kaori Ota) **98a:11168** 11S80

Kim, Yong-Wan (*with* Park, Mu-In; Park, Young-Jai; Yoon, Sean J.) BRST quantization of the Proca model based on the BFT and the BFV formalism. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 23, 4217–4239. (Liviu Tătar) **98d:81120** 81T70

Kim, Yong-Woo Reduced minimization of product and non-product type in Mindlin plate elements. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 17, 3117–3139. (Summary) **98g:73040** 73V05

Kim, Yongduk (*with* Kim, Hongsu) Thermodynamics of black holes in Brans-Dicke gravity. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 329–338. (Summary) **98h:83074** 83D05 (83C57)

Kim, Yonne Mi An extension theorem for the Folland-Stein spaces. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 49–55. (Sundaram Thangavelu) **98a:42016** 42B99 (35A99, 35H05, 43A15)

Kim, Yoon Tae Parameter estimation for an infinite-dimensional stochastic differential equation. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 161–173. (H. Salehi) **98d:62147** 62M05 (60H10, 62F12)

— An approximation theorem for two-parameter Wiener process. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 75–88. (Summary) **98e:60094** 60H10 (60G60, 60J65)

Kim, Yoonbai (*with* Oh, Phillial; Rim, Chaiho) Self-dual Chern-Simons solitons in the planar CP(1) model. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 40, 3169–3176. (Summary) **98j:81211** 81T13 (81T27)

— (*with* Kim, Nakwoo; Kimm, Kyoungtae) Charged black cosmic string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1513–1520. 83F05 (83C57)

Kim, Youn-Hee (*with* Kim, Jae-Gyeom; Cho, Sung Jin) Products of T-generalized state machines and T-generalized transformation semigroups. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 87–97. (Summary) **98i:68201** 68Q68 (04A72)

Kim, Young B. (*with* Makowski, Armand M.) Simple optimization problems via majorization ordering. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 438–442. 93B60 (90C30)

Kim, Young H. *see* **Kim, Young Ho^2**

Kim, Young-Hee (*with* Jun, Young Bae; Kim, Jong Youl; Kim, Hee Sik) Fuzzy commutative $\mathcal{J}$-ideals in BCI-semigroups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 889–898. 06F35 (04A72)

Kim, Young-Heon (*with* Yim, Jin-Whan) Harmonic maps into open manifolds with nonnegative curvature. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 789–796. (Anne-Joëlle Vanderwinden) **98a:58050** 58E20 (53C20)

Kim, Young Ho^1 Low type pseudo-Riemannian submanifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 437–452. (Pascual Lucas Saorin) **98f:53052** 53C40

— *see also* **Proceedings: Workshop on Differential Geometry, 98b:53001**

Kim, Young Ho^2 (*with* Lewis, Frank L.; Abdallah, Chaouki T.) A dynamic recurrent neural-network-based adaptive observer for a class of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1539–1543. 93B07 (93C83)

Kim, Young-Hoon (*with* Han, Seok-Hee; Ha, In-Joong) Iterative identification of state-dependent disturbance torque for high-precision velocity control of servo motors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 724–729. 93B30

Kim, Young Hyun (*with* Shannon, Anthony; Kim, Soon-Ki; Sorsich, Joseph; Atanassov, Krassimir Todorov; Georgiev, Peter Raikov) A possibility for implementation of elements of the intuitionistic fuzzy logic in decision making in medicine. First International Conference on Intuitionistic Fuzzy Sets (Sofia, 1997). *Notes IFS* **3** (1997), *no.* 4, 40–43. (*see* **98e:03031**) 03E72

Kim, Young Ik (*with* Feldstein, Alan) Bifurcation and k-cycles of a finite-dimensional iterative map, with applications to logistic delay equations. (English summary) Volterra

centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 411–424. (Frederick R. Marotto) **98h:58126** 58F14 (34K15, 39B12, 58F08)

Kim, Young Ja (*with* Schoen, Robert) Exploring cyclic net reproduction. (English summary) *Math. Population Stud.* **6** (1997), *no.* 4, 277–290. (Summary) **98i:92035** 92D25

Kim, Young-Ja (*with* Pyo, Yong-Soo) Finite type closed curves on pseudo-hyperbolic spaces. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 149–162. (Ivko Dimitric) **98b:53049** 53C40

Kim, Young-Key On group extensions of minimal homeomorphisms. II. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 393–400. 54H20

Kim, Young-One Critical zeros and nonreal zeros of successive derivatives of real entire functions. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 657–667. (George L. Csordas) **98e:30029** 30D15 (30D35)

— Critical points of real entire functions whose zeros are distributed in an infinite strip. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 472–481. (George L. Csordas) **98e:30030** 30D15 (30D35)

Kim, Young Sik A change of scale formula for Wiener integrals of cylinder functions on abstract Wiener space. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 73–78. 28C20 (46G12)

Kim, Young Suh Wigner's last papers on spacetime symmetries. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 1–10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98i:81075** 81R05 (01A70, 81–03)

— (*with* Han, Daesoo) Lorentz boosts as squeeze transformations and coherence problems. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 458–461, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81V05 (81R05)

— Wigner's influence on particle physics: unification of spacetime symmetries of massive and massless particles. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2741–2746. (Summary) **98f:81001** 81–03 (81R05)

— Lorentz boosts as squeeze transformations and the parton picture. (English summary) *J. Moscow Phys. Soc.* **6** (1996), *no.* 1, 45–58. (Summary) **98a:81255** 81V05 (83A05)

— (*with* Başkal, S.) Little groups and Maxwell-type tensors for massive and massless particles. (English summary) *Europhys. Lett.* **40** (1997), *no.* 4, 375–380. 81R05

— Group contractions: Inonu, Wigner, and Einstein. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 71–78. (Hartmut Schlosser) **98d:81026** 81R05 (22E70)

Kim, Young-Won (*with* Lee, Sangyeol) The asymptotic unbiasedness of S^2 in the linear regression model with dependent errors. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 235–241. (Lin-Cheng Zhao) **98c:62128** 62J05 (62M10)

Kim, Yun Kyong (*with* Jang, Lee-Chae; Kil, B. M.; Kwon, Joong-Sung) Some properties of Choquet integrals of set-valued functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 95–98. 28E10 (04A72, 28B20)

— Chung's law of large numbers for fuzzy random variables. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 125–131. 60F99

Kimball, John C. (*with* Schulz, Michael; Trimper, Steffen) q-statistics and the master equation. (English summary) *Phys. Lett. A* **235** (1997), *no.* 2, 113–117. (Summary) **98j:82041** 82C10 (81R50, 81S05)

Kimber, Alan C. *see* **Lifetime data: models in reliability and survival analysis, 98a:62001**

Kimberling, Clark Major centers of triangles. *Amer. Math. Monthly* **104** (1997), *no.* 5, 431–438. (E. J. F. Primrose) **98a:51016** 51M04 (51M15)

— Fractal sequences and interspersions. *Ars Combin.* **45** (1997), 157–168. (Y. H. Harris Kwong) **98d:11023** 11B75 (11B83)

— Best lower and upper approximates to irrational numbers. (German summary) *Elem. Math.* **52** (1997), *no.* 3, 122–126. (W. W. Adams) **98e:11086** 11J70

— (*with* Yff, Peter) The circumcircle and the line at infinity. *Missouri J. Math. Sci.* **9** (1997), *no.* 1, 3–22. (E. J. F. Primrose) **98c:51021** 51M04

— Palindromic sequences from irrational numbers. *Fibonacci Quart.* **36** (1998), *no.* 2, 171–173. 11B83

Kimble, H. J. (*with* Oppo, G.-L.) Quantum fluctuations and applications of squeezed light. *Quantum dynamics of simple systems* (*Stirling*, 1994), 183–198, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (*see* **98m:81003**) 81V80

tran Kim Chi *see* **Tran Kim Chi**

Kime, K. Control of matter waves in adjacent potential wells. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 4, 369–381. (Vadim Komkov) **98b:93012** 93B05 (35J10, 81Q05, 93C20)

Kiming, Ian On the asymptotics of the number of $\overline{p}$-core partitions of integers. *Acta Arith.* **80** (1997), *no.* 2, 127–139. (Ken Ono) **98f:11108** 11P82

— On the existence of $\overline{p}$-core partitions of natural numbers. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 189, 59–65. (Ken Ono) **98f:11109** 11P82 (11F11)

Kimler, William C., IV (*with* Nelson, Charles A.) Macro-deformed coherent states and the q-analogue quantized field. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 949–971. (Apostolos Vourdas) **98f:81133** 81R50 (81R30)

Kimm, Kyoungtae (*with* Kim, Nakwoo; Kim, Yoonbai) Charged black cosmic string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1513–1520. 83F05 (83C57)

Kimmel, Marek (*with* Gawel, Bolesław) The iterated Galton-Watson process. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 949–959. (Summary) **98a:60119** 60J80

— (*with* Stivers, David N.) A continuous-time, multi-type generational inheritance branching process model of cell proliferation with clonal memory. (English summary) *Nonlinear World* **3** (1996), *no.* 3, 385–399. (Summary) **98c:92004** 92C15 (60J85, 92D10)

— (*with* Polański, Andrzej; Chakraborty, Ranajit; Deka, R.) Dynamic balance of segregation distortion and selection maintains normal allele sizes at the myotonic dystrophy locus. (English summary) *Math. Biosci.* **147** (1998), *no.* 1, 93–112. 92D20 (92C50)

Kimmel, Ron (*with* Caselles, Vicent; Sapiro, Guillermo; Sbert, Catalina) Minimal surfaces: a geometric three-dimensional segmentation approach. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 423–451. (Allen Tannenbaum) **98j:53009** 53A10 (65D17, 65Y25)

Kimmerle, Wolfgang On the characterization of simple groups by modular group algebras. *Darstellungstheorietage Jena* 1996, 87–91, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Herbert Pahlings) **98k:20008** 20C05 (20D06)

— On automorphisms of $\mathbf{Z}G$ and the Zassenhaus conjectures. *Representation theory of algebras* (*Cocoyoc*, 1994), 383–397, *CMS Conf. Proc.*, 18, *Amer. Math. Soc., Providence, RI*, 1996. (*see* **96m:16001**) 20C07 (16S34)

Kimn, Ha-Jine (*with* Jeon, Youngmok) A quadrature method for logarithmic-kernel integral equations on closed curves. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 929–954. (M. Z. Nashed) **98i:65106** 65N35 (45L05, 65R20)

Kimoto, Masahide (*with* Itoh, Hisanori) Multiple attractors and chaotic itinerancy in a quasigeostrophic model with realistic topography: implications for weather regimes and low-frequency variability. (English summary) *J. Atmospheric Sci.* **53** (1996), *no.* 15, 2217–2231. (Summary) **98a:86012** 86A10 (58F13, 58F40, 76U05)

de grande-de Kimpe, Nicole *see* **De Grande-De Kimpe, Nicole**

tran Kim Thanh *see* **Tran Kim Thanh**

vũ Kim Tuân *see* **Vũ Kim Tuân**

Kimura, Hidenori (*with* Okunishi, Fumitake) Chain-scattering approach to control system design. (English summary) *Trends in control* (*Rome*, 1995), 151–171, *Springer, Berlin*, 1995. (Abdelmoula El Bouhtouri) **98d:93042** 93B36 (93B52)

— ★ Chain-scattering approach to H^∞ control. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. x+246 *pp. ISBN* 0-8176-3787-7 (Ian Petersen) **98c:93005** 93–02 (46N99, 47N70, 93B36, 93B52)

— (*with* Baramov, Lubomir) Nonlinear L_2-gain suboptimal control. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1247–1262. (Summary) **98e:93034** 93B36

— (*with* Lee, Peng Hin; Soh, Yeng Chai) Characterizations of J-lossless time-varying systems via the chain scattering approach. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 39–48. (Summary) **98i:93015** 93B15 (93C05)

Kimura, Hironobu (*with* Koitabashi, Toshiyuki) Normalizer of maximal abelian subgroups of $\mathrm{GL}(n)$ and general hypergeometric functions. (English summary) *Kumamoto J. Math.* **9** (1996), 13–43. (Summary) **98b:33031** 33C70 (20G20, 33C80)

— On the homology group associated with the general Airy integral. *Kumamoto J. Math.* **10** (1997), 11–29. (Takeshi Sasaki) **98g:32063** 32S40 (33C10, 33C70)

— On rational de Rham cohomology associated with the generalised confluent hypergeometric functions. I. $\mathbf{P}^1$ case. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 145–155. (Masaaki Yoshida) **98b:14019** 14F40 (14D05, 32G34, 33C70)

Kimura, Hiroshi[1] (*with* Harada, Masaaki) On extremal self-dual codes. *Math. J. Okayama Univ.* **37** (1995), 1–14 (1996). (Ivan Landgev) **98b:94019** 94B05 (11T71, 94B65)

Kimura, Iwao Relative 3 class numbers of quadratic extensions of algebraic number fields and relative Iwasawa invariants. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 90–100. (Yuichiro Taguchi) **98j:11094** 11R23 (11R18, 11R29, 11R45)

Kimura, Kouji Topological dynamics on Julia sets of hyperbolic rational maps. (Japanese) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 172–181. (*see* **98h:58002**) 58F23

Kimura, Makoto Curves in $\mathrm{SU}(n+1)/\mathrm{SO}(n+1)$ and some submanifolds in $\mathbf{P}^n(\mathbf{C})$. *Saitama Math. J.* **14** (1996), 79–89. (Jürgen Berndt) **98a:53075** 53C35 (53C42)

Kimura, Masato Numerical analysis of moving boundary problems using the boundary tracking method. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 373–398. (Pekka Neittaanmäki) **98g:65082** 65M30 (65M99)

Kimura, S. Roy (*with* Zhang, Chao; Weng, Zhiping; Vajda, Sandor; Brower, Richard C.; Delisi, Charles) The waters of life. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 213–240. (*see* **98i:92001**) 92C40 (92–02, 92C45)

Kimura, Shun-ichi (*with* Vistoli, Angelo) Chow rings of infinite symmetric products. *Duke Math. J.* **85** (1996), *no.* 2, 411–430. (Gary P. Kennedy) **98a:14005** 14C15 (14K99)

Kimura, Takashi *see* **Kimura, Takashi[2]**

Kimura, Takashi[1] A note on [a] compactification theorem for trdim. (English summary) *Topology Proc.* **20** (1995), 145–159. (Summary) **98a:54029** 54F45 (54D35)

Kimura, Takashi[2] (*with* Figueroa-O'Farrill, José M.; Valntrob, A. Yu.) The universal Vassiliev invariant for the Lie superalgebra gl(1|1). (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 93–127. (Sergei V. Chmutov) **98e:17014** 17B35 (57M25)

Kimura, Tatsuo (*with* Fujinaga, Makiko; Kogiso, Takeyoshi) On functional equations of prehomogeneous zeta distributions over a local field of characteristic p. (English summary) Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 153–163. (Boris Datskovsky) **98g:11136** 11S40 (11M41)

— (*with* Kogiso, Takeyoshi; Fujinaga, Makiko) Fundamental theorem of prehomogeneous vector spaces of characteristic p. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 331–341. (Margaret M. Robinson) **98d:11152** 11S40 (11S80)

Kimura, Tetsuya (*with* Hara, Shinji; Tomisaka, Toshihiro) H^∞ control with minor feedback and its application to a pressure control system. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 6, 331–337. 93B36 (93C95)

Kimura, Toshiei (*with* Sogami, Ikuo S.; Sugano, Reiji) Generators of gauge transformations for reducible and irreducible cases. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 57–71, *World Sci. Publishing, River Edge, NJ*, 1994. (Hans P. Künzle) **98i:58089** 58F05 (70G50)

Kimura, Yasunori Features related to the epiconvergence of lower semicontinuous functions. (Japanese) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 1–6. (*see* **98g:00027**) 49J45

Kimura, Yoshifumi Generation of a vortex structure in rotating stratified turbulence. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 203–212. (*see* **98e:76004**) 76F99 (76C05, 76U05, 76V05)

Kimura, Yutaka (*with* Tanaka, Kensuke) On duality of discrete time stochastic control processes. (English summary) *Bull. Inform. Cybernet.* **29** (1997), *no.* 1, 91–103. (Bożenna Pasik-Duncan) **98e:93111** 93E20 (49L20, 49N15, 90C39)

— (*with* Kuroiwa, Daishi; Tanaka, Kensuke) An equilibrium theorem for subdifferential. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 301–312. (Abderrahim Jourani) **98h:49017** 49J52 (49K27, 90C48)

— (*with* Sawasaki, Yoichi; Tanaka, Kensuke) On ε-core of a fuzzy game with side-payments. (Japanese. Japanese summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 173–178. (*see* **98h:90004**) 90D15 (04A72)

— (*with* Tanaka, Kensuke; Tanaka, Tamaki) On semicontinuity of marginal functions $\sup_{y\in F(x)} f(y)$ and $\inf_{y\in F(x)} f(y)$. (Japanese) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 35–41. (*see* **98g:00027**) 90C31 (49K40)

el Kinani, Abdellah *see* **El Kinani, Abdellah**

el Kinani, E. H. *see* **El Kinani, E. H.**

Kinber, Efim (*with* Freivalds, Rūsiņš; Smith, Carl H.) On the impact of forgetting on learning machines. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 6, 1146–1168. (Mark R. Jerrum) **98i:68237** 68T05 (03D20, 68Q30)

— (*with* Case, John; Sharma, Arun K.; Stephan, Frank C.) On the classification of computable languages. (English summary) *STACS* 97 (*Lübeck*), 225–236, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68079** 68Q45 (03D05, 68T05)

— (*with* Case, John; Kaufmann, Susanne; Kummer, Martin Walter) Learning recursive functions from approximations. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 183–196. (Sanjay Jain) **98k:68131** 68Q99 (03D20, 68T05)

Kindelan, M. (*with* Bonilla, Luis L.; Hernando, P. J.; Herrero, Miguel A.; Velázquez, Juan J. L.) Asymptotics of the trap-dominated Gunn effect in *p*-type Ge. (English summary) *Phys. D* **108** (1997), *no.* 1-2, 168–190. (Summary) **98k:78046** 78A55 (78–04, 82D99)

Kinderlehrer, David Metastability and hysteresis in active materials. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 2–13, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (From the introduction) **98h:73012** 73B30 (49J40, 73S10, 73V25)

— (*with* Ma, Ling[1]) The hysteretic event in the computation of magnetization. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 2, 101–128. (Summary) **98b:78013** 78A30 (73R05, 78–04)

Kindervater, Gerard A. P. (*with* Savelsbergh, Martin W. P.) Vehicle routing: handling edge exchanges. *Local search in combinatorial optimization*, 337–360, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C35 (05C90)

Kindler, Ekkart (*with* Walter, Rolf) Arc-typed Petri nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 289–306, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q90

— A compositional partial order semantics for Petri net components. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 235–252, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98j:68120** 68Q90 (68Q55)

— (*with* Walter, Rolf) Mutex needs fairness. *Inform. Process. Lett.* **62** (1997), *no.* 1, 31–39. (From the introduction) **98b:68047** 68Q10 (68Q55, 68Q90)

Kindler, Jürgen Topological minimax theorems and approximation. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 8–21. (Bor-Luh Lin) **98e:49015** 49J35 (46N10)

King, A. C. *see* **King, Andrew C.**

King, A. D. (*with* Balaji, V.; Newstead, P. E.) Algebraic cohomology of the moduli space of rank 2 vector bundles on a curve. (English summary) *Topology* **36** (1997), *no.* 2, 567–577. (Nitin Nitsure) **98c:14009** 14D20 (14C25, 14C30, 14F25, 14H40)

King, Andrew C. (*with* Billingham, J.) Uniform asymptotic expansions for the Barnes double gamma function. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1817–1829. (Summary) **98i:33016** 33C70 (39A99, 76Q05)

King, Belinda B. (*with* Burns, John A.; Rubio, Diana) Regularity of feedback operators for boundary control of thermal processes. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 67–73, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93C95 (93B52)

— Modeling and control of a multiple component structure. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 51–86. (Zhuangyi Liu) **98m:73063** 73K12 (73K50, 93C20)

King, Christopher K. (*with* Wu, F. Y.) Star-star relation for the Potts model. (English summary) Proceedings of the Conference on Exactly Soluble Models in Statistical Mechanics: Historical Perspectives and Current Status (Boston, MA, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 1-2, 51–56. (Azer Kerimov) **98a:82020** 82B20

— (*with* Lesniewski, Andrzej) Periodic motion of atoms near a charged wire. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 367–378. (Alain Joye) **98i:81042** 81Q05

— (*with* Waxler, Roger) Resonant decay near an accumulation point. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 2, 227–241. (Vladimir Georgescu) **98c:81059** 81Q15 (47A55, 47N50, 81Q10)

— (*with* Lesniewski, Andrzej) Quantum sources and a quantum coding theorem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 88–101. (Matthew J. Donald) **98k:81032** 81P99 (94A24)

King, Chung-Ta (*with* Chang, Chia-Ming; Chen, Chien-Ming) Using integer linear programming for instruction scheduling and register allocation in multi-issue processors. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 1–14. 90B35 (90C90)

King, David Anthony (*with* Turner, Gerard L'E.) The astrolabe presented by Regiomontanus to Cardinal Bessarion in 1462. (English and Italian summaries) *Nuncius Ann. Storia Sci.* **9** (1994), *no.* 1, 165–206. (Summary) **98c:01008** 01A40

— On the role of the muezzin and the muwaqqit in medieval Islamic society. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 285–346, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (*see* **98b:01002**) 01A30

King, Deborah M. Maximal entropy of permutations of even order. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1409–1417. (Peter Raith) **98j:58040** 58F03 (54C70, 54H20, 58F08)

King, G. P. (*with* Ashwin, Peter) A study of particle paths in non-axisymmetric Taylor-Couette flows. (English summary) *J. Fluid Mech.* **338** (1997), 341–362. (Summary) **98c:76115** 76U05 (76C05, 76D05, 76E30, 76F20)

— (*with* Yannacopoulos, A. N.; Mezić, Igor; Rowlands, George) Eulerian diagnostics for Lagrangian chaos in three-dimensional Navier-Stokes flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 482–490. (Summary) **98i:76042** 76F20

King, Henry Churchill Topology of isolated critical points of functions on singular spaces. *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 63–72, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Aleksandr G. Aleksandrov) **98j:57052** 57R70 (57N80, 58A35)

King, J. R. *see* **King, John Robert**

King, J. Thomas (*with* Bramble, James H.) A finite element method for interface problems in domains with smooth boundaries and interfaces. (English summary) *Adv. Comput. Math.* **6** (1996), *no.* 2, 109–138 (1997). (Robert Beauwens) **98e:65094** 65N30 (65F10)

King, John Robert (*with* Evans, Jonathan David; Tayler, A. B.) Finite-length mask effects in the isolation oxidation of silicon. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 2, 121–146. (Summary) **98a:80003** 80A20 (73K20)

— (*with* Meere, M. G.) Some moving-boundary problems arising from a model for solid-state diffusion. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 1, 1–27. (Hideo Ikeda) **98g:35104** 35K57 (35B25, 35R35, 76R50, 82D99)

— (*with* Wallman, A. M.; Riley, D. S.) Asymptotic and numerical solutions for the two-dimensional solidification of a liquid half-space. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1397–1410. (Summary) **98d:80011** 80A22 (80–08)

King, Jonathan L. (*with* Keating, Kevin) Shape tiling. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 12, *approx.* 5 *pp.* (*electronic*). (Denis Richard) **98e:52023** 52C20 (05B45)

— On M. Gordin's homoclinic question. *Internat. Math. Res. Notices* **1997**, *no.* 5, 203–212. (Manfred Denker) **98f:28024** 28D05 (60F05)

King, Martin (*with* Fan, Jianqing; Gijbels, Irène) Local likelihood and local partial likelihood in hazard regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1661–1690. (J. A. Melamed) **98f:62090** 62G05

King, Maxwell L. (*with* Wu, Ping X.) Locally optimal one-sided tests for multiparameter hypotheses. (English summary) *Econometric Rev.* **16** (1997), *no.* 2, 131–156. (Summary) **98a:62025** 62F03

— (*with* Rahman, Shahidur) Marginal-likelihood score-based tests of regression disturbances in the presence of nuisance parameters. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 81–106. 62P20

King, Melvin E. (*with* Vakakis, Alexander F.) Resonant oscillations of a weakly coupled, nonlinear layered system. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 59–80. (Summary) **98m:73044** 73D35 (73V15)

— (*with* Layne, Philip A.) Dynamics of nonlinear cyclic systems with structural irregularity. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 225–244. (Summary) **98m:70027** 70K25

King, R. C. *see* **King, Ronald Curtis**

King, Robert E. (*with* Apostolou, Nikolaos) A direct learning law for a class of auto-associative dynamic neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 580–583. 92B20

King, Ronald Curtis (*with* Welsh, T. A.) Representations of quantum algebras. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 183–196, *World Sci. Publishing, River Edge, NJ*, 1995. (Nicolás Andruskiewitsch) **98k:17017** 17B37 (81R50)

King, S. F. (*with* Allanach, B. C.) Infra-red stable fixed points of Yukawa couplings in supersymmetric models. (English summary) *Phys. Lett. B* **407** (1997), *no.* 2, 124–130. (Summary) **98c:81211** 81T60 (81V22)

— (*with* Shafi, Q.) Minimal supersymmetric $SU(4) \times SU(2)_L \times SU(2)_R$. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 135–140. 81T60 (81V22)

King, Valerie A simpler minimum spanning tree verification algorithm. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 440–448, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C05, 05C85, 68Q25)

— (*with* Henzinger, Monika Rauch) Maintaining minimum spanning trees in dynamic graphs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 594–604, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98k:68040** 68P05 (05C05, 05C85)

— A simpler minimum spanning tree verification algorithm. (English summary) *Algorithmica* **18** (1997), *no.* 2, 263–270. (Summary) **98c:68171** 68R10 (05C05, 05C85, 68Q25)

— (*with* Poon, Chung Keung; Ramachandran, Vijaya; Sinha, Santanu) An optimal EREW PRAM algorithm for minimum spanning tree verification. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 153–159. (Summary) **98a:68084** 68Q22 (68R10)

Kingan, S. R. On binary matroids with a $K_{3,3}$-minor. (English summary) *Matroid theory* (*Seattle, WA*, 1995), 363–369, *Contemp. Math.*, 197, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **98g:05033** 05B35 (05C75)

— A generalization of a graph result of D. W. Hall. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 129–135. (Summary) **98c:05039** 05B35

King-Hele, J. A. (*with* Jones, A. F.; Cardew, P. T.) A mathematical model of a hollow-fibre filter. (English summary) *Progress in industrial mathematics at ECMI* 96 (*Lyngby*, 1996), 50–57, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76S05

Kings, Guido Extensions of motives of modular forms. *Math. Ann.* **309** (1997), *no.* 3, 375–399. (Alexey A. Panchishkin) **98j:11050** 11G40 (11F11, 14F20, 14G10, 19F27)

Kinnaert, M. (*with* Peng, You Bin) Residual generator for sensor and actuator fault detection and isolation: a frequency domain approach. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1423–1435. 93B30 (93E12)

Kinnersley, Nancy (*with* Kong, M. C.) On geodetic basis problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 73–82. (Summary) **98j:05120** 05C85

Kinney, R. M. (*with* McWilliams, James C.; Wolansky, Gershon) Stability of magnetic vortices with flow in anisotropic magnetohydrodynamics. (English summary) *Phys. Plasmas* **3** (1996), *no.* 10, 3583–3590. (Summary) **98b:76033** 76E25 (76C05, 76M25, 76W05)

— (*with* McWilliams, James C.) Turbulent cascades in anisotropic magnetohydrodynamics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7111–7121. 76W05 (76F99)

Kinnunen, Juha (*with* Martio, Olli) The Sobolev capacity on metric spaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **21** (1996), *no.* 2, 367–382. (S. K. Vodop'yanov) **98c:46063** 46E35 (28A80, 31B15)

— (*with* Martio, Olli) Hardy's inequalities for Sobolev functions. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 4, 489–500. (Takahide Kurokawa) **98k:46052** 46E35 (26D15, 42B25)

Kino, Issei Two-layer queueing networks. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 2, 163–185. (Summary) **98f:60191** 60K25 (90B22)

Kinoshita, Yoshiki (*with* Power, Anthony John) A fibrational semantics for logic programs. (English summary) *Extensions of logic programming (Leipzig, 1996)*, 177–191, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (Summary) **98f:68046** 68N17 (68Q55)

— (*with* Power, Anthony John) Lax naturality through enrichment. (English summary) *J. Pure Appl. Algebra* **112** (1996), *no.* 1, 53–72. (Summary) **98f:18010** 18C15 (18D10)

— (*with* Power, Anthony John; Takeyama, Makoto) Sketches. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98h:18006** 18C10 (18C15, 68Q55)

— (*with* O'Hearn, Peter W.; Power, Anthony John; Takeyama, Makoto; Tennent, Robert D.) An axiomatic approach to binary logical relations with applications to data refinement. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 191–212, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q65

— Nobuo Yoneda (1930–1996). *Math. Japon.* **47** (1998), *no.* 1, 155. 01A70

Kinouchi, Osame (*with* Tragtenberg, Marcelo H. R.) Modeling neurons by simple maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*A*, 2343–2360. (Paul E. Rapp) **98f:92002** 92C20 (92B20)

Kinzel, W. (*with* López, B.) Learning by dilution in a neural network. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7753–7764. 82C32 (92B20)

— (*with* Urbanczik, R.) On-line learning in a discrete state space. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L*27–*L*30. 82C32

Kinzelbach, Wolfgang *see* **Modeling and computation in environmental sciences, 98f:76003**

Kipnis, Mikhail M. Boolean averaging in a statistical mechanics model and in an analog-to-digital converter. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 397–402. (Summary) **98f:82079** 82B99 (94A14)

Kippig, Frank A complete boundary collocation system. (English summary) *Clifford algebras and spinor structures*, 335–342, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (John Ryan) **98k:30066** 30G35 (15A66, 65M70)

Kipriyanova, N. I. Estimates of anti–a priori type for eigen- and associated functions of the singular Schrödinger operator. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 6, 736–738. (Michael A. Perel'muter) **98h:35179** 35P05 (35J10, 47F05)

Kira, E. (*with* Ji, Chuanshu) Rates of convergence for the Gibbs sampler. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 89–102. (Arnoldo Frigessi) **98f:60209** 60K35 (47D07, 47N30, 60J20, 65C05)

Kiralis, Geoffrey (*with* Krstić, Sava; McCool, James) Finite presentability of $\Phi_n(G)$, $\mathrm{GL}_n(\mathbf{Z}G)$ and their elementary subgroups and Steinberg groups. *Proc. London Math. Soc.* (3) **73** (1996), *no.* 3, 575–622. (Alexander J. Hahn) **98a:20046** 20G35 (19B28, 20F05)

Kiralis, Jeff A non-abelian K-theory and pseudo-isotopies of 3-manifolds. (English summary) *K-Theory* **10** (1996), *no.* 2, 135–174. (Erik K. Pedersen) **98f:19002** 19C99 (57N10)

Király, Zoltán (*with* Guiduli, Barry) On intersecting hypergraphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 139–151. (Summary) **98m:05137** 05C65

Királyfalvi, György (*with* Szabó, Barna A.) Quasi-regional mapping for the p-version of the finite element method. (English summary) *Finite Elem. Anal. Des.* **27** (1997), *no.* 1, 85–97. 73V05

Kiran, Ali S. (*with* Unal, Ali Tamer; Uzsoy, Reha) Rescheduling on a single machine with part-type dependent setup times and deadlines. (English summary) *Ann. Oper. Res.* **70** (1997), 93–113. (Jacques A. Ferland) **98f:90031** 90B35 (90C27)

Kirane, Mokhtar (*with* Guedda, M.) A Lyapunov function for a reaction-diffusion system. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 95–97. 35K57

— (*with* Guedda, M.; Tatar, N.) Asymptotic behavior of solutions to a diffusive Volterra equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 91–102. (Summary) **98b:35097** 35K60 (35B40, 45K05)

— (*with* Rogovchenko, Yu. V.) Comparison results for systems of impulse parabolic equations with applications to population dynamics. *Nonlinear Anal.* **28** (1997), *no.* 2, 263–276. (Emil Ivanov Minchev) **98a:35133** 35R10 (35B05, 35K50, 92D25)

— (*with* Guedda, M.) Errata to: "A Lyapunov function for a reaction-diffusion system" [Appl. Math. Lett. **10** (1997), no. 3, 95–97]. *Appl. Math. Lett.* **11** (1998), *no.* 2, 131. 35K57

Kirby, Robion C. *see* **Problems: Low-dimensional topology, (98f:57001)**

Kirchberg, Eberhard (*with* Blackadar, Bruce) Generalized inductive limits of finite-dimensional C^*-algebras. *Math. Ann.* **307** (1997), *no.* 3, 343–380. (Terry A. Loring) **98c:46112** 46L05 (46L35)

Kircher, Anthanasius *see* **Knobloch, Eberhard, 98m:01007**

Kirchherr, Walter (*with* Li, Ming[1]; Vitányi, Paul M. B.) The miraculous universal distribution. *Math. Intelligencer* **19** (1997), *no.* 4, 7–15. (Zeno G. Swijtink) **98m:00015** 00A35 (00A69, 68Q30)

Kirchner, Claude (*with* Alouini, Ilies) Toward the concurrent implementation of computational systems. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 1–31, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q42 (68Q10, 68Q60)

— (*with* Borovanský, Peter; Kirchner, Hélène) Controlling rewriting by rewriting. (English summary) *First International Workshop on Rewriting Logic and its Applications (Pacific Grove, CA, 1996)*, 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (Summary) **98i:68135** 68Q42

— (*with* Lynch, Christopher; Scharff, Christelle) Fine-grained concurrent completion. (English summary) *Rewriting techniques and applications (New Brunswick, NJ, 1996)*, 3–17, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q42

— (*with* Ajili, Farid) A modular framework for the combination of unification and built-in constraints. (English summary) *Logic programming (Leuven, 1997)*, 331–345, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **98e:68032**) 68N17 (68T20)

Kirchner, Eckhard (*with* Reese, Stefanie; Wriggers, Peter) A finite element method for plane stress problems with large elastic and plastic deformations. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 963–976. 73V05 (73E99, 73G20)

Kirchner, H. *see* **Kirchner, Hélène**

Kirchner, H. O. K. Weight functions for notches: constructive and variational definition. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 2, 270–274. (Robin Olivian Simionescu-Panait) **98e:73104** 73M25

Kirchner, Hélène (*with* Borovanský, Peter; Kirchner, Claude) Controlling rewriting by rewriting. (English summary) *First International Workshop on Rewriting Logic and its Applications (Pacific Grove, CA, 1996)*, 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 4, *Elsevier, Amsterdam*, 1996. (Summary) **98i:68135** 68Q42

— *see also* **Trees in algebra and programming, 98k:68016**

Kirchner, Stefan (*with* Inomata, Akira) The Maxwell-Boltzmann behavior of a quon gas. (English summary) *Phys. Lett. A* **222** (1996), *no.* 4, 213–219. (Zhaoyan Wu) **98k:81113** 81R50 (82B10)

— (*with* Inomata, Akira) Bose-Einstein condensation of a quon gas. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 311–314. (Marcelo R. Ubriaco) **98k:82014** 82B10 (81R50)

Kirdar, Mehmet KO-rings of $S^{2k+1}/\mathbf{Z}_{2^r}$. (English summary) *K-Theory* **13** (1998), *no.* 1, 57–59. (Summary) **98m:55013** 55Q50 (55R50)

Kireĭtov, V. R. On equations of incoherent physical fields in particle approximation. (Russian) *Conditionally well-posed problems in mathematical physics and analysis (Russian)*, 124–137, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (From the text) **98b:35207** 35Q99 (35L99, 78A40)

Kirfel, Christoph (*with* Breiteig, Trygve) Primes in recursive sequences. (Norwegian. English summary) *Normat* **45** (1997), *no.* 3, 103–112, 143. (Summary) **98h:11008** 11A41

Kirichenko, N. F. (*with* Baranovskaya, L. V.; Chikriĭ, Al. A.) On a class of linear differential-difference pursuit games. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 24–26. 90D25 (34K35)

— Analytical representation of perturbations of pseudo-inverse matrices. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 98–107, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 230–238. (Anna Lee) **98i:15009** 15A09

Kirichenko, Vladimir Semi-perfect rings and their quivers. (English summary) Representation theory of groups, algebras, and orders (Constanţa, 1995). *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **4** (1996), *no.* 2, 89–97. (D. Zacharia) **98a:16017** 16G20

— (*with* Danlyev, Kh. M.; Yaremenko, Yu. V.) On weakly prime Noetherian semiperfect rings with two-generated right ideals. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 12, 7–9 (1997). (H. H. Brungs) **98f:16016** 16N60 (16G20)

— (*with* Yaremenko, Yu. V.) Multiserial rings. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 9, 1223–1235; *translation in Ukrainian Math. J.* **48** (1996), *no.* 9, 1388–1401 (1997). (Daniel Simson) **98f:16007** 16D70 (16E60, 16P70)

Kirichenko, Yu. V. Correct solvability of a subperiodic boundary value problem in an infinite block. (Russian) *Functional analysis and applied mathematics (Russian)*, 71–80, 214, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 35G15

Kirichok, A. V. (*with* Kuklin, V. M.; Panchenko, I. P.) On the possibility of a dynamo mechanism in a regular convectively unstable medium. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 87–92. (Summary) **98j:76039** 76E15 (76C05, 76W05)

Kiriki, Shin The Palis and Takens' problem on the first homoclinic tangency inside the horseshoe. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 4, 737–744. (Summary) **98f:58149** 58F15

Kirillin, V. A. ★ Страницы истории науки и техники. (Russian. Russian summary) [Pages from the history of science and technology] Third edition. Наука. Мировоззрение. Жизнь. [Science. Outlook. Life] "*Nauka*", *Moscow*, 1994. 351 *pp.* *ISBN* 5-02-000821-4 (Editors) **98b:01003** 01A05

Kirillov, A. A. *see* **Kirillov, Aleksandr Aleksandrovich**

Kirillov, A. I. Dirichlet spaces of random processes and generalizations of Itô's formula. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 201–209, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60127** 60J60 (31C25, 60H05)

— (*with* Zav'yalov, O. I.; Kanenaga, M.; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.) On the quantization of systems with action that is unbounded from below. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 2, 175–186; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 2, 1379–1387 (1997). (Summary) **98g:81104** 81S20

— On the theory of metastable states. (English summary) *Found. Phys.* **27** (1997), *no.* 12, 1701–1708. 81S40

— Generating functionals of the S-matrix and of the Schwinger functions in WN-analysis. I. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 3–14; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 395–404. (A. L. Rebenko) **98k:81299** 81U20 (81T08)

Kirillov, Aleksandr Aleksandrovich Combinatorics of coadjoint orbits. *The Sophus Lie Memorial Conference (Oslo, 1992)*, 153–160, *Scand. Univ. Press, Oslo*, 1994. (Michel Brion) **98e:17013** 17B30 (05A15)

Kirillov, Anatol N. (*with* Fomin, S. V.) The Yang-Baxter equation, symmetric functions, and Schubert polynomials. (English summary) Proceedings of the 5th Conference on Formal Power Series and Algebraic Combinatorics (Florence, 1993). *Discrete Math.* **153** (1996), *no.* 1-3, 123–143. (Jean-Yves Thibon) **98b:05101** 05E05 (14C17, 14M15, 82B23)

— (*with* Fomin, S. V.) Combinatorial B_n-analogues of Schubert polynomials. (English summary) *Trans. Amer. Math. Soc.* **348** (1996), *no.* 9, 3591–3620. (From the introduction) **98e:05110** 05E15 (14M15)

— (*with* Fomin, S. V.) Reduced words and plane partitions. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 311–319. (Kimmo Eriksson) **98m:05196** 05E15 (05A15)

— (*with* Liskova, N. A.) Completeness of Bethe's states for the generalized XXZ model. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1209–1226. (Gunter Schütz) **98e:82027** 82B23 (82B20)

Kirillova, F. M. (*with* Balashevich, N. V.; Gabasov, R.) Stabilization of dynamical systems in the presence of delays in the feedback channel. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 6, 31–39; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 1, 794–800. (Grigory M. Sklyar) **98b:93053** 93D15 (49K25)

— (*with* Gabasov, R.; Kostina, E. A.) Closable feedback with respect to state for optimization of uncertain control systems. Part 1. Single loop. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 121–130; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 2, 1008–1015. (Summary) **98a:49056** 49N35 (93C42)

— (*with* Kalinin, A. I.; Kostyukova, O. I.) Stabilization of linear dynamical systems by means of low-inertia controls. I. The accompanying optimal control problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 14–21; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 528–534. (M. Krastanov) **98e:93087** 93D15 (49N05)

— (*with* Kalinin, A. I.; Kostyukova, O. I.) Stabilization of linear dynamical systems by means of low-inertia controls. II. Continuous stabilizer. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 45–52; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 749–755. (M. Krastanov) **98k:93096** 93D15 (49N05)

— (*with* Gabasov, R.; Prishchepova, S. V.) Optimal controller for discrete systems with indeterminate perturbations. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 227–239. (A. T. Barabanov) **98j:49048** 49N35 (93C55)

— (*with* Gabasov, R.; Kostyukova, O. I.) Real-time construction of a positional solution in a linear problem of hierarchical control. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 29–32. 49N35 (93A13)

— (*with* Lubochkin, A. V.) Synthesis of an optimal control in a linear-quadratic problem with constraints. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 736–739. (M. Krastanov) **98k:49047** 49N10 (49N35)

— (*with* Gao, Xuedong) Optimization of control systems with a piecewise-linear output. (English summary) *Optimization* **42** (1997), *no.* 2, 109–123. (Summary) **98i:49025** 49K15 (49N05)

— (*with* Kalinin, A. I.) Asymptotic minimization of the total impulse of control actions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1427–1438. (Summary) **98j:49047** 49N25 (49J15)

Kirillowa, Jewgenija (*with* Vielsack, Peter) Non-uniqueness of the motions of a friction oscillator with self-excitation. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 6, 1153–1164. (Summary) **98c:70021** 70K10 (70F99)

Kirilov, Leonid M. (*with* Vasil′ev, Vasil S.; Gouljashki, Vassil G.) An interactive algorithm of the multiple objective nonlinear integer programming. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 8–14. 90C29 (90C10)

— (*with* Vasil′ev, Vasil S.) An approach for solving discrete multiple criteria problems. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 97–104. 90C29 (90C10)

Kirilyuk, A. P. Quantum chaos and fundamental multivaluedness of dynamical functions. (English and French summaries) *Ann. Fond. Louis de Broglie* **21** (1996), *no.* 4, 455–480. (Summary) **98f:81077** 81Q50

Kiritsis, Elias (*with* Kounnas, Costas) Infrared behavior of closed superstrings in strong magnetic and gravitational fields. (English summary) *Nuclear Phys. B* **456** (1995), *no.* 3, 699–731. (George K. Savvidy) **98d:81089** 81T30

— (*with* Kounnas, Costas; Lüst, Dieter) Non-compact Calabi-Yau spaces and other non-trivial backgrounds for four-dimensional superstrings. (English summary) *Mirror symmetry, II*, 427–441, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Tsou Sheung Tsun) **98f:81265** 81T30 (83E30)

— (*with* Bachas, C.) F^4 terms in $N = 4$ string vacua. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 194–199. (Summary) **98c:81152** 81T30 (83E30)

— (*with* Bachas, C.; Fabre, Cyrille; Obers, N. A.; Vanhove, Pierre) Heterotic/type I duality and D-brane instantons. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 33–52. (Summary) **98k:81191** 81T30

— (*with* Gregori, Andrea; Kounnas, Costas; Obers, N. A.; Petropoulos, P. M.; Pioline, B.) R^2 corrections and non-perturbative dualities of $N = 4$ string ground states. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 423–476. (Summary) **98j:81274** 81T30 (83E30)

Kirjackis, Edward G. Some variational formulas in the class $\widetilde{K}_n(E)$ and their applications. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 1, 63–71; *translation in Lithuanian Math. J.* **36** (1996), *no.* 1, 51–57. (È. Yakubov) **98a:30030** 30C70

Kirjanen, A. *see* **Kir′yanen, A. I.**

Kirjner-Neto, C. (*with* Polak, Elijah) On the use of consistent approximations for the optimal design of beams. (English summary) *System modelling and optimization* (*Prague*, 1995), 235–242, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 73K40 (49M25, 49N55, 73K05)

— (*with* Polak, Elijah; Der Kiureghian, A.) An outer approximations approach to reliability-based optimal design of structures. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 1–16. 90C90 (90C30)

Kirk, Adrian W. (*with* Pomeranz, Shirley B.; Baker, William D.) An asymptotically exact finite element error estimator based on C^1 stress recovery. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 3-4, 319–329. (Summary) **98m:73084** 73V05

Kirk, J. G. (*with* Gieseler, U. D. J.) Comment on: "Diffusion through a slab" [J. Math. Phys. **36** (1995), no. 12, 6758–6773; MR 96j:82040] by G. D. Mahan. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2751–2754. (Summary) **98c:82060** 82C40 (76P05, 82C70)

Kirk, Paul A. (*with* Klassen, Eric P.) The spectral flow of the odd signature operator and higher Massey products. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 297–320. (Alexander Fel′shtyn) **98b:58158** 58G05 (55S30, 58G10)

— (*with* Livingston, Charles) Vassiliev invariants of two component links and the Casson-Walker invariant. *Topology* **36** (1997), *no.* 6, 1333–1353. (Charilaos Aneziris) **98e:57012** 57M25

— (*with* Klassen, Eric P.) Continuity and analyticity of families of self-adjoint Dirac operators on a manifold with boundary. *Illinois J. Math.* **42** (1998), *no.* 1, 123–138. (Liviu I. Nicolaescu) **98i:58234** 58G20 (58G18, 58G25)

Kirk, W. A. Some questions in metric fixed point theory. (English summary) *Recent advances on metric fixed point theory* (*Seville*, 1995), 73–97, *Ciencias*, 48, *Univ. Sevilla, Seville*, 1996. (Jarosław Górnicki) **98f:46010** 46B20 (47H09, 47H10)

— (*with* Sims, Brailey) Nonlinear isometries in superreflexive spaces. (English summary) *J. Math. Anal. Appl.* **201** (1996), *no.* 1, 247–251. (Claudio H. Morales) **98a:47062** 47H10 (47H15)

— A note on generalized limits and fixed points. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 289–292. (Summary) **98m:46014** 46B20 (47H10)

— (*with* Kang, Byung Gai) A fixed point theorem revisited. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 285–291. (Salvatore Sessa) **98e:47092** 47H10 (54H25)

— Hyperconvexity of R-trees. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 67–72. (Summary) **98k:54060** 54F50 (05C12, 54E35, 54H12, 54H25)

Kirkland, Stephen J. (*with* Beasley, Leroy B.) On the exponent of a primitive matrix containing a primitive submatrix. (English summary) *Linear Algebra Appl.* **261** (1997), 195–205. (Yao Zhang) **98c:15062** 15A48 (05C20, 05C50)

— Perron vector bounds for a tournament matrix with applications to a conjecture of Brualdi and Li. (English summary) *Linear Algebra Appl.* **262** (1997), 209–227. (Thomas H. Foregger) **98f:15014** 15A45

— A note on Perron vectors for almost regular tournament matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 43–47. (Summary) **98e:15023** 15A36 (05C20)

— (*with* Neumann, Michael) Algebraic connectivity of weighted trees under perturbation. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 3, 187–203. (Summary) **98h:05131** 05C50 (05C40)

— (*with* Neumann, Michael; Shader, Bryan L.) Distances in weighted trees and group inverse of Laplacian matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 827–841. (Thomas H. Foregger) **98b:15005** 15A09 (05C50)

— (*with* Taşcı, Dursun) A sequence of upper bounds for the Perron root of a nonnegative matrix. (English summary) *Linear Algebra Appl.* **273** (1998), 23–28. (Marc Artzrouni) **98k:15028** 15A48 (15A18, 15A45)

Kirkpatrick, David G. (*with* Breu, Heinz) Unit disk graph recognition is NP-hard. (English summary) *Comput. Geom.* **9** (1998), *no.* 1-2, 3–24. (Summary) **98i:68263** 68U05 (05C85, 68Q25)

Kirkpatrick, Scott (*with* Selman, Bart) Critical behavior in the computational cost of satisfiability testing. (English summary) Frontiers in problem solving: phase transitions and complexity. *Artificial Intelligence* **81** (1996), *no.* 1-2, 273–295. (M. I. Dekhtyar) **98h:03018** 03B35 (03B05, 03D15, 68Q25, 68T20)

Kirlinger, G. (*with* Corliss, George F.; Griewank, Andreas; Henneberger, P.; Potra, Florian A.; Stetter, H. J.) High-order stiff ODE solvers via automatic differentiation and rational prediction. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 114–125, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L05

Kirman, Alan P. *see* **Nonlinear dynamics and economics, 98m:90004**

Kirmani, S. N. U. A. (*with* Ebrahimi, Nader) A characterisation of the proportional hazards model through a measure of discrimination between two residual life distributions. (English summary) *Biometrika* **83** (1996), *no.* 1, 233–235. (A. H. Khan) **98m:62280** 62N05 (62E10, 94A17)

— Erratum: "On sample spacings from IMRL distributions" [Statist. Probab. Lett. **29** (1997), no. 2, 159–166; MR 97k:62122]. *Statist. Probab. Lett.* **37** (1998), *no.* 3, 315. 62G30 (62N05)

Kirnasovsky, Oleg U. Linear isotopes of small order groups. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 51–82. 20N02

başarır Kıroğlu, G. *see* **Başarır Kıroğlu, G.**

Kirousis, Lefteris M. (*with* Dendris, Nick D.; Stamatiou, Yannis C.; Thilikos, Dimitris M.) Partiality and approximation schemes for local consistency in networks of constraints. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 210–224, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68T20 (68Q25)

— (*with* Kranakis, Evangelos; Krizanc, Danny) A better upper bound for the unsatisfiability threshold. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 643–648, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98m:68121** 68Q25 (03B05, 60B99)

— (*with* Kranakis, Evangelos; Krizanc, Danny; Pelc, Andrzej) Power consumption in packet radio networks (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 363–374, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 90B12 (68Q25)

Kirpichnikova, N. Ya. On the computation of the second term of a ray series for the vector of longitudinal displacements in an inhomogeneous isotropic elastic medium. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 25–43, 221; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2673–2684. (Summary) **98h:73034** 73D15

Kirr, Eduard Existence of periodic solutions for some integral equations arising in infectious diseases. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 2, 106–119. (H. A. DeKleine) **98c:45019b** 45M15 (92D30)

Kirrmann, Pius (*with* Iooss, Gérard) Capillary gravity waves on the free surface of an inviscid fluid of infinite depth. Existence of solitary waves. (English summary) *Arch. Rational Mech. Anal.* **136** (1996), *no.* 1, 1–19. (Shu Ming Sun) **98a:76008** 76B15 (35R35, 76B25, 76B45)

Kirsch, Andreas (*with* Hettlich, Frank) Schiffer's theorem in inverse scattering theory for periodic structures. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 351–361. (Zhen-qiu Lu) **98d:35034** 35J05 (35R30, 78A10)

Kirsch, U. Reduction and expansion processes in topology optimization. (English summary) *Topology optimization in structural mechanics*, 197–206, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (*see* **98h:73003**) 73K40

— Singular and local optima in layout optimization. (English summary) *Topology optimization in structural mechanics*, 207–215, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (*see* **98h:73003**) 73K40

— Reanalysis models for topology optimization. I. Concepts. (English summary) *Topology optimization in structural mechanics*, 217–226, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (*see* **98h:73003**) 73K40

— Reanalysis models for topology optimization. II. Applications. *Topology optimization in structural mechanics*, 227–235, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (*see* **98h:73003**) 73K40

Kirschenhofer, Peter (*with* Prodinger, Helmut) Addendum: "The number of winners in a discrete geometrically distributed sample" [Ann. Appl. Probab. **6** (1996), no. 2, 687–694; MR 97g:60016]. *Ann. Appl. Probab.* **8** (1998), *no.* 2, 647. 60C05

— (*with* Prodinger, Helmut) Comparisons in Hoare's Find algorithm. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 111–120. (Summary) **98j:68016** 68P10 (68Q25)

Kirschner, Denise (*with* Lenhart, Suzanne; Serbin, Steve) Optimal control of the chemotherapy of HIV. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 775–792. (Summary) **98h:92022** 92C60 (49N55)

Kirstein, Bernd (*with* Katsnelson, Victor Emanuelovich) On the theory of matrix-valued functions belonging to the Smirnov class. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 299–350, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Sergei Treil) **98m:47016** 47A57 (30D50, 47A56)

— (*with* Fritzsche, Bernd; Fuchs, Stefan) On Arov-normalized j_{pq}-elementary factors. ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 129–156. (Mihály Bakonyi) **98d:47038** 47A57 (15A23, 30E05, 47A56)

— (*with* Fritzsche, Bernd; Müller, Katja) A block completion problem for matrix-valued inner functions. (English summary) ROLLS Symposium (Leipzig, 1996). *J. Comput. Appl. Math.* **77** (1997), *no.* 1-2, 157–172. (Jaroslav Zemánek) **98f:15017** 15A54 (15A60, 47A57)

— (*with* Boĭko, S. S.; Dubovoĭ, V. K.; Fritzsche, Bernd) Contraction operators, defect functions, and scattering theory. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 481–489; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 529–538 (1998). (Dmitriy S. Kalyuzhniy) **98j:47020** 47A48 (47A40, 47A56)

— (*with* Fritzsche, Bernd) On some interrelations between the generalized Nehari problem for the Carathéodory class and prediction theory. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 165–189. (Pedro Alegría) **98e:47022** 47A57 (30E05, 60G25)

— (*with* Arov, Damir Zyamovich; Fritzsche, Bernd) A function-theoretic approach to a parametrization of the set of solutions of a completely indeterminate matricial Nehari problem. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 1–66. (Arne Stray) **98k:30052** 30E05 (47A57)

— *see also* **Topics in interpolation theory, 98f:47001**

müller-Kirsten, H. J. W. *see* **Müller-Kirsten, H. J. W.**

Kirsten, Klaus (*with* Bordag, Michael; Dowker, J. S.) Heat-kernels and functional determinants on the generalized cone. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 2, 371–393. (Emili Elizalde) **98d:58193** 58G26 (58G11)

— (*with* Esposito, Giampiero V. M.; Kamenshchik, A. Yu.) One-loop effective action for Euclidean Maxwell theory on manifolds with a boundary. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7328–7337. (Summary) **98i:81168** 81T20 (58G26, 81T16)

— (*with* Dowker, J. S.) Heat-kernel coefficients for oblique boundary conditions. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L169–L175. (Guido Cognola) **98i:58225** 58G11 (58G20)

— (*with* Bordag, Michael; Elizalde, E.; Leseduarte, S.) Casimir energies for massive scalar fields in a spherical geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4896–4904. (Summary) **98g:81142** 81T20 (81T16)

— The a_5 heat kernel coefficient on a manifold with boundary. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, L5–L12. (Guido Cognola) **98j:58108** 58G11 (58G18, 58G25)

Kirushev, V. A. (*with* Malozëmov, V. N.; Pevnyĭ, A. B.) The dragon's tail. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1362–1369. (Summary) **98h:73064** 73K40 (49N55, 73K05, 73V25)

Kirwan, A. D., Jr. (*with* Mied, Richard P.; Lipphardt, B. L., Jr.) Rotating modons over isolated topography in a two-layer ocean. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 535–570. (Yuri N. Skiba) **98j:76016** 76C05 (76U05, 76V05, 86A05)

Kirwan, Frances C. Geometric invariant theory and the Atiyah-Jones conjecture. *The Sophus Lie Memorial Conference* (*Oslo*, 1992), 161–186, *Scand. Univ. Press, Oslo*, 1994. (Youliang Tian) **98e:58036** 58D29 (14D25, 55P35, 57R57)

— (*with* Jeffrey, Lisa C.) Localization and the quantization conjecture. (English summary) *Topology* **36** (1997), *no.* 3, 647–693. (Johannes Huebschmann) **98e:58088** 58F06 (55N91, 57R20, 57S25, 58G05, 58G10)

Kirwan, Pádraig (*with* Ryan, Raymond A.) Extendibility of homogeneous polynomials on Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1023–1029. (Miguel Caldas Cueva) **98f:46042** 46G20 (46B28)

Kiryakova, Virginia S. (*with* Galue, Leda; Kalla, Shyam L.) Single term approximations of hypergeometric functions. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 417–439, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **98k:33005** 33C05 (33–04, 33C20)

— (*with* Al-Saqabi, Bader N.) Solutions of Erdelyi-Kober fractional integral, differential and differintegral equations of second kind. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 1, 27–30. (K. S. Miller) **98i:26010** 26A33 (34A25)

— (*with* Al-Saqabi, Bader N.) Transmutation method for solving Erdélyi-Kober fractional differintegral equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 347–364. (Summary) **98c:34102** 34K05 (26A33, 45D05, 45J05, 45P05)

Kir'yanen, A. I. Stabilisation of a linear control system via input independent of the present time. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 90–93, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 93D15

Kiryati, Nahum (*with* Jonas, Amnon) Length estimation in 3-D using cube quantization. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 215–238. 68U10

Kir'yatskiĭ, È. G. *see* **Kirjackis, Edward G.**

Kirzhner, V. M. (*with* Lyubich, Yu. I.) Multilocus dynamics under haploid selection. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 391–408. (Summary) **98h:92025** 92D10

Kisaka, Masashi Local uniform convergence and convergence of Julia sets. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 137–140, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98g:58147** 58F23

— On the boundary of unbounded invariant Fatou components of entire functions. Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 112–126. (I. N. Baker) **98h:30043** 30D05 (58F23)

— On the connectivity of Julia sets of transcendental entire functions. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 1, 77–87. (I. N. Baker) **98d:30039** 30D05 (58F23)

— On the local connectivity of the boundary of unbounded periodic Fatou components of transcendental functions. Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 113–119. (*see* **98h:58002**) 58F23 (30D05)

Kise, Hiroshi (*with* Cheng, Jin-Liang; Karuno, Yoshiyuki) Optimal scheduling for an automated m-machine flowshop. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 356–372. (Edward J. Anderson) **98i:90045** 90B35

Kiselev, Alexander Some examples in one-dimensional "geometric" scattering on manifolds. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 263–280. (Ivor E. McGillivray) **98f:58195** 58G25 (35J05)

Kiselev, O. M. Formalism of the solution of the Goursat problem for the sine-Gordon equation. (Russian. English and Russian summaries) *Integrability in dynamical systems* (*Russian*), 17–26, 93, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (*see* **98k:00007**) 35Q53 (35A25, 35C99)

— (*with* Troepol'skaya, O. V.) Translational motion of a cylinder below the free surface of a fluid. *Fluid Dynam.* **31** (1996), *no.* 6, 802–813 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996**, *no.* 6, 9–22 (*Russian. Russian summary*). (Summary) **98a:76004** 76B10

— Perturbation theory for the Dirac equation in two-dimensional space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2333–2345. 35Q55 (35B20, 35L99, 81Q05)

Kiselev, Yu. N. (*with* Orlov, M. V.) A nonlinear boundary value problem for Pontryagin's maximum principle in a linear time-optimality problem. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1843–1850, 1941; *translation in Differential Equations* **31** (1995), *no.* 11, 1810–1818 (1996). (Grigory M. Sklyar) **98b:49019** 49K15

— (*with* Avvakumov, S. N.; Orlov, M. V.) Methods for solving optimal control problems, based on Pontryagin's maximum principle. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 3–31. (O. V. Vasil'ev) **98a:49049** 49M05 (49K15)

— Control systems with an integral invariant. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 477–483, 573; *translation in Differential Equations* **32** (1996), *no.* 4, 478–484. (Stanisław Walczak) **98a:49009** 49J15 (49N35, 93B52)

— (*with* Grigorenko, N. L.; Lagunova, N. V.; Silin, D. B.; Trin'ko, N. G.) Solution methods for two-player differential games. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 2. *Comput. Math. Model.* **8** (1997), *no.* 1, 34–48. (Patrick Saint-Pierre) **98d:90146** 90D25 (93B03)

Kiselman, Christer O. Lineally convex Hartogs domains. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 1, 69–94. (M. Klimek) **98a:32013** 32E99 (32F99)

Kishan, Hari[2] (*with* Mishra, P. N.) An inventory model with exponential demand and constant deterioration with shortages. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 275–279 (1997). 90B05

Kishi, Toshiharu On torsion subgroups of elliptic curves with integral j-invariant over imaginary cyclic quartic fields. *Tokyo J. Math.* **20** (1997), *no.* 2, 315–329. (Franck Leprévost) **98k:11069** 11G05 (11G07)

Kishimoto, Akitaka (*with* Kumjian, Alexander) Simple stably projectionless C^*-algebras arising as crossed products. (English summary) *Canad. J. Math.* **48** (1996), *no.* 5, 980–996. (Claire Anantharaman-Delaroche) **98b:46072** 46L05 (46L35, 46L80)

— (*with* Kumjian, Alexander) Crossed products of Cuntz algebras by quasi-free automorphisms. *Operator algebras and their applications* (*Waterloo, ON*, 1994/1995), 173–192, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **98h:46076** 46L55 (46L05, 46L40)

— (*with* Bratteli, Ola; Robinson, Derek W.) Abundance of invariant and almost invariant pure states of C^*-dynamical systems. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 491–507. (Claire Anantharaman-Delaroche) **98i:46072** 46L55 (46L05, 46L30)

— (*with* Evans, David E.) Trace scaling automorphisms of certain stable AF algebras. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 211–224. (Władysław Adam Majewski) **98e:46081** 46L40 (46L05)

Kishinevskiĭ, M. A. (*with* Cortadella, Jordi; Kondrat'ev, A. Yu.; Lavagno, Luciano; Taubin, A. R.; Yakovlev, Alexandre V.) Coupling asynchrony and interrupts: place chart nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 328–347, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

— *see also* **Self-timed control of concurrent processes, 98i:94052**

Kisbore, Boyalakuntla (*with* Thornburg, Hugh; Soni, Bharat K.) A structured grid based solution-adaptive technique for complex separated flows. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 259–273. (Summary) **98h:76111** 76M25

Kisielewicz, A. (*with* Wang, Da Bin) On the minimal extension of the sequence (0, 1, 1, 7). (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 445–447. (Ivan Chajda) **98i:08002** 08A40 (08B20)

Kisielewicz, Michał Quasi-retractive representation of solution sets to stochastic inclusions. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 227–238. (Pham Tran Nhu) **98i:34121** 34K50 (34A60, 47H10, 49J24, 60H99)

— Set-valued stochastic integrals and stochastic inclusions. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 5, 783–800. (Stanisław Wędrychowicz) **98j:60094** 60H99 (34A60, 93E03)

Kisil, Vladimir V. Construction of integral representations for spaces of analytic functions. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 446–448. (Paşc Găvruţa) **98d:46027** 46E20 (22D10)

— Möbius transformations and monogenic functional calculus. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **2** (1996), *no.* 1, 26–33 (*electronic*). (Robin Harte) **98a:47018** 47A60 (30G35, 46H05, 47A13)

— (*with* Ramírez de Arellano, Enrique) A functional model for quantum mechanics: unbounded operators. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 9, 745–757. (Asao Arai) **98f:47028** 47B25 (30G35, 47N50, 81Q10)

Kislaya, Sarad (*with* Yadava, Sachchidanand) Maximizing the maximum production function in the static Leontief model. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 1–6. 90A14

Kislyakov, S. V. (*with* Xu, Quan Hua) Real interpolation and singular integrals. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 4, 75–109; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 4, 593–615. (H. Triebel) **98c:46161** 46M35 (45E05, 46E30, 47B38)

Kiso, Kazuhiro (*with* Kaneda, Eiji; Kawai, Ei-ichiro) Hierarchies of evolution equations associated with certain symmetric spaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5183–5189. (Summary) **98i:58118** 58F07 (35Q55)

Kiss, Elemér A short proof of Fermat's two-square theorem given by János Bolyai. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 293–295. 11A41

— János Bolyai's enquiries on the decomposition of the primes $4m+1$ into sums of two squares. *Octogon Math. Mag.* **6** (1998), *no.* 1, 1–8. 11-03 (01A55)

Kiss, Emil W. An easy way to minimal algebras. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 1, 55–75. (David Hobby) **98g:08002** 08A05 (08A30)

— (*with* Kearnes, Keith A.; Valeriote, Matthew A.) Minimal sets and varieties. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 1–41. (Ágnes Szendrei) **98d:08001** 08A05 (08A40, 08B99)

Kissin, È. V. (*with* Shul'man, V. S.) Operator-differentiable functions and derivations of operator algebras. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 75–77; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 280–282 (1997). (M. Abel) **98c:46101** 46J10 (46H40, 47B47, 47D25)

Kister, Jane E. *see* **Featured reviews in Mathematical Reviews, 98m:00025**

Kistovich, Yu. V. (*with* Chashechkin, Yu. D.) Geometry and energy of internal wave beams. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 684–686. (From the text) **98g:76013** 76C10 (76V05, 86A17)

— (*with* Chashechkin, Yu. D.) The problem of generating monochromatic internal waves: exact solution and a model of force sources. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 54–57; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 377–380. (Vladan D. Djordjević) **98i:76020** 76C10 (76V05)

Kisun'ko, A. G. (*with* Vshivtsev, A. S.; Myasnikov, V. P.; Tatarintsev, A. V.) Scattering of elastic waves by planar periodic structures in anisotropic media with initial stresses. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 313–316. 73D25 (73B40)

Kiszka, J. B. *see* **Tong, Shao Cheng et al., 98d:93062**

Kit, E. (*with* Tsitverblit, N.) On the onset of unsteadiness in confined vortex flows. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 3, 125–152. 76C05

Kita, H. *see* **Kita, Hiroō**

Kita, Hajime (*with* Mori, Naoki; Yabumoto, Yasuyuki; Nishikawa, Yoshikazu) Multi-objective optimization by means of the thermodynamical genetic algorithm. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 3, 103–111. 90C29

Kita, Hideaki (*with* Narumi, Hideyuki; Hosoya, Haruo) Expressions for the perfect matching numbers of cubic $l \times m \times n$ lattices and their asymptotic values. (English summary) *J. Math. Chem.* **20** (1996), *no.* 1-2, 67–77. (Summary) **98c:82030** 82B41 (05C70)

Kita, Hiroō Inequalities with weights for maximal functions in Orlicz spaces. *Acta Math. Hungar.* **72** (1996), *no.* 4, 291–305. (Pedro Ortega Salvador) **98c:42015** 42B25 (46E30)

— On Hardy-Littlewood maximal functions in Orlicz spaces. (English summary) *Math. Nachr.* **183** (1997), 135–155. (Cristian E. Gutiérrez) **98c:42016** 42B25 (46E30)

Kita, Michitake (*with* Ito, Masahiko) On the rank of the hypergeometric system $E(n+1, m+1; \alpha)$. *Kyushu J. Math.* **50** (1996), *no.* 2, 285–295. (Takeshi Sasaki) **98c:33017** 33C70 (13N10)

— (*with* Aomoto, Kazuhiko; Orlik, Peter; Terao, Hiroaki) Twisted de Rham cohomology groups of logarithmic forms. *Adv. Math.* **128** (1997), *no.* 1, 119–152. (Takeshi Sasaki) **98b:32035** 32S40 (14F40, 33C70, 52B30)

Kitada, Yasuhiko On the Kervaire classes of tangential normal maps of lens spaces. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 1, 55–59. (J. M. Boardman) **98i:57050** 57R20 (55S20, 57R67)

Kitaev, A. V. (*with* Bobenko, A.; Eitner, U.) Surfaces with harmonic inverse mean curvature and Painlevé equations. (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 187–227. (Rabah Souam) **98j:53008** 53A10 (34A34, 34E05)

— (*with* Andreev, F. V.) Exponentially small corrections to divergent asymptotic expansions of solutions of the fifth Painlevé equation. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 741–759. (Summary) **98h:34004** 34A20 (34E05)

Kitaeva, A. V. (*with* Koshkin, G. M.) Stable nonparametric estimation, with an improved rate of convergence, for the multidimensional intensity function. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 202–214; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 876–886. (Summary) **98f:62290** 62N05 (62G05)

Kitagawa, Genshiro (*with* Gersch, Will) ★ Smoothness priors analysis of time series. Lecture Notes in Statistics, 116. *Springer-Verlag, New York*, 1996. x+261 *pp. ISBN* 0-387-94819-8 (Peter M. Robinson) **98d:62161** 62M10

— (*with* Konishi, Sadanori) Generalised information criteria in model selection. (English summary) *Biometrika* **83** (1996), *no.* 4, 875–890. (Christophe Croux) **98e:62047** 62F35 (62G09)

— Information criteria for the predictive evaluation of Bayesian models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2223–2246. (Summary) **98g:62049** 62F15 (62B10)

Kitagawa, Takashi (*with* Nakata, Susumu) A solution method for ill-conditioned linear equations based on rank-revealing QR decomposition. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 11–20. (*see* **98j:65001**) 65F05

Kitagawa, Yoshihisa An n-dimensional flat torus in S^{2n-1} whose extrinsic diameter is equal to π. *Kodai Math. J.* **20** (1997), *no.* 2, 156–160. (Joel L. Weiner) **98h:53094** 53C42 (53C40)

Kitahara, Haruo (*with* Pak, Hong Kyung) Some remarks on basic L^2-cohomology. *Analysis and geometry in foliated manifolds (Santiago de Compostela, 1994)*, 99–111, *World Sci. Publishing, River Edge, NJ*, 1995. (Matthias Lesch) **98a:58004** 58A12 (58G05)

— ★ Some topics on Carnot-Caratheodory metrics. Lecture Notes Series, 36. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1996. viii+71 *pp.* (Fernand Pelletier) **98e:53069** 53C22 (58E10)

Kitahara, Kiyoshi Analytical integrations in the boundary element method employing linear elements. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 218–223. (*see* **98h:00039**) 65N38 (65N30)

Kitakado, Shinsaku (*with* Igarashi, Yuji; Otsu, Hideharu; Sato, Toshiro[2]) Induced gauge structure for the zero modes of two-dimensional solitons. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 1, 57–64. (Summary) **98a:81119** 81T13

— (*with* Maru, Nobuhito) Negative-dimensional group extrapolation and dualities in $N=1$ supersymmetric gauge theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 10, 691–696. (Summary) **98a:81231** 81T60 (81T13)

Kitamoto, Takuya Approximate roots and their applications. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 127–135. (*see* **98h:00039**) 65H10

Kitamura, Kazuo (*with* Seo, Yuki) An inner characterization of the Hadamard product. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 211–216. (Leo Livshits) **98e:15033** 15A99 (15A30, 47A99)

Kitamura, Yuichi[2] (*with* Phillips, Peter C. B.) Fully modified IV, GIVE and GMM estimation with possibly non-stationary regressors and instruments. (English summary) *J. Econometrics* **80** (1997), *no.* 1, 85–123. 62P20

Kitanin, N. A. (*with* Bogolyubov, N. M.; Izergin, A. G.) Correlators of the phase model. (English summary) *Phys. Lett. A* **231** (1997), *no.* 5-6, 347–352. (Summary) **98f:82015** 82B20

Kitano, Teruaki Reidemeister torsion of Seifert fibered spaces for $SL(n;\mathbf{C})$-representations. (English summary) *Kobe J. Math.* **13** (1996), *no.* 2, 133–144. (Joan Porti) **98b:57036** 57Q10 (22E46)

Kitano, Toyokazu (*with* Maeda, Hajime) Positive realization of discrete-time systems by geometric approach. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 3, 308–311. (Summary) **98m:93026** 93B15 (93C05, 93C55)

Kitao, Masachika (*with* Tsuji, Mitsuhiro; Nakagawa, Yūji; Teraoka, Yoshinobu) Algorithms for multiple-choice knapsack problems with constraints. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 50–56. (*see* **98g:90004**) 90C27 (90C10)

Kitao, Takuhiro (*with* Terashima, Seiji; Yang, Sung-Kil) $N=2$ curves and a Coulomb phase in $N=1$ SUSY gauge theories with adjoint and fundamental matters. (English summary) *Phys. Lett. B* **399** (1997), *no.* 1-2, 75–82. (Tomasz Brzeziński) **98e:81170** 81T60 (14H42, 81T13)

— SUSY $N=2$ hyperelliptic curve from $N=1$ effective potential. (English summary) *Phys. Lett. B* **402** (1997), *no.* 3-4, 290–296. (Summary) **98d:81117** 81T60 (14H45, 81T13)

Kitaoka, Yoshiyuki Minimum of positive definite quadratic forms. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 105–110. (Renaud Coulangeon) **98d:11079** 11H50

— Finite arithmetic subgroups of GL_n. V. (English summary) *Nagoya Math. J.* **146** (1997), 131–148. (A. A. Bondarenko) **98g:20072** 20G30 (11R32)

— (*with* Ishikawa, Masaru) On the distribution of units modulo prime ideals in real quadratic fields. (English summary) Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 65–72. (Franz Lemmermeyer) **98m:11114** 11R11 (11R45, 11Y40)

Kitauchi, Hideaki (*with* Araki, Keisuke; Kida, Shigeo) Thermal convection dynamos in rotating spherical shells—the relationship between flow structure and magnetic field generation. (Japanese) Mathematics of thermal convection (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 970 (1996), 54–63. (*see* **98f:00025**) 76W05 (76R05)

— (*with* Araki, Keisuke; Kida, Shigeo) Flow structure of thermal convection in a rotating spherical shell. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 885–904. (Summary) **98d:76154** 76R99 (76E15, 76U05, 76W05)

— (*with* Kida, Shigeo) Intensification of magnetic field by concentrate-and-stretch of magnetic flux lines. (English summary) *Phys. Fluids* **10** (1998), *no.* 2, 457–468. (Summary) **98k:76148** 76W05

Kitaura, Takayuki (*with* Wheeler, James T.) New singularity in anisotropic, maximally Gauss-Bonnet extended cosmology. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 417–420, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83E15 (83C75)

Kitazawa, A. Twisted boundary conditions of quantum spin chains near the Gaussian fixed points. (English summary) *J. Phys. A* **30** (1997), *no.* 9, L285–L291. (Aleksei P. Isaev) **98k:82042** 82B20

Kitazawa, Noriaki An analysis on a supersymmetric chiral gauge theory with no flat direction. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 1-2, 336–350. (Summary) **98b:81252** 81T60 (81T13)

Kitazawa, Yoshihisa (*with* Kuriki, Rie; Shigura, Katsumi) BRST cohomology and renormalizability of quantum gravity near two dimensions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 25, 1871–1878. (Summary) **98g:81134** 81T15 (81T70, 83C45)

— (*with* Aida, Toshiaki) Two-loop prediction for scaling exponents in $(2+\varepsilon)$-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 427–458. (Ilya Shapiro) **98d:81061** 81T15 (81V17, 83C45)

— (*with* Ishibashi, Nobuyuki; Kawai, Hikaru; Tsuchiya, Asato) A large-N reduced model as superstring. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 467–491. (Daniel N. Kabat) **98k:81221** 81T30

Kitazume, Masaaki (*with* Miyamoto, Masahiko) $M_{24} \sim \mathbf{M}$. I, II, III. (Japanese) Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 1–18, 19–31. (*see* **98e:00013**) 20D06 (05B30)

Kitchens, Bruce P. ★ Symbolic dynamics. (English summary) One-sided, two-sided and countable state Markov shifts. Universitext. *Springer-Verlag, Berlin*, 1998. x+252 *pp. ISBN* 3-540-62738-3 (Doris Fiebig) **98k:58079** 58F03 (54H20)

Kitover, Arkady K. The spectrum of the weighted composition operators in spaces of vector-valued continuous functions. *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 1, 247–252. (Barbara D. MacCluer) **98k:47055** 47B38 (47A10)

— (*with* Friedler, Louis M.) Almost homeomorphic mappings of compact spaces. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 233–246. (Summary) **98g:54049** 54D30 (47B38, 54B10, 54G05)

— (*with* Abramovich, Yuri A.) A solution to a problem on invertible disjointness preserving operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1501–1505. (Gerard Buskes) **98j:47079** 47B60

Kitsios, Nectarios (*with* Bozanis, Panayiotis; Makris, Christos; Tsakalidis, Athanasios) New upper bounds for generalized intersection searching problems. (English summary) *Automata, languages and programming (Szeged, 1995)*, 464–474, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68U05

Kittaneh, Fuad (*with* Bhatia, Rajendra) Some inequalities for norms of commutators. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 258–263. (Masatoshi Fujii) **98c:47009** 47A30 (15A45, 47A63, 47B10)

— (*with* Bhatia, Rajendra) Norm inequalities for positive operators. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 225–231. (T. Ando) **98m:47008** 47A30 (47A55, 47B15)

Kittani, Hilmi F. Trivariate hazard function for censored survival data. (English summary) *J. Math. Sci. (Calcutta)* **6** (1995), *no.* 2, 67–73. 62P10

— Likelihood function for a progressive disease model for a trivariate survival function with covariates. (English summary) *J. Math. Sci. (Calcutta)* **7** (1996), *no.* 1, 45–51. (Summary) **98b:62192** 62P10 (62N05)

— Epidemiological measures for a progressive disease model with a bivariate survival function with covariates. (English summary) *J. Math. Sci. (Calcutta)* **8** (1997), *no.* 1, 41–50. (Summary) **98b:92009** 92C60

Kittel, A. (*with* Meyer, Thorsten; Bünner, M. J.; Parisi, J.) Hyperchaos in the generalized Rössler system. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5069–5082. (Summary) **98g:58117** 58F13

— (*with* Bünner, M. J.; Meyer, Thorsten; Parisi, J.) Recovery of the time-evolution equation of time-delay systems from time series. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5083–5089. 58F40 (34K15)

der Kiureghian, A. *see* **Der Kiureghian, A.**

Kivel', N. A. (*with* Vasil'ev, A. N.; Derkachev, S. È.) On the technique of calculating γ-matrix structures for diagrams of the total four-fermion interaction with an infinite number of vertices in the dimensional regularization $d = 2 + \varepsilon$. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 179–191; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 487–495. (Summary) **98g:81136** 81T15

— (*with* Vyazovskiĭ, M. I.) Analysis of axial anomaly in dimension regularization by means of the projection technique. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 372–380; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1536–1543 (1997). 81T50

Kiviet, Jan F. (*with* Dufour, Jean-Marie) Exact tests in single equation autoregressive distributed lag models. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 325–353. 62P20 (62M10)

— (*with* Dufour, Jean-Marie) Exact inference methods for first-order autoregressive distributed lag models. (English summary) *Econometrica* **66** (1998), *no.* 1, 79–104. (Summary) **98m:62240** 62M10 (62P20)

Kivinen, Jyrki (*with* Warmuth, Manfred K.) Exponentiated gradient versus gradient descent for linear predictors. (English summary) *Inform. and Comput.* **132** (1997), *no.* 1, 1–63. (Peter Auer) **98b:68160** 68T05 (68Q99)

Kivinukk, Andi Subordination in Fourier approximation by generalized Rogosinski means and its applications. *Approximation theory and function series (Budapest, 1995)*, 237–245, *Bolyai Soc. Math. Stud., 5, János Bolyai Math. Soc., Budapest*, 1996. (Eduard Belinskiĭ) **98f:42003** 42A24 (42A10)

— Some inequalities for convex functions. *Mitt. Math. Ges. Hamburg* **15** (1996), 31–34 (1997). (P. S. Bullen) **98g:26011** 26A51

— (*with* Kallast, Siim) Summation methods of Fourier series of antiperiodic functions. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 265–274, *Transilvania, Cluj-Napoca*, 1997. (Qi Hong Fan) **98m:41041** 41A36 (42A10)

— On a less known but a much knowing Estonian mathematician. (Estonian. Estonian summary) *Estonian Mathematical Society. Annual* 1992/1993 (*Estonian*), 18–24, *Estonian Math. Soc., Tartu*, 1997. (Editors) **98k:01035** 01A70 (01A72)

— On the measure of approximation for some linear means of trigonometric Fourier series. (English summary) *J. Approx. Theory* **88** (1997), *no.* 2, 193–208. (S. M. Mazhar) **98c:42002** 42A10 (42A24)

— *see also* **Estonian Mathematical Society. Annual, 98f:01002**

Kivshar, Yu. S. (*with* Sheppard, Adrian P.) Polarized dark solitons in isotropic Kerr media. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4773–4782. (Summary) **98c:78028** 78A60

— (*with* Braun, Oleg M.; Peyrard, Michel) Kink's internal modes in the Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 6050–6064. (Summary) **98h:82041** 82C20

Kiwiel, Marcos (*with* Bellare, Mihir; Coppersmith, Don; Håstad, Johan; Sudan, Madhu) Linearity testing in characteristic two. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1781–1795. (Summary) **98m:68111** 68Q25 (68Q15, 90C27)

Kiwiel, Krzysztof C. (*with* Brännlund, U.; Lindberg, P. O.) Preliminary computational experience with a descent level method for convex nondifferentiable optimization. (English summary) *System modelling and optimization (Prague, 1995)*, 387–394, *Chapman & Hall, London*, 1996. (Summary) **98d:90108** 90C30 (49J52)

— (*with* Lindberg, P. O.; Nõu, Andreas) Dual Bregman proximal methods for large-scale 0-1 problems. (English summary) *System modelling and optimization (Prague, 1995)*, 459–465, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C09

— (*with* Łopuch, Bożena) On long-step surrogate projection methods for solving convex feasibility problems. (English summary) *System modelling and optimization (Prague, 1995)*, 466–472, *Chapman & Hall, London*, 1996. (Summary) **98d:90085** 90C25 (90C48)

— (*with* Murty, Katta G.) Convergence of the steepest descent method for minimizing quasiconvex functions. (English summary) *J. Optim. Theory Appl.* **89** (1996), *no.* 1, 221–226. (Summary) **98a:90080** 90C26 (65K05)

— Free-steering relaxation methods for problems with strictly convex costs and linear constraints. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 2, 326–349. (Bernd Luderer) **98f:90048** 90C25

— Proximal minimization methods with generalized Bregman functions. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1142–1168. (Bernard Lemaire) **98e:90103** 90C15 (65K05)

— Efficiency of the analytic center cutting plane method for convex minimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 336–346. (Shinji Mizuno) **98d:90086** 90C25

— (*with* Łopuch, Bożena) Surrogate projection methods for finding fixed points of firmly nonexpansive mappings. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1084–1102. (Lúcio Tunes dos Santos) **98j:90049** 90C25 (47H09, 49M45)

Kiyama, Hiroshi (*with* Kawahara, Genta; Ayukawa, Kyozo) Vortex stretching and elimination in a vortex tube within a uniform shear flow. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 134–143. (*see* **98e:76004**) 76D99

Kiyohara, Kazuyoshi Two classes of Riemannian manifolds whose geodesic flows are integrable. (English summary) *Mem. Amer. Math. Soc.* **130** (1997), *no.* 619, viii+143 *pp.* (Gabriel P. Paternain) **98f:58150** 58F17 (53C22, 58F07)

Kizasis, Ann (*with* Hager, Anthony W.) Certain extensions and factorizations of α-complete homomorphisms in Archimedean lattice-ordered groups. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 239–258. (R. H. Redfield) **98b:06027** 06F20 (18A20, 46A40, 54G05)

Kjønsberg, Heidi (*with* Leinaas, Jon Magne) On the anyon description of the Laughlin hole states. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 1975–2001. (Guillermo Zemba) **98c:81254** 81V70 (81R30, 82D55)

Kjurkchiev, N. *see* **Kyurkchiev, Nikolai V.**

Klaas, G. (*with* Leedham-Green, C. R.; Plesken, Wilhelm) ★ Linear pro-p-groups of finite width. Lecture Notes in Mathematics, 1674. *Springer-Verlag, Berlin*, 1997. viii+115 *pp.* *ISBN* 3-540-63643-9 (Marcus du Sautoy) **98m:20028** 20E18 (20G25)

Klaas, O. (*with* Niekamp, R.; Stein, Erwin) Algorithms for the calculation of limit of bifurcation points using Lanczos methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 3, 221–228. (Summary) **98f:65046** 65F25 (65H17, 73H05, 73V20)

Klaassen, Chris A. J. (*with* Drost, Feike C.; Werker, Bas J. M.) Adaptive estimation in time-series models. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 786–817. (Philippe Vieu) **98i:62027** 62G05 (62F12, 62M10)

— (*with* Wellner, Jon A.) Efficient estimation in the bivariate normal copula model: normal margins are least favourable. (English summary) *Bernoulli* **3** (1997), *no.* 1, 55–77. (Jack Cuzick) **98m:62102** 62G05 (62G30)

— (*with* van den Heuvel, Edwin R.) Spread, estimators and nuisance parameters. (English summary) *Bernoulli* **3** (1997), *no.* 3, 323–328. (Stergios B. Fotopoulos) **98m:62010** 62A25 (62C20, 62F12, 62G20)

— (*with* Drost, Feike C.) Efficient estimation in semiparametric GARCH models. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 193–221. (Summary) **98k:62186** 62P20

Klaassen, G. P. (*with* Sonmor, L. J.) Toward a unified theory of gravity wave stability. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 22, 2655–2680. (Summary) **98j:76041** 76E20 (76C10, 86A05)

Klabukova, L. S. (*with* Pshenichnov, G. I.; Ul'yanova, V. I.) Solution of boundary value problems of the bending of a latticed rectangular plate by the decomposition method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 433–447. (Summary) **98m:73088** 73V20 (65R20, 73K10)

Klaczyński, Krzysztof (*with* Brzeskwiniewicz, Henryk) Consistency examination of linear inequality system. (English summary) *Mat. Stos.* **40** (1997), 83–87. (Summary) **98m:15029** 15A39

Klafter, J. (*with* Zumofen, G.; Shlesinger, M. F.) Anomalous diffusion and Lévy statistics in intermittent chaotic systems. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 183–210, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (A. Weron) **98f:60023** 60E07 (58F13, 60J15, 60J70, 60K35)

Klain, Daniel A. Invariant valuations on star-shaped sets. *Adv. Math.* **125** (1997), *no.* 1, 95–113. (W. J. Firey) **98a:52009** 52A30 (52B45)

— (*with* Rota, Gian-Carlo) A continuous analogue of Sperner's theorem. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 3, 205–223. (Joseph Kung) **98c:05155** 05D05 (06A07, 06C20)

Klainerman, Sergiu (*with* Machedon, Matei) Estimates for null forms and the spaces $H_{s,\delta}$. *Internat. Math. Res. Notices* **1996**, *no.* 17, 853–865. (Vladimir Georgiev) **98j:46028** 46E35 (35L05, 35L70, 46N20, 58G16)

— On the regularity of classical field theories in Minkowski space-time $\mathbf{R}^{3+1}$. (English summary) *Nonlinear partial differential equations in geometry and physics (Knoxville, TN, 1995)*, 29–69, *Progr. Nonlinear Differential Equations Appl.*, 29, *Birkhäuser, Basel*, 1997. (Piotr T. Chruściel) **98e:58165** 58G16 (35Q75, 83C05)

— (*with* Machedon, Matei) On the regularity properties of a model problem related to wave maps. *Duke Math. J.* **87** (1997), *no.* 3, 553–589. (Hiroyuki Takamura) **98e:35118** 35L70 (35B65, 58G16)

Klakow, D. (*with* Kettemann, S.; Smilansky, Uzy) Characterization of quantum chaos by the autocorrelation function of spectral determinants. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3643–3662. (N. L. Balazs) **98i:81058** 81Q50 (82B05)

Klama, S. (*with* Fal'kovskiĭ, L. A.) Integral relations and symmetry group expansions for the Helmholtz equation. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5627–5635. (J. P. Singhal) **98b:33005** 33C05 (35J05)

Klamka, Jerzy Controllability of retarded dynamical systems. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika (Prague)* **32** (1996), *no.* 6, 591–600. (Toshihiro Kobayashi) **98a:93007** 93B05 (93C25)

— Approximate controllability of delayed dynamical systems. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 5–16. (Andrzej W. Olbrot) **98j:93011** 93B05 (34K35, 47N70, 93C15)

— Constrained approximate boundary controllability. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 2, 280–284. (Sergei A. Avdonin) **98c:93014** 93B05 (93C20)

— Controllability of 2-D nonlinear systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2963–2968. (*see* **98i:00031**) 93B05 (93C30)

— Controllability of delayed dynamical systems. (English and Polish summaries) *Studia Automat. Inform.* **22** (1997), 29–40. (Shin-ichi Nakagiri) **98k:93013** 93B05 (93C25)

Klamroth, Kathrin (*with* Ehrgott, Matthias) Non-connected efficiency graphs in multiple criteria combinatorial optimization. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 140–150, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Anton Volgenant) **98m:90125** 90C29 (90C35)

— (*with* Mengersen, Ingrid) The Ramsey number $r(K_{1,3}, C_4, K_4)$. (English summary) *Util. Math.* **52** (1997), 65–81. (Summary) **98m:05130** 05C55

Klapper, Andrew (*with* Goresky, Mark) Feedback registers based on ramified extensions of the 2-adic numbers (extended abstract). (English summary) *Advances in cryptology—EUROCRYPT '94 (Perugia)*, 215–222, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A55 (94A60)

— Cross-correlations of quadratic form sequences in odd characteristic. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 3, 289–305. (Shojiro Sakata) **98j:94021** 94A60

(15A63, 94A55)

— (*with* Goresky, Mark) Arithmetic crosscorrelations of feedback with carry shift register sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1342–1345. (Shojiro Sakata) **98j:94010** 94A55 (94A60, 94B40)

— The multicovering radii of codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1372–1377. 94B05

— (*with* Goresky, Mark) Feedback shift registers, 2-adic span, and combiners with memory. (English summary) *J. Cryptology* **10** (1997), *no.* 2, 111–147. (Shojiro Sakata) **98f:94012** 94A55 (94A60)

Klapper, Isaac (*with* Caflisch, Russel E.; Steele, Gregory) Remarks on singularities, dimension and energy dissipation for ideal hydrodynamics and MHD. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 443–455. (R. M. Gundersen) **98g:35156** 35Q30 (35D10, 76W05)

— Constraints on finite-time current sheet formation at null points in two-dimensional ideal incompressible magnetohydrodynamics. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 910–914. (Summary) **98m:76158** 76W05

Klar, Axel (*with* Kühne, Reinhart D.; Wegener, Raimund) Mathematical models for vehicular traffic. (English summary) *Surveys Math. Indust.* **6** (1996), *no.* 3, 215–239. (Charles Tier) **98c:90038** 90B20 (82B40)

— (*with* Arkhipov, Yu. Yu.; Mingalev, Oleg V.; Vedenyapin, V. V.) A class of invariants for the Boltzmann equation and the Broadwell model. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 3, 387–399. (Luisa Arlotti) **98k:82141** 82C40 (76P05)

— (*with* Wegener, Raimund) Enskog-like kinetic models for vehicular traffic. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 91–114. (Summary) **98b:90055** 90B20 (82C40)

— Asymptotic analysis and coupling conditions for kinetic and hydrodynamic equations. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 127–137. (*see* **98i:76002**) 76M25 (76P05, 82C40)

Klar, Marcus (*with* Ehrig, Hartmut; Geisler, Robert; Padberg, Julia) Horizontal and vertical structuring techniques for statecharts. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 181–195, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q60)

Klar, Rüdiger *see* **Classification and knowledge organization, 98h:62002**

Klarbring, Anders Steady sliding and linear complementarity. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 132–147, *SIAM, Philadelphia, PA*, 1997. (Meir Shillor) **98g:73033** 73T05 (70–08, 70F99, 73V25, 90C33)

— (*with* Andrews, Kevin T.; Shillor, Meir; Wright, Stephen James) A dynamic thermoviscoelastic contact problem with friction and wear. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1291–1309. (Kenneth Kuttler) **98m:73072** 73T05 (35Q72, 73B30, 73F15, 73V25)

— (*with* Andersson, Lars-Erik) On a class of limit states of frictional joints: formulation and existence theorem. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 1, 69–87. (Meir Shillor) **98b:73013** 73C99 (35Q72, 49J40, 73T05, 73V25)

Klarlund, Nils A homomorphism concept for ω-regularity. (English summary) *Computer science logic* (*Kazimierz*, 1994), 471–485, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98h:68141** 68Q45 (03D05, 68Q60, 68Q68)

— (*with* Mukund, Madhavan; Sohoni, Milind) Determinizing Büchi asynchronous automata. (English summary) *Foundations of software technology and theoretical computer science* (*Bangalore*, 1995), 456–470, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q68 (68Q10, 68Q60)

— (*with* Biehl, Morten; Rauhe, Theis) Algorithms for guided tree automata. (English summary) *Automata implementation* (*London, ON*, 1996), 6–25, *Lecture Notes in Comput. Sci.*, 1260, *Springer, Berlin*, 1997. (*see* **98i:68003**) 68Q60 (68Q68)

Klasa, Stan (*with* Krzyzak, Adam; Xu, Lei) On asymptotic properties of radial basis regression function estimates and classification rules. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 123–127. (*see* **98h:05006**) 62G05

Klasing, Ralf (*with* Hromkovič, Juraj; Monien, Burkhard; Peine, Regine) Dissemination of information in interconnection networks (broadcasting & gossiping). *Combinatorial network theory*, 125–212, *Appl. Optim.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the introduction) **98d:68027** 68M10 (05C90, 90B12)

Klaška, Jiří Partitions and partially ordered sets. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **3** (1995), *no.* 1, 45–54. (Gerhard Behrendt) **98k:06006** 06A07

— Transitivity and partial order. (English summary) *Math. Bohem.* **122** (1997), *no.* 1, 75–82. (Miklós Bóna) **98c:05006** 05A15 (04A05, 06A07)

Klasky, Scott (*with* Fox, Geoffrey Charles; Haupt, Tomasz) HPF for numerical relativity. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65N30

Klass, Michael J. (*with* Vu, H. T. V.; Maller, Ross A.) On the Studentisation of random vectors. (English summary) *J. Multivariate Anal.* **57** (1996), *no.* 1, 142–155. (A. K. Gupta) **98c:62104** 62H10

— (*with* Nowicki, Krzysztof) Order of magnitude bounds for expectations of Δ_2-functions of nonnegative random bilinear forms and generalized U-statistics. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1471–1501. (Pawel Hitczenko) **98k:60028** 60E15 (60F25, 60G50)

Klassen, Eric P. (*with* Kirk, Paul A.) The spectral flow of the odd signature operator and higher Massey products. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 2, 297–320. (Alexander Fel'shtyn) **98b:58158** 58G05 (55S30, 58G10)

— (*with* Heusener, Michael) Deformations of dihedral representations. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 10, 3039–3047. (Darren D. Long) **98b:57011** 57M25 (57M05)

— (*with* Kirk, Paul A.) Continuity and analyticity of families of self-adjoint Dirac operators on a manifold with boundary. *Illinois J. Math.* **42** (1998), *no.* 1, 123–138. (Liviu I. Nicolaescu) **98i:58234** 58G20 (58G18, 58G25)

Klassen, Matthew (*with* Tzermias, Pavlos) Algebraic points of low degree on the Fermat quintic. (English summary) *Acta Arith.* **82** (1997), *no.* 4, 393–401. (Olivier Debarre) **98k:11086** 11G30 (11G10, 14G05)

Klatte, Diethard Lipschitz stability and Hoffman's error bounds for convex inequality systems. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 201–212, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Wu Li) **98e:90181** 90C31 (90C08)

— Hoffman's error bound for systems of convex inequalities. (English summary) *Mathematical programming with data perturbations*, 185–199, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Summary) **98k:90118** 90C31

Klauck, Hartmut On the hardness of global and local approximation. (English summary) *Algorithm theory—SWAT '96* (*Reykjavik*, 1996), 88–99, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (Summary) **98h:68113** 68Q25 (90C27)

Klaudel, Hanna (*with* Best, Eike; Fleischhack, Hans; Frączak, Wojciech; Hopkins, Richard P.; Pelz, Elisabeth) A class of composable high level Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 103–120, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

— (*with* Pelz, Elisabeth) Communication as unification in the Petri box calculus. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 303–312, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q60 (68Q65, 68Q90)

Klauder, John R. A stochastic sampler. *Stochastic processes in astrophysics* (*Gainesville, FL*, 1993), 1–7, *Ann. New York Acad. Sci.*, 706, *New York Acad. Sci., New York*, 1993. (*see* **98f:00030**) 82C31

— Optical coherence before and after Wiener. *Proceedings of the Norbert Wiener Centenary Congress*, 1994 (*East Lansing, MI*, 1994), 195–211, *Proc. Sympos. Appl. Math.*, 52, *Amer. Math. Soc., Providence, RI*, 1997. (Kuppuswamy Porsezian) **98g:78010** 78A40 (78A60, 81V80)

— Coherent state quantization of constraint systems. (English summary) *Ann. Physics* **254** (1997), *no.* 2, 419–453. (Nicolaas P. Landsman) **98j:81192** 81S30 (81R30, 81S40)

— Understanding quantization. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1467–1483. (Summary) **98i:81129** 81S30 (81R30)

— (*with* Shabanov, Sergeĭ V.) Coordinate-free quantization of first-class constrained systems. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 116–122. (Günter Braunss) **98i:81119** 81S10 (81R30, 81S40)

Klaus, Bettina (*with* Peters, Hans; Storcken, Ton) Strategy-proof division of a private good when preferences are single-dipped. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 339–346. 90A06 (90D10)

— (*with* Peters, Hans; Storcken, Ton) Reallocation of an infinitely divisible good. (English summary) *Econom. Theory* **10** (1997), *no.* 2, 305–333. (Summary) **98c:90027** 90A40 (90B70)

Klaus, Martin (*with* Aktosun, Tuncay; van der Mee, Cornelis V. M.) Inverse scattering problem for the wave equation with discontinuous wavespeed. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 3–21, *VSP, Utrecht*, 1995. (Summary) **98d:34115** 34L25 (34A55, 34L40, 35L05)

— (*with* Aktosun, Tuncay; van der Mee, Cornelis V. M.) The one-dimensional inverse scattering problem for nonhomogeneous media with discontinuous wavespeed. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 105–133, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (R. G. Airapetyan) **98h:34142** 34L25 (34A55)

— *see also* **Sassoli de Bianchi, M.**

Klavžar, Sandi (*with* Gutman, Ivan M.) Wiener number of vertex-weighted graphs and a chemical application. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 73–81. (Summary) **98g:05146** 05C90 (92E10)

— (*with* Imrich, Wilfried) Recognizing Hamming graphs in linear time and space. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 91–95. (Summary) **98d:05134** 05C85 (68R10)

— (*with* Imrich, Wilfried; Vesel, Aleksander) A characterization of halved cubes. (English summary) *Ars Combin.* **48** (1998), 27–32. (Summary) **98m:05164** 05C75

— On the fractional chromatic number and the lexicographic product of graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 259–263. (Summary) **98m:05069** 05C15

— Hall's marriage theorem and its applications. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 3, 65–72. 05A05 (05B15, 15A15)

— *see also* **Fifty years of the Wiener index, 98b:92001**

Klazar, Martin Combinatorial aspects of Davenport-Schinzel sequences. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 431–445. (M. Mendès France) **98d:05149** 05D99 (11B75, 11B83, 68R15)

— Addendum: "Twelve countings with rooted plane trees" [European J. Combin. **18** (1997), no. 2, 195–210; MR 97j:05033]. *European J. Combin.* **18** (1997), *no.* 6, 739–740. (Editors) **98g:05073** 05C30 (05A15)

— On trees and noncrossing partitions. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 263–269. (Summary) **98k:05009** 05A18 (05C05)

— On numbers of Davenport-Schinzel sequences. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 77–87. (Summary) **98m:05006** 05A15

Klebaner, Fima Chaim (*with* Kersting, G.) Explosions in Markov processes and submartingale convergence. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 127–136, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (M. Iosifescu) **98m:60134** 60J75

— (*with* Liptser, R. Sh.) Large deviations for recurrent sequences with aftereffect. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 23–34; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 320–330 (1997). (Vadim R. Fatalov) **98e:60042** 60F10

— (*with* Bezen, Alexandre) The Riemann's function and its application to stochastic perturbations of a non-linear wave equation. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 307–318. 35L70 (35R60, 60H15, 65M99)

Klebanov, Igor R. (*with* Callan, Curtis G., Jr.) D-brane boundary state dynamics. (English summary) *Nuclear Phys. B* **465** (1996), *no.* 3, 473–484. (Summary) **98f:81244** 81T30

— (*with* Hanany, Amihay) On tensionless strings in $3+1$ dimensions. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 1-2, 105–118. (Miguel A. Vázquez-Mozo) **98c:81166** 81T30 (83E30)

— The Skyrme model. Notes by M. Engelhardt and D. Stoll. *Lectures on QCD*, 188–216, *Lecture Notes in Phys.*, 481, *Springer, Berlin*, 1997. (*see* **98k:81306**) 81T18 (81–02, 81V05)

— (*with* Callan, Curtis G., Jr.; Gubser, Steven S.; Tseytlin, Arkady A.) Absorption of fixed scalars and the D-brane approach to black holes. (English summary) *Nuclear Phys. B*

489 (1997), *no.* 1-2, 65–94. (Paulo Moniz) **98e:83068** 83C57 (81T30, 83E30)
— World-volume approach to absorption by non-dilatonic branes. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 231–242. (Summary) **98c:81173** 81T30
— (*with* Gubser, Steven S.; Tseytlin, Arkady A.) String theory and classical absorption by three-branes. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 217–240. (Summary) **98g:81163** 81T30 (83E30)
— (*with* Mathur, Samir D.) Black hole greybody factors and absorption of scalars by effective strings. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 115–132. (Summary) **98e:83120** 83E30 (83C57)
— (*with* Hashimoto, Akikazu) Scattering of strings from D-branes. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 118–133. (Summary) **98d:81083** 81T30 (83E30)
— (*with* Gubser, Steven S.) Absorption by branes and Schwinger terms in the world volume theory. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 41–48. 81T30
— (*with* Krasnitz, Michael) Fixed scalar greybody factors in five and four dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, R3250–R3254. (Summary) **98a:83087** 83C57 (83E30)
— (*with* Krasnitz, Michael) Testing effective string models of black holes with fixed scalars. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2173–2179. (Summary) **98d:83090** 83E30 (81T30, 83C57)
— (*with* Danielsson, Ulf H.; Ferretti, Gabriele) Creation of fundamental strings by crossing Dirichlet branes. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1984–1987. 81T30
— (*with* Susskind, Leonard) Schwarzschild black holes in various dimensions from matrix theory. (English summary) *Phys. Lett. B* **416** (1998), *no.* 1-2, 62–66. (Summary) **98k:83085** 83E30 (81T30, 83C57)
— (*with* Gukov, S.; Polyakov, A. M.) Dynamics of $(n, 1)$ strings. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 64–70. (Summary) **98m:81141** 81T30
— (*with* Banks, Tom; Fischler, Willy; Susskind, Leonard) Schwarzschild black holes from matrix theory. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 226–229. (Summary) **98k:83080** 83E30 (83C57)
— *see also* **String theory, gauge theory and quantum gravity**, **98b:81004**

Klebanov, Lev B. (*with* Rachev, Svetlozar T.) Proximity of probability measures with common marginals in a finite number of directions. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 162–174, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98j:60016** 60E05 (60A10)
— (*with* Khalfin, L. A.) What information about a wave function follows from its "measurement" by the tomograph method of Wigner distribution restoration? (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 189–200, 360. (K. Wódkiewicz) **98e:81092** 81S30 (60E99)
— (*with* Rachev, Svetlozar T.) The method of moments in tomography and quantum mechanics. *Distributions with given marginals and moment problems (Prague, 1996)*, 35–52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 81S30 (92C55)
— (*with* Rachev, Svetlozar T.) Computer tomography and quantum mechanics. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 595–606. (Fritz Keinert) **98m:44004** 44A12 (81P99)

Kleber, Antares (*with* Banerjee, Asit Kumar; Santos, Nilton O.) Static cylindrically symmetric gravitational field with cosmological constant. (English summary) *Astrophys. Space Sci.* **245** (1996), *no.* 1, 139–149. (Shin-ichi Kitamura) **98g:83008** 83C15 (83C20)

Kleber, Michael Combinatorial structure of finite-dimensional representations of Yangians: the simply-laced case. *Internat. Math. Res. Notices* **1997**, *no.* 4, 187–201. (Andrew Pressley) **98a:17018** 17B37

Kleczewska, Halina (*with* Glanc, Barbara; Jakubowicz, Antoni) The generalized Reissner-Nordström space-time. *Demonstratio Math.* **30** (1997), *no.* 3, 635–639. (Jaume J. Carot) **98j:83017** 83C15 (83C20)

Klee, Victor (*with* Burger, Thomas; Gritzmann, Peter) Polytope projection and projection polytopes. *Amer. Math. Monthly* **103** (1996), *no.* 9, 742–755. (Gerard Sierksma) **98i:52013** 52B11
— (*with* Hudelson, Matthew; Larman, David) Largest j-simplices in d-cubes: some relatives of the Hadamard maximum determinant problem. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 519–598. (Summary) **98c:15025** 15A15
— (*with* Holt, F.) Counterexamples to the strong d-step conjecture for $d \geq 5$. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 33–46. (H. T. Lau) **98h:05115** 05C38

Kleefeld, F. *see* **Hasenfratz, P.**, (**98k:81306**)

Kleemann, B. (*with* Dahmen, Wolfgang; Prössdorf, Siegfried; Schneider, Reinhold) Multiscale methods for pseudodifferential equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 7–10. (*see* **98b:65005**) 65N06 (65M06)

Kleeorin, N. (*with* Rogachevskii, I.; Ruzmaĭkin, A. A.; Soward, A. M.; Starchenko, S. V.) Axisymmetric flow between differentially rotating spheres in a dipole magnetic field. (English summary) *J. Fluid Mech.* **344** (1997), 213–244. (Manuel Núñez Jiménez) **98i:76102** 76W05

Kleespies, Frank Inverse spectral theory for periodic Schrödinger operators. (English summary) *Univ. Iagel. Acta Math. No.* 34 (1997), 63–69. (Summary) **98b:34111** 34L40 (34A55)

Kleidis, K. (*with* Varvoglis, H.; Papadopoulos, D. B.) Conditions on the stability of the external space solutions in a higher-dimensional quadratic theory of gravity. (English summary) *J. Math. Phys.* **37** (1996), *no.* 8, 4025–4033. (Summary) **98b:83082** 83E15 (83D05)
— (*with* Kuiroukidis, A.; Papadopoulos, D. B.; Varvoglis, H.) Higher-dimensional models in gravitational theories of quartic Lagrangians. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3166–3188. (A. D. Popova) **98h:83082** 83E15
— (*with* Papadopoulos, D. B.) Cosmological solutions in Kaluza-Klein theories of quadratic Lagrangians. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3189–3208. (A. D. Popova) **98h:83083** 83E15

Kleihaus, Burkhard (*with* Kunz, Jutta) Axially symmetric multisphalerons in Yang-Mills–dilaton theory. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 135–140. (Bernd J. Schroers) **98b:81144** 81T13 (81V15)
— (*with* Kunz, Jutta) Static axially symmetric solutions of Einstein–Yang-Mills–dilaton theory. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 13, 2527–2530. (Summary) **98f:83019** 83C20
— (*with* Kunz, Jutta) Static black-hole solutions with axial symmetry. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 9, 1595–1598. (Summary) **98d:83055** 83C57
— (*with* Kunz, Jutta) Static axially symmetric Einstein-Yang-Mills-dilaton solutions: regular solutions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 834–856. (Summary) **98j:83023** 83C20 (81T13)

van der Kleij, Gerre On knots and swamps—knots in European prehistory. *History and science of knots*, 31–42, *Ser. Knots Everything*, 11, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98e:01003**) 01A99 (01A15, 57-03, 57M25)

Kleijn, H. C. M. (*with* Keesmaat, N. W.) Net-based control versus rational control. The relation between ITNC vector languages and rational relations. (English summary) *Acta Inform.* **34** (1997), *no.* 1, 23–57. (Hideki Yamasaki) **98c:68059** 68Q10 (68Q45, 68Q90)
— (*with* Keesmaat, N. W.) Restrictions and representations of vector controlled concurrent system behaviours. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 61–102. (Anna Bagyinszkiné-Orosz) **98h:68074** 68Q10 (68Q45)

Kleijn, Marcel (*with* Frenk, Hans; Dekker, Rommert) A unified treatment of single component replacement models. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 437–454. (Summary) **98b:90057** 90B25 (60K10)

Kleiman, Steven L. (*with* Thorup, Anders) Mixed Buchsbaum-Rim multiplicities. (English summary) *Amer. J. Math.* **118** (1996), *no.* 3, 529–569. (Summary) **98g:14008** 14C17 (13H15)
— (*with* Lipman, Joseph; Ulrich, Bernd) The multiple-point schemes of a finite curvilinear map of codimension one. (English summary) *Ark. Mat.* **34** (1996), *no.* 2, 285–326. (Valerio Vassallo) **98a:14002** 14C05 (14N10, 14Q15)
— (*with* Johnsen, Trygve) Rational curves of degree at most 9 on a general quintic threefold. (English summary) *Comm. Algebra* **24** (1996), *no.* 8, 2721–2753. (Ragni Piene) **98c:14034** 14J30 (14H45, 14N10)
— (*with* Ulrich, Bernd) Gorenstein algebras, symmetric matrices, self-linked ideals, and symbolic powers. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4973–5000. (Matthew Miller) **98e:13019** 13C40 (13A30, 13C14, 13D02, 13H10)

Kleimenov, A. F. An approach to defining solution concept in N-person nonantagonistic positional differential games. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 241–250. (N. Pacchiarotti) **98e:90241** 90D25 (90D12)

Klein, A. A. *see* **Klein, Abraham A.**

Klein, Abel (*with* Masooman, Sharareh) Taming Griffiths' singularities in long range random Ising models. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 497–512. (Olle Häggström) **98k:82095** 82B44 (60K35)
— Extended states in the Anderson model on the Bethe lattice. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 163–184. (Aernout C. D. van Enter) **98k:82096** 82B44 (47B80, 47N55, 81Q10, 82D30)

Klein, Abraham (*with* Greenberg, William R.; Li, Ching-Teh) Invariant tori and Heisenberg matrix mechanics: a new window on the quantum-classical correspondence. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 281–293, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q20

Klein, Abraham A. (*with* Bell, Howard E.; Kappe, Luise-Charlotte) An analogue for rings of a group problem of P. Erdős and B. H. Neumann. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 57–67. (Yasuyuki Hirano) **98k:16047** 16U80 (16P10, 16U50)

Klein, Christian (*with* Richter, Olaf) Algebro-geometric approach to the Ernst equation. I. Mathematical preliminaries. *Mathematics of gravitation, Part I (Warsaw, 1996)*, 195–204, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Iskander A. Taimanov) **98f:83020** 83C20
— Counter-rotating dust rings around a static black hole. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2267–2280. (Summary) **98d:83056** 83C57

Klein, D. J. Graph geometry, graph metrics, & Wiener. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 7–27. (E. Keith Lloyd) **98e:05103** 05C90 (01A60, 05-03, 05C12, 92E10)

Klein, Felix *see* **Menghini, Marta**, **98b:01021**; **Siegmund-Schultze, Reinhard**, **98f:01099** *and* **Segre, Michael**, **98i:01021**

Klein, Hauke Models of topological space geometries. (English summary) *J. Geom.* **59** (1997), *no.* 1-2, 77–93. (Burkard Polster) **98f:51022** 51H10

Klein, J. *see* **Klein, John R.**

Klein, John P. (*with* Zheng, Ming[1]) Identifiability and estimation of marginal survival functions for dependent competing risks assuming the copula is known. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 401–408, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62187** 62N05 (62G05)

Klein, John R. (*with* Schwänzl, R.; Vogt, Rainer M.) Comultiplication and suspension. (English summary) *Topology Appl.* **77** (1997), *no.* 1, 1–18. (Richard John Steiner) **98a:55010** 55P45 (55P40)

Klein, Lawrence R. ★ Selected papers of Lawrence R. Klein. (English summary) Theoretical reflections and econometric applications. Edited and with a preface by Kanta Marwah. Econometrics in the Information Age: Theory and Practice of Measurement, 1. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xlvi+659 *pp. ISBN* 981-02-2600-4 (Editors) **98g:01074** 01A75 (62P20, 90A09)

Klein, Limor (*with* Arkin, Esther M.; Hassin, Refael) Restricted delivery problems on a network. (English summary) *Networks* **29** (1997), *no.* 4, 205–216. (Summary) **98b:90050** 90B10 (05C90, 68Q25)

Klein, Markus (*with* Martinez, André; Wang, Xue Ping[1]) On the Born-Oppenheimer approximation of diatomic wave operators. II. Singular potentials. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1373–1396. (Hiroshi Isozaki) **98c:81247** 81V55 (47N55)

Klein, Olaf A semidiscrete scheme for a Penrose-Fife system and some Stefan problems in $\mathbf{R}^3$. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 491–523. (Jennifer Zhao) **98d:65111** 65M06 (65M12)

Klein, Patrice (*with* Rivière, Pascal) Effects of an asymmetric friction on the nonlinear equilibration of a baroclinic system. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 12, 1610–1627. (Summary) **98d:86009** 86A10 (76E20)

— (*with* Hua, B. L.) An exact criterion for the stirring properties of nearly two-dimensional turbulence. (English summary) *Phys. D* **113** (1998), *no.* 1, 98–110. (Summary) **98m:76098** 76F99

Klein, Philip N. (*with* Karger, David R.; Tarjan, Robert E.) A randomized linear-time algorithm to find minimum spanning trees. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 321–328. (Peter B. Gibbons) **98b:68153** 68R10 (05C85, 68Q25)

— (*with* Henzinger, Monika Rauch; Rao, Satish B.; Subramanian, Sairam) Faster shortest-path algorithms for planar graphs. (English summary) 26th Annual ACM Symposium on the Theory of Computing (STOC '94) (Montreal, PQ, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 1, 3–23. (Peter B. Gibbons) **98m:68209** 68R10 (05C38, 05C85)

Klein, Rolf (*with* Lingas, Andrzej) Fast skeleton construction. (English summary) *Algorithms—ESA '95* (*Corfu*), 582–595, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Abellanas, Manuel; Hernández-Peñalver, Gregorio; Neumann-Lara, Víctor; Urrutia, Jorge) A combinatorial property of convex sets. (English summary) *Discrete Comput. Geom.* **17** (1997), *no.* 3, 307–318. (Summary) **98h:52013** 52A37

Klein, Susanne (*with* Berry, M. V.) Transparent mirrors: rays, waves and localization. (English and German summaries) *European J. Phys.* **18** (1997), *no.* 3, 222–228. (Summary) **98c:78005** 78A10 (78A45)

— (*with* Berry, M. V.) Diffraction near fake caustics. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 303–306. 78A10 (78A45)

Kleinbock, Dmitry Y. (*with* Khokhlov, Yu. E.) Inverse problems for fluid flows with a moving boundary. (English summary) *Lipa's legacy* (*New York*, 1995), 297–317, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Sam D. Howison) **98k:76134** 76S05 (35Q35, 35R30, 76D05)

Kleindienst, H. (*with* Hilger, Ralf; Merckens, H.-P.) Accurate lower bounds for some excited P^0 states of the He atom. *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 959–960. 81V45

de Kleine, E. (*with* Banning, E. J.; van der Weele, J. P.; Ross, J. C.; Kettenis, M. M.) Mode competition in a system of two parametrically driven pendulums; the dissipative case. (English summary) *Phys. A* **245** (1997), *no.* 1-2, 11–48. (Peter Ashwin) **98k:70009** 70K28 (34C15, 70K40, 70K50)

Kleine Büning, Hans (*with* Lettmann, Theodor) Learning a representation of optimizable formulas. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 51–58, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68Q99)

— (*with* Grandjean, Etienne) SAT-problems and reductions with respect to the number of variables. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 457–471. (M. I. Dekhtyar) **98j:68054** 68Q25 (03B05, 03D15, 68Q15)

— *see also* **Computer science logic, 98a:68002**

Kleiner, Bruce (*with* Leeb, Bernhard) Rigidity of quasi-isometries for symmetric spaces and Euclidean buildings. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 639–643. (Raul Quiroga) **98f:53046** 53C35

— (*with* Leeb, Bernhard) Rigidity of quasi-isometries for symmetric spaces and Euclidean buildings. *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 115–197 (1998). (Lee Mosher) **98m:53068** 53C35 (20E42, 20F32, 53C23, 57M07)

— (*with* Burago, D. Yu.; Ivanov, Sergei Vladimirovich) On the structure of the stable norm of periodic metrics. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 791–808. (Edoh Amiran) **98k:53051** 53C22 (53C20)

Kleiner, Israel (*with* Movshovitz-Hadar, Nitsa) Paradoxes in mathematics: history and pedagogy. *Meeting of the International Study Group on Relations Between History and Pedagogy of Mathematics* (*Blumenau*, 1994), 23–34, *Edit. UNESP, São Paulo*, 199?. (Editors) **98f:01005** 01A05 (00A30, 00A35)

— (*with* Movshovitz-Hadar, Nitsa) Proof: a many-splendored thing. *Math. Intelligencer* **19** (1997), *no.* 3, 16–26. 00A30 (00A35)

Kleinert, Hagen (*with* Zhuk, A. I.) The Casimir effect at nonzero temperatures in a universe with topology $S^1 \times S^1 \times S^1$. (English and Russian summaries) *Teoret. Mat. Fiz.* **108** (1996), *no.* 3, 482–496; *reprinted in Theoret. and Math. Phys.* **108** (1996), *no.* 3, 1236–1248 (1997). (Enric Verdaguer) **98f:81222** 81T20 (83C47)

— (*with* Zhuk, A. I.) The Casimir effect at nonzero temperature in a closed Friedmann universe. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 2, 307–320; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 2, 1483–1493 (1997). (Summary) **98h:83039** 83C47 (81T20)

— Quantum equivalence principle. (English summary) *Functional integration* (*Cargèse*, 1996), 67–92, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (John I. LaChapelle) **98k:81141** 81S40 (58D30)

— (*with* Shabanov, Sergeĭ V.) Proper Dirac quantization of a free particle on a D-dimensional sphere. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 327–332. (Summary) **98f:81165** 81S99

— (*with* Shabanov, Sergeĭ V.) Supersymmetry in stochastic processes with higher-order time derivatives. (English summary) *Phys. Lett. A* **235** (1997), *no.* 2, 105–112. (Constantin Syros) **98k:82128** 82C31 (82C10)

Kleinfeld, Erwin (*with* Hentzel, Irvin R.; Smith, Harry F.) Commutative center = center in a prime finitely generated right alternative ring. *Comm. Algebra* **25** (1997), *no.* 10, 3147–3153. (Consuelo Martínez) **98h:17037** 17D15

Klein Haneveld, W. K. *see* **Ten years LNMB, 98b:90006**

Kleinkauf, J.-M. (*with* Beyn, W.-J.) Numerical approximation of homoclinic chaos. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 25–53. (Heinrich Steinlein) **98g:58130** 58F15 (58F03, 65L99)

Kleinman, Ralph E. (*with* Rozier, C.; Lesselier, Dominique; Angell, Thomas S.) Reconstruction of an impenetrable obstacle immersed in a shallow water acoustic waveguide. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 130–142, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 76Q05 (35J05, 76M15)

— (*with* van den Berg, Peter M.; Duchêne, Bernard; Lesselier, Dominique) Location and reconstruction of objects using a modified gradient approach. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 143–158, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (65J20)

— (*with* van den Berg, Peter M.) Gradient methods in inverse acoustic and electromagnetic scattering. (English summary) *Large-scale optimization with applications, Part I* (*Minneapolis, MN*, 1995), 173–194, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98f:76067** 76Q05 (76M25, 78–08, 78A45)

— (*with* Angell, Thomas S.) Radiation conditions and uniqueness. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 88–101, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Vadim D. Kryakvin) **98k:35028** 35J05 (76Q05)

— (*with* van den Berg, Peter M.) Inverse scattering—a nonlinear optimization approach. *Ordinary and partial differential equations, Vol. V* (*Dundee*, 1996), 33–50, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (*see* **98k:00018**) 65N30 (65K10)

— (*with* Hsiao, George C.) Mathematical foundations for error estimation in numerical solutions of integral equations in electromagnetics. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 3, 316–328. (Summary) **98a:78001** 78–08 (65R20, 78A25)

— (*with* van den Berg, Peter M.) A contrast source inversion method. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1607–1620. 78A45 (78–08)

Kleinschmidt, Axel (*with* Bier, Thomas) Centrally symmetric and magic rectangles. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 29–42. (Rong Si Chen) **98i:05028** 05B15

Kleinschmidt, P. (*with* Hefner, Andreas) A polyhedral approach for a constrained matching problem. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 429–437. (Xue Liang Li) **98c:90110** 90C27 (05C70, 90B35, 90C35)

Kleis, D. (*with* Sachs, Ekkehard W.) Convergence rate of the augmented Lagrangian SQP method. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 49–74. (William W. Hager) **98i:90091** 90C30 (49M30)

Kleiser, Leonhard (*with* Härtel, Carlos; Michaud, M.; Stein, C. F.) A direct numerical simulation approach to the study of intrusion fronts. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 103–120. (Summary) **98i:86007** 86A10 (76M25, 86–08, 86A05)

— (*with* Härtel, Carlos) Analysis and modelling of subgrid-scale motions in near-wall turbulence. (English summary) *J. Fluid Mech.* **356** (1998), 327–352. 76F99

— *see also* **Direct and large-eddy simulation**

Kleisli, Heinrich (*with* Röhrl, Helmut) Convexity theories. 0. Fin. Foundations. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 469–496. (Summary) **98b:18008** 18B99 (46M15, 52A01)

Kleist, Josva (*with* Aceto, Luca; Hüttel, Hans; Ingólfsdóttir, Anna) Relating semantic models for the object calculus (preliminary report). (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q55 (68N15)

Kleitman, Daniel J. (*with* Füredi, Zoltán; Goemans, Michel X.) On the maximum number of triangles in wheel-free graphs [MR 95g:05062]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 305–317, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C38

— (*with* Alon, Noga) A purely combinatorial proof of the Hadwiger Debrunner (p, q) conjecture. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 1, *approx.* 8 *pp.* (*electronic*). (John R. Reay) **98c:52009** 52A35

Kleman, Maurice The topological classification of defects. (English summary) *Formation and interactions of topological defects* (*Cambridge*, 1994), 27–61, *NATO Adv. Sci. Inst. Ser. B Phys.*, 349, *Plenum, New York*, 1995. (Ivan A. Parinov) **98m:82073** 82D30 (73S10, 76A15)

Klement, Erich Peter (*with* Mesiar, Radko; Pap, Endre) A characterization of the ordering of continuous t-norms. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 2, 189–195. (Summary) **98b:04006** 04A72

— Some mathematical aspects of fuzzy sets: triangular norms, fuzzy logics, and generalized measures. (English summary) Fuzzy sets: Where do we stand? Where do we go? (São Paulo, 1995). *Fuzzy Sets and Systems* **90** (1997), *no.* 2, 133–140. (Summary) **98g:04010** 04A72 (03B52, 28E10)

Klement, Peter Erich (*with* Mesiar, Radko) Triangular norms. Fuzzy structures. *Tatra Mt. Math. Publ.* **13** (1997), 169–193. (*see* **98e:04004**) 04A72

Klemm, Albrecht Otto (*with* Hosono, S.; Theisen, Stefan) An extended lecture on mirror symmetry [MR 96f:32055]. *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 33–76, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (*see* **98c:00015**) 32J81 (14J32, 14N10, 32G20, 32G81, 32J17, 81T30, 81T40)

— (*with* Lerche, Wolfgang; Theisen, Stefan) Nonperturbative effective actions of $(N = 2)$-supersymmetric gauge theories. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 11, 1929–1973. (Bruce Hunt) **98a:81229** 81T60 (32G20, 32J81, 81T13)

— (*with* Kachru, Shamit; Lerche, Wolfgang; Mayr, Peter; Vafa, Cumrun) Non-perturbative results on the point particle limit of $N = 2$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **459** (1996), *no.* 3, 537–555. (Clifford V. Johnson) **98c:81170** 81T30 (32J81, 81T60, 83E30)

— (*with* Lerche, Wolfgang; Mayr, Peter; Vafa, Cumrun; Warner, Nicholas) Self-dual strings and $N = 2$ supersymmetric field theory. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 746–764. (Gerardo Marcelo Aldazabal) **98b:81204** 81T30 (32J81, 81T13, 81T60)

— (*with* Berglund, Per; Katz, Sheldon H.; Mayr, Peter) New Higgs transitions between dual $N = 2$ string models. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 209–228. (Summary) **98e:81130** 81T30 (14J32, 32J81, 83E30)

— (*with* Katz, Sheldon H.; Vafa, Cumrun) Geometric engineering of quantum field theories. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 173–195. (Bruce Hunt) **98h:81097** 81T30 (14J32, 32J81, 81T60)

Klemmstein, Monika (*with* Fekete, Sándor P.; Khuller, Samir; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 105–117, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael A. Trick) **98i:90112** 90C35 (05C05)

— (*with* Fekete, Sándor P.; Khuller, Samir; Raghavachari, Balaji; Young, Neal E.) A network-flow technique for finding low-weight bounded-degree spanning trees. (English

summary) *J. Algorithms* **24** (1997), *no.* 2, 310–324. (Summary) **98h:68181** 68R10 (05C85, 68Q25, 90C35)

Klempous, Ryszard (*with* Kotowski, Jerzy; Nikodem, Jan; Ułasiewicz, Jędrzej) Optimization algorithms of operative control in water distribution systems. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 81–99. 65K10 (49N55, 90C90)

Klepikov, V. I. (*with* Sosonkin, V. L.) Structured neural-like networks as a means for modeling discrete processes. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 147–154; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 122–127. 68T05 (92B20)

Klepp, Horst J. The convergence of iterative acceleration computation for multi-body systems with friction. (English and German summaries) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 272–289. (Summary) **98a:70005** 70E15 (65L99, 70–08)

Kleppe, Astri (*with* Bengtsson, Ingemar) On chiral p-forms. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3397–3411. (Victor O. Rivelles) **98e:81182** 81T99

Kleptsyna, M. L. (*with* Pyatnitskiĭ, A. L.) Homogenization of random parabolic operators. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 241–255, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98f:35013** 35B27 (35K10, 35R60, 60H15)

— The averaging principle and diffusion approximation for Volterra equations. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 429–438; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 359–367 (1997). (R. Sh. Liptser) **98g:60115** 60H20

— (*with* Liptser, R. Sh.; Serebrovskiĭ, A. P.) Nonlinear filtering problem with contamination. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 917–934. (Michael A. Kouritzin) **98m:60066** 60G35 (62M20, 93E11)

de Klerk, E. (*with* Roos, Cornelis; Terlaky, Tamás) A short survey on semidefinite programming. (English summary) *Ten years LNMB*, 323–339, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90C30 (90C08)

— (*with* Roos, Cornelis; Terlaky, Tamás) Initialization in semidefinite programming via a self-dual skew-symmetric embedding. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 5, 213–221. (Summary) **98d:90112** 90C30

— (*with* He, Bing Sheng; Roos, Cornelis; Terlaky, Tamás) Method of approximate centers for semi-definite programming. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 291–309. (Summary) **98f:90037** 90C08 (90C30)

Klerlein, Joe (*with* Sportsman, J. Scott; Wallis, Charles) On permanents of adjacency matrices of iterated line digraphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 119–127. (Summary) **98j:05099** 05C50 (05C20, 15A15)

Klešč, M. (*with* Akka, D. G.; Jendrol', Stanislav; Panshetty, S. V.) On line graphs with crossing number 2. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 3–8. (V. R. Kulli) **98k:05049** 05C10

Kleshchev, A. S. (*with* Ford, Ben) A proof of the Mullineux conjecture. *Math. Z.* **226** (1997), *no.* 2, 267–308. (G. D. James) **98k:20015a** 20C30 (05E10)

— On decomposition numbers and branching coefficients for symmetric and special linear groups. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 3, 497–558. (Christine Bessenrodt) **98g:20026** 20C30 (20C20, 20G05)

Klesov, O. I. (*with* Gut, Allan; Steinebach, Josef) Equivalences in strong limit theorems for renewal counting processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 381–394. (Andrew Rosalsky) **98m:60043** 60F15 (60K05)

— *see also* **Dorogovtsev, A. Ya. et al., 98k:60001**

Klette, R. (*with* Richardt, J.; Nicklisch-Franken, J.) A generalized fuzzy c-means algorithm with applications to contrast modification and binarization of images. (English summary) *Comput. Artificial Intelligence* **15** (1996), *no.* 5, 483–507. (Sankar Kumar Pal) **98g:68174** 68U10 (04A72)

Kleyle, R. (*with* de Korvin, A.) Transition probabilities for Markov chains having fuzzy states. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 527–546. (Summary) **98d:60131** 60J10 (04A72)

— (*with* de Korvin, A.) Expected transition costs based on a Markov model having fuzzy states with an application to policy selection. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 51–64. (Summary) **98i:90024** 90A19

— (*with* de Korvin, A.) Using the extension theorem to define fuzzy expectation. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 303–311. 60E99 (03E72, 28E10)

Klibanov, Michael V. (*with* Blaschke-Kaltenbacher, Barbara; Engl, Heinz W.; Grever, W.) An application of Tikhonov regularization to phase retrieval. (English summary) *Nonlinear World* **3** (1996), *no.* 4, 771–786. (Hans-Jürgen Reinhardt) **98d:65080** 65J20 (42A38, 65T20)

— (*with* Lucas, T. R.; Frank, Robert) A fast and accurate imaging algorithm in optical/diffusion tomography. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1341–1361. (Summary) **98h:35234** 35R30 (35K10, 65M30)

— Global convexity in a three-dimensional inverse acoustic problem. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1371–1388. (Summary) **98h:35235** 35R30 (35L05, 76Q05)

Kliem, Wolfhard (*with* Philipsen, C.; Markvorsen, Steen) Modelling the stem curve of a palm in a strong wind. (English summary) *SIAM Rev.* **38** (1996), *no.* 3, 483–484. 73K05 (73H05)

— (*with* Furta, S. D.; Pommer, C.) On the buckling of an elastic rotating beam. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 307–324. (Jesús Hernández) **98c:73047** 73H10 (34K10, 35Q72, 47H15, 73H05)

— (*with* Seiranyan, A. P.) Analysis of the gyroscopic stabilization of a system of rigid bodies. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 840–847. (Ranislav Bulatović) **98i:34077** 34D20 (70E15, 70J25)

Kliemann, Wolfgang Nonlinear time series—bifurcation, chaos, and stationarity. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 389–401, *Springer, New York*, 1996. (Summary) **98b:62162** 62M10

Kligienė, Nerutė Nearly nonstationary ARMA processes: second order properties. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **8** (1997), *no.* 4, 477–494. 62M10

Klimant, Herbert (*with* Piotraschke, Rudi; Schönfeld, Dagmar) ★ Informations- und Kodierungstheorie. (German. German summary) [Information and coding theory] *B. G. Teubner, Stuttgart*, 1996. 240 *pp. ISBN* 3-8154-2300-7 (From the preface) **98m:94001** 94–01

Klimčík, Ctirad Gravitational waves as string vacua. III. (English summary) *Czechoslovak J. Phys.* **42** (1992), *no.* 2, 121–140. (Summary) **98k:81225** 81T30 (83C35, 83E30)

— (*with* Grosse, Harald; Prešnajder, P.) The finite gauge model on the truncated sphere. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 279–283, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81T13 (58B30)

— (*with* Ševera, P.) Poisson-Lie T-duality: open strings and D-branes. (English summary) *Phys. Lett. B* **376** (1996), *no.* 1-3, 82–89. (Javier Borlaf González) **98a:81177** 81T30 (22E70, 81R05, 81T40)

— (*with* Ševera, P.) Dressing cosets. (English summary) *Phys. Lett. B* **381** (1996), *no.* 1-3, 56–61. (Tsou Sheung Tsun) **98f:81134** 81R50 (81T30, 81T40)

— (*with* Grosse, Harald; Prešnajder, P.) Field theory on a supersymmetric lattice. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 155–175. (Gianpiero Mangano) **98j:81237** 81T25 (58B30, 81T60)

— (*with* Ševera, P.) Open strings and D-branes in WZNW models. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 653–676. (Javier Borlaf González) **98f:81266** 81T30 (81T40)

Klimek, Małgorzata The linear difference derivatives and some q-special functions. (English summary) *From field theory to quantum groups*, 29–40, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexei Zhedanov) **98k:81114** 81R50 (33D80, 39A70)

— The symmetry algebra and conserved currents for Klein-Gordon equation on quantum Minkowski space. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 387–395, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Władysław Marcinek) **98k:81115** 81R50 (35A30, 35L70, 58B30, 81Q05)

Klimek, Sławomir (*with* Lesniewski, Andrzej; Maitra, Neepa; Rubin, Ron) Ergodic properties of quantized toral automorphisms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 67–83. (Albert Jeu-Liang Sheu) **98b:81049** 81Q50 (46L55, 46L60, 58F11)

Klimenko, A. Y. Conditional methods in application for Lagrangian modeling. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 922–927. (Summary) **98k:76077** 76F99 (76M35)

Klimenko, E. Ya. (*with* Bianconi, Ricardo; Gusevskiĭ, N. A.) Schottky type groups and Kleinian groups acting on S^3 with the limit set a wild Cantor set. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **26** (1995), *no.* 1, 1–45. (From the introduction) **98c:57039** 57S30 (30F40, 57M60)

— (*with* Gusevskiĭ, N. A.) False Schottky groups that act on a three-dimensional sphere. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 554–567, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 478–489. (Leonid Potyagailo) **98b:57024** 57M60 (57S30)

Klimenko, S. V. (*with* Brill, Manfred; Hagen, Hans; Rodrian, Khans-Kristian; D'yachin, V.) The use of the streamball technique for visualizing flows. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 63–73; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 266–269. 76M25 (76–04)

— (*with* Brill, Manfred; Hagen, Hans; Rodrian, Khans-Kristian; Veimer, Khenrik; D'yachin, V.) Implicit methods for the visualization of a fluid flow. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 74–79; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 270–271. 76M25 (76–04)

Klimenok, V. I. (*with* Dudin, A. N.) Calculation of the characteristics of a single-server system functioning in a synchronous Markovian random environment. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 74–84; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 1, 58–66. (Summary) **98d:60176** 60K25 (90B22)

Klimmek, R. (*with* Aigner, Martin) Matchings in lattice graphs and Hamming graphs [MR 96c:05131]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 33–50, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C70

Klimo, P. Path integrals on symmetric spaces and group manifolds. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 1, 23–39. (Christian Grosche) **98e:58037** 58D30 (22E30, 81S40)

Klimontovich, Yu. L. (*with* Lubashevskiĭ, I. A.; Gafiichuk, V. V.) A model of a hierarchically organized market that functions perfectly. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 3–16. 90A60 (90A15)

— On the paper of R. L. Stratonovich "A chain of BBGKI equations for bimolecular chemical reactions" [Teoret. Mat. Fiz. **111** (1997), no. 2, 163–178]. (Russian. Russian summary) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 179–181; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 534–535. 82C40 (01A60, 76P05)

Klimov, A. B. (*with* Chumakov, S. M.) Quantizing operator and transition from semiclassical to quantum optics. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 136–143, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81V80 (81S30)

— (*with* Dodonov, V. V.; Man'ko, Vladimir I.) Quantum multidimensional systems with quadratic Hamiltonians, evolution of distinguished subsystems. (English summary) *Nova J. Theor. Phys.* **4** (1996), *no.* 2-3, 101–219. (Jerzy Łuczka) **98c:81032** 81Q05 (82C10)

— (*with* Chumakov, S. M.) Gaussians on the circle and quantum phase. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 7–14. (K. Wódkiewicz) **98h:81140** 81V80

Klimov, Andrei V. (*with* Glück, Robert) A regeneration scheme for generating extensions. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 127–134. (Summary) **98a:68020** 68N05 (68N15)

Klimyk, A. U. (*with* Groza, V. A.; Kachurik, I. I.) q-deformed Euclidean algebras and their representations. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 467–475; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 706–712. (Michèle Irac-Astaud) **98h:17015** 17B37 (17B10, 81R50)

— (*with* Schempp, Walter) Classical and quantum Heisenberg groups, their representations and applications. (English summary) *Acta Appl. Math.* **45** (1996), *no.* 2, 143–194. (Alexei Zhedanov) **98b:22014** 22E27 (17B37, 22E25, 81–02, 81R50)

— (*with* Chung, Won-Sang) On position and momentum operators in the q-oscillator algebra. (English summary) *J. Math. Phys.* **37** (1996), *no.* 2, 917–932. (Summary) **98a:81085** 81S05 (33D90, 81R50)

— (*with* Havlíček, Miloslav; Pelantová, Edita) Nonstandard $U_q(so_3)$ and $U_q(so_4)$: tensor products of representations, oscillator realizations and roots of unity. (English summary)

Quantum groups and integrable systems, **11** (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 13–16. (Summary) **98f:81130** 81R50 (17B37)

Klin, Mikhail (*with* Muzychuk, Mikhail E.; Zefirov, N. S.) On the mathematical model of triangulanes. (English summary) *Discrete Appl. Math.* **67** (1996), *no.* 1-3, 175–187. (Haruo Hosoya) **98c:92016** 92E10 (05C90)

Klincsik, M. Asymptotic stability of linear nonautonomous dissipative hyperbolic partial differential equation. *Differential equations and its applications* (*Budapest*, 1991), 201–212, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 35L20 (35B35, 35B40)

Kline, Morris ★ Matemáticas. (Spanish. Spanish summary) [Mathematics] La pérdida de la certidumbre. [The loss of certainty] Translated from the 1980 English original by Andrés Ruiz Meriz: Ciencia y Técnica. [Science and Technology] *Siglo XXI de España Editores, S.A., Madrid*, 1985. xii+444 *pp. ISBN* 84-323-0529-4 (Editors) **98j:00004** 00A30 (01A55, 01A60, 03A05)

— *see also* **Lesmes, Jaime et al., 98j:01037a**

Kling, Bart *see* **Zwiesler, Hans J., 98m:62293**

Klingenbeck, Stefan (*with* Hähnle, Reiner) A-ordered tableaux. (English summary) *J. Logic Comput.* **6** (1996), *no.* 6, 819–833. (Summary) **98e:03015** 03B35 (68Q60, 68T15)

Klingenberg, Christian (*with* Lu, Yun Guang) Existence of solutions to resonant systems of conservation laws. (English summary) *Hyperbolic problems: theory, numerics, applications* (*Stony Brook, NY*, 1994), 383–389, *World Sci. Publishing, River Edge, NJ*, 1996. (Philippe G. LeFloch) **98e:35109** 35L65

— (*with* Lu, Yun Guang) Existence of solutions to hyperbolic conservation laws with a source. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 327–340. (Pavel Dubovskiĭ) **98d:35139** 35L65

Klingenberg, Wilhelm Stability of the Bishop family of holomorphic discs. *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 73–76, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Eric Bedford) **98h:32027** 32F25 (58D10)

Klingenberg, Wilhelm, Jr. Moduli space of holomorphic discs with boundary. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 249–253. (Bernd Siebert) **98i:58041** 58D15 (32F25, 32G13, 58D10)

Klinger, Bernhard (*with* Tichy, Robert F.) Polynomial discrepancy of sequences. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 107–117. (Gerhard Larcher) **98j:11058** 11K38

Klink, W. H. Quantum mechanics in noninertial reference frames. I. Nonrelativistic quantum mechanics. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 27–49. (J.-P. Antoine) **98m:81085** 81S99 (81R05)

— (*with* Allen, Thomas Wayne; Anastassiou, C.) The quartic anharmonic oscillator and its associated nonconstant magnetic field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4887–4899. (Arlen Anderson) **98k:81036** 81Q05

Klinke, Sigbert ★ Data structures for computational statistics. Contributions to Statistics. *Physica-Verlag, Heidelberg*, 1997. viii+284 *pp. ISBN* 3-7908-0982-9 65U05 (65–02)

Klinkhamer, F. R. (*with* Weller, J.) Construction of a new constrained instanton in Yang-Mills-Higgs theory. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 403–420. (Jan Segert) **98f:58060** 58E15 (81T13)

— (*with* Rupp, C.) A global anomaly from the Z-string. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 172–194. (Biswajit Chakraborty) **98i:81241** 81T50 (81T13)

Klinowski, Jacek (*with* Cvijović, Djurdje) Continued-fraction expansions for the Riemann zeta function and polylogarithms. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 9, 2543–2550. (Bruce C. Berndt) **98a:11111** 11M06 (11A55, 11M41, 11Y65, 33E20)

Klinz, Bettina (*with* Woeginger, Gerhard J.) A new efficiently solvable special case of the three-dimensional axial bottleneck assignment problem. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 150–162, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:90112** 90C27

— (*with* Woeginger, Gerhard J.) One, two, three, many, or: complexity aspects of dynamic network flows with dedicated arcs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 254–267, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68127** 68Q25 (68R10, 90C35)

— (*with* Dudás, Tibor; Woeginger, Gerhard J.) The computational complexity of Steiner tree problems in graded matrices. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 35–39. 90C35 (68Q25, 90C60)

— (*with* Dudás, Tibor; Woeginger, Gerhard J.) The computational complexity of multi-level bottleneck programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 165–179, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:90003**) 90C27 (90C60)

Klioner, Sergei A. (*with* Vakhidov, Akmal A.; Vasiliev, Nickolay N.) Numerical computation of Hansen-like expansions. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 3, 257–272. (Summary) **98m:70003** 70–08 (70F15)

Klipp, Edda (*with* Heinrich, Reinhart; Montero de Juan, Francisco Javier; Waddell, Thomas G.; Meléndez-Hevia, Enrique) Kinetic and thermodynamic constraints for the structural design of glycolysis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1793–1804. (*see* **98i:00029**) 92C30 (92C40)

Klippert, R. (*with* Elbaz, E.; Novello, M.; Salim, J. M.; Motta da Silva, M. C.) Hamiltonian formulation of FRW equations of cosmology. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 481–487. (Alexander N. Petrov) **98b:83008** 83C05 (83F05)

— *see also* **Lim, S. C., 98a:81019**

Klir, George J. (*with* St. Clair, Ute; Yuan, Bo) ★ Fuzzy set theory. (English summary) Foundations and applications. *Prentice Hall PTR, Upper Saddle River, NJ*, 1997. viii+245 *pp. ISBN* 0-13-341058-7 (Jozef Šajda) **98h:04007** 04A72 (04–01)

— Uncertainty theories, measures, and principles: an overview of personal views and contributions. *Uncertainty: models and measures* (*Lambrecht*, 1996), 27–43, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (Philip L. Quinn) **98i:00006** 00A30 (03B48, 60A99)

— Fuzzy arithmetic with requisite constraints. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 165–175. (Summary) **98e:04002** 04A72

— (*with* Wang, Zhenyuan; Harmanec, David) Constructing fuzzy measures in expert systems. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 251–264. 28E10

— (*with* Jiang, Qingshan; Suzuki, Hisakichi; Wang, Zhenyuan) Exhaustivity and absolute continuity of fuzzy measures. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 231–238. 28E10

— *see also* **Birthday: Klir, George J.**

Kliros, G. (*with* Jannussis, A. D.; Vlahos, E.) Non-unitary Weyl and squeeze operators. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 1, 33–43. 81R30

Klishevich, V. V. (*with* Varaksin, O. L.) Integration of the Dirac equation in Riemannian spaces with a five-dimensional group of motions. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 8, 24–28; *translation in Russian Phys. J.* **40** (1997), *no.* 8, 727–731 (1998). 83C60 (53C80)

Klitzing, R. (*with* Papadopolos, Zorka; Kramer, Peter) Quasiperiodic icosahedral tilings from the six-dimensional bcc lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L143–L147. 52C22 (82D25)

Kloch, Jacenty (*with* Hejmo, Wladyslaw) On singular phenomena in certain time-optimal problem. (English summary) *J. Global Optim.* **10** (1997), *no.* 3, 327–349. (Ovidiu Cărjă) **98c:49005** 49J15 (49J30, 49N40)

Kloeden, Peter E. (*with* Platen, E.; Schurz, Henri) Higher order approximate Markov chain filters. (English summary) *Stochastic processes*, 181–190, *Springer, New York*, 1993. (Federico Marchetti) **98f:65133** 65U05 (60G35, 62M20)

— (*with* Diamond, Phillip Morris; Pokrovskiĭ, A. V.) Collapsing effects in computation of dynamical systems. (English summary) With comments by I. Mareels. *Control and chaos* (*Honolulu, HI*, 1995), 60–90, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Mark J. Friedman) **98h:65032** 65L07 (58F03, 60G99, 65C20)

— (*with* Diamond, Phillip Morris; Pokrovskiĭ, A. V.) Absolute retracts and a general fixed point theorem for fuzzy sets. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 377–380. (Summary) **98a:54003** 54A40 (04A72)

— (*with* Mustard, J.) Constructing permutations that approximate Lebesgue measure preserving dynamical systems under spatial discretization. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 401–406. (Summary) **98a:58104** 58F11

— (*with* Schmalfuß, Björn) Cocycle attractors of variable time-step discretizations of Lorenzian systems. (English summary) *J. Differ. Equations Appl.* **3** (1997), *no.* 2, 125–145. (Summary) **98g:65067** 65L06 (34A45, 34D45)

— In memoriam Mark A. Krasnosel′skiĭ, Moscow: April 27, 1920–February 13, 1997. With assistance from N. A. Bobylev, V. S. Kozyakin, A. M. Krasnosel′skiĭ, A. V. Pokrovskiĭ and B. N. Sadovskiĭ. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 1, 13–14. 01A70

— (*with* Schmalfuß, Björn) Nonautonomous systems, cocycle attractors and variable time-step discretization. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 141–152. (Viorel Nițică) **98f:58132** 58F12 (34C35, 34D45, 65L05)

— (*with* Bobylev, N. A.) Periodic solutions of autonomous systems under discretization. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 659–665. (Summary) **98f:34056** 34C25 (34A45, 47H11, 47N20)

— (*with* Garay, Barnabas M.) Discretization near compact invariant sets. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 2-3, 93–123. (Beverly Diamond) **98k:65038** 65L05 (34C35, 34D45, 55M25, 58F10)

— (*with* Diamond, Phillip Morris; Rubinov, Aleksandr M.; Vladimirov, A. A.) Comparative properties of three metrics in the space of compact convex sets. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 267–289. (Constantin Zălinescu) **98m:52004** 52A20 (04A72, 58C06, 90C25)

— (*with* Anh, V. V.; Huang, Yen Kun) Strong convergence of stochastic Taylor expansions of two-parameter random fields. *Stochastic Anal. Appl.* **15** (1997), *no.* 2, 137–149. (Yu. S. Mishura) **98i:60045** 60G60 (60F15, 60H10)

— (*with* Diamond, Phillip Morris; Kozyakin, V. S.; Pokrovskiĭ, A. V.) Monotonic dynamical systems under spatial discretization. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2169–2174. (Hal Leslie Smith) **98h:58100** 58F08

Klöker, Thomas (*with* Hirshfeld, Allen C.; Sassenberg, Uwe) A combinatorial link invariant of finite type derived from Chern-Simons theory. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 243–280. (Stephen F. Sawin) **98j:57008** 57M25 (58G18, 81Q30, 81T13)

Klokov, Yu. A. (*with* Mikhaĭlov, A. P.) On a Neumann problem for an integro-differential equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1110–1113, 1150; *translation in Differential Equations* **32** (1996), *no.* 8, 1115–1117 (1997). (Hana Petzeltová) **98j:45006** 45J05 (34K10)

— (*with* Mikhaĭlov, A. P.) Boundary value problems for an ordinary integro-differential equation. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 7, 93–99. (Hana Petzeltová) **98g:45010** 45J05 (34K10)

Kloks, Ton (*with* Kratsch, Dieter; Müller, Haiko) Approximating the bandwidth for asteroidal triple-free graphs. (English summary) *Algorithms—ESA '95* (*Corfu*), 434–447, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C85, 68Q25)

— (*with* Müller, Haiko; Wong, Chiu-Kwong) Vertex ranking of asteroidal triple-free graphs. (English summary) *Algorithms and computation* (*Osaka*, 1996), 174–182, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Kratsch, Dieter; Wong, Chak Kuen) Minimum fill-in on circle and circular-arc graphs. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 256–267, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68204** 68R10 (05C85, 68Q25)

— (*with* Cai, Xiao-Qiang; Wong, Chak Kuen) Shortest path problems with time constraints. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 255–266, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68R10 (05C85, 68Q25)

— (*with* Bodlaender, Hans L.) Efficient and constructive algorithms for the pathwidth and treewidth of graphs. (English summary) *J. Algorithms* **21** (1996), *no.* 2, 358–402. (Pavol Hell) **98g:68122** 68R10 (05C85)

— (*with* Broersma, H. J.; Kratsch, Dieter; Müller, Haiko) Independent sets in asteroidal triple-free graphs. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 760–770, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 05C85 (68Q25, 68R10)

— (*with* Kratsch, Dieter; Müller, Haiko) Measuring the vulnerability for classes of intersection graphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 259–270. (L. W. Beineke) **98m:05180** 05C85 (05C40)

— (*with* Cai, Xiao-Qiang; Wong, Chak Kuen) Time-varying shortest path problems with constraints. (English summary) *Networks* **29** (1997), *no.* 3, 141–149. (Summary) **98c:05095** 05C38

— (*with* Kratsch, Dieter; Spinrad, Jeremy) On treewidth and minimum fill-in of asteroidal triple-free graphs. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 309–335. (Hans L. Bodlaender) **98f:68216** 68R10 (05C05, 05C85, 68Q25)

Klonecki, Witold (*with* Zontek, Stefan) Improved estimators for simultaneous estimation of variance components. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 1, 33–43. (Nabendu Pal) **98d:62034** 62F10 (62J10)

Klonowska, Maria E. (*with* Prosnak, Włodzimierz J.) ★ Wprowadzenie do numerycznej mechaniki płynów. Część B. (Polish) [Introduction to numerical fluid mechanics. Part B] Odwzorowanie konforemne. [Conformal mapping] With 1 IBM-PC floppy disk (5.25 inch; DD). Maszyny Przepływowe [Flow Devices], 12-B. *Zakład Narodowy im. Ossolińskich—Wydawnictwo Polskiej Akademii Nauk (Ossolineum), Wrocław*, 1996. 998 *pp. ISBN* 83-04-04321-1 (From the preface) **98f:76001b** 76–01 (65–01, 76Mxx)

— (*with* Prosnak, Włodzimierz J.) On an effective method for conformal mapping of multiply connected domains. (English summary) *Acta Mech.* **119** (1996), *no.* 1-4, 35–52. (Iscander Nezhmetdinov) **98a:30006** 30C30 (65E05)

Kloosterziel, R. C. (*with* Carnevale, G. F.; Briscolini, M.; Vallis, Geoffrey K.) Three-dimensionally perturbed vortex tubes in a rotating flow. (English summary) *J. Fluid Mech.* **341** (1997), 127–163. (Summary) **98b:76016** 76C05 (76C20, 76E20, 76U05, 86A10)

Klop, Jan Willem Term rewriting systems. (English summary) *Handbook of logic in computer science, Vol.* 2, 1–116, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1992. (Peter R. J. Asveld) **98e:68128** 68Q42

— (*with* Bergstra, Jan A.; Heering, J.) Object-oriented algebraic specification proposal for a notation and 12 examples. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 188–213, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 68Q65

— (*with* Bethke, Inge; de Vrijer, R. C.) Completing partial combinatory algebras with unique head-normal forms. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ*, 1996), 448–454, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98d:68133** 68Q55 (03B40, 68N15, 68Q42)

— (*with* Ariola, Zena M.; Plump, Detlef) Confluent rewriting of bisimilar term graphs. (English summary) *EXPRESS'97 (Santa Margherita Ligure*, 1997), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q42

— (*with* Kennaway, J. Richard; Sleep, M. R.; de Vries, Fer-Jan) Infinitary lambda calculus. (English summary) Non-standard logics and logical aspects of computer science (Kanazawa, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 1, 93–125. (Summary) **98c:03038** 03B40 (68Q42)

Klopp, Frédéric Développement asymptotique de la densité d'états pour des opérateurs de Schrödinger aléatoires singuliers. [Asymptotic expansion of the density of states for singular random Schrödinger operators] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. IV*, 12 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (*see* **98i:35001**) 82B44 (35J10, 47F05, 47N50, 81Q10)

— Étude semi-classique d'une perturbation d'un opérateur de Schrödinger périodique: cas d'un nombre fini de perturbations. (English and French summaries) [Semiclassical study of a perturbation of a periodic Schrödinger operator: the case of finitely many perturbations] *Asymptot. Anal.* **15** (1997), *no.* 1, 55–102. (Viorel Iftimie) **98k:35032** 35J10 (35P05, 47N50, 81Q20)

— (*with* Grébert, B.; Guillot, Jean-Claude) On the spectrum of odd order self-adjoint ordinary differential operators on the real line with quasi-periodic coefficients. *J. Differential Equations* **135** (1997), *no.* 1, 41–65. (Boris M. Levitan) **98e:34149** 34L05 (47E05)

— A low concentration asymptotic expansion for the density of states of a random Schrödinger operator with Poisson disorder. (English and French summaries) *J. Funct. Anal.* **145** (1997), *no.* 2, 267–295. (Nariyuki Minami) **98c:82036** 82B44 (35J10, 35R60, 47B80, 47F05, 47N55, 60H25)

Klos, Birgit (*with* Herzer, Armin) Synthetische Konstruktion eines affinen Kettenraumes. [Synthetic construction of an affine chain space] *Mitt. Math. Ges. Hamburg* **15** (1996), 35–44 (1997). (Horst Struve) **98c:51006** 51B99

Klösch, Thomas (*with* Schaller, Peter; Strobl, Thomas) Classical and quantum aspects of 1 + 1 gravity. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 305–308. (Summary) **98b:81229** 81T40

— (*with* Strobl, Thomas) Classical and quantum gravity in 1 + 1 dimensions. III. Solutions of arbitrary topology. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1689–1723. (Michael O. Katanaev) **98i:83035** 83C45 (81T40)

— Solutions of arbitrary topology in 1 + 1 gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 326–329. (Summary) **98i:81235** 81T40 (83C99)

— (*with* Strobl, Thomas) Global view of kinks in 1 + 1 gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1034–1044. (Michael O. Katanaev) **98m:83056** 83C99

Klosek-Dygas, M. M. (*with* Hagan, P. S.) Colored noise and a characteristic level crossing problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 931–953. (Summary) **98k:82129** 82C31 (60G15)

Klosowska, Maria Moments of probability distributions semi-attracted to semi-stable measures on Hilbert spaces. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 62–68. 60B11

Klostermeyer, William F. (*with* Goldwasser, John L.) Maximization versions of "lights out" games in grids and graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 99–111. (Summary) **98j:05119** 05C85 (05C99)

— (*with* Mays, Michael E.; Šoltés, Ľubomír; Trapp, George) A Pascal rhombus. *Fibonacci Quart.* **35** (1997), *no.* 4, 318–328. (A. N. Philippou) **98m:11011** 11B37 (11B39, 11B65)

— (*with* Goldwasser, John L.; Trapp, George) Characterizing switch-setting problems. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 121–135. (Summary) **98k:15005** 15A09 (68Q25)

Kløve, Torleiv (*with* Chen, Wen De) The weight hierarchies of q-ary codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2265–2272. (Summary) **98c:94020** 94B05

— (*with* Chen, Wen De) Bounds on the weight hierarchies of extremal non-chain codes of dimension 4. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 379–386. (Summary) **98e:94027** 94B05

— (*with* Chen, Wen De) Disjoint sets of distinct sum sets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 69–77. (Georges Grekos) **98h:11017** 11B13 (11B75, 94C99)

— (*with* Dodunekova, Rositsa D.; Dodunekov, Stefan M.) Almost-MDS and near-MDS codes for error detection. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 285–290. 94B05

— (*with* Helleseth, Tor; Levenshteĭn, V. I.) On the information function of an error-correcting code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 549–557. (Ram Autar) **98g:94047** 94B65

— (*with* Helleseth, Tor) The Newton radius of codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1820–1831. (Summary) **98i:94034** 94B05

— (*with* Chen, Wen De) Bounds on the weight hierarchies of linear codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2047–2054. 94B05

Klümper, A. (*with* Bariev, R. Z.; Zittartz, J.) Exact solution of the "colour" six-vertex model. (English summary) *Phys. Lett. A* **227** (1997), *no.* 5-6, 401–404. (Ernest Baver) **98c:82008** 82B20 (82B23, 82B27)

van de Klundert, Joris (*with* Crama, Yves) Robotic flowshop scheduling is strongly NP-complete. (English summary) *Ten years LNMB*, 277–286, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90B35 (90C60)

Klüners, Jürgen (*with* Pohst, Michael E.) On computing subfields. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 385–397. (F. Diaz y Diaz) **98k:11161** 11R32 (11Y40)

Klunnik, A. A. (*with* Prikazchikov, V. G.) Estimates for eigenvalues of a biharmonic operator perturbed by the variation of a domain. (English summary) *J. Math. Sci. (New York)* **84** (1997), *no.* 4, 1298–1303. (Günter Berger) **98g:35151** 35P15 (35J40)

Klüppelberg, Claudia (*with* Mikosch, Thomas) On strong consistency of estimators for infinite variance time series. (Russian. Russian summary) *Teor. Imovīr. Mat. Stat. No.* 53 (1995), 116–125. (Summary) **98e:62135** 62M10

— (*with* Mikosch, Thomas) Self-normalized and randomly centered spectral estimates. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 259–271, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62181** 62M15

— (*with* Mikosch, Thomas) The integrated periodogram for stable processes. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1855–1879. (Juan Carlos Abril) **98b:62170** 62M15 (60F17, 62G05, 62M10)

— (*with* Asmussen, Søren) Large deviations results for subexponential tails, with applications to insurance risk. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 103–125. (Thomas Mikosch) **98c:60029** 60F10 (60K10)

— (*with* Embrechts, Paul; Mikosch, Thomas) ★ Modelling extremal events. (English summary) For insurance and finance. Applications of Mathematics, 33. *Springer-Verlag, Berlin*, 1997. xvi+645 *pp. ISBN* 3-540-60931-8 (R. A. Maller) **98k:60080** 60G70 (60Fxx, 60K05, 62M10, 62P05)

— (*with* Mikosch, Thomas) Large deviations of heavy-tailed random sums with applications in insurance and finance. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 293–308. (Paul Embrechts) **98c:60031** 60F10 (62P05)

— *see also* **Heavy tails and highly volatile phenomena**

Klute, Annette Icosahedral Galois extensions and elliptic curves. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 301–324. (Ian Kiming) **98e:11067** 11F80 (11G05)

Kluwick, A. (*with* Gittler, Ph.) Viscous-inviscid interaction on a slender axisymmetric trailing tip flow. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1960, 963–982. (Summary) **98c:76027** 76D10 (76D15)

— (*with* Bodonyi, R. J.) Transonic trailing-edge flow. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 297–310. 76H05

Klyachin, V. A. (*with* Miklyukov, Vladimir) Criteria for the instability of surfaces of zero mean curvature in curved Lorentz products. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 11, 67–88; *translation in Sb. Math.* **187** (1996), *no.* 11, 1643–1663. (Zbigniew Olszak) **98d:53095** 53C50 (53C42)

Klyachko, Aleksandr Anatol'evich (*with* Iskovskikh, V. A.; Kostrikin, Aleksei Ivanovich; Kunyavskiĭ, B. È.; Parshin, A. N.; Stepanov, S. A.; Shafarevich, Igor' Rostislavovich) Valentin Evgen'evich Voskresenskiĭ (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 201–202; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1345–1347. 01A70

Klyatskin, V. I. (*with* Gurarie, D.) Equilibrium states for quasigeostrophic flows with random topography. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 466–480. (Summary) **98b:86005** 86A05

— (*with* Gurarie, D.) Random topography in geophysical models. (English summary) *Stochastic models in geosystems (Minneapolis, MN*, 1994), 149–169, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98f:86003** 86A10 (76C20, 76V05, 86A05)

— (*with* Woyczyński, Wojbor A.) Dynamical and statistical characteristics of geophysical fields and waves and related boundary-value problems. (English summary) *Stochastic models in geosystems (Minneapolis, MN*, 1994), 171–208, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98k:73015** 73B35 (35Q99, 60K99, 73D15, 73D70, 86A99)

Klyshko, D. N. Quantum optics: quantum, classical, and metaphysical aspects. *Fundamental problems in quantum theory (Baltimore, MD*, 1994), 13–27, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81V80 (81–02)

— The Bell theorem and the problem of moments. (English summary) *Phys. Lett. A* **218** (1996), *no.* 3-6, 119–127. (Oliver Rudolph) **98b:81023** 81P15 (81P05)

Klyuppel'berg, I. K. *see* **Klüppelberg, Claudia**

Klyushin, A. V. (*with* Kozhukhov, I. B.) On the compact semigroup rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 589–593. (Summary) **98i:20063** 20M25 (16S36)

— (*with* Kozhukhov, I. B.) Linearly compact semigroup rings. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 276–287. (Kirill M. Filippov) **98m:16053** 16W80 (16S36, 20M25)

Knabenschuh de Porta, Sabine Über die Contingentia Futura und ihre epistemologischen Implikationen. [Future contingents and their epistemological implications] *Südamerikanische Beiträge zur modernen Deutung der Aristotelischen Logik*, 189–240, *Mod. Deutung Aristot. Log., VII, Olms, Hildesheim*, 1997. (*see* **98k:03003**) 03-03 (00A30)

Knabner, Peter (*with* Barrett, John W.; Kappmeier, H.) Lagrange-Galerkin approximation for advection-dominated contaminant transport with nonlinear equilibrium or non-equilibrium adsorption. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 36–48, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98j:76103** 76M25

— (*with* van Duijn, C. J.) Travelling wave behaviour of crystal dissolution in porous media flow. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 1, 49–72. (Elena Comparini) **98a:76084** 76S05 (80A20)

— (*with* Barrett, John W.) Finite element approximation of the transport of reactive solutes in porous media. I. Error estimates for nonequilibrium adsorption processes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 201–227. (Satish C. Reddy) **98c:65166** 65M60 (76M10, 76R50, 76S05)

— (*with* Barrett, John W.) Finite element approximation of the transport of reactive solutes in porous media. II. Error estimates for equilibrium adsorption processes. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 455–479. (Satish C. Reddy) **98i:65077** 65M60 (76M10, 76S05)

— (*with* Angermann, Lutz; Thiele, Kathrin) An error estimator for a finite volume discretization of density driven flow in porous media. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 179–191. (Zhangxin Chen) **98m:76116** 76M25 (65N30, 76S05)

— *see also* **Modeling and computation in environmental sciences, 98f:76003**

Knaepen, Bernard (*with* Henneaux, Marc; Schomblond, Christiane) BRST cohomology of the Chapline-Manton model. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 337–348. (Ion V. Vancea) **98m:81191** 81T70 (81T13, 81T50)

— (*with* Henneaux, Marc) All consistent interactions for exterior form gauge fields. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, R6076–R6080. (Summary) **98k:81160** 81T13

Knapek, S. (*with* Griebel, Michael) A multigrid-homogenization method. (English summary) *Modeling and computation in environmental sciences (Stuttgart, 1995)*, 187–202, *Notes Numer. Fluid Mech.*, 59, *Vieweg, Braunschweig*, 1997. (Summary) **98g:65120** 65N55 (73B27)

Knapik, Teodor (*with* Payet, Étienne) The full quotient and its closure property for regular languages. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 57–62. (Summary) **98i:68157** 68Q45

Knapp, Anthony W. ★ Lie groups beyond an introduction. (English summary) Progress in Mathematics, 140. *Birkhäuser Boston, Inc., Boston, MA*, 1996. xvi+604 *pp. ISBN* 0-8176-3926-8 (H. de Vries) **98b:22002** 22-01 (17-01)

— Structure theory of semisimple Lie groups. (English summary) *Representation theory and automorphic forms (Edinburgh, 1996)*, 1–27, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (James E. Humphreys) **98i:22010** 22E10 (17B10, 17B20, 22E15)

— Theoretical aspects of the trace formula for GL(2). *Representation theory and automorphic forms (Edinburgh, 1996)*, 355–405, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Werner Hoffmann) **98k:11062** 11F72 (11F70, 22E55)

— (*with* Rogawski, Jonathan D.) Applications of the trace formula. *Representation theory and automorphic forms (Edinburgh, 1996)*, 413–431, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Volker J. Heiermann) **98j:11105** 11R39 (11F70, 11F72, 22E45, 22E55)

— *see also* **Representation theory and automorphic forms, 98i:22001** *and* **Jacquet, Hervé, 98k:11063**

Knapp, Edgar (*with* Collette, Pierre) A foundation for modular reasoning about safety and progress properties of state-based concurrent programs. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 253–279. (Rüdiger Valk) **98m:68170** 68Q60 (68Q10)

Knapp, Karlheinz Im(J)-theory and the Kervaire invariant. *Math. Z.* **226** (1997), *no.* 1, 103–125. (Katsumi Shimomura) **98k:19008** 19L41 (55Q45)

Knapp, M. (*with* Isihara, Paul) Basic Z_{12} analysis of musical chords. (English summary) With loose erratum. *UMAP J.* **14** (1993), *no.* 4, 319–348. (Dan Vuza) **98f:00015** 00A69

Knapp, Wolfgang (*with* Schmid, Peter Paul) An extension theorem for integral representations. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 1–15. (Wolfgang Willems) **98m:20014** 20C15 (20C10)

Knarr, Norbert ★ Translation planes. Foundations and construction principles. Lecture Notes in Mathematics, 1611. *Springer-Verlag, Berlin*, 1995. vi+112 *pp. ISBN* 3-540-60208-9 (H. Salzmann) **98e:51019** 51H10 (51A40)

Knaslak, K. F. (*with* Corke, T. C.) Stationary travelling cross-flow mode interactions on a rotating disk. (English summary) *J. Fluid Mech.* **355** (1998), 285–315. 76D99 (76-05, 76E10)

Knauer, Ulrich (*with* Kilp, Mati; Mikhalëv, A. V.) On monoids in which right ideals are generators. (English summary) *Transformation semigroups (Colchester, 1993)*, 56–59, *Univ. Essex, Colchester*, 199?. (*see* **98k:20003**) 20M12

— (*with* Beidar, K. I.; Fong, Yuen; Mikhalëv, A. V.; Shum, Kar Ping) Semigroups with generalized polynomial identities. (English summary) *First International Tainan-Moscow Algebra Workshop (Tainan, 1994)*, 147–157, *de Gruyter, Berlin*, 1996. (Nikola Ruškuc) **98d:20065** 20M10 (20M50)

— (*with* Fleischer, V.) Right and left PP-endomorphism monoids of free right acts. (English summary) *Semigroups, automata and languages (Porto, 1994)*, 101–109, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexey Vernitskiĭ) **98j:20097** 20M50 (20M30)

Knauf, Andreas (*with* Contucci, Pierluigi) The low activity phase of some Dirichlet series. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5458–5475. (Alain Valette) **98a:11118** 11M41 (11Z05, 82B99, 82D60)

— (*with* Sinaĭ, Yakov Grigor'evich) ★ Classical nonintegrability, quantum chaos. (English summary) With a contribution by Viviane Baladi. DMV Seminar, 27. *Birkhäuser Verlag, Basel*, 1997. vi+98 *pp. ISBN* 3-7643-5708-8 (Dieter H. Mayer) **98k:58181** 58F20 (58F13, 58F19, 81Q50)

— Velocity and entropy of motion in periodic potentials. (English summary) *Séminaire sur les Équations aux Dérivées Partielles, 1996–1997, Exp. No.* XVII, 13 *pp., École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 81Q05 (82C10)

— (*with* Contucci, Pierluigi) The phase transition of the number-theoretical spin chain. (English summary) *Forum Math.* **9** (1997), *no.* 4, 547–567. (Oliver Knill) **98j:82011** 82B20 (11M06, 11Z05, 82B26)

— (*with* Asch, Joachim) Motion in periodic potentials. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 175–200. (Gabriel P. Paternain) **98k:58139** 58F11 (34C11, 35Q40, 58F05, 70H05, 81Q20)

Knaup, Werner A new iterative numerical solution algorithm for a class of stochastic Petri nets. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 327–345, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (*see* **98d:68008**) 68Q90 (68Q75)

Knaust, Helmut Some isomorphic preduals of l_1 which are isomorphic to c_0. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 181–186. (Summary) **98c:46040** 46B45 (46B15)

Knautz, Henning Linear plus quadratic (LPQ) quasiminimax estimation in the linear regression model. (English summary) *Acta Appl. Math.* **43** (1996), *no.* 1, 97–111. (S. K. Chatterjee) **98k:62115** 62J05 (62C20)

— (*with* Stahlecker, Peter; Trenkler, Götz) Minimax adjustment technique in a parameter restricted linear model. (English summary) *Acta Appl. Math.* **43** (1996), *no.* 1, 139–144. (S. K. Chatterjee) **98k:62123** 62J05

Knecht, Lukas Pairwise alignment with scoring on tuples. (English summary) *Combinatorial pattern matching (Espoo, 1995)*, 215–229, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q25 (92D20)

Kneer, B. (*with* Law, Chi-Kwong; Eberly, J. H.) Preparation of an arbitrary density matrix of a harmonic oscillator. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2149–2158. (Summary) **98i:81296** 81V80 (81P05, 82B10)

Kneip, Alois (*with* Engel, Joachim) A remedy for kernel estimation under random design. (English summary) *Statistics* **28** (1996), *no.* 3, 201–225. (Patricia B. Cerrito) **98c:62063** 62G05 (62F11)

Kneipp, Marco A. C. (*with* Dorey, Nicholas; Fraser, Christophe; Hollowood, Timothy J.) S-duality in $N = 4$ supersymmetric gauge theories with arbitrary gauge group. (English summary) *Phys. Lett. B* **383** (1996), *no.* 4, 422–428. (Summary) **98f:81194** 81T13 (81T60)

Kneser, Martin Einige Bemerkungen zum Vierscheitelsatz. (German summary) [Some remarks on the four-vertex theorem] *Math. Semesterber.* **42** (1995), *no.* 2, 153–162. (Summary) **98k:51031** 51L15 (53A04)

— *see also* **Dedicated to Martin Kneser on the occasion of his 70th birthday**

Knessl, Charles (*with* Tier, Charles) Asymptotic properties of first passage times for two tandem queues: time to empty the system. (English summary) *Comm. Statist. Stochastic Models* **12** (1996), *no.* 4, 633–672. (Hirotaka Sakasegawa) **98b:60163** 60K25 (90B22)

— (*with* Yang, Yong Zhi[2]) Asymptotic analysis of the $M/G/1$ queue with a time-dependent arrival rate. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 23–68. (Summary) **98f:60198** 60K25

— (*with* Tan, Xiaoqian) Integral representations and asymptotics for infinite- and finite-capacity queues described by the unfinished work. I. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 791–823. (Summary) **98a:60145** 60K25 (34E20, 60K30)

— (*with* Tan, Xiaoqian) Integral representations and asymptotics for infinite- and finite-capacity queues described by the unfinished work. II. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 824–870. (Summary) **98a:60146** 60K25 (34E20, 60K30)

Kneubühl, Fritz K. ★ Oscillations and waves. (English summary) *Springer-Verlag, Berlin*, 1997. xiv+523 *pp. ISBN* 3-540-62001-X (George Rowlands) **98k:34063** 34C15 (00A69, 35Qxx, 70Jxx, 70Kxx, 73Dxx, 76B15)

Knežević, Milan (*with* Elezović-Hadžić, Sunčica) Yang-Lee edge singularity on a class of tree-like lattices. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2103–2107. (Summary) **98c:82014** 82B20 (82B27)

Knieper, Gerhard A second derivative formula of the Liouville entropy at spaces of constant negative curvature. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1131–1135. (Edoh Amiran) **98h:58043** 58E11 (53C21, 58F11)

— On the asymptotic geometry of nonpositively curved manifolds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 4, 755–782. (Nantian Qian) **98h:53055** 53C20 (53C21, 53C22, 58F17)

Knight, Frank B. (*with* Azéma, J.; Jeulin, T.; Mokobodzki, Gabriel; Yor, Marc) Sur les processus croissants de type injectif. [On increasing processes of injective type] *Séminaire de Probabilités, XXX*, 312–343, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Martin Schweizer) **98k:60052** 60G07

— On a Brownian motion problem of T. Salisbury. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 67–71. (Jean Bertoin) **98e:60137** 60J65

— Approximation of stopped Brownian local time by diadic crossing chains. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 253–270. (Davar Khoshnevisan) **98i:60080** 60J65 (60J55)

Knight, John E. On finitely subadditive outer measures. (English summary) *J. Math. Sci. (Calcutta)* **7** (1996), *no.* 2, 91–102. (Summary) **98d:28003** 28A12 (28A10)

Knight, John L. (*with* Jiang, George J.) A nonparametric approach to the estimation of diffusion processes, with an application to a short-term interest rate model. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 615–645. (Summary) **98m:62306** 62P20

Knight, Julia F. (*with* Ash, Christopher J.) Recursive structures and Ershov's hierarchy. (English summary) *Math. Logic Quart.* **42** (1996), *no.* 4, 461–468. (Cristian Calude) **98g:03090** 03C57 (03D45, 03D55)

— (*with* Ash, Christopher J.; Cholak, P.) Permitting, forcing, and copying of a given recursive relation. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 219–236. (C. G. Jockusch, Jr.) **98j:03062** 03D45 (03C57, 03D30)

Knight, Keith Bootstrapping sample quantiles in non-regular cases. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 259–267. (Summary) **98m:62132** 62G09

Knight, P. A. (*with* Freitas, Pedro; Grinfeld, Michael) Stability of finite-dimensional systems with indefinite damping. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 437–448. (Summary) **98d:34084** 34D99 (15A18, 35L20)

Knight, P. L. (*with* Moya-Cessa, H.) Displaced Fock states representation of the Wigner function. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara,*

1995), 162–165, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81065** 81S30

— (*with* Garraway, B. M.) Quantum superpositions in dissipative environments: decoherence and deconstruction. *Quantum dynamics of simple systems (Stirling*, 1994), 199–238, *Scott. Univ. Summer School Phys., Edinburgh*, 1996. (*see* **98m:81003**) 81V80

— (*with* Jacobs, Kurt A.; Vedral, V.) Determining the state of a single cavity mode from photon statistics. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2427–2439. (Allan I. Solomon) **98k:81339** 81V80 (81R30)

— (*with* Bužek, V.; Vedral, V.; Plenio, M. B.; Hillery, M.) Broadcasting of entanglement via local copying. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3327–3332. (Summary) **98c:81006** 81P05

— (*with* Vedral, V.; Plenio, M. B.; Rippin, M. A.) Quantifying entanglement. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 12, 2275–2279. (Summary) **98d:81006** 81P99

Knill, Emanuel (*with* Balding, D. J.; Bruno, W. J.; Torney, D. C.) A comparative survey of non-adaptive pooling designs. (English summary) *Genetic mapping and DNA sequencing (Minneapolis, MN*, 1994), 133–154, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98c:92006**) 92D20 (62K99, 62P10)

— (*with* Faber, V.; Joubert, W.; Manteuffel, Thomas A.) Minimal residual method stronger than polynomial preconditioning. (English summary) *SIAM J. Matrix Anal. Appl.* **17** (1996), *no.* 4, 707–729. (Zdeněk Dostál) **98a:65039** 65F10 (65F35)

— (*with* Laflamme, Raymond) Theory of quantum error-correcting codes. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 900–911. (S. Gudder) **98j:81039** 81P15

Knio, Omar M. (*with* Terez, Dmitry E.) Numerical simulations of large-amplitude internal solitary waves. (English summary) *J. Fluid Mech.* **362** (1998), 53–82. 76C10 (76M25)

Knisley, D. J. (*with* Domke, Gayla S.; Dunbar, Jean E.; Haynes, Teresa W.; Markus, Lisa R.) Independence, domination and generalized maximum degree. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 145–152. (Summary) **98j:05083** 05C35 (05C70)

Knobloch, E. *see* **Knobloch, Edgar**

Knobloch, Eberhard Desargues, Mersenne et Kircher: la musique et les mathématiques. [Desargues, Mersenne and Kircher: music and mathematics] *Desargues en son temps*, 111–124, *Libr. Sci. A. Blanchard, Paris*, 1994. (J. S. Joel) **98m:01007** 01A45 (00A69)

— *see also* **Leibniz, Gottfried Wilhelm**, **98d:01043**

Knobloch, Edgar (*with* Hirschberg, P.) Mode interactions in large aspect ratio convection. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 6, 537–556. (Marie Christine Néel) **98g:76033** 76E15 (34B15, 34C23)

— (*with* Dangelmayr, G.; Hettel, J.) Parity-breaking bifurcation in inhomogeneous systems. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1093–1114. (Philip J. Aston) **98h:58125** 58F14 (34C23, 34G20, 35B32)

— (*with* Callahan, T. K.) Symmetry-breaking bifurcations on cubic lattices. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1179–1216. (Philip J. Aston) **98h:58124** 58F14 (34C23, 35B32)

— (*with* Julien, K. A.) Fully nonlinear oscillatory convection in a rotating layer. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1906–1913. (Summary) **98d:76062** 76E15 (76E30, 76R05, 76U05)

— (*with* Worledge, Daniel; Tobias, Steven; Proctor, M. R. E.) Dynamo waves in semi-infinite and finite domains. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1956, 119–143. (Manuel Núñez Jiménez) **98a:76095** 76W05 (34B05, 76F05, 85A30)

— (*with* Pierce, R. D.) On mean flows associated with traveling water waves. (English summary) *Fluid Dynam. Res.* **22** (1998), *no.* 2, 61–71. (Summary) **98k:76011** 76B15

— (*with* Tobias, Steven; Proctor, M. R. E.) Convective and absolute instabilities of fluid flows in finite geometry. (English summary) *Phys. D* **113** (1998), *no.* 1, 43–72. (Summary) **98m:76069** 76E15 (76E25, 76E99, 76W05)

— (*with* Spina, Alejandro; Toomre, Juri) Confined states in large-aspect-ratio thermosolutal convection. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 524–545. 76E15 (76F20)

Knobloch, H. W. (*with* Pohl, M.) On Riccati matrix differential equations. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 337–364. (Gerhard Freiling) **98f:34012** 34A34 (34A26, 34D35)

Knockaert, Luc (*with* Olyslager, Frank; De Zutter, D.) The diaphanous wedge. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 9, 1374–1381. (Summary) **98h:78014** 78A45 (33C90)

Knoop, Jens Eliminating partially dead code in explicitly parallel programs. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 365–393. (Summary) **98k:68065** 68Q10 (68N20)

Knop, Friedrich Symmetric and non-symmetric quantum Capelli polynomials. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 84–100. (Tim H. Baker) **98m:05204** 05E35 (39A70)

— (*with* Sahi, Siddhartha) A recursion and a combinatorial formula for Jack polynomials. *Invent. Math.* **128** (1997), *no.* 1, 9–22. (Kenji Taniguchi) **98k:33040** 33D80 (05E05, 39A10)

Knop, Jadwiga (*with* Kostrzewski, Tadeusz; Lupa, Maria; Wróbel, Małgorzata) On a special case of the Gołąb-Schinzel functional equation. *Demonstratio Math.* **30** (1997), *no.* 3, 475–478. 39B22

Knopf-Lenoir, C. (*with* Merrouche, A.; Selman, A.) 3D adaptive mesh refinement. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 397–407. 73V05 (65M50, 65N50)

Knopfmacher, Arnold (*with* Manstavičius, Eugenijus) On the largest degree of an irreducible factor of a polynomial in $\mathbf{F}_q[X]$. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 1, 50–60; *translation in Lithuanian Math. J.* **37** (1997), *no.* 1, 38–45. (Igor E. Shparlinski) **98e:11139** 11T06

Knopfmacher, John (*with* Porubský, Štefan) Topologies related to arithmetical properties of integral domains. (English summary) *Exposition. Math.* **15** (1997), *no.* 2, 131–148. (J. W. Brewer) **98g:13029** 13J99 (13F99)

Knopfmakher, A. *see* **Knopfmacher, Arnold**

Knops, R. J. Spatial stability in the constrained elastic cylinder. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 333–346. (Cornelius O. Horgan) **98h:73024** 73C10 (73C02)

— (*with* Lupoli, C.) Some recent results on Saint-Venant's principle. *Nonlinear analysis and continuum mechanics (Ferrara*, 1992), 61–71, *Springer, New York*, 1998. (P. Villaggio) **98m:73026** 73C10

Knörr, R. (*with* Fleischmann, Peter; Janiszczak, I.) The number of regular semisimple classes of special linear and unitary groups. *Linear Algebra Appl.* **274** (1998), 17–26. (Jürgen Müller) **98m:20063** 20G40 (20D06)

Knorr, Wilbur R. Sacrobosco's *Quadrans*: date and sources. *J. Hist. Astronom.* **28** (1997), *no.* 3, 187–222. 01A35

Knospe, C. R. (*with* Tamer, S. M.; Fittro, R.) Rotor synchronous response control: approaches for addressing speed dependence. (English summary) *J. Vib. Control* **3** (1997), *no.* 4, 435–458. 93C95

Knott, Martin (*with* Smith, Cyril Samuel) Generalising monotonicity. *Distributions with given marginals and moment problems (Prague*, 1996), 253–259, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 60E05 (47H05, 60A10, 62H05)

— (*with* Smith, Cyril Samuel) Cycle properties of square matrices. (English summary) *Linear Algebra Appl.* **258** (1997), 345–350. (Summary) **98j:15035** 15A99

— (*with* Barroso, Lúcia P.; Bussab, Wilton O.) Best linear unbiased predictor in the mixed model with incomplete data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 121–129. 62J05

Knowles, James K. (*with* Rosakis, Phoebus) Unstable kinetic relations and the dynamics of solid-solid phase transitions. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 11-12, 2055–2081. (Matthias Wilhelm Winter) **98i:73015** 73D15 (35L60, 35Q72, 73B30, 73D05)

— (*with* Winfree, Nancy A.; Ahrens, Thomas J.) Dynamically induced phase transitions and the modeling of comminution in brittle solids. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 2, 99–116. (Summary) **98c:73013** 73B30 (73D05, 73M25, 80A22)

— (*with* Abeyaratne, Rohan) Impact-induced phase transitions in thermoelastic solids. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1726, 843–867. (Jaime E. Muñoz Rivera) **98g:73003** 73B30 (73B05, 73D05, 73D35, 73K05)

Knox, John A. Generalized nonlinear balance criteria and inertial stability. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 8, 967–985. (Summary) **98a:76032** 76E20 (76E30, 86A10)

Knuckles, Craig (*with* Wolenski, Peter R.) C^1 selections of multifunctions in one dimension. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 655–676. (Michel Valadier) **98i:26028** 26E25 (49J52)

Knudsen, Carsten (*with* Galvanetto, Ugo) Event maps in a stick-slip system. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 2, 90–115. 70K50 (58F13)

Knudsen, Lars R. (*with* Meier, Willi) Improved differential attacks on RC5. (English summary) *Advances in cryptology—CRYPTO '96 (Santa Barbara, CA)*, 216–228, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Knudsen, Thomas Skov Mean square differentiability with respect to the coefficients of solutions of stochastic differential equations. (English summary) *Stochastics Stochastics Rep.* **58** (1996), *no.* 1-2, 93–113. (Marco Ferrante) **98f:60112** 60H10

— Continuity in a pathwise sense with respect to the coefficients of solutions of stochastic differential equations. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 155–179. (Daniel Ocone) **98e:60095** 60H10

Knudson, Kevin P. The homology of special linear groups over polynomial rings. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 385–415. (Dominique Arlettaz) **98c:20087** 20G10 (19D50, 19D55)

Knüppel, Frieder (*with* Bünger, Florian) Products of quasi-involutions in unitary groups. (English summary) *Geom. Dedicata* **65** (1997), *no.* 3, 313–321. (E. W. Ellers) **98c:51016** 51F25

— (*with* Bünger, Florian; Nielsen, Klaus) Products of symmetries in unitary groups. (English summary) *Linear Algebra Appl.* **260** (1997), 9–42. (G. E. Wall) **98c:20090** 20G15

— The length-problem for Eichler-transformations. (English summary) *Forum Math.* **10** (1998), *no.* 1, 59–74. (E. W. Ellers) **98j:51023** 51F25 (15A23, 51N30)

Knus, Max-Albert (*with* Haile, Darrell E.; Rost, Markus; Tignol, Jean-Pierre) Algebras of odd degree with involution, trace forms and dihedral extensions. (English summary) *Israel J. Math.* **96** (1996),, *part B*, 299–340. (From the introduction) **98h:16024** 16K20 (16W10)

— (*with* Paques, Antonio) On cubic étale algebras. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 281–295. (Jean-Pierre Tignol) **98m:12003** 12G05 (12F10, 13B05)

Knuth, Donald E. ★ Selected papers on computer science. CSLI Lecture Notes, 59. *CSLI Publications, Stanford, CA*; *Cambridge University Press, Cambridge*, 1996. xii+274 *pp. ISBN* 1-881526-92-5 (Friedhelm Meyer auf der Heide) **98c:68001** 68–03 (01A75, 68Qxx, 68Rxx)

— (*with* Corless, Robert M.; Gonnet, Gaston H.; Hare, D. E. G.; Jeffrey, D. J.) On the Lambert *W* function. (English summary) *Adv. Comput. Math.* **5** (1996), *no.* 4, 329–359. (Summary) **98j:33015** 33E20

— Aztec diamonds, checkerboard graphs, and spanning trees. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 253–257. (D. Cvetković) **98h:05132** 05C50

— Partitioned tensor products and their spectra. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 259–267. (Yuan Hong) **98h:05133** 05C50

Knutsen, Henning Darkness at night. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 295–302. (Summary) **98d:85005** 85A40

— The mathematician on the barricades. (Norwegian. English summary) *Normat* **45** (1997), *no.* 4, 150–166, 188. (Summary) **98j:01036** 01A70 (01A55)

Knutson, Allen (*with* Hausmann, Jean-Claude) Polygon spaces and Grassmannians. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 173–198. (Tadeusz Januszkiewicz) **98e:58035** 58D29 (14M15, 58F05)

Knutson, Greg (*with* Isaacs, I. M.) Irreducible character degrees and normal subgroups. *J. Algebra* **199** (1998), *no.* 1, 302–326. (David Gluck) **98m:20013** 20C15

Knutt-Wehlau, Marcia E. (*with* Gates, S. James, Jr.; Grisaru, M. T.; Roček, Martin; Solov'ev, O. A.) $N = 1$ supersymmetric extension of the QCD effective action. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 167–176. (Nguyen Anh Ky) **98f:81355** 81V05 (81T60)

— (*with* Mann, Robert B.) Supergravity from a massive superparticle and the simplest super black hole. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 355–378. (Summary) **98k:83091** 83E50 (81T60, 83C57)

Knuutila, Timo Inductive inference from positive data: from heuristic to characterizing methods. (English summary) *Grammatical inference: learning syntax from sentences (Montpellier, 1996)*, 22–47, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (*see* **98e:68004**) 68T05 (68Q45)

Knuuttila, Simo (*with* Hallamaa, Olli) Roger Roseth and medieval deontic logic. *Logique et Anal. (N.S.)* **38** (1995), *no.* 149, 75–87. (Mary J. Sirridge) **98j:01012** 01A35 (03–03, 03B45)

Knyazev, Andrei Vladimirovich (*with* Bramble, James H.; Pasciak, Joseph E.) A subspace preconditioning algorithm for eigenvector/eigenvalue computation. (English summary) *Adv. Comput. Math.* **6** (1996), *no.* 2, 159–189 (1997). (E. G. D'yakonov) **98c:65057** 65F15 (65N99)

Knyazev, M. A. A direct method for constructing soliton-like solutions of nonlinear equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 64–67, 125. 35Q51 (35C99)

— A method for solving nonlinear equations. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 493–500. (*see* **98i:00033**) 35A25 (35C99, 35Qxx, 65M99)

Knyazhishche, L. B. Localization of limit sets and the asymptotic stability of equations with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 26–29, 123. (Vladimir Sh. Burd) **98m:34154** 34K20 (34D20, 34K15)

Ko, Bae-Jun (*with* Kwun, Young Chel; Jeong, Jin-Mun; Park, Jong Seo) Approximate controllability of nonlinear delay parabolic equations under boundary control. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 67–82. (A. K. Nandakumaran) **98i:93004** 93B05 (35K55, 35R10, 93C20)

Ko, Bongsoo (*with* Ko, Younhee; Bang, Eunsook; Kang, Dongshik) Strong-equiasymptotic stability of perturbed linear differential equations when the perturbation is large and depends on time. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 407–426. (T. A. Burton) **98j:34095** 34D05

Ko, C. C. (*with* Garg, H. Krishna) Fast algorithms for computing one- and two-dimensional convolution in integer polynomial rings. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 1, 121–139. (Summary) **98a:11186** 11Y16 (94A12)

Ko, Chun-Wa (*with* Lee, Jon[2]; Steingrímsson, Einar) The volume of relaxed Boolean-quadric and cut polytopes. (English summary) *Discrete Math.* **163** (1997), *no.* 1-3, 293–298. (Xue Liang Li) **98a:90084** 90C27 (05C90, 52B12)

Ko, Chung-Ming (*with* Jiang, Ing-Guey) Force-free magnetic fields on curvilinear coordinate surfaces. (English summary) *Astrophys. Space Sci.* **245** (1996), *no.* 1, 117–129. (Summary) **98b:76080** 76W05

Ko, Daijin (*with* Lu, Jiandong; Chang, Ted) The standardized influence matrix and its applications. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1572–1580. 62J20 (62F35)

Ko, Duk-Hyun (*with* Kim, Woo Chul; Lee, Kee-Won) On bootstrapping Bartlett adjusted empirical likelihood ratio statistic in regression analysis. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 205–216. (Gutti J. Babu) **98c:62126** 62J05 (62G09)

Ko, Eungil k-quasihyponormal operators are subscalar. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 492–499. (Jörg Eschmeier) **98g:47020** 47B20 (47B40)

Ko, Hyoung J. On approximate resolutions of modules. *Math. Sci. Res. Hot-Line* **1** (1997), *no.* 10, 21–30. (José F. Andrade) **98m:13022** 13D25 (13D40, 20G05)

Ko, Jing-Yuan (*with* Chern, Jyh-Long; Lih, Jiann-Shing; Su, Han-Tzong; Hsu, Rue-Ron) Recognizing hidden frequencies in a chaotic time series. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 134–140. 58F13 (58F40)

Ko, Jung Won (*with* Ahn, Jae Moon; Chang, Kun Soo; Kim, Jeong Gyoo; Ryu, Kun Sik) Existence theorems of an operator-valued Feynman integral as an $\mathscr{L}(L_1, C_0)$ theory. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 317–334. (Kun Sik Ryu) **98m:28027** 28C20 (46G12)

Ko, Ki Hyoung (*with* Kang, Eun Sook; Lee, Sang Jin) Band-generator presentation for the 4-braid group. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 39–60. (Summary) **98f:57012** 57M25 (20F10)

— (*with* Lee, Sang Jin) Genera of some closed 4-braids. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 61–77. (Summary) **98f:57013** 57M25

Ko, Kwan Pyo (*with* Choi, U Jin) The mean-square error bounds for the Gaussian quadrature of analytic functions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 293–307. (N. S. Kambo) **98e:65014** 65D32 (41A55)

Ko, Ming-Tat (*with* Peng, Shen Lung; Ho, Chin-Wen; Hsu, Tsan-sheng; Tang, Chuan Yi) Graph searching on chordal graphs. (English summary) *Algorithms and computation (Osaka, 1996)*, 156–165, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 05C85 (68R10)

— (*with* Chen, Bor-Liang; Lih, Ko-Wei) Equitable and m-bounded coloring of split graphs. (English summary) *Combinatorics and computer science (Brest, 1995)*, 1–5, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:05056** 05C15

— (*with* Peng, Shen Lung; Ho, Chin-Wen; Hsu, Tsan-sheng; Tang, Chuan Yi) Edge and node searching problems on trees. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 284–293, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68217** 68R10 (05C85)

— (*with* Ho, Jan Ming) Bounded fan-out m-center problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 103–108. (Summary) **98e:68106** 68Q25 (68U05)

Ko, N. W. M. (*with* Chow, Kwok W.; Tang, S. K.) Solitons in $(2 + 0)$ dimensions and their applications in vortex dynamics. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 2, 101–114. (Mei Chang Shen) **98f:76017** 76C05 (35Q35, 35Q51)

Ko, Younhee (*with* Ko, Bongsoo; Bang, Eunsook; Kang, Dongshik) Strong-equiasymptotic stability of perturbed linear differential equations when the perturbation is large and depends on time. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 407–426. (T. A. Burton) **98j:34095** 34D05

Koashi, Masato (*with* Imoto, Nobuyuki) Quantum cryptography based on split transmission of one-bit information in two steps. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 12, 2383–2386. (Summary) **98g:81023** 81P99 (94A60)

Kob, Walter Computer simulations of supercooled liquids and structural glasses. (English summary) *Annual reviews of computational physics, III*, 1–43, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98b:82075**) 82C80 (82D15)

Kobashi, Kazuhide (*with* Ohshiba, Takeshi) Characterizations of knowledge logics and modal logics by the normal form expansion basis. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 189–192. (*see* **98a:68008**) 03B60 (03B45)

Kobayashi, Akio (*with* Ogata, Yosihiko; Mikami, Naoya; Murata, Yasuaki; Katsura, Koichi) Correction of earthquake location estimation in a small-seismic-array system. (English summary) *Bernoulli* **4** (1998), *no.* 2, 167–184. 86A15 (62G99, 62M30)

Kobayashi, Hideki (*with* Kokame, H.; Mori, Takehiro) Robust H_∞ performance for linear delay-differential systems with time-varying uncertainties. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 223–226. (Summary) **98i:93025** 93B36 (93C30)

Kobayashi, Hidetsune (*with* Suzuki, Hideo[3]) Separation of close roots of simultaneous algebraic equations and the possibility of pseudolocalization. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 136–146. (*see* **98h:00039**) 65H10

— (*with* Suzuki, Hideo[3]; Sakai, Yoshihiko) Numerical calculation of the multiplicity of a solution to algebraic equations. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 257–270. (Timothy Stokes) **98c:14047** 14Q99 (68Q40)

Kobayashi, Jun A degree theory for subdifferential operators. (Japanese) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 131–146. (*see* **98f:00031**) 47G99 (49J52)

Kobayashi, K. *see* **Kobayashi, Kenichi**

Kobayashi, Katsumasa (*with* Tsuruta, Kunio) Uniform boundedness and uniform asymptotic stability in functional-differential equations with constant delay. *Funkcial. Ekvac.* **40** (1997), *no.* 1, 79–92. (L. Hatvani) **98i:34114** 34K20 (34D20)

Kobayashi, Katsunari (*with* Konno, Hiroshi) An integrated stock-bond portfolio optimization model. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1427–1444. (*see* **98c:90003**) 90A09 (90C90)

Kobayashi, Kazutomo (*with* Takahashi, Yukio[1]) The tail behavior of the stationary distribution of a fluid queue with a Gaussian-type input rate process. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 1, 75–89. (Summary) **98d:60184** 60K25

Kobayashi, Kazuya (*with* Koshikawa, S.) RCS analysis of a parallel-plate waveguide cavity with three-layer material loading. *Direct and inverse electromagnetic scattering (Gebze, 1995)*, 142–157, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (From the introduction) **98h:78017** 78A50

Kobayashi, Kenichi (*with* Shin, Kil-Ho; Suzuki, Akira) Tafel Musik: formatting algorithm of tables. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 1, 97–112. 68U15

Kobayashi, Kingo (*with* Ahlswede, Rudolf; Han, Te Sun) Universal coding of integers and unbounded search trees. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 669–682. (Summary) **98b:94015** 94B05

Kobayashi, Kojiro Transformations that preserve malignness of universal distributions. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 420–429, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:68072** 68Q15 (68Q25)

Kobayashi, Kunichika (*with* Nagisa, Masaru) Equivalence classes of the ordered Bratteli diagrams. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 355–362. (John Phillips) **98a:46077** 46L35

Kobayashi, Mahito 4-manifolds restored over the 2-disc by stable maps with the critical value set D_5. *Mem. College Ed. Akita Univ. Natur. Sci. No.* 50 (1996), 39–48. (Claudio Martins Mendes) **98g:57048** 57R45

— Two stable maps of $\mathbf{C}^2\mathbf{P}$ into $\mathbf{R}^3$. (English summary) *Mem. College Ed. Akita Univ. Natur. Sci. No.* 51 (1997), 5–12. (Claudio Martins Mendes) **98g:57049** 57R45 (58C27)

Kobayashi, Masako (*with* Luft, Erhard; Wang, Shicheng) A finite group acting on a rational homology 3-sphere with 0-dimensional fixed point set must be Z_2. *Topology* **36** (1997), *no.* 2, 509–518. (Darryl McCullough) **98h:57028** 57M60

Kobayashi, Masanori (*with* Kuo, Tzee-Char) Uniqueness of unibranched curve in $\mathbf{R}^2$ up to simple blowings up. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 6, 97–99. (Lee Rudolph) **98i:14055** 14P25 (26C05, 32B10)

Kobayashi, Masashi The convexity of the Kobayashi metric. (Japanese) Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 153–156. (*see* **98f:35006**) 32H15

Kobayashi, Mei (*with* Sakamoto, Masaharu; Saito, Takashi[2]; Nishimura, Masafumi[2]) Wavelet analysis of speech signals. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 209–215, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (94A12)

Kobayashi, Mika (*with* Satoh, Kenichi; Fujikoshi, Yasunori) Variable selection for the growth curve model. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 277–292. (Tonghui T. Wang) **98d:62100** 62H12

Kobayashi, R. *see* **Kobayashi, Ryoji**

Kobayashi, Reido (*with* Chadan, Khosrow) A sufficient condition for the existence of bound states in a potential. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4900–4908. (Tuncay Aktosun) **98f:34122** 34L25 (34L15, 34L40, 81Q10)

Kobayashi, Ryo (*with* Mimura, Masayasu; Tsujikawa, Tohru; Ueyama, Daishin) Dynamics of aggregating patterns in a chemotaxis-diffusion-growth model equation. (English summary) Proceedings of the Workshop on Principles of Pattern Formation and Morphogenesis in Biological Systems (Kasugai, 1992/93). *Forma* **8** (1993), *no.* 2, 179–195. (*see* **98h:92005**) 92C15 (35K57, 35Q80)

Kobayashi, Ryoichi Restructuring value distribution theory. *Geometric complex analysis (Hayama, 1995)*, 337–354, *World Sci. Publishing, River Edge, NJ*, 1996. (Min Ru) **98c:32029** 32H30 (32H20)

— Nevanlinna theory and number theory. (Japanese) *Sūgaku* **48** (1996), *no.* 2, 113–127. (From the text) **98k:32036** 32H30 (11J99, 30D35)

— Value distribution theory of holomorphic curves into complex projective algebraic varieties and geometric Diophantine problems. *Singularities and complex geometry (Beijing, 1994)*, 105–115, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (William A. Cherry) **98k:32037** 32H30

— (*with* Azad, H.; Qureshi, M. N.) Quasi-potentials and Kähler-Einstein metrics on flag manifolds. *J. Algebra* **196** (1997), *no.* 2, 620–629. (Thalia D. Jeffres) **98i:53063** 53C25 (53C30, 53C55)

Kobayashi, Ryoji (*with* Taniguchi, H.; Fukunishi, Y.) Stability of the boundary layer on a sphere rotating in still fluid. (English summary) *Acta Mech.* **129** (1998), *no.* 3-4, 243–253. 76E10 (76D10, 76U05)

Kobayashi, S. *see* **Kobayashi, Shoshichi**

Kobayashi, Satoshi[1] (*with* Hayashi, Susumu; Ishikawa, Masakazu; Nakano, Hiroshi; Nakazaki, Syuichi) Two extensions of PX system (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 9 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03B70 (68N99)

— Monad as modality. (English summary) Non-standard logics and logical aspects of computer science (Kanazawa, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 1, 29–74. (Leo Esakia) **98h:03081** 03G30 (03B45, 03B70, 18C10, 68Q55)

Kobayashi, Shoshichi (*with* Shinozaki, Eriko) Conjugate connections in principal bundles. *Geometry and topology of submanifolds, VII* (*Leuven*, 1994/*Brussels*, 1994), 143–148, *World Sci. Publishing, River Edge, NJ*, 1995. (Costache Apreutesei) **98c:53035** 53C07 (53C05)

— On the intrinsic relative distance. *Geometric complex analysis* (*Hayama*, 1995), 355–361, *World Sci. Publishing, River Edge, NJ*, 1996. (Włodzimierz Zwonek) **98c:32024** 32H15 (32H25)

— On various geometric structures. (Japanese) *Sūgaku* **49** (1997), *no.* 1, 100–103. 53–02

— Differential geometry in Japan in the 1940's and 1950's. (Japanese) *Sūgaku* **49** (1997), *no.* 3, 225–234. 01A72 (53–03)

— (*with* Shinozaki, Eriko) Conjugate connections and moduli spaces of connections. *Tokyo J. Math.* **20** (1997), *no.* 1, 67–72. (Takeshi Isobe) **98c:53036** 53C07 (58D27)

— *see also* **Geometry and analysis on complex manifolds, 98b:32001**

Kobayashi, Takayuki[2] On the local energy decay of higher derivatives of solutions for the equations of motion of compressible viscous and heat-conductive gases in an exterior domain in $\mathbf{R}^3$. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 126–129. (Adrian Carabineanu) **98m:35172** 35Q35 (76N10)

— On a local energy decay of solutions for the equations of motion of compressible viscous and heat-conductive gases in an exterior domain in $\mathbf{R}^3$. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 3, 629–670. (Yu. G. Rykov) **98m:35173** 35Q35 (35B45, 47N20, 76N10)

Kobayashi, Tatsuo (*with* Kawamura, Yoshiharu) Flat directions in Z_{2n} orbifold models. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 3, 539–576. (Angel Maria Uranga) **98b:81201** 81T30 (81T60, 83E30)

— (*with* Nakano, Hiroaki) "Anomalous" U(1) symmetry in orbifold string models. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 103–131. (Summary) **98f:81267** 81T30

— (*with* Kawamura, Yoshiharu; Komatsu, Tohru) Specific scalar mass relations in SU(3) × SU(2) × U(1) orbifold model. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 284–294. (Summary) **98e:81140** 81T30 (81V22)

— (*with* Kawamura, Yoshiharu; Watanabe, Manabu) Probing μ-term generation mechanism in string models. *Phys. Lett. B* **419** (1998), *no.* 1-4, 157–166. 81T30

Kobayashi, Telichi (*with* Maki, Haruo) Note on relations between γ-classes and characteristic classes. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **18** (1997), 87–97. (Robert D. Little) **98a:55015** 55R50 (55S25, 57R20, 57R45)

Kobayashi, Toshiharu (*with* Masuoka, Akira) A result extended from groups to Hopf algebras. *Tsukuba J. Math.* **21** (1997), *no.* 1, 55–58. (Said Benayadi) **98h:16064** 16W30

Kobayashi, Toshihiro High-gain adaptive stabilization of collocated distributed parameter systems. (English summary) *Arch. Control Sci.* **5** (1996), *no.* 1-2(41), 87–97. (Hong Xing Zhou) **98a:93069** 93D21 (93C20)

— (*with* Oya, Masahiro) An adaptive regulator for distributed parameter systems with unknown deterministic disturbances. (English summary) *Arch. Control Sci.* **5** (1996), *no.* 3-4(41), 203–215. (Summary) **98d:93056** 93C20 (93C40)

Kobayashi, Toshiyuki Criterion for proper actions on homogeneous spaces of reductive groups. (English summary) *J. Lie Theory* **6** (1996), *no.* 2, 147–163. (William Goldman) **98a:57048** 57S30 (22E40)

— Invariant measures on homogeneous manifolds of reductive type. (English summary) *J. Reine Angew. Math.* **490** (1997), 37–53. (Ji Sheng Na) **98h:53082** 53C30 (22E20)

— Harmonic analysis on homogeneous manifolds of reductive type and unitary representation theory [MR 95k:22011]. (English summary) *Selected papers on harmonic analysis, groups, and invariants*, 1–31, *Amer. Math. Soc. Transl. Ser. 2*, 183, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:00025**) 22–02 (22E46, 22E47, 43A85)

Kobayashi, Tsunehiro Quantum mechanics for thermal equilibriums. Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 126–136. (*see* **98h:00038**) 82B10

Kobayashi, Tsuyoshi Example of hyperbolic knot which do not admit depth 1 foliation. *Kobe J. Math.* **13** (1996), *no.* 2, 209–221. (Martin Scharlemann) **98h:57019** 57M25 (57R30)

— (*with* Heath, Daniel J.) Essential tangle decomposition from thin position of a link. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 101–117. (Charles Livingston) **98j:57007** 57M25

Kobayashi, Y. *see* **Kobayashi, Yuji**

Kobayashi, Yasumaro (*with* Itaya, Nobutoshi) The Dirichlet problem for a certain degenerate parabolic equation. (English summary) *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 1, 1–13. (Introduction) **98j:35111** 35K65 (35K20)

Kobayashi, Yuji (*with* Shikishima-Tsuji, Kayoko; Katsura, Masashi) On termination of one-rule string rewriting systems. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 85–87. (*see* **98d:00023**) 68Q42

— Low-dimensional homotopy and homology for monoid presentations. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 88–99. (*see* **98d:00023**) 20M50 (57M07)

— (*with* Otto, Friedrich) Properties of monoids that are presented by finite convergent string-rewriting systems—a survey. (English summary) *Advances in algorithms, languages, and complexity*, 225–266, *Kluwer Acad. Publ., Dordrecht*, 1997. (H.-J. Hoehnke) **98f:68148** 68Q42 (20F10, 20M50)

— (*with* Otto, Friedrich; Séébold, Patrice) A complete characterization of repetitive morphisms over the two-letter alphabet. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 393–402, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R15 (68Q45)

Kobayashi, Yukio On distribution of idempotents of [a] semigroup. (English summary) Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 100–107. (*see* **98d:00023**) 20M99

Kobbelt, Leif Interpolatory refinement by variational methods. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 217–224, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 65D17

Kobe, S. Ernst Ising—physicist and teacher. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 991–995. (M. Lawrence Glasser) **98h:82002** 82–03 (01A70, 82B20)

Kobelev, L. Ya. (*with* Kobelev, V. L.; Kobeleva, O. L.; Kobelev, Ya. L.) Diffusion through a fractal surface. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 326–327; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 355–357. 82C70

Kobelev, V. L. (*with* Kobeleva, O. L.; Kobelev, Ya. L.; Kobelev, L. Ya.) Diffusion through a fractal surface. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 326–327; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 355–357. 82C70

Kobelev, Ya. L. (*with* Kobelev, V. L.; Kobeleva, O. L.; Kobelev, L. Ya.) Diffusion through a fractal surface. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 326–327; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 355–357. 82C70

Kobeleva, O. L. (*with* Kobelev, V. L.; Kobelev, Ya. L.; Kobelev, L. Ya.) Diffusion through a fractal surface. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 326–327; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 355–357. 82C70

Kobelkov, G. M. On the solution of the boundary value problem for the diffusion equation with highly varying coefficient. (English summary) *Russian J. Numer. Anal. Math. Modelling* **11** (1996), *no.* 6, 487–495. (Stanisław Burys) **98m:65176** 65N06 (65N12, 65N22)

Köbler, Johannes (*with* Watanabe, Osamu[3]) New collapse consequences of NP having small circuits. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 196–207, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98f:68103** 68Q15

— (*with* Schöning, Uwe) High sets for NP. *Advances in algorithms, languages, and complexity*, 139–156, *Kluwer Acad. Publ., Dordrecht*, 1997. (Marius Zimand) **98e:68081** 68Q15 (03D15)

— (*with* Karg, Christoph; Schuler, Rainer) The complexity of generating test instances. (English summary) *STACS* 97 (*Lübeck*), 375–386, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68066** 68Q25 (68Q15)

Koblitz, Neal *see* **Advances in cryptology—CRYPTO '96, 98f:94001**

Kobotis, Apostolos (*with* Tsagas, Grigorios T.) Characteristic elements of nilpotent Lie algebras of dimension nine. (English and Polish summaries) Generalizations of complex analysis and their applications in physics, I (Warsaw/Rynia, 1994). *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **19** (1995), 47–55. (Dietrich Burde) **98c:17012** 17B30 (22E25)

— (*with* Tsagas, Grigorios T.) Decomposition of nilpotent Lie algebras of dimension eight. *Tensor* (*N.S.*) **57** (1996), *no.* 1, 20–26. (Dietrich Burde) **98c:17013** 17B30

Kobushkin, A. (*with* Chepilko, Nikolaĭ i Mikhailovich; Syamtomov, A.) Quantum solitons with cylindrical symmetry. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 248–259; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 961–970 (1996). (Bernd J. Schroers) **98k:81154** 81T10 (81V35)

Kobyak, I. P. Identification of random messages by statistical estimation of transition vectors. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 81–86; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1469–1473 (1998). 94A12

Kobza, Jiří Spline recurrences for quartic splines. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 75–89. (D. C. Handscomb) **98c:41012** 41A15 (65D07)

— Quartic and biquartic interpolatory splines on simple grid. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 61–72 (1997). 41A15 (65D07)

— Quartic interpolatory and smoothing splines. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 275–286, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 41A15 (65D07)

Koç, Çetin Kaya (*with* Chen, Guanrong) A fast algorithm for matrix-valued Nevanlinna-Pick interpolation. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 129–136, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:65019** 65D15 (41A20)

— (*with* İnceoğlu, M.) A parallel algorithm for principal nth roots of matrices. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1735–1738. (Summary) **98f:65057** 65H10 (93B40)

— (*with* Bakkaloğlu, B.; Erciyeş, K.) A parallelization of Parlett's algorithm for functions of triangular matrices. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 61–69. (Summary) **98c:65208** 65Y05 (65F30)

— Parallel p-adic method for solving linear systems of equations. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 2067–2074. 65F30 (65Y05)

Koç, Ramazan (*with* Koca, Mehmet; Al-Barwani, Muataz) Breaking SO(3) into its closed subgroups by Higgs mechanism. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2109–2125. (Violeta V. Tretynyk) **98f:81091** 81R05 (20C35, 81R40, 81T10)

Koca, Mehmet (*with* Koç, Ramazan; Al-Barwani, Muataz) Breaking SO(3) into its closed subgroups by Higgs mechanism. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2109–2125. (Violeta V. Tretynyk) **98f:81091** 81R05 (20C35, 81R40, 81T10)

Kocabiyik, Serpil (*with* Nguyen, Phu) A finite difference calculation for a transverse superimposed oscillation. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 4, 381–420. (From the summary) **98e:76077** 76M20 (76D05)

— (*with* Luca, M.; Shivakumar, P. N.) Flow past and through a porous medium in a doubly connected region. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 49–54. 76S05

Koçak, Hüseyin (*with* Coomes, Brian A.; Palmer, Kenneth J.) Shadowing in discrete dynamical systems. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 163–211, *World Sci. Publishing, River Edge, NJ*, 1996. (Heinrich Steinlein) **98d:58133** 58F15 (58F03)

— (*with* Coomes, Brian A.; Palmer, Kenneth J.) Computation of long periodic orbits in chaotic dynamical systems. (English summary) *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 5, 183–190. (Jerzy Ombach) **98m:58110** 58F22 (58F13, 65H20)

Koçak, Mahmut (*with* Arvasi, Zekeriya) Near ultrafilters and compactification of topological groups. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 213–225. (Introduction) **98h:54005** 54A20 (22A05, 54D35, 54H11)

Koçak, Şahin (*with* Bilge, Ayşe Hümeyra; Dereli, Tekin) The geometry of self-dual two-forms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4804–4814. (Peter R. Law) **98h:53117** 53C80 (15A75, 53C07, 81T13)

— (*with* Bilge, Ayşe Hümeyra; Dereli, Tekin) Seiberg-Witten equations on $\mathbf{R}^8$. *Turkish J. Math.* **21** (1997), *no.* 1, 87–92. (Vicente Muñoz) **98d:57054** 57R57 (57R15, 58D27)

Koçak, Zeynep Fidan (*with* Phillips, George M.) *B*-splines with geometric knot spacings. (English summary) *BIT* **34** (1994), *no.* 3, 388–399. (Louise A. Raphael) **98a:41017** 41A15

— (*with* Guseinov, Gusein Sh.) On the spectral theory of first-order difference equations with periodic coefficients fractional-linear in the spectral parameter. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 299–311. (Steen Pedersen) **98f:47042** 47B39 (39A70)

— (*with* Phillips, George M.) *B*-splines with knots spaced in geometric progression. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 287–290, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 41A15

Kocan, Maciej (*with* Soravia, Pierpaolo; Święch, Andrzej) On differential games for infinite-dimensional systems with nonlinear, unbounded operators. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 395–423. (Nina N. Subbotina) **98j:90110** 90D25 (47H06, 47N10, 49L25)

— (*with* Wang, Xu-Jia) On the generalized Stepanov theorem. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 8, 2347–2352. (Jerome A. Adepoju) **98e:26012** 26B05

Kocarev, Ljupčo (*with* Tasev, Žarko; Stojanovski, Toni; Parlitz, Ulrich) Synchronizing spatiotemporal chaos. (English summary) *Chaos* **7** (1997), *no.* 4, 635–643. 58F13 (58F40)

— (*with* Stojanovski, Toni; Parlitz, Ulrich; Harris, Richard John) Sporadic driving of dynamical systems. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, 4035–4048. (Summary) **98c:58152** 58F30 (34C35, 34D05, 58F40, 70K20)

— (*with* Janjić, Predrag; Parlitz, Ulrich; Stojanovski, Toni) Controlling spatio-temporal chaos in coupled oscillators by sporadic driving. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 283–293. (Summary) **98k:93054** 93C10 (58F13, 93C41)

Kocatepe, Mefharet (*with* Arslan, Bora) An application of linear topological invariants. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 343–356. (Pedro J. Paúl) **98k:46002** 46A04 (46A45)

Kocayusufoğlu, İsmail About Reeb foliation. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 13–26 (1998). 57R30

Kocbach, Ladislav (*with* Liska, Richard) Generation and verification of algorithms for symbolic-numeric processing. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 367–382. (Summary) **98m:68129** 68Q40

Kocel-Cynk, Beata Estimation of the length of a curve joining two points in a connected component of an algebraic surface in $\mathbf{R}^3$. (English summary) *Selected problems of mathematics*, 171–178, *50th Anniv. Cracow Univ. Technol. Anniv. Issue*, 6, *Cracow Univ. Technol., Kraków*, 1995. (Guang Xing Zeng) **98a:14072** 14P05

Koch, B.-P. (*with* Goepp, N.; Bruhn, B.) Hopf bifurcations in balance equations of glow discharges. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 2118–2129. 76X05 (76E25, 82D10)

Koch, Donald L. (*with* Gopinath, Arvind; Chen, Shing B.) Lubrication flows between spherical particles colliding in a compressible non-continuum gas. (English summary) *J. Fluid Mech.* **344** (1997), 245–269. 76D08 (76N10, 76T05)

— (*with* Ladd, Anthony J. C.) Moderate Reynolds number flows through periodic and random arrays of aligned cylinders. (English summary) *J. Fluid Mech.* **349** (1997), 31–66. (Summary) **98k:76030** 76D07 (76M25)

halter-Koch, Franz *see* **Halter-Koch, Franz**

Koch, Gary G. (*with* Jung, Jin-Whan) Analysis of correlated ordered categorical data with rank measures of association for responses with ties. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 167–183. 62H17

Koch, Helmut V. The completeness principle for the Golay codes and some related codes. *Algebra and analysis* (*Kazan*, 1994), 75–80, *de Gruyter, Berlin*, 1996. (*see* **98b:00020**) 94B05 (05B30)

— ★ Algebraic number theory. Translated from the 1988 Russian edition. Reprint of the 1992 translation. *Springer-Verlag, Berlin*, 1997. iv+269 *pp. ISBN* 3-540-63003-1 (Editors) **98g:11118** 11Rxx

— (*with* Kukkuk, Susanne; Labute, John) Nilpotent local class field theory. *Acta Arith.* **83** (1998), *no.* 1, 45–64. (Ivan Fesenko) **98j:11113** 11S31

Koch, Jürgen Algorithm for geometric Hermite interpolation. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 281–286, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 65D15 (41A10)

— (*with* Höllig, K.) Geometric Hermite interpolation with maximal order and smoothness. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 681–695. (Summary) **98m:65017** 65D05 (65D07)

Koch, Martin (*with* Sommer, Jens-Uwe; Blumen, Alexander) Variational methods for constrained polymer dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5007–5022. 82D60

Koch, Richard R. (*with* Leighton, Frank Thomson; Maggs, Bruce M.; Rao, Satish B.; Rosenberg, Arnold L.; Schwabe, Eric J.) Work-preserving emulations of fixed-connection networks. (English summary) *J. ACM* **44** (1997), *no.* 1, 104–147. (Julian Padget) **98c:68029** 68M10 (68Q25, 68R10)

Koch, Robert (*with* Blum, Norbert) Greibach normal form transformation, revisited. (English summary) *STACS* 97 (*Lübeck*), 47–54, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68091** 68Q50

Kochański, Piotr (*with* Wódkiewicz, Krzysztof) Operational theory of eight-port homodyne detection. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2343–2358. (Allan I. Solomon) **98k:81026** 81P15 (81V80)

Kochar, Subhash C. A review of some distribution-free tests for the equality of cause specific hazard rates. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 147–162, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G10 (62M99, 62N05)

— (*with* Rojo, Javier) Some new results on stochastic comparisons of spacings from heterogeneous exponential distributions. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 272–281. (Jian-Lun Xu) **98e:62084** 62G30 (60E15)

— (*with* Aly, Emad-Eldin A. A.) Change point tests based on *U*-statistics with applications in reliability. (English summary) *Metrika* **45** (1997), *no.* 3, 259–269. (Yanhong Wu) **98g:62081** 62G10 (62G20, 62N05)

Kocharovskiĭ, V. V. (*with* Kocharovskiĭ, Vl. V.; Derishev, E. A.; Litvak, S. A.; Shereshevskiĭ, I. A.; Tasaki, Shuichi) Nonstationary dressed states and effects of decay in nonadiabatic crossing of decaying levels. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 727–750. (*see* **98i:00017**) 81V80

Kocharovskiĭ, Vl. V. (*with* Kocharovskiĭ, V. V.; Derishev, E. A.; Litvak, S. A.; Shereshevskiĭ, I. A.; Tasaki, Shuichi) Nonstationary dressed states and effects of decay in nonadiabatic crossing of decaying levels. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 727–750. (*see* **98i:00017**) 81V80

Kocharovsky, V. V. *see* **Kocharovskiĭ, V. V.**

Kocharovsky, Vl. V. *see* **Kocharovskiĭ, Vl. V.**

Kochegurov, V. A. (*with* Konstantinova, Ludmila Ivanovna; Shumilov, B. M.) Parametric identification of nonlinear differential equations on the basis of spline schemes that are exact on polynomials. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 53–63; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 756–764. (Summary) **98g:65075** 65L99 (92C50, 93B30)

Kochengin, S. A. A point source of SH waves in a medium with a vertical boundary in the case of smooth increase in the velocity of the propagation of waves with depth. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Volna.* 24, 44–55, 221; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2685–2693. (Summary) **98h:73035** 73D15 (35Q72, 86A15)

— Justification of the construction of a solution of a problem on a point source of SH waves in a layered medium with a vertical boundary. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Volna.* 24, 56–66, 221; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2694–2701. (Summary) **98h:73036** 73D15 (35Q72, 86A15)

— (*with* Oliker, Vladimir I.) Determination of reflector surfaces from near-field scattering data. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 363–373. (Summary) **98c:78022** 78A45

Kochergin, V. V. On the complexity of computations of monomials and tuples of powers. (Russian. Russian summary) *Discrete analysis* (*Russian*), 94–107, 180, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (István Gaál) **98d:11158** 11Y16 (68Q25)

— On the complexity of computations in finite nilpotent groups. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 1, 43–51, 92–93. (Summary) **98c:20036** 20D15 (68Q25)

Kochetkov, K. A. (*with* Shirkov, P. D.) *L*-damping ROW-methods of the third order of accuracy. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 699–710. 65L05 (65L06)

Kochetkov, Yu. Yu. Permutation groups generated by a (2, 2)-cycle and an *n*-cycle. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 76–79; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 133–135. (A. A. Makhnev) **98i:20002** 20B15

— On nontrivially decomposable types. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 836–837. (A. A. Makhnev) **98k:05047** 05C05

Kochetov, D. V. (*with* Bul'onkov, M. A.) A scheme for the effective specialization of imperative programs. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 5, 33–45; *translation in Program. Comput. Software* **21** (1995), *no.* 5, 244–253. 68N05

Kochetov, Eduard (*with* Mazalov, Vladimir V.) Mate choice and optimal stopping problem. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 317–326, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60067** 60G40 (90C15)

Kochina, P. Ya. *see* **Polubarinova-Kochina, Pelageya Yakovlevna**

polubarinova-Kochina, Pelageya Yakovlevna *see* **Polubarinova-Kochina, Pelageya Yakovlevna**

Kochmański, Martin S. The self-avoiding walk problem and generalized Jordan-Wigner transformations. (English summary) *J. Tech. Phys.* **37** (1996), *no.* 1, 67–83. (Menachem Dishon) **98b:82036** 82B41 (60J15, 82–08, 82B20)

— Transformations of Jordan-Wigner type and Hamilton cycles on a rectangular lattice. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 10, 52–56; *translation in Russian Phys. J.* **40** (1997), *no.* 10, 973–977 (1998). (Summary) **98k:82055** 82B23 (05C45)

— New approach to the Ising-Onsager problem. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 1, 73–86. (Summary) **98f:82025** 82B20 (82B23)

— Lenz-Ising-Onsager problem in an external field as a soluble problem of many fermions. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3831–3849. (Summary) **98i:82015** 82B20

— On Ising-Onsager problem in external magnetic field. (English, Russian and Ukrainian summaries) *Ukraïn. Fiz. Zh.* **42** (1997), *no.* 1, 63–70. (Emilio N. M. Cirillo) **98d:82010** 82B20 (82B26, 82B27)

Koch-Medina, Pablo (*with* Hieber, Matthias; Merino, Sandro) Linear and semilinear parabolic equations on $\mathrm{BUC}(\mathbf{R}^N)$. *Math. Nachr.* **179** (1996), 107–118. (C. J. K. Batty) **98a:35054** 35K15 (35B40, 47F05)

Kochneff, E. Expansions in Jacobi polynomials of negative order. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 435–446. (Valeri Kaliaguine) **98j:33004** 33C45

— Weighted norm inequalities for fractional integrals with an application to mean convergence of Laguerre series. (English summary) *J. Approx. Theory* **91** (1997), *no.* 1, 84–102. (Antonio J. Durán) **98j:41009** 41A17 (26D10)

Kochubei, A. N. Additive and multiplicative fractional differentiations over the field of *p*-adic numbers. *p-adic functional analysis* (*Nijmegen*, 1996), 275–280, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Evgenii I. Zelenov) **98j:26002** 26A33 (47G30, 47S10)

— Stochastic integrals and stochastic differential equations over the field of *p*-adic numbers. (English summary) *Potential Anal.* **6** (1997), *no.* 2, 105–125. (Andrzej Mądrecki) **98k:60087** 60H05 (11S80, 60B15, 60H10)

Kochubei, N. V. Boundary value problems for differential systems with impulse action. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 3, 16–20. (Summary) **98h:34020** 34A37 (34B15)

Kocić, Ljubiša M. (*with* Milošević, Dušan M.) Contouring of interpolating surfaces. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 189–201. 65D17 (65D10)

— Monotone interpolation by fractal functions. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 291–298, *Transilvania, Cluj-Napoca*, 1997. (George A. Anastassiou) **98j:41015** 41A29 (65D17)

— (*with* Milošević, Dušan M.) About some data interpolation methods. (English summary) *PRIM '96 (Budva)*, 225–234, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65D15 (65D17)

— (*with* Milovanović, Gradimir V.) Shape preserving approximations by polynomials and splines. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 11, 59–97. (Yu Yu Feng) **98f:41017** 41A29 (65D17)

Kocic, V. L. (*with* Grove, E. A.; Ladas, G.; Levins, R.) Oscillation and stability in a genotype selection model with several delays. Difference equations: theory and applications (San Francisco, CA, 1995). *J. Differ. Equations Appl.* **2** (1996), *no.* 2, 205–217. (Sui Yang Chen) **98a:39016** 39A11 (92D40, 92F05)

— (*with* Janowski, E. J.; Ladas, G.; Tzanetopoulos, G.) Global behavior of solutions of $x_{n+1} = [\max\{x_n^k, A\}]/x_{n-1}$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 297–310. (Summary) **98m:39015** 39A10

— (*with* DeVault, R.; Dial, G.; Ladas, G.) Global behavior of solutions of $x_{n+1} = ax_n + f(x_n, x_{n-1})$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 311–330. (Summary) **98m:39010** 39A10 (92D40)

Kočinac, Ljubiša D. On the cardinality of Urysohn and H-closed spaces. (English summary) *Proceedings of the Mathematical Conference in Priština 1994*, 105–111, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 54A25 (54D10)

— (*with* Mršević, Mila) Zlatko P. Mamuzić (1915–1996). *Filomat No.* 10 (1996), 195–203. (Editors) **98f:01072** 01A70

— Around pseudo-distancial spaces. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 127–135. (Summary) **98b:54036** 54E15 (54A20, 54A25, 54C10)

— The space $C_s(X)$. (English summary) *Proceedings of the II Mathematical Conference in Priština (1996)*, 165–167, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 54C35 (54A25)

— *see also* **Proceedings: Mathematical Conference**, **98b:00030** *and* **98b:00031**

Kociński, J. Wigner's theorem for non-unitary symmetry groups. (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 77–88, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98k:82003**) 81R05

Kock, Anders Combinatorics of curvature, and the Bianchi identity. (English summary) *Theory Appl. Categ.* **2** (1996), *No.* 7, 69–89 (*electronic*). (K. C. H. Mackenzie) **98c:58001** 58A03 (18F15, 53C05)

— (*with* Moerdijk, Ieke) Spaces with local equivalence relations, and their monodromy. (English summary) *Topology Appl.* **72** (1996), *no.* 1, 47–78. (Jan Kubarski) **98c:18003** 18B40 (20L15, 54B40, 57R30)

Köck, Bernhard On Adams operations on the higher K-theory of group rings. (English summary) *Algebraic K-theory (Poznań, 1995)*, 139–150, *Contemp. Math.*, 199, *Amer. Math. Soc., Providence, RI*, 1996. (Bruce A. Magurn) **98j:19002** 19D50 (19A22, 19A31, 19B28)

— Adams operations for projective modules over group rings. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 55–71. (V. P. Snaith) **98g:13013** 13D15 (18F30, 19A31)

Kock, Joachim Frobenius splitting of complete intersections in $\mathbf{P}^n$. *Comm. Algebra* **25** (1997), *no.* 4, 1205–1213. (Venkatramani Lakshmibai) **98e:14050** 14M12

Köckler, Norbert (*with* Scheunpflug, Isa) Target zone models with price inertia: a numerical solution method. (English summary) *Progress in industrial mathematics at ECMI 96 (Lyngby, 1996)*, 372–379, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 90A60

Kočvara, Michal (*with* Outrata, Jiří V.) On the solution of optimum design problems with variational inequalities. (English summary) *Recent advances in nonsmooth optimization*, 172–192, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:90009**) 49J40 (49Q20, 90C30)

— (*with* Outrata, Jiří V.) A nonsmooth approach to optimization problems with equilibrium constraints. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 148–164, *SIAM, Philadelphia, PA*, 1997. (Stephan Dempe) **98c:90162** 90C33 (49J52, 90C31, 90D65)

— (*with* Zowe, Jochem; Bendsøe, Martin Philip) Free material optimization via mathematical programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 445–466. (Summary) **98c:90215** 90C40 (90C30)

Koczkodaj, W. W. (*with* Janicki, Ryszard) A weak order approach to group ranking. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 2, 51–59. (Summary) **98f:90005** 90A08 (68T35)

— (*with* Orlowski, Marian) An orthogonal basis for computing a consistent approximation to a pairwise comparisons matrix. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 41–47. (Summary) **98i:65033** 65F30

Kóczy, László T. (*with* Kovács, Szilveszter) The use of the concept of vague environment in approximate fuzzy reasoning. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 169–181. (*see* **98i:00019**) 03B52

Koczyk, Henryk ★ Geometria wykreślna. (Polish. Polish summary) [Descriptive geometry] Metoda Monge'a i aksonometria. [The Monge method and axonometry] [Vol. 1] Teoria i zadania. [Theory and problems] [Vol. 2] Rozwiązania zadań. [Solutions of problems] Fourth edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1995. *Vol.* 1: 340 *pp.*; *Vol.* 2: 223 *pp. ISBN* 83-01-07388-8 51N05

Koda, Takashi (*with* Hashimoto, Hideya) Grassmann geometry of 6-dimensional sphere. (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 136–142, *World Sci. Publishing, River Edge, NJ*, 1997. (Hiroo Naitoh) **98g:53111** 53C42 (53C15, 53C40)

— (*with* Watanabe, Yoshiyuki) Homogeneous almost contact Riemannian manifolds and infinitesimal models. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 11–24. (J. Alfredo Jiménez) **98i:53068** 53C30 (53C15)

Kodaira, Kunihiko *see* **Spencer, Donald C.**

Kodaj, B. (*with* Móri, T. F.) On the number of comparisons in Hoare's algorithm "FIND". (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 185–207. (Summary) **98a:68041** 68P10 (60F99, 68Q25)

Kodaka, Kazunori Picard groups of irrational rotation C^*-algebras. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 179–188. (Summary) **98e:46071** 46L05

— Full projections, equivalence bimodules and automorphisms of stable algebras of unital C^*-algebras. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 357–369. (Summary) **98c:46149** 46L80 (46L05)

Kodama, Akio Characterizations of generalized complex ellipsoids in $\mathbf{C}^n$ from the viewpoint of biholomorphic automorphisms. *Geometric complex analysis (Hayama, 1995)*, 363–369, *World Sci. Publishing, River Edge, NJ*, 1996. (Daowei Ma) **98f:32022** 32H02 (32A07)

Kodama, Hideo (*with* Mukohyama, Shinji; Seriu, Masafumi) Can the entanglement entropy be the origin of black-hole entropy? (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7666–7679. (Markku Lehto) **98e:83082** 83C57

Kodama, Masanori Probabilistic multiperiod inventory models under general demand. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 463–484. (Peter Köchel) **98k:90029** 90B05

Kodama, Shizuo (*with* Lee, Dong-Ik; Kumagai, Sadatoshi) Handles and reachability analysis of free choice nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 298–315, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68155** 68Q90 (68Q10)

Kodama, Yuji (*with* Ye, Jian) The generalized Toda lattice equation on semisimple Lie algebras. (English summary) Applied mathematics for nonlinear integrable systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 933 (1995), 183–202. (Summary) **98c:58073** 58F07 (17B99)

— (*with* Carroll, Robert Wayne) Characterization and solution of the dispersionless Hirota equations. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 53–59, *World Sci. Publishing, River Edge, NJ*, 1996. (Iskander A. Taimanov) **98c:58066** 58F07 (14H99, 35Q53)

— (*with* Aoyama, Shogo) Topological Landau-Ginzburg theory with a rational potential and the dispersionless KP hierarchy. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 185–219. (Henrik Aratyn) **98c:81194** 81T40 (58F07)

— (*with* Mikhailov, A. V.) Obstacles to asymptotic integrability. (English summary) *Algebraic aspects of integrable systems*, 173–204, *Progr. Nonlinear Differential Equations Appl.*, 26, *Birkhäuser Boston, Boston, MA*, 1997. (Wen Xiu Ma) **98b:58075** 58F07 (35Q53)

Kodama, Yuji (*with* Ishii, Koji; Maekawa, Toru) Microscopic dynamic analysis of heat and mass transfer. Thermal energy propagation near the critical point and electronic dynamics in a mesoscopic system. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2797–2802. (*see* **98i:00031**) 80–08

Kodama, Yukihiro (*with* Abe, Yoshihiro; Sakai, Kazuhiro; Sakai, Masami; Yajima, Yukinobu) The study of the foundations of topological spaces and its applications. (Japanese) *Sci. Rep. Res. Inst. Engrg. Kanagawa Univ. No.* 20 (1997), 163–165. 54A05

Kodate, Takako (*with* Bermond, Jean-Claude; Pérennes, Stéphane) Gossiping in Cayley graphs by packets. (English summary) *Combinatorics and computer science (Brest, 1995)*, 301–315, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:68027** 68M10 (05C25, 68R10)

Kodono, Yukio (*with* Konishi, Mikihiko; Okuda, Tetsuji; Asai, Kiyoji) Use of AIC to select statistical models for fuzzy interval data. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 4, 615–636 (1997). 62–07 (04A72)

Koduvely, Hari M. (*with* Dhar, Deepak) A model of subdiffusive interface dynamics with a local conservation of minimum height. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 57–77. (Summary) **98k:82059** 82B24 (82–04)

Koeber, M. Inclusion of solutions of initial value problems for quasilinear hyperbolic equations. (English summary) *Numerical methods and error bounds (Oldenburg, 1995)*, 132–137, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (*see* **98a:65004**) 65G10 (65M15)

Koekoek, J. (*with* Koekoek, R.) Finding differential equations for symmetric generalized ultraspherical polynomials by using inversion methods. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 103–111, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **98m:33034** 33C55 (34A05)

— (*with* Koekoek, R.; Bavinck, H.) On differential equations for Sobolev-type Laguerre polynomials. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 347–393. (Hans W. Volkmer) **98d:33003** 33C45 (34A35)

Koekoek, R. (*with* Koekoek, J.) Finding differential equations for symmetric generalized ultraspherical polynomials by using inversion methods. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 103–111, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **98m:33034** 33C55 (34A05)

— (*with* Koekoek, J.; Bavinck, H.) On differential equations for Sobolev-type Laguerre polynomials. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 347–393. (Hans W. Volkmer) **98d:33003** 33C45 (34A35)

Koelbel, Charles H. *see* **Proceedings: Conference on Parallel Processing for Scientific Computing**, **98h:65004**

Koelink, H. Tjerk Askey-Wilson polynomials and the quantum SU(2) group: survey and applications. (English summary) *Acta Appl. Math.* **44** (1996), *no.* 3, 295–352. (Summary) **98k:33037** 33D45 (17B37, 33C45, 33D80)

— Convolution and addition theorems for q-orthogonal polynomials. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 113–122, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **98f:33035** 33D80 (33–02, 81R50)

— Addition formulas for q-special functions. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 109–129, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Mizan Rahman) **98d:33013** 33D80 (17B37, 33D45, 33D55, 81R50)

— (*with* Floris, Paul G. A.) A commuting q-analogue of the addition formula for disk polynomials. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 511–535. (Walter Van Assche) **98j:33012** 33D45 (33D90)

Koenders, M. A. A first order constitutive model for a particulate suspension of spherical particles. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 1–19. (Summary) **98b:76075** 76T05 (76A99, 76D08)

Kœnig, Muriel Linearization of vector fields on the orbit space of the action of a compact Lie group. (English summary) *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 401–424. (Pascal Chossat) **98c:58156** 58F36 (34C20, 58F14)

Koenig, Sven (*with* Simmons, Reid G.) Real-time search in non-deterministic domains. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 1660–1667, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T20

Koenigsmann, Jochen (*with* Engler, Antonio José) Abelian subgroups of pro-p Galois groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2473–2485. (Ido Efrat) **98h:12004** 12F10 (12J20)

Koenker, Roger (*with* Zhao, Quanshui) Conditional quantile estimation and inference for ARCH models. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 793–813. (Luis Firinguetti) **98b:62199** 62P20 (62M10)

— (*with* Hasan, M. N.) Robust rank tests of the unit root hypothesis. (English summary) *Econometrica* **65** (1997), *no.* 1, 133–161. (Sung K. Ahn) **98e:62130** 62M10 (62G10, 62P20)

— (*with* Portnoy, Stephen) The Gaussian hare and the Laplacian tortoise: computability of squared-error versus absolute-error estimators. (English summary) With comments by Ronald A. Thisted and M. R. Osborne and a rejoinder by the authors. *Statist. Sci.* **12** (1997), *no.* 4, 279–300. (Summary) **98m:62195** 62J05

Koepf, Wolfram Closed form Laurent-Puiseux series of algebraic functions. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 1, 21–26. 12F05 (12Y05)

— Identities for families of orthogonal polynomials and special functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 69–102. (Summary) **98c:33010** 33C45

Koepke, Peter Embedding normal forms and Π^1_1-determinacy. (English summary) *Logic: from foundations to applications (Staffordshire, 1993)*, 215–224, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Summary) **98g:03118** 03E15 (90D44)

Koepsell, K. (*with* Gebert, R. W.; Nicolai, Hermann) The affine Sugawara generators at arbitrary level. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 119–141. (Hai Sheng Li) **98g:81058** 81R10 (17B67)

Kofanov, V. A. (*with* Babenko, V. F.; Pichugov, S. A.) Multivariate inequalities of Kolmogorov type and their applications. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 1–12, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Editors) **98m:41020** 41A17 (41A50, 41A63)

— (*with* Babenko, V. F.; Pichugov, S. A.) On additive inequalities for norms of intermediate derivatives. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 154–156. (Wiesław Pleśniak) **98k:41021** 41A17 (26D10)

— (*with* Babenko, V. F.; Pichugov, S. A.) Kolmogorov-type inequalities for operators, and extremal problems in approximation theory. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 439–441. (Wiesław Pleśniak) **98k:41022** 41A17 (47A30)

— (*with* Babenko, V. F.; Pichugov, S. A.) Sharp inequalities for intermediate derivatives of differentiable mappings of Banach spaces. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 22–25. 46G05 (41A17, 46B20)

— (*with* Babenko, V. F.; Pichugov, S. A.) On exact inequalities of Landau-Kolmogorov-Hörmander type on a half-line. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 34–38. (Yu. A. Brudnyĭ) **98m:41018** 41A17 (26D10)

— (*with* Babenko, V. F.; Pichugov, S. A.) Exact inequalities of Kolmogorov type for multivariate functions and their applications. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 155–186. (Ion Badea) **98m:41019** 41A17 (41A50, 41A63)

— (*with* Babenko, V. F.; Pichugov, S. A.) On additive inequalities for intermediate derivatives of functions defined on a finite interval. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 619–628; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 685–696 (1998). (Ion Raşa) **98i:41011** 41A17 (26D10)

Kofinas, G. (*with* Christodoulakis, T.; Korfiatis, E.; Paschos, A.) Isolation of the true degree of freedom and normalizable wave functions for the general type V cosmology. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 30–36. 81V17

Koga, Hisashi (*with* Albers, Susanne) Page migration with limited local memory capacity. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 147–158, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q10

— (*with* Albers, Susanne) New on-line algorithms for the page replication problem. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 75–96. (Summary) **98m:68106** 68Q25 (68N25, 68Q10)

Koga, Sayuri Conjugate points for optimal control problems. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 161–169. (*see* **98g:90004**) 49K15 (49N15)

Koga, Shinji Scaling laws of moments in Sinai's billiard systems. I. The case of rectangular lattice. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 363–378. (Summary) **98c:82039** 82C05 (58F11)

Kogan, A. Yu. (*with* Greiner, Russell; Grove, Adam J.) Knowing what doesn't matter: exploiting the omission of irrelevant data. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 345–380. (Summary) **98k:68146** 68T05

Kogan, Eugene (*with* Kaveh, Moshe) Intensity distributions of waves in a random medium: random matrix theory approach. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 338–341, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 82B44

Kogan, Ian I. (*with* Amelino-Camelia, Giovanni; Szabo, Richard J.) Conformal dimensions from topologically massive quantum field theory. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 413–456. (Summary) **98j:81307** 81T40

— (*with* Amelino-Camelia, Giovanni; Szabo, Richard J.) Gravitational dressing of Aharonov-Bohm amplitudes. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1043–1051. (Summary) **98i:81164** 81T20

— (*with* Lewis, Alex; Solov'ev, O. A.) Gauge dressing of 2D field theories. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2425–2436. (Michael A. I. Flohr) **98b:81230** 81T40 (81R10, 81T30)

— (*with* Szabo, Richard J.; Semenoff, Gordon W.) D-brane configurations and Nicolai map in supersymmetric Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 3, 183–193. (Summary) **98e:81142** 81T30 (81T13, 81T60)

— (*with* Cooper, Leith; Szabo, Richard J.) Dynamical description of spectral flow in $N = 2$ superconformal field theories. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 492–510. (Isabel P. Ennes) **98i:81229** 81T40

— (*with* Szabo, Richard J.) Liouville dressed weights and renormalization of spin in topologically massive gravity. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 383–418. (Summary) **98j:81215** 81T15 (81R05, 81T40, 83C45)

— Three-dimensional description of the $\Phi_{1,3}$ deformation of minimal models. (English summary) *Phys. Lett. B* **390** (1997), *no.* 1-4, 189–196. (Gloria Luzón) **98b:81231** 81T40 (81T30)

— (*with* Cooper, Leith; Lee, Kai-Ming) String winding modes from charge non-conservation in compact Chern-Simons theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 67–74. (Kurt Haller) **98b:81184** 81T30 (81T13, 81T40)

— (*with* Wheater, John F.) Neumann-Dirichlet tadpoles as new string states and quantum mechanical particle-wave duality from world-sheet t-duality. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 31–37. (Summary) **98f:81268** 81T30

— (*with* Szabo, Richard J.) Matrix strings in two-dimensional Yang-Mills theory. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 276–284. (Summary) **98d:81090** 81T30 (81T13, 81T40, 81V05)

— (*with* Lewis, Alex; Solov'ev, O. A.) Knizhnik-Zamolodchikov-type equations for gauged WZNW models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1345–1367. (Summary) **98m:81169** 81T40 (81R10)

Kogan, J. (*with* Semenov, Pavel V.) On stability of quasipolynomials with annular uncertainties and interval commensurate delays. (English summary) *Systems Control Lett.* **33** (1998), *no.* 1, 11–17. (Summary) **98k:93085** 93D09 (93C30)

Kogan, Konstantin (*with* Khmelnitsky, Eugene) Tracking demands in optimal control of managerial systems with continuously-divisible, doubly constrained resources. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 43–59. 49N55 (90C30)

Kogan, M. M. Solution of inverse problems of worst perturbation and minimax control for linear continuous systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 22–30; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 535–541. (Summary) **98c:93113** 93E12 (65J15)

— Locally minimax and minimax controls of linear discrete systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 33–44; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1732–1741 (1998). 93C55 (49K25)

Koganov, A. V. Processes and automorphisms on inductor spaces. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 315–339. (Ronald E. Prather) **98c:18005** 18B99 (00A71, 00A79, 54H99, 68Q68)

Kogiso, Takeyoshi (*with* Kimura, Tatsuo; Fujinaga, Makiko) On functional equations of prehomogeneous zeta distributions over a local field of characteristic p. (English summary) Theory of prehomogeneous vector spaces (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 924 (1995), 153–163. (Boris Datskovsky) **98g:11136** 11S40 (11M41)

— Calculation of the adelic zeta function associated with P.V.$(GL(2), M(2))$ over a function field. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 1, 105–127. (Boris Datskovsky) **98g:11103** 11M41 (11E45)

— (*with* Kimura, Tatsuo; Fujinaga, Makiko) Fundamental theorem of prehomogeneous vector spaces of characteristic p. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 331–341. (Margaret M. Robinson) **98d:11152** 11S40 (11S80)

Koguro, Naoki (*with* Aizawa, Yoji; Antoniou, Ioannis E.) Chaos and singularities in the mixmaster universe. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 6, 1225–1250. (Summary) **98k:83012** 83C15 (58F40)

Kogut, John B. (*with* Catterall, S.; Renken, R.) Singular structure in 4D simplicial gravity. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 274–280. 83C27 (81V17, 83C45)

Kogut, P. I. Variational S-convergence of minimization problems, and its geometric interpretation. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 89–93. 49J45 (49K40, 90C48)

Koh, A. C. (*with* Zhu, K. Y.; Qin, X. F.) On stability of an input amplitude constrained predictive control system. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 101–107. (Summary) **98c:93079** 93D05 (93C10)

Koh, E. L. (*with* Ren, Gong) On the solution of the functional equation $f(x+y) + g(xy) = h(x) + k(y)$. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 2, 117–130. (Nicole Brillouët-Belluot) **98f:39018** 39B22 (46F10)

Koh, K. M. (*with* Tan, B. P.) The number of kings in a multipartite tournament. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 411–418. (Summary) **98d:05064** 05C20

— (*with* Dong, Feng Ming) On graphs in which any pair of colour classes but one induces a tree. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 39–54. (Summary) **98g:05057** 05C15 (05C05)

— (*with* Teo, Kee-Leong) The search for chromatically unique graphs. II. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 59–78. (Ioan Tomescu) **98h:05078** 05C15

— (*with* Tan, B. P.) Addendum: "The diameter of an orientation of a complete multipartite graph" [Discrete Math. **149** (1996), no. 1-3, 131–139; MR 97d:05131]. *Discrete Math.* **173** (1997), *no.* 1-3, 297–298. 05C20

— (*with* Dong, Feng Ming) On the structure and chromaticity of graphs in which any two colour classes induce a tree. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 97–113. (Summary) **98h:05073** 05C15

— (*with* Tay, E. G.) On optimal orientations of Cartesian products of even cycles and paths. (English summary) *Networks* **30** (1997), *no.* 1, 1–7. (Summary) **98e:05050** 05C20 (05C38)

— (*with* Dong, Feng Ming; Liu, Yan Pei) The chromaticity of odd wheels with a missing spoke. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 31–44. (C. Y. Chao) **98f:05059** 05C15

— (*with* Dong, Feng Ming) Non-chordal graphs having integral-root chromatic polynomials. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 67–77. (Summary) **98k:05064** 05C15

— *see also* **Chromatic polynomials and related topics, 98d:05001**

Koh, Kwangil (*with* Cohen, Jo-Ann) Topological and algebraic properties of the subgroup generated by the involutions in a compact ring. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 310–315, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (*see* **98d:54001**) 16W80 (22C05, 54H13)

— (*with* Cohen, Jo-Ann) Compact rings having a finite simple group of units. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 13–26. (William H. Gustafson) **98e:16040** 16W80 (16U60)

Koh, Liang-Khoon Alexandrov spaces with nonnegative curvature outside a compact set. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 401–407. (Mingliang Cai) **98j:53043** 53C21

Koh, Seok-Hyun (*with* Kim, Yangkon; Park, Dae-Shik) Levi components and their cuspidal representations. *Bull. Honam Math. Soc.* **13** (1996), 25–30. (Toshiaki Shoji) **98b:20065** 20G05 (20C33, 20G40)

Koh, Shun-ichiro Cooper pairs and the gas-liquid transition. (English summary) *Phys. Lett. A* **229** (1997), *no.* 1, 59–62. (Ioan Bâldea) **98c:82077** 82D55 (82B26)

Koh, Young Mee Note on the conformal classes of tori with L^p-bounded second fundamental form. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 201–207. (Valery Marenich) **98c:53064** 53C40 (53C42)

Kohara, Masaru (*with* Higuchi, Masahiro; Nakaishi, Takaharu; Fujii, Mamoru) A method for generating test cases for register operations in conformance testing of communication protocols. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1067–1076. 68Q10 (68Q60)

Kohatsu-Higa, Arturo (*with* León, Jorge A.) Anticipating stochastic differential equations of Stratonovich type. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 3, 263–289. (Marta Sanz Solé) **98j:60075** 60H05 (60H10)

— (*with* León, Jorge A.; Nualart, David) Stochastic differential equations with random coefficients. (English summary) *Bernoulli* **3** (1997), *no.* 2, 233–245. (Daniel Ocone) **98f:60113** 60H10

— High order Itô-Taylor approximations to heat kernels. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 129–150. (Eckhard Platen) **98c:60060** 60H10 (65C05, 65U05)

— (*with* Ogawa, Shigeyoshi) Weak rate of convergence for an Euler scheme of nonlinear SDE's. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 327–345. (Denis Talay) **98i:60053** 60H10 (60K35, 65U05)

— (*with* Sanz-Solé, Marta) Existence and regularity of density for solutions to stochastic differential equations with boundary conditions. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 1–22. (Marco Ferrante) **98d:60111** 60H10 (60H07)

Kohaupt, L. Case studies from industry. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 292–299 (*electronic*). 70–08 (65D99)

Kohayakawa, Yoshiharu (*with* Bollobás, Béla) On Richardson's model on the hypercube. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 129–137, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98j:05122** 05C99 (05C90, 60K35, 92D30)

— (*with* Łuczak, Tomasz; Rödl, Vojtěch) On K^4-free subgraphs of random graphs. (English summary) *Combinatorica* **17** (1997), *no.* 2, 173–213. (Mark R. Jerrum) **98h:05166** 05C80 (05C35)

— (*with* Erdős, Paul[†]; Gyárfás, András) The size of the largest bipartite subgraphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 267–271. (Summary) **98j:05084** 05C35

Kohda, Natsuo (*with* Shiomi, Koji; Otsuka, Naohisa; Toraichi, Kazuo) A simultaneous decoupling problem for a family of linear systems with state feedback. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 4, 5–14 (1997). (Summary) **98e:93023** 93B25

Kohda, Tohru (*with* Tsuneda, Akio) Auto-/cross-correlation functions of chaotic binary/bit sequences. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 331–334, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F13 (58F40)

Köhegyi, J. (*with* Rahman, N. A. A.) Numerical solution of two-point boundary value problems with lacunary interpolation spline functions. *Ann. Univ. Sci. Budapest. Sect. Comput.* **15** (1995), 157–166. (Introduction) **98a:65101** 65L10 (65L05)

Köhl, C. (*with* Figueroa-O'Farrill, José M.; Spence, B.) Supersymmetry and the cohomology of (hyper)Kähler manifolds. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 614–626. (Krzysztof Galicki) **98k:53062** 53C25 (32J27, 58A12, 81T60)

Köhl, Manfred (*with* Dhondt, Guido) On the force between a dielectric cylinder in a constant electric field and a conducting half space. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 2, 347–359. (Summary) **98c:78012** 78A30

Kohlas, Jürg The mathematical theory of evidence—a short introduction. (English summary) *System modelling and optimization* (*Prague*, 1995), 37–53, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90A05 (90A46)

— Allocation of arguments and evidence theory. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 221–246. (Maria-Teresa Lamata) **98a:68167** 68T27 (03B60, 03B70)

— *see also* **Symbolic and quantitative approaches to reasoning and uncertainty**, **98c:68020**

Kohlberg, Elon (*with* Reny, Philip J.) Independence on relative probability spaces and consistent assessments in game trees. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 280–313. (Summary) **98e:90256** 90D60 (60A05)

Kohlenbach, Ulrich Analysing proofs in analysis. *Logic: from foundations to applications* (*Staffordshire*, 1993), 225–260, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (A. Kučera) **98b:03085** 03F60 (03F55)

— Mathematically strong subsystems of analysis with low rate of growth of provably recursive functionals. (English summary) *Arch. Math. Logic* **36** (1996), *no.* 1, 31–71. (M. Yasuhara) **98h:03073** 03F35 (03D65, 03F03, 03F10)

Kohler, A. *see* **Kohler, Achim**

Köhler, A. E. De triangularitate quadranguli or symmetry regions and symmetry centroids of geometric figures. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 95–121. (Summary) **98j:52027** 52B99 (04A72)

Kohler, Achim (*with* Killesreiter, G. H. M.; Blümel, R.) Ray splitting in a class of chaotic triangular step billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2691–2701. (Roberto Markarian) **98f:58136** 58F13 (70D99, 81Q50, 82C05)

Kohler, Christopher Geometric classification of topological quantum phases. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 195–200. (Summary) **98m:81086** 81S99

Köhler, Kai Equivariant Reidemeister torsion on symmetric spaces. (English summary) *Math. Ann.* **307** (1997), *no.* 1, 57–69. (Alexander Fel'shtyn) **98b:58171** 58G26 (57Q10)

Köhler, Martin (*with* Brunetti, R.; Fredenhagen, K.) The microlocal spectrum condition and Wick polynomials of free fields on curved spacetimes. (English summary) *Comm. Math. Phys.* **180** (1996), *no.* 3, 633–652. (Michael Keyl) **98b:81153** 81T20 (46N50, 58G16, 81T05)

Köhler, Martin (*with* Chakravarty, Manuel M. T.; Guo, Yike; Lock, Hendrik C. R.) GOFFIN: higher-order functions meet concurrent constraints. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 157–199. (*see* **98k:68005**) 68N15 (68Q10, 68T20)

Köhler, Peter Asymptotically best spline approximation by quasi-interpolation and asymptotically best quadrature formulae. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 287–294, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A15 (41A50)

Kohler, Werner E. (*with* Papanicolaou, George C.; White, Benjamin S.) Localization of low frequency elastic waves. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 209–217, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98k:73032** 73D70 (73B35, 73D15)

Kohmoto, Mahito (*with* Yamanaka, Masanori; Honjo, Shinsuke; Hatsugai, Yasuhiro) Exact ground-state correlation functions of one-dimensional strongly correlated electron models with resonating-valence-bond ground state. (English summary) *J. Statist. Phys.* **84** (1996), *no.* 5-6, 1133–1208. (Detlef Lehmann) **98f:82035** 82B20 (81V70, 82D20)

— (*with* Morita, Yoshifumi; Koma, Tohru) Quasi-bound states of two magnons in the spin-$\frac{1}{2}$ XXZ chain. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 745–780. (Takeo Kojima) **98k:82045** 82B20

Kohn, R. *see* **Kohn, Robert Jacob**

Kohn, Robert *see* **Kohn, Robert V.**

Kohn, Robert Jacob (*with* Carter, C. K.) Markov chain Monte Carlo in conditionally Gaussian state space models. (English summary) *Biometrika* **83** (1996), *no.* 3, 589–601. (Jean Diebolt) **98b:62036** 62F10 (60J10, 62F35, 62M10, 62P10)

— (*with* Smith, Michael Stanley) A Bayesian approach to nonparametric bivariate regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1522–1535. (Summary) **98m:62117** 62G05

— (*with* Barnett, Glen; Sheather, Simon J.) Robust Bayesian estimation of autoregressive-moving-average models. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 1, 11–28. (Francesco Battaglia) **98d:62154** 62M10

— (*with* Park, Byeong U.; Kim, Woo Chul; Ruppert, David; Jones, Michael C.; Signorini, D. F.) Simple transformation techniques for improved non-parametric regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 145–163. (Li-Xing Zhu) **98k:62066** 62G05 (62G20)

— (*with* Smith, Michael Stanley; Wong, Chi-Ming) Additive nonparametric regression with autocorrelated errors. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 311–331. 62M10 (62F15, 62G05)

Kohn, Robert V. (*with* Bhattacharya, Kaushik) Elastic energy minimization and the recoverable strains of polycrystalline shape-memory materials. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 2, 99–180. (Pablo Pedregal) **98j:73025** 73C50 (49J99, 49S05, 73B27, 73V25)

— *see also* **Topics in the mathematical modelling of composite materials**, **98i:73001**

Köhne, Karl (*with* Hung, H. M. James; O'Neill, Robert T.; Bauer, Peter H.) The behavior of the P-value when the alternative hypothesis is true. (English and French summaries) *Biometrics* **53** (1997), *no.* 1, 11–22. (Summary) **98a:62024** 62F03

Köhne, Stephan (*with* Gather, Ursula; Pigeot, Iris) Asymptotically efficient noniterative estimators of a common parameter from independent samples. (English summary) *Statistics* **28** (1996), *no.* 3, 187–200. (Somnath Datta) **98a:62031** 62F12

Kohnen, Winfried On the uniform convergence of Poincaré series of exponential type on Jacobi groups. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 131–134. (A. Krieg (Zbl 867.11036)) **98k:11058** 11F55

— Siegel modular forms: estimates for eigenvalues and Fourier coefficients. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 152–161. (B. Ramakrishnan) **98d:11049** 11F46 (11F30)

— (*with* Choie, YoungJu) Rankin's method and Jacobi forms. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 307–314. (Jae-Hyun Yang) **98i:11031** 11F55 (11F60)

— A simple congruence modulo p. *Amer. Math. Monthly* **104** (1997), *no.* 5, 444–445. (Richard P. Lewis) **98e:11004** 11A07

— On conjecture of Resnikoff and Saldaña. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 235–237. (B. Ramakrishnan) **98h:11054** 11F30 (11F46)

— Nonvanishing of Hecke L-functions associated to cusp forms inside the critical strip. *J. Number Theory* **67** (1997), *no.* 2, 182–189. (B. Ramakrishnan) **98j:11037** 11F66 (11F11)

— On the average growth of Fourier coefficients of Siegel cusp forms of genus 2. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 119–121. (Brooks K. Roberts) **98c:11039** 11F30 (11F46)

Kohnert, Axel (*with* Betten, Anton; Kerber, Adalbert; Laue, Reinhard; Wassermann, Alfred) The discovery of simple 7-designs with automorphism group $P\Gamma L(2, 32)$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 131–145, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Dobromir Todorov) **98f:05021** 05B05 (20B25)

— (*with* Kerber, Adalbert) SYMMETRICA, an object oriented computer algebra system for representations, combinatorics and applications of symmetric groups. (English summary) *Symmetry and structural properties of condensed matter* (*Zajęczkowo*, 1994), 494–503, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:20001** 20–04 (20C40)

Kohno, Mitsuhiko (*with* Hsieh, Po-Fang; Sibuya, Yasutaka) Construction of a fundamental matrix solution at a singular point of the first kind by means of the SN decomposition of matrices. (English summary) *Linear Algebra Appl.* **239** (1996), 29–76. (Summary) **98c:65037** 65F05 (15A23, 34–04, 34A30, 65–04)

hirata-Kohno, Noriko *see* **Hirata-Kohno, Noriko**

Kohno, Toshiyuki (*with* Kotakemori, Hisashi; Niki, Hiroshi; Usui, Masataka) Improving the modified Gauss-Seidel method for Z-matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 113–123. (Summary) **98i:65022** 65F10 (65F35)

— (*with* Niki, Hiroshi) Preconditioned iterative methods. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 31–40. (*see* **98j:65001**) 65F10 (65F35)

Kohonen, Teuvo ★ Self-organizing maps. (English summary) Second edition. Springer Series in Information Sciences, 30. *Springer-Verlag, Berlin*, 1997. xviii+426 *pp. ISBN* 3-540-62017-6 (From the preface) **98c:68183** 68T05 (58F08, 62H30, 68U10, 92B20)

Kohout, Ladislav J. (*with* Bandler, Wyllis) On the universality of the triangle superproduct and the square product of relations. (English summary) *Internat. J. Gen. Systems* **25** (1997), *no.* 4, 399–403. (From the summary) **98c:04001** 04A05 (03E72, 06A06)

Kohr, Gabriela (*with* Liczberski, Piotr) A starlikeness criterion for holomorphic mappings in the polydisc. *Mathematica* **37(60)** (1995), *no.* 1-2, 119–121. (T. J. Suffridge) **98m:32037** 32H02 (30C45, 32A30)

— (*with* Kohr-Ile, Mirela) Some sufficient conditions of univalency for complex functions in the class C^1. *Mathematica* **37(60)** (1995), *no.* 1-2, 123–129. 30C55

— (*with* Kohr-Ile, Mirela) Partial differential subordinations for holomorphic mappings of several complex variables. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 4, 45–62. (T. J. Suffridge) **98a:32030** 32H02 (30C80, 32A30)

— (*with* Kohr-Ile, Mirela) Subordination theory for holomorphic mappings of several complex variables. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 129–134, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (T. J. Suffridge) **98b:32018** 32H02 (32A30)

— On some partial differential inequalities for holomorphic mappings in $\mathbf{C}^n$. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 2, 131–140. (Sheng Gong) **98a:32031** 32H02

— Certain sufficient conditions of almost starlikeness of order 1/2 on the unit ball in $\mathbf{C}^n$. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 13–25. (T. J. Suffridge) **98k:32032** 32H02 (30C45, 32A30)

— On certain conditions of starlikeness of order α in $\mathbf{C}^n$. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 61–72. (T. J. Suffridge) **98j:32021** 32H02 (30C45, 32A30)

— (*with* Kohr-Ile, Mirela) Certain partial differential subordinations on some Reinhardt domains in $\mathbf{C}^n$. *Ann. Polon. Math.* **65** (1997), *no.* 2, 179–191. (T. J. Suffridge) **98a:32032** 32H02 (32A07, 32A30)

— On some conditions of spirallikeness in $\mathbf{C}^n$. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 1, 79–88. (T. J. Suffridge) **98e:32048** 32H99 (30C45, 32A30, 32H10)

— (*with* Liczberski, Piotr) On some criteria of injectivity for complex mappings in the class C^1. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 217–223. (T. J. Suffridge) **98f:30012** 30C45 (32A30, 32H02)

— (*with* Liczberski, Piotr) On some partial differential inequalities for mappings of $\mathscr{C}^1$ class in $\mathbf{C}^n$. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 265–271. (Harold P. Boas) **98i:32046** 32H99 (30C45, 32A30)

Kohr-Ile, Mirela (*with* Kohr, Gabriela) Some sufficient conditions of univalency for complex functions in the class C^1. *Mathematica* **37(60)** (1995), *no.* 1-2, 123–129. 30C55

— (*with* Kohr, Gabriela) Partial differential subordinations for holomorphic mappings of several complex variables. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 4, 45–62. (T. J. Suffridge) **98a:32030** 32H02 (30C80, 32A30)

— (*with* Kohr, Gabriela) Subordination theory for holomorphic mappings of several complex variables. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 129–134, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (T. J. Suffridge) **98b:32018** 32H02 (32A30)

— An integral formulation for two-dimensional Stokes flows past obstacles in a half-plane. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 27–34. (Summary) **98h:76028** 76D07 (35Q30, 45B05)

— (*with* Kohr, Gabriela) Certain partial differential subordinations on some Reinhardt domains in $\mathbf{C}^n$. *Ann. Polon. Math.* **65** (1997), *no.* 2, 179–191. (T. J. Suffridge) **98a:32032** 32H02 (32A07, 32A30)

— Boundary element method to the study of a Stokes flow past an obstacle in a channel. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 1, 129–142. (Summary) **98b:76045** 76M15 (76D07)

— A boundary integral equations method for asymmetric Stokes flow between two parallel planes. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 6, 1167–1185. (Leonid K. Antanovskiĭ) **98m:76053** 76D07

Kohut, Roman (*with* Axelsson, Owe; Blaheta, Radim) Inexact Newton solvers in plasticity: theory and experiments. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 3, 133–152. (Robin Olivian Simionescu-Panait) **98e:73130** 73V05 (73E05)

Koide, Chie (*with* Seno, Hiromi) Mathematical modelling consideration on AV-node action potential spectrum. (English summary) *Forma* **9** (1994), *no.* 1, 51–66. (Summary) **98j:92007** 92C30

Koide, Tetsushi (*with* Takegawa, Shigeki; Wakabayashi, Shin'ichi) A coterie-based fault-tolerant algorithm for mutual exclusion in a synchronous distributed system. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 101–105. (*see* **98a:68008**) 68Q10

Koikawa, Takao (*with* Maki, Takuya; Nakamula, Atsushi) Magnetic solutions to (2 + 1)-dimensional gravity with dilaton field. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 45–51. (Summary) **98g:83018** 83C22

Koike, Kazuhiko Principal specializations of the classical groups and q-analogs of the dimension formulas. *Adv. Math.* **125** (1997), *no.* 2, 236–274. (H. H. Andersen) **98f:20027** 20G05 (17B37, 33D80)

— Representations of spinor groups and the difference characters of $SO(2n)$. *Adv. Math.* **128** (1997), *no.* 1, 40–81. (William M. McGovern) **98m:20052** 20G05 (05E15, 22E47)

— On representation of the classical groups [MR 97m:20053]. *Selected papers on harmonic analysis, groups, and invariants*, 79–100, *Amer. Math. Soc. Transl. Ser.* 2, 183, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:00025**) 20G05 (05E15)

Koike, Kazutoshi (*with* Kurata, Yoshiki) Dual-bimodules and finitely cogenerated modules. *Math. J. Okayama Univ.* **37** (1995), 91–98 (1996). (Edward S. Letzter) **98d:16008** 16D90

— Dual rings and cogenerator rings. *Math. J. Okayama Univ.* **37** (1995), 99–103 (1996). (Lillian Hupert) **98b:16005** 16D90

Koike, Ken-ichi On the optimum properties of sequential estimation procedures in the multinomial sampling plans. (English summary) *Sequential Anal.* **15** (1996), *no.* 4, 285–298. (Masafumi Akahira) **98b:62144** 62L12 (62F10)

— The Bhattacharyya type bound for the variance of sequential estimation procedures. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 65–75. (Rasul A. Khan) **98m:62219** 62L12

Koike, Naoya (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Lee, Sang Keun; Obradović, Milutin; Aouf, M. K.; Saitoh, Hitoshi; Ikeda, Akira) Sufficient conditions for starlikeness. (English summary) *Chinese J. Math.* **24** (1996), *no.* 3, 265–271. (K. S. Padmanabhan) **98c:30017** 30C45

— A new criterion for close-to-convexity. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 51–54. (Summary) **98g:30024** 30C45

— (*with* Nunokawa, Mamoru; Saitoh, Hitoshi; Ikeda, Akira; Ota, Yoshiaki) On certain starlike functions. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 74–77. (Summary) **98g:30029** 30C45

— (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Saitoh, Hitoshi; Ikeda, Akira) Some results for strongly starlike functions. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 98–106. (R. McLaughlin) **98g:30030** 30C45

— (*with* Nunokawa, Mamoru; Ikeda, Akira; Ota, Yoshiaki; Saitoh, Hitoshi) Differential inequalities and Carathéodory functions. *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 324–332. (Carl P. McCarty) **98f:30015** 30C45

Koike, Satoshi (*with* Bekka, Karim) The Kuo condition, Thom's type inequality and (c)-regularity. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 41–49. (Leslie Charles Wilson) **98c:58011** 58C27

— Modified Nash triviality theorem for a family of zero-sets of weighted homogeneous polynomial mappings. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 617–631. (Toshizumi Fukui) **98i:58033** 58C27 (57R45, 58A07, 58A35)

— Tzee-Char Kuo's contributions to real singularities. (English summary) *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 1–5, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Maria Aparecida Soares Ruas) **98m:58013** 58C27 (58–03)

— (*with* Bekka, Karim) The Kuo condition, an inequality of Thom's type and (C)-regularity. *Topology* **37** (1998), *no.* 1, 45–62. (Leslie Charles Wilson) **98f:58032** 58C27

— *see also* **Real analytic and algebraic singularities**, **98i:32001**

Koike, Shigeaki Semicontinuous solutions of Hamilton-Jacobi equations with degeneracy. Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 120–130. (*see* **98f:00031**) 35F20 (49L25)

Koike, Tatsuhiko (*with* Ishibashi, Akihiro; Siino, Masaru; Kojima, Sadayoshi) Compact hyperbolic universe and singularities. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7303–7310. (Piotr T. Chruściel) **98a:58125** 58F17 (58F40, 83C75, 83E15)

— (*with* Tanimoto, Masayuki; Hosoya, Akio) Hamiltonian structures for compact homogeneous universes. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6560–6577. (Viqar Husain) **98j:83009** 83C05 (83C45)

Koike, Tatsuya On perturbation series of eigenvalues of anharmonic oscillators. Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 60–75. (Éric Delabaere) **98m:34116** 34E20 (30E15, 34L40, 81Q15)

— Asymptotic behavior of perturbation series of eigenvalues for anharmonic oscillators. (Japanese) Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 36–46. (*see* **98h:00024**) 34L40 (34E20, 81Q05)

Koiller, J. (*with* Ehlers, K.; Montgomery, Richard) Problems and progress in microswimming. (English summary) *J. Nonlinear Sci.* **6** (1996), *no.* 6, 507–541. (H. W. Vayo) **98b:76083** 76Z10 (53C80, 76D07, 93C10, 93C95)

Koiran, Pascal Hilbert's Nullstellensatz is in the polynomial hierarchy. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 273–286. (Joos Heintz) **98e:68109** 68Q25 (13P10, 68Q15)

— (*with* Sontag, Eduardo D.) Vapnik-Chervonenkis dimension of recurrent neural networks. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 223–237, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68194** 68T05

— (*with* Cucker, Felipe; Matamala, Martín) Complexity and dimension. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 4, 209–212. (Klaus Meer) **98c:68069** 68Q15 (03D15, 68Q05)

— Elimination of constants from machines over algebraically closed fields. (English summary) *J. Complexity* **13** (1997), *no.* 1, 65–82. (Klaus Meer) **98d:68079** 68Q15 (03C10, 03C60, 68Q05, 68Q40)

— A weak version of the Blum, Shub, and Smale model. (English summary) 1st Annual Dagstuhl Seminar on Neural Computing (1994). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 2, 177–189. (Robert E. Byerly) **98m:68059** 68Q05 (03D10, 03D15, 68Q10, 68T05)

— (*with* Sontag, Eduardo D.) Neural networks with quadratic VC dimension. (English summary) 1st Annual Dagstuhl Seminar on Neural Computing (1994). *J. Comput. System Sci.* **54** (1997), *no.* 1, *part* 2, 190–198. (Peter Auer) **98h:68195** 68T05

— (*with* Gurvits, Leonid) Approximation and learning of convex superpositions. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 161–170. (Peter Auer) **98m:68228** 68T05 (41A30, 68Q99)

— Erratum: "Elimination of constants from machines over algebraically closed fields" [J. Complexity **13** (1997), no. 1, 65–82; MR 98d:68079]. *J. Complexity* **14** (1998), *no.* 1, 150. 68Q15 (03C10, 68Q05, 68Q40)

Koishi, Tomoya Distance-regular graphs with $b_i = c_{d-i}$ and two P-polynomial structures. (English summary) *European J. Combin.* **18** (1997), *no.* 7, 779–784. (Dmitri

Fon-Der-Flaass) **98m:05203** 05E30 (05C12)

Koiso, Norihito On the motion of a curve towards elastica. (English and French summaries) *Actes de la Table Ronde de Géométrie Différentielle (Luminy, 1992)*, 403–436, *Sémin. Congr., 1, Soc. Math. France, Paris*, 1996. (Anders Linnér) **98a:58037** 58E10

— Vortex filament equation and semilinear Schrödinger equation. (English summary) *Nonlinear waves (Sapporo, 1995)*, 231–236, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q55 (35Q99, 76C05)

— The vortex filament equation and a semilinear Schrödinger equation in a Hermitian symmetric space. *Osaka J. Math.* **34** (1997), *no.* 1, 199–214. (From the introduction) **98i:58231** 58G17 (35Q55, 58G40, 76C05)

Koistinen, Petri ★ Convergence of minimization estimators trained under additive noise. Dissertation, University of Helsinki, Helsinki, 1996. Rolf Nevanlinna Institute Research Reports A, 12. *University of Helsinki, Rolf Nevanlinna Institute, Helsinki*, 1995. iv+111 *pp. ISBN* 952-9528-31-0 (Yu. I. Petunin) **98m:62064** 62F12

Koitabashi, Toshiyuki (*with* Kimura, Hironobu) Normalizer of maximal abelian subgroups of $\mathrm{GL}(n)$ and general hypergeometric functions. (English summary) *Kumamoto J. Math.* **9** (1996), 13–43. (Summary) **98b:33031** 33C70 (20G20, 33C80)

Koizumi, Shoji Remarks on K. Takase's paper: "A generalization of Rosenhain's normal form for hyperelliptic curves with an application" [Proc. Japan Acad. Ser. A Math. Sci. **72** (1996), no. 7, 162–165; MR 98a:14043]. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 1, 12–13. (Bruno Fabre) **98g:14030** 14H45 (14K20)

Kojima, Hideo (*with* Miyanishi, M.) On Robert's counterexample to the fourteenth problem of Hilbert. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 277–292. (Andrzej Tyc) **98j:13008** 13A50 (13B10)

Kojima, Hisashi On explicit construction of Hilbert-Siegel modular forms of degree two. *Acta Arith.* **81** (1997), *no.* 3, 265–274. (K.-B. Gundlach) **98f:11037** 11F41 (11F30, 11F37)

— Fourier coefficients of modular forms of half integral weight, periods of modular forms and the special values of zeta functions. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 361–371. (Jiandong Guo) **98e:11057** 11F30 (11F37, 11F67)

— The formula for the dimension of the spaces of vector-valued holomorphic automorphic forms on the unitary group $\mathrm{SU}(1, p)$. *Kyushu J. Math.* **51** (1997), *no.* 1, 57–76. (Alexey A. Panchishkin) **98c:11043** 11F55 (22E30)

Kojima, Masakazu (*with* Shida, Masayuki; Shindoh, Susumu) Reduction of monotone linear complementarity problems over cones to linear programs over cones. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 147–157. (Joaquim J. Júdice) **98m:90159** 90C33

— (*with* Fujie, Tetsuya) Semidefinite programming relaxation for nonconvex quadratic programs. (English summary) *J. Global Optim.* **10** (1997), *no.* 4, 367–380. (Sven-Åke Gustafson) **98i:90061** 90C20

— (*with* Shida, Masayuki; Shindoh, Susumu) Centers of monotone generalized complementarity problems. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 969–976. (Florian Jarre) **98m:90165** 90C33

— (*with* Fujisawa, Katsuki; Nakata, Kazuhide) Exploiting sparsity in primal–dual interior-point methods for semidefinite programming. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 235–253. (Yin Zhang) **98h:90052** 90C25 (65K05)

— Application of a semidefinite program to combinatorial optimization. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 101–110. (*see* **98j:65001**) 90C27 (65K05)

— (*with* Shida, Masayuki; Shindoh, Susumu) Local convergence of predictor-corrector infeasible-interior-point algorithms for SDPs and SDLCPs. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 129–160. (Jos F. Sturm) **98m:90160** 90C33

Kojima, Michitaka On convergence of multiple Fourier series for piecewise smooth radial functions in $[-\pi, \pi]^n$ $(n \geq 3)$. (English summary) *Interdiscip. Inform. Sci.* **2** (1996), *no.* 1, 103–110. (L. Gogoladze) **98g:42020** 42B05

Kojima, Sadayoshi (*with* Ishibashi, Akihiro; Koike, Tatsuhiko; Siino, Masaru) Compact hyperbolic universe and singularities. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7303–7310. (Piotr T. Chruściel) **98a:58125** 58F17 (58F40, 83C75, 83E15)

— Knots, 3-manifolds and hyperbolic geometry. (Japanese) *Sūgaku* **49** (1997), *no.* 1, 25–37. 57M25 (57N10)

Kojima, T. A chaotic movement of interest rates. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 393–398, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A09 (58F13)

Kojima, Takeo (*with* Korepin, Vladimir E.) The Maxwell-Bloch equation and correlation functions for the penetrable Bose gas. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5105–5121. (Nicolae Angelescu) **98k:82016** 82B10 (82B23)

Kojman, Menachem (*with* Shelah, Saharon) A ZFC Dowker space in $\aleph_{\omega+1}$: an application of PCF theory to topology. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2459–2465. (Judith Roitman) **98m:54011** 54A25 (03E75, 54A35)

Kojo, Tomomi (*with* Tsutsumi, Masayoshi) Cauchy problem for some degenerate abstract differential equations of Sobolev type. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 215–226. (Vladimir E. Fedorov) **98k:34102** 34G20 (35K99, 47N20)

— On solutions of degenerate equations of Sobolev type. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4467–4473. (*see* **98i:00032**) 34G20 (35K65, 47H20, 47N20)

Kok, J. *see* **Kok, Jan**

Kok, J. J. *see* **Kok, Jan Jakob**

Kok, Jan (*with* van der Houwen, Pieter J.; Sommeijer, B. P.) The iterative solution of fully implicit discretizations of three-dimensional transport models. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 243–256. (Summary) **98g:65077** 65M06 (65F10, 65L06)

Kok, Jan Jakob (*with* Heertjes, M. F.; van de Molengraft, M. J. G.; van Campen, D. H.) Vibration reduction of a harmonically excited beam with one-sided spring using sliding computed torque control. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 361–375. 93D15 (93C20)

Kok, Joost N. (*with* Bonsangue, Marcello M.) Infinitary domain logic for finitary transition systems. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 213–232, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 03B70 (68Q60)

— (*with* Goeman, H. J. M.; Sere, K.; Udink, R. T.) Coordination in the ImpUNITY framework. (English summary) *Sci. Comput. Programming* **31** (1998), *no.* 2-3, 313–334. 68Q60 (68N15)

Kokado, Akira (*with* Konisi, Gaku; Saito, Takesi; Uehara, Kunihiko) Brans-Dicke theory on $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 6, 1291–1299. (Kamran Kaviani) **98e:83101** 83D05 (58B30, 83E15)

Kokame, H. (*with* Nishimura, Tsuyoshi[2]; Mori, Takehiro; Kuroe, Yasuaki) A strategy for checking absolute stability of interval Lur'e systems. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **46** (1997), 25–35. 93D05 (93B40)

— (*with* Kobayashi, Hideki; Mori, Takehiro) Robust H_∞ performance for linear delay-differential systems with time-varying uncertainties. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 223–226. (Summary) **98i:93025** 93B36 (93C30)

Kokarev, S. S. Ghost scalar fields in 5-dimensional Kaluza-Klein theory. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **39** (1996), *no.* 2, 50–56; *translation in Russian Phys. J.* **39** (1996), *no.* 2, 146–152. (Summary) **98c:83091** 83E15

— (*with* Vladimirov, Yu. S.) 4D homogeneous isotropic cosmological models generated by the 5D vacuum. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 2, 141–151. (Alberto Saa Vazquez) **98b:83020** 83C15 (83E15)

Kokarev, V. N. On complete convex solutions of the equation $\mathrm{tr}_m(z_{ij}) = 1$. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 102–117. (V. Oproiu) **98j:53022** 53B21 (35J99)

Kokilashvili, L. On non-oscillatory differential equations. *Proc. A. Razmadze Math. Inst.* **112** (1997), 146–147. 34C10

Kokilashvili, V. M. (*with* Gogatishvili, A. S.) Criteria of strong type two-weighted inequalities for fractional maximal functions. (English summary) *Georgian Math. J.* **3** (1996), *no.* 5, 423–446. (Francisco Javier Martín-Reyes) **98m:42020** 42B25 (42B20)

— (*with* Meskhi, A. N.) Two-weight estimates for singular integrals on homogeneous groups. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 3, 301–303. 42B20

— (*with* Paatashvili, V.) On the Riemann-Hilbert problem in the domain with a nonsmooth boundary. (English summary) *Georgian Math. J.* **4** (1997), *no.* 3, 279–302. (Yuri I. Cherskiĭ) **98c:35125** 35Q15 (30E25, 45Exx)

— (*with* Meskhi, A. N.) Two-weight inequalities for the Hardy operator on the Lorentz spaces defined on homogeneous groups. *Proc. A. Razmadze Math. Inst.* **112** (1997), 138–140. 43A80 (46E30, 47B38, 47G10)

— On two-weight inequalities for conjugate functions. *Proc. A. Razmadze Math. Inst.* **112** (1997), 141–142. 42B20 (42B25)

— (*with* Meskhi, A. N.) Two-weight inequalities for singular integrals on the Lorentz spaces defined on homogeneous groups. *Proc. A. Razmadze Math. Inst.* **112** (1997), 143–145. 42B20 (43A80, 46E30)

Kokkinis, B. (*with* Chryssoverghi, I.; Bacopoulos, A.; Coletsos, J.) Mixed Frank-Wolfe penalty method with applications to nonconvex optimal control problems. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 311–334. (Summary) **98f:49036** 49M30 (90C48)

Kokkinos, Konstantinos (*with* Kountanis, Dionysios I.) Approximations to rectilinear Steiner trees on a Z-cube. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 205–218. (Summary) **98j:05051** 05C05

Kokkolaras, Michael (*with* Meade, Andrew J., Jr.; Zeldin, Boris A.) Sequential function approximation for the solution of differential equations. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 12, 977–986. 65L60

Kokkotas, Kostas D. Stellar pulsations and gravitational waves. *Mathematics of gravitation, Part II (Warsaw, 1996)*, 31–41, *Banach Center Publ.*, 41, *Part II, Polish Acad. Sci., Warsaw*, 1997. (Introduction) **98f:83033** 83C35 (85A15)

Kokologiannaki, C. G. (*with* Siafarikas, P. D.) Convexity of the largest zero of the ultraspherical polynomials. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 275–278. (Dharma P. Gupta) **98k:33014** 33C45

— (*with* Ifantis, Evangelos K.; Siafarikas, P. D.) Newton sum rules and monotonicity properties of the zeros of scaled co-recursive associated polynomials. (English summary) *Methods Appl. Anal.* **3** (1996), *no.* 4, 486–497. (E. R. Love) **98m:33021** 33C45

Kokonendji, Célestin C. (*with* Seshadri, Vanamamalai) On the determinant of the second derivative of a Laplace transform. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1813–1827. (Barry C. Arnold) **98b:60025** 60E05 (62E10)

Kokoszka, Piotr S. (*with* Taqqu, Murad S.) Parameter estimation for infinite variance fractional ARIMA. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1880–1913. (Somnath Datta) **98f:62257** 62M10 (60E07, 62F12)

— (*with* Mikosch, Thomas) The integrated periodogram for long-memory processes with finite or infinite variance. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 1, 55–78. (Jiří Anděl) **98b:62171** 62M15 (60F17)

Kokotović, Petar V. (*with* Tao, Gang) Discrete-time adaptive control of systems with unknown deadzones. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 1–17. 93C40 (93C55)

— (*with* Yeh, Po-Chiang) Adaptive control of a class of nonlinear discrete-time systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 303–324. (Summary) **98m:93066** 93C40 (93B52, 93C10, 93C55)

— (*with* Freeman, Randy A.) ★ Robust nonlinear control design. (English summary) State-space and Lyapunov techniques. Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1996. xii+257 *pp. ISBN* 0-8176-3930-6 (B. I. Anan'ev) **98b:93001** 93–02 (93B36, 93B51)

— (*with* Tao, Gang) ★ Adaptive control of systems with actuator and sensor nonlinearities. (English summary) Adaptive and Learning Systems for Signal Processing, Communications, and Control. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1996. xvi+294 *pp. ISBN* 0-471-15654-X (Sauro Longhi) **98m:93004** 93–02 (93C10, 93C40)

— (*with* Sepulchre, Rodolphe; Janković, M.) ★ Constructive nonlinear control. (English summary) Communications and Control Engineering Series. *Springer-Verlag, Berlin*, 1997. xii+313 *pp. ISBN* 3-540-76127-6 (John Tsinias) **98k:93002** 93–02 (93B51, 93C10, 93C40, 93D15)

Kokott, Wolfgang Syzygies as pivots: an unusual mid-fifteenth-century working ephemeris. *J. Hist. Astronom.* **29** (1998), *no.* 2, 129–135. 01A35

Koks, M. *see* **Cox, Martin**

Koksch, N. Comparison theorems for multi-point first-order problems. *Nonlinear Anal.* **29** (1997), *no.* 11, 1237–1252. (Johnny Henderson) **98j:34022** 34B10 (34C11, 34C25, 47N20)

Kokubu, Hiroshi (*with* Naudot, Vincent) The existence of infinitely many homoclinic doubling bifurcations from some codimension 3 homoclinic orbits. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 445–462. (Patrick Bonckaert) **98i:58175** 58F14 (34C37)

Kokubu, Masatoshi Weierstrass representation for minimal surfaces in hyperbolic space. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 3, 367–377. (Kichoon Yang) **98f:53008** 53A10

— On minimal surfaces in the real special linear group $SL(2,\mathbf{R})$. *Tokyo J. Math.* **20** (1997), *no.* 2, 287–297. (João Lucas Marques Barbosa) **98i:53015** 53A10 (49Q05, 53C42)

Kokurin, M. Yu. On the discrete regularization of nonlinear equations and optimal control problems by singular systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 12, 42–53; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 39–50 (1997). (From the text) **98i:49035** 49M99 (47H17, 49J27)

— On the regularization of singular optimal control problems for linear equations with selfadjoint operators. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 249–256, 287; *translation in Differential Equations* **33** (1997), *no.* 2, 249–256. (From the text) **98m:49010** 49J27 (47H19, 47N10, 49J15, 49J45, 49M99)

— On the justification of the Galerkin method for noncoercive elliptic equations with a monotone nonlinearity. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 425–427, 432; *translation in Differential Equations* **33** (1997), *no.* 3, 428–431. (Summary) **98m:65192** 65N30

— On the regularization of problems of the optimal control of solutions of some ill-posed variational inequalities of monotone type. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 100–108, ii–iii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 84–91. (O. V. Vasil′ev) **98e:49077** 49M30 (49J40, 49K25, 65J20)

Kol, Barak (*with* Halyo, Edi; Rajaraman, Arvind; Susskind, Leonard) Counting Schwarzschild and charged black holes. (English summary) *Phys. Lett. B* **401** (1997), *no.* 1-2, 15–20. (Summary) **98b:83056** 83C57 (81T20, 81T30, 83E30)

— (*with* Rajaraman, Arvind) Fixed scalars and suppression of Hawking evaporation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 983–986. (Summary) **98c:83064** 83C57 (83E30)

Kolaitis, Phokion G. (*with* Dawar, Anuj; Hella, Lauri) Implicit definability and infinitary logic in finite model theory (extended abstract). (English summary) *Automata, languages and programming (Szeged, 1995)*, 624–635, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 03C13 (03C75, 68Q15)

— (*with* Vardi, Moshe Y.) On the expressive power of variable-confined logics. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 348–359, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 03C13 (03C75, 03D15)

— (*with* Hella, Lauri; Luosto, Kerkko) Almost everywhere equivalence of logics in finite model theory. (English summary) *Bull. Symbolic Logic* **2** (1996), *no.* 4, 422—443. (M. Yasuhara) **98c:03079** 03C13 (03C75, 03C80)

— (*with* Hella, Lauri; Luosto, Kerkko) How to define a linear order on finite models. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 241–267. (Ricardo Bianconi) **98m:03065** 03C13 (03C50, 03C80, 03D15, 68Q15)

— (*with* Grädel, Erich; Vardi, Moshe Y.) On the decision problem for two-variable first-order logic. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 1, 53–69. (M. Tetruashvili) **98d:03018** 03B25 (03D15, 68Q15, 68Q25)

— (*with* Chaudhuri, Surajit) Can Datalog be approximated? (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 355–369. (Summary) **98i:68064** 68P15

Kolan, Amy J. (*with* Chhabra, Ashvin B.; Feigenbaum, Mitchell J.; Kadanoff, Leo P.; Procaccia, Itamar) Sandpiles, avalanches, and the statistical mechanics of nonequilibrium stationary states. (English summary) *Phys. Rev. E* (3) **47** (1993), *no.* 5, 3099–3121. (Manfred Requardt) **98e:82039** 82C27 (93E30)

Kolany, Adam Representation theorems for hypergraph satisfiability. (English summary) *Bull. Sect. Logic Univ. Łódź* **26** (1997), *no.* 1, 12–19. (Anita Walker) **98d:03012** 03B05 (05C65)

Kolář, Ivan (*with* Cabras, Antonella) On the iterated absolute differentiation on some functional bundles. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 1-2, 23–35. (Fernando Etayo Gordejuela) **98m:58002** 58A20 (53C05)

Kolář, P. (*with* Bednář, M.) On the relativistic spin projection operators. (English summary) *Czechoslovak J. Phys.* **43** (1993), *no.* 8, 777–782. (Summary) **98a:81065** 81R25

Kolář, V. Diagnostic equations for two-dimensional vortical flows. (English summary) *Acta Mech.* **120** (1997), *no.* 1-4, 227–231. (Oscar F. Orellana) **98a:76012** 76C05

Kolasa, Lawrence A. Oscillatory integrals and Schrödinger maximal operators. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 77–101. (Denise Huet) **98h:35043** 35J10 (47F05, 47G10, 58G18)

Kolassa, John E. ★ Series approximation methods in statistics. Second edition. Lecture Notes in Statistics, 88. *Springer-Verlag, New York*, 1997. xii+183 *pp. ISBN* 0-387-98224-8 (Editors) **98m:62038** 62E20 (41A60, 60F05, 62E17, 62F11)

sur-Kolay, Susmita *see* **Sur-Kolay, Susmita**

Kolbenstvedt, H. Electromagnetic self-mass of the classical electron. An alternative exploitation of Fermi's claim for rigid motion. (English summary) *Phys. Lett. A* **234** (1997), *no.* 5, 319–321. 78A25

Kölbig, K. S. The polygamma function $\psi^{(k)}(x)$ for $x=\frac{1}{4}$ and $x=\frac{3}{4}$. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 43–46. (Daniel A. Goldston) **98d:33001** 33B15 (11Y60)

— (*with* Krupnikov, E. D.) Some special cases of the generalized hypergeometric function ${}_{q+1}F_q$. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 79–95. (Boro Döring) **98f:33012** 33C20

— Table errata: *Integrals and series. Vol. 1* [English translation, Gordon & Breach, New York, 1986; MR 88f:00013] by A. P. Prudnikov, Yu. A. Brychkov and O. I. Marichev. *Math. Comp.* **66** (1997), *no.* 220, 1765–1766. 00A22 (33–00)

— Table errata: *Tables of integral transforms. Vol. 1* [McGraw-Hill, New York, 1954; MR **15**, 868a] by A. Erdélyi, W. Magnus, F. Oberhettinger and F. G. Tricomi. *Math. Comp.* **66** (1997), *no.* 220, 1766–1767. 44–00 (33–00)

— Table errata: *Integrals and series. Vol. 4* [Gordon and Breach, New York, 1992; MR 93c:44003] by A. P. Prudnikov, Yu. A. Brychkov and O. I. Marichev. *Math. Comp.* **66** (1997), *no.* 220, 1766. 44A10 (33–00, 44–00, 44A20, 44A35)

— Table errata: *Handbook of elliptic integrals for engineers and scientists* [Second edition, Springer, New York, 1971; MR **43** #3506] by P. F. Byrd and M. D. Friedman. *Math. Comp.* **66** (1997), *no.* 220, 1767. 44–00 (33–00)

Koldobskiĭ, A. L. Intersection bodies and the Busemann-Petty problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1181–1186. (Summary) **98k:52007** 52A20 (52B12)

Koldunov, A. V. The extensions of operators with the Hammerstein property. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 4, 499–508. (Gerard Buskes) **98e:47057** 47B65 (47H30)

Kolegova, N. V. (*with* Abusev, R. A.) Statistical Bayesian classifiers of normal populations and their comparative analysis. (English summary) Proceedings of the XVII Seminar on Stability Problems for Stochastic Models, Part III (Kazan′, 1995). *J. Math. Sci. (New York)* **84** (1997), *no.* 3, 1117–1124. (*see* **98b:60002**) 62H30

Kolesár, Karol (*with* Cechlárová, Katarína) Strong regularity of matrices in a discrete bounded bottleneck algebra. (English summary) *Linear Algebra Appl.* **256** (1997), 141–152. (Peter Butkovič) **98c:15035** 15A21 (15–04)

Kolesárová, Anna On the integral representation of possibility measures of fuzzy events. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 759–766. 28E10 (04A72)

— (*with* Duchoň, Miloslav) Fourier transforms of complex measures on some compact semigroups. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 253–260. (Summary) **98k:28033** 28E10

— Triangular norm-based addition preserving linearity of T-sums of linear fuzzy intervals. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 91–98. 04A72

Kolesnik, A. (*with* Orsingher, Enzo) The exact distribution in a model of random motion in a plane, controlled by a fourth-order hyperbolic equation. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 451–459; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 379–386 (1997). (Kazimierz Sobczyk) **98f:60214** 60K99 (35L99, 60G55, 60H15, 73B35)

Kolesnikov, E. V. In the shadow of a positive operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 592–598, iii; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 513–518. (Yu. A. Abramovich) **98i:47034** 47B65

Kolesnikov, P. M. (*with* Eremeev, V. N.; Dolinkina, O. P.; Kolesnikov, P. P.) Generalized hyperbolic equations for the transport of contaminants in the ocean and their boundary conditions. Direct and inverse problems. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 11, 123–128 (1997). (Summary) **98b:86004** 86A05 (35L99, 35Q99, 45K05)

Kolesnikov, P. P. (*with* Eremeev, V. N.; Kolesnikov, P. M.; Dolinkina, O. P.) Generalized hyperbolic equations for the transport of contaminants in the ocean and their boundary conditions. Direct and inverse problems. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 11, 123–128 (1997). (Summary) **98b:86004** 86A05 (35L99, 35Q99, 45K05)

Kolesov, A. Yu. (*with* Rozov, Nikolaĭ Khristovich) On C^1-approximation of solutions of systems of differential equations with piecewise-continuous right-hand sides. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 162–164. (G. A. Kurina) **98c:34015** 34A45 (34C11, 34E15)

— (*with* Kambulov, V. F.; Rozov, Nikolaĭ Khristovich) Theoretical and experimental analysis of the buffer phenomenon in a long line with a tunnel diode. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 638–645, 718; *translation in Differential Equations* **33** (1997), *no.* 5, 641–648 (1998). (Summary) **98k:34048** 34C05 (34D99, 78A55)

— (*with* Kambulov, V. F.) The phenomenon of buffering in a long line with a tunnel diode. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 744–746. (From the text) **98k:78047** 78A55 (34C99)

— (*with* Rudyĭ, A. S.) Auto-oscillation in one-dimensional two-phase system with thermal feedback. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 503–520. 35Q99 (80A20, 93B52)

Kolesov, Yu. S. Relaxation properties of the mathematical model of the predator-prey problem. Dynamical systems, 2. *J. Math. Sci.* **80** (1996), *no.* 1, 1546–1558. (Hassan El-Owaidy) **98c:92015** 92D40 (34C05, 92D25)

— The problem of damping auto-oscillations. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 23–25. (O. B. Lykova) **98c:34060** 34C15 (34C30, 34C45, 34D05, 34H05)

— (*with* Rudyĭ, A. S.) Dynamics of the problem of the continuous control of rod temperature in a singularly perturbed formulation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 33–34. 93C20 (34E15, 34H05)

Kolev, Lubomir V. Use of interval slopes for the irrational part of factorable functions. (English summary) *Reliab. Comput.* **3** (1997), *no.* 1, 83–93. (Summary) **98m:65079** 65G10

Kolev, Nikolai (*with* Ugarte, M. Dolores) Score tests for detecting overdispersion in a natural exponential family. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 2, 13–16. (Introduction) **98a:62026** 62F03

— (*with* Minkova, Leda D.) Discrete distributions related to success runs of length k in a multi-state Markov chain. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 1031–1049. (A. N. Philippou) **98f:60011** 60C05 (60J10, 62E15)

Koleva, M. G. (*with* Bazhlekov, Ivan B.; Vasileva, D. P.) Numerical algorithm for simulation of coupled heat-mass transfer and chemical reaction in two-phase steady flow. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 38–45, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M06 (76M20, 76T05, 80–08)

Kolēza, E. (*with* Bitsas, Th.; Skordoulēs, K.) Historical development of the concept of dimension: from Euclid's *Elements* to fractal geometry. (Greek. English and Greek summaries) *Mathematics—education and applications (Nicosia, 1997)*, 237–246, *Cyprus Pedagog. Inst., Nicosia*, 1997. (Summary) **98c:01010** 01A45 (54F45)

Kolganova, Alla (*with* Cairns, Grant) Chaotic actions of free groups. (English summary) *Nonlinearity* **9** (1996), *no.* 4, 1015–1021. (Summary) **98c:58105** 58F13 (28D15)

— Chaotic group actions. *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 165–167. (Frederick R. Marotto) **98e:58119** 58F13

Kolibal, Joseph (*with* Saltiel, Craig) Parallel radiative transport using a unified matrix approach. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 499–509. 65M06 (65Y05, 85A25)

Kolibiar, Milan *see* **Katriňák, Tibor, 98f:01069**

Koliha, J. J. A generalized Drazin inverse. *Glasgow Math. J.* **38** (1996), *no.* 3, 367–381. (Vladimir Rakočević) **98b:46065** 46H05 (15A09, 16U60, 34G10, 47A05, 47N20)

— (*with* Poon, Pak Wai) On West and Stampfli decomposition of operators. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 1-2, 181–194. (P. Aiena) **98f:47002** 47A05 (47B06)

— (*with* Straškraba, Ivan) Stabilization of solutions to a differential-delay equation in a Banach space. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 271–281. (Mary E. Parrott) **98j:34158** 34K30 (34K20, 35K99, 47H15)

— (*with* Straškraba, Ivan) Stability in nonlinear evolution problems by means of fixed point theorems. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 37–59. (P. W. Bates) **98e:34111** 34G20 (34D15, 35K99, 47H20, 47N20)

— (*with* Dragomir, Sever Silvestru) The mapping $\gamma_{x,y}$ in normed linear spaces and applications. *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 549–563. (Ioan Şerb) **98c:46020** 46B20 (46C50)

— (*with* Dragomir, Sever Silvestru) Mappings Φ^p in normed linear spaces and new characterizations of Birkhoff orthogonality, smoothness and best approximants. (English summary) *Soochow J. Math.* **23** (1997), *no.* 2, 227–239. (Ioan Şerb) **98c:46019** 46B20 (41A65, 46C50)

— Spectral sets. (English summary) *Studia Math.* **123** (1997), *no.* 2, 97–107. (Wacław Szymański) **98c:46093** 46H30 (47A10)

Kolkovska, Natalia Numerical methods for computation of the double layer logarithmic potential. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 243–249, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65N38

Kollár, János ★ Rational curves on algebraic varieties. Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge. A Series of Modern Surveys in Mathematics [Results in Mathematics and Related Areas. 3rd Series. A Series of Modern Surveys in Mathematics]. 32. *Springer-Verlag, Berlin*, 1996. viii+320 *pp. ISBN* 3-540-60168-6 (Yuri G. Prokhorov) **98c:14001** 14–02 (14C05, 14E05, 14F17, 14J45)

— Polynomials with integral coefficients, equivalent to a given polynomial. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 17–27 (*electronic*). (Alessio Corti) **98g:11076** 11G35 (11C08, 11E76, 14G25)

— *see also* **Algebraic geometry, Santa Cruz, 1995, 98h:14002** *and* **98h:14003**

Kolláth, Z. (*with* Gouesbet, G.; Le Sceller, L.; Letellier, C.; Brown, Reggie; Buchler, J. Robert) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis (Gainesville, FL, 1995)*, 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

Koller, Daphne (*with* Halpern, Joseph Y.) Representation dependence in probabilistic inference. (English summary) *IJCAI-95, Vol. 1, 2 (Montreal, PQ, 1995)*, 1853–1860, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T30 (03B70)

— (*with* Bacchus, Fahiem; Grove, Adam J.; Halpern, Joseph Y.) From statistical knowledge bases to degrees of belief. (English summary) *Artificial Intelligence* **87** (1996), *no.* 1-2, 75–143. (Jerzy W. Grzymała-Busse) **98g:68159** 68T30

— (*with* Grove, Adam J.; Halpern, Joseph Y.) Asymptotic conditional probabilities: the non-unary case. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 1, 250–276. (Summary) **98g:03108** 03D35 (03B48, 03C13)

— (*with* Levy, Alon Y.; Pfeffer, Avi) P-CLASSIC: a tractable probabilistic description logic. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI, 1997)*, 390–397, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T27 (03B70)

— (*with* Pfeffer, Avi) Representations and solutions for game-theoretic problems. (English summary) *Artificial Intelligence* **94** (1997), *no.* 1-2, 167–215. (Summary) **98e:90248** 90D40 (68T20, 90A05)

— (*with* von Stengel, Bernhard) Team-maxmin equilibria. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 309–321. (Milan Mareš) **98m:90195** 90D10 (90A14)

Kollia, Georgia D. (*with* Mudholkar, Govind S.; Srivastava, Deo Kumar) A generalization of the Weibull distribution with application to the analysis of survival data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1575–1583. (Ramesh C. Gupta) **98g:62187** 62N05 (62E15)

Kollintzas, Tryphon (*with* Eberwein, Curtis J.) A dynamic model of bargaining in a unionized firm with irreversible investment. (English and French summaries) *Ann. Économ. Statist.* **1995,** *no.* 37-38, 91–115. 90A50 (90A16)

Kolliopoulos, Stavros G. (*with* Stein, Clifford) Finding real-valued single-source shortest paths in $o(n^3)$ expected time. (English summary) *Integer programming and combinatorial optimization (Vancouver, BC, 1996)*, 94–104, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **98a:90122** 90C35 (90B10)

Kollmann, Michael (*with* Vrahatis, M. N.; Bountis, Tassos C.) Periodic orbits and invariant surfaces of 4D nonlinear mappings. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 8, 1425–1437. (Summary) **98f:58158** 58F20

— (*with* Stöckmann, Hans-Jürgen; Stoffregen, Ulrich) A relation between billiard geometry and the temperature of its eigenvalue gas. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 129–141. (Jens Bolte) **98g:81042** 81Q50

Kollmann, W. (*with* Lienau, J. J.) Computation of topological and geometric properties of iso-surfaces. I. Theory and numerical method. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 2, 83–92. (Summary) **98h:76106** 76M25 (76D05)

— (*with* Lienau, J. J.) Computation of topological and geometric properties of iso-surfaces. II. Applications. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 3, 153–170. (Summary) **98h:76107** 76M25 (76D05)

Kollo, Tõnu (*with* Neudecker, Heinz) Asymptotics of eigenvalue-normed eigenvectors of sample variance and correlation matrices. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH, 1996)*, 111–128, *VSP, Utrecht*, 1996. (Nariaki Sugiura) **98i:62053** 62H10 (62H15, 62H25)

— (*with* von Rosen, Dietrich) Formal density expansions via multivariate mixtures. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH, 1996)*, 129–138, *VSP, Utrecht*, 1996. (Ram Shanmugam) **98h:62094** 62H10 (62E20)

Kolman, Oren *see* **Coleman, Eoin**

Kolmanovskiĭ, V. B. (*with* Shaĭkhet, L. E.) A method for constructing Lyapunov functionals for stochastic differential equations of neutral type. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 11, 1851–1857, 1941; *translation in Differential Equations* **31** (1995), *no.* 11, 1819–1825 (1996). (Krystyna Twardowska) **98a:34085** 34K20 (34K40, 34K50, 60H10)

— (*with* Matasov, A. I.) On an approach to the solution of minimax filtering problems in systems with aftereffect. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 6, 125–147; *translation in Automat. Remote Control* **57** (1996), *no.* 6, *part* 2, 871–889. (Ł. Stettner) **98b:93064** 93E11 (93E10)

— (*with* Tikhonov, A. V.) On stability in probability of the Lotka-Volterra system. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1480–1487, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1477–1484 (1997). (Summary) **98j:34161** 34K50 (34K20, 60H10)

— Stability of discrete Volterra equations. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 610–614. (V. G. Kurbatov) **98f:39010** 39A11 (39A12, 47N20)

— (*with* Polyakova, M.) Stability of neutral type nonlinear functional-differential equations (FDEs). (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 357–369 (1997). (Tibor Krisztin) **98f:34112** 34K20 (34K40)

— On the stability of systems with aftereffect of neutral type. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 2, 210–222; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 2, 205–216. (R. R. Akhmerov) **98b:34100** 34K20 (34K40)

— (*with* Matasov, A. I.) An approximate method for solving the optimal control problem for systems with aftereffect. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 465–468. (A. I. Perov) **98k:49042** 49M05 (34K35, 49K25)

— *see also* **Piunovskiĭ, A. B., 98k:49001**

Kolmanovsky, Ilya (*with* McClamroch, N. Harris) Hybrid feedback stabilization of rotational-translational actuator (RTAC) system. (English summary) A nonlinear benchmark problem. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 4-5, 367–375. (*see* **98k:93004**) 93D15 (93C85)

Kolmogorov, A. N. *see* **Frisch, Uriel, 98e:76002** *and* **Laptev, B. L. et al., 98m:01017**

Kolmogorov, V. L. (*with* Shishkin, Grigorii I.; Shishkina, L. P.) Numerical analysis in singularly perturbed boundary value problems modelling heat transfer processes. (English summary) *Numerical analysis and its applications (Rousse, 1996)*, 250–257, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M30 (80–08)

Kołodziej, Sławomir Some sufficient conditions for solvability of the Dirichlet problem for the complex Monge-Ampère operator. (English summary) *Ann. Polon. Math.* **65** (1996), *no.* 1, 11–21. (M. Klimek) **98a:32015** 32F07 (32F15, 35J65)

Kołodziejczyk, Danuta There exists a polyhedron dominating infinitely many different homotopy types. (English summary) *Fund. Math.* **151** (1996), *no.* 1, 39–46. (Ross Geoghegan) **98d:55016** 55P55 (20F05, 55P15)

Kolokol'chikov, V. V. ★ Гамильтоновы системы и релятивизмы. (Russian. Russian summary) [Hamiltonian systems and relativisms] *Moskov. Gos. Univ., Moscow*, 1996. 352 *pp.* (O. Christov) **98j:58001** 58–02 (34Cxx, 34D20, 58F05, 70H05, 70H35, 70H40, 83–02)

Kolokolov, I. V. A functional integration method for quantum spin systems and one-dimensional localization. (English summary) *Internat. J. Modern Phys. B* **10** (1996), *no.* 18-19, 2189–2215. (Aernout C. D. van Enter) **98c:82037** 82B44 (81S40, 82B31, 82C10)

— (*with* Balkovsky, E.; Falkovich, G.; Lebedev, V. V.) Viscous instanton for Burgers' turbulence. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3223–3245. (Summary) **98k:76069** 76F99 (76M35)

— (*with* Chertkov, M.; Vergassola, M.) Inverse cascade and intermittency of passive scalar in one-dimensional smooth flow. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5483–5499. (Summary) **98m:76093** 76F99 (76M35)

Kolokol'tsov, V. N. (*with* Albeverio, Sergio) The rate of escape for some Gaussian processes and the scattering theory for their small perturbations. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 139–159. (Huai Zhong Zhao) **98g:60076** 60G15

— (*with* Albeverio, Sergio; Hilbert, A.) Transience of stochastically perturbed classical Hamiltonian systems and random wave operators. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 41–55. (Summary) **98m:60086** 60H10 (34F05, 60H30, 70H05)

— The stochastic HJB equation and WKB method. (English summary) *Idempotency (Bristol, 1994)*, 285–302, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93E20 (35F20, 35R60, 60H15)

— (*with* Maslov, V. P.) New differential equation for the dynamics of the Pareto sets. (English summary) *Idempotency (Bristol, 1994)*, 322–330, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 90C29 (90D05)

Kolokotronis, P. (*with* Bonatsos, Dennis; Daskaloyannis, C.; Ludu, Andrei; Quesne, Christianne) Nonlinear deformed su(2) algebras involving two deforming functions. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1189–1196. (Summary) **98f:81120** 81R50

— (*with* Bonatsos, Dennis; Daskaloyannis, C.; Lenis, D.) Quantum algebras in nuclear structure. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 1-2, 109–192. (Summary) **98b:81092** 81R50 (81V35)

— (*with* Bonatsos, Dennis; Lenis, D.; Daskaloyannis, C.) Deformed u(2) algebra as the symmetry algebra of the planar anisotropic quantum harmonic oscillator with rational ratio of frequencies. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3335–3346. (Aleksei P. Isaev) **98e:81069** 81R50 (81S05)

Kolomiĭts', V. G. (*with* Komashins'ka, Ī. V.) On the existence of a solution of a quasilinear mixed problem for a quasiwave equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1182–1185. 35L70

Kolonko, M. (*with* Tran, M. T.) Convergence of simulated annealing with feedback temperature schedules. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 3, 279–304. (Summary) **98b:60148** 60J99 (60K99)

Kolosov, G. E. Control of the size of a population described by a stochastic logistic model. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 192–203; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 678–686. (Summary) **98i:92032** 92D25 (49N55)

Kolotilina, L. Yu. Preconditioning of systems of linear algebraic equations by means of twofold deflation. I. Theory. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **229** (1995), *Chisl. Metody i Voprosy Organ. Vychisl.* 11, 95–152, 323; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 6, 1652–1689. (J. Segethová) **98c:65075** 65F35

— Eigenvalue bounds and inequalities using vector aggregation of matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 139–167. (Ilse C. F. Ipsen) **98k:15013** 15A18 (15A42, 15A57)

Kolountzakis, Mihail N. Some applications of probability to additive number theory and harmonic analysis. (English summary) *Number theory (New York, 1991–1995)*, 229–251, *Springer, New York*, 1996. (Rita Giuliano Antonini) **98i:11061** 11K70 (05C15, 11B05, 11B13, 42A05, 42A61, 60F10)

— Lattice-tiling properties of integral self-affine functions. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 1–4. (Summary) **98h:52038** 52C22 (42B99)

— Infinite patterns that can be avoided by measure. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 4, 415–424. (M. Laczkovich) **98i:28003** 28A05

— Multi-lattice tiles. *Internat. Math. Res. Notices* **1997**, *no.* 19, 937–952. (Martin Henk) **98m:11073** 11H99 (52C07)

— Lattice tilings by cubes: whole, notched and extended. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* i4, 11 *pp.* (*electronic*). (Richard Kenyon) **98k:52054** 52C22 (11H31)

Kolovskiĭ, A. R. Quantum coherence, evolution of the Wigner function, and transition from quantum to classical dynamics for a chaotic system. (English summary) *Chaos* **6** (1996), *no.* 4, 534–542. (Jacek A. Tuszyński) **98c:81108** 81S30 (81Q20, 81Q50)

Kolowska-Gawiejnowicz, Mirosława Powerset residuated algebras and generalized Lambek calculus. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 1, 60–72. (Alejandro G. Petrovich) **98a:03101** 03G25 (08A70, 68S05)

Kolpakov, A. G. The design of reinforced plates taking into account strength. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 5, 122–128; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 5, 762–767 (1998). 73K20 (73K10)

Kolpakov, A. V. (*with* Aristova, E. N.; Gol'din, V. Ya.) A procedure for computing radiative transfer in a body of revolution. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 91–108. (Summary) **98j:85002** 85A25

Kolpin, Van Equitable nonlinear price regulation: an alternative approach to serial cost sharing. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 1, 61–83. (Summary) **98k:90016** 90A12

Kolster, M. (*with* Nguyen Quang Do, T.; Fleckinger, V.) Correction to: "Twisted S-units, p-adic class number formulas, and the Lichtenbaum conjectures" [Duke Math. J. **84** (1996), no. 3, 679–717; MR 97g:11136]. *Duke Math. J.* **90** (1997), *no.* 3, 641–643. (Cornelius Greither) **98k:11172** 11R70 (11R23, 11R34, 11R42, 19F27)

Koltchinskii, Vladimir I. (*with* Dudley, R. M.) Envelope moment conditions and Donsker classes. (English summary) *Theory Probab. Math. Statist. No.* 51 (1995), 39–48 (1996). (Summary) **98c:60037** 60F17 (60G50)

— M-estimation and spatial quantiles. (English summary) *Robust statistics, data analysis, and computer intensive methods (Schloss Thurnau, 1994)*, 235–250, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **98m:62039** 62E20

— M-estimation, convexity and quantiles. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 435–477. (Zhi-Dong Bai) **98m:62181** 62J02 (62G20, 62J05)

Kolton, G. A. (*with* Bogatko, V. I.) On the transient regime in nonstationary supersonic flow past a body. *Fluid Dynam.* **32** (1997), *no.* 1, 92–102; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 1, 111–121 (*Russian. Russian summary*). (Summary) **98b:76041** 76J20

Koltracht, I. (*with* Gonzales, R. A.; Eisert, J.; Neumann, Michael; Rawitscher, G.) Integral equation method for the continuous spectrum radial Schrödinger equation. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 134–149. (V. I. Yukalov) **98i:81040** 81Q05 (81–04)

Koluhin, D. (*with* Kurbanmuradov, O. A.; Sabelfeld, K. K.) Stochastic Lagrangian models for two-particle motion in turbulent flows. Numerical results. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 3, 199–223. (Summary) **98h:76070** 76F99 (76M35)

Kolumbán, Géza (*with* Kennedy, Michael Peter; Chua, Leon O.) The role of synchronization in digital communications using chaos. I. Fundamentals of digital communications. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 927–936. (*see* **98g:93002**) 93D15 (94A05, 94A12)

Kolumbán, Iosif (*with* Kassay, Gábor) On the generalized Minty's inequality. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **39** (1994), *no.* 4, 37–45. (Sehie Park) **98b:49008** 49J35 (47N10)

Kolwankar, Kiran M. (*with* Gangal, Anil D.) Local fractional Fokker-Planck equation. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 214–217. (Summary) **98k:82130** 82C31

Kolwicz, Paweł (*with* Płuciennik, Ryszard) P-convexity of Orlicz-Bochner spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2315–2322. (Barry Turett) **98j:46032** 46E40 (46B20, 46E30)

Kolyada, S. F. (*with* Snoha, Ľubomír) Topological entropy of nonautonomous dynamical systems. (English summary) *Random Comput. Dynam.* **4** (1996), *no.* 2-3, 205–233. (Lluís Alsedà) **98f:58126** 58F11 (34C35, 54C70, 54H20)

— (*with* Sharkovs'kiĭ, Aleksandr; Sivak, A. G.; Fedorenko, V. V.) ★ Dynamics of one-dimensional maps. (English summary) Translated from the 1989 Russian original by Sivak, P. Malyshev and D. Malyshev and revised by the authors. Mathematics and its Applications, 407. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+261 *pp. ISBN* 0-7923-4532-0 (Helena E. Nusse) **98k:58083** 58F03 (58F10, 58F11, 58F13, 58F20)

Kolyada, V. I. Estimates of Fourier transforms in Sobolev spaces. (English summary) *Studia Math.* **125** (1997), *no.* 1, 67–74. (Gary Sampson) **98k:42011** 42B10 (46E35)

— Mean oscillations and convergence of Poisson integrals. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 2, 206–222; *translation in Ukrainian Math. J.* **49** (1997), *no.* 2, 227–246. (Summary) **98g:42009** 42A24

Kolyandr, A. I. On the distribution of the eigenvalues of invariant ensembles of random matrices. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 14–20. (Summary) **98m:82031** 82B41

Kolyano, Yu. M. *see* **Vlgak, V. M. et al.**

Kolyshkin, A. A. (*with* Vaillancourt, Rémi) Linear stability of Couette-Poiseuille flow between rotating permeable cylinders. (English and French summaries) *C. R. Math. Rep. Acad. Sci. Canada* **18** (1996), *no.* 6, 263–268. (Summary) **98a:76031** 76E15 (76U05)

— (*with* Antimirov, M. Ya.; Vaillancourt, Rémi) A perturbation method for flaw detection in eddy current testing of cylindrical tubes. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 3, 229–242. (Summary) **98b:78038** 78A55

— (*with* Antimirov, M. Ya.; Vaillancourt, Rémi) ★ Complex variables. *Academic Press, Inc., San Diego, CA*, 1998. *xii*+476 *pp. ISBN* 0-12-059545-1 30–01

Koma, Tohru (*with* Morita, Yoshifumi; Kohmoto, Mahito) Quasi-bound states of two magnons in the spin-$\frac{1}{2}$ XXZ chain. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 745–780. (Takeo Kojima) **98k:82045** 82B20

— (*with* Nachtergaele, Bruno) The spectral gap of the ferromagnetic XXZ chain. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 1–16. (Aleksei P. Isaev) **98m:82015** 82B20 (82B23)

Komai, Yutaka (*with* Tanishita, Kazuo) Fully developed intermittent flow in a curved tube. (English summary) *J. Fluid Mech.* **347** (1997), 263–287. 76Z05

Komaki, Fumiyasu On asymptotic properties of predictive distributions. (English summary) *Biometrika* **83** (1996), *no.* 2, 299–313. (K. D. Ling) **98d:62048** 62F15

— Correction: "Homogeneous Gaussian Markov processes on general lattices" [Adv. in Appl. Probab. **28** (1996), no. 1, 189–206; MR 96j:60089]. *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 269. 60G60 (62M40)

Komal, B. S. (*with* Sharma, Nishchintak) Weighted composition operators on a Hilbert space of vector valued sequences. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 391–394. 47B38 (47B15)

— (*with* Kumar, Romesh) Weighted substitution operators. (English summary) *Indian J. Math.* **38** (1996), *no.* 1, 67–72 (1997). (Summary) **98j:47069** 47B38 (46E30)

— (*with* Raj, Kuldip; Gupta, Sunil) On operators of weighted substitution on the generalized spaces of entire functions. (English summary) *Math. Today (Ahmedabad)* **15** (1997), 3–10. (John N. McDonald) **98j:47070** 47B38 (46E15)

— (*with* Gupta, Anupama) Composite integral operators in $L^2(\mu)$. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 92–99, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (James T. Campbell) **98m:47042** 47B38 (47B15, 47G10)

Komar, Jan (*with* Bylka, Stanisław) Intersection properties of line graphs. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 33–45. (Arthur M. Hobbs) **98c:05136** 05C75

Komara, Ján (*with* Voda, Paul J.) On quasitautologies. (English summary) *Automated reasoning with analytic tableaux and related methods (Pont-à-Mousson, 1997)*, 231–245, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (Summary) **98m:03015** 03B25 (03B10)

Komarov, G. N. Conjugation conditions through a thermically thin layer in heat conduction problems. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 7, 26–32. (From the text) **98b:80001** 80A20

Komarov, I. V. Various approaches to spectral problems for integrable systems in the QISM. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 79–87. (Shao-Ming Fei) **98c:81233** 81U40 (82B23)

Komarov, S. V. (*with* Krasulina, T. P.) One-sided convergence of continuous processes of stochastic approximation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 201–208, 360–361. (Paweł J. Szabłowski) **98k:62148** 62L20 (60F15, 60F99)

Komarov, V. P. (*with* Petin, V. G.) Mathematical description of synergistic interaction of hyperthermia and ionizing radiation. (English summary) *Math. Biosci.* **146** (1997), *no.* 2, 115–130. 92C50

Komarova, N. L. (*with* Loskutov, A. Yu.) Stabilization of the chaotic behavior of a mathematical model of an oscillatory chemical reaction. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 10, 133–143. 92E20 (58F13, 58F40)

Komarovskiĭ, L. V. (*with* Bubenchikov, A. M.; Kharlamov, S. N.) ★ Математические модели течения и теплообмена во внутренних задачах динамики вязкого газа. (Russian. English and Russian summaries) [Mathematical models of flow and heat exchange in interior problems of the dynamics of a viscous gas] *Izdatel'stvo Tomskogo Universiteta, Tomsk*, 1993. 184 *pp. ISBN* 5-7511-0048-8 (Corneliu Berbente) **98j:76122** 76N15 (76F99, 80A32)

Komashins'ka, Ī. V. (*with* Kolomīēts', V. G.) On the existence of a solution of a quasilinear mixed problem for a quasiwave equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1182–1185. 35L70

Komatsu, G. *see* **Komatsu, Genichi**

Komatsu, Gen (*with* Hirachi, Kengo) Invariant theory of the Bergman kernel. *CR-geometry and overdetermined systems (Osaka, 1994)*, 167–220, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Gregor Herbort) **98h:32041** 32H10 (32F20, 32F40)

— *see also* **CR-geometry and overdetermined systems, 98d:32001**

Komatsu, Genichi (*with* Katori, Makoto; Inui, Norio; Kameoka, K.) Hypergeometric series in a series expansion of the directed-bond percolation probability on the square lattice. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 1-2, 37–55. (Roberto Fernández) **98f:82074** 82B43 (33C05, 60K35, 82–04)

Komatsu, Hikosaburo Solution of differential equations by means of Laplace hyperfunctions. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 227–252, *World Sci. Publishing, River Edge, NJ*, 1996. (Vladimir P. Burskiĭ) **98d:35026** 35D05 (34G10, 35C99, 46F15, 47D06)

Komatsu, Keiichi Construction of normal bases by special values of Hilbert modular functions. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 3, 42–44. (Cornelius Greither) **98f:11122** 11R33 (11F41, 11F80)

— (*with* Fukuda, Takashi; Ozaki, Manabu; Taya, Hisao) On Iwasawa λ_p-invariants of relative real cyclic extensions of degree p. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 475–480. (Masakazu Yamagishi) **98k:11153** 11R23

Komatsu, Takao² (*with* van der Poorten, Alfred J.) Substitution invariant Beatty sequences. *Japan. J. Math. (N.S.)* **22** (1996), *no.* 2, 349–354. (Jau-Shyong Shiue)

98a:11031 11B85 (68R15)
— On inhomogeneous Diophantine approximation and inhomogeneous continued fraction expansion. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 125–136. (Zun Shan) **98k:11097** 11J20 (11J70)
— On inhomogeneous continued fraction expansions and inhomogeneous Diophantine approximation. (English summary) *J. Number Theory* **62** (1997), *no.* 1, 192–212. (Richard T. Bumby) **98e:11087** 11J70
— The sum of consecutive fractional parts. *Tsukuba J. Math.* **21** (1997), *no.* 1, 129–137. (Christoph Baxa) **98h:11091** 11J71
Komatsu, Takashi On stable-like processes. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 210–219, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60119** 60J30 (60J25)
Komatsu, Tohru (*with* Kawamura, Yoshiharu; Kobayashi, Tatsuo) Specific scalar mass relations in SU(3) × SU(2) × U(1) orbifold model. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 284–294. (Summary) **98e:81140** 81T30 (81V22)
Komatsu, Yukie A period-doubling bifurcation for the Duffing equation. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 94–102. (Sergei A. Dovbysh) **98m:34082** 34C23 (34C15, 34C25, 58F14, 70K40)
— (*with* Kano, Tadayoshi; Matsumura, Akitaka) A bifurcation phenomenon for the periodic solutions of the Duffing equation. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 191–209. (Sergei A. Dovbysh) **98e:34073** 34C23 (34C15, 34C25, 70K40)
Komatu, Yūsaku ★ Distortion theorems in relation to linear integral operators. (English summary) Mathematics and its Applications, 385. *Kluwer Academic Publishers Group, Dordrecht*, 1996. viii+305 *pp. ISBN* 0-7923-4304-2 (A. P. Soldatov) **98a:30011** 30C45 (30C50)
— On distortion of a class of analytic functions under a family of operators. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 13–19, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Themistocles M. Rassias) **98d:30019** 30C45
Komech, A. I. Stabilization of statistics in wave and Klein-Gordon equations with mixing. Scattering theory for infinite energy solutions. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 9–22 (1997). (Guenther Hoermann) **98j:82050** 82C31 (35P25, 35Q99)
— (*with* Merzon, Anatolii E.; Zhevandrov, P. N.) On the completeness of Ursell's trapping modes. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 4, 457–486. (Nikolay G. Kuznetsov) **98k:76012** 76B15 (35Q35)
— (*with* Egorov, Yu. E.) Attractors and the asymptotic behavior of solutions in the nonlinear Lamb problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 5, 80–88, 105; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 5, 15–22 (1997). (Summary) **98d:35148** 35L70 (35B40)
Komeda, Jiryo Cyclic coverings of an elliptic curve with two branch points and the gap sequences at the ramification points. *Acta Arith.* **81** (1997), *no.* 3, 275–297. (R. F. Lax) **98e:14032** 14H55 (14H30)
Kominek, Zygfryd Translations in normed spaces. (English summary) *Publ. Math. Debrecen* **49** (1996), *no.* 3-4, 295–299. (M. M. Popov) **98c:46024** 46B20 (47A05)
Komissarov, S. S. On the properties of Alfvén waves in relativistic magnetohydrodynamics. (English summary) *Phys. Lett. A* **232** (1997), *no.* 6, 435–442. (Summary) **98g:85004** 85A30 (76W05, 76Y05)
Komiya, Hidetoshi Inverse of the Berge maximum theorem. (English summary) *Econom. Theory* **9** (1997), *no.* 2, 371–375. (Summary) **98j:90014** 90A14
— Cores of transferable utility games with infinite players. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 1, 13–21. (Summary) **98f:90078** 90D12 (90D60)
Komjáth, Péter (*with* Füredi, Zoltán) Nonexistence of universal graphs without some trees. (English summary) *Combinatorica* **17** (1997), *no.* 2, 163–171. (Thomas Andreae) **98m:05052** 05C10 (05C05, 05C60)
— A strongly non-Ramsey uncountable graph. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 203–205. (J. M. Henle) **98m:03106** 03E35 (03E05, 03E10, 05C55)
— Two remarks on the coloring number. *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 301–305. (Thomas Andreae) **98f:05061** 05C15
— (*with* Füredi, Zoltán) On the existence of countable universal graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 53–58. (John M. Harris) **98b:05097** 05C99
Komlós, János (*with* Szemerédi, Endre) Topological cliques in graphs [MR 95f:05064]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 439–448, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C35 (05C10)
Komlósi, Sándor Monotonicity and quasimonotonicity in nonsmooth analysis. (English summary) *Recent advances in nonsmooth optimization*, 193–214, *World Sci. Publishing, River Edge, NJ*, 1995. (Dariusz Zagrodny) **98h:49018** 49J52 (26B25, 49J40, 58C20, 90C30)
Komm, H. *see* **Khinchin, Aleksandr Yakovlevich**, **98k:11001**
Komori, Yasushi (*with* Hikami, Kazuhiro) Integrable three-body problems with two- and three-body interactions. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1913–1923. (Summary) **98j:81385** 81V70 (33C80, 39A99, 81R50)
— (*with* Hikami, Kazuhiro) Integrability, fusion, and duality in the elliptic Ruijsenaars model. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 11, 751–761. (Peter J. Forrester) **98m:81221** 81V70 (82B23)
— (*with* Hikami, Kazuhiro) Elliptic K-matrix associated with Belavin's symmetric R-matrix. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 3, 687–701. (Rinat M. Kashaev) **98e:81077** 81R50 (17B37, 82B23)
— (*with* Hikami, Kazuhiro) Boundary Boltzmann weight for the eight-vertex SOS model: vertex-IRF correspondence. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 78–82. (Summary) **98k:82039** 82B20 (82B23)
Komori, Yohei On the monotonicity of topological entropy for bimodal real cubic maps. Low-dimensional dynamical systems and related topics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 938 (1996), 26–32. (Feliks Przytycki) **98g:58046** 58F03 (54C70, 54H20)
Komori, Yuichi (*with* Hirokawa, Sachio; Takeuti, Izumi) A reduction rule for Peirce formula. (English summary) *Studia Logica* **56** (1996), *no.* 3, 419–426. (A. S. Kuzichev) **98b:03021** 03B40 (03F05)
Komoriya, Keishi An asymmetric exclusion process related to vortex flow in viscous planar fluid. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 220–228, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:60210** 60K35 (82C31)
Komornik, Vilmos A new method of exact controllability in short time and applications. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (5) **10** (1989), *no.* 3, 415–464. (Enrique Zuazua) **98b:93013** 93B05 (35B37, 42A99, 93C20)
— A generalization of Ingham's inequality. *Differential equations and its applications* (*Budapest*, 1991), 213–217, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 93B36 (47A70, 47N70, 93C20)
— (*with* Alabau, Fatiha) Boundary observability and controllability of linear elastodynamic systems. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 1–8, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Vadim Komkov) **98i:93011** 93B07 (35L99, 35Q72, 73K50, 93B05, 93C20)
— (*with* Kouémou-Patcheu, Solange) Well-posedness and decay estimates for a Petrovsky system with internal damping. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 245–260. (Enrique Zuazua) **98g:35188** 35Q72 (35B40, 73K10, 93D15)
— (*with* Rao, Bopeng) Boundary stabilization of compactly coupled wave equations. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 339–359. (Enrique Zuazua) **98h:93021** 93D15 (35L05, 93B07, 93C20)
— (*with* Alabau, Fatiha) Observabilité, contrôlabilité et stabilisation frontière du système d'élasticité linéaire. (English and French summaries) [Boundary observability, controllability and stabilization of linear elastodynamic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 519–524. (Summary) **98a:93036** 93C20 (73D99, 73K50, 93B05)
— (*with* Loreti, Paola) Observabilité frontière de systèmes couplés par analyse non harmonique vectorielle. (English and French summaries) [Boundary observability of coupled systems by vectorial nonharmonic analysis] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 895–900. (De Xing Feng) **98d:93023** 93B07 (93C20)
— Rapid boundary stabilization of linear distributed systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1591–1613. (Enrique Zuazua) **98h:93022** 93D15 (35L05, 93C20, 93D22)
Komorníková, Magda (*with* Mesiar, Radko) Aggregation operators. (English summary) *PRIM '96* (*Budva*), 193–211, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 04A72 (68T35)
Kompaniets, L. A. Analysis of the numerical algorithms for nonlinear dispersive shallow-water models. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 4, 349–361. (I. Christie) **98m:76108** 76M20 (65M06, 76B15)
Komrakov, B. *see* **Komrakov, Boris**
Komrakov, B. B. Four-dimensional homogeneous Einstein spaces of signature (2, 2) with an unsolvable symmetry group. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 33–35, 124. 53C25 (53C50)
— Four-dimensional Lorentzian homogeneous nonsolvable Einstein spaces. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 169–170; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 402–403. (Zbigniew Olszak) **98h:53083** 53C30 (53C25, 53C35, 53C50)
Komrakov, Boris Primitive actions and the Sophus Lie problem. *The Sophus Lie Memorial Conference* (*Oslo*, 1992), 187–269, *Scand. Univ. Press, Oslo*, 1994. (A. L. Onishchik) **98e:53082** 53C30 (17B20, 22E46)
Komsa, J. (*with* Latka, B.; Murray, E.; Weiss, Emily) An improved result on infinite antichains of tournaments. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 22–26. (Summary) **98d:05065** 05C20
Komuro, Hideo (*with* Ando, Kiyoshi) The seven graphs whose H-transformations are uniquely determined. (English summary) *Ars Combin.* **46** (1997), 305–318. (Summary) **98d:05117** 05C75
— The diagonal flips of triangulations on the sphere. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 2, 115–122. (Summary) **98a:05058** 05C10
Komuro, Motomasa Homoclinic bifurcation diagrams of continuous piecewise-linear vector fields. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 141–144, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F14 (34C23)
Komuro, Naoto Semicontinuity of convex set valued mappings and the support functions. (English summary) *J. Hokkaido Univ. Ed. Sect. II A* **47** (1997), *no.* 2, 115–120. (T. Zolezzi) **98b:49017** 49J52 (26E25)
Komzsik, Louis (*with* Poschmann, Petra; Sharapov, Ilya) A preconditioning technique for indefinite linear systems. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 3, 253–258. 65F30 (90C30)
Kon, Masahiro (*with* Yamagata, Masahiro) Reduction of the codimension of a generic minimal submanifold immersed in a complex projective space. *Colloq. Math.* **74** (1997), *no.* 2, 185–190. (Fabio Podestà) **98i:53081** 53C40 (53C42)
— (*with* Yamagata, Masahiro) On minimal CR submanifolds satisfying a certain condition on the Ricci curvature. *Nihonkai Math. J.* **8** (1997), *no.* 1, 71–76. (Aurel Bejancu) **98e:53111** 53C42 (53C40, 53C55)
Kon, Masamichi (*with* Kushimoto, Shigeru) A single facility minisum location problem under the A-distance. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 1, 10–20. (Giovanni Andreatta) **98b:90080** 90B85 (90C30)
— (*with* Kushimoto, Shigeru) Location problems with asymmetric rectangular distances. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 85–88. (*see* **98g:90004**) 90B80 (90C90)
Konakov, V. D. (*with* Piterbarg, V. I.) High level excursions of Gaussian fields and the weakly optimal choice of the smoothing parameter. II. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 112–124. (Summary) **98g:62066** 62G05 (62M40)
Konana, Prabhudev (*with* Lee, Juhnyoung; Ram, Sudha) Updating timestamp interval for dynamic adjustment of serialization order in optimistic concurrency control-time interval (OCCTI) protocol. *Inform. Process. Lett.* **63** (1997), *no.* 4, 189–193. 68P15 (68Q10)
Konar, Arubinda (*with* De, U. C.; Guha, N.) On generalised projective 2-recurrent Riemannian manifold. (English summary) *J. Nat. Acad. Math. India* **9** (1991), *no.* 1, 1–4. 53C15
Konarski, Jerzy (*with* Jurkiewicz, Jerzy Maciej) On linearizing $\mathbf{C}^*$ and Z_2 actions of degree 3 on 3-spaces. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 87–94. (Dmitri I. Panyushev) **98h:14057** 14L30

Kondakov, V. M. On a Bayes estimator of the matrix-normal density. (English summary) Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* **81** (1996), *no.* 4, 2794–2797. (Mohan Delampady) **98b:62048** 62F15 (62H12)

Kondarattsev, S. A. A numerical algorithm for solving an inverse problem of borehole electrometry. (Russian. Russian summary) *Questions of the well-posedness of problems in mathematical physics and analysis* (*Russian*), 73–82, 170, *Akad. Nauk SSSR Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1986. (*see* **98e:00010**) 86A25

Kondaurov, V. I. (*with* Kutlyarova, N. V.; Fortov, V. E.) Damage and failure of brittle initially porous materials. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 342–345; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 395–398. 73M25

Kondev, Jané (*with* de Gier, Jan; Nienhuis, Bernard) Operator spectrum and exact exponents of the fully packed loop model. (English summary) *J. Phys. A* **29** (1996), *no.* 20, 6489–6504. (Azer Kerimov) **98a:82021** 82B20 (82B27)

— (*with* Marston, J. B.) Supersymmetry and localization in the quantum Hall effect. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 3, 639–657. (Guillermo Zemba) **98f:81387** 81V70 (81T60)

Kondo, Cezar I. (*with* Bergamasco, Adalberto P.; Caetano, Paulo A. S.) Global hypoellipticity and global solvability for a class of operators on compact manifolds. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 236–253. (A. Alexandrou Himonas) **98m:35027** 35H05 (58G15)

Kondo, Kazuo ★ Three phases of epistemological penetration to nature. Quaderni dell' Accademia Pontaniana [Notebooks of the Accademia Pontaniana], 20. *Accademia Pontaniana, Naples*, 1997. *ii*+112 *pp.* 00A30 (00A69, 00A79)

Kondo, Kyohei (*with* Miyazaki, Yasuyuki) Analytical solution of spatial elastica and its application to kinking problem. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 27, 3619–3636. (Summary) **98h:73028** 73C50 (73G05, 73H05, 73K05)

Kondo, Michiro Congruence relations and filters in some variety. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 108–117. (*see* **98d:00023**) 08A30 (08B10)

— Congruences and closed ideals in BCI-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 491–496. (Summary) **98h:06037** 06F35

— Functional freeness for the Berman class $K_{m,n}$ of Ockham algebras. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **30** (1997), 49–55. (Vlad Boicescu) **98h:06024** 06D30

Kondoh, Hidetaka Basic properties of data types with inequational refinements (extended abstract). (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 279–296, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68Q65

Kondoh, Yuji (*with* Miyoshi, Yoshihiko; Saito, Tomokatsu) An extension of the plotting functions on Risa/Asir. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 16–21. (*see* **98h:00039**) 13P99

Kondracki, Witold (*with* Budzyński, Robert J.) On the existence of the functional measure for 2D Yang-Mills theory. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 225–229, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Ambar Sengupta) **98d:58021** 58D20 (81T13)

— *see also* **Symplectic singularities and geometry of gauge fields, 98b:58006**

Kondrashuk, I. N. (*with* Avdeev, L. V.; Kazakov, D. I.) Renormalizations in softly broken SUSY gauge theories. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 289–312. (Summary) **98k:81166** 81T15 (81T17, 81T60)

Kondrat, Grzegorz (*with* Jadczyk, A.; Olkiewicz, Robert) On uniqueness of the jump process in event enhanced quantum theory. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1863–1880. (Radu Purice) **98j:81037** 81P15 (81S25)

— (*with* Garbaczewski, Piotr; Olkiewicz, Robert) Schrödinger's interpolating dynamics and Burgers' flows. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 29–41. (*see* **98k:58002**) 35R60 (35B99, 35Q53, 35Q55, 81P05)

Kondrat'ev, A. Yu. (*with* Kishinevskiĭ, M. A.; Cortadella, Jordi; Lavagno, Luciano; Taubin, A. R.; Yakovlev, Alexandre V.) Coupling asynchrony and interrupts: place chart nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 328–347, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

Kondrat'ev, A. Yu. (*with* Énol'skiĭ, V. Z.) Jacobi polynomials and Lax representation for completely integrable dynamical systems. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1198–1201 (1996). (Alexander Burov) **98b:58076** 58F07 (33C45)

Kondrat'ev, B. P. (*with* Antonov, Vadim A.) ★ Решение парадокса кошки Шрёдингера. Опыт создания нелинейной квантовой механики. (Russian. English and Russian summaries) [Solution of the paradox of Schrödinger's cat. An attempt at developing a nonlinear quantum mechanics] *Izdatel'stvo Udmurt-skogo Universiteta, Izhevsk*, 1994. 168 *pp. ISBN* 5-7029-0420-6 (Kirill V. Krasnov) **98e:81020** 81P20 (81–02)

Kondrat'ev, V. N. (*with* Shalyto, A. A.) Realization of systems of Boolean functions by linear arithmetic polynomials with masking. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 200–215; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 492–503. (Juraj Hromkovič) **98i:94055** 94C10

Kondrat'ev, V. V. *see* **Kondrat'ev, Vyacheslav Vasil'evich**

Kondrat'ev, Vladimir (*with* Egorov, Yuriĭ Vladimirovich) On moments of negative eigenvalues of the Schrödinger operator. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 5, 585–587. (Viorel Iftimie) **98b:35128** 35P15 (35J10, 47F05)

— (*with* Egorov, Yuriĭ Vladimirovich) On the optimal shape of a column. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 6, 727–729. (Vadim Komkov) **98c:73060** 73K40 (49Q10, 73K05)

— (*with* Nikishkin, V. A.) On positive solutions of a semilinear equation. (English summary) *J. Math. Sci.* **80** (1996), *no.* 5, 2084–2092. (V. Raghavendra) **98g:35079** 35J65 (35B05)

— (*with* Véron, Laurent) Asymptotic behaviour of solutions of some nonlinear parabolic or elliptic equations. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 2, 117–156. (Bo Guan) **98g:35027** 35B40 (35K60)

— (*with* Egorov, Yuriĭ Vladimirovich) On a problem of O. A. Oleĭnik. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 159–160; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1296–1297. 35J05

Kondrat'ev, Vyacheslav Vasil'evich (*with* Nadeev, A. T.) Statistical regularities of voting. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 169–170. 90A28

Kondrat'ev, Yu. G. (*with* Albeverio, Sergio; Röckner, Michael; Tsikalenko, T. V.) Uniqueness of Gibbs states on loop lattices. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1401–1406. (Summary) **98g:82004** 82B10 (60K35)

— (*with* Albeverio, Sergio; Kozitskiĭ, Yu. V.) Absence of critical points for a class of quantum hierarchical models. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 1–18. (Roberto Fernández) **98k:82012** 82B10 (82B20)

— (*with* Albeverio, Sergio; Röckner, Michael; Tsikalenko, T. V.) Dobrushin's uniqueness for quantum lattice systems with nonlocal interaction. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 621–630. (Hans-Otto Georgii) **98k:82013** 82B10 (60K35, 82B20)

— (*with* Albeverio, Sergio; Röckner, Michael) Ergodicity of L^2-semigroups and extremality of Gibbs states. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 394–423. (Sylvie Roelly) **98d:60187** 60K35 (82C20)

— (*with* Albeverio, Sergio; Röckner, Michael; Tsikalenko, T. V.) Ergodicity for the stochastic dynamics of quasi-invariant measures with applications to Gibbs states. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 415–469. (Tu Sheng Zhang) **98j:60104** 60J35 (81T08, 82B05)

— (*with* Minlos, R. A.) One-particle subspaces in the stochastic XY model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 613–642. (Wei-Shih Yang) **98m:82045** 82C10

— (*with* Albeverio, Sergio; Kozitskiĭ, Yu. V.) Critical properties of a quantum hierarchical model. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 287–291. (Władysław Adam Majewski) **98g:82005** 82B10 (82B20, 82B27)

— (*with* Albeverio, Sergio; Daletskiĭ, A. Yu.) Infinite systems of stochastic differential equations and some lattice models on compact Riemannian manifolds. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 326–337; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 360–372 (1998). (Keisuke Hara) **98g:58187** 58G32 (60H10, 81S20, 82C31)

Kondratiev, A. Yu. Phase transitions in quantum models of ferromagnetics: an approach with application of functional integrals. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 5, 38–42. (Nicolae Angelescu) **98b:82030** 82B26 (82D45)

Kondratiev, V. A. *see* **Kondrat'ev, Vladimir**

Kondratiev, Yu. *see* **Kondrat'ev, Yu. G.**

Kondratiev, Yu. G. *see* **Kondrat'ev, Yu. G.**

Kondratiev, Yuri G. *see* **Kondrat'ev, Yu. G.**

Kondratjev, Michael S. (*with* Belov, Pavel A.; Simovski, Constantine R.) Problem of the local field for plane grids with bi-anisotropic particles. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 680–691, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 78A45 (78A50)

— (*with* Simovski, Constantine R.; Belov, Pavel A.; Tretyakov, Sergei A.) Excitation dyadics for the grids of chiral and omega particles. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures* (*San Diego, CA*), 692–703, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 78A45

Kondratyev, Alex *see* **Kondrat'ev, A. Yu.**

Kondratyuk, A. A. *see* **Complex analysis, 98d:30002**

Kondur, O. S. (*with* Ivasishen, S. D.) Properties of a class of solutions of a homogeneous system of arbitrary order that is parabolic in the sense of Petrovskiĭ. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996,** *no.* 11, 12–15 (1997). (Summary) **98a:35056** 35K30 (35C15)

Konechnyĭ, Anatoliĭ (*with* Schwarz, Albert S.) Geometry of $N = 1$ super Yang-Mills theory in curved superspace. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 2, 97–110. (Jaime Muñoz Masqué) **98g:32011** 32C11 (32C81, 58A50, 58C50, 81T13, 81T60)

Konev, Viktor (*with* Pergamenshchikov, Sergei) Estimation of an autoregression parameter based on the generalized method of least squares. (Russian) *Uspekhi Mat. Nauk* **50** (1995), *no.* 6(306), 187–188; *translation in Russian Math. Surveys* **50** (1995), *no.* 6, 1276–1277. (From the text) **98g:62169** 62M10 (62L12)

— (*with* Pergamenshchikov, Sergei) On asymptotic minimaxity of fixed accuracy estimators for autoregression parameters. I. Stable process. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 2, 125–153. (B. L. S. Prakasa Rao) **98f:62258** 62M10

— (*with* Pergamenshchikov, Sergei) On guaranteed estimation of the mean of an autoregressive process. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2127–2163. (Adhir K. Basu) **98m:62248** 62M10 (62F12, 62L12)

— (*with* Pergamenshchikov, Sergei) Guaranteed estimation of linear regression parameters with dependent noise. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 2, 75–87; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 213–223. (A. Ya. Derogovtsev) **98e:62101** 62J05 (62L12)

— (*with* Pergamenshchikov, Sergei) Guaranteed estimation of a periodic signal on a background of autoregressive noise with unknown parameters. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 26–44; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 307–323 (1998). (Summary) **98m:94007** 94A12

— (*with* Dmitrienko, A. A.; Pergamenshchikov, Sergei) Sequential generalized least squares estimator for an autoregressive parameter. (English summary) *Sequential Anal.* **16** (1997), *no.* 1, 25–46. (Adhir K. Basu) **98g:62161** 62M10 (62L15)

Konforti, Naim (*with* Mendlovic, David; Zalevsky, Zeev) Computation considerations and fast algorithms for calculating the diffraction integral. (English summary) *J. Modern Opt.* **44** (1997), *no.* 2, 407–414. (Summary) **98b:78036** 78A45 (65D30, 78–08)

Kong, De-Xing (*with* Li, Da Qian; Zhou, Yi) Global classical solutions for quasilinear nonstrictly hyperbolic systems. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 203–229. (Olivier Guès) **98d:35132** 35L60 (35B05, 35B60)

— (*with* Li, Da Qian) Solutions globales avec discontinuités de contact pour les systèmes hyperboliques quasi linéaires de lois de conservation. (English and French summaries) [Global solutions with contact discontinuities for quasilinear hyperbolic systems of conservation laws] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 621–626. (Summary) **98b:35114** 35L65

— (*with* Li, Da Qian; Zhou, Yi) Global classical solutions for general quasilinear hyperbolic systems with decay initial data. *Nonlinear Anal.* **28** (1997), *no.* 8, 1299–1332. (Alan Jeffrey) **98a:35082** 35L60

Kong, Fan Hui *see* **Kong, Fan Hui²**

Kong, Fan Hui[1] (*with* Fei, He Liang) Limit theorems for the maximum likelihood estimate under general multiply type II censoring. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 731–755. (T. J. Sweeting) **98f:62062** 62F12 (62E20, 62N05)

Kong, Fan Hui[2] (*with* Zhu, Xian Hai; Xiao, Gui Rong) The effect on an estimator of deleting an observation. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 3, 4–7. 62J05

Kong, Fan-Mei (*with* Zeng, Ke-Cai; Yang, Zhen-Qing) The structure of energy matrix and the ground state for two-dimensional Hubbard model. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 2, 135–140. (Wen-li Yang) **98d:82016** 82B20 (82B23)

Kong, Fan Zhe (*with* Zeng, Zheng) A general result on the problem of upper and lower bounds for $\sum \cos^n(A/2)$. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 21–26. 51M16

Kong, Fanhui *see* **Kong, Fan Hui**[1]

Kong, Ling Bin (*with* Wang, Jun Yu) Similarity solutions for the two-dimensional problem of power law flow. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 1, 5–8. (Si Ning Zheng) **98d:35097** 35K55 (35Q35, 76A05)

Kong, M. C. (*with* Lee, Sin-Min; Sun, Hugo S. H.) On magic strength of graph. (English summary) *Ars Combin.* **45** (1997), 193–200. (Summary) **98a:05126** 05C78

— (*with* Kinnersley, Nancy) On geodetic basis problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 73–82. (Summary) **98j:05120** 05C85

Kong, Min (*with* Zhuang, Jian Nan) A modified filled function method for finding a global minimizer of a nonsmooth function of several variables. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 165–174. 90C30 (49J52)

Kong, P. C. (*with* Chan, Chiu Yeung) Channel flow of a viscous fluid in the boundary layer. *Quart. Appl. Math.* **55** (1997), *no.* 1, 51–56. (J. R. Ockendon) **98c:35135** 35Q35 (35K99, 76D99)

Kong, Q. *see* **Kong, Qingkai**

Kong, Qing Hai (*with* Guan, Ying Nan) *A*-optimal orthogonal block designs with parameter estimation for additive mixture models. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 3, 342–345. 62K05

Kong, Qingkai (*with* Wu, Hongyou; Zettl, Anton) Dependence of eigenvalues on the problem. (English summary) *Math. Nachr.* **188** (1997), 173–201. (Gerhard Freiling) **98k:34038** 34B24 (34L05, 34L15)

Kong, Shu Lan (*with* Fang, Pei De) A global intrinsic rigidity theorem for submanifolds of spheres. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 1, 77–83. (Bang-yen Chen) **98d:53083** 53C40

Kong, T. Yung *see* **Papers on general topology and applications, 98d:54001**

Kong, Xiang Mu (*with* Ma, Yong[2]) A coordinate transformation for quantum thermal radiation of evaporating black holes. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1996), *no.* 2, 81–84. (Shuxue Ding) **98b:83061** 83C57 (81T20)

Kőnig, Gyula *see* **Gray, Jeremy J., 98j:01031**

Kőnig, Heinz J. E. (*with* Blatter, Jörg) A note on Irving Glicksberg's pseudocompactness papers. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 71–78, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Denny Gulick) **98m:46029** 46E15

Kőnig, J.-C. (*with* Bampis, E.; Delorme, C.) Optimal schedules for d-D grid graphs with communication delays (extended abstact). (English summary) *STACS* 96 (*Grenoble*, 1996), 655–666, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q22 (68M20)

Kőnig, Steffen (*with* Zimmermann, Alexander) Tilting selfinjective algebras and Gorenstein orders. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 351–361. (Lidia Angeleri Hügel) **98k:16017** 16G30 (18E30, 20C05)

Kőnig, W. (*with* van der Hofstad, R.; den Hollander, Frank) Central limit theorem for the Edwards model. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 573–597. (Philippe Biane) **98f:60041** 60F05 (60J55, 60J65)

— (*with* van der Hofstad, R.; den Hollander, Frank) Central limit theorem for a weakly interacting random polymer. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 1, 1–62. (Anton Bovier) **98h:60025** 60F05 (60K35, 82B41)

van de Konijnenberg, J. A. (*with* Andersson, Helge I.; van Heijst, G. J. F.) Spin-up in a rectangular tank with a sloping bottom. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 609–623. 76U05

— (*with* Flór, J. B.; van Heijst, G. J. F.) Decaying quasi-two-dimensional viscous flow on a square domain. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 595–606. (Summary) **98k:76031** 76D07 (76–05, 76V05)

Konik, Michael (*with* Schneider, Reinhold; Steidl, Gabriele) Matrix compression by discrete wavelet transform. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 225–234, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (65F30, 65F50)

Konik, Robert (*with* LeClair, André; Mussardo, Giuseppe) On Ising correlation functions with boundary magnetic field. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 15, 2765–2782. (Liu Zhao) **98f:82026** 82B20

Konikowska, Beata A logic for reasoning about relative similarity. (English summary) *Studia Logica* **58** (1997), *no.* 1, 185–226. (Jozef Šajda) **98a:03040** 03B60 (03B45, 03B70)

de Koninck, Jean-Marie *see* **De Koninck, Jean-Marie**

de Koning, Willem L. (*with* Barb, Florin Dan) The optimal projection equations for finite-dimensional fixed-order $\mathscr{H}^2$-optimal control of infinite-dimensional discrete-time systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 641–655. 93B36 (93C25)

Konishi, Kenichi (*with* Terao, Haruhiko) CP, charge fractionalizations and low-energy effective actions in the SU(2) Seiberg-Witten theories with quarks. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 264–294. (Summary) **98j:81338** 81T60 (81T13)

Konishi, Mikihiko (*with* Okuda, Tetsuji; Kodono, Yukio; Asai, Kiyoji) Use of AIC to select statistical models for fuzzy interval data. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 4, 615–636 (1997). 62–07 (04A72)

Konishi, Sadanori (*with* Kitagawa, Genshiro) Generalised information criteria in model selection. (English summary) *Biometrika* **83** (1996), *no.* 4, 875–890. (Christophe Croux) **98e:62047** 62F35 (62G09)

— (*with* Tsuchiya, Takahiro) General saddlepoint approximations and normalizing transformations for multivariate statistics. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2541–2563. (Summary) **98h:62095** 62H10

— (*with* Zhao, Yi[2]) Limit distributions of multivariate kurtosis and moments under Watson rotational symmetric distributions. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 291–299. (P. E. Jupp) **98j:62043** 62H11 (62F12, 62H10)

Konisi, Gaku (*with* Kokado, Akira; Saito, Takesi; Uehara, Kunihiko) Brans-Dicke theory on $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 6, 1291–1299. (Kamran Kaviani) **98e:83101** 83D05 (58B30, 83E15)

Konkel, S. (*with* Makowski, A. J.) Regular and chaotic causal trajectories for the Bohm potential in a restricted space. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 95–100. (Summary) **98j:81066** 81Q05 (81Q50)

Kon'kov, Andreĭ A. Positive solutions of nonlinear second-order elliptic inequalities in unbounded domains. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 119–122 (1998). (Summary) **98i:35218** 35R45 (26D15, 35B05, 35J15)

Kon'kov, L. E. (*with* Prants, S. V.) Quantum chaos in the group-theoretical picture. (English summary) *J. Math. Phys.* **37** (1996), *no.* 3, 1204–1217. (Summary) **98a:81049** 81Q50 (81R05, 81V80)

Konkowski, D. A. (*with* Helliwell, T. M.) Using the Reissner-Nordström Cauchy horizon to test a stability conjecture. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 69–75, *World Sci. Publishing, River Edge, NJ*, 1994. (From the introduction) **98d:83064** 83C75 (83C15)

Konno, Hiroshi (*with* Phan Thiên Thạch; Hoàng Tụy) ★ Optimization on low rank nonconvex structures. Nonconvex Optimization and its Applications, 15. *Kluwer Academic Publishers, Dordrecht*, 1997. xii+457 *pp. ISBN* 0-7923-4308-5 (Edward J. Anderson) **98i:90003** 90–02 (90C26, 90C90)

— (*with* Kobayashi, Katsunari) An integrated stock-bond portfolio optimization model. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1427–1444. (*see* **98c:90003**) 90A09 (90C90)

— The relation between investor's greediness and the asset price in the mean-variance market. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 4, 579–589. 90A09 (90A60)

— (*with* Phan Thiên Thạch) On the degree and separability of nonconvexity and applications to optimization problems. (English summary) *Math. Programming* **77** (1997), *no.* 1, *Ser. A*, 23–47. (Jean-Pierre Crouzeix) **98c:90101** 90C26 (49N15)

Konno, Hiroyuki J. C. Slater's optical theory in 1925: another dispersion theory. *Historia Sci.* (2) **7** (1997), *no.* 1, 59–64. 01A60 (81–03)

Konno, Hitoshi (*with* Jimbo, Michio; Kedem, Rinat; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) New level-0 action of $U_q(\widehat{\mathrm{sl}}_2)$ on level-1 modules. (English summary) *Recent progress in statistical mechanics and quantum field theory* (*Los Angeles, CA*, 1994), 169–193, *World Sci. Publishing, River Edge, NJ*, 1995. (Jun'ichi Shiraishi) **98f:81131** 81R50 (17B37)

— (*with* Jimbo, Michio; Kedem, Rinat; Miwa, Tetsuji; Petersen, Jens-Ulrik H.) Level-0 structure of level-1 $U_q(\widehat{\mathrm{sl}}_2)$-modules and Macdonald polynomials. (English summary) *J. Phys. A* **28** (1995), *no.* 19, 5589–5606. (Alexander Balinsky) **98b:17015** 17B37 (33D80, 81R50)

— (*with* Jimbo, Michio; Miwa, Tetsuji) Massless XXZ model and degeneration of the elliptic algebra $\mathscr{A}_{q,p}(\widehat{\mathrm{sl}}_2)$. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 117–138, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jun'ichi Shiraishi) **98m:82022** 82B23 (17B81, 82B20)

— Free field representation of level-k Yangian double $\mathscr{D}\mathrm{Y}(\mathrm{sl}_2)_k$ and deformation of Wakimoto modules. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 4, 321–336. (Stanislav Z. Pakuliak) **98h:81042** 81R10 (17B10, 81R50)

Konno, K. *see* **Konno, Kimiaki**

Konno, Kazuhiro Even canonical surfaces with small K^2. III. *Nagoya Math. J.* **143** (1996), 1–11. (Gang Xiao) **98a:14051** 14J29

Konno, Kimiaki (*with* Kakuhata, Hiroshi) Inverse problem, linearization and related topics of a coupled integrable, dispersionless system. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 185–192, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98d:35234** 35R30 (35Q51, 58F07)

— (*with* Kakuhata, Hiroshi) Canonical formulation of a generalized coupled dispersionless system. (English summary) *J. Phys. A* **30** (1997), *no.* 12, L401–L407. 35Q51 (35A30, 58F37)

Konno, Norio (*with* Sato, Kazunori; Yamaguchi, Tadashi) Paper-scissors-stone game on trees. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 109–114. 90D46 (92D40)

— (*with* Nagamura, Tetsuhiro; Belitsky, Vladimir; Yamaguchi, Tadashi) Upper bounds on percolation probabilities for oriented bond percolation. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 115–121. 82B43

— (*with* Belitsky, Vladimir; Ferrari, Pablo A.; Liggett, Thomas M.) A strong correlation inequality for contact processes and oriented percolation. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 213–225. (Olle Häggström) **98e:60156** 60K35 (82C22)

Kon-No, Takuya Regulators and the Bloch-Beĭlinson conjectures. (Japanese) Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 52–70. (Takeshi Ooe) **98m:11070** 11G40 (14G10, 14G35, 19F27)

— The residual spectrum of U(2, 2). (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 4, 1285–1358. (Jeff Hakim) **98i:11036** 11F70 (11F67, 11F72)

Konno, Yoshihiko (*with* Kubokawa, T.; Saleh, A. K. Md. Ehsanes) Shrinkage estimators in a mixed MANOVA and GMANOVA model. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 37–49. (V. I. Serdobol'skiĭ) **98j:62044** 62H12 (62C15)

Konnov, Igor V. Application of a linearization-type method in the solution of nonsmooth equilibrium problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 54–62; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 12, 51–59 (1997). (Marlies Borchardt) **98f:90044** 90C20 (49M20, 65K05, 90C90)

— On systems of variational inequalities. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 79–88. (Shuzi Zhou) **98m:49021** 49J40 (49M15)

— A class of combined iterative methods for solving variational inequalities. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 677–693. (J. Parida) **98i:90103** 90C33 (49J40)

— A combined method for smooth equilibrium problems with nonlinear constraints. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 311–324. (Summary) **98e:90162** 90C30 (65K05)

— Acceleration of the convergence of a combined relaxation method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 53–60. (R. Tichatschke) **98m:90103** 90C25 (49M45, 65K05, 90A14)

Kono, Akira[1] (*with* Hamanaka, Hiroaki; Hara, Shin-ichiro) Adjoint actions on the modulo 5 homology groups of E_8 and ΩE_8. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 169–176. (Hideaki Ōshima) **98e:57053** 57T10 (55S05, 57T25)

Kono, Michio (*with* Suzuki, Tatsuo) Decoupling with stability of periodic discrete-time systems via sampled state periodic hold control. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 26 (1997), 185–191. 93C57 (93B52)

Kono, N. *see* **Kōno, Norio**

Kono, Naoyuki (*with* Machida, Ken; Nakazato, Hiromichi; Namiki, Mikio; Pascazio, Saverio) Numerical experiments and analysis concerning loss of phase correlation of wave functions due to measurements. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 982 (1997), 21–29. (*see* **98h:00038**) 81P15

Kōno, Norio Kallianpur-Robbins law for fractional Brownian motion. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 229–236, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60058** 60G15 (60G18, 60J05)

— *see also* **Trends in probability and related analysis, 98k:60004**

Kononenko, A. *see* **Kononenko, Alexey Vladimir**

Kononenko, A. F. (*with* Gorelov, M. A.) ★ Информационные аспекты принятия решений в условиях конфликта. (Russian. Russian summary) [Informational aspects of decision-making under conflict conditions] Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. 43 *pp.* (Publisher's description) **98b:90007** 90A05 (90D10, 93A13)

— (*with* Aliev, V. S.) Some decision-making problems in two-person games with information aggregation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1163–1173. (Summary) **98f:90074** 90D05

Kononenko, Alexey Vladimir (*with* Yue, Chengbo) Cohomology and rigidity of Fuchsian groups. (English summary) *Israel J. Math.* **97** (1997), 51–59. (Jane Gilman) **98j:20072** 20H10 (30F35)

— Infinitesimal tensor rigidity of higher rank lattice actions. *Random Comput. Dynam.* **5** (1997), *no.* 4, 269–282. (Scot Adams) **98h:58136** 58F15 (22E40)

Kononova, Alëna Aleksandrovna (*with* Sergienko, I. V.; Kozeratskaya, L. N.) Stability and unboundedness of vector optimization problems. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 1, 3–10, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 1–6. (Christiane Tammer) **98j:90064** 90C29 (90C31)

Konopelchenko, B. G. (*with* Bogdanov, L. V.) Continuous, lattice and q-difference integrable systems and their transformation properties via $\overline{\partial}$-dressing method. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 29–36, *World Sci. Publishing, River Edge, NJ*, 1996. (F. Pempinelli) **98f:58178** 58F37 (35Q53, 39A12, 58F07)

— (*with* Taimanov, Iskander A.) Generating equation for constant mean curvature surfaces as Hamiltonian system. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 193–198, *World Sci. Publishing, River Edge, NJ*, 1996. (Takashi Otofuji) **98j:53012** 53A10 (58F07)

— (*with* Dryuma, V. S.) On equation of geodesic deviation and its solutions. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 3, 61–73, 121, 123. (Volker Perlick) **98k:83011** 83C10 (35Q75, 53C80)

— Soliton curvatures of surfaces and spaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 434–457. (Takashi Otofuji) **98d:58085** 58F07 (53A05)

— (*with* Bogdanov, L. V.) Generalized integrable hierarchies and Combescure symmetry transformations. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1591–1603. (Giorgio Tondo) **98i:58112** 58F07 (35Q58, 58F37)

— (*with* Landolfi, G.) On classical string configurations. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 40, 3161–3168. (From the text) **98m:81149** 81T30 (58E50)

— (*with* Martínez Alonso, Luis) Integrable systems for $\overline{\partial}$ operators of non-zero index. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 431–438. (Piotr G. Grinevich) **98m:58057** 58F07 (34A55, 35Q58)

— On solutions of the shape equation for membranes and strings. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 58–64. (Summary) **98j:81282** 81T30 (83E30)

Konôpka, Pavel Generalization of quantum logics and sets with relative inverses by equational characterization for partial algebras. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 141–146. (Summary) **98c:08008** 08A55 (03G12, 81P10)

Konopleva, N. P. ★ Instantons and gravity. (English and Russian summaries) Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], E2-96-459. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1996. 11 *pp.* (Summary) **98b:81286** 81V22 (83C45)

Konotop, V. V. Mode interactions in nonlinear discrete Klein-Gordon models. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 161–190, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 82B20 (35Q53, 82–02)

— (*with* Evans, W. A. B.; Cunha, M. D.; Vázquez, Luis) Numerical study of various sine-Gordon "breathers". (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications* (*Madrid*, 1995), 293–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:35001**) 65M99 (35Q53)

Konovalov, A. N. Variational optimization of iterative methods of splitting. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 312–325, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 267–280. (Israel Koltracht) **98m:65045** 65F10

— Numerical methods in dynamic problems of elasticity theory. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 551–568, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 471–487. (Igor Yu. Chudinovich) **98i:73064** 73V15 (65M15, 73C35, 73D99)

Konovalov, G. (*with* Chelkak, S.; Oganesyan, L. A.) Regular solutions of the Navier-Stokes problem and the Taylor example. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 52–57, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q30 (65M99, 76D05)

Konovalov, Michail (*with* Gol'dshteĭn, R. V.) Numerical analytical method for solving the 3D-elasticity problem on an interface crack of an arbitrary form in the multi-layered plate. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 40–48, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (*see* **98e:35001**) 73M25 (73C35, 73V20, 73V35)

Konovalova, L. B. Construction of linear subsystems of affine control systems. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 20–36, 86, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (Summary) **98b:93033** 93C10 (34H05, 93B30)

paneva-Konovska, Ĭ. D. *see* **Paneva-Konovska, Ĭ. D.**

Konrad, Angelika (*with* Kiechle, Hubert) The structure group of certain K-loops. *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 287–294, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 20N05

Konshteĭn, S. E. (*with* Vasil'ev, M. A.) Supertraces on the algebras of observables of the rational Calogero model with harmonic potential. (English summary) *J. Math. Phys.* **37** (1996), *no.* 6, 2872–2891. (Josep Herrero) **98f:81100** 81R10 (17B68, 58F07)

— Supertraces on the algebra of observables of the rational Calogero model based on the classical root system. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 2, 252–262; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 2, 592–600. (Henrik Aratyn) **98j:81386** 81V70 (17B20, 58F07, 81R05)

Konsowa, Mokhtar H. Product processes in varying environments. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 65–73. (Fima Klebaner) **98b:60146** 60J80 (60F05)

Konstandilaki, Ch. (*with* Hamlett, T. R.; Janković, Dragan) On some properties weaker than S-closed. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 297–304. (Summary) **98h:54032** 54D20 (54G05)

Konstantinidis, S. (*with* Jürgensen, Helmut) Variable-length codes for error correction. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 581–592, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Italo José Dejter) **98j:94009** 94A45

— (*with* Jürgensen, Helmut) Error correction for channels with substitutions, insertions, and deletions. (English summary) *Information theory and applications, II* (*Lac Delage, PQ*, 1995), 149–163, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (Summary) **98g:94018** 94A45

Konstantinidou, Maria (*with* Serafimidis, Karolos) Sur les P-supertreillis. (French summary) [On P-superlattices] *New frontiers in hyperstructures* (*Molise*, 1995), 139–148, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (F. Šik) **98j:06014** 06F99

Konstantinov, A. Yu. (*with* Chubenko, V. A.) Multiparameter differential equations with periodic coefficients. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 2, 27–31. (Brian D. Sleeman) **98j:34038** 34B24 (34L05, 47E05)

— Spectral analysis of a class of matrix differential operators. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 77–80; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 209–211 (1998). (Mihai Pascu) **98k:35142** 35P25 (35P05, 47A40, 47F05, 81U99)

Konstantinov, M. *see* **Konstantinov, Mikhail M.**

Konstantinov, M. Yu. Topological transitions and the large-scale structure of space-time in multidimensional gravitational theory. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 2, 9–14; *translation in Russian Phys. J.* **40** (1997), *no.* 2, 124–128. (Summary) **98b:83083** 83E15

Konstantinov, Mikhail M. (*with* Petkov, Petko Khr.; Gancheva, Parashkeva; Angelova, Vera; Popchev, Ivan) Improved perturbation bounds for the matrix exponential. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 258–265, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (93B40)

— (*with* Petkov, Petko Khr.; Khristov, Nikolaĭ D.) Numerical solution of high order matrix Riccati equations. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 388–395, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30 (93B40)

— (*with* Angelova, Vera) Sensitivity analysis of the differential matrix Riccati equation based on the associated linear differential system. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 295–301. (Ian Petersen) **98k:93029** 93B35 (49N10, 93B40, 93C15)

— (*with* Petkov, Petko Khr.; Khristov, Nikolaĭ D.) Sensitivity analysis of the feedback synthesis problem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 568–573. (Summary) **98m:93078** 93C73 (93B35, 93B50, 93B55)

— Numerical investigation of the interaction of coaxial vortex rings. (English summary) *Internat. J. Numer. Methods Heat Fluid Flow* **7** (1997), *no.* 2-3, 118, 120–140. (Summary) **98c:76081** 76M25 (76C05)

— (*with* Petkov, Petko Khr.; Gu, Da-Wei; Postlethwaite, Ian) Perturbation analysis of orthogonal canonical forms. (English summary) *Linear Algebra Appl.* **251** (1997), 267–291. (Juan Miguel Gracia) **98c:93020** 93B10 (15A21, 93C05)

— (*with* Petkov, Petko Khr.; Gu, Da-Wei; Postlethwaite, Ian) Nonlocal sensitivity analysis of the eigensystem of a matrix with distinct eigenvalues. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 367–382. (Yun Zou) **98h:15017** 15A18 (65F15, 93C05)

Konstantinova, Ludmila Ivanovna (*with* Kochegurov, V. A.; Shumilov, B. M.) Parametric identification of nonlinear differential equations on the basis of spline schemes that are exact on polynomials. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 5, 53–63; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 756–764. (Summary) **98g:65075** 65L99 (92C50, 93B30)

Konstantopoulos, Takis (*with* Lin, Si-Jian) Fractional Brownian approximations of queueing networks. (English summary) *Stochastic networks* (*New York*, 1995), 257–273, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60125** 60K25

— (*with* Zazanis, Michael A.; De Veciana, Gustavo) Conservation laws and reflection mappings with an application to multiclass mean value analysis for stochastic fluid queues. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 139–146. (Summary) **98k:60163** 60K25

— (*with* Anantharam, Venkat) Stationary solutions of stochastic recursions describing discrete event systems. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 181–194. (Volker Schmidt) **98d:60172** 60K25

Konshteĭn, S. E. *see* **Konshteĭn, S. E.**

Kontarev, Guennadi *see* **Marchuk, G. I., 98k:92009**

Kontolatou, Angeliki (*with* Močkoř, Jiří) Some remarks on Lorenzen r-group of partly ordered groups. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 537–552. (N. Ya. Medvedev) **98e:06008** 06F15 (20F60)

Kontorovich, V. Ya. Non-linear filtering for Markov stochastic processes, using higher-order statistics (HOS) approach. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3165–3170. (*see* **98i:00031**) 93E11

Kontostathis, Kyriakos The combinatorics of the splitting theorem. *J. Symbolic Logic* **62** (1997), *no.* 1, 197–224. (Rodney G. Downey) **98j:03059** 03D30 (03F30)

Kontoyiannis, I. Second-order noiseless source coding theorems. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1339–1341. (Boris D. Kudryashov) **98h:94009** 94A24

Kontsevich, M. L. Mirror symmetry in dimension 3. (English summary) Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 801, 5, 275–293. (Emma Previato) **98a:14055** 14J32 (14D07, 14N10, 32G20, 32J17, 81T30)

— Formality conjecture. (English summary) *Deformation theory and symplectic geometry (Ascona, 1996)*, 139–156, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Markus J. Pflaum) **98m:58044** 58F06

— (*with* Alexandrov, M.; Schwarz, Albert S.; Zaboronsky, Oleg) The geometry of the master equation and topological quantum field theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 7, 1405–1429. (Luigi Martina) **98a:81235** 81T70 (58D29, 58F05)

Konuma, Hisao (*with* Saito, Satoru; Saitoh, Noriko; Yoshida, Katsuhiko) Complex analysis of a piece of Toda lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6951–6962. (J. J. C. Nimmo) **98m:58066** 58F07 (35Q51, 70K99)

Konvalina, John The combinatorics of discrete self-similarity. *Adv. in Appl. Math.* **19** (1997), *no.* 3, 415–428. (Igor Rivin) **98j:05010** 05A15 (11B68, 11B73)

— (*with* Liu, Yi-Hsin) Arithmetic progression sums of binomial coefficients. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 11–13. (Summary) **98c:11015** 11B65 (05A10, 39A99)

— On the number of cyclic projective planes. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 1, 130–140. (Edward A. Bender) **98k:51014** 51E15 (05A18, 05B10, 05B25, 11A07)

Kónya, B. (*with* Lévai, Géza; Papp, Zsoltan) Green's matrix from Jacobi-matrix Hamiltonian. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4832–4844. (Peter N. Zhevandrov) **98j:81067** 81Q05

Konyaev, S. I. Quadrature formulae for a sphere in $\mathbf{R}^4$, which are invariant to the symmetry group of a 24-hedron. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 249–254. (Summary) **98c:65033** 65D32 (65Y25)

— Quadrature formulae invariant to the symmetry group of a 24-hedron for a spherically symmetric weight function in $\mathbf{R}^4$. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 1, 13–25. 65D32 (65Y99)

Konyagin, Sergei (*with* Belov, A. S.) On the conjecture of Littlewood and minima of even trigonometric polynomials. (English and French summaries) *Harmonic analysis from the Pichorides viewpoint (Anogia, 1995)*, 1–11, *Publ. Math. Orsay*, 96-01, *Univ. Paris XI, Orsay*, 1996. (J. D. Stegeman) **98b:42002** 42A05

— (*with* Belov, A. S.) An estimate for the free term of a nonnegative trigonometric polynomial with integer coefficients. (Russian) *Mat. Zametki* **59** (1996), *no.* 4, 627–629; *translation in Math. Notes* **59** (1996), *no.* 3-4, 451–453. (Z. Rubinstein) **98h:42002** 42A05

— (*with* Andreev, Nikolaĭ N.; Popov, A. Yu.) Extremal problems for functions with small support. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 3, 323–332, 478; *translation in Math. Notes* **60** (1996), *no.* 3-4, 241–247 (1997). (S. Baron) **98g:42002** 42A05 (41A30, 42A16, 42A32)

— (*with* Pomerance, Carl) On primes recognizable in deterministic polynomial time. *The mathematics of Paul Erdős, I*, 176–198, *Algorithms Combin.*, 13, *Springer, Berlin*, 1997. (Wieb Bosma) **98a:11184** 11Y11 (11Y16)

— Estimates of maxima of sine sums. (English summary) *East J. Approx.* **3** (1997), *no.* 1, 63–70. (Stamatis Koumandos) **98g:42003** 42A05 (42A10)

— Divergence almost everywhere of a pointwise comparison of two sequences of linear operators. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 379–384. (Allan Pinkus) **98g:41029** 41A35 (41A58)

Konyukh, G. V. (*with* Krivtsov, Yu. V.; Mikhailenko, B. G.) Numerical-analytical algorithm of seismic wave propagation in inhomogeneous media. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 99–104. (Summary) **98i:86009** 86A15 (86–08)

Konyukh, V. S. On two-step-nilpotent linear groups. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 33–35, 131. (Summary) **98b:20069** 20G15 (20F18)

Konyukhova, N. B. Singular Cauchy problems for singularly perturbed systems of nonlinear ordinary differential equations. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 1, 52–61, 141; *translation in Differential Equations* **32** (1996), *no.* 1, 54–63. (Dietrich Göhde) **98c:34088** 34E15 (34A12, 34C11, 34E10)

— Singular Cauchy problems for singularly perturbed systems of nonlinear ordinary differential equations. II. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 4, 491–500, 573; *translation in Differential Equations* **32** (1996), *no.* 4, 491–500. (Dietrich Göhde) **98c:34089** 34E15 (34A12, 34E05)

— (*with* Masalovich, S. E.; Staroverova, I. B.) Correction to: "Computation of rapidly oscillating eigenfunctions of the continuous spectrum and their improper integrals" [Zh. Vychisl. Mat. Mat. Fiz. **35** (1995), no. 3, 360–379; MR 96a:34165]. (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 1024. 34L40 (34A45, 34C45, 34E20, 81–08)

— (*with* Staroverova, I. B.) Modification of the phase method for solving singular selfadjoint Sturm-Liouville problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1183–1200. (Peter N. Zhevandrov) **98h:34049** 34B24 (34A45, 34L40)

— (*with* Voronov, N. A.; Dyshko, A. L.; Staroverova, I. B.) On nonlinear singular problems in relativistic cosmology. I. The Higgs field in Minkowski and Friedmann spaces. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1345–1361. (Summary) **98k:83096** 83F05 (35Q75)

— (*with* Voronov, N. A.; Dyshko, A. L.; Staroverova, I. B.) On nonlinear singular problems in relativistic cosmology. II. The Higgs field in the de Sitter space. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1506–1519. (Summary) **98k:83097** 83F05 (35Q75)

Konyushikhina, T. N. A problem of integral geometry associated with horospheres in an imaginary Lobachevskiĭ space of dimension 5. (Russian) *Tr. Mosk. Mat. Obs.* **57** (1996), 102–119; *translation in Trans. Moscow Math. Soc.* **1996**, 93–109 (1997). (R. G. Mukhometov) **98i:53103** 53C65

ley-Koo, Eugenio *see* **Ley-Koo, Eugenio**

Koo, Ja-Yong Spline estimation of discontinuous regression functions. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 3, 266–284. 62G07

— (*with* Lee, Kee-Won; Park, Hyun-Suk) Log-density estimation based on a Fourier expansion. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **10** (1997), *no.* 1, 137–149. 62G05

Koo, Nam Jip (*with* Choi, Sung Kyu; Goo, Yoon Hoe) Asymptotic equivalence between two linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 44–52. (Josef Diblík) **98g:34084** 34D05 (34C99)

— (*with* Choi, Sung Kyu; Ryu, Hyun Sook) h-stability of differential systems via t_∞-similarity. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 371–383. (A. A. Freiria) **98h:34095** 34D10 (34D20)

— (*with* Choi, Sung Kyu; Goo, Yoon Hoe) Lipschitz and exponential asymptotic stability for nonlinear functional-differential systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 397–410. (T. A. Burton) **98m:34151** 34K20

Koo, W. K. (*with* Teh, C. G. R.; Lee, Beck Sim) Jacobian elliptic wave solutions for the Wadati-Segur-Ablowitz equation. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 23, 2849–2854. (Spyridon Kamvissis) **98i:35186** 35Q55 (35C99)

Koo, W. M. (*with* Ahn, Changrim) Boundary Yang-Baxter equation in the RSOS/SOS representation. (English summary) *Nuclear Phys. B* **468** (1996), *no.* 3, 461–486. (Summary) **98a:82031** 82B23

Koobus, Bruno (*with* Marco, Nathalie; Dervieux, Alain) An additive multilevel optimization method and its application to unstructured meshes. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 3, 233–251. (Summary) **98m:65218** 65N55

Kooi, B. W. (*with* Sparenberg, J. A.) On the mechanics of the arrow: archer's paradox. (English summary) *J. Engrg. Math.* **31** (1997), *no.* 4, 285–303. (Summary) **98b:73024** 73K12

— (*with* Boer, M. P.; Kooijman, S. A. L. M.) Complex dynamic behaviour of autonomous microbial food chains. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 24–40. (Summary) **98j:92019** 92D40 (34C05, 34C23)

— (*with* Kooijman, S. A. L. M.) Population dynamics of rotifers in chemostats. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1687–1698. (*see* **98i:00029**) 92D25

Kooij, Robert E. (*with* Sun, Jian Hua[1]) A note on: "Uniqueness of limit cycles in a Liénard-type system" [J. Math. Anal. Appl. **184** (1994), no. 2, 348–359; MR 95c:34027] by X. C. Huang and P. T. Sun. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 260–276. (Summary) **98b:34041** 34C05

— (*with* Gasull, Armengol; Torregrosa, Joan) Limit cycles in the Holling-Tanner model. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 149–167. (Douglas S. Shafer) **98e:34071** 34C15 (34C05, 92D25)

— (*with* Artés, Joan C.; Llibre, Jaume) Structurally stable quadratic vector fields. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 639, *viii*+108 *pp.* (Yu. S. Il'yashenko) **98m:34053** 34C05 (34D30, 58F21)

Kooijman, S. A. L. M. (*with* Kooi, B. W.; Boer, M. P.) Complex dynamic behaviour of autonomous microbial food chains. (English summary) *J. Math. Biol.* **36** (1997), *no.* 1, 24–40. (Summary) **98j:92019** 92D40 (34C05, 34C23)

— (*with* Kooi, B. W.) Population dynamics of rotifers in chemostats. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1687–1698. (*see* **98i:00029**) 92D25

Koole, Ger Stochastic scheduling with event-based dynamic programming. (English summary) *Ten years LNMB*, 161–169, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (Summary) **98c:90049** 90B35 (90C40)

— On the use of the power series algorithm for general Markov processes, with an application to a Petri net. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 51–56. 90C40 (68Q90)

— (*with* Passchier, Olaf) Optimal control in light traffic Markov decision processes. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 1, 63–79. (Jean B. Lasserre) **98a:90130** 90C40 (93E20)

— Assigning a single server to inhomogeneous queues with switching costs. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 203–216. (Summary) **98f:60192** 60K25 (90B22)

— (*with* Liu, Zhen[1]) Stochastic bounds for queueing systems with multiple on-off sources. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 25–48. (Summary) **98i:60089** 60K25 (90B22)

Koolen, J. H. (*with* Moulton, Vincent) A note on the uniqueness of coherent decompositions. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 444–449. (Summary) **98j:54050** 54E35 (05C10)

Koon, Wang Sang (*with* Marsden, Jerrold E.) The Hamiltonian and Lagrangian approaches to the dynamics of nonholonomic systems. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 21–62. (Frans Cantrijn) **98k:70004** 70F25 (58F05, 70H05, 70H35)

— (*with* Marsden, Jerrold E.) Optimal control for holonomic and nonholonomic mechanical systems with symmetry and Lagrangian reduction. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 901–929. (Bozhidar Cheshankov) **98e:49049** 49K15 (58E25, 70E15, 70F25, 70Q05)

Kooper, M. N. (*with* Boersma, B. J.; Nieuwstadt, F. T. M.; Wesseling, P.) Local grid refinement in large-eddy simulations. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 161–175. 76M25 (76F99)

Koopman, Siem Jan (*with* Durbin, James) Monte Carlo maximum likelihood estimation for non-Gaussian state space models. (English summary) *Biometrika* **84** (1997), *no.* 3, 669–684. (Summary) **98m:62241** 62M10

— Exact initial Kalman filtering and smoothing for nonstationary time series models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1630–1638. (Summary) **98m:62267** 62M20

— (*with* Atkinson, A. C.; Shephard, Neil) Detecting shocks: outliers and breaks in time series. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 387–422. 62P20 (62M10)

Koopmans, Lambert H. (*with* Hong, Soon B.) Comparison problems for experiments with curve responses. (English summary) *Statistics, probability and game theory*, 99–113, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62211** 62J10

Koorapaty, Havish (*with* Bitzer, Donald L.; Dholakia, Ajay; Vouk, Mladen A.) On locally invertible rate-$1/n$ convolutional encoders. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 420–422. 94B99

Koornwinder, Tom H. Special functions associated with root systems: recent progress. *From universal morphisms to megabytes: a Baayen space odyssey*, 391–404, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 33C80 (33–02, 33D80)

— Compact quantum groups and q-special functions. *Representations of Lie groups and quantum groups (Trento, 1993)*, 46–128, *Pitman Res. Notes Math. Ser.*, 311, *Longman Sci. Tech., Harlow*, 1994. (Eric M. Opdam) **98h:17017** 17B37 (33D80, 81R50)

— (*with* Stokman, Jasper V.) Limit transitions for BC type multivariable orthogonal polynomials. (English summary) *Canad. J. Math.* **49** (1997), *no.* 2, 373–404. (Tim H. Baker) **98g:33031** 33D45 (33C70)

— (*with* Muller, N. M.) The quantum double of a (locally) compact group. (English summary) *J. Lie Theory* **7** (1997), *no.* 1, 101–120. (Tomasz Brzeziński) **98d:16050** 16W30 (17B37, 81R50)

— (*with* Muller, N. M.) Erratum to: "The quantum double of a (locally) compact group" [J. Lie Theory **7** (1997), no. 1, 101–120; MR 98d:16050]. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 187. 16W30 (17B37, 81R50)

Koosis, Paul A relation between two results about entire functions of exponential type. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 212–231. (Indrajit Lahiri) **98k:30039** 30D15

Kopachevskiĭ, N. D. On the properties of a system of modes of surface waves in a rotating ideal fluid. (Russian) *Functional analysis and applied mathematics (Russian)*, 43–55, 213, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 76B15 (35Q35, 76U05)

— On the p-basis property of the system of root vectors of the selfadjoint operator pencil $I - \lambda A - \lambda^{-1} B$. (Russian) *Functional analysis and applied mathematics (Russian)*, 55–70, 213, "*Naukova Dumka*", *Kiev*, 1982. (*see* **98d:00009**) 47A56 (47A70)

Kopaev, A. V. Functional equation method in problems of flow through a stratified porous medium. *Fluid Dynam.* **32** (1997), *no.* 5, 681–689 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 5, 81–89 (*Russian. Russian summary*). (Summary) **98m:76143** 76S05

— On an integral transformation of functions that are harmonic in a half-space. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 8–11; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 1, 6–9. (Summary) **98f:31012** 31B99 (44A15)

Kopas′, Ī. M. On the behavior of solutions of a system of stochastic differential equations on an invariant set. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 26–29. 60H10

Kopczyński, Wojciech (*with* Czuchry, Ewa) Multipole moments in Kaluza-Klein theories. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 509–518. (Alberto Saa Vazquez) **98m:83069** 83E15

Kopel, Michael Simple and complex adjustment dynamics in Cournot duopoly models. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2031–2048. (Summary) **98b:90031** 90A16 (90D40)

— (*with* Dawid, Herbert) On the economically optimal exploitation of a renewable resource: the case of a convex environment and a convex return function. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 272–297. (Summary) **98e:90050** 90A30

Kopeliovich, Yaacov (*with* Brooks, Robert Wolfe) Uniformization of some quotients of modular curves. (English summary) *Extremal Riemann surfaces (San Francisco, CA, 1995)*, 155–164, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98h:11075** 11G18 (11F12, 11F27, 14G35, 30F10)

— (*with* Adin, Ron M.) Short eigenvectors and multidimensional theta functions. (English summary) *Linear Algebra Appl.* **257** (1997), 49–63. (Riccardo Salvati-Manni) **98k:11048** 11F27

— Cusp forms for congruence subgroups of $\mathrm{Sp}_n(\mathbf{Z})$ and theta functions. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3107–3118. (B. Ramakrishnan) **98k:11054** 11F46 (11F27)

Kopell, Nancy Oscillating networks of neurons: mathematics and function. *The Legacy of Norbert Wiener: A Centennial Symposium (Cambridge, MA, 1994)*, 117–136, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:00039**) 92B20 (34C25, 34E15)

Koper, Nick A. M. (*with* Blommestein, Hans J.) The influence of sample size on the degree of redundancy in spatial lag operators. (English summary) *J. Econometrics* **82** (1998), *no.* 2, 317–333. 62P20

Kop′ev, V. F. (*with* Chernyshev, S. A.) Vortex ring eigen-oscillations as a source of sound. (English summary) *J. Fluid Mech.* **341** (1997), 19–57. (Summary) **98d:76034** 76C05 (76Q05)

Kopf, Tomáš (*with* Santana, Ademir E.; Khanna, F. C.) Thermal field dynamics and bialgebras. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4971–4979. (Silvio De Siena) **98j:81158** 81R50 (17B81, 81T99)

Kopidakis, Y. (*with* Zissimopoulos, Vassilis) An approximation scheme for scheduling independent jobs into subcubes of a hypercube of fixed dimension. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 265–273. (Summary) **98b:68003** 68M20

Kopietz, Peter ★ Bosonization of interacting fermions in arbitrary dimensions. (English summary) Lecture Notes in Physics. New Series m: Monographs, 48. *Springer-Verlag, Berlin*, 1997. xii+259 *pp. ISBN* 3-540-62720-0 (R. L. Ingraham) **98g:81227** 81V70 (82B10, 82B30)

Kopiev, V. F. *see* **Kop′ev, V. F.**

Kôpka, František (*with* Chovanec, Ferdinand) Boolean D-posets. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 183–197. (Summary) **98c:03127** 03G12 (81P10)

Kopke, Peter W. (*with* Henzinger, Thomas A.; Wong-Toi, Howard) The expressive power of clocks. (English summary) *Automata, languages and programming (Szeged, 1995)*, 417–428, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q60 (68Q10, 68Q68)

— (*with* Henzinger, Thomas A.) State equivalences for rectangular hybrid automata. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 530–545, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68177** 68Q60

— (*with* Henzinger, Thomas A.) Discrete-time control for rectangular hybrid automata. (English summary) *Automata, languages and programming (Bologna, 1997)*, 582–593, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:93076** 93C62 (68Q25, 68Q68)

Kopiladze, R. G. (*with* Azbelev, Nikolaĭ Viktorovich; Gaĭshun, Ivan Vasil′evich; Izobov, N. A.; Il′in, Vladimir Aleksandrovich[1]; Rozov, Nikolaĭ Khristovich; Shemyakina, T. K.) Ivan Tarielovich Kiguradze (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 1, 6–11; *translation in Differential Equations* **33** (1997), *no.* 1, 4–10. (Editors) **98k:01016** 01A70

Kopocińska, I. Breakdown processes of conservative systems. (English summary) *Complex Systems* **10** (1996), *no.* 4, 301–309. 60K10 (90B25)

Koponen, Sami (*with* Lahtonen, Jyrki) On the aperiodic and odd correlations of the binary Shanbhag-Kumar-Helleseth sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1593–1596. (Simon N. Litsyn) **98j:94036** 94B65 (11T23)

Kopotun, Kirill A. On K-monotone polynomial and spline approximation in L_p, $0 < p < \infty$ (quasi)norm. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 295–302, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41018** 41A29

— (*with* Hu, Yingkang; Yu, Xiang Ming) On positive and copositive polynomial and spline approximation in $L_p[-1, 1]$, $0 < p < \infty$. (English summary) *J. Approx. Theory* **86** (1996), *no.* 3, 320–334. (Summary) **98e:41009** 41A15 (41A29)

— A note on the convexity of the sum of subpermanents. (English summary) *Linear Algebra Appl.* **245** (1996), 157–169. (Ko-Wei Lih) **98a:15013** 15A15

— (*with* Leviatan, D.) Comonotone polynomial approximation in $\mathbf{L}_p[-1, 1]$, $0 < p \le \infty$. *Acta Math. Hungar.* **77** (1997), *no.* 4, 301–310. (M. Lachance) **98m:41011** 41A10 (41A17, 41A30)

Kopp, P. E. (*with* Cutland, Nigel J.; Willinger, W.; Wyman, M. C.) Convergence of Snell envelopes and critical prices in the American put. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 126–140, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Koppelberg, Sabine (*with* Fuchino, Sakaé; Shelah, Saharon) A game on partial orderings. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 141–148. (Carlos A. Di Prisco) **98a:03072** 03E05 (90D44)

Koppenhagen, Ulla (*with* Mayr, Ernst W.) Optimal Gröbner base algorithms for binomial ideals. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 244–255, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q40 (13P10, 68Q25)

— (*with* Mayr, Ernst W.) The complexity of the coverability, the containment, and the equivalence problems for commutative semigroups. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 257–268, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **98m:20075** 20M14 (68Q25)

Kopper, Christoph (*with* Keller, Georg; Schophaus, Clemens) Perturbative renormalization with flow equations in Minkowski space. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 247–274. (A. L. Rebenko) **98c:81144** 81T17 (81T15)

Kopperman, Ralph (*with* Kovalevskiĭ, V. A.) Some topology-based image processing algorithms. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 174–182, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (E. H. Kronheimer) **98g:68170** 68U05 (54B15, 54D05)

— (*with* Flagg, Robert C.) Fixed points and reflexive domain equations in categories of continuity spaces. (English summary) *Mathematical foundations of programming semantics (New Orleans, LA, 1995)*, 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68150** 68Q55

— (*with* Flagg, Robert C.) Tychonoff poset structures and auxiliary relations. *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 45–61, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Shu Hao Sun) **98g:06002** 06A06 (06B35, 54D15, 54E55, 54F05)

— (*with* Flagg, Robert C.) Computational models for ultrametric spaces. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 9 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68151** 68Q55 (06B35, 54E35)

— (*with* Flagg, Robert C.) Continuity spaces: reconciling domains and metric spaces. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 111–138. (Summary) **98h:68152** 68Q55

— *see also* **Papers on general topology and applications**, **98d:54001**; **98f:54003** *and* **98f:54004**

Koppinen, M. On twisting of comodule algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 2009–2027. (M. Bettina Richmond) **98k:16053** 16W30

Koptev, A. M. On the synthesis of reliable probabilistic networks. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 3, 48–49. 90B12 (90B25)

Kopteva, N. V. On the convergence, uniform with respect to a small parameter, of a four-point scheme for a one-dimensional stationary convection-diffusion equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 951–957, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 958–964 (1997). (Summary) **98k:76098** 76M20 (65M12, 76Rxx)

— On the convergence, uniform with respect to the small parameter, of a difference scheme for an elliptic problem in a strip. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 2, 6–9, 47; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 2, 7–12. (Thomas Apel) **98g:65102** 65N12 (65N06, 65N50)

— On the convergence, uniform with respect to a small parameter, of a scheme with weights for a one-dimensional nonstationary convection-diffusion equation. (Russian. Russian

summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1213–1220. (Summary) **98f:76054** 76M20 (65M12, 76Rxx)

Kopych, M. I. (*with* Blackmore, D. L.; Prikarpat·skiĭ, A. K.; Pritula, N. N.) Transversal splitting of the separatrix manifolds of a generalized Hénon-Heiles Hamiltonian system. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 52–55 (1997). (Vassili G. Gelfreich) **98c:58146** 58F30 (34C37, 58F05, 70H05)

Kopylev, Leonid (*with* Slud, Eric V.) Dependent competing risks with time-dependent covariates. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 323–330, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62G05 (62N05, 62P10)

Kopylov, A. P. *see* **Kopylov, Anatoliĭ Pavlovich**

Kopylov, Alexey P. The undecidability of second order linear affine logic. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 156–166, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **98k:03097** 03D35 (03F50)

Kopylov, Anatoliĭ Pavlovich On the stability of classes of conformal mappings. II. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 326–343, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 281–295. (Adam Lecko) **98h:30011** 30C35 (30C65)

Kopytov, V. M. (*with* Medvedev, N. Ya.) Quasivarieties and varieties of lattice-ordered groups. *Ordered groups and infinite permutation groups*, 1–28, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (W. C. Holland) **98m:06021** 06F15 (20E10)

Korabel'shchikova, S. Yu. Approximation of the semigroup $\mathrm{Hom}(A, P^*)$ by characters. (Russian) *Modern algebra, No. 1* (*Russian*), 31–35, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Mária B. Szendrei) **98b:20111** 20M99

Korach, Ephraim (*with* Gibbons, Phillip B.) Testing shared memories. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1209–1244. (Behrooz Parhami) **98g:68013** 68M15 (68M07, 68Q22, 68Q55)

Koralov, Leonid Effective diffusivity of stationary vector fields with short time correlations. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 303–324. (Albert Fannjiang) **98j:76118** 76M35 (35Q35, 35R60, 60G60, 76F99)

Korambath, Prakashan P. (*with* Wu, Xudong T.; Hayes, Edward F.; Sorensen, Danny C.) Computation of rovibrational eigenvalues of van der Waals molecules on a CRAY T3D. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 286–301. (Summary) **98k:82004** 82–08

Korányi, Adam (*with* Faraut, Jacques) ★ Analysis on symmetric cones. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1994. xii+382 *pp. ISBN* 0-19-853477-9 (Hong Ming Ding) **98g:17031** 17C37 (22E30, 33C80, 35A30, 43A85, 46–02)

— *see also* **Harmonic functions on trees and buildings**, **98b:31001**

Koras, M. (*with* Kaliman, Shulim; Makar-Limanov, Leonid; Russell, Peter) $\mathbf{C}^*$-actions on $\mathbf{C}^3$ are linearizable. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 63–71 (*electronic*). (Dmitri I. Panyushev) **98i:14046** 14L30

Korat, E. (*with* Weese, J.; Maier, Dieter; Honerkamp, J.) Unfolding sphere size distributions with a density estimator based on Tikhonov regularization. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 331–353. (Summary) **98j:65095** 65U05 (62G05)

Korb, T. (*with* Herrmann, Manfred; Hyry, Eero) On Rees algebras with a Gorenstein Veronese subring. *J. Algebra* **200** (1998), *no.* 1, 279–311. (Ngô Viêt Trung) **98m:13006** 13A30 (13D45, 13H10)

Korbaš, Július (*with* Szücs, András) The Lyusternik-Shnirel'man category, vector bundles, and immersions of manifolds. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 289–294. (Summary) **98m:55006** 55M30 (55R25, 57R25, 57R42)

Korbel, K. (*with* Perzyna, P.) Analysis of the influence of various effects on criteria for adiabatic shear band localization in single crystals. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 31–62. 73E99

Korchagin, P. A. (*with* Aminova, Asya V.; Zorin, S. A.) Geodesic structure of four-dimensional P. A. Shirokov spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 7, 3–17; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 7, 1–15. (Valery Marenich) **98c:53018** 53B20 (53B30, 53C22)

Korchmáros, Gábor (*with* Enea, Maria R.) Ovals in commutative semifield planes. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 259–264. (William Cherowitzo) **98e:51012** 51E21 (51A40)

— (*with* Bonisoli, Arrigo; Szőnyi, Tamás) Some multiply derived translation planes with SL(2, 5) as an inherited collineation group in the translation complement. (English summary) *Des. Codes Cryptogr.* **10** (1997), *no.* 2, 109–114. (M. J. Kallaher) **98b:51009** 51E15

Kordas, V. A. (*with* Nakonechnyĭ, A. G.; Levoshich, O. L.) On problems on the control of the intensity of sources in transfer and diffusion problems. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 167–171, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 593–596 (1998). (From the text) **98j:93054** 93C20 (49K20)

Kordecki, Wojciech Small submatroids in random matroids. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 3, 257–266. (Andrzej Ruciński) **98d:05129** 05C80 (05B35)

— Poisson convergence of numbers of vertices of a given degree in random graphs. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 157–172. (Zbigniew Palka) **98c:05145** 05C80 (60C05)

— Reliability bounds for multistage structures with independent components. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 43–51. (Summary) **98f:60176** 60K10 (60J20, 62N05, 90B25)

Kordonis, I.-G. E. (*with* Philos, Ch. G.) Oscillation of neutral difference equations with periodic coefficients. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 7, 11–27. (Summary) **98f:39002** 39A10

— (*with* Philos, Ch. G.; Purnaras, I. K.) On the oscillation of some linear difference equations with periodic coefficients. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 219–241. (Summary) **98m:39016** 39A10

— (*with* Philos, Ch. G.) On the oscillation of nonlinear two-dimensional differential systems. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1661–1667. (Jan Andres) **98g:34062** 34C10

Kordula, Vladimír (*with* Müller, Vladimír; Rakočević, Vladimir) On the semi-Browder spectrum. (English summary) *Studia Math.* **123** (1997), *no.* 1, 1–13. (F.-H. Vasilescu) **98j:47006** 47A13

Kordyukov, Yu. A. Noncommutative spectral geometry of Riemannian foliations. (English summary) *Manuscripta Math.* **94** (1997), *no.* 1, 45–73. (Thomas Ackermann) **98j:58116** 58G15 (46L87, 58B30, 58G26)

Kordzaya, K. D. (*with* Nishida, Goro) A duality theorem in Hopf algebras and its application to Morava K-theory of BZ/p^r. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 771–778. (Nobuaki Yagita) **98c:55007** 55N15 (55R20, 57S25, 57T05)

Korec, Ivan Generalized Pascal triangles: overview of new results. *Algebraic methods in logic and in computer science* (*Warsaw*, 1991), 125–134, *Banach Center Publ.*, 28, *Polish Acad. Sci., Warsaw*, 1993. (From the introduction) **98a:68138** 68Q80 (11B85, 68R15)

— Definability of Pascal's triangles modulo 4 and 6 and some other binary operations from their associated equivalence relations. (English summary) *Acta Univ. Matthaei Belii Nat. Sci. Ser. Ser. Math. No.* 4 (1996), 53–66. (Giuseppe Pellegrino) **98b:05010** 05A10 (04A05)

— Reversibility in generalized Pascal triangles and binary reversibility in one-dimensional cellular automata. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 541–563. (Summary) **98a:68139** 68Q80 (08A70)

— Small universal register machines. Universal machines and computations (Paris, 1995). *Theoret. Comput. Sci.* **168** (1996), *no.* 2, 267–301. (Sam M. Kim) **98b:68035** 68Q05

Korelc, Jože (*with* Wriggers, Peter) Improved enhanced strain four-node element with Taylor expansion of the shape functions. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 3, 407–421. (Summary) **98a:73055** 73V05

Koren, Barry (*with* Désidéri, Jean-Antoine; Hemker, Pieter W.; Lallemand, Marie-Hélène) Research in computational fluid dynamics, stimulated by ERCIM. *From universal morphisms to megabytes: a Baayen space odyssey*, 269–286, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 01A74

— (*with* Hemker, Pieter W.; Lioen, Walter M.; Louter-Nool, Margreet; van der Maarel, H. T. M.) Multigrid for steady gas dynamics problems. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 393–417, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76104** 76M25 (65M55, 76N15)

— (*with* van Leer, Bram) Improving Euler computations at low Mach numbers. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 419–441, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— (*with* Hemker, Pieter W.; de Zeeuw, P. M.) Semi-coarsening in three directions for Euler-flow computations in three dimensions. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 547–567, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— *see also* **Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration**, **98d:76004**

Korenblum, B. (*with* Horowitz, C.; Pinchuk, B.) Sampling sequences for $A^{-\infty}$. *Michigan Math. J.* **44** (1997), *no.* 2, 389–398. (John N. McDonald) **98d:46026** 46E15 (30H05)

— (*with* Mascuilli, A.; Panariello, J.) A generalization of Carleman's uniqueness theorem and a discrete Phragmén-Lindelöf theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2025–2032. (E. P. Merkes) **98h:30056** 30E05 (26E10)

Koreneva, E. B. (*with* Pshenichnov, G. I.) Application of the equation decomposition method to the solution of problems in the theory of the bending of plates of variable thickness. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 553–558. (Summary) **98a:73061** 73V20 (65N50, 73K10)

Korenovskiĭ, A. A. One refinement of the Gurov-Reshetnyak inequality. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 197–204. (Peter W. Day) **98k:26028** 26D10 (46E30)

Korepanov, I. G. (*with* Maillard, J.-M.; Sergeev, S. M.) Classical limit for a 3D lattice spin model. (English summary) *Phys. Lett. A* **232** (1997), *no.* 3-4, 211–216. (Summary) **98d:82011** 82B20

Korepin, Vladimir E. (*with* It·s, A. R.; Waldron, Andrew K.) Probability of phase separation for the Bose gas with delta interaction. (English summary) *STATPHYS 19* (*Xiamen*, 1995), 450–461, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98f:82008** 82B10 (82B26)

— (*with* Frahm, Holger; It·s, A. R.) An operator-valued Riemann-Hilbert problem associated with the *XXX* model. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 133–142, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (Anne Schilling) **98f:82046** 82B23 (58F07)

— (*with* Oota, Takeshi) Scattering of plane waves in self-dual Yang-Mills theory. (English summary) *J. Phys. A* **29** (1996), *no.* 24, L625–L628. (Summary) **98d:81054** 81T13 (35Q40, 58E15)

— (*with* Eßler, Fabian H. L.; Frahm, Holger; It·s, A. R.) Determinant representation for a quantum correlation function of the lattice sine-Gordon model. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 219–244. (Deng Feng Wang) **98d:81069** 81T25 (82B20, 82B23)

— (*with* Kojima, Takeo) The Maxwell-Bloch equation and correlation functions for the penetrable Bose gas. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5105–5121. (Nicolae Angelescu) **98k:82016** 82B10 (82B23)

Korevaar, Jacob Fekete extreme points and related problems. (English summary) *Approximation theory and function series* (*Budapest*, 1995), 35–62, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (J. Siciak) **98c:31004** 31B15

— Electrostatic fields due to distributions of electrons. 100 ans après Th.-J. Stieltjes. *Ann. Fac. Sci. Toulouse Math.* (6) **1996**, *Special issue*, 57–76. (Marius Mitrea) **98k:78020** 78A30 (31A15)

— (*with* Monteric, M. A.) Approximation of the equilibrium distribution by distributions of equal point charges with minimal energy. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2329–2348. (Steven George Krantz) **98i:31003** 31B10 (78A30)

Korevaar, N. (*with* Simon, Leon M.) Equations of mean curvature type with contact angle boundary conditions. *Geometric analysis and the calculus of variations*, 175–201, *Internat. Press, Cambridge, MA*, 1996. (Fei-Tsen Liang) **98e:35071** 35J65 (53A10)

Korey, Michael Brian Carleson conditions for asymptotic weights. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2049–2069. (Stephen Buckley) **98h:42019** 42B25 (46E15)

Korf, Richard E. From approximate to optimal solutions: a case study of number partitioning. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 266–272, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68Q25 (90C27)

Korff, Martin (*with* Ribeiro, Leila) Concurrent derivations as single pushout graph grammar processes. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95)* (*Volterra*, 1995), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q10 (68Q50, 68R10)

Korfiatis, E. (*with* Christodoulakis, T.; Paschos, A.) Erratum: "New method for constructing valid Hamiltonians for class-B spacetimes and the quantization of the general type-V cosmology" [Phys. Rev. D(3) **54** (1996), no. 4, 2691–2698; MR 97k:83008]. *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5279–5280. 83C05 (83C45)

— (*with* Christodoulakis, T.; Kofinas, G.; Paschos, A.) Isolation of the true degree of freedom and normalizable wave functions for the general type V cosmology. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 30–36. 81V17

de castro Korgi, Rodrigo *see* **de Castro Korgi, Rodrigo**

Korhonen, Pekka (*with* Siljamäki, Aapo) Ordinal principal component analysis: theory and an application. (English summary) *Comput. Statist. Data Anal.* **26** (1998), *no.* 4, 411–424. 62H25

Korjik, V. *see* **Korzhik, V. I.**

Korkie, Bob M. (*with* Elliott, Robert James; Geman, Helyette) Portfolio optimization and contingent claim pricing with differential information. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 3-4, 185–203. (Summary) **98d:90034** 90A12 (60H99)

Korkmaz, Recep On the closure of $\mathbf{B}^2_{(-\infty,\infty)}$. *Semigroup Forum* **54** (1997), *no.* 2, 166–174. (Vladimir S. Mazorchuk) **98g:22003** 22A15 (20M18)

Korlie, M. S. Particle modeling of liquid drop formation on a solid surface in 3-D. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 97–114. (Summary) **98f:82060** 82B24 (76B45, 82–04)

— (*with* Greenspan, Donald) Particle simulation of carbon dioxide bubbles in water. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 23–37. (Summary) **98j:76110** 76M25 (76D99)

Korman, Philip Steady states and long time behavior of some convective reaction-diffusion equations. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 165–183. (Wenxian Shen) **98k:35100** 35K57 (35B40)

— Remarks on Nagumo's condition. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 1–9. (Siegfried Carl) **98m:34038** 34B15 (35J60)

Korn, Daniel S. (*with* Kreitz, Christoph) Deciding intuitionistic propositional logic via translation into classical logic. (English summary) *Automated deduction—CADE*-14 (*Townsville*, 1997), 131–145, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (Summary) **98d:03019** 03B25 (03B35, 68T15)

Korn, Edward L. (*with* Faraggi, David) Competing risks with frailty models when treatment affects only one failure type. (English summary) *Biometrika* **83** (1996), *no.* 2, 467–471. (Ramesh C. Gupta) **98f:62288** 62N05

Korn, Ralf Optimal impulse control when control actions have random consequences. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 639–667. (O. L. V. Costa) **98g:49021** 49K45 (60G60, 93E20)

Kornacki, Andrzej Stability of invariant linearly sufficient statistics in the general Gauss-Markov model. (English summary) *Appl. Math.* **42** (1997), *no.* 1, 71–77. (Tonghui T. Wang) **98d:62119** 62J05 (62B05)

Korneev, Vadim G. (*with* Jensen, Søren S.) Preconditioning of the p-version of the finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 215–238. (Summary) **98k:65068** 65N30 (73V05)

Korneĭchuk, N. P. Complexity of approximation problems. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 12, 1683–1694; *translation in Ukrainian Math. J.* **48** (1996), *no.* 12, 1904–1915 (1997). (Gheorghe Coman) **98g:41024** 41A30 (65Y20)

Kőrner, János (*with* Csiszár, Imre) ★ Information theory. (English summary) Coding theorems for discrete memoryless systems. Third edition. *Akadémiai Kiadó* (*Publishing House of the Hungarian Academy of Sciences*), *Budapest; distributed by International Specialized Book Services, Inc., Portland, OR*, 199?. xii+452 *pp. ISBN* 963-05-7440-3 (Editors) **98k:94003** 94A15 (94–02, 94A24, 94A29)

Kőrner, Ralf On the variance of fuzzy random variables. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 83–93. 60E99 (04A72)

— (*with* Näther, Wolfgang) Linear regression with random fuzzy variables: extended classical estimates, best linear estimates, least squares estimates. (English summary) *Inform. Sci.* **109** (1998), *no.* 1-4, 95–118. 62J99 (04A72)

Körner, T. W. ★ The pleasures of counting. (English summary) *Cambridge University Press, Cambridge*, 1996. x+534 *pp. ISBN* 0-521-56087-X; 0-521-56823-4 (J. S. Joel) **98j:00013** 00A71 (00A05, 00A69)

— Olevskiĭ and the divergence of rearranged series. (English summary) *Harmonic analysis from the Pichorides viewpoint* (*Anogia*, 1995), 50–67, *Publ. Math. Orsay*, 96-01, *Univ. Paris XI, Orsay*, 1996. (Summary) **98b:42055** 42C20 (42C15)

— Divergence of decreasing rearranged Fourier series. (English summary) *Ann. of Math.* (2) **144** (1996), *no.* 1, 167–180. (A. Olevskiĭ) **98a:42004** 42A16

Kornev, A. A. On a solution of an initial-boundary value problem for a nonlinear equation. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 6, 100–102; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 52–54 (1996). (Vitaly B. Moroz) **98m:35191** 35Q55 (78A60, 82D10)

— On the peculiarity of the focus type in the solutions of a self-focusing problem with allowance for relativistic and striction nonlinearities. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 5, 437–442. (Summary) **98i:78015** 78A45

Kornev, N. V. Instability and nonlinear dynamics of trailing vortices in an inviscid fluid over a solid surface. *Fluid Dynam.* **32** (1997), *no.* 2, 239–244; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 2, 103–109 (*Russian. Russian summary*). (Summary) **98m:76076** 76E30 (76C05, 76M25)

Kornfeld, Isaac (*with* Lin, Michael) Coboundaries of irreducible Markov operators on $C(K)$. (English summary) *Israel J. Math.* **97** (1997), 189–202. (Wojciech Bartoszek) **98d:47029** 47A35 (47B38, 47B65, 47D07)

Kornhauser, I. (*with* Rojas, F.; Faccio, R. J.; Riccardo, J. L.; Vidales, A. M.; Zgrablich, G.) Structure characterization of disordered porous media—a memorial review dedicated to Vicente Mayagoitia. (English summary) *Fractals* **5** (1997), *no.* 3, 355–377. (Rahul Roy) **98m:73017** 73B99 (82B80)

Kornhuber, Ralf (*with* Bornemann, Folkmar A.; Erdmann, Bodo) A posteriori error estimates for elliptic problems in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 3, 1188–1204. (Rolf Rannacher) **98a:65161** 65N30 (65N50)

— ★ Adaptive monotone multigrid methods for nonlinear variational problems. Advances in Numerical Mathematics. *B. G. Teubner, Stuttgart*, 1997. 158 *pp. ISBN* 3-519-02722-4 (Dietrich Braess) **98e:65054** 65K05 (35R35, 65N30, 76M25)

Kornienko, A. G. (*with* Frenkin, A. R.; Chizhov, G. A.) Classification of solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997,** *no.* 5, 10–13. (Summary) **98i:35180** 35Q55 (35C99)

Kornienko, V. V. On the spectra of irregular first-order operator equations. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 103–124; *translation in Sb. Math.* **188** (1997), *no.* 8, 1213–1234. (Vladimir Tulovsky) **98m:47078** 47F05 (34G10, 47A10, 47N20)

Koniss, G. (*with* Schmittmann, B.; Zia, R. K. P.) Asymmetries in structure factor histograms. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3837–3845. (Summary) **98f:82091** 82C20 (82C80)

Kornoushenko, E. K. (*with* Bernshteĭn, A. S.) On applicability of the least squares method to deconvolution problem for discrete-time time-varying linear systems. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 39–44. 93C55

Korobeĭnik, M. Yu. (*with* Vatul'yan, A. O.) On boundary integral equations in magnetoelectroelasticity. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 5, 600–602. (M. O. Basheleĭshvili) **98d:73056** 73R05 (45E05, 73B30, 78A25)

Korobeĭnik, Yu. F. On periodic solutions of the Cauchy problem. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 3, 38–49; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 3, 36–47. (Eduard Feireisl) **98b:35013** 35B10 (30E25, 35A05)

— On periodic solutions of the Cauchy problem. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996,** *no.* 4, 39–49; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 4, 37–47. (Eduard Feireisl) **98b:35014** 35B10 (30E25, 35A05)

— Representing systems of exponentials and the Cauchy problem for partial differential equations with constant coefficients. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 91–132; *translation in Izv. Math.* **61** (1997), *no.* 3, 553–592. (Nicolai N. Tarkhanov) **98h:35032** 35E15 (35A20)

Korobeĭnikov, V. P. (*with* Vorob'ev, D. V.) Analysis of the critical states of physical systems by means of integral relations and catastrophe theory. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 94–98, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 80A25 (58C28)

Korobitsyna, Zh. L. (*with* Tychkov, S. A.) Numerical modeling of heat and mass transfer processes taking into account phase transition in geodynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 733–741. (Summary) **98j:86011** 86A60 (80A22)

Korobkin, A. A. Asymptotic theory of liquid-solid impact. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1724, 507–522. (Touvia Miloh) **98g:76005** 76B10 (76B45)

Korobov, Aleksei Aleksandrovich Lattices of subvarieties of Lie type and bases of identities of some triangular groups. (Russian) *Group and metric properties of mappings* (*Russian*), 37–48, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (J. Wiegold) **98f:20009** 20E10 (20G99)

Korobov, V. I. (*with* Sklyar, G. M.) Local and global exact controllability in Hilbert space. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 84–103. (R. F. Datko) **98m:93016** 93B05 (47N70, 93C25)

Kőroğlu, Hayrettin Chebyshev series solution of linear Fredholm integrodifferential equations. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 4, 489–500. 45L05 (65R20)

Korol'ëv, G. L. Flow separation and nonuniqueness of the solution of equations of an axisymmetric boundary layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 887–894. (Summary) **98d:76046** 76D10 (76D15, 76M20)

Korolev, M. E. (*with* Bondarēv, B. V.) The S. N. Bernstein inequality in the averaging of elliptic systems in periodic random media. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 12, 1638–1650; *translation in Ukrainian Math. J.* **48** (1996), *no.* 12, 1852–1867 (1997). (Alexander A. Pankov) **98c:35014** 35B27 (34E15, 35J99, 35R60)

— (*with* Bondarēv, B. V.) On averaging elliptic systems in periodic random media. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 1, 69–80. (Ya. Ī. Bilopol's'ka) **98f:60120** 60H15 (34E15, 34F05, 35B27, 35R60)

— (*with* Bondarēv, B. V.) A functional law of the iterated logarithm for normalized integrals of processes with weak dependence. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 490–499; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 539–549 (1998). (Summary) **98h:60034** 60F15 (60F17)

Korolev, V. G. (*with* Eleonskiĭ, V. M.) On coding of series of homoclinic loops. (English summary) Nonlinear dynamics, bifurcations and chaotic behavior. *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 6, 1029–1057. (Alexander Loskutov) **98d:58128** 58F14

— (*with* Eleonskiĭ, V. M.; Kulagin, N. E.) Dynamical systems with a Hamiltonian that is a function of momentum moduli: pseudobilliards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6604–6607. (András Krámli) **98d:58056** 58F05 (70H05)

— (*with* Eleonskiĭ, V. M.; Kulagin, N. E.) On a classical analog of the isospectral Schrödinger problem. *JETP Lett.* **65** (1997), *no.* 11, 889–893; *translated from Pis'ma Zh. Éksper. Teoret. Fiz.* **65** (1997), *no.* 11, 851–854 (*Russian*). 81Q05

Korolev, V. Yu. (*with* Bening, V. E.) Asymptotic behavior of generalized Cox processes. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1996,** *no.* 3, 55–68; *translation in Moscow Univ. Comput. Math. Cybernet.* **1996,** *no.* 3, 42–53 (1997). (Jia Gang Wang) **98c:60052** 60G55 (60F05)

— (*with* Bening, V. E.) Asymptotic behavior of generalized nonordinary Cox processes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 4, 3–15, 52. (Summary) **98k:60075** 60G55

Koroleva, M. P. On a generalization of the Perron integral. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 2, 83–85. (V. A. Skvortsov) **98m:26006** 26A39 (42C10)

Korolyuk, V. S. (*with* Borovskich, Yu. V.) ★ Theory of U-statistics. (English summary) Translated from the 1989 Russian original by P. V. Malyshev and D. V. Malyshev and revised by the authors. Mathematics and its Applications, 273. *Kluwer Academic*

Publishers Group, Dordrecht, 1994. x+552 *pp. ISBN* 0-7923-2608-3 (Editors) **98e:60033** 60F05 (60F10, 60F15, 60F17)

— (*with* Svishchuk, A. V.) ★ Semi-Markov random evolutions. (English summary) Translated from the 1992 Russian original by V. Zayats and revised by the authors. Mathematics and its Applications, 308. *Kluwer Academic Publishers, Dordrecht*, 1995. x+310 *pp. ISBN* 0-7923-3150-8 (Editors) **98e:60145** 60K15 (47N30)

— (*with* Svishchuk, A. V.) ★ Evolution of systems in random media. *CRC Press, Boca Raton, FL*, 1995. ii+352 *pp. ISBN* 0-8493-9405-8 (Kyle Siegrist) **98g:60116** 60H25 (60J60, 60K15, 60K30)

— (*with* Yadrenko, M. I.; Kartashov, N. V.; Moskal′tsova, N. V.) On the creative mathematical activity of Valentin Mikhailovich Shurenkov. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 1–8. (Editors) **98f:01073a** 01A70

— (*with* Kaneva, E. Yu.) Random permanents of mixed sample matrices. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 1, 44–49; *translation in Ukrainian Math. J.* **48** (1996), *no.* 1, 48–55. (Boris A. Khoruzhenko) **98e:60032** 60F05 (15A15)

— Singularly perturbed stochastic systems. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 25–34; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 1, 25–35. (Thomas C. Gard) **98d:34088** 34F05 (34E15, 34G20, 60H25)

— (*with* Berezanskiĭ, Yuriĭ Makarovich; Kreĭn, Selim Grigor′evich; Mitropol′skiĭ, Yuriĭ Alekseevich; Samoĭlenko, A. M.; Skorokhod, Anatoliĭ Vladimirovich; Skrypnik, Igor′V.) Yuriĭ L′vovich Dalets′kiĭ (on the occasion of his seventieth birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 323–325; *translation in Ukrainian Math. J.* **49** (1997), *no.* 3, 357–359 (1998). 01A70

Koroński, Jan ★ Polyparabolic initial-boundary problems. (English, German, Russian and Polish summaries) Monograph, 119. *Cracow University of Technology, Kraków*, 1991. 95 *pp.* (W. Watzlawek) **98i:35081** 35K35 (35C15)

— The first linear polyparabolic problem for the half-unbounded time-spatial domain with curvilinear boundary. (English summary) *Selected problems of mathematics*, 179–215, *50th Anniv. Cracow Univ. Technol. Anniv. Issue*, 6, *Cracow Univ. Technol., Kraków*, 1995. (W. Watzlawek) **98i:35082** 35K35 (35C15)

— The first Fourier problem for quasilinear parabolic equation in a cylindrical domain. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 5–6, 13–14, 27–34. (A. Borzymowski) **98g:35113** 35K60

— (*with* Szuba-Brandys, Jolanta) Uniqueness and existence of the solution of the first biparabolic limit problem for half-unbounded time-spatial strip. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 6–7, 14, 35–50. (I. N. Tavkhelidze) **98d:35091** 35K35

— (*with* Zdankiewicz, Zbigniew) On the periodic solution of the biparabolic problem with Riquier boundary conditions. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 7–8, 15–16, 59–66. (Peter G. Danilaev) **98e:35082** 35K35 (35B10)

— (*with* Zdankiewicz, Zbigniew) Inverse parabolic problem in a flat layer. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 7, 15, 51–57. (Peter G. Danilaev) **98e:35173** 35R30 (35K99)

— (*with* Zdankiewicz, Zbigniew) Inverse parabolic problem in a half-unbounded domain with curvilinear boundary. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 8, 16, 67–75. (Peter G. Danilaev) **98e:35174** 35R30 (35K99)

— A note on m-parabolic problem for spherical shall. (English summary) *Fasc. Math. No.* 27 (1997), 43–53. 35K35 (35C99)

Korostelëv, A. P. A minimaxity criterion in nonparametric regression based on large-deviations probabilities. (English summary) *Ann. Statist.* **24** (1996), *no.* 3, 1075–1083. (Arup Bose) **98c:62064** 62G05 (62G20)

— (*with* Härdle, Wolfgang) Search for significant variables in nonparametric additive regression. (English summary) *Biometrika* **83** (1996), *no.* 3, 541–549. (Ewaryst Rafajłowicz) **98d:62062** 62G05

— (*with* Leonov, S. L.) Minimax efficiency in the sense of Bahadur for small confidence levels. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 3–15; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 303–313 (1997). (Iosif Pinelis) **98f:62100** 62G05 (62C20)

— (*with* Spokoĭnyĭ, V. G.) Exact asymptotics of minimax Bahadur risk in Lipschitz regression. (English summary) *Statistics* **28** (1996), *no.* 1, 13–24. (Arup Bose) **98c:62065** 62G05 (62G20)

— (*with* Rukhin, Andrew L.) Large deviations probabilities for recursive M-estimators. (English summary) *Stochastics Stochastics Rep.* **57** (1996), *no.* 3-4, 185–197. (Summary) **98k:62043** 62F35

— Minimax large deviations risk in change-point problems. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 365–374. (Yanhong Wu) **98m:62065** 62F12

Korotkevich, G. V. Aleksei Andreevich Lyapunov (October 8, 1911–June 23, 1973). (Russian) *Priroda* **1997**, *no.* 12, 66–67. 01A70

Korotkich, V. V. *see* **Korotkikh, V. V.**

Korotkiĭ, A. I. (*with* Tsepelev, I. A.) Upper and lower bounds on accuracy in the problem of the dynamic determination of parameters. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 227–238, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Alexander S. Denisjuk) **98k:93059** 93C20 (35R30)

Korotkiĭ, V. A. (*with* Obukhov, Yu. N.) On cosmic rotation. (English summary) *Gravity, particles and space-time*, 421–439, *World Sci. Publishing, River Edge, NJ*, 1996. (Seth A. Major) **98c:83019** 83C20

Korotkikh, V. V. ★ Integer code series with some applications in dynamical systems and complexity. (English summary) Сообщения по Прикладной Математике. [Reports in Applied Mathematics] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1993. 67 *pp.* (Jean-Paul Allouche) **98k:58080** 58F03 (11B85)

Korotkin, A. A. (*with* Pankratov, V. A.) Selection of moving objects by a three-layer cellular neural network. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 630–636. (Summary) **98b:68161** 68T05 (68Q80, 92B20)

Korotkin, D. (*with* Samtleben, H.) Poisson realization and quantization of the Geroch group. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, L151–L156. (Simonetta Frittelli) **98f:83037** 83C40 (81T20, 83C20, 83C47)

— (*with* Samtleben, H.) On the quantization of isomonodromic deformations on the torus. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 2013–2029. (Martin Schlichenmaier) **98h:32036** 32G34 (14H15, 32G15, 81T40)

— Some remarks on finite-gap solutions of the Ernst equation. (English summary) *Phys. Lett. A* **229** (1997), *no.* 3, 195–199. (Vasily A. Chernecky) **98i:83014** 83C15 (35Q75, 83C20)

— (*with* Samtleben, H.) Canonical quantization of cylindrical gravitational waves with two polarizations. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 1, 14–17. (Summary) **98j:83033** 83C35 (83C45)

— *see also* **Meinel, R., 98i:83015**

Korotkov, V. B. Some unsolved problems of the theory of integral operators. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 2, 5–17. (A. Böttcher) **98j:47114** 47G10 (45P05)

— On algebraic properties of Akhiezer integral operators. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 569–572, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 488–491. (Anatolij Semenovich Kalitvin) **98e:47049** 47B38 (47D25, 47D50, 47G10)

Korotky, Vladimir A. *see* **Korotkiĭ, V. A.**

Korotyaev, E. L. (*with* Pushnitskiĭ, A. B.) Scattering by an anisotropic potential in a constant electric field. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **230** (1995), *Mat. Vopr. Teor. Rasprostr. Voln.* 25, 103–114, 295–296. (Vladimir Georgescu) **98c:81231** 81U05 (35J10, 35P25, 47F05, 47N50, 81Q10)

— The propagation of the waves in periodic media at large time. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 1, 1–24. (Mayumi Ohmiya) **98h:34149** 34L40 (34B27, 35B40, 35L05)

— The estimates of periodic potentials in terms of effective masses. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 383–400. (Boris M. Levitan) **98f:34127** 34L40 (34L15, 47E05)

— Estimates for the periodic potential in terms of effective masses. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 588–591. (L. V. Kritskov) **98j:34172** 34L40 (81Q05)

— Uniform estimates for the Hill operator. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 740–743. (Alexander A. Kiselev) **98k:34139** 34L40 (34A55, 34B30, 34L05, 47E05)

— The inverse problem for the Hill operator. I. *Internat. Math. Res. Notices* **1997**, *no.* 3, 113–125. (Boris M. Levitan) **98c:34137** 34L40 (34A55, 34B24, 47H15)

— (*with* Kargaev, Pavel) The inverse problem for the Hill operator, a direct approach. *Invent. Math.* **129** (1997), *no.* 3, 567–593. (Boris M. Levitan) **98i:34024** 34A55 (34L40)

Korovin, S. K. (*with* Bobylev, N. A.; Kutuzov, A. A.) Gradient methods in infinite-dimensional problems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1701–1707, 1774 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1668–1675 (1996). (A. M. Galperin) **98a:90131** 90C48 (46N10, 47H19, 49M07)

— (*with* Bobylev, N. A.) An iterative algorithm for the approximate construction of cycles of autonomous systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 3, 301–306, 428; *translation in Differential Equations* **32** (1996), *no.* 3, 304–310. (Mark J. Friedman) **98a:34027** 34C05 (34A50, 34B15, 65L99)

— (*with* Bobylev, N. A.; Bulatov, A. V.; Kutuzov, A. A.) Some properties of mathematical models of neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 179–189; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 474–483. (Summary) **98i:92006** 92B20

— (*with* Emel′yanov, S. V.) Theory of nonlinear feedback under uncertainty. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 273–323. (É. G. Al′brekht) **98i:93052** 93C41 (34H05, 93D21)

— (*with* Babloyantz, A.; Bobylev, N. A.; Nosov, A. P.) Approximating of unstable cycle in nonlinear autonomous systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 333–354. (W. S. Loud) **98i:34045** 34C05 (34A45, 34K15)

— (*with* Bobylev, N. A.; Ismailov, I. G.) Gradient procedures in problems with nonisolated extremals. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 11–13. (Ján Lovíšek) **98m:49014** 49J40 (35J85, 49M07, 65K10)

— (*with* Il′in, A. V.; Fomichev, V. V.) The controllable model method in problems of the inversion of dynamical systems. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 171–173. 93B30 (93A30)

— (*with* Emel′yanov, S. V.; Bobylev, N. A.) On a problem in the theory of robustness. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 747–749. (From the text) **98j:93062** 93D09 (15A42)

Korpusov, M. O. (*with* Pletner, Yu. D.; Sveshnikov, A. G.) On the solvability of an initial-boundary value problem for an equation of internal waves. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 617–620. (From the text) **98a:76015** 76C10 (35Q35, 76U05, 76V05)

— (*with* Pletner, Yu. D.; Sveshnikov, A. G.) The problem of oscillations of a two-sided segment in a stratified fluid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 968–974. (Nikolay G. Kuznetsov) **98m:76043** 76C10 (35M20, 35Q35, 76V05)

— (*with* Pletner, Yu. D.; Sveshnikov, A. G.) Unsteady waves in a stratified fluid that are excited by a change in the normal velocity component on a curvilinear segment. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 9, 1112–1121. (Nikolay G. Kuznetsov) **98m:76044** 76C10 (35M20, 35Q35, 76V05)

Korsakene, D. A. On the Cauchy problem for a second-order degenerate equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 560–562, 576; *translation in Differential Equations* **33** (1997), *no.* 4, 565–568. (Summary) **98k:35079** 35J70

Korsch, H. J. (*with* Müller, C.; Wiescher, H.) On the zeros of the Husimi distribution. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L677–L684. (Summary) **98i:81130** 81S30

Korsh, James F. (*with* Lipschutz, Seymour) Generating multiset permutations in constant time. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 321–335. (Peter Kirschenhofer) **98j:68127** 68R05

— (*with* Lipschutz, Seymour) Shifts and loopless generation of k-ary trees. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 235–240. (Summary) **98m:68043** 68P05 (68R05, 68R10)

Korshunov, Aleksei D. On linear extensions of partially ordered sets. (Russian. Russian summary) *Discrete analysis* (*Russian*), 34–42, 179, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (P. A. Biryukov) **98h:06008** 06A07 (05A16)

— On the number of graphs with a fixed number of vertices, edges, and isolated vertices. (Russian. Russian summary) *Discrete analysis (Russian)*, 43–93, 180, *Trudy Inst. Mat.*, 27, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Lyuben R. Mutafchiev) **98b:05052** 05C30

— On the number of $(-1, 1)$-matrices of order n with a fixed permanent. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 1, 23–42, 92. (G. P. Egorychev) **98h:15009** 15A15 (05B20)

— *see also* **Operations research and discrete analysis, 98d:90013**

Korshunov, D. On distribution tail of the maximum of a random walk. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 97–103. (Noël Veraverbeke) **98i:60027** 60F10

Korst, Jan H. M. (*with* Aarts, Emile H. L.; van Laarhoven, Peter J. M.) Simulated annealing. *Local search in combinatorial optimization*, 91–120, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C27 (68T05, 82C80)

— (*with* Aarts, Emile H. L.; Lenstra, Jan Karel) Scheduling periodic tasks with slack. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 351–362. (Summary) **98i:68033** 68M20

de Kort, Jeroen (*with* Volgenant, Anton) A facet preserving extension of the traveling salesman polytope. (English summary) *Ten years LNMB*, 55–62, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90C35 (68Q25)

Kortanek, K. O. (*with* Xu, Xiaojie; Ye, Yin Yu) An infeasible interior-point algorithm for solving primal and dual geometric programs. (English summary) Interior point methods in theory and practice (Iowa City, IA, 1994). *Math. Programming* **76** (1997), *no.* 1, *Ser. B*, 155–181. (Yin Zhang) **98b:90119** 90C28 (65K05)

— (*with* Nozawa, Ryôhei) A perturbation-based duality classification for max-flow min-cut problems of Strang and Iri. (English summary) *Mathematical programming with data perturbations*, 285–303, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Konrad Engel) **98m:90106** 90C25 (90C35)

de Korte, R. J. *see* **De Korte, R. J.**

Kortelainen, Jari Modifiers connect L-fuzzy sets to topological spaces. (English summary) *Fuzzy Sets and Systems* **89** (1997), *no.* 2, 267–273. (Summary) **98d:54017** 54A40 (04A72)

— Erratum: "Modifiers connect L-fuzzy sets to topological spaces" [Fuzzy Sets and Systems **89** (1997), no. 2, 267–273; MR 98d:54017]. *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 391. 54A40 (04A72)

Kortelainen, Juha (*with* Hakala, Ismo) On the system of word equations $x_1^i x_2^i \cdots x_m^i = y_1^i y_2^i \cdots y_n^i$ $(i = 1, 2, \cdots)$ in a free monoid. (English summary) *Acta Inform.* **34** (1997), *no.* 3, 217–230. (Summary) **98f:68222** 68R15 (20M05, 68Q45)

— (*with* Hakala, Ismo) Polynomial size test sets for commutative languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 291–304. (Summary) **98f:68154** 68Q45

Korten, M. K. Uniqueness for the Cauchy problem with measures as data for $u_t + [= \mathrm{j}\Delta(u-1)$, under optimal conditions of regularity and growth. *Free boundary problems, theory and applications (Zakopane, 1995)*, 231–241, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Elias Tuma) **98h:35089** 35K15 (35R05)

Kortenkamp, U. H. (*with* Richter-Gebert, Jürgen; Sarangarajan, A.; Ziegler, Günter M.) Extremal properties of 0/1-polytopes. (English summary) Dedicated to Jörg M. Wills. *Discrete Comput. Geom.* **17** (1997), *no.* 4, 439–448. (Martin Henk) **98d:52016** 52B12 (90C27)

— Every simplicial polytope with at most $d + 4$ vertices is a quotient of a neighborly polytope. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 455–462. (Katrin Tschirpke) **98h:52024** 52B35 (52B05, 52B12)

Kortram, R. A. The extreme points of a class of functions with positive real part. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 449–459. (T. H. MacGregor) **98k:30049** 30D50

Kortsarts, Y. (*with* Brailovsky, I.; Gutman, Semion; Sivashinsky, G. I.) On the stability of stretched flames. (English summary) *Combust. Theory Model.* **1** (1997), *no.* 2, 143–156. (Summary) **98b:80011** 80A25

Kortsarz, Guy (*with* Bar-Noy, Amotz) The minimum color sum of bipartite graphs. (English summary) *Automata, languages and programming (Bologna, 1997)*, 738–748, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68R10 (05C15, 05C85, 68Q25)

Kortum, Samuel S. Research, patenting, and technological change. (English summary) *Econometrica* **65** (1997), *no.* 6, 1389–1419. 90A11

Korutcheva, E. R. (*with* Gochev, I. G.) On the non-linear excitations in an $S = 1/2$ Heisenberg ferromagnetic chain. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 94–96. (Summary) **98k:82037** 82B20

Korver, Henri (*with* Fredlund, Lars-åke; Groote, Jan Friso) Formal verification of a leader election protocol in process algebra. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 459–486. (Summary) **98e:68166** 68Q60 (68Q10)

de Korvin, A. (*with* Beheshti, M.; Berrashed, A.; Hu, Chen-Yi; Sirisaengtaksin, O.) Fuzzy Petri nets for decision making in uncertain and variable environments. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 3, 309–323. 90A05 (90C70)

— (*with* Kleyle, R.) Transition probabilities for Markov chains having fuzzy states. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 527–546. (Summary) **98d:60131** 60J10 (04A72)

— (*with* Kleyle, R.) Expected transition costs based on a Markov model having fuzzy states with an application to policy selection. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 51–64. (Summary) **98i:90024** 90A19

— (*with* Kleyle, R.) Using the extension theorem to define fuzzy expectation. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 303–311. 60E99 (03E72, 28E10)

Korzan, L. A. A homogeneous mixed problem in the theory of elasticity for a strip with cuts situated on the real axis. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 4, 44–49, 141. (Gennady S. Mishuris) **98c:73030** 73C35 (30F15, 73V35)

— Explicit solution of a special case of a mixed problem in elasticity theory for a plane with cuts lying on the real axis. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 61–67, 141. (Summary) **98h:73025** 73C35 (73V35)

Korzhik, V. I. (*with* Kushnir, D.) Key sharing based on the wire-tap channel type II concept with noisy main channel. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 210–217, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60

Korzhik, Vladimir P. A tighter bounding interval for the 1-chromatic number of a surface. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 95–120. (O. V. Borodin) **98d:05045** 05C10 (05C15)

— A possibly infinite series of surfaces with known 1-chromatic number. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 137–149. (O. V. Borodin) **98e:05030** 05C10 (05C15)

— Nonadditivity of the 1-genus of a graph. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 253–258. (Summary) **98i:05056** 05C10

Korzinov, Lev (*with* Abarbanel, Henry D. I.; Mees, Alistair I.; Starobinets, Igor M.) Optimal control of nonlinear systems to given orbits. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 263–276. (Boris G. Zaslavskiĭ) **98k:49005** 49J15 (34D45, 34H05, 58F40, 93C15)

Kosaka, Iku (*with* Denda, M.) Dislocation and point-force-based approach to the special Green's function BEM for elliptic hole and crack problems in two dimensions. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 15, 2857–2889. (Summary) **98e:73143** 73V10 (73B50, 73C35, 73M25, 73V35)

— (*with* Swan, Colby C.) Voigt-Reuss topology optimization for structures with linear elastic material behaviours. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 3033–3057. (Summary) **98e:73099** 73K40 (73V05)

— (*with* Swan, Colby C.) Voigt-Reuss topology optimization for structures with nonlinear material behaviors. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 20, 3785–3814. (Summary) **98i:73043** 73K40 (73V25)

Kosaki, Hideki (*with* Munemasa, Akihiro; Yamagami, Shigeru) On fusion algebras associated to finite group actions. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 269–290. (Yasuyuki Kawahigashi) **98i:46064** 46L37 (20C10)

— (*with* Sano, Takashi) Non-splitting inclusions of factors of type III_0. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 95–125. (Carl Winsløw) **98d:46070** 46L37

— Automorphisms arising from composition of subfactors. (Japanese) Recent developments in the theory of operator algebras (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 977 (1997), 81–84. (*see* **98f:46002**) 46L37 (46L40)

Kosály, George (*with* Nilsen, Vebjørn) Differentially diffusing scalars in turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3386–3397. 76F99

Kosaraju, S. Rao *see* **Symposium: Foundations of Computer Science, 98i:68017**

Kosarchin, V. I. (*with* Chernukha, Yu. A.) Revised analysis of the thermal stresses in a shallow spherical shell with a foreign inclusion. (English summary) *J. Math. Sci.* **81** (1996), *no.* 6, 3093–3098. 73K15 (73B30)

Koschorke, Ulrich Nonstable and stable monomorphisms of vector bundles. (English summary) *Topology Appl.* **75** (1997), *no.* 3, 261–286. (Donald W. Kahn) **98c:55017** 55R25 (55R50, 55S35, 57R22, 57R90)

Koseff, Jeffrey R. (*with* Briggs, David A.; Ferziger, Joel H.; Monismith, Stephen G.) Turbulent mixing in a shear-free stably stratified two-layer fluid. (English summary) *J. Fluid Mech.* **354** (1998), 175–208. 76F99 (76V05)

Koseleff, P.-V. About approximations of exponentials. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 323–333, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Summary) **98f:22008** 22E15 (65L05)

Koshchii, A. Some non-classical dual variational principles and a posteriori error estimates for elliptic boundary value problems. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 99–103, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35J25 (65N30)

Koshelev, Aleksandr Ivanovich ★ Regularity problem for quasilinear elliptic and parabolic systems. Lecture Notes in Mathematics, 1614. *Springer-Verlag, Berlin*, 1995. xxii+255 *pp. ISBN* 3-540-60251-8 (Michael Wiegner) **98j:35004** 35–02 (35D10, 35J60, 35K55)

Koshelev, Misha (*with* Kosheleva, Olga; Cabrera, Sergio D.; Gibson, Glenn A.) Fast implementations of fuzzy arithmetic operations using fast Fourier transform (FFT). (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 269–277. (Summary) **98g:04011** 04A72

— (*with* Alefeld, Götz; Mayer, Günter) Why it is computationally harder to reconstruct the past than to predict the future. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1683–1689. (Summary) **98e:00003** 00A30

— We can measure any distance or any amount of time with a most primitive clock and a most primitive ruler: a space-time version of Tyszka's result. (English summary) *Geombinatorics* **7** (1998), *no.* 3, 95–100. (Summary) **98m:51027** 51P05

Kosheleva, Olga (*with* Cabrera, Sergio D.; Gibson, Glenn A.; Koshelev, Misha) Fast implementations of fuzzy arithmetic operations using fast Fourier transform (FFT). (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 269–277. (Summary) **98g:04011** 04A72

— (*with* Levichev, A. V.) Intervals in space-time: A. D. Alexandrov is 85. *Reliab. Comput.* **4** (1998), *no.* 1, 109–112. 01A70

Koshevnik, Yu. A. (*with* Schucany, William R.) Asymptotically efficient nonparametric estimation with additional dichotomous observations. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1121–1133. (Summary) **98k:62059** 62G05

Koshevoĭ, G. A. (*with* Danilov, Vladimir I.; Sot-skov, Aleksandr I.) Equilibrium analysis of an economy with innovations. (English summary) *J. Math. Econom.* **27** (1997), *no.* 2, 195–228. (Summary) **98i:90020** 90A14 (90A53)

— (*with* Mosler, Karl) Multivariate Gini indices. (English summary) *J. Multivariate Anal.* **60** (1997), *no.* 2, 252–276. (Jian-Lun Xu) **98e:62093** 62H99 (60E15)

— Homotopy properties of Pareto aggregation rules. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 295–302. (Fouad T. Aleskerov) **98k:90006** 90A08 (90A14)

Koshi, S. The F. and M. Riesz theorem on locally compact abelian groups. *Infinite-dimensional harmonic analysis (Tübingen, 1995)*, 138–145, *Gräbner, Tübingen*, 1996. (Yuji Takahashi) **98c:43003** 43A17 (43A05, 43A10, 43A46)

Koshiba, Takeshi Decision tree learning system with switching evaluator. (English summary) *Advances in artificial intelligence (Toronto, ON, 1996)*, 349–361, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T05

Koshikawa, Hiroaki (*with* Hara, Tamio) Equivariant SK group of manifolds with boundary. *Kyushu J. Math.* **49** (1995), *no.* 2, 455–461. (Introduction) **98e:57033** 57N99

— (*with* Hara, Tamio) Cutting and pasting of G manifolds with boundary. *Kyushu J. Math.* **51** (1997), *no.* 1, 165–178. (R. E. Stong) **98a:57044** 57S17 (57R85)

Koshikawa, S. (*with* Kobayashi, Kazuya) RCS analysis of a parallel-plate waveguide cavity with three-layer material loading. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 142–157, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (From the introduction) **98h:78017** 78A50

Koshimizu, Hiroshi (*with* Takeuchi, Kiyoshi[2]) Cauchy problems for sheaves and its applications. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 58–68. (Andrea D'Agnolo) **98i:32011** 32C38 (35A05, 35A27)

— (*with* Takeuchi, Kiyoshi[2]) A method of desingularization of the study of operators with multiple characteristics. (Japanese) Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 142–149. (*see* **98h:00024**) 58G07 (32C38, 35A27, 35S05)

Koshimura, Miyuki (*with* Hasegawa, Ryuzo; Inoue, Katsumi[2]; Ohta, Yoshihiko) Non-Horn magic sets to incorporate top-down inference into bottom-up theorem proving. (English summary) *Automated deduction—CADE-14* (*Townsville*, 1997), 176–190, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (*see* **98c:68186**) 68T15 (03B35, 68N17)

Koshirskikh, K. N. (*with* Potts, Chris N.; Sevast'yanov, S. V.) An improved algorithm for solving the two-machine flow shop problem with nonsimultaneous arrival of jobs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 1, 13–32, 89. (Summary) **98m:90074** 90B35 (68M20)

Koshita, Hitoshi Quiver and relations for $SL(2, p^n)$ in characteristic p with p odd. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 681–712. (Karin Erdmann) **98m:20018** 20C20 (16G10, 20C33, 20G40)

Koshkarov, A. L. On the search for nonvacuum nonselfdual solutions of Yang-Mills equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 423–428; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1534–1538 (1996). (Gheorghe Zet) **98m:81099** 81T13 (53C80)

Koshkin, G. M. (*with* Kitaeva, A. V.) Stable nonparametric estimation, with an improved rate of convergence, for the multidimensional intensity function. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 202–214; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 876–886. (Summary) **98f:62290** 62N05 (62G05)

Koshlyakov, V. N. On structural transformations of equations of perturbed motion of a certain class of dynamical systems. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 535–539; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 590–594 (1998). (Summary) **98e:34085** 34C29 (70E15, 70K99)

Koshmanenko, V. D. (*with* Samoĭlenko, O. V.) Singular perturbations of finite rank. Point spectrum. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1186–1194. (Anatoly N. Kochubei) **98j:47029** 47A55 (47B25)

Kosiek, Marek (*with* Rudol, Krzysztof) A class of representing measures on the bidisc. *Univ. Iagel. Acta Math. No.* 33 (1996), 87–93. (Emil Straube) **98a:46060** 46J15 (32E25)

Kosiński, Piotr (*with* Maślanka, Paweł) The κ-Weyl group and its algebra. (English summary) *From field theory to quantum groups*, 41–51, *World Sci. Publishing, River Edge, NJ*, 1996. (Jan Sobczyk) **98g:81081** 81R50 (17B37)

— (*with* Brihaye, Yves; Giller, Stefan; Nuyts, Jean) Irreducible representations of an algebra underlying hidden symmetries of a class of quasi-exactly solvable systems of equations. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 201–226. (Allina A. Suzko) **98h:81038** 81R05 (58F19, 81Q05, 81U40)

— (*with* Majewski, Michał; Maślanka, Paweł) Representations of generalized oscillator algebra. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 41–46. (Marcelo R. Ubriaco) **98j:81159** 81R50 (17B10, 81S05)

— (*with* Brihaye, Yves; Giller, Stefan) Linear operators with invariant polynomial space and graded algebra. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 989–999. (Joris Van der Jeugt) **98b:81068** 81R05 (17A70, 22E70)

Košir, Tomaž (*with* Grunenfelder, Luzius) Koszul cohomology for finite families of comodule maps and applications. (English summary) *Comm. Algebra* **25** (1997), *no.* 2, 459–479. (Stefaan Caenepeel) **98a:16041** 16W30 (15A99)

— On the structure of commutative matrices. II. (English summary) *Linear Algebra Appl.* **261** (1997), 293–305. (B. N. Moyls) **98k:15018** 15A27

— (*with* Grunenfelder, Luzius; Guralnick, Robert M.; Radjavi, Heydar) Permutability of characters on algebras. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 63–70. (George F. Seelinger) **98c:16037** 16S50 (15A27, 15A30)

— (*with* Omladič, Matja2; Radjavi, Heydar) Maximal semigroups dominated by 0-1 matrices. (English summary) *Semigroup Forum* **54** (1997), *no.* 2, 175–189. (John A. Hildebrant) **98b:20112** 20M99 (15A99)

— (*with* Grunenfelder, Luzius) Geometric aspects of multiparameter spectral theory. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2525–2546. (J. Čižmár) **98h:13032** 13H15 (14M12, 15A54)

Kosiuczenko, Piotr (*with* Wirsing, Martin) Timed rewriting logic with an application to object-based specification. (English summary) Formal specifications: foundations, methods, tools and applications (Konstancin, 1995). *Sci. Comput. Programming* **28** (1997), *no.* 2-3, 225–246. (Summary) **98d:68117** 68Q42 (68Q65)

Koskela, Pekka (*with* Buckley, Stephen M.; Lu, Guozhen) Boman equals John. (English summary) *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 91–99, *de Gruyter, Berlin*, 1996. (Susan G. Staples) **98m:43013** 43A85 (30C65, 31C45)

— (*with* Stanoyevitch, Alexander) Poincaré inequalities and Steiner symmetrization. *Illinois J. Math.* **40** (1996), *no.* 3, 365–389. (S. K. Vodop'yanov) **98c:46064** 46E35 (26D10)

— (*with* Buckley, Stephen M.) Criteria for imbeddings of Sobolev-Poincaré type. *Internat. Math. Res. Notices* **1996**, *no.* 18, 881–901. (M. Yu. Vasil'chik) **98g:46041** 46E35 (26D10, 30C65)

— (*with* Rohde, Steffen) Hausdorff dimension and mean porosity. *Math. Ann.* **309** (1997), *no.* 4, 593–609. (Wayne Stewart Smith) **98k:28004** 28A75 (28A78, 30C65)

— (*with* Herron, D. A.) Continuity of Sobolev functions and Dirichlet finite harmonic measures. (English summary) *Potential Anal.* **6** (1997), *no.* 4, 347–353. (Takahide Kurokawa) **98i:46027** 46E35 (31C45)

— Old and new on the quasihyperbolic metric. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 205–219, *Springer, New York*, 1998. (Juha Heinonen) **98m:30032** 30C65

Koski, Timo (*with* Janžura, Martin; Otáhal, Antonín) Minimum entropy of error estimation for discrete random variables. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1193–1201. (Summary) **98b:94005** 94A15 (60F05, 62F15, 94A17)

— (*with* Gyllenberg, Mats; Verlaan, Martin) Classification of binary vectors by stochastic complexity. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 47–72. (Summary) **98k:62108** 62H30

Koslik, B. (*with* Breitner, M. H.) In optimal control problem in economics with four linear controls. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 619–634. 90A16 (49K15)

Koslowski, Jürgen Note on free algebras over continuous domains. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 421–425. (Michel Hébert) **98h:08006** 08B20 (06B35, 08C05, 18B35, 68Q55)

— Monads and interpolads in bicategories. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 8, 182–212 (*electronic*). (Summary) **98g:18007** 18D05 (18C15)

Kosmachev, O. S. ★ Об инфинитезимальном анализе на основе конечных групп. (Russian. English and Russian summaries) [Infinitesimal analysis based on finite groups] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R2-97-175. *Obʺed. Inst. Yadernykh Issled., Dubna*, 1997. 13 *pp.* 81R05 (22E70)

Kosmann-Schwarzbach, Yvette From Poisson algebras to Gerstenhaber algebras. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 5, 1243–1274. (Aleksandr Panov) **98b:17032** 17B99 (17B56, 58H99)

— Poisson-Lie groups and beyond. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3807–3813. (Alberto Medina) **98c:58182** 58H15 (17B99, 58F05)

Kosmodem'yanskiĭ, A. A., Jr. The third boundary value problem for the Poisson equation. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 296–298; *translation in Math. Notes* **63** (1998), *no.* 1-2, 257–260. 35J25 (35J05)

Kosmulski, K. (*with* Weron, Karina; Jurlewicz, A.; Mercik, S.) Lévy-stable and extreme value distributions in modelling of dynamical phenomena in complex physical systems. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 545–558, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98b:60030** 60E07 (76F99)

Kosolapov, Yu. S. (*with* Liberzon, A. S.) An implicit relaxation method for computing steady two-dimensional flows of spontaneously condensing steam. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 6, 138–151; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 6, 805–815. (Summary) **98b:76048** 76M20 (76N15)

— (*with* Liberzon, A. S.) An implicit relaxation method for computing steady three-dimensional flows of spontaneously condensing steam. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 759–768. 76M20 (76N99)

Kosov, A. A. On the global stability of nonautonomous systems. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 28–35; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 7, 26–32. (Alexander O. Ignat'ev) **98j:34102** 34D20

— On the global stability of nonautonomous systems. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 33–42; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 30–39 (1998). (Alexander O. Ignat'ev) **98m:34105** 34D20

— Research of dynamics of strategic weapons of the "multipole world" by a method of vector Lyapunov functions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2843–2846. (*see* **98i:00031**) 90B06 (93D30)

Kosower, David A. (*with* Bern, Zvi; Dixon, Lance; Dunbar, David C.) One-loop self-dual and $N = 4$ super Yang-Mills. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 105–115. (Summary) **98a:81214** 81T60 (81T13, 81V05)

Kosowski, Przemysław A simple proof of the spectral continuity of the Sturm-Liouville problem. (English summary) *Linear operators* (*Warsaw*, 1994), 183–186, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Introduction) **98c:34039** 34B24 (34L15, 49R05, 65L10)

Kossak, O. S. (*with* Savula, Ya. G.) Analysis of the free vibrations of elastic structures on the basis of a combined mathematical model. (Ukrainian. English and Russian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 69–74. 73K12

Kossak, Roman Four problems concerning recursively saturated models of arithmetic. (English summary) Special Issue: Models of arithmetic. *Notre Dame J. Formal Logic* **36** (1995), *no.* 4, 519–530. (Fuxing Shen) **98a:03056** 03C62 (03C57)

— (*with* Schmerl, James H.) Arithmetically saturated models of arithmetic. (English summary) Special Issue: Models of arithmetic. *Notre Dame J. Formal Logic* **36** (1995), *no.* 4, 531–546. (Fuxing Shen) **98a:03057** 03C62 (03C57)

— What are infinitesimals and why they cannot be seen. *Amer. Math. Monthly* **103** (1996), *no.* 10, 846–853. (L. D. Kugler) **98j:03095** 03H05 (03H15)

— (*with* Bamber, Nicholas) On two questions concerning the automorphism groups of countable recursively saturated models of PA. (English summary) *Arch. Math. Logic* **36** (1996), *no.* 1, 73–79. (Alexandre Ivanov) **98m:03073** 03C57 (03C15, 03C62, 03H15, 20B27)

Kossakowski, A. (*with* Ingarden, Roman S.; Ohya, Masanori) ★ Information dynamics and open systems. (English summary) Classical and quantum approach. Fundamental Theories of Physics, 86. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x + 307 *pp. ISBN* 0-7923-4473-1 (Bruno Nachtergaele) **98k:82002** 82–02 (00A69, 46L60, 82B10, 82C10)

Kossel, I. P. A note on the completeness of higher order resolution. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 127–132. (A. Tauts) **98f:03009** 03B15 (03B35, 68T15)

Kosseva, A. (*with* Kostadinov, S.) Stability of generalized solutions of Cauchy problem for linear impulsive differential equations with unbounded operators. (English summary) *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **2** (1996), 77–81. (Yuri V. Rogovchenko) **98h:34026** 34A37 (34D05, 34G10)

Kossey, I. P. *see* **Kossel, I. P.**

Kossioris, Georgios T. (*with* Izumiya, Shyuichi) Formation of singularities for viscosity solutions of Hamilton-Jacobi equations. *Singularities and differential equations* (*Warsaw*, 1993), 127–148, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (V. M. Zakalyukin) **98j:58122** 58G17 (35D10, 35F20, 58C27)

— (*with* Izumiya, Shyuichi) Geometric singularities for solutions of single conservation laws. *Arch. Rational Mech. Anal.* **139** (1997), *no.* 3, 255–290. (Philippe G. LeFloch)

98j:35116 35L65 (35A20, 58C27)
— (*with* Izumiya, Shyuichi) Bifurcations of shock waves for viscosity solutions of Hamilton-Jacobi equations of one space variable. (English and French summaries) *Bull. Sci. Math.* **121** (1997), *no.* 8, 619–667. (Victor V. Zharinov) **98m:35131** 35L67 (35D05, 35F25, 58G17)
Kossowski, Marek (*with* Kriele, Marcus) Signature type change and absolute time in general relativity. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 421–427, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C99
— (*with* Kriele, Marcus) Pseudo-Riemannian metrics with signature type change. *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 155–158, *World Sci. Publishing, River Edge, NJ*, 1995. (Robert J. Low) **98a:53102** 53C50
— (*with* Kriele, Marcus) The volume blow-up and characteristic classes for transverse, type-changing, pseudo-Riemannian metrics. (English summary) *Geom. Dedicata* **64** (1997), *no.* 1, 1–16. (Eduardo García-Río) **98a:53101** 53C50 (53C20, 53C22)
Kostadinov, S. (*with* Kosseva, A.) Stability of generalized solutions of Cauchy problem for linear impulsive differential equations with unbounded operators. (English summary) *Izv. Tekhn. Univ. Plovdiv. Fund. Nauk. Prilozhen.* **2** (1996), 77–81. (Yuri V. Rogovchenko) **98b:34026** 34A37 (34D05, 34G10)
Kostant, Bertram Quantum cohomology of the flag manifold as an algebra of rational functions on a unipotent algebraic group. (English summary) *Deformation theory and symplectic geometry (Ascona, 1996)*, 157–175, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Andreas Gathmann) **98h:14027** 14F99 (14M15, 17B35)
— Clifford algebra analogue of the Hopf-Koszul-Samelson theorem, the ρ-decomposition $C(\mathfrak{g}) = \mathrm{End}\, V_\rho \otimes C(P)$, and the $\mathfrak{g}$-module structure of $\bigwedge \mathfrak{g}$. *Adv. Math.* **125** (1997), *no.* 2, 275–350. (M. R. Sepanski (Zbl 882.17002)) **98k:17009** 17B20 (22E60)
Kostelec, Peter J. (*with* Lewis, H. Ralph) The use of Hamilton's principle to derive time-advance algorithms for ordinary differential equations. (English summary) *Comput. Phys. Comm.* **96** (1996), *no.* 2-3, 129–151. (Zdzisław W. Trzaska) **98c:65142** 65L99 (34A45, 70H05)
Kostelich, Eric J. (*with* Barreto, Ernest) Targeting and control of chaos. (English summary) With comments by K. Glass and I. Mareels. *Control and chaos (Honolulu, HI, 1995)*, 158–169, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98b:58116** 58F13
— (*with* Barreto, Ernest; Casas, Fernando; Grebogi, Celso) Control of chaos: impact oscillators and targeting. (English summary) *Interaction between dynamics and control in advanced mechanical systems (Eindhoven, 1996)*, 17–26, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 70K50 (58F13)
— The analysis of chaotic time-series data. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 313–319. (*see* **98e:93002**) 62M10 (58F13)
— *see also* **Glass, Kathryn et al., 98a:58118**
Kostenbauder, Adnah (*with* Sun, Yan[3]; Siegman, A. E.) Eigenmode expansions using biorthogonal functions: complex-valued Hermite-Gaussians. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 8, 1780–1790. (Summary) **98f:78034** 78A60 (33C90)
Kostenko, O. V. (*with* Kubyshkin, E. P.) Chaotic attractors of a boundary value problem that arises in the mechanics of elastic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 999–1005. (Summary) **98e:73058** 73D35 (35Q72, 58F40, 73K12)
Koster, Jan T. A. Markov properties of nonrecursive causal models. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2148–2177. (M. Studený) **98b:62123** 62J05 (62H05, 68T30)
— Gibbs and Markov properties of graphs. (English summary) Advances in the understanding and use of conditional independence (Fort Lauderdale, FL, 1996). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 1, 13–26. (Robert P. Dobrow) **98m:05077** 05C20
Kostich, M. V. Approximation of functions belonging to Weyl-Nagy classes by Zygmund and Rogosinski sums in uniform metrics. (Ukrainian. Ukrainian summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1997,** *no.* 5, 34 *pp.* 42A10 (42A24)
Kostin, A. B. Stability of solutions of inverse coefficient problems for parabolic equations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 6, 62–64, 118; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 6, 18–20 (1996). 35R30 (35K10)
— (*with* Prilepko, A. I.) On some problems of the reconstruction of a boundary condition for a parabolic equation. II. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1519–1528, 1582; *translation in Differential Equations* **32** (1996), *no.* 11, 1515–1525 (1997). (Summary) **98i:35207** 35R30 (35K10)
Kostin, Alekseĭ Vadimovich (*with* Baloshin, Yu. A.) An approach to the exterior Dirichlet problem in $\mathbf{R}^2$ with applications to wave scattering. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 32–37, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35J05 (35J25, 78A45)
Kostin, M. D. Non-negativity condition for cellular automata and other massively parallel computer algorithms. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8173–8175. (Summary) **98f:82122** 82C80
Kostin, V. A. On the uniform correct solvability of boundary value problems for abstract equations with a Keldysh-Feller operator. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 8, 1419–1425, 1439–1440; *translation in Differential Equations* **31** (1995), *no.* 8, 1373–1381 (1996). (Alexei I. Filinkov) **98g:34100** 34G10 (47N20, 65J10)
Kostin, V. I. (*with* Khaĭdukov, V. G.; Cheverda, V. A.) The r-solution and its applications in linearized waveform inversion for a layered background. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 277–294, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98j:35185** 35R30 (35L05, 65M12, 76Q05)
— (*with* Khaĭdukov, V. G.; Cheverda, V. A.) r-solutions of equations of the first kind with a compact operator in Hilbert spaces: existence and stability. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 308–312. (Anton Suhadolc) **98j:47021** 47A50 (65J10, 65J20)
Kostina, E. A. (*with* Gabasov, R.; Kirillova, F. M.) Closable feedback with respect to state for optimization of uncertain control systems. Part 1. Single loop. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 7, 121–130; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 2, 1008–1015. (Summary) **98a:49056** 49N35 (93C42)
— (*with* Kostyukova, O. I.) Investigation of an optimal control problem with a mixed performance index. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 153–161. (È. G. Al'brekht) **98c:49045** 49K15 (49J15)
Köstler, Margot *see* **Poggendorff, J. C., 98g:00006**; **98g:01002a** *and* **98g:01002b**
Kostochka, A. V. A bound of the cardinality of families not containing Δ-systems. (English summary) *The mathematics of Paul Erdős, II*, 229–235, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Zoltán Füredi) **98d:05145** 05D05 (04A20)
— (*with* Deuber, Walter A.; Erdős, Paul[1]; Gunderson, D. S.; Meyer, Anja G.) Intersection statements for systems of sets. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 118–132. (H. L. Abbott) **98f:05144** 05D05
— (*with* Sopena, Eric; Zhu, Xu Ding) Acyclic and oriented chromatic numbers of graphs. (English summary) *J. Graph Theory* **24** (1997), *no.* 4, 331–340. (Michael O. Albertson) **98e:05051** 05C20 (05C15)
— (*with* West, Douglas B.) Total interval number for graphs with bounded degree. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 79–84. (Thomas Andreae) **98a:05088** 05C35 (05C85)
— (*with* Borodin, O. V.; Woodall, Douglas R.) Total colourings of planar graphs with large girth. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 19–24. (Moshe Rosenfeld) **98k:05063** 05C15
Kostoglou, M. (*with* Karabelas, A. J.) An explicit relationship between steady-state size distribution and breakage kernel for limited breakage processes. (English summary) *J. Phys. A* **30** (1997), *no.* 20, L685–L691. 82B99
Kostomarov, D. P. (*with* Zaĭtsev, F. S.; Nefedov, V. V.; Shishkin, A. G.; Robinson, Derek C.; Cox, Martin; O'Brien, M. R.) The influence of non-ohmic currents on the equilibrium of plasma in a tokamak. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 7, 3–25. 76X05 (82D10)
Kostousova, E. K. Polyhedral estimation of the attainability domains of linear multistep systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 57–68. (Andrzej Świerniak) **98d:93007** 93B03 (93C55)
Kostov, Ivan K. (*with* Staudacher, Matthias) Two-dimensional chiral matrix models and string theories. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 75–81. (Summary) **98a:81178** 81T30 (81T40)
Kostov, Vladimir Petrov On invariants of monodromy groups. (English summary) *The Stokes phenomenon and Hilbert's 16th problem (Groningen, 1995)*, 167–184, *World Sci. Publishing, River Edge, NJ*, 1996. (V. A. Golubeva) **98e:32039** 32G34 (34A20)
— On the existence of monodromy groups of Fuchsian systems on Riemann's sphere with unipotent generators. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 1, 125–155. (Andreĭ Bolibrukh) **98b:34013** 34A20 (15A21)
— The minimal number of generators of a matrix algebra. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 4, 549–555. (Summary) **98e:16028** 16S50 (15A21)
— (*with* Degtiariova-Kostova, E. V.) Computations of suboptimal paths in a planar motion with bounded derivative of the curvature. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 124–128, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 49N55 (49M37, 65K10)
degtiariova-Kostova, E. V. *see* **Degtiariova-Kostova, E. V.**
Kostra, Juraj A note on representation of cyclotomic fields. (English summary) *Acta Math. Inform. Univ. Ostraviensis* **4** (1996), *no.* 1, 29–35. (T. Metsänkylä) **98c:11117** 11R18
Kostreva, Michael M. (*with* Abalo, Kokou Y.) Fixed points, Nash games and their organizations. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 205–215. (H. Abou-Kandil) **98j:90101** 90D10
— (*with* Ebiefung, Aniekan A.) The generalized linear complementarity problem: least element theory and Z-matrices. (English summary) *J. Global Optim.* **11** (1997), *no.* 2, 151–161. (R. N. Kaul) **98h:90093** 90C33
Kostrikin, Alekseĭ Ivanovich (*with* Kuznetsov, M. I.) Finite-dimensional Lie algebras with a nonsingular derivation. *Algebra and analysis (Kazan, 1994)*, 81–90, *de Gruyter, Berlin*, 1996. (François Dumas) **98i:17023** 17B40 (17B50, 20D15)
— The beginnings of modular Lie algebra theory. (English summary) *Group theory, algebra, and number theory (Saarbrücken, 1993)*, 13–52, *de Gruyter, Berlin*, 1996. (Georgia M. Benkart) **98e:17028** 17B50 (17–02)
— (*with* Kim, Ann Chi) Some balanced groups and 3-manifolds. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 2, 3–24; *translation in Sb. Math.* **188** (1997), *no.* 2, 173–194. (Ilya Kapovich) **98g:20049a** 20F05 (57M05, 57M07, 57N10)
— (*with* Kim, Ann Chi) Letter to the editors: "Some balanced groups and 3-manifolds". (Russian) *Mat. Sb.* **188** (1997), *no.* 9, 157; *translation in Sb. Math.* **188** (1997), *no.* 9, 1414–1415. (Ilya Kapovich) **98g:20049b** 20F05 (57M05, 57M07, 57N10)
— (*with* Drinfel'd, V. G.; Iskovskikh, V. A.; Tyurin, A. N.; Shafarevich, Igor' Rostislavovich) Yurïĭ Ivanovich Manin (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 233–242; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 863–873. (Editors) **98f:01062** 01A70
— (*with* Iskovskikh, V. A.; Klyachko, Aleksandr Anatol'evich; Kunyavskiĭ, B. È.; Parshin, A. N.; Stepanov, S. A.; Shafarevich, Igor' Rostislavovich) Valentin Evgen'evich Voskresenskiĭ (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 201–202; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1345–1347. 01A70
Kostrikova, N. A. (*with* Ivanov, A. I.) Lie-algebraic approach to the calculation of quasi-energies. (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 285–288. 81R05
Kostrykin, V. (*with* Schrader, Robert) Ionization of atoms and molecules by short, strong laser pulses. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 265–275. (Peter Neu) **98c:81263** 81V80
Kostrzewski, Tadeusz (*with* Knop, Jadwiga; Lupa, Maria; Wróbel, Małgorzata) On a special case of the Gołąb-Schinzel functional equation. *Demonstratio Math.* **30** (1997), *no.* 3, 475–478. 39B22
Kostyukov, I. V. (*with* Gromov, N. A.; Kuratov, V. V.) Quantum orthogonal Cayley-Klein groups in Cartesian basis. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 33–41. (Mariano A. del Olmo) **98k:81111** 81R50 (17B37)
— (*with* Gromov, N. A.; Kuratov, V. V.) The quantum symplectic Cayley-Klein groups. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 177–182. (Nicolás Andruskiewitsch) **98b:81097** 81R50 (16W30, 17B37)
— (*with* Gromov, N. A.; Kuratov, V. V.) Contractions of integrable equations. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 183–188. (Valery V. Obukhov) **98b:58073** 58F07 (17B68)

Kostyanev, S. G. (*with* Dmitriev, Vladimir Ivanovich; Mershchikova, N. A.) On the inverse problem of paleoclimate reconstruction. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 1, 5–12, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 1, 5–14. (Summary) **98j:86006** 86A10 (35R30, 86A22)

Kostyrko, Pavel On convergence preserving transformations of infinite series. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 239–243. (Robert DeVos) **98a:40001** 40A05

— Notes on some problems of Solomon Marcus. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 165–168. (Summary) **98h:26006** 26A15 (26A51)

Kostyuchenko, A. G. (*with* Mirzoev, K. A.) A criterion for complete indeterminacy of trinomial recurrent relations. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 207–208; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1208–1209. (P. P. Zabreĭko) **98m:47052** 47B39 (39A70, 47B25)

Kostyukova, O. I. (*with* Gabasov, R.) Synthesis of optimal feedback for systems with internal constraints on the control. I. Optimal feedback and defining equations for an optimal controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 2, 18–26; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 165–172. (Florin Iacob) **98e:49089** 49N35 (49K15, 93B52)

— (*with* Gabasov, R.) Synthesis of optimal feedback for systems with internal constraints on the control. II. An algorithm for the operation of an optimal controller. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 3, 20–30. (Florin Iacob) **98e:49090** 49N35 (93B40, 93B52)

— (*with* Kalinin, A. I.; Kirillova, F. M.) Stabilization of linear dynamical systems by means of low-inertia controls. I. The accompanying optimal control problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 14–21; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 528–534. (M. Krastanov) **98e:93087** 93D15 (49N05)

— (*with* Kalinin, A. I.; Kirillova, F. M.) Stabilization of linear dynamical systems by means of low-inertia controls. II. Continuous stabilizer. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 45–52; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 749–755. (M. Krastanov) **98k:93096** 93D15 (49N05)

— (*with* Gabasov, R.; Kirillova, F. M.) Real-time construction of a positional solution in a linear problem of hierarchical control. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 29–32. 49N35 (93A13)

— (*with* Kostina, E. A.) Investigation of an optimal control problem with a mixed performance index. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 153–161. (È. G. Al′brekht) **98c:49045** 49K15 (49J15)

Kosugi, N. (*with* Kasahara, Yuji) A limit theorem for occupation times of fractional Brownian motion. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 161–175. (Qi Man Shao) **98i:60020** 60F05 (60G15)

Kosztin, Ioan (*with* Schulten, Klaus) Boundary integral method for stationary states of two-dimensional quantum systems. (English summary) *Internat. J. Modern Phys. C* **8** (1997), *no.* 2, 293–325. (Summary) **98f:81078** 81Q50 (81–08)

Kot, Piotr A remark on the inner Carathéodory distance for the annulus. (English summary) *Univ. Iagel. Acta Math. No.* 35 (1997), 211–212. (Summary) **98g:30048** 30C99

Kotakemori, Hisashi (*with* Niki, Hiroshi; Okamoto, Naotaka) Convergence of a preconditioned iterative method for H-matrices. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 115–118. (Summary) **98i:65023** 65F10

— (*with* Kohno, Toshiyuki; Niki, Hiroshi; Usui, Masataka) Improving the modified Gauss-Seidel method for Z-matrices. (English summary) *Linear Algebra Appl.* **267** (1997), 113–123. (Summary) **98i:65022** 65F10 (65F35)

Kotani, Shinichi Generalized Floquet theory for stationary Schrödinger operators in one dimension. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 11, 1817–1854. (Nariyuki Minami) **98m:34173** 34L40 (34A55, 34L05, 47B80, 60H25, 82B44)

Koteckỳ, R. (*with* Chayes, L.; Shlosman, S. B.) Staggered phases in diluted systems with continuous spins. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 631–640. (Wei-Shih Yang) **98m:82025** 82B26 (82B05)

Kotelnikov, Alexei D. (*with* Montgomery, David C.) Shock induced turbulence in composite materials at moderate Reynolds numbers. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2037–2054. 76F99

Koter-Mórgowska, Małgorzata (*with* Budzyńska, Monika; Kaczor, Wiesława) Asymptotic normal structure, semi-Opial property and fixed points. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 33–41. (Brailey Sims) **98g:47048** 47H10 (46B20, 47H09)

— (*with* Kaczor, Wiesława) Firmly Lipschitzian mappings. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 77–85. (Summary) **98g:47046** 47H09 (47H10)

— (*with* Budzyńska, Monika; Kaczor, Wiesława; Kuczumow, Tadeusz) Asymptotic normal structure and the semi-Opial property. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3505–3515. (Introduction) **98m:46011** 46B20 (47H09, 47H10)

Kothari, Suraj C. (*with* Mitra, Simanta) Analysis of computational balance of parallel numerical algorithms. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65Y05

Kothe, Douglas B. (*with* Ferrell, Robert C.; Turner, John A.) PGSLib: a library for portable, parallel, unstructured mesh simulations. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 7 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04 (65N55)

— (*with* Rider, W. J.; Puckett, E. G.; Aleinov, Igor D.) Accurate and robust methods for variable density incompressible flows with discontinuities. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 213–230, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76M25 (65M99)

Kothri, R. K. (*with* Singh, Awadhesh Kumar[2]) Curvature collineations in a Kaehler space. *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 19–24. (Andrew Bucki) **98d:53026** 53B35

Kotikov, A. V. (*with* Fleischer, Jochem; Veretin, O. L.) The differential equation method: calculation of vertex-type diagrams with one non-zero mass. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 163–172. (Summary) **98k:81179** 81T18

Kotkin, G. G. (*with* Gorchakov, A. Yu.) Necessary and sufficient convergence conditions for a class of nonlinear programming methods. *J. Comput. Systems Sci. Internat.* **34** (1996), *no.* 4, 132–144; *translated from Izv. Ross. Akad. Nauk Teor. Sistemy Upravlen.* **1995**, *no.* 1, 118–130 (*Russian. Russian summary*). (Summary) **98c:90157** 90C30 (65K05)

Kotlyar, B. D. On inscribed and circumscribed bodies. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 104–111. (Marek Lassak) **98i:52011** 52A40 (51M16, 51M25, 52A38)

Kotlyarov, V. P. (*with* Anders, I. A.; Khruslov, Evgeniĭ Yakovlevich) Soliton asymptotics of non-localized solutions of non-linear evolutionary equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 3951–3961. (*see* **98i:00032**) 35Q53 (35Q51)

Koto, Toshiyuki Stability properties of Runge-Kutta methods for delay differential equations. (English summary) *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 107–114, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (T. E. Simos) **98f:65072** 65L06 (65L20)

— The stability of natural Runge-Kutta methods for nonlinear delay differential equations. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 1, 111–123. (J. Švejda) **98c:65125** 65L06 (34K05, 65L20)

— Stability analysis of Runge-Kutta methods and continued fraction expansions. (Japanese) Theory and application of numerical calculation in science and technology, II (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 990 (1997), 169–178. (*see* **98j:65001**) 65L06

Kotousov, A. G. (*with* Makhutov, N. A.) Conservation laws and invariant integrals in the theory of elasticity. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 476–478; *translation in Phys. Dokl.* **41** (1996), *no.* 12, 602–604. (Stan Chiriță) **98h:73021** 73C02

Kotov, A. Yu. Remarks on geometric quantization of Poisson brackets of R-matrix type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 241–248; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 988–994 (1998). (Summary) **98h:58071** 58F06

Kotov, V. A. *see* **Dorogovtsev, A. Ya. et al., 98k:60001**

Kotov, V. E. (*with* Starkova, Svetlana A.; Virbitskaite, Irina B.) On varieties of density and crossing properties for event structures. (English summary) *Comput. Artificial Intelligence* **14** (1995), *no.* 6, 611–622. (Ferucio Laurentiu Tiplea) **98a:68140** 68Q90

Kotov, V. N. Reminiscences about my bosom friend. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 9–12. (Editors) **98f:01073b** 01A70

Kotov, Vadim E. *see* **Kotov, V. E.**

Kotovsky, Kenneth (*with* Cagan, Jonathan) Simulated annealing and the generation of the objective function: a model of learning during problem solving. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 534–581. 68T20

Kotowski, Jerzy (*with* Klempous, Ryszard; Nikodem, Jan; Ułasiewicz, Jędrzej) Optimization algorithms of operative control in water distribution systems. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 1, 81–99. 65K10 (49N55, 90C90)

Kotowski, S. Control of the mechanical systems by means of sliding modes and the solution to the problem of constraint reactions. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 1, 83–89. 93C85 (70Q05)

Kotrle, M. (*with* Chajda, Ivan) The variety Boolean semiring. *Kyungpook Math. J.* **37** (1997), *no.* 1, 93–98. (R. Sh. Grigolia) **98e:06005** 06E20 (08B10, 16Y60)

Kotropoulos, C. (*with* Pitas, I.; Nikolaidis, N.; Borş, A. G.) Robust and adaptive techniques in self-organizing neural networks. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4517–4528. (*see* **98i:00032**) 68T05 (42B20)

Kotschick, Dieter The Seiberg-Witten invariants of symplectic four-manifolds (after C. H. Taubes). (English summary) Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 812, 4, 195–220. (Tedi C. Draghici) **98h:57057** 57R57 (57N13, 57R15, 58D29)

Kotsios, Stelios (*with* Feely, Orla) A BIBO stability theorem for a two-dimensional feedback discrete system with discontinuities. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 533–537. 93D15 (93D05)

Kotsopulos, A. (*with* Bitzarakis, S.; Papadrakakis, M.) Parallel solution techniques in computational structural mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 1-2, 75–104. (Summary) **98h:73042** 73V20 (65Y05, 73K12)

Kotta, Ülle Model matching problem for nonlinear recursive systems. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 4, 251–261. 93B30 (93C55)

Kötter, Ralf Fast generalized minimum-distance decoding of algebraic-geometry and Reed-Solomon codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 721–737. (Giorgio Faina) **98d:94029** 94B05 (94B27)

Kotukhov, M. P. On some differential properties of solutions of a partial differential equation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 5, 59–62; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 5, 57–60. (A. O. Oganesyan) **98f:35088** 35L20 (35B99)

Kotulski, Marcin Asymptotic behavior of generalized Lévy walks. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 471–477, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Summary) **98e:60112** 60J15

— (*with* Weron, Karina) Random walk approach to relaxation in disordered systems. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 379–388, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **98h:60026** 60F05 (60J15, 60K99, 82C41, 82C44)

Kotus, Janina (*with* Keen, Linda) Dynamics of the family $\lambda \tan z$. (English summary) *Conform. Geom. Dyn.* **1** (1997), 28–57 (*electronic*). (I. N. Baker) **98h:58159** 58F23 (30D05)

Kotwicki, A. T. (*with* Shil′nov, Yu. I.; Chitov, V. V.) Chiral symmetry breaking in quantum R^2-gravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 34, 2599–2612. 83C45 (81V17)

Kotyczka, Uwe (*with* Oswald, Peter) Piecewise linear prewavelets of small support. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995),

235–242, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98e:42035** 42C15

Kotyński, Rafał (*with* Goudail, François; Réfrégier, Philippe) Comparison of the performance of linear and nonlinear filters in the presence of nonergodic noise. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 9, 2162–2167. 94A12

Kotz, Samuel (*with* Balakrishnan, Narayanaswamy) Advances in urn models during the past two decades. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 203–257, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:60012** 60C05 (62E15)

— *see also* **Advances in the theory and practice of statistics**, **98e:62006** *and* **Johnson, Norman Lloyd**[2], **98f:01068**

Kotzer, Tuvia (*with* Cohen, Nir; Shamir, Joseph) A projection-based algorithm for consistent and inconsistent constraints. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 527–546. (A. M. Galperin) **98c:65100** 65K10 (47H17, 47N10, 49M20, 65D15)

Kou, Hong-Sen (*with* Lee, Chi-Liang) Adaptive parameter scheme in solving one-dimensional advection-diffusion equation including a variable source term. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 257–269. (Summary) **98b:65093** 65L50

Kou, Ji Song (*with* Ma, Feng Ning; Wang, Jin Min; Li, Min Qiang) A new method for finding intersection curves of solids of revolution. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 2, 231–239. 65D17

— (*with* Ma, Feng Ning; Li, Min Qiang) A quick method for the elimination of multiple surfaces. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 394–398. (Chuan Yu Ma) **98g:53006** 53A05

Kou, S. G. (*with* Ying, Zhiliang) Asymptotics for a 2×2 table with fixed margins. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 809–829. (Ram Shanmugam) **98b:62103** 62H17 (62E20)

— (*with* Chow, Yuan Shih) A central limit theorem for the number of success runs: an example of regenerative processes. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 157–166. (A. N. Philippou) **98g:60044** 60F05

Kou, Xiao Ming (*with* Shi, Dong Yang; Fang, Jian Yin) A class of product-type two-parameter rectangular plate elements with geometric symmetry. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 2, 18–22. 65N30 (73V05)

Kouada, Issoufou Upper-semi-continuity and cone-concavity of multi-valued vector functions in a duality theory for vector optimization. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 169–192. (Constantin Zălinescu) **98h:90069** 90C29 (49N15)

— Cone convexity of measured set vector functions and vector optimization. (English and French summaries) *RAIRO Rech. Opér.* **31** (1997), *no.* 3, 211–230. (Laura Martein) **98e:90140** 90C29 (90C48)

Kouassi, Djokouri A. (*with* Singh, Jagbir[1]) A semiparametric approach to hazard estimation with randomly censored observations. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1351–1355. 62G05 (62N05)

Koubarakis, Manolis From local to global consistency in temporal constraint networks. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 53–69, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **98e:68226** 68T20

— The complexity of query evaluation in indefinite temporal constraint databases. (English summary) *Theoret. Comput. Sci.* **171** (1997), *no.* 1-2, 25–60. (Summary) **98j:68018** 68P15

Koubek, A. Local operators in massive quantum field theories. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 285–290, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81T99

Koubek, V. (*with* Demlová, M.) Subdirectly dominated semigroup varieties. (English summary) *Algebra Universalis* **38** (1997), *no.* 1, 15–35. (Shelly L. Wismath) **98k:20094** 20M07 (08B26)

— (*with* Caha, R.) Spanning regular caterpillars in hypercubes. (English summary) *European J. Combin.* **18** (1997), *no.* 3, 249–266. (L. W. Beineke) **98a:05110** 05C70 (05C05)

Kouchnarenko, O. (*with* Schnoebelen, Ph.) A model for recursive-parallel programs. (English summary) *First International Workshop on Verification of Infinite State Systems* (*Pisa*, 1996), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (*see* **98g:68008**) 68Q10 (68Q05, 68Q55)

Kouémou-Patcheu, Solange (*with* Komornik, Vilmos) Well-posedness and decay estimates for a Petrovsky system with internal damping. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 245–260. (Enrique Zuazua) **98g:35188** 35Q72 (35B40, 73K10, 93D15)

— On a global solution and asymptotic behaviour for the generalized damped extensible beam equation. (English summary) *J. Differential Equations* **135** (1997), *no.* 2, 299–314. (Takashi Narazaki) **98f:35146** 35Q72 (34G20, 35B40, 73D35, 73K05)

Koufany, K. (*with* Ørsted, Bent) Hardy spaces on two-sheeted covering semigroups. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 245–267. (Karl-Hermann Neeb) **98k:22060** 22E46 (17C36, 22E30)

Koufogiorgos, Themis Contact strongly pseudo-convex integrable CR metrics as critical points. *J. Geom.* **59** (1997), *no.* 1-2, 94–102. (Zbigniew Olszak) **98d:58034** 58E11 (53C15)

— Contact Riemannian manifolds with constant φ-sectional curvature. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 1, 13–22. (Raúl Ibáñez) **98e:53045** 53C15

Kougias, I. E. On the existence of analytic solutions of nonhomogeneous Jacobi equations. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 3, 255–262. (Summary) **98a:34008** 34A25 (33C45)

Kouider, Mekkia (*with* Winkler, Peter M.) Mean distance and minimum degree. (English summary) *J. Graph Theory* **25** (1997), *no.* 1, 95–99. (Mirosław Truszczyński) **98d:05049** 05C12 (05C35)

Koukkous, A. (*with* Benois, O.; Landim, C.) Diffusive behavior of asymmetric zero-range processes. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 577–591. (Rossana Marra) **98j:82045** 82C22 (60K35)

Koukoutsis, E. (*with* Papaodysseus, C.; Stavrakakis, G.; Halkias, C. C.) Exact analysis of the finite precision error generation and propagation in the FAEST and the fast transversal algorithms: a general methodology for developing robust RLS schemes. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 29–41. 65G05

Koukouvinos, Christos (*with* Mitrouli, M.) On the growth problems for D-optimal designs. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 341–348, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F30

— (*with* Seberry, Jennifer; Whiteman, A. L.; Xia, Ming Yuan) Optimal designs, supplementary difference sets and multipliers. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 81–90. (Summary) **98d:62131** 62K05 (05B10)

— (*with* Seberry, Jennifer) Weighing matrices and their applications. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 91–101. (Summary) **98c:62143** 62K05 (62K10)

— Some new orthogonal designs of order 36. (English summary) *Util. Math.* **51** (1997), 65–71. (Summary) **98h:05026** 05B05

— On almost D-optimal first order saturated designs and their efficiency. (English summary) *Util. Math.* **52** (1997), 113–121. (Summary) **98i:05014** 05B05

— Weighing experiments with $n \equiv 2 \pmod 4$ observations. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 1, 27–31. 62K05 (05B15, 62K15)

Koul, Hira L. Asymptotics of M-estimators in non-linear regression with long-range dependent errors. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 272–290, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62124** 62J02 (62G05)

— (*with* Schick, Anton) Adaptive estimation in a random coefficient autoregressive model. (English summary) *Ann. Statist.* **24** (1996), *no.* 3, 1025–1052. (Arup Bose) **98c:62066** 62G05 (62M10)

— (*with* Surgailis, Donatas) Asymptotic expansion of M-estimators with long-memory errors. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 818–850. (Roger Gay) **98c:62172** 62M10

— (*with* Hall, Peter Gavin; Turlach, Berwin A.) Note on convergence rates of semiparametric estimators of dependence index. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1725–1739. (Arup Bose) **98f:62253** 62M10 (62G05)

— *see also* **Analysis of censored data**, **98g:62003**

Koulamas, Christos (*with* Kyparisis, George J.) Open shop scheduling with maximal machines. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 175–187. (Summary) **98e:90078** 90B35

— Maximizing the weighted number of on-time jobs in single machine scheduling with time windows. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 57–62. 90B35

el Koulani, Abdelmajid *see* **El Koulani, Abdelmajid**

Koulova-Nenova, D. (*with* Kaschiev, M.) Newton's method for solution of one complex eigenvalue problem. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 227–235, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L15 (65F15, 65J10)

Koumandos, Stamatis A note on a monotonicity property of Bessel functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 3, 561–566. (N. Hayek Calil) **98i:33006** 33C10

— (*with* Brown, Gavin) On a monotonic trigonometric sum. (English summary) *Monatsh. Math.* **123** (1997), *no.* 2, 109–119. (Gradimir V. Milovanović) **98j:42001** 42A05 (42A32)

— (*with* Martin, Keith M.) The filing cabinet problem. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 25–30. 05A99

Koumboulis, Fotis N. (*with* Skarpetis, M. G.) Robust disturbance rejection with simultaneous robust input-output decoupling. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1415–1421. (Summary) **98c:93097** 93D21 (93B36)

— Block decoupling of generalized state space systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1885–1897. 93A14 (93C05)

— (*with* Tzierakis, Konstantinos G.) Meeting transfer function requirements via static measurement output feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 661–677. 93B52 (93C80)

Koumoullis, George Baire category in spaces of measures. *Adv. Math.* **124** (1996), *no.* 1, 1–24. (K. P. S. Bhaskara Rao) **98b:54042** 54E52 (28C15)

Koumoutsakos, P. Inviscid axisymmetrization of an elliptical vortex. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 821–857. (Summary) **98i:76065** 76M25 (76C05)

Kounadis, Anthony N. Non-potential dissipative systems exhibiting periodic attractors in regions of divergence. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 4, 583–612. (Summary) **98a:73035** 73H10 (58F40, 73H05, 73K12)

— (*with* Bolotin, V. V.; Grishko, A. A.; Gantes, Ch.; Roberts, J. B.) Influence of initial conditions on the postcritical behavior of a nonlinear aeroelastic system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 63–81. 73K70 (58F40, 73H10)

Kounchev, Ognyan Iv. (*with* Haußmann, Werner) Peano theorem for linear functionals vanishing on polyharmonic functions. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 233–240, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41030** 41A63 (46E99)

— Minimizing the Laplacian of a function squared with prescribed values on interior boundaries—theory of polysplines. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2105–2128. (Z. Ditzian) **98h:41038** 41A63 (41A15, 65D07)

Kounnas, Costas (*with* Kiritsis, Elias) Infrared behavior of closed superstrings in strong magnetic and gravitational fields. (English summary) *Nuclear Phys. B* **456** (1995), *no.* 3, 699–731. (George K. Savvidy) **98d:81089** 81T30

— (*with* Kiritsis, Elias; Lüst, Dieter) Non-compact Calabi-Yau spaces and other non-trivial backgrounds for four-dimensional superstrings. (English summary) *Mirror symmetry, II*, 427–441, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Tsou Sheung Tsun) **98f:81265** 81T30 (83E30)

— BPS states in superstrings with spontaneously broken SUSY ($N = 4 \to N = 2 \to N = 1$). (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 57–78. (Summary) **98j:81283** 81T30 (81R40, 81T60)

— (*with* Bars, Itzhak) Theories with two times. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 25–32. (Summary) **98d:81074** 81T30 (83E30)

— (*with* Bars, Itzhak) String and particle with two times. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3664–3671. (C. Gauthier) **98j:81250** 81T30

— (*with* Gregori, Andrea; Kiritsis, Elias; Obers, N. A.; Petropoulos, P. M.; Pioline, B.) R^2 corrections and non-perturbative dualities of $N = 4$ string ground states. (English

summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 423–476. (Summary) **98j:81274** 81T30 (83E30)

Kountanis, Dionysios I. (*with* Ichishima, Rikio; Nurul, Md. Azam) An efficient parallel sorting network. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 11–24. (Summary) **98k:68077** 68Q22 (68M10, 68P10)

— (*with* Litiu, Radu) Closest pair for two separated sets of points. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 97–111. (Summary) **98j:05049** 05B99

— (*with* Kokkinos, Konstantinos) Approximations to rectilinear Steiner trees on a Z-cube. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 205–218. (Summary) **98j:05051** 05C05

Kour, Kamaljeet (*with* Singh, Raj Kishor; Singh, Bhopinder) Idempotent composition and multiplication operators on a space of operators. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 257–262 (1997). (Volker Runde) **98d:47073** 47B49 (46A32, 47B47, 47D15)

— (*with* Singh, Bhopinder) On weighted composition operators on non-locally convex function spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1505–1512. (Summary) **98k:47065** 47B38

— (*with* Singh, Bhopinder; Sharma, Som Datt) Disjointness preserving operators on continuous function spaces. (English summary) *Math. Today* (*Ahmedabad*) **15** (1997), 51–54. (W. A. J. Luxemburg) **98k:47066** 47B38 (46E40, 47B60)

Kouremenos, Theokritos Mathematical rigor and the origin of the exhaustion method. *Centaurus* **39** (1997), *no.* 3, 230–252. (Richard L. Francis) **98f:01008** 01A20 (01A45)

Kouri, Donald J. (*with* Hoffman, David K.) A tutorial on computational approaches to quantum scattering. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 19–82, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Takashi Ichinose) **98k:81290** 81U05 (81–02, 81–08)

— (*with* Wei, Guo Wei^2; Zhang, De Sheng; Hoffman, David K.) A robust and reliable approach to nonlinear dynamical problems. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 87–92. 65M99

— (*with* Wei, Guo Wei^2; Zhang, De Sheng; Hoffman, David K.) Distributed approximating functional approach to Burgers' equation in one and two space dimensions. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 93–109. 76D05 (65M99, 76M99)

Kourinny, H. C. Weak representability of M-semilattices. *Algebra Universalis* **36** (1996), *no.* 3, 357–362. (G. Grätzer) **98c:08006** 08A30 (08A35)

Kouritzin, Michael A. On the convergence of linear stochastic approximation procedures. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1305–1309. (Jacek Koronacki) **98f:62235** 62L20 (60F15)

— On the interrelation of almost sure invariance principles for certain stochastic adaptive algorithms and for partial sums of random variables. (English summary) *J. Theoret. Probab.* **9** (1996), *no.* 4, 811–840. (George Yin) **98a:62109** 62L20 (60F15, 60F17)

— Averaging for fundamental solutions of parabolic equations. (English summary) *J. Differential Equations* **136** (1997), *no.* 1, 35–75. (Alexander A. Pankov) **98b:35019** 35B27 (35A08, 35K30)

Kourouklis, Stavros Improved estimation under Pitman's measure of closeness. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 509–518. (Kurt Hoffmann) **98d:62035** 62F10

— A new property of the inverse Gaussian distribution with applications. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 161–166. (J. K. Ord) **98c:62036** 62F10 (62E15)

Koutny, Maciej (*with* Best, Eike) A refined view of the box algebra. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 1–20, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10)

— (*with* Best, Eike) Solving recursive net equations. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 605–623, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q90

— (*with* Janicki, Ryszard) Fundamentals of modelling concurrency using discrete relational structures. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 367–388. (Andrea Maggiolo-Schettini) **98i:68084** 68Q10 (68Q55)

pietkiewicz-Koutny, Marta *see* **Pietkiewicz-Koutny, Marta**

Koutras, Andreas (*with* Mars, Marc) General non-rotating perfect-fluid solution with an abelian spacelike C_3 including only one isometry. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 1075–1082. (Alicia M. Sintes) **98e:83029** 83C20 (83C15)

Koutras, Markos V. On a waiting time distribution in a sequence of Bernoulli trials. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 789–806. (J. A. Melamed) **98e:62025** 62E15

— Waiting times and number of appearances of events in a sequence of discrete random variables. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 363–384, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (J. Glaz) **98k:60016** 60C05 (60D05, 60E10, 60J10)

— (*with* Cacoullos, T.) On the performance of minimum-distance classification rules for Kotz-type elliptical distributions. (English summary) *Advances in the theory and practice of statistics*, 209–224, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **98f:62178** 62H30

— Waiting time distributions associated with runs of fixed length in two-state Markov chains. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 123–139. (Anant P. Godbole) **98f:60013** 60C05 (60J10)

— (*with* Alexandrou, V. A.) Sooner waiting time problems in a sequence of trinary trials. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 593–609. (Summary) **98c:60013** 60E05 (60C05, 60J10)

— (*with* Papadopoulos, G. K.; Papastavridis, Stavros G.) A reliability bound for 2-dimensional consecutive k-out-of-n:F systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3345–3348. (*see* **98k:00034**) 60K10 (62N05)

— (*with* Alexandrou, V. A.) Non-parametric randomness tests based on success runs of fixed length. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 393–404. 62G10

Koutsoumbas, G. (*with* Savvidy, G. K.; Savvidy, K. G.) Curvature representation of the gonihedric action. (English summary) *Europhys. Lett.* **36** (1996), *no.* 5, 331–336. (Mark D. Roberts) **98b:81278** 81V05 (81T30)

Koutsoupias, Elias (*with* Papadimitriou, Christos H.; Yannakakis, Mihalis) Searching a fixed graph. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 280–289, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68205** 68R10 (05C85, 68Q25, 90C35)

Kouvaritakis, B. (*with* Basilio, J. C.) The use of rational eigenvector approximations in commutative controllers. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 333–356. 93B60 (93B51)

— (*with* Basilio, J. C.) An algorithm for coprime matrix fraction description using Sylvester matrices. (English summary) *Linear Algebra Appl.* **266** (1997), 107–125. (K. B. Datta) **98h:15058** 15A99

— (*with* Rossiter, J. A.; Rice, Michael J.) A numerically robust state-space approach to stable-predictive control strategies. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 65–73. 93B40 (93C40)

Kouzov, Daniil P. Boundary-contact problems of acoustics and methods of factorisation. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 102–113, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Summary) **98j:76129** 76Q05 (35J05, 45E05, 73K70)

Kovačević, Branko D. (*with* Đurović, Željko M.) QQ-plot approach to robust Kalman filtering. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 837–857. 93E11 (93B36)

Kovačević-Vujčić, Vera V. (*with* Ašić, Miroslav D.) A new semi-infinite programming method for nonlinear approximation. (English summary) *Applied mathematics and parallel computing*, 11–22, *Physica, Heidelberg*, 1996. (R. Tichatschke) **98h:90100** 90C34 (41A20, 65D30)

— (*with* Ašić, Miroslav D.) An interior point method for transportation problems. (English summary) *Facta Univ. Ser. Math. Inform. No.* 11 (1996), 157–170. (Shu Zhong Zhang) **98e:90093** 90C08

— *see also* **Symposium: Kurepa, Djuro R., 98a:00010**

Kovach, Adam Deflationism and the derivation game. With a reply by Matthew McGrath. *Mind* **106** (1997), *no.* 423, 575–586. 03A05

Kovacheva, Ralitza K. Zeros of Padé approximants for some classes of functions. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 243–250, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Olav Njåstad) **98a:41025** 41A21 (30E10)

— (*with* Ivanov, Ivan Velichkov; Gilewicz, Jacek) Rational functions of best uniform approximation and holomorphic continuation of functions. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 1–9. (A. Bultheel) **98d:41018** 41A20 (30E10)

— (*with* Gonska, Heinz H.) An extension of Montel's theorems to some rational approximating sequences. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 73–86. (Tord H. Ganelius) **98m:30056** 30E10 (30D45)

Kovačič, Gregor (*with* Aceves, Alejandro; Holm, Darryl D.; Timofeyev, Ilya) Homoclinic orbits and chaos in a second-harmonic generating optical cavity. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 203–208. (Summary) **98k:78049** 78A60 (34C37, 58F13, 58F40)

Kováčik, Ondrej Integrable majorant of the partial sums for multiple Haar series. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 233–238, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 42C10

Kovács, Gabriella (*with* Pop, Maria S.) Geometric consequences of a mean value theorem. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 59–64. 51M99

Kovács, György (*with* van Bommel, Patrick) Framework for generating object-oriented databases from conceptual specifications. (English summary) *Acta Cybernet.* **13** (1997), *no.* 2, 103–140. 68P15

Kovács, Katalin On a conjecture concerning additive arithmetical functions. II. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 177–179. (Jean-Marie De Koninck) **98f:11104** 11N64 (11A25)

— On a characterization of abelian groups by sums and differences. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 455–458. 20D60 (11B99)

Kovács, L. G. (*with* Newman, M. F.) Torsionfree varieties of metabelian groups. (English summary) *Infinite groups* 1994 (*Ravello*), 125–128, *de Gruyter, Berlin*, 1996. (J. R. J. Groves) **98f:20010** 20E10 (20F16)

Kovács, Sándor J. Relative de Rham complex for non-smooth morphisms. *Birational algebraic geometry* (*Baltimore, MD*, 1996), 89–100, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (I. Dolgachev) **98f:14014** 14F40 (14D07, 14F05)

— Erratum: "Smooth families over rational and elliptic curves" [J. Algebraic Geom. **5** (1996), no. 2, 369–385; MR 97c:14035]. *J. Algebraic Geom.* **6** (1997), *no.* 2, 391. (From the text) **98k:14048** 14J10 (14J15)

— On the minimal number of singular fibres in a family of surfaces of general type. *J. Reine Angew. Math.* **487** (1997), 171–177. (Caryn Werner) **98a:14038** 14J10 (14J29)

— Families over a base with a birationally nef tangent bundle. *Math. Ann.* **308** (1997), *no.* 2, 347–359. (Yoshiaki Fukuma) **98h:14039** 14J10 (14D99)

Kovács, Szilveszter (*with* Kóczy, László T.) The use of the concept of vague environment in approximate fuzzy reasoning. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 169–181. (*see* **98i:00019**) 03B52

Koval', G. V. On the properties of the infinite-dimensional Riccati equation that arises in the many-fermion problem. (Russian) *Mat. Zametki* **60** (1996), *no.* 2, 298–299; *translation in Math. Notes* **60** (1996), *no.* 1-2, 221–222 (1997). (J. S. Joel) **98c:82004** 82B10 (35Q40)

Koval', V. A. On the rate of convergence of stochastic approximation procedures. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1093–1100 (1996). (Kurt Marti) **98c:62159** 62L20

— (*with* Schwabe, Rainer) A limit theorem for the maximum of dependent Gaussian random elements in a Banach space. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 1005–1008; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1129–1133 (1998). (Summary) **98h:60040** 60F15 (60B12, 60G70)

Kovalenko, A. A parallel k_n-nearest neighbour classifier for estimation of non-linear decision regions. (English summary) *Computational learning and probabilistic reasoning*, 287–294, *Wiley, Chichester*, 1996. (*see* **98h:68007**) 62H30

Kovalenko, E. V. (*with* Zelentsov, V. B.) Asymptotic methods in nonstationary dynamic contact problems for an elastic half-space. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 1, 111–119; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 1, 101–108. (From the text) **98e:73122** 73T05

Kovalenko, Igor N. (*with* Cooper, Colin) An upper bound for the number of complete reflections. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 69–75. (Summary) **98c:60009** 60C05 (20N02, 60F05)

— Ergodic and light traffic properties of a complex repairable system. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 387–409. (Srinivas Chakravarthy) **98e:90069** 90B25 (60K10)

Kovalenko, M. D. On a property of bi-orthogonal expansions in homogeneous solutions. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 193–195; *translation in Phys. Dokl.* **42** (1997), *no.* 1, 34–36. (Gennady S. Mishuris) **98c:73022** 73C02 (73V35)

— Lagrange expansions and nontrivial representations of zero over homogeneous solutions. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 480–482; *translation in Phys. Dokl.* **42** (1997), *no.* 2, 90–92. (L. P. Lebedev) **98e:73028** 73C02 (35Q72, 42A99)

Kovalenko, V. Ī. The structure of finite nondispersive groups each nonmetacyclic subgroup of which is normal. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 10, 1337–1341; *translation in Ukrainian Math. J.* **48** (1996), *no.* 10, 1517–1521 (1997). (Alina A. Vdovina) **98b:20054** 20F19

Kovalev, A. S. Bose-gas with nontrivial interparticle interaction and exotic magnetic solitons. *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 508–516, *World Sci. Publishing, River Edge, NJ*, 1996. (Oktay K. Pashaev) **98h:82018** 82B21

Kovalev, A. V. An $O(|S| \times |T|)$-algorithm to verify if a net is regular. (English summary) *Application and theory of Petri nets* 1996 (*Osaka*, 1996), 366–379, *Lecture Notes in Comput. Sci.*, 1091, *Springer, Berlin*, 1996. (Summary) **98h:68175** 68Q90

Kovalev, M. *see* **Kovalëv, M. M.**

Kovalëv, M. D. On the reconstructability of frameworks from internal stresses. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 4, 37–66; *translation in Izv. Math.* **61** (1997), *no.* 4, 717–741. (Victor Alexandrov) **98j:52039** 52C25 (70B15, 73K05)

Kovalëv, M. M. (*with* Girlich, Eberhard; Zaporozhets, A. A.) A polynomial algorithm for resource allocation problems with polymatroid constraints. (English summary) *Optimization* **37** (1996), *no.* 1, 73–86. (Summary) **98k:90062** 90C10 (90C25)

Kovalëv, M. Ya. A rounding technique to construct approximation algorithms for knapsack and partition-type problems. (English summary) *Appl. Math. Comput. Sci.* **6** (1996), *no.* 4, 789–801. (Summary) **98m:90117** 90C27 (90C10)

— Batch scheduling and common due date assignment problem: an NP-hard case. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 251–254. (Peter B. Milanov) **98m:90068** 90B30 (90C27)

— (*with* Shafranskiĭ, Ya. M.) Batch scheduling with deadlines on parallel machines: an NP-hard case. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 69–74. (Summary) **98i:68034** 68M20 (68Q25, 90B35)

— (*with* Werner, Frank) A polynomial approximation scheme for problem $F2/r_j/C_{\max}$. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 2, 75–79. (Summary) **98b:90070** 90B35

— (*with* Cheng, T. C. Edwin; Lin, Bertrand M.-T.) Single machine scheduling to minimize batch delivery and job earliness penalties. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 547–559. (Yahya Fathi) **98e:90072** 90B35 (90C39)

Kovalev, Vladimir F. (*with* Pustovalov, Veniamin V.) Group and renormgroup symmetry of a simpie model for nonlinear phenomena in optics, gas dynamics, and plasma theory. (English summary) Algorithms and software for symbolic analysis of nonlinear systems. *Math. Comput. Modelling* **25** (1997), *no.* 8-9, 165–179. (*see* **98b:35006**) 35Q99 (35A30, 68Q40, 76M99, 82D10)

— (*with* Baikov, V. A.; Gazizov, R. K.; Ibragimov, N. Kh.) Water redistribution in irrigated soil profiles: invariant solutions of the governing equation. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 4, 395–409. (Summary) **98c:76100** 76S05 (35Q35, 86A05)

— Renormalization group symmetries in problems of nonlinear geometrical optics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 3, 369–388; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 3, 686–702. (Summary) **98i:78006** 78A10

— (*with* Pustovalov, Veniamin V.; Shirkov, Dmitrii V.) Group analysis and renormgroup symmetries. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1170–1188. (A. L. Rebenko) **98k:82068** 82B28 (81T17)

Kovalevskaya, Ê. I. Multidimensional extremal Sprindzhuk surfaces and the Hausdorff dimension. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 114–116, 134. (Eugene M. Matveev) **98d:11090** 11J83

— Effective estimates for measures of sets in $\mathbf{R}^2$ with given approximation properties. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 4, 5–9, 140. (Eugene M. Matveev) **98d:11091** 11J83

Kovalevskaya, Sof'ya *see* **Kowalski, Oldřich** *and* **Blokh, A. M.**

Kovalevskiĭ, A. A. (*with* Nicolosi, Francesco) Boundedness of solutions of variational inequalities with nonlinear degenerated elliptic operators of high order. *Appl. Anal.* **65** (1997), *no.* 3-4, 225–249. (From the introduction) **98k:35080** 35J85 (35B05, 35J30, 49N60)

Kovalevskiĭ, V. A. (*with* Kopperman, Ralph) Some topology-based image processing algorithms. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 174–182, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (E. H. Kronheimer) **98g:68170** 68U05 (54B15, 54D05)

Kovalevskiĭ, V. B. (*with* Kozlov, S. M.) On the solution of the problem of analytic construction of optimal controllers. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 1002–1003, 1008; *translation in Differential Equations* **33** (1997), *no.* 7, 1012–1014 (1998). (Summary) **98k:49006** 49J15 (49L05)

Kovalevsky, Alexander *see* **Kovalevskiĭ, A. A.**

Kovalevsky, Vladimir *see* **Kovalevskiĭ, V. A.**

Kovalyov, Andrei *see* **Kovalev, A. V.**

Kovalyov, M. Erratum to: "Nonlinear interference and the Korteweg-de Vries equation" [Appl. Math. Lett. **9** (1996), no. 5, 89–92]. *Appl. Math. Lett.* **10** (1997), *no.* 5, 133. 35Q53

— Modulating properties of harmonic breather solutions of KdV. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5117–5128. 35Q53

Kovalyov, Mikhail Y. *see* **Kovalëv, M. Ya.**

Kovár, Martin Maria On the problem of weak reflections in compact spaces. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 160–163, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54052** 54D35 (54C20, 54D20, 54D30)

— A remark on Θ-regular spaces. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 199–200. 54A20 (54B10, 54D20, 54D35)

Kovář, Tomáš Note on axioms of a dually residuated lattice ordered semigroup. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 89–90. 06F05 (20M99)

Kovarskis, Bronislavas *see* **Volk, Otto, 98b:01043**

Kovatsenko, S. V. On the reconstruction of the segmentation of dynamic patterns. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 143–148; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 621–626. (Introduction) **98b:94001** 94A12 (68T10)

Kovekh, V. M. (*with* Bolotin, V. V.) The effect of microdamages on fatigue crack growth. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1029–1038; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 1007–1015. 73M25

Kovesi-Domokos, S. (*with* Zoltani, C. K.; Domokos, Gábor) Variational method in the statistical theory of turbulence. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 185–202. (Summary) **98d:76096** 76F99 (76M30, 76M35)

Kovner, Alex Dual superconductivity. Variations on a theme. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 101–111. (Summary) **98b:82090** 82D55 (81V05)

— (*with* Shifman, M. A.; Smilga, A. V.) Domain walls in supersymmetric Yang-Mills theories. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7978–7989. (Summary) **98j:81339** 81T60 (81V05)

Kovshov, Alexandr M. The simple pursuit by a few objects on the multidimensional sphere. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 299–308. (A. M. Tarasyev) **98c:90201** 90D26

Kovtunenko, V. A. Iterative penalty method for plate with a crack. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 667–674. (Summary) **98h:73033** 73C99 (73M25, 73V25)

— Iterative approximations of penalty operators. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 383–387. (Gabriel Dimitriu) **98g:49008** 49J40 (47H19, 73T05, 73V25)

zubik-Kowal, Barbara *see* **Zubik-Kowal, Barbara**

Kowalczuk, Zdzisław Adaptive discrete-time identification of continuous-time systems using adjusted integration. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 1, 41–75. (Summary) **98b:93037** 93C40 (93B30)

— (*with* Suchomski, Piotr) Discrete generalized predictive control with anticipated filtering. (Polish. English and Polish summaries) *Studia Automat. Inform.* **22** (1997), 41–52. 93E11 (93E35)

Kowalczyk, E. Lie bialgebra structures on two-dimensional Galilei algebra and their Lie-Poisson counterparts. (English summary) *Acta Phys. Polon. B* **28** (1997), *no.* 9, 1893–1906. (Aleksandr Panov) **98i:17017** 17B37 (17B81, 81R05)

Kowalczyk, Michał (*with* Alikakos, Nicholas D.; Fusco, Giorgio) Finite-dimensional dynamics and interfaces intersecting the boundary: equilibria and quasi-invariant manifold. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 1119–1155. (Jean-Michel Rakotoson) **98b:35077** 35K55 (35B35, 35Q99)

— Exponentially slow dynamics and interfaces intersecting the boundary. *J. Differential Equations* **138** (1997), *no.* 1, 55–85. (Mehmet Can) **98f:35081** 35K60 (35B25, 35C20)

Łędzewicz-Kowalewska, Urszula *see* **Łędzewicz-Kowalewska, Urszula**

Kowallik, Hans *see* **Landau, Rubin H., 98c:65001**

Kowalski, Krzysztof Nonlinear dynamical systems and classical orthogonal polynomials. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2483–2505. (Peter N. Zhevandrov) **98j:81068** 81Q05 (33C90, 58F40, 81R30)

Kowalski, Oldřich (*with* Boeckx, Eric; Vanhecke, Lieven) ★ Riemannian manifolds of conullity two. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xviii+300 *pp. ISBN* 981-02-2768-X (Andrea Spiro) **98h:53075** 53C25 (53C12, 53C21)

— Karl Weierstrass: letters to Sonya (a nontraditional review of *Briefwechsel zwischen Karl Weierstraß und Sofja Kowalewskaja* [Akademie Verlag, Berlin, 1993; MR 94e:01024]). (Czech) *Pokroky Mat. Fyz. Astronom.* **41** (1996), *no.* 3, 141–156. 01A55 (01A70, 01A75)

— (*with* Berndt, Jürgen; Vanhecke, Lieven) Geodesics in weakly symmetric spaces. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 153–156. (McKenzie Y. Wang) **98f:53037** 53C22 (53C30)

— (*with* Sekizawa, Masami) Riemannian 3-manifolds with c-conullity two. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, *suppl.*, 161–184. (Andrea Spiro) **98e:53064** 53C21 (53C42)

— (*with* Vlášek, Zdeněk) On double-ruled hypersurfaces in $\mathbf{R}^4$. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 407–411. (João Lucas Marques Barbosa) **98h:53095** 53C42 (53C40)

— On strictly locally homogeneous Riemannian manifolds. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 131–137. (José Carmelo González-Dávila) **98g:53093** 53C30 (53C20)

Kowalski, Robert (*with* Bondarenko, A. G.; Phan Minh Dung; Toni, Francesca) An abstract, argumentation-theoretic approach to default reasoning. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 63–101. (Summary) **98d:03038** 03B60 (03B70, 68T27)

— (*with* Fung, Tze Ho) The iff proof procedure for abductive logic programming. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 151–165. (Summary) **98d:68045** 68N17

Kowalski, Tomasz (*with* Sidorowicz, Józef) The semi-darkness of heat diffraction on the polyhedron area. *Demonstratio Math.* **30** (1997), *no.* 2, 359–371. (Zhongmin Qian) **98m:58149** 58G32 (58G11, 60J60)

Kowalski, Zbigniew S. (*with* Bogenschütz, Thomas) Exactness of skew products with expanding fibre maps. (English summary) *Studia Math.* **120** (1996), *no.* 2, 159–168. (U. Krengel) **98a:28013** 28D05 (58F11)

— (*with* Kamiński, Brunon; Liardet, Pierre) On extremal and perfect σ-algebras for $\mathbf{Z}^d$-actions on a Lebesgue space. (English summary) *Studia Math.* **124** (1997), *no.* 2, 173–178. (N. N. Ganikhodzhaev) **98h:28011** 28D15 (28D20)

Kowalski-Glikman, Jerzy (*with* Błaut, Arkadiusz) Solutions of quantum gravity coupled to the scalar field. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 33–36. (Subenoy

Chakraborty) **98j:83036** 83C45
— *see also* **de Barros, J. Acacio, 98d:83029**
Kowalsky, Hans-Joachim Abzählbar-primitive Ultrafilter. III. [Countably primitive ultrafilters. III] *Abh. Braunschweig. Wiss. Ges.* **46** (1995), 7–20 (1996). (Peter Vojtáš) **98b:04004** 04A20 (54A35)
Kowalsky, Nadine Noncompact simple automorphism groups of Lorentz manifolds and other geometric manifolds. *Ann. of Math.* (2) **144** (1996), *no.* 3, 611–640. (From the introduction) **98g:57059** 57S20 (53C50)
Kowaluk, Miroslaw (*with* Jaromczyk, Jerzy W.) The two-line center problem from a polar view: a new algorithm and data structure. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 13–25, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05
— (*with* Chlebus, Bogdan S.; Czumaj, Artur; Gąsieniec, Leszek; Plandowski, Wojciech) Parallel alternating-direction access machine. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 267–278, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q05 (68Q10)
Kowol, G. Near-rings of endomorphisms of finite groups. *Comm. Algebra* **25** (1997), *no.* 7, 2333–2342. (Silvia Pellegrini) **98g:16034** 16Y30
Koyama, A. (*with* Sher, R. B.) Approximable dimension and acyclic resolutions. (English summary) *Fund. Math.* **152** (1997), *no.* 1, 43–53. (Richard P. Millspaugh) **98a:55001** 55M10 (54F45)
Koyama, Kenji (*with* Kuwakado, Hidenori) A new RSA-type cryptosystem based on singular cubic curves. (English summary) *Applications of finite fields (Egham, 1994)*, 99–109, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Summary) **98a:94024** 94A60 (11G20)
Koyama, Masafumi (*with* Mochizuki, Hisatoshi; Shishibori, Masami; Aoe, Jun-ichi) A substring search algorithm in extendible hashing. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 13–30. 68P05 (68P10)
Koyama, Tetsuya On a heat equation with hysteresis in the source term. *Free boundary problems, theory and applications (Zakopane, 1995)*, 126–134, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Maura Ughi) **98h:35093** 35K50
— On a heat equation with diffusive memory in the source term. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2221–2229. (Yoshio Yamada) **98m:35105** 35K60 (35K05, 35R70)
Koyanagi, Junji (*with* Kawai, Hajime) Optimal control policies for queueing systems that reduce arrival rates. (Japanese) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 34–40. (*see* **98h:90004**) 90B22
Koynov, St. (*with* Ilchev, V.) A method for training neural networks through direct and inverse functions. (Russian summary) *Problemi Tekhn. Kibernet. Robot.* **44** (1996), 15–22. 68T05 (82C32, 92B20)
Kozachenko, Yu. V. (*with* Oleshko, T. A.) Analytic properties of some classes of pre-Gaussian random processes. *Theory Probab. Math. Statist. No.* 48 (1994), 25–34; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 37–50 (*Ukrainian. Ukrainian summary*). (Summary) **98c:60044** 60G15 (60G99)
— (*with* Trigub, S. G.) On the convergence rate of strictly sub-Gaussian random series in the norm of the space L_p. *Theory Probab. Math. Statist. No.* 48 (1994), 35–45; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 51–66 (*Ukrainian. Ukrainian summary*). (Summary) **98b:60071** 60G15 (60F05)
— (*with* Ėndzhirgli, M. V.) Conditions for uniform convergence of $\overline{\mathrm{Sub}}_\varphi(\Omega)$-stochastic integrals. *Theory Probab. Math. Statist. No.* 48 (1994), 47–54; *translated from Teor. Ĭmovīr. Mat. Stat. No.* 48 (1993), 66–77 (*Ukrainian. Ukrainian summary*). (Summary) **98c:60054** 60H05 (60G99)
— (*with* Ėndzhirgli, M. V.) Justification of application of the Fourier method to boundary value problems subject to random initial conditions. II. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 58–68. (Summary) **98a:35148** 35R60 (60G99)
— (*with* Livins′ka, O. I.) Analytic properties of certain classes of stochastic processes from the space $\mathrm{Pred}_\varphi(\Omega)$. (English summary) *Theory Probab. Math. Statist. No.* 51 (1995), 93–101 (1996). (Summary) **98a:60044** 60G17 (60G20)
Kozachko, A. N. (*with* Volchenko, K. Yu.) Integrable gradient flows on classical manifolds and Morse theory. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 9–15, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 9–15. (Ya. L. Umanskiy) **98k:57052** 57R70 (58F09)
Kozae, A. M. (*with* Taher, B. M.) Basic $(i, j)\lambda$-bitopological concepts. (English and Arabic summaries) *Delta J. Sci.* **19** (1995), *no.* 2, 84–101. 54E55
— (*with* El-Ahmady, A. E.) Retracts and semiretracts of topological spaces. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 76–79. 54C08 (54C15)
Kozák, Imre Remarks on the paper: "Determination of the necessary and sufficient compatibility conditions on the boundary" [Alkalmaz. Mat. Lapok **16** (1992), no. 1-2, 99–113; MR 95a:73026] by G. Lámer. (Hungarian. English and Hungarian summaries) *Alkalmaz. Mat. Lapok* **17** (1993), *no.* 3-4, 329–345 (1997). (Summary) **98f:73016** 73C99
Kozak, Jernej (*with* Feng, Yu Yu) On G^2 continuous cubic spline interpolation. (English summary) *BIT* **37** (1997), *no.* 2, 312–332. (Crăciun Iancu) **98c:65014** 65D07 (41A15, 65D05)
Kozakevich, Daniel N. (*with* Friedlander, Ana; Gomes-Ruggiero, Márcia A.; Martínez, José Mario; Santos, Sandra Augusta) Solving nonlinear systems of equations by means of quasi-Newton methods with a nonmonotone strategy. (English summary) *Optim. Methods Softw.* **8** (1997), *no.* 1, 25–51. (Summary) **98g:65048** 65H10
Kôzaki, Masanori On the asymptotic independence for diffusion processes on Riemannian manifolds. *Kyushu J. Math.* **51** (1997), *no.* 1, 195–215. (Ming Liao) **98d:58199** 58G32 (60J65)
Kozakiewicz, E. Conditions for the absence of positive solutions of first order differential inequalities with deviating arguments. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations (Plovdiv, 1993)*, 157–161, *VSP, Utrecht*, 1994. (Summary) **98d:34103** 34K15 (34A40)
— Conditions for the absence of positive solutions of a first order differential inequality with distributed delay. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 187–191, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 34K15
Kozameh, Carlos N. (*with* Dominguez, Alfredo E.; Ludvigsen, Malcolm) The phase space of radiative spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3377–3390. (Simonetta Frittelli) **98m:83007** 83C05 (83C30)
— (*with* Iriondo, Mirta Susana; Rojas, Alejandra) Null surfaces and the Bach equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4714–4729. (Simonetta Frittelli) **98e:83011** 83C05 (83C30, 83C60)
— (*with* Frittelli, Simonetta; Newman, Ezra T.; Rovelli, Carlo; Tate, Ranjeet S.) Quantization of the null-surface formulation of general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 889–907. (Seth A. Major) **98i:83031** 83C45 (81V17)
— (*with* Frittelli, Simonetta; Newman, Ezra T.) Dynamics of light cone cuts of null infinity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4729–4744. (Jörg Frauendiener) **98j:83029** 83C30
Kozanek, J. (*with* Aitrimouch, H.; Lallement, Gérard) Construction of the unobserved part of the square dynamic flexibility matrix. (English summary) *J. Sound Vibration* **204** (1997), *no.* 1, 73–84. (Summary) **98e:73083** 73K12 (70J10)
Kozarovitskiĭ, E. L. Connection between asymptotics and stability of the positive measure. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 59–65. (Summary) **98a:60127** 60K05
Kozek, Werner (*with* Feichtinger, Hans G.) Quantization of TF lattice-invariant operators on elementary LCA groups. (English summary) *Gabor analysis and algorithms*, 233–266, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42019** 42C15 (43A55)
— Adaptation of Weyl-Heisenberg frames to underspread environments. (English summary) *Gabor analysis and algorithms*, 323–352, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **98j:42022** 42C15
Kozen, Dexter (*with* Cai, Jin-Yi; Fuchs, Wolfgang H.; Liu, Zi Cheng) Efficient average-case algorithms for the modular group. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 143–152, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (20H10, 68Q15)
— (*with* McAllester, David A.; Givan, Robert; Witty, Carl) Tarskian set constraints. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science (New Brunswick, NJ, 1996)*, 138–147, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 03B35 (03B70, 03D15)
— (*with* Cheng, Allan) A complete Gentzen-style axiomatization for set constraints. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 134–145, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68165** 68Q60 (03B70, 68N15, 68N17)
— (*with* Smith, Frederick) Kleene algebra with tests: completeness and decidability. (English summary) *Computer science logic (Utrecht, 1996)*, 244–259, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98k:03074** 03B70 (68Q60)
— (*with* Stefánsson, Kjartan) Computing the Newtonian graph. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 125–136. (Summary) **98m:05185** 05C99 (30C15, 34A20, 65H05, 68Q40)
Kozera, Ryszard Uniqueness in shape from shading revisited. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 2, 123–138. (Summary) **98b:35025** 35C99 (68U10)
Kozeratskaya, L. N. (*with* Sergienko, I. V.; Kononova, Aléna Aleksandrovna) Stability and unboundedness of vector optimization problems. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 3–10, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 1–6. (Christiane Tammer) **98j:90064** 90C29 (90C31)
Job Kozhamthadam, S. J. *see* **Job Kozhamthadam, S. J.**
Kozhanov, A. I. A problem with an oblique derivative for some pseudo-parabolic equations and equations close to them. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 6, 1335–1346, iii; *translation in Siberian Math. J.* **37** (1996), *no.* 6, 1171–1181. (Stepan D. Ivasyshen) **98a:35080** 35K70
— Questions of posing and solvability of linear inverse problems for elliptic equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 337–352. (Serge Lvin) **98i:35208** 35R30 (35J25, 35M20)
Kozhevnikov, A. N. Asymptotics of the spectrum of Douglis-Nirenberg elliptic operators on a compact manifold. (English summary) *Math. Nachr.* **182** (1996), 261–293. (M. S. Agranovich) **98d:58191** 58G25 (35J45, 35P20, 35S05, 58G15)
— Parameter-ellipticity for mixed-order elliptic boundary problems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1361–1366. (V. S. Rabinovich) **98h:35053** 35J55
— (*with* Skubachevskaya, Tat′yana) Some applications of pseudo-differential operators to elasticity. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 2, 297–322. (Hideo Soga) **98h:35183** 35P20 (35Q72, 35S99, 45B05, 47G30, 47N20, 73C02)
Kozhevnikov, P. A. On an independent infinite system of group identities. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 13–16, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 14–16. (L. A. Kurdachenko) **98h:20075** 20F99
Kozhukhar′, E. P. Applications of the extremal word to research of infinite-dimensional nil algebras. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 20–23, 113, 116. 16N40
Kozhukhar′, P. A. (*with* Stănescu, M.) Finiteness of eigenvalues of self-adjoint integro-differential operators. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 96–99, 114, 117. (From the text) **98j:47115** 47G10 (45K05)
Kozhukhov, I. B. One characteristical property of semilattices. *Comm. Algebra* **25** (1997), *no.* 8, 2569–2577. (Boris M. Schein) **98i:06004** 06A12 (20M30)
— On self-injective semigroup rings. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 165–166; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 609–610. 16S36 (16D50)
— (*with* Klyushin, A. V.) On the compact semigroup rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 589–593. (Summary) **98i:20063** 20M25 (16S36)
— (*with* Klyushin, A. V.) Linearly compact semigroup rings. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 276–287. (Kirill M. Filippov) **98m:16053** 16W80 (16S36, 20M25)
— A note on the weak regularity of semigroup rings. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 434–436. 20M25 (16E50)
— Artinian groupoid rings. *Semigroup Forum* **56** (1998), *no.* 3, 437–441. 17A99 (20N02)

Kozitskiĭ, Yu. V. (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.) Absence of critical points for a class of quantum hierarchical models. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 1–18. (Roberto Fernández) **98k:82012** 82B10 (82B20)

— Hierarchical ferromagnetic vector spin model possessing the Lee-Yang property. Thermodynamic limit at the critical point and above. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 799–820. (Hans-Otto Georgii) **98d:82012** 82B20 (82B27)

— (*with* Albeverio, Sergio; Kondrat'ev, Yu. G.) Critical properties of a quantum hierarchical model. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 287–291. (Władysław Adam Majewski) **98g:82005** 82B10 (82B20, 82B27)

Kozlov, Dmitry N. General lexicographic shellability and orbit arrangements. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 67–90. (Volkmar Welker) **98h:52023** 52B30 (06A08)

— Convex hulls of f- and β-vectors. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 421–431. (Jürgen Eckhoff) **98k:05092** 05C35 (52B70, 90C35)

— (*with* Vũ, Văn H.) Coins and cones. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 1–14. (D. P. Roselle) **98g:05020** 05A99

Kozlov, N. N. Mathematical analysis of a special method for the notation of genetic information. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 12, 33–47. 92D10

Kozlov, R. I. (*with* Abdullin, R. Z.; Anapol'skiĭ, L. Yu.; Malikov, A. I.; Matrosov, Vladimir M.; Voronov, Avenir Arkad'evich; Zemlyakov, A. S.) ★ Vector Lyapunov functions in stability theory. Translated from the Russian original. Advanced Series in Mathematical Science and Engineering, 4. *World Federation Publishers Company, Atlanta, GA*, 1996. xviii+394 *pp. ISBN* 1-885978-20-0 (Editors) **98g:34002** 34–02 (34D20, 93D20)

Kozlov, S. E. Orthogonally invariant Riemannian metrics on real Grassmann manifolds. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 75–83. (Andrew Bucki) **98m:53069** 53C35 (53C20)

Kozlov, S. M. (*with* Kovalevskiĭ, V. B.) On the solution of the problem of analytic construction of optimal controllers. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 1002–1003, 1008; *translation in Differential Equations* **33** (1997), *no.* 7, 1012–1014 (1998). (Summary) **98k:49006** 49J15 (49L05)

Kozlov, V. A. *see* **Kozlov, Vladimir Arkad'evich**

Kozlov, V. N. On the coding of discrete figures. (Russian. Russian summary) *Diskret. Mat.* **8** (1996), *no.* 4, 57–61; *translation in Discrete Math. Appl.* **6** (1996), *no.* 6, 563–568. (István Ratkó) **98j:68141** 68R99 (92B05)

Kozlov, V. V. *see* **Kozlov, Viktor Vladimirovich**

Kozlov, Valeriĭ V. (*with* Aptekarev, A. I.; Kalyagin, V. A.; Potapov, M. K.; Sorokin, Vladimir N.; Ul'yanov, P. L.; Fomenko, A. T.; Shidlovskiĭ, A. B.) Evgeniĭ Mikhaĭlovich Nikishin. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 110–111. 01A70

— (*with* Vujičić, Veljko A.) A contribution to the theory of rheonomic systems. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 21 (1996), 85–91. (Pierre Aimé) **98c:70019** 70H30 (70F99)

— (*with* Izmaĭlova, O. V.) Analytical properties of solutions of Euler-Poincaré equations on solvable Lie algebras. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 60–65, 93. (J. S. Joel) **98e:58095** 58F07 (34A20, 70E15, 70H05)

— (*with* Moshchevitin, N. G.) Diffusion in Hamiltonian systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 49–52, 74. (From the text) **98g:58154** 58F30 (34C99, 58F05, 70H05)

Kozlov, Viktor Vladimirovich (*with* Boiko, Andreĭ Vladislavovich; Scherbakov, V. A.; Syzrantsev, V. V.) Transition control by riblets in a swept wing boundary layer with an embedded streamwise vortex. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 465–482. 76D10 (76F99)

Kozlov, Vladimir Arkad'evich (*with* Maz'ya, Vladimir G.) On "power-logarithmic" solutions of the Dirichlet problem for elliptic systems in $K_d \times \mathbf{R}^{n-d}$, where K_d is a d-dimensional cone. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 1, 17–30. (Nicolai N. Tarkhanov) **98a:35025** 35J55 (35J70)

— (*with* Maz'ya, Vladimir G.) ★ Theory of a higher-order Sturm-Liouville equation. Lecture Notes in Mathematics, 1659. *Springer-Verlag, Berlin*, 1997. xii+140 *pp. ISBN* 3-540-63065-1 (M. S. P. Eastham) **98e:34029** 34Bxx (34E10)

— (*with* Maz'ya, Vladimir G.; Rossmann, J.) ★ Elliptic boundary value problems in domains with point singularities. (English summary) Mathematical Surveys and Monographs, 52. *American Mathematical Society, Providence, RI*, 1997. x+414 *pp. ISBN* 0-8218-0754-4 (M. S. Agranovich) **98f:35038** 35J40 (35A20, 35S15, 46N20, 47F05)

— (*with* Maz'ya, Vladimir G.) On "power-logarithmic" solutions to the Dirichlet problem for the Stokes system in a dihedral angle. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 4, 315–346. (A. J. Meir) **98g:35162** 35Q30 (35A35, 35C99, 76D07)

Kozlova, E. G. (*with* Khovanskiĭ, A. G.; Khovanskiĭ, G. S.) ★ Некоторые вопросы теоретической и практической номографии. (Russian. Russian summary) [Some problems in theoretical and applied nomography] *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. 97 *pp.* (Publisher's description) **98a:65194** 65S05

Kozlova, M. S. *see* **Philosophical ideas of Ludwig Wittgenstein, 98i:00008**

Kozlowski, Andrzej[2] (*with* Guest, Martin A.; Yamaguchi, Kohhei) Homological stability of oriented configuration spaces. *J. Math. Kyoto Univ.* **36** (1996), *no.* 4, 809–814. (Don Shimamoto) **98h:55012** 55P35 (55S15)

Kozlowski, Krzysztof (*with* Wróblewski, Waldemar) Description and simulation of the movement of cooperating manipulators using the formalism of spatial algebra. (Polish. English and Polish summaries) *Studia Automat. Inform.* **22** (1997), 53–80. 70B15 (70Q05, 93C85)

Kozlowsky, Andrzej *see* **Kozlowski, Andrzej**[2]

Kozma, László[1] On osculation of geodesics of a Finsler pair connection. In celebration of the 90th anniversary of Akitsugu Kawaguchi's birth. *Tensor* (*N.S.*) **54** (1993), *Commemoration Volume II*, 22–27. (Makoto Matsumoto) **98e:53125** 53C60

— On Finsler-Weyl manifolds and connections. The Proceedings of the 15th Winter School "Geometry and Physics" (Srni, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 173–179. (Tadashi Aikou) **98e:53126** 53C60 (53C05)

Kozma, Lidia Distributions in the case of holomorphic functions. An impulse function (Dirac's distribution) for holomorphic functions. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **11** (1995), *no.* 1-2, 65–70. (From the text) **98e:30039** 30D99

Kozono, Hideo (*with* Nakao, Mitsuhiro) Strong periodic solutions of the Navier-Stokes equations in unbounded domains. *Nonlinear waves* (*Sapporo*, 1995), 237–242, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q30 (35B10, 76D05)

— (*with* Yamazaki, Masao) The Cauchy problem in the Lorentz space for the Navier-Stokes equation in exterior domains. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 243–248, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q30 (76D05)

— (*with* Sohr, Hermann; Yamazaki, Masao) Representation formula, net force and energy relation to the stationary Navier-Stokes equations in 3-dimensional exterior domains. *Kyushu J. Math.* **51** (1997), *no.* 1, 239–260. (B. Szafirski) **98g:35163** 35Q30 (76D05)

— (*with* Yamazaki, Masao) Exterior problem for the stationary Navier-Stokes equations in the Lorentz space. *Math. Ann.* **310** (1998), *no.* 2, 279–305. (Jürgen Socolowsky) **98m:35159** 35Q30 (76D05)

Kozuka, Kazuhito The relative Lubin-Tate formal groups and p-adic interpolating functions. *Kyushu J. Math.* **51** (1997), *no.* 2, 381–391. (Volker J. Heiermann) **98h:11154** 11S40 (11S31)

Kozumi, Hideo (*with* Polasek, Wolfgang) The VAR-VARCH model: a Bayesian approach. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 402–422, *Springer, New York*, 1996. (*see* **98a:62002**) 62M10 (62F15)

Kozyakin, V. S. (*with* Kuznetsov, N. A.; Pokrovskiĭ, A. V.) A phenomenological model of statistics of the lengths of cycles and transient processes of discretizations of dynamical systems. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 165–168. (Alexander Loskutov) **98d:58095** 58F08 (58F03, 58F13)

— (*with* Kuznetsov, N. A.; Pokrovskiĭ, A. V.; Vladimirov, I. G.) Some problems in analysis of discretizations of continuous dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 767–778. (Peter E. Kloeden) **98j:58065** 58F08 (65D99)

— (*with* Diamond, Phillip Morris; Kloeden, Peter E.; Pokrovskiĭ, A. V.) Monotonic dynamical systems under spatial discretization. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2169–2174. (Hal Leslie Smith) **98h:58100** 58F08

— *see also* **Kloeden, Peter E.**

Kozyrev, S. V. An ultrametric space of free coherent states. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 334–336; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 265–266. (J. S. Joel) **98i:81094** 81R30 (47N50, 47S10)

— A non-Archimedean state space in a model of polymerization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 492–500; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1192–1198 (1998). (Summary) **98m:82079** 82D60 (11Z05, 92D15)

Kra, Irwin (*with* Farkas, Hershel M.) Automorphic forms for subgroups of the modular group. II. Groups containing congruence subgroups. *J. Anal. Math.* **70** (1996), 91–156. (Noemi Patricia Kisbye) **98d:11045** 11F12

— (*with* Brooks, Robert Wolfe; Farkas, Hershel M.) Number theory, theta identities, and modular curves. *Extremal Riemann surfaces* (*San Francisco, CA*, 1995), 125–154, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (S. J. Patterson (Zbl 870.30030)) **98m:11030** 11F27 (11F06)

— Uniformizations of Riemann surfaces: Poincaré theta series, Riemann's theta function and theta constants. *Geometry and nature* (*Madeira*, 1995), 41–69, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Pablo Arés Gastesi) **98c:32021** 32G15 (11F12, 30F10)

— (*with* Farkas, Hershel M.) Theta constant identities with applications to combinatorial number theory. *Lipa's legacy* (*New York*, 1995), 227–252, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Yaacov Kopeliovich) **98k:11049** 11F27

— (*with* Maskit, Bernard) Lipman Bers, complex analyst. *Lipa's legacy* (*New York*, 1995), 389–415, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (William Abikoff) **98g:01063** 01A70 (20H10, 30F10, 32–03)

— On a Ramanujan partition identity. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 167–172, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Yaacov Kopeliovich) **98i:11087** 11P83 (11G18)

— Kleinian groups; Eichler cohomology and the complex theory. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 221–251, *Springer, New York*, 1998. (William Abikoff) **98j:30052** 30F40

— (*with* Gehring, Frederick; Osserman, Robert) The mathematics of Lars Valerian Ahlfors. Edited by Steven G. Krantz. *Notices Amer. Math. Soc.* **45** (1998), *no.* 2, 233–242. (Editors) **98m:01027** 01A70

Kraaijevanger, J. F. B. M. Two counterexamples related to the Kreiss matrix theorem. (English summary) *BIT* **34** (1994), *no.* 1, 113–119. (Zdzisław W. Trzaska) **98c:65154** 65M12 (15A45, 34C11, 65F99)

Kraaikamp, Cor (*with* Dajani, Karma) On approximation by Lüroth series. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 331–346. (Wieb Bosma) **98g:11092** 11K55 (11J83)

Krabbe, Erik C. W. Can we ever pin one down to a formal fallacy? (English summary) *Logic and argumentation* (*Amsterdam*, 1994), 129–141, *K. Ned. Akad. Wet. Verh. Afd. Lett.* (*N. S.*), 170, *North-Holland, Amsterdam*, 1996. (*see* **98f:03006**) 03A05

Krabs, W. (*with* Jathe, M.; Scheffran, J.) Control and game-theoretical treatment of a cost-security model for disarmament. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 8, 653–666. (Mikuláš Luptáčik) **98f:90077** 90D10 (90D06, 90D80)

Kracklauer, A. F. Dichotomic functions and Bell's theorems. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 185–188, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P15

Kraeft, W. D. (*with* Kremp, D.; Bonitz, M.; Schlanges, M.) Non-Markovian Boltzmann equation. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 320–359. (Carlo Cercignani) **98m:82062** 82C40 (76P05)

Kraenkel, Roberto A. (*with* Manna, Miguel A.; Montero, Juan C.; Pereira, José G.) Reductive perturbation method, multiple-time solutions and the KdV hierarchy. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 398–405, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:58077** 58F07 (35Q53)

— (*with* Manna, Miguel A.; Montero, Juan C.; Pereira, José G.) The role of the Korteweg-de Vries hierarchy in the N-soliton dynamics of the shallow water wave equa-

tion. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 5, 1277–1281. (Summary) **98c:35142** 35Q53 (76B25)
— First-order perturbed Korteweg-de Vries solitons. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4775–4777. 35Q53
Krafft, Olaf (*with* Schaefer, Martin) Properties of some matrices associated with trees. (English summary) *Research developments in probability and statistics*, 383–389, *VSP, Utrecht*, 1996. (Summary) **98c:05110** 05C50 (05C05)
— An arithmetic-harmonic-mean inequality for nonnegative definite matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 243–246. (Linda J. Patton) **98m:15034** 15A45 (15A09, 15A48)
Kraft, Hanspeter (*with* Derksen, Harm) Constructive invariant theory. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants (Reims*, 1995), 221–244, *Sémin. Congr., 2, Soc. Math. France, Paris*, 1997. (Dmitri I. Panyushev) **98m:13010** 13A50 (13P99, 14D25, 14L30)
Krähmer, D. S. (*with* Leonhardt, Ulf) State reconstruction and irregular wavefunctions for the hydrogen atom. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4783–4789. 81V45
— (*with* Bužek, V.; Fontenelle, Márcia T.; Schleich, Wolfgang P.) Quantum statistics of grey-body radiation. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 1–5. 82B10 (81V80)
Kralko, A. N. On unlimited cumulation in one-dimensional unsteady compression of an ideal gas. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1000–1007; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 979–986. 76N15
Krajči, S. (*with* Vojtáš, Peter) On the Boolean structure generated by Q-points of ω. (English summary) 23rd Winter School on Abstract Analysis (Lhota nad Rohanovem, 1995; Poděbrady, 1995). *Acta Univ. Carolin. Math. Phys.* **36** (1995), *no.* 2, 33–38. (Summary) **98d:03054** 03E05 (03G05)
Krajewska, Agnieszka (*with* Rembieliński, Jakub) Two-dimensional quantum braided Poincaré group. (English summary) *Generalized symmetries in physics (Clausthal*, 1993), 149–158, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98i:81106** 81R50 (17B37)
— (*with* Ushveridze, A. G.; Walczak, Zbigniew) Bender-Dunne orthogonal polynomials. General theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 16, 1131–1144. (Kazuhiro Hikami) **98f:81059** 81Q05 (33C80)
— (*with* Ushveridze, A. G.; Walczak, Zbigniew) Anti-isospectral transformations in quantum mechanics. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 17, 1225–1234. (S. C. Mishra) **98j:81105** 81Q99 (81P99)
Krajewski, Thomas (*with* Pris, Igor) Towards a Z' gauge boson in noncommutative geometry. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 2, 187–202. (Wolfgang Kalau) **98f:81368** 81V22 (58B30, 81T13, 81T50)
Krajewski, Władysław Ideal objects as models in science. (English summary) *Internat. Stud. Philos. Sci.* **11** (1997), *no.* 2, 185–190. (Summary) **98f:00009** 00A30 (03B30)
Krajíček, Jan (*with* Beame, Paul W.; Impagliazzo, Russell; Pitassi, Toniann; Pudlák, Pavel) Lower bounds on Hilbert's Nullstellensatz and propositional proofs. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM*, 1994), 794–806, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 03F20 (03D15, 68Q15)
— A fundamental problem of mathematical logic. *Collegium logicum, Vol.* 2, 56–64, *Coll. Logicum Ann. Kurt-Gödel-Soc., 2, Springer, Vienna*, 1996. (M. I. Dekhtyar) **98g:03131** 03F20 (03B05, 03B35, 03D15, 68Q15, 68Q25)
— Interpolation theorems, lower bounds for proof systems, and independence results for bounded arithmetic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 457–486. (G. E. Mints) **98k:03116** 03F20 (03B05, 03F30, 68Q25)
Krakowiak, Anna Stability of the solutions of linear differential equations in Banach space. (Polish summary) *The limit problems for differential equations*, 173–178, *Monogr.*, 118, *Cracow Univ. Tech., Kraków*, 1991. (P. Talpalaru) **98b:34078** 34G10 (34D20)
Král, Josef (*with* Medková, Dagmar) Angular limits of the integrals of the Cauchy type. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 593–617. (D. Mitrović) **98j:30044** 30E20
— (*with* Dontová, Eva; Dont, Miroslav) Reflection and a mixed boundary value problem concerning analytic functions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 317–336. (Elias Wegert) **98k:30054** 30E25
Král, Petr Generalized gradient expansions in quantum transport equations. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1337–1358. (Luisa Arlotti) **98i:82061** 82C70
Kraljević, Hrvoje On Landau's type inequalities for infinitesimal generators. (English and Serbo-Croatian summaries) *Math. Commun.* **1** (1996), *no.* 2, 111–120. (Z. Ditzian) **98d:47083** 47D06 (26D10, 47A30)
— *see also* **Meeting: Mathematicians, 98d:00019**
Kramarz, Francis (*with* Crepon, Bruno; Trognon, Alain) Parameters of interest, nuisance parameters and orthogonality conditions. An application to autoregressive error component models. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 135–156. (Summary) **98m:62298** 62P20 (62M10)
Krämer, Andreas (*with* Brucker, Peter; Jurisch, Bernd) Complexity of scheduling problems with multi-purpose machines. (English summary) *Ann. Oper. Res.* **70** (1997), 57–73. (Feng-Sheng Tu) **98f:90027** 90B35 (68Q25)
— Branch and bound methods for scheduling problems with multiprocessor tasks on dedicated processors. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 219–227. (Summary) **98c:90050** 90B35
Kramer, Dietrich (*with* Perjés, Zoltán) An electrovacuum spacetime satisfying the oval equation of general relativity. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 12, 3241–3244. (Leonardo Fernández-Jambrina) **98a:83035** 83C22 (83C15)
— (*with* García Díaz, Alberto) Stationary cylindrically symmetric gravitational fields with differentially rotating perfect fluids. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 499–508. (Maciej Przanowski) **98a:83026** 83C15 (83C20)
— (*with* von der Gönna, U.) Pure and gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 215–223. (János Kánnár) **98m:83022** 83C30 (83C15)
Kramer, Erika A contribution to the analysis of a biplane with parameters (154, 18, 2). (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 1–6. (Summary) **98d:05037** 05B25
Kramer, G. F. (*with* Goodman, I. R.) Extension of relational and conditional event algebra to random sets with applications to data fusion. (English summary) *Random sets (Minneapolis, MN*, 1996), 209–242, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 03B52 (52A22, 60A99, 60D05)
Kramer, Holger (*with* Schmid, Wolfgang P.) Control charts for time series. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4007–4016. (*see* **98i:00032**) 62N10 (62M10)
— (*with* Schmid, Wolfgang P.) EWMA charts for multivariate time series. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 131–154. (Adhir K. Basu) **98h:62134** 62M10 (62N10)
Kramer, Lorenz (*with* Popp, Stefan; Stiller, Olaf; Kuznetsov, Evgenii Aleksandrovich) The cubic complex Ginzburg-Landau equation for a backward bifurcation. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 81–107. (Summary) **98k:35181** 35Q55 (35B32, 76E30)
Kramer, Peter (*with* Smirnov, Yu. F.; Rakhmanova, S. V.) Projection operators for the unitary (quantum) algebras and Young operators for permutation (braid) groups. (English summary) *Generalized symmetries in physics (Clausthal*, 1993), 68–76, *World Sci. Publishing, River Edge, NJ*, 1994. (Guy Laffaille) **98i:81113** 81R50 (17B37, 20F36)
— (*with* Beck, Uwe; Ben-Abraham, Shelomo I.) Automorphisms and discrete fiber bundles. *Symmetries in science, IX (Bregenz*, 1996), 179–192, *Plenum, New York*, 1997. (Karel A. Dekimpe) **98h:20089** 20H15 (82D25)
— (*with* Papadopolos, Zorka) Symmetry concepts for quasicrystals and noncommutative crystallography. (English summary) *The mathematics of long-range aperiodic order (Waterloo, ON*, 1995), 307–330, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Richard Kenyon) **98i:52030** 52C22 (20H15, 82D25)
— (*with* Papadopolos, Zorka; Klitzing, R.) Quasiperiodic icosahedral tilings from the six-dimensional bcc lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 6, L143–L147. 52C22 (82D25)
— (*with* Hohneker, C.; Papadopolos, Zorka; Moody, Robert V.) Canonical icosahedral quasilattices for the F-phase generated by coherent phases in physical space. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6493–6507. (Richard Kenyon) **98k:82187** 82D25 (52C22)
Krämer, Walter (*with* Bartels, Robert Henry; Fiebig, Denzil G.) Another twist on the equality of OLS and GLS. (English summary) *Statist. Papers* **37** (1996), *no.* 3, 277–281. (Summary) **98k:62116** 62J05
— (*with* Runde, Ralf) Chaos and the compass rose. (English summary) *Econom. Lett.* **54** (1997), *no.* 2, 113–118. (Summary) **98b:90032** 90A16 (58F13, 58F40)
— (*with* Michels, Sonja) Autocorrelation- and heteroskedasticity-consistent t-values with trending data. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 141–147. (Goetz Trenkler) **98c:62127** 62J05 (62P20)
Kramkov, D. (*with* Föllmer, Hans) Optional decompositions under constraints. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 1–25. (Walter Schachermayer) **98j:60065** 60G44 (60H05, 60H30, 90A09, 93E20)
Kramosil, Ivan An axiomatic approach to extensional probability measures. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg*, 1995), 267–276, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98c:03058** 03B48 (28E10, 60A99, 68T30)
— Belief functions generated by signed measures. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 2, 157–166. (Summary) **98g:68162** 68T30
Kranakis, Evangelos (*with* Bauernöppel, Frank; Krizanc, Danny; Maheshwari, Anil; Noy, Marc; Sack, Jörg-Rüdiger; Urrutia, Jorge) Optimal shooting: characterizations and applications. *Automata, languages and programming (Szeged*, 1995), 220–231, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68U05
— (*with* Krizanc, Danny; Luccio, Flaminia L.) String recognition on anonymous rings. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 392–401, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68M10 (68Q25)
— (*with* Gąsieniec, Leszek; Krizanc, Danny; Pelc, Andrzej) Minimizing congestion of layouts for ATM networks with faulty links. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 372–381, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68023** 68M10 (68M15, 90B12)
— (*with* Krizanc, Danny) Lower bounds for compact routing (extended abstract). (English summary) *STACS* 96 (*Grenoble*, 1996), 529–540, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68M10 (68Q25)
— (*with* Kirousis, Lefteris M.; Krizanc, Danny) A better upper bound for the unsatisfiability threshold. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ*, 1996), 643–648, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98m:68121** 68Q25 (03B05, 60B99)
— (*with* Kirousis, Lefteris M.; Krizanc, Danny; Pelc, Andrzej) Power consumption in packet radio networks (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 363–374, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 90B12 (68Q25)
— (*with* Krizanc, Danny; Maheshwari, Anil; Noy, Marc; Sack, Jörg-Rüdiger; Urrutia, Jorge) Stage-graph representations. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 71–80. (Summary) **98c:05139** 05C75 (68R10)
— (*with* Krizanc, Danny; Ruf, Berthold; Urrutia, Jorge; Woeginger, Gerhard J.) The VC-dimension of set systems defined by graphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 237–257. (András Gyárfás) **98k:05135** 05D05 (68Q25, 68R10, 68T05)
— (*with* Krizanc, Danny) Distributed computing on anonymous hypercube networks. *J. Algorithms* **23** (1997), *no.* 1, 32–50. (Friedhelm Meyer auf der Heide) **98b:68066** 68Q22 (68Q25)
— (*with* Israeli, Amos; Krizanc, Danny; Santoro, Nicola) Time-message trade-offs for the weak unison problem. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 317–329. (Summary) **98m:68009** 68M10
— (*with* Bauernöppel, Frank; Krizanc, Danny; Maheshwari, Anil; Sack, Jörg-Rüdiger; Urrutia, Jorge) Planar stage graphs: characterizations and applications. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.*

175 (1997), *no.* 2, 239–255. (D. M. Campbell) **98e:68096** 68Q25 (05C75, 05C85, 68Q22, 68R10)

— (*with* Czyzowicz, Jurek; Urrutia, Jorge) A simple proof of the representation of bipartite planar graphs as the contact graphs of orthogonal straight line segments. *Inform. Process. Lett.* **66** (1998), *no.* 3, 125–126. 05C75 (68R10)

— *see also* **Selected areas in cryptography**, **98d:94026**

Kranich, Laurence Cooperative games with hedonic coalitions. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 83–97. (Peter Borm) **98f:90079** 90D12

— Equitable opportunities in economic environments. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 57–64. (Summary) **98h:90007** 90A05 (90D35)

Krantz, Steven G. Survey of some recent ideas concerning automorphism groups of domains. (English summary) *Géométrie complexe* (*Paris*, 1992), 79–90, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Akio Kodama) **98i:32055** 32M05 (32A07)

— (*with* Li, Song-Ying; Lin, Peng; Rochberg, Richard) The effect of boundary regularity on the singular numbers of Friedrichs operators on Bergman spaces. *Michigan Math. J.* **43** (1996), *no.* 2, 337–348. (Jonathan Arazy) **98e:47050** 47B38 (32A37, 47B10)

— ★ Techniques of problem solving. (English summary) *American Mathematical Society, Providence, RI*, 1997. xiv+465 *pp. ISBN* 0-8218-0619-X (W. T. Whitley) **98b:00002** 00–01 (00A05, 00A07, 00A35)

— (*with* Greene, Robert E.) ★ Function theory of one complex variable. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+496 *pp. ISBN* 0-471-80468-1 (D. Mitrović) **98d:30001** 30–01 (30C20, 30D55)

— (*with* Li, Song-Ying) Area integral characterizations of functions in Hardy spaces on domains in $\mathbf{C}^n$. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 373–399. (Summary) **98m:32003** 32A35 (31B99, 46E15)

— (*with* Li, Song-Ying; Rochberg, Richard) Analysis of some function spaces associated to Hankel operators. *Illinois J. Math.* **41** (1997), *no.* 3, 398–411. (Emil Straube) **98f:46019** 46E15 (32A35, 45P05, 47B35, 47G10)

— (*with* Isaev, A. V.) Finitely smooth Reinhardt domains with non-compact automorphism group. *Illinois J. Math.* **41** (1997), *no.* 3, 412–420. (John Bland) **98i:32054** 32M05 (32A07)

— (*with* Li, Song-Ying; Rochberg, Richard) The effect of boundary geometry on Hankel operators belonging to the trace ideals of Bergman spaces. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 196–213. (Daniel H. Luecking) **98h:47036** 47B35 (32H99, 47B10)

— *see also* **Fernández, Luis**, **98b:00003**; **Gehring, Frederick et al.**, **98m:01027** *and* **Bott, Raoul et al.**, **98m:01028**

Kranzer, H. C. (*with* Glimm, James; Tan, De Chun; Tangerman, F. M.) Wave fronts for Hamilton-Jacobi equations: the general theory for Riemann solutions in $\mathbf{R}^n$. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 647–677. (Paola Loreti) **98i:35020** 35F20 (35A30, 35L65)

Krapivin, V. A. (*with* Romanovskiĭ, V. G.; Selitskiĭ, A. V.) Center conditions for a six-parameter cubic system. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1707–1709, 1728; *translation in Differential Equations* **32** (1996), *no.* 12, 1702–1704 (1997). (Summary) **98j:34046** 34C05

Krappe, H. J. (*with* Wehner, J.) Self-energy of a charged conducting droplet as an inversion problem. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 185–201. (Summary) **98b:78015** 78A30 (65R30, 81V55)

Krarup, Jakob (*with* Vajda, Steven) On Torricelli's geometrical solution to a problem of Fermat. (English summary) Duality in practice. *IMA J. Math. Appl. Bus. Indust.* **8** (1997), *no.* 3, 215–224. (Summary) **98g:01031** 01A45 (90–03)

Krasa, Stefan (*with* Yannelis, Nicholas C.) Existence and properties of a value allocation for an economy with differential information. (English summary) *J. Math. Econom.* **25** (1996), *no.* 2, 165–179. (Summary) **98a:90039** 90A53 (90A09)

Krasauskas, R. Crossed simplicial groups of framed braids and mapping class groups of surfaces. (English and Lithuanian summaries) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 330–353; *reprinted in Lithuanian Math. J.* **36** (1996), *no.* 3, 263–281 (1997). (Vagn Lundsgaard Hansen) **98d:55022** 55Q52 (57M99, 57N05, 57R25)

Krasichkov-Ternovskiĭ, I. F. A fundamental principle for invariant subspaces of analytic functions. I. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 2, 25–56; *translation in Sb. Math.* **188** (1997), *no.* 2, 195–226. (A. A. Borichev) **98e:46028** 46E10 (30H05, 47B38)

— A fundamental principle for invariant subspaces of analytic functions. II. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 6, 57–98; *translation in Sb. Math.* **188** (1997), *no.* 6, 853–892. (A. A. Borichev) **98m:46033** 46E30 (30H05, 46J15, 47B38)

— A fundamental principle for invariant subspaces of analytic functions. III. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 10, 25–68; *translation in Sb. Math.* **188** (1997), *no.* 10, 1439–1479. (A. A. Borichev) **98m:46034** 46E10 (30H05, 46J15, 47B38)

Krasikov, Ilia (*with* Litsyn, Simon N.) Linear programming bounds for codes of small size. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 647–654. (Summary) **98e:94032** 94B05

— (*with* Litsyn, Simon N.) Estimates for the range of binomiality in codes' spectra. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 987–991. (Summary) **98a:94038** 94B05

— (*with* Litsyn, Simon N.) Linear programming bounds for doubly-even self-dual codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1238–1244. (Summary) **98e:94043** 94B65

Krasil'nikov, P. S. Functional extensions of a solution germ space of first order differential equation and their applications. *Nonlinear Anal.* **28** (1997), *no.* 2, 359–375. (Victor Patrangenaru) **98a:58006** 58A17 (34A26, 35A30)

Krasil'shchik, I. S. Calculus over commutative algebras: a concise user guide. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 235–248. (*see* **98k:00006**) 16S32 (13N10, 58H10)

— *see also* **Algebraic aspects of differential calculus**, **98k:00006**

Krasiński, Andrzej Overview of inhomogeneous cosmological models. (English summary) *Recent developments in gravitation and mathematical physics* (*Guanajuato*, 1994), 163–172, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:83028** 83C15 (83–02, 83C20)

— Editor's note: Comment on: "The expanding universe" [Gen. Relativity Gravitation **29** (1997), no. 5, 641–680; MR 98h:01037] by G. Lemaître. *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 637–640. (H. Treder) **98h:01036** 01A75 (01A70, 83–03, 85–03)

— (*with* Quevedo, Hernando; Sussman, Roberto A.) On the thermodynamical interpretation of perfect fluid solutions of the Einstein equations with no symmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2602–2610. (Sunil D. Maharaj) **98e:83030** 83C20 (83C15)

— *see also* **Sen, N. R.**

Krasiński, Tadeusz (*with* Spodzieja, Stanisław) Bifurcation points of real polynomials. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 3, 333–339. (From the introduction) **98f:14043** 14P05

— (*with* Chądzyński, Jacek) A set on which the Łojasiewicz exponent at infinity is attained. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 191–197. (Zbigniew Jelonek) **98j:14013** 14E05

Kraśkiewicz, Witold (*with* Daszkiewicz, Andrzej; Przebinda, Tomasz) Nilpotent orbits and complex dual pairs. *J. Algebra* **190** (1997), *no.* 2, 518–539. (Gordan Savin) **98b:20063** 20G05 (17B10)

Krasnanisky, M. *see* **Krasnyanskiĭ, M. B.**

Krasnikov, S. V. Causality violation and paradoxes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3427–3430. (Robert J. Low) **98g:83076** 83C75

Krasnit·skiĭ, S. M. On a condition of equivalence of Gaussian measures that correspond to generalized homogeneous random fields with different correlation functionals. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 253–262. 60G30 (60G60)

Krasnitz, Michael (*with* Klebanov, Igor R.) Fixed scalar greybody factors in five and four dimensions. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, R3250–R3254. (Summary) **98a:83087** 83C57 (83E30)

— (*with* Klebanov, Igor R.) Testing effective string models of black holes with fixed scalars. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2173–2179. (Summary) **98d:83090** 83E30 (81T30, 83C57)

Krasnopolina, E. I. *see* **Algebraic geometry**, **98h:14001**

Krasnosel'skiĭ, A. M. (*with* Bliman, P.-A.; Sorine, Michel; Vladimirov, A. A.) Forced oscillations in control systems with hysteresis. (Russian) *Dokl. Akad. Nauk* **347** (1996), *no.* 4, 458–461. (J. W. Macki) **98b:34056** 34C25 (34C23, 34H05, 34K15, 47H15, 47N20, 93C15)

— (*with* Bliman, P.-A.; Sorine, Michel; Vladimirov, A. A.) Nonlinear resonance in systems with hysteresis. *Nonlinear Anal.* **27** (1996), *no.* 5, 561–577. (Pyotr M. Simonov) **98b:34057** 34C25 (34A34, 34C15, 47H30, 47N20)

— *see also* **Kloeden, Peter E.**

Krasnosel'skiĭ, Mark Aleksandrovich (*with* Chernorutskii, Vladimir V.) Differential inequalities for hysteresis systems. (English summary) *J. Appl. Math. Stochastic Anal.* **9** (1996), *no.* 4, 459–468. (J. W. Macki) **98a:34065** 34K05 (34A40)

— (*with* Kuznetsov, N. A.; Yumagulov, M. G.) Conditions for the stability of cycles under Hopf bifurcation at infinity. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 56–62; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 1, 43–48. (Michal Fečkan) **98e:34053** 34C05 (34C23, 34C25, 34D05, 58F21)

— (*with* Rachinskiĭ, Dmitriĭ; Yumagulov, M. G.) Hopf bifurcation for autonomous systems with hysteresis. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 446–449. (Pavel Krejčí) **98m:34083** 34C23 (34C25, 47H30)

— (*with* Lusnikov, A. V.) On vector boundary value problems with discontinuous nonlinearities. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 592–594. (Józef Banaś) **98j:47122** 47H07 (34B15, 47H10, 47N20)

— (*with* Bobylev, N. A.) Principles of affinity in nonlinear problems. Dynamical systems, 3. *J. Math. Sci.* (*New York*) **83** (1997), *no.* 4, 485–521. (Jean Mawhin) **98h:47081** 47H11 (34B15, 34C25, 34H05, 34K10, 47N20)

— (*with* Mennicken, Reinhard; Rachinskiĭ, Dmitriĭ) Potential bounds in nonpotential two-point boundary-value problems. (English summary) *Math. Nachr.* **188** (1997), 203–218. (Seppo Heikkilä) **98m:34039** 34B15 (47H15, 47N20)

— *see also* **Asarin, E. A. et al.**, **98f:01056a**; **Appell, Jürgen**, **98f:01056b** *and* **Kloeden, Peter E.**

Krasnoshchek, N. V. Optimal control of the shape of curvilinear cuts in an elastic plate. (Russian. English and Russian summaries) *Dinamika Sploshn. Sredy No.* 109 (1994), 49–58, 124, 127. (Vadim Komkov) **98d:73050** 73K50 (49Q10, 73K10, 73V25)

Krasnov, Kirill V. Geometrical entropy from loop quantum gravity. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3505–3513. (Summary) **98c:83036** 83C45

— On the constant that fixes the area spectrum in canonical quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, L1–L4. (Guillermo A. Mena Marugán) **98m:83033** 83C45

— (*with* Ashtekar, Abhay; Baez, John Carlos; Corichi, Alejandro) Quantum geometry and black hole entropy. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 5, 904–907. (Summary) **98k:83051** 83C57 (83C45)

Krasnov, V. A. Equivariant cohomology of a real algebraic surface and its applications. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 101–126; *translation in Izv. Math.* **60** (1996), *no.* 6, 1193–1217. (N. V. Ivanov) **98d:14074** 14P25 (14F99)

Krasnyanskiĭ, M. B. Averaging of a random walk with reflecting nodes. (Russian. English and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 36–39. 60J15

— Vector homogenized model for microinhomogeneous finite-difference equation. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 257–270, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (V. G. Kolomiets) **98k:35013** 35B27 (35R60, 39A99, 60J15, 82B41)

— Averaging of a random walk on lattices with weak connections. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 51–67. 60J15

Krasovskiĭ, A. A. A sufficient condition for the stability of polynomial cubic dynamical systems. (Russian) *Dokl. Akad. Nauk* **344** (1995), *no.* 5, 605–606. (Mihail Voicu) **98h:34097** 34D20 (93D05)

— Synthesis of attractors with applications to active vibration-protection systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 18–31; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 1, 925–936. (Summary) **98a:34033** 34C15 (34C05, 34D20, 34D45, 34H05, 93D15)

— Adaptive polynomial observers and identification in critical modes. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 142–155; *translation in Automat. Remote*

Control **57** (1996), *no.* 10, *part* 2, 1492–1502 (1997). (Summary) **98m:93031** 93B30 (93C40)

Krasovskiĭ, N. N. (*with* Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Matrosov, Vladimir M.; Samarskiĭ, A. A.; Samoĭlenko, A. M.) Ivan Vasil'evich Gaĭshun (on the occasion of his fiftieth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 6, 723–729; *translation in Differential Equations* **33** (1997), *no.* 6, 723–732 (1998). (Editors) **98k:01031** 01A70

Krastanov, M. I. (*with* Ribarska, N. K.; Tsachev, Tsvetomir J.) Speculating about mountains. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 239–256. (Jean-Noël Corvellec) **98h:49020** 49J52 (58E05)

Krasulina, T. P. (*with* Komarov, S. V.) One-sided convergence of continuous processes of stochastic approximation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 201–208, 360–361. (Paweł J. Szabłowski) **98k:62148** 62L20 (60F15, 60F99)

Kraszewski, Jan (*with* Cichoń, Jacek) On some new ideals on the Cantor and Baire spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1549–1555. (Valeriu Anisiu) **98j:54052** 54E52 (04A20, 28A05)

Kratky, Karl W. (*with* Kürten, Karl E.) Irregular fluctuations in uncoupled map lattices. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 749–765. 58F13

Kratochvíl, Jan (*with* Sebő, András) Coloring precolored perfect graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 3, 207–215. (Dieter Kratsch) **98c:05062** 05C15 (68R10)

— (*with* Kuběna, Aleš) On intersection representations of co-planar graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 251–255. (Summary) **98f:05126** 05C75 (05C85)

Kratsch, Dieter (*with* Kloks, Ton; Müller, Haiko) Approximating the bandwidth for asteroidal triple-free graphs. (English summary) *Algorithms—ESA '95 (Corfu)*, 434–447, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C85, 68Q25)

— (*with* Kloks, Ton; Wong, Chak Kuen) Minimum fill-in on circle and circular-arc graphs. (English summary) *Automata, languages and programming (Paderborn*, 1996), 256–267, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68204** 68R10 (05C85, 68Q25)

— (*with* Broersma, H. J.; Kloks, Ton; Müller, Haiko) Independent sets in asteroidal triple-free graphs. (English summary) *Automata, languages and programming (Bologna*, 1997), 760–770, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 05C85 (68Q25, 68R10)

— (*with* Kloks, Ton; Müller, Haiko) Measuring the vulnerability for classes of intersection graphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 259–270. (L. W. Beineke) **98m:05180** 05C85 (05C40)

— (*with* Deogun, Jitender S.; Steiner, George) 1-tough cocomparability graphs are Hamiltonian. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 99–106. (Bernd S. W. Schröder) **98d:05092** 05C45

— (*with* Stewart, Lorna K.) Total domination and transformation. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 167–170. (Summary) **98c:68206** 68R10 (05C85, 68Q25)

— (*with* Kloks, Ton; Spinrad, Jeremy) On treewidth and minimum fill-in of asteroidal triple-free graphs. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 309–335. (Hans L. Bodlaender) **98f:68216** 68R10 (05C05, 05C85, 68Q25)

Krattenthaler, Christian (*with* Foata, Dominique C.) Graphical major indices. II. (English summary) *Sém. Lothar. Combin.* **34** (1995), *Art. B34k, approx.* 16 *pp.* (*electronic*). (Jozef Širáň) **98b:05005** 05A15 (05C20, 33D15)

— (*with* Fulmek, Markus) A bijection between Proctor's and Sundaram's odd orthogonal tableaux. (English summary) *Discrete Math.* **161** (1996), *no.* 1-3, 101–120. (Ira Gessel) **98a:05152** 05E10 (05A15, 20G05)

— A bijective proof of the hook-content formula for super Schur functions and a modified jeu de taquin. (English summary) The Foata Festschrift. *Electron. J. Combin.* **3** (1996), *no.* 2, *Research Paper* 14, *approx.* 24 *pp.* (*electronic*). (Ira Gessel) **98a:05155** 05E10 (05A15, 05E05)

— Oscillating tableaux and nonintersecting lattice paths. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 1, 75–85. (SeungKyung Park) **98b:05103** 05E10 (05A15)

— Some q-analogues of determinant identities which arose in plane partition enumeration. (English summary) *Sém. Lothar. Combin.* **36** (1996), *Art.* B36e, *approx.* 23 *pp.* (*electronic*). (George E. Andrews) **98c:05016** 05A30 (05A19, 11P81, 15A15)

— The enumeration of lattice paths with respect to their number of turns. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 29–58, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Robert John Clarke) **98f:05006** 05A15

— (*with* Gustafson, Robert A.) Determinant evaluations and U(n) extensions of Heine's ${}_2\varphi_1$-transformations. (English summary) *Special functions, q-series and related topics (Toronto, ON*, 1995), 83–89, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Mizan Rahman) **98d:33009** 33D20 (33C20, 33C70, 33D45, 33D80)

— (*with* Fulmek, Markus) Lattice path proofs for determinantal formulas for symplectic and orthogonal characters. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 1, 3–50. (Angèle M. Hamel) **98h:05178** 05E15 (05E05)

— (*with* Zeilberger, Doron) Proof of a determinant evaluation conjectured by Bombieri, Hunt and van der Poorten. (English summary) *New York J. Math.* **3** (1997), 54–102 (*electronic*). (Michael A. Bennett) **98m:11015** 11C20 (05A10)

Kratz, Henrik Compact complex manifolds with numerically effective cotangent bundles. (English summary) *Doc. Math.* **2** (1997), 183–193 (*electronic*). (Fangyang Zheng) **98j:32033** 32J18 (32J27)

Kratz, Marie F. (*with* Feigin, Paul D.; Resnick, Sidney I.) Parameter estimation for moving averages with positive innovations. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1157–1190. (Vladimir Zaiats) **98f:62249** 62M10 (60F05, 60G55, 62E20)

— (*with* León, José R.) Hermite polynomial expansion for non-smooth functionals of stationary Gaussian processes: crossings and extremes. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 237–252. (Eric V. Slud) **98m:60057** 60G15 (60G10)

Kratz, Werner An extremal problem for Stokes functions in the plane. (English summary) *Analysis* **17** (1997), *no.* 2-3, 219–225. (Summary) **98i:35146** 35Q30 (30E20, 76D07)

— The maximum modulus theorem for the Stokes system in a ball. *Math. Z.* **226** (1997), *no.* 3, 389–403. (Maria Specovius-Neugebauer) **98i:35147** 35Q30 (35B50, 35J25, 76D07)

— (*with* Liebscher, Dirk) A local characterization of observability. (English summary) *Linear Algebra Appl.* **269** (1998), 115–137. (Zephyrinus C. Okonkwo) **98i:93012** 93B07 (34K35, 93B05, 93C60)

Krätzel, Ekkehard Weighted lattice points in three-dimensional convex bodies and the number of lattice points in parts of elliptic paraboloids. *J. Reine Angew. Math.* **485** (1997), 11–23. (Hartmut Menzer) **98e:11118** 11P21

Kratzer, Steven G. (*with* Conroy, John M.; Lucas, Robert F.; Naiman, Aaron E.) Data-parallel sparse *LU* factorization. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 584–604 (*electronic*). 65F50 (65Y10)

Kraus, Alain Détermination du poids et due conducteur associés aux représentations des points de p-torsion d'une courbe elliptique. (French summary) [Determination of the weight and conductor associated with representations of p-torsion points of an elliptic curve] *Dissertationes Math. (Rozprawy Mat.)* **364** (1997), 39 *pp.* (Nigel Boston) **98g:11063** 11G05 (11G07)

Kraus, Franta (*with* Havlena, Vladimír) Receding-horizon MIMO LQ controller design with guaranteed stability. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1567–1570. 93E20 (49N10)

Kraus, Jon (*with* Larson, David R.) Preannihilators, the operator approximation property and dual products. (English summary) *J. Operator Theory* **36** (1996), *no.* 1, 21–43. (Christian Le Merdy) **98f:46014** 46B28 (46L05, 47A05, 47D25)

— (*with* Ruan, Zhong-Jin) Multipliers of Kac algebras. (English summary) *Internat. J. Math.* **8** (1997), *no.* 2, 213–248. (Christian Le Merdy) **98g:46090** 46L10 (22D25, 46L05, 47A80)

Kraus, Margarita ★ BRS-Transformationen und Slavnov-Taylor-Identitäten in einem endlichdimensionalen Modell. (German) [BRS transformations and Slavnov-Taylor identities in a finite-dimensional model] Dissertation, Universität Regensburg, Regensburg, 1995. Regensburger Mathematische Schriften [Regensburg Mathematical Publications], 25. *Universität Regensburg, Fachbereich Mathematik, Regensburg*, 1996. iv+236 *pp. ISBN* 3-88246-185-3 (Wolfgang Kalau) **98h:81266** 81T70 (58A50, 81T13)

— BRS-transformations in a finite-dimensional setting. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 107–116. (Ion V. Vancea) **98j:81346** 81T70 (58Z05)

Kraus, Per (*with* Cho, Peter) Symplectic SUSY gauge theories with antisymmetric matter. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7640–7649. (Summary) **98a:81218** 81T60 (81T13)

— (*with* Keski-Vakkuri, Esko) Microcanonical D-branes and back reaction. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 249–262. (Summary) **98c:81172** 81T30 (83C57, 83E30)

— Spin-orbit interaction from matrix theory. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 73–78. 81T30

Kraus, Sarit Beliefs, time and incomplete information in multiple encounter negotiations among autonomous agents. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 111–159. (Summary) **98e:90234** 90D12

Kraus, Thomas *see* **Hasenfratz, P.**, (**98k:81306**)

Kraus, Ute (*with* Nollert, Hans-Peter; Ruder, Hanns) Visualization in curved spacetimes. I. Visualization of objects via four-dimensional ray-tracing. (English summary) *Relativity and scientific computing*, 314–329, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–04 (65Y25)

Krause, Décio Remarks on individuation, quantum objects and logic. (English summary) *Logique et Anal. (N.S.)* **39** (1996), *no.* 155-156, 325–333. 03A05

— (*with* Sant'Anna, Adonai S.) Indistinguishable particles and hidden variables. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 5, 409–426. (Dennis Dieks) **98j:81018** 81P05 (81P10)

— (*with* Béziau, Jean-Yves) Relativizations of the principle of identity. (English summary) *Log. J. IGPL* **5** (1997), *no.* 3, 327–338 (*electronic*). (Alena Vencovská) **98h:03037** 03B60

Krause, Henning An axiomatic description of a duality for modules. *Adv. Math.* **130** (1997), *no.* 2, 280–286. (John Clark) **98j:16002** 16D10 (16D50, 16D90)

— Stable equivalence preserves representation type. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 2, 266–284. (Karin Erdmann) **98k:16018** 16G60 (16D90)

— The spectrum of a locally coherent category. (English summary) *J. Pure Appl. Algebra* **114** (1997), *no.* 3, 259–271. (Mike Prest) **98e:18006** 18E15 (03C60, 18E35, 18E40)

— Finitistic dimension and Ziegler spectrum. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 983–987. (Jian Long Chen) **98f:16009** 16E10 (16G10)

— Generic modules over Artin algebras. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 276–306. (Christof Geiß) **98m:16017** 16G60 (16G70)

Krause, Jorge Heuristic approach to non-abelian quantum kinematics and dynamics in configuration spacetime. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 847–870. (Jiu Qing Liang) **98e:81098** 81S99 (81T99)

Krause, Matthias (*with* Hofmeister, Thomas; Simon, Hans Ulrich) Contrast-optimal k out of n secret sharing schemes in visual cryptography (extended abstract). (English summary) *Computing and combinatorics (Shanghai*, 1997), 176–185, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 94A60

— (*with* Pudlák, Pavel) On the computational power of depth-2 circuits with threshold and modulo gates. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 137–156. (Frederic Green) **98f:68104** 68Q15 (68Q25)

Krause, Ulrich Positive nonlinear difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 301–308. (*see* **98i:00027**) 39A11 (39A10)

Krauskopf, Bernd (*with* Kriete, Hartje) A note on non-converging Julia sets. (English summary) *Nonlinearity* **9** (1996), *no.* 2, 601–603. (Summary) **98f:58163** 58F23 (30D05)

— Bifurcations at ∞ in a model for 1:4 resonance. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 899–931. (Robert Roussarie) **98h:58127** 58F14 (34C05, 34C23, 58F21)

— (*with* Kriete, Hartje) Kernel convergence of hyperbolic components. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1137–1146. (Walter Bergweiler) **98f:58164** 58F23 (30D05)

— (*with* Kriete, Hartje) Hausdorff convergence and the limit shape of the unicorns. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 117–135. (Walter Bergweiler) **98i:30037** 30D05 (54H20, 58F23)

— (*with* van der Graaf, W. A.; Lenstra, Daan) Bifurcations of relaxation oscillations in an optically injected diode laser. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 5, 797–809. (Summary) **98j:78031** 78A60 (34C23)

Krauss, Lawrence M. (*with* Liu, Hong; Heo, Junseong) Dirty black holes and hairy black holes. (English summary) *Phys. Rev. Lett.* **77** (1996), *no.* 26, 5164–5167. (Summary) **98f:83073** 83C57

— (*with* Liu, Hong) Quantum hair, instantons, and black hole thermodynamics: some new results. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 365–386. (Valter Moretti) **98c:83065** 83C57 (81T20, 83C47)

— (*with* de Laix, Andrew A.; Vachaspati, Tanmay) Gravitational lensing signature of long cosmic strings. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1968–1971. (Summary) **98d:83094** 83F05

Krausz, Alexander (*with* Rieder, Ulrich) Markov games with incomplete information. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 263–279. (Summary) **98f:90080** 90D15 (90C08)

Krausz, T. (*with* Borbély, Albert; Bovdi, V. A.; Brindza, B.) Covering theorems for Artinian rings. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 323–329. 16P20

Kraut, G. L. (*with* Gladwell, I.) Cost of stable algorithms for bordered almost block diagonal systems. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 151–154. (*see* **98b:65005**) 65L10 (65F05)

Kraut, S. (*with* Ketzmerick, R.; Kruse, Karsten; Geisel, T.) What determines the spreading of a wave packet? (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1959–1963. (Summary) **98g:81012** 81P05

Krauth, Joachim Distribution of a likelihood ratio statistic for spatial disease clusters. (English summary) *Classification and knowledge organization* (*Freiburg*, 1996), 153–161, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1997. (*see* **98h:62002**) 62H11 (62P10)

Kravanja, Zdravko (*with* Grossmann, Ignacio E.) Mixed-integer nonlinear programming: a survey of algorithms and applications. (English summary) *Large-scale optimization with applications, Part II* (*Minneapolis, MN*, 1995), 73–100, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98f:90040** 90C11 (90C90)

Kravchenko, Svetlana A. (*with* Werner, Frank) Parallel machine scheduling problems with a single server. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 1–11. 90B35

— (*with* Brucker, Peter; Sot-skov, Yu. N.) On the complexity of two machine job-shop scheduling with regular objective functions. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 1, 5–10. (Summary) **98f:90028** 90B35

Kravchenko, V. F. (*with* Rvachëv, V. A.; Pustovoĭt, V. I.) Orthonormal systems of wavelet type based on atomic functions. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 1, 16–18. 42C15

— (*with* Gandel′, Yu. V.; Pustovoĭt, V. I.) Scattering of electromagnetic waves by a thin superconducting tape. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 462–464. (From the introduction) **98k:78035** 78A45 (78A55)

— (*with* Pazynin, L. A.) Reflection of waves by a randomly inhomogeneous medium with an unsharp boundary. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 747–750. 35Q72

— (*with* Nesenenko, G. A.) An asymptotic solution of a nonstationary problem of heat conduction with a nonlinear condition of exponential type on a moving boundary. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 315–318. 35K60 (35C20, 35R35)

Kravchenko, Vladislav V. (*with* Shapiro, M. V.) ★ Integral representations for spatial models of mathematical physics. (English summary) Pitman Research Notes in Mathematics Series, 351. *Longman, Harlow*, 1996. vi+247 *pp. ISBN* 0-582-29741-9 (Igor M. Mitelman) **98d:30054** 30E20 (35C15, 78A25, 81R20)

Kravchuk, D. N. *see* **Andrievskiĭ, Vladimir et al., 98j:30041**

Kravchuk, N. V. Remarks on generalizations of the concept of observable in quantum theory. (Ukrainian. English and Russian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 31–35. (Summary) **98i:81020** 81P15

Kravets, D. (*with* Aggarwal, Alok; Park, James K.; Sen, Sandeep) Parallel searching in generalized Monge arrays. (English summary) *Algorithmica* **19** (1997), *no.* 3, 291–317. (Evangelos Kranakis) **98h:68100** 68Q22 (68Q25)

Kravtsov, A. V. Asymptotic solution of the problem of forced oscillations of a viscous stratified fluid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1498–1505. (Summary) **98j:76145** 76V05 (76D99)

Kravtsov, M. K. (*with* Emelichev, V. A.; Yanushkevich, O. A.) Solvability of a vector trajectory problem for "bottlenecks" by means of an algorithm for the linear convolution of criteria. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 29–33, 124. (Summary) **98i:90083** 90C29 (90C27)

— (*with* Emelichev, V. A.; Yanushkevich, O. A.) On the solvability of a class of discrete vector problems by the algorithm of a linear convolution of criteria. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1405–1408. (Summary) **98k:90083** 90C27 (90C29)

Kravtsov, S. V. (*with* Reznik, G. M.) The dynamics of a barotropic singular vortex on the beta plane. *Izv. Atmos. Ocean. Phys.* **32** (1996), *no.* 6, 701–707; *translated from Fiz. Atmos. Okeana* **32** (1996), *no.* 6, 762–769 (*Russian*). (Summary) **98a:76013** 76C05 (86A05)

Kravvaritis, Dimitrios (*with* Papageorgiou, Nikolaos S.) Extremal periodic solutions for nonlinear parabolic equations with discontinuities. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **27** (1995), *no.* 1-2, 117–135 (1996). (Xiao Qiang Zhao) **98e:35097** 35K60 (35B10)

— (*with* Papanicolaou, Vassilis G.) An inverse spectral problem for the Euler-Bernoulli equation for the vibrating beam. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1083–1092. (Vjacheslav A. Yurko) **98f:34016** 34A55 (34L05, 73D50, 73K05, 73K12)

Krawcewicz, W. (*with* Vivi, P.; Wu, Jian Hong) Computation formulae of an equivariant degree with applications to symmetric bifurcations. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 89–119. (Thomas Bartsch) **98h:55005** 55M25 (47H11, 47H15, 58E09)

Krawczak, Maciej Neural networks learning as a multiobjective optimal control problem. (English summary) Third Hispano-Polish Symposium on System Analysis and Computer Science (Barcelona, 1995). *Mathware Soft Comput.* **4** (1997), *no.* 3, 195–202. (*see* **98k:93007**) 90C29 (93A13)

Krawczyk, Hugo (*with* Gennaro, Rosario; Jarecki, Stanisław; Rabin, Tal) Robust and efficient sharing of RSA functions. (English summary) *Advances in cryptology—CRYPTO '96* (*Santa Barbara, CA*), 157–172, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Krawczyk, Leszek Maximal inequality for Gaussian vectors. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 2, 157–160. (Summary) **98f:60086** 60G50 (60E15)

Krawiec, Adam (*with* Szydłowski, Marek) Continuous pricing in oligopoly. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2067–2073. (Summary) **98b:90042** 90A53 (34C99, 34D30, 90A12)

Krbec, Miroslav (*with* Schmeisser, Hans-Jürgen) Extrapolation of reduced Sobolev imbeddings. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 71–88, *Prometheus, Prague*, 1996. (Lanzhe Liu) **98k:46053** 46E35

— Extrapolation of Sobolev imbeddings. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 601–617. (H. Triebel) **98m:46049** 46E35 (46M35)

— (*with* Lang, Jan) Imbeddings between weighted Orlicz-Lorentz spaces. (English summary) *Georgian Math. J.* **4** (1997), *no.* 2, 117–128. (Abdelmoujib Benkirane) **98d:46033** 46E30

Krebs, Klaus (*with* Sandow, Sven) Matrix product eigenstates for one-dimensional stochastic models and quantum spin chains. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3165–3173. (Gunter Schütz) **98i:82016** 82B20 (60K35)

Krebs, Tom Statistical equilibrium in one-step forward looking economic models. (English summary) *J. Econom. Theory* **73** (1997), *no.* 2, 365–394. (Angelos Dassios) **98e:90038** 90A12 (90A14)

Kredler, Christian An SQP-method for linearly constrained maximum likelihood problems. (English summary) *Applied mathematics and parallel computing*, 157–174, *Physica, Heidelberg*, 1996. (Summary) **98e:90104** 90C15 (62J12)

Kreft, Ch. (*with* Seiler, R.) Models of the Hofstadter-type. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 5207–5243. (Summary) **98j:82043** 82C20 (81Q10, 81Q20)

Kręglewski, T. (*with* Granat, J.; Paczyński, J.; Stachurski, Andrzej; Wierzbicki, A. P.) A modular system of software tools for multicriteria model analysis. (English summary) *System modelling and optimization* (*Prague*, 1995), 363–370, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C29 (90A05)

Kreider, K. L. (*with* Baumeister, K. J.) Preconditioning the Helmholtz equation. (English summary) *J. Sound Vibration* **209** (1998), *no.* 1, 77–97. 76Q05 (76M20)

Kreidler, Martin (*with* Seese, Detlef) Monadic NP and built-in trees. (English summary) *Computer science logic* (*Utrecht*, 1996), 260–274, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **98m:68092** 68Q15 (03D15)

Kreimer, D. (*with* Broadhurst, D. J.) Association of multiple zeta values with positive knots via Feynman diagrams up to 9 loops. (English summary) *Phys. Lett. B* **393** (1997), *no.* 3-4, 403–412. (Louis H. Kauffman) **98g:11101** 11M41 (11Z05, 57M25, 81T18)

— (*with* Broadhurst, D. J.; Gracey, J. A.) Beyond the triangle and uniqueness relations: non-zeta counterterms at large *N* from positive knots. (English summary) *Z. Phys. C* **75** (1997), *no.* 3, 559–574. (Răzvan Gelca) **98k:81178** 81T18 (57M25, 81Q30, 81T15)

Krein, Mark Grigor′evich On the theory of entire matrix-functions of exponential type [MR **14**, 981c]. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 361–371, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 30D15 (34B05, 34L05, 47A99, 47N20)

— *see also* **Dedicated to the memory of Mark Grigorievich Krein (1907–1989)**

Krein, Selim Grigor′evich (*with* Sapronov, I. V.) On the completeness of a system of solutions of a Volterra integral equation with a singularity. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 450–452. (From the text) **98j:45003** 45D05

— (*with* Berezanskiĭ, Yuriĭ Makarovich; Korolyuk, V. S.; Mitropol′skiĭ, Yuriĭ Alekseevich; Samoĭlenko, A. M.; Skorokhod, Anatoliĭ Vladimirovich; Skrypnik, Igor′V.) Yuriĭ L′vovich Dalets′kiĭ (on the occasion of his seventieth birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 323–325; *translation in Ukrainian Math. J.* **49** (1997), *no.* 3, 357–359 (1998). 01A70

— (*with* Sapronov, I. V.) One class of solutions of Volterra equation with regular singularity. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 3, 424–432; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 3, 467–476 (1998). (G. S. Jordan) **98i:45001** 45D05

— *see also* **Arnol′d, Vladimir Igorevich et al.**

Kreinin, A. Ya. Queueing systems with renovation. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 431–441. (Summary) **98g:60168** 60K25 (90B22)

Kreinovich, Vladik (*with* Nguyen, Hung Trung; Walker, Elbert Abner) Maximum entropy (MaxEnt) method in expert systems and intelligent control: new possibilities and limitations. (English summary) *Maximum entropy and Bayesian methods* (*Santa Fe, NM*, 1995), 93–100, *Fund. Theories Phys.*, 79, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98d:68196** 68T35

— (*with* Alefeld, Götz; Mayer, Günter) Symmetric linear systems with perturbed input data. (English summary) *Numerical methods and error bounds* (*Oldenburg*, 1995), 16–22, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98c:65079** 65G10 (65F30)

— Random sets unify, explain, and aid known uncertainty methods in expert systems. (English summary) *Random sets* (*Minneapolis, MN*, 1996), 321–345, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (*see* **98g:60005**) 60D05 (03B52, 04A72, 28E10, 68T35)

— (*with* Wojciechowski, Piotr J.) On lattice extensions of partial orders of rings. (English summary) *Comm. Algebra* **25** (1997), *no.* 3, 935–941. (Summary) **98j:06011** 06F25

— (*with* Wojciechowski, Piotr J.) Geometric approach to quark confinement. (English summary) *Geombinatorics* **7** (1997), *no.* 1, 9–24. (Dan Radu Grigore) **98f:51036** 51P05 (81V05)

— (*with* Heindl, Gerhard; Bouchon-Meunier, Bernadette) Geometry of errors revisited: a natural way to vector-valued metric spaces. (English summary) *Geombinatorics* **7** (1997), *no.* 2, 47–60. 54E35

— (*with* Longpré, Luc) Nonstandard (non-σ-additive) probabilities in algebraic quantum field theory. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1601–1615. (Robert Fittler) **98i:81031** 81P99 (03H10, 81T05)

— (*with* Nguyen, Hung Trung) From numerical intervals to set intervals (interval-related results presented at the First International Workshop on Applications and Theory of Random Sets). (English summary) *Reliab. Comput.* **3** (1997), *no.* 1, 95–102. 65G10

— (*with* Bernat, Andrew) Is solar system stable? A remark. (English summary) *Reliab. Comput.* **3** (1997), *no.* 2, 149–154. (Summary) **98m:85003** 85A99 (70F15)

— (*with* Starks, Scott; Mayer, Günter) On a theoretical justification of the choice of epsilon-inflation in PASCAL-XSC. (English summary) *Reliab. Comput.* **3** (1997), *no.* 4, 437–445. (Summary) **98k:65021** 65G10

— (*with* Alefeld, Götz; Mayer, Günter) On the shape of the symmetric, persymmetric, and skew-symmetric solution set. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 693–705. (Ljiljana Cvetković) **98f:65055** 65G10 (65F05)

— (*with* Lakeev, A. V.; Rohn, Jiří; Kahl, Patrick) ★ Computational complexity and feasibility of data processing and interval computations. (English summary) Applied Optimization, 10. *Kluwer Academic Publishers, Dordrecht*, 1998. xii+459 *pp. ISBN* 0-7923-4865-6 (G. Alefeld) **98m:65080** 65G10 (65–02, 65Y20, 68Q25)

— (*with* Longpré, Luc) Human visual perception and Kolmogorov complexity: revisited. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 155–158. 68Q30 (68T99)

— (*with* Castillo, Gilbert) Was Stonehenge an observatory? (English summary) *Grombinatorics* **7** (1998), *no.* 3, 83–87. 01A10 (00A69)

— (*with* Beltran, Maria; Castillo, Gilbert) Algorithms that still produce a solution (maybe not optimal) even when interrupted: Shary's idea justified. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 39–53. (Summary) **98m:65078** 65G10

— *see also* **Logic programming, nonmonotonic reasoning and reasoning about actions**, **98h:68009**

Kreis, Edith Koordinatisierung von verallgemeinerten affinen Räumen. (English summary) [Coordinatization of generalized affine spaces] *Results Math.* **32** (1997), *no.* 3-4, 304–317. (Horst Struve) **98k:51003** 51A15 (51C05)

Kreiss, Heinz-Otto (*with* Browning, G. L.) The role of gravity waves in slowly varying in time mesoscale motions. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 9, 1166–1184. (Qin Xu) **98e:76022** 76C15 (35Q99, 86A10)

— (*with* Nagy, Gabriel B.; Ortiz, Omar E.; Reula, Oscar A.) Global existence and exponential decay for hyperbolic dissipative relativistic fluid theories. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5272–5279. (Norbert Noutchegueme) **98m:83039** 83C55 (35L99, 35Q30, 76Y05)

— (*with* Ortiz, Omar E.; Reula, Oscar A.) Stability of quasi-linear hyperbolic dissipative systems. *J. Differential Equations* **142** (1998), *no.* 1, 78–96. (Anton S. Mureşan) **98k:35118** 35L60 (35B35)

Kreisselmeier, Gerhard (*with* Lozano Leal, Rogelio) Adaptive control of continuous-time overmodeled plants. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 12, 1779–1794. (Vladimir G. Sragovich) **98a:93041** 93C40 (93B40)

— (*with* Geiger, Roland) Disturbance compensation in continuous time by sampled data control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1566–1571. 93C57

Kreith, K. Mixed selfadjoint boundary conditions for the wave equation. *Differential equations and its applications (Budapest*, 1991), 219–226, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 35L05 (35L20)

Kreitz, Christoph (*with* Otten, Jens) A uniform proof procedure for classical and non-classical logics. (English summary) *KI-96: Advances in artificial intelligence (Dresden)*, 307–319, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (Summary) **98f:68250** 68T27 (03B20, 03B35, 03B45, 03B70)

— (*with* Otten, Jens; Schmitt, Stephan) Guiding program development systems by a connection based proof strategy. (English summary) *Logic program synthesis and transformation (Utrecht*, 1995), 137–151, *Lecture Notes in Comput. Sci.*, 1048, *Springer, Berlin*, 1996. (Summary) **98c:68037** 68N17 (03B35, 68Q60, 68T15)

— (*with* Lau, Kung-Kiu; Ornaghi, Mario) Formal reasoning about modules, reuse and their correctness. (English summary) *Practical reasoning (Bonn*, 1996), 384–398, *Lecture Notes in Comput. Sci.*, 1085, *Springer, Berlin*, 1996. (From the introduction) **98b:68009** 68N15 (68N17, 68Q55, 68Q60)

— (*with* Otten, Jens) *T*-string unification: unifying prefixes in non-classical proof methods. (English summary) *Theorem proving with analytic tableaux and related methods (Terrasini*, 1996), 244–260, *Lecture Notes in Comput. Sci.*, 1071, *Springer, Berlin*, 1996. (*see* **98i:03007**) 03B35 (03B20, 03B45)

— (*with* Korn, Daniel S.) Deciding intuitionistic propositional logic via translation into classical logic. (English summary) *Automated deduction—CADE*-14 (*Townsville*, 1997), 131–145, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (Summary) **98d:03019** 03B25 (03B35, 68T15)

— (*with* Mantel, Heiko; Otten, Jens; Schmitt, Stephan) Connection-based proof construction in linear logic. (English summary) *Automated deduction—CADE*-14 (*Townsville*, 1997), 207–221, *Lecture Notes in Comput. Sci.*, 1249, *Springer, Berlin*, 1997. (Summary) **98d:03062** 03F50 (03B35, 68T15)

Krejčí, Pavel (*with* Brokate, Martin) Maximum norm wellposedness of nonlinear kinematic hardening models. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 365–380. (Mircea Sofonea) **98m:73047** 73E50 (34G20, 47H30, 47N20)

— (*with* Straškraba, Ivan) A uniqueness criterion for the Riemann problem. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 307–346. (Yu. G. Rykov) **98d:35149** 35L70 (35L65)

— (*with* Sprekels, Jürgen) On a system of nonlinear PDEs with temperature-dependent hysteresis in one-dimensional thermoplasticity. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 25–46. (Song Mu Zheng) **98a:35126** 35Q72 (47H30, 47N20, 73B30, 73E50)

Krejčíř, Pavel (*with* Beneš, Viktor) Decomposition in stereological unfolding problems. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 3, 245–258. (Summary) **98d:60026** 60D05 (60K35)

Krejić, Nataša (*with* Herceg, Dragoslav; Lužanin, Zorana) Quasi-Newton's method with correction. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 115–127. (De Ren Wang) **98h:65021** 65H10

— (*with* Herceg, Dragoslav) On an acceleration of iterative methods for discrete analogues of SPP boundary value problems. (English summary) *PRIM '96 (Budva)*, 91–101, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65L10

— (*with* Herceg, Dragoslav) On the strong componentwise stability and *H*-matrices. *Demonstratio Math.* **30** (1997), *no.* 2, 373–378. (A. Bultheel) **98d:65054** 65F30

— (*with* Herceg, Dragoslav) On a numerical method for discrete analogues of boundary value problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 9–15. (*see* **98i:00027**) 65L06

— (*with* Lužanin, Zorana; Herceg, Dragoslav) Parameter selection for inexact Newton method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 17–24. (*see* **98i:00027**) 65H10 (90C30)

Krekain, V. A. (*with* Mel'nik, I. I.) Finite groups with complemented maximal primary cyclic subgroups. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 7, 918–926; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1030–1039 (1998). (È. M. Pal'chik) **98k:20027** 20D20 (20D35)

Kremenetsky, V. (*with* Bartulis, A.; Shcherbinin, E. V.) Theory of the axisymmetric boundary layer of the second type. *Magnetohydrodynamics* **32** (1996), *no.* 3, 266–273 (1997); *translated from Magnit. Gidrodinamika* **1996**, *no.* 3, 291–299 (*Russian*). 76W05 (76D10)

Kremer, Darla (*with* O'Hara, Kathleen M.) A bijection between maximal chains in Fibonacci posets. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 268–279. (Bruce Sagan) **98c:06002** 06A07 (05A19)

Kremer, Erhard Credibility in evolutionary models revisited. (English summary) *Scand. Actuar. J.* **1997**, *no.* 1, 95–96. (Summary) **98b:62189** 62P05

Kremer, G. M. (*with* Müller, Ingo) Dynamic pressure in relativistic thermodynamics. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 2, 111–121. (Summary) **98g:80001** 80A10

— On the kinetic theory of relativistic gases. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 1, 13–21. (C. R. Garibotti) **98i:82055** 82C40 (76P05, 76Y05)

— (*with* Fernandes, A. S.; Reinecke, S.) A combined Chapman-Enskog and Grad method. III. Polyatomic gases in magnetic fields. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 6, 309–322. (Summary) **98k:82151** 82C40 (76P05)

Kremer, Michael Marti on descriptions in Carnap's S2. (English summary) *J. Philos. Logic* **26** (1997), *no.* 6, 629–634. (Marcus Kracht) **98m:03042** 03B45

Kremer, Philip On the complexity of propositional quantification in intuitionistic logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 529–544. (Wim Ruitenburg) **98k:03020** 03B20

Kremer, Richard L. (*with* Dobrzycki, Jerzy) Alfonsine meridians: tradition versus experience in astronomical practice c. 1500. *J. Hist. Astronom.* **29** (1998), *no.* 2, 187–199. 01A40

Kreminski, Rick Using Simpson's rule to approximate sums of infinite series. *College Math. J.* **28** (1997), *no.* 5, 368–376. 65B10

Kremlëv, A. G. On the construction of the asymptotics of information sets for singularly perturbed systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 32–42; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 1, 937–945. (Iordan I. Slavov) **98k:93113** 93E11 (93B07, 93C70)

Kremp, D. (*with* Bonitz, M.; Kraeft, W. D.; Schlanges, M.) Non-Markovian Boltzmann equation. (English summary) *Ann. Physics* **258** (1997), *no.* 2, 320–359. (Carlo Cercignani) **98m:82062** 82C40 (76P05)

Krempa, Jan (*with* Terlikowska-Osłowska, Barbara) On uniform dimension of lattices. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 219–230, *Hölder-Pichler-Tempsky, Vienna*, 1995. (N. K. Thakare) **98m:06010** 06B05 (06B15, 06C05, 06D05)

— Rings with Noetherian groups of units. (English summary) *Infinite groups* 1994 (*Ravello*), 129–139, *de Gruyter, Berlin*, 1996. (Uno Kaljulaid) **98m:16039** 16U60 (16S34)

— Some examples of reduced rings. (English summary) *Algebra Colloq.* **3** (1996), *no.* 4, 289–300. (D. A. Jordan) **98e:16027** 16S36 (16N60, 16S35)

— Some examples of indecomposable modules. (English summary) *Nearrings, nearfields and K-loops (Hamburg*, 1995), 295–299, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16U10 (16D10, 16Y30)

Krener, Arthur J. Reciprocal diffusions in flat space. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 2, 243–281. (Jean-Claude Zambrini) **98c:60099** 60J60 (60G99, 60K99, 81P20, 81S99)

Kreowski, Hans-Jörg (*with* Drewes, Frank; Lapoire, Denis) Criteria to disprove context-freeness of collage languages. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 169–178, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q50 (68Q45)

Křepelka, J. (*with* Peřinová, V.; Lukš, A.) Preferred values and phase dispersions of any order for *l*-photon Kerr states. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, 465–488. (K. Wódkiewicz) **98m:81227** 81V80 (81R30)

— (*with* Peřinová, V.; Lukš, A.) Quasiprobability distribution for the photon-number operator and quadrature operator in a coherent state. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 6, 995–1016. (Summary) **98i:81297** 81V80 (81R30)

Krepkogorskiĭ, V. L. Interpolation with a function parameter in the class of Besov spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 6, 54–62; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 6, 50–58. (Irina U. Asekritova) **98a:46044** 46E35 (46M35)

Kreps, V. L. Game-theoretic axioms for utilities with random choices. (English summary) *Constructing scalar-valued objective functions (Hagen*, 1995), 137–149, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (Summary) **98j:90103** 90D10 (90D35)

Kresin, G. (*with* Eidus, D.; Khvoles, A. A.; Merzbach, Ely; Prössdorf, Siegfried; Shaposhnikova, T. O.; Sobolevskiĭ, P. E.) Mathematical work of Vladimir Maz'ya (on the occasion of his 60th birthday). *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 3–11 (1998). 01A70

Kress, Jonathan (*with* Benn, I. M.; Charlton, Philip) Debye potentials for Maxwell and Dirac fields from a generalization of the Killing-Yano equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4504–4527. (Jorge Goncalves Cardoso) **98j:83070** 83C60 (81R20, 83C50)

Kress, Rainer Integral equation methods in inverse acoustic and electromagnetic scattering. (English summary) *Boundary integral formulations for inverse analysis*, 67–92, *Adv. Bound. Elem. Ser., Comput. Mech., Southampton*, 1997. (Summary) **98i:65047** 65J15 (76M25, 76Q05, 78–08, 78A45)

— Inverse obstacle scattering for time-harmonic waves. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt*,

1996), 114–124, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Jan Koroński) **98k:35029** 35J05 (35R30, 86A22)

— (*with* Colton, David L.; Monk, Peter) Inverse scattering from an orthotropic medium. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 2, 269–298. (B. Belinskiy) **98f:78020** 78A45 (35J05, 35Q99, 35R30, 65N30)

— (*with* Chapko, Roman) Rothe's method for the heat equation and boundary integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 1, 47–69. (P. Rochus) **98e:65071** 65M20

— (*with* Colton, David L.; Monk, Peter) A new algorithm in electromagnetic inverse scattering theory with an application to medical imaging. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 5, 385–401. (J. R. Kuttler) **98g:78012** 78A45 (35J05, 35R30, 78–08)

Křetínský, Mojmír (*with* Brim, Luboš; Gilbert, David Roger; Jacquet, Jean-Marie) A process algebra for synchronous concurrent constraint programming. (English summary) *Algebraic and logic programming (Aachen, 1996)*, 165–178, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (*see* **98c:68005**) 68Q10 (68N17, 68T20)

— (*with* Černá, I.; Kučera, Antonín) Bisimilarity is decidable in the union of normed BPA and normed BPP processes. (English summary) *First International Workshop on Verification of Infinite State Systems (Pisa, 1996)*, 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98m:68066** 68Q10 (68Q60)

bertram-Kretzberg, Claudia *see* **Bertram-Kretzberg, Claudia**

Kreulich, Josef Eberlein-weakly almost-periodic solutions of evolution equations in Banach spaces. (English summary) *Differential Integral Equations* **9** (1996), *no.* 5, 1005–1027. (C. J. K. Batty) **98e:34112** 34G20 (34A60, 34C27, 47H20)

Kreuter, Bernd (*with* Nierhoff, Till) Greedily approximating the r-independent set and k-center problems on random instances (extended abstract). (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 43–53, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98i:68013**) 68Q25 (68R10)

Kreuzer, M. *see* **Kreuzer, Maximilian**

Kreuzer, Martin (*with* Waldi, Rolf) On the Castelnuovo-Mumford regularity of a projective system. *Comm. Algebra* **25** (1997), *no.* 9, 2919–2929. (Juan C. Migliore) **98e:13016** 13D40 (11T71, 14G05, 94B27)

Kreuzer, Maximilian (*with* Skarke, Harald) On the classification of reflexive polyhedra. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 495–508. (Bruce Hunt) **98f:32029** 32J18 (14J32, 14M25, 32J81)

— (*with* Avram, A. C.; Mandelberg, M.; Skarke, Harald) Searching for $K3$ fibrations. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 3, 567–589. (Bruce Hunt) **98g:14041** 14J32 (32J18, 32J81)

— (*with* Nikbakht-Tehrani, Mahmoud) (0, 2) string compactifications. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 136–141. (Bruce Hunt) **98e:81143** 81T30 (81R10, 81T50)

van Kreveld, Marc (*with* de Berg, Mark; Devillers, Olivier; Schwarzkopf, Otfried; Teillaud, Monique) Computing the maximum overlap of two convex polygons under translations. (English summary) *Algorithms and computation (Osaka, 1996)*, 126–135, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05 (52B55)

— (*with* de Berg, Mark; Overmars, Mark H.; Schwarzkopf, Otfried) ★ Computational geometry. (English summary) Algorithms and applications. *Springer-Verlag, Berlin*, 1997. xii+365 *pp. ISBN* 3-540-61270-X (Hans-Dietrich Hecker) **98k:68162** 68U05 (52B55, 70B15)

— (*with* de Berg, Mark) Trekking in the Alps without freezing or getting tired. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 306–323. (Hans-Dietrich Hecker) **98j:68160** 68U05 (68Q25)

— (*with* Bose, Prosenjit; Bremner, David) Determining the castability of simple polyhedra. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 84–113. (Summary) **98b:68186** 68U05 (52B55)

— On fat partitioning, fat covering and the union size of polygons. (English summary) *Comput. Geom.* **9** (1998), *no.* 4, 197–210. (Summary) **98k:68167** 68U05 (52B55)

Kreweras, Germain An additive generation for the Genocchi numbers and two of its enumerative meanings. *Bull. Inst. Combin. Appl.* **20** (1997), 99–103. (Joaquin O. Carbonara) **98d:05010** 05A15 (05A05, 05A10, 05A18)

— (*with* Barraud, Jacques) Anagrammes alternés. (English summary) [Alternating anagrams] *European J. Combin.* **18** (1997), *no.* 8, 887–891. (Renzo Sprugnoli) **98k:05004** 05A05 (11B37)

Kriaučiukas, Valentinas (*with* Walicki, Michał) Reasoning and rewriting with set-relations. I. Ground completeness. (English summary) *Computer science logic (Kazimierz, 1994)*, 264–278, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68Q42

Krichagina, E. V. (*with* Lou, Sheldon X. C.; Sethi, Suresh P.; Taksar, Michael I.) Diffusion approximation for a controlled stochastic manufacturing system with average cost minimization. (English summary) *Math. Oper. Res.* **20** (1995), *no.* 4, 895–922. (Summary) **98e:90061** 90B05 (60J60, 60K25, 90B70)

Krichever, Igor Moiseevich Algebraic-geometric n-orthogonal curvilinear coordinate systems and the solution of associativity equations. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 32–50, 96; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 25–39. (Iskander A. Taimanov) **98f:58049** 58D29 (58F07)

— (*with* Phong, D. H.) On the integrable geometry of soliton equations and $N = 2$ supersymmetric gauge theories. (English summary) *J. Differential Geom.* **45** (1997), *no.* 2, 349–389. (Henrik Aratyn) **98b:58078** 58F07 (14H40, 14K20, 81T13, 81T60)

— (*with* D'Hoker, Eric; Phong, D. H.) The effective prepotential of $N = 2$ supersymmetric $SU(N_c)$ gauge theories. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 179–210. (Peter R. Johnson) **98f:81316** 81T60 (14H52, 81T13)

— (*with* D'Hoker, Eric; Phong, D. H.) The effective prepotential of $N = 2$ supersymmetric $SO(N_c)$ and $Sp(N_c)$ gauge theories. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 211–222. (Peter R. Johnson) **98f:81317** 81T60 (14H52, 81T13)

— (*with* D'Hoker, Eric; Phong, D. H.) The renormalization group equation in $N = 2$ supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 89–104. (Henrik Aratyn) **98c:81214** 81T60 (81T13, 81T17)

Krick, T. (*with* Pardo, Luis Miguel) A computational method for Diophantine approximation. *Algorithms in algebraic geometry and applications (Santander, 1994)*, 193–253, *Progr. Math.*, 143, *Birkhäuser, Basel*, 1996. (From the introduction) **98h:13039** 13P99 (11J99, 14Q99)

— (*with* Sabia, J.; Solernó, Pablo) On intrinsic bounds in the Nullstellensatz. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 2, 125–134. (A. Sinan Sertöz) **98g:13030** 13P10 (14Q99)

Krickeberg, Klaus Comment: "Twenty-five years with Nicolas Bourbaki 1949–1973 [Mitt. Dtsch. Math.-Ver. **1998**, no. 1, 8–15] by A. Borel. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 16. 01A60

Kricker, A. (*with* Spence, B.; Aitchison, Iain R.) Cabling the Vassiliev invariants. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 327–358. (Hugh Reynolds Morton) **98k:57011a** 57M25

— (*with* Spence, B.) Ohtsuki's invariants are of finite type. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 4, 583–597. (Hitoshi Murakami) **98i:57012** 57M25 (57N10)

— Alexander-Conway limits of many Vassiliev weight systems. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 687–714. (Hugh Reynolds Morton) **98k:57011b** 57M25

Kriecherbauer, Thomas (*with* Deift, Percy A.; Venakides, Stephanos) Forced lattice vibrations. *Nonlinear physics: theory and experiment (Lecce, 1995)*, 377–389, *World Sci. Publishing, River Edge, NJ*, 1996. (David J. Kaup) **98h:70024** 70K40 (34C99, 35Q55, 58F30)

— (*with* Hempel, Rainer; Plankensteiner, Peter) Discrete and Cantor spectrum for Neumann Laplacians of combs. (English summary) *Math. Nachr.* **188** (1997), 141–168. (Jan Bochenek) **98m:35141** 35P05 (35J25, 47F05)

Kriegel, Klaus (*with* Hoffmann, Frank) A graph-coloring result and its consequences for polygon-guarding problems. (English summary) *SIAM J. Discrete Math.* **9** (1996), *no.* 2, 210–224. (I. Broere) **98h:05076** 05C15 (52A37, 68U05)

Krieger, Martin H. Making a paradigmatic convention normal: entrenching means and variances as statistics. (English summary) *Sci. Context* **9** (1996), *no.* 4, 487–509. (Pierre Crépel) **98j:00005** 00A30

Kriegl, Andreas (*with* Michor, Peter W.) Product preserving functors of infinite-dimensional manifolds. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 4, 289–306. (Vadim V. Shurygin) **98c:58009** 58B99

— (*with* Michor, Peter W.) ★ The convenient setting of global analysis. (English summary) Mathematical Surveys and Monographs, 53. *American Mathematical Society, Providence, RI*, 1997. x+618 *pp. ISBN* 0-8218-0780-3 (Olga Gil-Medrano) **98i:58015** 58Bxx (46–02, 46Gxx, 46M20, 58C15)

— Remarks on germs in infinite dimensions. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 1, 117–134. (Introduction) **98i:46040** 46G05 (26E15, 58C20)

— (*with* Michor, Peter W.) Regular infinite-dimensional Lie groups. (English summary) *J. Lie Theory* **7** (1997), *no.* 1, 61–99. (Vladimir Pestov) **98k:22081** 22E65 (58B25)

Kriegsmann, Gregory A. Microwave heating of materials. *Computational wave propagation (Minneapolis, MN, 1994/1995)*, 129–140, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (*see* **98g:65007**) 78A55 (80A20)

— Hot spot formation in microwave heated ceramic fibres. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 123–148. (Summary) **98k:78048** 78A55 (35Q60, 80A20)

— (*with* Pelesko, J. A.) Microwave heating of ceramic laminates. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 1, 1–18. 78A55

— (*with* Booty, M. R.; Bechtold, J. K.) Microwave-induced combustion: a one-dimensional model. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 57–80. (Summary) **98m:80007** 80A25

— (*with* Gilchrist, John; Papageorgiou, Demetrios T.) Stability of a microwave heated fluid layer. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 73–89. 76E15 (76R05)

— *see also* **Computational wave propagation, 98g:65007**

Kriele, Marcus Cosmic censorship in spherically symmetric perfect fluid spacetimes. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 82–86, *World Sci. Publishing, River Edge, NJ*, 1994. (From the introduction) **98f:83081** 83C75

— (*with* Kossowski, Marek) Signature type change and absolute time in general relativity. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 421–427, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C99

— (*with* Kossowski, Marek) Pseudo-Riemannian metrics with signature type change. *Geometry and topology of submanifolds, VII (Leuven, 1994/Brussels, 1994)*, 155–158, *World Sci. Publishing, River Edge, NJ*, 1995. (Robert J. Low) **98a:53102** 53C50

— A stable class of spacetimes with naked singularities. (English summary) *Mathematics of gravitation, Part I (Warsaw, 1996)*, 169–178, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Paul E. Ehrlich) **98k:83063** 83C75 (53C50)

— Shell singularities of three-dimensional dust spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 153–163. (Volker Perlick) **98f:83082** 83C75

— (*with* Kossowski, Marek) The volume blow-up and characteristic classes for transverse, type-changing, pseudo-Riemannian metrics. (English summary) *Geom. Dedicata* **64** (1997), *no.* 1, 1–16. (Eduardo García-Río) **98a:53101** 53C50 (53C20, 53C22)

— (*with* Hayward, Sean A.) Outer trapped surfaces and their apparent horizon. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1593–1604. (János Kánnár) **98a:83093** 83C75 (53C50, 53C80)

Kriesell, Matthias A note on Hamiltonian cycles in lexicographical products. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 2, 135–138. (Summary) **98f:05107** 05C45

Kriete, Hartje (*with* Krauskopf, Bernd) A note on non-converging Julia sets. (English summary) *Nonlinearity* **9** (1996), *no.* 2, 601–603. (Summary) **98f:58163** 58F23 (30D05)

— (*with* Krauskopf, Bernd) Kernel convergence of hyperbolic components. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1137–1146. (Walter Bergweiler) **98f:58164** 58F23 (30D05)

— (*with* Krauskopf, Bernd) Hausdorff convergence and the limit shape of the unicorns. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 117–135. (Walter Bergweiler) **98i:30037** 30D05 (54H20, 58F23)

Krijnen, Wim P. (*with* Wansbeek, Tom; ten Berge, Jos M. F.) Best linear predictors for factor scores. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 12, 3013–3025. (Yutaka Kano) **98b:62107** 62H25

ter-Krikorov, A. M. *see* **Ter-Krikorov, A. M.**

Kriksin, Yu. A. (*with* Plyushchev, S. N.; Samarskaya, E. A.; Tishkin, V. F.) The inverse problem of source reconstruction for a convective diffusion equation. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 95–108. (Summary) **98i:65074** 65M30 (35R30)

Krings, A. W. (*with* Azadmanesh, M. H.) Analysis of a realistic fault model for large distributed systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 29–51. 68M15 (68Q10, 94C12)

Krinik, Alan (*with* Marcus, Daniel A.; Kalman, Dan; Cheng, Terry) Transient solution of the $M/M/1$ queueing system via randomization. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 137–145, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (P. R. Parthasarathy) **98e:60152** 60K25

Kripfganz, Anita Favard's "fonction penetrante"—a roughly convex function. (English summary) *Optimization* **38** (1996), *no.* 4, 329–342. (Gerard Sierksma) **98b:52011** 52A41 (90C26)

— An isoperimetric partition problem. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 161–181. (Gerard Sierksma) **98g:52004** 52A10 (52A40)

Kripke, Saul A. Naming and necessity. *The philosophy of language*, 255–270, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

— A puzzle about belief. *The philosophy of language*, 382–411, *Oxford Univ. Press, New York*, 1996. (*see* **98a:03005**) 03A05

Krir, Mohamed Degré d'une extension de $\mathbf{Q}_p^{ur}$ sur laquelle $J_0(N)$ est semi-stable. (English and French summaries) [Degree of an extension of $\mathbf{Q}_p^{ur}$ on which $J_0(N)$ is semistable] *Ann. Inst. Fourier* (*Grenoble*) **46** (1996), *no.* 2, 279–291. (Takeshi Ooe) **98g:11072** 11G18 (11G25, 11S15, 14K15)

Krisch, Jean P. (*with* Smalley, Larry L.) String fluid dynamics in general relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2405–2415. (Summary) **98j:83049** 83C55 (83C40)

— (*with* Smalley, Larry L.) Spinning string fluid dynamics in general relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3501–3512. (Maciej Przanowski) **98m:83011** 83C15 (83C55)

— (*with* Garfinkle, David; Glass, E. N.) Solution generating with perfect fluids. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 4, 467–480. (Nora Bretón Báez) **98e:83027** 83C20 (83C15)

Krishchenko, A. P. Estimations of domains with cycles. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 325–332. (W.-H. Steeb) **98j:34047** 34C05 (58F21)

— Domains of existence of cycles. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 1, 17–19. (Natalia Borisovna Medvedeva) **98j:34073** 34C25 (34C05)

Krishna, Kala (*with* Tan, Ling Hui) A note on India's MFA quota allocation system: the effect of subcategorization. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997,** *no.* 47, 39–50. (*see* **98g:90010**) 90A53

Krishna, M. (*with* Sunder, V. S.) Schrödinger operators with fairly arbitrary spectral features. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 3, 343–360. (Jean-Michel Ghez) **98d:47100** 47E05 (34L05, 34L40, 81Q10, 81U40)

Krishna, Vijay (*with* Sjöström, Tomas) Learning in games: fictitious play dynamics. (English summary) *Cooperation: game-theoretic approaches* (*Stony Brook, NY*, 1994), 257–273, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D12 (90D40)

— (*with* Sjöström, Tomas) Evolution and games: replicator dynamics. (English summary) *Cooperation: game-theoretic approaches* (*Stony Brook, NY*, 1994), 275–285, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 155, *Springer, Berlin*, 1997. (*see* **98g:90005**) 90D10 (92D15)

Krishnakumar, J. *see* **Varadharajan-Krishnakumar, Jayalakshmi**

varadharajan-Krishnakumar, Jayalakshmi *see* **Varadharajan-Krishnakumar, Jayalakshmi**

Krishnamoorthy, A. (*with* Joseph, Merlymole) Analysis of general correlated bulk demand two commodity inventory problem. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 2, 35–45. 90B05

— (*with* Ushakumari, P. V.) On the $GI^{X_n}/G/\infty$ system with Markov dependent batch arrivals. (English summary) *Opsearch* **35** (1998), *no.* 1, 1–12. (Summary) **98m:90064** 90B22 (60K25)

Krishnamoorthy, Charu (*with* Carlstein, Edward) Practical considerations in boundary estimation: model-robustness, efficient computation, and bootstrapping. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 177–193, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G05 (62G20)

Krishnamoorthy, K. (*with* Johnson, Darren J.) Combining independent studies in a calibration problem. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1707–1715. (Heleno Bolfarine) **98d:62118** 62J05 (62F12)

— (*with* Johnson, Darren J.) Combining independent information in a multivariate calibration problem. (English summary) *J. Multivariate Anal.* **61** (1997), *no.* 2, 171–186. (Heleno Bolfarine) **98d:62120** 62J05 (62F12, 62H12)

Krishnamoorthy, S. *see* **Krishnamoorthy, Srinivasan**

Krishnamoorthy, Srikanth (*with* Marshall, J. S.) On the instantaneous cutting of a columnar vortex with non-zero axial flow. (English summary) *J. Fluid Mech.* **351** (1997), 41–74. 76C05

Krishnamoorthy, Srinivasan (*with* Meenakshi, A. R.) On k-EP matrices. (English summary) *Linear Algebra Appl.* **269** (1998), 219–232. (Yao Zhang) **98m:15020** 15A21 (15A57, 65F99)

Krishnamurthy, Vikram (*with* Elliott, Robert James) Filters for estimating Markov modulated Poisson processes and image-based tracking. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 821–833. (Alexander I. Matasov) **98e:93097** 93E10 (60G35)

— (*with* Elliott, Robert James) Exact finite-dimensional filters for doubly stochastic auto-regressive processes. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1289–1293. (Summary) **98g:93051** 93E11

— (*with* Elliott, Robert James) Exact finite-dimensional filters for maximum likelihood parameter estimation of continuous-time linear Gaussian systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1908–1923. (Engin Yaz) **98j:93081** 93E11 (60G35, 93E12)

— (*with* Evans, Jamie) Finite-dimensional filters for passive tracking of Markov jump linear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 765–770. 93E11

Krishnamurty, Venkata S. (*with* Shyy, Wei) Study of compressibility modifications to the k-ϵ turbulence model. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2769–2788. (Summary) **98f:76036** 76F05 (76N10)

Krishnan, H. (*with* Lye, Koh Tuck; Teo, C. L.) Control of a 2-DOF manipulator with a flexible forearm. (English summary) *Sādhanā* **22** (1997), *no.* 4, 499–523. 70B15 (70Q05, 93C85)

Krishnan, P. (*with* Vitter, Jeffrey Scott) Optimal prefetching via data compression. (English summary) *J. ACM* **43** (1996), *no.* 5, 771–793. (Micha Hofri) **98c:68041** 68N25 (68P20, 94A29)

Krishnan, Shankar (*with* Manocha, Dinesh) Algebraic pruning: a fast technique for curve and surface intersection. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 823–845. 65D17 (41A63)

Krishnan, Thriyambakam (*with* McLachlan, Geoffrey J.) ★ The EM algorithm and extensions. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xviii+274 *pp. ISBN* 0-471-12358-7 (Jean Diebolt) **98f:62057** 62F10 (62H17, 62H30, 62J99, 65U05)

Krishna Rao, M. R. K. Graph reducibility of term rewriting systems. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 371–381, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68Q42

— Some characteristics of strong innermost normalization. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 406–420, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Summary) **98f:68147** 68Q42

— A class of Prolog programs inferable from positive data. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 272–284, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68N17)

— Modularity of termination in term graph rewriting. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 230–244, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (Summary) **98h:68131** 68Q42 (68R10)

— Relating confluence, innermost-confluence and outermost-confluence properties of term rewriting systems. (English summary) *Acta Inform.* **33** (1996), *no.* 6, 595–606. (Summary) **98a:68113** 68Q42 (68N15)

— A framework for incremental learning of logic programs. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 191–213. (Summary) **98k:68036** 68N17 (68T05)

— (*with* Kapur, Deepak; Shyamasundar, R. K.) Transformational methodology for proving termination of logic programs. (English summary) *J. Logic Programming* **34** (1998), *no.* 1, 1–41. (Summary) **98i:68048** 68N17

Krishnaswamy, S. (*with* Casey, James) A characterization of internally constrained thermoelastic materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 71–89. (Summary) **98i:73005** 73B30

Krishnaswamy, Vasudha (*with* Agrawal, Divyakant; Bruno, J. L.; El Abbadi, Amr) Relative serializability: an approach for relaxing the atomicity of transactions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 344–354. (Summary) **98i:68067** 68P15 (68Q10)

Krispin, Gabriela (*with* Domschke, Wolfgang) Location and layout planning. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 3, 181–194. 90B80 (90–02)

Kristensen, Jan Lower semicontinuity in Sobolev spaces below the growth exponent of the integrand. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 4, 797–817. (Paolo Marcellini) **98e:49032** 49J45 (46E35)

Kristensson, Gerhard (*with* Fridén, Jonas) Transient external 3D excitation of a dispersive and anisotropic slab. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 691–709. (Summary) **98c:78020** 78A45

— (*with* Folkow, Peter D.; Olsson, Peter) Time domain Green functions for the homogeneous Timoshenko beam. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 125–141. (Summary) **98k:73045** 73K12 (73K05)

Kristiansen, Lars Information content and computational complexity of recursive sets. *Gödel '96* (*Brno*, 1996), 235–246, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Cristian Calude) **98a:03066** 03D20 (03D15)

Kristiansen, Lill (*with* Normann, Dag) Semantics for some constructors of type theory. *Proceedings of the 2nd Gauss Symposium. Conference A: Mathematics and Theoretical Physics* (*Munich*, 1993), 201–224, *Sympos. Gaussiana, de Gruyter, Berlin*, 1995. (Feodor Alexandrovich Murzin) **98g:03017** 03B15 (03B40, 03B70, 68Q55)

— (*with* Normann, Dag) Total objects in inductively defined types. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 6, 405–436. (Thomas Glaß) **98m:03095** 03D70 (03B15, 03D65)

Kristiansson, Simon (*with* Sonego, Sebastiano; Abramowicz, Marek A.) Optical space of the Reissner-Nordström solutions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 2, 275–288. (Alicia M. Sintes) **98m:83010** 83C15 (83C20, 83C57)

Kristinsdottir, B. P. (*with* Zabinsky, Z. B.) Complexity analysis integrating pure adaptive search (PAS) and pure random search (PRS). (English summary) *Developments in global optimization* (*Szeged*, 1995), 171–181, *Noncomex Optim. Appl.*, 18, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C30 (90C15)

Kristjansen, C. F. (*with* Eynard, B.) More on the exact solution of the O(n) model on a random lattice and an investigation of the case $|n| > 2$. (English summary) *Nuclear Phys. B* **466** (1996), *no.* 3, 463–487. (Summary) **98f:81228** 81T27 (81T25, 82B20, 82B44)

— (*with* Chekhov, L. O.) Hermitian matrix model with plaquette interaction. (English summary) *Nuclear Phys. B* **479** (1996), *no.* 3, 683–696. (Yolanda Lozano) **98a:81197** 81T40

— (*with* Durhuus, Bergfinnur) Phase structure of the O(n) model on a random lattice for $n > 2$. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 3, 535–551. (Summary) **98f:82021** 82B20 (82B27, 82B44)

— (*with* Ambjørn, Jan; Watabiki, Y.) The two-point function of $c = -2$ matter coupled to 2D quantum gravity. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 555–578.

(From the text) **98k:81245** 81T40

— (*with* Olesen, Poul) A possible IIB superstring matrix model with Euler characteristic and a double scaling limit. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 45–48. (Summary) **98f:81269** 81T30 (81T27)

Kristoffersen, Kåre J. (*with* Andersen, Jørgen H.; Larsen, Kim G.; Niedermann, Jesper) Automatic synthesis of real time systems. *Automata, languages and programming* (*Szeged*, 1995), 535–546, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q60

Krisztin, Tibor (*with* Hatvani, László) Necessary and sufficient conditions for intermittent stabilization of linear oscillators by large damping. (English summary) *Differential Integral Equations* **10** (1997), *no.* 2, 265–272. (Summary) **98d:93076** 93D15

Krithivasan, Kamala (*with* Chakaravarthy, Venkatesan T.; Rama, Raghavan) Array splicing systems. (English summary) *New trends in formal languages*, 346–365, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q45

Kritskov, L. V. Analytic description of an ordered spectral representation of the space $L_2(\mathbf{R}^N)$ with respect to a Schrödinger operator with a potential in the Kato class. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 12, 2038–2045, 2110; *translation in Differential Equations* **31** (1995), *no.* 12, 2008–2015 (1996). (Mihai Pascu) **98b:35038** 35J10

— (*with* Il′in, Vladimir Aleksandrovich[1]) An estimate, uniform on the whole line $\mathbf{R}$, for the rate of convergence of a spectral expansion corresponding to the Schrödinger operator with a summable potential. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 1, 32–36, 141; *translation in Differential Equations* **32** (1996), *no.* 1, 32–37. (Vladimir Georgescu) **98c:81054** 81Q10 (34L05, 34L40, 47E05)

— On the ordered spectral representation of the space $L_2(\mathbf{R})$ with respect to the Stark-effect Hamiltonian of regular type. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1599–1607, 1724; *translation in Differential Equations* **32** (1996), *no.* 12, 1592–1600 (1997). (Victor S. Rykhlov) **98m:34174** 34L40 (81Q10)

— (*with* Il′in, Vladimir Aleksandrovich[1]) Some properties of spectral expansions related to the one-dimensional Stark effect Hamiltonian. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 633–640. (Alexander A. Kiselev) **98j:81081** 81Q10 (34L10, 34L40)

Krivan, William (*with* Laguna-Castillo, Pablo; Papadopoulos, Philippos O.; Andersson, Nils) Dynamics of perturbations of rotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3395–3404. (Summary) **98e:83080** 83C57 (83–08)

Krive, Ilya V. (*with* Berman, G. P.; Campbell, David K.; Bulgakov, E. N.) Quantum chaos in Aharonov-Bohm oscillations. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 290–297, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:81031** 81Q50

Krivelevich, Michael Triangle factors in random graphs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 337–347. (Andrzej Ruciński) **98k:05126** 05C80 (05C70)

— (*with* Alon, Noga) The concentration of the chromatic number of random graphs. (English summary) *Combinatorica* **17** (1997), *no.* 3, 303–313. (J. Spencer) **98m:05173** 05C80 (05C15)

— (*with* Alon, Noga) Constructive bounds for a Ramsey-type problem. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 217–225. (Ivan Pashov) **98h:05136** 05C55

— Approximate set covering in uniform hypergraphs. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 118–143. (Nigel Martin) **98g:05105** 05C65

— (*with* Alon, Noga; Sudakov, Benny) Subgraphs with a large cochromatic number. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 295–297. (Summary) **98d:05050** 05C15

— A lower bound for irredundant Ramsey numbers. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 185–192. (Summary) **98i:05121** 05C55

— An improved bound on the minimal number of edges in color-critical graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 4, 4 *pp.* (*electronic*). (Summary) **98j:05068** 05C15 (05C35)

benyash-Krivets, V. V. *see* **Benyash-Krivets, V. V.**

Krivonogov, N. P. (*with* Zhelezovskiĭ, S. E.; Ivanov, G. M.) On the rate of convergence of Galerkin approximations for a nonlinear problem in the thermoelasticity of thin plates. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 157–168. (Summary) **98i:73035** 73K10 (73B30, 73D35, 73V20)

Krivonos, S. (*with* Sorin, A. S.) Conformal linearization versus nonlinearity of W-algebras. (English summary) *Geometry and integrable models* (*Dubna*, 1994), 121–143, *World Sci. Publishing, River Edge, NJ*, 1996. (Josep Herrero) **98a:81063** 81R10 (17B65, 17B68, 17B81)

— (*with* Ivanov, Evgeniĭ Alekseevich[2]) New integrable extensions of $N = 2$ KdV and Boussinesq hierarchies. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 75–81. (Summary) **98h:58077** 58F07 (35Q53)

— (*with* Bellucci, S.; Sorin, A. S.) The $W(\mathrm{sl}(N+3), \mathrm{sl}(3))$ algebras and their contractions to W_3. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 350–359. (Bani Mitra Södermark) **98c:81083** 81R10

— (*with* Ivanov, Evgeniĭ Alekseevich[2]; Toppan, Francesco) $N = 4$ super NLS-mKdV hierarchies. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 85–94. (Luigi Martina) **98h:58078** 58F07 (81R10)

— (*with* Bellucci, S.; Gribanov, V.; Ivanov, Evgeniĭ Alekseevich[2]; Pashnev, A.) Non-linear realizations of superconformal and W-algebras as embeddings of strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 477–501. (Summary) **98j:81115** 81R10 (81T30, 81T40)

Krivovichev, Sergey On the uniformity of crystallographic orbits. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 5, 689–691. 20H15

Krivskiĭ, I. Yu. (*with* Simulik, V. M.) Unitary connection in Maxwell-Dirac isomorphism and the Clifford algebra. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 249–259. (Piotr Kosiński) **98m:81063** 81R20 (15A66)

— (*with* Simulik, V. M.) On a unitary operator that connects the Maxwell and Dirac equations. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 8, 79–86. (Summary) **98b:81282** 81V10 (35Q40, 78A25)

— (*with* Simulik, V. M.) Clifford algebra in classical electrodynamical hydrogen atom model. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 25–34. (Waldyr Alves Rodrigues, Jr.) **98k:81321** 81V45 (30G35, 78A99)

— (*with* Simulik, V. M.) Correction: "Clifford algebra in classical electrodynamical hydrogen atom model" [Adv. Appl. Clifford Algebras **7** (1997), no. 1, 25–34; MR 98k:81321]. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 167–168. 81V45 (30G35, 78A99)

— (*with* Simulik, V. M.; Torich, Z. Z.) Local and other symmetries of the subsystem of rotor Maxwell equations. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 5, 92–97; *translation in Russian Phys. J.* **40** (1997), *no.* 5, 486–491. (Summary) **98k:78015** 78A25 (22E70)

Krivtsov, V. N. Logics of a creative subject: conservativity with respect to intuitionistic predicate calculus. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 1(307), 151–152; *translation in Russian Math. Surveys* **51** (1996), *no.* 1, 146–147. 03B45 (03B20, 03F55)

Krivtsov, Yu. V. (*with* Konyukh, G. V.; Mikhailenko, B. G.) Numerical-analytical algorithm of seismic wave propagation in inhomogeneous media. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 99–104. (Summary) **98i:86009** 86A15 (86–08)

Kříž, Igor On order-perfect lattices. (English summary) *The mathematics of Paul Erdős, II*, 409–419, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Summary) **98d:06013** 06C05 (06D20)

Kříž, Otakar Conditional problem for objective probability. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika* (*Prague*) **34** (1998), *no.* 1, 27–40. (*see* **98k:68017**) 68T30 (68T35)

Krizanc, Danny (*with* Bauernöppel, Frank; Kranakis, Evangelos; Maheshwari, Anil; Noy, Marc; Sack, Jörg-Rüdiger; Urrutia, Jorge) Optimal shooting: characterizations and applications. *Automata, languages and programming* (*Szeged*, 1995), 220–231, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68U05

— (*with* Kranakis, Evangelos; Luccio, Flaminia L.) String recognition on anonymous rings. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 392–401, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68M10 (68Q25)

— (*with* Gąsieniec, Leszek; Kranakis, Evangelos; Pelc, Andrzej) Minimizing congestion of layouts for ATM networks with faulty links. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 372–381, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98f:68023** 68M10 (68M15, 90B12)

— (*with* Kranakis, Evangelos) Lower bounds for compact routing (extended abstract). (English summary) *STACS* 96 (*Grenoble*, 1996), 529–540, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68M10 (68Q25)

— (*with* Kirousis, Lefteris M.; Kranakis, Evangelos) A better upper bound for the unsatisfiability threshold. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 643–648, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98m:68121** 68Q25 (03B05, 60B99)

— (*with* Kirousis, Lefteris M.; Kranakis, Evangelos; Pelc, Andrzej) Power consumption in packet radio networks (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 363–374, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 90B12 (68Q25)

— (*with* Kranakis, Evangelos; Maheshwari, Anil; Noy, Marc; Sack, Jörg-Rüdiger; Urrutia, Jorge) Stage-graph representations. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 71–80. (Summary) **98c:05139** 05C75 (68R10)

— (*with* Kranakis, Evangelos; Ruf, Berthold; Urrutia, Jorge; Woeginger, Gerhard J.) The VC-dimension of set systems defined by graphs. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 237–257. (András Gyárfás) **98k:05135** 05D05 (68Q25, 68R10, 68T05)

— (*with* Kranakis, Evangelos) Distributed computing on anonymous hypercube networks. *J. Algorithms* **23** (1997), *no.* 1, 32–50. (Friedhelm Meyer auf der Heide) **98b:68066** 68Q22 (68Q25)

— (*with* Israeli, Amos; Kranakis, Evangelos; Santoro, Nicola) Time-message trade-offs for the weak unison problem. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 4, 317–329. (Summary) **98m:68009** 68M10

— (*with* Bauernöppel, Frank; Kranakis, Evangelos; Maheshwari, Anil; Sack, Jörg-Rüdiger; Urrutia, Jorge) Planar stage graphs: characterizations and applications. (English summary) Orders, algorithms and applications (Lyon, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 2, 239–255. (D. M. Campbell) **98e:68096** 68Q25 (05C75, 05C85, 68Q22, 68R10)

Křížek, Michal (*with* Liu, Li Ping[2]) The second order optimality conditions for nonlinear mathematical programming with $C^{1,1}$ data. (English summary) *Appl. Math.* **42** (1997), *no.* 4, 311–320. (Doug Ward) **98d:90114** 90C30 (49J45)

— (*with* Strouboulis, Theofanis) How to generate local refinements of unstructured tetrahedral meshes satisfying a regularity ball condition. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 201–214. (Do Young Kwak) **98c:65160** 65M50 (65N50)

— (*with* Chleboun, Jan) Is any composite Fermat number divisible by the factor $5h2^n + 1$? (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 17–21. (Aleksander Grytczuk) **98j:11003** 11A51

— (*with* Neittaanmäki, Pekka) Bibliography on superconvergence. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 315–348, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65–00 (00A15)

— *see also* **Finite element methods, 98i:65003**

Krmpotić, D. (*with* Mindlin, G. B.) Truncating expansions in bi-orthogonal bases: what is preserved? (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 301–306. 82C03

Krnić, I. (*with* Jaćimović, Milojica; Potapov, M. M.) On well-posedness of quadratic minimization problem on ellipsoid and polyhedron. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **62(76)** (1997), 105–112. (T. Zolezzi) **98i:49005** 49J27 (90C48)

Krob, Daniel (*with* Duchamp, Gérard) Combinatorics in trace monoids. II. *The book of traces*, 83–129, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68R15 (20M05, 68Q10, 68Q45)

— (*with* Arnold, André; Kanta, M.) Recognizable subsets of the two letter plactic monoid. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 53–59. (Summary) **98f:68149** 68Q45 (68Q70)

— (*with* Leclerc, Bernard; Thibon, Jean-Yves) Noncommutative symmetric functions. II. Transformations of alphabets. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 2, 181–264. (Arun Ram) **98f:05148** 05E05 (15A15)

— Some automata-theoretic aspects of min-max-plus semirings. (English summary) *Idempotency (Bristol, 1994)*, 70–79, *Publ. Newton Inst., 11, Cambridge Univ. Press, Cambridge*, 1998. (Summary) **98j:68083** 68Q45 (68Q40)

Kroese, Dirk P. (*with* Schmidt, Volker[1]) Light-traffic analysis for queues with spatially distributed arrivals. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 1, 135–157. (Ravi Mazumdar) **98g:60169** 60K25 (90B22)

— Heavy traffic analysis for continuous polling models. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 720–732. (Summary) **98c:60126** 60K25 (60G55)

Kröger, Helmut Generalized Aharonov-Bohm effect, homotopy classes and Hausdorff dimension. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 127–134. (Summary) **98b:81063** 81Q99 (81P99)

Kröger, Pawel (*with* Bañuelos, Rodrigo) Isoperimetric-type bounds for solutions of the heat equation. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 83–91. (Ross Pinsky) **98k:35081** 35K05 (35B45, 60J65)

Krokhin, A. A. On clones, transformation monoids, and associative rings. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 527–540. (P. P. Pálfy) **98g:08006** 08A40 (20M20)

— (*with* Safin, K. L.; Sukhanov, E. V.) The structure of the lattice of closed classes of polynomials. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 24–39; *translation in Discrete Math. Appl.* **7** (1997), *no.* 2, 131–146. (János Demetrovics) **98k:03060** 03B50

kazarnovski-Krol, A. *see* **Kazarnovski-Krol, A.**

Królak, Andrzej (*with* Joshi, Pankaj S.) Nature of the central singularity in Szekeres models. (English summary) *Mathematics of gravitation, Part I (Warsaw, 1996)*, 163–168, *Banach Center Publ., 41, Part I, Polish Acad. Sci., Warsaw*, 1997. (Paul E. Ehrlich) **98j:83075** 83C75 (53C50)

— *see also* **Mathematics of gravitation, 98b:83004**

łojczyk-Królikiewicz, Irena *see* **Łojczyk-Królikiewicz, Irena**

Królikowski, Wiesław Pairs of Clifford algebras of the Hurwitz type. (English summary) *Generalizations of complex analysis and their applications in physics (Warsaw/Rynia, 1994)*, 327–330, *Banach Center Publ., 37, Polish Acad. Sci., Warsaw*, 1996. (Maurice Flamant) **98i:15032** 15A66 (30G35)

— Fueter regular mappings and harmonicity. (English summary) *Ann. Polon. Math.* **64** (1996), *no.* 2, 97–114. (Michael V. Shapiro) **98a:58051** 58E20 (53C10)

Kröll, Brigitte (*with* Widmayer, Peter) Balanced distributed search trees do not exist. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 50–61, *Lecture Notes in Comput. Sci., 955, Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05

Kroll, Hans-Joachim Eine Bemerkung zur Axiomatik Euklidischer Räume. (English summary) [A remark on the axiomatics of Euclidean spaces] *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 234–238, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Victor V. Pambuccian) **98h:51025** 51F99

— (*with* Matraś, Andrzej) Minkowski planes with Miquelian pairs. *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 99–109. (W. Benz) **98g:51003** 51B20 (51B05)

— (*with* Sörensen, Kay) Hyperbolische Räume. (English summary) [Hyperbolic spaces] *J. Geom.* **61** (1998), *no.* 1-2, 141–149. (F. A. Sherk) **98m:51016** 51M10

Kroll, Herbert (*with* Bollweg, Wilfried; Mäurer, Helmut[2]) Numerical prediction of crystal structures by simulated annealing. (English summary) *Developments in global optimization (Szeged, 1995)*, 253–288, *Nonconvex Optim. Appl., 18, Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:90005**) 90C30 (90C90)

Krolzig, Hans-Martin ★ Markov-switching vector autoregressions. Modelling, statistical inference, and application to business cycle analysis. Lecture Notes in Economics and Mathematical Systems, 454. *Springer-Verlag, Berlin*, 1997. xiv+357 *pp. ISBN* 3-540-63073-2 (From the preface) **98h:62135** 62M10 (62P20, 90A16, 90A20)

Kromberg, S. (*with* Hochstättler, Winfried) A pseudoconfiguration of points without adjoint. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 2, 277–294. (Jesús A. de Loera) **98a:52018** 52B40 (05B35, 52B30)

Krommes, John A. Submarginal profiles and turbulent transport: an exactly solvable model. (English summary) *Phys. Plasmas* **4** (1997), *no.* 5, *part* 1, 1342–1356. (Summary) **98c:76130** 76X05 (76F99)

— (*with* Bowman, John C.) The realizable Markovian closure and realizable test-field model. II. Application to anisotropic drift-wave dynamics. (English summary) *Phys. Plasmas* **4** (1997), *no.* 11, 3895–3909. (Summary) **98h:76054** 76F05 (76M35)

Kroa, Aleksandar A conjecture about identity, interpolation and the length of proofs in TW_-ID. (English summary) Symposium Dedicated to the Memory of Đuro Kurepa (Belgrade, 1996). *Sci. Rev. Ser. Sci. Eng. No.* 19-20 (1996), 17–29. (Summary) **98b:03037** 03B46 (03F20)

Krone, Jörg (*with* Domański, Paweł; Vogt, Dietmar) Standard exact projective resolutions relative to a countable class of Fréchet spaces. (English summary) *Studia Math.* **123** (1997), *no.* 3, 275–290. (José Bonet) **98a:46005** 46A04 (46A13)

— (*with* Walldorf, Volker) Complemented subspaces with a strong finite-dimensional decomposition of nuclear Köthe spaces have a basis. (English summary) *Studia Math.* **127** (1998), *no.* 1, 1–7. (Juan Carlos Díaz Alcaide) **98k:46003** 46A11 (46A35, 46A45)

Krone, Stephen M. Representations for continuous additive functionals of super-Brownian and super-stable processes. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 211–223. (Summary) **98a:60107** 60J55 (60G57, 60J25)

Kröner, Andreas (*with* Eich-Soellner, Edda; Lory, Peter; Burr, Peter) Stationary and dynamic flowsheeting in the chemical engineering industry. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 1–28. (Summary) **98d:65013** 65C20 (65L99, 65M99, 80A99)

Kröner, Dietmar ★ Numerical schemes for conservation laws. (English summary) Wiley-Teubner Series Advances in Numerical Mathematics. *John Wiley & Sons, Ltd., Chichester; B. G. Teubner, Stuttgart*, 1997. viii+508 *pp. ISBN* 0-471-96793-9 (Randall J. LeVeque) **98b:65003** 65-02 (35L65, 65Mxx, 65R20, 76M10, 76M25)

— *see also* **Visualization methods in high performance computing and flow simulation**

Krongauz, Y. (*with* Belytschko, Ted) Consistent pseudo-derivatives in meshless methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 3-4, 371–386. (Summary) **98e:65106** 65N50 (73V25)

— (*with* Belytschko, Ted) EFG approximation with discontinuous derivatives. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1215–1233. (Summary) **98k:73064** 73V05

Kronheimer, E. H. Extending the category of linearly ordered spaces. *Bull. London Math. Soc.* **29** (1997), *no.* 3, 353–358. (Marcel Erné) **98g:54071** 54F05 (06A05, 06F30, 18B30)

Kronheimer, P. B. (*with* Mrowka, Tomasz) Monopoles and contact structures. *Invent. Math.* **130** (1997), *no.* 2, 209–255. (Paolo Lisca) **98h:57058** 57R57 (53C15, 57R15, 58D27, 58G10)

— (*with* Mrowka, Tomasz) Scalar curvature and the Thurston norm. *Math. Res. Lett.* **4** (1997), *no.* 6, 931–937. (Paolo Lisca) **98m:57039** 57R57 (53C07, 57N10)

Kroaz, Frederick M. Theory and experience of time: philosophical aspects. *Time, temporality, now (Tegernsee, 1996)*, 7–22, *Springer, Berlin*, 1997. (*see* **98b:81013**) 01A05 (00A30)

Kroó, András (*with* Schmidt, Darrell) A variational approach to optimizing linear functionals over Haar spaces. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 393–403. (Franz Peherstorfer) **98b:41027** 41A50 (41A65)

— (*with* Szabados, J.; Varga, Richard S.) Weighted polynomial approximation of some entire functions on the real line. (English summary) The heritage of P. L. Chebyshev: a Festschrift in honor of the 70th birthday of T. J. Rivlin. *Ann. Numer. Math.* **4** (1997), *no.* 1-4, 405–413. (Mariano Gasca) **98a:41008** 41A10

— On approximation by ridge functions. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 447–460. (Allan Pinkus) **98g:41025** 41A30 (41A63)

— (*with* Schmidt, Darrell) Some extremal problems for multivariate polynomials on convex bodies. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 415–434. (Yu. A. Brudnyĭ) **98k:41045** 41A63 (52A40)

ten Kroode, A. P. E. (*with* de Kerf, E. A.; Bäuerle, G. G. A.) ★ Lie algebras. Part 2. Finite and infinite dimensional Lie algebras and applications in physics. Edited and with a preface by E. M. de Jager. Studies in Mathematical Physics, 7. *North-Holland Publishing Co., Amsterdam*, 1997. x+554 *pp. ISBN* 0-444-82836-2 (Joris Van der Jeugt) **98k:17002** 17Bxx (17B67, 17B68, 17B81, 81R05, 81R10)

Kroon, Leo G. (*with* Sen, Arunabha; Deng, Haiyong; Roy, Asim) The optimal cost chromatic partition problem for trees and interval graphs. (English summary) *Graph-theoretic concepts in computer science (Cadenabbia, 1996)*, 279–292, *Lecture Notes in Comput. Sci., 1197, Springer, Berlin*, 1997. (Summary) **98f:05062** 05C15 (05C85, 68Q25, 68R10)

Kropholler, Peter H. (*with* Cornick, Jonathan) On complete resolutions. (English summary) *Topology Appl.* **78** (1997), *no.* 3, 235–250. (Veena Sharma) **98k:20087** 20J05 (16E99)

Kropinski, M. C. (*with* Forsyth, P. A.) Monotonicity considerations for saturated-unsaturated subsurface flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1328–1354. (Summary) **98c:76103** 76S05 (65M60, 76M10, 76M25)

Krošelj, Peter (*with* Stefanovska, Aneta; Strle, Sašo) On the overestimation of the correlation dimension. (English summary) *Phys. Lett. A* **235** (1997), *no.* 1, 24–30. (Summary) **98f:58133** 58F12

Krot, A. M. Synthesis of fast algorithms for solving optimal discrete control problems by the method of polynomial equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 22–35; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1079–1090 (1997). 93B40 (65H05)

— (*with* Dal'yudenko, V. F.) A locally topological method for determining the minimal embedding dimension of a chaotic attractor. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 70–75, 125. 58F13

— (*with* Dal'yudenko, V. F.) Determination of the minimal embedding dimension of a chaotic attractor on the basis of a locally topological analysis of phase trajectories. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 3, 315–324. (Alexander Loskutov) **98e:58116** 58F13 (58F12, 65L99)

Krotov, D. S. ★ Оценки сходимости метода композиции сплайнов на основе разбиения единицы. (Russian. Russian summary) [Estimates for the convergence of the spline composition method based on partition of unity] Препринт [Preprint], 1058. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 18 *pp.* (Editors) **98a:41046** 41A63 (41A15, 65D15)

Krotov, V. F. Optimal control of flight trajectories. Absolute optimum, analytic solutions and algorithms. II. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 2, 37–47; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 1, 182–190. (Summary) **98a:49058** 49N55 (70Q05, 93C95)

Krotova, V. S. (*with* Slugin, S. N.) Optimization of the location of the boundary in boundary value problems. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 18–25, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 49K20 (49J20)

Krötzsch, Guillermo (*with* Atzema, Eisso J.; Wolf, Kurt Bernardo) Canonical transformations to warped surfaces: correction of aberrated optical images. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5793–5803. (Summary) **98j:78007** 78A05

— (*with* Wolf, Kurt Bernardo) Lie-Hamilton geometric aberration optics: symmetries and symbolic computation. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 6, 887–894. (Summary) **98k:78008** 78A10 (78–08)

Krouse, Donal P. Admissible minimum bias estimation of response surfaces. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 8, 1937–1949. (Holger Dette) **98i:62061** 62J05 (62K05)

Krousgrill, C. M. (*with* Blair, K. B.; Farris, T. N.) Harmonic balance and continuation techniques in the dynamic analysis of Duffing's equation. (English summary) *J. Sound Vibration* **202** (1997), *no.* 5, 717–731. (Summary) **98b:70001** 70–08 (34C15, 70K40, 70K50)

Krstev, Cvetana Algorithms for matching string patterns (Serbian). (Serbo-Croatian) *Zb. Rad. Mat. Inst. Beograd. (N.S.)* **5(13)** (1993), *Računarstvo. Broj* 2, 25–38. 68Q20

Krstić, Miroslav (*with* Li, Zhong-Hua) Optimal design of adaptive tracking controllers for non-linear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1459–1473. (Masami Kurano) **98j:93070** 93D15 (93C40, 93D30)

— (*with* Li, Zhong-Hua) Maximizing regions of attraction via backstepping and CLFs with singularities. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 195–207. (Summary) **98d:93077** 93D15 (93C55)

— (*with* Deng, Hua) Stochastic nonlinear stabilization. I. A backstepping design. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 143–150. (Engin Yaz) **98m:93114**

93E15 (93B51, 93C10, 93D15)

— (*with* Deng, Hua) Stochastic nonlinear stabilization. II. Inverse optimality. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 151–159. (Engin Yaz) **98m:93115** 93E15 (93B51, 93C10, 93D15)

— (*with* Ikhouane, Fayçal) Adaptive backstepping with parameter projection: robustness and asymptotic performance. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 429–435. 93B51

— (*with* Li, Zhong-Hua) Geometric/asymptotic properties of adaptive nonlinear systems with partial excitation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 419–425. 93C40

— (*with* Ikhouane, Fayçal) Robustness of the tuning functions adaptive backstepping design for linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 431–437. 93D09 (93B36)

Krstić, Sava (*with* Kiralis, Geoffrey; McCool, James) Finite presentability of $\Phi_n(G)$, $\mathrm{GL}_n(\mathbf{Z}G)$ and their elementary subgroups and Steinberg groups. *Proc. London Math. Soc.* (3) **73** (1996), *no.* 3, 575–622. (Alexander J. Hahn) **98a:20046** 20G35 (19B28, 20F05)

— (*with* McCool, James) The non-finite presentability of $\mathrm{IA}(F_3)$ and $\mathrm{GL}_2(\mathbf{Z}[t, t^{-1}])$. *Invent. Math.* **129** (1997), *no.* 3, 595–606. (S. Andreadakis) **98h:20053** 20F28 (20F05, 20G35)

Krtolica, Predrag V. (*with* Stanković, Miomir S.) QADE—program for qualitative analysis of differential equations. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 229–243, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 34–04 (34C99)

Kruczenski, M. (*with* Oxman, L. E.) Covariant quantization of the skyrmion. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 513–537. (Fabio Bagarello) **98a:81256** 81V05

Krug, Joachim (*with* Putkaradze, Vakhtang; Bohr, Tomas) Global estimates and shocks for the noiseless conserved Kardar-Parisi-Zhang equation. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 823–847. (Summary) **98d:35198** 35Q53 (35A20, 35B99, 82C24)

Krüger, J. J. (*with* Heyns, L. J.) A describing-function based criterion for a route to chaos in autonomous nonlinear systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 1, 211–228. 93C10 (93B52)

Krüger, T. *see* **Krüger, Tyll**

Krüger, Thomas Molecules: classical objects in a quantum theory. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 3, 497–505. 81P05

Krüger, Tyll (*with* Troubetzkoy, Serge) Complexity, randomness, discretization: some remarks on a program of J. Ford. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 97–104. (Remo Badii) **98g:58103** 58F11 (58F15, 68Q15, 68Q30)

— (*with* Boshernitzan, Michael; Galperin, G.; Troubetzkoy, Serge) Periodic billiard orbits are dense in rational polygons. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3523–3535. (Serge L. Tabachnikov) **98k:58179** 58F20

Kruglikov, B. S. A remark on symplectic packings. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 6, 730–734. (J. S. Joel) **98k:53073** 53C40 (52C17)

— On the image in $H^2(Q^3; \mathbf{R})$ of the set of presymplectic forms with a given kernel. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 1, 73–82; *translation in Sb. Math.* **188** (1997), *no.* 1, 75–85. (Vsevolod V. Shevchishin) **98f:58083** 58F05 (58D29)

Kruglikov, Sergei V. On the duality of controllability and observability notions. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 195–200, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 93B05 (93B07)

— (*with* Bagina, Helen Yu.) Corporate advertising allocation: problem of site evaluation. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 215–220, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 90B80 (90C90)

Krugljak, Natan *see* **Kruglyak, N. Ya.**

Krugljak, Natan Ya. *see* **Kruglyak, N. Ya.**

Kruglov, S. I. Equation for a composite scalar particle in $(2+1)$-D and its solutions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 23, 1699–1708. (Summary) **98f:81179** 81T10 (81V10)

Kruglov, V. M. (*with* Zhang, Bo^5) Limit theorems for maximal random sums. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 520–532; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 468–478 (1997). (W. Dziubdziela) **98g:60045** 60F05 (60G50)

— On the invariance principle. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 239–261; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 225–243 (1998). (Ireneusz Szyszkowski) **98j:60034** 60F05 (60F17)

Kruglyak, N. Ya. Smooth analogues of the Calderón-Zygmund decomposition, quantitative covering theorems and the K-functional for the couple (L_q, W_p^k). (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 4, 110–160; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 4, 617–649. (L. I. Nikolova) **98e:46032** 46E15 (42B20, 46M35)

— (*with* Brudnyĭ, Yu. A.) Real interpolation of a family of spaces of smooth functions. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 6, 729–731. (L. I. Nikolova) **98d:46023** 46E15 (46M35)

— Piecewise polynomial approximation with free nodes, and F_α-characteristics for $\alpha \in [1 - 1/n, 1)$. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 58–72; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 225–237. (Yu. A. Brudnyĭ) **98k:41017** 41A15 (26B35, 41A63, 46M35)

— Quantitative theorems on a Whitney-type covering. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 1, 26–27. (J. Lukeš) **98f:28006** 28A75 (28A12, 46E35)

— (*with* Asekritova, Irina U.) On equivalence of K- and J-methods for $(n+1)$-tuples of Banach spaces. (English summary) *Studia Math.* **122** (1997), *no.* 2, 99–116. (Fernando Cobos) **98c:46157** 46M35 (46E30)

— (*with* Asekritova, Irina U.; Maligranda, Lech; Persson, Lars-Erik) Distribution and rearrangement estimates of the maximal function and interpolation. (English summary) *Studia Math.* **124** (1997), *no.* 2, 107–132. (Mario Milman) **98g:46032** 46E30 (42B25, 46M35)

Kruk, Łukasz Convergence of tight asymptotic martingales in a Banach space. (English summary) *Math. Scand.* **79** (1996), *no.* 1, 153–160. (De Li Li) **98b:60012** 60B12 (60B11, 60G42)

Krukier, L. A. (*with* Muratova, G. V.) Multigrid method for the iterative solution of strongly nonselfadjoint problems with dissipative matrix. (English summary) *Algebraic multilevel iteration methods with applications, Vol. I, II* (*Nijmegen*, 1996), 169–178, *Katholieke Univ. Nijmegen, Dept. Math., Nijmegen*, 1996. (Summary) **98d:65160** 65N55 (65M55)

— Skew-symmetric iterative methods for solving a stationary convection-diffusion problem with a small parameter multiplying the highest derivative. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 77–85; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 4, 75–83. (Mariano Rodríguez Ricard) **98m:65178** 65N12 (35B25, 65N06, 76M25, 76Rxx, 80A20)

— (*with* Bochev, M. A.) An alternatively triangular skew-symmetric iterative method for solving linear systems with a nonsymmetric sign-definite matrix. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 1, 55–68. 65F30 (65F10)

— Mathematical modeling of transport processes in incompressible media with dominant convection. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 2, 4–12. 76M10 (65M60, 76M20, 76Rxx)

— (*with* Bochev, M. A.) On an iterative solution of strongly nonsymmetric systems of linear algebraic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1283–1293. (Summary) **98i:65036** 65F35

Krumbholz, Wolf (*with* Schader, Martin; Schmid, Friedrich) Modifications of the Kolmogorov, Cramér-von Mises, and Watson tests for testing uniformity with unknown limits. (English summary) *Comm. Statist. Simulation Comput.* **25** (1996), *no.* 4, 1093–1104. (Przemysław Grzegorzewski) **98c:62092** 62G10 (62F03, 62G30)

Krumhansl, James A. Landscapes in physics and biology: a tourist's impression. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 430–435. (*see* **98g:82002**) 92B99

Krumke, S. O. (*with* Marathe, Madhav V.; Noltemeier, H.; Ravi, R.; Ravi, S. S.; Sundaram, Ravi; Wirth, H. C.) Improving spanning trees by upgrading nodes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 281–291, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68214** 68R10 (68M10)

— (*with* Noltemeier, H.; Marathe, Madhav V.; Ravi, S. S.; Drangmeister, K. U.) Modifying networks to obtain low cost trees. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 293–307, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:68217** 68R10 (68Q25)

— (*with* Marathe, Madhav V.; Noltemeier, H.; Radhakrishnan, Venkatesh; Ravi, S. S.; Rosenkrantz, Daniel J.) Compact location problems. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 379–404. (Summary) **98f:68128** 68Q25 (68R10, 90B80)

Krummenauer, Frank Limit theorems for multivariate discrete distributions. (English summary) *Metrika* **47** (1998), *no.* 1, 47–69. (Summary) **98m:60029** 60F05

Krupa, Martin (*with* Sandstede, Björn; Szmolyan, Peter) Fast and slow waves in the FitzHugh-Nagumo equation. (English summary) *J. Differential Equations* **133** (1997), *no.* 1, 49–97. (V. N. Razzhevaikin) **98e:35165** 35Q80 (35B32, 35K55, 92C20)

— Robust heteroclinic cycles. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 2, 129–176. (Stanislaus Maier-Paape) **98g:58126** 58F14 (34C37, 58F12)

— (*with* Chossat, Pascal; Melbourne, Ian; Scheel, Arnd) Transverse bifurcations of homoclinic cycles. (English summary) *Phys. D* **100** (1997), *no.* 1-2, 85–100. (Philip J. Aston) **98c:58117** 58F14 (34C23, 34C37)

Krupa, V. G. On the construction of difference schemes of increased order of accuracy for hyperbolic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 85–98. (Summary) **98j:65058** 65M06

Krupitskiĭ, È. I. Separated integral equations in electrodynamics and their application to optical diffraction theory. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 179–181; *translation in Dokl. Phys.* **43** (1998), *no.* 1, 6–8. 78A10 (78A35, 78A45)

Krupková, Olga A new look at Dirac's theory of constrained systems. (English summary) *Gravity, particles and space-time*, 507–517, *World Sci. Publishing, River Edge, NJ*, 1996. (Jesús Marín-Solano) **98e:58078** 58F05 (70G99, 70H05, 70H35)

— ★ The geometry of ordinary variational equations. Lecture Notes in Mathematics, 1678. *Springer-Verlag, Berlin*, 1997. x+251 *pp. ISBN* 3-540-63832-6 (Frans Cantrijn) **98i:58090** 58F05 (34A26, 49J10, 58E30, 70Hxx)

— Mechanical systems with nonholonomic constraints. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5098–5126. (Frans Cantrijn) **98f:70013** 70F25 (34A26, 58A20, 58F05)

Krupnik, Ilya (*with* Lancaster, Peter) Linearization, realization, and scalar products for regular matrix polynomials. (English summary) *Linear Algebra Appl.* **272** (1998), 45–57. (Lucas Jódar) **98k:15044** 15A63 (47A56, 93B28)

Krupnik, Mark (*with* Berman, Abraham) Spectrum preserving lower triangular completions—the nonnegative nilpotent case. (English summary) *Electron. J. Linear Algebra* **2** (1997), 9–16 (*electronic*). (Hugo Jan Woerdeman) **98h:15021** 15A21 (15A48)

— Jordan structures of upper equivalent matrices. (English summary) *Linear Algebra Appl.* **261** (1997), 167–172. (Summary) **98a:15026** 15A21

Krupnik, Naum (*with* Gohberg, Israel; Goldberg, Seymour) Traces and determinants of linear operators. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 2, 136–187. (A. Pietsch) **98d:47004** 47A05 (47B10, 47D30)

— (*with* Gohberg, Israel; Goldberg, Seymour) Hilbert-Carleman and regularized determinants for linear operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 1, 10–47. (A. Pietsch) **98d:47005** 47A05 (47B10, 47D30)

— (*with* Galperin, Jana) On the norms of singular integral operators along certain curves with intersections. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 10–16. (Summary) **98e:47072** 47G10 (45E05, 47A30)

Krupnikov, E. D. (*with* Kölbig, K. S.) Some special cases of the generalized hypergeometric function ${}_{q+1}F_q$. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 79–95. (Boro Döring) **98f:33012** 33C20

Krupp, T. (*with* Kecskeméthy, A.; Hiller, Manfred) Symbolic processing of multiloop mechanism dynamics using closed-form kinematics solutions. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 1, 23–45. 70–04 (70–08, 70B15, 70E99)

Krüppel, Manfred On an inequality for nonexpansive mappings in uniformly convex Banach spaces. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 25–32. (Summary) **98k:47105** 47H09

Krupskiĭ, V. N. Operational logic of proofs with functionality condition on proof predicate. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 167–177,

Lecture Notes in Comput. Sci., 1234, *Springer, Berlin*, 1997. (Summary) **98k:03045** 03B45 (03F05, 03F40)

Kruś, Lech (*with* Bronisz, Piotr) Solution concepts in multicriteria cooperative games without side payments. (English summary) *System modelling and optimization* (*Prague*, 1995), 300–307, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90D12 (90C29)

Kruse, H.-P. (*with* Scheurle, J.) On the bifurcation and stability of rigidly rotating inviscid liquid bridges. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 215–232. (Summary) **98k:76142** 76U05 (58F40, 76B45, 76E30)

Kruse, Karsten (*with* Ketzmerick, R.; Kraut, S.; Geisel, T.) What determines the spreading of a wave packet? (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1959–1963. (Summary) **98g:81012** 81P05

Kruse, Rudolf (*with* de Campos Ibáñez, Luis Miguel; Gebhardt, Jörg) Axiomatic treatment of possibilistic independence. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 77–88, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (Summary) **98e:68232** 68T27 (03B48, 03B70, 68T30)

Krushkal, Samuel L. On Grunsky conditions, Fredholm eigenvalues and asymptotically conformal curves. (English summary) *Mitt. Math. Sem. Giessen No.* 228 (1996), 17–23. (Jochen Becker) **98e:30021** 30C62 (30C35, 30F60)

— On quasireflections and holomorphic functions. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 173–185, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Keiichi Shibata) **98k:30026** 30C62 (30C75)

— Quasireflections with respect to analytic curves. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 145–157. (Summary) **98m:30010** 30C35 (30C62, 30F60)

— (*with* Kühnau, Reiner) A quasiconformal dynamic property of the disk. (English summary) *J. Anal. Math.* **72** (1997), 93–103. (Susan G. Staples) **98m:30029** 30C62 (30F60)

Krushkal, Vyacheslav S. (*with* Teichner, Peter) Alexander duality, gropes and link homotopy. (English summary) *Geom. Topol.* **1** (1997), 51–69 (*electronic*). (Marko Kranjc) **98i:57013** 57M25 (55M05, 57M05, 57M20, 57N13, 57N70)

Kruskal, Joseph B. A reminiscence about shortest spanning subtrees. *Arch. Math.* (*Brno*) **33** (1997), *no.* 1-2, 13–14. (Md. Fazlee Hossain) **98g:01064** 01A70 (01A60, 05C05)

Kruskal, Martin David *see* **Dedicated to Martin David Kruskal**

Krüskemper, Martin (*with* Drees, Christof; Epkenhans, Martin) On the computation of the trace form of some Galois extensions. (English summary) *J. Algebra* **192** (1997), *no.* 1, 209–234. (Chr. U. Jensen) **98c:12004** 12F10

— (*with* Eulering, Georg) On zeros of bounded degree of systems of homogeneous polynomial equations. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 1–5. (Adrian R. Wadsworth) **98j:11027** 11E76

Krutelevich, S. V. Simple Jordan superpairs. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2635–2657. (R. Iordănescu) **98g:17030** 17C10

Krutitskii, Pavel A. On a nonstationary mixed boundary value problem on a system of segments for an equation of gravity gyroscopic waves. (Russian) *Analysis and discrete mathematics* (*Russian*), 65–87, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (Nikolay G. Kuznetsov) **98g:76015** 76C10 (35Q35, 76V05)

— A mixed problem for the Helmholtz equation outside cuts on the plane. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1202–1211, 1294; *translation in Differential Equations* **32** (1996), *no.* 9, 1204–1212 (1997). (Jan Koroński) **98m:35030** 35J05 (35C15, 45B05, 45E05)

— Reduction of the second initial-boundary value problem for the equation of gravitational-gyroscopic waves to a uniquely solvable integral equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1386–1395, 1439; *translation in Differential Equations* **32** (1996), *no.* 10, 1383–1392 (1997). (Alexander Yurjevich Chebotarev) **98m:76045** 76C20 (35Q75, 76V05, 86A05)

— On the asymptotics of the gradient of the solution and the appearance of singularities in an initial-boundary value problem for an equation of composite type. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 586–591. 35M20 (35A20, 35B40)

— Fast stratified flow over several obstacles, including wings. (English summary) *IMA J. Appl. Math.* **57** (1996), *no.* 3, 243–256. (Adrian Carabineanu) **98a:76090** 76V05 (35Q35, 76B05)

— The second initial-boundary value problem for an equation of gravitational-gyroscopic waves in an exterior domain. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 1, 40–57, 158; *translation in Math. Notes* **60** (1996), *no.* 1-2, 29–41 (1997). (Nikolay G. Kuznetsov) **98c:76021** 76C10 (35Q35, 76U05, 76V05)

— The pseudohyperbolic problem arising in the dynamics of stratified rotating fluids. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 2, 117–122. (Shu Ming Sun) **98a:76091** 76V05 (35L99, 35Q35, 76C10, 76U05)

— An initial-boundary value problem for the pseudo-hyperbolic equation of gravity-gyroscopic waves. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 343–365. (Nikolay G. Kuznetsov) **98g:76016** 76C10 (35L99, 35Q35)

— The 2-D Neumann problem in an exterior domain bounded by closed and open curves. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 18, 1551–1562. (Galina P. Lopushanska) **98m:35039** 35J25 (35J05, 45B05)

— The Neumann problem for the 2-D Helmholtz equation in a multiply connected domain with cuts. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 349–361. (J. M. H. Peters) **98i:35031** 35J05 (45E05, 73D25, 76Q05, 78A45)

— The skew derivative problem in the exterior of open curves in a plane. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 739–747. (G. Albinus) **98h:35047** 35J25 (45B05)

— The Dirichlet problem for the 2-D Helmholtz equation in a multiply connected domain with cuts. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 883–890. (Yongzhi Xu) **98m:35041** 35J25 (35J05, 45B05, 73C35)

— The first initial-boundary value problem for an equation of gravitational-gyroscopic waves in a multiply connected domain. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 1, 117–128. (Nikolay G. Kuznetsov) **98a:76016** 76C10 (35Q35, 76U05, 76V05)

— Wave propagation in a 2-D external domain bounded by closed and open curves. *Nonlinear Anal.* **32** (1998), *no.* 1, 135–144. (Giovanni Leoni) **98m:35040** 35J25 (35B40, 45B05)

— The flow of an inhomogeneous fluid over wings. *Nonlinear Anal.* **32** (1998), *no.* 6, 807–817. (From the introduction) **98m:76153** 76V05 (76B05)

Krutitsky, K. V. (*with* Gadomsky, O. N.) Method of integro-differential equations in quantum optics. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, 343–364. (Kuppuswamy Porsezian) **98g:81230** 81V80 (45J05)

Krutov, A. F. (*with* Muravyev, D. I.; Troitskiĭ, V. E.) A factorization of a special type S matrix into Jost matrices. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2880–2887. (Luciano Canton) **98f:81348** 81U40 (34A55, 34L25, 81U20, 81V35)

Krutova, I. N. (*with* Glumov, V. M.) Synthesis of an automated algorithm for the control of the iterative process of tuning the parameters of a dynamical system. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 12–27; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 722–734. 93B40 (93B51)

— Application of a simplified reference model in a system for tuning the parameters of a control algorithm by the adaptive identification method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 131–144; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 2, 1806–1816 (1998). 93B30 (93C40)

Kruzhkov, S. N. On the centenary of the death of Pafnutiĭ L'vovich Chebyshev. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 3–10. 01A70

Kryakin, Yu. V. On the local approximation of functions by polynomials and quasipolynomials. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 157–159. (Bl. Sendov) **98j:41002** 41A10

— On functions with a bounded nth difference. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 95–110; *translation in Izv. Math.* **61** (1997), *no.* 2, 331–346. (L. Berg) **98h:41005** 41A10

— On the local approximation by quasi-polynomials. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 475–480, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98k:00021**) 41A10 (41A44, 41A63)

Kryakovskiĭ, B. S. (*with* Zheleznov, V. S.; Maslov, E. P.) On an interception problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 14–21; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 1, 1072–1078 (1997). 90D26

Kryanev, A. V. (*with* Arsenin, V. Ya.; Tsupko-Sitnikov, M. V.) Solutions of ill-posed problems by the generalized maximum likelihood method. (Russian) *Conditionally well-posed problems in mathematical physics and analysis* (*Russian*), 42–49, *Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk*, 1992. (V. V. Vasin) **98d:65076** 65J15 (65C05)

Kryazhimskiĭ, Arkadiĭ V. (*with* Osipov, Yu. S.) ★ Inverse problems for ordinary differential equations: dynamical solutions. (English summary) *Gordon and Breach Science Publishers, Basel*, 1995. xx+625 *pp. ISBN* 2-88124-944-2 (From the preface) **98b:93004** 93–02 (34A55, 34H05, 49–02)

— (*with* Ermoliev, Yuri Mikhailevich; Ruszczyński, Andrzej) Constraint aggregation principle in convex optimization. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 353–372. (J. Frédéric Bonnans) **98c:90091** 90C25 (65K05)

Krylenko, A. V. Queueing networks with several types of customers, rapid servicing, and bypassing of nodes by customers. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 91–101; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 268–276 (1998). (Summary) **98f:90025** 90B25 (60K25)

Krylov, A. L. (*with* Kamchatnov, A. M.; Él', G. A.) On the asymptotic evolution of a localized perturbation in the case of the one-dimensional Landau-Lifshits equation with uniaxial anisotropy. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 128–136; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1345–1351 (1997). 35Q55 (82B21)

Krylov, Nicolai V. A martingale proof of the Khinchin iterated logarithm law for Wiener processes. *Séminaire de Probabilités, XXIX*, 25–29, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (From the text) **98g:60147** 60J65 (60F15, 60G44)

— (*with* Bogachev, Vladimir I.; Röckner, Michael) Regularity of invariant measures: the case of non-constant diffusion part. (English summary) *J. Funct. Anal.* **138** (1996), *no.* 1, 223–242. (Patrick Cattiaux) **98d:60120** 60H15 (31C25, 46G12, 47D07, 60J35)

— On the rate of convergence of finite-difference approximations for Bellman's equations. (English summary) *Algebra i Analiz* **9** (1997), *no.* 3, 245–256; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 3, 639–650. (Jose Luis Menaldi) **98h:49033** 49M25 (49L20)

— On a result of C. Mueller and E. Perkins. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 543–557. (Ya. Ī. Bilopol's'ka) **98k:60103** 60H15

— (*with* Anulova, S. V.; Veretennikov, A. Yu.; Liptser, R. Sh.; Shiryaev, Albert N.) Stochastic calculus [91i:60002b]. *Probability theory, III*, 1–253, *Encyclopaedia Math. Sci.*, 45, *Springer, Berlin*, 1998. (*see* **98h:60002**) 60-02 (60Gxx, 60Hxx)

Krylov, Viacheslav (*with* Parnes, R.; Slepyan, L.) Nonlinear waves in an inextensible flexible helix. (English summary) *Wave Motion* **27** (1998), *no.* 2, 117–136. (Summary) **98m:73043** 73D35 (35Q72, 73K12)

Krymskikh, D. A. (*with* Blokhin, A. M.) Strong discontinuities in a superfluid. (Russian. Russian summary) *Theoretical and computational problems in mathematical physics* (*Russian*), 20–62, 174, *Trudy Inst. Mat.*, 24, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Darko Kapor) **98g:82052** 82D55 (35Q99, 76Y05)

— (*with* Blokhin, A. M.) Strong discontinuities in a superfluid [translation of *Theoretical and computational problems in mathematical physics (Russian)*, 20–62, 174, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1994; MR 98g:82052]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 4, 1–52. (*see* **98k:00026**) 82D55 (35L60, 35Q99, 76A99)

Krysicki, Włodzimierz The density of a normal random variable $X \sim N(0, \sigma)$ as the density of a finite or infinite product. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 205–213. (Summary) **98d:60032** 60E05 (62E15)

— The density of a three-parameter random variable with the gamma distribution as the density of a finite or infinite product. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 1, 121–128. (Summary) **98m:62034** 62E15

— (*with* Kaluszka, Marek) On decompositions of some random variables. (English summary) *Metrika* **46** (1997), *no.* 2, 159–175. (A. M. Mathai) **98h:62016** 62E15 (33B15, 62E10)

Krysl, Petr (*with* Belytschko, Ted) Element-free Galerkin method: convergence of the continuous and discontinuous shape functions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 257–277. (Wu Zhang) **98j:73090** 73V05 (65M12, 65N30)

Krysta, Piotr (*with* Gąsieniec, Leszek; Indyk, Piotr) External inverse pattern matching. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 90–101, *Lecture*

Notes in Comput. Sci., 1264, *Springer, Berlin*, 1997. (Summary) **98k:68075** 68Q20 (68Q22, 68Q25)

Kryszkiewicz, Marzena (*with* Rybinski, Henryk) Computation of reducts of composed information systems. (English summary) Rough sets (Banff, AB, 1993). *Fund. Inform.* **27** (1996), *no.* 2-3, 183–195. (Summary) **98g:68163** 68T30 (04A72)

Kryukov, I. A. (*with* Ambartsumyan, E. N.; Glushko, G. S.) Determination of turbulent transfer coefficients in plane incompressible flows. *Fluid Dynam.* **32** (1997), *no.* 3, 387–393; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 3, 83–92 (*Russian. Russian summary*). (Summary) **98h:76062** 76F99 (76M35)

Kryukov, S. V. Noncommutative integrals of motion for the quantum sine-Gordon equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 103–114; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 875–884 (1998). (Piotr G. Grinevich) **98j:81204** 81T10 (17B68, 35Q53)

ewert-Krzemieniewski, Stanisław *see* **Ewert-Krzemieniewski, Stanisław**

Krzemińska, Iwona A Cantor set in the intersection of sets of large measure. (English summary) *Ann. Math. Sil. No.* 11 (1997), 29–31. 28A12

Krzesinski, A. E. (*with* Berezner, S. A.; Taylor, Peter G.) A product-form "loss network" with a form of queueing. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1075–1078. (Richard F. Serfozo) **98k:60160** 60K25 (68M20)

Krznaric, Drago (*with* Levcopoulos, Christos) Computing hierarchies of clusters from the Euclidean minimum spanning tree in linear time. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 443–455, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68U05

— (*with* Levcopoulos, Christos) Fast algorithms for complete linkage clustering. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 131–145. (Summary) **98i:68266** 68U05 (05C85)

Krzyśko, Mirosław Group classification rule for time dependent observations. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 145–161. (Editors) **98b:62110** 62H30 (62M10)

Krzyszkowska, Jolanta (*with* Brzeskwiniewicz, Henryk; Ceranka, Bronisław) Reinforced block designs with standards. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 187–192. (Summary) **98e:62114** 62K10

Krzyszkowski, Janusz Generalized convex sets. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 59–68. (Iosif Pinelis) **98j:52002** 52A01 (26A51, 52A41)

Krzywicki, A. (*with* Jurkiewicz, Jerzy Władysław) Branched polymers with loops. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 291–297. (Summary) **98a:82049** 82B27 (81T27, 82D60, 83C45)

Krzyż, Jan G. Some remarks on the isomorphism of Fuchsian groups. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 95–97. (Summary) **98g:30071** 30F35

— Isomorphism of Fuchsian groups and harmonic maps. *Mitt. Math. Sem. Giessen No.* 228 (1996), 25–29. (Hiromi Ohtake) **98b:30020** 30C62 (30F35, 30F60)

Krzyzak, Adam (*with* Klasa, Stan; Xu, Lei) On asymptotic properties of radial basis regression function estimates and classification rules. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 123–127. (*see* **98h:05006**) 62G05

Krzyżanowski, Piotr (*with* Łukaszewicz, Grzegorz) On the heat convection equations with dissipation term in regions with moving boundaries. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 4, 347–368. (Li Shang Jiang) **98c:35167** 35R35 (35Q30, 76R10, 80A20)

Krzyżewski, K. On 4-lacunary sequences generated by some measure preserving maps. *Acta Math. Hungar.* **74** (1997), *no.* 4, 261–278. (Dieter H. Mayer) **98c:58094** 58F11 (28D05, 58F15, 58F19)

Kschischang, Frank R. (*with* Lee, Ryan Chi-Kong) Non-minimal trellises for linear block codes. (English summary) *Information theory and applications, II (Lac Delage, PQ, 1995)*, 111–129, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94B12

— (*with* Vardy, Alexander) Proof of a conjecture of McEliece regarding the expansion index of the minimal trellis. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2027–2034. (Vladimir D. Tonchev) **98d:94033** 94B05 (94B12)

— (*with* Horn, Gavin B.) On the intractability of permuting a block code to minimize trellis complexity. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2042–2048. (*see* **98c:94001**) 94B12 (68Q25)

— (*with* Sorokine, Vladislav) A sequential decoder for linear block codes with a variable bias-term metric. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 410–416. 94B35

Ksenzov, V. G. New approach to non-perturbative physics. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 52–56. (Summary) **98j:81205** 81T10 (81T13)

Kshemkalyani, Ajay D. Reasoning about causality between distributed nonatomic events. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 301–315. (Summary) **98a:68168** 68T27 (68Q10, 68Q60)

— A framework for viewing atomic events in distributed computations. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 45–70. (Summary) **98k:68066** 68Q10

Kshirsagar, Anant M. (*with* Chu, S. Kathy) Correlation coefficient between two variables when the data set consists of observations on twins. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 43–48. 62H20 (62P10)

— (*with* Shyr, Yu) Stepwise canonical analysis in categorical data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 7, 1575–1583. (Summary) **98b:62105** 62H17

— *see also* **Draper, Norman R.**

Ktitarev, D. V. (*with* Priezzhev, V. B.) Minimal sandpiles on hexagonal lattice. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 781–793. (Summary) **98f:82093** 82C20

Ku, Chao A new proof of the Solomon-Tits theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1941–1944. (Summary) **98h:20023** 20D06 (55P99)

Ku, Cheng-Yuan (*with* Jordan, Scott Alan) Access control to two multiserver loss queues in series. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1017–1023. (Natesan Renganathan) **98i:60090** 60K25 (90B22)

Ku, Hsu-Tung (*with* Ku, Mei-Chin; Mann, L. N.) Perturbations of invariant metrics and associated isometry groups. (English summary) *Topology Appl.* **70** (1996), *no.* 1, 67–84. (A. L. Onishchik) **98a:53055** 53C20 (57S15)

— (*with* Ku, Mei-Chin; Zhang, Xin-Min) Inequalities for symmetric means, symmetric harmonic means, and their applications. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 409–420. (Zsolt Páles) **98k:26021** 26B25 (26D07, 52A38, 52A40, 52B60)

Ku, Jong-Min (*with* Chou, Wun-Seng; Shiue, Peter Jau-Shyong) On crossings of hyperplanes on the n-dimensional torus. (English summary) *J. Algebra* **192** (1997), *no.* 1, 43–54. (Béla Uhrin) **98h:52022** 52B30

Ku, Mei-Chin (*with* Ku, Hsu-Tung; Mann, L. N.) Perturbations of invariant metrics and associated isometry groups. (English summary) *Topology Appl.* **70** (1996), *no.* 1, 67–84. (A. L. Onishchik) **98a:53055** 53C20 (57S15)

— (*with* Ku, Hsu-Tung; Zhang, Xin-Min) Inequalities for symmetric means, symmetric harmonic means, and their applications. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 409–420. (Zsolt Páles) **98k:26021** 26B25 (26D07, 52A38, 52A40, 52B60)

Ku, P.-D. (*with* Nordgren, R. P.) A work-hardening elastic-plastic wedge: numerical solution. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 525–534. 73E05 (73V15)

Ku, Simon (*with* Seneta, Eugene) Quenouille-type theorem on autocorrelations. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 621–630. (Mamikon S. Ginovian) **98f:62259** 62M10 (60G10)

Ku, Tung-Hsin (*with* Fan, Guimei; Yao, Bing; Wang, Jian Fang) On sub-bandwidth of graph. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 131–144, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05133** 05C78

— *see also* **Combinatorics and graph theory '95, 98e:05001**

Kuan, Chung-Ming Tests for changes in models with a polynomial trend. (English summary) *J. Econometrics* **84** (1998), *no.* 1, 75–91. 62P20 (62M10)

Kuang, Hairong (*with* Sun, Yongqiang; Lin, Kai) A partial evaluator for a parallel lambda language. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 5, 441–457. 68N20 (03B40, 03B70)

Kuang, Jiao Xun The PL-stability of block θ-methods. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 135–140. 65L20

Kuang, Jichang M_α-Calderon-Zygmund operators. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 3, 1–9. 42B20 (47G10)

Kuang, Jin Yu (*with* Liu, Lai Fu; Tang, Zhi Yu) A vector Boltzmann machine. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 443–446. (Summary) **98k:82138** 82C32 (82C80, 92B20)

Kuang, Jinghua On eigenvalues related to finite Poincaré planes. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 151–158. (Willem H. Haemers) **98c:05111** 05C50 (11T99)

Kuang, Le Man (*with* Wang, Fa Bo) Even and odd q-coherent state representations of the q-deformed Heisenberg-Weyl algebra. (English summary) *Chinese Phys. Lett.* **9** (1992), *no.* 12, 629–632. (Choo Hiap Oh) **98a:81084** 81R50 (81R30)

— (*with* Yao, Min) A circle representation of a quantum phase operator. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 20–24. (Summary) **98a:81052** 81Q99

— (*with* Chen, Guanghong; Ge, Mo-Lin) An alternative approach to Jaynes-Cummings model with dissipation at finite temperature. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 139–148. (Summary) **98m:81225** 81V80

Kuang, Qi He (*with* Lu, Jian Jiang) Fixed-point theorems of Caristi type for single-valued mappings in fuzzy metric spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 34–40. 54A40 (54H25)

Kuang, Yang (*with* Li, Bingtuan) Sharp conditions for oscillations in some nonlinear nonautonomous delay differential equations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1265–1276. (Yiannis Sficas) **98i:34104** 34K15 (34C10, 34K40)

— (*with* Tang, Baorong) Existence, uniqueness and asymptotic stability of periodic solutions of periodic functional-differential systems. (English summary) *Tôhoku Math. J. (2)* **49** (1997), *no.* 2, 217–239. (Ovide Arino) **98g:34117** 34K15 (34C35, 34K20, 58F32, 92D25)

Kuang, Ying-Qiang (*with* Chen, Zhi-Hong; Lai, Hong-Jian) Generalized matroid packings and coverings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 155–160. (Summary) **98j:05045** 05B35

Kuang, Z.-B. (*with* Yang, Xiao Xiang; Shen, S.) The degenerate solution for piezothermoelastic materials. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 779–793. (Summary) **98i:73050** 73R05 (73B30)

Kuang, Zhifeng (*with* Yang, Ming Zhu; Wang, Xu) Complex eigenvalues of a mono-energetic neutron transport operator. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 253–261. (V. Protopopescu) **98f:82148** 82D75 (82C70)

Kuba, A. (*with* Aharoni, Ron; Herman, Gabor T.) Binary vectors partially determined by linear equation systems. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 1–16. (L. W. Ehrlich) **98d:15003** 15A06 (15A24)

Kuba, G. The number of lattice points below a logarithmic curve. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 2, 156–163. (Hartmut Menzer) **98h:11121** 11P21

Kubáček, Lubomír (*with* Bognárová, Marta; Volaufová, Júlia) Comparison of MINQUE and LMVQUIE by simulation. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 25–38 (1997). (Summary) **98g:62135** 62J10 (62F15)

— Linear model with inaccurate variance components. (English summary) *Appl. Math.* **41** (1996), *no.* 6, 433–445. (Shahariar Huda) **98e:62108** 62J20 (62J10)

— Quadratic regression models. (English summary) *Math. Slovaca* **46** (1996), *no.* 1, 111–126. (Summary) **98k:62111** 62J02

— Models with a low nonlinearity. (English summary) ProbaStat '94 (Smolenice Castle, 1994). *Tatra Mt. Math. Publ.* **7** (1996), 149–155. (Nabendu Pal) **98f:62187** 62J02 (62J05)

Kubáčková, Ludmila Mixed multiepoch linear regression models with nuisance parameters. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 109–126. (D. S. Tracy) **98f:62197** 62J05 (62H12)

— Joint confidence and threshold ellipsoids in regression models. (English summary) ProbaStat '94 (Smolenice Castle, 1994). *Tatra Mt. Math. Publ.* **7** (1996), 157–160. (Hariharan K. Iyer) **98c:62051** 62F25 (62J05)

Kubale, Marek (*with* Giaro, Krzysztof) Consecutive edge-colorings of complete and incomplete Cartesian products of graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 143–149. (Summary) **98i:05074** 05C15

— Open shop problem with zero-one time operations and integer release date/deadline intervals. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 213–223. (Summary) **98e:90077** 90B35 (05C15, 68Q25, 90C35)

— (*with* Pakulski, Jarosław; Piwakowski, Konrad) The smallest hard-to-color graph for the SL algorithm. (English summary) The Second Krakow Conference on Graph Theory (Zgorzelisko, 1994). *Discrete Math.* **164** (1997), *no.* 1-3, 197–212. (Klaus Jansen) **98d:05057** 05C15 (05C85)

Kubarski, Jan Invariant cohomology of regular Lie algebroids. (English summary) *Analysis and geometry in foliated manifolds (Santiago de Compostela, 1994)*, 137–151, *World Sci. Publishing, River Edge, NJ*, 1995. (Liliana Maxim-Răileanu) **98c:58181** 58H10

Kuběna, Aleš (*with* Kratochvíl, Jan) On intersection representations of co-planar graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 251–255. (Summary) **98f:05126** 05C75 (05C85)

Kubiaczyk, Ireneusz (*with* Ali, Nasr Mostafa) A multivalued fixed point theorems in non-Archimedean vector spaces. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 111–115. (Summary) **98a:47063** 47H10 (47S10)

— (*with* Ali, Nasr Mostafa) On the convergence of the Ishikawa iterates to a common fixed point for a pair of multi-valued mappings. *Acta Math. Hungar.* **75** (1997), *no.* 3, 253–257. (B. E. Rhoades) **98b:47070** 47H10 (47H17, 54C60, 54H25)

— (*with* Ali, Nasr Mostafa) Fixed point theorems for weakly condensing and weakly compact maps. *Demonstratio Math.* **30** (1997), *no.* 1, 105–108. (Louis A. Talman) **98k:47112** 47H10 (47H09, 54H25)

Kubiak, Tomasz (*with* De Prada Vicente, María Angeles) Hereditary normality plus extremal disconnectedness and insertion of a continuous function. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 403–405. (Summary) **98g:54081** 54G05 (54C45, 54D15)

Kubicka, Ewa An efficient method of examining all trees. (English summary) *Combin. Probab. Comput.* **5** (1996), *no.* 4, 403–413. (A. D. Korshunov) **98c:05047** 05C05

— (*with* Kubicki, Grzegorz; McMorris, F. R.) Agreement metrics for trees revisited. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 239–248, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:92004** 92B10 (05C05)

— (*with* Kubicki, Grzegorz; Oellermann, Ortrud R.) Steiner intervals in graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 181–190. (Michael E. Raines) **98m:05061** 05C12 (05C75)

Kubicki, Grzegorz (*with* Kézdy, André E.) K_{12} is not a closed sphere-of-influence graph. (English summary) *Intuitive geometry (Budapest, 1995)*, 383–397, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Bojan Mohar) **98g:05147** 05C99

— (*with* Kubicka, Ewa; McMorris, F. R.) Agreement metrics for trees revisited. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 239–248, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:92004** 92B10 (05C05)

— (*with* Chartrand, Gary; Mynhardt, Christina M.; Saba, Farrokh) On graphs with a unique least common multiple. (English summary) *Ars Combin.* **46** (1997), 177–190. (Summary) **98d:05119** 05C75 (05C70)

— (*with* Chartrand, Gary; Schultz, Michelle) Graph similarity and distance in graphs. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 129–145. (Ortrud R. Oellermann) **98m:05059** 05C12

— (*with* Kubicka, Ewa; Oellermann, Ortrud R.) Steiner intervals in graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 181–190. (Michael E. Raines) **98m:05061** 05C12 (05C75)

Kubilius, Kęstutis (*with* Račkauskas, Alfredas) On the asymptotic normality of estimates in almost nonstationary AR(1) models. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 441–463; *translation in Lithuanian Math. J.* **36** (1996), *no.* 4, 352–370 (1997). (Vladimir Zaiats) **98h:62136** 62M10 (62F12)

— (*with* Račkauskas, Alfredas) On the asymptotic accuracy of least-squares estimators in nearly unstable AR(1) processes. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 464–476. (Wolfgang Schmid) **98g:62170** 62M10 (62L12)

Kubin, Ladislas P. (*with* Devincre, Benoit) The modelling of dislocation dynamics: elastic behaviour versus core properties. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1731, 2003–2012. (Summary) **98k:82184** 82D25 (82–08, 82D20)

Kublanovskiĭ, S. I. (*with* Hall, T. E.; Margolis, Stuart W.; Sapir, Mark V.; Trotter, Peter G.) Algorithmic problems for finite groups and finite 0-simple semigroups. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 75–96. (Mária B. Szendrei) **98h:20101** 20M07 (03B25, 03D35, 20F10)

Kubo, Fujio Noncommutative Poisson algebra structures on poset algebras and morphisms of Leibniz pairs. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 44 (1997), 1–5. (Thierry Dana-Picard) **98i:16029** 16S99 (17A30)

— Non-commutative Poisson algebra structures on affine Kac-Moody algebras. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 267–286. (Chang Kun Liu) **98k:17030** 17B67

Kubo, H. *see* **Kubo, Hirotsugu**

Kubo, Harunobu (*with* Awata, Hidetoshi; Odake, Satoru; Shiraishi, Jun'ichi) Quantum $\mathcal{W}_N$ algebras and Macdonald polynomials. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 2, 401–416. (Naihuan Jing) **98h:17029** 17B68 (05E05, 33D80, 81R50)

— (*with* Shiraishi, Jun'ichi; Awata, Hidetoshi; Odake, Satoru) A quantum deformation of the Virasoro algebra and the Macdonald symmetric functions. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 1, 33–51. (Naihuan Jing) **98h:17030** 17B68 (05E05, 33D80, 81R50)

— (*with* Awata, Hidetoshi; Morita, Yoshifumi; Odake, Satoru; Shiraishi, Jun'ichi) Vertex operators of the q-Virasoro algebra; defining relations, adjoint actions and four point functions. (English summary) *Lett. Math. Phys.* **41** (1997), *no* 1, 65–78. (Dražen Adamović) **98i:17033** 17B69 (17B37, 81R50)

— (*with* Fujikawa, Kazuo; Oh, Choo-Hiap) A Schwinger term in q-deformed su(2) algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 6, 403–409. (A. U. Klimyk) **98e:81074** 81R50 (81R10)

— Oscillator quantum algebra and deformed su(2) algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 18, 1335–1341. (Fang Li) **98e:81078** 81R50 (17B37)

— (*with* Fujikawa, Kazuo) An extended q-deformed su(2) algebra and the Bloch electron problem. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 21–26. (Summary) **98k:81331** 81V70 (33D80, 81R50)

Kubo, Hideo (*with* Kubota, Kôji) Asymptotic behaviors of radially symmetric solutions of $\Box u = |u|^p$ for super critical values p in high dimensions. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 88–94. (*see* **98f:35003**) 35L70 (35B40)

— (*with* Kubota, Kôji) Asymptotic behaviors of radially symmetric solutions of $\Box u = |u|^p$ for super critical values p in high dimensions. (English summary) *Nonlinear waves (Sapporo, 1995)*, 249–254, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35L70 (35A30, 35B40)

Kubo, Hirotsugu (*with* Uezu, T.) Study of dynamical systems from topological viewpoint. (English summary) *Dynamical systems and chaos, Vol. 2 (Hachioji, 1994)*, 253–257, *World Sci. Publishing, River Edge, NJ*, 1995. (J. S. Joel) **98b:58131** 58F14

Kubo, Izumi (*with* Kuo, Hui-Hsiung) Fourier transform and cylindrical Hida distributions. (English summary) *Stochastic processes*, 191–200, *Springer, New York*, 1993. (T. Hida) **98c:46081** 46F25 (60H99)

— A direct setting of white noise calculus. *Stochastic analysis on infinite-dimensional spaces (Baton Rouge, LA, 1994)*, 152–166, *Pitman Res. Notes Math. Ser.*, 310, *Longman Sci. Tech., Harlow*, 1994. (Yuh-Jia Lee) **98b:60072** 60G15 (46F25, 46G12, 47N30, 60H99)

— Weighted number operators and associated processes in white noise analysis. *Infinite-dimensional harmonic analysis (Tübingen, 1995)*, 146–155, *Gräbner, Tübingen*, 1996. (Yuh-Jia Lee) **98b:60073** 60G15 (46F25, 46N30, 47N30, 60H99)

— Generalized functionals in white noise analysis. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 237–243, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:60062** 60G20 (60H99)

Kubo, Jisuke (*with* Mondragón, M.; Zoupanos, George) Reduction of couplings and finiteness in realistic supersymmetric GUTs. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 281–293. (*see* **98b:81005**) 81V22 (81T60)

Kubo, Junichiro (*with* Hori, Muneo) Analysis of probabilistic distribution and range of average stress in each phase of heterogeneous materials. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 537–556. 73K20 (73N20, 86A17)

Kubo, Masahiko (*with* Yamazaki, Seisi; Ito, Minoru[2]; Saito, Yoshimitu; Yamadera, Terumi; Ikeda, Toshikazu; Tashiro, Yoshiaki; Higuchi, Teiichi) Riemann's period matrix of $y^5 = x^5 - 1$. *Sci. Rep. Yokohama Nat. Univ. Sect. I Math. Phys. Chem. No.* 43 (1996), 1–14. (Gabino González Díez) **98b:30042** 30F30 (14H40)

Kubo, Yoshiko Busemann functions on Alexandrov surfaces. *Yokohama Math. J.* **44** (1997), *no.* 1, 73–79. (Zhongmin Shen) **98e:53130** 53C70 (53C45)

Kubokawa, T. (*with* Konno, Yoshihiko; Saleh, A. K. Md. Ehsanes) Shrinkage estimators in a mixed MANOVA and GMANOVA model. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 37–49. (V. I. Serdobol'skiĭ) **98j:62044** 62H12 (62C15)

Kubokawa, Yoshihiro Coverable Radon measures in topological spaces with covering properties. *Colloq. Math.* **70** (1996), *no.* 1, 13–23. (Donald L. Cohn) **98f:28016** 28C15

Kubota, Keiichi (*with* Sakawa, Masatoshi; Kato, Kosuke) Interactive decision making for large-scale multiobjective block-angular linear fractional programming problems with fuzzy parameters. (English summary) *Japanese J. Fuzzy Theory Systems* **8** (1996), *no.* 5, 709–720 (1997). 90C29 (04A72, 90C70)

Kubota, Kôji (*with* Kubo, Hideo) Asymptotic behaviors of radially symmetric solutions of $\Box u = |u|^p$ for super critical values p in high dimensions. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 88–94. (*see* **98f:35003**) 35L70 (35B40)

— (*with* Kubo, Hideo) Asymptotic behaviors of radially symmetric solutions of $\Box u = |u|^p$ for super critical values p in high dimensions. (English summary) *Nonlinear waves (Sapporo, 1995)*, 249–254, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35L70 (35A30, 35B40)

Kubota, Yôto Notes on absolutely convergent integration. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 856–859. (Summary) **98b:26009** 26A42

Kubrusly, Carlos S. ★ An introduction to models and decompositions in operator theory. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1997. xii+132 *pp. ISBN* 0-8176-3992-6 (László Kérchy) **98g:47004** 47A20 (47A15, 47A45)

Kubushishi, Tite (*with* Rasson, Jean-Paul) A likelihood ratio test based on the Poisson point model in clustering problems. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **36** (1996), *no.* 4, 205–215. 62H30

Kubyshin, Yu. A. (*with* Álvarez, Enrique) Is the string coupling constant invariant under T-duality? (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 44–51. (Summary) **98j:81240** 81T30

Kubyshkin, E. P. (*with* Kostenko, O. V.) Chaotic attractors of a boundary value problem that arises in the mechanics of elastic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 999–1005. (Summary) **98e:73058** 73D35 (35Q72, 58F40, 73K12)

Kučera, Antonín Regularity is decidable for normed PA processes in polynomial time. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 111–122, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68073** 68Q10 (68Q55, 68Q60)

— How to parallelize sequential processes. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 302–316, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68086** 68Q10

— (*with* Černá, I.; Křetínský, Mojmír) Bisimilarity is decidable in the union of normed BPA and normed BPP processes. (English summary) *First International Workshop on Verification of Infinite State Systems (Pisa, 1996)*, 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 5, *Elsevier, Amsterdam*, 1997. (Summary) **98m:68066** 68Q10 (68Q60)

— (*with* Jančar, Petr) Bisimilarity of processes with finite-state systems. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State Systems (Bologna, 1997)*, 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (Summary) **98h:68166** 68Q60 (68Q10)

Kučera, Luděk Computing OR on a randomized fixed adversary CRCW PRAM. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 165–166. (Summary) **98e:68092** 68Q22 (68Q25)

Kučera, Milan A bifurcation of periodic solutions to ordinary differential inequalities. *Differential equations and its applications (Budapest, 1991)*, 227–255, *Colloq. Math. Soc. János Bolyai*, 62, *North-Holland, Amsterdam*, 1991. (*see* **98e:00018**) 34C25 (34A40, 34A47, 34C23)

— Reaction-diffusion systems: stabilizing effect of conditions described by quasivariational inequalities. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 469–486. (Zi Qian Yan) **98g:35105** 35K57 (35B35)

Kučera, Petr² Solutions of the stationary Navier-Stokes equations with mixed boundary conditions in bounded domain. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 127–131, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 35Q30 (76D05)

Kučera, Radan A note on Sinnott's definition of circular units of an abelian field. (English summary) *J. Number Theory* **63** (1997), *no.* 2, 403–407. (Robert Gold) **98h:11135** 11R20 (11R27)

Kučera, Vladimír Algebraic methods in control, theory and applications. (English summary) *System modelling and optimization (Prague, 1995)*, 54–63, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93B25 (93–02)

— (*with* Martínez García, J. C.; Malabre, M.) Partial model matching: parametrization of solutions. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 5, 975–977. (Summary) **98c:93114** 93E12 (93B30)

— (*with* Picard, Pascal; Lafay, Jean-François) Feedback realization of nonsingular precompensators for linear systems with delays. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 848–852. (Jerzy Klamka) **98d:93029** 93B15 (93C30)

— (*with* Colaneri, Patrizio) The model matching problem for periodic discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1472–1476. 93B52 (93C05)

— (*with* Liu, Xiao Ping²) Strong decoupling of descriptor systems via proportional state feedback. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 371–386. (Summary) **98g:93023** 93B52 (93C15)

— *see also* **New directions in control and automation, 98g:93001**

Kucerovsky, Dan Finite rank operators and functional calculus on Hilbert modules over abelian C^*-algebras. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 193–197. (Vladimir Manuilov) **98c:46117** 46L05 (46L80, 47A60)

— The KK-product of unbounded modules. (English summary) *K-Theory* **11** (1997), *no.* 1, 17–34. (Yuri A. Kordyukov) **98k:19007** 19K35 (19K56, 46L80, 58G12)

Kuchař, Karel V. (*with* Bičák, Jiří) Null dust in canonical gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4878–4895. (Jörg Frauendiener) **98k:83004** 83C05

urbaniak-Kucharczyk, A. *see* **Urbaniak-Kucharczyk, A.**

Kucharski, Z. (*with* Borisovich, A. Yu.; Marzantowicz, Wacław) Relative Nielsen number and a lower estimate of the number of components of an algebraic set. (Russian summary) *Global and stochastic analysis (Russian)*, 9–19, 91, *Novoe Global. Anal.*, 15, *Izdat. Voronezh. Univ., Voronezh*, 1995. (Christopher K. McCord) **98a:55002** 55M20 (14A10)

Kucharz, Wojciech (*with* Bochnak, Jacek) Complete intersections in differential topology and analytic geometry. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 1019–1041. (Donald W. Kahn) **98b:57045** 57R40 (14P15, 32C05)

— A characterization of the complex affine line. (English summary) *Manuscripta Math.* **91** (1996), *no.* 2, 145–149. (M. Miyanishi) **98b:14025** 14H05 (14C25, 14E05, 32H02)

— (*with* Bochnak, Jacek; Buchner, M.) Equivalence of analytic and rational functions. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 37–42. (Kamil Rusek) **98d:32005** 32B15

— (*with* Bochnak, Jacek) On dividing real algebraic varieties. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 263–271. (Alessandro Tancredi) **98m:14055** 14P25 (14J99)

Küchenhoff, Helmut Asymptotic bias calculations and corrections in segmented regression models with EIV. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling (Leuven, 1996)*, 87–96, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 62J05

Kucherenko, S. (*with* Pan, Jing Zhe; Cocks, A. C. F.) Finite element formulation of coupled grain-boundary and surface diffusion with grain-boundary migration. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1965, 2161–2184. (Summary) **98i:73059** 73V05 (73S10)

Kucherenko, V. V. (*with* Maslov, V. P.) Reduction of the quadratic Bose operator to normal form. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 162–165. (Lech Jakóbczyk) **98i:81117** 81S05 (47N50)

— (*with* Maslov, V. P.) On the spectrum of normal forms of quadratic Bose operators. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 18–20. (J. S. Joel) **98i:81118** 81S05

Kucherov, G. A. (*with* Rusinowitch, Michaël) Matching a set of strings with variable length don't cares. *Combinatorial pattern matching (Espoo, 1995)*, 230–247, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (*see* **98d:68012**) 68Q20 (68Q25)

— (*with* Rusinowitch, Michaël) Matching a set of strings with variable length don't cares. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 129–154. (Maxime Crochemore) **98h:68114** 68Q25 (68U15)

Kuchinskiĭ, K. I. (*with* Smelov, V. V.) On the realization of smoothing polynomial splines by the matrix sweep method. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 690–696, iv; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 597–602. (Summary) **98a:65013** 65D07 (41A15)

Kuchkina, N. (*with* Shaĭkhet, L. E.) Optimal control problem for nonlinear stochastic difference second kind Volterra equations. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 65–73. (Ryszard Gessing) **98m:49046** 49K45 (49N10, 93E20)

Kuchko, Eugene A. (*with* Annexstein, Fred S.) A ranking algorithm for Hamilton paths in shuffle-exchange graphs. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 263–269, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C45, 05C85, 68M10)

Küchle, Oliver Some remarks and problems concerning the geography of Fano 4-folds of index and Picard number one. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 45–60. (Jarosław A. Wiśniewski) **98g:14047** 14J45

Küchler, Uwe (*with* Sørensen, Michael) ★ Exponential families of stochastic processes. (English summary) Springer Series in Statistics. *Springer-Verlag, New York*, 1997. x+322 *pp. ISBN* 0-387-94981-X (Ryszard Magiera) **98k:62150** 62M05 (60G60, 60J27, 62L12)

Küchlin, Wolfgang (*with* Amrhein, Beatrice; Gloor, Oliver) On the walk. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 179–202. (Ralf Fröberg) **98i:13050** 13P10 (68Q40)

Kuchment, P. (*with* Figotin, Alexander) Band-gap structure of spectra of periodic dielectric and acoustic media. II. Two-dimensional photonic crystals. (English summary) *SIAM J. Appl. Math.* **56** (1996), *no.* 6, 1561–1620. (Volker Vogelsang) **98f:35012** 35B27 (35Q60, 78A40)

— (*with* Figotin, Alexander) 2D photonic crystals with cubic structure: asymptotic analysis. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 23–30, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98m:78014** 78A25 (35Q60)

Kuchminskaya, Kh. I. On the "fork" property for two-dimensional continued fractions. (English summary) *Comm. Anal. Theory Contin. Fractions* **6** (1997), 32–35. 11A55 (40A15)

Kuchta, Małgorzata (*with* Florkiewicz, Bronisław) Some quadratic integral inequalities of first order. *Colloq. Math.* **75** (1998), *no.* 1, 7–18. (Alberto Fiorenza) **98k:26027** 26D10

Kucia, Anna (*with* Nowak, Andrzej S.) Some applications of [the] Marczewski function. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 185–190. (Summary) **98e:54016** 54C30 (26B35)

— (*with* Nowak, Andrzej S.) Approximation of Carathéodory type multifunctions. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 187–195. (Summary) **98d:54038** 54C60 (26E25)

Kuckert, Bernd A new approach to spin and statistics. (English summary) *Lett. Math. Phys.* **35** (1995), *no.* 4, 319–331. (Gerald Hofmann) **98h:81070** 81T05 (46L60)

— Borchers' commutation relations and modular symmetries in quantum field theory. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 4, 307–320. (Stephen J. Summers) **98g:81118** 81T05 (46L60)

Kücük, Mahide On H-almost continuity of multifunctions defined from a bitopological space to a topological space. *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 63–71. 54E55 (54C08, 54C60)

Küçük, Y. (*with* Popa, Valeriu; Noiri, Takashi) On upper and lower preirresolute multifunctions. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 5–16. 54A40 (54C60)

Kuczumow, Tadeusz (*with* Reich, Simeon; Stachura, Adam) Holomorphic retracts of the open unit ball in the l_∞-product of Hilbert spaces. (English summary) *Recent advances on metric fixed point theory (Seville, 1995)*, 99–110, *Ciencias*, 48, *Univ. Sevilla, Seville*, 1996. (Miguel Caldas Cueva) **98b:46061** 46G20 (46C05, 47H10, 58C10)

— (*with* Budzyńska, Monika; Kaczor, Wiesława; Koter-Mórgowska, Małgorzata) Asymptotic normal structure and the semi-Opial property. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3505–3515. (Introduction) **98m:46011** 46B20 (47H09, 47H10)

Kudashev, Vadim R. KdV shock-like waves as invariant solutions of KdV equation symmetries. (English summary) *Integrability in dynamical systems (Russian)*, 70–79, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (*see* **98k:00007**) 35Q53

pytel-Kudela, Marzenna *see* **Pytel-Kudela, Marzenna**

Kudielka, Viktor W. Equilibria bifurcations of satellite orbits. (English summary) *The dynamical behaviour of our planetary system (Ramsau, 1996)*, 243–255, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70M20 (70F05, 70F07, 70K20)

Kudinov, O. V. An autostable 1-decidable model without a computable Scott family of $\exists$-formulas. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 458–467, 498; *translation in Algebra and Logic* **35** (1996), *no.* 4, 255–260. (Alexandre Ivanov) **98c:03082** 03C57

— Some properties of autostable models. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 6, 685–698, 752; *translation in Algebra and Logic* **35** (1996), *no.* 6, 384–391. (O. V. Belegradek) **98h:03045** 03C57 (03D45)

— The problem of describing autostable models. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 1, 26–36, 117; *translation in Algebra and Logic* **36** (1997), *no.* 1, 16–22. (O. V. Belegradek) **98h:03046** 03C57 (03D45)

Kudla, Stephen S. Algebraic cycles on Shimura varieties of orthogonal type. *Duke Math. J.* **86** (1997), *no.* 1, 39–78. (Dipendra Prasad) **98e:11058** 11F32 (11F30, 11G18, 14C25, 14G35)

— (*with* Sweet, W. Jay, Jr.) Degenerate principal series representations for $U(n,n)$. (English summary) *Israel J. Math.* **98** (1997), 253–306. (David Manderscheid) **98h:22021** 22E50 (11F70, 22E35)

Kudlaev, È. M. Weak convergence of distributions of separable statistics. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 1, 85–107; *translation in Theory Probab. Appl.* **42** (1997), *no.* 1, 130–148 (1998). (Igor S. Borisov) **98j:60007** 60B15 (60B12)

Kudlek, Manfred (*with* Mateescu, Alexandru) Distributed catenation and Chomsky hierarchy. (English summary) *Fundamentals of computation theory (Dresden, 1995)*, 313–322, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (Summary) **98b:68101** 68Q45 (68Q05, 68Q10)

— (*with* Horváth, Sándor) On classification and decidability problems of primitive words. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 2-3, 171–189. (Leonid P. Lisovik) **98f:68223** 68R15 (03D05, 03D25, 03D35, 68Q45)

— (*with* Mateescu, Alexandru) Rational and algebraic languages with distributed catenation. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 129–138, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45

— (*with* Marcus, Solomon; Mateescu, Alexandru) Contextual grammars with distributed catenation and shuffle. (English summary) *Fundamentals of computation theory (Kraków, 1997)*, 269–280, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **98k:68103** 68Q45

— (*with* Mateescu, Alexandru) On mix operation. (English summary) *New trends in formal languages*, 430–439, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (*see* **98i:68011**) 68Q45 (68Q70)

— (*with* Mateescu, Alexandru) On distributed catenation. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 341–352. (Summary) **98b:68102** 68Q45 (68Q05)

Kudoh, Masafumi (*with* Tanaka, Hisao) On relativized probabilistic polynomial time algorithms. *J. Math. Soc. Japan* **49** (1997), *no.* 1, 15–30. (Gerhard Lischke) **98c:68076** 68Q15 (03D15)

Kudri, S. R. T. (*with* Warner, M. W.) Erratum to: "Some good *L*-fuzzy compactness-related concepts and their properties. I, II" [Fuzzy Sets and Systems **76** (1995), no. 2, 141–155, 157–168; MR 96j:54012]. *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 107. 54A40 (04A72)

— (*with* Aygün, Halis; Warner, M. W.) On smooth *L*-fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 321–338. (Summary) **98c:54004** 54A40 (04A72)

Kudrin, A. A. Complexity of automata that compute the values of functions defined in prefix form. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 62–63. 68Q68

Kudryashov, Boris D. (*with* Bocharova, I. E.) Rational rate punctured convolutional codes for soft-decision Viterbi decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1305–1313. 94B35

Kudryashov, N. A. (*with* Zargaryan, Evgenia D.) Solitary waves in active-dissipative dispersive media. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8067–8077. (Summary) **98a:35118** 35Q53 (65M06)

— Method for deriving rational solutions of some nonlinear evolution equations. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5445–5453. 35Q53 (35C05)

— The first and second Painlevé equations of higher order and some relations between them. (English summary) *Phys. Lett. A* **224** (1997), *no.* 6, 353–360. (Ya. P. Pugay) **98e:35142** 35Q53 (34A34, 58F07)

— The second Painlevé equation as a model for the electric field in a semiconductor. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 397–400. (Summary) **98d:82052** 82D99 (34A34)

Kudryavtsev, L. D. An approach to the conditions for the existence and uniqueness of solutions of ordinary differential equations. Dynamical systems, 2. *J. Math. Sci.* **80** (1996), *no.* 1, 1582–1596. (John W. Lee) **98i:34017** 34A34

— Polynomial attractors of ordinary differential equations. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 2, 162–164. (From the text) **98f:34078** 34D05 (34C99, 34D45)

— On attractors for systems of ordinary differential equations. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 734–736. (From the text) **98j:34106** 34D45 (34C99)

Kudryavtsev, M. A. Direct and inverse problems of spectral analysis for five-diagonal symmetric matrices. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 55–59 (1997). (Summary) **98c:47042** 47B39 (39A70, 47A10)

Kudryavtsev, S. N. Approximation of a partial differentiation operator by bounded operators in the class of functions of finite smoothness. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 3, 75–92; *translation in Sb. Math.* **187** (1996), *no.* 3, 385–402. (Grzegorz Lewicki) **98e:41034** 41A35 (41A60, 47A58, 47F05)

— Approximation of a class of functions of finite smoothness by another class. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 111–126; *translation in Izv. Math.* **61** (1997), *no.* 2, 347–362. (Alexander Alipkanovich Zhensykbaev) **98i:41032** 41A35 (41A65)

Kudryavtseva, E. A. (*with* Gerver, M. L.) On extremal properties of waveguides with a finite number of layers in the hodograph inversion problem. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 25–28. 73D50 (86A15)

— (*with* Gerver, M. L.) Universal sequence in the classical hodograph inversion problem. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 4, 3–56; *translation in Sb. Math.* **188** (1997), *no.* 4, 483–536. (Alexander S. Denisjuk) **98j:73039** 73D50 (28E99, 86A22)

Kudryavtseva, N. A. (*with* Vodop'yanov, S. K.) Normal families of mappings on Carnot groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 273–286, i; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 232–244. (Vladimir Eiderman) **98f:43013** 43A80 (22E30, 30C65)

Kuerten, Hans (*with* Vreman, Bert; Geurts, Bernard) Large-eddy simulation of the turbulent mixing layer. (English summary) *J. Fluid Mech.* **339** (1997), 357–390. (Summary) **98d:76093** 76F99 (76M25)

Kuerten, J. G. M. (*with* Wasistho, B.; Geurts, Bernard) Numerical simulation of separated boundary-layer flow. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 177–194. (Summary) **98h:76121** 76N20 (76D10, 76D15, 76M25)

Kőfer, K.-H. On the expected number of shadow vertices of the convex hull of random points. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 339–357. (Irene Hueter) **98d:60027** 60D05 (68U05)

Kufner, Alois Hardy's inequality and related topics. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 89–99, *Prometheus, Prague*, 1996. (Lars Erik Persson) **98m:26012** 26D10

— (*with* Drábek, Pavel; Nicolosi, Francesco) ★ Quasilinear elliptic equations with degenerations and singularities. (English summary) de Gruyter Series in Nonlinear Analysis and Applications, 5. *Walter de Gruyter & Co., Berlin*, 1997. xii+219 *pp. ISBN* 3-11-015490-0 (Isabella Birindelli) **98k:35068** 35J65 (35J70, 47H15, 47N20)

— (*with* Drábek, Pavel; Heinig, Hans P.) Higher-dimensional Hardy inequality. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 3–16, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Maria J. Carro) **98k:26026** 26D10

— (*with* Sinnamon, Gordon) Overdetermined Hardy inequalities. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 468–486. (B. Muckenhoupt) **98m:26013** 26D10 (26D15)

— (*with* Simader, C. G.) Hardy inequalities for overdetermined classes of functions. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 2, 387–403. (Kairat T. Mynbaev) **98g:26017** 26D10

Kugi, Andreas (*with* Schlacher, Kurt; Irschik, Hans) Control of nonlinear beam vibrations by multiple piezoelectric layers. *Interaction between dynamics and control in advanced mechanical systems* (*Eindhoven*, 1996), 355–362, *Solid Mech. Appl.*, 52, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98b:70035**) 73K50 (73K05, 73K12, 93C95)

— (*with* Irschik, Hans; Schlacher, Kurt) Control of earthquake excited nonlinear structures using Liapunov's theory. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 83–90. 73K50 (93C95)

— (*with* Schlacher, Kurt; Irschik, Hans) H_∞-control of random structural vibrations with piezoelectric actuators. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 137–145. 93B36 (73K12, 73K50, 93C95)

Kugiumtzis, D. (*with* Lingjærde, O. C.; Christophersen, N.) Regularized local linear prediction of chaotic time series. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 344–360. 58F40 (58F13)

Kugo, Tatsuya (*with* Ito, K. R.; Tamura, Hiroshi) Representations of O(N) spin models by self-avoiding random walks. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 723–737. (Aernout C. D. van Enter) **98k:82076** 82B41 (60K35, 82B20)

Kuh, Ernest S. (*with* Sandberg, Irwin W.) In memoriam—Sidney Darlington (July 18, 1906–October 31, 1997). *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 1–2. 01A70

Kuhara, Satoru (*with* Maruyama, Osamu; Furuichi, Emiko; Miyano, Satoru) Learning conformation rules. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 28–35. (*see* **98k:68015**) 68T05

Kühleitner, Manfred An omega theorem on the general asymmetric divisor problem. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 268–278. (James Lee Hafner) **98i:11076** 11N37 (11N25)

Kuhler, Kathleen (*with* Hoffmann, Mark R.) A nondiagonal quasidegenerate fourth-order perturbation theory. (English summary) *J. Math. Chem.* **20** (1996), *no.* 3-4, 351–364 (1997). (Peter N. Zhevandrov) **98c:81060** 81Q15

Köhler, Ulrich (*with* Wirth, Claus-Peter) Conditional equational specifications of data types with partial operations for inductive theorem proving. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 38–52, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68T15 (68Q42, 68Q65)

Kuhlmann, Franz-Viktor (*with* Kuhlmann, Salma) Ax-Kochen-Ershov principles for valued and ordered vector spaces. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 237–259, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98k:03049** 03C60 (06F20)

Kuhlmann, M. Position measurements on quantum mechanical particles in bound states. (English summary) *Phys. Lett. A* **228** (1997), *no.* 3, 134–140. (Summary) **98f:81033** 81P15

Kuhlmann, Salma (*with* Kuhlmann, Franz-Viktor) Ax-Kochen-Ershov principles for valued and ordered vector spaces. (English summary) *Ordered algebraic structures* (*Curaçao*, 1995), 237–259, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98k:03049** 03C60 (06F20)

Kuhn, Friedrich ★ Ein anderes Bild des Pragmatismus. (German. German summary) [A different picture of pragmatism] Wahrscheinlichkeitstheorie und Begründung der Induktion als maßgebliche Einflußgrößen in den "Illustrations of the logic of science" von Charles Sanders Peirce. [Probability theory and justification of induction as definite variables in the "Illustrations of the logic of science" by Charles Sanders Peirce] Philosophische Abhandlungen [Philosophical Essays], 67. *Vittorio Klostermann, Frankfurt am Main*, 1996. 306 *pp. ISBN* 3-465-02858-9 (Charles F. Kielkopf) **98c:01025** 01A55 (00A30, 03-03, 03A05, 03B30)

Kuhn, Harold W. *see* **Classics in game theory**, **98m:90003**

Kuhn, J. W. (*with* Padgett, W. J.) Local bandwidth selection for kernel density estimation from right-censored data based on asymptotic mean absolute error. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4375–4384. (*see* **98i:00032**) 62G05

Kuhn, M. Gabriella (*with* Cartwright, Donald I.; Soardi, Paolo M.) Tensor product of spherical representations of the group of automorphisms of a homogeneous tree. (English summary) *Harmonic functions on trees and buildings* (*New York*, 1995), 113–115, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 20E08 (22E50)

Kühn, Wolfgang (*with* Kühn, Zuzana) Cutting high-dimensional cakes. *Amer. Math. Monthly* **105** (1998), *no.* 2, 168–169. 52B45

Kühn, Zuzana (*with* Kühn, Wolfgang) Cutting high-dimensional cakes. *Amer. Math. Monthly* **105** (1998), *no.* 2, 168–169. 52B45

— (*with* Rösler, Uwe) A generalization of Lyapunov's convexity theorem with applications in optimal stopping. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 769–777. (Klaus D. Schmidt) **98e:28014** 28B05 (60G40)

Kühnau, Reiner (*with* Krushkal, Samuel L.) A quasiconformal dynamic property of the disk. (English summary) *J. Anal. Math.* **72** (1997), 93–103. (Susan G. Staples) **98m:30029** 30C62 (30F60)

— Herbert Grötzsch zum Gedächtnis. [In memory of Herbert Grötzsch] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 3, 122–145. (Michael von Renteln) **98k:01026** 01A70 (30-03)

— Längentreue Randverzerrung bei analytischer Abbildung in hyperbolischer und Sphärischer Metrik. [Equidistant boundary distortion in analytic mappings in hyperbolic and spherical metrics] *Mitt. Math. Sem. Giessen No.* 229 (1997), 45–53. (Adam Lecko) **98g:30011** 30C35

Köhne, Reinhart D. (*with* Klar, Axel; Wegener, Raimund) Mathematical models for vehicular traffic. (English summary) *Surveys Math. Indust.* **6** (1996), *no.* 3, 215–239. (Charles Tier) **98c:90038** 90B20 (82B40)

Kühnel, Wolfgang ★ Tight polyhedral submanifolds and tight triangulations. Lecture Notes in Mathematics, 1612. *Springer-Verlag, Berlin*, 1995. vi+122 *pp. ISBN* 3-540-60121-X (P. McMullen) **98b:52018** 52B70 (57Q15, 57Q35)

— (*with* Rademacher, Hans-Bert) Oscillator and pendulum equation on pseudo-Riemannian manifolds, and conformal vector fields. *Geometry and topology of submanifolds, VII* (*Leuven*, 1994/*Brussels*, 1994), 159–163, *World Sci. Publishing, River Edge, NJ*, 1995. (J. Ferrand) **98b:53060** 53C50 (53A30)

— Centrally-symmetric tight surfaces and graph embeddings. (English summary) *Beiträge Algebra Geom.* **37** (1996), *no.* 2, 347–354. (Ludwig Balke) **98f:52018** 52B70 (05C10, 57M20)

— (*with* Rademacher, Hans-Bert) Twistor spinors and gravitational instantons. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 4, 411–419. (Michael G. Eastwood)

98g:53087 53C25 (58G25, 83C15, 83C60)

— (*with* Rademacher, Hans-Bert) Oscillator and pendulum equation on pseudo-Riemannian spaces. (English summary) *Tôhoku Math. J.* (2) **48** (1996), *no.* 4, 601–612. (Eduardo García-Río) **98b:53061** 53C50 (53A30)

— (*with* Cecil, Thomas E.) Bibliography on tight, taut and isoparametric submanifolds. *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 307–339, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98f:53001**) 53–00

— (*with* Rademacher, Hans-Bert) Conformal vector fields on pseudo-Riemannian spaces. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 237–250. (Eduardo García-Río) **98i:53095** 53C50 (53C25)

— (*with* Breuer, Peter) The tightness of tubes. (English summary) *Forum Math.* **9** (1997), *no.* 6, 707–720. (Summary) **98m:53073** 53C42

— (*with* Rademacher, Hans-Bert) Twistor spinors on conformally flat manifolds. *Illinois J. Math.* **41** (1997), *no.* 3, 495–503. (Uwe Semmelmann) **98h:53077** 53C25 (58G30)

— (*with* Rademacher, Hans-Bert) Essential conformal fields in pseudo-Riemannian geometry. II. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 649–662. (J. Ferrand) **98i:53096** 53C50 (53A30, 58G30)

— (*with* Rademacher, Hans-Bert) Conformal completion of $U(n)$-invariant Ricci-flat Kähler metrics at infinity. (English summary) Dedicated to the memory of Paul Günther. *Z. Anal. Anwendungen* **16** (1997), *no.* 1, 113–117. (Megan M. Kerr) **98d:53067** 53C25 (53C55)

— (*with* Lassmann, Gunter) Block designs $S_{2n-8}(2, 5, n)$ and triangulated Eulerian 4-manifolds. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 111–117. (Richard Stong) **98k:52036** 52B70 (05B05, 57N13, 57Q15)

Kühnemann, Armin A two-dimensional hierarchy for attributed tree transducers. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 281–292, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **98m:68183** 68Q68 (68Q45)

Kuhnert, Ingo (*with* Gohout, Wolfgang) NBUFR closure under the formation of coherent systems. (English summary) *Statist. Papers* **38** (1997), *no.* 2, 243–248. 62N05

Kührer, Martin (*with* Becker, Otwin; Leopold-Wildburger, Ulrike) Experiments in economics—a qualitative forecasting approach. (English summary) *SOR '97 Proceedings* (*Preddvor*), 1–11, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90A19 (90A56)

Kuibin, P. A. (*with* Alekseenko, S. V.; Geshev, P. I.) Flow of a fluid with a free surface over an inclinded cylinder. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 47–50; *translation in Phys. Dokl.* **42** (1997), *no.* 5, 269–272. 76D99

— (*with* Okulov, V. L.) Self-induced motion and asymptotic expansion of the velocity field in the vicinity of a helical vortex filament. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 607–614. (Summary) **98m:76036** 76C05

Kuich, Werner The algebraic equivalent of AFL theory. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 39–50, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q45 (68Q70)

— Semirings and formal power series: their relevance to formal languages and automata. *Handbook of formal languages, Vol.* 1, 609–677, *Springer, Berlin*, 1997. (Heinrich Seidel) **98m:68152** 68Q45 (03D05, 16Y60, 68Q70)

— Generalized Lindenmayerian algebraic systems. (English summary) *New trends in formal languages*, 412–421, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98m:68187** 68Q70 (68Q45)

— (*with* Honkala, Juha) On Lindenmayerian algebraic power series. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 113–142. (Pascal Weil) **98m:68150** 68Q45

Kuijlaars, A. B. J. Weighted approximation with varying weights: the case of a power-type singularity. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 409–418. (Michael B. Korey) **98a:41009** 41A10

— (*with* Saff, E. B.) Distributing many points on a sphere. *Math. Intelligencer* **19** (1997), *no.* 1, 5–11. (T. Erber) **98h:70011** 70F10 (52C99, 82B05)

— (*with* Saff, E. B.) Asymptotics for minimal discrete energy on the sphere. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 523–538. (M. Lawrence Glasser) **98e:11092** 11K41 (78A30)

Kuijper, Margreet (*with* Willems, Jan C.) On constructing a shortest linear recurrence relation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1554–1558. (Henk Nijmeijer) **98j:93019** 93B15

— An algorithm for constructing a minimal partial realization in the multivariable case. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 225–233. (Summary) **98e:93016** 93B15

Kuiper, Nicolaas H. Geometry in curvature theory. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 1–50, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Wolfgang Kühnel) **98k:53079** 53C42 (53C40)

— *see also* **Tight and taut submanifolds, 98f:53001**; **Banchoff, Thomas F., (98f:53001)** *and* **Bibliography: Kuiper, Nicolaas Hendrik, (98f:53001)**

Kuiper, Ruurd (*with* Penczek, Wojciech) Traces and logic. *The book of traces*, 307–390, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q45 (03B70, 68Q10, 68Q60)

Kuipers, Benjamin J. (*with* Shults, Benjamin) Proving properties of continuous systems: qualitative simulation and temporal logic. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 91–129. (Pavel S. Pankov) **98k:68114** 68Q60 (03B45, 03B70, 34–04, 65L70)

Kuipers, Jeroen (*with* Derks, Jean) On the core of routing games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 2, 193–205. (Daniel Elliott Loeb) **98h:90112** 90D12 (90D46)

— Minimum cost forest games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 3, 367–377. (Summary) **98c:90206** 90D46 (90C27)

Kuiroukidis, A. (*with* Kleidis, K.; Papadopoulos, D. B.; Varvoglis, H.) Higher-dimensional models in gravitational theories of quartic Lagrangians. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3166–3188. (A. D. Popova) **98h:83082** 83E15

Kuk, Anthony Y. C. (*with* Chan, Jennifer S. K.; Bell, James Robert; McGilchrist, Clyde A.) The analysis of methadone clinic data using marginal and conditional logistic models with mixture or random effects. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 1–10. 62P10

Kuk, Hun (*with* Tanino, Tetsuzo; Tanaka, Masahiro[1]) Trade-off analysis for vector optimization problems via scalarization. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 75–87. (Summary) **98c:90122** 90C29

Kuk, K. *see* **Cooke, Kenneth L.**

Kuk, Yu. V. (*with* Petunin, Yu. I.) Testing hypotheses by using optimal statistical criteria. II. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 5, 539–549 (1995). (M. Hušková) **98b:62029** 62F03 (62C10, 62C20)

Kukartseva, O. V. (*with* Karamyshev, V. B.) On the optimization of the relaxation method for solving the three-dimensional problems of transonic aerodynamics. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 2, 151–162. (Summary) **98a:76062** 76M20 (65M06, 76H05)

Kukavica, Igor Level sets for the stationary solutions of the Ginzburg-Landau equation. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 511–521. (Summary) **98f:35136** 35Q55 (35B05, 35J60)

— (*with* Nyström, Kaj) Unique continuation on the boundary for Dini domains. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 441–446. (A. Yu. Rashkovskiĭ) **98d:31002** 31B20

Kukkuk, Susanne (*with* Koch, Helmut V.; Labute, John) Nilpotent local class field theory. *Acta Arith.* **83** (1998), *no.* 1, 45–64. (Ivan Fesenko) **98j:11113** 11S31

Kuklin, V. M. (*with* Panchenko, I. P.; Chernyakov, P. S.) The appearance of freely convective vortex structures in layers of the atomosphere. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 1, 99–104. 76C05 (76U05, 76V05, 86A10)

— (*with* Kirichok, A. V.; Panchenko, I. P.) On the possibility of a dynamo mechanism in a regular convectively unstable medium. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 4, 87–92. (Summary) **98j:76039** 76E15 (76C05, 76W05)

Kuksin, Sergeĭ B. Oscillations in space-periodic nonlinear Schrödinger equations. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 338–363. (Oktay K. Pashaev) **98e:35157** 35Q55 (35B05)

— On small-denominators equations with large variable coefficients. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 262–271. (Luigi Chierchia) **98i:58201** 58F27 (34C99, 35F99, 58F39)

Kuku, Aderemi O. Some recent developments in the K-theory of group rings, and orders in algebras. Proceedings of the UMA Symposium (Porto-Novo, 1993). *Afrika Mat.* (3) **2** (1993), 67–77. (Reinhard C. Laubenbacher) **98b:19001** 19–02 (16S34, 19B28, 20C10)

— Higher K-theory of modules over El-categories. *Afrika Mat.* (3) **6** (1996), 15–28. (From the introduction) **98g:19005** 19D99

— *see also* **Gerdes, Paulus, 98m:00006**

Kukudzhanov, V. N. (*with* Shneĭderman, D. N.) Solution of elastoplastic problems under nonaxisymmetric deformation of bodies of revolution. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 520–528; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 503–511. 73E50

Kukush, A. G. Asymptotic normality of the estimator of an infinite-dimensional parameter in the model with a smooth regression function. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 343–356. (Sidney J. Yakowitz) **98a:62046** 62G05 (62G20)

Kukushkin, Nikolai S. An existence result for coalition-proof equilibrium. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 269–273. (Summary) **98m:90192** 90D10

Kulabukhov, V. S. (*with* Bukov, V. N.; Maksimenko, I. M.; Ryabchenko, V. N.) The question of the uniqueness of a solution to problems in systems theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 12, 4–17; *translation in Automat. Remote Control* **58** (1997), *no.* 12, *part* 1, 1875–1885 (1998). (Summary) **98k:93008** 93A10 (93B30)

Kulachkova, N. A. (*with* Gil′manov, A. N.) Numerical investigation of two-dimensional gas flows with shocks by the TVD method on physically adaptive grids. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 3, 97–106. 76M20

Kulagin, N. E. (*with* Eleonskiĭ, V. M.; Korolev, V. G.) Dynamical systems with a Hamiltonian that is a function of momentum moduli: pseudobilliards. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 6604–6607. (András Krámli) **98d:58056** 58F05 (70H05)

— (*with* Eleonskiĭ, V. M.; Korolev, V. G.) On a classical analog of the isospectral Schrödinger problem. *JETP Lett.* **65** (1997), *no.* 11, 889–893; *translated from Pis′ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 11, 851–854 (*Russian*). 81Q05

Kulago, A. E. (*with* Shkadova, V. P.; Shkadov, V. Ya.) On the problem of the displacement of a viscous fluid from a capillary. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 4, 42–46, 72. 76D45

Kulasekera, K. B. (*with* Wang, Jian[6]) Smoothing parameter selection for power optimality in testing of regression curves. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 500–511. (Summary) **98f:62137** 62G10 (62G05)

— (*with* Wang, Jian[6]) Bandwidth selection for power optimality in a test of equality of regression curves. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 287–293. 62G05 (62G10)

Kulasinghe, Priyalal (*with* Bettayeb, Saïd) Vertex-disjoint paths in Cayley color graphs. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 6, 583–597. (Joseph B. Klerlein) **98m:05110** 05C38 (05C25)

— (*with* El-Amawy, Ahmed) On the complexity of designing optimal branch-and-combine clock networks. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 264–269. 68M10 (68Q25)

Kul′chitskiĭ, O. Yu. Random processes that satisfy the strong averaging condition. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 209–219, 361. (R. Sh. Liptser) **98f:60071** 60G05 (60H99)

— (*with* Mozgovoĭ, A. È.) A nonasymptotic estimate for the rates of convergence of realizations of stochastic approximation algorithms. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 144–152; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 2, 1817–1823 (1998). 62L20

Kulcsár, Štefan (*with* Šoltés, Vincent) Uniform boundedness and stability of solutions of a nonlinear two-dimensional differential system. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **10** (1994), *no.* 1-2, 79–88. (Nikolay A. Izobov) **98j:34057** 34C11 (34D20)

Kulczycki, Piotr Some remarks on solutions of discontinuous differential equations applied in automatic control. (English summary) *Indust. Math.* **46** (1996), *no.* 2, 119–128 (1997). 34H05 (49J24, 65L99)

Kulczycki, Tadeusz Properties of Green function of symmetric stable processes. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 339–364 (19*N*). (Zhong Xin Zhao) **98m:60119** 60J45 (31B35)

Kulesa, P. (*with* Murray, J. D.) Modelling the wave-like initiation of tooth primordia in the alligator. (English summary) *Forma* **10** (1995), *no.* 3, 259–280. 92C15

Kulhánek, J. A transformation method for numerical solution of the Schrödinger equation. (English summary) *Comput. Phys. Comm.* **105** (1997), *no.* 1, 37–41. 65L05 (81–04, 81Q05)

Kulik, A. M. (*with* Vigak, V. M.; Kushnir, R. M.) On the thermomechanical research of Prof. Yu. M. Kolyano. (English summary) *J. Math. Sci. (New York)* **88** (1998), *no.* 3, 327–337. 01A70 (73B30)

Kulikov, G. Yu. Numerical methods solving the semi-explicit differential-algebraic equations by implicit multistep fixed stepsize methods. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 281–318. (Vladimir A. Danilov) **98m:65115** 65L06 (34A09)

— On the numerical solution of the Cauchy problem for a system of differential-algebraic equations by means of implicit Runge-Kutta methods with a variable integration step. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1997,** *no.* 5, 7–11, 72; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 6–10. (Summary) **98f:65073** 65L06 (34A09, 34A45)

— Numerical solution of the Cauchy problem for a system of differential-algebraic equations by means of implicit Runge-Kutta methods with a nontrivial predictor. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 68–84. (Summary) **98j:65050** 65L06 (34A09)

Kulikov, Vik. S. On plane algebraic curves of positive Albanese dimension. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **59** (1995), *no.* 6, 75–94; *translation in Izv. Math.* **59** (1995), *no.* 6, 1173–1192. (Eugenii Shustin) **98i:14031** 14H30

— The irregularity of cyclic multiple plane curves. *Algebra and analysis (Kazan, 1994)*, 91–102, *de Gruyter, Berlin*, 1996. (Mutsuo Oka) **98g:14026** 14H30

— On fundamental groups of complements to toric curves. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 1, 89–112; *translation in Izv. Math.* **61** (1997), *no.* 1, 89–112. (Eugenii Shustin) **98a:14040** 14H30 (14F35)

— Finite presentability of the commutant of the fundamental group of the complement to a plane curve. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 63–70; *translation in Izv. Math.* **61** (1997), *no.* 5, 961–967. (Azniv Kasparian) **98j:20045** 20F34 (20F12, 57M05)

— (*with* Kurchanov, P. F.) Complex algebraic varieties: periods of integrals and Hodge structures [MR 91k:14010]. *Algebraic geometry, III*, 1–217, 263–270, *Encyclopaedia Math. Sci.*, 36, *Springer, Berlin*, 1998. (*see* **98i:14003**) 14C30 (14D07, 32G20, 32J25)

Kulikovskiĭ, A. G. On nonlinear waves of small amplitude in an anisotropic elastic body. (Russian) *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 288–303. (Ivan Andronov) **98e:73048** 73D15 (73B40, 73D35, 73F15)

— (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part I. (English summary) Theory and problems. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xiv+270 *pp. ISBN* 981-02-2962-3 (Gérard A. Maugin) **98f:73001a** 73–01 (76–01, 78–01, 80–01)

— (*with* Eglit, Margarita E.; Golubyatnikov, A. N.; Kamenyarzh, Ya. A.; Karlikov, Vladimir P.; Petrov, A. G.; Shikina, Irina S.; Sveshnikova, Elena I.) ★ Continuum mechanics via problems and exercises. Part II. (English summary) Answers and solutions. Translated from the Russian by A. N. Tiatiushkin. Translation edited by Eglit and Dewey H. Hodges. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 19. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+253 *pp. ISBN* 981-02-2963-1 (Gérard A. Maugin) **98f:73001b** 73–01 (76–01, 78–01, 80–01)

— (*with* Brutyan, M. A.) Instability and nonuniqueness of quasisteady flows of a viscoelastic liquid. *Fluid Dynam.* **31** (1996), *no.* 6, 819–827 (1997); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1996,** *no.* 6, 29–39 (*Russian. Russian summary*). (Summary) **98d:76006** 76A10 (73F15, 76E99)

— (*with* Shikina, Irina S.) On the transition to instability in weakly inhomogeneous flows without dissipation. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 3, 433–437; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 3, 429–432. (Adelina Georgescu) **98j:76054** 76E99 (76D33)

— (*with* Shikina, Irina S.) On the influence of viscosity on the stability of a tangential discontinuity in an incompressible fluid. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1997,** *no.* 6, 29–32, 80. (Summary) **98i:76038** 76E99 (76D99)

— (*with* Chugaĭnova, A. P.) On conditions for the decay of a nonlinear wave in a viscoelastic medium. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 315–323. (Summary) **98j:73044** 73F15 (73D15, 73D35)

Kulish, Petr P. (*with* Chaichian, M.) Quantum group covariant systems. (English summary) *From field theory to quantum groups*, 99–111, *World Sci. Publishing, River Edge, NJ*, 1996. (Nicolás Andruskiewitsch) **98b:81094** 81R50 (17B37)

— Yang-Baxter equation and reflection equations in integrable models. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 125–144, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Rinat M. Kashaev) **98h:82022** 82B23

— (*with* Rauch-Wojciechowski, S.; Tsyganov, A. V.) Stationary problems for equation of the KdV type and dynamical r-matrices. (English summary) *J. Math. Phys.* **37** (1996), *no.* 7, 3463–3482. (Pol Vanhaecke) **98f:58105** 58F07 (35Q53)

— (*with* Stolin, Alexander) New rational solutions of Yang-Baxter equation and deformed Yangians. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 123–129. (Shlomo Gelaki) **98k:81120** 81R50 (82B23)

— (*with* Damaskinskiĭ, E. V.) Irreducible representations of deformed oscillator algebra and q-special functions. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 153–158. (Summary) **98c:81095** 81R50 (17B37, 33D80)

— (*with* Isaev, A. P.) Tetrahedron reflection equations. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 6, 427–437. (Rinat M. Kashaev) **98d:82019** 82B23 (81R50)

— (*with* Chaichian, M.; Demichev, A. P.) Quasi-classical limit in q-deformed systems, non-commutativity and the q-path integral. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 251–260. (Roland Speicher) **98f:81122** 81R50 (81S05, 81S40)

— (*with* de Azcárraga, José A.; Rodenas, Francisco) Twisted h-spacetimes and invariant equations. (English summary) *Z. Phys. C* **76** (1997), *no.* 3, 567–576. (Mathias Pillin) **98i:58019** 58B30 (81R50)

Kulkarni, D. M. (*with* Goulden, I. P.) Multivariable Lagrange inversion, Gessel-Viennot cancellation, and the matrix tree theorem. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 295–308. (Miklós Bóna) **98j:05009** 05A15

Kulkarni, Lalita A. (*with* Li, San-qi) Transient behaviour of queueing systems with correlated traffic. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 933–978. 60K25 (90B22)

Kulkarni, Manisha V. Galois module structure of abelian quartic extensions over their quadratic subfields. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1107–1124. (Werner Bley) **98h:11145** 11R33 (11R16)

Kulkarni, P. S. (*with* Deshpande, S. M.; Ghosh, Ashis Kumar) New developments in kinetic schemes. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 75–93. (Summary) **98k:76104** 76M25 (65M06, 76P05)

Kulkarni, R. B. (*with* Alviti, E.; Johnson, E. G.; Nazareth, J. L.; Stone, J. C.) A pavement network optimization system using Dantzig-Wolfe decomposition. (English summary) *Network optimization (Gainesville, FL, 1996)*, 1–16, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)

Kulkarni, Ravi S. Riemann surfaces admitting large automorphism groups. (English summary) *Extremal Riemann surfaces (San Francisco, CA, 1995)*, 63–79, *Contemp. Math.*, 201, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98g:30070** 30F10 (14H55, 20F38)

Kulkarni, S. H. (*with* Sivakumar, K. C.) Explicit solutions of a special class of linear programming problems in Banach spaces. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 3-4, 457–465. (Hans Benker) **98b:90170** 90C48 (90C08)

Kulkarni, S. R. *see* **Kulkarni, Shripad Rajaram**

Kulkarni, Sanjeev R. (*with* Visweswariah, Karthik; Verdú, Sergio) Source codes as random number generators. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 462–471. 65C10

— (*with* Nobel, Andrew B.; Morvai, Gusztáv) Density estimation from an individual numerical sequence. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 537–541. 62G05

Kulkarni, Shripad Rajaram (*with* Joshi, Santosh B.) On a class of q-valent functions. (English summary) *J. Indian Acad. Math.* **18** (1996), *no.* 1, 1–11. (N. K. Thakare) **98j:30009** 30C45 (30C55)

Kulkarni, Sulekha R. (*with* Shankar, Priti) Linear time parsers for classes of non-context-free languages. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 355–390. (William R. Nico) **98j:68098** 68Q52 (68N20, 68Q45, 68S05)

Kulkarni, V. G. (*with* Gautam, N.) Admission control of multi-class traffic with service priorities in high-speed networks. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 79–97. 60K25

Kull, Andreas Self-reference and time according to Spencer-Brown. *Time, temporality, now (Tegernsee, 1996)*, 71–79, *Springer, Berlin*, 1997. (Introduction) **98h:00008** 00A30 (00A79)

Kullback, Solomon ★ Information theory and statistics. (English summary) Reprint of the second (1968) edition. *Dover Publications, Inc., Mineola, NY*, 1997. xvi+399 *pp. ISBN* 0-486-69684-7 (Editors) **98e:62015** 62B10

Kulldorff, Martin A spatial scan statistic. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1481–1496. (Salvatore Ingrassia) **98i:62078** 62M30 (60G55)

Kulli, V. R. (*with* Janakiram, B.) The cobondage number of a graph. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 111–117. (Summary) **98c:05090** 05C35

— (*with* Soner, N. D.) Complementary edge domination in graphs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 917–920. (Summary) **98d:05076** 05C35

Kulp, C. (*with* Tracy, E. R.; Tang, Xianzhu) Takens-Bogdanov random walks. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 3749–3756. 58F11 (82B41)

Kulpa, Władysław The Poincaré-Miranda theorem. *Amer. Math. Monthly* **104** (1997), *no.* 6, 545–550. (Beverly Diamond) **98j:01023** 01A55 (01A60, 26B99, 55M20)

Kulpa, Zenon Diagrammatic representation of interval space in proving theorems about interval relations. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 209–217. (*see* **98m:65009**) 65G10

Kulperger, R. J. (*with* Benn, A. G.) Integrated marked Poisson processes with application to image correlation spectroscopy. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 215–231. (Summary) **98m:62274** 62M99

— (*with* Braun, W. John) Properties of a Fourier bootstrap method for time series. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1329–1336. (Zuzana Prášková) **98f:62277** 62M15 (62G09, 62M10)

— On a property of the finite Fourier partial sums process. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 101–107. (Summary) **98h:60048** 60G10 (60F05)

— (*with* Braun, W. John) A bootstrap for point processes. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 2, 129–155. 62G05 (60G55, 62M09)

Kulpeshov, B. Sh. Completeness of the theory of elementary pairs of strongly minimal quasi-Urbanik structures. (Russian. English, Russian and Kazakh summaries) *Izv. Nats. Akad. Nauk Respub. Kazakhstan Ser. Fiz.-Mat.* **1995,** *no.* 3, 52–56. (Alexandre Ivanov) **98a:03048** 03C45

Külshammer, Burkhard Modular representations of finite groups: conjectures and examples. *Darstellungstheorietage Jena 1996*, 93–125, *Sitzungsber. Math.-Naturwiss. Kl.*, 7, *Akad. Gemein. Wiss. Erfurt, Erfurt*, 1996. (Jacques Thévenaz) **98d:20011** 20C20

Kulshreshtha, D. S. (*with* Kulshreshtha, Usha; Müller-Kirsten, H. J. W.) Hamiltonian and BRST formulations of some chiral field theories in (1 + 1)-dimension. (English summary) *Constraint theory and quantization methods (Montepulciano, 1993)*, 305–327, *World Sci. Publishing, River Edge, NJ*, 1994. (P. Mitra) **98f:81180** 81T10 (81T70)

Kulshreshtha, Usha (*with* Kulshreshtha, D. S.; Müller-Kirsten, H. J. W.) Hamiltonian and BRST formulations of some chiral field theories in (1 + 1)-dimension. (English summary) *Constraint theory and quantization methods (Montepulciano, 1993)*, 305–327, *World Sci. Publishing, River Edge, NJ*, 1994. (P. Mitra) **98f:81180** 81T10 (81T70)

Külske, C. Limiting behavior of random Gibbs measures: metastates in some disordered mean field models. (English summary) *Mathematical aspects of spin glasses and neural*

networks, 151–160, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Löwe) **98k:82097** 82B44 (60K35)

Kultina, Marya Game-theoretic model of the board election. *Game theory and applications, III*, 53–64, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D40 (90A28)

Kultti, Klaus Scale returns of a random matching model. (English summary) *Econom. Lett.* **58** (1998), *no.* 3, 277–280. 90A14 (90A20)

Kum, Sangho Maximal monotone operators in the one-dimensional case. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 371–381. (S. Simons) **98h:47069** 47H05 (49J52)

— A counterexample on implicit variational inequalities. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 293–295. (Summary) **98j:49014** 49J40 (47H04, 47H19, 90C33)

Kumabe, Masahiro Minimal complementation below uniform upper bounds for the arithmetical degrees. *J. Symbolic Logic* **61** (1996), *no.* 4, 1158–1192. (C. G. Jockusch, Jr.) **98i:03057** 03D30

Kumagai, Etsuo (*with* Inagaki, Nobuo) Exact information loss in Fisher's circle model. (English summary) *Math. Japon.* **44** (1996), *no.* 3, 455–467. (Adnan M. Awad) **98d:62007** 62B10 (62F10)

Kumagai, Sadatoshi (*with* Lee, Dong-Ik; Kodama, Shinzo) Handles and reachability analysis of free choice nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 298–315, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68155** 68Q90 (68Q10)

Kumagai, Takashi Short time asymptotic behaviour and large deviation for Brownian motion on some affine nested fractals. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 2, 223–240. (Ben Hambly) **98k:60130** 60J60 (60F10, 60J80)

— Stochastic processes on fractals and related topics. (Japanese) *Sūgaku* **49** (1997), *no.* 2, 158–172. 60J60 (28A80, 60J65)

Kumanduri, Ramanujachary Distinguished representations for unitary groups. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 293–306. (D. Miličić) **98e:22014** 22E55

Kumano-go, Naoto (*with* Fujiwara, Daisuke; Taniguchi, Kazuo) A proof of estimates of Kumano-go-Taniguchi type for multiproduct of Fourier integral operators. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 459–470. (Jean-Marc Delort) **98m:47083** 47G30 (35S30, 58G15)

Kumar, A. (*with* Agarwala, J. P.) A nondifferentiable programming problem under η-convexity. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 17–20. 90C30 (49J52)

Kumar, Abhay (*with* Chandra, Prabhat) On midpoint convex set and midpoint convex hull of a set in a linear space. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 14–16. 52A05

Kumar, Ajit (*with* Kurz, Thomas; Lauterborn, Werner) Bistable solitons in triply doped fibers. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 367–374. (Summary) **98k:78050** 78A60

Kumar, Alok[2] (*with* Vafa, Cumrun) U-manifolds. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 85–90. (João P. Nunes) **98b:81205** 81T30 (83E30)

Kumar, Amit (*with* Prasad, Bhikhari) Duality theory of a Boolean algebraic topological group. (English summary) *Math. Ed. (Siwan)* **30** (1996), *no.* 2, 81–83. (Douglass L. Grant) **98a:22001** 22A05 (06E99)

Kumar, Anurag (*with* Kuri, Joy) On the optimal control of arrivals to a single queue with arbitrary feedback delay. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 1–16. (Summary) **98h:60137** 60K25

Kumar, Ashwani (*with* Kumar, Balbir) Design of linear-phase, FIR integrators of degree $r, r = 1, 2, 3, \cdots$ for midband frequency range. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 537–545. 94A12

Kumar, B. M. (*with* Sujith, R. I.) Exact solutions for the longitudinal vibration of non-uniform rods. (English summary) *J. Sound Vibration* **207** (1997), *no.* 5, 721–729. 73K12

Kumar, Balbir (*with* Kumar, Ashwani) Design of linear-phase, FIR integrators of degree $r, r = 1, 2, 3, \cdots$ for midband frequency range. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 537–545. 94A12

Kumar, Devendra (*with* Gupta, Vijay) Rate of convergence of modified Baskakov operators. *Demonstratio Math.* **30** (1997), *no.* 2, 339–346. (Ding-Xuan Zhou) **98f:41020** 41A35

Kumar, Gyanendra (*with* Srivastava, Radhey Shyam) Efficient estimation of variance of exponential population in presence of large true observations. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 61–71. 62F10

Kumar, Hemant[2] (*with* Sinha, Rajiv) On the sequence of Fourier coefficients by $\|T\| \cdot C_1$ method. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 13–19 (1997). 42A24

— (*with* Sinha, Rajiv) A class of functions and their degree of approximation by almost (N, p, α) method. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 2, 79–85. (Summary) **98h:42006** 42A24 (42A10)

suresh Kumar, J. *see* **Suresh Kumar, J.**

Kumar, Jason (*with* Kallosh, Renata) Supersymmetry enhancement of D-p-branes and M-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4934–4941. (Summary) **98f:83107** 83E30 (81T30)

Kumar, K. S. A note on construction of two associate GD designs from a given BIBD. (English summary) *Aligarh J. Statist.* **12/13** (1992/93), 31–32. 62K10

pran Kumar, M. *see* **Pran Kumar, M.**

Kumar, Mahendra (*with* Sinha, A. P.) On strong form of fuzzy continuity. *Math. Ed. (Siwan)* **31** (1997), *no.* 3, 151–153. 54A40 (04A72)

Kumar, N. *see* **Kumar, Nishit**

Kumar, N. Mohan Construction of rank two vector bundles on $\mathbf{P}^4$ in positive characteristic. *Invent. Math.* **130** (1997), *no.* 2, 277–286. (Javier A. Orus-Lacort) **98j:14055** 14J60 (14M07)

— A note on unimodular rows. *J. Algebra* **191** (1997), *no.* 1, 228–234. (Gennady Lyubeznik) **98a:13017** 13C10 (13C40)

Kumar, Narender (*with* Bhatia, Davinder; Bhudraja, R. K.) Duality theorems for nondifferentiable multiobjective programs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 8, 1031–1042. (Bruce D. Craven) **98k:90095** 90C29 (49N15)

Kumar, Nishit (*with* Deo, Narsingh) Computation of constrained spanning trees: a unified approach. (English summary) *Network optimization (Gainesville, FL, 1996)*, 194–220, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35

— (*with* Mao, L. J.; Deo, Narsingh; Lang, S. D.) A comparison of two parallel approximate algorithms for the degree-constrained minimum spanning tree problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 15–32. (*see* **98h:05002**) 68R10 (05C85, 68Q22)

— (*with* Rajan, Kumar; Deo, Narsingh) Parallel tetrangle-inequality bound-smoothing on a cluster of workstations. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 211–220. (*see* **98h:05003**) 68Q22

— (*with* Abdalla, Ayman; Deo, Narsingh; Terry, Travis) Parallel computation of a diameter-constrained MST and related problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 131–155. (Summary) **98k:68133** 68R10 (68Q22)

— (*with* Deo, Narsingh) Constrained spanning tree problems: approximate methods and parallel computation. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 191–217, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **98k:68011**) 90C35 (05C05, 68R10)

Kumar, P. *see* **Kumar, Promila**

Kumar, P. R. *see* **Kumar, Panganamala Ramana**

Kumar, P. Vijay (*with* Helleseth, Tor; Shanbhag, Abhijit) Codes with the same weight distributions as the Goethals codes and the Delsarte-Goethals codes. (English summary) *Des. Codes Cryptogr.* **9** (1996), *no.* 3, 257–266. (Summary) **98a:94036** 94B05

— (*with* Helleseth, Tor) An expansion for the coordinates of the trace function over Galois rings. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 353–361. (Mihai Caragiu) **98e:11142** 11T30

Kumar, Panganamala Ramana (*with* Kumar, Sunil[1]) Closed queueing networks in heavy traffic: fluid limits and efficiency. (English summary) *Stochastic networks (New York, 1995)*, 41–64, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60127** 60K25

— Asymptotics and uniform bounds for multiclass queueing networks. (English summary) *Stochastic networks (New York, 1995)*, 65–73, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98k:60164** 60K25

— (*with* Jin, Haiming; Ou, Jihong) The throughput of irreducible closed Markovian queueing networks: functional bounds, asymptotic loss, efficiency, and the Harrison-Wein conjectures. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 886–920. (Summary) **98h:60135** 60K25 (90B22)

— (*with* Humes, Carlos, Jr.; Ou, Jihong) The delay of open Markovian queueing networks: uniform functional bounds, heavy traffic pole multiplicities, and stability. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 921–954. (Summary) **98h:60134** 60K25 (90B22)

Kumar, Pardeep (*with* Sharma, R. C.) Effect of rotation on thermal convection in micropolar fluids in porous medium. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 95–104. 76S05 (76R10, 76U05)

Kumar, Pranesh (*with* Agarwal, Satish Kumar) Alternative estimators for the population totals in multiple characteristic surveys. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2527–2537. 62D05

Kumar, Praveen (*with* Faynzilberg, Peter S.) Optimal contracting of separable production technologies. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 15–39. (Summary) **98m:90026** 90A11

Kumar, Promila (*with* Bhatia, Davinder) Sufficient optimality conditions and duality for strongly pseudo-convex n-set problems. (English summary) *Cahiers Centre Études Rech. Opér.* **37** (1995), 5–15. (Summary) **98k:90094** 90C29 (49N15, 90C30)

— (*with* Bhatia, Davinder) Duality for variational problems with B-vex functions. (English summary) *Optimization* **36** (1996), *no.* 4, 347–360. (Gert Wanka) **98a:49030** 49K05 (49N15, 90C26)

— (*with* Bhatia, Davinder) Pseudolinear vector optimization problems containing n-set functions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 439–453. (Harold P. Benson) **98c:90119** 90C29 (49N15)

— (*with* Bhatia, Davinder) A note on fractional minmax programs containing n-set functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 283–292. (Laura Martein) **98j:90078** 90C32

Kumar, Rajeev (*with* Maggu, P. L.) On sub-bigroup and its applications. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 85–88. 20N99

Kumar, Rajendra[2] (*with* Saxena, Ram Kishore) Recurrence relations for the basic analogue of the H-function. (English summary) *J. Nat. Acad. Math. India* **8** (1990), *no.* 1, 48–54. (Summary) **98m:33037** 33C60

Kumar, Rajesh[4] (*with* Jha, Pranava K.; Agnihotri, Naveen) Long cycles and long paths in the Kronecker product of a cycle and a tree. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 101–121. (Martin Sonntag) **98d:05083** 05C38 (05C45, 05C85)

Kumar, Rajeesh (*with* Tomar, S. K.; Kaushik, V. P.) Wave propagation of micropolar elastic medium with stretch. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 683–698. 73D15 (73B25)

— (*with* Singh, Baljeet) Wave propagation in a generalized thermomicrostretch elastic solid. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 891–912. 73D15 (73B30)

Kumar, Renjith R. (*with* Seywald, Hans) Some recent developments in computational optimal control. (English summary) *Large-scale optimization with applications, Part II (Minneapolis, MN, 1995)*, 203–233, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98e:49070** 49Mxx (49–02)

Kumar, Romesh (*with* Komal, B. S.) Weighted substitution operators. (English summary) *Indian J. Math.* **38** (1996), *no.* 1, 67–72 (1997). (Summary) **98j:47069** 47B38 (46E30)

— (*with* Sharma, Som Datt) Convergence of sequences of substitution operators on $H(w)$. *J. Indian Math. Soc. (N.S.)* **62** (1996), *no.* 1-4, 196–204. (John N. McDonald) **98d:47069** 47B38 (46E15)

— Composition operators on Orlicz spaces. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 17–22. (James T. Campbell) **98k:47056** 47B38 (46E30)

prem Kumar, S. *see* **Prem Kumar, S.**

Kumar, S. Ravi (*with* Sivakumar, D.) On self-testing without the generator bottleneck. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 248–262, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98b:68115** 68Q60

— (*with* Russell, Alexander; Sundaram, Ravi) Approximating Latin square extensions. (English summary) *Computing and combinatorics (Hong Kong, 1996)*, 280–289, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (Summary) **98a:05033** 05B15 (68Q25)

— (*with* Codenotti, Bruno; Ergün, Funda; Gemmell, Peter) Checking properties of polynomials (extended abstract). (English summary) *Automata, languages and programming (Bologna, 1997)*, 203–213, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60 (68Q40)

— (*with* Panigrahy, Rina; Russell, Alexander; Sundaram, Ravi) A note on optical routing on trees. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 6, 295–300. (Summary) **98i:68028** 68M10 (68Q25, 90C27)

Kumar, Sanjay Fourier-Bessel series and axially independent cylindrical waves. (English summary) *Progr. Math. (Varanasi)* **27** (1993), *no.* 1-2, 55–61 (1996). (Summary) **98e:78006** 78A45 (33C90)

— (*with* Lal, Nand) Non-compactness of derivations on $B(l^2)$. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 255–259. (Martin Mathieu) **98k:47070** 47B47 (46L57)

Kumar, Sanjeev (*with* Sharma, G. C.; Jain, Madhu; Saral, R. N.) The effects of non-zero bulk flow and non-mixing on diffusion with variable transfer of the solute. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1998), *no.* 3, 201–210. (Summary) **98k:76137** 76S05

Kumar, Shrawan (*with* Laumon, Gérard; Stuhler, Ulrich) ★ Vector bundles on curves—new directions. Lectures given at the 3rd C.I.M.E. Session held in Cetraro, June 19–27, 1995. Edited by M. S. Narasimhan. Lecture Notes in Mathematics, 1649. Fondazione C.I.M.E., [C.I.M.E. Foundation] *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1997. viii+193 *pp. ISBN* 3-540-62401-5 (Editors) **98i:14004** 14-06 (11-06, 14D20)

— Fusion product of positive level representations and Lie algebra homology. *Geometry and physics (Aarhus, 1995)*, 253–259, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Elena Poletaeva) **98a:17038** 17B67 (17B10, 17B55)

— (*with* Narasimhan, M. S.) Picard group of the moduli spaces of G-bundles. *Math. Ann.* **308** (1997), *no.* 1, 155–173. (Alexander E. Polishchuk) **98d:14014** 14D20 (14C22, 14D22, 14D25)

— (*with* Letzter, Gail) Shapovalov determinant for restricted and quantized restricted enveloping algebras. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 123–161. (Anthony Joseph) **98g:17014** 17B35 (17B37)

Kumar, Sunil[1] (*with* Kumar, Panganamala Ramana) Closed queueing networks in heavy traffic: fluid limits and efficiency. (English summary) *Stochastic networks (New York, 1995)*, 41–64, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60127** 60K25

Kumar, T. K. (*with* Mishra, S.) On the probability of existence of pure equilibria in matrix games. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 765–770. (Summary) **98g:90045** 90D10 (90D15)

Kumar, Uaday (*with* Sinha, A. P.) On diadic fuzzy topology. *Math. Ed. (Siwan)* **31** (1997), *no.* 1, 37–39. 54A40 (04A72)

Kumar, Vijay[3] (*with* Hariharan, Ramesh; Kapoor, Sanjiv) Faster enumeration of all spanning trees of a directed graph. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 428–439, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (05C05, 05C20, 05C85)

Kumar, Vinod[3] Extremally disconnected compact Hausdorff reflection. (English summary) *Papers on general topology and applications (Brookville, NY, 1990)*, 118–124, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54009** 54A25 (54D35, 54G05)

Kumar, Vipin (*with* Karypis, George) A coarse-grain parallel formulation of multilevel k-way graph partitioning algorithm. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68R10 (05C85, 68Q35)

— *see also* **Proceedings: Conference on Parallel Processing for Scientific Computing, 98h:65004**

Kumar, Yogesh On a theorem of Obayashi. *Math. Student* **64** (1995), *no.* 1-4, 236–238 (1996). 16S34

santha Kumaran, A. P. *see* **Santha Kumaran, A. P.**

Kumaran, M. (*with* Achary, K. K.) On the use of generalised lambda distribution for solving a (Q, r) system. (English summary) *Opsearch* **33** (1996), *no.* 4, 221–234. 90B05

Kumaran, Viswanathan Stability of the flow of a fluid through a flexible tube at intermediate Reynolds number. (English summary) *J. Fluid Mech.* **357** (1998), 123–140. 76E99 (73K70, 76Z05)

— Stability of wall modes in a flexible tube. (English summary) *J. Fluid Mech.* **362** (1998), 1–15. 76Z05 (73K70, 76E99)

Kumar Dave, Ashiwini (*with* Parihar, Champa Lal) Some matrix properties of a generalized Fibonacci sequence. (English summary) *J. Maulana Azad College Tech.* **29** (1996), 73–86. (Neville Robbins) **98b:11013** 11B39

Kumar Gupta, Mahesh *see* **Gupta, Mahesh Kumar**

Kumari, Anjali (*with* Singh, Lal Babu) Particular type of set in a linear space. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 230–231. 46A03

sujit Kumar Khan *see* **Sujit Kumar Khan**

Kumar Maitra, Jitendra (*with* Deo, Satya) Automorphism groups of truncated polynomial algebras. (English summary) *Nat. Acad. Sci. Lett.* **20** (1997), *no.* 5-6, 75–80. (Gene Freudenburg) **98k:13002** 13A02

Kumar Shukla, Samir (*with* Prakash, Ved) Harmonic summability of Fourier Laguerre expansion. *J. Indian Acad. Math.* **19** (1997), *no.* 2, 207–214. 33C45 (42C10)

Kumbaro, A. (*with* Toumi, I.) An approximate linearized Riemann solver for a two-fluid model. (English summary) *J. Comput. Phys.* **124** (1996), *no.* 2, 286–300. (Jian Guo Liu) **98b:76051** 76M20 (65M06, 76N99, 76T05)

Kumbasar, Ece (*with* Carroll, J. Douglas; Romney, A. Kimball) An equivalence relation between correspondence analysis and classical metric multidimensional scaling for the recovery of Euclidean distances. (English summary) *British J. Math. Statist. Psych.* **50** (1997), *no.* 1, 81–92. (Summary) **98d:62104** 62H25

Kumbhat, R. K. (*with* Sharma, Sunil) Solution of triple integral equations. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **65** (1995), *no.* 3, 345–356. (Introduction) **98h:45006** 45F10

Kumbhojkar, H. V. On prime fuzzy ideals of a semigroup. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2 (Kerman, 1995)*, 187–192, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 20M12 (04A72)

Kumchev, A. (*with* Tolev, D. I.) An additive problem with prime numbers from a thin set. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 31–43. (John B. Friedlander) **98h:11123** 11P32 (11L20)

Kume, Takahiro Application of the Weil representation to calculation of the trace of a theta series. Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 71–86. (Joachim Dulinski) **98k:11055** 11F46 (11F27)

Kumfert, Gary (*with* Pothen, Alex) Two improved algorithms for envelope and wavefront reduction. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 559–590. (*see* **98f:65005**) 65F50 (65T20, 68R10)

Kumičák, J. (*with* de Hemptinne, X.) The dynamics of thermodynamics. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 258–274. (Summary) **98k:82139** 82C35

Kumjian, Alexander (*with* Kishimoto, Akitaka) Simple stably projectionless C^*-algebras arising as crossed products. (English summary) *Canad. J. Math.* **48** (1996), *no.* 5, 980–996. (Claire Anantharaman-Delaroche) **98b:46072** 46L05 (46L35, 46L80)

— (*with* Kishimoto, Akitaka) Crossed products of Cuntz algebras by quasi-free automorphisms. *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 173–192, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **98h:46076** 46L55 (46L05, 46L40)

— (*with* Pask, David; Raeburn, Iain; Renault, Jean) Graphs, groupoids, and Cuntz-Krieger algebras. (English summary) *J. Funct. Anal.* **144** (1997), *no.* 2, 505–541. (Masatoshi Enomoto) **98g:46083** 46L05 (46L55)

— (*with* Crocker, David; Raeburn, Iain; Williams, Dana P.) An equivariant Brauer group and actions of groups on C^*-algebras. (English summary) *J. Funct. Anal.* **146** (1997), *no.* 1, 151–184. (Jean N. Renault) **98j:46076** 46L55 (22D25, 46L05, 46L35)

— Fell bundles over groupoids. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1115–1125. (Robert S. Doran) **98i:46055** 46L05 (22A22, 22D25, 46M20)

Kumkov, S. I. (*with* Patsko, V. S.) Information sets in the pursuit problem. (Russian) *Radio age (Russian)*, 172–190, 289, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (*see* **98b:00019**) 90D26

— (*with* Patsko, V. S.) Information sets in an impulse control problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 195–206; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1224–1234. (Summary) **98m:93073** 93C57 (70M20, 70Q05)

Kummer, Bernd Parametrizations of Kojima's system and relations to penalty and barrier functions. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 579–592. (Hubertus Th. Jongen) **98a:90111** 90C31 (49M30)

— Lipschitzian and pseudo-Lipschitzian inverse functions and applications to nonlinear optimization. (English summary) *Mathematical programming with data perturbations*, 201–222, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Stefan Scholtes) **98i:90097** 90C31 (49J52, 49K40)

Kummer, E. E. *see* **Bölling, Reinhard, 98m:01012**

Kummer, Martin *see* **Kummer, Martin Walter**

Kummer, Martin P. (*with* Churchill, Richard C.) The annular twist mapping of the restricted three-body problem. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 249–268. (Carles Simó) **98m:70024** 70H05 (58F22, 58F27, 70F07)

Kummer, Martin Walter (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William Ian; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank C.) Measure, category and learning theory. (English summary) *Automata, languages and programming (Szeged, 1995)*, 558–569, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68158** 68Q99 (03D20, 68T05)

— (*with* Ott, Matthias) Effective strategies for enumeration games. (English summary) *Computer science logic (Paderborn, 1995)*, 368–387, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03026** 03B25 (03D15, 68Q60, 90D46)

— On the complexity of random strings (extended abstract). (English summary) *STACS 96 (Grenoble, 1996)*, 25–36, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q30

— Kolmogorov complexity and instance complexity of recursively enumerable sets. (English summary) *SIAM J. Comput.* **25** (1996), *no.* 6, 1123–1143. (Rodney G. Downey) **98h:03055** 03D15 (03D30, 68Q15, 68Q30)

— (*with* Case, John; Kaufmann, Susanne; Kinber, Efim) Learning recursive functions from approximations. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 183–196. (Sanjay Jain) **98k:68131** 68Q99 (03D20, 68T05)

Kummer, Olaf (*with* Stehr, Mark-Oliver) Petri's axioms of concurrency. A selection of recent results. (English summary) *Application and theory of Petri nets 1997 (Toulouse)*, 195–214, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (Summary) **98j:68032** 68Q10 (68Q90)

Kummer, W. (*with* Grosse, Harald; Prešnajder, P.; Schwarz, D. J.) Non-linear gauge symmetry in R^2-gravity in two dimensions. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1325–1329. (Summary) **98c:83081** 83D05

— (*with* Lau, Stephen R.) Boundary conditions and quasilocal energy in the canonical formulation of all $1+1$ models of gravity. (English summary) *Ann. Physics* **258** (1997), *no.* 1, 37–80. (Summary) **98d:83005** 83C05 (83C40, 83D05)

— (*with* Liebl, H.; Vasilevich, D. V.) Hawking radiation for non-minimally coupled matter from generalized 2-D black hole models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2683–2689. (Summary) **98h:83052** 83C57

— (*with* Katanaev, M. O.; Liebl, H.) On the completeness of the black hole singularity in 2D dilaton theories. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 353–370.

(Summary) **98f:83072** 83C57 (81T20)

— (*with* Liebl, H.; Vasilevich, D. V.) Exact path integral quantization of generic 2D dilaton gravity. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 491–502. (Ion V. Vancea) **98c:81201** 81T40 (81T70)

— (*with* Liebl, H.; Vasilevich, D. V.) Non-perturbative path integral of 2d dilaton gravity and two-loop effects from scalar matter. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 723–734. (Summary) **98m:81170** 81T40

Kümmerer, Burkhard (*with* Bożejko, Marek; Speicher, Roland) q-Gaussian processes: non-commutative and classical aspects. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 129–154. (Philippe Biane) **98h:81053** 81S05 (46L50, 81S25)

Kumra, Mamta (*with* Tewari, U. B.) Isometric multipliers of the space of p-integrable vector valued functions. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **65** (1995), *no.* 4, 427–435. (Hang-Chin Lai) **98f:43007** 43A22

Kumura, Hironori (*with* Kasue, Atsushi; Ogura, Yukio) Convergence of heat kernels on a compact manifold. *Kyushu J. Math.* **51** (1997), *no.* 2, 453–524. (Zhongmin Qian) **98e:58178** 58G32 (58G11, 60J35)

Kuncham, Syam Prasad (*with* Bhavanari, Satyanarayana) A result on E-direct systems in N-groups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 285–287. 20N99 (16Y30)

Kunde, Manfred (*with* Avermiddig, Alfons; Osterloh, Andre) k-k sorting on the multi-mesh. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 93–104, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68P10 (68M10)

Kundu, Anjan Universality of the universal R-matrix and applications to quantum integrable systems. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 304–309, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98i:81107** 81R50

— (*with* Hlavatý, Ladislav) Quantum integrability of non-ultralocal models through Baxterization of quantized braided algebra. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 12, 2143–2165. (Summary) **98h:81051** 81R50 (82B23)

— (*with* Basu-Mallick, B.) Multiparameter deformed and non-standard $Y(\mathrm{gl}_M)$ Yangian symmetry in a novel class of spin Calogero-Sutherland models. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 705–728. (Kazuhiro Hikami) **98k:81328** 81V70 (82B23)

Kundu, Debasis (*with* Mitra, Amit) A note on the consistency of the undamped exponential signals model. (English summary) *Statistics* **28** (1996), *no.* 1, 25–33. (Alexander G. Kukush) **98b:62116** 62J02 (65C05)

— (*with* Kannan, Nandini) Constrained maximum likelihood estimators for superimposed exponential signals. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 733–764. (Summary) **98g:62182** 62M15

— (*with* Mitra, Amit) Consistent method for estimating sinusoidal frequencies: a non-iterative approach. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 2, 171–190. 62J02 (62E25)

Kundu, K. (*with* Giri, D.; Ray, Koushik) A study of one-dimensional correlated disordered systems using the invariant measure method. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5699–5717. (Dimitri Petritis) **98a:82088** 82C44 (82C32)

Kundu, Prabir Kumar Diffraction of water waves by slender barriers. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 1, 87–100. (Summary) **98d:76016** 76B15

Kundu, Subiman (*with* Raha, A. B.) The bounded-open topology and its relatives. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **27** (1995), *no.* 1-2, 61–77 (1996). (S. A. Naimpally) **98a:54011** 54C35 (46E25, 46J10, 54D30, 54D60, 54G10)

Kundu, Subrata (*with* Martinsek, Adam T.) Bounding the L_1 distance in nonparametric density estimation. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 57–78. (Sh. A. Khashimov) **98g:62067** 62G05

— (*with* Martinsek, Adam T.) Using a stopping rule to determine the size of the training sample in a classification problem. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 19–27. (Summary) **98m:62178** 62H30 (62G05, 62L10)

Kundu, Sukhamay (*with* Chen, Jianhua) A new method of circumscribing beliefs: the propositional case. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 383–390. (From the introduction) **98k:03046** 03B45 (68T27)

— The min-max composition rule and its superiority over the usual max-min composition rule. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 319–329. (Summary) **98k:04004** 04A72 (03B52)

Kunen, Kenneth (*with* Hart, Joan) Locally constant functions. (English summary) *Fund. Math.* **150** (1996), *no.* 1, 67–96. (S. J. Sidney) **98b:46028** 46E10 (54C10, 54C40)

— The semantics of answer literals. (English summary) *J. Automat. Reason.* **17** (1996), *no.* 1, 83–95. (J. A. Kalman) **98g:03036** 03B35 (20A15, 68T15)

Kunert, Joachim On the use of the factor-sparsity assumption to get an estimate of the variance in saturated designs. (English summary) *Technometrics* **39** (1997), *no.* 1, 81–90. (Summary) **98b:62139** 62K10 (62K15)

Kung, Fan-Chu (*with* Lee, Chien-Hua) Upper and lower matrix bounds of the solutions for the continuous and discrete Lyapunov equations. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 4, 539–546. (M. M. Konstantinov) **98d:15016** 15A24 (34H05, 93B40, 93C05)

Kung, Joseph P. S. Matroids. *Handbook of algebra, Vol.* 1, 157–184, *North-Holland, Amsterdam*, 1996. (James G. Oxley) **98c:05040** 05B35

— Combinatorics and nonparametric mathematics. *Ann. Comb.* **1** (1997), *no.* 2, 105–106. 05-01

Kunihiro, Noboru (*with* Hayami, Ken; Sugihara, Masaaki) Automatic numerical integration of nearly singular boundary element integrals. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 249–252, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65N38

Kunihiro, Teiji Errata: "A geometrical formulation of the renormalization group method for global analysis" [Progr. Theoret. Phys. **94** (1995), no. 4, 503–514; MR 96j:81085]. *Progr. Theoret. Phys.* **95** (1996), *no.* 4, 835. (Woodford W. Zachary) **98g:81140a** 81T17 (35Q99, 82B28)

— A geometrical formulation of the renormalization group method for global analysis. II. Partial differential equations. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 1, 51–69. (Woodford W. Zachary) **98g:81140b** 81T17 (35Q99, 82B28)

— The renormalization-group method applied to asymptotic analysis of vector fields. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 2, 179–200. (Lewis H. Ryder) **98e:81117** 81T17

Kunii, T. L. (*with* Fomenko, A. T.) ★ Topological modeling for visualization. (English summary) With appendices by Fomenko and S. V. Matveev, A. V. Bolsinov, O. E. Orël, S. Takahashi, and A. G. Belyaev, E. V. Anoshkina and Kunii. *Springer-Verlag, Tokyo*, 1997. x+395 *pp. ISBN* 4-431-70200-8 (Christine Médan) **98i:58001** 58-01 (57R99, 58-02, 70B15, 70E15, 70H05)

Kunisch, Karl (*with* Barbu, Viorel) Identification of nonlinear parabolic equations. (English summary) *Control Theory Adv. Tech.* **10** (1995), *no.* 4, *part* 5, 1959–1980. (Summary) **98d:93034** 93B30 (93C20)

— (*with* Barbu, Viorel; Ring, Wolfgang) Control and estimation of the boundary heat transfer function in Stefan problems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 6, 671–710. (Irina F. Sivergina) **98a:93037** 93C20 (35R30, 35R35, 80A22)

— (*with* Volkwein, S.) Augmented Lagrangian-SQP techniques and their approximations. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 147–159, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Fredi Tröltzsch) **98h:49032** 49M15 (49K20, 49M29, 49M35, 49N50)

— (*with* Ito, Kazufumi) Estimation of the convection coefficient in elliptic equations. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 995–1013. (Summary) **98e:49080** 49M37 (35R30, 65N30, 93C20)

— (*with* Bergounioux, Maïtine) Augmented Lagrangian techniques for elliptic state constrained optimal control problems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1524–1543. (J. Frédéric Bonnans) **98d:49040** 49M29 (49K20)

— (*with* Tai, Xue Cheng) Sequential and parallel splitting methods for bilinear control problems in Hilbert spaces. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 1, 91–118. (Summary) **98b:49025** 49M05 (49K27, 65K10)

Kunita, Hiroshi Stochastic differential equations with jumps and stochastic flows of diffeomorphisms. *Itô's stochastic calculus and probability theory*, 197–211, *Springer, Tokyo*, 1996. (Rémi Léandre) **98f:60114** 60H10

— (*with* Kifer, Yuri) Random positive semigroups and their random infinitesimal generators. *Stochastic analysis and applications* (*Powys*, 1995), 270–285, *World Sci. Publishing, River Edge, NJ*, 1996. (Jan I. Seidler) **98j:60087** 60H15 (35R60, 47D06)

— Stochastic flows with self-similar properties. *Stochastic analysis and applications* (*Powys*, 1995), 286–300, *World Sci. Publishing, River Edge, NJ*, 1996. (David Applebaum) **98j:60059** 60G18 (58G32, 60B15, 60H10)

— ★ Stochastic flows and stochastic differential equations. (English summary) Reprint of the 1990 original. Cambridge Studies in Advanced Mathematics, 24. *Cambridge University Press, Cambridge*, 1997. xiv+346 *pp. ISBN* 0-521-35050-6; 0-521-59925-3 (Editors) **98e:60096** 60H10 (35R60, 60H15)

— Infinitesimal generators of random positive semigroups. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 371–387. (Jan I. Seidler) **98m:60098** 60H15 (47D06, 60H25)

Kunitomo, Hiroshi (*with* Arakane, Y.; Itoyama, Hiroshi; Tokura, A.) Infinity cancellation, type I′ compactification and string $\mathscr{S}$-matrix functional. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 149–163. (Summary) **98b:81172** 81T30

— (*with* Furuuchi, Kazuyuki; Nakatsu, Toshio) Topological field theory and second-quantized five-branes. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 144–160. (Summary) **98h:81120** 81T70 (58D29, 81T30)

— (*with* Hotta, Kenji; Kikkawa, Keiji) Correlation between momentum modes and winding modes in Brandenberger-Vafa's string cosmological model. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 687–706. (Summary) **98j:83097** 83E30 (81T30)

Kunka, M. D. (*with* Foster, M. R.; Tanveer, S.) Dendritic crystal growth for weak undercooling. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part B*, 3068–3100. (Summary) **98k:80009** 80A22

Kunkel, Peter (*with* Mehrmann, Volker) Local and global invariants of linear differential-algebraic equations and their relation. (English summary) *Electron. Trans. Numer. Anal.* **4** (1996), *Dec.*, 138–157 (*electronic*). (Michael Hanke) **98b:34005** 34A09 (34C99, 65L05)

— (*with* Mehrmann, Volker) A new class of discretization methods for the solution of linear differential-algebraic equations with variable coefficients. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1941–1961. (Michael Hanke) **98b:34006** 34A09 (34A45, 65L05)

— (*with* Byers, Ralph; Mehrmann, Volker) Regularization of linear descriptor systems with variable coefficients. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 117–133. (G. A. Kurina) **98c:93071** 93C50 (34H05, 93B10, 93B11)

— (*with* Mehrmann, Volker; Rath, Werner; Weickert, Jörg) A new software package for linear differential-algebraic equations. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 115–138. (Jose Cuminato) **98e:65002** 65-04 (65L99)

— (*with* Hermann, Martin; Middelmann, W.) Augmented systems for the computation of singular points in Banach space problems. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 1, 39–50. (Mihail Yu. Kokurin) **98m:47102** 47H15 (34B15, 46N40, 47N40, 65J15)

Kunkle, Thomas Box-like splines with nonuniform stepsize. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 303–308, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:41008** 41A15 (41A63)

Kuno, Takahito A pseudo-polynomial algorithm for solving rank three concave production-transportation problems. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 159–182. (Summary) **98k:90059** 90C08

— A parametric approach for maximum flow problems with an additional reverse convex constraint. (English summary) *Ann. Oper. Res.* **69** (1997), 261–276. (Rainer Burkard) **98c:90177** 90C35 (90B10)

— (*with* Utsunomiya, Takahiro) A pseudo-polynomial primal-dual algorithm for globally solving a production-transportation problem. (English summary) *J. Global Optim.* **11** (1997), *no.* 2, 163–180. (Stefan Chanas) **98k:90032** 90B06 (90B30, 90C08, 90C31)

— A variant of the outer approximation method for globally minimizing a class of composite functions. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 2, 245–260. (Horst Hollatz) **98f:90059** 90C30 (65K05)

— (*with* Utsunomiya, Takahiro) Minimizing a linear multiplicative-type function under network flow constraints. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 3, 141–148. (Summary) **98a:90123** 90C35 (90C29)

Kunoth, Angela (*with* Dahmen, Wolfgang; Schneider, Reinhold) Operator equations, multiscale concepts and complexity. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 225–261, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Klaus Ritter) **98a:65200** 65Y20 (65F35)

— (*with* Barsch, Titus; Urban, Karsten) Towards object oriented software tools for numerical multiscale methods for PDEs using wavelets. (English summary) *Multiscale wavelet methods for partial differential equations*, 383–412, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Andreas Rieder) **98f:65003** 65–04 (42C15, 65N30)

Künsch, Hans R. (*with* Götze, Friedrich) Second-order correctness of the blockwise bootstrap for stationary observations. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1914–1933. (Somnath Datta) **98a:62114** 62M10 (62G09, 62G15)

— (*with* Papritz, A.; Bassi, Frances) Generalized cross-covariances and their estimation. (English summary) *Math. Geol.* **29** (1997), *no.* 6, 779–799. (Summary) **98d:86014** 86A32

— (*with* Qian, Guoqi) Some notes on Rissanen's stochastic complexity. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 782–786. 62B10

Kunst, Robert M. Testing for cyclical non-stationarity in autoregressive processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 2, 123–135. (Summary) **98a:62116** 62M10

Kunstatter, Gabor (*with* Gegenberg, Jack D.) Exact quantum wave functionals for spherically symmetric black holes. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 134–139, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83051** 83C45 (81T20)

— (*with* Epp, Richard J.) Dirac vs. reduced quantization of Poincaré invariant gauge theories. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 307–311, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81197** 81T13 (81T20)

— (*with* Gegenberg, Jack D.; Louis-Martinez, Domingo) Classical and quantum mechanics of black holes in generic 2-D dilaton gravity. (English summary) *Heat kernel techniques and quantum gravity* (*Winnipeg, MB*, 1994), 333–346, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Edward Teo) **98f:83067** 83C57 (81T40)

— Black hole entropy and quantum mechanics in generic 2-D dilaton gravity. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 665–678. (Michael O. Katanaev) **98i:83049** 83C57 (81V17)

— (*with* Louis-Martinez, Domingo) Charged black holes in generic 2-D dilaton gravity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 81–93, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Michael O. Katanaev) **98g:83065** 83C57 (81T20, 81T40)

— (*with* Gegenberg, Jack D.) Solitons and black holes. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 274–280. (Summary) **98h:83048** 83C57 (81T20)

Kunstmann, Peer C. Stationary dense operators and generation of non-dense distribution semigroups. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 111–120. (Ioana Ciorănescu) **98c:47051** 47D06 (46F10, 47A10)

— Regularization of semigroups that are strongly continuous for $t > 0$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2721–2724. (S. Kantorovitz) **98k:47080** 47D06

Kuntsevich, A. V. (*with* Kuntsevich, Vsevolod M.) Robust stability analysis and control synthesis under uncertainty. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 17–28. (Summary) **98g:93035** 93D09 (93B51)

— (*with* Kuntsevich, Vsevolod M.) Linear adaptive control for nonstationary uncertain systems under bounded noise. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 33–40. (Summary) **98b:93038** 93C40 (93C05)

Kuntsevich, Vsevolod M. (*with* Kuntsevich, A. V.) Robust stability analysis and control synthesis under uncertainty. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 17–28. (Summary) **98g:93035** 93D09 (93B51)

— (*with* Kuntsevich, A. V.) Linear adaptive control for nonstationary uncertain systems under bounded noise. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 33–40. (Summary) **98b:93038** 93C40 (93C05)

Kunwer, Moid M. (*with* Gertler, Janos J.) Optimal residual decoupling for robust fault diagnosis. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 395–421. 93B30 (93E10)

Kunyavskiĭ, B. È. (*with* Sansuc, Jean-Jacques) Un problème inverse pour la réduction des groupes algébriques commutatifs. (English and French summaries) [An inverse problem for the reduction of commutative algebraic groups] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 307–312. (Enric Nart) **98b:14037** 14L99 (11G99)

— (*with* Borovoĭ, M. V.) Spherical spaces for which the Hasse principle and weak approximation fail. (English summary) Journées Arithmétiques (Barcelona, 1995). *Collect. Math.* **48** (1997), *no.* 1-2, 41–52. (Lucy Moser-Jauslin) **98i:14049** 14M17 (11G25)

— (*with* Iskovskikh, V. A.; Klyachko, Aleksandr Anatol′evich; Kostrikin, Alekseĭ Ivanovich; Parshin, A. N.; Stepanov, S. A.; Shafarevich, Igor′ Rostislavovich) Valentin Evgen′evich Voskresenskiĭ (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 201–202; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1345–1347. 01A70

Kunz, E. (*with* Waldi, Rolf) Asymptotes and centers of affine algebraic curves. (English summary) *Math. Semesterber.* **42** (1995), *no.* 2, 163–180. (Summary) **98k:14046** 14H99 (14N05)

Kunz, Hervé (*with* Huang, Hsin Yi; Wu, F. Y.; Kim, Doochul) Interacting dimers on the honeycomb lattice: an exact solution of the five-vertex model. (English summary) *Phys. A* **228** (1996), *no.* 1-4, 1–32. (Takeo Kojima) **98f:82050** 82B23 (81R50)

Kunz, Jutta (*with* Kleihaus, Burkhard) Axially symmetric multisphalerons in Yang-Mills–dilaton theory. (English summary) *Phys. Lett. B* **392** (1997), *no.* 1-2, 135–140. (Bernd J. Schroers) **98b:81144** 81T13 (81V15)

— (*with* Kleihaus, Burkhard) Static axially symmetric solutions of Einstein–Yang-Mills–dilaton theory. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 13, 2527–2530. (Summary) **98f:83019** 83C20

— (*with* Kleihaus, Burkhard) Static black-hole solutions with axial symmetry. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 9, 1595–1598. (Summary) **98d:83055** 83C57

— (*with* Kleihaus, Burkhard) Static axially symmetric Einstein-Yang-Mills-dilaton solutions: regular solutions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 834–856. (Summary) **98j:83023** 83C20 (81T13)

Kunz, Milan Wiener number disintegrated. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 199–212. (Summary) **98h:92053** 92E10 (05C90, 92–02)

Kunze, H. (*with* Siegel, David) Monotonicity properties of chemical reactions. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 203–217. (Summary) **98h:92054** 92E20 (34C35, 34C99)

Kunze, Kerstin E. (*with* Barrow, John D.) Inhomogeneous string cosmologies. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 741–752. (Sergey Nikolaevich Roshchupkin) **98f:83098** 83E30 (81T30)

Kunze, Markus (*with* Küpper, Tassilo; You, Jian Gong) On the application of KAM theory to discontinuous dynamical systems. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 1–21. (Luigi Chierchia) **98i:58202** 58F27 (34A37, 34C11, 70K99)

— (*with* Neumann, Jörg) Linear complementary problems and the simulation of the motion of rigid body systems subject to Coulomb friction. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 833–838. 70E15 (70F99, 90C33)

— (*with* Küpper, Tassilo) Qualitative bifurcation analysis of a non-smooth friction-oscillator model. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 87–101. (Julyan Cartwright) **98a:34034** 34C15 (34C23, 58F14, 70K40)

Kunze, R. A. (*with* Gilbert, J. E.; Meaney, C.) Derived intertwining norms for reducible spherical principal series. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 2, 171–188. (Takeshi Kawazoe) **98d:22008** 22E46 (22E30, 43A85)

Künzi, Hans-Peter A. Quasi uniformities defined by sets of neighborhoods. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 125–137, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (Summary) **98g:54057** 54E15 (54D20, 54F05)

— (*with* Vajner, Václav) Weighted quasi-metrics. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 64–77, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Summary) **98d:54050** 54E15 (54A25, 54D20, 54E35)

— (*with* Ryser, Carolina) The Bourbaki quasi-uniformity. (English summary) *Topology Proc.* **20** (1995), 161–183. (Ivan L. Reilly) **98h:54038** 54E15

— (*with* Romaguera, Salvador) Spaces of continuous functions and quasi-uniform convergence. *Acta Math. Hungar.* **75** (1997), *no.* 4, 287–298. (Ljubiša Kočinac) **98b:54024** 54C35 (54A20, 54E15)

— (*with* Shapiro, Leonid B.) On simultaneous extension of continuous partial functions. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 6, 1853–1859. (Summary) **98g:54015** 54B20 (54C20, 54C35, 54C65, 54E15)

— (*with* Romaguera, Salvador) Left K-completeness of the Hausdorff quasiuniformity. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 167–176. (Summary) **98j:54047** 54E15 (54B20, 54E50)

— (*with* Wajch, Eliza) Borel classification via quasi-metrics. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 183–192. (Summary) **98d:54069** 54H05 (26A21, 54E35)

Künzle, Alfred F. Singular Hamiltonian systems and symplectic capacities. (English summary) *Singularities and differential equations* (*Warsaw*, 1993), 171–187, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Karl Friedrich Siburg) **98e:58079** 58F05 (34A60, 58C20)

— Symplectic capacities in manifolds. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 77–87, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Jean-Claude Sikorav) **98i:58091** 58F05

— *see also* **Symplectic singularities and geometry of gauge fields, 98b:58006**

Künzle, H. P. Einstein-Yang-Mills equations on cosmological space-times. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 285–288. (Paulo Moniz) **98a:53107** 53C80 (81T13, 83C05)

— (*with* Darian, Bahman) Einstein-Yang-Mills cosmology with Taub-type symmetry. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 211–216, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Paulo Moniz) **98d:83009** 83C15 (53C80, 81T13, 81T20, 81V17)

— (*with* Darian, Bahman) Cosmological Einstein-Yang-Mills equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4696–4713. (Jürgen Tolksdorf) **98h:53042** 53C07 (53C80, 81T13, 83C20)

Kuo, C.-C. Jay (*with* Chuang, Gene C.-H.) Cartoon animation and morphing with wavelet curve descriptor. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 423–447. 94A12 (94A11)

Kuo, Chang-Min (*with* Yang, Wei-Tzen) From the sides of firm to manage the salesforce compensation plans. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 57–68. 90A50

Kuo, Cheng-Ming (*with* Yeh, Tzuoo-Hawn; Lei, Chin-Laung; Yen, Hsu-Chun) Competitive analysis of on-line disk scheduling. (English summary) *Algorithms and computation* (*Osaka*, 1996), 356–365, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68N25

Kuo, Chi-Wen (*with* Lin, Kuan-Jen; Lin, Chen-Shang) Synthesis of hazard-free asynchronous circuits based on characteristic graph. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1246–1263. 94C15

Kuo, Chung-Cheng On the solvability of a Neumann boundary value problem at resonance. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 464–470. (Summary) **98m:35064** 35J65

— Solvability of a nonlinear two-point boundary value problem at resonance. *J. Differential Equations* **140** (1997), *no.* 1, 1–9. (Tetsutaro Shibata) **98f:34024** 34B15 (34L30)

Kuo, Chung-Feng Jeffrey (*with* Lin, Shu-Chyuarn) Modal analysis and control of a rotating Euler-Bernoulli beam. I. Control system analysis and controller design. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 75–92. 93C20 (73K05, 73K50)

— (*with* Lin, Shu-Chyuarn) Modal analysis and control of a rotating Euler-Bernoulli beam. II. Residual vibration control. (English summary) *Math. Comput. Modelling* **27** (1998),

no. 5, 93–97. 93C20 (73K05, 73K50)

Kuo, Chung-I Quantum fluctuations of scalar field in conical space. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 236–242. (Summary) **98d:81066** 81T20 (83C47)

Kuo, Dah-Chyi (*with* Ball, Kenneth S.) Taylor-Couette flow with buoyancy: onset of spiral flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2872–2884. (Summary) **98g:76031** 76E10 (76C99)

Kuo, David (*with* Chang, Gerard J.; Kwong, Y. H. Harris) Cordial labeling of mK_n. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 121–131. (Summary) **98a:05127** 05C78

— (*with* Yan, Jing-Ho; Lih, Ko-Wei; Chang, Gerard J.) Signed degree sequences of signed graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 111–117. (Tian Xing Yao) **98i:05160** 05C99 (05C78)

Kuo, Hui-Hsiung (*with* Kubo, Izumi) Fourier transform and cylindrical Hida distributions. (English summary) *Stochastic processes*, 191–200, *Springer, New York*, 1993. (T. Hida) **98c:46081** 46F25 (60H99)

— A characterization of Hida measures. *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 147–151, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Fred Espen Benth) **98g:60083** 60G20 (46F25, 46G12)

— Stochastic integration via white noise analysis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 317–328. (*see* **98i:00027**) 60H05 (46G12)

Kuo, Hung-Ju (*with* Trudinger, Neil S.) Evolving monotone difference operators on general space-time meshes. *Duke Math. J.* **91** (1998), *no.* 3, 587–607. (Wei Zhong Dai) **98m:65144** 65M06 (35K10, 39A70, 65M12)

Kuo, Tei-Wei (*with* Mok, Aloysius K.) Incremental reconfiguration and load adjustment in adaptive real-time systems. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1313–1324. (Summary) **98h:68023** 68M20

Kuo, Tsang-Hai (*with* Tsai, Chiung-Chiou) On the solvability of solutions to some quasilinear elliptic problems. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 547–553. (Summary) **98j:35064** 35J65

Kuo, Tzee-Char Some ideas of René Thom and their outcomes. (English summary) *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 73–77, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Enrique Outerelo Dominguez) **98i:58034** 58C27 (58A20, 58A35)

— (*with* Kobayashi, Masanori) Uniqueness of unibranched curve in $\mathbf{R}^2$ up to simple blowings up. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 6, 97–99. (Lee Rudolph) **98i:14055** 14P25 (26C05, 32B10)

— (*with* Milman, Pierre D.) On arc-analytic trivialization of singularities. (English summary) *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 38–42, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (*see* **98i:32001**) 32S15 (58C27)

— *see also* **Koike, Satoshi**, **98m:58013**

Kuo, Way (*with* Chien, Wei-Ting Kary) A nonparametric Bayes approach to decide system burn-in time. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 655–671. 90B25

Kuo, Wen-Chung (*with* Laih, Chi-Sung) Speeding up the computations of elliptic curves cryptoschemes. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 29–36. (Summary) **98b:94013** 94A60 (14H52, 68P25)

Kuo, Yuh-Kwo (*with* Lai, Tsung-Chyan) Minimizing total tardiness for single machine sequencing. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 3, 316–321. (Summary) **98b:90071** 90B35

chan Kuok Bin' *see* **Chan Kuok Bin'**

Kupeli, D. N. (*with* García-Río, Eduardo; Vázquez-Abal, M. Elena) On a problem of Osserman in Lorentzian geometry. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 85–100. (Hui Li Liu) **98a:53099** 53C50

— (*with* García-Río, Eduardo) A characterization of the local structure of static stars. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 87–96. (A. K. Guts) **98a:53032** 53B30 (53C50, 83C99)

Kuper, Jan Usability: formalising (un)definedness in typed lambda calculus. (English summary) *Computer science logic* (*Kazimierz*, 1994), 76–90, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:03017** 03B40

— Productive abstraction for sets. (English summary) *Truth: logic, representation and the world* (*Spanish*) (*Santiago de Compostela*, 1996), 263–272, *Cursos Congr. Univ. Santiago de Compostela*, 88, *Univ. Santiago de Compostela, Santiago de Compostela*, 1996. (Pierre Kerszberg) **98c:03013** 03A05

— On the Jacopini technique. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 101–123. (Benedetto Intrigila) **98m:03029** 03B40

Kuper, K. *see* **Cooper, Colin**

Kuperberg, Greg Another homogeneous, non-bihomogeneous Peano continuum. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 4, 457–460. (Wayne Lewis) **98c:54028** 54F15 (54E40)

— Jaeger's Higman-Sims state model and the B_2 spider. (English summary) *J. Algebra* **195** (1997), *no.* 2, 487–500. (Summary) **98h:57020** 57M25

Kuperberg, W. Tiling the solid torus, the 3-cube and the 3-sphere with congruent knotted tori. (English summary) *Intuitive geometry* (*Budapest*, 1995), 399–406, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Colin C. Adams) **98i:52031** 52C22 (57N12, 57Q99)

Kuperin, Yu. A. (*with* Antoniou, Ioannis E.; Dmitrieva, L. A.; Mel'nikov, Yu. B.[1]) Resonances and the extension of dynamics to rigged Hilbert space. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 399–425. (Alexander A. Kiselev) **98k:81073** 81Q99 (47A70, 47N50, 81U99)

— (*with* Levin, S. B.; Mel'nikov, Yu. B.[1]; Yarevskiĭ, E. A.) Application of extension theory to antiproton-nucleon systems with continuous set of resonances in annihilation channel. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 559–570. (Summary) **98i:81276** 81V35 (47N50)

— (*with* Dmitrieva, L. A.; Rudin, G. E.) Extended class of Dubrovin's equations related to the one-dimensional quantum three-body problem. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 571–585. (Ghias Hachem) **98m:81200** 81U10 (14K25)

— (*with* Dmitrieva, L. A.; Mel'nikov, Yu. B.[1]) One-dimensional discrete Stark Hamiltonian and resonance scattering by an impurity. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3087–3099. (Mihai Pascu) **98f:81069** 81Q15 (47B25, 47B39, 47N50, 81U05)

— *see also* **Computational tools of complex systems**, **98e:58002**; **98g:00016** *and* **98i:00017**

Kupershmidt, B. A. On a sequence of continued fractions of Ramanujan and their q-analogs. Algebraic geometry, 4. *J. Math. Sci.* **81** (1996), *no.* 3, 2589–2598. (Bruce C. Berndt) **98e:11009** 11A55 (11B65, 33D15, 39A10, 40A15)

Kupferman, Orna (*with* Safra, Shmuel; Vardi, Moshe Y.) Relating word and tree automata. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 322–332, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (Summary) **98f:68188** 68Q68 (03D05, 68Q60)

— (*with* Henzinger, Thomas A.; Vardi, Moshe Y.) A space-efficient on-the-fly algorithm for real-time model checking. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 514–529, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60

— (*with* Harel, David; Vardi, Moshe Y.) On the complexity of verifying concurrent transition systems. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 258–272, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **98i:68189** 68Q60 (68Q10, 68Q25)

— (*with* Henzinger, Thomas A.; Rajamani, Sriram K.) Fair simulation. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 273–287, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q60

— (*with* Holzmann, Gerard J.) Not checking for closure under stuttering. (English summary) *The Spin verification system* (*New Brunswick, NJ*, 1996), 17–22, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 32, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:68182**) 68Q60 (68N15, 68Q22)

Kupferman, Raz (*with* Tadmor, Eitan) A fast, high resolution, second-order central scheme for incompressible flows. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 10, 4848–4852. (Summary) **98d:76119** 76M20 (65M06, 76D05)

Kupiainen, A. (*with* Bernard, Denis; Gawędzki, Krzysztof) Anomalous scaling in the N-point functions of a passive scalar. (English summary) *Phys. Rev. E* (3) **54** (1996), *no.* 3, 2564–2572. (Summary) **98a:82070** 82C05 (82C31)

— (*with* Bricmont, J.) Infinite-dimensional SRB measures. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 18–33. (Aernout C. D. van Enter) **98i:82040** 82C20 (58F11, 58F15, 82B20)

Kupitz, Y. S. (*with* Martini, Horst) Geometric aspects of the generalized Fermat-Torricelli problem. (English summary) *Intuitive geometry* (*Budapest*, 1995), 55–127, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (G. D. Chakerian) **98g:52015** 52A40

Kupka, Ivan A. K. (*with* El-Alaoui, El-H. Ch.; Gauthier, J. P.) Small sub-Riemannian balls on $\mathbf{R}^3$. (English summary) *J. Dynam. Control Systems* **2** (1996), *no.* 3, 359–421. (Claudio Gorodski) **98a:53043b** 53C15 (49L05, 53C20)

— Existence of quasicontinuous selections for the space $2^{\mathbf{R}^n}$. (English summary) *Math. Bohem.* **121** (1996), *no.* 2, 157–163. (Summary) **98e:54022** 54C65 (54C08)

— (*with* Bonnard, B.) Generic properties of singular trajectories. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 167–186. (Fernand Pelletier) **98f:93004** 93B27 (58E25, 93C10)

— Géométrie sous-riemannienne. (French summary) [Sub-Riemannian geometry] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 817, 5, 351–380. (Claudio Gorodski) **98i:53060** 53C23 (53C22, 58A12)

— (*with* Agrachev, A. A.; Bonnard, B.; Chyba, M.) Sub-Riemannian sphere in Martinet flat case. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 377–448 (*electronic*). (Fernand Pelletier) **98i:53059** 53C22 (53C20)

Kupka, Joseph A quadratic trio. *Amer. Math. Monthly* **104** (1997), *no.* 8, 755–757. 26A06

Kuplinsky, Julio (*with* Hansen, Pierre; de Werra, Dominique) Mixed graph colorings. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 1, 145–160. (Sheshayya A. Choudum) **98e:05038** 05C15 (90B35)

Kuppe, M. (*with* Bröcker, Ludwig; Scheufler, W.) Inner metric properties of 2-dimensional semi-algebraic sets. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 51–78. (Akhil Ranjan) **98m:53084** 53C45 (14P10)

Kupper, Lawrence L. (*with* Lyles, Robert H.) A detailed evaluation of adjustment methods for multiplicative measurement error in linear regression with applications in occupational epidemiology. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 1008–1025. 62P10

— (*with* Lyles, Robert H.) UMVU estimators for the population mean and variance based on random effects models for lognormal data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 795–818. 62F10

Küpper, Tassilo (*with* Kunze, Markus; You, Jian Gong) On the application of KAM theory to discontinuous dynamical systems. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 1–21. (Luigi Chierchia) **98i:58202** 58F27 (34A37, 34C11, 70K99)

— (*with* Huang, Ming You; Masbaum, Norbert) Computation of invariant tori by the Fourier methods. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 918–942. (Arnaud Debussche) **98f:65084** 65L99 (34C30, 65N99, 65T20)

— (*with* Kunze, Markus) Qualitative bifurcation analysis of a non-smooth friction-oscillator model. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 1, 87–101. (Julyan Cartwright) **98a:34034** 34C15 (34C23, 58F14, 70K40)

Kurakin, L. G. (*with* Yudovich, V. I.) Bifurcation of the branching of a cycle in n-parameter family of dynamic systems with cosymmetry. (English summary) *Chaos* **7** (1997), *no.* 3, 376–386. (Summary) **98h:58128** 58F14 (34C05, 34C23)

— (*with* Yudovich, V. I.) Bifurcation of the generation of a cycle in a system with cosymmetry. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 346–349; *translation in Dokl. Phys.* **43** (1998), *no.* 1, 65–68. (From the text) **98m:34055** 34C05 (34C23, 58F14)

Kuramoto, Yoshiki Phase- and center-manifold reductions for large populations of coupled oscillators with application to non-locally coupled systems. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 789–805. (*see* **98f:58005**) 58F40 (34C15, 58F30, 92C20)

— *see also* **Nonlinear dynamics and chaos**, **98f:58005** *and* **98f:58006**

Kuranishi, Masatake CR structures and Fefferman's conformal structures. (English summary) *Forum Math.* **9** (1997), *no.* 2, 127–164. (Introduction) **98h:32028** 32F25 (32C16)

Kurano, Kazuhiko The use of the theory of tight closure in arithmetic Macaulayfication. (Japanese) Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 145–152. (*see* **98e:13002**) 13A35

— On Macaulayfication obtained by a blow-up whose center is an equi-multiple ideal. With an appendix by Kikumichi Yamagishi. *J. Algebra* **190** (1997), *no.* 2, 405–434. (Manfred Herrmann) **98f:13004** 13A30 (13A35, 13H10)

Kurano, Masami (*with* Kadota, Yoshinobu; Yasuda, Masami) A utility deviation in discounted Markov decision processes with general utility. (English summary) *Bull. Inform. Cybernet.* **28** (1996), *no.* 1, 71–78. (D. Kalin) **98a:90129** 90C40

— (*with* Kadota, Yoshinobu; Yasuda, Masami) A utility deviation in discounted Markov decision processes with general utility. (English summary) Optimization theory in mathematical models (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 947 (1996), 22–30. (Gerhard Hübner) **98e:90210** 90C40 (90A10)

— (*with* Huang, Youqiang) The LP approach in average reward MDPs with multiple cost constraints: the countable state case. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 33–47. (Andris Abakuks) **98b:90165** 90C40

— (*with* Song, Jinjie; Hosaka, Masanori; Huang, Youqiang) Controlled Markov set-chains with discounting. (English summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 136–146. (*see* **98h:90004**) 90C40

— (*with* Yasuda, Masami; Nakagami, J.; Yoshida, Yuji) A fuzzy relational equation in dynamic fuzzy systems. (English summary) Optimization methods for mathematical systems with uncertainty (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 978 (1997), 183–189. (*see* **98h:90004**) 54A40 (04A72, 54H20)

Kurasov, Pavel Scattering matrices with finite phase shift and the inverse scattering problem. (English summary) *Inverse Problems* **12** (1996), *no.* 3, 295–307. (Summary) **98a:34097** 34L25 (34A55, 34L40, 47E05)

— On the Coulomb potentials in one dimension. (English summary) *J. Phys. A* **29** (1996), *no.* 8, 1767–1771. (Summary) **98k:81045a** 81Q05 (81U05)

— (*with* Albeverio, Sergio) Rank one perturbations of not semibounded operators. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 4, 379–400. (Hendrik S. V. de Snoo) **98k:47025** 47A55 (47A10, 47B25, 47E05, 47N50)

— (*with* Albeverio, Sergio) Rank one perturbations, approximations, and selfadjoint extensions. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 152–169. (V. D. Koshmanenko) **98g:47011** 47A55 (47B25, 47F05, 47N50)

— Response to: "Comment on: 'On the Coulomb potential in one dimension'" [J. Phys. A **30** (1997), no. 15, 5579–5581; MR 98k:81045b] by W. Fischer, H. Leschke and P. Müller. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5583–5589. (Summary) **98k:81045c** 81Q05 (81U05)

— (*with* Boman, J.) Finite rank singular perturbations and distributions with discontinuous test functions. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1673–1683. (Horst Behncke) **98g:47012** 47A55 (34L40, 47E05, 81Q15)

— *see also* **Fischer, Werner et al., 98k:81045b**

Kurata, Hiroshi (*with* Kariya, Takeaki) Least upper bound for the covariance matrix of a generalized least squares estimator in regression with applications to a seemingly unrelated regression model and a heteroscedastic model. (English summary) *Ann. Statist.* **24** (1996), *no.* 4, 1547–1559. (Luis Firinguetti) **98b:62163** 62M10 (62J05, 62P20)

Kurata, Kazuhiro Local boundedness and continuity for weak solutions of $-(\nabla - ib)^2 u + Vu = 0$. *Math. Z.* **224** (1997), *no.* 4, 641–653. (Xi Ting Liang) **98e:35045** 35J10 (35B05, 35D10)

Kurata, Toshihiko (*with* Takahashi, Masako) Decidable properties of intersection type systems. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 297–311, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40 (03B25, 68N15, 68Q55)

Kurata, Yoshiki (*with* Koike, Kazutoshi) Dual-bimodules and finitely cogenerated modules. *Math. J. Okayama Univ.* **37** (1995), 91–98 (1996). (Edward S. Letzter) **98d:16008** 16D90

Kuratov, V. V. (*with* Gromov, N. A.; Kostyakov, I. V.) Quantum orthogonal Cayley-Klein groups in Cartesian basis. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 33–41. (Mariano A. del Olmo) **98k:81111** 81R50 (17B37)

— (*with* Gromov, N. A.; Kostyakov, I. V.) The quantum symplectic Cayley-Klein groups. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 177–182. (Nicolás Andruskiewitsch) **98b:81097** 81R50 (16W30, 17B37)

— (*with* Gromov, N. A.; Kostyakov, I. V.) Contractions of integrable equations. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 183–188. (Valery V. Obukhov) **98b:58073** 58F07 (17B68)

Kuratsubo, Shigehiko On pointwise convergence of Fourier series of indicator function of n-dimensional ball. *Sci. Rep. Hirosaki Univ.* **43** (1996), *no.* 2, 199–208. (G. V. Welland) **98e:42010** 42B05 (42B08)

Kuratsuji, Hiroshi (*with* Yabu, Hiroyuki) Dynamics of a superfluid vortex and the Magnus force. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1585–1599. (Summary) **98i:82072** 82D50 (76A99, 76C99)

Kurbanmuradov, O. A. (*with* Ésenamanov, G. M.) On a functional relationship between Euler and Lagrange statistical characteristics of local-isotropic turbulence. (Russian) *Analysis and discrete mathematics* (*Russian*), 88–96, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (Radyadour Kh. Zeytounian) **98m:76084** 76F05 (76M35)

— Stochastic Lagrangian models for two-particle relative dispersion in high-Reynolds number turbulence. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 1, 37–52. (Yong Nian Huang) **98e:76045** 76F05 (60H10, 76M35, 82C31, 82C80)

— (*with* Sabelfeld, K. K.) Stochastic Lagrangian models for two-particle motion in turbulent flows. *Monte Carlo Methods Appl.* **3** (1997), *no.* 1, 53–72. (Yong Nian Huang) **98e:76046** 76F05 (60G60, 76M35, 82C31, 82C80)

— (*with* Sabelfeld, K. K.; Koluhin, D.) Stochastic Lagrangian models for two-particle motion in turbulent flows. Numerical results. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 3, 199–223. (Summary) **98h:76070** 76F99 (76M35)

— On the qualitative theory of ordinary differential equations with random parameters. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 847–855, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 734–741. (D. Bobrowski) **98i:60054** 60H10 (34A12, 34C99, 34F05)

Kurbanov, V. M. On the Hausdorff-Young inequality for systems of root vector functions of an nth order differential operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 358–367, 430; *translation in Differential Equations* **33** (1997), *no.* 3, 355–365. (Summary) **98k:34136** 34L10

Kurbatov, V. G. Stability of neutral type equations in differential phase spaces. (English summary) *Funct. Differ. Equ.* **3** (1995), *no.* 1-2, 99–133. (Xiao Xin Liao) **98f:34113** 34K20 (34K40)

Kurchanov, P. F. (*with* Kulikov, Vik. S.) Complex algebraic varieties: periods of integrals and Hodge structures [MR 91k:14010]. *Algebraic geometry, III*, 1–217, 263–270, *Encyclopaedia Math. Sci.*, 36, *Springer, Berlin*, 1998. (*see* **98l:14003**) 14C30 (14D07, 32G20, 32J25)

Kurchenko, A. A. Some inequalities for the Orlicz norm of a linear form of independent pre-Gaussian random variables. (English summary) *Theory Probab. Math. Statist. No.* 50 (1995), 99–102. (Summary) **98a:60019** 60E15

Kurdachenko, Leonid A. Artinian modules over groups of finite rank and the weak minimal condition for normal subgroups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 303–335 (1996). (Silvana Franciosi) **98h:20041** 20E15 (20C07)

— (*with* Kalashnikova, N. V.) Groups which are dual to layer-finite. *Infinite groups* 1994 (*Ravello*), 103–109, *de Gruyter, Berlin*, 1996. (A. Peluso) **98i:20030** 20E26

— On normal closures of elements in generalized FC-groups. *Infinite groups* 1994 (*Ravello*), 141–151, *de Gruyter, Berlin*, 1996. (Martyn R. Dixon) **98m:20041** 20F24 (20E25)

— (*with* Petrenko, B. V.; Subbotin, Igor Ya.) On generalized hypercenters in Artinian modules. *Comm. Algebra* **25** (1997), *no.* 4, 1023–1046. (M. J. Tomkinson) **98c:20066** 20F19 (16P20)

Kurdila, Andrew J. *see* **Multiscale wavelet methods for partial differential equations, 98d:65006**

Kurdyka, Krzysztof (*with* Orro, Patrice) Distance géodésique sur un sous-analytique. (French summary) [Geodesic distance on a subanalytic set] Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 173–182. (Wiesław Pawłucki) **98m:32008** 32B20 (14P15)

— (*with* Pawłucki, Wiesław) Subanalytic version of Whitney's extension theorem. (English summary) *Studia Math.* **124** (1997), *no.* 3, 269–280. (Patrice Orro) **98i:32008** 32B20 (14P10, 26B05)

Kurdyumov, Vadim N. (*with* Liñán, Amable) Laminar free convection induced by a line heat source, and heat transfer from wires at small Grashof numbers. (English summary) *J. Fluid Mech.* **362** (1998), 199–227. 76R10

Kurek, Jan (*with* Doupovec, Miroslav) Some geometrical constructions with $(0,2)$-tensor fields on higher order cotangent bundles. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 43–50. (Jan Slovák) **98a:58005** 58A20 (53A55)

— (*with* Doupovec, Miroslav) Liftings of covariant $(0,2)$-tensor fields to the bundle of k-dimensional 1-velocities. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 111–121. (Frans Cantrijn) **98f:58012** 58A20

— (*with* Doupovec, Miroslav) Natural operations of Hamiltonian type on the cotangent bundle. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 81–86. (Manuel de León) **98h:58060** 58F05

Kurek, Jerzy E. New results on the separation of matrix eigenvalues and the clustering of matrix elements. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 564–567. (Ian Petersen) **98e:93074** 93D09

Kurepa, Djuro R. *see* **Symposium: Kurepa, Djuro R., 98a:00010** *and* **Mijajlović, Žarko, (98a:00010)**

Kurel, Miroslav Natural lifts of classical linear connections to the cotangent bundle. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 181–187. (Vadim V. Shurygin) **98i:53031** 53C05 (58A20)

Kurgan, E. Regularisation of nearly singular integrals in the current density field problems. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 3, 563–574. 78–08 (78A99)

Kurganov, Alexander (*with* Rosenau, Philip) Effects of a saturating dissipation in Burgers-type equations. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 753–771. (Denis Serre) **98d:35194** 35Q53 (35L65, 76D99)

— (*with* Tadmor, Eitan) Stiff systems of hyperbolic conservation laws: convergence and error estimates. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1446–1456. (Summary) **98j:35117** 35L65

— (*with* Levy, Doron; Rosenau, Philip) On Burgers-type equations with nonmonotonic dissipative fluxes. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 443–473. (Denis Serre) **98j:35158** 35Q53

Kurganskiĭ, A. N. (*with* Grunskiĭ, I. S.) Indistinguishability of finite automata with restricted behavior. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 5, 58–72, 188; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 5, 655–663 (1997). (A. D. Korshunov) **98c:68140** 68Q68

Kurganskiĭ, M. V. (*with* Pisnichenko, I. A.) Potential vortex as a climate characteristic of the atmosphere. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 104–107. 86A10 (76C05)

Kuri, Joy (*with* Kumar, Anurag) On the optimal control of arrivals to a single queue with arbitrary feedback delay. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 1–16. (Summary) **98h:60137** 60K25

Kuribayashi, Katsuhiko On the vanishing problem of string classes. (English summary) *J. Austral. Math. Soc. Ser. A* **61** (1996), *no.* 2, 258–266. (Donald M. Davis) **98a:57037** 57R20 (55P35)

— (*with* Yamaguchi, Toshihiro) The cohomology algebra of certain free loop spaces. (English summary) *Fund. Math.* **154** (1997), *no.* 1, 57–73. (Donald W. Kahn) **98j:55007** 55P35 (55N35, 55P62, 55R20, 55T20)

Kuribayashi, Yukio Fourier transforms using nonstandard analysis. (Japanese) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 132–144. (*see* **98e:00020**) 42A38 (03H05)

Kurihara, M. *see* **Kurihara, Mitsunobu**

Kurihara, Masahito *see* **Taya, Hisao, 98i:11092**

Kurihara, Mitsunobu (*with* Yui, S.) An existence theorem of exact solutions concerning approximate solutions for a boundary value problem of differential-difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2155–2159. (*see* **98i:00030**) 34K10

— (*with* Yui, S.; Hosono, Kenji) Approximate solution methods for quasiperiodic solutions to functional-differential equations. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 92–95. (*see* **98h:00040**) 34K15 (34C27)

Kuriki, Rie (*with* Kitazawa, Yoshihisa; Shigura, Katsumi) BRST cohomology and renormalizability of quantum gravity near two dimensions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 25, 1871–1878. (Summary) **98g:81134** 81T15 (81T70, 83C45)

— (*with* Gomis, Joaquim; Kamimura, Kiyoshi) Nambu-Goldstone fields, anomalies and WZ terms. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 465–485. (Liviu Tătar) **98e:81163** 81T50 (81T13)

— (*with* Igarashi, Yuji; Itoh, Katsumi; Kamimura, Kiyoshi) Canonical equivalence between super D-string and type IIB superstring. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **98k:81220** 81T30 (83E30)

Kuriki, Satoshi (*with* Takemura, Akimichi) Asymptotic expansion of null distribution of likelihood ratio statistic in multiparameter exponential family to an arbitrary order. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 244–255, *World Sci. Publishing, River Edge, NJ*, 1996. (Arup Bose) **98k:62023** 62F05 (62E20)

— (*with* Takemura, Akimichi) A proof of independent Bartlett correctability of nested likelihood ratio tests. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 4, 603–620. (N. Giri) **98h:62102** 62H15 (62F03)

Kurilić, Miloš S. The space of functions with a limit at each point. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 151–159. (Summary) **98e:46034** 46E25 (46J10, 54C30, 54C35)

— (*with* Grulović, Milan Z.) L_f-Horn sentences and reduced products. (English summary) *Publ. Math. Debrecen* **48** (1996), *no.* 1-2, 175–190. (Summary) **98g:03086** 03C40 (03C65, 03C85, 54B10, 54B15)

— (*with* Grulović, Milan Z.) On separatedness of reduced ideal-products. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 921–927. 54B10 (54D10)

— (*with* Budinčević, Mirko) A family of strict and discontinuous triangular norms. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 381–384. (Summary) **98k:04002** 04A72

Kurina, G. A. (*with* Ovezov, Kh. A.) Asymptotic analysis of matrix-singularly perturbed linear-quadratic optimal control problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 12, 63–74; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 12, 60–71 (1997). (Đordan I. Slavov) **98b:49022** 49K40 (34E15, 34H05, 49N10, 93C73)

Kuriyama, Atsushi (*with* da Providência, João; Tsue, Yasuhiko; Yamamura, Masatoshi) Three forms of boson expansions for the su(2)-spin system and their c-number counterparts. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 2, 387–406. (Dennis Bonatsos) **98c:81078** 81R05 (22E70, 81V35)

Kůrka, Petr A Riemannian geometry for thermodynamic state space. (English summary) *Czechoslovak J. Phys.* **42** (1992), *no.* 9, 849–859. (Bing Hong Wang) **98f:80001** 80A05 (58B20, 80A20, 80A30)

— Language complexity of unimodal systems. (English summary) *Complex Systems* **10** (1996), *no.* 4, 283–300. (François Blanchard) **98k:58081** 58F03 (54H20, 68Q45)

— Languages, equicontinuity and attractors in cellular automata. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 417–433. (Doris Fiebig) **98b:58092** 58F08 (68Q80)

— On topological dynamics of Turing machines. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 203–216. (Fred W. Roush) **98c:58082** 58F08 (54H20, 68Q80)

Kurkina, A. V. Componentwise estimates for the spectral function of a selfadjoint extension on the line **R** of the Schrödinger operator with a matrix potential that satisfies the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 6, 759–768, 861; *translation in Differential Equations* **32** (1996), *no.* 6, 767–775 (1997). (Victor S. Rykhlov) **98b:47058** 47E05 (34L05)

— Componentwise equiconvergence, uniform on the whole line, with the Fourier integral of the spectral expansion corresponding to the Schrödinger operator with a matrix potential satisfying the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 875–879, 1004; *translation in Differential Equations* **32** (1996), *no.* 7, 879–883 (1997). (From the text) **98i:34126** 34L10 (34L40, 47E05)

— (*with* Il′in, Vladimir Aleksandrovich[1]) Spectral expansions that correspond to the Liouville operator generated by the Schrödinger operator with a matrix potential satisfying the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 324–328, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 321–325. (Summary) **98k:34135** 34L10 (47E05)

Kurkina, E. S. (*with* Elenin, G. G.) Bifurcation analysis of a nonideal model for the (NO + CO)/Pt(100) reaction in a continuously stirred reactor. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 11, 41–58. 92E20 (34C23)

— (*with* Makeev, A. G.) Bifurcation analysis of the mathematical model of the NO + CO/Pt(100) reaction. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 326–347. (*see* **98i:00039**) 92E20

— (*with* Kalachinskaya, I. S.; Elenin, G. G.) Stationary dissipative structures in three-component systems of reaction-diffusion type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 54–62. 35K57 (92E20)

Kurkova, I. A. (*with* Menshikov, M. V.) Greedy algorithm, $\mathbf{Z}^1$ case. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 243–259. (Günter Last) **98j:60131** 60K25 (60J27)

Kurmaji, D. A. (*with* Shahruz, S. M.) Vibration suppression of a non-linear axially moving string by boundary control. *J. Sound Vibration* **201** (1997), *no.* 1, 145–152. (From the introduction) **98m:93062** 93C20 (35Q72, 73D35, 73K03, 73K50)

Kurmyshev, E. V. (*with* Cervantes, M. A.) Comparative analysis of Lummer-Gehrcke and Fabry-Perot interferometers. (English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 6, 1010–1020. 78A45

Kurochkin, S. V. Numerical determination of a boundary condition near a singularity. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 543–552. (Summary) **98b:65086** 65L10 (34B05, 65L20)

Kurochkin, V. M. Algorithms for computing attributes in attribute grammars. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 3, 3–8; *translation in Program. Comput. Software* **21** (1995), *no.* 3, 109–112. 68Q50 (68Q55)

Kuroda, Hideo (*with* Popescu, Daniel; Imamura, Kousuke; Yan, Hong) Fast block matching method for fractal image coding. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 8, 1543–1553. 68U10

Kuroda, Mitsuru[2] A quadratic form $\mathrm{tr}(AX^2)$ and its application. (English summary) *Linear Algebra Appl.* **266** (1997), 181–198. (Summary) **98f:11132** 11T30

Kuroda, Satoru Counting small sets in weak bounded arithmetic. (English summary) Ordinal numbers in proof theory (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 976 (1997), 27–33. (*see* **98f:03001**) 03D15 (03F30, 68Q15)

Kuroe, Yasuaki (*with* Nishimura, Tsuyoshi[2]; Mori, Takehiro; Kokame, H.) A strategy for checking absolute stability of interval Lur′e systems. (English summary) *Mem. Fac. Engrg. Design Kyoto Inst. Tech. Ser. Sci. Tech.* **46** (1997), 25–35. 93D05 (93B40)

— (*with* Mori, Yoshihiro; Mori, Takehiro) A class of continuous-time linear systems having a common Lyapunov function: systems whose coefficient matrices are simultaneously triangularizable. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 5, 261–276. 93D10

Kuroiwa, Daishi (*with* Kimura, Yutaka; Tanaka, Kensuke) An equilibrium theorem for subdifferential. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 301–312. (Abderrahim Jourani) **98h:49017** 49J52 (49K27, 90C48)

— (*with* Tanaka, Tamaki; Trương Xuân Đức Hà) On cone convexity of set-valued maps. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1487–1496. (*see* **98i:00029**) 90C26 (90C29)

— (*with* Tanaka, Tamaki) Cone convexity of set-valued maps. (English summary) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 145–154. (*see* **98g:90004**) 90C29 (90C25)

— Some criteria in set-valued optimization. (English summary) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 171–176. (*see* **98g:00027**) 90C29 (49J52)

Kurokawa, Keiko (*with* Ban, Masashi; Momose, Rei; Hirota, Osamu) Optimum measurements for discrimination among symmetric quantum states and parameter estimation. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1269–1288. (Koichiro Matsuno) **98h:81011** 81P15

Kurokawa, Kouichi (*with* Fujiyoshi, Akio; Kasai, Takumi) Multilevel tree transformation machines. (Japanese) Research on models of computation and on computational complexity (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 950 (1996), 214–220. (*see* **98a:68008**) 68Q68

Kurokawa, Takahide Hypersingular integrals and Riesz potential spaces. (English summary) *Hiroshima Math. J.* **26** (1996), *no.* 3, 493–514. (Hiroaki Aikawa) **98c:31005** 31B15 (42B20, 46E35)

— On characterizations of Riesz potential spaces. *Sci. Rep. Kagoshima Univ. No.* 45 (1996), 79–88. (B. S. Rubin) **98a:46045** 46E35

Kurokawa, Takakazu (*with* Takefuji, Yoshiyasu) BIBD problems. *Neural computing for optimization and combinatorics*, 121–135, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68179**) 05B05

Kurokawa, Yasuhiro Singularities for projections of contour lines of surfaces onto planes. (English summary) Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 92–104. (Ali Lari-Lavassani) **98g:58012** 58C27

Kuroki, Gen The formulation of conformal field theory. (Japanese) Representation theory of groups and analysis on homogeneous spaces (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 929 (1995), 103–134. (*see* **97a:00035**) 17B68 (81R10)

Kuroki, Nobuaki Rough ideals in semigroups. (English summary) *Inform. Sci.* **100** (1997), *no.* 1-4, 139–163. (J. L. Chrislock) **98i:20060** 20M12

— (*with* Wang, Paul P.) A strategy of the extension of the concept. *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 775–783. 20A99

— (*with* Mordeson, John N.) Successor and source functions. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 173–182. (Janusz J. Szuster) **98d:68147** 68Q68 (03E72)

— (*with* Mordeson, John N.) Structure of rough sets and rough groups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 183–191. (H. V. Kumbhojkar) **98c:03111** 03E72 (68T99)

— Rough sets and convex subsets in a linear space. (English summary) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 42–57. (Athanasios K. Katsaras) **98m:15003** 15A03 (04A72, 46B20, 46S40)

Kuroki, Ryuzo Growth and debt accumulation. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 399–403, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 90A16

Kuroki, Tsunehide (*with* Asatani, Takashi; Okawa, Yuji; Sugino, Fumihiko; Yoneya, Tamiaki) T-duality transformation and universal structure of noncritical string field theory. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5083–5111. (Yolanda Lozano) **98k:81190** 81T30

— (*with* Okawa, Yuji; Sugino, Fumihiko; Yoneya, Tamiaki) Manifestly T-duality symmetric matrix models. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6429–6437. (Summary) **98d:81091** 81T30

Kurokiba, Masaki (*with* Ebihara, Yukiyoshi; Fukuda, Hajime) On degenerate parabolic equations with quadratic convection. (English summary) *Fukuoka Univ. Sci. Rep.* **26** (1996), *no.* 2, 79–87. (Alexander L. Gladkov) **98a:35077** 35K65 (35K55, 35Q35)

Kurosawa, Kaoru (*with* Obana, Satoshi; Ogata, Wakaha) t-cheater identifiable (k, n) threshold secret sharing schemes. (English summary) *Advances in cryptology—CRYPTO '95 (Santa Barbara, CA, 1995)*, 410–423, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98c:94016** 94A60

— (*with* Johansson, Thomas; Stinson, Douglas R.) Almost k-wise independent sample spaces and their cryptologic applications. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 409–421, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

— (*with* Satoh, Takashi) Design of SAC/PC(l) of order k Boolean functions and three other cryptographic criteria. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 434–449, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60 (68P25)

Kurose, Hideki (*with* Nakazato, Hiroshi) Geometric construction of $*$-representations of the Weyl algebra with degree 2. (English summary) *Publ. Res. Inst. Math. Sci.* **32** (1996), *no.* 4, 555–579. (Nicolaas P. Landsman) **98b:81110** 81S05 (46N50, 47D40, 47N50)

Kurosu, Yasuo A reduction method of document image with thin line and dithered image preservation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1165–1175. 68U10

Kurotschka, Viktor G. (*with* Schwabe, Rainer) The reduction of design problems for multivariate experiments to univariate possibilities and their limitations. (English summary) *Research developments in probability and statistics*, 193–204, *VSP, Utrecht*, 1996. (Author's review (R.S.)) **98e:62112** 62K05

Kurpınar, Emine (*with* Guseinov, Gusein Sh.) The boundedness of solutions of second-order difference equations. (English summary) *Indian J. Math.* **37** (1995), *no.* 2, 113–122 (1996). (From the introduction) **98f:39003** 39A10 (39A12)

— On the boundedness of solutions of second-order difference equation with monotonical coefficients. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **18** (1995), *no.* 2, 39–42. 39A10

Kurrer, Christian Synchronization and desynchronization of weakly coupled oscillators. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3799–3802. 34C15 (34C05, 34C23)

Kürschák, József *see* **Gray, Jeremy J., 98j:01031**

Kurshan, Robert P. (*with* Taşıran, Serdar; Alur, Rajeev; Brayton, Robert K.) Verifying abstractions of timed systems. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 546–562, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98f:68180** 68Q60

Kurt, A. (*with* Kalantarov, V. K.) The long-time behavior of solutions of a nonlinear fourth order wave equation, describing the dynamics of marine risers. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 209–215. (Alberto Valli) **98h:35173** 35L75 (35B40, 35Q72, 73K70, 76B15)

Kurt, Veli Remarks on higher-dimensional Dedekind sums. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 297–301. (Marvin I. Knopp) **98c:11037** 11F20

Kurta, V. V. On qualitative properties of solutions of some classes of quasilinear parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2121–2131. (*see* **98i:00030**) 35K55 (35B05)

— On analogues of R. Finn's maximum principle for solutions of parabolic equations. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 169–170; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1307–1309. 35K55 (35B50)

Kürten, Karl E. (*with* Nicolis, Grégoire) Bifurcation scenarios and quasiperiodicity in coupled maps. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 446–452. (Summary) **98h:58170** 58F27 (58F14)

— (*with* Kratky, Karl W.) Irregular fluctuations in uncoupled map lattices. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 749–765. 58F13

Kurth, Alexandre SL_2-equivariant polynomial automorphisms of the binary forms. (English summary) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 2, 585–597. (Dennis Snow) **98e:14049** 14L30 (14L27)

— Nonlinear equivariant automorphisms. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 327–335. (Peter Heinzner) **98j:14064** 14L30 (14L27)

Kurth, Petra (*with* Pieper, Volkmar; Dominé, Marco) Level crossing problems and drift reliability. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 347–354. (*see* **98b:90005**) 60K10 (90B25)

Kurths, Jürgen (*with* Pikovskiĭ, A. S.; Zaks, Mikhail A.; Rozenblyum, M. G.; Osipov, G. V.) Phase synchronization of chaotic oscillations in terms of periodic orbits. (English summary) *Chaos* **7** (1997), *no.* 4, 680–687. 58F13 (70K50)

— (*with* Rozenblyum, M. G.; Pikovskiĭ, A. S.) Phase synchronization in driven and coupled chaotic oscillators. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 874–881. (*see* **98g:93002**) 93D15 (34C15, 58F13, 93C10, 94C05)

— (*with* Zaks, Mikhail A.; Pikovskiĭ, A. S.) On the correlation dimension of the spectral measure for the Thue-Morse sequence. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1387–1392. (Aernout C. D. van Enter) **98k:11021** 11B85 (11K31, 28D99, 60K99)

— (*with* Rudzick, Oliver; Pikovskiĭ, A. S.; Scheffczyk, Christian) Dynamics of chaos-order interface in coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 330–347. (Summary) **98c:58111** 58F13

— (*with* Pikovskiĭ, A. S.; Rozenblyum, M. G.; Osipov, G. V.) Phase synchronization of chaotic oscillators by external driving. (English summary) *Phys. D* **104** (1997), *no.* 3-4, 219–238. (Summary) **98b:34052** 34C15 (34D45, 58F13, 70K40, 70K50)

— (*with* Voss, Henning) Reconstruction of nonlinear time delay models from data by the use of optimal transformations. (English summary) *Phys. Lett. A* **234** (1997), *no.* 5, 336–344. (Summary) **98g:34130** 34K99 (58F40, 93B30)

— (*with* Landa, P. S.; Zaikin, A. A.; Rozenblyum, M. G.) On-off intermittency phenomena in a pendulum with a randomly vibrating suspension axis. (English summary) Applications of chaos (Inowlodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 157–169. (Summary) **98m:70031** 70L05 (70K50)

— *see also* **Physics and dynamics between chaos, order, and noise, 98k:58004**

Kurtonina, Natasha (*with* Moortgat, Michael) Structural control. (English summary) *Specifying syntactic structures (Amsterdam*, 1994), 75–113, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1997. (*see* **98d:03041**) 03B65

— (*with* de Rijke, Maarten) Simulating without negation. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 501–522. (Summary) **98d:03028** 03B45 (68Q99)

— (*with* de Rijke, Maarten) Bisimulations for temporal logic. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 4, 403–425. (G. Mirkowska) **98k:03047** 03B45 (68Q60, 68T27)

Kurtz, Stefan (*with* Myers, Gene) Estimating the probability of approximate matches. *Combinatorial pattern matching (Aarhus*, 1997), 52–64, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (*see* **98i:68004**) 68Q25 (68R05)

— (*with* Giegerich, R.) From Ukkonen to McCreight and Weiner: a unifying view of linear-time suffix tree construction. (English summary) *Algorithmica* **19** (1997), *no.* 3, 331–353. (Summary) **98d:68083** 68Q20 (68U15)

Kurtz, Stuart A. (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William Ian; Kummer, Martin Walter; Smith, Carl H.; Stephan, Frank C.) Measure, category and learning theory. (English summary) *Automata, languages and programming (Szeged*, 1995), 558–569, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98d:68158** 68Q99 (03D20, 68T05)

— (*with* Mahaney, Stephen R.; Royer, James S.) The isomorphism conjecture fails relative to a random oracle. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 401–420. (Frederic Green) **98a:68073** 68Q15 (03D15)

Kurtz, Thomas G. (*with* Protter, Philip E.) Weak convergence of stochastic integrals and differential equations. *Probabilistic models for nonlinear partial differential equations (Montecatini Terme*, 1995), 1–41, *Lecture Notes in Math.*, 1627, *Springer, Berlin*, 1996. (Leszek Słomiński) **98b:60073** 60H05 (60F17)

— (*with* Protter, Philip E.) Weak convergence of stochastic integrals and differential equations. II. Infinite-dimensional case. *Probabilistic models for nonlinear partial differential equations (Montecatini Terme*, 1995), 197–285, *Lecture Notes in Math.*, 1627, *Springer, Berlin*, 1996. (Leszek Słomiński) **98b:60074** 60H05 (60B12, 60G57)

— (*with* Donnelly, Peter) A countable representation of the Fleming-Viot measure-valued diffusion. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 698–742. (John Verzani) **98f:60162** 60J70 (60J25, 60J80, 60K35, 92D10)

— (*with* Donnelly, Peter) The asymptotic behavior of an urn model arising in population genetics. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 1–16. (Summary) **98g:60152** 60J80 (60F99, 60J75, 60K35, 92D10)

— (*with* Lyons, Russell; Pemantle, Robin; Peres, Yuval) A conceptual proof of the Kesten-Stigum theorem for multi-type branching processes. (English summary) *Classical and modern branching processes (Minneapolis, MN*, 1994), 181–185, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60122** 60J80

Kuruc, Alvin Efficient estimation of linear functionals in emission tomography. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 426–452. (Summary) **98b:92007** 92C55 (62G05)

Kurucz, Ágnes (*with* Andréka, Hajnal; Németi, István; Sain, Ildikó; Simon, András) Causes and remedies for undecidability in arrow logics and in multi-modal logics. (English summary) *Arrow logic and multi-modal logic*, 63–99, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1996. (*see* **98b:03036**) 03B45 (03D35)

Kuruganti, I. (*with* Strickland, Stephen G.) Optimal importance sampling for Markovian systems with applications to tandem queues. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 61–79. 60K25

Kuruoğlu, Nuri (*with* Akdemir, Keziban; Çalışkan, Mustafa) On the pair of konoidal ruled surfaces under the homothetic motions of the Euclidean space E^n. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 39–43. 53A25

Kurusa, Árpád The totally geodesic Radon transform on the Lorentz space of curvature -1. *Duke Math. J.* **86** (1997), *no.* 3, 565–583. (Eric Grinberg) **98b:53072** 53C65 (53C50)

Kurylëv, Yaroslav V. (*with* Peat, K. S.) Hausdorff moments in two-dimensional inverse acoustic problems. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1363–1377. (Summary) **98h:76122** 76Q05 (35J05, 35R30, 65M70, 76M25)

— (*with* Lassas, Matti) The multidimensional Gel'fand inverse problem for non-self-adjoint operators. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1495–1501. (V. S. Rabinovich) **98m:35224** 35R30 (35J25, 47F05, 58G03)

Kurz, Ludwik (*with* Benteftifa, M. Hafed) ★ Analysis of variance in statistical image processing. (English summary) *Cambridge University Press, Cambridge*, 1997. xiv+210 *pp. ISBN* 0-521-58182-6 (From the preface) **98c:68209** 68U10

— (*with* Li, Chris Cho-Pin) A new approach to the detection of moving objects. (English summary) *Inform. Sci.* **103** (1997), *no.* 1-4, 115–134. 68U10

Kurz, Mordecai (*with* Schneider, Martin) Coordination and correlation in Markov rational belief equilibria. (English summary) *Econom. Theory* **8** (1996), *no.* 3, 489–520. (Vladimir Boure) **98e:90013** 90A06

Kurz, Thomas (*with* Kumar, Ajit; Lauterborn, Werner) Bistable solitons in triply doped fibers. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 367–374. (Summary) **98k:78050** 78A60

Kürzel, Matthias Toponogov's triangle comparison theorem in model spaces of nonconstant curvature. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 161–180. (Joseph E. Borzellino) **98h:53056** 53C20 (53C21)

Kurzhanskiĭ, A. B. (*with* Vályi, István) ★ Ellipsoidal calculus for estimation and control. (English summary) Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA; International Institute for Applied Systems Analysis, Laxenburg*, 1997. xvi+321 *pp. ISBN* 0-8176-3699-4 (Vladimir Veliov and Marc Quincampoix) **98b:93003** 93–02 (34A60, 34H05, 49K40, 49L99, 93B03, 93B35)

Kurzweil, Jaroslav Nonabsolutely convergent integrals via integral sums in $\mathbf{R}^n$. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 191–201. (Ralph Henstock) **98m:26007** 26A39 (26B20)

— (*with* Jarník, Jiří) Another Perron type integration in n dimensions as an extension of integration of stepfunctions. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 3, 557–575. (D. K. Dutta) **98i:26015** 26A39

Kusano, Kanya MHD energy relaxation and magnetic recoupling in the solar corona. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 109–116. (*see* **98e:76004**) 76W05 (85A30)

— (*with* Moriyama, Kaori; Miyoshi, Tetsuhiko) Nonlinear dynamics of magnetic buoyancy instabilities in a sheared magnetic field. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2582–2589. 76W05

Kusano, Takaši (*with* Naito, Yūki) Oscillation and nonoscillation criteria for second order quasilinear differential equations. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 81–99. (Hiroshi Onose) **98h:34071** 34C10 (35B05, 35J60)

— (*with* Elbert, Árpád; Tanigawa, Tomoyuki) An oscillatory half-linear differential equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 4, 355–361. (V. B. Headley) **98m:34071** 34C10 (35J60, 46F10)

— (*with* Naito, Manabu; Tanigawa, Tomoyuki) Second-order half-linear eigenvalue problems. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 1, 1–7. (Alexandra Kurepa) **98f:34025** 34B15 (34L30)

— (*with* Jaroš, Jaroslav) Second-order semilinear differential equations with external forcing terms. (Japanese) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 191–197. (*see* **98h:00040**) 34C10

— Studies on mathematical analysis of nonlinear structures. (Japanese) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 1, 21–25. 26A33

Kusch, Ingo (*with* Markus, Mario; Hahn, Tomas) A novel quantification of cellular automata. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1635–1642. (*see* **98h:68006**) 68Q80 (58F08)

Kusenko, Alexander Small Q balls. (English summary) *Phys. Lett. B* **404** (1997), *no.* 3-4, 285–290. (Summary) **98f:81356** 81V05

— Solitons in the supersymmetric extensions of the standard model. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 108–113. (Summary) **98f:81369** 81V22 (81T60)

Kushilevitz, Eyal (*with* Nisan, Noam) ★ Communication complexity. (English summary) *Cambridge University Press, Cambridge*, 1997. xiv+189 *pp. ISBN* 0-521-56067-5 (Juraj Hromkovič) **98c:68074** 68Q15 (68–02, 68Q10, 68Q25, 94C10)

— (*with* Beimel, Amos) Learning boxes in high dimension. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 3–15, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98j:68143** 68T05 (68Q99)

— A simple algorithm for learning $O(\log n)$-term DNF. *Inform. Process. Lett.* **61** (1997), *no.* 6, 289–292. (From the introduction) **98b:68146** 68Q99 (68T05)

Kushimoto, Shigeru (*with* Kon, Masamichi) A single facility minisum location problem under the A-distance. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 1, 10–20. (Giovanni Andreatta) **98b:90080** 90B85 (90C30)

— (*with* Kon, Masamichi) Location problems with asymmetric rectangular distances. (Japanese) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 85–88. (*see* **98g:90004**) 90B80 (90C90)

Kushner, B. A. Kurt Gödel and the constructive mathematics of A. A. Markov. *Gödel '96* (*Brno*, 1996), 50–63, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Roman Murawski) **98b:03004** 03–03 (00A30, 01A60, 03A05, 03D35, 03F65)

Kushner, H. B. Optimality and efficiency of two-treatment repeated measurements designs. (English summary) *Biometrika* **84** (1997), *no.* 2, 455–468. (Christine Hildegard Müller) **98k:62134** 62K05

Kushner, Harold J. (*with* Yin, Gang George) ★ Stochastic approximation algorithms and applications. (English summary) Applications of Mathematics, 35. *Springer-Verlag, New York*, 1997. xxii+417 *pp. ISBN* 0-387-94916-X (Michel Benaïm) **98h:62125** 62L20 (93E23)

— Numerical methods for stochastic control problems in finance. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 504–527, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09 (93E20)

Kushnir, D. (*with* Korzhik, V. I.) Key sharing based on the wire-tap channel type II concept with noisy main channel. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 210–217, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60

Kushnir, R. M. (*with* Vīgak, V. M.; Kulik, A. M.) On the thermomechanical research of Prof. Yu. M. Kolyano. (English summary) *J. Math. Sci.* (*New York*) **88** (1998), *no.* 3, 327–337. 01A70 (73B30)

Kushpel', A. K. (*with* Levesley, Jeremy) Interpolation on compact abelian groups using generalised sk-splines. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 317–324, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A65 (41A10)

Kusimov, Salavat (*with* Tagiov, Vadim; Makhmutova, Marina) The phase function of the wave-front of coherent optical radiation determination: modern methods and means. *Nonlinear waves* (*Sapporo*, 1995), 255–260, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 78A10

Kuske, Dietrich (*with* Droste, Manfred) Languages and logical definability in concurrency monoids. (English summary) *Computer science logic* (*Paderborn*, 1995), 233–251, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98d:68122** 68Q45 (03D05, 68Q10, 68Q68)

— (*with* Droste, Manfred) Trace languages definable with modular quantifiers. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 386–395, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68137** 68Q45 (03D05)

— (*with* Bracho, Felipe; Droste, Manfred) Representation of computations in concurrent automata by dependence orders. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 67–96. (Wiesław Zielonka) **98d:68066** 68Q10 (68Q55)

Kuske, Rachel (*with* Erneux, Thomas) Bifurcation to localized oscillations. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 389–402. (Summary) **98d:34068** 34C15 (34C23, 34E15)

— (*with* Eckhaus, Wiktor) Pattern formation in systems with slowly varying geometry. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 112–152. (Marie Christine Néel) **98b:76035** 76E30 (34E05, 35C20, 86A05)

Kuske, Sabine Implementing β-reduction by hypergraph rewriting. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation* (*SEGRAGRA '95*) (*Volterra*, 1995), 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (*see* **98h:68012**) 68Q42 (03B40)

Kusner, Robert B. (*with* Sullivan, John M.) Möbius energies for knots and links, surfaces and submanifolds. (English summary) *Geometric topology* (*Athens, GA*, 1993), 570–604, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:57014** 57M25

— (*with* Epstein, David B. A.; Lieb, Elliott H.; Taylor, Jean E.; Almgren, Robert; Morgan, Frank; Sullivan, John M.; Marden, Albert) In memoriam Frederick J. Almgren Jr., 1933–1997. *Experiment. Math.* **6** (1997), *no.* 1, 1–12. 01A70

Kusnezov, Dimitri (*with* Bulgac, Aurel; Dang, Giu Do) Turbulent-like diffusion in complex quantum systems. (English summary) *Phys. Lett. A* **234** (1997), *no.* 2, 103–107. (Summary) **98g:82030** 82C10

Kussul', N. N. (*with* Bakan, G. M.; Volosov, V. V.) Estimation of the state of continuous dynamical systems by the ellipsoid method. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 72–91, 185; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 804–820 (1997). (Andrzej Świerniak) **98f:93018** 93E10 (93B27, 93D20)

Kustaanheimo, Paul (*with* Qvist, Bertil) A note on some general solutions of the Einstein field equations in a spherically symmetric world [**MR 10**, 579a]. Reprint of the 1948 original. *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 663–673. 83C20 (83C15)

Kusuda, Masaharu Caractérisation des formes linéaires normales invariantes sur les algèbres de von Neumann et leurs prolongements invariants. (French summary) [Characterization of invariant normal linear forms on von Neumann algebras and their invariant extensions] *Math. Japon.* **45** (1997), *no.* 3, 503–509. (Summary) **98a:46084** 46L55

Kusumoto, Sho-Ichiro (*with* Sun, Ning^2) A note on the Boyd-McKenzie theorem. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 327–332. (Summary) **98i:90023** 90A14 (90D05)

Kusuoka, Shigeo A remark on American securities. *Itô's stochastic calculus and probability theory*, 213–231, *Springer, Tokyo*, 1996. (Jakša Cvitanić) **98b:90017** 90A09 (60G44, 60H30, 93E20)

— (*with* Takaoka, Koichiro) On the Sparre Andersen transformation for multidimensional Brownian bridge. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 1, 211–227. (Jean Bertoin) **98f:60087** 60G50 (60J30)

— Stochastic analysis as infinite-dimensional analysis [translation of Sūgaku **45** (1993), no. 4, 289–298; MR 95i:60048]. Sugaku Expositions. *Sugaku Expositions* **10** (1997), *no.* 2, 183–194. (*see* **98j:00014**) 60H07 (35R15, 35R60, 58G32, 78A45)

— Periodic structure of interest rates and stochastic partial differential equations. (Japanese) Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 138–141. (*see* **98i:90007**) 90A09 (60H15)

Kutami, Mamoru On unit-regular rings satisfying s-comparability. *Osaka J. Math.* **33** (1996), *no.* 4, 983–995. (K. R. Goodearl) **98c:16009** 16E50 (16D40)

Kutanov, A. T. (*with* Baron, Yu. L.; Grigoryan, A. K.; Yuditskiĭ, S. A.) A formalized description of the structure and behavior of hierarchical systems with inclusion. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 209–218; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 1058–1065. 93A13

Kutasov, David (*with* Martinec, Emil) New principles for string/membrane unification. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 652–674. (Summary) **98f:81270** 81T30 (83E30)

— (*with* Martinec, Emil; O'Loughlin, Martin) Vacua of M-theory and $N = 2$ strings. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 675–700. (Miguel A. Vázquez-Mozo) **98f:81271** 81T30 (83E30)

— (*with* Martinec, Emil) M-branes and $N = 2$ strings. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2483–2516. (Summary) **98j:81284** 81T30 (81T60)

— (*with* Elitzur, Shmuel; Giveon, Amit; Rabinovici, Eliezer; Schwimmer, A.) Brane dynamics and $N = 1$ supersymmetric gauge theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 202–250. (Summary) **98k:81262** 81T60 (81T13, 81T30)

— (*with* Elitzur, Shmuel; Giveon, Amit) Branes and $N = 1$ duality in string theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 269–274. (Introduction) **98f:81251** 81T30 (83E30)

Kutateladze, M. M. (*with* Arnol'd, Vladimir Igorevich; Berezanskiĭ, Yuriĭ Makarovich; Daletskiĭ, Yuriĭ L'vovich; Lavrent'ev, Mikhail Mikhaĭlovich; Reshetnyak, Yu. G.; Semënov, E. M.; Sklyadnev, S. A.) Selim Grigor'evich Kreĭn (on the occasion of his eightieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1349–1350. 01A70

Kutateladze, Semën Samsonovich ★ Основы функционального анализа. (Russian. Russian summary) [Foundations of functional analysis] Second edition. Современная Математика—Студентам и Аспирантам. [Contemporary Mathematics—for Undergraduate and Graduate Students] *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Institut Matematiki im. S. L. Soboleva, Novosibirsk*, 1995. 224 *pp. ISBN* 5-86134-016-3 (Editors) **98a:46001** 46–01 (47–01)

— ★ Russian → English in writing. (Russian. Russian summary) Советы эпизодическому переводчику. [Advice for the occasional translator] Third edition. *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Novosibirsk*, 1997. 164 *pp. ISBN* 5-86134-030-7 (Publisher's description) **98e:00002** 00A20

— (*with* Lavrent'ev, Mikhail Mikhaĭlovich; Beresnev, V. L.; Borovkov, A. A.; Godunov, S. K.; Ershov, Yu. L.; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

— On the subdifferential of a convex operator at a generalized point. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 591–597, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 507–512. (A. Göpfert) **98e:49041** 49J52 (46G05, 46N10, 58C20)

— *see also* **Nelson, Edward**, **98d:60002**; **Reshetnyak, Yu. G.**, **98i:30034** *and* **Aleksandrov, Aleksandr Danilovich et al.**

Kutev, N. (*with* Tomi, F.) Nonexistence and instability in the exterior Dirichlet problem for the minimal surface equation in the plane. (English summary) *Pacific J. Math.* **170** (1995), *no.* 2, 535–542. (Summary) **98b:35064** 35J65 (53A10)

Kutkut, Mahmoud M. On the class of parahyponormal operators. (English summary) *J. Math. Sci.* (*Calcutta*) **4** (1993), *no.* 2, 73–88. (William W. Hastings) **98e:47040** 47B20

— Some results on M^*-quasihyponormal operators. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **24** (1997), *no.* 1, 29–38. (S. J. Bernau) **98m:47025** 47B20

Kutler, Paul *see* **Conference: Numerical Methods in Fluid Dynamics**

Kutlu, Kadir On Riemann boundary value problem and characteristic singular integral equation. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 65–70. 30E25 (45E05)

Kutluay, S. (*with* Bahadir, A. R.; Özdeş, A.) The numerical solution of one-phase classical Stefan problem. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 135–144. (Summary) **98b:65099** 65M06

Kutlyarova, N. V. (*with* Kondaurov, V. I.; Fortov, V. E.) Damage and failure of brittle initially porous materials. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 342–345; *translation in Phys. Dokl.* **42** (1997), *no.* 7, 395–398. 73M25

Kutoyants, Yurii (*with* Vostrikova, L.) On non-consistency of estimators. (English summary) *Stochastics Stochastics Rep.* **53** (1995), *no.* 1-2, 53–80. (Summary) **98b:62043** 62F12

— (*with* Bertrand, Pierre) A minimum distance estimator for partially observed linear stochastic systems. (English summary) *Statist. Decisions* **14** (1996), *no.* 4, 323–342. (H. Salehi) **98d:62145** 62M05 (60H10, 62F12, 93E10)

— (*with* Höpfner, R.) On minimum distance estimation in recurrent Markov step processes. I. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 61–79. (Martin Jacobsen) **98g:62153** 62M05

— Some problems of nonparametric estimation by observations of ergodic diffusion process. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 311–320. (Theo Gasser) **98i:62031** 62G05

— On unbiased density estimation for ergodic diffusion. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 133–140. (Summary) **98e:62120** 62M05 (62G05)

Kutrib, Martin (*with* Richstein, Jörg) Real-time one-way pushdown cellular automata languages. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 420–429, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q80

— (*with* Buchholz, Thomas) Some relations between massively parallel arrays. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1643–1662. (Summary) **98j:68029** 68Q10 (68Q80)

— *see also* **Cellular automata, 98h:68006**

Kutsia, T. Description of one variant of three-valued logic programming. (Russian and Georgian summaries) *Dokl. Semin. Inst. Prikl. Mat. im. I. N. Vekua* No. 22 (1993), 53–64 (1994). (From the text) **98a:68026** 68N17 (03B70)

Kutten, Shay (*with* Awerbuch, Baruch; Mansour, Yishay; Peleg, David) Optimal broadcast with partial knowledge (extended abstract). (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 116–130, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68Q10)

— (*with* Garay, Juan A.; Gopal, Inder S.; Mansour, Yishay; Yung, Moti) Efficient on-line call control algorithms. (English summary) *J. Algorithms* **23** (1997), *no.* 1, 180–194. (Summary) **98a:90045** 90B12 (68M10)

— (*with* Afek, Yehuda; Yung, Moti) The local detection paradigm and its applications to self-stabilization. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 199–229. (Summary) **98f:68020** 68M10

Kuttler, K. L. (*with* Andrews, Kevin T.; Shillor, Meir) On the dynamic behaviour of a thermoviscoelastic body in frictional contact with a rigid obstacle. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 4, 417–436. (Anders Klarbring) **98j:73080** 73T05 (49J40, 73B30, 73F15, 73V25)

— Dynamic friction contact problems for general normal and friction laws. *Nonlinear Anal.* **28** (1997), *no.* 3, 559–575. (Meir Shillor) **98h:73073** 73T05 (35Q72, 73F15)

Kuttner, Brian *see* **Maddox, Ivor J., 98h:01029** *and* **98k:01037**

Kutty, G. (*with* Ramakrishna, Y. S.; Dillon, L. K.; Moser, Louise E.; Melliar-Smith, P. M.) A real-time interval logic and its decision procedure. (English summary) *Sādhanā* **21** (1996), *no.* 2, 147–184. (Editors) **98i:68195** 68Q60 (03B25, 03B45, 03B70, 68Q10)

— (*with* Ramakrishna, Y. S.; Melliar-Smith, P. M.; Moser, Louise E.; Dillon, L. K.) Interval logics and their decision procedures. I. An interval logic. (English summary) *Theoret. Comput. Sci.* **166** (1996), *no.* 1-2, 1–47. (Wolfgang Thomas) **98h:68167** 68Q60 (03B25, 03B45, 03B70, 03D05)

— (*with* Ramakrishna, Y. S.; Melliar-Smith, P. M.; Moser, Louise E.; Dillon, L. K.) Interval logics and their decision procedures. II. A real-time interval logic. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 1–46. (Summary) **98c:03049** 03B45 (03B25, 68Q60, 68Q68)

Kutuzov, A. A. (*with* Bobylev, N. A.; Korovin, S. K.) Gradient methods in infinite-dimensional problems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 10, 1701–1707, 1774 (1996); *translation in Differential Equations* **31** (1995), *no.* 10, 1668–1675 (1996). (A. M. Galperin) **98a:90131** 90C48 (46N10, 47H19, 49M07)

— (*with* Ismailov, I. G.) Gradient procedures for integral functionals. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 51–56. (Summary) **98a:49050** 49M07 (49J05)

— (*with* Bobylev, N. A.; Bulatov, A. V.; Korovin, S. K.) Some properties of mathematical models of neural networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 3, 179–189; *translation in Automat. Remote Control* **58** (1997), *no.* 3, *part* 2, 474–483. (Summary) **98i:92006** 92B20

Kutyłowski, Mirosław (*with* Czumaj, Artur; Kanarek, Przemysława; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) *Algorithms—ESA '96 (Barcelona)*, 246–260, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68R05 (68Q22, 68Q25)

— (*with* Loryś, Krzysztof; Oesterdiekhoff, Brigitte) Periodic merging networks. (English summary) *Algorithms and computation (Osaka, 1996)*, 336–345, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68P10

— (*with* Loryś, Krzysztof) Limitations of the QRQW and EREW PRAM models. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad, 1996)*, 310–321, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98k:68054** 68Q05 (68Q22)

Kutz, J. Nathan (*with* Bronski, Jared C.) Asymptotic behavior of the nonlinear Schrödinger equation with rapidly varying, mean-zero dispersion. (English summary) *Phys. D* **108** (1997), *no.* 3, 315–329. (Summary) **98e:35151** 35Q55 (78A10)

Kutzko, Philip C. Smooth representations of reductive p-adic groups: an introduction to the theory of types. *Geometry and representation theory of real and p-adic groups (Córdoba, 1995)*, 175–196, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Roman Bezrukavnikov) **98k:22072** 22E50 (22–02)

Kuusk, Piret (*with* Ord, Jüri; Paal, Eugen) Quantum kinematics of a test particle in a curved spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2917–2926. (Guido Cognola) **98f:83055** 83C47 (81T20)

— (*with* Ord, Jüri) Kinematics and uncertainty relations of a quantum test particle in a curved space-time. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 99–104. (Summary) **98m:81112** 81T20 (83C47)

Kuvshinov, B. N. (*with* Schep, T. J.) Geometrical approach to fluid models. (English summary) *Phys. Plasmas* **4** (1997), *no.* 3, 537–550. (Summary) **98i:76004** 76A02 (58A10, 58Z05, 76M99, 76W05)

Kuvshinova, E. V. (*with* Panov, V. F.) Five-dimensional nonstationary cosmological solutions with rotation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 9, 25–28; *translation in Russian Phys. J.* **40** (1997), *no.* 9, 844–847 (1998). 83E15

Kuwabara, Ruishi Correction and addendum to: "On the classical and the quantum mechanics in a magnetic field" [J. Math. Tokushima Univ. **29** (1995), 9–22; MR 96j:58169]. (English summary) *J. Math. Tokushima Univ.* **30** (1996), 81–87. (Summary) **98b:58168** 58G25 (58F05, 81S10)

Kuwae, Kazuhiro On pseudo metrics of Dirichlet forms on separable metric spaces. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 256–265, *World Sci. Publishing, River Edge, NJ*, 1996. (Emil Popescu) **98m:31013** 31C25

Kuwahara, Kunio (*with* Hashiguchi, Masanori) Numerical calculation of the geometric structure of vortex fields. (Japanese) Geometric structure of vortex fields and turbulence statistics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 972 (1996), 213–219. (*see* **98e:76004**) 76M25 (76C05, 76D05)

Kuwakado, Hidenori (*with* Koyama, Kenji) A new RSA-type cryptosystem based on singular cubic curves. (English summary) *Applications of finite fields (Egham, 1994)*, 99–109, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Summary) **98a:94024** 94A60 (11G20)

Kuwamura, Masataka The stability of roll solutions of the 2-D Swift-Hohenberg equation and the phase diffusion equation. (English summary) *Nonlinear waves (Sapporo, 1995)*, 261–266, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q53 (35Q35, 76E15)

Kuwano, Hiroshi On Harnack's inequality for some degenerate elliptic equations. *Bull. Fukuoka Univ. Ed. III* **45** (1996), 1–7. (Hans Gerd Leopold) **98a:35049** 35J70 (35B05)

Kuwert, Ernst Weak limits in the free boundary problem for immersions of the disk which minimize a conformally invariant integral. *Geometric analysis and the calculus of variations*, 203–215, *Internat. Press, Cambridge, MA*, 1996. (Martin Fuchs) **98b:58038** 58E12 (49Q05)

Kuyk, Willem *see* **Serre, Jean-Pierre, 98g:11066**

Kuyucu, Fikret (*with* Ünlü, Yusuf) A remainder for some non-locally compact spaces. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 10, 973–977. (K. K. Dube) **98e:54026** 54D40

Kuzenko, Sergei M. (*with* Gorbunov, I. V.; Lyakhovich, S. L.) On the minimal model of anyons. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 23, 4199–4215. (Bernd J. Schroers) **98h:81069** 81S99 (81V70)

— (*with* Gates, S. James, Jr.; Sibiryakov, A. G.) Towards a unified theory of massless superfields of all superspins. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 343–353. (W. Cox) **98f:81322** 81T60

— (*with* Gates, S. James, Jr.; Sibiryakov, A. G.) $N = 2$ supersymmetry of higher superspin massless theories. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 59–68. (Summary) **98k:81263** 81T60 (81T30, 83E30)

— (*with* Bukhbinder, I. L.; Bukhbinder, E. I.; Ivanov, Evgenil Alekseevich[2]; Ovrut, Burt A.) Effective action of the $N = 2$ Maxwell multiplet in harmonic superspace. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 309–319. (Ilya Shapiro) **98k:81260** 81T60 (81T13)

— (*with* Gorbunov, I. V.; Lyakhovich, S. L.) $N = 1$, $D = 3$ superanyons, osp(2|2), and the deformed Heisenberg algebra. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3744–3755. (Summary) **98g:81100** 81S10 (81V70)

— (*with* Bukhbinder, I. L.; Bukhbinder, E. I.; Ovrut, Burt A.) The background field method for $N = 2$ super Yang-Mills theories in harmonic superspace. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 61–71. (Summary) **98k:81261** 81T60 (81T13)

Kuzenkov, O. A. Mathematical modeling of the process of the choice of optimal strategy: the criterion problem. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 48–59, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 93A30 (90A16)

— Mathematical modeling of selection processes. (Russian. Russian summary) *Mathematical modeling and optimal control (Russian)*, 120–131, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (F. Berezovskaya) **98d:34076** 34C99 (90A16, 92D40)

Kuzhel', S. A. The abstract Lax-Phillips scattering scheme in Pontryagin spaces. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 10, 87–108; *translation in Sb. Math.* **187** (1996), *no.* 10, 1503–1523. (Dmitriy S. Kalyuzhniy) **98g:47009** 47A50 (47B50)

— Abstract wave equation; definition and properties of solutions. (English summary) *Nats. Akad. Nauk Ukraïn. Inst. Mat. Preprint* **1996,** *no.* 14, 44 *pp.* (Björn Textorius) **98j:47014** 47A40 (34G10, 35L05)

Kuzin, I. A. A remark on the number of solutions to critical and supercritical semilinear problems with non-zero right-hand sides. *Integral methods in science and engineering, Vol. 1 (Oulu, 1996)*, 110–113, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35J65 (35B32)

Kuzin, S. Yu. On the behavior of the solution of the first boundary value problem for a parabolic equation with singular coefficients for large time values. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1996,** *no.* 3, 45–48, 92. (Summary) **98a:35052** 35K10 (35B05)

Kuzin-Aleksinskiĭ, S. A. (*with* Semënov, E. M.; Franchetti, Carlo) Estimates for the norms of projections onto hyperplanes in rearrangement-invariant spaces. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 455–457. (Yu. A. Abramovich) **98f:46025** 46E30 (46B20)

Kuz'ko, E. I. (*with* Avdeenko, A. M.) Fracture as a self-organization process with degeneration of dimension. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 33–37. 73M25

Kuźma, M. (*with* Lulek, T.; Olchawa, R.) Fractal symmetries of a linear chain, projections from multidimensional spaces, and the recipe of Weyl. (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 433–440, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:82070** 82D25 (20H15)

Kuzmanović, D. (*with* Vukobrat, M.) Crack extension force in a nonlocal nonlinear micropolar field theory. (English summary) *Acta Mech.* **123** (1997), *no.* 1-4, 89–97. (Gérard A. Maugin) **98j:73005** 73B18 (73B25, 73M25)

Kuzmanovich, James (*with* Teply, Mark L.) Homological dimensions of semigroup rings. *Comm. Algebra* **25** (1997), *no.* 9, 2817–2837. (D. Zacharia) **98h:16011** 16E10 (16S36)

Kuz'menko, A. V. (*with* Dubrovskiĭ, G. V.; Markov, Yu. G.) The approximation of a three-dimensional lattice gas for multilayer adsorption. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 130–148; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1291–1306 (1996). 82B20 (82B24)

Kuz'min, V. B. (*with* Travkin, S. I.) The distribution of mathematical expectations of a randomized fuzzy variable. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 99–114. 03E72

Kuz'min, Yu. N. A continuity in the weak topologies of a vector integral operator. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995).

Collect. Math. **48** (1997), *no.* 4-6, 657–662. (Summary) **98k:47057** 47B38 (46E30)

Kuz'mina, G. V. On the existence of quadratic differentials with prescribed properties. (Russian. Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **226** (1996), *Anal. Teor. Chisel i Teor. Funktsii.* 13, 120–137, 238; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 1, 996–1007. (Summary) **98m:30061** 30F30

— Methods of the geometric theory of functions. I. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 3, 41–103; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 3, 455–507. (S. R. Nasyrov) **98h:30041** 30C70 (30C25, 30C75)

Kuz'mina, L. V. (*with* Kalitkin, Nikolaĭ Nikolaevich) On the canceling of mutual business debts. (Russian. Russian summary) *Mat. Model.* **7** (1995), *no.* 4, 64–72. 90A11

— (*with* Kalitkin, Nikolaĭ Nikolaevich) Convergence of parabolic interpolation splines. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 77–94. (Summary) **98j:65010** 65D07

— (*with* Kalitkin, Nikolaĭ Nikolaevich) Natural interpolation splines of arbitrary degree. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 738–742. 41A15 (65D07)

— (*with* Kalitkin, Nikolaĭ Nikolaevich) Natural higher-degree interpolation splines. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 6, 67–81. 65D07

— (*with* Kalitkin, Nikolaĭ Nikolaevich) Mean-square approximation by splines. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 107–116. 65D07 (41A15)

Kuzmina, Lyudmila K. Modelling problems in complex systems dynamics. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 325–330, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 34C99 (34D99, 70K99)

Kuz'minov, V. I. (*with* Shvedov, I. A.) On the compact solvability of the exterior differentiation operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 573–590, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 492–506. (Józef Dodziuk) **98g:58001** 58A12 (47F05, 58G25)

Kuz'minykh, A. V. The structure of generic compact sets of a Euclidean space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 344–350, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 296–301. (Zbigniew Piotrowski) **98g:54016** 54B20 (54D30, 54E52)

— On unit bases of a Euclidean metric. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 843–846, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 730–733. (H. Salzmann) **98j:51025** 51F99 (51K05)

— Sets with integral distances and a coloring of edges of an infinite graph. *Geombinatorics* **7** (1998), *no.* 4, 132–138. 05C15

Kuznetsov, A. G. *see* **Kuznetsov, Aleksandr Georgievich**

Kuznetsov, A. N. (*with* Markushevich, V. M.) On an exact solution of the "Earth flattening" problem for Rayleigh-like vibrations. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 4, 539–542. (From the text) **98c:86005** 86A15 (73D20)

Kuznetsov, A. P. (*with* Kuznetsov, Sergeĭ Petrovich[1]; Sataev, I. R.) A variety of period-doubling universality classes in multi-parameter analysis of transition to chaos. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 91–112. (Summary) **98k:58159** 58F13

Kuznetsov, A. V. *see* **Kuznetsov, Arkadiĭ Vasil'evich**

Kuznetsov, Aleksandr Georgievich *see* **Abaffy, József, 98g:65004**

Kuznetsov, Alexander Gennadievich (*with* Finkelberg, Michael) Global intersection cohomology of quasimaps' spaces. *Internat. Math. Res. Notices* **1997,** *no.* 7, 301–328. (G. K. Sankaran) **98f:14013** 14F32 (14E10, 17B10)

— Laumon's resolution of Drinfel'd's compactification is small. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 349–364. (Wenxiang Wang) **98d:14022** 14E15 (14M99)

Kuznetsov, Arkadiĭ Vasil'evich (*with* Kuznetsov, S. A.) Time-dependent interaction between two inviscid fluid flows separated by a semi-infinite nonrigid plate in a flat-walled channel. *Fluid Dynam.* **32** (1997), *no.* 1, 53–61; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 1, 67–76 (*Russian. Russian summary*). (Summary) **98b:76011** 76B15

Kuznetsov, E. B. (*with* Shalashilin, V. I.) Solution of differential-algebraic equations with a choice of best argument. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 711–722. (Michael Hanke) **98j:34003** 34A09 (34A45, 65L06)

Kuznetsov, Evgeniĭ *see* **Kuznetsov, Evgeniĭ Aleksandrovich**

Kuznetsov, Evgeniĭ A. *see* **Kuznetsov, Evgeniĭ Alekseevich**

Kuznetsov, Evgeniĭ Aleksandrovich (*with* Popp, Stefan; Stiller, Olaf; Kramer, Lorenz) The cubic complex Ginzburg-Landau equation for a backward bifurcation. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 81–107. (Summary) **98k:35181** 35Q55 (35B32, 76E30)

Kuznetsov, Evgeniĭ Alekseevich About some algebraic systems related with projective planes. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 6–33. (Elena Zizioli) **98i:51004** 51E15 (20N05)

Kuznetsov, I. V. (*with* Grebenyuk, E. A.) Application of sequential analysis methods for predicting abrupt changes in random time series. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 11, 65–75; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1752–1760 (1998). 62M10 (62L10)

Kuznetsov, M. I. (*with* Kostrikin, Alekseĭ Ivanovich) Finite-dimensional Lie algebras with a nonsingular derivation. *Algebra and analysis (Kazan, 1994)*, 81–90, *de Gruyter, Berlin*, 1996. (François Dumas) **98i:17023** 17B40 (17B50, 20D15)

— (*with* Yakovlev, Vladimir A.) Elementary proof of Demuskin's theorem in tori in special Lie p-algebras of Cartan type. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3979–3983. 17B50

— Maximal tori of a general Lie algebra of Cartan type. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 55–82; *translation in Sb. Math.* **188** (1997), *no.* 9, 1317–1342. (Yuri B. Ermolaev) **98k:17005** 17B05

Kuznetsov, N. A. (*with* Kozyakin, V. S.; Pokrovskiĭ, A. V.) A phenomenological model of statistics of the lengths of cycles and transient processes of discretizations of dynamical systems. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 165–168. (Alexander Loskutov) **98d:58095** 58F08 (58F03, 58F13)

— (*with* Krasnosel'skiĭ, Mark Aleksandrovich; Yumagulov, M. G.) Conditions for the stability of cycles under Hopf bifurcation at infinity. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 1, 56–62; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 1, 43–48. (Michal Fečkan) **98e:34053** 34C05 (34C23, 34C25, 34D05, 58F21)

— (*with* Borisov, V. G.; Gul'ko, F. B.; Grigor'ev, F. N.) On control systems that are unsynchronized with respect to measurements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 7, 98–111; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1146–1156. (Summary) **98m:93056** 93C15

— (*with* Kozyakin, V. S.; Pokrovskiĭ, A. V.; Vladimirov, I. G.) Some problems in analysis of discretizations of continuous dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 767–778. (Peter E. Kloeden) **98j:58065** 58F08 (65D99)

Kuznetsov, N. G. (*with* Maz'ya, Vladimir G.) Asymptotic analysis of surface waves due to high-frequency disturbances. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 1, 5–29. (Summary) **98k:76013** 76B15 (35C20)

— (*with* Motygin, O. V.) The wave resistance of a two-dimensional body moving forward in a two-layer fluid. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 1, 53–72. (Summary) **98d:76020** 76B15 (76C10, 76V05)

Kuznetsov, N. V. Sums of Kloosterman sums and the eighth power moment of the Riemann zeta-function. *Number theory and related topics (Bombay, 1988)*, 57–117, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (Matti Jutila) **98c:11085** 11M06 (11F66, 11L05)

Kuznetsov, Nikolay *see* **Kuznetsov, N. G.**

Kuznetsov, O. P. Pseudo-optical neural networks: rectilinear models. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 145–154; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 2, 1807–1814 (1997). 92B20 (68T05)

Kuznetsov, O. V. Isometric embeddings of some domains of the Lobachevskiĭ plane L^2 into E^4 with zero Gaussian torsion. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 462–468. (V. Oproiu) **98i:53010** 53A07

— On the construction of isometric immersions of the domains of the Lobachevskiĭ plane L^2 into E^4 by means of solutions of the "sine-Gordon" equation. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 319–328. (V. Oproiu) **98j:53006** 53A07 (53A35)

Kuznetsov, S. A. (*with* Kuznetsov, Arkadiĭ Vasil'evich) Time-dependent interaction between two inviscid fluid flows separated by a semi-infinite nonrigid plate in a flat-walled channel. *Fluid Dynam.* **32** (1997), *no.* 1, 53–61; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 1, 67–76 (*Russian. Russian summary*). (Summary) **98b:76011** 76B15

Kuznetsov, S. P. *see* **Kuznetsov, Sergeĭ Petrovich[1]**

Kuznetsov, S. V. *see* **Kuznetsov, Sergeĭ Vladimirovich[2]**

Kuznetsov, Sergei E. On removable lateral singularities for quasilinear parabolic PDE's. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 627–632. (Alexander L. Gladkov) **98h:35124** 35K60 (35A20, 35K55)

Kuznetsov, Sergeĭ Petrovich[1] (*with* Sataev, I. R.) Period-doubling for two-dimensional non-invertible maps: renormalization group analysis and quantitative universality. (English summary) *Phys. D* **101** (1997), *no.* 3-4, 249–269. (Andrew C. Fowler) **98a:58119** 58F13 (58C27)

— (*with* Kuznetsov, A. P.; Sataev, I. R.) A variety of period-doubling universality classes in multi-parameter analysis of transition to chaos. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 91–112. (Summary) **98k:58159** 58F13

— (*with* Feudel, Ulrike; Pikovskiĭ, A. S.) Renormalization group of scaling at the torus-doubling terminal point. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1585–1590. 58F13

Kuznetsov, Sergeĭ Vladimirovich[1] Orthogonal reduction of dense matrices to bidiagonal form on computers with distributed memory architectures. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65F30

— Perturbation bounds of the Krylov bases and associated Hessenberg forms. (English summary) *Linear Algebra Appl.* **265** (1997), 1–28. (J. Segethová) **98m:65057** 65F15 (15A12)

— Orthogonal reduction of dense matrices to bidiagonal form on computers with distributed memory architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 2, 305–313. 65F30 (15–04, 65–04)

Kuznetsov, Sergeĭ Vladimirovich[2] (*with* Balueva, A. V.) Crack in an anisotropic medium. (English summary) XXXI Polish Solid Mechanics Conference (Mierki, 1996). *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 2, 245–252. (*see* **98d:80001**) 73M25 (73B40, 73C99, 73V20)

— (*with* Balueva, A. V.) Cracks in anisotropic elastic media. (English summary) *Comput. Mech.* **20** (1997), *no.* 1-2, 75–78. (Summary) **98e:73105** 73M25 (73B40, 73V20)

— (*with* Gol'dshteĭn, R. V.) Energy of singular actions in an elastic anisotropic body. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 674–678; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 653–657. 73C99 (73B40)

Kuznetsov, Sergey (*with* Saad, Youcef; Lo, Gen-Ching; Malevsky, Andrei; Chapman, Andrew) PSPARSLIB: a portable library of parallel sparse iterative solvers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65–04 (65F50)

Kuznetsov, V. I. (*with* Chentsov, A. G.) On a construction of an extension of the abstract problem of purely impulse control. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 524–532. (Summary) **98h:93010** 93B03 (49J45)

Kuznetsov, V. V. On the development of the Marangoni boundary layer from a braking point. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 820–826, 863; *translation in Differential Equations* **33** (1997), *no.* 6, 824–830 (1998). (From the text) **98k:76127** 76R99

Kuznetsov, Vadim B. Separation of variables for the $\mathscr{D}_n$-type periodic Toda lattice. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2127–2138. (Peter L. Christiansen) **98b:58079** 58F07

Kuznetsov, Vladimir Ivanovich (*with* Kuznetsova, Elena) Types of concept fuzziness. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 129–138. (Summary) **98m:68258** 68T30 (03B52, 03B70, 68T35)

Kuznetsov, Yu. A. *see* **Kuznetsov, Yuriĭ Aleksandrovich**

Kuznetsov, Yu. I. ★ Элементы анализа на конечном множестве точек. (Russian. English and Russian summaries) [Elements of analysis on a finite set of points] *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1994. 173 *pp.* (A. M. Galperin) **98d:15002** 15-02 (41A05, 65F10)

— ★ Системы псевдоортогональных многочленов. (Russian. Russian summary) [Systems of pseudo-orthogonal polynomials] Препринт [Preprint], 1068. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 23 *pp.* (Publisher's description) **98g:42039** 42C05 (41A10)

Kuznetsov, Yuri A. *see* **Kuznetsov, Yurii Alekseevich**[1]

Kuznetsov, Yurii Aleksandrovich (*with* Champneys, Alan R.; Sandstede, Björn) A numerical toolbox for homoclinic bifurcation analysis. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 5, 867–887. (B. M. Herbst) **98b:65094** 65L99 (58F14)

Kuznetsov, Yurii Alekseevich[1] (*with* Neittaanmäki, Pekka; Tarvainen, P.) Overlapping block methods for obstacle problems with convection-diffusion operators. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 165–180, *SIAM, Philadelphia, PA*, 1997. (Summary) **98b:49010** 49J40 (65N55, 90C33)

— (*with* Axelsson, Owe; Hakopian, Yu. R.) Multilevel preconditioning for perturbed finite element matrices. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 1, 125–149. (Svetozar D. Margenov) **98a:65159** 65N30 (65F35)

— Overlapping domain decomposition with non-matching grids. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sûrikaisekikenkyûsho Kôkyûroku No.* 989 (1997), 148–157. (*see* **98i:65002**) 65N55

Kuznetsova, E. P. (*with* Benilov, E. S.; Broutman, D.) On the stability of large-amplitude vortices in a continuously stratified fluid on the f-plane. (English summary) *J. Fluid Mech.* **355** (1998), 139–162. (Summary) **98k:76049** 76E20 (76C05, 76V05, 86A10)

Kuznetsova, Elena (*with* Kuznetsov, Vladimir Ivanovich) Types of concept fuzziness. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 129–138. (Summary) **98m:68258** 68T30 (03B52, 03B70, 68T35)

Kuznetsova, O. I. On the problem of summation over disks. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 5, 629–634; *translation in Ukrainian Math. J.* **48** (1996), *no.* 5, 699–705 (1997). (S. Baron) **98e:42008** 42A61 (42B08, 47B80, 60E15)

Kuznetsova, O. M. On linear extrapolation of an isotropic random field on a system of spheres. *Theory Probab. Math. Statist. No.* 48 (1994), 55–60; *translated from Teor. Îmovîr. Mat. Stat. No.* 48 (1993), 79–87 (*Ukrainian. Ukrainian summary*). (Summary) **98b:60094** 60G60 (60G25)

Kuzovkov, V. N. (*with* Mai, Joachim; von Niessen, W.) A Lotka-type model for oscillations in surface reactions. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4171–4186. (Summary) **98i:82067** 82C80 (82C20, 92D25)

Kuzucuoğlu, F. (*with* Kaya, Arif) On strongly regular rings. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 395–398. 16E50

Kuzucuoğlu, Mahmut (*with* Zalesskiĭ, Aleksandr E.) Hall universal group as a direct limit of algebraic groups. *J. Algebra* **192** (1997), *no.* 1, 55–60. (B. Amberg) **98c:20076** 20F50 (20E18, 20E32, 20G15)

— (*with* Belyaev, V. V.) Barely transitive and Heineken Mohamed groups. *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 261–263. (Brunella Bruno) **98e:20008** 20B35 (20F50)

— Centralizers of abelian subgroups in locally finite simple groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 217–225. (Silvana Franciosi) **98e:20049** 20F50

— (*with* Hartley, Brian) Non-simplicity of locally finite barely transitive groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 483–490. (Howard Smith) **98h:20068** 20F50 (20B07)

— Locally finite barely transitive permutation group with almost nilpotent point stabilizers. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 73–75. (Summary) **98h:20006** 20B07

Kuzumaki, Takako The cohomological dimensions of excellent Henselian local domains. *Kyushu J. Math.* **51** (1997), *no.* 1, 179–184. (Tiberiu Dumitrescu) **98e:13015** 13D05 (13J15)

Kuzyurin, N. N. Approximations of integer linear programs. (Russian) *Combinatorial models and methods (Russian)*, 5–14, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1995. (*see* **98a:90005**) 90C10 (90C08)

— On the maximum α-depth of $(0,1)$-matrices in Ryser's classes. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 1, 12–13. (From the text) **98a:05036** 05B20

Kvam, Paul H. (*with* Singh, Harshinder) Estimating reliability of components with increasing failure rate using series system data. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 115–123. 90B25

Kvedaras, Bronius On the existence of regular solutions to a second-order strongly degenerate elliptic equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1376–1385, 1439; *translation in Differential Equations* **32** (1996), *no.* 10, 1373–1382 (1997). (Summary) **98i:35072** 35J70 (35J15)

— The structure of solutions of a strongly degenerate differential equation with holomorphic coefficients. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 2, 163–177; *translation in Lithuanian Math. J.* **36** (1996), *no.* 2, 131–141 (1997). (David Gurarie) **98b:35009** 35A20 (35B40)

Kventsel, G. (*with* Privman, Vladimir; Vagner, I. D.) Quantum computation in quantum-Hall systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 141–146. 81P99

Kvernadze, George Uniform convergence of Lagrange interpolation based on the Jacobi nodes. (English summary) *J. Approx. Theory* **87** (1996), *no.* 2, 179–193. (Kewal Krishna Mathur) **98e:41020** 41A25 (41A10)

Květoňová, Božena Gaspard Monge and descriptive geometry. (Czech) *Pokroky Mat. Fyz. Astronom.* **41** (1996), *no.* 5, 256–261. (J. S. Joel) **98d:01019** 01A50 (01A55, 01A70)

Kvitsinskiĭ, A. A. Zeta functions of nearly circular domains. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6379–6393. (Ivan G. Avramidi) **98e:58177** 58G26 (35J05, 35P05)

— Spectral functions of zeros of Bessel q-functions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **107** (1996), *no.* 3, 397–414; *translation in Theoret. and Math. Phys.* **107** (1996), *no.* 3, 740–754 (1997). (Boro Döring) **98e:33010** 33E20 (33C10, 41A60)

Kvyadaras, B. *see* **Kvedaras, Bronius**

Kvyadaras, B. V. *see* **Kvedaras, Bronius**

Kwack, Myung H. (*with* Joseph, James E.) Extension and convergence theorems for families of normal maps in several complex variables. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 6, 1675–1684. (Junjiro Noguchi) **98a:32004** 32A17 (32H20, 32H25, 54C20)

— (*with* Bayne, Richard E.; Joseph, James E.; Lawson, Thomas H.) A note on linear differential equations with constant coefficients. *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 41–45. 34A30

Kwak, Byung Man BIE-based shape sensitivity analysis and applications. (English summary) *Boundary integral formulations for inverse analysis*, 197–236, *Adv. Bound. Elem. Ser., Comput. Mech., Southampton*, 1997. (Summary) **98i:65109** 65N38 (49Q10, 73K40, 73V10)

— Nonlinear complementarity problem formulation of three-dimensional frictional contact and its numerical implementations. (English summary) *Contact mechanics, III (Madrid, 1997)*, 159–169, *Comput. Mech., Southampton*, 1997. (*see* **98h:73001**) 73T05 (73V20, 73V25)

— (*with* Kang, Koo Tae) Optimization of finite element grids using shape sensitivity analysis in terms of nodal positions. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 1, 1–19. (Summary) **98a:73054** 73V05 (73K40)

Kwak, Do Young (*with* Kang, Kab Seok; Yon, Yoon Jung) The analysis of multigrid method for nonconforming method for the stationary Stokes equations. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 343–357. (Jan Mandel) **98e:65096** 65N30 (65F10)

— A preconditioned GMRES method. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 201–208. (Summary) **98d:65038** 65F10 (65N06, 65N30)

— (*with* Yon, Yoon Jung) Two-level additive Schwarz preconditioners for $P1$ nonconforming finite elements for nonsymmetric and indefinite problems. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 1, 1–14. (Jacob Steinberg) **98d:65147** 65N30

— A norm estimate for the ADI method for nonsymmetric problems. (English summary) *Linear Algebra Appl.* **266** (1997), 127–141. (Summary) **98d:65162** 65N99

— (*with* Chou, So-Hsiang) Analysis and convergence of a MAC-like scheme for the generalized Stokes problem. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 147–162. (Lech Slawik) **98a:65154** 65N12 (65N35, 76D07, 76M25)

Kwak, Jin Ho (*with* Lee, Jaeun) Enumeration of connected graph coverings. (English summary) *J. Graph Theory* **23** (1996), *no.* 2, 105–109. (Michael Hofmeister) **98a:05083** 05C30 (05C10, 05C70, 20E05)

Kwak, Keumcheol (*with* Lim, Tong Kun; Yun, Mijeong) An experimental study of storing information in a controlled chaotic system with time-delayed feedback. (English summary) *Phys. Lett. A* **240** (1998), *no.* 6, 287–294. 58F13 (58F40)

Kwak, Minkyu (*with* Back, Jeongseon) Singular solutions of semilinear parabolic equations in several space dimensions. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1049–1064. (Summary) **98i:35083** 35K55 (35B05)

Kwakernaak, Huibert Symmetries in control system design. (English summary) *Trends in control (Rome, 1995)*, 17–51, *Springer, Berlin*, 1995. (Jacob Hammer) **98e:93053** 93B52 (93B35)

Kwan, Andy C. C. (*with* Wu, Yangru) Further results on the finite-sample distribution of Monti's portmanteau test for the adequacy of an ARMA(p,q) model. (English summary) *Biometrika* **84** (1997), *no.* 3, 733–736. 62M10

Kwan, C. W. (*with* Fung, Wing Kam) Further influence measures in factor analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1337–1353. (Summary) **98f:62175** 62H25

— (*with* Fung, Wing Kam) A note on local influence based on normal curvature. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 4, 839–843. 62F35 (62J20)

— (*with* Fung, Wing Kam) Assessing local influence for specific restricted likelihood: application to factor analysis. (English summary) *Psychometrika* **63** (1998), *no.* 1, 35–46. 62H25

Kwan, Yum K. (*with* Chow, Gregory C.) Chow's method of optimal control: a numerical solution. *J. Econom. Dynam. Control* **21** (1997), *no.* 4-5, 739–752. (Vincentiu Dumitru) **98k:93123** 93E20 (49M05)

Kwapień, Jarosław (*with* Słomczyński, Wojciech; Życzkowski, Karol) Coherent states measurement entropy. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3175–3200. (Robert Alicki) **98f:81079** 81Q50 (81P15, 81R30, 81R40, 82C10)

Kwapisz, Jarosław Stability in a semilinear boundary value problem via invariant conefields. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 86–101. (Sergei A. Vakulenko) **98k:35101** 35K57 (34B15, 34C99, 35B25)

Kwapisz, Marian (*with* Jackiewicz, Z.) Convergence of waveform relaxation methods for differential-algebraic systems. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2303–2317. (Michael Hanke) **98b:65077** 65L05 (34A09, 34A45, 34K40)

— (*with* Jackiewicz, Z.; Lo, Edisenter) Waveform relaxation methods for functional-differential systems of neutral type. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 255–285. (John W. Mooney) **98g:65123** 65Q05 (34K40, 65L06, 65L70)

— On difference equations arising in mathematics of finance. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1207–1218. (*see* **98i:00028**) 90A09 (39A10)

Kwasik, Sławomir (*with* Schultz, Reinhard) Isolated fixed points of circle actions on 4-manifolds. (English summary) *Forum Math.* **9** (1997), *no.* 4, 517–546. (Allan Edmonds) **98i:57027** 57M60 (55M35, 57N13, 57S10, 57S25)

— (*with* Schultz, Reinhard) Inductive detection for homotopy equivalences of manifolds. (English summary) *K-Theory* **11** (1997), *no.* 3, 287–306. (Ian Hambleton) **98g:57054** 57R67 (57R80, 57S17)

Kwaśniewski, A. K. (*with* Bajguz, W.) On generalized Clifford algebras—recent applications. (English summary) *Clifford algebras with numeric and symbolic computations*, 229–231, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

— (*with* Jaroszewski, I.) Dynamics of the Möbius mapping and Fibonacci-like sequences. *Fibonacci Quart.* **35** (1997), *no.* 3, 258–264. (Remo Badii) **98g:58110** 58F12 (11B39)

Kwasniok, F. Low-dimensional models of complex systems using principal interaction patterns. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 489–494. (*see* **98i:00027**) 93A30 (65M60, 93C20)

Kwatny, Harry G. (*with* Berg, Jordan M.) Unfolding the zero structure of a linear control system. (English summary) *Linear Algebra Appl.* **258** (1997), 19–39. (A. T. Barabanov) **98e:93019** 93B25 (58C27)

Kwek, K. H. (*with* Tung, C. T.) Two algorithms for finding a minimal ratio Hamiltonian cycle in a network. (English summary) *Optimization* **41** (1997), *no.* 1, 89–100. (Summary) **98d:90131** 90C35 (90B20)

Kwek, Stephen (*with* Helmbold, David P.; Pitt, Leonard) Learning when to trust which experts. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 134–149, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68145** 68T05 (68Q99)

Kweon, Jae Ryong An error analysis for the compressible Stokes equations in a strip with inflow boundary condition. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 293–299. (Biyue Liu) **98c:76068** 76M10 (76N10)

— Finite element methods for compressible Stokes equations with inflow boundary condition. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 217–225. (Jean-Luc Guermond) **98h:76085** 76M10 (65M60, 76N10)

Kwiat, Paul G. Production and uses of hyper-entangled states. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 189–202, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P99

— Hyper-entangled states. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2173–2184. 81V80

— (*with* Cerf, Nicolas J.; Adami, Christoph) Optical simulation of quantum logic. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 3, *R*1477–*R*1480. 81P99

Kwiatkowska, Marta (*with* Norman, Gethin) Probabilistic metric semantics for a simple language with recursion. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 419–430, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68Q55

— (*with* Baier, Christel; Clarke, Edmund M.; Hartonas-Garmhausen, Vasiliki; Ryan, Mark) Symbolic model checking for probabilistic processes. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 430–440, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q60

— (*with* Baier, Christel) Domain equations for probabilistic processes (extended abstract). (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (*see* **98g:68005**) 68Q10 (68Q55)

— (*with* Baier, Christel) On topological hierarchies of temporal properties. (English summary) *Partial order methods in verification* (*Princeton, NJ*, 1996), 141–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 29, *Amer. Math. Soc., Providence, RI*, 1997. (Gabriel Ciobanu) **98h:68163** 68Q60 (03B70)

Kwiatkowski, Jan (*with* Lacroix, Y.) Multiplicity, rank pairs. (English summary) *J. Anal. Math.* **71** (1997), 205–235. (Anthony Quas) **98i:28019** 28D05

— (*with* Blanchard, François) Minimal self-joinings and positive topological entropy. II. (English summary) *Studia Math.* **128** (1998), *no.* 2, 121–133. (Krzysztof Ciesielski) **98m:54042** 54H20 (28D20, 58F03)

Kwieciński, Andrzej (*with* Szekli, Ryszard) Some monotonicity and dependence properties of self-exciting point processes. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1211–1231. (Günter Last) **98b:60091** 60G55 (60K25)

Kwieciński, Michał Bounds for codimensions of Fitting ideals. (English summary) *J. Algebra* **194** (1997), *no.* 2, 378–382. (Jon L. Johnson) **98m:13018** 13C15

Kwok, T. W. C. (*with* Lui, S. H.; Keller, H. B.) Homotopy method for the large, sparse, real nonsymmetric eigenvalue problem. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 312–333. (T. Y. Li) **98b:65041** 65F15 (65N99)

Kwok, Yue-Kuen (*with* Zhang, Yongdong) Convergence analysis of a staggered pressure correction scheme for viscous incompressible flows. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 459–482. (Summary) **98g:76058** 76M20 (76D05)

Kwolek, Bogdan Path planning for a mobile laboratory robot using artifical potentials and transputer networks. (Polish. English and Polish summaries) *Studia Automat. Inform.* **22** (1997), 81–100. 70B15 (70Q05, 93C85)

Kwon, C. (*with* Oh, J.-H.) Storage capacities of committee machines with overlapping and non-overlapping receptive fields. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6273–6285. (Summary) **98k:82137** 82C32

Kwon, Jae-Hoon (*with* Hong, Jin; Jeong, Kyeonghoon) Integral points on hyperbolas. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 149–157. (Hartmut Menzer) **98e:11030** 11D09 (11H55)

Kwon, Joong-Sung Probability inequalities for product of independent Poisson processes. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 195–205. (Günter Last) **98j:60069** 60G55

— (*with* Pyke, Ronald) Probability bounds for product Poisson processes. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 137–158, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Miguel A. Arcones) **98e:60070** 60G55 (60E15)

— (*with* Jang, Lee-Chae; Kil, B. M.; Kim, Yun Kyong) Some properties of Choquet integrals of set-valued functions. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 95–98. 28E10 (04A72, 28B20)

— (*with* Jang, Lee-Chae) Convergences of sequences of set-valued and fuzzy-set-valued functions. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 2, 241–246. 54A40 (04A72, 54A20, 54C60)

— (*with* Jang, Lee-Chae) On the convergence of T-sum series of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 239–241. 26E50

Kwon, Jung-Hwan (*with* Suh, Young Jin) Lie derivatives on homogeneous real hypersurfaces of type A in complex space forms. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 459–468. (Jürgen Berndt) **98f:53053** 53C40

— (*with* Suh, Young Jin) On sectional and Ricci curvatures of semi-Riemannian submersions. (English summary) *Kodai Math. J.* **20** (1997), *no.* 1, 53–66. (Richard H. Escobales, Jr.) **98b:53062** 53C50

Kwon, K. H. *see* **Kwon, Kil Hyun**

Kwon, Ki-Ho Nonexistence of finite order solutions of certain second order linear differential equations. *Kodai Math. J.* **19** (1996), *no.* 3, 378–387. (Enid M. Steinbart) **98g:34012** 34A20

Kwon, Kil Hyun (*with* Lee, J. K.; Yoo, B. H.) Characterizations of discrete classical orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 471–482. (Peter Schroth) **98i:33010** 33C45

— (*with* Lee, Dong Won[1]; Littlejohn, L. L.) Sobolev orthogonal polynomials and second order differential equation. II. *Bull. Korean Math. Soc.* **33** (1996), *no.* 1, 135–170. (Khélifa Trimèche) **98g:33012** 33C45

— (*with* Lee, Dong Won[1]; Park, S. B.) On δ-semiclassical orthogonal polynomials. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 63–79. (Harold Exton) **98j:33005** 33C45 (33D20)

— (*with* Yoo, B. H.; Yoon, G. J.) A characterization of Hermite polynomials. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 295–299. (Summary) **98f:33018** 33C45

— (*with* Kim, Yong-Jihn; Lee, J. K.) Orthogonal polynomials in two variables and second-order partial differential equations. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 239–260. (Summary) **98m:33031** 33C50 (35A25, 35C05)

Kwon, O-Hun (*with* Zakharov, Viktor Vasil'evich) Linear programming approach in cooperative games. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 469–481. (Jos Potters) **98e:90239** 90D12 (90C05)

Kwon, Oh Sang On certain subclasses of starlike functions. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 305–315. (O. P. Ahuja) **98e:30014** 30C45

— Certain application of differential subordination. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 225–236. (F. W. Hartmann) **98e:30015** 30C45

— (*with* Owa, Shigeyoshi; Cho, Nak Eun) Some inequalities involving meromorphically multivalent functions. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 375–380. (L. A. Aksent'ev) **98i:30026** 30C55

— (*with* Kim, Ji A.; Cho, Nak Eun) Hadamard products of certain meromorphic functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 4, 13–24. (W. C. Royster) **98m:30017** 30C45

Kwon, Sae Ran (*with* Lee, In-Sok) Highest weight modules over quantum groups at roots of 1. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 889–898. 17B37 (17B10)

Kwon, Soon-Geol On the extrapolation of high accuracy wavelet reconstruction. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 417–423. 65R30 (42C15, 65D15)

Kwon, Soonhak Torsion subgroups of elliptic curves over quadratic extensions. (English summary) *J. Number Theory* **62** (1997), *no.* 1, 144–162. (Vincent Fleckinger) **98e:11068** 11G05

Kwon, Soun-Hi (*with* Park, Young Ho) Determination of all imaginary abelian sextic number fields with class number ≤ 11. *Acta Arith.* **82** (1997), *no.* 1, 27–43. (Stéphane Louboutin) **98i:11094** 11R29 (11R20)

— (*with* Jung, Seok-Won) Determination of all imaginary bicyclic biquadratic number fields of class number 3. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 83–89. (Franz Lemmermeyer) **98k:11159** 11R29 (11R20)

Kwon, T. H. (*with* Swanson, D. G.) Exact order reduction method in mode conversion problems. (English summary) *Phys. Plasmas* **4** (1997), *no.* 9, 3129–3140. 76X05

Kwon, Yonghoon (*with* Cho, Chung-Ki; Kang, Sungkwon) Estimation of soil water distribution: identifiability and observation design. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 105–120. (C. R. Hadlock) **98k:86030** 86A99 (76S05)

— (*with* Jun, S.-R.; Kang, Sungkwon) A variational spectral method for the two-dimensional Stokes problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 1–17. (Summary) **98k:76106** 76M25 (65M60, 76D07)

Kwon, Young In (*with* Lee, Sang Keun) On left, right weakly prime ideals on po-semigroups. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 315–321. (Summary) **98a:06023** 06F05

— The filters of the ordered Γ-semigroups. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 131–135. (Summary) **98j:06012** 06F35

Kwon, Younghun (*with* Yoon, Dall Sun) Super W_n gravity on compactified moduli space. (English summary) *Internat. J. Theoret. Phys.* **35** (1996), *no.* 12, 2597–2601. (Jan Sobczyk) **98f:81305** 81T40 (32G81, 81T15)

Kwon, Youngmee Twisted product representation of reflected Brownian motion in a cone. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 471–480. (S. Ramasubramanian) **98a:60115** 60J65 (60J60)

— Stability in distribution for a class of diffusions with jump. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 287–293. (Věra Lánská) **98m:60127** 60J60 (58G32, 60G44, 60J65)

Kwong, Harris *see* **Kwong, Y. H. Harris**

Kwong, Man Kam (*with* Bernis, Francisco) A Picard method without Lipschitz continuity for some ordinary differential equations. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 577–585. (Summary) **98e:34005** 34A12

— (*with* Hastings, S. P.; Troy, W. C.) The existence of multiple solutions for a Ginzburg-Landau type model of superconductivity. (English summary) *European J. Appl. Math.* **7** (1996), *no.* 6, 559–574. (Alexei D. Kiselev) **98e:82046** 82D55 (35Q55)

— (*with* Coşkun, Erhan) Simulating vortex motion in superconducting films with the time-dependent Ginzburg-Landau equations. (English summary) *Nonlinearity* **10** (1997), *no.* 3, 579–593. (Qi Tang) **98g:82053** 82D55 (35Q55, 82C80)

Kwong, Y. H. Harris Number of matchings in an n-octahedron. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 46–48. 05C70

— (*with* Kuo, David; Chang, Gerard J.) Cordial labeling of mK_n. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 121–131. (Summary) **98a:05127** 05C78

Kwun, Young Chel (*with* Ryu, Jong-Won; Park, Jong Yeoul) Minimum-time problem of nonlinear control system on separable reflexive Banach spaces. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 185–197. (Ovidiu Cârjă) **98a:49042** 49K40 (49J20, 93C73)

— (*with* Park, Jong Yeoul; Park, Dong-Gun; Kang, Weon-Kee) Controllability for nonlinear integrodifferential equations with delay. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 3, 371–394. (Jerzy Klamka) **98i:93007** 93B05 (45K05, 93C10, 93C20, 93C25)

— (*with* Park, Jong Yeoul; Jeong, Jin-Mun) Remark on controllability for semilinear evolution equation. (English summary) *Far East J. Math. Sci.* **1996,** *Special Volume, Part II*, 143–157. (Hong Xing Zhou) **98c:93016** 93B05 (34G20, 34H05, 93C20)

— (*with* Park, Dong-Gun; Kang, Weon-Kee) The existence and uniqueness of solutions for Volterra type integro-differential equation in a Hilbert space. (English summary) *Far*

East J. Math. Sci. **1996**, *Special Volume, Part II*, 195–205. (Hans Engler) **98c:45012** 45K05 (34K30, 47G20, 47N20)

— (*with* Park, Jong Yeoul; Jeong, Jin-Mun) Optimal initial functions of retarded control systems. (English summary) *Kybernetika (Prague)* **32** (1996), *no.* 5, 455–464. (A. Kósa) **98c:49052** 49K25

— (*with* Jeong, Jin-Mun; Park, Jong Seo; Ko, Bae-Jun) Approximate controllability of nonlinear delay parabolic equations under boundary control. (English summary) *Far East J. Appl. Math.* **1** (1997), *no.* 1, 67–82. (A. K. Nandakumaran) **98i:93004** 93B05 (35K55, 35R10, 93C20)

— (*with* Park, Jong Yeoul; Jeong, Jin-Mun) Optimal control for retarded control system. *Nihonkai Math. J.* **8** (1997), *no.* 1, 59–70. (Vyacheslav I. Maksimov) **98e:49062** 49K25 (34K35, 49J25)

nguyễn xuân Kỳ *see* **Nguyễn Xuân Kỳ**

Ky, Nguyen Xuan *see* **Nguyễn Xuân Kỳ**

Kye, Seung-Hyeok (*with* Lee, Sa-Ge) Intersections of maximal faces in the convex set of positive linear maps between matrix algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 917–924. (George Popescu) **98a:46075** 46L30 (15A30, 47B65, 47D25)

— Boundaries of the cone of positive linear maps and its subcones in matrix algebras. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 669–677. (Cho Ho Chu) **98a:46070** 46L05 (15A30)

— On the convex set of completely positive linear maps in matrix algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 45–54. (B. V. Rajarama Bhat) **98c:46118** 46L05 (15A48, 46L30)

Kyek, Olaf (*with* Parberry, Ian; Wegener, Ingo) Bounds on the number of knight's tours. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 2, 171–181. (R. C. Entringer) **98d:05067** 05C30 (05C45)

Kyparisis, George J. (*with* Koulamas, Christos) Open shop scheduling with maximal machines. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 175–187. (Summary) **98e:90078** 90B35

Kyprianou, A. E. (*with* Biggins, J. D.) Branching random walk: Seneta-Heyde norming. (English and French summaries) *Trees (Versailles, 1995)*, 31–49, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (P. Jagers) **98f:60166** 60J80

— (*with* Biggins, J. D.) Seneta-Heyde norming in the branching random walk. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 337–360. (Edward C. Waymire) **98a:60118** 60J80

Kyriakopoulos, Kostas J. (*with* Pappas, George J.) Stabilization of non-holonomic vehicles under kinematic constraints. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 933–947. 93D15 (93C85)

Kyriakoussis, A. (*with* Vamvakari, M. G.) Asymptotic normality of a class of discrete power series distributions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3359–3370. (*see* **98h:00034**) 60F05 (60C05, 62E20)

Kyriannakis, Efthimios (*with* Tzafestas, Spyros G.) Exact model matching in large scale systems with m-step delay sharing information pattern. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 5–16. 93A15

Kyriazidou, Ekaterini Estimation of a panel data sample selection model. (English summary) *Econometrica* **65** (1997), *no.* 6, 1335–1364. 62P20

— (*with* Honoré, Bo E.; Udry, Christopher) Estimation of type 3 Tobit models using symmetric trimming and pairwise comparisons. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 107–128. (Luis Firinguetti) **98c:62201** 62P20 (62J99)

Kyš, P. (*with* Gliviak, F.) Graphs related to diameter and center. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 1, 21–32. (David Burns) **98g:05053** 05C12 (05C38)

Kythe, Prem K. ★ An introduction to boundary element methods. With 1 IBM-PC floppy disk (3.5 inch; HD). *CRC Press, Boca Raton, FL*, 1995. xvi+368 *pp. ISBN* 0-8493-7377-8 (Wu Zhang) **98g:65002** 65-01 (65N38)

Kytmanov, A. M. (*with* Rea, Claudio) Removal of singularities of integrable CR-functions lying on Hölder peak sets. (Russian) *Dokl. Akad. Nauk* **341** (1995), *no.* 1, 22–23. (From the text) **98a:32010** 32D20

— (*with* Bykov, V. I.; Osetrova, T. A.) Computer algebra of polynomials. A modified method of elimination of unknowns. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 4, 443–445. 68Q40 (13P99)

— On removable singularities of integrable CR functions given on CR manifolds. *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 33–38, *World Sci. Publishing, River Edge, NJ*, 1997. (J. Merker) **98h:32018** 32D20 (32C16)

Kyu, T. (*with* Wang, Xin Yi; Fan, Shaobin) Complete and exact solutions of a class of nonlinear diffusion equations and problem of velocity selection. (English summary) *Phys. Rev. E (3)* **56** (1997), *no.* 5, *part A*, R4931–R4934. 35K55 (35C05, 76R50)

Kyuno, S. (*with* Veldsman, Stefan) Morita contexts and radicals of near-rings. *Rings and radicals (Shijiazhuang, 1994)*, 58–72, *Pitman Res. Notes Math. Ser.*, 346, *Longman, Harlow*, 1996. (John D. P. Meldrum) **98d:16057** 16Y30 (16D90, 16N80)

Kyurkchan, A. G. On the solution of the problem of wave scattering by several bodies. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 5, 603–607. (B. Belinskiy) **98f:78023** 78A45 (35Q99)

— On a method for solving problems of the scattering of waves by "transparent" obstacles. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 180–183. (From the text) **98h:78015** 78A45

Kyurkchiev, Nikolai V. (*with* Atanassova, Lidiya Y.; Andreev, Andrei St.) Combined iterative methods based on a modification of the Koenig theorem. (English summary) *Numerical methods and error bounds (Oldenburg, 1995)*, 23–37, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (Summary) **98d:65026** 65E05 (30C15)

— A note on the Le Verrier-Fadeev's method. (English summary) *BIT* **36** (1996), *no.* 1, 182–186. (V. L. Makarov) **98d:65057** 65F30

— (*with* Zheng, Shi Ming) Initial approximations in Wang-Zheng's root-finding method. *C. R. Acad. Bulgare Sci.* **49** (1996), *no.* 3, 17–20. (T. L. Freeman) **98m:65089** 65H05

— (*with* Petković, Miodrag S.) A note on the convergence of the Weierstrass SOR method for polynomial roots. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 163–168. (J. A. Grant) **98d:65067** 65H05

–L–

van der Laag, Patrick R. J. (*with* Nienhuys-Cheng, Shan-Hwei) Completeness and properness of refinement operators in inductive logic programming. (English summary) *J. Logic Programming* **34** (1998), *no.* 3, 201–225. (Summary) **98h:68039** 68N17 (68T05)

Laaksonen, Matti Oscillations in some nonlinear economic relationships. (English summary) Complex dynamics in economic and social systems (Umeå, 1995). *Chaos Solitons Fractals* **7** (1996), *no.* 12, 2235–2245. (Summary) **98b:90033** 90A16 (58F40)

van der Laan, Gerard (*with* Talman, A. J. J.; Yang, Zaifu) Existence of an equilibrium in a competitive economy with indivisibilities and money. (English summary) *J. Math. Econom.* **28** (1997), *no.* 1, 101–109. (Summary) **98a:90029** 90A14 (90D40)

— (*with* Herings, P. Jean-Jacques; Venniker, Richard) The transition from a Drèze equilibrium to a Walrasian equilibrium. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 303–330. 90A56

van der Laan, Mark J. An identity for the nonparametric maximum likelihood estimator in missing data and biased sampling models. (English summary) *Bernoulli* **1** (1995), *no.* 4, 335–341. (Summary) **98f:62101** 62G05

— (*with* Jewell, Nicholas P.) Generalizations of current status data with applications. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 141–148, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62P10

— Efficiency of the NPMLE in the line-segment problem. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 527–550. (I. V. Basawa) **98f:62102** 62G05

— (*with* Bickel, Peter J.; Jewell, Nicholas P.) Singly and doubly censored current status data: estimation, asymptotics and regression. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 289–307. (Patricia B. Cerrito) **98m:62103** 62G05

— Nonparametric estimators of the bivariate survival function under random censoring. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 178–200. 62N05

van der Laan, Paul (*with* Coolen, F. P. A.) On indifference zone selection with a preference threshold. (English summary) *Biometrical J.* **38** (1996), *no.* 5, 553–575. (B. R. Handa) **98m:62046** 62F07 (62F15)

— Distributional and efficiency results for subset selection. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 2, 159–174. (Khursheed Alam) **98i:62013** 62F07

— (*with* Chakraborti, S.) An overview of precedence-type tests for censored data. (English summary) *Biometrical J.* **39** (1997), *no.* 1, 99–116. (Summary) **98c:62189** 62N05 (62G10)

— (*with* Verheijen, J. H. M.; Coolen, F. P. A.) Combining two classical approaches for statistical selection. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1291–1312. (Summary) **98d:62030** 62F07

Laan, Twan ★ The evolution of type theory in logic and mathematics. (English and Dutch summaries) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. xii+342 *pp. ISBN* 90-386-0531-5 (Ugo de'Liguoro) **98k:03017** 03B15 (01A60, 03–03, 03B40)

Laanait, Lahoussine (*with* Moussa, Najem) Rigorous study of the spin-$\frac{1}{2}$ Ising model in a layered magnetic field at low temperatures. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1059–1068. (Azer Kerimov) **98f:82027** 82B20

van Laarhoven, Peter J. M. (*with* Aarts, Emile H. L.; Korst, Jan H. M.) Simulated annealing. *Local search in combinatorial optimization*, 91–120, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C27 (68T05, 82C80)

— (*with* Aarts, Emile H. L.; Liu, Chung Laung; Pan, Peichen) VLSI layout synthesis. *Local search in combinatorial optimization*, 415–440, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 68Q35 (90C27, 94A40)

Laayouni, Mustapha Théorème de Cohen-Hewitt dans une algèbre de Jordan-Fréchet. [Cohen-Hewitt theorem in a Jordan-Fréchet algebra] *Extracta Math.* **11** (1996), *no.* 3, 457–465. (Antonio Fernández López) **98d:46049** 46H70 (17C65)

Labahn, Roger (*with* Raspaud, André) Periodic gossiping in back-to-back trees. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 2, 157–168. (Summary) **98c:05152** 05C90 (05C05)

Labarca, R. (*with* San Martin, B.) Prevalence of hyperbolicity for complex singular cycles. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 343–362. (Gerhard Knieper) **98m:58105** 58F15 (58F25)

Labastida, J. M. F. Topological quantum field theory: a progress report. (English summary) *Differential geometry and its applications* (*Santiago de Compostela*, 1995), 101–124, *An. Fis. Monogr.*, 3, *CIEMAT, Madrid*, 199?. (Matilde Marcolli) **98i:58055** 58D29 (57R57, 81T70)

— (*with* Alvarez, Marcos) Vassiliev invariants for torus knots. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 6, 779–803. (Taizo Kanenobu) **98a:57007** 57M25

— (*with* Pérez, Esther) A relation between the Kauffman and the HOMFLY polynomials for torus knots. (English summary) *J. Math. Phys.* **37** (1996), *no.* 4, 2013–2042. (David H. Adams) **98b:57015** 57M25 (57R57, 81T13)

— (*with* Mariño, Marcos) Twisted $N = 2$ supersymmetry with central charge and equivariant cohomology. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 1, 37–71. (Bai-Ling Wang) **98g:58023** 58D29 (57R57, 58D19, 81T70)

— (*with* Alvarez, Marcos) Primitive Vassiliev invariants and factorization in Chern-Simons perturbation theory. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 641–654. (Răzvan Gelca) **98m:58138** 58G18 (57M25, 57R57, 81T13, 81T18)

— (*with* Mariño, Marcos) Twisted baryon number in $N = 2$ supersymmetric QCD. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 323–330. (Richard A. Corrado) **98e:81171** 81T60 (57R57, 81T13)

Labbi, Mohammed-Larbi Stability of the p-curvature positivity under surgeries and manifolds with positive Einstein tensor. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 4, 299–312. (Luis Guijarro) **98e:53065** 53C21 (53C20)

Labędzki, G. A topology generated by eventually different functions. (English summary) 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 37–53. (Summary) **98k:54026** 54C35 (03E40, 54A35)

Labella, Anna (*with* Ésik, Zoltán) Equational properties of iteration in algebraically complete categories. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 336–347, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 03G30 (68Q65)

— (*with* Ésik, Zoltán) Equational properties of iteration in algebraically complete categories. (English summary) Mathematical foundations of computer science (Cracow, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 1, 61–89. (Summary) **98j:18007** 18C10 (03C05, 03G30, 68Q65)

Labelle, Gilbert (*with* Constantineau, Ivan) Une généralisation automorphe des nombres de Stirling. (English and French summaries) [An automorphic generalization of the Stirling numbers] Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 53–64. (Laurent Habsieger) **98e:11023** 11B73 (05A15, 05A30)

Labenski, Caroline (*with* Piper, Bruce) Coils. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 5, 399–427. (Summary) **98f:65025** 65D17

Laberge, Claude A. (*with* Sandow, Sven) Stability of a nonequilibrium interface in a driven phase-segregating system. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 47–53. (Summary) **98i:80007** 80A22

Labergerie, Olivier (*with* Herbin, Raphaèle) Finite volume schemes for elliptic and elliptic-hyperbolic problems on triangular meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 1-2, 85–103. (Summary) **98f:65108** 65N30 (76M25)

Labib, Richard (*with* Lefebvre, Mario) Hitting lines and circles with diffusion processes. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 213–222. (M. Arató) **98k:60131** 60J60

— (*with* Lefebvre, Mario) Risk sensitive optimal control of wear processes. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 163–174, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:49023** 49K45 (93E20)

— (*with* Lefebvre, Mario) Temps d'atteinte de cercles pour des processus de Bessel bidimensionnels. (English and French summaries) [Hitting times of circles for two-dimensional Bessel processes] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 123–131. 60J05

Laborde, Colette *see* **Handbook: Mathematics education, 98a:00004**

Laborde, Jean Marie (*with* Madani, Rafaï Mourad) Generalized hypercubes and (0, 2)-graphs. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 447–459. (Summary) **98a:05124** 05C75

Laborde, Patrick Some remarks about modelization in elasticity. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 163–172, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (*see* **98i:00024**) 73C99 (73V99)

— (*with* Toson, B.; Pesqué, J.-J.) On the consistent tangent operator algorithm for thermoplastic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 3-4, 215–230. (Summary) **98e:73135** 73V05 (73B30, 73E50)

de La Bourdonnaye, Armel High frequency methods for integral equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 263–266. (*see* **98b:65005**) 65R20

— (*with* Nouri, Anne) Ionization and recombination in plasmas. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 643–660. (Carlo Cercignani) **98f:82112** 82C40 (76P05, 76X05, 82D10)

— (*with* Tolentino, Marc) Numerical simulation of scattering problems with Fourier-integral operators. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 613–631. (Vadim D. Kryakvin) **98g:35043** 35Jxx (35S05, 65M06)

— (*with* Carpentier, Romuald; Larrouturou, Bernard) On the derivation of the modified equation for the analysis of linear numerical methods. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 459–470. 65M15

Labra, Alicia (*with* Correa, Iván) Bernstein algebras satisfying a polynomial identity. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 3, 277–285. (Sebastian Walcher) **98i:17044** 17D92 (17A30)

— Automorphisms in a class of Jordan Bernstein algebras of order 2. *Comm. Algebra* **25** (1997), *no.* 2, 369–380. (Alexander V. Il'tyakov) **98a:17002** 17A30 (17D92)

vilca-Labra, F. *see* **Vilca-Labra, F.**

Labreuche, Christophe Inverse obstacle scattering problem based on resonant frequencies. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 169–185, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (Summary) **98i:35113** 35L05 (65M30, 78A45, 78A55)

— A convergence theorem for the fast multipole method for 2-dimensional scattering problems. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 553–591. (P. Rochus) **98g:65103** 65N12 (41A58)

Labruere, C. Generalized braid groups and mapping class groups. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 5, 715–726. (Masahico Saito) **98i:57028** 57M60 (20F36, 57M25)

Labrunie, Simon On the polynomial first integrals of the (a, b, c) Lotka-Volterra system. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5539–5550. (From the introduction) **98a:34012** 34A34 (34C05, 58F25, 58F40, 92D25)

— (*with* Conte, Robert) Discrete version of the Chazy class III equation. (English summary) *J. Phys. A* **29** (1996), *no.* 19, L499–L503. (Summary) **98m:39047** 39A12 (34C05)

— On the non-integrability of the SU(2) invariant Kähler-Einstein metrics. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 439–444. (Ian A. B. Strachan) **98j:53055** 53C25 (34A25)

de La Bruslerie, Hubert (*with* Mathis, Jean) Analyse de la relation entre primes de terme et prime de change dans un cadre d'équilibre international. (English and French summaries) [Term premiums and exchange rate premium: an analysis in an international capital market equilibrium framework] *Ann. Économ. Statist.* **1997,** *no.* 46, 85–113. 90A14 (90A70)

Labuda, Iwo (*with* Drewnowski, Lech) The Orlicz-Pettis theorem for topological Riesz spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 823–825. (Summary) **98e:46003** 46A40

— (*with* Drewnowski, Lech) Lacunary convergence of series in L_0. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1655–1659. (M. S. Ramanujan) **98g:40001** 40A30 (28A20, 46E30)

— (*with* Drewnowski, Lech) Copies of c_0 and l_∞ in topological Riesz spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3555–3570. (Yu. A. Abramovich) **98k:46007** 46A40 (46B45, 46E10)

Labunets, E. V. (*with* Labunets, V. G.) Application of hypercomplex moments in invariant pattern recognition. I. Complex moments and invariants. (Russian) *Radio age* (*Russian*), 84–103, 285–286, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68203** 68T10 (00A69)
— (*with* Labunets, V. G.) Application of hypercomplex moments in invariant pattern recognition. II. Quaternion moments and invariants. (Russian) *Radio age* (*Russian*), 104–122, 286, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68204** 68T10 (00A69)
— (*with* Assonov, M. V.; Labunets, V. G.; Lenz, Reiner) Application of hypercomplex moments in [nvariant] pattern recognition. III. Fast algorithms based on modular invariants. (Russian) *Radio age* (*Russian*), 123–150, 287, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68205** 68T10 (65D30)
Labunets, V. G. (*with* Labunets, E. V.) Application of hypercomplex moments in invariant pattern recognition. I. Complex moments and invariants. (Russian) *Radio age* (*Russian*), 84–103, 285–286, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68203** 68T10 (00A69)
— (*with* Labunets, E. V.) Application of hypercomplex moments in invariant pattern recognition. II. Quaternion moments and invariants. (Russian) *Radio age* (*Russian*), 104–122, 286, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68204** 68T10 (00A69)
— (*with* Assonov, M. V.; Labunets, E. V.; Lenz, Reiner) Application of hypercomplex moments in [nvariant] pattern recognition. III. Fast algorithms based on modular invariants. (Russian) *Radio age* (*Russian*), 123–150, 287, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Ilya S. Molchanov) **98h:68205** 68T10 (65D30)
Laburta, M. P. Starting algorithms for IRK methods. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 269–288. (T. E. Simos) **98f:65074** 65L06
Labute, John (*with* Koch, Helmut V.; Kukkuk, Susanne) Nilpotent local class field theory. *Acta Arith.* **83** (1998), *no.* 1, 45–64. (Ivan Fesenko) **98j:11113** 11S31
— *see also* **Serre, Jean-Pierre**, **98g:11066**
Laca, Marcelo (*with* Spielberg, John S.) Purely infinite C^*-algebras from boundary actions of discrete groups. *J. Reine Angew. Math.* **480** (1996), 125–139. (Erik Bédos) **98a:46085** 46L55 (22D25, 46L05, 46L80)
— (*with* Arledge, Jane; Raeburn, Iain) Semigroup crossed products and Hecke algebras arising from number fields. (English summary) *Doc. Math.* **2** (1997), 115–138 (*electronic*). (Steven P. Kaliszewski) **98k:46111** 46L55 (11R04, 22D25)
garcía lópez de Lacalle, Jesús *see* **García López de Lacalle, Jesús**
Lacan, J. (*with* Delpeyroux, E.) A note on normal bases. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 334–340, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Jaime-Luis Garcia-Roig) **98c:12001** 12E20 (11T30)
Lacarbonara, Walter (*with* Nayfeh, Ali H.) On the discretization of distributed-parameter systems with quadratic and cubic nonlinearities. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 3, 203–220. 73K12 (73V99)
de Lacerda Oliveira, Milton (*with* Muñoz Rivera, Jaime E.) Exponential stability for a contact problem in thermoelasticity. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 1, 71–82. (Meir Shillor) **98i:73052** 73T05 (35B35, 35Q72, 73B30)
Lacerda Olivera, Milton (*with* Muñoz Rivera, Jaime E.) Stability in inhomogeneous and anisotropic thermoelasticity. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 1, 115–127. (Reinhard Racke) **98d:73009** 73B30 (73B40)
Lacey, Michael On bilinear Littlewood-Paley square functions. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 387–396. (Jay Epperson) **98c:42017** 42B25
— On an inequality due to Bourgain. *Illinois J. Math.* **41** (1997), *no.* 2, 231–236. (Pedro Ortega Salvador) **98k:42005** 42A38 (28D05)
— (*with* Thiele, Christoph M.) L^p estimates for the bilinear Hilbert transform. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 1, 33–35. (E. R. Love) **98e:44001** 44A15 (42A50)
Lachal, Aimé Quelques martingales associées à l'intégrale du processus d'Ornstein-Uhlenbeck. Application à l'étude des premiers instants d'atteinte. (English summary) [Some martingales associated with the integral of the Ornstein-Uhlenbeck process. Application to the study of first hitting times] *Stochastics Stochastics Rep.* **58** (1996), *no.* 3-4, 285–302. (Pierre Vallois) **98e:60059** 60G15 (60G40, 60H10, 60J65)
— Les temps de passage successifs de l'intégrale du mouvement brownien. (English and French summaries) [Successive passage times of the integral of Brownian motion] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 1, 1–36. (F. B. Knight) **98g:60148** 60J65 (60J25)
— Local asymptotic classes for the successive primitives of Brownian motion. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1712–1734. (Davar Khoshnevisan) **98j:60112** 60J65 (60F15, 60G15, 60G17)
— Temps de sortie d'un intervalle borné pour l'intégrale du mouvement brownien. (English and French summaries) [First exit time from a bounded interval for integrated Brownian motion] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 559–564. (Summary) **98a:60116** 60J65
— Regular points for the successive primitives of Brownian motion. *J. Math. Kyoto Univ.* **37** (1997), *no.* 1, 99–119. (Zhan Shi) **98g:60149** 60J65 (60G17)
LaChapelle, J. Path integral solution of the Dirichlet problem. (English summary) *Ann. Physics* **254** (1997), *no.* 2, 397–418. (Summary) **98h:81067** 81S40 (58D30, 81Q20)
Lachaud, Gilles (*with* Tsfasman, M. A.) Formules explicites pour le nombre de points des variétés sur un corps fini. [Explicit formulas for the number of points of varieties over a finite field] *J. Reine Angew. Math.* **493** (1997), 1–60. (Amílcar Pacheco) **98m:11065** 11G25 (14G05, 14G15, 94B27)
— Sails and Klein polyhedra. (English summary) *Number theory* (*Tiruchirapalli*, 1996), 373–385, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Christoph Baxa) **98k:11094** 11H06 (11J70, 52C07)
Lache, Stefan Coxeter polynomials and domination of wild quiver algebras. *Comm. Algebra* **26** (1998), *no.* 1, 49–61. (Eduardo do Nascimento Marcos) **98m:16015** 16G10
Lachin, John (*with* Younes, Naji) Link-based models for survival data with interval and continuous time censoring. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1199–1211. 62P10
Lachlan, Alistair H. *see* **Algebraic model theory**, **98e:03026**
Lachout, Petr Periodic transformations of the sample average reciprocal value. (English summary) *Kybernetika* (*Prague*) **32** (1996), *no.* 5, 511–520. (R. A. Maller) **98f:60042** 60F05 (60G50, 60J15, 62F35)
Lachowicz, M. (*with* Arlotti, L.; Bellomo, N.; Polewczak, Jacek; Waluś, W.) ★ Lecture notes on the mathematical theory of the Boltzmann equation. Series on Advances in Mathematics for Applied Sciences, 33. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+255 *pp. ISBN* 981-02-2166-5 (A. Belleni-Morante) **98g:82036** 82C40 (35Q99, 76P05, 82-02, 82B40)
— (*with* Bellomo, N.; Polewczak, Jacek) The evolution of the generalized shape in immunology. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 53–58. (Summary) **98g:92002** 92C40 (45G10, 45K05, 92D25)
— From kinetic to Navier-Stokes-type equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 19–23. (Summary) **98j:76025** 76D05 (35Q30, 76M35, 82C40)
Laciana, Carlos E. Thermal conditions for scalar bosons in a curved spacetime. (English summary) *Gen. Relativity Gravitation* **28** (1996), *no.* 8, 1013–1026. (Wathek Talebaoui) **98c:83047** 83C47 (81T20)
— Thermal and dynamical particle creation in a curved geometry. (English summary) *Ann. Physics* **264** (1998), *no.* 2, 95–107. (Summary) **98m:81113** 81T20 (83C47)
Lack, Stephen (*with* Kelly, G. M.) On property-like structures. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 9, 213–250 (*electronic*). (R. H. Street) **98h:18005** 18C10 (18C15, 18D05)
Lackenby, Marc Dehn surgery on knots in 3-manifolds. *J. Amer. Math. Soc.* **10** (1997), *no.* 4, 835–864. (Martin Scharlemann) **98h:57034** 57N10 (57M25)
— Surfaces, surgery and unknotting operations. *Math. Ann.* **308** (1997), *no.* 4, 615–632. (Torsten Asselmeyer) **98j:57028** 57N10 (57M25)
Lacomba, Ernesto A. (*with* Ibort, Luis Alberto; de León, Manuel; Martín de Diego, David; Pitanga, Paulo) Mechanical systems subjected to impulsive constraints. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5835–5854. (Frans Cantrijn) **98h:70018** 70F30 (58F05, 70F25, 70H35)
Lacombe, Gilles (*with* Hirsch, Francis) ★ Éléments d'analyse fonctionnelle. (French. French summary) [Elements of functional analysis] Cours et exercices. [Course and exercises] Enseignement des Mathématiques. [The Teaching of Mathematics] *Masson, Paris*, 1997. x+340 *pp. ISBN* 2-225-85573-0 (J. Horváth) **98c:46001** 46-01 (47-01)
Lacoste, Thierry A simplified proof the the 0-1 law for existential second-order Ackermann sentences. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 413–418. (G. Fuhrken) **98k:03077** 03C13 (03C85)
— 0-1 laws by preservation. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 237–245. (Feodor Alexandrovich Murzin) **98k:03078** 03C13 (03C75, 03D15, 68Q15)
Lacour, C. (*with* Maday, Yvon) Two different approaches for matching nonconforming grids: the mortar element method and the FETI method. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 720–738. (*see* **98f:65005**) 65F30 (65Y05)
Lacroix, Y. (*with* Downarowicz, T.) A non-regular Toeplitz flow with preset pure point spectrum. (English summary) *Studia Math.* **120** (1996), *no.* 3, 235–246. (Summary) **98f:54032** 54H20 (28D05)
— (*with* Kwiatkowski, Jan) Multiplicity, rank pairs. (English summary) *J. Anal. Math.* **71** (1997), 205–235. (Anthony Quas) **98i:28019** 28D05
Lacroix, Zoé (*with* Grumbach, Stéphane; Lindell, Steven) Generalized implicit definitions on finite structures. (English summary) *Computer science logic* (*Paderborn*, 1995), 252–265, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98f:03035** 03C13 (03D15, 68P15, 68Q15)
— (*with* Grumbach, Stéphane) On non-determinism in machines and languages. (English summary) Non-determinism in databases. *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 1-2, 169–213. (Christine Charretton) **98f:68099** 68Q15 (03D15, 68P15)
Lacruz, Miguel (*with* Llavona, José G.) Composition operators between algebras of uniformly continuous functions. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 1, 52–56. (James T. Campbell) **98g:47026** 47B38 (46E15, 46J10)
de La Cruz, Omar *see* **De La Cruz, Omar**
Laczkovich, Miklós (*with* Ruzsa, Imre Z.) Measure of sumsets and ejective sets. I. *Real Anal. Exchange* **22** (1996/97), *no.* 1, 153–166. (Étienne Matheron) **98k:28013** 28A99 (26D15, 28C10, 43A25)
— (*with* Ruzsa, Imre Z.) The number of homothetic subsets. (English summary) *The mathematics of Paul Erdős, II*, 294–302, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (Ákos Seress) **98e:52017** 52C10
— On Lambert's proof of the irrationality of π. *Amer. Math. Monthly* **104** (1997), *no.* 5, 439–443. (Carsten Elsner) **98a:11090** 11J72 (11A55)
— (*with* Humke, Paul D.) A visit to the Erdős problem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 819–822. (Harry I. Miller) **98e:28003** 28A05 (04A20)
— Analytic subgroups of the reals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1783–1790. (Jakub Jasiński) **98g:04001** 04A15 (28A05)
Lad, Frank ★ Operational subjective statistical methods. (English summary) A mathematical, philosophical, and historical introduction. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1996. xx+484 *pp. ISBN* 0-471-14329-4 (Angelo Gilio) **98m:62009** 62A15 (03B48, 60A05)
Łada, Andrzej Half-space Fourier transform in application to non-linear hyperbolic initial-boundary-value problem: low regularity solutions. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 18, 1599–1616. (Kosuke Ono) **98m:35135** 35L70 (35L55)
Ladányi, László (*with* Eső, Márta; Ralphs, Theodore K.; Trotter, Leslie E., Jr.) Fully parallel generic branch-and-cut. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 90C10 (65Y05)
Ladas, G. (*with* Grove, E. A.; Kocic, V. L.; Levins, R.) Oscillation and stability in a genotype selection model with several delays. Difference equations: theory and applications (San Francisco, CA, 1995). *J. Differ. Equations Appl.* **2** (1996), *no.* 2, 205–217. (Sui Yang Chen) **98a:39016** 39A11 (92D40, 92F05)
— (*with* Grove, E. A.; Zhang, Shu Nian) On a nonlinear equation with piecewise constant argument. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 1, 67–79. (V. Šeda) **98a:34076** 34K15 (34K20)

— (*with* Feuer, J.; Janowski, E. J.) Lyness-type equations in the third quadrant. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1183–1189. (From the text) **98m:39012** 39A10

— (*with* Grove, E. A.; Kent, C. M.) Boundedness and persistence of the nonautonomous Lyness and max equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 241–258. (Summary) **98m:39013** 39A10

— (*with* DeVault, R.; Schultz, S. W.) Necessary and sufficient conditions for the boundedness of $x_{n+1} = A/x_n^p + B/x_{n-1}^q$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 259–266. (Summary) **98m:39009** 39A10

— (*with* Janowski, E. J.; Kocic, V. L.; Tzanetopoulos, G.) Global behavior of solutions of $x_{n+1} = [\max\{x_n^k, A\}]/x_{n-1}$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 297–310. (Summary) **98m:39015** 39A10

— (*with* DeVault, R.; Dial, G.; Kocic, V. L.) Global behavior of solutions of $x_{n+1} = ax_n + f(x_n, x_{n-1})$. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 3-4, 311–330. (Summary) **98m:39010** 39A10 (92D40)

Ladd, Anthony J. C. (*with* Koch, Donald L.) Moderate Reynolds number flows through periodic and random arrays of aligned cylinders. (English summary) *J. Fluid Mech.* **349** (1997), 31–66. (Summary) **98k:76030** 76D07 (76M25)

Ladda, R. K. (*with* Raina, R. K.) A new family of functional series relations involving digamma functions. (English summary) *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 189–198. (V. L. Deshpande) **98g:33016** 33C50 (33C60)

Ladde, Gangaram S. (*with* Okonkwo, Zephyrinus C.) Itô-type stochastic differential systems with abstract Volterra operators and their control. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 461–468. (Summary) **98i:93078** 93E03 (34K35, 34K50, 60H10)

Ladegaillerie, Yves Réduction de 3-complexes galoisiens. Complexes sphériques. (English and French summaries) [Reduction of Galois complexes. Spherical complexes] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 651–654. (Summary) **98b:57023** 57M40 (57N10)

Ladeira, Luiz A. C. (*with* Tanaka, Sueli M.) A method to calculate periodic solutions of functional-differential equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 1–19. (Elena Litsyn) **98b:34092** 34K15 (34C25)

Ladelli, L. (*with* Fortini, Sandra; Regazzini, Eugenio) A central limit problem for partially exchangeable random variables. (Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 353–379; *reprinted in Theory Probab. Appl.* **41** (1996), *no.* 2, 224–246 (1997). (N. C. Weber) **98f:60039** 60F05 (60G09)

Ladevèze, P. (*with* Blanze, C.; Champaney, L.; Cognard, J.-Y.) A modular approach to structure assembly computations: application to contact problems. *Engrg. Comput.* **13** (1996), *no.* 1, 15–32. (Summary) **98b:73043** 73V20 (73T05, 73V05)

— (*with* Rougeot, Ph.) New advances on a posteriori error on constitutive relation in f.e. analysis. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 239–249. (Summary) **98i:65091** 65N15 (73V05)

Ladkin, Peter B. (*with* Reinefeld, Alexander) Fast algebraic methods for interval constraint problems. (English summary) *Ann. Math. Artificial Intelligence* **19** (1997), *no.* 3-4, 383–411. (Summary) **98b:68171** 68T20 (03G15)

Ladner, Richard E. (*with* LaMarca, Anthony; Tempero, Ewan) Counting protocols for reliable end-to-end transmission. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 96–111. (Summary) **98m:68012** 68M10

Ladopoulos, E. G. (*with* Zisis, V. A.) Existence and uniqueness for non-linear singular integral equations used in fluid mechanics. (English summary) *Appl. Math.* **42** (1997), *no.* 5, 345–367. (R. C. MacCamy) **98k:45005** 45G05 (45E05, 76B99)

Ladouceur, H. D. (*with* Shaw, J. K.; Baronavski, A. P.) Applications of the Walker method. *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 377–395, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (T. E. Simos) **98g:34045** 34B24 (34E20, 78A10)

Ladra González, Manuel (*with* R.-Grandjeán L.-Valcárcel, Alfredo) Nilpotent crossed modules for homology. *Comm. Algebra* **26** (1998), *no.* 2, 417–424. (Graham J. Ellis) **98m:16014** 16E99 (18G99)

Ladyzhenskaya, O. A. (*with* Ivochkina, Nina M.) Estimation of the second derivatives for surfaces evolving under the action of their principal curvatures. *Topol. Methods Nonlinear Anal.* **6** (1995), *no.* 2, 265–282. (Ben Andrews) **98c:58028** 58E12 (35J60, 35K55, 53A10)

— (*with* Ivochkina, Nina M.) Estimates for first-order derivatives for solutions of some classes of non-totally parabolic equations. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 109–131. (Ya Zhe Chen) **98m:35087** 35K55 (35B45)

— On global existence of weak solutions to some 2-dimensional initial-boundary value problems for Maxwell fluids. (English summary) *Appl. Anal.* **65** (1997), *no.* 3-4, 251–255. 35Q35 (35D05, 76A05)

— (*with* Aleksandrov, Aleksandr Danilovich; Reshetnyak, Yu. G.) Semën Samsonovich Kutateladze (on the occasion of his fiftieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 201–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 447–450. 01A70

— (*with* Marchenko, Vladimir Aleksandrovich; Mitropol'skiĭ, Yuriĭ Alekseevich; Novikov, S. P.; Pogorelov, Alekseĭ Vasil'evich) Evgeniĭ Yakovlevich Khruslov (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 205–206; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1351–1353. 01A70

— In memoriam A. P. Oskolkov [1934–1995]. (Russian) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 5–9. 01A70

Laemmer, Lutz (*with* Burghardt, Michael) Parallel mesh generation. (English summary) *Solving irregularly structured problems in parallel* (*Paderborn*, 1997), 1–12, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65M55 (65N55, 65Y05)

Laevskiĭ, Yu. M. Preconditioning operators for grid parabolic problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **11** (1996), *no.* 6, 497–515. (Stanly L. Steinberg) **98a:65136** 65M55 (65M50)

— (*with* Rudenko, O. V.) On the convergence of locally one-dimensional schemes for solving the third boundary value parabolic problem in nonrectangular domains. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 452–455. (V. D. Glushenkov) **98h:65044** 65M60 (65M15)

Lafay, Jean-François (*with* Sename, Olivier) Decoupling of square linear systems with delays. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 736–742. (Summary) **98d:93052** 93B52 (93C05)

— (*with* Picard, Pascal; Kučera, Vladimír) Feedback realization of nonsingular precompensators for linear systems with delays. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 848–852. (Jerzy Klamka) **98d:93029** 93B15 (93C30)

Laffey, Thomas J. A sparsity result on nonnegative real matrices with given spectrum. (English summary) *Linear operators* (*Warsaw*, 1994), 187–191, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **98b:15023** 15A48

Laffont, Jean-Jacques (*with* Green, Jerry) Nonverifiability, costly renegotiation and efficiency. (English and French summaries) *Ann. Économ. Statist.* **1994**, *no.* 36, 81–95. (Summary) **98c:90029** 90A43 (90D12)

— (*with* Martimort, David) Collusion under asymmetric information. (English summary) *Econometrica* **65** (1997), *no.* 4, 875–911. 90A05 (90D12)

Lafforgue, Laurent Compactification de l'isogénie de Lang et dégénérescence des structures de niveau simple des chtoucas de Drinfeld. (English and French summaries) [Compactification of the Lang isogeny and degeneration of simple-level structures of Drinfel'd's shtukas] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1309–1312. (Summary) **98k:14069** 14L30 (14D99, 14G15)

Lafitte, O. Diffraction for a Neumann boundary condition. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 555–580. (Peter R. Popivanov) **98g:35134** 35L20 (35J15, 35S15, 78A45)

Laflamme, Claude (*with* García-Ferreira, Salvador) The γ_p property and the reals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1791–1798. (Carlos A. Di Prisco) **98g:04002** 04A20 (03E05, 03E15, 03E35)

Laflamme, Raymond (*with* Gregory, Ruth) A classical instability for black strings and p-branes. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 190–194, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83118** 83E30 (83C75)

— (*with* Knill, Emanuel) Theory of quantum error-correcting codes. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 900–911. (S. Gudder) **98j:81039** 81P15

Lafon, Jean-Pierre Ideals and modules. *Handbook of algebra, Vol.* 1, 705–727, *North-Holland, Amsterdam*, 1996. (Lawrence S. Levy) **98a:13001** 13-01 (13Cxx)

Lafont, Yves Erratum: "Interaction combinators" [Inform. and Comput. **137** (1997), no. 1, 69–101]. *Inform. and Comput.* **142** (1998), *no.* 2, 237. 68Q05 (03B40, 03B70)

Laforest, C. Broadcast and gossip in line-communication mode. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 161–176. (Summary) **98i:05155** 05C90

Laforge, Christophe Divertissements mathématiques: à la découverte des cubes. [Mathematical diversions: discovering cubes] *Rev. Questions Sci.* **168** (1997), *no.* 1, 61–68. 11P05

Laforgia, Andrea (*with* Elbert, Árpád) An upper bound for the zeros of the derivative of Bessel functions. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 123–130. (Boro Döring) **98m:33008** 33C10

— *see also* **Ismail, Mourad E. H., 98f:33006**

Lafortune, Stéphane (*with* Cassandras, Christos G.; Olsder, Geert Jan) Introduction to the modelling, control and optimization of discrete event systems. *Trends in control* (*Rome*, 1995), 217–291, *Springer, Berlin*, 1995. (C. Praagman) **98i:93055** 93C83 (93–02)

— (*with* Grammaticos, B.; Ramani, A.) Constructing integrable third-order systems: the Gambier approach. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 287–298. (Summary) **98m:34020** 34A34 (34A25, 58F07)

Lafourcade, Alec (*with* Vardy, Alexander) Optimal sectionalization of a trellis. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 3, 689–703. (Irina Bocharova) **98d:94037** 94B12

Lafrance, René (*with* Demers, Jean-Guy; Myers, Robert C.) Black hole entropy and renormalization. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 227–232, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:83065** 83C57

Lagarias, Jeffrey C. (*with* Daubechies, Ingrid) On the thermodynamic formalism for multifractal functions. (English summary) *The state of matter* (*Copenhagen*, 1992), 213–264, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 58F11 (28A80, 35Q99)

— (*with* Bernstein, Daniel J.) The $3x + 1$ conjugacy map. (English summary) *Canad. J. Math.* **48** (1996), *no.* 6, 1154–1169. (Štefan Porubský) **98a:11027** 11B75 (11B83)

— The $3x + 1$ problem and its generalizations [MR 86i:11043]. *Organic mathematics* (*Burnaby, BC*, 1995), 305–334, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 11K55 (11K31)

— (*with* Prabhu, Nagabhushana; Reeds, J. A.) The d-step conjecture and Gaussian elimination. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 1, 53–82. (P. McMullen) **98j:52015** 52B05

— (*with* Flatto, Leopold) The lap-counting function for linear mod one transformations. II. The Markov chain for generalized lap numbers. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 123–146. (Makoto Mori) **98e:58139** 58F20

— (*with* Flatto, Leopold) The lap-counting function for linear mod one transformations. III. The period of a Markov chain. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 369–403. (Makoto Mori) **98e:58140** 58F20

— (*with* Richardson, Thomas J.) Convexity and the average curvature of plane curves. (English summary) *Geom. Dedicata* **67** (1997), *no.* 1, 1–30. (G. D. Chakerian) **98f:52007** 52A40 (52A10, 53A04)

— (*with* Wang, Yang[3]) Integral self-affine tiles in $\mathbb{R}^n$. II. Lattice tilings. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 83–102. (Mihail N. Kolountzakis) **98b:52026** 52C22

— (*with* Wang, Yang[3]) Spectral sets and factorizations of finite abelian groups. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 73–98. (Palle E. T. Jorgensen) **98b:47011b** 47A13 (11K70, 20C35, 28A80, 42A20, 42C10, 46N20, 47F05)

— (*with* Richardson, Thomas J.) Multivariate Descartes rule of signs and Sturmfels's challenge problem. *Math. Intelligencer* **19** (1997), *no.* 3, 9–15. (Mordechai Katzman) **98i:14054** 14P05 (13P05, 52B70)

— (*with* Prabhu, Nagabhushana) Counting d-step paths in extremal Dantzig figures. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 19–31. (Evangelos Kranakis) **98m:52014** 52B05 (05A15)

Iamnabhi-Lagarrigue, Françoise *see* **Lamnabhi-Lagarrigue, Françoise**

Lagergren, Jens (*with* Fernández-Baca, David) On the approximability of the Steiner tree problem in phylogeny. (English summary) *Algorithms and computation* (*Osaka*, 1996), 65–74, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q25 (92D15)

— (*with* Kann, Viggo; Panconesi, Alessandro) Approximate Max k-Cut with subgraph guarantee. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 145–150. (Summary) **98k:68137** 68R10 (05C15, 05C85)

Laget, O. (*with* Dias, Frédéric) Numerical computation of capillary-gravity interfacial solitary waves. (English summary) *J. Fluid Mech.* **349** (1997), 221–251. (Shu Ming Sun) **98m:76025** 76B25 (35Q35, 76B15, 76B45, 76M25)

Laghribi, Ahmed Formes quadratiques en 8 variables dont l'algèbre de Clifford est d'indice 8. (English summary) [Quadratic forms in 8 variables whose Clifford algebra has index 8] *K-Theory* **12** (1997), *no.* 4, 371–383. (Detlev W. Hoffmann) **98j:11023** 11E04 (11E81, 11E88, 12G05)

Laghrouche, Omar (*with* Bettess, Peter) Derivation of a rectangular finite element for potential problems from consistency criteria. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 35–42. 65N30

Lagler, Manfred (*with* Volkmann, Peter) Über Fixpunktsätze in geordneten Mengen. (German summary) [On fixed-point theorems in ordered sets] *Math. Nachr.* **185** (1997), 111–114. (J. C. Ault) **98h:06005** 06A06

Lagnado, Ronald (*with* Brennan, Michael J.; Schwartz, Eduardo S.) Strategic asset allocation. (English summary) Computational financial modelling. *J. Econom. Dynam. Control* **21** (1997), *no.* 8-9, 1377–1403. (*see* **98c:90003**) 90A09 (93E03)

Lagnese, John E. A comparison of models of a folded plate. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 113–131 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Juan M. Viaño Rey) **98m:73060** 73K10 (35Q72, 73C02)

— Recent progress and open problems in control of multi-link elastic structures. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 161–175, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98i:73044** 73K50 (35Q72, 93C20)

— Boundary controllability in problems of transmission for a class of second order hyperbolic systems. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 343–357 (*electronic*). (A. O. Oganesyan) **98k:35114** 35L55 (93B05, 93C20)

Lagno, Viktor Ivanovich (*with* Zhdanov, R. Z.) On the new exact solutions of the Yang-Mills equations. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 26–31. (Summary) **98h:53120** 53C80 (35A30, 35C05, 53C07, 81T13)

— (*with* Fushchich, Vīl′gel′m Īllīch) On new nonlinear equations that are invariant under the Poincaré group in two-dimensional space-time. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 60–65 (1997). (Summary) **98f:22025** 22E70 (35A30, 81R05)

— (*with* Smalīĭ, V. F.) $\tilde{P}(1,3)$-invariant ansatzes for the Maxwell field. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 12, 49–54 (1997). (Summary) **98c:78008** 78A25 (35Q60)

— Conformally invariant ansätze for the Maxwell field. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 392–400. (*see* **98h:00044**) 78A25 (35Q60)

— (*with* Fushchich, Vīl′gel′m Īllīch) Reduction of self-dual Yang-Mills equations on subgroups of the extended Poincaré group. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 416–432; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 329–342. (Eugene K. Loginov) **98g:81130** 81T13 (53C80)

dal Lago, Walter *see* **Dal Lago, Walter**

Lagoa, C. M. (*with* Barmish, B. Ross) The uniform distribution: a rigorous justification for its use in robustness analysis. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 203–222. (B. T. Polyak) **98k:93080** 93D09

lópez Lagomasino, G. *see* **López Lagomasino, G.**

Lagoudas, Dimitris C. (*with* Ding, Zhong Hai) A domain transformation technique in oxygen diffusion problems with moving oxidation fronts on unbounded domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 2, 361–384. (Summary) **98m:80001** 80–08 (80A22)

Lagraa, M. (*with* Hammou, A. B.) The BRST operator of quantum symmetries: the quantum analogs of Donaldson invariants. *J. Math. Phys.* **38** (1997), *no.* 9, 4462–4473. (Tomasz Brzeziński) **98k:58016** 58B30 (17B37, 57R57, 58D29, 81R50)

— (*with* Benaoum, H. B.) $U_q(2)$ Yang-Mills theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 553–568. (Mathias Pillin) **98m:81071** 81R50 (81T13)

Lagrange, J. L. *see* **Giacardi, Livia et al., 98i:01012**

Laguna, Manuel (*with* Martí, Rafael; Valls Verdejo, Vicente) Arc crossing minimization in hierarchical digraphs with tabu search. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 12, 1175–1186. (Summary) **98i:05057** 05C10 (05C20)

Laguna-Castillo, Pablo Alternatives to finite difference methods in numerical relativity. (English summary) *Relativity and scientific computing*, 88–110, *Springer, Berlin*, 1996. (*see* **98i:83003**) 83–08 (65M06)

— (*with* Gómez, Roberto; Papadopoulos, Philippos O.; Winicour, Jeffrey) Cauchy-characteristic evolution of Einstein-Klein-Gordon systems. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 4719–4727. (Francis Cagnac) **98f:83008** 83C05 (58G16)

— (*with* Krivan, William; Papadopoulos, Philippos O.; Andersson, Nils) Dynamics of perturbations of rotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3395–3404. (Summary) **98e:83080** 83C57 (83–08)

Lagunoff, Roger On the dynamic selection of mechanisms for provision of public projects. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 10, 1699–1725. 90A27

Lagunova, N. V. Construction of a strategy for the evader that ensures its simultaneous capture by all pursuers. (Russian. Russian summary) *Mathematical modeling and optimal control* (*Russian*), 79–82, *Izdat. Nizhegorod. Gos. Univ., Nizhniĭ Novgorod*, 1994. (*see* **98b:49003**) 90D26

— (*with* Grigorenko, N. L.; Kiselev, Yu. N.; Silin, D. B.; Trin′ko, N. G.) Solution methods for two-player differential games. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 2. *Comput. Math. Model.* **8** (1997), *no.* 1, 34–48. (Patrick Saint-Pierre) **98d:90146** 90D25 (93B03)

Lagvilava, E. (*with* Janashia, G.) On factorization and partial indices of unitary matrix-functions of one class. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 439–442. (I. Spitkovsky) **98g:47017** 47A68 (15A23)

Lahaie, Charles H. (*with* Elliott, Robert James; Madan, Dilip B.) Filtering derivative security valuations from market prices. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 141–162, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Lahdhiri, T. (*with* Alouani, A. T.) Non-linear excitation control of a synchronous generator using robust feedback linearization. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 237–256. 93D15 (93B18)

Lahiri, Abhijit (*with* Das, N. C.; Giri, R. R.) Eigenvalue approach to generalized thermoelasticity. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1573–1594. (Summary) **98m:73008** 73B30

— (*with* Ghosh, Gautam; Kar, T. K.) Action-angle variables in quantum mechanics. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 239–243. (Summary) **98m:81087** 81S99

Lahiri, Amitabha Dynamical non-abelian two-form: BRST quantization. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5045–5050. (Liviu Tătar) **98c:81224** 81T70

Lahiri, B. K. (*with* Lahiri, Indrajit) A note on Cacciopoli's fixed point theorem. *Math. Student* **64** (1995), *no.* 1-4, 67–68 (1996). 54H25

— (*with* Lahiri, Indrajit) Normal structure under isometry. *Math. Student* **64** (1995), *no.* 1-4, 218–220 (1996). 46B20

— (*with* Das, Pratulananda) Measures in bitopological spaces. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 10, 985–994. (Summary) **98f:28017** 28C15 (54E55)

— (*with* Banerjee, Dibyendu) A note on maximum modulus theorem for several complex variables. *Math. Ed.* (*Siwan*) **31** (1997), *no.* 4, 218–219. 32A99

Lahiri, Indrajit (*with* Lahiri, B. K.) A note on Cacciopoli's fixed point theorem. *Math. Student* **64** (1995), *no.* 1-4, 67–68 (1996). 54H25

— (*with* Lahiri, B. K.) Normal structure under isometry. *Math. Student* **64** (1995), *no.* 1-4, 218–220 (1996). 46B20

— A note on mean value property and monotonicity. *Bull. Korean Math. Soc.* **33** (1996), *no.* 3, 329–334. (From the introduction) **98e:26004** 26A24 (26A48)

— The transformation of zeros of entire functions—an application of Banach's fixed point theorem. *J. Indian Math. Soc.* (*N.S.*) **62** (1996), *no.* 1-4, 81–88. (A. K. Agarwal) **98h:30044** 30D05

— Points of bounded variation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 4, 501–507. (Sophia Demoulini) **98b:26011** 26A45

— Uniqueness of meromorphic functions as governed by their differential polynomials. (English summary) *Yokohama Math. J.* **44** (1997), *no.* 2, 147–156. (Hong Xun Yi) **98d:30049** 30D35 (30D30)

Lahiri, Kabita (*with* Ray, Kamakhya Charan) On extension of positive measures. *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 1, 11–16. (A. G. Poroshkin) **98k:28002** 28A10

— (*with* Ray, Kamakhya Charan) On some density properties of sets. (English summary) *Ganita* **47** (1996), *no.* 1, 29–34. (Elżbieta Wagner) **98b:28004** 28A05

Lahiri, Parthasarathi (*with* Arora, Vipin) On the superiority of the Bayesian method over the BLUP in small area estimation problems. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1053–1063. 62D05

Lahiri, Somdeb An algorithm for the min-max loss rule for claims problems. (English summary) *Opsearch* **34** (1997), *no.* 2, 97–104. 90D10 (90A05)

Lahiri, Soumendra Nath (*with* Karabulut, I.) Two-term Edgeworth expansion for M-estimators of a linear regression parameter without Cramér-type conditions and an application to the bootstrap. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 361–370. (Lin-Cheng Zhao) **98g:62046** 62F12 (62G09, 62J05)

— Variance stabilizing transformations, Studentization and the bootstrap. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 1, 105–123. (Olcay Akman) **98h:62076** 62G09 (62F25)

— Bootstrapping weighted empirical processes that do not converge weakly. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 295–302. (Summary) **98m:62133** 62G09 (62E20, 62M99)

Lahno, V. I. *see* **Lagno, Viktor Ivanovich**

Lahno, Victor *see* **Lagno, Viktor Ivanovich**

Lahti, Pekka J. (*with* Busch, Paul; Mittelstaedt, Peter) ★ The quantum theory of measurement. Second edition. Lecture Notes in Physics. New Series m: Monographs, 2. *Springer-Verlag, Berlin*, 1996. xiv+181 *pp. ISBN* 3-540-61355-2 (Koichiro Matsuno) **98b:81019** 81P15 (00A30, 00A79, 01A60, 81–01)

— (*with* Busch, Paul) Remarks on separability of compound quantum systems and time reversal. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 2, 113–117. (M. J. Mączyński) **98f:82005** 82B10

— (*with* Pulmannová, Sylvia) Coexistent observables and effects in quantum mechanics. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 339–351. (Paul Busch) **98i:81013** 81P10 (81P05)

— (*with* Cassinelli, Gianni; De Vito, Ernesto; Levrero, Alberto) Symmetry groups in quantum mechanics and the theorem of Wigner on the symmetry transformations. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 921–941. (S. Gudder) **98k:81082** 81R05 (22E70)

Lahtonen, Jyrki (*with* Koponen, Sami) On the aperiodic and odd correlations of the binary Shanbhag-Kumar-Helleseth sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1593–1596. (Simon N. Litsyn) **98j:94036** 94B65 (11T23)

Lai, C.-H. *see* **Lai, Choi Hong**

Lai, Chen-Yao G. A note on optimal hybrid V-cycle multilevel algorithms for mixed finite element systems with penalty term. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 6, 491–498. 65N30 (65F30)

Lai, Chin-Diew (*with* Xie, Min[1]) On the increase of the expected lifetime by parallel redundancy. (English summary) *Asia-Pacific J. Oper. Res.* **13** (1996), *no.* 2, 171–179. (Mohamed E. Ghitany) **98c:62192** 62N05 (90B25)

— The recurrent event process of a success preceded by a failure and its application. (English summary) *J. Appl. Math. Decis. Sci.* **1** (1997), *no.* 2, 101–117. (Summary) **98k:60157** 60K05 (62N10)

— (*with* Shi, Dao Ji) Fisher information for Downton's bivariate exponential distribution. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 2, 123–127. 62B10

Lai, Chinglin (*with* Ghosh, Subir) Measuring influence of observations in prediction and estimation for central composite designs. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 1, 233–257. (Summary) **98k:62126** 62J10

Lai, Choi Hong (*with* Cuffe, A. M.; Pericleous, K. A.) A defect equation approach for the coupling of subdomains in domain decomposition methods. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 81–94. 65N55

Lai, Choy-Heng (*with* Zhou, Cangtao; Yu, Ming-Young) Bifurcation behavior of the generalized Lorenz equations at large rotation numbers. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5225–5239. (Summary) **98h:76042** 76E15 (58F14, 58F40, 76C99, 76U05)

Lai, Chu Sheng (*with* Yu, Xin Guo; Huang, Wen Qi) A theory and algorithm for the factorization of bivariate polynomials with integer coefficients. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *no.* 3, 388–391. 68Q40 (13P05, 68Q25)

Lai, Chun Hui Some applications of quasi-range-preserving operators. (Chinese. English and Chinese summaries) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **10** (1996), *no.* 4, 7–9. (Pei Yuan Wu) **98b:47043** 47B38

— Some properties of quasi-keep-range operators and their applications. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 56–62. (W. Żelazko) **98h:47045** 47B38 (46E15)

Lai, Dejian (*with* Chen, Guanrong) Statistical analysis of Lyapunov exponents from time series: a Jacobian approach. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 1–9. 62M10 (58F13)

Lai, Donsen (*with* Chen, Tung Yang) An exact correspondence between plane piezoelectricity and generalized plane strain in elasticity. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2689–2713. (Summary) **98h:73069** 73R05 (73B40, 73K20)

Lai, Hang-Chin (*with* Chen, Jia-Wen) On the generalized Euler-Lagrange equations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 681–697. (Andrzej Nowakowski) **98h:49021** 49K05 (49K27)

— (*with* Chen, Jia-Wen) Moreau-Rockafellar type theorems for nonconvex and non-locally Lipschitz integral functional on $L^p(T, X)$. (English summary) *Optimization* **39** (1997), *no.* 2, 103–122. (Summary) **98c:49041** 49J52 (49K10)

— (*with* Liu, Jen-Chwan) Multiobjective programming of set functions. (English summary) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 118–131. (*see* **98g:00027**) 90C29

— Optimality conditions for semi-preinvex programming. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 389–404. (Summary) **98j:90060** 90C29 (90C26)

Lai, Hong-Jian (*with* Chen, Zhi-Hong) Reduction techniques for super-Eulerian graphs and related topics—a survey. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 53–69, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:05126** 05C45

— (*with* Chen, Zhi-Hong; Kuang, Ying-Qiang) Generalized matroid packings and coverings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 155–160. (Summary) **98j:05045** 05B35

Lai, Kon S. (*with* Cheung, Yin-Wong) Bandwidth selection, prewhitening, and the power of the Phillips-Perron test. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 679–691. 62P20

— (*with* Cheung, Yin-Wong) Power of the augmented Dickey-Fuller test with information-based lag selection. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 1, 57–65. 62M10

Lai, Ming-Jun Bivariate spline spaces on FVS-triangulations. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 309–316, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A15 (41A63)

— On fundamental solutions for multivariate singular interpolation. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 3, 73–92. (Dinh Dung) **98b:41012** 41A15 (41A63)

— On C^2 quintic spline functions over triangulations of Powell-Sabin's type. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 135–155. (D. C. Handscomb) **98a:41002** 41A05 (41A63, 65D05)

— Geometric interpretation of smoothness conditions of triangular polynomial patches. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 2, 191–199. (Summary) **98a:65020** 65D17

Lai, Qinsheng A note on weighted maximal inequalities. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 193–205. (Da Chun Yang) **98b:42033** 42B25 (47B38)

Lai, Shao Yong The asymptotic theory of a class of nonlinearly perturbed wave equations and its application. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **19** (1996), *no.* 6, 56–61. 35B25 (35L70)

— (*with* Mu, Chun Lai) The asymptotic theory of initial value problems for semilinear wave equations in three space dimensions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 321–332. (Alexander A. Pankov) **98k:35128** 35L70 (35B25, 35C20)

— The asymptotic theory of semilinear perturbed telegraph equation and its application. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 7, 657–662; *translated from Appl. Math. Mech.* **18** (1997), *no.* 7, 611–616 (*Chinese. English and Chinese summaries*). (Summary) **98h:35161** 35L70 (35B25)

— The Sobolev exponents of semilinear wave equations in higher-dimensional spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 623–626. (Summary) **98g:35146** 35L70 (35B65)

— The asymptotic theory of initial value problems for a nonlinearly [nonlinear] beam equation and its application. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 102–106. (Juan M. Viaño Rey) **98i:35190** 35Q72 (35L70, 73D35, 73K05)

Lai, Tsung-Chyan (*with* Kuo, Yuh-Kwo) Minimizing total tardiness for single machine sequencing. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 3, 316–321. (Summary) **98b:90071** 90B35

— (*with* Sot-skov, Yu. N.; Sotskova, N. Yu.; Werner, Frank) Optimal makespan scheduling with given bounds of processing times. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 67–86. (Peter Brucker) **98m:90075** 90B35

Lai, Tze Leung (*with* Zhang, Li Min) Nearly optimal generalized sequential likelihood ratio tests in multivariate exponential families. (English summary) *Multivariate analysis and its applications (Hong Kong*, 1992), 331–346, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H15 (62L10)

— Change of measures, likelihood ratio martingales and some applications. *Five decades as a mathematician and educator*, 117–135, *World Sci. Publishing, River Edge, NJ*, 1995. (Robert Kertz) **98a:62105** 62L10 (60G44, 62L15)

— (*with* Govindarajulu, Z.) A multivariate Chernoff-Savage theorem with applications to rank statistics from multivariate populations. (English summary) *Research developments in probability and statistics*, 125–140, *VSP, Utrecht*, 1996. (Edgar Brunner) **98i:62052** 62H10 (62G10, 62G20)

— (*with* Gross, Shulamith T.) Nonparametric estimation and regression analysis with left-truncated and right-censored data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1166–1180. (Keh-Wei Chen) **98d:62059** 62G05

— (*with* de la Peña, Victor H.) Moments of randomly stopped U-statistics. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 2055–2081. (Pawel Hitczenko) **98m:60070** 60G40 (60F25, 62L12)

— (*with* Graves, Todd L.) Asymptotically efficient adaptive choice of control laws in controlled Markov chains. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 715–743. (Summary) **98i:93092** 93E35 (90C40, 93E20)

— On optimal stopping problems in sequential hypothesis testing. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 33–51. (Alexander V. Gnedin) **98h:62123** 62L15 (62L10)

— (*with* Lee, Chang Ping) Information and prediction criteria for model selection in stochastic regression and ARMA models. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 285–309. (Summary) **98f:62260** 62M10

— (*with* Gu, Ming Gao^2) Repeated significance testing with censored rank statistics in interim analysis of clinical trials. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 411–428. 62G10 (62L10)

Lai, Weng Chuen (*with* Cook, P. A.) A discrete-time universal regulator. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 17–32. 93B52 (93C55)

Lai, Yanlian (*with* He, Guo Ping; Gao, Zi You) New sequential quadratic programming algorithm with consistent subproblems. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 137–150. (José Mario Martínez) **98e:90159** 90C30 (65K05)

Lai, Ying-Cheng (*with* Grebogi, Celso) Controlling chaos in high dimensions. (English summary) Special issue on chaos synchronization, control, and applications. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 10, 971–975. (*see* **98g:93002**) 93B55 (93C10)

— (*with* Grebogi, Celso; Hayes, Scott) Control and applications of chaos. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 1115–1146. (B. V. Loginov) **98m:58091** 58F13 (58F12, 93C10)

— (*with* Yalçınkaya, Tolga) Bifurcation to strange nonchaotic attractors. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 2, 1623–1630. 58F14

— Scaling laws for noise-induced temporal riddling in chaotic systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3897–3908. (Summary) **98f:58137** 58F13

— (*with* Nagai, Yoshihiko) Periodic-orbit theory of the blowout bifurcation. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4031–4041. (Summary) **98e:58141** 58F20

— (*with* Grebogi, Celso) Controlling chaotic dynamical systems. (English summary) Control of chaos and synchronization. *Systems Control Lett.* **31** (1997), *no.* 5, 307–312. (Summary) **98k:93053** 93C10 (34H05, 58F13)

Lai, Yu-Ling (*with* Lin, Wen-Wei; Pierce, Daniel J.) Conjugate gradient and minimal residual methods for solving symmetric indefinite systems. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 243–256. (Summary) **98f:65037** 65F10

— (*with* Lin, Kun-Yi; Lin, Wen-Wei) An inexact inverse iteration for large sparse eigenvalue problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 425–437. (Summary) **98f:65042** 65F15 (65F10, 65F50)

Lai, Yun Zhong (*with* Liang, Jiu Qing) Interaction of two-mode SU(1, 1) coherent states with a V-type three-energy-level atom in a Kerr-type medium. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1710–1717. 81V80 (81R30)

Lai, Yung-Ling (*with* Williams, Kenneth L.) Some bounds on bandwidth, edgesum, and profile of graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 25–31. (*see* **98h:05004**) 05C35 (05C78)

— (*with* Williams, Kenneth L.) On bandwidth for the tensor product of paths and cycles. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 2, 133–141. (Yixun Lin) **98a:05128** 05C78 (05C35)

Laih, Chi-Sung (*with* Kuo, Wen-Chung) Speeding up the computations of elliptic curves cryptoschemes. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 5, 29–36. (Summary) **98b:94013** 94A60 (14H52, 68P25)

— (*with* Yang, Ching-Nung) A note on error-correcting codes for authentication and subliminal channels. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 3, 141–143. 94A40

Laihonen, T. (*with* Honkala, Iiro S.; Litsyn, Simon N.) On covering radius and discrete Chebyshev polynomials. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 395–401. (Giorgio Faina) **98i:94049** 94B65 (94B75)

Laine, Ilpo (*with* Chiang, Yik-Man; Wang, Shupei) An oscillation result of a third order linear differential equation with entire periodic coefficients. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 25–34. (Summary) **98h:34005** 34A20 (30D35)

Lainiotis, Demetrios G. (*with* Katsikas, Sokratis K.) Lainiotis filters applications in seismic signal processing. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2385–2395. (*see* **98i:00030**) 94A12

Lair, Alan V. (*with* Shaker, Aihua W.) Classical and weak solutions of a singular semilinear elliptic problem. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 371–385. (Summary) **98d:35077** 35J65 (35D05)

— (*with* Shaker, Aihua W.) Uniqueness of solution to a singular quasilinear elliptic problem. *Nonlinear Anal.* **28** (1997), *no.* 3, 489–493. (Bo Guan) **98a:35039** 35J65 (35B05)

Laird, Nan (*with* Shah, Amrik; Schoenfeld, David) A random-effects model for multiple characteristics with possibly missing data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 775–779. (Summary) **98f:62213** 62J10

Johnson-Laird, P. N. *see* **Johnson-Laird, P. N.**

trambly de Laissardière, G. *see* **Trambly de Laissardière, G.**

Laita, Luis M. Structural verification of knowledge-based systems. (Spanish) *Rev. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **89** (1995), *no.* 1-2, 143–172. (Maria-Teresa Lamata) **98h:68216** 68T99 (68Q60)

— (*with* Roanes-Lozano, Eugenio; Roanes-Macías, Eugenio) An inference engine for propositional two-valued logic based on the radical membership problem. (English summary) *Artificial intelligence and symbolic mathematical computation* (*Steyr*, 1996), 71–86, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98f:68240** 68T15 (03B35, 68Q40)

— (*with* de Ledesma, Luis; Pérez, Aurora; Borrajo, Daniel) A computational approach to George Boole's discovery of mathematical logic. (English summary) *Artificial Intelligence* **91** (1997), *no.* 2, 281–307. (Marcel Guillaume) **98c:01026** 01A55 (03–03, 68T30, 68T35)

Laitinen, Erkki (*with* Honkasalo, Hannu) Equivariant Lefschetz classes in Alexander-Spanier cohomology. *Osaka J. Math.* **33** (1996), *no.* 3, 793–804. (A. A. Ranicki) **98h:55009** 55N91 (57S17)

— *see also* **Illman, Sören**, **98f:01067**

Laitinen, M. T. Radiation heat transfer in absorbing, emitting and scattering media. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 114–118, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 85A25 (45P05, 47G10)

— (*with* Tiihonen, Timo) Heat transfer in conducting and radiating bodies. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 5–8. (Summary) **98d:80005** 80A20

— (*with* Tiihonen, Timo) Integro-differential equation modelling heat transfer in conducting, radiating and semitransparent materials. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 375–392. (Summary) **98m:45016** 45K05 (47G10, 80A20)

Laitko, Hubert Physikgeschichte von innen betrachtet: Friedrich Hund als Historiker seines Faches. [History of physics considered from the inside: Friedrich Hund as historian of his field] *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1996**, *no.* 5, 49 *pp.* (Arne Schirrmacher) **98g:01052** 01A60 (00A79, 81–03)

Laitochová, Jitka Associated linear differential equations to linear second order differential equations of Sturm, Jacobi and general form. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 127–136. (Summary) **98c:34013** 34A30 (34A25, 34C99)

— Algebraic structure of phase functions. *Acta Math. Hungar.* **73** (1996), *no.* 4, 301–318. (Ondřej Došlý) **98i:34053** 34C10 (34A30)

de Laix, Andrew A. (*with* Krauss, Lawrence M.; Vachaspati, Tanmay) Gravitational lensing signature of long cosmic strings. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 11, 1968–1971. (Summary) **98d:83094** 83F05

Lajmi, Sallouha Une caractérisation des familles exponentielles de Riesz. (English and French summaries) [A characterization of Riesz exponential families] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 915–920. (Summary) **98m:62162** 62H05 (60E05, 62E10)

Lajos, Sándor (*with* Kehayopulu, Niovi) A note on semigroups, ordered semigroups. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 1, 51–56. (Editors) **98b:06021** 06F05 (20M99)

— (*with* Jun, Young Bae) Fuzzy (1, 2)-ideals in semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 67–74. 20M12 (04A72)

— (*with* Kehayopulu, Niovi; Lepouras, George) A note on bi- and quasi-ideals of semigroups, ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 75–81. 20M12 (06F05)

— (*with* Kehayopulu, Niovi; Tsingelis, Michael) A note on filters in ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 83–93. 06F05 (20M05)

— (*with* Jun, Young Bae) On fuzzy (1, 2)-ideals in semigroups. II. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 335–338. 20M12 (04A72)

Lakaev, S. N. (*with* Abullaev, Zh. I.; Ikromov, I. A.) On embedded eigenvalues and resonances of the generalized Friedrichs model. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 1, 54–62; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 1, 390–397. (Evgeni L. Korotyaev) **98h:81020** 81Q10 (47A40, 47A55, 47N50)

— (*with* Abdullaev, Zh. I.) Finiteness of the discrete spectrum of the three-particle Schrödinger operator on a lattice. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 1, 94–108; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 1, 467–479. (Lech Zielinski) **98k:81049** 81Q10 (47B39, 47N50)

Lake, Kayll (*with* Musgrave, Peter) GRTensor, a system for making the classical functions of general relativity elementary. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 317–320, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83–04

— (*with* Musgrave, Peter) Differential invariants and regularity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 307–311, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Volker Perlick) **98h:83014** 83C15 (83C20)

— (*with* Musgrave, Peter; Pollney, Denis) GRTensorII: a computer algebra system for general relativity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics* (*Fredericton, NB*, 1995), 313–318, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98c:83003** 83–04 (83–08)

— (*with* Musgrave, Peter) Junctions and thin shells in general relativity using computer algebra. II. The null formalism. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1285–1294. (Sergey I. Tertychniy) **98h:83001** 83–04 (83–08, 83C99)

Lakeev, A. V. (*with* Kreinovich, Vladik; Rohn, Jiří; Kahl, Patrick) ★ Computational complexity and feasibility of data processing and interval computations. (English summary) Applied Optimization, 10. *Kluwer Academic Publishers, Dordrecht*, 1998. xii+459 *pp. ISBN* 0-7923-4865-6 (G. Alefeld) **98m:65080** 65G10 (65–02, 65Y20, 68Q25)

Lakemeyer, Gerhard Relevance in a logic of only knowing about and its axiomatization. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 163–180, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Otávio Bueno) **98m:03043** 03B45 (03B46)

— (*with* Lang, Wilfried) Belief revision in a nonclassical logic. (English summary) *KI-96: Advances in artificial intelligence* (*Dresden*), 199–211, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (*see* **98d:68016**) 68T27 (03B45, 03B46, 03B60, 03B70)

Lakey, Joseph D. (*with* Trappe, Wade) Signal analysis by composite wavelet transforms. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 243–250, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15 (94A12)

Lakeyev, Anatoly *see* **Lakeev, A. V.**

Lakhal, A. (*with* Bayada, Guy; Chambat, Michele; Rochet, L.) A dynamic frictionless contact problem using Signorini like compliance laws. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1245–1260. (Meir Shillor) **98h:73072** 73T05 (73V25)

si-Lakhal, B. *see* **Si-Lakhal, B.**

Lakhal, J. (*with* Litzler, L.) A polynomial algorithm for the extendability problem in bipartite graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 11–16. (Summary) **98j:68223** 68R10 (05C85, 68Q25)

Lakhany, A. M. (*with* Whiteman, John R.) Superconvergent recovery operators: derivative recovery techniques. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 195–215, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Summary) **98j:65079** 65N30 (65D30)

Lakhlili, Zakia (*with* Chenouni, Driss; Benoit, Claude; Poussigue, Gérard; Sakout, Abdallah) Computation of electromagnetic waves diffraction by spectral moments method. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 2, 165–175. (Summary) **98j:78003** 78–08 (78A45)

Lakhwara, Monika (*with* Gupta, Virendra K.; Gupta, Vandana; Jat, K. L.) Approximation of a function by partial sums of its Fourier-Laguerre series. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **40** (1997), *no.* 2, 103–109. 42C10

Lakic, Nikola The minimal norm property for quadratic differentials in the disk. *Michigan Math. J.* **44** (1997), *no.* 2, 299–316. (Alexander Vasil'ev) **98d:30027** 30C62 (30F60)

Lakić, Slobodan Matrix inverse square root. (English summary) *Proceedings of the Mathematical Conference in Priština* 1994, 139–143, *Univ. Priština, Priština*, 1995. (*see* **98b:00030**) 65F35

— A quasi-optimum JOR method. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 165–167. (Introduction) **98m:65046** 65F10

— (*with* Petković, Miodrag S.) On the third order method for computing the matrix square root. (English summary) *PRIM '96* (*Budva*), 147–156, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 65F30

Lakin, W. D. (*with* Yu, Jun[2]; Penar, P.) Mathematical modeling of pressure dynamics in the intracranial system. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 2, 103–130. 92C30

Lakner, Mitja (*with* Petek, Peter) The one-equator property. (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 109–115. (I. N. Baker) **98h:58160** 58F23 (30D05)

Lakoba, T. I. (*with* Kaup, D. J.) How the variational method can give rise to false instabilities. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 169–176, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:35182** 35Q55 (35A15)

— (*with* Kaup, D. J.; Malomed, Boris A.) Solitons in nonlinear fiber couplers with two orthogonal polarizations. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 5, *part B*, 6107–6120. (Summary) **98d:78012** 78A60 (35Q55, 78A10)

— (*with* Kaup, D. J.) Stability of solitons in nonlinear fiber couplers with two orthogonal polarizations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 4791–4802. (Summary) **98i:78020** 78A60

— (*with* Kaup, D. J.) Perturbation theory for the Manakov soliton and its applications to pulse propagation in randomly birefringent fibers. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 6147–6165. (Summary) **98j:78008** 78A10 (35Q55)

— (*with* Kaup, D. J.; Matsuno, Y.) Complete integrability of the Benjamin-Ono equation by means of action-angle variables. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 123–133. (Summary) **98j:35157** 35Q53 (58F07)

Lakos, Charles On the abstraction of coloured Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 42–61, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

Laković, Bosa (*with* Potapov, M. K.; Simonov, B. V.) On estimates for the moduli of smoothness of functions that have a fractional derivative. (Russian) *Math. Montisnigri* **7** (1996), 41–52. (Eduard Belinskii) **98i:41018** 41A25 (26A15, 26A33, 46E35)

Lakser, H. (*with* Grätzer, George; Schmidt, E. T.) Isotone maps as maps of congruences. I. Abstract maps. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 105–135. (James W. Lea, Jr.) **98d:06011** 06B10 (06D05, 08A30)

Lakshman, Y. N. (*with* Saunders, B. David) Sparse shifts for univariate polynomials. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 351–364. (Summary) **98h:13038** 13P05 (68Q40)

Lakshmanan, Laks V. S. (*with* Sadri, Fereidoon; Subramanian, Iyer N.) Logic and algebraic languages for interoperability in multidatabase systems. (English summary) *J. Logic Programming* **33** (1997), *no.* 2, 101–149. (Summary) **98d:68058** 68P15 (68N17)

Lakshmanan, M. (*with* Muruganandam, P.) Bifurcation analysis of the travelling waveform of FitzHugh-Nagumo nerve conduction model equation. (English summary) *Chaos* **7** (1997), *no.* 3, 476–487. (Summary) **98h:35224** 35Q80 (35B32, 92C20)

— (*with* Radha, R.) A new class of induced localized coherent structures in the (2 + 1)-dimensional nonlinear Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3229–3233. (Summary) **98h:35187** 35Q55

— (*with* Senthil Velan, M.) Lie symmetries and infinite-dimensional Lie algebras of certain (1 + 1)-dimensional nonlinear evolution equations. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3261–3271. (Summary) **98c:35008** 35A30 (17B65, 35Q58)

— (*with* Myrzakulov, R.; Vijayalakshmi, S.; Nugmanova, G. N.) A (2 + 1)-dimensional integrable spin model: geometrical and gauge equivalent counterpart, solitons and localized coherent structures. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 391–396. (Summary) **98k:58117** 58F07 (58F40, 82B20)

— (*with* Venkatesan, A.) Bifurcation and chaos in the double-well Duffing-van der Pol oscillator: numerical and analytical studies. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6321–6330. (Summary) **98h:58122** 58F13 (34C15, 58C27, 70K50)

Lakshmibai, Venkatramani (*with* Gonciulea, N.) Degenerations of flag and Schubert varieties to toric varieties. (English summary) *Transform. Groups* **1** (1996), *no.* 3, 215–248. (E. Akyıldız) **98a:14065** 14M15 (14M25)
— (*with* Magyar, Peter) Standard monomial theory for Bott-Samelson varieties. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1211–1215. (Summary) **98g:14065** 14M17
— (*with* Song, M.) A criterion for smoothness of Schubert varieties in $\mathrm{Sp}(2n)/B$. (English summary) *J. Algebra* **189** (1997), *no.* 2, 332–352. (From the introduction) **98h:14061** 14M15
Lakshmibala, S. (*with* Seshadri, S.; Balakrishnan, Venkataraman) Geometric phases for generalized squeezed coherent states. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 2, 869–875. (Vitor R. Vieira) **98e:81064** 81R30
Lakshmikantham, V. (*with* Sivasundaram, Seenith) Stability of moving invariant sets and uncertain dynamic systems on time scales. *First International Conference on Nonlinear Problems in Aviation and Aerospace (Daytona Beach, FL, 1996)*, 331–340, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93D05 (34C30, 34D99)
— (*with* Guo, Dajun; Liu, Xinzhi) ★ Nonlinear integral equations in abstract spaces. (English summary) Mathematics and its Applications, 373. *Kluwer Academic Publishers Group, Dordrecht*, 1996. viii+341 *pp. ISBN* 0-7923-4144-9 (J. Švejda) **98a:45001** 45–02 (34K30, 45Gxx, 45J05, 45N05, 47H30, 47N20)
— (*with* Vatsala, A. S.) Stability of moving invariant sets. *Advances in nonlinear dynamics*, 79–83, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Introduction) **98i:93068** 93D09 (34D99)
— (*with* Maulloo, A. K.; Sen, Syamal Kumar; Sivasundaram, Seenith) Solving linear programming problems exactly. (English summary) *Appl. Math. Comput.* **81** (1997), *no.* 1, 69–87. (Pham Trong Quat) **98c:90067** 90C05
— (*with* Jankowski, Tadeusz) Monotone iterations for differential equations with a parameter. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 273–278. (Summary) **98e:34024** 34A45
— (*with* Yin, Yunfeng) Existence and comparison principle for impulsive parabolic equations with variable times. (English summary) *Nonlinear World* **4** (1997), *no.* 2, 145–156. (Florin Iacob) **98m:35214** 35R10 (35B05, 35K55)
Lakshminarayan, Choudur K. (*with* Han, Chien-Pai) On estimating the mean in a bivariate normal distribution with equal or unequal variances. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 2, 155–170. 62H12
Lakshminarayanan, V. (*with* Varadharajan, S.) Dynamic programming, the Fermat principle, and the eikonal equation revisited. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 713–716. (Summary) **98i:90122** 90C39 (49L20)
Lakshmi Prasannam, V. (*with* Murty, Kanuri Narasimha; Anand, P. V. S.) First order difference system—existence and uniqueness. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3533–3539. (V. G. Kurbatov) **98f:39015** 39A12
Laktionov, S. A. On complexes of two-dimensional planes in a projective space with one critical line. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 78–80; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 5, 75–77. (Vladislav Goldberg) **98j:53020** 53A20
Laktionova, S. V. Some properties of compact topological semigroups. (Russian) *Modern algebra, No. 1 (Russian)*, 58–61, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Ljubiša Kočinac) **98m:22003** 22A15 (22A20, 22C05)
Lal, Arbind Kumar Some games related to permutation group statistics and their type B analogues. (English summary) *Ars Combin.* **45** (1997), 276–286. (Summary) **98c:90208** 90D60 (05E15)
— (*with* Janwa, H.) On the generalized Hamming weights of cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 299–308. (Summary) **98j:94030** 94B15
Lal, Nand (*with* Kumar, Sanjay) Non-compactness of derivations on $B(l^2)$. *J. Indian Math. Soc. (N.S.)* **61** (1995), *no.* 3-4, 255–259. (Martin Mathieu) **98k:47070** 47B47 (46L57)
Lal, Prem (*with* Banerjee, Mihir B.; Shandil, R. G.; Prakash, Jyoti; Bandral, Balraj Singh; Kanwar, Vinay) On Howard's conjecture in heterogeneous shear flows instability of modified s-waves. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 825–834. (Nikolai A. Belov) **98f:76031** 76E05
Lal, Rama Shankar *see* **Prasad, Ramashis**
Lal, Shiva Narain (*with* Sreedhar, C.; Murthy, P. P.) Common fixed points in Saks spaces. (English summary) *Progr. Math. (Varanasi)* **28/29** (1994/95), 59–70 (1996). (Xie Ping Ding) **98e:47096** 47H10
Lal, Shyam On K^{λ}-summability of Fourier series. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 385–390. 42A24
— On K^{λ}-summability of conjugate series of Fourier series. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 97–104. 42A24
— On $K^{\lambda,\mu}$-summability of a double Fourier series. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 327–336. 42B08
Lal, Sunder (*with* Singh, Bhopal) Some new variants of continuity in topological spaces. (English summary) *Math. Today (Ahmedabad)* **14** (1996), 15–24. 54C08
— (*with* Gupta, M. K.) Generalizations of compactness modulo an ideal. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 157–170. 54D20
Lalak, Zygmunt (*with* Thomas, Steven) Gaugino condensation, moduli potential and supersymmetry breaking in M-theory models. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 55–72. (Summary) **98k:81226** 81T30 (83E30)
Lalgudi, Kumar N. (*with* Papaefthymiou, Marios C.) Computing strictly-second shortest paths. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 177–181. (Summary) **98e:68207** 68R10 (05C38, 05C85)
Laliena Clemente, Jesús A. (*with* Albuquerque, Helena; Elduque, Alberto) Superalgebras with semisimple even part. *Comm. Algebra* **25** (1997), *no.* 5, 1573–1587. (Alexander V. Il'tyakov) **98d:17005** 17A70 (17C70, 17D05, 17D10)
Lallemand, Marie-Hélène (*with* Désidéri, Jean-Antoine; Hemker, Pieter W.; Koren, Barry) Research in computational fluid dynamics, stimulated by ERCIM. *From universal morphisms to megabytes: a Baayen space odyssey*, 269–286, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98b:00042**) 01A74
Lallement, G. *see* **Lallement, Gérard**
Lallement, Gérard (*with* Aitrimouch, H.; Kozanek, J.) Construction of the unobserved part of the square dynamic flexibility matrix. (English summary) *J. Sound Vibration* **204** (1997), *no.* 1, 73–84. (Summary) **98e:73083** 73K12 (70J10)
— (*with* Ramanitranja, A.; Cogan, S.) Optimal sensor deployment: application to model updating. (English summary) *J. Vib. Control* **4** (1998), *no.* 1, 29–46. 73K50 (73K40, 73V05, 93A30)
Lallement, Gérard J. (*with* Perrin, Dominique) Marcel-Paul Schützenberger (1920–1996). *Semigroup Forum* **55** (1997), *no.* 2, 135–151. (Editors) **98h:01028** 01A70 (05–03, 20–03, 68–03, 94–03)
Lalley, Steven P. (*with* Sellke, Tom) Hyperbolic branching Brownian motion. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 171–192. (Luis G. Gorostiza) **98g:60153** 60J80 (60K35)
— β-expansions with deleted digits for Pisot numbers β. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4355–4365. (D. Boyd) **98f:11084** 11K55 (28A78)
Lalli, B. S. (*with* Grace, S. R.) Stability of n-dimensional inhomogeneous delay differential equations. *Advances in nonlinear dynamics*, 85–92, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (P. Ch. Tsamatos) **98f:34114** 34K20
Lalli, F. On the accuracy of the desingularized boundary integral method in free surface flow problems. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 10, 1163–1184. 76M15
Lalonde, François (*with* McDuff, Dusa) J-curves and the classification of rational and ruled symplectic 4-manifolds. (English summary) *Contact and symplectic geometry (Cambridge, 1994)*, 3–42, *Publ. Newton Inst.*, 8, *Cambridge Univ. Press, Cambridge*, 1996. (Margaret F. Symington) **98d:57045** 57R15 (57N13, 57R57, 58D10)
— (*with* McDuff, Dusa) The classification of ruled symplectic 4-manifolds. (English summary) *Math. Res. Lett.* **3** (1996), *no.* 6, 769–778. (Ricardo F. Vila Freyer) **98b:57040** 57R15 (57R57)
— New trends in symplectic geometry. (French summary) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 2, 33–50. (Paolo Lisca) **98k:58036** 58D27 (57R15, 58D10, 58F05)
— *see also* **Gauge theory and symplectic geometry, 98a:58001**
Lalor, Brendan Rethinking Kaplan's "Afterthoughts" about 'that': an exorcism of semantical demons. (English summary) *Erkenntnis* **47** (1997), *no.* 1, 67–88. 03A05 (03B65)
nguyen huong Lâm *see* **Nguyen Huong Lâm**
Lam, C. S. *see* **Lam, Chi-Sing**
Lam, Cheuk H. (*with* Lee, Tony T.) Fluid flow models with state-dependent service rate. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 547–576. (Summary) **98b:60164** 60K25
Lam, Chi-Chung (*with* Sadayappan, P.; Wenger, Rephael) On optimizing a class of multi-dimensional loops with reduction for parallel execution. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 2, 157–168. (Summary) **98e:68061** 68Q10 (68N20)
Lam, Chi-Sing (*with* Patera, Jiří; Sharp, R. T.) Generating functions for the Coxeter group H_4. (English summary) *J. Phys. A* **29** (1996), *no.* 23, 7705–7719. (Sait Halıcıoğlu) **98a:20038** 20F55 (81R05)
— (*with* Haagensen, Peter E.; Johnson, Kenneth A.) Gauge invariant geometric variables for Yang-Mills theory. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 273–292. (Summary) **98b:81141** 81T13 (53C80)
— (*with* Liu, Keh-Fei) A multiple commutator formula for the sum of Feynman diagrams. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 514–530. (Summary) **98b:81152** 81T18 (81V05)
Lam, Ching Hung Construction of vertex operator algebras from commutative associative algebras. (English summary) *Comm. Algebra* **24** (1996), *no.* 14, 4339–4360. (Chong Ying Dong) **98a:17052** 17B69 (81R10)
Lam, Clement Wing Hong (*with* Tonchev, Vladimir D.) Classification of affine resolvable 2-(27, 9, 4) designs. (English summary) Special issue on orthogonal arrays and affine designs, Part II. *J. Statist. Plann. Inference* **56** (1996), *no.* 2, 187–202. (Mohan S. Shrikhande) **98a:05020** 05B05
— The search for a finite projective plane of order 10 [MR 92b:51013]. *Organic mathematics (Burnaby, BC, 1995)*, 335–355, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98f:00027**) 51E15 (05B25, 51–04)
— Computer construction of block designs. (English summary) *Surveys in combinatorics, 1997 (London)*, 49–64, *London Math. Soc. Lecture Note Ser.*, 241, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **98f:05024** 05B05
Lam, James (*with* Yang, Guanghong; Zhang, Si Ying) Decentralized H_∞-control for composite systems. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 729–737. (Peter A. Cook) **98e:93043** 93B36 (93A14)
— (*with* Hung, Y. S.) On the stability of projections of balanced realizations. (English summary) *Linear Algebra Appl.* **257** (1997), 163–182. (Boris G. Zaslavskiĭ) **98c:93024** 93B15 (93B10)
— (*with* Chan, Ho Chung; Ho, Daniel W. C.) Robust eigenvalue assignment in second-order systems: a gradient flow approach. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 4, 283–296. 93B55 (93B60)
— (*with* Tam, Hei Ka) Robust partial pole-placement via gradient flow. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 371–379. 93B55 (93B35)
— (*with* Yan, Wei Yong; Xie, Lihua) Convergent algorithms for frequency weighted L_2 model reduction. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 11–20. (Summary) **98e:93015** 93B11 (93B40)
Lam, K. *see* **Lam, Kin**
Lam, Kee Yuen Borsuk-Ulam type theorems and systems of bilinear equations. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 183–194, *de Gruyter, Berlin*, 1997. (Robert Freeman Brown) **98i:57040** 57N99 (55M20)
Lam, Kin (*with* Sinha, Bimal K.; Wu, Zhong[2]) Estimation of location and scale parameters of a logistic distribution using a ranked set sample. (English summary) *Statistical theory and applications*, 187–197, *Springer, New York*, 1996. (Summary) **98c:62067** 62G05
— (*with* Yu, Philip L. H.; Sinha, Bimal K.) Estimation of mean based on an unbalanced ranked set sample. (English summary) *Applied statistical science, II (Malang, 1996)*, 87–97, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:62004**) 62F10
— (*with* Chong, K. S.) Cost comparison of a spectrum of self-organizing rules. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 583–592. (Summary) **98c:60077** 60J10

(68P10)
— (*with* Yu, Philip L. H.) How to predict election winners from a poll. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 1, 11–23. (Summary) **98a:62030** 62F07
— (*with* So, Mike K. P.; Li, Wai Keung) Multivariate modelling of the autoregressive random variance process. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 429–446. 62M10
— (*with* So, Mike K. P.; Li, Wai Keung) A stochastic volatility model with Markov switching. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 2, 244–253. 62M10 (62P20)
Lam, Lay Yong *Zhang Qiujian suanjing* (The mathematical classic of Zhang Qiujian): an overview. *Arch. Hist. Exact Sci.* **50** (1997), *no.* 3-4, 201–240. (Victor J. Katz) **98f:01010** 01A25
Lam, Lui Integrable systems. *Introduction to nonlinear physics*, 213–233, *Springer, New York*, 1997. (*see* **98b:00013**) 35–01
— Nonintegrable systems. *Introduction to nonlinear physics*, 234–271, *Springer, New York*, 1997. (*see* **98b:00013**) 35–01
— Active walks: pattern formation, self-organization, and complex systems. *Introduction to nonlinear physics*, 359–399, *Springer, New York*, 1997. (*see* **98b:00013**) 00A69
— *see also* **Introduction to nonlinear physics, 98b:00013**
Lam, Ngau On the conjecture of the resolution of a finite set of points in projective space. *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 229–235, *de Gruyter, Berlin*, 1996. (Joachim Apel) **98f:13012** 13D02 (14C99)
Lam, Nguyen Huong *see* **Nguyen Huong Lâm**
Lam, Peter Che Bor (*with* Wei, Bo Cheng) Differential geometric method for curved exponential families. (English summary) *Multivariate analysis and its applications* (*Hong Kong*, 1992), 461–465, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62J02 (62F25)
— (*with* Zhang, Zhong Fu; Chang, J. X.; Lü, Xin Zhong; Wang, Jian Fang) Edge-face total chromatic number of outerplanar graphs with $\Delta(G) = 6$. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 396–399, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:05071** 05C15
— (*with* Shiu, Wai Chee; Chan, W. H.) On bandwidth and cyclic bandwidth of graphs. (English summary) *Ars Combin.* **47** (1997), 147–152. (Summary) **98h:05163** 05C78
— (*with* Shiu, Wai Chee; Lin, Yi Xun) Duality in bandwidth problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 117–127. (*see* **98h:05003**) 05C78
— (*with* Shiu, Wai Chee; Tong, C. S.) Wiener number of hexagonal jagged-rectangles. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 83–96. (N. Trinajstić) **98k:05059** 05C12 (92E10)
— (*with* Shiu, Wai Chee; Chan, W. H.; Lin, Yi Xun) On the bandwidth of convex triangulation meshes. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 285–289. (Summary) **98c:05143** 05C78
— (*with* Zhang, Zhong Fu) The vertex-face total chromatic number of Halin graphs. (English summary) *Networks* **30** (1997), *no.* 3, 167–170. (Summary) **98e:05040** 05C15
— (*with* Fang, Kai Tai; Wu, Qi Guang) Estimation for seemingly unrelated regression equations. (English summary) *Statist. Decisions* **15** (1997), *no.* 2, 183–189. (V. K. Srivastava) **98m:62057** 62F10 (62J05)
— (*with* Alavi, Yousef; Erdős, Paul[1]; Lick, Don R.; Liu, Jiuqiang; Wang, Jian Fang) Upper bounds on linear vertex-arboricity of complementary graphs. (English summary) *Util. Math.* **52** (1997), 43–48. 05C05
Lam, S. P. Lie group homomorphisms which induce isomorphisms of representation rings. *Five decades as a mathematician and educator*, 165–168, *World Sci. Publishing, River Edge, NJ*, 1995. (Keith Taylor) **98b:22006** 22C05
Lam, T. K. B_n Stanley symmetric functions. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 241–270. (Angèle M. Hamel) **98a:05151** 05E05 (05E15)
— Connected Sprouts. *Amer. Math. Monthly* **104** (1997), *no.* 2, 116–119. (A. Pultr) **98e:90251** 90D43 (05C75)
— (*with* Chan, Onn) Hook immanantal inequalities for Laplacians of trees. (English summary) *Linear Algebra Appl.* **261** (1997), 23–47. (William Watkins) **98i:15011** 15A15 (15A45)
Lam, T. Y. A lifting theorem, and rings with isomorphic matrix rings. *Five decades as a mathematician and educator*, 169–186, *World Sci. Publishing, River Edge, NJ*, 1995. (Jan Trlifaj) **98c:16038** 16S50 (15A33, 16D70, 16E50)
— (*with* Leroy, André) Recognition and computations of matrix rings. (English summary) *Israel J. Math.* **96** (1996),, *part B*, 379–397. (Summary) **98m:16035** 16S50
— (*with* Murray, William Lister) Unit regular elements in corner rings. (English summary) *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 1, 61–65. (Weimin Xue) **98d:16012** 16E50
Lam, Tak Wah (*with* Sung, W. K.; Ting, H. F.) Computing the unrooted maximum agreement subtree in sub-quadratic time [MR 97m:68099]. (English summary) *Algorithm theory—SWAT '96* (*Reykjavík*, 1996), 124–135, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 92B10 (68Q25, 92D10)
— (*with* Choi, Ying) Two-dimensional dynamic dictionary matching. (English summary) *Algorithms and computation* (*Osaka*, 1996), 85–94, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q25 (68P05)
— (*with* Chong, Ka Wong) Towards more precise parallel biconnectivity approximation. (English summary) *Algorithms and computation* (*Osaka*, 1996), 223–232, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68Q22 (05C85, 68R10)
Lam, Wai (*with* Mukhopadhyay, Snehasis) A two-level approach to learning in nonstationary environments. (English summary) *Advances in artificial intelligence* (*Toronto, ON*, 1996), 271–283, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T05
Lam, Y. C. (*with* Bertolini, A. F.) Accelerated subspace iteration using adaptive multiple inverse iteration. (English summary) *Comput. & Structures* **66** (1998), *no.* 1, 45–57. 65F10
Lam, Yeh (*with* Chan, So Kuen) Statistical inference for geometric processes with lognormal distribution. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 1, 99–112. (Summary) **98m:62276** 62M99
Lamar, Bruce W. (*with* Bell, Gavin J.) Solution methods for nonconvex network flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 32–50, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35
— (*with* Wallace, Chris A.) NetSpeak: an algebraic modelling language for nonconvex network optimization problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 328–345, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35
LaMarca, Anthony (*with* Ladner, Richard E.; Tempero, Ewan) Counting protocols for reliable end-to-end transmission. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 96–111. (Summary) **98m:68012** 68M10
Lamarche, François Generalizing coherence spaces and hypercoherences. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (Summary) **98m:06015** 06B35 (03G30, 68Q55)
— From proof nets to games (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 13 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03F50
Lamb, David J., Jr. (*with* Fofana, Mustapha S.) On the stability bifurcation of a nonlinear time delay system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 375–378. 34K15 (34C23)
Lamb, J. D. (*with* Woodall, Douglas R.; Asher, G. M.) Bond graphs. I. A causal equivalence. (English summary) *Discrete Appl. Math.* **72** (1997), *no.* 3, 261–293. (W.-K. Chen) **98b:05093** 05C90
— (*with* Woodall, Douglas R.; Asher, G. M.) Bond graphs. II. Causality and singularity. (English summary) *Discrete Appl. Math.* **73** (1997), *no.* 2, 143–173. (W.-K. Chen) **98b:05094** 05C90
— (*with* Asher, G. M.; Woodall, Douglas R.) Bond graphs. III. Bond graphs and electrical networks.*(English summary) *Discrete Appl. Math.* **73** (1997), *no.* 3, 211–250. (W.-K. Chen) **98b:05095** 05C90 (94C15)
Lamb, Jeroen S. W. *see* **Time-reversal symmetry in dynamical systems, 98i:58004**
Lamb, Willis E., Jr. From Newton to Schrödinger and beyond. *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 203–205, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:81004**) 81P05 (81P15)
van Lambalgen, Michiel (*with* Alechina, Natasha) Generalized quantification as substructural logic. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 1006–1044. (Henry Africk) **98a:03058** 03C80 (03B45, 03F03)
— (*with* Kanovei, Vladimir) On a Spector ultrapower for the Solovay model. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 389–395. (Jakub Jasiński) **98m:03108** 03E40 (03C62, 03E25, 03E45, 03E55, 03E60)
— *see also* **Reasoning with uncertainty in robotics, 98c:68017**
Lamballais, E. (*with* Métais, Olivier) Coherent vortices in rotating flows. *New tools in turbulence modelling* (*Les Houches*, 1996), 243–264, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (From the text) **98m:76037** 76C05 (76E20, 76F10, 76U05, 86A05, 86A10)
— (*with* Lesieur, Marcel; Comte, P.; Métais, Olivier; Silvestrini, G.) Large-eddy simulations of shear flows. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 195–215. (Summary) **98h:76057** 76F10 (76M25)
Lambe, Larry A. (*with* Radford, David E.) ★ Introduction to the quantum Yang-Baxter equation and quantum groups: an algebraic approach. (English summary) Mathematics and its Applications, 423. *Kluwer Academic Publishers, Dordrecht*, 1997. xx+293 *pp. ISBN* 0-7923-4721-8 (E. J. Taft) **98k:16054** 16W30 (17B37, 81R50)
Lambek, J. Programs, grammars and arguments: a personal view of some connections between computation, language and logic. *Bull. Symbolic Logic* **3** (1997), *no.* 3, 312–328. (B. H. Mayoh) **98i:68074** 68Q05 (01A60, 03–03, 03B65, 08A70, 68–03, 68S05)
— An extension of the formulas-as-types paradigm. (French summary) Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 33–43. (Lawrence S. Moss) **98m:03011** 03B15 (03B70, 68Q99)
Lambert, Alan (*with* Burnap, Charles; Hoover, Thomas B.) von Neumann algebras associated with composition operators. (English summary) *Acta Sci. Math.* (*Szeged*) **62** (1996), *no.* 3-4, 565–582. (A. Böttcher) **98a:47031** 47B38 (46L99, 47C15)
Lambert, André (*with* He, Guowei; Lima, Ricardo) Wavelike patterns in one-dimensional coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 404–411. (Summary) **98d:58116** 58F13
Lambert, Claire (*with* Batten, Paul; Clarke, Nicholas Richard; Causon, D. M.) On the choice of wavespeeds for the HLLC Riemann solver. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1553–1570. (Dietmar Kröner) **98m:65136** 65M06 (76M20, 76N15)
Lambert, Diane (*with* Tierney, Luke) Nonparametric maximum likelihood estimation from samples with irrelevant data and verification bias. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 937–944. (Summary) **98f:62103** 62G05
Lambert, Dominique Les nombres complexes hyperboliques: des complexes qui nous laissent perplexes. [Hyperbolic complex numbers: complexes that leave us perplexed] *Rev. Questions Sci.* **166** (1995), *no.* 4, 383–400. (Marcio A. F. Rosa) **98b:51027** 51P05 (17C90)
— (*with* Heller, Michael; Sasin, Wiesław) Groupoid approach to noncommutative quantization of gravity. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5840–5853. (Gianpiero Mangano) **98k:58017** 58B30 (46L87, 83C45)
Lambert, Francois (*with* Springael, Johan) Construction of Bäcklund transformations with binary Bell polynomials. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 8, 2211–2213. 58F37 (11B73)
Lambert, Johann Heinrich *see* **Dou Masdexeàs, Albert, 98g:01038**
Lambert, Karel Russellian names: notes on a theory of Arthur Prior. *Logic and reality* (*Christchurch*, 1989), 411–417, *Oxford Univ. Press, New York*, 1996. (*see* **98b:03006**) 03A05 (03B65)
— (*with* Gumb, Raymond D.) Definitions in nonstrict positive free logic. (English summary) *Modern Logic* **7** (1997), *no.* 1, 25–55. (Guo-Qiang Zhang) **98c:03073** 03B70 (03B60, 68N15)
Lambert, Michael A. (*with* Rodrigue, Garry H.; Hewett, Dennis W.) A parallel DSDADI method for solution of the steady state diffusion equation. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 2041–2065. 65Y05 (65N55)

Lambert, N. D. Heterotic p-branes from massive sigma models. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 1, 141–154. (Sergiu I. Vacaru) **98a:81179** 81T30 (81T60, 83E30)

— (*with* Green, Michael B.; Papadopoulos, George J.; Townsend, Paul K.) Dyonic p-branes from self-dual $(p+1)$-branes. (English summary) *Phys. Lett. B* **384** (1996), *no.* 1-4, 86–92. (Summary) **98f:81256** 81T30 (83E30)

— (*with* Howe, P. S.; West, P. C.) A new massive type IIA supergravity from compactification. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 303–308. (Summary) **98i:83087** 83E50 (81T30, 83E30)

Lambert, Robert J. (*with* Blake, Ian F.; Gao, Shuhong) Construction and distribution problems for irreducible trinomials over finite fields. (English summary) *Applications of finite fields (Egham, 1994)*, 19–32, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Igor E. Shparlinski) **98a:11170** 11T06

Lambert, Timothy An optimal algorithm for realizing a Delaunay triangulation. (English summary) *Inform. Process. Lett.* **62** (1997), *no.* 5, 245–250. (Summary) **98b:68190** 68U05

Lamberti, Paola A parallel approach to bivariate splines. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 361–370. (N. Papamichael) **98h:65009** 65D07 (41A15, 65Y05)

Lambertini, Luca Prisoners' dilemma in duopoly (super) games. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 181–191. (Summary) **98f:90084** 90D35 (90A05)

Lamberton, Damien (*with* Lapeyre, Bernard) ★ Introduction to stochastic calculus applied to finance. (English summary) Translated from the 1991 French original by Nicolas Rabeau and François Mantion. *Chapman & Hall, London*, 1996. xii+185 *pp. ISBN* 0-412-71800-6 (Marek Rutkowski) **98b:90018** 90A09 (60H30)

Lambiase, Gaetano Interquark potential in string models. (Italian. English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **63** (1996), 161–177 (1997). (Summary) **98a:81257** 81V05 (81T30)

Lambrecht, Astrid (*with* Jaekel, Marc-Thierry; Reynaud, Serge) The Casimir force for passive mirrors. *Phys. Lett. A* **225** (1997), *no.* 4-6, 188–194. (Summary) **98a:81261** 81V10

Lambrou, M. S. (*with* Longstaff, W. E.) Non-reflexive pentagon subspace lattices. (English summary) *Studia Math.* **125** (1997), *no.* 2, 187–199. (Timothy D. Hudson) **98f:47006** 47A15

Lámer, Géza *see* **Kozák, Imre. 98f:73016**

Lami Dozo, E. (*with* Godoy, T.; Paczka, S.) The periodic parabolic eigenvalue problem with L^∞ weight. (English summary) *Math. Scand.* **81** (1997), *no.* 1, 20–34 (1998). (Gary M. Lieberman) **98m:35080** 35K20 (35B10, 47F05)

Laminie, J. (*with* Calgaro, C.; Temam, Roger) Dynamical multilevel schemes for the solution of evolution equations by hierarchical finite element discretization. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 403–442. (Summary) **98d:76124** 76M25 (65M99, 76F99, 76M10)

— (*with* Calgaro, C.; Debussche, Arnaud) On a multilevel approach for the two-dimensional Navier-Stokes equations with finite elements. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 241–258. (Summary) **98m:76117** 76M25 (76D05, 76F99, 76M10)

Lamken, E. R. A few more partitioned balanced tournament designs. (English summary) *Ars Combin.* **43** (1996), 121–134. (Douglas R. Stinson) **98b:05029** 05B30

— The existence of partitioned generalized balanced tournament designs with block size 3. (English summary) *Des. Codes Cryptogr.* **11** (1997), *no.* 1, 37–71. (Katherine Heinrich) **98a:05042** 05B30

Lamm, Christoph There are infinitely many Lissajous knots. (English summary) *Manuscripta Math.* **93** (1997), *no.* 1, 29–37. (Jonathan A. Hillman) **98d:57015** 57M25

Lamm, Patricia K. Regularized inversion of finitely smoothing Volterra operators: predictor-corrector regularization methods. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 375–402. (Andreas Rathsfeld) **98b:65142** 65R20 (45D05, 45L05, 65R30)

— (*with* Eldén, Lars) Numerical solution of first-kind Volterra equations by sequential Tikhonov regularization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1432–1450. (Otmar Scherzer) **98g:65132** 65R30 (45L05, 65J20)

Iinneweber-Lammerskitten, Helmut *see* **Linneweber-Lammerskitten, Helmut**

Lämmerzahl, Claus (*with* Puntigam, Roland A.; Hehl, Friedrich W.) Maxwell's theory on a post-Riemannian spacetime and the equivalence principle. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1347–1356. (Metin Gürses) **98b:83079** 83D05 (83C22)

— Quantum tests of the foundations of general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 13–27. (Michael L. Fil'chenkov) **98m:83005** 83B05 (83C99)

Lamnabhi-Lagarrigue, Françoise (*with* Crouch, Peter E.; Pinchon, Didier) Some realizations of algorithms for nonlinear input-output systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 941–960. 93B40 (93C10)

— (*with* Ahmed-Ali, Tarek) Tracking control of nonlinear systems with disturbance attenuation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 329–338. (Summary) **98c:93069** 93C41 (93C10, 93C85)

Lamontagne, François A critical metric for the L^2-norm of the curvature tensor on S^3. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 589–593. (Santiago R. Simanca) **98d:58035** 58E11 (53C21)

Lamorte, Ben (*with* Godbole, Anant P.; Sandquist, Erik Jonathan) Threshold functions for the bipartite Turán property. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 18, 14 *pp.* (*electronic*). (Lyuben R. Mutafchiev) **98f:05086** 05C35 (60C05)

Lamos, G. Numerical solution of an inverse problem for a nonlinear mathematical model of sorption dynamics with mixed-diffusion kinetics. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 2, 13–16, 47; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997,** *no.* 2, 18–23. (Summary) **98d:65119** 65M30

Lamour, F. (*with* Ciarlet, Patrick, Jr.) On the validity of a front-oriented approach to partitioning large sparse graphs with a connectivity constraint. (English summary) *Numer. Algorithms* **12** (1996), *no.* 1-2, 193–214. (J. Richard Lundgren) **98d:90128** 90C35 (05C40, 68R10)

— (*with* Ciarlet, Patrick, Jr.) Does contraction preserve triangular meshes? (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 201–223 (1997). (Bradley W. Jackson) **98e:05028** 05C10

Lamour, René (*with* England, Roland) Dichotomic stability and multiple shooting for numerical boundary-value problems in index-one differential-algebraic equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 87–90. (*see* **98b:65005**) 65L08 (34A09)

Lamoureux, Michael P. Reflections on the almost Mathieu operator. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 45–59. (Jean-Michel Ghez) **98d:47068** 47B38 (47N50, 81Q10)

Lampe, B. P. (*with* Rosenwasser, Y. N.; Polyakov, Konstantin Yu.) Frequency-domain method for $\mathscr{H}_2$ optimization of time-delayed sampled-data systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1387–1392. (Summary) **98c:93073** 93C57 (93B36)

Lampe, Richard Chaos, cycles and orbit distributions for families of variants of the shift map. (English summary) *Appl. Anal.* **66** (1997), *no.* 3-4, 261–271. (Summary) **98k:58160** 58F13 (58F03)

Lampert, Douglas E. (*with* Slater, Peter J.) Parallel knockouts in the complete graph. *Amer. Math. Monthly* **105** (1998), *no.* 6, 556–558. 05C99

Lamperti, Gianfranco (*with* Cacace, Filippo) ★ Advanced relational programming. (English summary) Mathematics and its Applications, 371. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xvi+394 *pp. ISBN* 0-7923-4081-7 68P15

Lamping, John (*with* Dalrymple, Mary; Pereira, Fernando; Saraswat, Vijay) Quantifiers, anaphora, and intensionality. (English summary) *J. Logic Lang. Inform.* **6** (1997), *no.* 3, 219–273. (B. H. Mayoh) **98g:68136** 68S05 (03B60, 03B65)

Lampis, Maria (*with* Petrina, D. Ya.) The Boltzmann-Grad limit for equilibrium states of systems of hard spheres in framework of canonical ensemble. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 112–132. (Nicola Bellomo) **98m:82063** 82C40 (76P05)

— (*with* Petrina, D. Ya.) The Boltzmann-Enskog limit for equilibrium states of systems of hard spheres in framework of canonical ensemble. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1195–1205. (Carlo Cercignani) **98k:82154** 82C40 (76P05)

Lamport, Leslie How to make a correct multiprocess program execute correctly on a multiprocessor. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 7, 779–782. (A. T. Amin) **98m:68074** 68Q10 (68Q60)

— Processes are in the eye of the beholder. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 333–351. (Ryszard Janicki) **98e:68168** 68Q60

Lamprecht, E. Verzweigungsordnungen, Differenten und Ganzheitsbasen bei Radikalerweiterungen. III. [Bifurcation orders, differents and integral bases in radical extensions. III.] *Ann. Univ. Sarav. Ser. Math.* **8** (1997), *no.* 4, *pp.* i–iv *and* 395–415. (Ernst Kleinert) **98k:11149** 11R20 (11R04)

Lampreia, J. P. (*with* Sousa Ramos, J.) Symbolic dynamics of bimodal maps. (English summary) *Portugal. Math.* **54** (1997), *no.* 1, 1–18. (José Miguel Moreno) **98d:58051** 58F03

Lamprey, John P. An examination of two groups of Georg Hartmann sixteenth-century astrolabes and the tables used in their manufacture. (English summary) *Ann. of Sci.* **54** (1997), *no.* 2, 111–142. 01A40

Lamrini, Fayçal (*with* Kheldouni, Abdelaziz) Chern-Dold character in elliptic cohomology. *Extracta Math.* **11** (1996), *no.* 2, 268–275. (Mark Hovey) **98b:57042** 57R20 (11F11, 55P99)

— Une application du calcul "umbral" non classique en topologie algébrique. (French summary) [An application of nonclassical umbral calculus in algebraic topology] *Proyecciones* **15** (1996), *no.* 2, 153–168. (P. S. Landweber) **98b:55005** 55N22 (05A40)

Lan, Hui Bin (*with* Han, Rongsheng; Yang, Jinlong; Wang, Ke Lin) Exact travelling kink-like wave solutions to some nonlinear equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 4, 319–321. 35Q53

Lan, Kunquan (*with* Webb, J. R. L.) New fixed point theorems for a family of mappings and applications to problems on sets with convex sections. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1127–1132. (E. Tarafdar) **98f:47065** 47H10 (47H04)

Lan, Shaw-Ping (*with* Wan, Wun-Jung) Method of evaluating investment in inventory policy under inflation. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 43–56. (Summary) **98k:90030** 90B05

Lan, Shu *see* **Shu, Lan**

Lanari, Leonardo (*with* de Santis, Alberto) Disturbance attenuation for a class of distributed parameter systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 8, 759–775. (Mei Ke Zhou) **98h:93009** 93B36 (47N70, 93C25, 93D09, 93D15)

Lancaster, David (*with* Dean, David S.) Site-disordered spin systems in the Gaussian variational approximation. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 37–62. (Summary) **98h:82030** 82B44

— (*with* Ritort, Felix) Solving the Schrödinger equation for the Sherrington-Kirkpatrick model in a transverse field. (English summary) *J. Phys. A* **30** (1997), *no.* 4, L41–L47. (Summary) **98c:82071** 82D30 (82–04, 82B27)

Lancaster, Kirk E. (*with* Siegel, David) Existence and behavior of the radial limits of a bounded capillary surface at a corner. (English summary) *Pacific J. Math.* **176** (1996), *no.* 1, 165–194. (R. Finn) **98g:58030a; EA 98m** 58E12 (35J60, 53A10)

— (*with* Acker, Andrew F.) Qualitative behavior of axial-symmetric solutions of elliptic free boundary problems. (English summary) *Electron. J. Differential Equations* **1997,** No. 02, approx. 24 pp. (electronic). (Jie Yang) **98d:35239** 35R35 (35J65)

— (*with* Jin, Zhiren) Behavior of solutions for some Dirichlet problems near reentrant corners. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 827–862. (Andrzej Swiech) **98m:35073** 35J67 (35B05, 35J65)

— (*with* Siegel, David) Correction to: "Existence and behavior of the radial limits of a bounded capillary surface at a corner". *Pacific J. Math.* **179** (1997), *no.* 2, 397–402. (R. Finn) **98g:58030b; EA 98m** 58E12 (35J60, 53A10)

Lancaster, Peter (*with* Šalkauskas, Kęstutis) ★ Transform methods in applied mathematics. An introduction. Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1996. xii+332 *pp. ISBN* 0-471-00810-9 (Ahmed I. Zayed) **98b:44001** 44–01 (42–01)

— (*with* Markus, Alexander S.; Zizler, Peter) The order of neutrality for linear operators on inner product spaces. (English summary) *Linear Algebra Appl.* **259** (1997), 25–29. (T. Ya. Azizov) **98e:47056** 47B50 (15A63, 47A15)

— (*with* Dai, Hua) Newton's method for a generalized inverse eigenvalue problem. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 1, 1–21. (Summary) **98j:65027** 65F15 (15A18, 70–08, 73K12, 73V20)

— (*with* Dai, Hua) Numerical methods for finding multiple eigenvalues of matrices depending on parameters. (English summary) *Numer. Math.* **76** (1997), *no.* 2, 189–208. (George D. Poole) **98a:65048** 65F15 (15A18)

— (*with* Krupnik, Ilya) Linearization, realization, and scalar products for regular matrix polynomials. (English summary) *Linear Algebra Appl.* **272** (1998), 45–57. (Lucas Jódar) **98k:15044** 15A63 (47A56, 93B28)

— (*with* Guo, Chun-Hua) Analysis and modification of Newton's method for algebraic Riccati equations. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1089–1105. (Vladimir B. Larin) **98j:93036** 93B40 (15A24, 65F30)

Lance, E. Christopher Finitely-presented C^*-algebras. *Operator algebras and applications* (*Samos*, 1996), 255–266, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Terry A. Loring) **98i:46056** 46L05 (47A62)

Lancellotta, R. (*with* Preziosi, L.) A general nonlinear mathematical model for soil consolidation problems. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 1045–1063. (Summary) **98f:73031** 73Q05 (73N20)

Lancelotti, Sergio Infinitely many solutions for one-dimensional eigenvalue problems for variational inequalities. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1995), 33–44 (1997). (Addolorata Salvatore) **98e:58041** 58E05 (49J40, 58E35)

— (*with* Degiovanni, Marco) Perturbations of critical values in nonsmooth critical point theory. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 325–348. (Jesús Hernández) **98e:35079** 35J85 (35J65, 49J52, 58E05)

Lanchares, V. (*with* Elipe Sánchez, Antonio C.) Phase flow of an axially symmetrical gyrostat with one constant rotor. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3533–3544. (Igor Gashenenko) **98f:70009** 70E15 (58F40, 70H05, 70M20)

Lanchon-Ducauquis, H. (*with* Taghite, M'B.; Rahmattulla, A.; Taous, K.) Homogenization of a thermal problem in the plate of a heat exchanger. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 381–402. (Tomasz Lewiński) **98g:73002** 73B27

Lancia, Giuseppe (*with* Balas, Egon; Serafini, Paolo; Vazacopoulos, Alkiviadis) Job shop scheduling with deadlines. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 329–353. (Summary) **98k:90040** 90B35

Lancia, M. R. (*with* Marchi, Maria Vittoria) Harnack inequalities for nonsymmetric operators of Hörmander type with discontinuous coefficients. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 833–857. (Maurizio Chicco) **98h:35044** 35J15 (35B45, 35R05)

Lanciani, P. Solution d'une équation différentielle non linéaire avec un terme qui explose. (English and Italian summaries) [Solution of a nonlinear differential equation with an exploding term] *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 265–304. (Robert Dalmasso) **98j:34031** 34B15 (35J99, 49J40)

Lancien, F. Basis in the big disk algebra and in the corresponding Hardy-space. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 235–242. (Takahiko Nakazi) **98j:46022** 46E15 (43A17, 46J15)

Lanconelli, Ermanno *see* **Nonlinear analysis and continuum mechanics, 98h:00030**

Lanczos, Cornelius ★ Linear differential operators. (English summary) Reprint of the 1961 original. *Dover Publications, Inc., Mineola, NY*, 1997. *xvi*+564 *pp. ISBN* 0-486-68035-5 (Editors) **98m:34001** 34-01 (65-01)

Land, M. C. Particles and events in classical off-shell electrodynamics. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 19–41. (Summary) **98a:81262** 81V10 (78A99)

— (*with* Horwitz, L. P.) Off-shell phenomena in Coulomb scattering. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 135–140. (Summary) **98k:81309** 81V10

Landa, P. S. (*with* Zaikin, A. A.; Rozenblyum, M. G.; Kurths, Jürgen) On-off intermittency phenomena in a pendulum with a randomly vibrating suspension axis. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 157–169. (Summary) **98m:70031** 70L05 (70K50)

Landaluce Calvo, M. Isabel Factorial analysis of mixed tables: new equivalences between weighted PCA and MCA. (Spanish. English and Spanish summaries) *Qüestiió* (2) **21** (1997), *no.* 1-2, 99–108. 62H25

Landau, E. *see* **Landau, Elliott S.**

Landau, Edmund *see* **Carbone, Luciano et al., 98c:01022**

Landau, Elliott S. (*with* Varma, A. K.) New quadrature formulas based on the zeros of Jacobi polynomials. II. *Mathematica* **38(61)** (1996), *no.* 1-2, 89–103. (Editors) **98k:41044** 41A55 (65D32)

Landau, Henry J. (*with* Byrnes, Christopher I.; Lindquist, Anders) On the well-posedness of the rational covariance extension problem. (English summary) *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 83–108, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:93026** 93B30 (42C99, 93E12)

— (*with* Gohberg, Israel) Prediction for two processes and the Nehari problem. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 43–62. (A. Bultheel) **98b:42016** 42A70 (60G25, 62M10, 94A12)

— Maximum entropy and maximum likelihood in spectral estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1332–1336. (Summary) **98m:62264** 62M15

Landau, Ioan Doré Robust digital control of systems with time delay (the Smith predictor revisited). (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 325–347. 93C57 (93B35)

— (*with* Karimi, Alireza) Recursive algorithms for identification in closed loop: a unified approach and evaluation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1499–1523. 93B30 (93B40)

— (*with* Lozano Leal, Rogelio; M'Saad, M.) ★ Adaptive control. (English summary) Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1998. xx+562 *pp. ISBN* 3-540-76187-X (V. N. Fomin) **98k:93001** 93–02 (93C40, 93D09, 93E35)

— (*with* Karimi, Alireza) Robust digital control using pole placement with sensitivity function shaping method. (English summary) Robust control applications. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 2, 191–210. (Summary) **98m:93077** 93C62 (93B55)

Landau, L. D. *see* **Feinberg, E. L.**

Landau, L. J. Macroscopic observation of a quantum particle in a slowly varying potential: on the classical limit of quantum theory. (English summary) *Ann. Physics* **246** (1996), *no.* 1, 190–227. (H. Hogreve) **98b:81044** 81Q20 (34L40, 81S30)

— (*with* Ho, T. G.) Fermi gas on a lattice in the van Hove limit. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 821–845. (Bruno Nachtergaele) **98j:82038** 82C10 (82C20)

Landau, Rubin H. (*with* Páez Mejía, Manuel José) ★ Computational physics. Problem solving with computers. With contributions by Hans Kowallik and Henri Jansen. With 1 IBM-PC floppy disk (3.5 inch; DD). A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxx+520 *pp. ISBN* 0-471-11590-8 (Editors) **98c:65001** 65–01 (65–04, 70–08)

Landauer, Rolf Is quantum mechanically coherent computation useful? (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 37–55, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81P99

Lander, Eric S. Mapping heredity: using probabilistic models and algorithms to map genes and genomes. (English summary) *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 137–148, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:00039**) 92D20 (62P10)

Landers, P. H. (*with* Cong, Liqun) Robust control of MIMO nonlinear systems with mismatched uncertainty. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 961–981. 93B35 (93C10)

Landgev, I. (*with* Dodunekov, Stefan M.) On the quaternary [11, 6, 5] and [12, 6, 6] codes. *Applications of finite fields* (*Egham*, 1994), 75–84, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Mihai Caragiu) **98c:11138** 11T71 (94B05)

— (*with* Hill, Raymond) On the nonexistence of some quaternary codes. (English summary) *Applications of finite fields* (*Egham*, 1994), 85–98, *Inst. Math. Appl. Conf. Ser. New Ser.*, 59, *Oxford Univ. Press, New York*, 1996. (Mihai Caragiu) **98c:11139** 11T71 (94B05)

Landi, Claudia (*with* Frosini, Patrizio) Size functions and morphological transformations. (English summary) *Acta Appl. Math.* **49** (1997), *no.* 1, 85–104. (Béla Uhrin) **98k:52033** 52B55 (68U10, 92B10)

Landi, Giovanni (*with* Bimonte, G.; Ercolessi, E.; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 318–328. (Francois Vanderseypen) **98b:58015** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Bimonte, G.; Ercolessi, E.; Lizzi, Fedele; Sparano, G.; Teotonio-Sobrinho, Paulo) Noncommutative lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 329–348. (Francois Vanderseypen) **98b:58016** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Rovelli, Carlo) General relativity in terms of Dirac eigenvalues. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 16, 3051–3054. (Wolfgang Kalau) **98g:83005** 83C05 (58B30, 58G25)

Landi, Leonardo (*with* Barucci, Emilio) Least mean squares learning in self-referential linear stochastic models. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 313–317. 62P20

Landim, C. Hydrodynamical limit for space inhomogeneous one-dimensional totally asymmetric zero-range processes. (English summary) *Ann. Probab.* **24** (1996), *no.* 2, 599–638. (Ellen Saada) **98d:60191** 60K35 (82C22, 82C24)

— (*with* Olla, S.; Yau, Horng-Tzer) Some properties of the diffusion coefficient for asymmetric simple exclusion processes. (English summary) *Ann. Probab.* **24** (1996), *no.* 4, 1779–1808. (Ellen Saada) **98a:60150** 60K35 (35Q53, 82C22)

— (*with* Mourragui, Mustapha) Hydrodynamic limit of mean zero asymmetric zero range processes in infinite volume. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 1, 65–82. (Ellen Saada) **98e:60159** 60K35 (82C22)

— (*with* Olla, S.; Yau, Horng-Tzer) First-order correction for the hydrodynamic limit of asymmetric simple exclusion processes in dimension $d \geq 3$. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 2, 149–203. (Ellen Saada) **98c:60143** 60K35 (82C22)

— (*with* Benois, O.; Koukkous, A.) Diffusive behavior of asymmetric zero-range processes. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 3-4, 577–591. (Rossana Marra) **98j:82045** 82C22 (60K35)

— (*with* Bertini, L.; Olla, S.) Derivation of Cahn-Hilliard equations from Ginzburg-Landau models. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 365–381. (Timo Seppäläinen) **98h:60143** 60K35 (35Q55, 60F10, 60J60, 82C24)

— (*with* Yau, Horng-Tzer) Fluctuation-dissipation equation of asymmetric simple exclusion processes. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 3, 321–356. (Ellen Saada) **98m:60155** 60K35 (82B05, 82C22)

— *see also* **Lebowitz, Joel L., 98a:82085**

Landini, Gregory Decomposition and analysis in Frege's *Grundgesetze*. (English summary) *Hist. Philos. Logic* **17** (1996), *no.* 3, 121–139. (Summary) **98c:03014** 03A05 (01A55, 03–03)

— The definability of the set of natural numbers in the 1925 *Principia mathematica*. (English summary) *J. Philos. Logic* **25** (1996), *no.* 6, 597–615. (Summary) **98g:03018** 03B15 (01A60)

— Logic in Russell's *Principles of mathematics*. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 554–584. (E. Mendelson) **98i:03002** 03–03 (01A60, 03A05, 03B05)

Landis, E. M. (*with* Ibragimov, A. I.) Zaremba's problem for elliptic equations in the neighbourhood of a singular point or at infinity. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 269–282. (Summary) **98m:35035** 35J15

— ★ Second order equations of elliptic and parabolic type. (English summary) Translated from the 1971 Russian original by Tamara Rozhkovskaya. With a preface by Nina Ural'tseva. Translations of Mathematical Monographs, 171. *American Mathematical Society, Providence, RI*, 1998. xii+203 *pp. ISBN* 0-8218-0857-5 (From the preface) **98k:35034** 35J15 (35K10)

Landman, Bruce M. (*with* Wysocka, Beata) Collections of sequences having the Ramsey property only for few colours. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 1, 19–28. (Sheila Oates-Williams) **98b:05099** 05D10 (11B25)

— (*with* Brown, Tom C.; Mishna, Marni) Monochromatic homothetic copies of $\{1, 1+s, 1+s+t\}$. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 149–157. (T. C. Brown) **98c:05159** 05D10

— Avoiding arithmetic progressions (mod m) and arithmetic progressions. (English summary) *Util. Math.* **52** (1997), 173–182. (Summary) **98i:05163** 05D10

Lando, David Modelling bonds and derivatives with default risk. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 369–393, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Lando, S. K. Deformations of differential forms. (Russian) *Trudy Mat. Inst. Steklov.* **209** (1995), *Osob. Gladkikh Otobrazh. s Dop. Strukt.*, 167–199. (Aleksandr G. Aleksandrov) **98a:32049** 32S30 (32S25, 58C27, 58F14)

— Geometry of the Stokes sets of families of functions of one variable. Dynamical systems, 3. *J. Math. Sci.* (*New York*) **83** (1997), *no.* 4, 534–538. (J. S. Joel) **98e:58028** 58C27

— Equivariantly closed extensions for the standard action of an orthogonal group. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 171–172; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 404–406. (From the text) **98j:58004** 58A10 (58G99)

Landolfi, G. (*with* Konopelchenko, B. G.) On classical string configurations. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 40, 3161–3168. (From the text) **98m:81149** 81T30 (58E50)

Landolfi, Tommaso On generalized central series of groups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 337–347 (1996). (O. Yu. Dashkova) **98k:20047** 20F14 (20F24)

Landry, Pierre-Alexandre (*with* Lapointe, François-Joseph) Estimation of missing distances in path-length matrices: problems and solutions. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 209–218, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92D15 (92B10)

Landry, Sylvie (*with* Dyer, Charles C.) Studies in the optical properties of the Einstein-de Sitter-Kasner ("cheese slices") universe. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 381–385, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83C15

Landsberg, J. M. On degenerate secant and tangential varieties and local differential geometry. *Duke Math. J.* **85** (1996), *no.* 3, 605–634. (Fyodor L. Zak) **98d:14066** 14N05 (53A20)

— Differential-geometric characterizations of complete intersections. (English summary) *J. Differential Geom.* **44** (1996), *no.* 1, 32–73. (Fyodor L. Zak) **98d:14062** 14M10 (14N05, 53A20)

— (*with* Ivey, Thomas A.) On isometric and minimal isometric embeddings. *Duke Math. J.* **89** (1997), *no.* 3, 555–576. (Sergio Console) **98g:53109** 53C42

Landsberg, Peter T. Irreversibility and time's arrow. *Dialectica* **50** (1996), *no.* 4, 247–258. 81P99

— (*with* Mann, Robert B.) Thermodynamic classifications and dilatonic black holes. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1269–1281. (Valter Moretti) **98j:83061** 83C57

Landsman, N. P. (*with* Wren, K. K.) Constrained quantization and θ-angles. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 537–560. (Ambar Sengupta) **98h:58026** 58D19 (58D20, 58Z05, 81S99)

— Poisson spaces with a transition probability. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 1, 29–57. (Władysław Adam Majewski) **98b:81014** 81P10 (46L05, 46L60)

— Erratum: "Local quantum physics: essay review of *Local quantum physics* [Springer, Berlin, 1992; MR 94d:81001] by R. Haag" [Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. **27** (1996), no. 4, 511–524]. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 1, loose errata. 81P05 (01A60)

Landsman, Zinoviy (*with* Hendriks, Harrie; Ruymgaart, Frits H.) Asymptotic behavior of sample mean direction for spheres. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 141–152. (Yasunori Fujikoshi) **98c:62106** 62H11 (62H10)

— (*with* Kagan, Abram) Statistical meaning of Carlen's superadditivity of the Fisher information. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 2, 175–179. (J. A. Melamed) **98c:62007** 62B10

Landstad, Magnus B. Quantizations of groups and homogeneous spaces. *Operator algebras and quantum field theory* (*Rome*, 1996), 390–403, *Internat. Press, Cambridge, MA*, 199?. (Mauro Spera) **98m:46091** 46L87 (22D25, 46L89, 58B30)

Landvogt, Erasmus ★ A compactification of the Bruhat-Tits building. Lecture Notes in Mathematics, 1619. *Springer-Verlag, Berlin*, 1996. viii+152 *pp. ISBN* 3-540-60427-8 (Curtis D. Bennett) **98h:20081** 20G25 (20E42)

Landweber, Laura F. (*with* Lipton, Richard J.) DNA^{2}DNA computations: a potential "killer app"? *Automata, languages and programming* (*Bologna*, 1997), 56–64, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q05 (92D20)

Landy, Dan (*with* Hochbaum, Dorit S.) Scheduling with batching: two job types. (English summary) Models and algorithms for planning and scheduling problems (Loveno di Menaggio, 1993). *Discrete Appl. Math.* **72** (1997), *no.* 1-2, 99–114. (Summary) **98b:90067** 90B35

Lane, David Individual rationality and social efficiency in an information contagion model. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 45–60, *Springer, New York*, 1996. (Summary) **98b:90038** 90A19 (62A15)

Lane, Ernest Paul (*with* Pan, Chunliang) Katětov's lemma and monotonically normal spaces. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 99–109, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:54034** 54D15 (54C30)

Lane, P. G. The principle of matching: a necessary and sufficient condition for inputs restricted in magnitude and rate of change. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 893–915. 93B51

mac Lane, Saunders *see* **Mac Lane, Saunders**

Laneve, Cosimo (*with* Boudol, Gerard) Termination, deadlock and divergence in the λ-calculus with multiplicities. (English summary) *Mathematical foundations of programming semantics* (*New Orleans, LA*, 1995), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 1, *Elsevier, Amsterdam*, 1995. (*see* **98g:68006**) 68N15 (03B40, 03B70, 68Q55)

— (*with* Asperti, Andrea) Comparing λ-calculus translations in sharing graphs. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 1–15, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Fournet, Cédric; Maranget, Luc; Rémy, Didier) Implicit typing à la ML for the join-calculus. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 196–212, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68N15 (03B70, 68Q60)

Lanford, O. E., III (*with* Ruedin, L.) Statistical mechanical methods and continued fractions. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 908–948. (Roberto Fernández) **98b:11132** 11Z05 (11A55, 82B05)

Lang, Alexander (*with* Eichhorn, Jürgen; Fricke, Jan) Metrics conformally equivalent to bounded geometry. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 103–110. (Józef Dodziuk) **98h:53054** 53C20 (53C21)

Lang, Bruno Using level 3 BLAS in rotation-based algorithms. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 626–634 (*electronic*). 65-04 (65F15)

Lang, C. B. (*with* Gattringer, C. R.; Hip, I.) Quantum fluctuations versus topology—a study in $U(1)_2$ lattice gauge theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 371–376. 81T25

Lang, Gabriel (*with* Istas, Jacques) Quadratic variations and estimation of the local Hölder index of a Gaussian process. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 4, 407–436. (José Rafael León) **98e:60057** 60G15 (60G35)

Lang, Jan (*with* Krbec, Miroslav) Imbeddings between weighted Orlicz-Lorentz spaces. (English summary) *Georgian Math. J.* **4** (1997), *no.* 2, 117–128. (Abdelmoujib Benkirane) **98d:46033** 46E30

Lang, Jens Adaptive FEM for reaction-diffusion equations. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 105–116. (*see* **98i:65004**) 65M60 (65M50)

Lang, Jérôme (*with* Cordier, Marie-Odile) Linking transition-based update and base revision. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 133–141, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B60, 03B70)

Lang, Joseph B. On the partitioning of goodness-of-fit statistics for multivariate categorical response models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1017–1023. (Zuzana Prášková) **98b:62104** 62H17 (62E20, 62G10)

Lang, Pascal (*with* Ben Abdelaziz, F.; Nadeau, R.) Dominance and efficiency in multiobjective stochastic linear programming. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 160–169, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C15)

Lang, R. *see* **Lang, Reinhard**

Lang, Rainer (*with* Bodendiek, Rainer) ★ Lehrbuch der Graphentheorie. Band 1. (German) [Textbook of graph theory. Vol. 1] Spektrum-HochschulTaschenbuch. [Spectrum University Paperback] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1995. viii+324 *pp. ISBN* 3-86025-667-X (Jozef Širáň) **98g:05002a** 05-01

— (*with* Bodendiek, Rainer) ★ Lehrbuch der Graphentheorie. Band 2. (German) [Textbook of graph theory. Vol. 2] Spektrum-HochschulTaschenbuch. [Spectrum University Paperback] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1996. iv+378 *pp. ISBN* 3-86025-668-8 (Jozef Širáň) **98g:05002b** 05-01

Lang, Reinhard Ein inverses Randwertproblem für elektrische Netzwerke. (German summary) [An inverse boundary value problem for electrical networks] *Math. Semesterber.* **44** (1997), *no.* 1, 73–92. 35R30 (94C05)

Lang, S. D. (*with* Mao, L. J.; Deo, Narsingh; Kumar, Nishit) A comparison of two parallel approximate algorithms for the degree-constrained minimum spanning tree problem. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 15–32. (*see* **98h:05002**) 68R10 (05C85, 68Q22)

Lang, Serge ★ Topics in cohomology of groups. Translated from the 1967 French original by the author. Chapter X based on letters written by John Tate. Lecture Notes in Mathematics, 1625. *Springer-Verlag, Berlin*, 1996. vi+226 *pp. ISBN* 3-540-61181-9 (David Benson) **98b:20084** 20J06 (11R34, 11R37)

— ★ Undergraduate analysis. (English summary) Second edition. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1997. xvi+642 *pp. ISBN* 0-387-94841-4 (Editors) **98h:00002** 00A05 (26-01, 46-01, 58-01)

— Globale Integration lokal integrierbarer Vektorfelder. (German summary) [Global integration of locally integrable vector fields] *Elem. Math.* **52** (1997), *no.* 1, 1–11. (J. Král) **98b:26012** 26B12

Lang, Tomás (*with* Antelo, Elisardo; Bruguera, Javier D.) Computation of $\sqrt{x/d}$ in a very high radix combined division/square-root unit with scaling and selection by rounding. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 152–161. 68M07 (65D99)

Lang, Urs (*with* Schroeder, Viktor) Jung's theorem for Alexandrov spaces of curvature bounded above. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 263–275. (Joseph E. Borzellino) **98g:53059** 53C20 (52A40, 53C21)

— (*with* Schroeder, Viktor) Quasiflats in Hadamard spaces. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 3, 339–352. (Zhongmin Shen) **98b:53035** 53C23 (53C22)

— (*with* Schroeder, Viktor) Kirszbraun's theorem and metric spaces of bounded curvature. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 3, 535–560. (Zhongmin Shen) **98d:53062** 53C23

Lang, W. *see* **Lang, Wolfdieter**

Lang, Wilfried (*with* Lakemeyer, Gerhard) Belief revision in a nonclassical logic. (English summary) *KI-96: Advances in artificial intelligence* (*Dresden*), 199–211, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (*see* **98d:68016**) 68T27 (03B45, 03B46, 03B60, 03B70)

Lang, Wolfdieter The measure of the orthogonal polynomials related to Fibonacci chains: the periodic case. (English summary) *J. Phys. A* **29** (1996), *no.* 14, 4169–4185. (M. Mendès France) **98b:82027a** 82B23 (11B85, 33C45, 42C05)

— Corrigenda: "The measure of the orthogonal polynomials related to Fibonacci chains: the periodic case". *J. Phys. A* **30** (1997), *no.* 2, 765–766. (M. Mendès France) **98b:82027b** 82B23 (11B85, 33C45, 42C05)

Lang, Zi-Qiang A nonparametric polynomial identification algorithm for the Hammerstein system. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1435–1441. 93B30 (93C10)

Langari, A. (*with* Karimipour, V.) Quantum renormalization group for one-dimensional fermion systems: a modified scheme. (English summary) *Phys. Lett. A* **236** (1997), *no.* 1-2, 106–112. 82B28 (82B20)

Langaris, Christos (*with* Moutzoukis, E.) A batch arrival reader-writer queue with retrial writers. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 523–545. (Summary) **98a:60138** 60K25

— A polling model with retrial customers. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 4, 489–508. 60K25 (90B22)

Langbein, D. (*with* de Lazzer, A.) Liquid surface in regular N-pods. (English summary) *J. Fluid Mech.* **358** (1998), 203–221. (Summary) **98m:76058** 76D45

Langdon, A. Bruce *see* **Birdsall, Charles K.**, (**98h:70003**)

Lange, Bogdan The importance of indistinguishability of energy quanta for the derivation of Planck's formula. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 2, 380–383. 82B03

Lange, Ehler Cellular automata, substitutions and factorization of polynomials over finite fields. *Finite fields and applications* (*Glasgow*, 1995), 163–179, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (M. Mendès France) **98e:11028** 11B85 (11T55, 58F08, 68Q80)

— Substitutions for linear shift register sequences and the factorization algorithms of Berlekamp and Niederreiter. (English summary) *Linear Algebra Appl.* **249** (1996), 217–228. (Zdzisław Grodzki) **98a:94014** 94A55

Lange, Horst R. (*with* Toomire, Bruce; Zweifel, P. F.) Quantum BGK modes for the Wigner-Poisson system. (English summary) *Transport Theory Statist. Phys.* **25** (1996), *no.* 6, 713–722. (Reinhard Illner) **98a:81100** 81S30 (82B10)

— (*with* Perla Menzala, Gustavo) Rates of decay of a nonlocal beam equation. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1075–1092. (Takashi Narazaki) **98m:35205** 35Q72 (35B40, 35Q55)

— (*with* Illner, Reinhard; Toomire, Bruce; Zweifel, P. F.) On quasi-linear Schrödinger-Poisson systems. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1223–1238. (Summary) **98e:35156** 35Q55 (65N30, 82D10)

Lange, Kenneth (*with* Sobel, Eric; O'Connell, Jeffrey R.; Weeks, Daniel E.) Haplotyping algorithms. (English summary) *Genetic mapping and DNA sequencing* (*Minneapolis, MN*, 1994), 89–110, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98c:92006**) 92D20

— (*with* Lazzeroni, Laura C.) Markov chains for Monte Carlo tests of genetic equilibrium in multidimensional contingency tables. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 138–168. (Summary) **98k:62101** 62H17 (62P10)

Lange, Klaus-Jörn (*with* Allender, Eric) $\mathrm{StUSPACE}(\log n) \subseteq \mathrm{DSPACE}(\log^2 n/\log\log n)$. (English summary) *Algorithms and computation* (*Osaka*, 1996), 193–202, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:68082** 68Q15

— (*with* Fernau, Henning; Reinhardt, Klaus) Advocating ownership. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 286–297, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98m:68058** 68Q05

— Complexity and structure in formal language theory. (English summary) *Fund. Inform.* **25** (1996), *no.* 3-4, 327–352. (William R. Nico) **98b:68058** 68Q15 (03D05, 03D15, 68Q05, 68Q45)

— (*with* Holzer, Markus) On the complexity of iterated insertions. (English summary) *New trends in formal languages*, 440–453, *Lecture Notes in Comput. Sci.*, 1218, *Springer, Berlin*, 1997. (Summary) **98i:68153** 68Q45 (68Q15)

— An unambiguous class possessing a complete set. (English summary) *STACS* 97 (*Lübeck*), 339–350, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68049** 68Q15

de Lange, O. L. Bifactorizability of vector operators in quantum mechanics. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 220–225, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q05

— On the spectrum-generating algebras of oscillator and Coulomb problems. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 207–212. (Philippe Briet) **98g:81031** 81Q10 (81Q05, 81R05)

Lange, Steffen (*with* Wiehagen, Rolf; Zeugmann, Thomas) Learning by erasing. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 228–241, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98h:68196** 68T05 (68Q99)

— (*with* Zeugmann, Thomas) Set-driven and rearrangement-independent learning of recursive languages. (English summary) *Math. Systems Theory* **29** (1996), *no.* 6, 599–634. (Sanjay Jain) **98d:68159** 68Q99 (68T05)

Langenberg, Heike Strange attractors in cellular automata. *Iteration theory* (*Batschuns*, 1992), 172–181, *World Sci. Publishing, River Edge, NJ*, 1996. (Michael Hurley) **98a:58095** 58F08 (58F13, 68Q80, 82C20)

Langenbruch, Michael Continuation of Gevrey regularity for solutions of partial differential operators. *Functional analysis* (*Trier*, 1994), 249–280, *de Gruyter, Berlin*, 1996. (Norbert Ortner) **98e:35025** 35B65 (35E20, 46F10, 47F05)

Langer, Adrian Fano schemes of linear spaces on hypersurfaces. (English summary) *Manuscripta Math.* **93** (1997), *no.* 1, 21–28. (P. Abellanas) **98g:14048** 14J45 (14J70)

Langer, Andreas Selmer groups and torsion zero cycles on the selfproduct of a semistable elliptic curve. (English summary) *Doc. Math.* **2** (1997), 47–59 (*electronic*). (Abdellah Mokrane) **98g:11074** 11G25 (14G20, 19E15)

Länger, H. *see* **Länger, Helmut**

Langer, Heinz (*with* Dijksma, Aad) Notes on a Nevanlinna-Pick interpolation problem for generalized Nevanlinna functions. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 69–91, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Daniel Alpay) **98g:47015** 47A57 (30E05, 47B50)

— (*with* Najman, B.) Instability of singular critical points of definitizable operators. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 60–71. (Aad Dijksma) **98a:47036** 47B50 (47A55)

— (*with* Ran, André C. M.; Temme, D.) Nonnegative solutions of algebraic Riccati equations. (English summary) *Linear Algebra Appl.* **261** (1997), 317–352. (Gong Ning Chen) **98c:15046** 15A24 (47B50)

— (*with* Markus, Alexander S.; Matsaev, V.) Locally definite operators in indefinite inner product spaces. *Math. Ann.* **308** (1997), *no.* 3, 405–424. (Aad Dijksma) **98g:47029** 47B50 (47A55)

Länger, Helmut Free subsemigroups of free semigroups. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 231–234, *Hölder-Pichler-Tempsky, Vienna*, 1995. (*see* **98g:00020**) 20M05

— (*with* Mączyński, Maciej) Minimal and maximal sets of Bell-type inequalities holding in a logic. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **65** (1996), *no.* 1, 111–123. (S. Gudder) **98a:81010** 81P10 (03G12, 06C15)

— (*with* Dorfer, Gerhard; Dvurečenskij, Anatolij) Symmetric difference in orthomodular lattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 5, 435–444. (Jānis Cīrulis) **98h:06019** 06C15 (03G12, 81P10)

— (*with* Dorninger, Dietmar; Mączyński, Maciej) The logic induced by a system of homomorphisms and its various algebraic characterizations. *Demonstratio Math.* **30** (1997), *no.* 1, 215–232. (Marjan Matvejchuk) **98g:81015** 81P10 (03G12, 06E05, 08A55, 47N50)

schleier-Langer, Ulrike *see* **Schleier-Langer, Ulrike**

Langerak, Rom (*with* Brinksma, Ed; Katoen, Joost-Pieter) Causal ambiguity and partial orders in event structures. (English summary) *CONCUR* '97: *concurrency theory* (*Warsaw*), 317–331, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q10 (68Q55)

Langevin, A. (*with* Cheung, Bernard K. S.; Delmaire, H.) Coupling genetic algorithm with a grid search method to solve mixed integer nonlinear programming problems. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 13–23. 90C11

Langevin, Michel (*with* Balasubramanian, Ramachandran; Shorey, T. N.; Waldschmidt, Michel) On the maximal length of two sequences of integers in arithmetic progressions with the same prime divisors. (English summary) *Monatsh. Math.* **121** (1996), *no.* 4, 295–307. (Author's review (M.L.)) **98a:11124** 11N25 (11J86)

— Quelques remarques sur les familles canoniques de polynômes générateurs pour l'exponentielle. (English and French summaries) [Some remarks on canonical families of polynomial generators for the exponential] *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 1–48. (Michel Waldschmidt) **98d:11028** 11C08 (11J99, 13F20, 13F25)

Langevin, Paul *see* **Franke, Almut**, **98h:01024**

Langevin, Philippe Calculs de certaines sommes de Gauss. (French summary) [Computations of certain Gauss sums] *J. Number Theory* **63** (1997), *no.* 1, 59–64. (Charles Helou) **98a:11107** 11L05 (11T24)

Langevin, Remi (*with* Rosenberg, Harold) Fenchel type theorems for submanifolds of S^n. *Comment. Math. Helv.* **71** (1996), *no.* 4, 594–616. (Xue Shan Zhang) **98a:53094** 53C42 (53C22, 53C65)

Langfeld, Kurt (*with* Reinhardt, Hugo; Tennert, Oliver) Confinement and scaling of the vortex vacuum of SU(2) lattice gauge theory. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 317–321. 81T25 (81-04)

Langford, Susan K. Weaknesses in some threshold cryptosystems. (English summary) *Advances in cryptology—CRYPTO* '96 (*Santa Barbara, CA*), 74–82, *Lecture Notes in Comput. Sci.*, 1109, *Springer, Berlin*, 1996. (*see* **98f:94001**) 94A60

Langford, William F. (*with* LeBlanc, Victor G.) Classification and unfoldings of 1:2 resonant Hopf bifurcation. (English summary) *Arch. Rational Mech. Anal.* **136** (1996), *no.* 4, 305–357. (Jacques Bélair) **98b:58127** 58F14 (34C23, 34C25, 58C27)

Langley, J. K. (*with* Kaufman, Robert) Steven Barry Bank (1939–1994). *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 1–5. (Editors) **98f:01070** 01A70

— (*with* Drasin, D.) On deficiencies and fixpoints of composite meromorphic functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 63–82. (Summary) **98d:30046** 30D35

— On the zeros of the second derivative. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 359–368. (Günter Frank) **98f:30032** 30D35

Langley, Larry (*with* Lundgren, J. Richard; McKenna, Patricia A.; Merz, Sarah K.; Rasmussen, Craig W.) The p-competition graphs of strongly connected and Hamiltonian digraphs. (English summary) *Ars Combin.* **47** (1997), 161–172. (Summary) **98h:05158** 05C75 (05C40, 05C45)

— (*with* Fisher, David C.; Fraughnaugh, Kathryn L.) P_3-connected graphs of minimum size. (English summary) *Ars Combin.* **47** (1997), 299–306. (Summary) **98j:05089** 05C40 (05C35)

— (*with* Merz, Sarah K.; Lundgren, J. Richard; Rasmussen, Craig W.) Posets with interval or chordal strict upper and lower bound graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 153–160. (Summary) **98j:05115** 05C75 (06A06)

— (*with* Fisher, David C.; Fraughnaugh, Kathryn L.; West, Douglas B.) The number of dependent arcs in an acyclic orientation. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 73–78. (L. W. Beineke) **98g:05066** 05C20 (05C38)

Langley, Pat (*with* Blum, Avrim L.) Selection of relevant features and examples in machine learning. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 245–271. (Summary) **98j:68145** 68T05

Langlois, David (*with* Deruelle, Nathalie; Uzan, Jean-Philippe) Cosmological perturbations seeded by topological defects: setting the initial conditions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7608–7620. (Summary) **98j:83109** 83F05

Langmaack, Hans *see* **Müller-Olm, Markus**, **98f:68053**

Langmann, E. (*with* Elsner, Ludwig F.; Fasse, A.) A divide-and-conquer method for the tridiagonal generalized eigenvalue problem. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 141–148. (Summary) **98h:65015** 65F15

Langmann, Edwin On anomalies and noncommutative geometry. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 291–297, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Raimar Wulkenhaar) **98j:81320** 81T50 (58B30)

— Quantum gauge theories and noncommutative geometry. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2477–2496. (Raimar Wulkenhaar) **98d:81110** 81T50 (46L60, 46L87, 58B30, 81T13)

— (*with* Grosse, Harald; Raschhofer, Ernst) The Luttinger-Schwinger model. (English summary) *Ann. Physics* **253** (1997), *no.* 2, 310–331. (Summary) **98g:81124** 81T10 (81V70)

— Descent equations of Yang-Mills anomalies in noncommutative geometry. (English summary) *J. Geom. Phys.* **22** (1997), *no.* 3, 259–279. (Jacek Brodzki) **98i:58025** 58B30

(46L87, 81T13, 81T50)

Langmann, Klaus Picardexponent und rationale Punkte. [Picard exponent and rational points] *Math. Nachr.* **183** (1997), 157–172. (Michel Waldschmidt) **98c:11061** 11G35 (11R04, 14G05, 32H25)

Langmeyer, Navah The quasihyperbolic metric, growth, and John domains. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 205–224. (Olli Martio) **98m:30033** 30C65 (30F45)

Langseth, Helge (*with* Lindqvist, Bo Henry) Uncertainty bounds for a monotone multistate system. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 239–260. (Summary) **98j:62070** 62N05

Langston, Michael A. (*with* Bienstock, Daniel) Algorithmic implications of the graph minor theorem. *Network models*, 481–502, *Handbooks Oper. Res. Management Sci.*, 7, *North-Holland, Amsterdam*, 1995. (*see* **98d:90002**) 05C85 (68Q25, 68R10)

— (*with* Plaut, Barbara C.) On algorithmic applications of the immersion order. (English summary) An overview of ongoing work presented at the Third Slovenian International Conference on Graph Theory. Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 191–196. (*see* **98i:05001**) 05C85

Langtangen, Hans Petter (*with* Haug, Einar) Basic equations in Eulerian continuum mechanics. (English summary) *Numerical methods and software tools in industrial mathematics*, 121–156, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:73002** 73B05 (73Vxx, 76A02, 76Mxx, 80–08, 80A20)

— (*with* Andreassen, Erik; Gundersen, Elisabeth; Hinrichsen, Einar L.) A mathematical model for the melt spinning of polymer fibers. (English summary) *Numerical methods and software tools in industrial mathematics*, 195–212, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:82078** 82D60

— (*with* Gundersen, Elisabeth) Finite element methods for two-phase flow in heterogeneous porous media. (English summary) *Numerical methods and software tools in industrial mathematics*, 213–234, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:76067** 76M10 (65N30, 76M20, 76S05)

— (*with* Osnes, Harald) A study of some finite difference schemes for a unidirectional stochastic transport equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 799–812 (*electronic*). 65M06 (65C05)

Languasco, A. Some results on Goldbach's problem. (English summary) Number theory, II (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 4, 325–337. (John B. Friedlander) **98f:11106** 11P32

— (*with* Perelli, A.) A pair correlation hypothesis and the exceptional set in Goldbach's problem. *Mathematika* **43** (1996), *no.* 2, 349–361 (1997). (Daniel A. Goldston) **98g:11113** 11P32 (11M26)

— A conditional result on Goldbach numbers in short intervals. *Acta Arith.* **83** (1998), *no.* 2, 93–103. (R. C. Baker) **98k:11139a** 11P32

— A singular series average and Goldbach numbers in short intervals. *Acta Arith.* **83** (1998), *no.* 2, 171–179. (R. C. Baker) **98k:11139b** 11P32

Lani-Wayda, Bernhard ★ Hyperbolic sets, shadowing and persistence for noninvertible mappings in Banach spaces. (English summary) Pitman Research Notes in Mathematics Series, 334. *Longman, Harlow; copublished in the United States with John Wiley & Sons, Inc., New York*, 1995. vi+144 *pp. ISBN* 0-582-29228-X (Heinrich Steinlein) **98i:58181** 58F15 (34K15, 47H99, 47N20)

Lankalapalli, Shrinivas (*with* Ghosal, Ashitava) Chaos in robot control equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 707–720. 70Q05 (58F13, 58F40, 70B15, 93C85)

Lankers, Katharina (*with* Friesecke, Gero) Fast, large-amplitude solitary waves in the 2D Euler equations for stratified fluids. *Nonlinear Anal.* **29** (1997), *no.* 9, 1061–1078. (Shu Ming Sun) **98e:76020** 76C10 (35Q30, 76M30, 76V05)

Lankosz, Adam Polar-stereographic mapping of the space $\mathbf{R}^3$ onto a plane. (Polish. English and Polish summaries) *Opuscula Math. No.* 16 (1996), 11, 18–19, 119–121. (Konrad Knitter) **98d:51020** 51N35

le Lann, G. *see* **Le Lann, G.**

Lannes, André (*with* Maréchal, Pierre) Unification of some deterministic and probabilistic methods for the solution of linear inverse problems via the principle of maximum entropy on the mean. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 135–151. (Ulrich Tautenhahn) **98a:65080** 65J20 (65K10, 65U05)

Lannes, Jean (*with* Hirzebruch, Friedrich; Demailly, Jean-Pierre) ★ Journée en l'Honneur de Henri Cartan. (French) [Conference in Honor of Henri Cartan] SMF Journée Annuelle [SMF Annual Conference], 1997. *Société Mathématique de France, Paris*, 1997. iv+27 *pp.* (Editors) **98h:00041** 00B30

— Divers aspects des opérations de Steenrod. [Various aspects of the Steenrod operations] *Journée en l'Honneur de Henri Cartan*, 18–27, *SMF Journ. Annu.*, 1997, *Soc. Math. France, Paris*, 1997. (Grant Walker) **98k:55019** 55S10

— *see also* **Bourguiba, Dorra**, **98h:13005**

Lano, R. P. (*with* Branson, Thomas P.; Rodgers, V. G. J.) Yang-Mills, gravity, and string symmetries. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 253–258. (Summary) **98k:81311** 81V17 (81R10, 81T30, 83E30)

Lansdowne, Zachary F. Outranking methods for multicriterion decision making: Arrow's and Raynaud's conjecture. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 125–128. (Milan Mareš) **98g:90011** 90A05 (90C29)

Lanski, Charles Rings with finite maximal invariant subrings. (English summary) *Canad. J. Math.* **48** (1996), *no.* 3, 596–606. (Summary) **98g:16020** 16P70

Lanteri, Antonio (*with* Maeda, Hidetoshi) Ample vector bundle characterizations of projective bundles and quadric fibrations over curves. (English summary) *Higher-dimensional complex varieties* (*Trento*, 1994), 247–259, *de Gruyter, Berlin*, 1996. (Marco Andreatta) **98h:14051** 14J60

— (*with* Palleschi, Marino; Sommese, Andrew J.) Del Pezzo surfaces as hyperplane sections. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 501–529. (Gian Mario Besana) **98d:14053** 14J40 (14C20, 14J26)

— (*with* Maeda, Hidetoshi) 2-very ampleness for adjoint bundles of ample and spanned vector bundles on surfaces. *Math. Z.* **225** (1997), *no.* 3, 355–371. (Takao Fujita) **98g:14050** 14J60 (14C20, 14J25)

Lantsman, M. Kh. Linear differential equations with variable coefficients in regular and some singular cases. (English summary) *Math. Nachr.* **186** (1997), 197–223. (Donald A. Lutz) **98g:34094** 34E05 (26A12, 34A30, 34C99)

Lantz, David (*with* Heinzer, William) Coefficient and stable ideals in polynomial rings. *Factorization in integral domains* (*Iowa City, IA*, 1996), 359–370, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (L. J. Ratliff, Jr.) **98d:13024** 13F20 (13A15)

Lanusse, P. (*with* Oustaloup, A.; Mathieu, B.) A survey of the CRONE control. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 519–532, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93C95 (93–02)

Lanz, L. (*with* Vacchini, B.) Dynamical semigroup description of coherent and incoherent particle-matter interaction. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 1, 67–88. (Robert Alicki) **98g:82031** 82C10

Lanza, Antonio (*with* Abramowicz, Marek A.; Miller, John Charles; Sonego, Sebastiano) Curving Newtonian space. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1585–1596. (D. K. Sen) **98j:83079** 83D05 (70D99)

Lanzara, Flavia Optimal L^2 estimate for harmonic functions. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 141–156. (Alexander I. Kheyfits) **98k:31005** 31B05

Lanzendorf, Martin Einstein metrics with nonpositive sectional curvature on extensions of Lie algebras of Heisenberg type. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 187–202. (Lieven Vanhecke) **98g:53088** 53C25

Lao, Norman (*with* Whitley, Robert) Norms of powers of the Volterra operator. (English summary) *Integral Equations Operator Theory* **27** (1997), *no.* 4, 419–425. (Summary) **98b:47014** 47A30 (45P05, 47G10)

LaPaugh, A. (*with* Chao, L.-F.) Finding all minimal shapes in a routing channel. (English summary) *Algorithmica* **21** (1998), *no.* 2, 211–244. (Summary) **98m:68127** 68Q35

La Paz, Claudio (*with* Balibrea Gallego, Francisco) Omega-limit sets for smooth maps. (English summary) *Iteration theory* (*Batschuns*, 1992), 24–37, *World Sci. Publishing, River Edge, NJ*, 1996. (Katarina Jankova) **98d:58112** 58F12 (26A18)

— (*with* Balibrea Gallego, Francisco) Turbulent maps and their ω-limit sets. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 223–226. (Summary) **98k:58154** 58F13 (26A18)

Lapegna, Marco (*with* D'Apuzzo, Marco; Murli, Almerico) Scalability and load balancing in adaptive algorithms for multidimensional integration. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1199–1210. 65D30 (65N30)

san saturio Lapeña, María Eugenia *see* **San Saturio Lapeña, María Eugenia**

Lapeyre, Bernard (*with* Lamberton, Damien) ★ Introduction to stochastic calculus applied to finance. (English summary) Translated from the 1991 French original by Nicolas Rabeau and François Mantion. *Chapman & Hall, London*, 1996. xii+185 *pp. ISBN* 0-412-71800-6 (Marek Rutkowski) **98b:90018** 90A09 (60H30)

Lapidot, Dror (*with* Shamir, Adi) Fully parallelized multi-prover protocols for NEXP-time. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 215–220. (M. V. D. Burmester) **98h:68089** 68Q15 (68Q25)

Lapidoth, Amos On the role of mismatch in rate distortion theory. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 38–47. (Summary) **98j:94007** 94A34

— (*with* Shamai, Shlomo) The Poisson multiple-access channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 488–501. 94A40

Lapidus, Michel L. (*with* Harper, Lawrence H.; Rumbos, Adolfo J.) Dedication [to Victor L. Shapiro]. *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), ix–x, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98c:00018**) 01A70

— Towards a noncommutative fractal geometry? Laplacians and volume measures on fractals. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 211–252, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Éric Leichtnam) **98m:58009** 58B30 (28A80, 35J99, 58G99)

— (*with* DeFacio, Brian; Johnson, Gerald W.) Feynman's operational calculus and evolution equations. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 155–211. (Brian Jefferies) **98f:58050** 58D30 (47N50)

— *see also* **Harmonic analysis and nonlinear differential equations**, **98c:00018**

Lapin, A. V. Weak solutions for non-linear fluid flow through porous medium. *Free boundary problems, theory and applications* (*Zakopane*, 1995), 242–246, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (From the text) **98f:76074** 76S05 (35D05, 35Q35, 76M30)

— (*with* Abushov, O. G.) Solution of the problem of filtration in a dam by the shape optimization method of optimizing: grid approximation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 9, 3–13; *translation in Russian Math.* (*Iz. VUZ*) **40** (1996), *no.* 9, 1–11 (1997). (Vadim Komkov) **98b:76066** 76S05 (49Q10, 76M10, 76M30)

Lapinova, S. A. (*with* Saichev, A. I.) Density and concentration of particles of a passive mixture in a Burgers velocity field. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **40** (1997), *no.* 9, 1144–1154; *translation in Radiophys. and Quantum Electronics* **40** (1997), *no.* 9, 766–773 (1998). (Summary) **98j:85003** 85A30 (35Q53, 76F99)

Laplace, Pierre-Simon *see* **Brosche, Peter**, **98j:01020**; **Gillispie, Charles Coulston**, **98k:01026** *and* **Gómez Villegas, Miguel A.**, **(98m:00014)**

Laplante, Phillip *see* **Great papers in computer science**, **98f:68002**

Lapointe, François-Joseph (*with* Landry, Pierre-Alexandre) Estimation of missing distances in path-length matrices: problems and solutions. (English summary) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 209–218, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98h:92004**) 92D15 (92B10)

Lapointe, Luc (*with* Vinet, Luc) Appell functions and the Pöschl-Teller potential. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 285–291, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98j:81069** 81Q05 (33C65, 33C90)

Lapoire, Denis (*with* Drewes, Frank; Kreowski, Hans-Jörg) Criteria to disprove context-freeness of collage languages. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 169–178, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q50 (68Q45)

Laporta, M. B. S. (*with* Coppola, G.) A new "weighted" form of the Riemann-von Mangoldt explicit formula. (English summary) *Note Mat.* **14** (1994), *no.* 2, 263–275 (1997). (Daniel A. Goldston) **98k:11118** 11M26 (11N05)

— (*with* Coppola, G.) On the representation of even integers as sum of two almost equal primes. (English summary) Number theory, I (Rome, 1995). *Rend. Sem. Mat. Univ. Politec. Torino* **53** (1995), *no.* 3, 245–252. (A. Perelli) **98h:11122** 11P32 (11P55)

— A short intervals result for linear equations in two prime variables. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 1, 17–30. (A. Perelli) **98g:11114** 11P32

Laporte, Gilbert (*with* Gendreau, Michel; Potvin, Jean-Yves) Vehicle routing: modern heuristics. *Local search in combinatorial optimization*, 311–336, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 90C35 (05C90, 68T05)

— Modeling and solving several classes of arc routing problems as traveling salesmen problems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1057–1061. 90C27

— (*with* Sharaiha, Yazid M.; Gendreau, Michel; Osman, Ibrahim H.) A tabu search algorithm for the capacitated shortest spanning tree problem. (English summary) *Networks* **29** (1997), *no.* 3, 161–171. (Summary) **98a:05142** 05C85

— (*with* Bourjolly, Jean-Marie; Mercure, Hélène) A combinatorial column generation algorithm for the maximum stable set problem. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 1, 21–29. (Horst W. Hamacher) **98a:90082** 90C27 (05C85, 90C35)

— (*with* Mesa, Juan A.; Ortega, Francisco A.) Assessing the efficiency of rapid transit configurations. (English summary) *Top* **5** (1997), *no.* 1, 95–104. 90B20 (90C35)

La Poutré, Han (*with* Henzinger, Monika Rauch) Certificates and fast algorithms for biconnectivity in fully-dynamic graphs. (English summary) *Algorithms—ESA '95 (Corfu)*, 171–184, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68R10 (05C40, 05C85)

Lappan, Peter (*with* Chen, Huaihui) Spherical derivative, higher derivatives and normal families. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 6, 517–524. (L. R. Sons) **98e:30037** 30D45

— (*with* Aulaskari, Rauno; Xiao, Jie[1]; Zhao, Ruhan) On α-Bloch spaces and multipliers of Dirichlet spaces. *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 103–121. (Dragan Vukotić) **98e:30036** 30D45 (30H05, 46E15)

Lappas, Dionyssios Locally splitting actions on Riemannian manifolds. (English summary) *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 239–245, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Valery Marenich) **98m:53049** 53C20

Lapshin, A. E. Asymptotic solution of the Dirichlet problem for a nonstationary system of equations in the theory of elasticity. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 4, 451–454. (L. P. Lebedev) **98f:35147** 35Q72 (35C20, 73C02)

Lapshin, Evgueny A. (*with* Panasenko, G. P.) Homogenization of the equations of high frequency nonlinear acoustics. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 931–936. (Summary) **98j:76130** 76Q05 (35B27, 35Q72, 73B27, 76L05)

Laptev, Ari (*with* Birman, Mikhail Sh.) "Non-standard" spectral asymptotics for a two-dimensional Schrödinger operator. *Partial differential equations and their applications (Toronto, ON, 1995)*, 9–16, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98e:35003**) 35P20 (35J10, 47F05)

— (*with* Safarov, Yu. G.) Szegő type theorems. *Partial differential equations and their applications (Toronto, ON, 1995)*, 177–181, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Estelle L. Basor) **98g:47039** 47F05 (35S05, 47B35, 47G30)

— (*with* Birman, Mikhail Sh.; Solomyak, M. Z.) The negative discrete spectrum of the operator $(-\Delta)^l - \alpha V$ in $L_2(\mathbf{R}^d)$ for d even and $2l \geq d$. (English summary) *Ark. Mat.* **35** (1997), *no.* 1, 87–126. (Günter Berger) **98d:35167** 35P20 (35J10, 47F05)

Laptev, B. L. (*with* Rosenfeld, Boris A.; Markushevich, A. I.) ★ Mathematics of the 19th century. (English summary) Geometry, analytic function theory. With a bibliography by F. A. Medvedev. Edited and with a preface by A. N. Kolmogorov and A. P. Yushkevich. Translated from the 1981 Russian original by Roger Cooke. *Birkhäuser Verlag, Basel*, 1996. x+291 *pp. ISBN* 3-7643-5048-2 (Editors) **98m:01017** 01A55 (30–03, 51–03, 53–03)

Laptev, G. I. Weak solutions of second-order quasilinear parabolic equations with double nonlinearity. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 83–112; *translation in Sb. Math.* **188** (1997), *no.* 9, 1343–1370. (Mikhail P. Vishnevskii) **98h:35135** 35K65 (35D05, 35K55)

— Solvability of second-order quasilinear parabolic equations with double degeneration. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1335–1355, *iii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1160–1177. (Summary) **98m:35088** 35K55

Laptinskiĭ, V. N. On solutions, bounded on the semi-axis, of nonlinear differential systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 275–277, 287; *translation in Differential Equations* **33** (1997), *no.* 2, 275–277. (From the text) **98k:34059** 34C11

— (*with* Zabreĭko, Petr Petrovich) The fixed-point principle and nonlocal solvability theorems for essentially nonlinear differential equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 5–9, 122. (Józef Banaś) **98m:47105** 47H15 (34A34, 47H10, 47N20)

— (*with* Kenzhebaev, K.) Analytic representation of periodic solutions of linear differential systems. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 731–735; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 818–823 (1998). (W. S. Loud) **98h:34081** 34C25

Lapushonok, L. Yu. ★ Механика и теория относительности. (Russian. Russian summary) [Mechanics and relativity theory] *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. 132 *pp.* (Jan Novotný) **98g:70001** 70–01 (70H40, 83A05)

Laquerbe, C. (*with* Floquet, P.; Domenech, S.; Pibouleau, L.) Conception de séquences de séparation par un algorithme génétique. (English and French summaries) [Synthesis of separation sequences by a genetic algorithm] *RAIRO Rech. Opér.* **31** (1997), *no.* 4, 375–397. 92E20

ocaña Lara, Francisco A. *see* **Ocaña Lara, Francisco A.**

Lara, Hugo J. (*with* Gonzaga, Clovis C.) A note on properties of condition numbers. (English summary) *Linear Algebra Appl.* **261** (1997), 269–273. (Summary) **98c:15020** 15A12

Lara, Juan (*with* Matzner, Richard A.; Huq, Mijan; Botero, Alonso; Choi, Dae Il; Kask, Üllar; Liebling, Steven; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05

cohen de Lara, M. *see* **Cohen de Lara, M.**

Lara, Martín (*with* Elipe Sánchez, Antonio C.) Periodic orbits in the restricted three body problem with radiation pressure. (English summary) Visual double stars: formation, dynamics and evolutionary tracks (Santiago de Compostela, 1996). *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 1, 1–11. (*see* **98j:70013**) 70F07

— On periodic polar orbits in the artificial satellite problem. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 3, 321–328. 70M20

Lara, Pablo Linking production theory and multiobjective fractional programming as a support tool for animal diet formulation. (English summary) *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 301–309, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90C90)

neumann-Lara, Víctor *see* **Neumann-Lara, Víctor**

Laradji, A. *see* **Laradji, Abdellatif**

Laradji, Abdallah An equational characterization of quasi-injective modules. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3545–3549. 16D50

— On duo rings, pure semisimplicity and finite representation type. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3947–3952. (Summary) **98i:16007** 16D80 (16D25)

— (*with* Thaheem, A. B.) On dependent elements in semiprime rings. *Math. Japon.* **47** (1998), *no.* 1, 29–31. 16N60

Laradji, Abdellatif A characterization of p-radical groups. *J. Algebra* **188** (1997), *no.* 2, 686–691. (Shigeo Koshitani) **98a:20002** 20C05

de Lara-Tuprio, E. (*with* Chew, Tuan Seng) Periodic solutions of some functional-differential equations of Duffing type. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 91–109 (1998). (Anna Capietto) **98k:34106** 34K10 (34C25, 34K15, 47H15)

ben Larbi, Miloud *see* **Ben Larbi, Miloud**

Larcher, Gerhard (*with* Eichenauer-Herrmann, Jürgen; Emmerich, Frank) Average discrepancy, hyperplanes, and compound pseudorandom numbers. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 3, 203–218. (Vladimir S. Anashin) **98j:11059** 11K45

— Metric results on the approximation of zero by linear combinations of independent and of dependent rationals. (English summary) *Manuscripta Math.* **94** (1997), *no.* 4, 501–529. (Thomas W. Cusick) **98i:11054** 11J83

Larecki, W. Symmetrization of systems of conservation equations and the converse to the condition of Friedrichs and Lax. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **49** (1997), *no.* 5, 865–876. (Summary) **98k:35124** 35L65

Lares, Santos Asin On tangential properties of the Gutt $*$-product. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 2, 164–172. (Mohsen Masmoudi) **98i:58108** 58F06 (17B99)

Largeault, Jean ★ Intuition et intuitionisme. (French. French summary) [Intuition and intuitionism] With appended translations of two texts of L. E. J. Brouwer. Mathesis. *Librairie Philosophique J. Vrin, Paris*, 1993. 238 *pp. ISBN* 2-7116-1155-8 (Wim Veldman) **98b:03084** 03F55 (01A60, 03–01, 03–03, 03A05)

Largillier, A. Bounds for relative errors of complex matrix factorizations. (English summary) *Appl. Math. Lett.* **9** (1996), *no.* 6, 79–84. (Summary) **98a:65055** 65F30 (65F05)

— Spectral approximation of weakly singular integral operators. II. A Newton method for the jet printer industry. *Integral methods in science and engineering, Vol. 2 (Oulu, 1996)*, 129–133, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:90022**) 65R20 (45L05, 47A58, 47G10)

LaRiccia, V. N. (*with* Eubank, R. L.) Component type tests for ordered categorical data. (English summary) *Parisankhyan Samikkha* **1** (1994), *no.* 1, 51–60. 62H17 (62H15)

— (*with* Eggermont, P. P. B.) A simple and effective bandwidth selector for kernel density estimation. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 3, 285–301. (Ulrich Stadtmüller) **98f:62089** 62G05

— (*with* Eggermont, P. P. B.) Nonlinearly smoothed EM density estimation with automated smoothing parameter selection for nonparametric deconvolution problems. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1451–1458. 62G05

Larin, Vladimir B. (*with* Aliev, Fikret Akhmadalioglu) Algorithm of J-spectral factorization of polynomial matrices. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2179–2182. 65F30 (93C05)

— Problems of control of a hopping apparatus. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 579–593. (Summary) **98j:70028** 70Q05 (70B15, 93C85)

Larina, O. V. (*with* Gorelik, V. A.) The covering method for cooperative games with an interval characteristic function. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes (Russian)*, 51–60, 87, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1996. (Summary) **98b:90181** 90D12

Larionov, A. (*with* Compagner, A.; Berdnikov, A. S.; Turtia, S. B.) Rounding errors in random number generators. (English summary) *Comput. Phys. Comm.* **106** (1997), *no.* 3, 207–218. 65C10 (65G05)

Larionov, N. B. Commutative and idempotent semigroup varieties that possess the conditional amalgamation property. (Russian) *Modern algebra, No. 1 (Russian)*, 62–75, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Nikola Ruškuc) **98c:20105** 20M07 (20M14)

Larizza, Cristiana (*with* Berzuini, Carlo; Best, Nicola G.; Gilks, Walter R.) Dynamic conditional independence models and Markov chain Monte Carlo methods. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1403–1412. 62F15 (60J10, 62E25, 65C05)

Larkin, A. I. (*with* Aleiner, I. L.) Divergence of classical trajectories and quantum chaos. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1179–1204. 81Q50

Lar'kin, N. A. (*with* Frota, C. L.) On local and global solvability of nonlinear mixed problems modelling vibrations of a string. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations (Plovdiv, 1996)*, 101–108, *VSP, Utrecht*, 1997. (*see* **98b:00027**) 35L70

— (*with* Ferreira, Jorge) Decay of solutions of nonlinear hyperbolic-parabolic equations in noncylindrical domains. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 75–81. (Summary) **98c:35122** 35M10 (35B40, 35L70)

— (*with* Cousin, Alfredo Tadeu) On the nonlinear initial boundary value problem for the equation of viscoelasticity. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 229–242. (Michael Renardy) **98j:35174** 35Q72 (73F15)

Lar'kina, O. M. On identities in the product of normal nilpotent subgroups. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 35–37, 79; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 36–38. (Summary) **98d:20036** 20F18

Larman, David (*with* Hudelson, Matthew; Klee, Victor) Largest j-simplices in d-cubes: some relatives of the Hadamard maximum determinant problem. (English summary) Proceedings of the Fourth Conference of the International Linear Algebra Society (Rotterdam, 1994). *Linear Algebra Appl.* **241/243** (1996), 519–598. (Summary) **98c:15025** 15A15

Larmore, Lawrence L. (*with* Berman, Piotr; Karpinski, Marek; Plandowski, Wojciech; Rytter, Wojciech) On the complexity of pattern matching for highly compressed two-dimensional texts. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 40–51, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **98k:68080** 68Q25

— (*with* Chrobak, Marek; Lund, Carsten; Reingold, Nick) A better lower bound on the competitive ratio of the randomized 2-server problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 79–83. (Summary) **98e:68098** 68Q25

— (*with* Chrobak, Marek; Reingold, Nick; Westbrook, Jeffery) Page migration algorithms using work functions. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 124–157. (Summary) **98a:68094** 68Q25 (68M10, 68N25)

— (*with* Karpinski, Marek; Rytter, Wojciech) Correctness of constructing optimal alphabetic trees revisited. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 309–324. (Summary) **98b:68025** 68P10 (68P05)

Laroche, Céline (*with* Baulieu, Laurent; Picco, Marco; Ohta, Nobuyoshi) A note on consistent anomalies. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 77–84. (Mohamed Kachkachi) **98k:81253** 81T50

Larose, Daniel T. (*with* Dey, Dipak K.) Modeling publication bias using weighted distributions in a Bayesian framework. (English summary) *Comput. Statist. Data Anal.* **26** (1998), *no.* 3, 279–302. 62F15

Larotonda, Angel R. (*with* Carboni, Graciela) Exactness of the Frobenius limit. (Spanish) *Math. Notae* **38** (1995/96), 39–45 (1997). 46A13 (46M40)

— (*with* Andruchow, E.; Recht, Lázaro; Stojanoff, D.) Infinite-dimensional homogeneous reductive spaces and finite index conditional expectations. *Illinois J. Math.* **41** (1997), *no.* 1, 54–76. (Steve Wright) **98c:46108** 46L05 (46L50, 58B20)

Laroussinie, François (*with* Larsen, Kim G.; Weise, Carsten) From timed automata to logic—and back. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 529–539, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98f:68178** 68Q60 (03B70, 68Q10, 68Q68)

— (*with* Schnoebelen, Ph.) Specification in CTL+Past, verification in CTL. (English summary) *EXPRESS'97* (*Santa Margherita Ligure*, 1997), 24 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 7, *Elsevier, Amsterdam*, 1997. (Summary) **98j:68104** 68Q60

Larramendy, I. (*with* Truong-Van, B.) Asymptotic distribution of least squares estimators for purely unstable ARMA(m, ∞). (English summary) *Statistics* **28** (1996), *no.* 4, 307–346. (Bert M. Steece) **98f:62274** 62M10 (62J02)

Larribeau, Sophie (*with* Florens, Jean-Pierre; Ivaldi, Marc) Sobolev estimation of approximate regressions. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 753–772. (Summary) **98m:62301** 62P20 (62G05)

Larrión, F. (*with* Neumann-Lara, Víctor) A family of clique divergent graphs with linear growth. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 263–266. (Summary) **98g:05128** 05C75

Larrosa, Javier (*with* Meseguer, Pedro) Optimization-based heuristics for maximal constraint satisfaction. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 103–120, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (*see* **98d:68021**) 90C08

Larrouturou, Bernard (*with* Carpentier, Romuald; de La Bourdonnaye, Armel) On the derivation of the modified equation for the analysis of linear numerical methods. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 459–470. 65M15

Larsen, Arne L. (*with* Axenides, Minos) Runaway collapse of Witten vortex loops. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 443–453. (Summary) **98a:83132** 83F05 (83C75, 83E30)

— (*with* Aldabe, Fermin) Supermembranes and superstrings with extrinsic curvature. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 223–234. (Riccardo Capovilla) **98e:83110** 83E30 (81T30)

— (*with* Aldabe, Fermin) Charged open membrane solution on a manifold with a boundary. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 205–216. (Paulo Moniz) **98e:83111** 83E30 (81T30)

— (*with* Dąbrowski, Mariusz P.) Null strings in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6409–6414. (Summary) **98b:83010** 83C10 (83C15, 83E30)

— (*with* Lousto, Carlos O.) Are higher order membranes stable in black hole spacetimes? (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7936–7941. (Summary) **98c:83098** 83E30 (83C57)

Larsen, Edward W. (*with* Anistratov, D. Yu.; Adams, Marvin L.) Acceleration of the nonlinear corner-balance scheme by the averaged flux method. (English summary) *J. Comput. Phys.* **135** (1997), *no.* 1, 66–75. (Summary) **98g:82003** 82–08 (65M06, 82C40, 82C80, 85–08, 85A25)

— The amplitude and radius of a radiation beam. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 533–554. (Paul F. Zweifel) **98k:82173** 82C70 (92C55)

Larsen, Finn (*with* Wilczek, Frank) Classical hair in string theory. I. General formulation. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 3, 627–644. (Paulo Moniz) **98i:83079** 83E30 (81T30, 83C57)

— (*with* Wilczek, Frank) Classical hair in string theory. II. Explicit calculations. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 261–281. (Paulo Moniz) **98i:83080** 83E30 (81T30, 83C57)

— (*with* Balasubramanian, Vijay) Extremal branes as elementary particles. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 206–218. (Summary) **98f:81234** 81T30 (83C57, 83E30)

— (*with* Balasubramanian, Vijay) Relativistic brane scattering. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 61–83. (Summary) **98i:81187** 81T30 (83E30)

— (*with* Cvetič, Mirjam) Greybody factors for rotating black holes in four dimensions. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 107–120. (Summary) **98j:83055** 83C57 (81T30, 83E30)

— String model of black hole microstates. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1005–1008. (Paulo Moniz) **98g:83108** 83E30 (81T30, 83C57)

— (*with* Cvetič, Mirjam) General rotating black holes in string theory: greybody factors and event horizons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4994–5007. (Summary) **98e:83071** 83C57 (83E30)

Larsen, Jens Chr. Lorentzian geodesic flows. *J. Differential Geom.* **43** (1996), *no.* 1, 119–170. (Paul E. Ehrlich) **98e:53115** 53C50 (58F17)

— Electrical network theory of countable graphs. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1045–1055. (Summary) **98h:94029** 94C05 (58B20)

Larsen, Kim G. (*with* Andersen, Jørgen H.; Kristoffersen, Kåre J.; Niedermann, Jesper) Automatic synthesis of real time systems. *Automata, languages and programming* (*Szeged*, 1995), 535–546, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q60

— (*with* Pettersson, Paul; Yi, Wang) Model-checking for real-time systems. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 62–88, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68Q60

— (*with* Laroussinie, François; Weise, Carsten) From timed automata to logic—and back. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 529–539, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98f:68178** 68Q60 (03B70, 68Q10, 68Q68)

— (*with* Yi, Wang) Time-abstracted bisimulation: implicit specifications and decidability. (English summary) *Inform. and Comput.* **134** (1997), *no.* 2, 75–101. (Andrea Maggiolo-Schettini) **98d:68067** 68Q10 (68Q55)

Larsen, Kim S. (*with* Boyar, Joan; Fagerberg, Rolf) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 270–281, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68P05 (68Q10)

— Regular expressions with nested levels of back referencing form a hierarchy. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 169–172. (Summary) **98m:68153** 68Q45

Larsen, Mark F. (*with* Frost, Richard L.) Complexity-constrained trellis quantizers. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1134–1144. (Summary) **98e:94009** 94A29

Larsen, Michael (*with* Pink, Richard) A connectedness criterion for l-adic Galois representations. (English summary) *Israel J. Math.* **97** (1997), 1–10. (Summary) **98k:11066** 11F80 (14F30)

Larsen, Mogens Esrom (*with* Andersen, Erik Sparre) Combinatorial identities: a generalization of Dougall's identity. (English summary) *Advances in combinatorial methods and applications to probability and statistics*, 77–88, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (R. K. Raina) **98g:05017** 05A19 (33D90)

Larsen, Nadia S. (*with* Osaka, Hiroyuki) Extremal richness of multiplier algebras and corona algebras of simple C^*-algebras. (English summary) *J. Operator Theory* **38** (1997), *no.* 1, 131–149. (Hua Xin Lin) **98j:46057** 46L05

Larsen, Tine B. (*with* Yuen, David A.; Moser, Jiří; Fornberg, Bengt) A high-order finite-difference method applied to large Rayleigh number mantle convection. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 1-2, 53–83. (Summary) **98m:86013** 86A60 (76R05, 86–08)

Larson, David R. (*with* Kraus, Jon) Preannihilators, the operator approximation property and dual products. (English summary) *J. Operator Theory* **36** (1996), *no.* 1, 21–43. (Christian Le Merdy) **98f:46014** 46B28 (46L05, 47A05, 47D25)

— Von Neumann algebras and wavelets. (English summary) *Operator algebras and applications* (*Samos*, 1996), 267–312, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Warren R. Wogen) **98g:46091** 46L10 (42C15, 47A99, 47D25)

— (*with* Dai, Xingde; Speegle, Darrin M.) Wavelet sets in $\mathbf{R}^n$. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 451–456. (Eugenio Hernández) **98m:42048** 42C15

— (*with* Solel, Baruch) Structured triangular limit algebras. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 1, 177–193. (Justin Peters) **98c:46153** 46L89 (46M40, 47D25)

— (*with* Dai, Xingde) Wandering vectors for unitary systems and orthogonal wavelets. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 640, *viii*+68 *pp.* (Eugenio Hernández) **98m:47067** 47D25 (42C15, 46B28, 47A99)

Larson, Jean A. *see* **Set theory, 98h:03061**

Larson, Per-Åke (*with* Zhu, Qiang) A fuzzy query optimization approach for multidatabase systems. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 6, 701–722. (Summary) **98i:68071** 68P15

Larson, Richard G. (*with* Chin, William; Musson, Ian M.; Towber, Jacob) The first two terms of the coradical filtration of multiparameter quantum $U(\mathrm{gl}_N)$. *Comm. Algebra* **24** (1996), *no.* 12, 3845–3883. (From the introduction) **98f:17010** 17B37 (81R50)

Larson, Shane L. (*with* Hiscock, William A.; Anderson, Paul R.) Semiclassical effects in black hole interiors. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3571–3581. (Summary) **98e:83077** 83C57

Larson, Suzanne (*with* Henriksen, Melvin; Martinez, Jorge[2]) The intermediate value theorem for polynomials over lattice-ordered rings of functions. (English summary) *Papers on general topology and applications* (*Amsterdam*, 1994), 108–123, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Summary) **98g:54026** 54C30 (06F25, 16S60, 54G05)

— Quasi-normal f-rings. *Ordered algebraic structures* (*Curaçao*, 1995), 261–275, *Kluwer Acad. Publ., Dordrecht*, 1997. (Michael Darnel) **98k:06019** 06F25

Larsson, Per-Lennart (*with* Storåkers, Bertil; Biwa, Shiro) Similarity analysis of inelastic contact. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 24, 3061–3083. (Summary) **98e:73126** 73T05 (73E60, 73G20)

Larsson, Stig (*with* Thomée, Vidar; Wahlbin, Lars B.) Numerical solution of parabolic integro-differential equations by the discontinuous Galerkin method. (English summary) *Math. Comp.* **67** (1998), *no.* 221, 45–71. (Mohammad Asadzadeh) **98d:65168** 65R20 (65M60)

Larsson, Torbjörn (*with* Patriksson, Michael; Rydergren, Clas) Applications of simplicial decomposition with nonlinear column generation to nonlinear network flows. (English

summary) *Network optimization* (*Gainesville, FL*, 1996), 346–373, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90B10)

— (*with* Liu, Zhuangwei) A Lagrangean relaxation scheme for structured linear programs with application to multicommodity network flows. (English summary) *Optimization* **40** (1997), *no.* 3, 247–284. (Summary) **98d:90071** 90C08 (90C35)

— (*with* Liu, Zhuangwei; Patriksson, Michael) A dual scheme for traffic assignment problems. (English summary) *Optimization* **42** (1997), *no.* 4, 323–358. (Summary) **98k:90125** 90C35

Larvor, Brendan P. Lakatos as historian of mathematics. (English summary) *Philos. Math.* (3) **5** (1997), *no.* 1, 42–64. (Otávio Bueno) **98a:01016** 01A60 (00A30)

Lascar, B. (*with* Lascar, R.) A sharp result on the poles localization for a Gevrey convex body. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* I, 11 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 35P25 (35A20, 35J25, 58G15, 58G25)

Lascar, Daniel Recovering the action of an automorphism group. (English summary) *Logic: from foundations to applications* (*Staffordshire*, 1993), 313–326, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Olivier Chapuis) **98a:03050** 03C50 (03C45, 20B27)

Lascar, R. (*with* Lascar, B.) A sharp result on the poles localization for a Gevrey convex body. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* I, 11 *pp.*, *École Polytech., Palaiseau*, 1997. (*see* **98f:35005**) 35P25 (35A20, 35J25, 58G15, 58G25)

di Lascio, Luigi *see* **Di Lascio, Luigi**

Lascoux, Alain (*with* Leclerc, Bernard; Thibon, Jean-Yves) Ribbon tableaux, Hall-Littlewood functions and unipotent varieties. (English summary) *Sém. Lothar. Combin.* **34** (1995), *Art.* B34g, *approx.* 23 *pp.* (*electronic*). (From the introduction) **98m:05195** 05E05 (05E10, 20G05)

— (*with* Leclerc, Bernard; Thibon, Jean-Yves) Twisted action of the symmetric group on the cohomology of a flag manifold. (English summary) *Parameter spaces* (*Warsaw*, 1994), 111–124, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98i:14048** 14M15 (05E10)

— (*with* Schützenberger, Marcel-Paul) Treillis et bases des groupes de Coxeter. [Lattices and bases of Coxeter groups] *Electron. J. Combin.* **3** (1996), *no.* 2, *Research paper* 27, *approx.* 35 *pp.* (*electronic*). (Jean-Yves Thibon) **98c:05168** 05E15 (06A07, 20F55)

— Potentiel Yin sur le groupe symétrique. [Yin potential on the symmetric group] *Sém. Lothar. Combin.* **38** (1996), *Art.* B38a, 12 *pp.* (*electronic*). (Meinolf Geck) **98e:20007** 20B30 (05E10)

— Young's natural idempotents as polynomials. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 91–98. (Ernesto Vallejo) **98k:05145** 05E10 (20C30)

— (*with* Leclerc, Bernard; Thibon, Jean-Yves) Ribbon tableaux, Hall-Littlewood functions, quantum affine algebras, and unipotent varieties. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 1041–1068. (Thomas Scharf) **98c:05167** 05E10 (05E05, 33D80, 81R10)

— (*with* Leclerc, Bernard; Thibon, Jean-Yves) Flag varieties and the Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 75–90. (Robert Bédard) **98d:05150** 05E15 (14M15, 17B37)

Lasdon, Leon (*with* Drud, Arne Stolbjerg) Nonlinear programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 10.1–10.45, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **98g:90003**) 90C30 (90C31)

Lasenby, Anthony (*with* Doran, Chris; Gull, Stephen) Linear algebra. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 65–82, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66

— (*with* Gull, Stephen; Doran, Chris) Dynamics. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 83–94, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 70E15 (73C99)

— (*with* Gull, Stephen; Doran, Chris) Electromagnetism. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 95–110, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 78A25

— (*with* Gull, Stephen; Doran, Chris) Electron physics. I. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 111–127, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Gull, Stephen; Doran, Chris) Electron physics. II. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 129–145, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81R20 (81R25)

— (*with* Gull, Stephen; Doran, Chris) STA and the interpretation of quantum mechanics. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 147–169, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 81P99

— (*with* Doran, Chris; Gull, Stephen) Gravity. I. Introduction. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 171–184, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60

— (*with* Doran, Chris; Gull, Stephen) Gravity. II. Field equations. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 185–195, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C05 (83C60)

— (*with* Doran, Chris; Gull, Stephen) Gravity. III. First applications. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 197–210, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C60 (83C10)

— (*with* Doran, Chris; Gull, Stephen) Gravity. IV. The "intrinsic" method. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 211–222, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C15 (83C60)

— (*with* Doran, Chris; Gull, Stephen) Gravity. V. Further applications. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 223–235, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 83C57 (83F05)

— (*with* Doran, Chris; Gull, Stephen) Physics of rotating cylindrical strings. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 10, 6021–6031. (A. D. Popova) **98a:83106** 83D05 (81V17)

Lasenby, Joan Geometric algebra: applications in engineering. *Clifford* (*geometric*) *algebras* (*Banff, AB*, 1995), 423–440, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 51P05 (51N15)

Laserra, Ettore (*with* Cattani, Carlo) The Italian controversy on the composition of rigid motions. (English summary) *Riv. Stor. Sci.* (2) **2** (1994), *no.* 1, 1–14. (Peter M. Harman) **98d:01029** 01A60 (01A55, 70–03)

Lasgouttes, Jean-Marc (*with* Fayolle, Guy) Asymptotics and scalings for large product-form networks via the central limit theorem. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 2, 317–348. (Charles Tier) **98e:60151** 60K25 (68M20)

— *see also* **Statistical mechanics of large networks, 98i:00035**

Lashin, Él'-Said Radvan (*with* Fomin, V. E.) Canonical form of the metric of a Riemannian space of constant curvature of Banach type. (Russian) *Trudy Geom. Sem. Kazan. Univ. No.* 22 (1994), 31–47. (M. Malakhal'tsev (Zbl 841.53016)) **98k:58014** 58B20

Lashkarizadeh Bami, Mahmood Positive definite functions on foundation semigroups. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol.* 2 (*Kerman*, 1995), 209–213, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (*see* **98h:00035**) 43A35

— On the multipliers of the pair $(M_u(S), L^\infty(S; M_u(S)))$ of a foundation semigroup S. *Math. Nachr.* **181** (1996), 73–80. (Charles D. Lahr) **98b:43010** 43A22 (46E30)

— On some topologies which coincide on $\mathscr{R}_r(S)$ for a foundation topological semigroup S. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 13–21. (Summary) **98m:54041** 54H15 (22A15, 54A10)

— Positive functionals on Lau Banach $*$-algebras with application to negative-definite functions on foundation semigroups. *Semigroup Forum* **55** (1997), *no.* 2, 177–184. (Paul Milnes) **98j:43004** 43A35 (46J99, 47D03)

Lashkevich, M. Yu. (*with* Jimbo, Michio; Miwa, Tetsuji; Pugai, Yaroslav) Lukyanov's screening operators for the deformed Virasoro algebra. (English summary) *Phys. Lett. A* **229** (1997), *no.* 5, 285–292. (Stanislav Z. Pakuliak) **98a:81041** 81R10 (17B37, 81R50, 82B23)

Lashkhi, A. Harmonic maps over rings. (English summary) *Georgian Math. J.* **4** (1997), *no.* 1, 41–64. (Joseph C. Ferrar) **98a:51006** 51C05 (16U10, 51A10)

Lashmore-Davies, C. N. (*with* Thyagaraja, A.; Cairns, R. A.) The effect of nonlinear mode coupling on the stability of toroidal Alfvén eigenmodes. (English summary) *Phys. Plasmas* **4** (1997), *no.* 9, 3243–3253. 76E25 (76X05)

Lasiecka, Irena Finite-dimensional attractors for von Karman systems with nonlinear dissipation and noncompact nonlinearity. *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 341–350, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 35Q72 (34G20, 35B40, 47H20, 73K10)

— (*with* Marchand, Richard J.) Nonlinear control problems and their approximations for thin dynamic shallow shells in aerospace. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 397–403, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B10 (73K15, 73K50, 93C20)

— (*with* Horn, Mary Ann) Nonlinear boundary stabilization of parallelly connected Kirchhoff plates. (English summary) *Dynam. Control* **6** (1996), *no.* 3, 263–292. (J. Saint Jean Paulin) **98d:73044** 73K10 (35L70, 73K50, 93C20, 93D15)

— Finite-dimensional attractors for von Kármán systems with nonlinear dissipation and noncompact nonlinearity. *Advances in nonlinear dynamics*, 307–317, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (R. Kodnár) **98m:35206** 35Q72 (35B40, 47H20, 58F39, 73K10)

— (*with* Triggiani, Roberto) Carleman estimates and exact boundary controllability for a system of coupled, nonconservative second-order hyperbolic equations. (English summary) *Partial differential equation methods in control and shape analysis* (*Pisa*), 215–243, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (Sergei A. Ivanov) **98d:93012** 93B05 (35L05, 93C20)

— (*with* Marchand, Richard J.) Control and stabilization in nonlinear structural acoustic problems. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures* (*San Diego, CA*), 192–203, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C20 (73K50, 93D15)

— Control and stabilization of interactive structures. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 245–262, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Angelo Favini) **98c:93062** 93C20 (93D15)

— (*with* Pandolfi, L.; Triggiani, Roberto) A singular control approach to highly damped second-order abstract equations and applications. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 1, 67–107. (R. F. Datko) **98b:93014** 93C20 (47N70, 93D15)

— (*with* Hendrickson, Erik) Convergence of numerical algorithms for the approximations to Riccati equations arising in smart material acoustic structure interactions. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 1, 73–101. (Kirsten Anna Morris) **98f:65093** 65M12 (93C20)

— Finite-dimensional attractors of weak solutions to von Kármán plate model. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 251–275. (Peregrina Quintela Estévez) **98e:35024** 35B40 (35J60, 35Q72, 47H20, 73K10)

— (*with* Avalos, George) Exponential stability of a thermoelastic system with free boundary conditions without mechanical dissipation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 155–182 (*electronic*). (Summary) **98m:35199** 35Q72 (35B35, 73B30, 73H10, 93C20)

— *see also* **Optimization methods in partial differential equations, 98d:00021**

Jona-Lasinio, Giovanni *see* **Jona-Lasinio, Giovanni**

Lasjaunias, Alain Diophantine approximation and continued fraction expansions of algebraic power series in positive characteristic. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 206–225. (Takashi Harase) **98j:11055** 11J70 (11J99)

Laskar, Renu C. (*with* Martin, Russell) A core of a block graph. (English summary) Proceedings of the Twenty-fifth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1994). *Congr. Numer.* **101** (1994), 171–185. (Summary) **98f:05090** 05C35 (05C38)

— (*with* Domke, Gayla S.) The bondage and reinforcement numbers of γ_f for some graphs. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 249–259. (Summary) **98b:05054** 05C35

Laskowski, M. C. (*with* Shelah, Saharon) Forcing isomorphism. II. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1305–1320. (Bruno Poizat) **98k:03042** 03C45 (03C55, 03E40)

Laslier, Jean-François ★ Tournament solutions and majority voting. With a preface by Hervé Moulin. Studies in Economic Theory, 7. *Springer-Verlag, Berlin*, 1997. xiv+255 *pp.* *ISBN* 3-540-62897-5 (Ivar Petersen) **98j:90019** 90A28 (90–02, 90D10)

Lasota, Andrzej From fractals to stochastic differential equations. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour* (*Karpacz*, 1995), 235–255, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (Irene Hueter) **98j:28005** 28A80 (60H10)

Lasry, J. M. (*with* Fournie, Eric; Lions, Pierre-Louis) Some nonlinear methods for studying far-from-the-money contingent claims. *Numerical methods in finance*, 115–145, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Monique Pontier) **98m:90029** 90A12 (90A09)

— (*with* Fournie, Eric; Touzi, Nizar) Monte Carlo methods for stochastic volatility models. *Numerical methods in finance*, 146–164, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Monique Pontier) **98m:90018** 90A09 (65C05, 90A12)

— (*with* Alvarez, Olivier; Lions, Pierre-Louis) Convex viscosity solutions and state constraints. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 265–288. (Katsuyuki Ishii) **98k:35045** 35J60 (35D10, 49L25)

Lassak, Marek A survey of algorithms for on-line packing and covering by sequences of convex bodies. (English summary) *Intuitive geometry (Budapest*, 1995), 129–157, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (G. D. Chakerian) **98j:52034** 52C17

— Illumination of three-dimensional convex bodies of constant width. (English summary) *Proceedings of the 4th International Congress of Geometry (Thessaloniki*, 1996), 246–250, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (G. D. Chakerian) **98g:52013** 52A37 (52A15)

— On-line packing sequences of segments, cubes and boxes. (English summary) *Beiträge Algebra Geom.* **38** (1997), *no.* 2, 377–384. (Summary) **98k:52044** 52C17

— (*with* Januszewski, Janusz) On-line packing sequences of cubes in the unit cube. (English summary) *Geom. Dedicata* **67** (1997), *no.* 3, 285–293. (Uwe Schnell) **98j:52033** 52C17

— On-line potato-sack algorithm efficient for packing into small boxes. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 105–110. (Summary) **98k:52045** 52C17

Lassas, Matti (*with* Kurylëv, Yaroslav V.) The multidimensional Gel'fand inverse problem for non-self-adjoint operators. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1495–1501. (V. S. Rabinovich) **98m:35224** 35R30 (35J25, 47F05, 58G03)

Lassaut, M. (*with* Lombard, R. J.) A sufficient condition for the existence of bound states for scalar spherically symmetric potentials. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2467–2481. (François Nicoleau) **98g:81032** 81Q10 (81U05)

Lasseigne, D. G. (*with* Criminale, W. O.; Jackson, T. L.; Joslin, R. D.) Perturbation dynamics in viscous channel flows. (English summary) *J. Fluid Mech.* **339** (1997), 55–75. (Summary) **98a:76018** 76D05 (76E05)

Lasser, Rupert On the modified moment problem with solution carried by $[-1, 1]$. (English summary) *Probability measures on groups and related structures, XI (Oberwolfach*, 1994), 225–231, *World Sci. Publishing, River Edge, NJ*, 1995. (Boris Petrovich Osilenker) **98c:44012** 44A60 (42C05, 43A62)

— (*with* Budke, Georg) A recursive algorithm for the solution of special non-linear stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 29–41. (Summary) **98m:60087** 60H10

Lasserre, Jean B. (*with* Hernández-Lerma, Onésimo) Policy iteration for average cost Markov control processes on Borel spaces. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 2, 125–154. (O. L. V. Costa) **98d:93102** 93E20 (90C40)

— Tight bounds for the trace of a matrix product. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 4, 578–581. (K. B. Datta) **98c:93055** 93C05 (15A45)

— On the setwise convergence of sequences of measures. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 131–136. (Pedro Jiménez Guerra) **98m:28011** 28A33 (28C15)

— (*with* Hernández-Lerma, Onésimo) Cone-constrained linear equations in Banach spaces. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 149–164. (M. Z. Nashed) **98i:90125** 90C48 (45B05, 45D05, 47A50, 47N20)

— Invariant probabilities for Markov chains on a metric space. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 259–265. (Richard Isaac) **98k:60113** 60J05

— A theorem of the alternative in Banach lattices. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 189–194. (M. Z. Nashed) **98h:47016** 47A50 (46B42, 47B60)

— (*with* Hernández-Lerma, Onésimo) Correction to: "An extension of the Vitali-Hahn-Saks theorem" [Proc. Amer. Math. Soc. **124** (1996), no. 12, 3673–3676; MR 97f:28012]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 949. 28A33 (46E27, 54D45, 60B10)

— Integration on a convex polytope. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 8, 2433–2441. (C. Dagnino) **98j:65016** 65D30 (26B15, 41A55)

Lassig, C. C. (*with* Joshi, G. C.) Constrained systems described by Nambu mechanics. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 59–63. (From the introduction) **98g:70013** 70H05 (58F05, 70F99, 81S99)

— (*with* Joshi, G. C.) Magnetic charge in a nonassociative field theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 3-4, 295–300. (Summary) **98e:81193** 81V10 (81T30, 81T99)

Lassmann, Gunter (*with* Kühnel, Wolfgang) Block designs $S_{2n-8}(2, 5, n)$ and triangulated Eulerian 4-manifolds. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 111–117. (Richard Stong) **98k:52036** 52B70 (05B05, 57N13, 57Q15)

Lassoued, Lotfi Asymptotics for a Ginzburg-Landau model with pinning. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 2, 27–58. (Yisong Yang) **98d:35207** 35Q55 (49J45)

Last, Y. (*with* Gordon, A. Ya.; Jitomirskaya, Svetlana Ya.; Simon, Barry) Duality and singular continuous spectrum in the almost Mathieu equation. *Acta Math.* **178** (1997), *no.* 2, 169–183. (Michael P. Lamoureux) **98f:47041** 47B39 (39A70, 47A10)

Lastaria, Federico G. On separable algebras in Grothendieck Galois theory. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 127–136 (1997). (Summary) **98g:13006** 13B05

Las Vergnas, Michel (*with* Cordovil, Raul; Guedes de Oliveira, António) A generalized Desargues configuration and the pure braid group. (English summary) *Discrete Math.* **160** (1996), *no.* 1-3, 105–113. (Hiroaki Terao) **98b:52015** 52B30 (20F36)

— (*with* Hamidoune, Yahya Ould) Directed switching games. II. The Arborescence Game. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 395–402. (Summary) **98a:05145** 05C99

— (*with* Etienne, Gwihen) External and internal elements of a matroid basis. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 111–119. (Laura M. Anderson) **98m:05038** 05B35

Laszlo, Yves (*with* Sorger, Christoph) The line bundles on the moduli of parabolic G-bundles over curves and their sections. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 4, 499–525. (Nyshadham Raghavendra) **98f:14007** 14D20 (14F05)

Lata, Prem (*with* Jain, Madhu) Accumulated work process in a time sharing queue with finite population. (English summary) *Acta Cienc. Indica Math.* **21** (1995), *no.* 1, 33–36. 60K25

Latała, Rafał Estimation of moments of sums of independent real random variables. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1502–1513. (Pawel Hitczenko) **98h:60021** 60E15 (60G50)

— Sudakov minoration principle and supremum of some processes. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 5, 936–953. (Goran Peskir) **98m:60073** 60G50 (60E15, 60G15, 60G17)

Latella, Diego (*with* Fantechi, Alessandro; Gnesi, Stefania) Towards automatic temporal logic verification of value passing process algebra using abstract interpretation. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 563–578, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q60 (68Q55)

Latfullin, T. G. A criterion for the quasihyperbolicity of mappings. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 3, 610–615, iii; *translation in Siberian Math. J.* **37** (1996), *no.* 3, 529–534. (P. Caraman) **98c:30028** 30C65

Latham, G. A. (*with* Yu, Shihong; Anderssen, Robert S.) Matrix analysis of a two-stage-splitting iteration for maximum penalized likelihood estimation. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 348–359. (Summary) **98i:65126** 65U05

Lathrop, James I. (*with* Lutz, Jack H.) Recursive computational depth. (English summary) *Automata, languages and programming (Bologna*, 1997), 132–142, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

Latif, A. *see* **Latif, Md. Abdul**

Latif, Abdul (*with* Beg, Ismat; Minhas, Tahira Yasmeen) Some fixed point theorems in topological vector spaces. *Demonstratio Math.* **29** (1996), *no.* 3, 549–555. (Jagadish Achari) **98a:47057** 47H10 (54H25)

Latif, Md. Abdul (*with* Noor, Abu Saleh Abdun) Two congruences corresponding to N-ideals in a distributive lattice. (English summary) *Ganit* **14** (1994), *no.* 1-2, 17–22. (Summary) **98a:06015** 06B10

Latif, Raja Mohammad Perfect maps in topological spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **9** (1996), *no.* 1, 135–136. 54C10

— (*with* Willard, Stephen) Semi-open and regularly closed sets in compact metric spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 157–161. (Summary) **98c:54026** 54E45

Latiolais, M. Paul (*with* Beyl, F. Rudolf; Waller, Nancy) Classifications of 2-complexes whose finite fundamental group is that of a 3-manifold. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 69–84. (Cynthia Hog-Angeloni) **98d:57009** 57M20 (57N10, 57Q10, 57R20)

Latiri-Grouz, Chiraz (*with* Ammari, Habib; Nédélec, Jean-Claude) Approximation de Leontovich pour les équations de Maxwell à coefficients variables: un problème de perturbation singulière. (English and French summaries) [Scattering of Maxwell's equations with a Leontovich boundary condition in an inhomogeneous medium: a singular perturbation problem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 677–681. (Summary) **98i:78013** 78A45 (35Q60)

Latka, B. (*with* Komsa, J.; Murray, E.; Weiss, Emily) An improved result on infinite antichains of tournaments. (English summary) *Bull. Inst. Combin. Appl.* **21** (1997), 22–26. (Summary) **98d:05065** 05C20

Latkin, I. V. Arithmetic hierarchy of torsion-free nilpotent groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 308–313, 372; *translation in Algebra and Logic* **35** (1996), *no.* 3, 172–175. (O. Yu. Dashkova) **98e:20043** 20F18

Latorre, José I. (*with* Osborn, Hugh) Modified weak energy condition for the energy momentum tensor in quantum field theory. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 737–759. 81T20 (83C47)

— (*with* Lütken, C. A.) On RG potentials in Yang-Mills theories. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 217–222. (Summary) **98m:81105** 81T17 (81T13)

casasús Latorre, Luis *see* **Casasús Latorre, Luis**

La Torre, Salvatore (*with* Napoli, Margerita; Parente, Mimmo) Synchronization of one-way connected processors. (English summary) *Complex Systems* **10** (1996), *no.* 4, 239–255. (Summary) **98m:68191** 68Q80 (68M10)

— (*with* Napoli, Margerita; Parente, Mimmo) Synchronization of 1-way connected processors. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 293–304, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68M10

Latouche, G. (*with* Bean, N. G.; Bright, L.; Pearce, Charles E. M.; Pollett, P. K.; Taylor, Peter G.) The quasi-stationary behavior of quasi-birth-and-death processes. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 134–155. (Charles Tier) **98f:60180** 60K25

— (*with* Ramaswami, V.) The $PH/PH/1$ queue at epochs of queue size change. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 97–114. (Summary) **98c:60128** 60K25

Latour, Alain The multivariate GINAR(p) process. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 1, 228–248. (N. Leonenko) **98e:62134** 62M10 (62H05, 62H12, 62M20)

Latour, V. (*with* Dahlke, Stephan; Neeb, M.) Generalized cardinal B-splines: stability, linear independence, and appropriate scaling matrices. (English summary) *Constr. Approx.* **13** (1997), *no.* 1, 29–56. (L. L. Schumaker) **98b:41009** 41A15

Latrach, Khalid (*with* Mokhtar-Kharroubi, Mustapha) On an unbounded linear operator arising in the theory of growing cell population. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 273–294. (Hassan Emamirad) **98g:47031** 47D06 (35Q80, 47F05, 47N60, 92D25)

Latrémolière, F. T. (*with* Abraham, D. B.) Exact results for the corner of an Ising ferromagnet. (English summary) Recent developments in statistical mechanics and quantum field theory (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **45A** (1996), 74–80. (Miroslav Kolesík) **98a:82012** 82B20 (82B23)

Lattanzio, Corrado (*with* Marcati, Pierangelo) The zero relaxation limit for the hydrodynamic Whitham traffic flow model. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 150–178. (Hermano Frid) **98j:35118** 35L65 (35Q30, 90B20)

Latteux, Michel (*with* Clerbout, Mireille; Roos, Yves) Semi-commutations. *The book of traces*, 487–552, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98i:68001**) 68Q45 (20M05, 68Q10, 68R15)
— (*with* Bruyère, Véronique) Variable-length maximal codes. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 24–47, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Dong Yang Long) **98g:68078** 68Q45 (68R15, 94A45)
— (*with* Robilliard, Denis; Simplot, David) Figures composées de pixels et monoïde inversif. (French summary) [Figures made of pixels and inverse monoid] Journées Montoises (Mons, 1994). *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 1, 89–111. (G. J. Lallement) **98c:20116** 20M18 (68Q45)
— (*with* Simplot, David) Context-sensitive string languages and recognizable picture languages. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 160–169. (Summary) **98j:68084** 68Q45 (03D05)
— (*with* Simplot, David) Recognizable picture languages and domino tiling. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 275–283. (Rani Siromoney) **98c:68116** 68Q45 (68Q68)
Latushkin, Yu. D. (*with* Gundlach, Volker Matthias) Essential spectral radius of Ruelle's operator on smooth Hölder spaces. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 889–894. (Thomas Bogenschütz) **98k:58178** 58F19 (58F11)
— (*with* Campbell, James T.) Sharp estimates in Ruelle theorems for matrix transfer operators. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 379–396. (Viviane Baladi) **98j:58088** 58F19 (47B38, 58F11)
— (*with* Chicone, Carmen) The geodesic flow generates a fast dynamo: an elementary proof. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3391–3396. (Gerhard Knieper) **98c:58124** 58F17 (76W05)
Latvala, Visa Fine topology and A_p-harmonic morphisms. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 1, 237–244. (Olli Martio) **98f:31017** 31C45 (31C40)
Latypov, Azat M. (*with* Chandna, O. P.; Husain, Iqbal) Exact solutions of compressible plane potential flows—a new approach. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 2, 177–201. (Denis Serre) **98i:76076** 76N10 (35C05, 35Q35, 76N15)
— Approximate Lie group analysis of finite-difference equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 483–508. (Olena V. Roman) **98k:58251** 58G35 (39A10)
Latyshev, Anatolii Vasil'evich (*with* Yushkanov, A. A.) Construction of a model transport equation for a massless Bose gas and its analytic solution. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **111** (1997), *no.* 3, 462–472; *translation in Theoret. and Math. Phys.* **111** (1997), *no.* 3, 762–770. (V. Protopopescu) **98j:82060** 82C40 (85A25)
— (*with* Yushkanov, A. A.) The Kramers problem for the ellipsoidal-statistical Boltzmann problem with frequency proportional to the velocity of the molecules. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 4, 483–493. (Alexander Orlov) **98f:82109** 82C40 (76P05, 82–04, 82C70)
Lau, Anthony T. M. (*with* Loy, R. J.) Amenability of convolution algebras. (English summary) *Math. Scand.* **79** (1996), *no.* 2, 283–296. (George A. Willis) **98i:46046** 46H20 (43A10, 46J99)
— (*with* Loy, R. J.) Weak amenability of Banach algebras on locally compact groups. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 175–204. (George A. Willis) **98b:46068** 46H25 (43A10, 46J40)
— (*with* Milnes, Paul; Pym, J. S.) Locally compact groups, invariant means and the centres of compactifications. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 77–90. (N. Hindman) **98k:22021** 22D05 (22A15)
— (*with* Kada, Osamu; Takahashi, Wataru) Asymptotically invariant net and fixed point set for semigroup of nonexpansive mappings. *Nonlinear Anal.* **29** (1997), *no.* 5, 539–550. (Behzad Djafari-Rouhani) **98d:47156** 47H20 (47H09, 47H10)
— (*with* Bekka, Mohammed El Bachir; Kaniuth, Eberhard; Schlichting, G.) Weak*-closedness of subspaces of Fourier-Stieltjes algebras and weak*-continuity of the restriction map. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2277–2296. (Siegfried Echterhoff) **98h:22004** 22D10 (43A30)
Lau, Hoong Chuin Combinatorial approaches for hard problems in manpower scheduling. (English summary) *J. Oper. Res. Soc. Japan* **39** (1996), *no.* 1, 88–98. (Summary) **98e:90079** 90B35
— (*with* Watanabe, Osamu[2]) Randomized approximations of the constraint satisfaction problem. (English summary) The 5th Scandinavian Workshop on Algorithm Theory (SWAT '96) (Reykjavík, 1996). *Nordic J. Comput.* **3** (1996), *no.* 4, 405–424. (Valentin E. Brimkov) **98b:68172** 68T20 (05C85, 68Q25)
— (*with* Halldórsson, Magnús M.) Low-degree graph partitioning via local search with applications to constraint satisfaction, max cut, and coloring. (English summary) *J. Graph Algorithms Appl.* **1** (1997), *no.* 3, 13 *pp.* (*electronic*). (Summary) **98i:68219** 68R10 (05C85, 68Q25)
Lau, Ka-Sing A weighted Tauberian theorem. (English summary) *J. Fourier Anal. Appl.* **2** (1996), *no.* 4, 397–406. (F. Móricz) **98a:42005a** 42A38 (40E05, 42A85)
— Erratum: "A weighted Tauberian theorem". With a corrected reprint of the original paper. *J. Fourier Anal. Appl.* **2** (1996), *no.* 5, 519. (F. Móricz) **98a:42005b** 42A38 (40E05, 42A85)
Lau, Kung-Kiu (*with* Kreitz, Christoph; Ornaghi, Mario) Formal reasoning about modules, reuse and their correctness. (English summary) *Practical reasoning* (*Bonn*, 1996), 384–398, *Lecture Notes in Comput. Sci.*, 1085, *Springer, Berlin*, 1996. (From the introduction) **98b:68009** 68N15 (68N17, 68Q55, 68Q60)
Lau, Mun Ling (*with* Yang, Kum Khiong; Quek, Ser Aik) A new appointment rule for a single-server, multiple-customer service system. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 3, 313–326. 90B22
Lau, Sai Ling (*with* Zhan, Sheng) A new algorithm for the IHBT method in nonlinear vibrations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 2, 48–53. 70K10 (34C15, 70–08)
Lau, Sau-Him Paul A note on the Markov perfect equilibrium of a linear-quadratic alternating-move game. (English summary) *Econom. Lett.* **57** (1997), *no.* 1, 51–56. 90D15 (90D05)
— Using stochastic growth models to understand unit roots and breaking trends. (English summary) *J. Econom. Dynam. Control* **21** (1997), *no.* 10, 1645–1667. 90A16 (90A19)
Lau, Stephen R. (*with* Kummer, W.) Boundary conditions and quasilocal energy in the canonical formulation of all 1 + 1 models of gravity. (English summary) *Ann. Physics* **258** (1997), *no.* 1, 37–80. (Summary) **98d:83005** 83C05 (83C40, 83D05)
— (*with* Brown, J. David; York, James W., Jr.) Energy of isolated systems at retarded times as the null limit of quasilocal energy. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 4, 1977–1984. (Roh Suan Tung) **98b:83029** 83C40
Lau, T. W. Edward (*with* Ho, Yu-Chi) Universal alignment probabilities and subset selection for ordinal optimization. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 455–489. (Summary) **98e:90105** 90C15 (90C90)
Lau, Yuk-Kam (*with* Tsang, Kai-Man) Mean square of the remainder term in the Dirichlet divisor problem. Les Dix-huitièmes Journées Arithmétiques (Bordeaux, 1993). *J. Théor. Nombres Bordeaux* **7** (1995), *no.* 1, 75–92. (D. R. Heath-Brown (Zbl 844.11059)) **98k:11126** 11N37
Laub, Alan J. (*with* Ghavimi, Ali R.) An implicit deflation method for ill-conditioned Sylvester and Lyapunov equations. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1119–1141. 93B40 (93C05)
— (*with* Gahinet, Pascal) Numerical improvements for solving Riccati equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1303–1308. (Vladimir B. Larin) **98g:93021** 93B40 (65F30, 93C05)
— (*with* Gahinet, Pascal) Numerically reliable computation of optimal performance in singular H_∞ control. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1690–1710. (Anton A. Stoorvogel) **98e:93047** 93B40 (93B36)
— (*with* Gudmundsson, Thorkell; Kenney, Charles) Small-sample statistical estimates for the sensitivity of eigenvalue problems. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 868–886. (Dao Sheng Zheng) **98m:65052** 65F15 (15A12, 65F30, 65F35)
— (*with* Kenney, Charles; Reese, M. S.) Statistical condition estimation for linear systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 566–583 (*electronic*). (Summary) **98m:65074** 65F35 (15A06, 15A12, 65F05)
Laubenbacher, Reinhard C. (*with* Woodburn, Cynthia J.) An algorithm for the Quillen-Suslin theorem for monoid rings. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 395–429. (Joseph Gubeladze) **98f:13027** 13P10 (13C10, 14Q15, 19A49)
deLaubenfels, Ralph Functional calculi, semigroups of operators, and Hille-Yosida operators. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 787–805. (Dieter Lutz) **98e:47061** 47D06 (47A60)
— Pointwise functional calculi. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 1, 32–78. (Robin Harte) **98a:47019** 47A60 (34G10, 46H30, 46J99, 47B40, 47N20)
— (*with* Vũ Quốc Phóng) The discrete Hille-Yosida space and the asymptotic behaviour of individual orbits of linear operators. (English summary) *J. Funct. Anal.* **142** (1996), *no.* 2, 539–548. (S. Kantorovitz) **98h:47059** 47D06 (47A99)
— Spectral projections, semigroups of operators, and the Laplace transform. *Linear operators* (*Warsaw*, 1994), 193–204, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (W. Ricker) **98d:47042** 47A60 (47B40, 47D03, 47D06)
— (*with* Huang, Zhen You; Wang, Sheng Wang; Wang, Y.) Laplace transforms of polynomially bounded vector-valued functions and semigroups of operators. (English summary) *Israel J. Math.* **98** (1997), 189–207. (C. J. K. Batty) **98h:47060** 47D06 (44A10)
— (*with* Yao, Fuyuan) Regularized semigroups of bounded semivariation. (English summary) *Semigroup Forum* **54** (1997), *no.* 1, 43–57. 47D06 (34G10, 34G20, 47H20)
— Strongly continuous groups, similarity and numerical range on a Hilbert space. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 2, 127–133. (S. Kantorovitz) **98d:47079** 47D03 (47A10, 47A12, 47A60)
— (*with* Wang, Sheng Wang) Regularized quasi-spectral distributions. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 3, 227–249. (Miroslav Lvovich Gorbachuk) **98m:47023** 47A99 (47A60, 47B15, 47B25, 47D06)
Lauber, H.-M. Degeneracies and mirror symmetries in polygonal quantum billiards. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 318–329, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (*see* **98f:81006**) 81Q50 (81–04)
Laubin, P. (*with* Bastin, F.) Singular spectrum and functional properties of kernels. (English summary) *Functional analysis* (*Trier*, 1994), 21–28, *de Gruyter, Berlin*, 1996. (Valentin Napalkov) **98e:46048** 46F15 (32A45)
— Conormality and Lagrangian properties in diffractive boundary value problems. *Microlocal analysis and spectral theory* (*Lucca*, 1996), 91–113, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jean-Marc Delort) **98d:58187** 58G20 (35J99, 35L99)
— (*with* Bastin, F.) Regular compactly supported wavelets in Sobolev spaces. *Duke Math. J.* **87** (1997), *no.* 3, 481–508. (Gilbert Walter) **98g:42048** 42C15 (41A65)
Laudan, Larry How about bust? Factoring explanatory power back into theory evaluation. *Philos. Sci.* **64** (1997), *no.* 2, 306–316. 03B48
— *see also* **Mayo, Deborah G.**
Laudisa, Federico Physical reality and the principle of separability in the Einstein-Bohr debate. (Italian. English summary) *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 47–76 (1997). (Arne Schirrmacher) **98f:01045** 01A60 (81–03)
— Contextualism and nonlocality in the algebra of EPR observables. (English summary) *Philos. Sci.* **64** (1997), *no.* 3, 478–496. (S. Gudder) **98k:81027** 81P15 (81P05, 81P10)
Laue, Reinhard (*with* Benecke, Ch.; Grund, R.; Hohberger, R.; Kerber, Adalbert; Wieland, Thomas) Chemical isomerism, a challenge for algebraic combinatorics and for computer science. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 4–20, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the summary) **98a:92009** 92E10
— (*with* Betten, Anton; Kerber, Adalbert; Kohnert, Axel; Wassermann, Alfred) The discovery of simple 7-designs with automorphism group PΓL(2, 32). (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 131–145, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (Dobromir Todorov) **98f:05021** 05B05 (20B25)
— Construction of groups and the constructive approach to group actions. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 404–416, *World Sci. Publishing, River Edge, NJ*, 1995. (Marston Conder) **98m:20006** 20B25

— (*with* Grüner, Thomas; Meringer, Markus) Algorithms for group actions applied to graph generation. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 113–122, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98a:05136** 05C85 (05C25, 68R10)

— (*with* Betten, Anton; Wassermann, Alfred) Simple 6- and 7-designs on 19 to 33 points. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 149–160. (*see* **98b:05002**) 05B05

Lauer, Stefan (*with* Timmer, J.; van Calker, D.; Maier, Dieter; Honerkamp, J.) Optimal weighted Bayesian design applied to dose-response-curve analysis. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2879–2903. 62K05

Laug, Patrick (*with* Borouchaki, Houman; George, Paul Louis; Hecht, Frédéric; Saltel, Eric) Delaunay mesh generation governed by metric specifications. I. Algorithms. (English summary) Adaptive meshing, Part I. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 61–83. (Pieter W. Hemker) **98c:65163** 65M55 (76M10)

Laugerotte, E. (*with* Flouret, M.) Noncommutative minimization algorithms. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 123–126. (Summary) **98h:68138** 68Q45 (68Q70)

Laugesen, Richard Snyder (*with* Ashbaugh, Mark S.; Benguria, Rafael D.) Inequalities for the first eigenvalues of the clamped plate and buckling problems. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 95–110, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Norbert Weck) **98j:35129** 35P15 (35J35, 73H05, 73K10)

— Planar harmonic maps with inner and Blaschke dilatations. *J. London Math. Soc.* (2) **56** (1997), *no.* 1, 37–48. (Abdallah Lyzzaik) **98i:30050** 30D50

Laugwitz, Detlef On the historical development of infinitesimal mathematics. *Amer. Math. Monthly* **104** (1997), *no.* 5, 447–455. (Joseph W. Dauben) **98g:01009** 01A05 (01A50, 03H05)

— Mathematische Modelle zum Kontinuum und zur Kontinuität. [Mathematical models for the continuum and for continuity] *Philos. Natur.* **34** (1997), *no.* 2, 265–313. (Joseph W. Dauben) **98h:00009** 00A30 (00A35, 01A05, 03A05, 03B30, 03H05, 03H10)

Laulhère, Henri (*with* Huet, Gérard) Finite-state transducers as regular Böhm trees. (English summary) *Theoretical aspects of computer software (Sendai, 1997)*, 604–610, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68Q68

Laumen, Manfred (*with* Sachs, Ekkehard W.) Concepts of Newton and quasi-Newton methods for optimal shape design problems. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 895–916. (Summary) **98e:49096** 49Q10 (65K10, 90C30)

Laumon, Gérard ★ Cohomology of Drinfeld modular varieties. Part I. Geometry, counting of points and local harmonic analysis. Cambridge Studies in Advanced Mathematics, 41. *Cambridge University Press, Cambridge*, 1996. xiv+344 *pp. ISBN* 0-521-47060-9 (Jonathan David Rogawski) **98c:11045a** 11F70 (11F72, 11G09, 14G35, 22E55)

— ★ Cohomology of Drinfeld modular varieties. Part II. (English summary) Automorphic forms, trace formulas and Langlands correspondence. With an appendix by Jean-Loup Waldspurger. Cambridge Studies in Advanced Mathematics, 56. *Cambridge University Press, Cambridge*, 1997. xii+366 *pp. ISBN* 0-521-47061-7 (Jonathan David Rogawski) **98c:11045b** 11F70 (11F72, 11G09, 14G35, 22E55)

— (*with* Kumar, Shrawan; Stuhler, Ulrich) ★ Vector bundles on curves—new directions. Lectures given at the 3rd C.I.M.E. Session held in Cetraro, June 19–27, 1995. Edited by M. S. Narasimhan. Lecture Notes in Mathematics, 1649. Fondazione C.I.M.E.. [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1997. viii+193 *pp. ISBN* 3-540-62401-5 (Editors) **98i:14004** 14-06 (11-06, 14D20)

Laumond, J.-P. *see* **Robot motion planning and control, 98k:70012**

Launay, Geneviève (*with* Pelletier, Michèle) Synthèse temps-minimale au voisinage d'une cible de codimension un: cas exceptionnel plat en dimension trois. (English and French summaries) [Time-minimal synthesis in the neighborhood of a target of codimension one: exceptional flat case in dimension three] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 297–302. (Summary) **98k:49007** 49J15 (49N55, 93B05)

— (*with* Pelletier, Michèle) The generic local structure of time-optimal synthesis with a target of codimension one in dimension greater than two. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 165–203. (Andrew D. Lewis) **98f:49022** 49K15 (34H05, 93C15)

Laura, Roberto (*with* Ordóñez, Adolfo R.) Internal time superoperator for quantum systems with diagonal singularity. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2221–2237. (Summary) **98h:82040** 82C10

— (*with* Castagnino, Mario) Minimal irreversible quantum mechanics: pure-state formalism. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 108–119. (S. Gudder) **98d:81001** 81P15 (81Q10)

Laure, Patrice (*with* Beltrame, Philippe; Chossat, Pascal) Convection en double diffusion dans une coque sphérique. (English and French summaries) [Double diffusion in a spherical shell] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1049–1052. (Summary) **98j:76038** 76E15 (34C23, 58F14, 76Rxx)

Laurençot, Philippe Degenerate Cahn-Hilliard equation as limit of the phase-field equation with non-constant thermal conductivity. (English summary) *Free boundary problems, theory and applications (Zakopane, 1995)*, 135–144, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (Jing Xue Yin) **98f:35071** 35K55 (35Q99, 82B26)

— (*with* Simondon, Frédérique) Source-type solutions to porous medium equations with convection. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 489–502. (Vladimir Grebenev) **98g:35122** 35K65 (35K55, 76S05)

— (*with* Colli, Pierluigi) Weak solutions to the Penrose-Fife phase field model for a class of admissible heat flux laws. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 311–334. (Vitaly A. Volpert) **98k:80005** 80A20 (35Q99)

Laurent, Michel (*with* Bugeaud, Yann) Minoration effective de la distance p-adique entre puissances de nombres algébriques. (English summary) [Effective lower bound for the p-adic distance between powers of algebraic numbers] *J. Number Theory* **61** (1996), *no.* 2, 311–342. (Damien Roy) **98b:11086** 11J86

Laurent, Monique (*with* Deza, Michel-Marie) ★ Geometry of cuts and metrics. (English summary) Algorithms and Combinatorics, 15. *Springer-Verlag, Berlin*, 1997. xii+587 *pp. ISBN* 3-540-61611-X (Alexander I. Barvinok) **98g:52001** 52–02 (05B30, 05C12, 51K05, 52B12, 52C07, 68R05, 90C28)

— (*with* Poljak, Svatopluk; Rendl, Franz) Connections between semidefinite relaxations of the max-cut and stable set problems. (English summary) Semidefinite programming. *Math. Programming* **77** (1997), *no.* 2, *Ser. B*, 225–246. (Ignacy Kaliszewski) **98h:90062** 90C27

— Cuts, matrix completions and graph rigidity. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 255–283. (H. T. Lau) **98d:90130** 90C35 (05C50, 90C27)

— A connection between positive semidefinite and Euclidean distance matrix completion problems. (English summary) *Linear Algebra Appl.* **273** (1998), 9–22. (Shu An Hu) **98m:15039** 15A48

Laurent, Pierre-Jean (*with* Nigro, Abdelmalek) Progressive stable interpolation. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 343–359. (Mao Dong Ye) **98c:65013** 65D05 (41A05)

— (*with* Mazure, Marie-Laurence; Maxim, Voichiţa Teodora) Chebyshev splines and shape parameters. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 373–383. (Summary) **98i:65011** 65D17 (65D07)

Laurent, Roger La perspective et la rupture d'une tradition. [Perspective and the break with tradition] With an appendix by Jean-Pierre Le Goff. *Desargues en son temps*, 231–248, *Libr. Sci. A. Blanchard, Paris*, 1994. (*see* **98b:01001**) 01A45

st. Laurent, Roy T. *see* **St. Laurent, Roy T.**

Laurent-Thiébaut, Christine ★ Théorie des fonctions holomorphes de plusieurs variables. (French) [Theory of holomorphic functions of several variables] Savoirs Actuels. [Current Scholarship] Mathématiques. [Mathematics] *InterEditions, Paris; Masson, Paris*, 1997. xiv+245 *pp. ISBN* 2-7296-0660-2 (Steven George Krantz) **98g:32001** 32–01 (32C16, 32C30, 32F20)

Laurey, Corinne The Cauchy problem for a third order nonlinear Schrödinger equation. *Nonlinear Anal.* **29** (1997), *no.* 2, 121–158. (Nakao Hayashi) **98c:35154** 35Q55

Lauri, Josef Pseudosimilarity in graphs—a survey. (English summary) *Ars Combin.* **46** (1997), 77–95. (William L. Kocay) **98m:05186** 05C99 (05C25, 05C60)

Lauria, Francesco E. On some sufficient conditions for the Caianiello-Hebb transform convergence. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **62** (1995), 7–42 (1996). (Summary) **98b:68162** 68T05

Laurie, Dirk P. Calculation of Gauss-Kronrod quadrature rules. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1133–1145. (Gradimir V. Milovanović) **98m:65030** 65D30 (65D32)

Laurikainen, K. V. ★ Science has its limits. Ontological implications of quantum theory. Dissertation, University of Oulu, Oulu, 1997. University of Oulu Report Series in Physical Sciences, 8. *University of Oulu, Oulu*, 1997. xii+91 *pp. ISBN* 951-42-4701-9 81P99 (00A30, 00A79)

Laurinčikas, Antanas On the universality of the Riemann zeta function. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **35** (1995), *no.* 4, 502–507; *translation in Lithuanian Math. J.* **35** (1995), *no.* 4, 399–402 (1996). (Don Redmond) **98c:11086** 11M06

— Limit theorem in the space of continuous functions for the Dirichlet polynomial related with the Riemann zeta-function. (English and French summaries) *J. Théor. Nombres Bordeaux* **8** (1996), *no.* 2, 315–329. (Summary) **98m:11091** 11M06 (11M41)

— On the mean square of the Riemann zeta function. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 3, 354–364; *translation in Lithuanian Math. J.* **36** (1996), *no.* 3, 282–290 (1997). (Matti Jutila) **98c:11087** 11M06

— (*with* Garunkštis, R.) On the Lerch zeta function. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 423–434; *translation in Lithuanian Math. J.* **36** (1996), *no.* 4, 337–346 (1997). (Matti Jutila) **98c:11089** 11M35

— On limit distribution of the Matsumoto zeta-function. *Acta Arith.* **79** (1997), *no.* 1, 31–39. (Douglas Hensley) **98e:11101** 11M41 (11K65)

— A limit theorem for the Lerch zeta function in the space of analytic functions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 191–203; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 146–155 (1998). (Matti Jutila) **98k:11121** 11M35

— Universality of the Lerch zeta function. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 367–375; *translation in Lithuanian Math. J.* **37** (1997), *no.* 3, 275–280 (1998). (Matti Jutila) **98k:11122** 11M35

Lauritzen, B. (*with* Meredith, D. C.; Baranger, M.; Haggerty, M. R.; Provost, Daniel; de Aguiar, Marcus A. M.) Periodic orbits of nonscaling Hamiltonian systems from quantum mechanics. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 491–496, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q50

Lauritzen, Niels Schubert cycles, differential forms and $\mathscr{D}$-modules on varieties of unseparated flags. (English summary) *Compositio Math.* **109** (1997), *no.* 1, 1–12. (Konrad Drechsler) **98j:14071** 14M15 (20G05)

— (*with* Thomsen, Jesper Funch) Frobenius splitting and hyperplane sections of flag manifolds. *Invent. Math.* **128** (1997), *no.* 3, 437–442. (Venkatramani Lakshmibai) **98e:14052** 14M15 (20G05)

— (*with* Rao, Aroor Prabhakar) Elementary counterexamples to Kodaira vanishing in prime characteristic. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 1, 21–25. (Summary) **98e:14015** 14F17 (14C20)

— (*with* Buch, Anders; Thomsen, Jesper Funch; Mehta, Vikram) The Frobenius morphism on a toric variety. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 3, 355–366. (Konrad Drechsler) **98j:14020** 14F17 (14M15, 14M25)

Lauritzen, Steffen L. ★ Graphical models. (English summary) Oxford Statistical Science Series, 17. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. x+298 *pp. ISBN* 0-19-852219-3 (M. Studený) **98g:62001** 62–01 (05C90, 60J99, 62H05, 62H10, 62H17, 68T30)

— (*with* Jensen, F. V.) Local computation with valuations from a commutative semigroup. (English summary) Advances in the understanding and use of conditional independence (Fort Lauderdale, FL, 1996). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 1, 51–69. (Summary) **98j:68153** 68T30

Lauro, Giuliana (*with* Soares, Ana Jacinta) A discrete velocity model for a gas mixture: initial-boundary value problem. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo,

1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 347–355. (A. Belleni-Morante) **98k:82155** 82C40 (76P05)

— (*with* Borgioli, Giovanni; Gerasimenko, V.; Monaco, Roberto) Many particles dynamical system formulation for the discrete Enskog gas. (English summary) Proceedings of the Second International Workshop on Nonlinear Kinetic Theories and Mathematical Aspects of Hyperbolic Systems (Sanremo, 1994). *Transport Theory Statist. Phys.* **25** (1996), *no.* 3-5, 581–592. (Giuseppe Toscani) **98h:82056** 82C40

— (*with* Totaro, Silvia) Nonhomogeneous boundary conditions for the one-dimensional Broadwell model. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 2, 1–26. (Giuseppe Toscani) **98f:35123** 35Q35 (47H20, 47N55, 76P05, 82C40)

López Laurrabaquio, G. *see* **López Laurrabaquio, G.**

Lausch, Hans Moses Mendelssohn: "Wir müssen uns auf Wahrscheinlichkeiten stützen". [Moses Mendelssohn: "We have to rely on probabilities"] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 201–213. (Oscar Sheynin) **98k:01008** 01A50

Lautemann, Clemens (*with* Schwentick, Thomas; Thérien, Denis) Logics for context-free languages. (English summary) *Computer science logic* (*Kazimierz*, 1994), 205–216, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98f:68156** 68Q45 (03D05, 03D15)

Lautenschleguer, I. J. (*with* Batista, E.; Gomes, J. F.) Non-abelian Sugawara construction and the q-deformed $N = 2$ superconformal algebra. (English summary) *J. Phys. A* **29** (1996), *no.* 19, 6281–6293. (Jun'ichi Shiraishi) **98m:81070** 81R50 (17B37)

Läuter, Jürgen Exact t and F tests for analyzing studies with multiple endpoints. (English and French summaries) *Biometrics* **52** (1996), *no.* 3, 964–970. (Per Kragh Andersen) **98b:62193** 62P10 (62H10)

Lauter, Kristin Ray class field constructions of curves over finite fields with many rational points. *Algorithmic number theory* (*Talence*, 1996), 187–195, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Abderrahmane Nitaj) **98a:11076** 11G20

Lauter, Robert A multidimensional holomorphic functional calculus for Ψ_0-algebras with methods of J. L. Taylor. (English summary) *Topics in operator theory, operator algebras and applications* (*Timişoara*, 1994), 193–220, *Rom. Acad., Bucharest*, 1995. (Jörg Eschmeier) **98b:47010** 47A13 (46H30, 47A60)

Lauterbach, Reiner (*with* Chossat, Pascal) Le théorème de Hartman-Grobman et la réduction à l'espace des orbites. (English and French summaries) [The Hartman-Grobman theorem and orbit space reduction] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 595–600. (Arnd Scheel) **98i:58204** 58F36 (34C20)

— (*with* Sanders, Jan A.) Bifurcation analysis for spherically symmetric systems using invariant theory. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 4, 535–560. (Ian Melbourne) **98h:58129** 58F14 (34C23, 34C37)

Lauterborn, Werner (*with* Kumar, Ajit; Kurz, Thomas) Bistable solitons in triply doped fibers. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 367–374. (Summary) **98k:78050** 78A60

Lautersztajn-S, Nina (*with* Samuelsson, Alf) On application of differential geometry to computational mechanics. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 25–38. (From the summary) **98m:73079** 73V05

— (*with* Samuelsson, Alf) Distortion measures and inverse mapping for isoparametric 8-node plane finite elements with curved boundaries. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 87–101. (Summary) **98m:73079** 73V05

Lauth, Bernhard New blades for Occam's razor. *Erkenntnis* **46** (1997), *no.* 2, 241–267. 03B30

Lauwers, Luc Continuity and equity with infinite horizons. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 345–356. (Summary) **98d:90023** 90A08

— A note on weak ∞-Chichilnisky rules. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 357–358. (Summary) **98h:90012** 90A08

— Intertemporal objective functions: strong Pareto versus anonymity. (English summary) *Math. Social Sci.* **35** (1998), *no.* 1, 37–55. (Summary) **98j:90012** 90A10 (90C29)

Laux, Armin (*with* Baader, Franz) Terminological logics with modal operators. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 808–814, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B45, 03B70)

— (*with* Gräber, A.; Bürckert, Hans-Jürgen) Terminological reasoning with knowledge and belief. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 29–64, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Summary) **98f:68254** 68T30 (03B45, 03B70, 68T25)

— (*with* Bürckert, Hans-Jürgen; Hollunder, Bernhard) On Skolemization in constrained logics. (English summary) *Ann. Math. Artificial Intelligence* **18** (1996), *no.* 2-4, 95–131. (Ralph W. Wilkerson) **98c:03030** 03B35 (68N17, 68T15)

— *see also* **Knowledge and belief in philosophy and artificial intelligence, 98d:03004**

Lauze, François Rang maximal pour $T_{\mathcal{P}^-}$. (English summary) [Maximal rank for $T_{\mathcal{P}^-}$] *Manuscripta Math.* **92** (1997), *no.* 4, 525–543. (Luca Chiantini) **98f:14016** 14F99 (13D02)

Lavagno, A. (*with* Kaniadakis, G.; Quarati, P.) Kinetic model for q-deformed bosons and fermions. (English summary) *Phys. Lett. A* **227** (1997), *no.* 3-4, 227–231. (Summary) **98a:82008** 82B10 (81R50)

Lavagno, Luciano (*with* Kishinevskiĭ, M. A.; Cortadella, Jordi; Kondrat'ev, A. Yu.; Taubin, A. R.; Yakovlev, Alexandre V.) Coupling asynchrony and interrupts: place chart nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 328–347, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90

Lavallée, P.-F. (*with* Malyshev, A. N.; Sadkane, Miloud) Spectral portrait of matrices by block diagonalization. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 266–273, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F15

LaValley, Michael P. (*with* Akritas, Michael G.) Nonparametric inference in factorial designs with censored data. (English and French summaries) *Biometrics* **52** (1996), *no.* 3, 913–924. (Summary) **98k:62085** 62G10 (62J10)

Lavanya, S. (*with* Parameshwara Bhatta, S.) Finite distributive lattices which are isomorphic to direct products of chains. *Algebra Universalis* **37** (1997), *no.* 4, 448–457. (Josef Niederle) **98g:06017** 06D05

— (*with* Parameshwara Bhatta, S.) On an ordering of convex sublattices preserving planarity of the lattice. *J. Combin. Math. Combin. Comput.* **23** (1997), 230–240. (B. Zelinka) **98b:06012** 06B05 (06A06)

Lavault, Christian (*with* Butelle, Franck; Bui, Marc) A uniform self-stabilizing minimum diameter spanning tree algorithm (extended abstract). (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 257–272, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15, 68R10)

— (*with* Moussouni, Fouzia) N-cube string matching algorithm with long texts. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 328–340, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:68060** 68Q10 (68M10)

cubiles-de-La-Vega, M. D. *see* **Cubiles-De-La-Vega, M. D.**

Lavendhomme, René ★ Basic concepts of synthetic differential geometry. Translated from the 1987 French original. Revised by the author. Kluwer Texts in the Mathematical Sciences, 13. *Kluwer Academic Publishers Group, Dordrecht*, 1996. xvi+320 *pp. ISBN* 0-7923-3941-X (Maria H. Papatriantafillou) **98c:58008** 58A03 (51K10, 53–01)

mejía Laverde, Jorge *see* **Mejía Laverde, Jorge**

Lavers, Peter *see* **Mortensen, Chris, 98k:03002**

Lavers, T. G. The theory of vines. (English summary) *Comm. Algebra* **25** (1997), *no.* 4, 1257–1284. (J. S. Birman) **98f:57014** 57M25 (20F36)

Lavialle, O. Recherche d'un quasi-ordre médian à partir d'un profil de relations floues. (English and French summaries) [Identifying a median quasiorder of fuzzy relations] *RAIRO Rech. Opér.* **31** (1997), *no.* 3, 311–330. (Summary) **98c:04006** 04A72 (06A06)

Lavignac, Stéphane (*with* Binétruy, Pierre; Irges, Nikolaos; Ramond, Pierre) Anomalous U(1) and low-energy physics: the power of D-flatness and holomorphy. (English summary) *Phys. Lett. B* **403** (1997), *no.* 1-2, 38–46. (Summary) **98f:81310** 81T50 (81T13, 81T30, 81V22)

Laville, Guy (*with* Ramadanov, Ivan-Pierre) Stone-Weierstrass theorem. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 189–194, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Bernd A. Schmeikal) **98f:30043** 30G35 (32K99, 41A65, 46E25)

Lavin, Victor (*with* Guijarro, David; Raghavan, Vijay K.) Learning monotone term decision lists. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 16–26, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98h:68193** 68T05 (68Q99)

— (*with* Castro, Jorge; Guijarro, David) Learning nearly monotone k-term DNF. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 162–170, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98g:68139** 68T05 (03B05, 68Q99)

Lavine, Michael (*with* Wolpert, Robert L.) Markov random field priors for univariate density estimation. (English summary) With a discussion by A. P. Dawid and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 253–270, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62115** 62G05 (62M40)

Laviolette, François (*with* Hahn, Geña; Širáň, Jozef) Edge-ends in countable graphs. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 225–244. (M. E. Watkins) **98h:05113** 05C38

Lavis, D. A. (*with* Southern, B. W.) The inverse of a symmetric banded Toeplitz matrix. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 137–146. (Summary) **98f:15002** 15A09 (15A57)

Lavrelashvili, G. V. On wormholes in low energy string theory. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 245–248. (Ilya Shapiro) **98a:83117** 83E30 (81T30, 83C57)

Lavrenov, A. Yu. (*with* Vyatchanin, S. P.) Heisenberg microscope and quantum variation measurement. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 38–46. (Summary) **98f:81037** 81P15

Lavrent'ev, A. S. (*with* Mishura, Yu. S.) The problem of extension for two-parameter kernels. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 9, 1206–1212. (Jörg-Uwe Löbus) **98m:47058** 47D03

Lavrent'ev, I. M. (*with* Šćepanović, Radoje) On the solvability of nonlinear equations. (Russian. Russian summary) *Math. Montisnigri* **6** (1996), 19–25. (Yu. V. Trubnikov) **98c:47072** 47H15

Lavrent'ev, M. M. *see* **Lavrent'ev, Mikhail Mikhallovich**

Lavrent'ev, M. M., Jr. (*with* Broadbridge, P.; Belov, V. Ya.) Boundary value problems for strongly degenerate parabolic equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 1-2, 17–38. (Bo Guan) **98a:35078** 35K65 (35K60)

— (*with* Slin'ko, M. G.; Zelenyak, T. I.; Akramov, T. A.; Sheplev, V. S.) Nonlinear dynamics of catalytic reactions and processes (a survey). (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 12, 87–109. 92E20 (35Q99)

— (*with* Lyul'ko, N. A.) Increasing the smoothness of solutions of some hyperbolic problems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 109–124, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 92–105. (Ivan Straškraba) **98b:35110** 35L50 (35B30, 35B65)

Lavrent'ev, Mikhail Mikhallovich (*with* Beresnev, V. L.; Borovkov, A. A.; Godunov, S. K.; Ershov, Yu. L.; Kutateladze, Semën Samsonovich; Reshetnyak, Yu. G.; Romanov, V. G.) On the fortieth anniversary of the Siberian Branch of the Academy of Sciences. (Russian) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 483–484. 01A74

— (*with* Aleksandrov, I. A.; Vasil'ev, A. Yu.; Sychev, A. V.) Vasiliĭ Vasil'evich Chernikov. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 143–144; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1281–1282. 01A70

— (*with* Arnol'd, Vladimir Igorevich; Berezanskiĭ, Yuriĭ Makarovich; Daletskiĭ, Yuriĭ L'vovich; Kutateladze, M. M.; Reshetnyak, Yu. G.; Semënov, E. M.; Sklyadnev, S. A.) Selim Grigor'evich Kreĭn (on the occasion of his eightieth birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 203–204; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1349–1350. 01A70

— *see also* **Analysis and discrete mathematics, 98b:00016**; **Group and metric properties of mappings, 98c:20003** *and* **Questions of the well-posedness of problems in mathematical physics and analysis, 98e:00010**

Lavrentiev, M., Jr. *see* **Lavrent'ev, M. M., Jr.**

Lavrenyuk, S. P. Systems of parabolic variational inequalities without initial conditions. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 4, 540–547; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 595–603 (1998). (Stepan D. Ivasyshen) **98i:35109** 35K85

Lavrič, Boris A characterisation of Banach lattices with order continuous norm. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 37–41. (Gerard Buskes) **98g:46022** 46B42

— Monotonicity properties of certain classes of norms. (English summary) *Linear Algebra Appl.* **259** (1997), 237–250. (Chi-Kwong Li) **98g:15042** 15A60

— Finite-dimensional linearly ordered vector spaces. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **44** (1997), *no.* 4, 97–104. 06F25 (15A03)

Lavrinenko, I. V. (*with* Lu, Hong[1]; Pope, C. N.) From topology to generalised dimensional reduction. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 278–298. (Javier Borlaf González) **98k:81227** 81T30 (83E15, 83E30, 83E50)

— (*with* Pope, C. N.; Tran, T. A.; Lu, Hong[1]) Harmonic superpositions of nonextremal p-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 273–293. (Paulo Moniz) **98m:83072** 83E30 (81T30)

Lavrov, A. M. (*with* Kazakov, Vladimir Aleksandrovich[2]) On the relationship between various types of kinetic equations. *Radiophys. and Quantum Electronics* **36** (1993), *no.* 10, 725–728 (1994). (Reinhard Illner) **98d:82042** 82C40

— (*with* Kazakov, Vladimir Aleksandrovich[2]) A kinetic equation for non-Markov processes with Pearson distributions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **38** (1995), *no.* 7, 695–704; *translation in Radiophys. and Quantum Electronics* **38** (1995), *no.* 7, 462–468 (1996). (W. A. Woyczyński) **98b:82070** 82C40 (60G99, 82C31)

Lavrov, I. A. (*with* Maksimova, L. L.) ★ Задачи по теории множеств, математической логике и теории алгоритмов. (Russian. Russian summary) [Problems in set theory, mathematical logic and the theory of algorithms] Third edition. *Fizmatlit "Nauka", Moscow*, 1995. 256 *pp. ISBN* 5-02-014844-X (Editors) **98h:03001** 03-01 (00A07, 68-01)

— On a property of creative sets. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 3, 294–307, 372; *translation in Algebra and Logic* **35** (1996), *no.* 3, 164–171. (A. Kučera) **98c:03090** 03D25

Lavrov, P. M. (*with* Moshin, P. Yu.) Quantization of a model of an antisymmetric tensor field in the framework of extended BRST-symmetry. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 420–428; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1098–1103 (1996). (Summary) **98k:81284** 81T70

— (*with* Moshin, P. Yu.) Algebra of quantum transformations of standard and extended BRST-symmetries. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 9, 37–41; *translation in Russian Phys. J.* **40** (1997), *no.* 9, 856–860 (1998). (Summary) **98j:81347** 81T70

— (*with* Odintsov, Sergei D.; Reshetnyak, A. A.) Effective action of composite fields for general gauge theories in Batalin, Lavrov, and Tyutin covariant formalism. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3466–3477. (Ilya Shapiro) **98m:81100** 81T13 (58Z05, 81T15)

— (*with* Moshin, P. Yu.) Physical unitarity in the Lagrangian Sp(2)-symmetric formalism. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 565–597. (Ion V. Vancea) **98d:81055** 81T13 (81T50, 81T70)

Law, Chi-Kwong (*with* Eberly, J. H.; Kneer, B.) Preparation of an arbitrary density matrix of a harmonic oscillator. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2149–2158. (Summary) **98i:81296** 81V80 (81P05, 82B10)

Law, Jimmy (*with* Bhaduri, R. K.; Khare, Avinash; Murthy, M. V. N.; Sen, Diptiman) Novel correlations in two dimensions: two-body problem. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2557–2576. (Summary) **98d:81008** 81Q05 (81V70)

Lawall, Julia L. (*with* Thiemann, Peter J.) Sound specialization in the presence of computational effects. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 165–190, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15 (03B40)

Lawande, S. V. (*with* Biswas, Debabrata) Periodic orbit theory and quantum-classical correspondence. (English summary) Chaos, disorder and fractals. *Proc. Nat. Acad. Sci. India Sect. A* **66** (1996), *Special Issue*, 79–89. (Christian Grosche) **98c:58129** 58F22 (58F13, 81Q20)

al-Lawatia, Mohamed *see* **Al-Lawatia, Mohamed**

Lawler, Eugene L. (*with* Bafna, Vineet; Pevzner, Pavel A.) Approximation algorithms for multiple sequence alignment. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 233–244. (Summary) **98f:68120** 68Q25 (92D20)

Lawler, Gregory F. (*with* Puckette, Emily E.) The disconnection exponent for simple random walk. (English summary) *Israel J. Math.* **99** (1997), 109–121. (Thomas Polaski) **98h:60107** 60J15

Lawless, J. F. (*with* Fong, Daniel Y. T.) The analysis of process variation transmission with multivariate measurements. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 151–164. 62N10 (62M20)

Lawley, Mark A. (*with* Reveliotis, Spiridon A.; Ferreira, Placid M.) Polynomial-complexity deadlock avoidance policies for sequential resource allocation systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1344–1357. 90B80 (90B70, 93C95)

Lawlor, Gary (*with* Morgan, Frank) Curvy slicing proves that triple junctions locally minimize area. (English summary) *J. Differential Geom.* **44** (1996), *no.* 3, 514–528. (Harold Parks) **98a:53012** 53A10 (49Q20)

Lawrence, Gregory A. (*with* Zhu, David Z.) Non-hydrostatic effects in layered shallow water flows. (English summary) *J. Fluid Mech.* **355** (1998), 1–16. (Summary) **98k:76017** 76B99

Lawrence, Jim A short proof of Euler's relation for convex polytopes. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 471–474. (Summary) **98k:52030** 52B20 (52B05)

Lawrence, John P. (*with* Bartoszyński, Robert; Pearl, Dennis K.) A multidimensional goodness-of-fit test based on interpoint distances. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 577–586. (Summary) **98f:62126** 62G10

Lawrence, L. Brian Homogeneity in powers of subspaces of the real line. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3055–3064. (Gary Gruenhage) **98k:54061** 54F99 (54E35, 54F50)

Lawrence, Ruth J. Asymptotic expansions of Witten-Reshetikhin-Turaev invariants for some simple 3-manifolds [MR 97a:57015]. (English summary) *R.C.P.* 25, *Vol.* 47 (*Strasbourg*, 1993–1995), 151–182, *Prépubl. Inst. Rech. Math. Av.*, 1995/24, *Univ. Louis Pasteur, Strasbourg*, 1995. (*see* **98c:00015**) 57N10 (11B68, 57M25, 58G18)

— Braid group representations associated with $\mathfrak{sl}_m$. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 5, 637–660. (Xiao-Song Lin) **98j:57011** 57M25

— Witten-Reshetikhin-Turaev invariants of 3-manifolds as holomorphic functions. (English summary) *Geometry and physics* (*Aarhus*, 1995), 363–377, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Hitoshi Murakami) **98b:57031** 57N10 (11S80, 57M25)

— Yang-Baxter type equations and posets of maximal chains. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 1, 68–104. (Volkmar Welker) **98g:05161** 05E99 (17B81, 52B30)

Lawrence, S. L. (*with* Miller, James Hale; Tannehill, J. C.; Edwards, T. A.) Parabolized Navier-Stokes code for hypersonic flows in thermo-chemical equilibrium or nonequilibrium. (English summary) *Comput. & Fluids* **27** (1998), *no.* 2, 199–215. (Summary) **98m:76124** 76M25 (76K05, 80-08, 80A32)

Lawrencenko, Serge (*with* Liu, Xin[2]; Liu, Yan Pei) An algorithm for constructing a rectilinear embedding of a given graph in the plane. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 205–217, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05051** 05C10 (05C85)

— (*with* Mao, Jingzhong) A sharp lower bound for the number of connectivity-redundant nodes. (English summary) *Ars Combin.* **47** (1997), 255–262. (Summary) **98h:05103** 05C35 (05C40)

— (*with* Negami, Seiya) Irreducible triangulations of the Klein bottle. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 2, 265–291. (D. Barnette) **98h:05067** 05C10

— (*with* Luo, Qiang) Graphs with given connectivity properties. (English summary) *Networks* **30** (1997), *no.* 4, 255–261. (Summary) **98i:05112** 05C40 (68R10)

Lawry, J. An inductive method for inexact reasoning. (English summary) *Internat. J. Approx. Reason.* **16** (1997), *no.* 2, 205–221. (Mohamed Amer) **98g:03064** 03B48 (03B70, 60A99, 68T05, 68T30)

— (*with* Baldwin, J. F.; Martin, T. P.) A note on the conditional probability of fuzzy subsets of a continuous domain. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 2, 211–222. 28E10 (60E99)

Ławrynowicz, Julian (*with* Papaloucas, Loucas C.; Rembieliński, Jakub) Quantum braided Clifford algebras. (English summary) *Clifford algebras and spinor structures*, 387–395, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Tomasz Brzeziński) **98i:81108** 81R50 (17B37, 58B30)

— (*with* Rembieliński, Jakub; Succi, Francesco) Generalized Hurwitz maps of the type $S \times V \to W$, anti-involutions, and quantum braided Clifford algebras. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 223–240, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Daniel B. Shapiro) **98f:15021** 15A63 (15A66)

— (*with* Mignot, Alain Lucien; Papaloucas, Loucas C.; Surry, Claude) Mixed formulation for elastic problems—existence, approximation, and applications to Poisson structures. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 343–349, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Editors) **98c:73031** 73C35 (58F05, 58F40, 73C50, 73V99)

Laws, C. N. (*with* Hunt, P. J.) Optimization via trunk reservation in single resource loss systems under heavy traffic. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 1058–1079. (Summary) **98g:60175** 60K30 (60K20, 90B15)

Lawson, D. A. (*with* Khan, Y. U.; Tucker, R. J.) Banded radiative heat transfer analysis. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 10, 803–813. 80A20

Lawson, J. D. *see* **Lawson, John Douglas**

Lawson, Jimmie D. (*with* Hofmann, Karl H.) Linearly ordered semigroups: historical origins and A. H. Clifford's influence. (English summary) *Semigroup theory and its applications* (*New Orleans, LA*, 1994), 15–39, *London Math. Soc. Lecture Note Ser.*, 231, *Cambridge Univ. Press, Cambridge*, 1996. (B. H. Neumann) **98b:01025** 01A60 (01A70, 06F05, 20M99)

Lawson, John Douglas (*with* Thomas, Stephen J.; Zahar, R. V. M.) Weighted quadrature in Krylov methods. (English summary) *Util. Math.* **51** (1997), 165–182. (G. W. Hedstrom) **98m:65159** 65M20

Lawson, Kevin L. (*with* Doss, Hani; Huffer, Fred W.) Bayesian nonparametric estimation via Gibbs sampling for coherent systems with redundancy. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1109–1139. (Truc Nguyen) **98g:62060** 62G05 (62N05)

Lawson, M. V. (*with* Hickey, J. B.) Unit regular monoids. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 1, 127–144. (Franco Migliorini) **98b:20103** 20M17

— (*with* Hines, P. M.) An application of polycyclic monoids to rings. *Semigroup Forum* **56** (1998), *no.* 1, 146–149. 20M18 (16S50)

Lawson, Terry (*with* Acosta, Daniel) Even non-spin manifolds, spin^c structures, and duality. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 27–32. (Jim A. Bryan) **98m:57033** 57R15 (57R57)

— The minimal genus problem. (English summary) *Exposition. Math.* **15** (1997), *no.* 5, 385–431. (Summary) **98g:57055** 57R95 (57N13)

Lawson, Thomas H. (*with* Bayne, Richard E.; Joseph, James E.; Kwack, Myung H.) A note on linear differential equations with constant coefficients. *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 41–45. 34A30

Lawton, Wayne M. (*with* Lee, Seng Luan; Shen, Zuowei) Stability and orthonormality of multivariate refinable functions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 999–1014. (Kazaros Kazarian) **98d:41027** 41A30 (41A15, 42C05, 42C15)

— (*with* Lee, Seng Luan; Shen, Zuowei) Convergence of multidimensional cascade algorithm. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 427–438. (Louise A. Raphael) **98k:41027** 41A25 (42C99, 65D15)

Lawvere, F. William Grassmann's dialectics and category theory. *Hermann Günther Grassmann* (1809–1877): *visionary mathematician, scientist and neohumanist scholar* (*Lieschow*, 1994), 255–264, *Boston Stud. Philos. Sci.*, 187, *Kluwer Acad. Publ., Dordrecht*, 1996. (Kenneth A. Brown) **98c:18001** 18-03 (01A55, 01A60, 03A05, 03G30)

Law-Yone, Nissan (*with* Holzman, Ron) Strong equilibrium in congestion games. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 85–101. (Summary) **98k:90169** 90D35 (90D05)

Lax, Peter D. (*with* Bolliat, G.; Dafermos, C. M.; Liu, Tai-Ping) ★ Recent mathematical methods in nonlinear wave propagation. Lectures given at the 1st C.I.M.E. Session held in Montecatini Terme, May 23–31, 1994. Edited by T. Ruggeri. Lecture Notes

in Mathematics, 1640. Fondazione C.I.M.E.. [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1996. vi+142 *pp. ISBN* 3-540-61907-0 (Editors) **98g:35002** 35-06

— Outline of a theory of the KdV equation. *Recent mathematical methods in nonlinear wave propagation (Montecatini Terme*, 1994), 70–102, *Lecture Notes in Math.*, 1640, *Springer, Berlin*, 1996. (Masato Hisakado) **98m:35184** 35Q53 (58F07)

— (*with* Liu, Xu-Dong) Positive schemes for solving multi-dimensional hyperbolic systems of conservation laws. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 367–375. (Alexander Doktor) **98e:65065** 65M06 (35L65)

— The zero dispersion limit, a deterministic analogue of turbulence. *Nonlinear evolutionary partial differential equations (Beijing*, 1993), 53–64, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Xian Guo Geng) **98i:35166** 35Q53 (76F99)

— (*with* Liu, Xu-Dong) Solution of two-dimensional Riemann problems of gas dynamics by positive schemes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 319–340 (*electronic*). 65Mxx (35L65, 76L05, 76M25, 76N15)

— *see also* **Recent advances in partial differential equations**, **98g:35003** *and* **Harten, Ami**, (**98h:70003**)

Lay, Juliane *L'Abrégé de l'Almageste*: un inédit d'Averroès en version hébraïque. (English and French summaries) [*Abridgement of the Almagest*: a Hebrew version of an unpublished work of Averroës] *Arabic Sci. Philos.* **6** (1996), *no.* 1, 3, 5–6, 23–61. (Julio Samsó-Moya) **98d:01008** 01A30 (01A35)

Lay, Wolfgang (*with* Slavyanov, S. Yu.; Seeger, Alfred) A generalization of the Riemann scheme for equations of hypergeometric and Heun classes. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 641–660. (Andrei A. Kapaev) **98k:34012** 34A30 (33C05)

— The quartic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 639–647. (V. I. Yukalov) **98c:81038** 81Q05

— (*with* Bay, Karlheinz) The spectrum of the quartic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2127–2131. (Jorge E. Stephany Ruiz) **98c:81030** 81Q05

— (*with* Bay, Karlheinz; Akopyan, Alexey) Avoided crossings of the quartic oscillator. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3057–3067. (Gabriel Alvarez) **98e:81025** 81Q05

Laydi, Mohamed Rachid Une méthode nodale à deux niveaux pour la résolution du problème de Stokes. (English and French summaries) [A two-level nodal method for solving the Stokes equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1075–1078. (Summary) **98c:76069** 76M10 (65N30, 76D07)

Layne, Philip A. (*with* King, Melvin E.) Dynamics of nonlinear cyclic systems with structural irregularity. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 225–244. (Summary) **98m:70027** 70K25

Laytimi, F. On degeneracy loci. *Internat. J. Math.* **7** (1996), *no.* 6, 745–754. (Laurent Manivel) **98a:14064** 14M12 (14F17)

Layton, Jeffrey B. Multiobjective control design including performance robustness for gust alleviation of a wing with adaptive material actuators. (English summary) *Smart structures and materials* 1997: *mathematics and control in smart structures (San Diego, CA)*, 373–381, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93B51 (73K50, 73K70, 90C29)

— (*with* Ganguly, Snehasis; Balakrishna, C.; Kane, J. H.) A symmetric Galerkin multi-zone boundary element formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 16, 2913–2931. 73V10

Layton, W. (*with* Axelsson, Owe) A two-level discretization of nonlinear boundary value problems. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2359–2374. (A. V. Dzhishkariani) **98c:65181** 65N30 (65J15)

— (*with* Ye, Xiu) Nonconforming two-level discretization of stream function form of the Navier-Stokes equations. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 173–183. (Summary) **98j:76088** 76M10 (76D05)

Lazakovich, N. V. (*with* Stashulenok, S. P.) Approximation of stochastic integrals and of solutions of differential equations in the direct product of algebras of generalized random processes. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 25–30, 124. 60H10 (60G20)

— (*with* Stashulenok, S. P.) Approximation in the sense of Itô and Stratonovich of integrals and equations of a Poisson random process. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 1, 33–39, 140. 60H10

— (*with* Stemkovskaya, T. V.) Approximation of stochastic differential equations in Stratonovich form by finite-difference equations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 1, 40–45, 140. 60H10 (65U05)

Lažanský, Jiří (*with* Mařík, Vladimír; Štěpánková, Olga; et al.) ★ Umělá inteligence. 2. (Czech. English and Czech summaries) [Artificial intelligence. 2] *Academia [Publishing House of the Czech Academy of Sciences], Prague*, 1997. 374 *pp. ISBN* 80-200-0504-8 (From the summary) **98g:68137** 68Txx (68–01)

Lazar, Aurel A. (*with* Jelenković, Predrag R.) A network multiplexer with multiple time scale and subexponential arrivals. (English summary) *Stochastic networks (New York*, 1995), 215–235, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60124** 60K25

Lazăr, C. (*with* Aniţa, Sebastian[2]) A H_∞-control problem with unbounded disturbance and impulsive parameter; the parabolic case. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 375–384 (1997). (Hong Xing Zhou) **98d:93038** 93B36 (93C20)

Lazăr, Ioan (*with* Mureşan, Adrian) Generalized transformations on ratios of Fibonacci and Lucas numbers. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 169–179. (Neville Robbins) **98i:11009** 11B39

Lazar, Vasile (*with* Munteanu, Gheorghe) On almost second order almost co-tangent structures. International Conference on Differential Geometry and its Applications (Bucharest, 1992). *Tensor (N.S.)* **53** (1993), *Commemoration Volume I*, 83–87. (Domingo Chinea) **98f:53028** 53C15

Lazard, M. *see* **Artin, Emil**, **98b:51001**

Lazard-Holly, Hippolyte (*with* Meeks, William H., III) Classificatio.. des surfaces minimales de genre zéro proprement plongées dans $\mathbf{R}^3/\mathbf{Z}^2$. (English and French summaries) [A classification of genus-zero minimal surfaces properly embedded in $\mathbf{R}^3/\mathbf{Z}^2$] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 753–754. (Summary) **98i:53016** 53A10

Lazarev, A. Yu. (*with* Block, Jonathan) Homotopy theory and generalized duality for spectral sheaves. *Internat. Math. Res. Notices* **1996,** *no.* 20, 983–996. (L. Gaunce Lewis, Jr.) **98b:18020** 18F20 (18D15, 19J25, 55N05, 55N30, 55U35)

— Deformations of formal groups and stable homotopy theory. *Topology* **36** (1997), *no.* 6, 1317–1331. (Keith Peter Johnson) **98d:55007** 55N22 (14L05)

Lazarev, S. B. (*with* Pantić, M.; Šetrajčić, J. P.; Mirjanić, D. Lj.) Numerical calculations of microscopic characteristics of low-dimensional systems. (English summary) *PRIM '96 (Budva)*, 157–168, *Univ. Novi Sad, Novi Sad*, 1997. (*see* **98h:00033**) 82D20

Lazarev, Vladimir Anatol'evich (*with* Kalyakin, L. A.) Perturbation of the two-soliton solution of the Korteweg-de Vries equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 1, 92–102; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 1, 866–874 (1998). 35Q53 (76B25)

de sam Lazaro, J. *see* **de Sam Lazaro, J.**

Lazarov, R. D. (*with* Tobiska, L.; Vassilevski, Panayot S.) Streamline diffusion least-squares mixed finite element methods for convection-diffusion problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 249–264. (Martin Stynes) **98k:76091** 76M10 (65N12, 65N30, 76Rxx)

Łazarow, Ewa (*with* Carrese, Rosalba) Baire classes of some generalized partial derivatives. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 9–15. (Zbigniew Grande) **98h:26007** 26A21 (26B05)

Lazarsfeld, Robert Lengths of periods and Seshadri constants of abelian varieties. *Math. Res. Lett.* **3** (1996), *no.* 4, 439–447. (H. Lange) **98e:14044** 14K05 (14H40, 14H42)

— (*with* Donagi, Ron; Ein, Lawrence) Nilpotent cones and sheaves on $K3$ surfaces. *Birational algebraic geometry (Baltimore, MD*, 1996), 51–61, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Huybrechts) **98f:14006** 14D20 (14J28, 14J60)

— Lectures on linear series. With the assistance of Guillermo Fernández del Busto. *Complex algebraic geometry (Park City, UT*, 1993), 161–219, *IAS/Park City Math. Ser.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Jarosław A. Wiśniewski) **98h:14008** 14C20 (14E25, 14F17)

— *see also* **Algebraic geometry, Santa Cruz, 1995**, **98h:14002** *and* **98h:14003**

Lazebnik, Felix (*with* Ustimenko, V. A.; Woldar, A. J.) New upper bounds on the order of cages. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 13, *approx.* 11 *pp.* (*electronic*). (Hansjoachim Walther) **98e:05066** 05C35 (05C38)

— (*with* Li, Wenbo V.; Martin, Ryan) Random walks on rooted trees. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 59–66. 60J15 (05C05, 60J10)

Lažetić, Nebojša L. Estimates for derivatives and integrals of eigenfunctions and associated functions of nonselfadjoint Sturm-Liouville operator with discontinuous coefficients. III. (English summary) *Mat. Vesnik* **48** (1996), *no.* 1-2, 29–46. (Sobhy El-Sayed Ibrahim) **98b:34110** 34L15 (34B24, 47E05)

— Estimates for derivatives and integrals of eigenfunctions and associated functions of nonselfadjoint Sturm-Liouville operator with discontinuous coefficients. II. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **60(74)** (1996), 31–44. (Sobhy El-Sayed Ibrahim) **98b:34109** 34L15 (34B24, 47E05)

Lazic, Dejan E. (*with* Kalouti, Hakam; Beth, Thomas) Spectra of long primitive binary BCH codes cannot approach the binomial distribution. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 294–295. (Summary) **98m:94058** 94B60

Lazić, R. S. (*with* Roscoe, A. W.) On transition systems and non-well-founded sets. (English summary) *Papers on general topology and applications (Gorham, ME*, 1995), 238–264, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Andreas Blass) **98b:68142** 68Q90 (03E70, 54A35, 54E15)

Lazkoz, Ruth (*with* Feinstein, Alexander; Ibáñez, J.) Cosmologies with two-dimensional inhomogeneity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB*, 1995), 245–248, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98d:83011** 83C15

— (*with* Feinstein, Alexander; Vázquez-Mozo, M. A.) Closed inhomogeneous string cosmologies. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5166–5171. (Sergey Nikolaevich Roshchupkin) **98i:83076** 83E30 (81T30)

Lazo Cortés, Manuel Generalized testers. (Spanish. English and Spanish summaries) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 1, 31–47 (1997). (Summary) **98i:68244** 68T10 (04A72)

— *see also* **Workshop: Pattern Recognition**

Lazopoulos, K. A. (*with* Ogden, Raymond W.) Nonlinear elasticity theory with discontinuous internal variables. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 1, 29–51. (Summary) **98k:73023** 73C50 (73G05)

Lazović, Radovan (*with* Protić, Ljubomir) The study of some characteristics of the solutions of the Abel equation of the second kind. (English and Macedonian summaries) *Mat. Bilten No.* 20 (1996), 81–86. (Summary) **98c:34077** 34C99 (34A34, 34D99)

— (*with* Pikula, Milenko) The inverse problem for an equation of Sturm-Liouville type with constant delay α, $0 < \alpha < 1$. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 127–134, *Univ. Priština, Priština*, 1997. (Vjacheslav A. Yurko) **98h:34027** 34A55 (34B24, 34K10)

Lazović, Slobodan (*with* Bakmaz, Miodrag) The procedure to determine microstate probabilities in a trunk group serving overflow traffic. (English summary) *Yugosl. J. Oper. Res.* **7** (1997), *no.* 2, 285–292. 90B06

Lazraq Khlass, A. (*with* Oudadess, Mohamed) Structure des algèbres de valuation discrete. (English summary) [Structure of discrete valuation algebras] *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 439–450. (E. Beckenstein) **98m:46099** 46S10 (13J05, 46J99)

Lazrieva, N. (*with* Sharia, T.; Torondzhadze, T. A.) The Robbins-Monro type stochastic differential equations. I. Convergence of solutions. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 67–87. (Summary) **98g:60106** 60H10 (62L20)

Łazuka, Ewa (*with* Żurawiecki, Jerzy) Lower bounds of a feedback function. *Demonstratio Math.* **29** (1996), *no.* 1, 185–197. (Bernard J. M. Smeets) **98a:94015** 94A55 (06A07)

Lazurchak, I. I. (*with* Makarov, Vladimir Leonidovich) A two-sided functional-discrete method for solving boundary value problems for second-order ordinary differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 955–962, 1006; *translation in Differential Equations* **33** (1997), *no.* 7, 959–966 (1998). (Summary) **98m:65122** 65L10 (34A45)

Lazuta, A. V. (*with* Ryzhov, V. A.) Second harmonic of nonlinear response of magnets. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 406–411, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98d:82047** 82D40

Lazutkin, V. F. (*with* Simó, Carles) Homoclinic orbits in the complex domain. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 2, 253–274. (Jörg M. Härterich) **98g:58152** 58F27 (34C37)

Lazzari, B. (*with* Fabrizio, M.; Gentili, Giorgio) A nonlocal thermodynamic theory of superconductivity. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 345–362. (Summary) **98f:82139** 82D55

— (*with* Giorgi, C.) On the stability for linear viscoelastic solids. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 659–675. (Kenneth B. Hannsgen) **98h:73050** 73F15 (45K05, 73H10)

Lazzari, Claudio (*with* Battelli, Flaviano) On the bifurcation from critical homoclinic orbits in N-dimensional maps. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 289–303. (Bruce B. Peckham) **98i:58168** 58F14 (39A10, 58F30)

— Persistence of heteroclinic solutions on center manifolds of perturbed maps. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 3, 297–322. (Stephen Schecter) **98h:58130** 58F14 (34C37)

— (*with* Battelli, Flaviano) Discrete dichotomies and bifurcations from critical homoclinic orbits. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 200–228. (Michal Fečkan) **98m:39058** 39B12 (58F14)

de Lazzer, A. (*with* Langbein, D.) Liquid surface in regular N-pods. (English summary) *J. Fluid Mech.* **358** (1998), 203–221. (Summary) **98m:76058** 76D45

Lazzeroni, Laura C. (*with* Lange, Kenneth) Markov chains for Monte Carlo tests of genetic equilibrium in multidimensional contingency tables. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 138–168. (Summary) **98k:62101** 62H17 (62P10)

Lazzizzera, I. (*with* Ferrari, Franco) Dirac quantization of the Chern-Simons field theory in the Coulomb gauge. (English summary) *Phys. Lett. B* **395** (1997), *no.* 3-4, 250–256. (Summary) **98a:81118** 81T13 (81T70)

manh thanh Le *see* **Manh Thanh Le**

Le, Chap T. Evaluation of confounding effects in ROC studies. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 998–1007. 62P10

Le, Hong Generalized Rudin-Shapiro functions and their properties. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **16** (1996), *no.* 4, 463–472. (Sheng Gong) **98c:30007** 30C10 (30A10)

Le, Huiling (*with* Bhavnagri, Burzin) On simplifying shapes by subjecting them to collinearity constraints. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 315–323. (Rade Živaljević) **98g:68173** 68U10 (68T10)

Le, Jin Compact totally real minimal submanifolds of even dimension. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 2, 63–64. 53C42

Le, Jun (*with* Zhou, Zuo Ling) Unique ergodicity of dynamical systems on the torus. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 19, 1738–1740. 58F11

Le, K. C. *see* **Le Khanh Chau**

Le, Ke (*with* Tzes, Anthony) Sufficient stability conditions for the weighted minimum uncertainty prediction controller. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2273–2275. 93D21 (93C41)

— (*with* Tzes, Anthony) Adaptive performance/robust control design using orthotopic set membership identification for low-dimensional systems. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 8, 649–663. (Summary) **98k:93020** 93B15 (93B52, 93C40, 93D15)

Le, Mao Hua On the number of solutions of Thue's equation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 728–732. (Zhen Fu Cao) **98b:11029** 11D41

— The Diophantine equations $x^2 \pm 2^m = y^n$. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 4, 328–333. (Zhen Fu Cao) **98m:11020** 11D61

— On the Diophantine equation $(x^m + 1)(x^n + 1) = y^2$. *Acta Arith.* **82** (1997), *no.* 1, 17–26. (Yann Bugeaud) **98h:11036** 11D61 (11J86)

— The number of solutions of the Diophantine equation $D_1x^2 + 2^mD_2 = y^n$. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 1, 43–49. (Zhen Fu Cao) **98g:11038** 11D61 (11D41)

— A note on the Diophantine equation $x^2 + 7 = y^n$. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 1, 59–63. (Nikos Tzanakis) **98e:11040** 11D61

— The exponential diophantine equation $a^x - p_1^{y_1} \cdots p_k^{y_k} = \delta b^z$. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 21–22. 11D61

— (*with* Guo, Yong Dong) Solutions of two classes of linear recurrences. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 204–207. 11B37

— (*with* Guo, Yong Dong) The Diophantine equation $x^2 + 2^m = y^n$. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 12, 1255–1257. 11D61

— A note on the Diophantine equation $(m^3 - 3m)^x + (3m^2 - 1)^y = (m^2 + 1)^z$. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 148–149. (Yann Bugeaud) **98m:11021** 11D61

— A note on the Diophantine equation $D_1x^2 + D_2 = 2y^n$. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 191–198. (Nikos Tzanakis) **98j:11022** 11D61 (11J86)

— A note on positive integer solutions of the equation $xy + yz + zx = n$. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 159–165. (Milja R. Poe) **98j:11016** 11D09

— *see also* **Errata: "A note on perfect powers of the form $x^{m-1} + \cdots + x + 1$", 98k:11030**

Lê, Ngọc-Minh On determining optimal strategies in pursuit games in the plane (extended abstract). (English summary) *Automata, languages and programming* (*Szeged*, 1995), 499–510, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (O. A. Malafeyev) **98g:90052** 90D26

— On Voronoi diagrams in the L_p-metric in $\mathbf{R}^D$. (English summary) *Discrete Comput. Geom.* **16** (1996), *no.* 2, 177–196. (Alexander I. Barvinok) **98b:68191** 68U05 (14P10, 52B55)

— Randomized incremental construction of simple abstract Voronoi diagrams in 3-space. (English summary) *Comput. Geom.* **8** (1997), *no.* 6, 279–298. (Rade Živaljević) **98j:52023** 52B55 (68U05)

— On non-smooth convex distance functions. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 323–329. (Summary) **98k:68168** 68U05 (52B55)

Le, Nhu D. (*with* Martin, R. Douglas; Raftery, Adrian E.) Modeling flat stretches, bursts, and outliers in time series using mixture transition distribution models. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1504–1515. (Roger Gay) **98c:62173** 62M10

Le, Thang T. Q. *see* **Le Tu Quoc Thang**

Lê, Thiên Hiệp (*with* Troff, Bruno; Sagaut, Pierre; Dang-Tran, Khoa; Ta Phuoc Loc) PEGASE: a Navier-Stokes solver for direct numerical simulation of incompressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 9, 833–861. (Summary) **98g:76055a** 76M10 (76M20)

— (*with* Troff, Bruno; Sagaut, Pierre; Dang-Tran, Khoa; Ta Phuoc Loc) Erratum: "PEGASE: a Navier-Stokes solver for direct numerical simulation of incompressible flows". *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 3, *loose errata*. (Editors) **98g:76055b** 76M10 (76M20)

Le, Tu Quoc Thang *see* **Le Tu Quoc Thang**

Le, Van Bang *see* **Le Van Bang**

Le, Vy Khoi (*with* Schmitt, Klaus) On minimizing noncoercive functionals on weakly closed sets. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 51–72, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Erik J. Balder) **98h:35064** 35J60 (47H19, 49J27)

— (*with* Schmitt, Klaus) Minimization problems for noncoercive functionals subject to constraints. II. (English summary) *Adv. Differential Equations* **1** (1996), *no.* 3, 453–498. (J. Saint Jean Paulin) **98c:46163** 46N10 (35J85, 49J40, 58E05)

— (*with* Schmitt, Klaus) ★ Global bifurcation in variational inequalities. (English summary) Applications to obstacle and unilateral problems. Applied Mathematical Sciences, 123. *Springer-Verlag, New York*, 1997. xiv+250 *pp. ISBN* 0-387-94886-4 (Marco Degiovanni) **98e:47101** 47H15 (35J85, 35K85, 47H19, 49J40, 58E35, 73C50, 73H05)

— (*with* Đặng Đình Áng; Schmitt, Klaus) A multidimensional analogue of the Denjoy-Perron-Henstock-Kurzweil integral. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 355–371. (Š. Schwabik) **98e:26013** 26B15 (26A39, 28A75)

— (*with* Đặng Đình Áng; Gorenflo, Rudolf) Regularization of a nonlinear integral equation of gravimetry. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 2, 101–116. (Summary) **98c:45015** 45L05 (45G10, 47H15, 65R30)

Le, Xiao Bo (*with* Wang, Lin) The average running time of the recursive ergodic traversal algorithm for binary trees. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **15** (1997), *no.* 5, 143–146. (Summary) **98m:68044** 68P05

Leach, J. *see* **Leach Albert, Javier**

Leach, John Inventories and wage bargaining. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 433–463. (P. R. Parthasarathy) **98e:90062** 90B05 (90A50)

Leach, P. G. L. An elementary approach to quasi-exact solutions and its sl(2, **R**) connection. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 292–296, *World Sci. Publishing, River Edge, NJ*, 1994. (Arlen Anderson) **98k:81046** 81Q05

— (*with* White, David P.; Coville, Neil J.) Solid angles. V. Chiral molecules and the case of face selectivity. (English summary) *J. Math. Chem.* **18** (1995), *no.* 2-4, 99–114. (Summary) **98e:92004** 92E10 (51N20)

— (*with* Flessas, George; Govinder, K. S.) Characterisation of the algebraic properties of first integrals of scalar ordinary differential equations of maximal symmetry. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 349–374. (Maria Clara Nucci) **98h:34014** 34A30 (58F35)

— (*with* Govinder, K. S.) A group-theoretic approach to a class of second-order ordinary differential equations not possessing Lie point symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2055–2068. (L. M. Berkovich) **98h:34002** 34A05 (17B30, 34A25, 35A30)

— (*with* Gorringe, V. M.) Conservation laws for the monopole oscillator problem. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 71–83. (Gerard Thompson) **98h:70020** 70H33 (58F05, 70D05)

— *see also* **Coule, D. H., 98d:83031**

Leach Albert, Javier (*with* Gavilanes-Franco, Antonio; Martín, P. J.; Nieva, S.) Reasoning with preorders and dynamic sorts using free variable tableaux. (English summary) *Artificial intelligence and symbolic mathematical computation* (*Steyr*, 1996), 365–379, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98d:68182** 68T15 (03B35, 03B50)

Leadbetter, M. R. (*with* Rootzén, Holger) On central limit theory for families of strongly mixing additive random functions. (English summary) *Stochastic processes*, 211–223, *Springer, New York*, 1993. (Ken-ichi Yoshihara) **98b:60041** 60F05 (60G57)

Leader, Imre (*with* Diestel, Reinhard) The growth of infinite graphs: boundedness and finite spreading [MR 95e:05101]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 217–221, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C78

— (*with* Hindman, Neil) Image partition regularity of matrices [MR 95j:05167]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 393–419, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05D10

— (*with* Bollobás, Béla) An Erdős-Ko-Rado theorem for signed sets. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 9–13. (Ian Anderson) **98k:05134** 05D05

— (*with* Bollobás, Béla) Matchings and paths in the cube. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 1–8. (Summary) **98c:05123** 05C70

Leaf, Boris Frequency parts of Lorentz-gauge potentials in quantization of the electromagnetic field. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 1, 1–22. (Summary) **98m:81210** 81V10

Leaf, Gary K. (*with* Restrepo, Juan Mario; Griewank, Andreas) Circumventing storage limitations in variational data assimilation studies. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1586–1605 (*electronic*). 86A05 (86–08, 86A10, 86A22)

Leahu, Alexe Ch. Finite projection, reversibility and queueing systems. (English and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1992,** *no.* 2, 89–93. 90B22

— (*with* Hlibiciuc, A. A.) Finite projection, queueing systems and their approximation. (Romanian) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 38–43. 60K25

Leahy, John V. (*with* Gilkey, Peter B.; Park, Jeong Hyeong) The spectral geometry of the Hopf fibration. (English summary) *J. Phys. A* **29** (1996), *no.* 17, 5645–5656. (J. Alfredo Jiménez) **98b:58167** 58G25

— (*with* Gilkey, Peter B.; Park, Jeong Hyeong) Eigenvalues of the form valued Laplacian for Riemannian submersions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1845–1850. (Kenro Furutani) **98m:58139** 58G25 (53C21)

Leal, Guilherme (*with* del Rio Mateos, Angel) Products of free groups in the unit group of integral group rings. II. (English summary) *J. Algebra* **191** (1997), *no.* 1, 240–251. (Sudarshan K. Sehgal) **98h:16050** 16U60 (16S34)

— (*with* Jespers, Eric) Free products of abelian groups in the unit group of integral group rings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1257–1265. (Alexander Zimmermann) **98j:16019** 16U60 (16S34, 20C05)

ferrándiz Leal, José Manuel *see* **Ferrándiz Leal, José Manuel**

Leal, L. G. (*with* Feng, Zaichun) Nonlinear bubble dynamics. (English summary) *Annual review of fluid mechanics, Vol.* 29, 201–243, *Annu. Rev. Fluid Mech.*, 29, *Annual Reviews, Palo Alto, CA*, 1997. (Stephen K. Wilson) **98b:76074** 76T05 (76B99, 76D99)

Leal, Lorenzo (*with* Arias, Pio J.) Topological sectors and gauge invariance in massive vector-tensor theories in $D \geq 4$. (English summary) *Phys. Lett. B* **404** (1997), *no.* 1-2, 49–56. (Summary) **98d:81043** 81T10 (81T70)

lozano Leal, Rogelio *see* **Lozano Leal, Rogelio**

Léandre, Rémi Cohomologie de Bismut-Nualart-Pardoux et cohomologie de Hochschild entière. [Bismut-Nualart-Pardoux cohomology and entire Hochschild cohomology] *Séminaire de Probabilités, XXX*, 68–99, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Daniel Ocone) **98i:58250** 58G32 (55N35, 60H05)

— Path space of a symplectic manifold. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 301–314, *World Sci. Publishing, River Edge, NJ*, 1996. (Ana Bela Cruzeiro) **98m:58146** 58G32 (58F05, 58G05, 60H30)

— Loop space of a developable orbifold. (English summary) *Stochastic analysis: random fields and measure-valued processes* (*Ramat Gan*, 1993/1995), 143–149, *Israel Math. Conf. Proc.*, 10, *Bar-Ilan Univ., Ramat Gan*, 1996. (Patrick T. McDonald) **98j:58127** 58G32 (58G11)

— (*with* Norris, J. R.) Integration by parts and Cameron-Martin formulas for the free path space of a compact Riemannian manifold. *Séminaire de Probabilités, XXXI*, 16–23, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Elton Pei Hsu) **98i:58251** 58G32 (28C20, 60H05, 60J65)

— Diffeomorphisms of the circle and the based stochastic loop space. *Séminaire de Probabilités, XXXI*, 322–326, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (David Nualart) **98m:60085** 60H07 (58G32)

— Invariant Sobolev calculus on the free loop space. (English summary) *Acta Appl. Math.* **46** (1997), *no.* 3, 267–350. (Zhongmin Qian) **98a:60077** 60H07 (58D20, 58G32)

— Hilbert space of spinor fields over the free loop space. *Rev. Math. Phys.* **9** (1997), *no.* 2, 243–277. (Steven Rosenberg) **98a:58009** 58B25 (22E67, 58G32)

— Stochastic cohomology of the frame bundle of the loop space. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 23–40. (Zhongmin Qian) **98m:58147** 58G32 (58D20, 60H07)

Leandro, Roseli Aparecida (*with* Achcar, Jorge Alberto) Generation of bivariate lifetime data assuming the Block & Basu exponential distribution. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 43–52. 62N05 (65U05)

Leang, Charles C. (*with* Johnson, Don H.) On the asymptotics of M-hypothesis Bayesian detection. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 280–282. 94A13 (62F03)

Leary, Ian J. On the integral cohomology of wreath products. (English summary) *J. Algebra* **198** (1997), *no.* 1, 184–239. (David J. Green) **98m:55014** 55R20 (20E22, 20J06)

— (*with* Schuster, Björn) On the $\mathrm{GL}(V)$-module structure of $K(n)^*(BV)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 73–89. (Nobuaki Yagita) **98e:55016** 55R20 (20J05, 55N20, 57S25)

Leary, Robert H. Global optima of Lennard-Jones clusters. (English summary) *J. Global Optim.* **11** (1997), *no.* 1, 35–53. 90C90 (81V55, 92C40)

Leavens, C. Richard The "tunneling-time problem" for electrons. *Bohmian mechanics and quantum theory: an appraisal*, 111–129, *Boston Stud. Philos. Sci.*, 184, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98i:81003**) 81P05

Leavens, Gary T. (*with* Pigozzi, Don) The behavior-realization adjunction and generalized homomorphic relations. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 183–216. (Horst Reichel) **98e:68175** 68Q65 (03B70, 68Q60)

LeBaron, B. (*with* Brock, William A.; Scheinkman, José A.; Dechert, W. Davis) A test for independence based on the correlation dimension. (English summary) *Econometric Rev.* **15** (1996), *no.* 3, 197–235. (Vipul A. Kalamkar) **98a:62112** 62M10 (62G10, 62P20)

Le Barz, Patrick (*with* Dias, Danielle) ★ Configuration spaces over Hilbert schemes and applications. Lecture Notes in Mathematics, 1647. *Springer-Verlag, Berlin*, 1996. viii+143 *pp. ISBN* 3-540-62050-8 (S. L. Kleiman) **98j:14001** 14C05 (14C17)

Lebeau, C. (*with* Goeleven, Daniel; Panagiotopoulos, P. D.; Plotnikova, Galina) Inequality forms of d'Alembert's principle in mechanics of systems with holonomic unilateral constraints. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 483–501. (Manuel D. P. Monteiro Marques) **98j:70014** 70F20 (49J40, 70H30, 70Q05)

Lebeau, Gilles Propagation des ondes dans les variétés à coins. [Wave propagation in manifolds with corners] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XVI*, 20 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Jean-Marc Delort) **98m:58137** 58G17 (35L05)

— Propagation des ondes dans les variétés à coins. (English and French summaries) [Wave propagation in manifolds with corners] *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 4, 429–497. (Jean-Marc Delort) **98d:58183** 58G17 (35A27, 35L20, 58G20)

— (*with* Zuazua, Enrique) Sur la décroissance non uniforme de l'énergie dans le système de la thermoélasticité linéaire. (English and French summaries) [On the nonuniform decay of the energy of solutions of the three-dimensional linear system of thermoelasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 409–415. (Gustavo Perla Menzala) **98h:35223** 35Q72 (35L99, 73B30)

— (*with* Robbiano, Luc) Stabilisation de l'équation des ondes par le bord. [Stabilization of the wave equations by the boundary] *Duke Math. J.* **86** (1997), *no.* 3, 465–491. (Peter R. Popivanov) **98e:35104** 35L20 (35B40)

Lebedev, A. A. (*with* Lebedev, Vladimir Aleksandrovich) On the minimal extension of increasing $*$-weakly semicontinuous sublinear functionals from L^∞_*. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 177–187. (Francesco Ferro) **98f:49015** 49J45 (46E99, 60A99)

— On a minimal convex set in L^1 with a fixed restriction to L^∞_*. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 856–866, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 742–750. (Summary) **98e:46038** 46E30 (90B99)

Lebedev, A. V. Asymptotics of the maximum number of busy servers in systems with infinite servers. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 5, 95–98; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 5, 29–31 (1997). 60K25

Lebedev, Andreĭ Vladimirovich Quasi-crossed products and an isomorphism theorem for C^*-algebras associated with quasi-representations of discrete groups. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 40–43, 125. (Summary) **98k:46105** 46L40 (46L55)

— C^*-algebras associated with normally acting automorphism groups. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 6, 23–26, 122. (Summary) **98k:46106** 46L40 (46L55)

— (*with* Antonevich, Anatoliĭ B.) C^*-algebra methods in the theory of functional-differential equations. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 1–14. (*see* **98g:00030**) 34K05 (46L05, 47G20, 47N20)

— (*with* Antonevich, Anatoliĭ B.) The structure of the C^*-theory of functional-differential operators. (Russian. English and Russian summaries) *Vestn. Belorus. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 2, 3–8, 76. (Editors) **98c:46109** 46L05 (34K05, 35R10, 35S05, 47B38, 47G30)

— (*with* Antonevich, Anatoliĭ B.) Nonlocal pseudo-differential operators: index and Lefschetz numbers. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 795–799, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 798–802 (1998). (Boris A. Plamenevsky) **98m:58134** 58G15 (35S05, 47G30)

— C^*-algebras associated with automorphisms acting on distinguished ideals. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 30–33, 123. (Summary) **98k:46107** 46L40 (46L55)

Lebedev, D. R. (*with* Khoroshkin, Sergeĭ; Pakulyak, S. Z.) Intertwining operators for the central extension of the Yangian double. (English summary) *Phys. Lett. A* **222** (1996), *no.* 6, 381–392. (Andrey V. Tsiganov) **98b:81076** 81R10 (17B37, 81T10)

— (*with* Khoroshkin, Sergeĭ; Pakulyak, S. Z.) Traces of intertwining operators for the Yangian double. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 31–47. (Summary) **98d:17025** 17B37 (16W30, 81R50, 81T10, 82B23)

— (*with* Pakulyak, S. Z.; Khoroshkin, Sergeĭ) The Zamolodchikov-Faddeev algebra for the Yangian double at level 1. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 25–45; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 18–34. (Tomasz Brzeziński) **98i:81109** 81R50 (17B37)

Lebedev, E. A. On the approximation of the Student distribution in the uniform metric. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 30–33. 60F05 (62E20)

Lebedev, L. P. (*with* Gladwell, G. M. L.) On spatial effects of modelling in linear viscoelasticity. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 241–250. (Summary) **98j:73045** 73F15

— (*with* Arango, J. A.; Vorovich, I. I.) Some boundary value problems and models for coupled elastic bodies. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 157–172. (Peregrina Quintela Estévez) **98m:73028** 73C35 (73K99, 73V05)

Lebedev, Oleg Valerievich A finite-size magnetic monopole in double-potential formalism. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 29, 2203–2211. (Summary) **98i:81268a** 81V10 (81T99)

— Errata: "A finite-size magnetic monopole in double-potential formalism". *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2739. (Editors) **98i:81268b** 81V10 (81T99)

Lebedev, V. *see* **Lebedev, V. V.**

Lebedev, V. A. *see* **Lebedev, Vladimir Aleksandrovich**

Lebedev, V. I. Explicit difference schemes with variable time steps for solving stiff systems of equations. *Numerical analysis and its applications* (*Rousse*, 1996), 274–283, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65L12 (65L05, 65M06)

Lebedev, V. V. (*with* Balkovsky, E.; Falkovich, G.; Kolokolov, I. V.) Viscous instanton for Burgers' turbulence. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3223–3245. (Summary) **98k:76069** 76F99 (76M35)

Lebedev, Vladimir Aleksandrovich ★ Мартингалы, сходимость вероятностных мер и стохастические уравнения. (Russian. Russian summary) [Martingales, convergence of probability measures and stochastic equations] *Izdat. MAI, Moscow*, 1996. 348 *pp. ISBN* 5-7035-1428-2 (Dominique Lépingle) **98d:60112** 60H10

— (*with* Lebedev, A. A.) On the minimal extension of increasing $*$-weakly semicontinuous sublinear functionals from L^∞_*. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 177–187. (Francesco Ferro) **98f:49015** 49J45 (46E99, 60A99)

Lebedeva, A. A. A general variant of Kreĭn's theorem for separately subharmonic functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 8, 54–63; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 8, 52–61. (Alexander I. Kheyfits) **98c:31002** 31B05 (31B10, 31B30)

Lebedinskaya, N. B. *see* **Iskhakov, V. V. et al., 98c:12007**

Le Bellac, Michel ★ Thermal field theory. (English summary) Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1996. xiv+256 *pp. ISBN* 0-521-46040-9 (C. A. Hurst) **98e:81184** 81T99 (81-02, 81V25, 82D10)

Lebeuf, Denis (*with* Florian, Michael) An efficient implementation of the network simplex method. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 265–291, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90C08)

Leblanc, Boris Une approche unifiée pour une forme exacte du prix d'une option dans les différents modèles à volatilité stochastique. (English summary) [A unified approach for an exact form of the price of an option in the various models with stochastic volatility] *Stochastics Stochastics Rep.* **57** (1996), *no.* 1-2, 1–35. (Marek Rutkowski) **98c:90013** 90A09 (60H30, 60J60)

Leblanc, Frédérique Density estimation for a class of continuous time processes. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 171–199. (Jacques Istas) **98i:62032** 62G05 (60G10)

Leblanc, Hugues (*with* Roeper, Peter) De *A* et *B*, de leur indépendance logique, et de ce qu'ils n'ont aucun contenu factuel commun. (English summary) [On *A* and *B*, their logical independence, and the fact that they have no common factual content] Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 137–155. (Peter Milne) **98k:03059** 03B48 (60A05)

— *see also* **Quine, Willard Van Orman, 98k:03014**

LeBlanc, Michael (*with* Crowley, John J.; Gentleman, R.; Salmon, S.) Exploratory methods in survival analysis. (English summary) *Analysis of censored data* (*Pune*, 1994/1995), 55–77, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62G05 (62P10)

Leblanc, Stéphane (*with* Cambon, Claude) On the three-dimensional instabilities of plane flows subjected to Coriolis force. (English summary) *Phys. Fluids* **9** (1997), *no.* 5, 1307–1316. (Alexander Lifschitz) **98d:76071** 76E99 (76C05, 76U05)

— Stability of stagnation points in rotating flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3566–3569. (Summary) **98i:76039** 76E99 (76C05, 76U05)

— (*with* Cambon, Claude) Effects of the Coriolis force on the stability of Stuart vortices. (English summary) *J. Fluid Mech.* **356** (1998), 353–379. (Alexander Lifschitz) **98m:76072** 76E20 (76C05, 76U05, 86A10)

LeBlanc, Victor G. (*with* Langford, William F.) Classification and unfoldings of 1:2 resonant Hopf bifurcation. (English summary) *Arch. Rational Mech. Anal.* **136** (1996), *no.* 4, 305–357. (Jacques Bélair) **98b:58127** 58F14 (34C23, 34C25, 58C27)

— Asymptotic states of magnetic Bianchi I cosmologies. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2281–2301. (Patrick Dolan) **98i:83019** 83C20

— (*with* Golubitsky, Martin; Melbourne, Ian) Meandering of the spiral tip: an alternative approach. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 6, 557–586. (Arnd Scheel) **98k:58168** 58F14 (34C23, 35K57, 58F39)

Leblanc, Y. (*with* Casadio, Roberto; Harms, Benjamin; Cox, P. H.) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4948–4961. (Summary) **98e:83069** 83C57

— (*with* Casadio, Roberto; Harms, Benjamin) Statistical mechanics of Kerr-Newman dilaton black holes and the bootstrap condition. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1309–1312. 83C57

Leble, S. B. (*with* Zaitsev, Anatolij) Intertwine operators and elementary Darboux transforms in differential rings and modules. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 177–184. (Summary) **98h:16055** 16W25 (58F37)

Leblond, H. Propagation of optical localized pulses in $\chi^{(2)}$ crystals: a $(3+1)$-dimensional model and its reduction to the NLS equation. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3041–3066. 81V80 (82D25)

Leblond, J. *see* **Leblond, Juliette**

lévy-Leblond, Jean-Marc *see* **Lévy-Leblond, Jean-Marc**

Leblond, Juliette (*with* Olivi, Martine) Weighted H^2 approximation of transfer functions. (English summary) *System modelling and optimization* (*Prague*, 1995), 99–106, *Chapman & Hall, London*, 1996. (Summary) **98g:93011** 93B30 (93C70)

— (*with* Baratchart, L.; Partington, J. R.; Torkhani, N.) Robust identification from band-limited data. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1318–1325. (Summary) **98d:93097** 93E12 (93E35)

— (*with* Baratchart, L.) Hardy approximation to L^p functions on subsets of the circle with $1 \le p < \infty$. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 41–56. (Yong Ping Liu) **98i:41041** 41A50 (30D55, 30E10)

Lebo, I. G. (*with* Rozanov, V. B.; Stepanov, R. V.) A model of the development of the perturbations of the boundaries of a shell of incompressible fluid. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 83–94. 76B99 (76E99)

Lebœuf, P. (*with* Bogomol'nyĭ, E. B.; Bohigas, O.) Quantum chaotic dynamics and random polynomials. (English summary) *J. Statist. Phys.* **85** (1996), *no.* 5-6, 639–679. (Christian Grosche) **98a:81046** 81Q50 (82B44)

— Normal and anomalous diffusion in a deterministic area-preserving map. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 8–20. (Summary) **98m:58092** 58F13

Lebon, G. (*with* Dauby, P. C.; Colinet, P.) Nonlinear Marangoni instability in 3-D rigid boxes. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 185–192. (*see* **98b:00028**) 76E30 (76E15)

Le Boudec, Jean-Yves Application of network calculus to guaranteed service networks. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1087–1096. 94A05 (90B12)

Lebowitz, Joel L. (*with* Macris, Nicolas) Long range order in the Falicov-Kimball model near the symmetry point: extension of Kennedy-Lieb theorem. (English summary) *The state of matter* (*Copenhagen*, 1992), 81–105, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 82B20 (82B23)

— (*with* Neuhauser, Claudia; Ravishankar, Krishnamurthi) Dynamics of a spin-exchange model. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 187–208. (Summary) **98b:60170** 60K35

— (*with* Jaffe, Arthur; Sinaĭ, Yakov Grigor'evich) Roland L. Dobrushin. *Comm. Math. Phys.* **189** (1997), *no.* 2, 259–261. 01A70

— (*with* Macris, Nicolas) Ground states and low-temperature phases of itinerant electrons interacting with classical fields: a review of rigorous results. (English summary) Quantum problems in condensed matter physics. *J. Math. Phys.* **38** (1997), *no.* 4, 2084–2103. (Roberto Fernández) **98d:82007** 82B10 (82B20, 82D35, 82D40)

— (*with* Chernov, N. I.) Stationary nonequilibrium states in boundary-driven Hamiltonian systems: shear flow. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 953–990. (Rossana Marra) **98j:82036** 82C05 (82C70)

— (*with* Giacomin, Giambattista) Phase segregation dynamics in particle systems with long range interactions. I. Macroscopic limits. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 37–61. (Rossana Marra) **98m:82053** 82C24 (82C22)

— (*with* Asselah, Amine; Brito, Ricardo) Self-diffusion in simple models: systems with long-range jumps. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1131–1144. (Roberto Fernández) **98k:82121** 82C22 (60J60, 82C20)

— (*with* Spohn, Herbert) Comment on: "Onsager reciprocity relations without microscopic reversibility" [Phys. Rev. Lett. **77** (1996), no. 7, 1202–1205; MR 97d:82065] by D. Gabrielli, G. Jona-Lasinio and C. Landim. With a reply by Gabrielli, Jona-Lasinio and Landim. *Phys. Rev. Lett.* **78** (1997), *no.* 2, 394–395. (From the text) **98a:82085** 82C35

— (*with* Cirillo, Emilio N. M.) Metastability in the two-dimensional Ising model with free boundary conditions. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 211–226. (Summary) **98k:82031** 82B20 (82B80)

— (*with* Derrida, Bernard) Exact large deviation function in the asymmetric exclusion process. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 2, 209–213. (Summary) **98k:60180** 60K35 (60F10, 82C31)

Lebre, A. B. (*with* Moura Santos, Ana; Speck, F.-O.) Factorization of a class of matrices generated by Sommerfeld diffraction problems with oblique derivatives. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 14, 1185–1198. (V. S. Rabinovich) **98k:35030** 35J05 (35J25, 45E10, 47B35)

Lebret, Hervé (*with* El Ghaoui, Laurent) Robust solutions to least squares problems with uncertain data. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 161–170, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

Le Breton, Alain Continuous time stochastic models: linear problems of estimation, filtering and control. *8th International Summer School on Probability Theory and Mathematical Statistics* (*Varna*, 1994), 37–85, *Sci. Cult. Technol. Publ., Singapore*, 1996. (From the text) **98h:93024** 93E03 (60G35, 62L20, 62M20)

— Averaging with feedback in Gaussian schemes for stochastic approximation. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 313–331. (Kurt Marti) **98m:62221** 62L20

Le Breton, Michel (*with* Truchon, Michel) A Borda measure for social choice functions. (English summary) *Math. Social Sci.* **34** (1997), *no.* 3, 249–272. (Summary) **98e:90017** 90A08

Le Bris, C. (*with* Gerbeau, J.-F.) Existence of solution for a density-dependent magneto-hydrodynamic equation. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 3, 427–452. (R. M. Gundersen) **98d:35183** 35Q35 (76D05, 76W05)

— (*with* Gerbeau, J.-F.; Bercovier, M.) Spurious velocities in the steady flow of an incompressible fluid subjected to external forces. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 6, 679–695. (Summary) **98h:76103** 76M25

— (*with* Defranceschi, Mireille) Computing a molecule: a mathematical viewpoint. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 1–30. 81V55 (81–02, 92E99)

Le Brizaut, Jean-Sébastien (*with* Pogu, Marc) Une méthode non linéaire de contrôle avec pénalisation par l'équation d'état. (English and French summaries) [A nonlinear control method with penalization by the state function] *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 91–102. (Dan Tiba) **98e:49078** 49M30 (49J20)

LeBrun, Claude Yamabe constants and the perturbed Seiberg-Witten equations. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 3, 535–553. (Thalia D. Jeffres) **98j:58032** 58E11 (53C21, 58G30)

— (*with* Kim, Jongsu; Pontecorvo, Massimiliano) Scalar-flat Kähler surfaces of all genera. (English summary) *J. Reine Angew. Math.* **486** (1997), 69–95. (Bernd Kreussler) **98m:32045** 32J27 (32G05, 32J15, 32L25, 53C25)

— (*with* Catanese, Fabrizio) On the scalar curvature of Einstein manifolds. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 843–854. (Jongsu Kim) **98k:53057** 53C25 (32J15, 32J27, 32L07)

— (*with* Nayatani, Shin; Nitta, Takashi) Self-dual manifolds with positive Ricci curvature. *Math. Z.* **224** (1997), *no.* 1, 49–63. (Henrik Pedersen) **98f:53040** 53C25 (53C21)

Le Bruyn, Lieven (*with* Smith, S. Paul; Van den Bergh, Michel) Central extensions of three-dimensional Artin-Schelter regular algebras. *Math. Z.* **222** (1996), *no.* 2, 171–212. (Alexander E. Polishchuk) **98c:16028** 16S20 (16E70, 16P90, 16W50)

— Automorphisms and Lie stacks. (English summary) *Comm. Algebra* **25** (1997), *no.* 7, 2211–2226. (Gerd Müller) **98h:14019** 14E09 (16W30)

— Lie stack deformations. (English summary) *J. Algebra* **196** (1997), *no.* 2, 552–577. (Vladimir V. Bavula) **98m:17030** 17B60 (16W30)

— Nilpotent representations. (English summary) *J. Algebra* **197** (1997), *no.* 1, 153–177. (Michel Brion) **98k:14070** 14L35 (16G20)

— Generating graded central simple algebras. (English summary) *Linear Algebra Appl.* **268** (1998), 323–344. (Louis Rowen) **98k:16024** 16K20 (16G20, 16W50)

Lebuchoux, Jérôme (*with* Fournie, Eric; Touzi, Nizar) Small noise expansion and importance sampling. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 361–376. (Summary) **98e:90026** 90A09 (60H10, 60J60)

Le Cadre, J. P. (*with* Trémois, O.) The matrix dynamic programming property and its implications. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 818–826. (W. K. Klein Haneveld) **98j:49039** 49L20

Le Calvez, Patrice Une généralisation du théorème de Conley-Zehnder aux homéomorphismes du tore de dimension deux. (English and French summaries) [A generalization of the Conley-Zehnder theorem to homeomorphisms of the two-dimensional torus] *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 71–86. (L. Guillou) **98j:58093** 58F20

Le Cam, Lucien M. Metric dimension and statistical estimation. *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 303–311, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Takeru Suzuki) **98m:62104** 62G05 (62B15)

— Letter from Lucien Le Cam. *Festschrift for Lucien Le Cam*, xv–xviii, *Springer, New York*, 1997. (Editors) **98f:01074a** 01A70

— *see also* **Festschrift: Le Cam, Lucien M., 98b:62001**; **Biography: Le Cam, Lucien M., 98f:01074b**; **Bibliography: Le Cam, Lucien M., 98f:01074c**; **98f:01074d** *and* **Lehmann, E. L., 98f:01074e**

Lecca, Paola (*with* Cognola, Guido) Electromagnetic fields in Schwarzschild and Reissner-Nordström geometry: quantum corrections to the black hole entropy. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1108–1111. 83C57 (83C50)

Le Cessie, Saskia *see* **le Cessie, Saskia**

roszkowska-Lech, Barbara *see* **Roszkowska-Lech, Barbara**

Le Charlier, Baudouin (*with* Habra, Naji) Unified relational framework for programming paradigm combination. *Frontiers of combining systems* (*Munich*, 1996), 357–375, *Appl. Log. Ser.*, 3, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the introduction) **98b:68021** 68N99 (03B70, 68Q55)

Lechevallier, Yves (*with* Ciampi, Antonio) Statistical models as building blocks of neural networks. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 991–1009. (Michel Benaïm) **98f:62179** 62H30 (68T05, 92B20)

Lechner, Kurt (*with* Bandos, Igor A.; Nurmagambetov, Alekseĭ; Pasti, Paolo; Sorokin, D. P.; Tonin, Mario) On the equivalence of different formulations of the M theory five-brane. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 135–141. (Angel Maria Uranga) **98j:81245** 81T30 (83E30)

— (*with* Bandos, Igor A.; Nurmagambetov, Alekseĭ; Pasti, Paolo; Sorokin, D. P.; Tonin, Mario) Covariant action for the super-five-brane of *M* theory. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 23, 4332–4334. (Summary) **98e:81127** 81T30 (83E30)

Lechtenfeld, Olaf (*with* Bischoff, Jan) Path-integral quantization of the (2, 2) string. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4933–4971. (Ion V. Vancea) **98k:81197** 81T30 (81R10, 81T70)

— (*with* Siegel, Warren) $N = 2$ worldsheet instantons yield cubic self-dual Yang-Mills. (English summary) *Phys. Lett. B* **405** (1997), *no.* 1-2, 49–54. (Summary) **98f:81272** 81T30 (81T13, 81T60)

— (*with* Dennhardt, Helge) Scalar deformations of Schwarzschild holes and their stability. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 5, 741–764. 83C57

Leck, Uwe (*with* Leck, Volker) On orthogonal double covers by trees. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 433–441. (Katherine Heinrich) **98g:05109** 05C70 (05B40)

Leck, Volker (*with* Leck, Uwe) On orthogonal double covers by trees. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 433–441. (Katherine Heinrich) **98g:05109** 05C70 (05B40)

Łęcki, Andrzej (*with* Szafraniec, Zbigniew) An algebraic method for calculating the topological degree. *Topology in nonlinear analysis* (*Warsaw*, 1994), 73–83, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Thomas Bartsch) **98b:55002** 55M25 (14P05)

Lecko, Adam (*with* Stankiewicz, Jan) An internal geometric characterization of some subclasses of starlike functions. (English summary) *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 231–238, *de Gruyter, Berlin*, 1996. (Evelyn M. Silvia) **98a:30012** 30C45

— On a radius problem in some subclasses of univalent functions. I. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 35–54. (Jay M. Jahangiri) **98h:30018** 30C45

— A generalization of analytic condition for convexity in one direction. (English summary) *Demonstratio Math.* **30** (1997), *no.* 1, 155–170. (Summary) **98c:30014** 30C45

LeClair, André (*with* Konik, Robert; Mussardo, Giuseppe) On Ising correlation functions with boundary magnetic field. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 15, 2765–2782. (Liu Zhao) **98f:82026** 82B20

— (*with* Bernard, Denis) Erratum to: "Differential equations for sine-Gordon correlation functions at the free fermion point" [Nuclear Phys. B **426** (1994), no. 3, 534–558; MR 95i:81207]. *Nuclear Phys. B* **498** (1997), *no.* 3, 619–621. (From the text) **98f:81293** 81T40 (82B23)

— (*with* Lesage, F.; Luk′yanov, Sergeĭ L.; Saleur, Hubert) The Maxwell-Bloch theory in quantum optics and the Kondo model. (English summary) *Phys. Lett. A* **235** (1997), *no.* 3, 203–208. 81V80

Leclerc, Bernard (*with* Lascoux, Alain; Thibon, Jean-Yves) Ribbon tableaux, Hall-Littlewood functions and unipotent varieties. (English summary) *Sém. Lothar. Combin.* **34** (1995), *Art. B34g, approx.* 23 *pp.* (*electronic*). (From the introduction) **98m:05195** 05E05 (05E10, 20G05)

— (*with* Lascoux, Alain; Thibon, Jean-Yves) Twisted action of the symmetric group on the cohomology of a flag manifold. (English summary) *Parameter spaces* (*Warsaw*, 1994), 111–124, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Summary) **98i:14048** 14M15 (05E10)

— (*with* Krob, Daniel; Thibon, Jean-Yves) Noncommutative symmetric functions. II. Transformations of alphabets. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 2, 181–264. (Arun Ram) **98f:05148** 05E05 (15A15)

— (*with* Lascoux, Alain; Thibon, Jean-Yves) Ribbon tableaux, Hall-Littlewood functions, quantum affine algebras, and unipotent varieties. (English summary) *J. Math. Phys.* **38** (1997), *no.* 2, 1041–1068. (Thomas Scharf) **98c:05167** 05E10 (05E05, 33D80, 81R10)

— (*with* Lascoux, Alain; Thibon, Jean-Yves) Flag varieties and the Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 1, 75–90. (Robert Bédard) **98d:05150** 05E15 (14M15, 17B37)

— *see also* **Proceedings: Conference on Formal Power Series and Algebraic Combinatorics, 98h:05008**

Leclerc, Bruno (*with* Makarenkov, Vladimir) Circular orders of tree metrics, and their uses for the reconstruction and fitting of phylogenetic trees. (English, French and Russian summaries) *Mathematical hierarchies and biology* (*Piscataway, NJ*, 1996), 183–208, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Steel) **98m:05045** 05C05 (05C12, 92B10)

Leclerc, François Termination proof of term rewriting system with the multiset path ordering. A complete development in the system Coq. (English summary) *Typed lambda calculi and applications* (*Edinburgh*, 1995), 312–327, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 68Q42 (68T15)

Leclerc, Joséphine Comportement limite fort de deux estimateurs du mode: le shorth et l'estimateur naïf. (English and French summaries) [Strong limiting behavior of two estimates of the mode: the shorth and the naive estimate] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1207–1210. (Summary) **98h:62055** 62G05

Leclercq, Éric The asymptotic Dirichlet problem with respect to an elliptic operator on a Cartan-Hadamard manifold with unbounded curvatures. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 857–862. (Thierry Coulhon) **98k:53041** 53C20 (31C12, 58G11)

Lecomte, Pierre B. A. (*with* Roger, Claude) Rigidité de l'algèbre de Lie des champs de vecteurs unimodulaires. (English and French summaries) [Rigidity of the Lie algebra of unimodular vector fields] *J. Differential Geom.* **44** (1996), *no.* 3, 529–549. (Gerd Müller) **98a:17036** 17B66 (17B56, 58H10)

Lécot, Christian (*with* Coulibaly, Ibrahim) Particle simulations of the Kac model of the Boltzmann equation. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 169–193. (Summary) **98i:82066** 82C80 (11K45, 65C05, 82C40)

Le Creurer, I. J. (*with* Kelly, G. M.) On the monadicity over graphs of categories with limits. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 3, 179–191. (Summary) **98e:18002** 18A35

Lecroq, Thierry (*with* Crochemore, Maxime) Tight bounds on the complexity of the Apostolico-Giancarlo algorithm. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 4, 195–203. (Summary) **98e:68099** 68Q25

Le Cunff, Cédric (*with* Zebib, Abdelfattah) Görtler-crossflow vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2519–2528. (Summary) **98c:76028** 76D10 (76C05, 76E99)

L'Ecuyer, Pierre Tables of maximally-equidistributed combined LFSR generators. (English summary) *Math. Comp.* 65C10

— Bad lattice structures for vectors of nonsuccessive values produced by some linear recurrences. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 57–60. (Summary) **98f:65014** 65C10

— (*with* Couture, Raymond) An implementation of the lattice and spectral tests for multiple recursive linear random number generators. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 2, 206–217. 65B10

— (*with* Couture, Raymond) Distribution properties of multiply-with-carry random number generators. (English summary) *Math. Comp.* **66** (1997), *no.* 218, 591–607. (Robert F. Tichy) **98i:65007** 65C10 (11K45)

— (*with* Andres, Terry H.) A random number generator based on the combination of four LCGs. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 1, 99–107. (Summary) **98d:65012** 65C10

Ledder, Glenn An integral equation for the planar ablation problem. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 9, 819–828. (Summary) **98d:80009** 80A22 (80–08)

Ledenëv, V. P. (*with* Adyan, S. I.; Tikhomirov, V. M.; Fridman, A. A.) Yuriĭ Il′ich Khmelevskiĭ (on the sixtieth anniversary of his birthday). (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 243–246; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 875–880. (Editors) **98f:01052** 01A70

Ledeneva, T. M. Some aspects of the representation of fuzzy operators by the ratio of two polynomials. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 33–40; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 11, 31–38 (1998). 03E72

Lederman, C. (*with* Wolanski, Noemi) A free boundary problem in combustion theory. I, II. (Spanish) *Fifth Seminar on Free Boundary Value Problems and their Applications, Vol. 2* (*Spanish*) (*Rosario*, 1994), 1–13, 15–25, *Cuadern. Inst. Mat. Beppo Levi*, 26, *Univ. Nac. Rosario, Rosario*, 1995. (From the introduction) **98b:80012** 80A25

— A free boundary problem with a volume penalization. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 2, 249–300. (Benjamin G. Lorica) **98a:35145** 35R35 (35J25, 49J40)

— (*with* Caffarelli, Luis A.; Wolanski, Noemi) Uniform estimates and limits for a two phase parabolic singular perturbation problem. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 453–489. (Arnaldo do Nascimento) **98i:35099** 35K60 (35B25, 35R35)

huss-Lederman, Steven *see* **Huss-Lederman, Steven**

de Ledesma, Luis (*with* Pérez, Aurora; Borrajo, Daniel; Laita, Luis M.) A computational approach to George Boole's discovery of mathematical logic. (English summary) *Artificial Intelligence* **91** (1997), *no.* 2, 281–307. (Marcel Guillaume) **98c:01026** 01A55 (03–03, 68T30, 68T35)

Ledford, Anthony W. (*with* Tawn, Jonathan A.) Modelling dependence within joint tail regions. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 475–499. (Summary) **98b:62015** 62E10 (62E15)

Le Dimet, Jean-Yves À propos de l'équation $X^2 = Y^3$. [On the equation $X^2 = Y^3$] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 9, 8 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (Lee Rudolph) **98e:14030** 14H45 (32S40, 57M50)

Ledniczky, K. (*with* Goddard, Joe D.) On the spectral representation of stretch and rotation. (English summary) *J. Elasticity* **47** (1997), *no.* 3, 255–259. (Summary) **98k:73017** 73B99

Ledolter, Johannes (*with* Tsimikas, John V.) Mixed model representation of state space models: new smoothing results and their application to REML estimation. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 973–991. (Summary) **98k:62127** 62J10

Ledoux, James (*with* Rubino, Gerardo) Simple formulae for counting processes in reliability models. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 1018–1038. (L. C. Thomas) **98m:90067** 90B25 (60K20)

Ledoux, M. (*with* Bakry, Dominique; Concordet, D.) Optimal heat kernel bounds under logarithmic Sobolev inequalities. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 391–407 (*electronic*). (Thierry Coulhon) **98k:58212** 58G11 (35K99, 47D07)

— (*with* Dobrushin, Roland L.; Groeneboom, Piet) ★ Lectures on probability theory and statistics. Lectures from the 24th Saint-Flour Summer School held July 7–23, 1994. Edited by P. Bernard. Lecture Notes in Mathematics, 1648. *Springer-Verlag, Berlin*, 1996. viii+300 *pp. ISBN* 3-540-62055-9 (Editors) **98g:60002** 60–06 (62–06)

— (*with* Paulauskas, Vygantas) A rate of convergence in the Poissonian representation of stable distributions. (Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 486–500; *reprinted in Lithuanian Math. J.* **36** (1996), *no.* 4, 388–399 (1997). (Piotr Kokoszka) **98m:60030** 60F05 (60E07)

— (*with* Bobkov, S. G.) Poincaré's inequalities and Talagrand's concentration phenomenon for the exponential distribution. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 3, 383–400. (Iosif Pinelis) **98e:60026** 60E15 (28A35, 46N30)

Ledrappier, François Multifractal formalism for stationary measures. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 153–158, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F11

— *see also* **Conference: Dynamical Systems, 98b:58003**

Leduc, Robert (*with* Ram, Arun) A ribbon Hopf algebra approach to the irreducible representations of centralizer algebras: the Brauer, Birman-Wenzl, and type A Iwahori-Hecke algebras. (English summary) *Adv. Math.* **125** (1997), *no.* 1, 1–94. (Jian Yi Shi) **98c:20015** 20C15 (16W30, 57M25)

— (*with* Halverson, Tom; Ram, Arun) Iwahori-Hecke algebras of type *A*, bitraces and symmetric functions. *Internat. Math. Res. Notices* **1997**, *no.* 9, 401–416. (Götz Pfeiffer) **98c:20014** 20C15 (05E10)

Le Duff, Pierre Points d'ordre *l* des jacobiennes de certaines courbes de genre 2. (English and French summaries) [Points of order *l* of the Jacobian of special curves of genus 2] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 243–246. (Franck Leprévost) **98g:11069** 11G10 (11G30, 14H40)

Le Duff, Y. (*with* Jaulin, L.; Godet, J.-L.; Walter, Eric; Elliasmine, A.) Light scattering data analysis via set inversion. (English summary) *J. Phys. A* **30** (1997), *no.* 22,

7733–7738. 78A45

Lê Dũng Mu'u (*with* Luc, Le Tu) Global optimization approach to optimizing over the efficient set. (English summary) *Recent advances in optimization* (*Trier*, 1996), 183–195, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:90141** 90C29 (90C25)

— (*with* Tien, Nguyen Vu) A relaxation algorithm for solving mixed integer programming problems. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 367–378. (Klaus Hofstedt) **98k:90063** 90C11 (90C10)

Ledwina, Teresa (*with* Inglot, Tadeusz; Kallenberg, Wilbert C. M.) Data driven smooth tests for composite hypotheses. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1222–1250. (Zuzana Prášková) **98f:62134** 62G10 (62F03, 62G20)

— (*with* Kallenberg, Wilbert C. M.) Data-driven smooth tests when the hypothesis is composite. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1094–1104. (Summary) **98f:62136** 62G10

— (*with* Kallenberg, Wilbert C. M.) Data driven smooth tests for composite hypotheses: comparison of powers. (English summary) *J. Statist. Comput. Simulation* **59** (1997), *no.* 2, 101–121. (Summary) **98h:62081** 62G10

Ledyaev, Yu. S. (*with* Hiriart-Urruty, Jean-Baptiste) A note on the characterization of the global maxima of a (tangentially) convex function over a convex set. (English summary) *J. Convex Anal.* **3** (1996), *no.* 1, 55–61. (Bernard Lemaire) **98a:49027** 49J52 (46N10, 90C30)

— (*with* Clarke, Francis H.; Stern, Ronald Jay) Fixed point theory via nonsmooth analysis. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 93–106, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Vladimir Veliov) **98f:47063** 47H10 (34A60, 47N10, 49J52)

— (*with* Clarke, Francis H.; Sontag, Eduardo D.; Subbotin, Andreĭ Izmaĭlovich) Asymptotic controllability implies feedback stabilization. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1394–1407. (Matthias Kawski) **98g:93003** 93B05 (93D15)

— (*with* Clarke, Francis H.; Radulescu, M. L.) Approximate invariance and differential inclusions in Hilbert spaces. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 4, 493–518. (Vladimir Veliov) **98k:49011** 49J24 (34A60, 34G20, 34H05, 49K24)

— (*with* Clarke, Francis H.; Subbotin, Andreĭ Izmaĭlovich) The synthesis of universal feedback pursuit strategies in differential games. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 552–561. (Pierpaolo Soravia) **98e:90244** 90D26 (49L25, 93B52)

— (*with* Clarke, Francis H.; Vinter, Richard B.) Regularity properties of solutions to linear quadratic optimal control problems with state constraints. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 265–272. (William W. Hager) **98d:49047** 49N60 (49K15, 49N10)

— (*with* Clarke, Francis H.; Vinter, Richard B.) Addendum to: "Regularity properties of solutions to linear quadratic optimal control problems with state constraints" [Systems Control Lett. **30** (1997), no. 5, 265–272; MR 98d:49047]. *Systems Control Lett.* **33** (1998), *no.* 2, 139. 49N60 (49K15, 49N10)

Łędzewicz-Kowalewska, Urszula (*with* Schättler, Heinz) A second-order Dubovitskiĭ-Milyutin theory and applications to control. *Advances in nonlinear dynamics*, 179–192, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Zsolt Páles) **98j:49030** 49K15

— (*with* Schättler, Heinz) An extended maximum principle. *Nonlinear Anal.* **29** (1997), *no.* 2, 159–183. (Andrei V. Sarychev) **98d:49026** 49K15

— (*with* Schättler, Heinz) High-order tangent cones and their application in optimization. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2449–2460. (*see* **98i:00030**) 49J52 (90C48)

Lee, Albert W. (*with* Hedrick, J. Karl) Some new results on closed-loop stability in the presence of control saturation. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 619–631. 93D05 (93B52)

Lee, B. H. K. (*with* Gong, Lianger; Wong, Yau Shu) Effects of structural nonlinearities in aeroelasticity. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2699–2709. (*see* **98i:00031**) 73K70

— (*with* Gong, Lianger; Wong, Yau Shu) Dynamics of a coupled system of Duffing's equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 99–119. (Summary) **98j:34104** 34D45 (34C15, 34C23)

Lee, B. S. *see* **Lee, Byung Soo**

Lee, Beck Sim (*with* Teh, C. G. R.; Koo, W. K.) Jacobian elliptic wave solutions for the Wadati-Segur-Ablowitz equation. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 23, 2849–2854. (Spyridon Kamvissis) **98i:35186** 35Q55 (35C99)

Lee, Beom Hee (*with* Yoon, Myung Gon) An approximation approach to H^∞ control problems for distributed parameter systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2049–2052. 93B36 (93C20)

Lee, Bu Young (*with* Park, Jin Han; Son, Mi Jung) On δ-semiopen sets in topological space. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 59–67. 54A05

Lee, Bum-Hoon (*with* Yang, Hyun Seok) Lie algebra cohomology and group structure of gauge theories. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6106–6120. (Liviu Tătar) **98i:81254** 81T70 (17B56, 22E65, 58D29, 58Z05)

— Soliton quantization and the dyon decay. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1125–1132. (Summary) **98h:81074** 81T10

Lee, Byoung-Cheon (*with* Lee, Ki-Hak; Wang, Bo-Hyeun) Control bifurcation structure of return map control in Chua's circuit. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 903–909. (*see* **98f:58005**) 58F13 (58F22)

Lee, Byung Soo (*with* Zhang, Shi Sheng; Cho, Yeol Je; Jung, Jong Soo; Kang, Shin Min) Coincidence point theorems and minimization theorems. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 27–39, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98b:54058** 54H25 (49J27, 54A40, 54C60, 54E70, 90C48)

— (*with* Jung, Jong Soo; Cho, Yeol Je) Some minimization theorems in generating spaces of quasi-metric family and applications. *Bull. Korean Math. Soc.* **33** (1996), *no.* 4, 565–585. (Summary) **98a:54005** 54A40 (04A72, 54C60, 54E70)

— (*with* Lee, Gue Myung; Zhang, Shi Sheng) On vector quasivariational inequalities. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 626–638. (Baij Nath) **98c:49029** 49J40 (47H19, 90C29)

— (*with* Zhang, Shi Sheng; Lee, Gue Myung) Vector quasivariational inequalities for fuzzy mappings. I. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 307–315. (E. S. Lee) **98d:47155** 47H19 (04A72, 47S40, 49J40, 90C70)

— (*with* Lee, Gue Myung; Kim, Do Sang) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 33–41. (Sehie Park) **98d:49006** 49J40 (47H19)

— (*with* Lee, Gue Myung; Kim, Do Sang; Chen, Guang Ya) On vector variational inequalities for multifunctions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 633–639. (George Isac) **98g:47060** 47H19 (49J40)

— (*with* Zhang, Shi Sheng; Chen, Yu Qing) On the semi-inner product in locally convex spaces. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 219–224. (Richard Fleming) **98c:46043** 46C50 (46A99, 47A05)

— (*with* Huang, Nan Jing; Kang, Mee Kwang) Fixed point theorems for compatible mappings with applications to the solutions of functional equations arising in dynamic programmings. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 673–680. (Summary) **98h:54058** 54H25 (47H10, 47N10, 90C39)

— (*with* Lee, Gue Myung; Zhang, Shi Sheng) Random vector variational inequalities and random noncooperative vector equilibrium. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 137–144. (John van der Hoek) **98e:49023** 49J40 (47H19, 60H25, 90A14)

— (*with* Kim, Do Sang; Lee, Gue Myung) On multiobjective symmetric dual programs. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 113–120. (Gert Wanka) **98e:90139** 90C29 (49N15)

— (*with* Huang, Nan Jing) Random generalized set-valued complementarity problems. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 1–12. (Bruce D. Craven) **98e:49022** 49J40 (90C33)

— (*with* Jung, Jong Soo; Cho, Yeol Je; Lee, Gue Myung; Pathak, H. K.) Some nonconvex minimization theorems in complete metric spaces and applications. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 35–45. (Xian Zhi George Yuan) **98g:49007** 49J40 (47H04, 47H10, 47H15, 47N10, 54E50, 90C48)

— (*with* Chu, Jong-Suk) Some generalizations of Heilpern's result. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 135–148. 54H25 (54A40)

Lee, C. K. (*with* Lo, Sai-Huen) Automatic adaptive refinement finite element procedure for 3D stress analysis. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 135–166. (*see* **98a:65003**) 73V05

— (*with* Hobbs, R. E.) Automatic adaptive refinement for plate bending problems using Reissner-Mindlin plate bending elements. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 1, 1–63. (Summary) **98j:73091** 73V05 (73K10)

Lee, C. L. *see* **Lee, Christopher**

Lee, C.-T. (*with* Lee, Christopher) A higher order method of multiple scales. *J. Sound Vibration* **202** (1997), *no.* 2, 284–287. (Summary) **98a:70024** 70K40 (34C15, 70K20)

Lee, Chain-Wu (*with* Wu, Min-You) Parallelization of SNePS—a semantic network processing system. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 68T30

Lee, Chang-Gun (*with* Hahn, Joosun; Seo, Yang-Min; Min, Sang Lyul; Ha, Rhan; Hong, Seongsoo; Park, Chang Yun; Lee, Minsuk; Kim, Chong Sang) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Lee, Chang Ping (*with* Lai, Tze Leung) Information and prediction criteria for model selection in stochastic regression and ARMA models. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 285–309. (Summary) **98f:62260** 62M10

Lee, Chang-Yeong (*with* Hwang, Dae Sung) Topological Yang-Mills theory with scalar and vector fields in two and three dimensions. (English summary) *J. Math. Phys.* **37** (1996), *no.* 2, 693–701. (Summary) **98b:58031** 58D29 (81T13, 81T40)

— Geometrical interpretation of BRST symmetry in topological Yang-Mills-Higgs theory. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5342–5350. (Summary) **98f:81330** 81T70 (58D29, 81T13)

— (*with* Hwang, Dae Sung) Non-abelian topological mass generation in four dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 30–38. (Summary) **98f:81201** 81T13 (58Z05, 81T70)

— (*with* Kiem, Youngjai; Park, Dahl) s-wave sector of type IIB supergravity on $S^1 \times T^4$. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2381–2391. (Summary) **98j:83106** 83E50 (83C57, 83E30)

Lee, Chi-Liang (*with* Kou, Hong-Sen) Adaptive parameter scheme in solving one-dimensional advection-diffusion equation including a variable source term. (English summary) *Int. J. Comput. Math.* **61** (1996), *no.* 3-4, 257–269. (Summary) **98b:65093** 65L50

Lee, Chia-Hoang (*with* Hsiao, Wen-Hoar; Chen, Shyi-Ming) A new interpolative reasoning method in sparse rule-based systems. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 17–22. (Summary) **98j:68156** 68T35 (03B52)

Lee, Chien-Hua New results for the bounds of the solution for the continuous Riccati and Lyapunov equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 118–123. (M. M. Konstantinov) **98d:15015** 15A24 (34H05, 93B40, 93C05)

— Upper matrix bound of the solution for the discrete Riccati equation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 840–842. (Vladimir B. Larin) **98d:93053** 93C05 (15A45)

— Eigenvalue upper bounds of the solution of the continuous Riccati equation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1268–1271. (M. M. Konstantinov) **98i:93044** 93C05 (15A18, 15A24, 15A42)

— (*with* Kung, Fan-Chu) Upper and lower matrix bounds of the solutions for the continuous and discrete Lyapunov equations. (English summary) *J. Franklin Inst. B* **334** (1997), *no.* 4, 539–546. (M. M. Konstantinov) **98d:15016** 15A24 (34H05, 93B40, 93C05)

— *see also* **Sun, Yeong-Jeu et al.** *and* **Yang, Tao[2]**

Lee, Chin Chin (*with* Phillips, Peter C. B.) Efficiency gains from quasi-differencing under nonstationarity. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 300–314, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (Summary) **98g:62175** 62M10

Lee, Chin-Chuan A uniqueness theorem for the minimal surface equation on an unbounded domain in $\mathbf{R}^2$. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 103–107.

(Friedrich Sauvigny) **98e:35072** 35J65 (53A10)

Lee, Chin-Rong (*with* Yang, I-Ching; Hsu, Rue-Ron; Yeh, Ching-Tzung) On the energy of a charged dilaton black hole. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 3, 349–356. (Summary) **98f:83078** 83C57

Lee, Ching Chyi (*with* Chatterjee, Kalyan) Bargaining and search with incomplete information about outside options. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 203–237. 90A60

Lee, Ching-Ju Ashraf (*with* McLaughlin, Joyce R.) Finding the density of a membrane from nodal lines. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 325–345, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98h:35236** 35R30 (35J60, 65M30, 73K10)

Lee, Ching Tsung Squeezing in "shadowed-like" negative binomial state. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 413–415. (Le Man Kuang) **98h:81043** 81R30

Lee, Choonkyu On quantum descriptions of (non-)abelian anyons. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1033–1042. (Summary) **98g:81228** 81V70

Lee, Christopher (*with* Lee, C.-T.) A higher order method of multiple scales. *J. Sound Vibration* **202** (1997), *no.* 2, 284–287. (Summary) **98a:70024** 70K40 (34C15, 70K20)

Lee, Chu-In Charles (*with* Yan, Xiaosong; Shi, Ning-Zhong) On the consistency of rank transformed regression. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 2159–2168. (Jian-Lun Xu) **98g:62078** 62G07 (62J02)

— On estimation for monotone dose-response curves. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1110–1119. (Hariharan K. Iyer) **98b:62037** 62F10 (62F25, 62G05)

— (*with* Dykstra, Richard L.; Yan, Xiaosong) Multinomial estimation procedures for two stochastically ordered distributions. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 4, 353–361. (Summary) **98m:62092** 62G05 (62F30)

Lee, Chun Chen (*with* Woo, York Y.; Wu, Soushan) A production model for deteriorating inventory items with two warehouses and backorders. (English summary) *Internat. J. Inform. Management Sci.* **8** (1997), *no.* 4, 11–22. 90B05

Lee, Chun-Nip A homotopy decomposition for the classifying space of virtually torsion-free groups and applications. *Math. Proc. Cambridge Philos. Soc.* **120** (1996), *no.* 4, 663–686. (Ian Hambleton) **98h:55022** 55R35 (20J05)

— Detection of some elements in the stable homotopy groups of spheres. *Math. Z.* **222** (1996), *no.* 2, 231–245. (Marc Aubry) **98d:55021** 55Q45

— Stable splittings of classifying spaces of compact Lie group. *Math. Z.* **226** (1997), *no.* 1, 25–50. (V. P. Snaith) **98k:55015** 55R35 (55P42)

Lee, Chung-Bow Estimating the number of change points in exponential families distributions. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 201–210. (Célestin C. Kokonendji) **98k:62028** 62F10 (62F12, 62F30)

Lee, Chung-Yee Minimizing the makespan in the two-machine flowshop scheduling problem with an availability constraint. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 3, 129–139. (Peter Brucker) **98b:90072** 90B35

— (*with* Cai, Xiao-Qiang; Li, Chung-Lun) Minimizing total completion time in two-processor task systems with prespecified processor allocations. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 231–242. (Summary) **98m:90069** 90B35 (68M10)

Lee, D.-J. (*with* Ih, K.-D.) Development of the direct boundary element method for thin bodies with general boundary conditions. (English summary) *J. Sound Vibration* **202** (1997), *no.* 3, 361–373. (Summary) **98e:73144** 73V10 (65N38, 76M15, 76Q05)

Lee, D. T. *see* **Lee, Der Tsai**

Lee, D. W. *see* **Lee, Dong Won[1]**

Lee, Dae-Woong (*with* Lee, Hong-Jae) Strong homology groups w.r.t. $\sum_{p\in\mathbb{Z}}\overline{C}^p(\mathscr{X};R)$. *Honam Math. J.* **19** (1997), *no.* 1, 131–138. (S. Mardešić) **98j:55005** 55N07 (55P65)

Lee, Daiki (*with* Chee, Seongtaek; Lee, Sang Jin; Sung, Soo Hak) On the correlation immune functions and their nonlinearity. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 232–243, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94017** 94A60

Lee, David[2] (*with* Woźniakowski, Henryk) Testing linear operators. (English summary) *BIT* **35** (1995), *no.* 3, 331–351. (Hans-Peter Helfrich) **98a:47011** 47A50 (47N40, 47N70, 65J10)

— (*with* Woźniakowski, Henryk) Testing linear operators—an average case study. (English summary) *BIT* **37** (1997), *no.* 2, 355–376. (Stefan Heinrich) **98h:65067** 65Y20 (47A50, 60H99, 68Q25)

Lee, Daiki (*with* Chee, Seongtaek; Lee, Sang Jin; Sung, Soo Hak) On the correlation immune functions and their nonlinearity. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 232–243, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94017** 94A60

Lee, Der Tsai (*with* Shen, C. F.) The Steiner minimal tree problem in the λ-geometry plane. (English summary) *Algorithms and computation* (*Osaka*, 1996), 247–255, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05

— (*with* Hsu, Tsan-sheng; Tsai, Kuo-Hui; Wang, Da-Wei) Steiner problems on directed acyclic graphs. (English summary) *Computing and combinatorics* (*Hong Kong*, 1996), 21–30, *Lecture Notes in Comput. Sci.*, 1090, *Springer, Berlin*, 1996. (J. W. Moon) **98c:05075** 05C20 (05C85)

— (*with* Tsai, Kuo-Hui) k best cuts for circular-arc graphs. (English summary) *Algorithmica* **18** (1997), *no.* 2, 198–216. (Peter J. Slater) **98c:05150** 05C85 (90B80, 90C35)

— (*with* Yang, Chung-Do; Wong, Chak Kuen) The smallest pair of noncrossing paths in a rectilinear polygon. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 930–941. (Summary) **98e:68253** 68U05 (68Q35)

— (*with* Yang, Chung-Do; Wong, Chak Kuen) Finding rectilinear paths among obstacles in a two-layer interconnection model. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 581–598. (Summary) **98i:68267** 68U05 (68Q35)

— (*with* Papadopoulou, Evanthia) A new approach for the geodesic Voronoi diagram of points in a simple polygon and other restricted polygonal domains. (English summary) *Algorithmica* **20** (1998), *no.* 4, 319–352. (Martin Henk) **98m:68277** 68U05 (52B55)

— (*with* Tseng, Li-Hsin; Heffernan, P.) Two-guard walkability of simple polygons. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 85–116. (Summary) **98k:68171** 68U05

— *see also* **Computing and combinatorics, 98k:68004**

Lee, Dong Gill (*with* Yang, Jae Dong) Incorporating concept-based match into fuzzy production rules. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 213–239. (Summary) **98j:68157** 68T35 (04A72)

Lee, Dong-Ik (*with* Kumagai, Sadatoshi; Kodama, Shinzo) Handles and reachability analysis of free choice nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 298–315, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (Summary) **98c:68155** 68Q90 (68Q10)

Lee, Dong Soo (*with* Myung, Hyo Chul) Jacobi elliptic algebras of SO(3). (English summary) *Glasgow Math. J.* **39** (1997), *no.* 1, 115–120. (Andrew Dancer) **98a:53036** 53C05 (17B99, 33E05)

— (*with* Chung, Sang-Cho) Asymptotic sequences and generalized fractions. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 69–75. (L. J. Ratliff, Jr.) **98c:13014** 13B22 (13C13)

Lee, Dong Won *see* **Lee, Dong Won[2]**

Lee, Dong Won[1] (*with* Kwon, Kil Hyun; Littlejohn, L. L.) Sobolev orthogonal polynomials and second order differential equation. II. *Bull. Korean Math. Soc.* **33** (1996), *no.* 1, 135–170. (Khélifa Trimèche) **98g:33012** 33C45

— (*with* Kwon, Kil Hyun; Park, S. B.) On δ-semiclassical orthogonal polynomials. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 63–79. (Harold Exton) **98j:33005** 33C45 (33D20)

Lee, Dong Won[2] (*with* Kim, Chang Moh; Oh, Sun Kun) Symplectic light-front quantization of topological field theories. (English summary) *Hak-sul Chi* **41** (1997), *no.* 2, 21–28. (Bani Mitra Södermark) **98g:81211** 81T70 (58Z05, 81T13)

Lee, Doo-Sung Stress distribution in a long circular cylinder containing an elliptical crack. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 701–709. 73M25

Lee, Duan-Shin Analysis of a two-queue model with Bernoulli schedules. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 176–191. (Ivo Adan) **98c:60129** 60K25 (30E25, 90B22)

— Analysis of a single server queue with semi-Markovian service interruption. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 153–178. (Summary) **98h:60138** 60K25

Lee, E. K. *see* **Lee, Eva K.**

Lee, E. S. (*with* Adomian, George A.) On the solution of boundary value problem. The decomposition method. (English summary) *Proceedings of the Fourth International Colloquium on Differential Equations* (*Plovdiv*, 1993), 163–166, *VSP, Utrecht*, 1994. (*see* **98c:00012**) 65L10

— (*with* Wu, Cong Xin; Wang, Xiaomin; Cheng, Lixin) On the Asplund property of locally convex spaces. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 432–443. (Jing Hui Qiu) **98a:46004** 46A03 (46G05)

— (*with* Cheng, Lixin; Shi, Shuzhong) Generic Fréchet differentiability of convex functions on non-Asplund spaces. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 367–377. (Summary) **98e:46050** 46G05 (46B22, 49J50)

— (*with* Su, Ling-Huey; Chang, Pei-Chann) A heuristic for scheduling general job shops to minimize maximum lateness. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 1–15. 90B35

Lee, Enoch K. S. (*with* Birkenmeier, Gary F.; Heatherly, Henry E.) Special radicals for near-ring. (English summary) *Tamkang J. Math.* **27** (1996), *no.* 4, 281–288. (Stefan Veldsman) **98c:16060** 16Y30 (16N80)

Lee, Euiwoo Threshold results for the McKean equation. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 251–259. (From the introduction) **98m:35089** 35K55 (35Q80, 92C20)

— (*with* Terman, D. H.) Partial synchronization in a network of neural oscillators. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 1, 252–293. (Anthony N. Michel) **98b:92003** 92C20 (34C99, 92B20)

Lee, Eun-Hee (*with* Park, Hwa-Sin) The ring of integers of $\mathbf{Q}(\sqrt{m},\sqrt{n})$. *Bull. Honam Math. Soc.* **13** (1996), 1–18. (Charles J. Parry) **98f:11116** 11R16 (11R04)

Lee, Eva K. (*with* Mitchell, John E.) Computational experience of an interior-point algorithm in a parallel branch-and-cut framework. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98b:65004**) 90C27 (65K05)

— On facets of knapsack equality polytopes. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 223–239. (Ulrich Faigle) **98d:90094** 90C27

Lee, Fu-Ming (*with* Fu, Li Chen; Fong, I-Kong) Stable on-line parameter identification with general knowledge on level of information noise: discrete-time case. (English summary) *Systems Control Lett.* **30** (1997), *no.* 2-3, 83–91. (Summary) **98c:93106** 93E10

Lee, G.-M. *see* **Lee, Gue Myung**

Lee, G.-Y. (*with* Lee, Sang-Gu; Song, Seok-Zun) Linear operators that strongly preserves [preserve] the sign-central matrices. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 51–61. (Walter S. Sizer) **98a:15004** 15A04 (15A48)

Lee, Geon-No On the Galois groups of the septic polynomials. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 1, 23–31. (Kurt Girstmair) **98b:12001** 12F10

Lee, Gregory T. (*with* Schgal, Sudarshan K.) Generators of subgroups of finite index in $GL_m(\mathbf{Z}G)$. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 211–219, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Jürgen Ritter) **98m:20061** 20G35 (20C05)

Lee, Gue Myung (*with* Kim, Do Sang; Jo, Cheong Lai) Duality relations for generalized fractional programming involving n-set functions. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 12, 1167–1173. (Bruce D. Craven) **98c:90156** 90C32 (49N15)

— (*with* Lee, Byung Soo; Zhang, Shi Sheng) On vector quasivariational inequalities. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 626–638. (Baij Nath) **98c:49029** 49J40 (47H19, 90C29)

— (*with* Zhang, Shi Sheng; Lee, Byung Soo) Vector quasivariational inequalities for fuzzy mappings. I. (English summary) *Fuzzy Sets and Systems* **87** (1997), *no.* 3, 307–315. (E. S. Lee) **98d:47155** 47H19 (04A72, 47S40, 49J40, 90C70)

— (*with* Lee, Byung Soo; Kim, Do Sang) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 1, 33–41. (Sehie Park) **98d:49006** 49J40 (47H19)

— (*with* Lee, Byung Soo; Kim, Do Sang; Chen, Guang Ya) On vector variational inequalities for multifunctions. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 633–639. (George Isac) **98g:47060** 47H19 (49J40)

— (*with* Lee, Byung Soo; Zhang, Shi Sheng) Random vector variational inequalities and random noncooperative vector equilibrium. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 2, 137–144. (John van der Hoek) **98e:49023** 49J40 (47H19, 60H25, 90A14)

— (*with* Kim, Do Sang; Lee, Byung Soo) On multiobjective symmetric dual programs. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 113–120. (Gert Wanka) **98e:90139** 90C29 (49N15)

— (*with* Nguyễn Đông Yên) Solution sensitivity of a class of variational inequalities. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 48–55. (Muhammad Aslam Noor) **98m:49024** 49J40 (47H19, 47N10, 90C32)

— (*with* Jung, Jong Soo; Cho, Yeol Je; Lee, Byung Soo; Pathak, H. K.) Some nonconvex minimization theorems in complete metric spaces and applications. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 3, 35–45. (Xian Zhi George Yuan) **98g:49007** 49J40 (47H04, 47H10, 47H15, 47N10, 54E50, 90C48)

— (*with* Kim, Do Sang; Lee, Won Jung) Symmetric duality for multiobjective variational problems with pseudo-invexity. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 106–117. (*see* **98g:00027**) 90C29 (49N15)

— (*with* Zhang, Shi Sheng; Yuan, Xian-Zhi; Zhang, Xiao Lan) Saddle points and minimax theorems for vector-valued multifunctions on H-spaces. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 101–107. 49J35 (47H04, 47N10, 90C48)

— (*with* Kim, Do Sang; Jo, Cheong Lai) Duality for multiobjective variational problems with generalized invexity. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 1, 13–23. 90C29 (49N15)

Lee, Gyou Bong (*with* Hong, Bum Il; Ha, Sung Nam) A stability analysis for Hamilton-Jacobi equations. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 515–523. (Paola Loreti) **98b:35029** 35F20 (35B35)

— Convergence rate for lower bounds to self-adjoint operators. *J. Korean Math. Soc.* **33** (1996), *no.* 3, 513–525. (Hansjörg Linden) **98a:49071** 49R15 (47A10, 47A75, 65J10)

Lee, Gyung-Ok (*with* Kim, Do-Hyung) Characterization of extended LR(k) grammars. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 2, 75–82. (From the introduction) **98i:68174** 68Q52 (68N20)

Lee, H. C. *see* **Lee, Hoong Chien**

Lee, H. P. *see* **Lee, Heow Pueh**

Lee, H. W. *see* **Lee, Ho Woo**

Lee, H. W. J. (*with* Paskota, M.) Targeting moving targets in chaotic dynamical systems. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 9, 1533–1544. 93C15 (58F13)

— (*with* Teo, Kok Lay; Rehbock, V.; Jennings, L. S.) Control parametrization enhancing technique for time optimal control problems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 243–261. (Ernest Scheiber) **98e:49079** 49M30 (34H05)

— (*with* Paskota, M.; Teo, Kok Lay) Mixed strategy global sub-optimal feedback control for chaotic systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 607–623. (Summary) **98b:58117** 58F13 (93C10)

— (*with* Teo, Kok Lay; Jennings, L. S.) On optimal control of multi-link vertical planar robot arms systems moving under the effect of gravity. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 2, 195–213. 49N55 (70B15, 70Q05, 93C85)

— (*with* Wang, Song; Teo, Kok Lay; Caccetta, Louis) Solving 0-1 programming problems by a penalty approach. (English summary) *Opsearch* **34** (1997), *no.* 3, 196–206. 90C09

Lee, H. Y. *see* **Lee, Hyun Young**

Lee, Hahn Shik (*with* Ghysels, Eric; Hall, Alastair) On periodic structures and testing for seasonal unit roots. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1551–1559. (Zuzana Prášková) **98c:62169** 62M10 (62E20)

Lee, Hak-Sung (*with* Bien, Zeungnam) A note on convergence property of iterative learning controller with respect to sup norm. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1591–1593. 93E35

Lee, Heow Pueh (*with* Lin, Rongzin; Leng, Gerard Siew Bing) The study of a parametrically excited nonlinear mechanical system with the continuation method. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 1, 1–22. 70K40 (34C15, 34C23, 70–08)

Lee, Ho Geun (*with* Lee, Ronald M.) A hybrid approach of linear programming and logic modeling for the market core of sealed bid auctions. (English summary) *Ann. Oper. Res.* **75** (1997), 209–232. (Summary) **98m:90047** 90A60 (90C05)

Lee, Ho-Hoon (*with* Culick, Fred E. C.) A robust decoupled adaptive control of robots. (English summary) *Internat. J. Control* **61** (1995), *no.* 2, 309–331. 93C40 (70B15, 70Q05, 93C85)

Lee, Ho Woo (*with* Chung, D. I.; Lee, S. S.; Chae, K. C.) Server unavailability reduces mean waiting time in some batch service queuing systems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 559–567. (Summary) **98a:90050** 90B22

— (*with* Chae, K. C.) On the random sum with a stopping rule $S_N > T$. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 561–567. 60G40

— (*with* Popkov, V. Yu.; Kim, Doochul) Two-way traffic flow: exactly solvable model of traffic jam. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8497–8513. (Summary) **98m:82038** 82C05 (90B20)

— (*with* Seo, Dong Won) Design of a production system with a feedback buffer. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 1-2, 187–202. (Summary) **98e:90068** 90B22 (90B70)

— (*with* Park, Jong Geun; Kim, Byung Kyu; Yoon, Seung Hyun; Ahn, B. Y.; Park, N. I.) Queue length and waiting time analysis of a batch arrival queue with bilevel control. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 3, 191–205. 60K25

Lee, Hong-Jae (*with* Lee, Dae-Woong) Strong homology groups w.r.t. $\sum_{p\in\mathbb{Z}} \overline{C}^p(\mathscr{X}; R)$. *Honam Math. J.* **19** (1997), *no.* 1, 131–138. (S. Mardešić) **98j:55005** 55N07 (55P65)

Lee, Hoong Chien (*with* Chaichian, M.; Chen, Wen-Feng) Differential regularization of Chern-Simons-Maxwell spinor and scalar electrodynamics. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 325–330. (Summary) **98k:81167** 81T15 (81V10)

— (*with* Chen, Wen-Feng; Zhu, Zhong Yuan) Quantum holonomy in three-dimensional general covariant field theory and the link invariant. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1170–1174. (Sergei K. Lando) **98f:57009** 57M25 (81Q30)

Lee, Hoonja (*with* Foutz, Robert V.) A new spectral model for binary or categorical-valued time series data. (English summary) *J. Statist. Comput. Simulation* **58** (1997), *no.* 3, 217–235. 62M15

Lee, Hosae Multigrid method for nonlinear integral equations. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 427–440. (Summary) **98c:65204** 65R20 (45G10, 45L05)

Lee, Hung Hwan (*with* Baek, Hun Ki) Some cubic Julia sets. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 31–37. (Pei-Chu Hu) **98a:30032** 30D05

— (*with* Baek, In Soo; Kim, Tae Sik) Dimensions of the perturbed random Cantor sets. *Kyungpook Math. J.* **37** (1997), *no.* 1, 53–59. (Hermann Haase) **98m:28016** 28A80 (28A78)

Lee, Hwan-Keun (*with* No, Jong-Seon; Chung, Habong; Song, Hong-Yeop; Yang, Kyeongcheol) Trace representation of Legendre sequences of Mersenne prime period. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2254–2255. (Bernard J. M. Smeets) **98g:94029** 94A60 (11B50)

— (*with* No, Jong-Seon; Golomb, Solomon W.; Gong, Guang; Gaal, Peter) Binary pseudorandom sequences of period $2^n - 1$ with ideal autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 814–817. 94A55

Lee, Hyang-Sook (*with* Shin, Dong-Sun) Existence of subpolynomial algebras in $H^*(BG, \mathbf{Z}/p)$. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 1–8. (Donald M. Davis) **98d:55025** 55R35 (20J05)

— The stable and unstable types of classifying spaces. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 341–351. (Donald M. Davis) **98e:55017** 55R35 (20J06)

Lee, Hyeonmi (*with* Jeong, Kyeonghoon; Kang, Seok-Jin) Lie-admissible algebras and Kac-Moody algebras. (English summary) *J. Algebra* **197** (1997), *no.* 2, 492–505. (Kaiming Zhao) **98k:17037** 17D25 (17B67)

Lee, Hyuk-Jae[2] (*with* Fortes, José A. B.) Modular mappings and data distribution independent computations. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 2, 169–180. 68Q10 (68N05)

Lee, Hyun Kyu (*with* Choi, Ho-Meoyng; Ji, Chueng-Ryong) Non-abelian Berry's phase in a slowly rotating electric field. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1281–1288. (Péter Pál Lévay) **98a:81270** 81V45 (53C80, 81Q15)

Lee, Hyun Young (*with* Ohm, Mi-Ray; Shin, Jun Yong) Error estimates for a single-phase nonlinear Stefan problem in one space dimension. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 661–672. (H. Marcinkowska) **98m:65165** 65M60

— (*with* Kim, Y. D.) The convergence of finite element Galerkin solution for the Roseneau equation. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 171–180. (Mohammad Asadzadeh) **98m:65158** 65M15 (65N30, 76D33)

Lee, Hyung-Chun Analysis and computations of optimal and feedback control problems for Navier-Stokes equations. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 841–857. (Ruxandra Stavre) **98m:49044** 49K20 (49M05, 76D05, 76M10, 93C20)

— Iteration method for constrained optimization problems governed by PDE. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 195–209. 49M37 (65K10)

Lee, Hyung S. (*with* Amsler, Christine) Consistency of the KPSS unit root test against fractionally integrated alternative. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 151–160. 62M10 (62P20)

Lee, Hyung Won (*with* Myung, Yun Soo; Kim, Jin Young) The classical stability of charged $(1+1)$-dimensional black holes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 759–774. (Summary) **98b:83059** 83C57

— (*with* Myung, Yun Soo; Kim, Jin Young; Park, DaeKil) Propagating waves in an extremal black string. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 8, 545–551. (Summary) **98f:83108** 83E30 (81T30, 83C57)

— (*with* Kim, Jin Young; Myung, Yun Soo) Classical instanton and wormhole solutions of type IIB string theory. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 32–36. (Summary) **98a:81176** 81T30

— (*with* Kim, Jin Young; Myung, Yun Soo) Negative modes in four-dimensional stringy wormholes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6684–6687. (Summary) **98g:83107** 83E30

Lee, Hyunkoo (*with* Choi, Suhyoung) Geometric structures on manifolds and holonomy-invariant metrics. (English summary) *Forum Math.* **9** (1997), *no.* 2, 247–256. (William Goldman) **98a:53052** 53C20 (57M50)

Lee, Il Yong (*with* Park, Hong-Suh) Hermitian metrics in Rizza manifolds. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 375–384. (Tadashi Aikou) **98c:53080** 53C60 (53C55)

— (*with* Park, Hong-Suh) A Finsler space with a special metric function. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 415–421. (Tadashi Aikou) **98c:53027** 53B40

— (*with* Kim, Byung-Doo) On a Finsler space with a special (α, β)-metric. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 261–272. (László Kozma) **98g:53034** 53B40

Lee, In-Sck (*with* Kwon, Sae Ran) Highest weight modules over quantum groups at roots of 1. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 889–898. 17B37 (17B10)

— (*with* Park, Kyung-Hwan) Gauss sums for $G_2(q)$. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 305–315. (Ronald J. Evans) **98g:11140** 11T24 (11L05, 20G40)

Lee, Insup (*with* Brémond-Grégoire, Patrice; Choi, Jin-Young) A complete axiomatization of finite-state ACSR processes. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 124–159. (Summary) **98h:68065** 68Q10 (68Q55, 68Q60)

— (*with* Brémond-Grégoire, Patrice) A process algebra of communicating shared resources with dense time and priorities. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 179–219. (Gheorghe Ştefănescu) **98j:68027** 68Q10 (68Q60)

Lee, Isaac Chaujun Generalized affine rotation surfaces with geodesic orbits. (English summary) *Geometry from the Pacific Rim* (*Singapore*, 1994), 195–205, *de Gruyter, Berlin*, 1997. (Christine Scharlach) **98j:53017** 53A15

Lee, J. (*with* Heys, H. M.; Tavares, S. E.) Resistance of a CAST-like encryption algorithm to linear and differential cryptanalysis. (English summary) Selected areas in cryptography (Ottawa, ON, 1995). *Des. Codes Cryptogr.* **12** (1997), *no.* 3, 267–282. (Summary) **98e:94020** 94A60

Lee, J. C. Y. (*with* Tomboulides, A. G.; Orszag, Steven A.) Numerical simulation of low Mach number reactive flows. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 2, 139–167. (Summary) **98g:76060** 76M25 (80–08, 80A25, 80A32)

Lee, J. Jack (*with* Serachitopol, Dan M.; Brown, Barry W.) Likelihood-weighted confidence intervals for the difference of two binomial proportions. (English summary) *Biometrical J.* **39** (1997), *no.* 4, 387–407. 62F25

Lee, J. K. (*with* Kwon, Kil Hyun; Yoo, B. H.) Characterizations of discrete classical orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 471–482. (Peter Schroth) **98i:33010** 33C45

— (*with* Kim, Yong-Jihn; Kwon, Kil Hyun) Orthogonal polynomials in two variables and second-order partial differential equations. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 239–260. (Summary) **98m:33031** 33C50 (35A25, 35C05)

Lee, J. W. *see* **Lee, John Walter**

Lee, Jack C. (*with* Geisser, Seymour) On the prediction of growth curves. (English summary) *Modelling and prediction* (*Hsinchu*, 1994), 77–103, *Springer, New York*, 1996. (Summary) **98b:62099** 62H12

— *see also* **Modelling and prediction**, **98a:62002**

Lee, Jack Y. On some basic linear properties of the second-order inhomogeneous line-sequence. *Fibonacci Quart.* **35** (1997), *no.* 2, 111–121. (Wen Li Chen) **98c:11011** 11B37

Lee, Jae-Ha (*with* Shin, Chan-Su; Chwa, Kyung-Yong) Directed Hamiltonian packing in d-dimensional meshes and its application (extended abstract). (English summary) *Algorithms and computation* (*Osaka*, 1996), 295–304, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68R10 (68M10)

Lee, Jae Won² (*with* Reboussin, David M.) Rank tests for multivariate linear models in the presence of missing data. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 319–332. 62G10 (62J05)

— (*with* Jang, Ae Bang) A study on the goodness-of-fit tests for proportional hazards model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **10** (1997), *no.* 1, 85–104. 62N05

Lee, Jaeun (*with* Sohn, Moo Young) On permutation graphs over a graph. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 831–837. (Summary) **98i:05138** 05C75 (05C25)

— (*with* Kwak, Jin Ho) Enumeration of connected graph coverings. (English summary) *J. Graph Theory* **23** (1996), *no.* 2, 105–109. (Michael Hofmeister) **98a:05083** 05C30 (05C10, 05C70, 20E05)

Lee, Jay H. (*with* Chikkula, Yugender; Yu, Zhenghong; Kantor, Jeffrey C.) Improving computational efficiency of model predictive control algorithm using wavelet transformation. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 859–883. 93B40 (65D15, 65T99)

— (*with* Robertson, Douglas G.) A method for the estimation of infrequent abrupt changes in nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 261–270. 93C10 (93B30)

Lee, Jeffrey M. (*with* Ruymgaart, Frits H.) Nonparametric curve estimation on Stiefel manifolds. (English summary) *J. Nonparametr. Statist.* **6** (1996), *no.* 1, 57–68. (P. E. Jupp) **98e:62057** 62G05 (62H99)

— (*with* Mao, Yiping) Two-point boundary value problems for nonlinear differential equations. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1499–1515. (John W. Lee) **98c:34035** 34B15 (47H15, 47N20)

Lee, Jen-Chi (*with* Chung, Tze-Dan) Superfield form of discrete gauge states in $\hat{c} = 1$ 2d supergravity. (English summary) *Z. Phys. C* **75** (1997), *no.* 3, 555–558. (Summary) **98f:81247** 81T30 (81T60)

Lee, Jiann-Der Indoor robot navigation by landmark tracking. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 4, 79–89. 93C85 (70B15, 70Q05)

Lee, Jin A (*with* Yang, Youngoh) Spectral mapping theorem and Weyl's theorem. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 657–663. (B. L. Wadhwa) **98a:47025** 47B20 (47A10, 47A60)

Lee, Jin-Fa (*with* Lee, Robert; Cangellaris, Andreas C.) Time-domain finite-element methods. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 3, 430–442. (Summary) **98a:78002** 78–08 (65M60, 78A40)

Lee, Jine-Rong Asymptotics for a semilinear elliptic PDE. *Nonlinear Anal.* **29** (1997), *no.* 3, 283–289. (Bo Guan) **98h:35079** 35J65 (35B40)

Lee, John H. H. (*with* Silvapulle, Paramsothy) Robustness of the arch tests in the presence of serial correlation. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 2, 649–669. 62P20

Lee, John M. ★ Riemannian manifolds. (English summary) An introduction to curvature. Graduate Texts in Mathematics, 176. *Springer-Verlag, New York*, 1997. xvi+224 *pp.* *ISBN* 0-387-98271-X (Man Chun Leung) **98d:53001** 53–01 (53C21)

Lee, John Walter (*with* O'Regan, Donal) Existence principles for nonlinear integral equations on semi-infinite intervals and half-open intervals. *Advances in nonlinear dynamics*, 355–364, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (S. N. Askhabov) **98m:45010** 45G10 (47H15, 47H30, 47N20)

— (*with* Guenther, R. B.) Heat conduction with radiating boundary conditions. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 119–124. (Summary) **98m:34037** 34B15 (35K05)

Lee, Jon² On constrained bottleneck extrema. (English summary) *Oper. Res.* **40** (1992), *no.* 4, 813–814. 90C35

— (*with* Anstreicher, Kurt M.; Fampa, Marcia; Williams, Joy) Continuous relaxations for constrained maximum-entropy sampling. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 234–248, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Michael L. Dowling) **98d:90070** 90C08 (65F10)

— (*with* Ko, Chun-Wa; Steingrímsson, Einar) The volume of relaxed Boolean-quadric and cut polytopes. (English summary) *Discrete Math.* **163** (1997), *no.* 1-3, 293–298. (Xue Liang Li) **98a:90084** 90C27 (05C90, 52B12)

— Hoffman's circle untangled. (English summary) *SIAM Rev.* **39** (1997), *no.* 1, 98–105. (Romesh Saigal) **98c:90068** 90C05

Lee, Jong Bum Nilpotent action and Euler characteristic. *Transformation group theory* (*Taejŏn*, 1996), 68–75, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (Dietrich Burde) **98h:57066** 57S25 (57R20)

Lee, Jong-Hak (*with* Lee, Young-Koo; Whang, Kyu-Young; Song, Il-Yeol) A physical database design method for multidimensional file organizations. (English summary) *Inform. Sci.* **102** (1997), *no.* 1-4, 31–65. 68P20 (68P15)

Lee, Jong-In (*with* Yoo, Yoon Jae) Norm estimate for a certain maximal operator. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 11–21. (Bi Yun Yao) **98m:42022** 42B25

Lee, Jong-Sook (*with* Chun, Jang-Ho) On complete Lie superalgebras. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 323–334. (Darin R. Stephenson) **98a:17007** 17B05

Lee, Jong Woo A study of field equations on $E(k)$-manifold X_n. *Tensor* (*N.S.*) **57** (1996), *no.* 2, 164–169. (Sergiu I. Vacaru) **98e:53030** 53B50 (83D05)

Lee, Jongwoo (*with* Vanden-Broeck, Jean-Marc) Bubbles rising in an inclined two-dimensional tube and jets falling along a wall. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 332–349. (Summary) **98k:76007** 76B10 (76B45)

Lee, Joo S. (*with* Brechner, Beverly L.) A three-dimensional prime end theory. (English summary) *Topology Proc.* **20** (1995), 15–47. (Wayne Lewis) **98d:54047** 54D35 (30D40, 54C25, 57M50)

Lee, Ju-Jang (*with* Jeong, Il-Kwon) Evolving multi-agents using a self-organizing genetic algorithm. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 293–303. (Summary) **98h:92008** 92B99

— (*with* Eom, Tae-Dok; Sugisaka, Masanori) New skill learning paradigm using various kinds of neurons. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 9–22. 68T05

Lee, Juhnyoung (*with* Konana, Prabhudev; Ram, Sudha) Updating timestamp interval for dynamic adjustment of serialization order in optimistic concurrency control-time interval (OCCTI) protocol. *Inform. Process. Lett.* **63** (1997), *no.* 4, 189–193. 68P15 (68Q10)

Lee, Julian (*with* Avan, J.; Jevicki, Antal) Yangian-invariant field theory of matrix-vector models. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 3, 650–672. (Kazuhiro Hikami) **98c:81248** 81V70 (82B23)

Lee, June Bok (*with* Park, Young Ho) Some permuting trinomials over finite fields. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 3, 250–254. (S. D. Cohen) **98i:11104** 11T06 (12E10)

Lee, June-Yub (*with* Kang, Kyung-Keun; Seo, Jin Keun) Identification of a free boundary arising in a magnetohydrodynamics system. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1301–1309. (Lisa Santos) **98i:35215** 35R35 (35J05, 35Q35, 76W05)

Lee, Jung-Oh (*with* Choo, Kyu-Ho) On $L^2(T^2)$-convergence of double Fourier series. (English summary) *Bull. Honam Math. Soc.* **13** (1996), 89–94. (Summary) **98c:42011** 42B05

Lee, Jung Rye The law of cosines in a tetrahedron. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 1–6. (Cyril W. L. Garner) **98i:51015** 51M25

— Jones' index for fixed point algebras. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 29–36. (Summary) **98m:46085** 46L55

Lee, Jungjai On Wilson surfaces in topological Chern-Simons interaction in $3 + 1$ dimensions. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 35, 2787–2792. (Summary) **98g:81174** 81T30

— (*with* Chung, Won-Sang) The cyclic representations of q-boson algebra in terms of Z^N algebra. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 5, 825–829. 81R50

Lee, Jussoo (*with* Huang, Cliff J.; Shin, Yongcheol) On stationary tests in the presence of structural breaks. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 165–172. 62M10 (62P20)

Lee, Jyh-Hao (*with* Pashaev, O. K.) Integrable hierarchy from topological gauge theory. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 213–218. (Noriaki Ano) **98g:58080** 58F07 (35Q55, 81T70)

Lee, K. B. *see* **Lee, Kyung Bai**

Lee, K. D. *see* **Lee, Ki Dong**

Lee, Kai-Ming (*with* Cooper, Leith; Kogan, Ian I.) String winding modes from charge non-conservation in compact Chern-Simons theory. (English summary) *Phys. Lett. B* **394** (1997), *no.* 1-2, 67–74. (Kurt Haller) **98b:81184** 81T30 (81T13, 81T40)

Lee, Kee-Won (*with* Sim, Songyong) On the bias of bootstrap model selection criteria. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 195–203. (Philippe Barbe) **98k:62080** 62G09 (62B99, 62G05)

— (*with* Kim, Woo Chul; Ko, Duk-Hyun) On bootstrapping Bartlett adjusted empirical likelihood ratio statistic in regression analysis. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 205–216. (Gutti J. Babu) **98c:62126** 62J05 (62G09)

— (*with* Jung, Sin-Ho) Goodness-of-fit test for mean and variance functions. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 199–210. 62J02

— (*with* Koo, Ja-Yong; Park, Hyun-Suk) Log-density estimation based on a Fourier expansion. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **10** (1997), *no.* 1, 137–149. 62G05

Lee, Kee Young (*with* Woo, Moo Ha) An extension of Gottlieb groups. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 653–659. (Laia Saumell) **98h:55015** 55P45 (55P99, 55Q99)

Lee, Ki Dong (*with* Chu, Shiaw Shinn) Euler transonic solutions over finite wings using the Clebsch decomposition method. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 4, 299–309. 76M25 (76H05)

Lee, Ki-Hak (*with* Lee, Byoung-Cheon; Wang, Bo-Hyeun) Control bifurcation structure of return map control in Chua's circuit. (English summary) Nonlinear dynamics and chaos, Part I (Pohang, 1995). *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 4, 903–909. (*see* **98f:58005**) 58F13 (58F22)

Lee, Kimyeong Relativistic self-dual Chern-Simons systems: a perspective. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1003–1011. (*see* **98f:81010**) 81T13 (81–02)

— (*with* Kao, Hsien-Chung; Lee, Taejin) BPS domain wall solutions in self-dual Chern-Simons-Higgs systems. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6447–6453. (Summary) **98d:81053** 81T13

— (*with* Yi, Piljin) Monopoles and instantons on partially compactified D-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3711–3717. (Summary) **98g:81175** 81T30 (81T13)

— (*with* Dunne, Gerald; Lu, Changhai) Finite temperature Chern-Simons coefficient. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 18, 3434–3437. (Summary) **98f:81195** 81T13

Lee, Kuo-Chun (*with* Takefuji, Yoshiyasu) Maximum clique problems. I. (English summary) *Neural computing for optimization and combinatorics*, 31–61, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68179**) 05C35 (68Q35, 68R10)

Lee, Kwok-Hong (*with* Wang, Chien-Ming) Buckling load relationship between Reddy and Kirchhoff circular plates. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 989–995. 73H05 (73K10)

Lee, Kyoung Hee (*with* Eke, Boniface I.; Mordeson, John N.) Fuzzy derivations. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 1, 1–19. (Summary) **98c:13011** 13A99 (04A72, 13B10)

— (*with* Mordeson, John N.) Factorization of fuzzy ideals in Dedekind domains. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 741–745. 13A99 (04A72)

— (*with* Mordeson, John N.) Fractionary fuzzy ideals and fuzzy invertible fractionary fuzzy ideals. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 875–883. 13A99 (04A72)

— (*with* Kim, Won Kyu) Existence of equilibrium and separation in generalized games. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 2, 316–325. (Andrzej Wieczorek) **98c:90199** 90D13 (90A14)

— (*with* Kim, Won Kyu) Fuzzy fixed point and existence of equilibria in fuzzy games. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 193–202. 54H25 (54A40, 54C60)

Lee, Kyung Bai (*with* Dekimpe, Karel; Raymond, Frank A.) Bieberbach theorems for solvable Lie groups. *Transformation group theory* (*Taejŏn*, 1996), 28–31, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (*see* **98b:57002**) 22E25 (22E40, 57S30)

— (*with* Kang, Eun Sook) Fixed point theory on Seifert manifolds modeled on $S^2 \times \mathbf{R}$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 123–134. (Darryl McCullough) **98d:57023** 57M50 (55M20, 55M35)

Lee, Kyung Bok (*with* Chung, Yong Moo) Genericity for C^1 maps on surfaces. *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 18–20, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F10 (58F15)

— (*with* Park, Jong Suh) Covering maps and semiflows. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 41–47. (L. Janos) **98c:58138** 58F25 (54H20)

Lee, Kyung-Hwa (*with* Kim, Y. J.; Jue, C.) Representations of superfields. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 527–538. (Victor O. Rivelles) **98e:81172** 81T60 (58A50)

Lee, Li (*with* Fang, Chun-Hsiung; Hsieh, Jer-Guang) Exact unidirectional perturbation bounds for robustness of uncertain generalized state-space systems: continuous-time cases. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1923–1927. 93D09 (93C05)

Lee, Loohay (*with* Yang, Mike S.; Ho, Yu-Chi) On stochastic optimization and its applications to manufacturing. (English summary) *Mathematics of stochastic manufacturing systems* (*Williamsburg, VA*, 1996), 317–331, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98a:90008**) 90B30 (90C15)

Lee, Lung-Fei Simulated maximum likelihood estimation of dynamic discrete choice statistical models. Some Monte Carlo results. (English summary) *J. Econometrics* **82** (1998), *no.* 1, 1–35. 62P20

Lee, M. Howard Polylogarithms and Riemann's ζ function. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3909–3912. (J. Browkin) **98m:11092** 11M06 (11Z05, 33E20, 82B05)

Lee, M. K. *see* **Lee, Man Keun**

Lee, M. W. *see* **Lee, Min Woo**

Lee, Mahahoon (*with* Kim, Changhwa) Some characterizations of doubly chordal graphs. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 65–71. (Summary) **98h:05169** 05C85 (05C75)

Lee, Man Keun (*with* Keum, Jong Hae) Teichmüller extremal mappings on the unit disk. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 359–366. (L. A. Aksent'ev) **98b:30025** 30C75 (30C62, 30F60)

Lee, Mary Soon (*with* Moore, Andrew W.) Cached sufficient statistics for efficient machine learning with large datasets. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 67–91 (*electronic*). (Summary) **98m:68232** 68T05 (68P05)

Lee, Mei-Ling Ting *see* **Lifetime data: models in reliability and survival analysis, 98a:62001**

Lee, Mi Jin (*with* Park, Jong Yeoul; Han, Hyo Keun) Null controllability of the integrodifferential equations in Banach space. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 11–21. (*see* **98g:00027**) 93B05 (34K35, 93C25)

Lee, Mi Young (*with* Lee, Sang Hun) A structure theorem for p-hyponormal contractions. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 21–27. (Ameer Athavale) **98m:47026** 47B20

vaughan-Lee, Michael *see* **Vaughan-Lee, Michael**

Lee, Min Ho[1] Generalized Siegel modular forms and cohomology of locally symmetric varieties. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 72–80. (Joachim Schwermer) **98h:11055** 11F46 (11F75)

— Mixed Hilbert modular forms and families of abelian varieties. *Glasgow Math. J.* **39** (1997), *no.* 2, 131–140. (Jeffrey Stopple) **98g:11055** 11F41 (14G35)

— On generalized theta series liftings. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 2, 229–238. (Summary) **98f:11033** 11F27 (11F70)

— Mixed cusp forms and parabolic cohomology. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 3, 279–289. (Glenn Stevens) **98f:11056** 11F75 (11F11, 11F66)

— (*with* Suh, Dong Youp) Fourier coefficients of cusp forms associated to mixed cusp forms. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 31–38. (Stefan Breulmann) **98m:11031** 11F30 (11F11)

Lee, Min Woo (*with* Park, Hung Mok) An efficient method of solving the Navier-Stokes equations for flow control. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 6, 1133–1151. (Summary) **98k:76110** 76M25 (76D05)

Lee, Min-Young Optimal bivariate Bonferroni-type inequalities via taking average. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 793–799. (E. Seneta) **98d:60037** 60E15 (60C05)

Lee, Ming Di (*with* Chen, Chiun-Chuan) On the method of moving planes and symmetry of solutions of semilinear elliptic equations. *Nonlinear Anal.* **28** (1997), *no.* 10, 1697–1707. (Jianfu Yang) **98b:35061** 35J65 (35B05)

Lee, Minsuk (*with* Lee, Chang-Gun; Hahn, Joosun; Seo, Yang-Min; Min, Sang Lyul; Ha, Rhan; Hong, Seongsoo; Park, Chang Yun; Kim, Chong Sang) Analysis of cache-related preemption delay in fixed-priority preemptive scheduling. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 700–713. 68M20 (90B35)

Lee, Mun Bae (*with* Park, Sung Ho[1]) Proximity maps for certain spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 259–271. (Luděk Zajíček) **98d:41045** 41A65 (46E40)

Lee, Myoung-jae ★ Methods of moments and semiparametric econometrics for limited dependent variable models. (English summary) *Springer-Verlag, New York*, 1996. xii+279 *pp. ISBN* 0-387-94626-8 (B. L. S. Prakasa Rao) **98g:62195** 62P20

— A limited dependent variable model under median rationality. (English summary) *Econom. Lett.* **54** (1997), *no.* 3, 221–225. 62P20

Lee, N. C. Estimates for heat kernel and Green's function on certain manifolds with Ricci curvature bounded below. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 247–258, *Internat. Press, Cambridge, MA*, 1997. (Alberto G. Setti) **98j:58109** 58G11 (58G30)

Lee, Nany Determination of the partial positivity of the curvature in symmetric spaces. (English summary) *Ann. Mat. Pura Appl.* (4) **171** (1996), 107–129. (José Carmelo González-Dávila) **98e:53085** 53C35 (53C21)

Lee, Nara-Yih (*with* Li, Chuan-Ming; Hwang, Tzonelih) Threshold-multisignature schemes where suspected forgery implies traceability of adversarial shareholders. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 194–204, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

— (*with* Hwang, Tzonelih) Remarks on Chang-Buehrer access control scheme in a hierarchy. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 11–12. 94A60

Lee, Oesook Limit theorems for Markov processes generated by iterations of random maps. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 983–992. (Mauro Piccioni) **98b:60118** 60J05 (60F17)

— (*with* Bhattacharya, Rabi N.) Correction: "Asymptotics of a class of Markov processes which are not in general irreducible" [Ann. Probab. **16** (1988), no. 3, 1333–1347; MR 89m:60148]. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1541–1543. (Summary) **98g:60118** 60J05 (60B10, 60F05, 60F17)

Lee, P.-H. *see* **Lee, Pjek Hwee**

Lee, Peng Hin (*with* Kimura, Hidenori; Soh, Yeng Chai) Characterizations of J-lossless time-varying systems via the chain scattering approach. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 39–48. (Summary) **98i:93015** 93B15 (93C05)

Lee, Peng Yee Measurability and the Henstock integral. *International Mathematics Conference '94* (*Kaohsiung*, 1994), 99–106, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **98f:28005** 28A25 (26A39)

— (*with* Leng, Ng Wee) The Radon-Nikodým theorem for the Henstock integral in Euclidean space. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 677–687. (J. Jarník) **98h:26015** 26B15 (26B30)

— (*with* Zhao, Dongsheng) Upper and lower Henstock integrals. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 734–739. (J. Jarník) **98h:26010** 26A39 (26A42)

— (*with* Chew, Tuan Seng) A Riemann-type definition of the Wiener integral. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 91–96, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98k:60004**) 28C20

Lee, Peter L. (*with* Bao, Jie; Wang, Fuyang; Zhou, Weibiao) New robust stability criterion and robust controller synthesis. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 49–59. (Summary) **98i:93064** 93D09

Lee, Peter M. ★ Bayesian statistics. (English summary) An introduction. Second edition. *Arnold, London; John Wiley & Sons, Inc., New York*, 1997. xii+344 *pp. ISBN* 0-340-67785-6 (From the preface) **98e:62001** 62–01 (62A15, 62F15)

Lee, Pil Joong (*with* Lim, Chae Hoon) Directed signatures and application to threshold cryptosystems. (English summary) *Security protocols* (*Cambridge*, 1996), 131–138, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94019** 94A60

Lee, Pjek Hwee (*with* Lee, Tsiu-Kwen) Linear identities and commuting maps in rings with involution. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2881–2895. (M. P. Drazin) **98i:16032** 16W10 (16N60)

— (*with* Beidar, K. I.; Fong, Yuen; Wang, Ts'ai Lien) On additive maps of prime rings satisfying the Engel condition. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3889–3902. (Summary) **98i:16022** 16R50 (16N60)

— (*with* Wang, Ts'ai Lien; Lin, Jer-Shyong; Wang, Ren-June) Commuting traces of multiadditive mappings. (English summary) *J. Algebra* **193** (1997), *no.* 2, 709–723. (Matej Brešar) **98e:16020** 16N60

Lee, Poh-Aun Probability distribution and a generating function of Laguerre polynomials. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 2, 151–154. (Summary) **98a:60016** 60E05

— Explicit formula for the multiple generating function of product of generalized Laguerre polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 7, L183–L186. (Boris Petrovich Osilenker) **98i:33011** 33C45

— Markov processes and a multiple generating function of product of generalized Laguerre polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 11, L373–L377. (Summary) **98k:33015** 33C45 (60J99)

Lee, R. *see* **Lee, Ronald D.**

Lee, R. C. T. (*with* Wu, Quincy Soiomon; Chao, Kun-Mao) The NPO-completeness of the longest Hamiltonian cycle problem. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 119–123. 68Q25 (68R10)

Lee, Ran Baik (*with* Datta, Karabi; Hong, YooPyo) Applications of linear transformations to matrix equations. (English summary) *Linear Algebra Appl.* **267** (1997), 221–240. (William H. Gustafson) **98j:15020** 15A24

Lee, Richard C. H. (*with* Yung, Siu Pang) Optimality conditions and duality for a non-linear time-delay control problem. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 327–340. (Vera Zeidan) **98k:49036** 49K25 (49K05)

Lee, Robert (*with* Lee, Jin-Fa; Cangellaris, Andreas C.) Time-domain finite-element methods. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 3, 430–442. (Summary) **98a:78002** 78–08 (65M60, 78A40)

Lee, Ronald D. (*with* Tuljapurkar, S.) Demographic uncertainty and the stable equivalent population. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 39–56. (*see* **98i:92052**) 92H20 (92D25)

Lee, Ronald M. (*with* Lee, Ho Geun) A hybrid approach of linear programming and logic modeling for the market core of sealed bid auctions. (English summary) *Ann. Oper. Res.* **75** (1997), 209–232. (Summary) **98m:90047** 90A60 (90C05)

Lee, Ronnie (*with* Weintraub, Steven H.) Invariants of branched covering from the work of Serre and Mumford. (English summary) *Forum Math.* **8** (1996), *no.* 5, 535–568. (Allan Edmonds) **98i:57002** 57M12 (55M35, 57R15, 57S25)

— (*with* Weintraub, Steven H.) The Siegel modular variety of degree two and level four. (English summary) *Mem. Amer. Math. Soc.* **133** (1998), *no.* 631, *viii*, 1–58. (Friedrich W. Knöller) **98j:14031** 14G35 (11F46, 14C30)

Lee, Ryan Chi-Kong (*with* Kschischang, Frank R.) Non-minimal trellises for linear block codes. (English summary) *Information theory and applications, II (Lac Delage, PQ, 1995)*, 111–129, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (*see* **98g:94002**) 94B12

Lee, S.-G. *see* **Lee, Sang-Gu**

Lee, S.-H. *see* **Lee, Seon-Ho**

Lee, S. K. *see* **Lee, Sang Keun**

Lee, S. L. *see* **Lee, Seng Luan**

Lee, S. S. (*with* Lee, Ho Woo; Chung, D. I.; Chae, K. C.) Server unavailability reduces mean waiting time in some batch service queuing systems. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 6, 559–567. (Summary) **98a:90050** 90B22

Lee, Sa-Ge (*with* Kye, Seung-Hyeok) Intersections of maximal faces in the convex set of positive linear maps between matrix algebras. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 917–924. (George Popescu) **98a:46075** 46L30 (15A30, 47B65, 47D25)

Lee, Sang Bum[1] (*with* Fuchs, László[1]) Primary decompositions of torsion modules over domains. *Mathematika* **44** (1997), *no.* 1, 88–99. (Paolo Zanardo) **98h:13010** 13C12 (13A15)

Lee, Sang-Gu (*with* Park, Se-Won) The allowance of idempotent of sign pattern matrices. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 561–573. (Jaroslav Zemánek) **98c:15051** 15A30

— (*with* Lee, G.-Y.; Song, Seok-Zun) Linear operators that strongly preserves [preserve] the sign-central matrices. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 51–61. (Walter S. Sizer) **98a:15004** 15A04 (15A48)

— (*with* Park, Se-Won; Seol, Han-Guk) Linear operators strongly preserving matrices whose sign patterns require the Perron property. (English summary) *Linear Algebra Appl.* **269** (1998), 53–63. (N. J. Pullman) **98i:15006** 15A04

Lee, Sang Han Reflexivity of normed almost linear spaces. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 4, 855–866. (Summary) **98e:46023** 46B99 (46A19)

— (*with* Im, Sung Mo) A metric induced by a norm on normed almost linear spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 115–125. (David Yost) **98g:46006a** 46A35 (41A65, 46B20, 46N10)

— (*with* Im, Sung Mo) Uniqueness of bases for almost linear spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 1, 127–133. (David Yost) **98g:46006b** 46A35 (41A65, 46B20, 46N10)

Lee, Sang Ho (*with* Kim, Woo Chul; Jeon, Jong Woo) Dual limit theorems for the generalized Curie-Weiss model: multiple global minima case. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 215–233. (Barbara Gentz) **98h:60027** 60F05 (60K35, 82B20)

— (*with* Jeon, Jong Woo) Weak convergence of processes in a generalized Curie-Weiss model and its dual. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 855–865. (Barbara Gentz) **98k:60047** 60F17 (60K35, 82B20)

Lee, Sang Hun (*with* Shin, Byeong Chun) Preconditioning cubic collocation method for elliptic equations. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 597–610. (Svetozar D. Margenov) **98m:65205** 65N35 (65F10, 65N22)

— (*with* Irmak, Hüseyin; Cho, Nak Eun) Some multivalently starlike functions with negative coefficients and their subclasses defined by using a differential operator. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 43–51. (Summary) **98c:30013** 30C45

— (*with* Lee, Mi Young) A structure theorem for p-hyponormal contractions. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 21–27. (Ameer Athavale) **98m:47026** 47B20

Lee, Sang Jeong (*with* Hong, Seok-Min; Goodwin, Graham C.) Loop transfer recovery for linear systems with delays in the state and the output. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1099–1118. 93E11 (93B52, 93C30)

Lee, Sang Jin (*with* Park, Sang-Joon; Goh, Seung-Cheol) On the security of the Gollmann cascades. (English summary) *Advances in cryptology—CRYPTO '95 (Santa Barbara, CA, 1995)*, 148–156, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98a:94028** 94A60

— (*with* Chee, Seongtaek; Lee, Daiki; Sung, Soo Hak) On the correlation immune functions and their nonlinearity. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 232–243, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **98h:94017** 94A60

— (*with* Kang, Eun Sook; Ko, Ki Hyoung) Band-generator presentation for the 4-braid group. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 39–60. (Summary) **98f:57012** 57M25 (20F10)

— (*with* Ko, Ki Hyoung) Genera of some closed 4-braids. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 61–77. (Summary) **98f:57013** 57M25

Lee, Sang Keun (*with* Nunokawa, Mamoru; Owa, Shigeyoshi; Obradović, Milutin; Aouf, M. K.; Saitoh, Hitoshi; Ikeda, Akira; Koike, Naoya) Sufficient conditions for starlikeness. (English summary) *Chinese J. Math.* **24** (1996), *no.* 3, 265–271. (K. S. Padmanabhan) **98c:30017** 30C45

— (*with* Kwon, Young In) On left, right weakly prime ideals on po-semigroups. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 2, 315–321. (Summary) **98a:06023** 06F05

Lee, Sang-Kyu (*with* Oh, A. Duksu; Choi, Hongsik; Choi, Hyeong-Ah) Optimal transmission schedules in TWDM optical passive star networks. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 81–91. (Summary) **98a:68012** 68M10 (05C90)

— (*with* Choi, Hyeong-Ah) Link-disjoint embedding of complete binary trees in meshes. (English summary) *Networks* **30** (1997), *no.* 4, 283–292. (Summary) **98i:05058** 05C10 (68M10, 68R10)

Lee, Sang Soo Generalized critical-layer analysis of fully coupled resonant-triad interactions in boundary layers. (English summary) *J. Fluid Mech.* **347** (1997), 71–103. (Summary) **98h:76049** 76E30 (76D10, 76E05)

Lee, Sang Youl (*with* Chae, Younki; Park, Chan-Young) A characterization of $*$-congruences on a regular $*$-semigroup. *Semigroup Forum* **56** (1998), *no.* 3, 442–445. 20M17

Lee, Sangjeen (*with* Chung, Younshik) The generalized ratio-of-uniform method. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 409–415. (Summary) **98d:65010** 65C10

Lee, Sangmin (*with* Rey, Soo-Jong) Absorption and recoil of fundamental strings by D-strings. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 107–121. (Summary) **98i:81210** 81T30

— (*with* Thorlacius, Lárus) Strings and D-branes at high temperature. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 303–310. (Summary) **98i:81211** 81T30

— (*with* Peet, Amanda; Thorlacius, Lárus) Brane waves and strings. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 161–176. (Summary) **98k:81228** 81T30

Lee, Sangsan (*with* Lele, Sanjiva K.; Moin, Parviz) Interaction of isotropic turbulence with shock waves: effect of shock strength. (English summary) *J. Fluid Mech.* **340** (1997), 225–247. (Summary) **98d:76090** 76F99 (76L05)

Lee, Sangyeol Sequential estimation for the autocorrelations of linear processes. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2233–2249. (Adhir K. Basu) **98a:62107** 62L12 (60G40, 62M10)

— (*with* Kim, Young-Won) The asymptotic unbiasedness of S^2 in the linear regression model with dependent errors. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 2, 235–241. (Lin-Cheng Zhao) **98c:62128** 62J05 (62M10)

— Asymptotic relative efficiency of chi-squared type tests based on the empirical process. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 3, 337–346. (Noël Veraverbeke) **98c:62093** 62G10 (62G20)

— On fixed width confidence bounds for the difference of the means of two linear processes. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 603–611. (Summary) **98g:62149** 62L12

— On the conditional tolerance probability in time series models. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 407–416. (Summary) **98m:62249** 62M10

— A note on the residual empirical process in autoregressive models. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 405–411. (Summary) **98m:62250** 62M10

— Random central limit theorem for the linear process generated by a strong mixing process. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 189–196. (Summary) **98j:60035** 60F05 (60G10, 62L12)

— (*with* Fakhre-Zakeri, Issa) A random functional central limit theorem for stationary linear processes generated by martingales. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 417–422. (Gutti J. Babu) **98m:60049** 60F17 (60G10, 60G42)

Lee, Sauchi Stephen On a class of nonlinear time series models for biological population abundance data. (English summary) *Appl. Stochastic Models Data Anal.* **12** (1996), *no.* 3, 193–207. (Paul Embrechts) **98b:62164** 62M10 (62P10)

Lee, Seaung-Hyune (*with* Choi, Yong-Kab) A note on the upper and lower bounds of small ball probabilities for Gaussian processes with stationary increments. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 209–225. 60G15 (60F15, 60G17)

Lee, Seng Luan (*with* Jiang, Qingtang) Spectral properties of matrix continuous refinement operators. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 383–399. (Gabriel Dimitriu) **98g:65040** 65F30 (65D99)

— (*with* Lawton, Wayne M.; Shen, Zuowei) Stability and orthonormality of multivariate refinable functions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 999–1014. (Kazaros Kazarian) **98d:41027** 41A30 (41A15, 42C05, 42C15)

— (*with* Lawton, Wayne M.; Shen, Zuowei) Convergence of multidimensional cascade algorithm. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 427–438. (Louise A. Raphael) **98k:41027** 41A25 (42C99, 65D15)

— (*with* Jia, Rong Qing; Sharma, Ambikeshwar) Spectral properties of continuous refinement operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 729–737. (Amos Ron) **98e:39008** 39B32 (39B42, 41A15)

Lee, Seok Jong (*with* Rim, Dong Il; Yun, Jae Heon) On the M-solution of the first kind equations. *Commun. Korean Math. Soc.* **10** (1995), *no.* 1, 235–249. (V. V. Vasin) **98b:65059** 65J10 (45L10, 47A50)

Lee, Seon-Ho (*with* Lim, J.-T.) Fast gain scheduling on tracking problems using derivative information. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2265–2268. 93D15

Lee, Seong Hee (*with* Lough, M. F.; Kamath, J.) An efficient boundary integral formulation for flow through fractured porous media. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 462–483. 76M15 (76S05)

Lee, Seoung Ho A relative Nielsen coincidence number for the complement. I. *J. Korean Math. Soc.* **33** (1996), *no.* 4, 709–716. (Jian Han Guo) **98a:55003** 55M20

Lee, Seung Woo On the theory of selections. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 125–130. (Ada Bottaro Aruffo) **98e:54023** 54C65 (54C20, 54D15)

Lee, Seungjae (*with* Bae, Sunghan) On the coefficients of the Drinfeld modular equation. *J. Number Theory* **66** (1997), *no.* 1, 85–101. (Yoshinori Hamahata) **98d:11063** 11G09 (11G15)

— (*with* Bae, Sunghan) Drinfeld modular functions. *Osaka J. Math.* **34** (1997), *no.* 1, 73–99. (David Goss) **98b:11061** 11G09

Lee, Shih-Chang (*with* Kao, Hsien-Chung; Tzeng, Wen-Jer) Frenkel-Kontorova model with pinning cusps. (English summary) *Phys. D* **107** (1997), *no.* 1, 30–42. (Summary) **98g:58160** 58F40 (58F27, 82B99)

Lee, Shiowjen (*with* Lynch, James Dennis) Total positivity of Markov chains and the failure rate character of some first passage times. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 713–732. (Paul Embrechts) **98k:62013** 62E10 (62J20, 62N05)

Lee, Sichang (*with* Hwang, Kyubum) Chow groups on complete regular local rings. II. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 3, 569–573. 13H10 (14C15)

Lee, Sik-Yum (*with* Poon, Wai-Yin; Bentler, Peter M.) Covariance and correlation structure analyses with continuous and polytomous variables. (English summary) *Multivariate analysis and its applications (Hong Kong, 1992)*, 347–358, *IMS Lecture Notes Monogr. Ser.*, 24, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62010**) 62H12

Lee, Sin-Min (*with* Kong, M. C.; Sun, Hugo S. H.) On magic strength of graph. (English summary) *Ars Combin.* **45** (1997), 193–200. (Summary) **98a:05126** 05C78

Lee, Soo Hyo (*with* Pérez, Juan de Dios; Suh, Young Jin) On Einstein real hypersurfaces in quaternionic projective space. (English summary) *Proceedings of the First International Workshop on Differential Geometry (Taegu, 1996)*, 113–127, *Kyungpook Natl. Univ., Taegu*, 1997. (Jürgen Berndt) **98f:53041** 53C25 (53C40)

Lee, Stephen M. S. (*with* Young, G. Alastair) Estimation of the distribution function of a standardized statistic. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 2, 383–400. (Hung Trung Nguyen) **98f:62122** 62G09 (62G05)

— Local asymptotic minimax estimation of functionals of asymptotically normal sampling distributions. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 245–257.

(Gutti J. Babu) **98m:62105** 62G05 (62G09, 62G20)

Lee, Suh-Yin (*with* Shan, Man-Kwan) Placement of partitioned signature file and its performance analysis. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 321–344. 68P20 (68U15)

Lee, Suk Young (*with* Oates, David) A Golusin semi-variation. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 3, 643–652. (S. K. Chatterjea) **98a:30016** 30C45

Lee, Sukyoung Maintenance of multiple jets in a baroclinic flow. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 13, 1726–1738. (Summary) **98d:86007** 86A10 (76U05)

Lee, Sungchul The continuity of M and N in greedy lattice animals. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 87–100. (Bernard Ycart) **98d:60192** 60K35

— The power laws of M and N in greedy lattice animals. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 275–287. (T. M. Liggett) **98j:60066** 60G50 (60K35)

Lee, SungHee (*with* Otake, Masanori; Fujikoshi, Yasunori) A heterogeneity test statistic of k canonical correlations and its application to prenatal exposure. (English summary) *J. Japanese Soc. Comput. Statist.* **10** (1997), *no.* 1, 99–115. 62H15 (62H20)

Lee, Sungjin (*with* Chung, Soon-Yeong; Kim, Dohan) Characterization for Beurling-Björck space and Schwartz space. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 11, 3229–3234. (Benito Juan González Rodríguez) **98c:46074** 46F05 (42B10)

Lee, Susan (*with* Benjamini, Itai) Conditioned diffusions which are Brownian bridges. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 3, 733–736. (Summary) **98e:60131** 60J65 (60J60)

Lee, T. *see* **Lee, Taejin**

Lee, T. C. *see* **Lee, Ti-Chung**

Lee, T. H. *see* **Lee, Tong Heng**

Lee, T. S. *see* **Lee, Tzann Shin**

Lee, T.-Y. *see* **Lee, Tzong-Yow**

Lee, Taejin (*with* Zoh, S.) Canonical quantization of $(2+1)$-dimensional gravity coupled to spinning particles. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 399–404. (Summary) **98h:83030** 83C45 (81T13, 81V17)

— (*with* Kao, Hsien-Chung; Lee, Kimyeong) BPS domain wall solutions in self-dual Chern-Simons-Higgs systems. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6447–6453. (Summary) **98d:81053** 81T13

Lee, Tan-Yu (*with* Hsia, Wei Shen) Some minimax theorems on set functions. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 29–33. (Francesco Ferro) **98c:49016** 49J35 (49K35)

Lee, Therese C. Y. (*with* Furino, Steven) The existence of $\mathrm{NRB}[v,k]$ where $k+1$ is an even prime power. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 43–49. (D. V. Chopra) **98k:05019** 05B05

Lee, Thomas C. M. A simple span selector for periodogram smoothing. (English summary) *Biometrika* **84** (1997), *no.* 4, 965–969. 62M10 (62M15)

Lee, Ti-Chung (*with* Chen, Bor-Sen; Lee, Tzann Shin) Singular H_∞ control in nonlinear systems: positive semidefinite storage functions and separation principle. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 881–897. (Anton A. Stoorvogel) **98j:93033** 93B36 (46L99, 93C10)

Lee, Tian-Shyug (*with* Chang, Kwang-Chow) An alternative proof for a known result of noncentral Wishart distribution. (English summary) *Probab. Engrg. Inform. Sci.* **11** (1997), *no.* 4, 523–529. 62H10

Lee, Ting-Tsung (*with* Fong, Yuen; Ke, Wen-Fong) On weakly syntactic near-rings. (English summary) *International Mathematics Conference '94* (*Kaohsiung*, 1994), 77–82, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:00006**) 16Y30

Lee, Tong (*with* Chung, Fu-lai) A new look at solving a system of fuzzy relational equations. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 343–353. (Summary) **98a:04005** 04A72

Lee, Tong Heng (*with* Wang, Qing Guo; Tan, Kok Kiong; Nungam, S.) A knowledge-based approach to dead-time estimation for process control. (English summary) *Internat. J. Control* **61** (1995), *no.* 5, 1045–1072. 93E10 (93E12)

— (*with* Wang, Qing Guo; He, Jian-Bo) Low-order stabilizers for linear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 651–654. (Summary) **98c:93094** 93D15 (93C05)

— (*with* Zhu, Ge; Ge, S. S.) Tip tracking control of a single-link flexible robot: a backstepping approach. (English summary) *Dynam. Control* **7** (1997), *no.* 4, 341–360. 93C85 (70B15, 70Q05)

— (*with* Nie, Junhong) Self-organizing rule-based control of multivariable nonlinear servomechanisms. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 285–304. 93C42 (04A72)

— (*with* Wang, Qing Guo; He, Jian-Bo) Towards minimal-order stabilizers for all-pole plants. (English summary) *Systems Control Lett.* **31** (1997), *no.* 1, 49–57. (John Maroulas) **98k:93100** 93D15

— (*with* He, Jian-Bo; Wang, Qing Guo) H^∞ disturbance attenuation for state delayed systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 105–114. (Rabah Rabah) **98m:93034** 93B36 (90D25, 93D15)

Lee, Tony T. (*with* Lam, Cheuk H.) Fluid flow models with state-dependent service rate. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 547–576. (Summary) **98b:60164** 60K25

Lee, Travis (*with* Minzner, Max; Fisher, Evan) The length of an excursion above a linear boundary by a random walk. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 397–402. (Summary) **98e:60113** 60J15

Lee, Tsiu-Kwen (*with* Lee, Tsong-Cherng) Annihilators of power values of a derivation. (English summary) *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 241–247, *de Gruyter, Berlin*, 1996. (François Dumas) **98c:16046** 16W25 (16N60)

— (*with* Lee, Tsong-Cherng) Commuting additive mappings in semiprime rings. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 259–268. (W. K. Nicholson) **98b:16032** 16W25 (16N60)

— A characterization of left ideals satisfying polynomial identities. (English summary) *Chinese J. Math.* **24** (1996), *no.* 4, 359–368. (Amiram Braun) **98g:16017** 16N60 (16R20, 16R50)

— Independence property of polynomials in prime rings. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 1, 19–28. (Plamen Koshlukov) **98j:16011** 16N60 (16R50)

— Derivations with values satisfying a right or left S_{2n}-polynomial. (English summary) *Comm. Algebra* **25** (1997), *no.* 6, 1747–1765. (Vesselin Drensky) **98d:16038** 16R20 (16N60, 16R50, 16W25)

— (*with* Lee, Pjek Hwee) Linear identities and commuting maps in rings with involution. (English summary) *Comm. Algebra* **25** (1997), *no.* 9, 2881–2895. (M. P. Drazin) **98i:16032** 16W10 (16N60)

— Derivations and centralizing mappings in prime rings. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 333–342. (Matej Brešar) **98h:16054** 16W25 (16N60)

Lee, Tsong-Cherng (*with* Lee, Tsiu-Kwen) Annihilators of power values of a derivation. (English summary) *First International Tainan-Moscow Algebra Workshop* (*Tainan*, 1994), 241–247, *de Gruyter, Berlin*, 1996. (François Dumas) **98c:16046** 16W25 (16N60)

— (*with* Lee, Tsiu-Kwen) Commuting additive mappings in semiprime rings. (English summary) *Bull. Inst. Math. Acad. Sinica* **24** (1996), *no.* 4, 259–268. (W. K. Nicholson) **98b:16032** 16W25 (16N60)

Lee, Tsu-Tian (*with* Yung, Chee-Fai; Wu, Jenq-Lang) Parameterization of nonlinear H^∞ state-feedback controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1587–1590. 93B36

— (*with* Wu, Jenq-Lang) A new approach to optimal regional pole placement. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 10, 1917–1921. 93B55

— (*with* Tu, Kuo-Yang; Wang, Wên Chih) Design of a fuzzy logic controller as a suction controller. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 305–317. 93C42 (03B52)

— (*with* Shen, Sy-Kang; Wang, Bor-Chyun) Synthesis of uncertain cascaded multiple loops systems with time delay. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 789–798. 93B50 (93C30)

Lee, Tzann Shin (*with* Lee, Ti-Chung; Chen, Bor-Sen) Singular H_∞ control in nonlinear systems: positive semidefinite storage functions and separation principle. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 881–897. (Anton A. Stoorvogel) **98j:93033** 93B36 (46L99, 93C10)

Lee, Tzong-Shi (*with* Chen, Lin-An; Chan, Wenyaw) Tensor product polynomial splines. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2093–2111. (Summary) **98j:62029** 62G05 (41A15)

Lee, Tzong-Yow (*with* Freidlin, M. I.) Wave front propagation and large deviations for diffusion-transmutation process. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 1, 39–70. (Ross Pinsky) **98c:60098** 60J60 (35K57)

— (*with* Torcaso, Fred) Wave propagation in a lattice KPP equation in random media. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 121–125 (*electronic*). (Summary) **98i:60073** 60J60 (35K55)

Lee, Ven-Gen (*with* Ting, T. C. T.) The three-dimensional elastostatic Green's function for general anisotropic linear elastic solids. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 3, 407–426. (Maurizio Vianello) **98e:73020** 73B40 (73C02)

Lee, W. B. *see* **Lee, Wing Bun**

Lee, W. C. *see* **Lee, Wei-chen**

Lee, Wee Sun (*with* Bartlett, Peter L.; Williamson, Robert C.) Efficient agnostic learning of neural networks with bounded fan-in. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2118–2132. (Summary) **98c:68184** 68T05

Lee, Wei-Bin (*with* Chang, Chin-Chen) Authenticated encryption schemes with linkage between message blocks. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 247–250. (Summary) **98i:94022** 94A60 (68P25)

Lee, Wei-chen (*with* Ma, Fai) Simultaneous triangularization of the coefficients of linear systems. *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 2, 430–432. (Zdzisław W. Trzaska) **98e:70014** 70J05 (65L05, 70–08)

Lee, Wing Bun (*with* Ji, Ping; Li, Hongyu) A new algorithm for the assignment problem: an alternative to the Hungarian method. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1017–1023. 90C27 (90C35)

Lee, Won Jung (*with* Kim, Do Sang) Generalized symmetric duality with invexity in variational problems. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 2, 337–348. (Summary) **98d:90103** 90C29 (49N15)

— (*with* Kim, Do Sang; Lee, Gue Myung) Symmetric duality for multiobjective variational problems with pseudo-invexity. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 106–117. (*see* **98g:00027**) 90C29 (49N15)

Lee, Won Kyoung (*with* Park, Hae Dong) Chaotic dynamics of a harmonically excited spring-pendulum system with internal resonance. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 3, 211–229. 70K40 (70K50)

Lee, Woo Representations of the braid group B_4. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 673–693. (Stephen P. Humphries) **98h:20064** 20F36 (20C15, 57M07, 57M25)

Lee, Woo Young On a spectral equivalence. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 317–323. (Hari Bercovici) **98h:47007** 47A10

— (*with* Jeon, In Ho; Kim, Jin Chun) On a spectral property of analytic operators. (English summary) *Tsukuba J. Math.* **20** (1996), *no.* 2, 379–385. (Marek Ptak) **98i:47003** 47A10 (47A15)

— (*with* Harte, Robin) A note on the punctured neighbourhood theorem. *Glasgow Math. J.* **39** (1997), *no.* 3, 269–273. (R. W. Cross) **98k:47022** 47A53

— (*with* Farenick, Douglas R.) On hyponormal Toeplitz operators with polynomial and circulant-type symbols. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 202–210. (Takahiko Nakazi) **98j:47059** 47B35 (47B20)

— (*with* Beasley, Leroy B.; Kim, An-Hyun) On a positive linear map preserving absolute values. (English summary) *Linear Algebra Appl.* **260** (1997), 311–318. (Summary) **98c:46110** 46L05

— (*with* Harte, Robin) Another note on Weyl's theorem. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 2115–2124. (Wacław Szymański) **98j:47024** 47A53 (47A10)

— (*with* Hwang, In Sung) On the continuity of spectra of Toeplitz operators. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 1, 66–73. (A. Böttcher) **98i:47024** 47B35 (47A10)

— (*with* Kim, In Hyoun) Semi-quasitriangularity of Toeplitz operators with quasicontinuous symbols. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 77–84. (Summary) **98k:47046** 47B35 (47A66)

Lee, Y. *see* **Lee, Yong Wan**

Lee, Yang (*with* Kim, Chol On; Kim, Hong Kee) On strongly II-regular rings. *Kyungpook Math. J.* **37** (1997), *no.* 2, 291–295. 16E50

Lee, Yong-Hoon A multiplicity result of positive solutions for the generalized Gelfand type singular boundary value problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3829–3835. (Johnny Henderson) **98j:34032** 34B15

Lee, Yong Hun (*with* Kim, Hong Oh; Kim, Sang Dong) Finite difference preconditioning cubic spline collocation method of elliptic equations. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 83–103. (Bruce A. Finlayson) **98h:65056** 65N35 (65F35)

Lee, Yong-Joo (*with* Zipkin, Paul) Processing networks with inventories: sequential refinement systems. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 1025–1036. 90B30

Lee, Yong Wan (*with* Oh, Myoungho; Shin, Vladimir Ignatevich; Choi, U Jin) Suboptimal discrete filters for stochastic systems with different types of observations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 17–27. (Summary) **98k:93114** 93E11 (93B07, 93C55)

Lee, Yoon Dong (*with* Shin, Dong Wan) Effects of order misspecification on unit root tests. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 171–180. (Summary) **98f:62269** 62M10

— (*with* Shin, Dong Wan) A study on misspecified nonstationary autoregressive time series with a unit root. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 475–484. (Summary) **98f:62270** 62M10

Lee, Young Chan A necessary and sufficient condition for the generalized regular relation to be transitive. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 469–481. (K. D. Magill, Jr.) **98g:54093** 54H15

Lee, Young-Chen Some properties of the classes of matrices in the linear complementarity problems. (English summary) *Honam Math. J.* **19** (1997), *no.* 1, 157–164. (S. R. Mohan) **98h:90096** 90C33

Lee, Young Jack A two-sample nonparametric test with missing observations. (English summary) MSI-2000, Vol. III (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **17** (1997), *no.* 1-2, 187–200. (*see* **98c:62004**) 62G10

Lee, Young Joo Some characterizations of Bloch type functions. (English summary) *Bull. Honam Math. Soc.* **13** (1996), 103–118. (Daniel H. Luecking) **98a:46033** 46E15 (32A37)

— (*with* Choe, Boo Rim) Norm and essential norm estimates of Toeplitz operators on the Bergman space. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 937–958. (Richard Rochberg) **98e:47042** 47B35 (32A37)

— (*with* Choe, Boo Rim) The essential spectra of Toeplitz operators with symbols in $H^\infty + C$. (English summary) *Math. Japon.* **45** (1997), *no.* 1, 57–60. (Shûichi Ohno) **98k:47043** 47B35

Lee, Young-Koo (*with* Lee, Jong-Hak; Whang, Kyu-Young; Song, Il-Yeol) A physical database design method for multidimensional file organizations. (English summary) *Inform. Sci.* **102** (1997), *no.* 1-4, 31–65. 68P20 (68P15)

Lee, Young Seop Convergence of nonexpansive mappings. (English summary) *Commun. Korean Math. Soc.* **10** (1995), *no.* 2, 301–304. (P. S. Milojević) **98d:47123** 47H09

Lee, Younghee (*with* Cho, Yonggun; Oh, Myoungho; Shin, Vladimir Ignatevich) Iterative conditionally optimal filters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 95–104; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 1, 961–968. (Wolfgang J. Runggaldier) **98g:93052** 93E11

Lee, Youngho (*with* Glover, Fred; Sherali, Hanif D.) Generating cuts from surrogate constraint analysis for zero-one and multiple choice programming. (English summary) *Comput. Optim. Appl.* **8** (1997), *no.* 2, 151–172. (Summary) **98e:90095** 90C09 (90C29)

Lee, Youngjo (*with* Nelder, J. A.) Generalized linear models for the analysis of quality-improvement experiments. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 95–105. 62J12 (62N99)

Lee, Yuh-Jia (*with* Liu, Chun-Fu) A generalization of Mehler transform. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994)*, 107–116, *World Sci. Publishing, River Edge, NJ*, 1996. (Isamu Dôku) **98h:46041** 46F25 (46G12, 60G20)

— *see also* **Conference: Mathematics, 98a:00006**

Lee, Yutae (*with* Choi, Bong Dae; Choi, Doo Il) $\mathrm{Geo}^{X_1}/D/c$ HOL priority queueing system with random order selection within each priority class. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 125–139. 60K25 (90B22)

Leeb, Bernhard (*with* Kapovich, M. Ė.) Actions of discrete groups on nonpositively curved spaces. *Math. Ann.* **306** (1996), *no.* 2, 341–352. (Ricardo F. Vila Freyer) **98j:57022** 57M50 (20F32, 53C21, 57S30)

— (*with* Kleiner, Bruce) Rigidity of quasi-isometries for symmetric spaces and Euclidean buildings. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 639–643. (Raul Quiroga) **98f:53046** 53C35

— (*with* Kleiner, Bruce) Rigidity of quasi-isometries for symmetric spaces and Euclidean buildings. *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 115–197 (1998). (Lee Mosher) **98m:53068** 53C35 (20E42, 20F32, 53C23, 57M07)

— (*with* Kapovich, M. Ė.) Quasi-isometries preserve the geometric decomposition of Haken manifolds. (English summary) *Invent. Math.* **128** (1997), *no.* 2, 393–416. (Athanase Papadopoulos) **98k:57029** 57N10 (53C23, 57M50)

Leeb, Hannes (*with* Hellekalek, Peter) Dyadic diaphony. *Acta Arith.* **80** (1997), *no.* 2, 187–196. (Robert F. Tichy) **98g:11090** 11K45

Leech, C. M. (*with* Tabarrok, B.) Nonseparable solutions to the Hamilton-Jacobi equation. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 636–641. (Ram Krishan Sharma) **98k:70005** 70H20

— The Hamilton-Jacobi equation applied to continuum. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 658–663. (Summary) **98h:73057** 73K12 (70H20, 73D30)

Leedham-Green, C. R. (*with* Klaas, G.; Plesken, Wilhelm) ★ Linear pro-p-groups of finite width. Lecture Notes in Mathematics, 1674. *Springer-Verlag, Berlin*, 1997. viii+115 *pp.* *ISBN* 3-540-63643-9 (Marcus du Sautoy) **98m:20028** 20E18 (20G25)

— (*with* Celler, Frank) Calculating the order of an invertible matrix. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 55–60, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Sarah E. Rees) **98g:20001** 20-04 (15A99, 20G40)

— (*with* Celler, Frank) A non-constructive recognition algorithm for the special linear and other classical groups. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 61–67, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (D. F. Holt) **98c:20094** 20G40 (20-04)

— (*with* O'Brien, E. A.) Recognising tensor products of matrix groups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 5, 541–559. (Cheryl E. Praeger) **98k:20018** 20C40 (15A30, 20B25, 20H30)

— (*with* O'Brien, E. A.) Tensor products are projective geometries. (English summary) *J. Algebra* **189** (1997), *no.* 2, 514–528. (D. F. Holt) **98b:20073** 20G40 (15A72, 51A05)

Leeds, Stephen Incommensurability and vagueness. *Noûs* **31** (1997), *no.* 3, 385–407. 03B30

Leek, R. (*with* Chui, W. K.; Glimm, James; Tangerman, F. M.; Jardine, A. P.; Madsen, J. S.; Donnellan, T. M.) Process modeling in resin transfer molding as a method to enhance product quality. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 714–727. (Summary) **98j:76141** 76T05 (73K20, 76S05)

Leela, S. (*with* Shahzad, Naseer) On stability of moving conditionally invariant sets. *Nonlinear Anal.* **27** (1996), *no.* 7, 797–800. (F. S. Van Vleck) **98a:34049** 34D20 (34C30, 34D35)

— *see also* **Martynyuk, A. A., 98f:01077**

Leem, Koung Hee (*with* Kim, Keehwan; Kim, Tae Hwa; Ume, Jeong Sheok) Common fixed point theorems relating to the diameter of orbits. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 103–108. 54H25 (47H10)

Leemans, Dimitri Two nearly isomorphic groups. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 373–376. (Summary) **98k:20005** 20B15

Leeming, David J. (*with* Kaufman, E. H., Jr.; Taylor, G. D.) Monotone rational approximation on finite sets. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 265–272, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A29 (41A20)

— The coefficients of $\sinh xt/\sin t$ and the Bernoulli polynomials. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 575–579. (Summary) **98m:33023** 33C45

Leeney, Mark G. A note on semi-homomorphisms of rings. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 771–775. 16D99

Leeper, Eric M. (*with* Faust, Jon) When do long-run identifying restrictions give reliable results? (English summary) *J. Bus. Econom. Statist.* **15** (1997), *no.* 3, 345–353. 62P20 (62M10)

van Leer, Bram (*with* Koren, Barry) Improving Euler computations at low Mach numbers. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 419–441, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (*see* **98d:76004**) 76M25 (65M55)

— Towards the ultimate conservative difference scheme. V. A second-order sequel to Godunov's method [J. Comput. Phys. **32** (1979), no. 1, 101–136]. (English summary) With an introduction by Ch. Hirsch. Commemoration of the 30th anniversary {of J. Comput. Phys.}. *J. Comput. Phys.* **135** (1997), *no.* 2, 227–248. (*see* **98h:76003**) 65M06 (76M20)

— (*with* Lowrie, Robert B.; Roe, Philip L.) Space-time methods for hyperbolic conservation laws. *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 79–98, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 65M12 (35L65, 76M20)

— Local preconditioning: who needs it? (English summary) *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 335–349, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **98k:76108** 76M25 (76N15)

Leese, R. A. A unified approach to problems in radio channel assignment. *Applications of combinatorial mathematics (Oxford, 1994)*, 155–167, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (From the introduction) **98f:94021** 94A99 (90C27)

Lee Shader, Chanyoung Tensor product module $V(\lambda) \otimes V(\mu)$ for general linear Lie superalgebras. (English summary) *Kyungpook Math. J.* **36** (1996), *no.* 2, 337–347. (Hartmut Schlosser) **98a:17008** 17B10 (05E10)

— (*with* Shader, Bryan L.) Scheduling conflict-free parties for a dating service. *Amer. Math. Monthly* **104** (1997), *no.* 2, 99–106. (Morton Abramson) **98c:05009** 05A15 (05C15)

de Leeuw, G. (*with* Dekker, H.; van den Brink, A. Maassen) Boundary-layer turbulence modeling and vorticity dynamics. I. A kangaroo-process mixing model of boundary-layer turbulence. (English summary) *Turbulence modeling and vortex dynamics (Istanbul, 1996)*, 223–237, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (James P. Denier) **98m:76080** 76Fxx (76M35)

de Leeuw, Jan Models as instruments, with applications to moment structure analysis. (English summary) *Latent variable modeling and applications to causality (Los Angeles, CA, 1994)*, 119–131, *Lecture Notes in Statist.*, 120, *Springer, New York*, 1997. (Summary) **98i:62016** 62F10

— (*with* Groenen, Patrick J. F.) Inverse multidimensional scaling. (English summary) *J. Classification* **14** (1997), *no.* 1, 3–21. (Summary) **98d:62110** 62H30

van Leeuwen, Marc A. A. Tableau algorithms defined naturally for pictures. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 321–362. (Angèle M. Hamel) **98a:05156** 05E10

— (*with* Roelofs, Marcel) Termination for a class of algorithms for constructing algebras given by generators and relations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 431–445. (Andrej A. Zolotykh) **98m:17002** 17-04 (17B99)

Lefebvre, Dimitri (*with* Rotella, F.) Feedback design and precompensation for generalized systems. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 611–624. (Xiao Yun Lu) **98j:93043** 93B52 (93B27, 93C05)

Lefebvre, Mario (*with* Labib, Richard) Hitting lines and circles with diffusion processes. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 213–222. (M. Arató) **98k:60131** 60J60

— (*with* Labib, Richard) Risk sensitive optimal control of wear processes. (English summary) *Mathematics of stochastic manufacturing systems (Williamsburg, VA, 1996)*, 163–174, *Lectures in Appl. Math.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98b:49023** 49K45 (93E20)

— (*with* Labib, Richard) Temps d'atteinte de cercles pour des processus de Bessel bidimensionnels. (English and French summaries) [Hitting times of circles for two-dimensional Bessel processes] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 123–131. 60J05

— On the inverse of the first hitting time problem for bidimensional processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 610–622. (Summary) **98c:60108** 60J70 (60J60)

— Reducing a nonlinear dynamic programming equation to a Kolmogorov equation. (English summary) *Optimization* **42** (1997), *no.* 2, 125–137. (Summary) **98g:49022** 49K45 (93E20)

— First hitting place distributions for the Ornstein-Uhlenbeck process. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 309–312. (Summary) **98b:60136** 60J60

— Using a geometric Brownian motion to control a Brownian motion and vice versa. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 71–82. (Summary) **98e:93096** 93E03 (93E20)

— A bidimensional optimal landing problem. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 655–657. 49J15 (70Q05)

Lefèvre, Claude (*with* Picard, Philippe) Abel expansions and generalized Abel polynomials in stochastic models. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 55–69, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Summary) **98f:60020** 60E05 (60K25, 62G10)

— (*with* Picard, Philippe) On the first-crossing of a Poisson process in a lower boundary. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 159–175, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (Wolfgang Stadje) **98m:60061** 60G17 (60E99, 60G40, 60J75)

— (*with* Picard, Philippe) Abelian-type expansions and non-linear death processes. II. (English summary) *Adv. in Appl. Probab.* **28** (1996), *no.* 3, 877–894. (Summary) **98k:60146** 60J75 (33C90, 92B05)

— (*with* Denuit, Michel) Some new classes of stochastic order relations among arithmetic random variables, with applications in actuarial sciences. (English summary) *Insurance Math. Econom.* **20** (1997), *no.* 3, 197–213. (Summary) **98i:62083** 62P05 (60E15)

— (*with* Picard, Philippe) The probability of ruin in finite time with discrete claim size distribution. (English summary) *Scand. Actuar. J.* **1997,** *no.* 1, 58–69. (Fl. De Vylder) **98k:62178** 62P05

— (*with* Utev, Sergeĭ) Mixed Poisson approximation in the collective epidemic model. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 217–246. (Andrew D. Barbour) **98m:60031** 60F05 (60J70, 92D30)

Leff, Harvey S. (*with* Rex, Andrew F.) Maxwell's demon and the culture of entropy. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 1, 125–149. (Roberto Fernández) **98j:82001** 82–03 (00A30, 00A79, 01A55, 01A60, 82B03)

Lefkopoulou, Myrto (*with* Zelen, Marvin) Intermediate clinical events, surrogate markers and survival. (English summary) *Lifetime data: models in reliability and survival analysis* (*Cambridge, MA*, 1994), 195–206, *Kluwer Acad. Publ., Dordrecht*, 1996. (Summary) **98b:62194** 62P10 (62N05)

— (*with* Day, Roger; Bryant, John Lowrie) Adaptation of bivariate frailty models for prediction, with application to biological markers as prognostic indicators. (English summary) *Biometrika* **84** (1997), *no.* 1, 45–56. (Marcus W. Feldman) **98k:62182** 62P10

LeFloch, Philippe G. (*with* Hayes, Brian T.) Measure solutions to a strictly hyperbolic system of conservation laws. (English summary) *Nonlinearity* **9** (1996), *no.* 6, 1547–1563. (Fumioki Asakura) **98f:35096** 35L65 (35D05, 35Q35)

— (*with* Hayes, Brian T.) Non-classical shocks and kinetic relations: scalar conservation laws. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 1, 1–56. (Long An Ying) **98h:35156** 35L67 (35L65, 76L05)

— (*with* Bressan, Alberto) Uniqueness of weak solutions to systems of conservation laws. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 4, 301–317. (Vyacheslav V. Chistyakov) **98m:35125** 35L65 (35D05)

— (*with* Chen, Gui-Qiang) Entropies and weak solutions of the compressible isentropic Euler equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 10, 1105–1110. (Summary) **98b:35133** 35Q30 (35D05, 76N10)

— (*with* Bereux, François; Bonnetier, Eric) Gas dynamics system: two special cases. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 499–515. (Hermano Frid) **98d:76143** 76N15 (35L65, 65M12)

Lefmann, Hanno (*with* Hofmeister, Thomas) Derandomization for sparse approximations and independent sets. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 201–210, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98k:68086** 68Q25 (68R10)

— (*with* Savický, Petr) Some typical properties of large AND/OR Boolean formulas. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 237–246, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98e:68192** 68Q99 (03B05, 94C10)

— (*with* Hofmeister, Thomas) A combinatorial design approach to MAXCUT. (English summary) *STACS* 96 (*Grenoble*, 1996), 441–452, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98g:05141** 05C85 (05C40, 68R10)

— (*with* Hindman, Neil) Canonical partition relations for (m, p, c)-systems. (English summary) *Discrete Math.* **162** (1996), *no.* 1-3, 151–174. (Bruce Landman) **98a:05150** 05D10

— (*with* Bertram-Kretzberg, Claudia; Hofmeister, Thomas) An algorithm for Heilbronn's problem. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 23–31, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68U05 (68R10)

— (*with* Bertram-Kretzberg, Claudia) MOD_p-tests, almost independence and small probability spaces (extended abstract). (English summary) *STACS* 97 (*Lübeck*), 141–152, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q10 (68Q20)

— (*with* Savický, Petr) Some typical properties of large AND/OR Boolean formulas. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 337–351. (Summary) **98j:68126** 68Q99

Lefter, Cătălin (*with* Rădulescu, Vicenţiu D.) Asymptotics for the minimizers of the Ginzburg-Landau energy with vanishing weight. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 261–273. (J. V. A. Gonçalves) **98i:58070** 58E20 (35Q55, 49Q20)

Lefton, Lew Uniqueness for small solutions to a superlinear boundary value problem at resonance. *Nonlinear Anal.* **29** (1997), *no.* 8, 927–935. (Rafael Ortega) **98c:34034** 34B15 (47H15, 47N20)

— (*with* Wei, Dongming) Numerical approximation of the first eigenpair of the p-Laplacian using finite elements and the penalty method. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 3-4, 389–399. (N. Gass) **98c:65178** 65N25 (65K10, 65N30)

Lega, Elena (*with* Froeschlé, Claude) On the measure of the structure around the last KAM torus before and after its break-up. (English summary) Chaos in gravitational N-body systems (La Plata, 1995). *Celestial Mech. Dynam. Astronom.* **64** (1996), *no.* 1-2, 21–31. (Summary) **98a:58136** 58F27

— (*with* Froeschlé, Claude) Fast Lyapunov indicators. Comparison with other chaos indicators. Application to two- and four-dimensional maps. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 257–275, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 58F13 (70K50)

— (*with* Froeschlé, Claude; Gonczi, Robert) Fast Lyapunov indicators. Application to asteroidal motion. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 41–62. 70F15 (70H05, 70K50)

— (*with* Contopoulos, G.; Voglis, N.; Efthymiopoulos, C.; Froeschlé, Claude; Gonczi, Robert; Dvorak, Rudolf; Lohinger, E.) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

— (*with* Froeschlé, Claude) Global symplectic polynomial approximation of area-preserving maps. (English summary) *J. Differ. Equations Appl.* **3** (1997), *no.* 2, 169–184. (Summary) **98e:65111** 65Q05 (34C35, 58F05, 70H05)

Le Gall, Jean-François (*with* Bertoin, Jean; Le Jan, Yves) Spatial branching processes and subordination. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 24–54. (Ingemar Kaj) **98g:60151** 60J80 (60G57)

— A probabilistic Poisson representation for positive solutions of $\Delta u = u^2$ in a planar domain. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 1, 69–103. (Ross Pinsky) **98c:60144** 60K35 (35C99, 35J65, 60J80)

— (*with* Dhersin, Jean-Stéphane) Wiener's test for super-Brownian motion and the Brownian snake. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 1, 103–129. (John Verzani) **98j:60105** 60J45 (35J65, 60G57, 60J55)

Le Gall, Pascale (*with* Bernot, Gilles; Coudert, Sophie) Towards heterogeneous formal specifications. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 458–472, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (*see* **98f:68004**) 68Q65 (68Q60)

Le Gall, Pierre The theory of networks of single server queues and the tandem queue model. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 363–381. 90B22 (60K25)

— The stationary $G/G/s$ queue. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 59–71. 60K25

Le Gall, Pierre-Yves Théorie de Kasparov équivariante et groupoïdes. (English and French summaries) [Equivariant Kasparov theory and groupoids] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 695–698. (Summary) **98c:46150** 46L80 (19K35)

Legaré, M. Self-dual Yang-Mills equations and integrable reductions. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 219–224. (Ian A. B. Strachan) **98f:81202** 81T13 (58F07)

— Lie superalgebra valued self-dual Yang-Mills fields and symmetry reduction. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 383–391. (*see* **98h:00044**) 81T13 (17B81)

martínez-Legaz, Juan-Enrique *see* **Martínez-Legaz, Juan-Enrique**

Legendre, A.-M. *see* **Pieper, Herbert, 98k:01011**

Léger, Alain (*with* El Koulani, Abdelmajid) Comportement post-critique des poutres élastoplastiques: existence et régularité des branches bifurquées. (English and French summaries) [Post-critical behavior of elastoplastic beams: existence and regularity of the bifurcated branches] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1307–1313. (Summary) **98d:73040** 73H05 (34A47, 34B15, 47H15, 73K05)

Léger, Christian (*with* Altman, Naomi) On the optimality of prediction-based selection criteria and the convergence rates of estimators. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 205–216. (Lin-Cheng Zhao) **98i:62018** 62F12 (62G20)

Legg, D. A. (*with* Townsend, D. W.) Best monotone approximation using a peak norm. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 1, 197–206. (M. Lachance) **98d:41028** 41A30 (41A52)

Legiša, Peter The centennial of Slovene mathematics textbooks for high schools. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **44** (1997), *no.* 3, 85–97. 01A55

Le Goff, Jean-Pierre Desargues et la naissance de la géométrie projective. [Desargues and the birth of projective geometry] *Desargues en son temps*, 157–206, *Libr. Sci. A. Blanchard, Paris*, 1994. (Victor V. Pambuccian) **98d:01016** 01A45 (51–03)

— *see also* **Laurent, Roger, (98b:01001)**

hayat-Legrand, Claude *see* **Hayat-Legrand, Claude**

Legros, J. C. (*with* Shevtsova, V. M.) Oscillatory convective motion in deformed liquid bridges. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1621–1634. 76R99 (76E15)

— (*with* Rednikov, A. Ye.; Colinet, P.; Velarde, M. G.) Two-layer Bénard-Marangoni instability and the limit of transverse and longitudinal waves. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2872–2884. (Summary) **98k:76048** 76E15 (76D33, 76D45)

Legua Fernández, M. (*with* Jódar, Lucas; Ponsoda, E.) On well-conditioned boundary value problems for systems of second order difference equations. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 4, 81–95. (Johnny Henderson) **98j:39003** 39A10

Legaillon, Dominique Comparison of matched asymptotics, multiple scalings and averages in homogenization of periodic structures. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 663–680. (Taras A. Mel'nyk) **98e:73008** 73B27 (35B27, 35C20)

Le Guillou, J. C. (*with* Moreno, Enrique Francisco; Núñez, Carlos; Schaposnik, F. A.) Duality between topologically massive and self-dual models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2707–2716. (Bani Mitra Södermark) **98m:81194** 81T70 (81T13)

— (*with* Moreno, Enrique Francisco; Núñez, Carlos; Schaposnik, F. A.) Non-abelian bosonization in two and three dimensions. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 682–696. (José Luis López) **98b:81130** 81T08 (81T10, 81T40)

— (*with* Moreno, Enrique Francisco; Schaposnik, F. A.; Núñez, Carlos) On three-dimensional bosonization. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 257–264. 81S40

Le Guyadec, Y. (*with* Virot, B.) Sequential-like proofs of data-parallel programs. (English summary) *Parallel Process. Lett.* **6** (1996), *no.* 3, 415–426. (Siegmar Gerber) **98e:68170** 68Q60 (68N05, 68Q10)

Leha, Gottlieb (*with* Ritter, Gunter; Wakolbinger, Anton) An improved Lyapunov-function approach to the behavior of diffusion processes in Hilbert spaces. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 1, 59–89. (Nataliya Y. Goncharuk) **98a:60085** 60H15

Lehébel, Patrick Affine rotation surfaces and hypersurfaces. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid, 1995*), 198–208, *World Sci. Publishing, River Edge, NJ*, 1996. (Christine Scharlach) **98a:53015** 53A15

Lehel, Jenő (*with* Jacobson, Michael S.; Kézdy, André E.) Recognizing intersection graphs of linear uniform hypergraphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 359–367. (Jean-Claude Bermond) **98k:05118** 05C75 (05C65)

— (*with* Jacobson, Michael S.; Kézdy, André E.) Recognizing triangle-free graphs with induced path-cycle double covers is NP-complete. (English summary) *Networks* **31** (1998), *no.* 1, 1–10. (Summary) **98k:05130** 05C85 (68Q25)

— (*with* Chen, Guantao; Jacobson, Michael S.; Kézdy, André E.) Tough enough chordal graphs are Hamiltonian. (English summary) *Networks* **31** (1998), *no.* 1, 29–38. (Dieter Kratsch) **98m:05118** 05C45 (05C38)

Leherte, Laurence (*with* Glasgow, Janice; Baxter, Kim; Steeg, Evan; Fortier, Suzanne) Analysis of three-dimensional protein images. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 125–159 (*electronic*). 92C40 (92D20)

Lehman, Brad (*with* Shujaee, Khalil) Vibrational feedback control of time delay systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1529–1545. (Jean Francois Lafay) **98j:93048** 93B52 (34K35, 93B51, 93B55, 93C50)

Lehman, Leah M. (*with* Young, Dean M.; Meaux, Laurie M.) Independence distribution-preserving nonnegative-definite covariance structures for the sample variance. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 193–200. (N. Giri) **98h:62090** 62H05

Lehmann, D. *see* **Lehmann, Dirk**

Lehmann, Daniel J. Belief revision, revised. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1534–1540, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B60, 03B70)

— Stereotypical reasoning: logical properties. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 49–58. (Summary) **98i:03034** 03B60 (03B70, 68T27)

Lehmann, Dirk (*with* Grießhammer, Harald; Seeger, M.) Introduction to supersymmetry and exact nonperturbative results in SUSY-QCD. *Lectures on QCD*, 217–271, *Lecture Notes in Phys.*, 481, *Springer, Berlin*, 1997. (*see* **98k:81306**) 81T60 (81–02, 81V05)

— *see also* **Negele, J. W.**, (**98k:81306**)

Lehmann, E. L. The creation and early history of the Berkeley Statistics Department. (English summary) *Statistics, probability and game theory*, 139–146, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (*see* **98e:60006**) 62–03

— ★ Theory of point estimation. Reprint of the 1983 original. *Springer-Verlag, New York*, 1997. xiv+506 *pp.*, *ISBN* 0-387-98209-4 (Editors) **98c:62003** 62–02 (62F10, 62F11, 62F12)

— ★ Testing statistical hypotheses. (English summary) Reprint of the 1986 second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1997. xx+600 *pp. ISBN* 0-387-94919-4 (Editors) **98m:62004** 62–02 (62Cxx, 62Fxx)

— Le Cam at Berkeley. *Festschrift for Lucien Le Cam*, 297–304, *Springer, New York*, 1997. (Editors) **98f:01074e** 01A70

— *Testing statistical hypotheses* [Wiley, New York, 1959; MR **21** #6654]: the story of a book. (English summary) *Statist. Sci.* **12** (1997), *no.* 1, 48–52. 62–03

Lehmann, Heiko Bound states structure in the critical region of a Thomas-Fermi symmetrical quantum plasma. (English summary) *Phys. Lett. A* **233** (1997), *no.* 4-6, 418–422. 82D10

Lehn, Manfred (*with* Huybrechts, Daniel) ★ The geometry of moduli spaces of sheaves. (English summary) Aspects of Mathematics, E31. *Friedr. Vieweg & Sohn, Braunschweig*, 1997. xiv+269 *pp. ISBN* 3-528-06907-4 (Jean-Marc Drezet) **98g:14012** 14D20 (14F05)

Lehner, Christoph What it feels like to be in a superposition. And why: consciousness and the interpretation of Everett's quantum mechanics. (English summary) *Synthese* **110** (1997), *no.* 2, 191–216. (Dennis Dieks) **98e:81008** 81P05

Lehner, Günther (*with* Haas, Martin; Rieger, Wolfgang; Rucker, Wolfgang) Inverse 3D acoustic and electromagnetic obstacle scattering by iterative adaptation. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 204–215, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 76Q05 (78A45)

Lehner, Luis R. (*with* Gómez, Roberto; Papadopoulos, Philippos O.; Winicour, Jeffrey) The eth formalism in numerical relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 977–990. (R. Beig) **98e:83006** 83–08 (83C25, 83C30)

— (*with* Bishop, Nigel T.; Gómez, Roberto; Maharaj, Manoj; Winicour, Jeffrey) High-powered gravitational news. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6298–6309. (Richard Hansen) **98j:83028** 83C30 (83–04)

— (*with* Moreschi, Osvaldo M.) A simple model for compact objects in general relativity. (English summary) *Chinese J. Phys.* **36** (1998), *no.* 1, 1–12. (Summary) **98m:83058** 83C99

Lehnert, James S. (*with* Wong, Tan F.; Lok, Tat M.; Zoltowski, Michael D.) A linear receiver for direct-sequence spread-spectrum multiple-access systems with antenna arrays and blind adaptation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 659–676. 94A05

Lehoczky, John P. Simulation methods for option pricing. (English summary) *Mathematics of derivative securities* (*Cambridge*, 1995), 528–544, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Lê Hông Vân (*with* Connolly, Frank; Ono, Kaoru) Almost complex structures which are compatible with Kähler or symplectic structures. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 4, 325–334. (Paolo Lisca) **98i:53038** 53C15 (53C55, 57R15, 57R57)

Lehoucq, R. B. (*with* Sorensen, Danny C.; Yang, Chao[2]) ★ ARPACK users' guide. (English summary) Solution of large-scale eigenvalue problems with implicitly restarted Arnoldi methods. Software, Environments, and Tools. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. *xvi*+142 *pp. ISBN* 0-89871-407-9 65–04 (65Fxx)

Lehr, Elisabeth *see* **Bruno, Giordano**, **98e:01019**

Lehrer, Ehud (*with* Smorodinsky, Rann) Repeated large games with incomplete information. (English summary) *Games Econom. Behav.* **18** (1997), *no.* 1, 116–134. (Sylvain Sorin) **98a:90161** 90D20 (90D10)

— (*with* Sorin, Sylvain) One-shot public mediated talk. (English summary) *Games Econom. Behav.* **20** (1997), *no.* 2, 131–148. (Summary) **98d:90141** 90D12 (90A05)

Lehrer, Gus I. Fourier transforms, nilpotent orbits, Hall polynomials and Green functions. *Finite reductive groups* (*Luminy*, 1994), 291–309, *Progr. Math.*, 141, *Birkhäuser Boston, Boston, MA*, 1997. (Jean Michel) **98b:20074** 20G40 (20F05)

— (*with* Digne, F.; Michel, Jean Christian Marie) On Gel'fand-Graev characters of reductive groups with disconnected centre. *J. Reine Angew. Math.* **491** (1997), 131–147. (Meinolf Geck) **98i:20015** 20C33 (20G40)

— The cohomology of the regular semisimple variety. (English summary) *J. Algebra* **199** (1998), *no.* 2, 666–689. (James E. Humphreys) **98k:20080** 20G20 (14F25, 17B20, 22E10, 52B30)

Lehtinen, Aarni ★ Asymptotic solutions for the best choice problems. (English summary) Dissertation, University of Jyväskylä, Jyväskylä, 1997. Report, 73. *University of Jyväskylä, Department of Mathematics, Jyväskylä*, 1997. iv+8 *pp. ISBN* 951-39-0036-3 90B80 (90C35)

— Optimal selection of the k best of a sequence with k stops. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 251–261. (Summary) **98h:60057** 60G40 (90B05)

Lehto, Olli The tradition of function theory in Finland. (Finnish) *In the forest of symbols* (*Finnish*), 115–132, *Art House, Helsinki*, 1992. (*see* **98d:00001**) 01A72 (30–03)

— Lars V. Ahlfors 1907–1996. (Swedish. English summary) *Normat* **45** (1997), *no.* 3, 97–102, 143. 01A70

— ★ Mathematics without borders. (English summary) A history of the International Mathematical Union. *Springer-Verlag, New York*, 1998. xvi+399 *pp. ISBN* 0-387-98358-9 (Albert C. Lewis) **98m:01039** 01A74 (01A70, 01A80)

— Fred Gehring and Finnish mathematics. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 19–32, *Springer, New York*, 1998. (Editors) **98k:01036** 01A70 (01A72, 30–03)

Lehtonen, Tapani (*with* Frostig, Esther) Stochastic comparisons for fork-join queues with exponential processing times. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 487–497. (Summary) **98a:60135** 60K25

Lei, Chin-Laung (*with* Yeh, Tzuoo-Hawn; Kuo, Cheng-Ming; Yen, Hsu-Chun) Competitive analysis of on-line disk scheduling. (English summary) *Algorithms and computation* (*Osaka*, 1996), 356–365, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68N25

Lei, Feng Chun (*with* Sun, Shu Wei; Zhai, Yan Hui; Zhang, Jun) A representation of compact, connected, orientable 3-manifolds with boundary. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 3, 6–8. (Ying Qing Wu) **98a:57026** 57N10

— Complete systems of surfaces in 3-manifolds. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 185–191. (Torsten Asselmayer) **98b:57032** 57N10 (57M25, 57M40, 57M50)

Lei, Guangtsai (*with* Zhu, Xiaojun; Pan, Guangwen) On application of fast and adaptive periodic Battle-Lemarie wavelets to modeling of multiple lossy transmission lines. (English summary) *J. Comput. Phys.* **132** (1997), *no.* 2, 299–311. (Summary) **98b:78005** 78–08

Lei, Hin-Chi (*with* Blume, Janet A.) Lie group and invariant solutions of the plane-strain equations of motion of a neo-Hookean solid. (English summary) *Internat. J. Non-Linear Mech.* **31** (1996), *no.* 4, 465–482. (Karen A. Ames) **98k:73037** 73G05 (35Q72, 73B10, 73C50)

— (*with* Hung, Ming-Jui) Linearity of waves in some systems of non-linear elastodynamics. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 2, 353–360. (Ion Nistor) **98b:73016** 73D35 (73C50)

Lei, Jingan (*with* Sun, Lelin) Monotone iterative method for nonlinear discontinuous differential equations. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 1–4. 65N12

Lei, Junjiang (*with* Jia, Rong Qing; Cheney, E. W.) Approximation from shift-invariant spaces by integral operators. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 481–498. (P. L. Butzer) **98b:41026** 41A35 (41A63, 65D10)

Lei, Lei (*with* Armstrong, Ronald D.; Gu, S.) An efficient algorithm for a class of two-resource allocation problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 114–120. (Summary) **98m:90111** 90C27 (90C35)

Lei, Pei Dong (*with* Song, Dai Cai; Lin, Zheng Hua; Lu, Xian Rui) Parameter estimation and testing for regression models with inequality constraints. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 84–87. 62J05

— (*with* Zhao, Junning) Uniqueness and stability of solutions for Cauchy problem of nonlinear diffusion equations. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 917–925. (Summary) **98h:35110** 35K55 (35B35)

Lei, Tian-Gang (*with* Wang, Bo Ying[1]) Mixed matrix functions induced by symmetrizing operators. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 166–169. (Shao Kuan Li) **98c:15027** 15A15

— The generalized c-numerical range with a completely symmetric function. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 297–300. (Summary) **98k:15038** 15A60

— Linear operators preserving the generalized decomposable numerical range. *Chinese Sci. Bull.* **42** (1997), *no.* 1, 22–26. (Bryan E. Cain) **98a:15010** 15A15 (15A60, 15A69, 47A12)

— Generalized Schur functions and generalized decomposable symmetric tensors. (English summary) *Linear Algebra Appl.* **263** (1997), 311–332. (Bo Ying Wang) **98e:15031** 15A69 (05E05, 15A72)

— Congruence numerical ranges and their radii. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 411–427. (Summary) **98k:15039** 15A60

Lei, Y. A. (*with* Zeng, Jin Yan) Nonadiabatic Berry phase of a two-state system and nonstationarity of quantum states. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 435–442. (Summary) **98j:81106** 81Q99

— (*with* Liu, Yu Fen; Zeng, Jin Yan) Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 9–22. (Summary) **98e:81202** 81V45 (81Q05)

Lei, Yan Song (*with* Zheng, Quan^2) Exponentially bounded C-cosine functions of operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 242–252. (Sen-Yen Shaw) **98k:47086** 47D09

Lei, Ying Guo (*with* Pan, Jia Qing) The second initial-boundary value problem for a nonlinear singular diffusion equation. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 557–561. 35K60 (35B30)

Leib, Harry (*with* Sun, Feng-Wen) Optimal phases for a family of quadriphase CDMA sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1205–1217. (Summary) **98d:94011** 94A12

Leib, S. J. (*with* Wu, Xuesong; Goldstein, M. E.) On the nonlinear evolution of a pair of oblique Tollmien-Schlichting waves in boundary layers. (English summary) *J. Fluid Mech.* **340** (1997), 361–394. (Summary) **98d:76070** 76E30 (76D10)

Leiber, Theodor Chaos, Berechnungskomplexität und Physik: neue Grenzen wissenschaftlicher Erkenntnis? (German summary) [Chaos, computational complexity and physics: new limits to scientific discovery?] *Philos. Natur.* **33** (1996), *no.* 1, 23–54. (Pierre Kerszberg) **98d:03011** 03A05 (03B30, 58F13)

Leibniz, Gottfried Wilhelm ★ Sämtliche Schriften und Briefe. Reihe III. (German) [Collected works and letters. Series III] Mathematischer naturwissenschaftlicher und technischer Briefwechsel. Vierter Band. Juli 1683–1690. [Mathematical, scientific and technological correspondence. Vol. 4. July 1683–1690] With an introduction by Heinz-Jürgen Hess and James G. O'Hara. Edited and with a foreword by Herbert Breger. *Akademie Verlag, Berlin*, 1995. lxvi+747 *pp. ISBN* 3-05-002602-2 (E. J. Barbeau) **98b:01040** 01A75 (01A45)

— ★ La caractéristique géométrique. (French) [The geometric characteristic] Translated from the Latin with notes and an afterword by Marc Parmentier. Edited and with an introduction and notes by Javier Echeverría. Mathesis. *Librairie Philosophique J. Vrin, Paris*, 1995. 367 *pp. ISBN* 2-7116-1228-7 (A. G. Molland) **98g:01032** 01A45

— ★ Philosophische Werke in vier Bänden. Band 1. Teil I. (German) [Philosophical works in four volumes. Vol. 1. Part I] Hauptschriften zur Grundlegung der Philosophie. [Principal writings on the foundations of philosophy] French and Latin texts translated by Artur Buchenau. Edited, with an introduction and annotations by Ernst Cassirer. Reprint of the 1966 edition. Philosophische Bibliothek [Philosophical Library], 496. *Felix Meiner Verlag, Hamburg*, 1996. civ+384 *pp. ISBN* 3-7873-1304-4 (Eberhard Knobloch) **98c:01049** 01A75 (00A30, 01A45)

— ★ Sämtliche Schriften und Briefe. Reihe VII. (German) [Collected works and letters. Series VII] Mathematische Schriften. Zweiter Band. 1672–1676. [Mathematical writings. Vol. 2. 1672–1676] Algebra (2. Teil). [Algebra (Part 2)] With a foreword by Herbert Breger. With an introduction by Walter S. Contro and Eberhard Knobloch. Edited by Contro, Knobloch and Nora Gädeke. *Akademie Verlag, Berlin*, 1996. xxxiv+887 *pp. ISBN* 3-05-002727-4 (Ivo Schneider) **98d:01043** 01A75 (01A45, 12-03)

— *see also* **Manna, Filippo**, **98b:01015**; **Fichant, Michel**, **98c:01012**; **Moll, Konrad**, **98c:01015**; **Luna Alcoba, Manuel**, **98e:01014**; **Peckhaus, Volker**, **98h:01013**; **Rescher, Nicholas**; **Hedrih, Katica R.** *and* **Echeverría, Javier**, (**98b:01001**)

Leibovich, Sidney (*with* Cox, Stephen M.) Large-scale three-dimensional Langmuir circulation. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2851–2863. (Summary) **98j:76040** 76E20 (86A05)

Leibovici, Didier (*with* El Maâche, Hamani) Une décomposition en valeurs singulières d'un élément d'un produit tensoriel de k espaces de Hilbert séparables. (English and French summaries) [A singular value decomposition of an element belonging to a tensor product of k separable Hilbert spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 779–782. 62H25

Leichtnam, Eric (*with* Piazza, Paolo) Higher Atiyah-Patodi-Singer index theory on Galois coverings. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 399–404. (Shing-Wai Chan) **98d:58178** 58G12

— (*with* Harari, David) Extension du phénomène de brisure spontanée de symétrie de Bost-Connes au cas des corps globaux quelconques. [Extension of Bost-Connes spontaneous symmetry breaking to the case of arbitrary global fields] *Selecta Math. (N.S.)* **3** (1997), *no.* 2, 205–243. (Alain Valette) **98h:11147** 11R37 (11R32, 11R42, 46L55)

Leichtweiss, K. Remarks on affine evolutions. *Abh. Math. Sem. Univ. Hamburg* **66** (1996), 355–376. (Allen Tannenbaum) **98a:58046** 58E15 (35K99, 53A07)

Leiderman, A. (*with* Levin, Michael A.; Pestov, V.) On linear continuous open surjections of the spaces $C_p(X)$. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 269–279. (Summary) **98j:54026** 54C35 (46E15, 54F45)

Leifer, P. Superrelativity as an element of a final theory. (English summary) *Found. Phys.* **27** (1997), *no.* 2, 261–285. (Oliver Rudolph) **98c:81009** 81P05 (58Z05)

Leigh, Robert G. (*with* Berkooz, Micha; Polchinski, Joseph; Schwarz, John H.; Seiberg, Nathan; Witten, Edward) Anomalies, dualities, and topology of $D = 6$ $N = 1$ superstring vacua. (English summary) *Nuclear Phys. B* **475** (1996), *no.* 1-2, 115–148. (Summary) **98k:81254** 81T50 (81T30, 83E30)

— (*with* Berkooz, Micha; Douglas, Michael R.) Branes intersecting at angles. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 265–278. (Edward Teo) **98d:81076** 81T30

— (*with* Berkooz, Micha) A $D = 4$ $N = 1$ orbifold of type I strings. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 187–208. (Summary) **98b:81180** 81T30 (83E30)

— (*with* Strassler, Matthew J.) Accidental symmetries and $N = 1$ duality in supersymmetric gauge theory. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 1-2, 132–148. (Summary) **98e:81173** 81T60 (81T13)

— (*with* Randall, Lisa; Rattazzi, Riccardo) Unity of supersymmetry breaking models. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 375–408. (Summary) **98g:81208** 81T60 (81R40, 81T13)

— (*with* Balasubramanian, Vijay) D-branes, moduli, and supersymmetry. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6415–6422. (C. Gauthier) **98c:81153** 81T30 (81T60)

Leighton, Frank Thomson (*with* Berger, Bonnie; Brady, Martin; Brown, Donna Jean) Nearly optimal algorithms and bounds for multilayer channel routing. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 2, 500–542. (Michitaka Kameyama) **98d:68107** 68Q35

— (*with* Koch, Richard R.; Maggs, Bruce M.; Rao, Satish B.; Rosenberg, Arnold L.; Schwabe, Eric J.) Work-preserving emulations of fixed-connection networks. (English summary) *J. ACM* **44** (1997), *no.* 1, 104–147. (Julian Padget) **98c:68029** 68M10 (68Q25, 68R10)

— (*with* Ma, Yuan; Plaxton, C. Gregory) Breaking the $\Theta(n \log^2 n)$ barrier for sorting with faults. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 265–304. (Friedhelm Meyer auf der Heide) **98f:68117** 68Q22 (68M15, 68P10, 68Q25)

— (*with* Goldberg, Leslie Ann; Jerrum, Mark; Rao, Satish B.) Doubly logarithmic communication algorithms for optical-communicating parallel computers. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1100–1119. (Summary) **98h:68102** 68Q22 (68R05)

— (*with* Ma, Yuan; Suel, Torsten) On probabilistic networks for selection, merging, and sorting. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 559–582. (Behrooz Parhami) **98i:68087** 68Q10 (68P10, 68Q22, 68Q25)

van Leijenhorst, D. C. Algorithms for the approximation of π. (English summary) *Nieuw Arch. Wisk.* (4) **14** (1996), *no.* 2, 255–274. (F. Beukers) **98b:11130** 11Y60

Leikin, D. V. On the Weierstrass cubic for hyperelliptic functions. (Russian) *Uspekhi Mat. Nauk* **50** (1995), *no.* 6(306), 191–192; *translation in Russian Math. Surveys* **50** (1995), *no.* 6, 1278–1279. (From the text) **98a:14042** 14H40

— (*with* Bukhshtaber, V. M.; Énol'skiĭ, V. Z.) Hyperelliptic Kleinian functions and applications. (English summary) *Solitons, geometry, and topology: on the crossroad*, 1–33, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Gabino González Diez) **98b:14029** 14H42 (14H40, 33E05, 35Q53, 58F07)

Leĭko, S. G. Isoperimetric extremals of a turn on surfaces in the Euclidean space E^3. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 6, 25–32; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 6, 22–29. (Jan Cieśliński) **98a:58038** 58E10 (49Q20, 53A04)

— Spin hypersurfaces of Minkowski space. (Russian. Russian summary) *Math. Montisnigri* **7** (1996), 19–27. (Andrew Bucki) **98d:53025** 53B25 (53B30)

Leimkuhler, Benedict J. (*with* Reich, Sebastian; Skeel, Robert D.) Integration methods for molecular dynamics. (English summary) *Mathematical approaches to biomolecular structure and dynamics (Minneapolis, MN*, 1994), 161–185, *IMA Vol. Math. Appl.*, 82, *Springer, New York*, 1996. (George W. Reddien) **98b:65080** 65L05 (65L12, 81V55, 92C40)

— (*with* Van Vleck, Erik S.) Orthosymplectic integration of linear Hamiltonian systems. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 269–282. (Marlis Hochbruck) **98j:65048** 65L05 (70–08, 70H05)

— (*with* Huang, Wei Zhang[1]) The adaptive Verlet method. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 239–256. (V. R. Ibragimov) **98g:65063** 65L05

Leinaas, Jon Magne (*with* Kjønsberg, Heidi) On the anyon description of the Laughlin hole states. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 1975–2001. (Guillermo Zemba) **98c:81254** 81V70 (81R30, 82D55)

Leinartas, E. K. On the Cauchy problem in a class of entire functions in several variables. (English summary) *Singularities and differential equations (Warsaw*, 1993), 189–192, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Soon-Yeong Chung) **98h:35005** 35A10 (35C15)

Leindler, László Integrability theorems with sign changing coefficients. *Acta Math. Hungar.* **76** (1997), *no.* 3, 173–188. (James Foran) **98e:26011** 26A42

— On the sharpness of inequalities concerning Dirichlet series and integrals. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 13–21. (Summary) **98k:41023** 41A17 (41A58)

Leinen, Felix (*with* Puglisi, Orazio) Countable recognizability of primitive periodic finitary linear groups. *Math. Proc. Cambridge Philos. Soc.* **121** (1997), *no.* 3, 425–435. (Brunella Bruno) **98b:20079** 20H20

Leiner, Nadine International migration in the presence of public goods. (English and French summaries) Développements récents en économie internationale. *Ann. Économ. Statist.* **1997**, *no.* 47, 151–170. (*see* **98g:90010**) 90A40

Leinert, Michael (*with* Bożejko, Marek; Speicher, Roland) Convolution and limit theorems for conditionally free random variables. (English summary) *Pacific J. Math.* **175** (1996), *no.* 2, 357–388. (D. Petz) **98j:46069** 46L50 (46K99, 46N50, 81S25)

Leipus, Remigijus (*with* Giraitis, Liudas; Surgailis, Donatas) The change-point problem for dependent observations. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 3, 297–310. (Vladimir Zaiats) **98g:62062** 62G05 (60F05, 62G10, 62M10)

Leis, Christian Hopf-bifurcation in systems with spherical symmetry. I. Invariant tori. (English summary) *Doc. Math.* **2** (1997), 61–113 (*electronic*). (Ian Melbourne) **98g:58127** 58F14 (34C20, 34C23)

— Hopf-bifurcation in systems with spherical symmetry. II. Connecting orbits. (English summary) *J. Reine Angew. Math.* **489** (1997), 199–220. (Ian Melbourne) **98m:58100** 58F14 (34C20, 34C23)

Leis, Rolf Initial-boundary value problems in mathematical physics. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering (Freudenstadt*, 1996), 125–144, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Summary) **98h:35041** 35J05 (73D25)

Leiserson, Charles E. (*with* Ishii, Alexander T.; Papaefthymiou, Marios C.) Optimizing two-phase, level-clocked circuitry. (English summary) *J. ACM* **44** (1997), *no.* 1, 148–199. (Michitaka Kameyama) **98h:68121** 68Q35 (94C99)

— (*with* Blelloch, Guy E.; Maggs, Bruce M.; Plaxton, C. Gregory; Smith, Stephen Joseph; Zagha, M.) An experimental analysis of parallel sorting algorithms. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 135–167. 68Q22 (68P10)

— *see also* **ACM Symposium: Parallel Algorithms and Architectures**, **98d:68004**

Leiss, Ernst L. Solving systems of explicit language relations. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 83–105. (Erkki Mäkinen) **98i:68158** 68Q45

Leiß, Hans Bounded fixed-point definability and tabular recognition of languages. (English summary) *Computer science logic (Paderborn*, 1995), 388–402, *Lecture Notes in Comput.*

Sci., 1092, *Springer, Berlin*, 1996. (*see* **98a:68002**) 68Q45 (03D05, 68Q15, 68S05)

Leite, José Galvão (*with* Yoshida, Olga S.; Bolfarine, Heleno) Bayes' estimation of the number of component processes of a superimposed process. (English summary) *Probab. Engrg. Inform. Sci.* **10** (1996), *no.* 3, 443–461. (Uttara V. Naik-Nimbalkar) **98a:62036** 62F15 (62M05)

— (*with* Rodrigues, Josemar; Barbosa, Luciano) Inference for the software reliability using imperfect recapture debugging model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 27–37. 62N05 (62F15)

Leite, Marcelo M. (*with* Rivelles, Victor O.) Black holes in the gauge-theoretic formulation of dilatonic gravity. (English summary) *Phys. Lett. B* **392** (1997), *no.* 3-4, 305–310. (Jürgen Tolksdorf) **98c:81202** 81T40 (81V17, 83C57)

Leitenberger, Frank On the classical Yang-Baxter equation for Clifford sequences. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1679–1684. (Dmitrii I. Gurevich) **98h:58063** 58F05 (82B23)

Leiterer, Jürgen From local to global homotopy formulas for $\overline{\partial}$ and $\overline{\partial}_b$. *Geometric complex analysis* (*Hayama*, 1995), 385–391, *World Sci. Publishing, River Edge, NJ*, 1996. (Der-Chen E. Chang) **98d:32022** 32F20

Leites, D. (*with* Poletaeva, E.) Defining relations for classical Lie algebras of polynomial vector fields. (English summary) *Math. Scand.* **81** (1997), *no.* 1, 5–19 (1998). (Janusz Grabowski) **98m:17032** 17B66

— *see also* **Prasolov, Viktor**, **98k:14064**

Leith, D. J. (*with* Leithead, W. E.) Appropriate realisation of MIMO gain-scheduled controllers. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 13–50. 93B51 (93B15, 93C10)

Leithead, W. E. (*with* O'Reilly, John) Frequency-domain approaches to multivariable feedback control system design: an assessment by individual channel design for 2-input 2-output systems. (English summary) *Control Theory Adv. Tech.* **10** (1995), *no.* 4, *part* 5, 1913–1940. (Nicholas P. Karampetakis) **98b:93025** 93B51 (93C35, 93C80)

— (*with* Leith, D. J.) Appropriate realisation of MIMO gain-scheduled controllers. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 13–50. 93B51 (93B15, 93C10)

Leitmann, George On a class of robust controls for uncertain systems. (English summary) *First International Conference on Nonlinear Problems in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 351–362, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 93B35 (93C41)

— One method for robust control of uncertain systems—theory and practice. (English summary) *System modelling and optimization* (*Prague*, 1995), 64–74, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 93B35 (93D09)

— (*with* Reithmeier, E.) Active vibration damping of dynamical systems with bounded uncertainties. (English summary) *Uncertainty: models and measures* (*Lambrecht*, 1996), 244–256, *Math. Res.*, 99, *Akademie Verlag, Berlin*, 1997. (*see* **98e:00024**) 73K50 (34H05, 70Q05, 73K12, 93C85)

— (*with* Corless, Martin) Destabilization via active stiffness. (English summary) *Dynam. Control* **7** (1997), *no.* 3, 263–268. (Paulo Sérgio Pereira da Silva) **98e:93082** 93D15 (34C15, 34H05, 70K20)

Leitsch, Alexander (*with* Baaz, Matthias; Zach, Richard) Incompleteness of a first-order Gödel logic and some temporal logics of programs. (English summary) *Computer science logic* (*Paderborn*, 1995), 1–15, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98i:03032** 03B50 (03B45, 03B55, 03B70)

— (*with* Baaz, Matthias) Fast cut-elimination by projection. *Computer science logic* (*Utrecht*, 1996), 18–33, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (From the introduction) **98m:03112** 03F05

— *see also* **Computational logic and proof theory**, **98h:03004**

Leiva, Hugo (*with* Chow, Shui-nee) Unbounded perturbation of the exponential dichotomy for evolution equations. (English summary) *J. Differential Equations* **129** (1996), *no.* 2, 509–531. (From the introduction) **98d:34090** 34G10 (34D05, 34D10, 34K10, 35K45, 47D06, 47N20)

— General perturbation of the exponential dichotomy for evolution equations. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 1–12. (Carlos Lizama) **98j:34111** 34G10 (34D99, 35K99, 47D06)

Leivant, Daniel (*with* Marion, Jean-Yves) Ramified recurrence and computational complexity. II. Substitution and poly-space. (English summary) *Computer science logic* (*Kazimierz*, 1994), 486–500, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68082** 68Q15 (03D15)

Leizarowitz, Arie Convergence of solutions to equations arising in neural networks. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 533–560. (Michel Benaïm) **98i:34091** 34H05 (34C99, 34D99, 49K15, 92B20)

— (*with* Zaslavski, Alexander J.) Optimal solutions of linear control systems with nonperiodic convex integrands. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 726–746. (V. A. Plotnikov) **98g:49018** 49K15 (93C05)

— (*with* Zaslavski, Alexander J.) Optimal solutions of linear periodic control systems with convex integrands. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 127–149. (E. N. Barron) **98h:49002** 49J15 (93C15)

Le Jan, Yves (*with* Franchi, Jacques) Brownian charges around loops. (English summary) *Probab. Theory Related Fields* **104** (1996), *no.* 4, 501–514. (Krzysztof Burdzy) **98a:60113** 60J65 (31C99, 60J45)

— (*with* Bertoin, Jean; Le Gall, Jean-François) Spatial branching processes and subordination. (English summary) *Canad. J. Math.* **49** (1997), *no.* 1, 24–54. (Ingemar Kaj) **98g:60151** 60J80 (60G57)

— (*with* Sznitman, Alain-Sol) Stochastic cascades and 3-dimensional Navier-Stokes equations. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 343–366. (Peter E. Kloeden) **98j:35144** 35Q30 (35R60, 60J80, 76D05, 76M35)

Le Khanh Chau (*with* Stumpf, Helmut) Strain measures, integrability condition and frame indifference in the theory of oriented media. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 9-10, 783–798. (Summary) **98k:73004** 73B05

Lekhtikov, S. N. (*with* Volkov, V. M.) Multicomponent iterative methods of decomposition type for two-dimensional stationary problems of dissipative transfer. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 927–933, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 931–937 (1998). 76M20 (65N99)

Leksin, V. P. (*with* Golubeva, V. A.) Quantum problems with symmetries and generalized Knizhnik-Zamolodchikov equations. (English summary) *New frontiers in algebras, groups and geometries* (*Montevideo*, 1995), 19–73, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Kazuhiro Hikami) **98j:81149** 81R50 (17B37, 32G34, 33D80, 81V70, 82B20)

— (*with* Golubeva, V. A.) Quadratic relations in the cohomology of generalized colored braids, and Dunkl identities. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 2, 73–76; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 2, 131–134. (J. S. Joel) **98c:32051** 32S55 (32S40)

— (*with* Golubeva, V. A.) On the Veselov-Felder restoration formula in the theory of Calogero-Sutherland operators. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **106** (1996), *no.* 1, 62–75; *translation in Theoret. and Math. Phys.* **106** (1996), *no.* 1, 50–60. (J. S. Joel) **98c:58068** 58F07 (32S40, 81R50)

— (*with* Golubeva, V. A.) Nonabelian statistics for Calogero-Sutherland systems of particles. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 241–259. (Kazuhiro Hikami) **98d:81133** 81V70 (32G34, 39A10)

Le Lann, G. On real-time and non-real-time distributed computing. (English summary) *Distributed algorithms* (*Le Mont-Saint-Michel*, 1995), 51–70, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68Q10

Lele, Sanjiva K. Flows with density variations and compressibility: similarities and differences. (English summary) *IUTAM Symposium on Variable Density Low-speed Turbulent Flows* (*Marseille*, 1996), 279–301, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76N99 (76F99)

— (*with* Rennich, Steven C.) Numerical method for incompressible vortical flows with two unbounded directions. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 101–129. (Summary) **98j:76113** 76M25 (76C05)

— (*with* Mahesh, Krishnan; Moin, Parviz) The influence of entropy fluctuations on the interaction of turbulence with a shock wave. (English summary) *J. Fluid Mech.* **334** (1997), 353–379. (Summary) **98c:76090** 76N20 (76F99, 76L05)

— (*with* Lee, Sangsan; Moin, Parviz) Interaction of isotropic turbulence with shock waves: effect of shock strength. (English summary) *J. Fluid Mech.* **340** (1997), 225–247. (Summary) **98d:76090** 76F99 (76L05)

Lelièvre, Hubert Espaces BMO, inégalités de Paley et multiplicateurs idempotents. (English summary) [BMO spaces, Paley inequalities and idempotent multipliers] *Studia Math.* **123** (1997), *no.* 3, 249–274. (Oscar Blasco) **98b:42012** 42A45 (46E40)

Lelikova, E. F. On the asymptotic behavior of the fundamental solution of a second-order parabolic equation. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol. 4* (*Russian*), 296–321, 377, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Summary) **98g:35087** 35K10 (35A08, 35B40, 35C20)

Le Lionnais, François ★ Les grands courants de la pensée mathématique. (French. French summary) [The great currents of mathematical thought] With a preface by Bernard Teissier, a foreword by Jean Ballard, and an unpublished letter of Paul Valéry. Collection Histoire de la Pensée. [History of Thought Collection] *Hermann, Paris*, 1998. 533 *pp. ISBN* 2-7056-6332-0 (Editors) **98j:01001** 01A05 (00A05, 00A30)

Lellep, Jaan Iivi Vainikko 1939–1993. (Estonian. Estonian summary) *Estonian Mathematical Society. Annual* 1992/1993 (*Estonian*), 94–95, *Estonian Math. Soc., Tartu*, 1997. (*see* **98f:01002**) 01A70

— Lembit Roots 1931–1993. (Estonian. Estonian summary) *Estonian Mathematical Society. Annual* 1992/1993 (*Estonian*), 96–97, *Estonian Math. Soc., Tartu*, 1997. (*see* **98f:01002**) 01A70

di Lello, Roberto *see* **Di Lello, Roberto**

Lemaire, Bernard Duality in reverse convex optimization. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 173–182, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98m:49051** 49N15 (90C25)

— Stability of the iteration method for nonexpansive mappings. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 229–238. (Constantin Zălinescu) **98d:47124** 47H09 (47H17, 47N10, 49J45, 90C31)

— Which fixed point does the iteration method select? (English summary) *Recent advances in optimization* (*Trier*, 1996), 154–167, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Jean-Pierre Crouzeix) **98g:90040** 90C48 (49M07, 65K10, 90C25)

Lemaitre, Anne Stable chaos: a first model. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 223–231, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 58F13 (70F15, 70K50)

— (*with* Hadjidemetriou, John D.) Asteroid motion near the 2 : 1 resonance: a symplectic mapping approach. (English summary) *The dynamical behaviour of our planetary system* (*Ramsau*, 1996), 277–290, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98m:70002**) 70F15 (58F40, 70H05)

Lemaître, Georges The expanding universe. Translation of "L'univers en expansion" [Ann. Soc. Sci. Bruxelles A **53** (1933), 51–85]. Translated from the French by M. A. H. MacCallum. *Gen. Relativity Gravitation* **29** (1997), *no.* 5, 641–680. (H. Treder) **98h:01037** 01A75 (01A70, 83–03, 85–03)

— *see also* **Krasiński, Andrzej**, **98h:01036** *and* **Lipnik, P.**

Lemaitre, Gérard R. Equal curvature and equal constraint cantilevers: extensions of Euler and Clebsch formulas. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 6, 493–503. 73K05

Lemańczyk, Mariusz (*with* Aaronson, Jon; Mauduit, Christian; Nakada, Hitoshi) Koksma's inequality and group extensions of Kronecker transformations. (English summary) *Algorithms, fractals, and dynamics* (*Okayama/Kyoto*, 1992), 27–50, *Plenum, New York*, 1995. (Summary) **98c:28023** 28D15 (22D40)

— Cohomology groups, multipliers and factors in ergodic theory. (English summary) *Studia Math.* **122** (1997), *no.* 3, 275–288. (A. I. Danilenko) **98a:28014** 28D05

— (*with* Iwanik, A.; de la Rue, T.; de Sam Lazaro, J.) Quelques remarques sur les facteurs des systèmes dynamiques gaussiens. (English summary) [Some remarks on the factors of Gaussian dynamical systems] *Studia Math.* **125** (1997), *no.* 3, 247–254. (Michael T. Lacey) **98m:28035** 28D05 (60G10)

— (*with* Sinel'shchikov, S. D.) Unbounded gaps for cocycles and invariant measures for their Mackey actions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 815–818. (S. I. Bezuglyĭ) **98f:28025** 28D05

Le Marec, C. (*with* Guérin, Rahma; Haldenwang, P.) Pattern study in the 2-D solutal convection above a Bridgman-type solidification front. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3149–3161. 76E15 (80A22)

Lemaréchal, Claude (*with* Sagastizábal, Claudia; Pellegrino, F.; Renaud, Arnaud) Bundle methods applied to the unit-commitment problem. (English summary) *System modelling and optimization* (*Prague*, 1995), 395–402, *Chapman & Hall, London*, 1996. (Summary) **98h:90079** 90C30 (49J52)

— (*with* Sagastizábal, Claudia) More than first-order developments of convex functions: primal-dual relations. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 255–268. (Lionel Thibault) **98k:49048** 49N15 (49J52, 90C25)

— (*with* Sagastizábal, Claudia) Variable metric bundle methods: from conceptual to implementable forms. (English summary) *Math. Programming* **76** (1997), *no.* 3, *Ser. B*, 393–410. (V. F. Dem'yanov) **98h:90080** 90C30 (49J52)

— (*with* Sagastizábal, Claudia) Practical aspects of the Moreau-Yosida regularization: theoretical preliminaries. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 367–385. (Christian Michelot) **98e:49085** 49N15 (49J52, 90C30)

Lemarié-Rieusset, Pierre Gilles (*with* Furioli, Giulia; Terraneo, Elide) Sur l'unicité dans $L^3(\mathbf{R}^3)$ des solutions "mild" des équations de Navier-Stokes. (English and French summaries) [On the uniqueness in $L^3(\mathbf{R}^3)$ of mild solutions for the Navier-Stokes equations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1253–1256. (Summary) **98g:35159** 35Q30 (76D05)

— Fonctions d'échelle interpolantes, polynômes de Bernstein et ondelettes non stationnaires. (English and French summaries) [Interpolating scaling functions, Bernstein polynomials and nonstationary wavelets] *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 91–188. (Lars F. Villemoes) **98k:42045** 42C15

Le Mau Hai Weak extension of Frechet-valued holomorphic functions on compact sets and linear topological invariants. (English summary) *Acta Math. Vietnam.* **21** (1996), *no.* 2, 183–199. (Ignacio Zalduendo) **98d:46044** 46G20

Lemdani, Mohamed (*with* Pons, Odile) Likelihood ratio tests for genetic linkage. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 1, 15–22. (István Ratkó) **98h:62023** 62F03 (62P10)

— (*with* Pons, Odile) Estimation and tests in finite mixture models for censored survival data. (English summary) *Statistics* **29** (1997), *no.* 4, 363–388. (Summary) **98e:62030** 62F03 (62F10, 62G05)

Le Méhauté, Alain (*with* Wang, Qiuping A.) On the generalized distribution functions of quantum gases. (English summary) *Phys. Lett. A* **235** (1997), *no.* 3, 222–226. (Summary) **98k:82026** 82B10

— (*with* Wang, Qiuping A.) On the generalized blackbody distribution. (English summary) *Phys. Lett. A* **237** (1997), *no.* 1-2, 28–32. 82B10

Le Merdy, Christian On dilation theory for c_0-semigroups on Hilbert space. (English summary) *Indiana Univ. Math. J.* **45** (1996), *no.* 4, 945–959. (Wing Suet Li) **98f:47009** 47A20 (47D03)

— Factorization of p-completely bounded multilinear maps. (English summary) *Pacific J. Math.* **172** (1996), *no.* 1, 187–213. (Wend Werner) **98b:46073** 46L05 (46Bxx, 46M05, 47B99, 47D15, 47D50)

— A remark on the tensor product of two maximal operator spaces. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 375–381. (Summary) **98d:46016** 46B28 (46L05, 46M05, 47D15)

— The Schatten space S_4 is a Q-algebra. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 715–719. (Catalin Badea) **98e:46018** 46B28 (46J10, 46L05, 47B10, 47D50)

Lemes, V. E. R. (*with* Linhares de Jesus, C.; Sasaki, C. A. G.; Sorella, S. P.; Vilar, L. C. Q.; Ventura, O. S.) A simple remark on three-dimensional gauge theories. (English summary) *Phys. Lett. B* **418** (1998), *no.* 3-4, 324–328. (Summary) **98m:81195** 81T70 (81T13)

Le Métayer, Daniel (*with* Hankin, Chris; Sands, David) Refining multiset transformers. (English summary) Theoretical aspects of coordination languages. *Theoret. Comput. Sci.* **192** (1998), *no.* 2, 233–258. (Summary) **98m:68070** 68Q10

Le Meur, Hervé Non-uniqueness and linear stability of the one-dimensional flow of multiple viscoelastic fluids. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 2, 185–211. (Hans Engler) **98b:76005** 76A10 (35B35, 76E99, 76T05)

Lemieux, François (*with* Beaudry, Martin; Thérien, Denis) Finite loops recognize exactly the regular open languages. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 110–120, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q45 (68Q70)

hoàng Lê Minh *see* **Hoàng Lê Minh**

Lemire, Frank (*with* Benkart, Georgia; Britten, Daniel) Modules with bounded weight multiplicities for simple Lie algebras. *Math. Z.* **225** (1997), *no.* 2, 333–353. (Alexander N. Rudyĭ) **98h:17004** 17B10 (17B20)

Lemire, Mathieu (*with* Lessard, Sabin) On the non-existence of an optimal migration rate. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 657–682. (Summary) **98h:92036** 92D25

Lemmens, P. W. H. Pólya theory of hypercubes. (English summary) *Geom. Dedicata* **64** (1997), *no.* 2, 145–155. (Thomas W. Müller) **98f:05007** 05A15 (05E15)

Lemmerling, Philippe (*with* Van Huffel, Sabine; De Moor, Bart L. R.) Structured total least squares problems: formulations, algorithms and applications. (English summary) *Recent advances in total least squares techniques and errors-in-variables modeling* (*Leuven*, 1996), 215–223, *SIAM, Philadelphia, PA*, 1997. (*see* **98f:65045**) 65F20

Lemmermeyer, Franz On 2-class field towers of some imaginary quadratic number fields. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 205–214. (Ken Yamamura) **98k:11168** 11R37

— Rational quartic reciprocity. II. *Acta Arith.* **80** (1997), *no.* 3, 273–276. (Lawrence Washington) **98f:11004** 11A15 (11R16)

— Unramified quaternion extensions of quadratic number fields. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 1, 51–68. (Stéphane Louboutin) **98j:11090** 11R21 (11R32)

— Gauss bounds of quadratic extensions. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 365–368. (Charles J. Parry) **98h:11131** 11R16 (11R11, 11R29)

Lemmert, Roland (*with* Herzog, Gerd) Ordinary differential equations in Frechet spaces. (English summary) *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 89–93, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 34G20

Lemoine, Jérôme (*with* Simon, Jacques) Extension of distributions and representation by derivatives of continuous functions. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **7** (1996), *no.* 1, 31–40. (James Bell Cooper) **98f:46036** 46F05 (46E40)

— (*with* Bresch, Didier; Simon, Jacques) Écoulement engendré par le vent et la force de Coriolis dans un domaine mince. I. Cas stationnaire. (English and French summaries) [Motion driven by wind and by Coriolis force in a thin domain. I. Stationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 807–812. (Summary) **98g:86001** 86A05 (76P05, 76U05)

— On non-homogeneous viscous incompressible fluids. Existence of regular solutions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 697–715. (Joseph J. Roseman) **98m:35160** 35Q30 (76D05)

Lemon, Oliver (*with* Pratt, Ian) Ontologies for plane, polygonal mereotopology. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 225–245. (Summary) **98g:03032** 03B30 (03C65)

Lemou, M. (*with* Buet, C.; Cordier, S.; Degond, Pierre) Fast algorithms for numerical, conservative, and entropy approximations of the Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **133** (1997), *no.* 2, 310–322. (Summary) **98a:82097** 82D10 (82–08, 82C35)

Lempert, László The problem of complexifying a Lie group. *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 169–176, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Vladimir Pestov) **98d:22020** 22E65 (58B25, 58D05)

Lempio, Frank Euler's method revisited. *Trudy Mat. Inst. Steklov.* **211** (1995), *Optim. Upr. i Differ. Uravn.*, 473–494. (P. D. Panagiotopoulos) **98g:65057** 65J15 (34A60, 65L99, 65N99)

— (*with* Silin, D. B.) Differential inclusions with strongly one-sided-Lipschitz right-hand sides. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1488–1494, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1485–1491 (1997). (Corneliu Ursescu) **98m:34028** 34A60

— Numerische Mathematik. I. Methoden der linearen Algebra. [Numerical mathematics. I. Methods of linear algebra] *Bayreuth. Math. Schr. No.* 51 (1997), vi+234 *pp.* (From the preface) **98e:65001** 65–01 (15–01)

Lempken, W. (*with* Fleischmann, Peter) On generators of modular invariant rings of finite groups. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 585–591. (Andrzej Tyc) **98g:13005** 13A50 (20C05)

— (*with* Fleischmann, Peter; Tiep, Pham Huu) Finite p'-semiregular groups. *J. Algebra* **188** (1997), *no.* 2, 547–579. (I. M. Isaacs) **98b:20007** 20C15 (20C20)

— (*with* Fleischmann, Peter; Tiep, Pham Huu) The primitive p-Frobenius groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1337–1343. (Krasarm K. Shchukin) **98j:20002** 20B15

Lempp, Steffen (*with* Hirst, Jeffry L.) Infinite versions of some problems from finite complexity theory. (English summary) *Notre Dame J. Formal Logic* **37** (1996), *no.* 4, 545–553. (Uwe Schöning) **98d:03050** 03D15 (03D35, 68Q15)

— (*with* Lerman, Manuel) Iterated trees of strategies and priority arguments. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 297–312. (A. Kučera) **98m:03086** 03D25 (03–02, 03D30)

— (*with* Nies, André; Slaman, Theodore A.) The Π_1-theory of the computably enumerable Turing degrees is undecidable. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2719–2736. (Peter Cholak) **98j:03056** 03D25 (03D35)

Lemus, R. (*with* Frank, Alejandro) Algebraic methods in molecular structure. I. Triatomic molecules. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 139–161, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (*see* **98f:81011**) 81V55 (81R05)

— Algebraic methods in molecular structure. II. $\mathcal{D}_{3h}$-triatomic and tetrahedral molecules. (English summary) *Latin-American School of Physics XXX ELAF* (*México City*, 1995), 162–190, *AIP Conf. Proc.*, 365, *Amer. Inst. Phys. Press, Woodbury, NY*, 1996. (*see* **98f:81011**) 81V55 (81R05)

— (*with* Frank, Alejandro; Bijker, R.; Pérez-Bernal, F.; Arias, J. M.) A symmetry adapted algebraic approach to molecular spectroscopy. *Symmetries in science, IX* (*Bregenz*, 1996), 99–115, *Plenum, New York*, 1997. (*see* **98e:81003**) 81V55 (81R05)

Len, Qiang *see* **Ren, Qiang**

Lenagan, T. H. A Krull-Akizuki theorem for noncommutative rings. (English summary) *Anneaux et modules* (*Colmar*, 1991), 73–76, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (Summary) **98i:16021** 16N60 (16P40)

Lénárd, Margit On a modified bi-quadratic spline function of Hermite-type. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 263–272. (Jian Zhong Wang) **98d:41014** 41A15 (41A05)

Lenart, Cristian (*with* Ray, Nigel) Chromatic polynomials of partition systems. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 419–444. (Timothy Y. Chow) **98c:05063** 05C15 (05A40)

Lenci, Marco Ergodic properties of the quantum ideal gas in the Maxwell-Boltzmann statistics. (English summary) *J. Math. Phys.* **37** (1996), *no.* 10, 5136–5157. (Lech Jakóbczyk) **98a:82010** 82B10 (47N55)

Lenci, S. (*with* Tarantino, Angelo Marcello) Dynamics of shallow elastic arches. I. Chaotic response of harmonically shaped arches. (English summary) *European J. Mech. A Solids* **15** (1996), *no.* 3, 513–528. (Summary) **98a:73041** 73K12 (58F13, 58F40, 70K50, 73K05)

— (*with* Tarantino, Angelo Marcello) Dynamics of shallow elastic arches. II. Optimal forms. (English summary) *European J. Mech. A Solids* **15** (1996), *no.* 3, 529–543. (Summary) **98a:73042** 73K12 (58F13, 58F40, 70K50, 73K05)

Lenczewski, Romuald Quantum random walk for $U_q(\mathrm{su}(2))$ and a new example of quantum noise. (English summary) *J. Math. Phys.* **37** (1996), *no.* 5, 2260–2278. (Summary) **98d:46083** 46N50 (81R50, 81S25)

— *see also* **Dyszlewicz, Janusz, 98j:73007**

Lenczner, M. (*with* Canon, Éric) Models of elastic plates with piezoelectric inclusions. I. Models without homogenization. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 79–106. (Tomasz Lewiński) **98i:73031** 73K10 (73B27, 73K20, 73R05)

Lenczowski, J. (*with* Ganczarski, A.) On the convexity of the Goldenblat-Kopnov yield condition. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 3, 461–475. 73E05

Lenders, Patrick M. (*with* Dunstan, Neil) Reducing multiphase multirate arrays. (English summary) Nineteenth Australasian Computer Science Conference (Melbourne, 1996). *Austral. Comput. Sci. Comm.* **18** (1996), *no.* 1, 324–330. (*see* **98k:68006**) 68Q35

Lendi, K. (*with* Farhadmotamed, F.; van Wonderen, A. J.) Entropy studies for the damped and the undamped Jaynes-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3395–3416. 81V80

Lénè, Françoise (*with* Kail, Renaud; de Roeck, Yann-Hervé) An asymptotic model of laminated plates. (English and French summaries) *Rev. Européenne Élém. Finis* **6** (1997), *no.* 1, 23–42. (Summary) **98c:73052** 73K10 (73K20, 73V05, 73V20)

Leng, G. *see* **Leng, Gerard Siew Bing**

Leng, Gang Song A conjecture about Gerber's inequality. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 561–564. (Yao Zhang) **98d:51016** 51M16 (51M25)

— Some inequalities involving two simplexes. (English summary) *Geom. Dedicata* **66** (1997), *no.* 1, 89–98. (Daniel Hug) **98g:52016** 52A40 (51M20)

— (*with* Liu, Lan Zhe) Weighted vector-valued inequalities for generalized singular integral operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 110–115. 42B20

Leng, Gerard Siew Bing (*with* Wei, J. G.) Lyapunov exponent and chaos of Duffing's equation perturbed by white noise. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 1, 77–93. 34D08 (34C15, 34F05, 34L05, 58F13, 60H10, 70K40, 70K50)

— (*with* Lin, Rongzin; Lee, Heow Pueh) The study of a parametrically excited nonlinear mechanical system with the continuation method. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 1, 1–22. 70K40 (34C15, 34C23, 70–08)

Leng, Ng Wee (*with* Lee, Peng Yee) The Radon-Nikodým theorem for the Henstock integral in Euclidean space. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 677–687. (J. Jarník) **98h:26015** 26B15 (26B30)

Lengauer, Thomas (*with* Heckmann, Ralf) Computing upper and lower bounds on textile nesting problems. (English summary) *Algorithms—ESA '96 (Barcelona)*, 392–405, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:90062** 90B50 (90C90)

— (*with* Peinado, Marcus) "Go with the winners" generators with applications to molecular modeling. (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 135–149, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **98m:68195** 68R05

Lengnick, M. (*with* Łodygowski, T.; Perzyna, P.; Stein, Erwin) On regularization of plastic flow localization in a soil material. (English summary) *Engrg. Trans.* **44** (1996), *no.* 3-4, 445–469. (Robin Olivian Simionescu-Panait) **98b:73030** 73Q05 (65J15, 73E05, 73E60, 73V05)

Lenhardt, Ingrid (*with* Alefeld, Götz; Mayer, Günter) On multisplitting methods for linear systems of equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 111–114. (*see* **98b:65005**) 65F10 (65Y05)

— (*with* Rottner, Th.; Alefeld, Götz; Schweizerhof, K.) Nonlinear structural finite element analysis using the preconditioned Lanczos method on serial and parallel computers. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 759–769. (*see* **98f:65005**) 65N30 (65F10, 65Y05)

— (*with* Alefeld, Götz; Mayer, Günter) On multisplitting methods for band matrices. (English summary) *Numer. Math.* **75** (1997), *no.* 3, 267–292. (De Ren Wang) **98c:65039** 65F10

Lenhart, Suzanne (*with* Cover, Alan S.; Reneke, James A.; Fryer, Michael O.; Protopopescu, Vladimir) RKH space methods for low level monitoring and control of nonlinear systems. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 1, 77–96. (Summary) **98g:93042a** 93E03 (93C10, 93C95)

— (*with* Kirschner, Denise; Serbin, Steve) Optimal control of the chemotherapy of HIV. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 775–792. (Summary) **98h:92022** 92C60 (49N55)

— (*with* Cover, Alan S.; Reneke, James A.; Protopopescu, Vladimir) RKH space methods for low level monitoring and control of nonlinear systems. II. A vector-case example: the Lorenz system. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 823–845. (Summary) **98g:93042b** 93E03 (93C10, 93C95)

— (*with* Protopopescu, Vladimir; Szpiro, A. A.) Optimal control for competing coalitions. *Nonlinear Anal.* **28** (1997), *no.* 8, 1411–1428. (Andrzej Swiech) **98b:90183** 90D12 (49K20)

— (*with* Bradley, M. E.) Bilinear optimal control of a Kirchhoff plate to a desired profile. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 3, 217–226. (Guenter Leugering) **98i:49001** 49J20 (73K10, 73K50)

Lenic, A. (*with* Gajek, L.; Kaluszka, Marek) The law of the iterated logarithm for L_p-norms of empirical processes. (English summary) *Statist. Probab. Lett.* **28** (1996), *no.* 2, 107–110. (M. Csörgő) **98a:60038** 60F25 (62G30)

Lenin, R. B. (*with* Parthasarathy, P. R.) On the exact transient solution of finite birth and death processes with specific quadratic rates. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 92–105. (Summary) **98h:60124** 60J80 (60K25)

— (*with* Parthasarathy, P. R.) On the numerical solution of transient probabilities of a state-dependent multiserver queue. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 241–255. 90B22 (60K25)

Lenis, D. (*with* Bonatsos, Dennis; Daskaloyannis, C.; Kolokotronis, P.) Quantum algebras in nuclear structure. (English summary) *Romanian J. Phys.* **41** (1996), *no.* 1-2, 109–192. (Summary) **98b:81092** 81R50 (81V35)

— (*with* Bonatsos, Dennis; Kolokotronis, P.; Daskaloyannis, C.) Deformed u(2) algebra as the symmetry algebra of the planar anisotropic quantum harmonic oscillator with rational ratio of frequencies. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 19, 3335–3346. (Aleksei P. Isaev) **98e:81069** 81R50 (81S05)

Lenisa, Marina (*with* Honsell, Furio) Final semantics for untyped λ-calculus. (English summary) *Typed lambda calculi and applications (Edinburgh, 1995)*, 249–265, *Lecture Notes in Comput. Sci.*, 902, *Springer, Berlin*, 1995. (*see* **98e:03020**) 03B40

— (*with* Forti, Marco; Honsell, Furio) Axiomatic characterizations of hyperuniverses and applications. (English summary) *Papers on general topology and applications (Gorham, ME, 1995)*, 140–163, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Marion Scheepers) **98a:03076** 03E30 (03E65)

— (*with* Forti, Marco; Honsell, Furio) An axiomatization of partial n-place operations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 3, 283–302. (Summary) **98b:08003** 08A55 (03B40, 68Q05, 68Q55)

Lennard, C. J. (*with* Kicey, C. J.) Unique reconstruction of band-limited signals by a Mallat-Zhong wavelet transform algorithm. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 1, 63–82. (Peter A. McCoy) **98k:94001** 94A12 (42C15)

— (*with* Tonge, A. M.; Weston, Anthony) Generalized roundness and negative type. *Michigan Math. J.* **44** (1997), *no.* 1, 37–45. (Mieczysław Mastyło) **98e:46010** 46B20 (46E40, 46M35)

— (*with* Dowling, P. N.; Turett, B.) Asymptotically isometric copies of c_0 in Banach spaces. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 377–391. (Y. Benyamini) **98m:46023** 46B25

Lennerstad, Håkan (*with* Lundberg, Lars) Bounding the gain of changing the number of memory modules in shared memory multiprocessors. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 3, 233–258. (Summary) **98f:68018** 68M07

Lennox, John C. Centrality in soluble groups. *Infinite groups* 1994 (*Ravello*), 153–162, *de Gruyter, Berlin*, 1996. (*see* **98e:20004**) 20F16 (20F14)

— On soluble groups in which centralizers are finitely generated. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 131–135. (A. H. Rhemtulla) **98c:20065** 20F16

— (*with* Cutolo, G.; Khukhro, E. I.; Rinauro, S.; Smith, Howard; Wiegold, James) Locally finite groups all of whose subgroups are boundedly finite over their cores. (English summary) *Bull. London Math. Soc.* **29** (1997), *no.* 5, 563–570. (John S. Wilson) **98j:20020** 20D15 (20D60, 20F50)

— (*with* Cutolo, G.; Khukhro, E. I.; Wiegold, James; Rinauro, S.; Smith, Howard) Finite core-p p-groups. (English summary) *J. Algebra* **188** (1997), *no.* 2, 701–719. (Patrizia Longobardi) **98g:20065** 20F50 (20D15)

Lenoir, Alexandre (*with* Malgouyres, Rémy; Revenu, Marinette) Fast computation of the normal vector field of the surface of a 3-D discrete object. (English summary) *Discrete geometry for computer imagery (Lyon, 1996)*, 101–112, *Lecture Notes in Comput. Sci.*, 1176, *Springer, Berlin*, 1996. (*see* **98g:68004**) 68U10 (52B55)

knopf-Lenoir, C. *see* **Knopf-Lenoir, C.**

Lenoir, Marc (*with* Hazard, Christophe) On the solution of time-harmonic scattering problems for Maxwell's equations. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1597–1630. (Rainer Picard) **98c:35157** 35Q60 (35C15, 35J25, 78A45)

Lenormand, R. Fractals and porous media: from pore to geological scales. (English summary) *Fractals and fractional calculus in continuum mechanics (Udine, 1996)*, 173–222, *CISM Courses and Lectures*, 378, *Springer, Vienna*, 1997. (*see* **98k:73001**) 76S05 (28A80, 73N20, 73S10, 86A60)

Lenski, Włodzimierz (*with* Topolewska, Maria) On the rate of strong summability of Fourier-Chebyshev series. (Polish summary) *Problemy Mat. No.* **14** (1995), 27–35. (L. Leindler) **98b:42007** 42A28 (42C10)

Lenstra, Arjen K. (*with* Dodson, Bruce) NFS with four large primes: an explosive experiment. (English summary) *Advances in cryptology—CRYPTO '95 (Santa Barbara, CA, 1995)*, 372–385, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98d:11156** 11Y05 (94A60)

— (*with* Cowie, James; Dodson, Bruce; Elkenbracht-Huizing, R.-Marije; Montgomery, Peter L.; Zayer, Jörg) A World Wide number field sieve factoring record: on to 512 bits. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 382–394, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (*see* **98g:94001**) 94A60 (11Y05)

Lenstra, Daan (*with* Krauskopf, Bernd; van der Graaf, W. A.) Bifurcations of relaxation oscillations in an optically injected diode laser. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 5, 797–809. (Summary) **98j:78031** 78A60 (34C23)

Lenstra, H. W., Jr. (*with* Zieve, M.) A family of exceptional polynomials in characteristic three. (English summary) *Finite fields and applications (Glasgow, 1995)*, 209–218, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (S. D. Cohen) **98a:11174** 11T06 (20G40)

— (*with* de Smit, Bart) Finite complete intersection algebras and the completeness radical. (English summary) *J. Algebra* **196** (1997), *no.* 2, 520–531. (Santiago Zarzuela Armengou) **98j:13010** 13C40 (13C10, 13H10, 13J10)

Lenstra, Jan Karel (*with* Anthonisse, Ko) Operational operations research at the Mathematical Centre. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 59–64, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (*see* **98h:00042**) 01A74 (90–03)

— (*with* Korst, Jan H. M.; Aarts, Emile H. L.) Scheduling periodic tasks with slack. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 4, 351–362. (Summary) **98i:68033** 68M20

— *see also* **Local search in combinatorial optimization, 98e:90004**

Lensu, Mikko Correlations between fragment sizes in sequential fragmentation. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7501–7507. 82B99

Lent, Janice (*with* Mahmoud, Hosam M.) On tree-growing search strategies. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1284–1302. (Colin J. H. McDiarmid) **98c:68044** 68P10 (60F05)

Lenth, Russell V. *see* **Hamada, Michael S.**

Lenyuk, S. V. On a lattice of quasivarieties of metabelian groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 5, 552–561, 625; *translation in Algebra and Logic* **35** (1996), *no.* 5, 310–315. (A. I. Budkin) **98c:20050** 20E10 (08C15)

Lenz, Frieder *see* **Lectures on QCD, 98k:81306**

Lenz, Hans-J. (*with* Ueckerdt, Birgit) Zur Abweichungsanalyse im operativen, modellgestützten Controlling. (English and German summaries) [Deviation analysis in operative, model based controlling] *OR Spektrum* **19** (1997), *no.* 4, 273–283. 90B70 (90A05)

— *see also* **Learning from data, 98d:68195** *and* **Frontiers in statistical quality control, 98e:62009**

Lenz, Kathryn E. Weights determine stability of sensitivity-optimal controllers. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1409–1414. (Summary) **98c:93089** 93D15 (93B36)

Lenz, Reiner (*with* Assonov, M. V.; Labunets, E. V.; Labunets, V. G.) Application of hypercomplex moments in [nvariant] pattern recognition. III. Fast algorithms based on modular invariants. (Russian) *Radio age (Russian)*, 123–150, 287, *Russ. Akad. Nauk*

Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg, 1996. (Ilya S. Molchanov) **98h:68205** 68T10 (65D30)

— (*with* Homma, Kazuhiro) Constructing iterative matching algorithms with the use of Lie theory: three-dimensional orientation example. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 8, 1734–1741. (Summary) **98f:78002** 78A05 (22E70, 33C55)

Lenz, S. *see* **O'Raifeartaigh, L., (98k:81306)**

Lenze, Burkhard One-sided approximation and interpolation operators generating hyperbolic sigma-pi neural networks. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 99–112, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Summary) **98g:65016** 65D15 (41A30, 68T05, 92B20)

Lenzen, W. On the semantics and pragmatics of epistemic attitudes. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 181–197, *Logica Nova, Akademie Verlag, Berlin*, 1995. (N. C. A. da Costa) **98k:03048** 03B45

Lenzerini, Maurizio (*with* De Giacomo, Giuseppe) What's in an aggregate: foundations for description logics with tuples and sets. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 801–807, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (68T30)

— (*with* De Giacomo, Giuseppe) A uniform framework for concept definitions in description logics. (English summary) *J. Artificial Intelligence Res.* **6** (1997), 87–110. (Summary) **98c:68196** 68T30 (03B70, 68T27)

Lenzi, Domenico On the genesis of additive measures in a Boolean ring. (Italian. English and Italian summaries) *Riv. Mat. Pura Appl. No.* 17 (1995), 31–38. (Giulianella Coletti) **98b:28006** 28A12

Lenzi, Giacomo A hierarchy theorem for the μ-calculus. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 87–97, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68171** 68Q60 (03B45)

Lenzing, Helmut Hereditary Noetherian categories with a tilting complex. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 7, 1893–1901. (Dieter Happel) **98c:16013** 16G10

Lenzkes, Dirk (*with* Weise, Carsten) Efficient scaling-invariant checking of timed bisimulation. (English summary) *STACS* 97 (*Lübeck*), 177–188, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (*see* **98f:68016**) 68Q10 (68Q60)

Leo, John W. On coefficients of the Tutte polynomial. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 121–135. (Raul Cordovil) **98m:05039** 05B35

Leo, M. (*with* Palese, M.; Alfinito, Eleonora; Leo, R. A.; Soliani, Giulio) Algebraic and geometrical properties of integrable nonlinear field equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 249–252, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:58076** 58F07 (58F40, 78A10)

Leo, R. A. (*with* Palese, M.; Alfinito, Eleonora; Leo, M.; Soliani, Giulio) Algebraic and geometrical properties of integrable nonlinear field equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 249–252, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98c:58076** 58F07 (58F40, 78A10)

de Leo, Stefano *see* **De Leo, Stefano**

León, J. *see* **León, Juan**

León, J. A. *see* **León, Jorge A.**

santos-León, J. C. *see* **Santos-León, J. C.**

ponce de Leon, Jaime *see* **Ponce de Leon, Jaime**

Leon, Jeffrey S. Partitions, refinements, and permutation group computation. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 123–158, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (J. D. Dixon) **98e:20009** 20B40 (68R05)

— (*with* Pless, Vera S.; Fields, Joe) All Z_4 codes of type II and length 16 are known. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 1, 32–50. (Summary) **98a:94039** 94B05 (11T71)

Leon, Jérôme Jp. (*with* Pempinelli, F.; Boiti, M.) Bäcklund and Darboux transformations for the Ablowitz-Ladik spectral problem. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 261–268, *World Sci. Publishing, River Edge, NJ*, 1996. (Victor V. Zharinov) **98d:58163** 58F37 (35Q58)

León, Jorge A. (*with* Kohatsu-Higa, Arturo) Anticipating stochastic differential equations of Stratonovich type. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 3, 263–289. (Marta Sanz Solé) **98j:60075** 60H05 (60H10)

— (*with* Kohatsu-Higa, Arturo; Nualart, David) Stochastic differential equations with random coefficients. (English summary) *Bernoulli* **3** (1997), *no.* 2, 233–245. (Daniel Ocone) **98f:60113** 60H10

León, José H. (*with* Álvarez, Enrique; Borlaf González, Javier) T-duality without quantum corrections. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 97–100. (Summary) **98a:81149** 81T30

León, José R. (*with* Doukhan, Paul; Soulier, Philippe) Central and non-central limit theorems for quadratic forms of a strongly dependent Gaussian field. (English summary) *Rebrape* **10** (1996), *no.* 2, 205–223. (Vladimir Zaiats) **98k:60031** 60F05 (60G15, 62M15, 62M40)

— (*with* Perera, Gonzalo) Crossings and local times for the harmonic oscillator. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 453–458. (Summary) **98c:60061** 60H10 (60J55)

— (*with* Kratz, Marie F.) Hermite polynomial expansion for non-smooth functionals of stationary Gaussian processes: crossings and extremes. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 237–252. (Eric V. Slud) **98m:60057** 60G15 (60G10)

León, Juan Time-of-arrival formalism for the relativistic particle. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4791–4801. (Summary) **98h:81012** 81P15

álvarez León, Luis *see* **Álvarez León, Luis**

de León, M. *see* **de León, Manuel**

Leon, M. A. Generalized reactive power function and functional and their conservative properties in electrical networks under nonsinusoidal periodic steady state. (English summary) *Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* **41** (1996), *no.* 1, 23–34. 94C05

cuesta Leon, Mabel *see* **Cuesta Leon, Mabel**

de León, Manuel (*with* Fernández, Marisa; Ibáñez, Raúl) Poisson cohomology and canonical homology of Poisson manifolds. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 1, 29–56. (Juan Carlos Marrero Gonzalez) **98h:58061** 58F05 (53C15, 58A12)

— (*with* Epstein, Marcelo) Uniformity and homogeneity of elastic rods, shells and Cosserat three-dimensional bodies. (English summary) *Arch. Math. (Brno)* **32** (1996), *no.* 4, 267–280. (From the introduction) **98b:73005** 73B99 (53C80, 73K99)

— (*with* Martín de Diego, David) Non-holonomic mechanical systems in jet bundles. Proceedings of the Third Meeting on Current Ideas in Mechanics and Related Fields (Segovia, 1995). *Extracta Math.* **11** (1996), *no.* 1, 127–139. (Domingo Chinea) **98a:58070** 58F05 (70F25, 70H35)

— (*with* Epstein, Marcelo) Homogeneity conditions for generalized Cosserat media. (English summary) *J. Elasticity* **43** (1996), *no.* 3, 189–201. (Cesare Davini) **98a:73006** 73B27 (73B10, 73B50)

— (*with* Merino, Eugenio; Oubiña, José A.; Salgado, Modesto R.) Stable almost cotangent structures. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 509–529. (Juan Carlos Marrero Gonzalez) **98k:53031** 53C10 (53C15)

— (*with* Marrero, Juan Carlos; Padrón, Edith) Lichnerowicz-Jacobi cohomology of Jacobi manifolds. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 1, 71–76. (Raúl Ibáñez) **98b:58060** 58F05 (53C15, 58H99)

— (*with* Marrero, Juan Carlos; Padrón, Edith) H-Chevalley-Eilenberg cohomology of a Jacobi manifold and Jacobi-Chern class. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 405–410. (Raúl Ibáñez) **98h:58064** 58F05 (17B56, 58F06, 58H05)

— (*with* Marrero, Juan Carlos; Martín de Diego, David) Mechanical systems with nonlinear constraints. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 979–995. (Larry Bates) **98e:70007** 70F25 (58F05, 70H35)

— (*with* Ibáñez, Raúl; Marrero, Juan Carlos; Martín de Diego, David) Dynamics of generalized Poisson and Nambu-Poisson brackets. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2332–2344. (Frans Cantrijn) **98d:53042** 53C15 (58F05, 70H05, 70H99)

— (*with* Martín de Diego, David) A constraint algorithm for singular Lagrangians subjected to nonholonomic constraints. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3055–3062. (Frans Cantrijn) **98e:70008** 70F25 (58F05, 70H35)

— (*with* Marrero, Juan Carlos; Padrón, Edith) On the geometric quantization of Jacobi manifolds. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6185–6213. (David Martín de Diego) **98k:58098** 58F06 (53C15)

— (*with* Marrero, Juan Carlos; Martín de Diego, David) Non-holonomic Lagrangian systems in jet manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1167–1190. (Frans Cantrijn) **98e:70009** 70F25 (58F05, 70H35)

— (*with* Marrero, Juan Carlos; Tuynman, Gijs M.) $\mathbf{R}^{2n+1}$ is a universal contact manifold for reduction. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1605–1612. (Keizo Hasegawa) **98j:58044** 58F05 (53C15, 70H05)

— (*with* Ibort, Luis Alberto; Marmo, Giuseppe) Reduction of Jacobi manifolds. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2783–2798. (Domingo Chinea) **98e:53044** 53C15 (17B66, 58F05)

— (*with* Ibáñez, Raúl; Marrero, Juan Carlos; Martín de Diego, David) Co-isotropic and Legendre-Lagrangian submanifolds and conformal Jacobi morphisms. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5427–5444. (Jesús Marin-Solano) **98k:58090** 58F05 (53C15, 70H05)

— (*with* Ibort, Luis Alberto; Lacomba, Ernesto A.; Martín de Diego, David; Pitanga, Paulo) Mechanical systems subjected to impulsive constraints. (English summary) *J. Phys. A* **30** (1997), *no.* 16, 5835–5854. (Frans Cantrijn) **98h:70018** 70F30 (58F05, 70F25, 70H35)

— (*with* Marrero, Juan Carlos; Padrón, Edith) Lichnerowicz-Jacobi cohomology. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6029–6055. (Raúl Ibáñez) **98k:58099** 58F06 (17B56, 58F05, 58H99)

— (*with* Fernández, Marisa; Ibáñez, Raúl) A Nomizu's theorem for the coeffective cohomology. *Math. Z.* **226** (1997), *no.* 1, 11–23. (Domingo Chinea) **98k:58008** 58A12 (53C15)

— (*with* Merino, Eugenio; Oubiña, José A.; Rodrigues, Paulo R.; Salgado, Modesto R.) Hamiltonian systems on k-cosymplectic manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 876–893. (Frans Cantrijn) **98k:53034** 53C15 (58F05, 70G50)

segura de León, S. *see* **Segura de León, S.**

valdes-Leon, Silvia *see* **Valdes-Leon, Silvia**

Leonard, Anthony (*with* Winckelmans, G. S.; Salmon, J. K.; Warren, M. S.; Jodoin, B.) Application of fast parallel and sequential tree codes to computing three-dimensional flows with the vortex element and boundary element methods. (English summary) *Vortex flows and related numerical methods, II* (*Montreal, PQ*, 1995), 225–240, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Ivan K. Lifanov) **98e:76069** 76M15 (76M25)

— (*with* Papalexandris, Miltiadis V.; Dimotakis, Paul E.) Unsplit schemes for hyperbolic conservation laws with source terms in one space dimension. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 1, 31–61. (Summary) **98d:76120** 76M20 (65M06, 76L05, 80–08, 80A25)

— (*with* Mezić, Igor; Wiggins, Stephen) Regular and chaotic particle motion near a helical vortex filament. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 179–201. (Summary) **98j:76067** 76F20 (58F40, 76C05)

Leonard, Douglas A. A generalized Forney formula for algebraic-geometric codes. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1263–1268. (Summary) **98a:94043** 94B27

— (*with* Hilton, A. J. W.; Johnson, P. D., Jr.) Hall's condition for multicolorings. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 195–203. (Summary) **98i:05077** 05C15 (05A15)

— Rational functions and association scheme parameters. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 3, 269–277. (Sylvia A. Hobart) **98k:05147** 05E30 (33C80)

Leonard, Naomi Ehrich (*with* Marsden, Jerrold E.) Stability and drift of underwater vehicle dynamics: mechanical systems with rigid motion symmetry. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 130–162. (George W. Patrick) **98d:70025** 70K20 (58F40, 70E15, 70H05, 70H33, 70Q05, 93D05)

— Stabilization of underwater vehicle dynamics with symmetry-breaking potentials. (English summary) *Systems Control Lett.* **32** (1997), *no.* 1, 35–42. (Summary) **98e:70020** 70Q05 (70E15, 70H05, 70K20, 93D15)

Leonard, Tom (*with* Hsu, John S. J.) Hierarchical Bayesian semiparametric procedures for logistic regression. (English summary) *Biometrika* **84** (1997), *no.* 1, 85–93. (Summary) **98a:62096** 62J12

Leonardi, Paolo (*with* Napoli, Ernesto) On naming. (English summary) *On Quine* (*San Marino*, 1990), 251–266, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03A05

— *see also* **On Quine, 98h:03010**

Leonardi, Riccardo (*with* Prandini, M.; Campi, M. C.) Optimal delay estimation and performance evaluation in blind equalization. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 7, 621–640. 93E10

Leonardi, Salvatore L^q-regularity for nonlinear nonvariational stationary Stokes-like systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3265–3270. (*see* **98h:00034**) 35Q30 (35D10)

Leonardi, Stefano (*with* Ausiello, Giorgio; Feuerstein, Esteban; Stougie, Leen; Talamo, Maurizio) Competitive algorithms for the on-line traveling salesman. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 206–217, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68Q25 (90C27)

— (*with* Marchetti-Spaccamela, Alberto) On-line resource management with applications to routing and scheduling. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 303–314, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68M20 (68N25, 90B35)

— (*with* Awerbuch, Baruch; Azar, Yossi; Fiat, Amos; Rosén, Adi) On-line competitive algorithms for call admission in optical networks. (English summary) *Algorithms—ESA '96* (*Barcelona*), 431–444, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:68023** 68M10 (90B12)

— (*with* Bartal, Yair) On-line routing in all-optical networks. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 516–526, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68M10 (90B12)

Leoncini, Mauro (*with* Manzini, Giovanni; Margara, Luciano) Parallel complexity of Householder QR factorization. (English summary) *Algorithms—ESA '96* (*Barcelona*), 290–301, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98d:65032** 65F05 (65Y20, 68Q25)

— (*with* Brimkov, Valentin E.; Danchev, Stefan S.) On the algebraic complexity of certain integer linear programming problems. (English summary) *Theoretical computer science* (*Ravello*, 1995), 497–511, *World Sci. Publishing, River Edge, NJ*, 1996. (Nikolay N. Ivanov) **98e:90218** 90C60 (68Q25, 90C10)

— On the parallel complexity of Gaussian elimination with pivoting. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 380–394. (Svetozar D. Margenov) **98e:68110** 68Q25 (65F05, 65Y20)

— (*with* Bar-On, Ilan; Codenotti, Bruno) A fast parallel Cholesky decomposition algorithm for tridiagonal symmetric matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 403–418. (L. W. Ehrlich) **98a:65032** 65F05 (15A23)

— (*with* Codenotti, Bruno; Datta, Biswa Nath; Datta, Karabi) Parallel algorithms for certain matrix computations. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 287–308. (Summary) **98c:65072** 65F30 (15A24, 65Y05, 68Q22, 93B40)

Leone, Chiara (*with* Porretta, Alessio) Entropy solutions for nonlinear elliptic equations in L^1. *Nonlinear Anal.* **32** (1998), *no.* 3, 325–334. (Dian K. Palagachev) **98m:35065** 35J65 (35B30, 35D05, 35R05)

Leone, Nicola (*with* Eiter, Thomas; Gottlob, Georg) Complexity results for abductive logic programming. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 1–14, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (*see* **98d:68017**) 68N17 (68Q25, 68Q55)

— (*with* Gottlob, Georg; Veith, Helmut) Second order logic and the weak exponential hierarchies. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 66–81, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (Summary) **98g:03097** 03C85 (03C13, 03D15, 68P15, 68Q15)

— (*with* Rullo, Pasquale; Scarcello, Francesco) Disjunctive stable models: unfounded sets, fixpoint semantics, and computation. (English summary) *Inform. and Comput.* **135** (1997), *no.* 2, 69–112. (Summary) **98d:68047** 68N17 (68Q55)

— (*with* Eiter, Thomas; Gottlob, Georg) On the indiscernibility of individuals in logic programming. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 805–824. (Summary) **98j:68008** 68N17

Leonenko, Nikolai N. (*with* Sakhno, L. M.) On the limit distribution of the local time of a homogeneous isotropic χ^2 random field. *Theory Probab. Math. Statist. No.* 48 (1994), 77–85; *translated from Teor. Imovīr. Mat. Stat. No.* 48 (1993), 111–124 (*Ukrainian. Ukrainian summary*). (Summary) **98c:60095** 60J55 (60F05)

— (*with* Orsingher, Enzo; Rybasov, K. V.) Limiting distributions of the solutions of the many-dimensional Bürgers equation with random initial data. I. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 7, 953–961 (1995). (Huai Zhong Zhao) **98c:60022** 60F05 (35Q53, 35R60, 60H15)

— (*with* Orsingher, Enzo; Rybasov, K. V.) Limiting distributions of the solutions of the many-dimensional Bürgers equation with random initial data. II. (English summary) *Ukrainian Math. J.* **46** (1994), *no.* 8, 1101–1109 (1996). (Huai Zhong Zhao) **98c:60023** 60F05 (35Q53, 35R60, 60H15)

— (*with* Parkhomenko, V. N.) Asymptotic properties of solutions of the Cauchy problem for the Burgers equation with random initial conditions. (Ukrainian. Ukrainian summary) *Teor. Imovīr. Mat. Stat. No.* 53 (1995), 80–86. (Summary) **98c:60041** 60G10 (35Q53, 35R60, 60F17)

— (*with* Parkhomenko, V. N.; Woyczyński, Wojbor A.) Spectral properties of the scaling limit solutions of the Burgers' equation with singular data. (English summary) *Random Oper. Stochastic Equations* **4** (1996), *no.* 3, 229–238. (Huai Zhong Zhao) **98d:60122** 60H15 (35Q53, 35R60, 60F05, 60G60)

— (*with* Deriev, I.) Limit Gaussian behavior of the solutions of the multidimensional Burgers' equation with weak-dependent initial conditions. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 1, 1–18. (Daniel W. Chambers) **98d:60072** 60G15 (35Q53, 35R60, 60G60, 60H15, 76D99, 76M35)

Leonetti, Francesco (*with* Bhattacharya, Tilak) On improved regularity of weak solutions of some degenerate, anisotropic elliptic systems. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 241–255. (Sulaimon A. Ishokov) **98e:35078** 35J70 (35B65, 35D10)

— (*with* Cavaliere, Paola; D'Ottavio, A.; Musciano, C.) Higher integrability for the gradient of solutions to some nonlinear elliptic systems. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 1, 187–196 (1997). (Gong Qing Zhang) **98g:35064** 35J60 (49N60)

Leong, Fook (*with* Rajah, Andrew) Moufang loops of odd order $p^{\alpha}q_1^2\cdots q_r^2r_1\cdots r_m$. (English summary) *J. Algebra* **190** (1997), *no.* 2, 474–486. (D. A. Robinson) **98b:20115** 20N05

— (*with* Rajah, Andrew) Split extension in Moufang loops. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 33–42. (Jean-Pierre Soublin) **98m:20082** 20N05

Leonhardi, Steven D. Nonbounding and Slaman triples. (English summary) *Ann. Pure Appl. Logic* **79** (1996), *no.* 2, 139–163. (Michael Stob) **98g:03102** 03D25

— Generalized nonsplitting in the recursively enumerable degrees. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 397–437. (Peter Cholak) **98m:03087** 03D25

Leonhardt, Ulf Quantum and classical tomography with equidistant reference angles. (English summary) *J. Modern Opt.* **44** (1997), *no.* 11-12, 2271–2280. (K. Wódkiewicz) **98k:81340** 81V80 (81S30)

— (*with* Krähmer, D. S.) State reconstruction and irregular wavefunctions for the hydrogen atom. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4783–4789. 81V45

Leoni, Giovanni Asymptotic stability for perturbed Hamiltonian systems. II. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 531–549. (N. Chafee) **98c:34083** 34D20 (58F30, 70H05, 70K20)

— Existence of solutions for strongly degenerate differential systems. *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 5, 435–462. (Geno D. Dachev) **98h:34003** 34A12 (34C11, 35G20, 35J70, 35K55)

Leonov, A. S. On the use of functions of several variables with bounded variation for piecewise-uniform regularization of ill-posed problems. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 592–595. (From the text) **98f:65063** 65J15

— (*with* Yagola, A. G.) The L-curve method always produces an unremovable systematic error. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 17–19. 65F30 (65G05)

Leonov, G. A. (*with* Ponomarenko, D. V.; Smirnova, V. B.) ★ Frequency-domain methods for nonlinear analysis. (English summary) Theory and applications. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+498 *pp. ISBN* 981-02-2146-0 (Wolfgang Kliemann) **98c:93006** 93–02 (34Dxx, 34H05, 93C80, 93Dxx)

— (*with* Barabanov, Nikita E.; Gelig, A. Kh.; Likhtarnikov, A. L.; Matveev, A. S.; Smirnova, V. B.; Fradkov, A. L.) The frequency theorem (the Yakubovich-Kalman lemma) in control theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 3–40; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1377–1407 (1997). (Summary) **98m:93002** 93–02 (49J15, 93C80, 93Dxx)

Leonov, N. N. Measures on compact ultrametric spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 36–39, 125. 28C15 (54E35)

— Widths in non-Archimedean normed spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 1, 22–25, 122–123. 46S10 (46B20)

Leonov, S. L. (*with* Korostelëv, A. P.) Minimax efficiency in the sense of Bahadur for small confidence levels. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 3–15; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 303–313 (1997). (Iosif Pinelis) **98f:62100** 62G05 (62C20)

León-Saavedra, Fernando (*with* Montes-Rodríguez, Alfonso) Linear structure of hypercyclic vectors. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 524–545. (Hari Bercovici) **98h:47028b** 47A99 (46B20, 47B99)

díaz de León Santiago, J. Luis *see* **Díaz de León Santiago, J. Luis**

Leontaris, G. K. (*with* Floratos, E. G.) Uncertainty relation and non-dispersive states in finite quantum mechanics. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 35–41. (Summary) **98k:81146** 81S99 (81Q99)

Leont'ev, A. N. The problem on the shape of a pile of granular substance. (English summary) *Control Cybernet.* **26** (1997), *no.* 1, 57–67. (Summary) **98h:49046** 49Q15 (73E99, 73V25)

Leont'ev, Aleksei Fedorovich *see* **Vitushkin, A. G. et al.**

Leont'ev, V. K. Problems of the reconstruction of words from fragments, and their applications. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **2** (1995), *no.* 2, 26–48, 101. (Summary) **98c:68185** 68T10 (68R15)

Leontidis, Epameinondas (*with* Theodorakis, Stavros) Bound states in a nonlinear Kronig-Penney model. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4835–4849. (Summary) **98e:81030** 81Q05 (81V70)

Léontiev, Anatoli *see* **Leont'ev, A. N.**

Leopold, Christian Butler groups and Lord groups. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 397–404. (Otto Mutzbauer) **98k:22018** 22C05 (20K15, 22D35)

Leopold, Hans-Gerd Spectral invariance for pseudodifferential operators on function spaces. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 101–112, *Prometheus, Prague*, 1996. (*see* **98e:00019**) 47G30 (35P05, 35S05)

— (*with* Schrohe, Elmar) Invariance of the L_p spectrum for hypoelliptic operators. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3679–3687. (Yu. V. Egorov) **98b:35125** 35P05 (35H05, 35S05, 47G30)

Leopold-Wildburger, Ulrike (*with* Becker, Otwin; Kührer, Martin) Experiments in economics—a qualitative forecasting approach. (English summary) *SOR '97 Proceedings* (*Preddvor*), 1–11, *Slovene Soc. Inform., Ljubljana*, 1997. (*see* **98e:90008**) 90A19 (90A56)

Léorat, G. (*with* Delecroix, M.; Guegan, Dominique) Determinating Lyapunov exponents in deterministic dynamical systems. (English summary) *Comput. Statist.* **12** (1997), *no.* 1, 93–107. (Michèle Basseville) **98d:62157** 62M10 (58F11)

Leoreanu, Violeta Généralisation de notions et résultats de la théorie des groupes dans les hypergroupes. (English summary) [Generalization to hypergroups of notions and results of group theory] *New frontiers in hyperstructures* (*Molise*, 1995), 149–157, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (*see* **98c:20004**) 20N20

— (*with* Corsini, Piergiulio) Le théorème de Lagrange dans les hypergroupes. (English summary) [The Lagrange theorem for hypergroups] *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 1–22. 20N20

— Une note sur les demi-hypergroupes qui sont quasi-hypergroupes d'un côté. [A note on semihypergroups that are one-sided quasihypergroups] *Algebraic hyperstructures and applications (Prague, 1996)*, 85–87, *Democritus Univ. Thrace, Alexandroupolis*, 1997. (*see* **98c:20002**) 20N20

Le Page, Émile (*with* Peigné, Marc) A local limit theorem on the semi-direct product of $\mathbf{R}^{*+}$ and $\mathbf{R}^d$. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 2, 223–252. (Akihito Hora) **98d:60141** 60J15 (60F05)

Lepage, François Conditionals, imaging, and subjunctive probability. (French summary) Logiques et sémantiques non classiques (Montreal, PQ, 1994). *Dialogue* **36** (1997), *no.* 1, 113–135. (David W. Miller) **98g:03065** 03B48

LePage, Raoul (*with* Hall, Peter Gavin) On bootstrap estimation of the distribution of the Studentized mean. (English summary) *Ann. Inst. Statist. Math.* **48** (1996), *no.* 3, 403–421. (Summary) **98k:62078** 62G09

— (*with* Podgórski, Krzysztof; Ryznar, Michał) Strong and conditional invariance principles for samples attracted to stable laws. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 281–298. (J. L. Mijnheer) **98f:60066** 60F17 (60E07, 60F15)

Lepelley, Dominique (*with* Gehrlein, William V.) Condorcet's paradox under the maximal culture condition. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 85–89. 90A05 (60C05)

Lepeltier, J. P. (*with* San Martín, Jaime) Backward stochastic differential equations with continuous coefficient. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 425–430. (Summary) **98j:60082** 60H10

Lepin, A. Ya. (*with* Myshkis, A. D.) General nonlocal nonlinear boundary value problem for differential equation of 3rd order. *Nonlinear Anal.* **28** (1997), *no.* 9, 1533–1543. (L. E. Bobisud) **98g:34037** 34B15

Lepin, V. V. Solution of problems in the class of frontally bounded graphs. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1996**, *no.* 3, 101–105, 133. (Summary) **98b:05085** 05C78

Lépingle, Dominique (*with* Cèpa, Emmanuel) Diffusing particles with electrostatic repulsion. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 4, 429–449. (Sylvie Méléard) **98k:60177** 60K35 (60F05, 60H10)

Lepistö, Arto On the computational complexity of infinite words. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 350–359, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99d:68015**) 68Q45 (68R15)

Leplin, Jarrett The underdetermination of total theories. (English summary) *Erkenntnis* **47** (1997), *no.* 2, 203–215. (Summary) **98j:03006** 03B30 (03A05)

Lepore, Ernest (*with* Loewer, Barry) Quine and the attitudes. *On Quine (San Marino, 1990)*, 186–205, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B65

— (*with* Fodor, Jerry A.) What cannot be evaluated cannot be evaluated, and it cannot be supervalued either. *J. Philos.* **93** (1996), *no.* 10, 516–535. (Anthony M. Ungar) **98f:03029** 03B65

— (*with* Cappelen, Herman) Varieties of quotation. (English summary) *Mind* **106** (1997), *no.* 423, 429–450. 03B65 (03B45)

Le Potier, J. ★ Lectures on vector bundles. (English summary) Translated by A. Maciocia. Cambridge Studies in Advanced Mathematics, 54. *Cambridge University Press, Cambridge*, 1997. viii+251 *pp. ISBN* 0-521-48182-1 (I. Dolgachev) **98a:14019** 14D20 (14H60, 14J60)

Lepouras, George (*with* Kehayopulu, Niovi; Tsingelis, Michael) On right regular and right duo ordered semigroups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 311–315. (Alexey Vernitskiĭ) **98m:06019** 06F05 (20M99)

— (*with* Kehayopulu, Niovi; Lajos, Sándor) A note on bi- and quasi-ideals of semigroups, ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 75–81. 20M12 (06F05)

Lepović, Mirko (*with* Cvetković, Dragoš M.) Cospectral graphs with the same angles and with a minimal number of vertices. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 88–102. (Peter Rowlinson) **98k:05106** 05C50

Lepowsky, James (*with* Huang, Yi-Zhi) A theory of tensor products for module categories for a vertex operator algebra. I. (English summary) Geometric aspects of infinite integrable systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 883 (1994), 148–203. (Jian-Pan Wang) **98a:17048** 17B69 (18D10, 81R10)

— (*with* Huang, Yi-Zhi) A theory of tensor products for module categories for a vertex operator algebra. III. (English summary) *J. Pure Appl. Algebra* **100** (1995), *no.* 1-3, 141–171. (Jian-Pan Wang) **98a:17049** 17B69 (18D10, 81R10, 81T40)

— (*with* Huang, Yi-Zhi) A theory of tensor products for module categories for a vertex operator algebra. I, II. (English summary) *Selecta Math. (N.S.)* **1** (1995), *no.* 4, 699–756, 757–786. (Mirko Primc) **98a:17047** 17B69 (18D10, 81R10)

— (*with* Dong, Chongying) The algebraic structure of relative twisted vertex operators. (English summary) *J. Pure Appl. Algebra* **110** (1996), *no.* 3, 259–295. (Mirko Primc) **98e:17036** 17B69 (81R10, 81T40)

Lepp, Marianne (*with* Shull, Randy; Shuchat, Alan; Orlin, James B.) Arc weighting in hidden bicircular networks. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 161–171. (Summary) **98m:05181** 05C85 (05C15)

Lepp, Riho Discrete approximation of nonlinear control problems. (English summary) *System modelling and optimization (Prague, 1995)*, 411–418, *Chapman & Hall, London*, 1996. (Walter Alt) **98e:49073** 49M25 (49J45)

— Discretization of regularized integral equations in L^∞. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 353–362. (Summary) **98h:45014** 45L05 (45B05, 65R20)

Leppington, F. G. (*with* Sisson, R. A.) On the interaction of a moving hollow vortex with an aerofoil, with application to sound generation. (English summary) *J. Fluid Mech.* **345** (1997), 203–226. (Summary) **98h:76123** 76Q05 (76B05, 76C05, 76G25)

Leprévost, Franck Jacobiennes de certaines courbes de genre 2: torsion et simplicité. [Jacobians of certain curves of genus 2: torsion and simplicity] Les Dix-huitièmes Journées Arithmétiques (Bordeaux, 1993). *J. Théor. Nombres Bordeaux* **7** (1995), *no.* 1, 283–306. (David Grant) **98a:11078** 11G30 (14H40)

— Une caractérisation différentielle des points de Weierstraß généralisés d'une surface de Riemann compacte de genre $g \geq 2$. (English and French summaries) [A differential characterization of the generalized Weierstrass points of a compact Riemann surface of genus $g \geq 2$] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 9, 801–804. (Summary) **98g:14033** 14H55 (32L07)

— (*with* Morain, F.) Revêtements de courbes elliptiques à multiplication complexe par des courbes hyperelliptiques et sommes de caractères. (French summary) [Coverings of elliptic curves with complex multiplication by hyperelliptic curves and character sums] *J. Number Theory* **64** (1997), *no.* 2, 165–182. (Dimitrios Poulakis) **98e:11099** 11L10 (11G05, 11G15, 11L40)

— Sur certains sous-groupes de torsion de jacobiennes de courbes hyperelliptiques de genre $g \geq 1$. (English summary) [Certain torsion subgroups of Jacobians of hyperelliptic curves of genus $g \geq 1$] *Manuscripta Math.* **92** (1997), *no.* 1, 47–63. (Nguyen Khac-Viet) **98a:11079** 11G30 (14H40)

Lepri, Stefano (*with* Politi, Antonio; Torcini, Alessandro) Entropy potential and Lyapunov exponents. (English summary) *Chaos* **7** (1997), *no.* 4, 701–709. (Summary) **98i:58139** 58F11

Lepschy, Antonio (*with* Beghi, Alessandro; Viaro, Umberto) Approximating delay elements by feedback. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 9, 824–828. 93B30 (93B52)

Lepskiĭ, O. V. (*with* Mammen, Enno; Spokoĭnyĭ, V. G.) Optimal spatial adaptation to inhomogeneous smoothness: an approach based on kernel estimates with variable bandwidth selectors. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 929–947. (B. L. Granovskiy) **98d:62063** 62G05 (62G20)

— (*with* Spokoĭnyĭ, V. G.) Optimal pointwise adaptive methods in nonparametric estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2512–2546. (Kongming Wang) **98m:62106** 62G05 (62G20)

— On Laplace and Stokes potentials. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 227–249. (Summary) **98i:35032** 35J05 (31B20, 35Q30, 35S15)

Le Quéré, Patrick (*with* Firdaouss, Mouaouia; Guermond, Jean-Luc) Nonlinear corrections to Darcy's law at low Reynolds numbers. (English summary) *J. Fluid Mech.* **343** (1997), 331–350. (Sam D. Howison) **98k:76133** 76S05

— (*with* Behnia, Masud) From onset of unsteadiness to chaos in a differentially heated square cavity. (English summary) *J. Fluid Mech.* **359** (1998), 81–107. 76E15 (76F20)

Lera, D. Test functions for one-dimensional global optimization problems. (Italian summary) *Rend. Sem. Fac. Sci. Univ. Cagliari* **66** (1996), *no.* 1, 39–47. (K. Schittkowski) **98c:90137** 90C30 (65K05)

Leray, Jean *see* **Schapira, Pierre** *and* **Lions, Jacques-Louis**

Lerche, H. R. (*with* Beibel, M.) A new look at optimal stopping problems related to mathematical finance. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 93–108. (Tōru Nakai) **98i:62065** 62L15 (60G40, 90A09)

Lerche, Wolfgang (*with* Klemm, Albrecht Otto; Theisen, Stefan) Nonperturbative effective actions of $(N = 2)$-supersymmetric gauge theories. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 11, 1929–1973. (Bruce Hunt) **98a:81229** 81T60 (32G20, 32J81, 81T13)

— (*with* Kachru, Shamit; Klemm, Albrecht Otto; Mayr, Peter; Vafa, Cumrun) Non-perturbative results on the point particle limit of $N = 2$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **459** (1996), *no.* 3, 537–555. (Clifford V. Johnson) **98c:81170** 81T30 (32J81, 81T60, 83E30)

— (*with* Klemm, Albrecht Otto; Mayr, Peter; Vafa, Cumrun; Warner, Nicholas) Self-dual strings and $N = 2$ supersymmetric field theory. (English summary) *Nuclear Phys. B* **477** (1996), *no.* 3, 746–764. (Gerardo Marcelo Aldazabal) **98b:81204** 81T30 (32J81, 81T13, 81T60)

— (*with* Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Louis, Jan; Regge, Tullio) Picard-Fuchs equations, special geometry and target space duality. (English summary) *Mirror symmetry, II*, 281–353, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Krzysztof Galicki) **98b:32015** 32G20 (32G81, 53C25, 81T30, 81T40, 83E30)

— Introduction to Seiberg-Witten theory and its stringy origin. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 3-4, 293–340. (Peter R. Johnson) **98k:81272a** 81T60 (14H45, 14H52, 81T13, 81T30)

— (*with* Mayr, Peter; Warner, Nicholas) Non-critical strings, del Pezzo singularities and Seiberg-Witten curves. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 125–148. (Summary) **98m:81150** 81T30 (14B05, 14J32, 32J81, 81T60)

— Introduction to Seiberg-Witten theory and its stringy origin. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 83–117. (Peter R. Johnson) **98k:81272b** 81T60 (14H45, 14H52, 81T13, 81T30)

Lercier, Reynald Computing isogenies in $\mathbf{F}_{2^n}$. (English summary) *Algorithmic number theory (Talence, 1996)*, 197–212, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Marc Perret) **98d:11069** 11G20 (11Y16)

— Finding good random elliptic curves for cryptosystems defined over $\mathbf{F}_{2^n}$. (English summary) *Advances in cryptology—EUROCRYPT '97 (Konstanz)*, 379–392, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60 (11G20, 11T71)

Lerda, Alberto (*with* Frau, Marialuisa; Sciuto, Stefano) Anyons and deformed Lie algebras. *Quantum groups and their applications in physics (Varenna, 1994)*, 215–243, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (Guillermo Zemba) **98a:81280** 81V70 (81R50)

— (*with* Frau, Marialuisa; Sciuto, Stefano; Zemba, Guillermo R.) The extended conformal theory of Luttinger systems. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1113–1122. (Summary) **98i:81283** 81V70 (81T40, 82B10)

— (*with* Frau, Marialuisa; Sciuto, Stefano; Zemba, Guillermo R.) Algebraic bosonization: the study of the Heisenberg and Calogero-Sutherland models. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 25, 4611–4661. (Hamid Kachkachi) **98k:81330** 81V70 (81R10, 82B20)

— (*with* Di Vecchia, Paolo; Frau, Marialuisa; Pesando, Igor; Sciuto, Stefano; Russo, Rodolfo) Classical p-branes from boundary state. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 259–276. (Summary) **98k:81203** 81T30

— (*with* Frau, Marialuisa; Pesando, Igor; Sciuto, Stefano; Russo, Rodolfo) Scattering of closed strings from many D-branes. (English summary) *Phys. Lett. B* **400** (1997), *no.* 1-2, 52–62. (Summary) **98a:81166** 81T30

Lerer, Dorit (*with* Katz, Joseph) On global conservation laws at null infinity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2249–2266. (Simonetta Frittelli) **98f:83036** 83C40 (83C30)

Lerer, Leonid (*with* Rodman, Leiba) Symmetric factorizations and localization of zeroes of rational matrix functions. (English summary) *Linear and Multilinear Algebra* **40** (1996), *no.* 3, 259–281. (John Maroulas) **98b:15014** 15A23 (47A56, 93B60, 93C80)

— (*with* Ran, André C. M.) J-pseudo-spectral and J-inner-pseudo-outer factorizations for matrix polynomials. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 23–51. (L. Rodman) **98g:15018** 15A22 (15A23, 47A56)

hernández-Lerma, Onésimo *see* **Hernández-Lerma, Onésimo**

Lerman, Eugene (*with* Guillemin, Victor; Sternberg, Shlomo) ★ Symplectic fibrations and multiplicity diagrams. (English summary) *Cambridge University Press, Cambridge*, 1996. xiv+222 *pp. ISBN* 0-521-44323-7 (Alejandro Uribe) **98d:58074** 58F06 (17B99, 22E45, 58F05, 81S10)

— (*with* Karshon, Yael) The centralizer of invariant functions and division properties of the moment map. *Illinois J. Math.* **41** (1997), *no.* 3, 462–487. (Ágúst Sverrir Egilsson) **98e:58077** 58F05 (57S15, 57S25)

— (*with* Bates, Larry M.) Proper group actions and symplectic stratified spaces. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 201–229. (Ágúst Sverrir Egilsson) **98i:58085** 58F05 (57S15, 57S20, 58D19)

— (*with* Tolman, Susan) Hamiltonian torus actions on symplectic orbifolds and toric varieties. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 10, 4201–4230. (Johannes Huebschmann) **98a:57043** 57S15 (14M25, 58F05)

Lerman, L. M. (*with* Belyakov, L. A.; Glebskiĭ, L. Yu.) Abundance of stable stationary localized solutions to the generalized 1D Swift-Hohenberg equation. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 253–266. (Luigi Martina) **98i:35171** 35Q55 (58F39)

Lerman, Manuel Embeddings into the recursively enumerable degrees. *Computability, enumerability, unsolvability*, 185–204, *London Math. Soc. Lecture Note Ser.*, 224, *Cambridge Univ. Press, Cambridge*, 1996. (C. G. Jockusch, Jr.) **98g:03103** 03D25

— (*with* Lempp, Steffen) Iterated trees of strategies and priority arguments. (English summary) Sacks Symposium (Cambridge, MA, 1993). *Arch. Math. Logic* **36** (1997), *no.* 4-5, 297–312. (A. Kučera) **98m:03086** 03D25 (03–02, 03D30)

Lerman, Stephen (*with* Sierpinska, Anna) Epistemologies of mathematics and of mathematics education. (English summary) *International handbook of mathematics education, Part* 1, 2, 827–876, *Kluwer Int. Handb. Educ.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1996. (Michael Otte) **98h:00013** 00A35 (00A30)

Lermer, Karl (*with* Baumann, Peter) A framework for the specification of reactive and concurrent systems in Z. (English summary) *Foundations of software technology and theoretical computer science (Bangalore*, 1995), 62–79, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68Q60 (68Q10)

Lerner, A. K. On Hardy-Littlewood and Fefferman-Stein strong maximal functions. (Russian) *Mat. Zametki* **60** (1996), *no.* 3, 458–460; *translation in Math. Notes* **60** (1996), *no.* 3-4, 342–343 (1997). (Aleš Založnik) **98f:42015** 42B25

Lerner, Anat A pie allocation among sharing groups. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 316–330. (Summary) **98m:90051** 90A80 (90D10, 90D40)

Lerner, Bores (*with* Lone, Amjad; Rao, Murali) On generalized Poisson distributions. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 377–385 (19*N*). (Summary) **98i:60011** 60E05 (62E15)

Lerner, È. Yu. (*with* Missarov, M. D.) Errata: "The renormalization group in the fermionic hierarchical model" [Teoret. Mat. Fiz. **101** (1994), no. 2, 282–293; MR 96f:82018]. (Russian) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 351; *translation in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 612. 82B28

Lerner, L. A simple calculation of the deflection of light in a Schwarzschild gravitational field. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 12, 1194–1196. 83C10

Lerner, Nicolas Oscillatory integrals controlling the drift of spectral projections for pseudo-differential operators. *Algebraic and geometric methods in mathematical physics (Kaciveli*, 1993), 111–126, *Math. Phys. Stud.*, 19, *Kluwer Acad. Publ., Dordrecht*, 1996. (Introduction) **98b:58165** 58G15 (35S05, 47G30)

— Coherent states and evolution equations. *General theory of partial differential equations and microlocal analysis (Trieste*, 1995), 123–154, *Pitman Res. Notes Math. Ser.*, 349, *Longman, Harlow*, 1996. (Vladimir Tulovsky) **98a:35151** 35S05 (35A25, 35K22, 58G15)

— Energy methods via coherent states and advanced pseudo-differential calculus. *Multidimensional complex analysis and partial differential equations (São Carlos*, 1995), 177–201, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (Yu. V. Egorov) **98d:35244** 35S05 (35A07)

— Wave packets techniques. *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* VI, 17 *pp., École Polytech., Palaiseau*, 1997. (Editors) **98j:35196** 35S05 (35A07)

Le Roux, Alain-Yves (*with* Darblade, Gilles; Baraille, Rémy; Carton, Xavier; Pinchon, Didier) Conditions limites non réfléchissantes pour un modèle de Saint-Venant bidimensionnel barotrope linéarisé. (English and French summaries) [Nonreflecting boundary conditions for a two-dimensional linearized barotropic shallow-water model] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 485–490. (Summary) **98a:76086** 76U05 (76B15, 76M20, 86A05)

— (*with* Greenberg, James M.; Baraille, Rémy; Noussair, A.) Analysis and approximation of conservation laws with source terms. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1980–2007. (Stanisław Burys) **98k:65049** 65M06 (35L65)

Le Roux, G. J. (*with* Herbst, B. M.; Ablowitz, Mark J.) Chaos in numerics. (English summary) *Numerical analysis*, 133–154, *World Sci. Publishing, River Edge, NJ*, 1996. (Vassili G. Gelfreich) **98d:58117** 58F13 (34C37, 58F14, 65H17)

Leroy, André (*with* Lam, T. Y.) Recognition and computations of matrix rings. (English summary) *Israel J. Math.* **96** (1996),, *part B*, 379–397. (Summary) **98m:16035** 16S50

Le Roy, Bertrand Z_n^3-graded colored supersymmetry. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 47–54. (Hartmut Schlosser) **98g:81049** 81R05 (17B81, 81V22)

— (*with* Abramov, Viktor; Kerner, Richard) Hypersymmetry: a Z_3-graded generalization of supersymmetry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 3, 1650–1669. (Summary) **98i:58013** 58A50 (17A40, 58B30, 81R99)

Leroy, Xavier A syntactic theory of type generativity and sharing. (English summary) *J. Funct. Programming* **6** (1996), *no.* 5, 667–698. (Summary) **98f:68033** 68N15

Le Ru, Véronique ★ D'Alembert philosophe. (French. French summary) [D'Alembert the philosopher] With a preface by Maurice Clavelin. Mathesis. *Librairie Philosophique J. Vrin, Paris*, 1994. 312 *pp. ISBN* 2-7116-1212-0 (Pierre Crépel) **98f:01028** 01A50 (00A30)

Le Saëc, B. (*with* Litovsky, Igor; Patrou, B.) Recognizability of zigzag languages and stack languages. (English summary) *Semigroups, automata and languages (Porto*, 1994), 153–166, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:68142** 68Q45

— (*with* Litovsky, Igor; Patrou, B.) A more efficient notion of zigzag stability. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 3, 181–194. (Véronique Bruyère) **98c:68117** 68Q45

Lesaffre, Emmanuel (*with* Molenberghs, Geert) Non-linear integral equations to approximate bivariate densities with given marginals and dependence function. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 713–738. (Summary) **98j:62009** 62E10

Lesage, F. (*with* Saleur, Hubert) Correlations and transport in one-dimensional quantum impurity problems. (English summary) *The mathematical beauty of physics (Saclay*, 1996), 295–317, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98g:00034**) 81V70

— (*with* Saleur, Hubert) Form-factors computation of Friedel oscillations in Luttinger liquids. (English summary) *J. Phys. A* **30** (1997), *no.* 14, L457–L463. (Summary) **98k:82017** 82B10

— (*with* Saleur, Hubert) Correlations in one-dimensional quantum impurity problems with an external field. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 543–575. (Guillermo Zemba) **98f:81388** 81V70

— (*with* Saleur, Hubert) Correlations in one-dimensional quantum impurity problems with an external field or a temperature. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 613–639. (Guillermo Zemba) **98f:81389** 81V70

— (*with* LeClair, André; Lukʹyanov, Sergeĭ L.; Saleur, Hubert) The Maxwell-Bloch theory in quantum optics and the Kondo model. (English summary) *Phys. Lett. A* **235** (1997), *no.* 3, 203–208. 81V80

Lesaint, Pierre (*with* Noceir, Slimane) Estimation d'erreurs dans un problème de transmission. (English and French summaries) [Error estimates in a transmission problem] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 107–110. (Summary) **98c:65177** 65N15

Lesaja, Goran (*with* Anitescu, Mihai; Potra, Florian A.) An infeasible-interior-point predictor-corrector algorithm for the P_*-geometric LCP. (English summary) *Appl. Math. Optim.* **36** (1997), *no.* 2, 203–228. (Romesh Saigal) **98e:90189** 90C33 (65K05)

— (*with* Anitescu, Mihai; Potra, Florian A.) Equivalence between different formulations of the linear complementarity problem. (English summary) *Optim. Methods Softw.* **7** (1997), *no.* 3-4, 265–290. (Summary) **98e:90190** 90C33

Lesame, William M. (*with* Van Elst, Henk; Uggla, Claes; Ellis, George F. R.; Maartens, Roy) Integrability of irrotational silent cosmological models. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1151–1162. (From the text) **98h:83011** 83C15 (83C20)

— (*with* Maartens, Roy; Ellis, George F. R.) Consistency of dust solutions with div $H = 0$. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 5219–5221. (Alicia M. Sintes) **98c:83015** 83C15 (83C50)

Le Sceller, L. (*with* Gouesbet, G.; Letellier, C.; Brown, Reggie; Buchler, J. Robert; Kolláth, Z.) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis (Gainesville, FL*, 1995), 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

Lesch, Matthias ★ Operators of Fuchs type, conical singularities, and asymptotic methods. Teubner-Texte zur Mathematik [Teubner Texts in Mathematics], 136. *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1997. 190 *pp. ISBN* 3-8154-2097-0 (John Roe) **98d:58174** 58G11 (35Q99, 47B25, 47F05, 47G30, 58G10, 58G18)

Leschke, Hajo (*with* Junker, Georg) Exact thermostatic results for the n-vector model on the harmonic chain. *Perspectives on solvable models*, 53–58, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98b:82003**) 82B20 (33C10, 33C15)

— (*with* Fischer, Werner; Müller, Peter[1]) Towards localisation by Gaussian random potentials in multi-dimensional continuous space. (English summary) *Lett. Math. Phys.* **38** (1996), *no.* 4, 343–348. (Nariyuki Minami) **98b:81038** 81Q10 (47B80, 47N50, 82B44)

— (*with* Fischer, Werner; Müller, Peter[1]) Comment on: "On the Coulomb potentials in one dimension" [J. Phys. A **29** (1996), no. 8, 1767–1771; MR 98k:81045a] by P. Kurasov. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5579–5581. (Summary) **98k:81045b** 81Q05 (81U05)

— (*with* Junker, Georg; Karl, Harald) Classical and quantum dynamics of the n-dimensional kicked rotator. (English summary) *Phys. Lett. A* **226** (1997), *no.* 3-4, 155–166. (Fausto Borgonovi) **98b:81048** 81Q50 (58F13)

— *see also* **Kurasov, Pavel, 98k:81045c**

Leschke, Katrin Homogeneity and canonical connections of isoparametric manifolds. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 1, 51–69. (Luis A. Florit) **98a:53082** 53C40 (53C30)

Leschziner, M. A. (*with* Batten, Paul; Goldberg, U. C.) Average-state Jacobians and implicit methods for compressible viscous and turbulent flows. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 38–78. (Summary) **98k:76095** 76M20 (76F99, 76N10)

Lescop, Christine On the kernel of the Casson invariant. (English summary) *Topology* **37** (1998), *no.* 1, 25–37. (Daniel Lines) **98k:57031** 57N10 (57M05, 57M25)

Lescure, F. Cohomologie totale et courants de Dolbeault invariants. [Total cohomology and invariant Dolbeault currents] *J. Reine Angew. Math.* **475** (1996), 103–136. (Christophe Mourougane) **98a:32041** 32L10 (32C30, 32M05)

Leseberg, Dieter Convergence of filters. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 169–174, *Univ. Priština, Priština*, 1997. (*see* **98b:00031**) 54A20 (18B30, 54B15, 54B30, 54C10)

Leseduarte, C. (*with* Llibre, Jaume) The full periodicity kernel of the trefoil. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 1, 219–262. 57M15 (54H20)

Leseduarte, S. (*with* Bordag, Michael; Elizalde, E.; Kirsten, Klaus) Casimir energies for massive scalar fields in a spherical geometry. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4896–4904. (Summary) **98g:81142** 81T20 (81T16)

Lesens, David (*with* Saïdi, Hassen) Abstraction of parameterized networks. (English summary) *Infinity'97: Second International Workshop on Verification of Infinite State*

Systems (*Bologna*, 1997), 12 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 9, *Elsevier, Amsterdam*, 1997. (*see* **98h:68013**) 68Q60 (68Q10)

Lesgourgues, J. (*with* Polarski, David; Starobinskiĭ, A. A.) Quantum-to-classical transition of cosmological perturbations for non-vacuum initial states. (English summary) *Nuclear Phys. B* **497** (1997), *no.* 1-2, 479–508. (Summary) **98f:83044** 83C45 (81V22)

Lesh, Kathryn Infinite loop spaces from group theory. *Math. Z.* **225** (1997), *no.* 3, 467–483. (Peter J. Eccles) **98j:55009** 55P47

Leshno, Moshe (*with* Levy, Haim; Spector, Yishay) A comment on: "Increasing risk. I. A definition" [J. Econom. Theory **2** (1970), 225–243; MR **58** #20284a] by M. Rothschild and J. E. Stiglitz. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 223–228. (Summary) **98m:90006** 90A05 (62B15)

— (*with* Spector, Yishay) The effect of training data set size and the complexity of the separation function on neural network classification capability: the two-group case. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 699–717. 90B50 (62H30, 92B20)

Lesieur, Marcel ★ Turbulence in fluids. (English summary) Third edition. Fluid Mechanics and its Applications, 40. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xxxii+515 *pp. ISBN* 0-7923-4415-4 (Andrei Iacob) **98i:76040** 76Fxx (76–02, 76M35)

— Recent approaches in large-eddy simulations of turbulence. (English summary) *New tools in turbulence modelling* (*Les Houches*, 1996), 1–28, *Cent. Phys. Les Houches*, 5, *Springer, Berlin*, 1997. (Summary) **98j:76057** 76Fxx (76M25)

— (*with* Fallon, B.; Delcayre, F.; Grand, D.) Large-eddy simulations of stable-stratification effects upon a backstep flow. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 625–644. 76M25 (76F99, 76V05)

— (*with* Comte, P.; Lamballais, E.; Métais, Olivier; Silvestrini, G.) Large-eddy simulations of shear flows. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 195–215. (Summary) **98h:76057** 76F10 (76M25)

— (*with* Garnier, Elodie; Métais, Olivier) Synoptic and frontal-cyclone scale instabilities in baroclinic jet flows. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 8, 1316–1335. 86A10

Lesigne, Emmanuel (*with* Derrien, Jean-Marc) Un théorème ergodique polynomial ponctuel pour les endomorphismes exacts et les K-systèmes. (English and French summaries) [A pointwise polynomial ergodic theorem for exact endomorphisms and K-systems] *Ann. Inst. H. Poincaré Probab. Statist.* **32** (1996), *no.* 6, 765–778. (Karl Petersen) **98k:28023** 28D05

Lesk, Arthur M. Three-dimensional pattern matching in protein structure analysis. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 248–260, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **98d:92012** 92D20

Łęski, Jacek (*with* Czogała, Ernest; Fodor, János C.) The Fodor fuzzy implication in approximate reasoning. (English summary) *Systems Sci.* **23** (1997), *no.* 2, 17–28. 03B52

Leskova, T. A. (*with* Maradudin, A. A.) X-ray scattering from a randomly rough surface. (English summary) *Waves Random Media* **7** (1997), *no.* 3, 395–434. 78A45

Leśkow, Jacek Analysis of time series stationarity with applications. (English summary) *Applied statistical science, I* (*Lawrenceville, NJ*, 1995), 45–55, *Nova Sci. Publ., Commack, NY*, 1996. (P. A. Morettin) **98b:62165** 62M10

— (*with* Dehay, Dominique) Functional limit theory for the spectral covariance estimator. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1077–1092. (Vladimir Zaiats) **98d:62173** 62M15 (60F17, 62M10)

Lesky, Peter A. Orthogonalität von dualen Hahnpolynomen und continuous dualen Hahnpolynomen. (German summary) [Orthogonality of dual Hahn polynomials and continuous dual Hahn polynomials] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **204** (1995), 81–95 (1996). (Walter Van Assche) **98b:33024** 33C45 (42C05)

— Vervollständigung der klassischen Orthogonalpolynome durch Ergänzungen zum Askey-Schema der hypergeometrischen orthogonalen Polynome. [Completion of the classical orthogonal polynomials by means of supplementation to the Askey scheme of hypergeometric orthogonal polynomials] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **204** (1995), 151–166 (1996). (Walter Van Assche) **98b:33023** 33C45 (42C05)

— Das Gröbnerverfahren für Orthogonalpolynome vom Sobolev-Typ. [The Gröbner method for orthogonal polynomials of Sobolev type] *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **134** (1997), 11–16 (1998). 42C05 (41A05)

— (*with* Sonderegger, H.) Orthogonalpolynome, die auf einem Intervall im Mittel und in den Randpunkten exakt approximieren. (German summary) [Orthogonal polynomials which approximate in the mean on an interval and exactly on the boundary points] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 3–14 (1998). 42C05 (41A05)

— Unendliche und endliche Orthogonalsysteme von continuous Hahnpolynomen. (German summary) [Infinite and finite orthogonal systems of continuous Hahn polynomials] *Results Math.* **31** (1997), *no.* 1-2, 127–135. (Sven Ehrich) **98c:33014** 33C50

Lesky, Peter H. Time asymptotics for the biharmonic wave equation in exterior domains. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 359–384. (Summary) **98i:35117** 35L30 (35B40)

Leslie, Frank M. (*with* Blake, George I.; Towler, Mike J.) Switching and induced flow effects in chiral smectic C liquid crystals. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 263–271. (Summary) **98e:76009** 76A15 (73B99, 82D30)

— *see also* **Mathematical models of liquid crystals, 98b:76006**

Lesmes, Jaime (*with* Escobar, José Fernando; Pareja Heredia, Diego; O'Connor, John J.; Robertson, Edmund F.) Mathematical obituary: Leopoldo Nachbin (1922–1993), Ricardo Mañé (1948–1995), Morris Kline (1908–1992), John C. Burkill (1900–1993). (Spanish) *Lect. Mat.* **16** (1995), *no.* 2, 217–229. (Editors) **98j:01037n** 01A70

Lesne, Jean-Philippe (*with* Frachot, Antoine) Modèles factoriels de la structure par termes des taux d'intérêt: théorie et application économétrique. (English and French summaries) [Factor models of the term structure of interest rates: theory and econometric applications] *Ann. Économ. Statist.* **1995,** *no.* 40, 11–36. 90A20 (62P20)

Leśniak, Zbigniew Constructions of fractional iterates of Sperner homeomorphisms of the plane. (English summary) *Iteration theory* (*Batschuns*, 1992), 182–192, *World Sci. Publishing, River Edge, NJ*, 1996. (B. Choczewski) **98k:39010** 39B12 (54H20)

Lesnic, D. (*with* Elliott, Lionel; Ingham, D. B.) Spacewise coefficient identification in steady and unsteady one-dimensional diffusion problems. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 2, 183–192. (Summary) **98g:35196** 35Q99 (35R30, 76S05)

— (*with* Pop, Ioan^2; Ingham, D. B.) Conjugate film flow down a heated vertical wall. *Z. Angew. Math. Mech.* **77** (1997), *no.* 2, 151–154. (Summary) **98c:76029** 76D10 (76M20)

— (*with* Pop, Ioan^2) Free convection in a porous medium adjacent to horizontal surfaces. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 197–205. 76S05 (76R10)

Leśniewicz, A. (*with* Rempulska, Lucyna; Wasiak, J.) Approximation properties of the Picard singular integral in exponential weighted spaces. (English summary) *Publ. Mat.* **40** (1996), *no.* 2, 233–242. (Summary) **98m:42001** 42A10 (41A35)

Leśniewicz, M. (*with* Rempulska, Lucyna) Approximation by some operators of the Szasz-Mirakjan type in exponential weight spaces. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 57–69. (D. N. Zarnadze) **98h:41027** 41A35 (41A25)

Lesniewski, Andrzej (*with* Klimek, Sławomir; Maitra, Neepa; Rubin, Ron) Ergodic properties of quantized toral automorphisms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 67–83. (Albert Jeu-Liang Sheu) **98b:81049** 81Q50 (46L55, 46L60, 58F11)

— (*with* King, Christopher K.) Periodic motion of atoms near a charged wire. (English summary) *Lett. Math. Phys.* **39** (1997), *no.* 4, 367–378. (Alain Joye) **98i:81042** 81Q05

— (*with* King, Christopher K.) Quantum sources and a quantum coding theorem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 88–101. (Matthew J. Donald) **98k:81032** 81P99 (94A24)

Lešnjak, Gorazd (*with* Šemrl, Peter) Quasidirect addition of operators. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 4, 377–381. (T. Ando) **98j:47042** 47A99 (15A30)

— (*with* Šemrl, Peter) Continuous multiplicative mappings on $C(X)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 127–133. (Volker Runde) **98c:46102** 46J10 (46E25, 47B48)

Lesoinne, Michel (*with* Franca, Leopoldo P.; Farhat, Charbel; Macedo, Antonini P.) Residual-free bubbles for the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 4003–4009. 65N06 (65N50)

— (*with* Franca, Leopoldo P.; Farhat, Charbel; Russo, Alessandro) Unusual stabilized finite element methods and residual free bubbles. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 159–168. (Summary) **98k:76087** 76M10 (65N30)

Lesokhin, M. M. (*with* Snetkov, O. A.) SHI-residual finiteness of semigroups. (Russian) *Modern algebra, No. 1* (*Russian*), 76–85, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Miroslav D. Ćirić) **98c:20107** 20M10

Lesourne, Jacques Self-organizing markets. Translated from the French by Gillian Lewis. *Markets, risk and money*, 59–89, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 26, *Kluwer Acad. Publ., Dordrecht*, 1995. (*see* **98e:90006**) 90A60 (90–02)

Lessard, François Measurable transformations on projective limits of topological spaces. (English and French summaries) *Ann. Sci. Math. Québec* **20** (1996), *no.* 2, 169–191. (Robert F. Wheeler) **98b:28024** 28D05 (54B99, 54H20)

Lessard, Sabin (*with* Lemire, Mathieu) On the non-existence of an optimal migration rate. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 657–682. (Summary) **98h:92036** 92D25

Lesselier, Dominique (*with* Rozier, C.; Angell, Thomas S.; Kleinman, Ralph E.) Reconstruction of an impenetrable obstacle immersed in a shallow water acoustic waveguide. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 130–142, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 76Q05 (35J05, 76M15)

— (*with* Kleinman, Ralph E.; van den Berg, Peter M.; Duchêne, Bernard) Location and reconstruction of objects using a modified gradient approach. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 143–158, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78A45 (65J20)

— (*with* Litman, Amélie; Santosa, Fadil N.) A level-set approach for eddy current imaging of defects in a conductive half-space. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 250–262, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78–08 (78A45)

Lesser, Victor R. (*with* Sandholm, Tuomas W.) Coalition formation among bounded rational agents. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 662–669, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 90D12

— (*with* Sandholm, Tuomas W.) Coalitions among computationally bounded agents. (English summary) *Artificial Intelligence* **94** (1997), *no.* 1-2, 99–137. (Summary) **98e:90237** 90D12 (68T20, 90C27)

Lessi, O. (*with* Bosq, Denis) Recursive nonparametric estimation of nonlinear systems of Volterra type. (English and Italian summaries) *Statistica* (*Bologna*) **55** (1995), *no.* 3, 263–284 (1996). (Thomas Mikosch) **98c:62082** 62G07 (62G20)

Lester, David (*with* Mintchev, Sava) Towards machine-checked compiler correctness for higher-order pure functional languages. (English summary) *Computer science logic* (*Kazimierz*, 1994), 369–381, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68N20 (03B40, 03B45, 03B70, 68N15, 68Q55)

Lester, June A. Zeeman's theorem on Robertson-Walker spacetimes. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics* (*Waterloo, ON*, 1993), 276–280, *World Sci. Publishing, River Edge, NJ*, 1994. (István Rácz) **98e:53116** 53C50 (53C80, 83C75)

— Triangles. III. Complex triangle functions. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 4–35. (W. Benz) **98c:51022** 51M05 (51N20)

Le Stum, B. (*with* Quirós, A.) Transversal crystals of finite level. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 69–100. (Nobuo Tsuzuki) **98g:14019** 14F30 (14F10)

— (*with* Étesse, J.-Y.) Fonctions L associées aux F-isocristaux surconvergents. II. Zéros et pôles unités. (English and French summaries) [L-functions associated with superconvergent F-isocrystals. II. Unit roots and poles] *Invent. Math.* **127** (1997), *no.* 1, 1–31. (Vasile Brînzănescu) **98a:14035** 14G10 (11G25, 11G40, 14F20, 14F30)

Leszczyński, Henryk (*with* Kamont, Zdzisław) Stability of difference equations generated by parabolic differential-functional problems. (English and Italian summaries) *Rend. Mat. Appl.* (7) **16** (1996), *no.* 2, 265–287. (B. Choczewski) **98d:65163** 65Q05 (35R10, 39A11, 65M12, 65N12)

— Difference schemes for the Darboux problem with functional dependence. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 284–291, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M06

— (*with* Kamont, Zdzisław) Numerical solutions to the Darboux problem with functional dependence. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 71–90. (Yun Kang Liu) **98m:65143** 65M06 (65M12)

Le Tallec, Patrick (*with* Bourgat, Jean-François; Tidriri, Moulay D.) Coupling Boltzmann and Navier-Stokes equations by friction. (English summary) *J. Comput. Phys.* **127** (1996), *no.* 2, 227–245. 76M25 (76D05, 76P05)

— (*with* Patra, Abani) Non-overlapping domain decomposition methods for adaptive *hp* approximations of the Stokes problem with discontinuous pressure fields. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 361–379. (J. T. Oden) **98e:76067** 76M10 (65M55, 76D07)

— (*with* Mallinger, François) Coupling Boltzmann and Navier-Stokes equations by half fluxes. (English summary) *J. Comput. Phys.* **136** (1997), *no.* 1, 51–67. (Hans Babovsky) **98i:76066** 76M25 (76K05, 76P05)

Letelier, P. S. (*with* Bezerra, V. B.) Loop variables and holonomies for a class of conical space-times. (English summary) *J. Math. Phys.* **37** (1996), *no.* 12, 6271–6282. (Viqar Husain) **98f:83040** 83C45

— (*with* Gal'tsov, D. V.) Interpolating black holes in dilaton-axion gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L9–L14. (Sergiu I. Vacaru) **98a:83080** 83C57 (83E30)

— (*with* Vieira, W. M.) Chaos in black holes surrounded by gravitational waves. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1249–1257. (Jürgen Tolksdorf) **98c:83066** 83C57 (58F13, 83C35)

— (*with* Gal'tsov, D. V.) Ehlers-Harrison transformations and black holes in dilaton-axion gravity with multiple vector fields. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3580–3592. (Alexander Yanovich Burinskiĭ) **98h:83047** 83C57 (81T20, 81V17, 83C15)

— (*with* Vieira, W. M.) Chaos and rotating black holes with halos. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 8095–8098. (Summary) **98i:83050** 83C57 (58F13)

Letellier, C. (*with* Gouesbet, G.; Rulkov, Nikolai F.) Topological analysis of chaos in equivariant electronic circuits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **6** (1996), *no.* 12*B*, 2531–2555. (Andrew C. Fowler) **98i:58159** 58F13 (58F40)

— (*with* Gouesbet, G.; Le Sceller, L.; Brown, Reggie; Buchler, J. Robert; Kolláth, Z.) Reconstructing a dynamics from a scalar time series. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 25–49, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F40)

— (*with* Gouesbet, G.) Topological structure of chaotic systems. *Nonlinear signal and image analysis* (*Gainesville, FL*, 1995), 51–77, *Ann. New York Acad. Sci.*, 808, *New York Acad. Sci., New York*, 1997. (*see* **98k:58003**) 58F13 (58F14)

Letellier, Julie A. Rates of convergence for an estimator of a density function based on Jacobi polynomials. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 197–220. (Ulrich Stadtmüller) **98m:62107** 62G05 (42C10, 62G20)

Leth, Lone (*with* Amadio, Roberto M.; Thomsen, Bent) From a concurrent λ-calculus to the π-calculus. (English summary) *Fundamentals of computation theory* (*Dresden*, 1995), 106–115, *Lecture Notes in Comput. Sci.*, 965, *Springer, Berlin*, 1995. (*see* **98a:68005**) 68N15 (03B40, 68Q10)

Lê Thanh, Huong (*with* Dürr, Christoph; Santha, Miklós) A decision procedure for well-formed linear quantum cellular automata. (English summary) *STACS* 96 (*Grenoble*, 1996), 281–292, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68188** 68Q80 (68Q05, 68Q25, 81P99, 82C20)

Lether, Frank G. Constrained near-minimax rational approximations to Dawson's integral. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 267–274. (Summary) **98j:65017** 65D30 (41A20)

Le Thiez, Pierre (*with* Fabrie, Pierre; Tardy, Philippe) On a system of nonlinear elliptic and degenerate parabolic equations describing compositional water-oil flows in porous media. *Nonlinear Anal.* **28** (1997), *no.* 9, 1565–1600. (Li Shang Jiang) **98h:35222** 35Q72 (35J60, 35K65, 76S05)

Le Thi Hoai An (*with* Pham Dinh Tao) Convex analysis approach to d.c. programming: theory, algorithms and applications. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 289–355. (Marlies Borchardt) **98m:90109** 90C26 (90C08, 90C90)

— (*with* Pham Dinh Tao) Solving a class of linearly constrained indefinite quadratic problems by d.c. algorithms. (English summary) *J. Global Optim.* **11** (1997), *no.* 3, 253–285. (Marlies Borchardt) **98k:90068** 90C20

Letichevskiĭ, Aleksandr Adol'fovich (*with* Denisenko, P. N.; Bilenko, V. I.; Volkov, V. A.) Realization of numerical-analytic methods for the approximation of functions by given ordinary differential equations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 108–112, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 85–88. 65D15

— The development of partial evaluator for extended lambda calculus. (English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 141–160, 191; *reprinted in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 114–130. (Summary) **98f:68034** 68N15 (03B40, 68N20)

LeTourneux, Jean (*with* Floreanini, Roberto; Vinet, Luc) Symmetry techniques for the Al-Salam-Chihara polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3107–3114. (Walter Van Assche) **98k:33036** 33D45 (43A65)

Letrouit, V. (*with* Bienia, W.) Sur les α-flots. (English and French summaries) [On α-flows] *RAIRO Rech. Opér.* **31** (1997), *no.* 1, 67–71. (Summary) **98c:90034** 90B10 (90C35)

Letta, Giorgio (*with* Pratelli, Luca) Convergence stable vers un noyau gaussien. (French and Italian summaries) [Stable convergence to a Gaussian kernel] *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 205–213. (S. D. Chatterji) **98f:60043** 60F05

— Semicontinuité de certaines fonctionnelles sur l'espace des mesures de Young. (French and Italian summaries) [Semicontinuity of certain functionals on the space of Young measures] *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 215–219. (Erik J. Balder) **98g:49010** 49J45 (28A33, 49J10)

— (*with* Pratelli, Luca) Le théorème de Skorohod pour des lois de Radon sur un espace métrisable. (French and Italian summaries) [The Skorokhod theorem for Radon laws on a metrizable space] *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 157–162. (Summary) **98m:60006** 60B10

Lettieri, A. (*with* Di Nola, Antonio) Coproduct MV-algebras, nonstandard reals, and Riesz spaces. (English summary) *J. Algebra* **185** (1996), *no.* 3, 605–620. (V. V. Gorlov) **98h:06026** 06D99 (03G25)

— (*with* Filipoiu, A.; Georgescu, Georges) Maximal MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 53–62. (Summary) **98c:03133** 03G25

Lettmann, Theodor (*with* Kleine Büning, Hans) Learning a representation of optimizable formulas. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 51–58, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68Q99)

Lê Tuân Hoa A note on the Hilbert-Samuel function in a two-dimensional local ring. *Acta Math. Vietnam.* **21** (1996), *no.* 2, 335–347. 13D40

— Postulation number of good filtrations. *Comm. Algebra* **25** (1997), *no.* 6, 1961–1974. (David E. Rush) **98d:13015** 13D40 (13A30, 13D45, 13H99)

Le Tu Quoc Thang (*with* Murakami, Jun) The universal Vassiliev-Kontsevich invariant for framed oriented links. (English summary) *Compositio Math.* **102** (1996), *no.* 1, 41–64. (Summary) **98c:57009** 57M25 (11M41)

— A quantum sl_2-invariant of 3-manifolds which contains all the Witten-Reshetikhin-Turaev invariants. (English summary) *Geometry and physics* (*Aarhus*, 1995), 399–409, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (David H. Adams) **98d:57031** 57N10 (17B37, 57M25)

— Local rules for quasiperiodic tilings. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 331–366, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98f:52028** 52C22 (52C20)

Letz, Reinhold (*with* Ibens, Ortrun) Subgoal alternation in model elimination. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 201–215, *Lecture Notes in Artificial Intelligence, Springer*, 1997. (*see* **98k:03004**) 03B35 (68T15)

Letzter, Gail (*with* Kumar, Shrawan) Shapovalov determinant for restricted and quantized restricted enveloping algebras. (English summary) *Pacific J. Math.* **179** (1997), *no.* 1, 123–161. (Anthony Joseph) **98g:17014** 17B35 (17B37)

Leu, Lii-Yuh (*with* Gupta, Shanti S.; Liang, TaChen) Simultaneous selection for homogeneous multinomial populations based on entropy function: an empirical Bayes approach. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 2, 145–157. (Thomas J. Santner) **98c:62033** 62F07 (62C12)

Leu, M. C. (*with* Blackmore, D. L.; Wang, Li Ping; Jiang, Haitao) Swept volumes: a retrospective and prospective view. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 81–101. (*see* **98g:65008**) 65D17 (65–02)

Leu, Shing-Jiuan (*with* Chang, Ruay-Shiung) The minimum labeling spanning trees. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 5, 277–282. (Summary) **98e:68197** 68R10 (05C05, 68Q25, 68T20)

Leung, A. Y. T. (*with* Chen, Guoqing; Chen, Wan Ji) Smoothing Newton method for solving two- and three-dimensional frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 6, 1001–1027. (Summary) **98m:73075** 73T05 (49J40, 73V25)

Leung, Anthony W. Optimal control for nonlinear systems of partial differential equations related to ecology. *Proceedings of the Third International Colloquium on Differential Equations* (*Plovdiv*, 1992), 147–156, *VSP, Utrecht*, 1993. (*see* **98a:00007**) 49J20 (35J65, 35Q80, 49K20)

— (*with* Ortega, Luis A.) Positive steady-states for large systems of reaction-diffusion equations: synthesizing from smaller subsystems. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 2, 175–195. (V. N. Razzhevaikin) **98e:35096** 35K57 (35B05, 35B32, 35Q80, 92D25)

— Reaction-diffusion systems with temperature feedback: bifurcations and stability. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3379–3390. (*see* **98h:00034**) 35K57 (35B32, 82D75)

— (*with* Zhang, Qin[1]) Finite extinction time for nonlinear parabolic equations with nonlinear mixed boundary data. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 1–13. (Henghui Zou) **98m:35106** 35K60 (35B40)

Leung, C. W. *see* **Leung, Chi Wai**

Leung, Chi-Wah (*with* Chen, Jie[7]; Yau, Stephen S.-T.) Finite-dimensional filters with nonlinear drift. IV. Classification of finite-dimensional estimation algebras of maximal rank with state-space dimension 3. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 1, 179–198. (Wolfgang J. Runggaldier) **98a:93076** 93E11 (17B99, 60G35)

— (*with* Chen, Jie[7]; Yau, Stephen S.-T.) Finite-dimensional filters with nonlinear drift. VIII. Classification of finite-dimensional estimation algebras of maximal rank with state-space dimension 4. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1132–1141. (Wolfgang J. Runggaldier) **98g:93048** 93E11 (17B99, 60G35)

Leung, Chi Wai The perturbation theory for the summability of selfadjoint operators. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 133. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 31–34. (Vladimir Manuilov) **98f:47029** 47B25 (47A55, 47B10)

Leung, Denis Heng-Yan (*with* Wang, You-Gan) Bias reduction via resampling for estimation following sequential tests. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 249–267. 62L10

Leung, Denny H. Purely non-atomic weak L^p spaces. (English summary) *Studia Math.* **122** (1997), *no.* 1, 55–66. (Yu. A. Abramovich) **98a:46039** 46E30

Leung, Hing (*with* Goldstine, Jonathan; Wotschke, Detlef) Measuring nondeterminism in pushdown automata. (English summary) *STACS* 97 (*Lübeck*), 295–306, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68108** 68Q68

Leung, Joseph Y.-T. (*with* Han, Sunan; Hong, Dawei) Probabilistic analysis of a bin covering algorithm. (English summary) *Oper. Res. Lett.* **18** (1996), *no.* 4, 193–199. (Béla Vizvári) **98c:90109** 90C27 (90B35)

— (*with* Ho, Kevin I.-J.; Wei, Wandi) Scheduling imprecise computation tasks with 0/1-constraint. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 117–132. (Summary) **98f:68027** 68M20

— (*with* Hong, Dawei) General probabilistic bounds for dual bin packing heuristics. (English summary) *J. Combin. Math. Combin. Comput.* **24** (1997), 85–96. (Summary) **98d:68101** 68Q25 (05B40, 90C35)

— (*with* Tam, T. W.; Wong, Chin Siong; Young, G. H.) Minimizing mean flow time with error constraint. (English summary) *Algorithmica* **20** (1998), *no.* 1, 101–118.

(Summary) **98i:68035** 68M20 (68Q25)

Leung, K. S. (*with* Albrecht, Andreas; Cheung, S. K.; Hui, K. C.; Wong, Chak Kuen) Optimal placements of flexible objects. I. Analytical results for the unbounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 890–904. 90C27 (90C15)

— (*with* Albrecht, Andreas; Cheung, S. K.; Hui, K. C.; Wong, Chak Kuen) Optimal placements of flexible objects. II. A simulated annealing approach for the bounded case. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 905–929. 90C27 (90C15)

— (*with* Albrecht, Andreas; Cheung, S. K.; Wong, Chak Kuen) Computing elastic moduli of two-dimensional random networks of rigid and nonrigid bonds by simulated annealing. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 187–215. (David J. Bergman) **98m:73066** 73K20 (65C05, 73B35, 73V30, 82B80)

Leung, Ka Hin (*with* Man, Shing Hing) On Schur rings over cyclic groups. II. (English summary) *J. Algebra* **183** (1996), *no.* 2, 273–285. (Wolfgang Lempken) **98h:20009** 20C05

— (*with* Marshall, Murray A.; Zhang, Yu Fei[2]) The real spectrum of a noncommutative ring. *J. Algebra* **198** (1997), *no.* 2, 412–427. (Victoria Powers) **98j:16028** 16W80 (13J25, 14P99)

— (*with* Ling, San; Ma, Siu Lun; Tay, Kian Boon) Almost perfect sequences with $\theta = 2$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 128–131. (Dieter Jungnickel) **98k:05028** 05B10

Leung, Kin K. (*with* Choudhury, Gagan L.; Whitt, Ward) Calculating normalization constants of closed queuing networks by numerically inverting their generating functions. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 5, 935–970. (Wojciech Szpankowski) **98a:90047** 90B22 (60K25, 68Q25)

Leung, Man Chun Asymptotic behavior of rotationally symmetric p-harmonic maps. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 1–15. (Summary) **98m:58029** 58E20

— Lower bounds on some geometric quantities and applications. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 207–218, *de Gruyter, Berlin*, 1997. (Shun Hui Zhu) **98j:53044** 53C21 (53C20)

— Rigidity of Einstein manifolds of nonpositive curvature. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 2, 181–192. (Santiago R. Simanca) **98f:53042** 53C25

— Conformal invariants of manifolds of non-positive scalar curvature. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 233–243. (Olga Gil-Medrano) **98g:53071** 53C21 (53C20)

Leung, P. T. (*with* Tong, S. S.; Young, Kenneth) Two-component eigenfunction expansion for open systems described by the wave equation. I. Completeness of expansion. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2139–2151. (Peter N. Zhevandrov) **98e:35123a** 35P10 (34L40, 35L05, 78A40)

— (*with* Tong, S. S.; Young, Kenneth) Two-component eigenfunction expansion for open systems described by the wave equation. II. Linear space structure. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 2153–2162. (Peter N. Zhevandrov) **98e:35123b** 35P10 (34L40, 35L05, 78A40)

Leung, Pui-Fai (*with* Cheung, Leung-Fu) A Schwarz lemma for complete Riemannian manifolds. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 513–515. (Valery Marenich) **98e:53055** 53C20

Leung, Pui Lam (*with* Lo, Milton) An identity for the noncentral multivariate F distribution with application. (English summary) *Statist. Sinica* **6** (1996), *no.* 2, 419–431. (Yutaka Kano) **98b:62100** 62H12 (62H10)

Leung, Tin-Pui (*with* Fan, Xiao Ping; Xu, Jian Min; Zhou, Qi Jie) Dynamic modeling and control of flexible robotic manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 318–329. 93C85 (70B15, 70Q05)

— (*with* Tan, Wen; Tu, Qili) H_∞ control for singularly perturbed systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 255–260. (Hua Lin Tan) **98m:93038** 93B36 (93C70)

Leung, Vitus J. The undecidability of the unrestricted modified edit distance. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 203–215. (Robert M. Baer) **98h:68132** 68Q42 (92C10)

Leung, Yee *see* **Liang, Yi**

Leung, Yiu-Wing (*with* Xu, Zong Ben; Zhang, Jiang She) A general CDC formulation for specializing the cell exclusion algorithms of finding all zeros of vector functions. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 235–259. (Summary) **98g:65051** 65H10

— Processor assignment and execution sequence for multiversion software. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1371–1377. 68M20 (68M15)

Leupold, Stefan (*with* Weigert, Heribert) Radial propagators and Wilson loops. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7695–7709. (Summary) **98a:81120** 81T13

Leupp, M. (*with* Fröhlich, Jürg; Studer, Urban M.) A variational problem for a system of magnetic monopoles joined by Abrikosov vortices. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 2, 447–483. (David M. A. Stuart) **98h:58046** 58E15 (58Z05, 82D55)

van de Leur, Johan The vector k-constrained KP hierarchy and Sato's Grassmannian. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 1, 83–96. (Henrik Aratyn) **98j:58055** 58F07 (17B66, 22E65, 35Q53)

Leuridan, Christophe Une démonstration élémentaire d'une identité de Biane et Yor. [An elementary proof of an identity of Biane and Yor] *Séminaire de Probabilités, XXX*, 255–260, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (From the introduction) **98k:60142** 60J65

— Le point d'un fermé le plus visité par le mouvement brownien. (French summary) [The point of a closed subset most visited by Brownian motion] *Ann. Probab.* **25** (1997), *no.* 2, 953–996. (Philippe Biane) **98f:60157** 60J65 (60J55)

Leus, V. A. On the time complexity of the parallel realization of the numerical Fourier transform. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 10, 99–110. (Summary) **98j:65092** 65T20 (65Y20, 68Q25)

van Leuven, P. *see* **Van Leuven, P.**

Leuzinger, Enrico On the Gauss-Bonnet formula for locally symmetric spaces of noncompact type. (English summary) *Enseign. Math.* (2) **42** (1996), *no.* 3-4, 201–214. (Raul Quiroga) **98a:53076** 53C35 (53C23)

Lev, Arieh Powers of 1-cyclic conjugacy classes in the groups $GL_n(F)$ and $SL_n(F)$. (English summary) *Linear Algebra Appl.* **257** (1997), 243–281. (A. R. Rajan) **98b:20070** 20G15

Lev, Vsevolod F. Addendum to: "Structure theorem for multiple addition and the Frobenius problem" [J. Number Theory **58** (1996), no. 1, 79–88; MR 97d:11056]. (English summary) *J. Number Theory* **65** (1997), *no.* 1, 96–100. (Summary) **98e:11045** 11D85 (11D04)

Levacher, Laurent (*with* Aïd, René) Numerical investigations on global error estimation for ordinary differential equations. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 21–39. (*see* **98d:65005**) 65L06

Lévai, Géza On the relation between various algebraic approaches to solvable potentials. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 88–92, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q05

— (*with* Baye, Daniel; Sparenberg, Jean-Marc) Phase-equivalent complex potentials. (English summary) *Inverse and algebraic quantum scattering theory (Lake Balaton, 1996)*, 295–313, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81U05

— (*with* Baye, Daniel; Sparenberg, Jean-Marc) Analytical results on generating phase-equivalent potentials by supersymmetry: removal and addition of bound states. (English summary) *Inverse and algebraic quantum scattering theory (Lake Balaton, 1996)*, 363–372, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (Summary) **98m:81198** 81U05 (81Q60)

— (*with* Kónya, B.; Papp, Zsoltan) Green's matrix from Jacobi-matrix Hamiltonian. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4832–4844. (Peter N. Zhevandrov) **98j:81067** 81Q05

Levallois, Philippe Calcul d'une fonction de Melnikov et de ses zéros pour une perturbation algébrique du billard elliptique. (French summary) [Computation of a Mel′nikov function and its zeros for an algebraic perturbation of the elliptic billiard] *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 435–444. (Edoh Amiran) **98c:58150** 58F30 (58F05, 58F07, 70H05)

Le Van, Cuong (*with* Dana, Rose-Anne; Magnien, François) General equilibrium in asset markets with or without short-selling. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 567–588. (Summary) **98b:90015** 90A09 (90A60)

Le Van Bang Gallai graphs and anti-Gallai graphs. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 179–189. (G. Ravindra) **98b:05043** 05C15 (05C75)

— (*with* Brandstädt, Andreas; Szymczak, Thomas) Duchet-type theorems for powers of HHD-free graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 9–16. (Summary) **98f:05123** 05C75

Levandovsky, A. Yu. (*with* Tsarin, Yu. A.; Vavriv, D. M.) The interaction of resonances in a weakly nonlinear oscillator with a quasiperiodic excitation. (English summary) *Chaos* **7** (1997), *no.* 2, 270–277. 34C15 (70K50)

Levanov, E. I. (*with* Samarskiĭ, A. A.; Gol′din, V. Ya.; Chetverushkin, B. N.; Tishkin, V. F.; Rozhdestvenskiĭ, B. L.) Nikolaĭ Nikolaevich Kalitkin (on the occasion of his sixtieth birthday). (Russian) *Mat. Model.* **7** (1995), *no.* 11, 126–127. 01A70

Le Van Thuyet (*with* Wisbauer, Robert) Extending property for finitely generated submodules. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 65–73. (John Clark) **98j:16003** 16D10 (16D70, 16D80)

Levashenko, V. G. (*with* Shmerko, V. P.; Yanushkevich, S. N.) Parallel algorithms for computing directed logic derivatives of multivalued functions of Boolean algebra. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 6, 41–59, 184–185; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 6, 777–793 (1997). (Summary) **98d:68089** 68Q22 (03B50, 94C10)

Levasseur, Thierry (*with* Hodges, Timothy J.; Toro V., Margarita Maria) Algebraic structure of multiparameter quantum groups. *Adv. Math.* **126** (1997), *no.* 1, 52–92. (Ian M. Musson) **98e:17022** 17B37 (16W30)

Lévay, Péter (*with* Apagyi, Barnabás; Scheid, Werner) Modified symmetry generators for SO(3, 2) and algebraic scattering theory. (English summary) *Inverse and algebraic quantum scattering theory (Lake Balaton, 1996)*, 354–362, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (*see* **98j:81005**) 81R05

— *see also* **Inverse and algebraic quantum scattering theory**, **98j:81005**

Levchenko, S. N. (*with* Zakharov, E. V.; Kharlanov, Yu. Ya.) Axisymmetric excitation of a dielectric torus: numerical solution. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 282–287. (*see* **98d:00029**) 78A50 (78–04)

Levchenko, V. Ya. (*with* Fomin, Vasiliĭ Mikhaĭlovich) Research in aerogas-dynamics at the Institute of Theoretical and Applied Mechanics of the Siberian Branch of the Russian Academy of Sciences during the last decade. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 4, 45–76; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 4, 535–565 (1998). 76–03 (01A65, 76G25)

Levchenkov, V. S. A consistent tournament solution. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 6, 747–750. 90D05 (90A05)

Levcopoulos, Christos (*with* Lingas, Andrzej; Wang, Cao An) On parallel complexity of planar triangulations. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 413–427, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68249** 68U05

— (*with* Krznaric, Drago) Computing hierarchies of clusters from the Euclidean minimum spanning tree in linear time. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 443–455, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (*see* **98a:68004**) 68U05

— (*with* Petersson, Ola) Exploiting few inversions when sorting: sequential and parallel algorithms. (English summary) *Theoret. Comput. Sci.* **163** (1996), *no.* 1-2, 211–238. (Linda Pagli) **98c:68045** 68P10

— (*with* Gudmundsson, Joachim) Approximation algorithms for covering polygons with squares and similar problems (extended abstract). (English summary) *Randomization and approximation techniques in computer science (Bologna, 1997)*, 27–41, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (*see* **98i:68013**) 68U05

— (*with* Krznaric, Drago) Fast algorithms for complete linkage clustering. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 131–145. (Summary) **98i:68266** 68U05 (05C85)

Levcovitz, D. (*with* Coutinho, S. C.) Involutive varieties with smooth support. (English summary) *J. Algebra* **192** (1997), *no.* 1, 183–199. (Orlando Neto) **98f:32010** 32C38 (14F10)

Levenberg, N. (*with* Calvetti, D.; Reichel, L.) Iterative methods for $X - AXB = C$. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996).

J. Comput. Appl. Math. **86** (1997), *no.* 1, 73–101. (Zuhe Shen) **98m:65066** 65F30

Levendorskiĭ, S. Z. Magnetic Floquet theory and spectral asymptotics for Schrödinger operators. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 77–80; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 282–285 (1997). (Timo Weidl) **98d:35169** 35P20 (35J10, 35Q40, 47F05, 47N50, 81Q10)

— Spectral properties of Schrödinger operators with irregular magnetic potentials, for a spin $\frac{1}{2}$ particle. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 48–68. (Hiroshi Isozaki) **98m:35142** 35P05 (35J10, 47F05, 47N50, 81Q10)

— (*with* Boyarchenko, S. I.) Precise spectral asymptotics for perturbed magnetic Schrödinger operator. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 211–236. (Timo Weidl) **98d:35170** 35P20 (35J10, 47F05, 47N50, 81Q10)

— Acoustic waves in perturbed periodic layer: a limiting absorption principle. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 15–24. (Summary) **98m:35031** 35J05 (76Q05)

— (*with* Hempel, Rainer) On eigenvalues in gaps for perturbed magnetic Schrödinger operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 63–78. (George D. Raikov) **98j:35133** 35P20 (35J10, 47F05, 47N50, 81Q10)

— (*with* Boyarchenko, S. I.) Spectral asymptotics with a remainder estimate of the Neumann Laplacian on horns: the case of the rapidly growing counting function. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 11–22. (Summary) **98m:35148** 35P20 (35J25, 58G18)

Levene, Mark (*with* Loizou, George) Categorisation of computable database queries. (English summary) *Fund. Inform.* **27** (1996), *no.* 4, 319–348. (Minoru Ito) **98c:68048** 68P15 (03D10, 03D80, 68Q05)

— (*with* Loizou, George) The additivity problem for functional dependencies in incomplete relations. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 135–149. (Summary) **98e:68047** 68P15

— (*with* Loizou, George) Null inclusion dependencies in relational databases. (English summary) *Inform. and Comput.* **136** (1997), *no.* 2, 67–108. (Marc Gyssens) **98g:68035** 68P15

Levenshtam, V. B. Justification of the averaging method for the problem of thermal vibrational convection. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 621–623; *translation in Phys. Dokl.* **41** (1996), *no.* 8, 365–367. (From the text) **98a:76081** 76R05 (35Q35)

— Higher approximations of the averaging method for quasilinear parabolic equations. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 599–601. 35B27 (35K55)

Levenshtein, V. I. Reconstruction of objects from the minimum number of distorted patterns. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 5, 593–596. (From the text) **98g:94006** 94A12 (68T10, 94B99)

— (*with* Helleseth, Tor; Kløve, Torleiv) On the information function of an error-correcting code. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 2, 549–557. (Ram Autar) **98g:94047** 94B65

Levental, Shlomo (*with* Skorokhod, Anatoliĭ Vladimirovich) A necessary and sufficient condition for absence of arbitrage with tame portfolios. (English summary) *Ann. Appl. Probab.* **5** (1995), *no.* 4, 906–925. (Marek Rutkowski) **98c:90014** 90A09 (60H05, 60H30)

— (*with* Skorokhod, Anatoliĭ Vladimirovich) On the possibility of hedging options in the presence of transaction costs. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 410–443. (Monique Pontier) **98e:90039** 90A12 (60H99)

Leventides, J. (*with* Karcanias, N.) Sufficient conditions for arbitrary pole assignment by constant decentralized output feedback. (English summary) *Math. Control Signals Systems* **8** (1995), *no.* 3, 222–240. (Yun Qing Shi) **98f:93008** 93B55 (93A14)

— (*with* Karcanias, N.) The decentralized Markov parameters and the selection of control structures. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 815–830. 93B55 (93A14)

— (*with* Karcanias, N.) Dynamic pole assignment using global, blow up linearization: low complexity solutions. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 57–86. (T. Kaczorek) **98m:93051** 93B55

LeVeque, Randall J. High-resolution conservative algorithms for advection in incompressible flow. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 2, 627–665. (Jian Guo Liu) **98b:76049** 76M20 (65M99)

— (*with* Li, Zhilin) Immersed interface methods for Stokes flow with elastic boundaries or surface tension. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 709–735. (Robert F. Almgren) **98b:76054** 76M25 (73K70, 76D07, 76D45)

— (*with* Zhang, Chaoming) The immersed interface method for acoustic wave equations with discontinuous coefficients. (English summary) *Wave Motion* **25** (1997), *no.* 3, 237–263. (Summary) **98d:76137** 76M25 (76Q05)

— (*with* Zhang, Chaoming) Erratum to: "The immersed interface method for acoustic wave equations with discontinuous coefficients" [Wave Motion **25** (1997), no. 3, 237–263; MR 98d:76137]. (English summary) *Wave Motion* **27** (1998), *no.* 3, 289. 76M25 (76Q05)

Le Verge, H. (*with* Euler, Reinhardt; Zamfirescu, Tudor) A characterization of infinite, bipartite Toeplitz graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 119–130, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05124** 05C75 (05C50)

Levermore, C. David (*with* Camassa, Roberto; Holm, Darryl D.) Long-time effects of bottom topography in shallow water. (English summary) Nonlinear phenomena in ocean dynamics (Los Alamos, NM, 1995). *Phys. D* **98** (1996), *no.* 2-4, 258–286. (Yuri N. Skiba) **98a:76005** 76B15 (58F40, 76U05, 86A05)

— (*with* Cercignani, Carlo; Martínez-Gamba, Irene) High field approximations to a Boltzmann-Poisson system and boundary conditions in a semiconductor. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 111–117. (Luisa Arlotti) **98k:82210** 82D99 (82C40)

— (*with* Camassa, Roberto; Holm, Darryl D.) Long-time shallow-water equations with a varying bottom. (English summary) *J. Fluid Mech.* **349** (1997), 173–189. (Yuri N. Skiba) **98m:76031** 76C05 (35Q35, 76M30, 86A05)

— (*with* Stark, Donald R.) Inertial ranges for turbulent solutions of complex Ginzburg-Landau equations. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 269–280. 35Q55 (76E30, 76F20)

— Entropy-based moment closures for kinetic equations. (English summary) Proceedings of the International Conference on Latest Developments and Fundamental Advances in Radiative Transfer (Los Angeles, CA, 1996). *Transport Theory Statist. Phys.* **26** (1997), *no.* 4-5, 591–606. (*see* **98e:82002**) 82C40

— The KdV zero-dispersion limit and densities of Dirichlet spectra. (English summary) *Recent advances in partial differential equations Venice 1996*, 187–210, *Proc. Sympos. Appl. Math., 54, Amer. Math. Soc., Providence, RI*, 1998. (Jérôme Leon) **98k:35168** 35Q53 (58F07)

Levesley, Jeremy (*with* Kushpel', A. K.) Interpolation on compact abelian groups using generalised sk-splines. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 317–324, *Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A65 (41A10)

— *see also* **Wavelets, multilevel methods and elliptic PDEs, 98g:65011**

Levesque, Hector J. (*with* Selman, Bart; Mitchell, David Geoffrey) Generating hard satisfiability problems. (English summary) Frontiers in problem solving: phase transitions and complexity. *Artificial Intelligence* **81** (1996), *no.* 1-2, 17–29. (György Turán) **98b:03013** 03B05 (03B35, 03D15, 68Q25, 68T15)

simchi-Levi, David *see* **Simchi-Levi, David**

Levi, Decio (*with* Vinet, Luc; Winternitz, Pavel) Symmetries of discrete physical systems. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 383–391, *World Sci. Publishing, River Edge, NJ*, 1996. (J. Chrastina) **98k:58198** 58F35 (35A30, 35R10, 39A99)

— (*with* Winternitz, Pavel) Lie point symmetries of differential-difference equations. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 199–208, *CRM Proc. Lecture Notes, 9, Amer. Math. Soc., Providence, RI*, 1996. (Irina Yehorchenko) **98e:35013** 35A30 (22E70, 35R10)

— (*with* Winternitz, Pavel) Symmetries of discrete dynamical systems. (English summary) *J. Math. Phys.* **37** (1996), *no.* 11, 5551–5576. (Kilkothur M. Tamizhmani) **98a:58139** 58F35 (33C80, 35R10, 39A12)

— (*with* Yamilov, R. I.) Conditions for the existence of higher symmetries of evolutionary equations on the lattice. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6648–6674. (Theodora Ioannidou) **98i:58206** 58F37 (34K99, 39A99)

— (*with* Vinet, Luc; Winternitz, Pavel) Lie group formalism for difference equations. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 633–649. (Alexei Zhedanov) **98d:39003** 39A10 (39A12)

Levi, Giorgio (*with* Gori, Roberta) Finite failure is and-compositional. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 753–776. (Summary) **98j:68011** 68N17 (68Q55, 68T15)

Levi, Ieesa (*with* Barnes, George R.; Cerrito, Patricia B.) Alternate methods for generating interaction semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 19–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98k:92023** 92H30 (20M99)

Levi, Isaac ★ For the sake of the argument. (English summary) Ramsey test conditionals, inductive inference, and nonmonotonic reasoning. *Cambridge University Press, Cambridge*, 1996. xviii+341 *pp. ISBN* 0-521-49713-2 (Otávio Bueno) **98a:03030** 03B48 (03A05, 03B60)

— (*with* Arló Costa, Horacio L.) Two notions of epistemic validity: epistemic models for Ramsey's conditionals. (English summary) *Synthese* **109** (1996), *no.* 2, 217–262. (Summary) **98b:03026** 03B45

Levi, Mark Composition of rotations and parallel transport. (English summary) *Nonlinearity* **9** (1996), *no.* 2, 413–419. (Summary) **98b:34016** 34A26 (34A30, 53A04, 53A05, 70E15, 70H05)

— Shadowing property of geodesics in Hedlund's metric. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 187–203. (James F. Reineck) **98h:58143** 58F17

— (*with* You, Jian Gong) Oscillatory escape in a Duffing equation with a polynomial potential. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 415–426. (Dmitry V. Treshchëv) **98j:34060** 34C15 (58F05, 70H05, 70K99)

Levi, Ran Torsion in loop space homology of rationally contractible spaces. (English summary) *J. Pure Appl. Algebra* **114** (1996), *no.* 1, 69–87. (Yves Félix) **98e:55018** 55R35 (55P35, 55Q52, 55R40)

— On homological rate of growth and the homotopy type of $\Omega BG^{\wedge}_{p}$. *Math. Z.* **226** (1997), *no.* 3, 429–444. (David J. Green) **98k:55016** 55R35 (20J05, 55P35)

Levi, S. (*with* Holá, Ľubica) Decomposition properties of hyperspace topologies. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 309–321. (Summary) **98m:54015** 54B20 (54E15)

Leviatan, A. (*with* Bijker, R.) Algebraic model of an oblate top. *Symmetries in science, IX* (*Bregenz*, 1996), 9–24, *Plenum, New York*, 1997. (A. Ventura) **98j:81373** 81V25 (81R05)

Leviatan, D. Shape preserving approximation by polynomials and splines. *Approximation theory and function series* (*Budapest*, 1995), 63–84, *Bolyai Soc. Math. Stud., 5, János Bolyai Math. Soc., Budapest*, 1996. (G. D. Dikshit (Zbl 863.41003)) **98j:41016** 41A29

— (*with* Kopotun, Kirill A.) Comonotone polynomial approximation in $\mathbf{L}_p[-1, 1]$, $0 < p \leq \infty$. *Acta Math. Hungar.* **77** (1997), *no.* 4, 301–310. (M. Lachance) **98m:41011** 41A10 (41A17, 41A30)

— *see also* **Lorentz, George G., 98i:01036**

Leviatan, Yehuda (*with* Baharav, Zachi) Impedance matrix compression (IMC) using iteratively selected wavelet basis. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 2, 226–233. (Summary) **98j:78001** 78–08 (78A40)

Levich, Eugene (*with* Malomed, Boris A.; Monti, Rossella) Dynamical chaos in a minimum system of truncated Euler equations. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 4, 3814–3821. 76F20 (58F13, 58F40)

Levichev, A. V. (*with* Kosheleva, Olga) Intervals in space-time: A. D. Alexandrov is 85. *Reliab. Comput.* **4** (1998), *no.* 1, 109–112. 01A70

Levi-Civita, Tullio *see* **Cattani, Carlo, 98m:01021**; **Nastasi, Pietro, 98m:01032** *and* **Battimelli, Giovanni, 98m:01038**

Levikov, A. A. (*with* Ivashko, D. G.) On a pursuit problem under conditions in which information is constantly refined. (Russian. Russian summary) *Modeling, optimization and decomposition of complex dynamical processes* (*Russian*), 83–90, 95, *Ross. Akad. Nauk, Vychisl. Tsentr, Moscow*, 1994. (*see* **98b:93006**) 90D26

Levin, A. *see* **Levin, Andrei Mikhailovich**

Levin, A. G. (*with* Feinberg, V.; Rabinovich, E. B.) ★ VLSI planarization. (English summary) Methods, models, implementation. Mathematics and its Applications, 399.

Kluwer Academic Publishers Group, Dordrecht, 1997. vi+184 *pp.* *ISBN* 0-7923-4510-X (Christoph Meinel) **98m:68128** 68Q35 (68R10, 94C05, 94C15)

Levin, A. L. (*with* Maimeskul, Victor V.; Saff, E. B.) Rational approximation with locally geometric rates. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 308–330. (Antonio Bonilla-Ramirez) **98m:41025** 41A20 (41A25, 41A50)

Levin, Andrei Mikhailovich (*with* Ol′shanetskiĭ, M. A.) Double coset construction of moduli space of holomorphic bundles and Hitchin systems. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 449–466. (Daniel Huybrechts) **98k:32029** 32G13 (53C07, 58D27)

— Elliptic polylogarithms: an analytic theory. (English summary) *Compositio Math.* **106** (1997), *no.* 3, 267–282. (Alexey A. Panchishkin) **98d:11048** 11F37 (11F27, 11G40, 11R70, 19F27)

Levin, Asriel U. (*with* Narendra, Kumpati S.) Recursive identification using feedforward neural networks. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 533–547. 93B30 (93C83)

Levin, Boris Yakovlevich (*with* Gol′dberg, Anatoliĭ Asirovich; Ostrovskiĭ, Iosif Vladimirovich) Entire and meromorphic functions [MR 93a:30031]. *Complex analysis, I*, 1–193, 254–261, *Encyclopaedia Math. Sci.*, 85, *Springer, Berlin*, 1997. (*see* **98d:30002**) 30D20 (30D30, 30D35)

— *see also* **Gol′dberg, Anatoliĭ Asirovich** *and* **Obituary: Levin, Boris Yakovlevich**

Levin, Daniel (*with* Solomyak, M. Z.) The Rozenblum-Lieb-Cwikel inequality for Markov generators. *J. Anal. Math.* **71** (1997), 173–193. (Yehuda Pinchover) **98j:47090** 47D07 (35J99, 35P20, 47F05)

Levin, David (*with* Dyn, Nira) Analysis of Hermite-type subdivision schemes. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 117–124, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 41A63 (65D17)

Levin, Frank (*with* Fine, Benjamin; Rosenberger, Gerhard) Faithful complex representations of one relator groups. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 45–52. (S. Andreadakis) **98e:20041** 20F05 (20C15, 20E06)

Levin, Gregory M. (*with* Jacobson, Michael S.; Scheinerman, Edward R.) On fractional Ramsey numbers. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 159–175. (Saul Stahl) **98h:05138** 05C55 (05C10)

Levin, Janna (*with* Barrow, John D.) Geodesics in open universes. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 169–174. (Summary) **98f:83010** 83C10

— (*with* Barrow, John D.) Chaos in the Einstein-Yang-Mills equations. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 4, 656–659. (Summary) **98j:83108** 83F05 (81T13)

Levin, Julia G. (*with* Iskandarani, Mohamed; Haidvogel, Dale B.) A spectral filtering procedure for eddy-resolving simulations with a spectral element ocean model. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 130–154. (Summary) **98h:86001** 86A05 (76M20, 86–08)

Levin, M. *see* **Levin, Michael A.**

Levin, M. L. *see* **Levin, Martin L.**

Levin, M. P. Numerical investigation of integral boundary conditions for the Navier-Stokes equations in vorticity-stream function variables. *Integral methods in science and engineering, Vol. 2* (*Oulu*, 1996), 139–143, *Pitman Res. Notes Math. Ser.*, 375, *Longman, Harlow*, 1997. (*see* **98i:00022**) 76M25 (76D05)

Levin, Martin L. (*with* Mitra, Samarendranath) Modeling the reciprocal of the survivorship function. (English summary) Recent advances in mathematical and computational studies in demography. *Math. Comput. Modelling* **26** (1997), *no.* 6, 57–68. (*see* **98i:92052**) 92D25

Levin, Michael *see* **Levin, Michael E.**

Levin, Michael A. (*with* Dobrowolski, Tadeusz; Rubin, Leonard R.) Certain 2-stable embeddings. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 81–90. (Alexander N. Dranishnikov) **98g:54063** 54E50 (54C55, 54F45)

— (*with* Leiderman, A.; Pestov, V.) On linear continuous open surjections of the spaces $C_p(X)$. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 269–279. (Summary) **98j:54026** 54C35 (46E15, 54F45)

Levin, Michael E. Putnam on reference and constructible sets. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 1, 55–67. (Daniel Velleman) **98c:03015** 03A05 (03E45)

Levin, S. B. (*with* Kuperin, Yu. A.; Mel′nikov, Yu. B.[1]; Yarevskiĭ, E. A.) Application of extension theory to antiproton-nucleon systems with continuous set of resonances in annihilation channel. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 559–570. (Summary) **98i:81276** 81V35 (47N50)

Levin, V. A. (*with* Zhuravskaya, T. A.) Propagation of converging and diverging shock waves under intense heat exchange conditions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 752–760; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 745–752. 76L05 (76N15)

Levin, Vladimir L. Duality for a non-topological version of the mass transportation problem. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 175–186, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Wilfrid Gangbo) **98j:49045** 49N15 (28C05, 90C48)

— Dual representations of convex bodies and of their polars. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 3, 79–81; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 3, 209–210 (1997). (Armin Hoffmann) **98b:52002** 52A07 (46N10, 49J50)

— A superlinear multifunction arising in connection with mass transfer problems. (English summary) *Set-Valued Anal.* **4** (1996), *no.* 1, 41–65. (Summary) **98e:49103** 49Q20 (47H04, 90C39)

— Topics in the duality theory for mass transfer problems. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 243–252, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98k:60003**) 28A35 (49N15)

— Semiconical sets, semi-homogeneous functions, and a new duality scheme in convex analysis. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 5, 597–599. (Bruce D. Craven) **98k:49049** 49N15 (46N10)

— Equilibria and generalized equilibria in models of the exchange of indivisible goods. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 3, 299–302. 90A14 (90A09)

— Reduced cost functions and their applications. (English summary) *J. Math. Econom.* **28** (1997), *no.* 2, 155–186. (C. P. Ortlieb) **98k:90127** 90C39 (90A16, 90A40)

Levin, Yu. G. (*with* Mel′nikov, O. I.) Realization of a hypergraph by a k-caterpillar. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 2, 43–46, 79. (Summary) **98k:05110** 05C65

Levina, T. I. (*with* Matsevich, D. A.; Sin′kevich, D. V.) On the first moment of an estimate for the parameters of a Markov chain, based on aggregated data. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 16–21, 139. 62M05

Levinas, M. L. (*with* Castagnino, Mario; Umérez, N.) Energy-momentum and equivalence principle in non-Riemannian geometries. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 691–703. (Summary) **98e:83044** 83C40 (53C80, 83D05)

Levine, Howard A. A global existence-global nonexistence conjecture of Fujita type for a system of degenerate semilinear parabolic equations. *Singularities and differential equations* (*Warsaw*, 1993), 193–198, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Ya Zhe Chen) **98c:35100** 35K65 (35K55)

— (*with* Pucci, Patrizia; Serrin, James) Some remarks on global nonexistence for nonautonomous abstract evolution equations. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 253–263, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Mitsuhiro Nakao) **98j:34124** 34G20 (35L70)

— (*with* Ashbaugh, Mark S.) Inequalities for the Dirichlet and Neumann eigenvalues of the Laplacian for domains on spheres. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. I*, 15 *pp.*, *École Polytech., Palaiseau*, 1997. (G. V. Rozenblyum) **98m:35144** 35P15 (47F05, 58G25)

— (*with* Fila, Marek) On the boundedness of global solutions of abstract semilinear parabolic equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 654–666. (Summary) **98i:35086** 35K55 (34G20, 35B35, 47H20)

— (*with* Sleeman, Brian D.) A system of reaction diffusion equations arising in the theory of reinforced random walks. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 683–730. (Jörg-Uwe Löbus) **98g:35106** 35K57 (60J15, 92C45)

Lévine, Jean (*with* Fliess, Michel; Martin, Philippe Pierre; Rouchon, Pierre) Flatness and defect of non-linear systems: introductory theory and examples. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1327–1361. 93C10 (93B25)

— (*with* Fliess, Michel; Martin, Philippe Pierre; Ollivier, François; Rouchon, Pierre) Controlling nonlinear systems by flatness. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 137–154, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (From the introduction) **98g:93025** 93C10 (58F40, 70Q05)

— (*with* Fliess, Michel; Martin, Philippe Pierre; Rouchon, Pierre) Deux applications de la géométrie locale des diffiétés. (English and French summaries) [Two applications of the local geometry of diffieties] *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 3, 275–292. (Alexandru Buium) **98i:58254** 58G37 (12H05)

— (*with* Fliess, Michel; Martin, Philippe Pierre; Rouchon, Pierre) On a new differential geometric setting in nonlinear control. Dynamical systems, 3. *J. Math. Sci.* (*New York*) **83** (1997), *no.* 4, 524–530. (Henk Nijmeijer) **98d:93054** 93C10 (58E25, 93B27)

— (*with* Fliess, Michel; Martin, Philippe Pierre; Ollivier, François; Rouchon, Pierre) A remark on nonlinear accessibility conditions and infinite prolongations. (English summary) *Systems Control Lett.* **31** (1997), *no.* 2, 77–83. (Carlos José Braga Barros) **98e:93028** 93B27 (58A20)

Levine, Jerome P. (*with* Farber, Michael S.) Jumps of the eta-invariant. With an appendix by Shmuel Weinberger: Rationality of ρ-invariants. *Math. Z.* **223** (1996), *no.* 2, 197–246. (M. S. Farber (Zbl 867.57027)) **98m:58131** 58G10 (57R57)

Levine, Marc Lambda-operations, K-theory and motivic cohomology. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 131–184, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (J. F. Jardine) **98j:19004** 19E08 (14F99, 19E20, 55N35, 55S25)

— (*with* Esnault, Hélène; Viehweg, Eckart) Chow groups of projective varieties of very small degree. *Duke Math. J.* **87** (1997), *no.* 1, 29–58. (Claudio Pedrini) **98d:14002** 14C15

— (*with* Esnault, Hélène; Kahn, Bruno; Viehweg, Eckart) The Arason invariant and mod 2 algebraic cycles. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 73–118. (Burt Totaro) **98d:14010** 14C25 (11E72, 14C35)

Levine, Richard A. (*with* Casella, George) Convergence of posterior odds. (English summary) *J. Statist. Plann. Inference* **55** (1996), *no.* 3, 331–344. (Mohan Delampady) **98a:62035** 62F15

Levins, R. (*with* Grove, E. A.; Ladas, G.; Kocic, V. L.) Oscillation and stability in a genotype selection model with several delays. Difference equations: theory and applications (San Francisco, CA, 1995). *J. Differ. Equations Appl.* **2** (1996), *no.* 2, 205–217. (Sui Yang Chen) **98a:39016** 39A11 (92D40, 92F05)

Levinson, Fagi Speech by Fagi Levinson. [Recollections about Norbert Wiener.]. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 33–35, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:00039**) 01A70

Levit, B. Ya. (*with* Golubev, Yuri K.; Tsybakov, A. B.) Asymptotically efficient estimation of analytic functions in Gaussian noise. (English summary) *Bernoulli* **2** (1996), *no.* 2, 167–181. (Ewaryst Rafajłowicz) **98b:62063** 62G05 (62J05)

— (*with* Golubev, G. K.) Asymptotically efficient estimation for analytic distributions. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 3, 357–368. (M. Hušková) **98b:62062** 62G05 (62C10, 62G20)

— (*with* Golubev, G. K.) Distribution function estimation: adaptive smoothing. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 383–403. (Theo Gasser) **98j:62031** 62G05

Levit, S. (*with* Engelhardt, Michael) Variational master field for large-N interacting matrix models—free random variables on trial. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 735–774. (Roland Speicher) **98a:81111** 81T10 (46L50, 81S25, 81T40)

Levit, Vadim E. (*with* Mandrescu, Eugen) On α-stable graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 33–46. (Summary) **98m:05165** 05C75

Levitan, B. M. New proof of trace formulas in case of classical Sturm-Liouville problem. (English summary) *New results in operator theory and its applications*, 153–162, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Mayumi Ohmiya) **98j:34173** 34L40 (34B24, 47E05)

— (*with* Jodeit, Max, Jr.) Isospectral vector-valued Sturm-Liouville problems. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 117–122. (Mayumi Ohmiya) **98j:34164** 34L05 (34A55)

Levitan, J. (*with* Willox, Ralph; Antoniou, Ioannis E.) Decay of correlations and control of chaotic billiards. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 391–398. (Nikolai Chernov) **98i:58167** 58F13 (93C10)

Levitas, V. I. Principle of minimum dissipation rate at time $t + \Delta t$ for the plastic spin. *Mech. Res. Comm.* **24** (1997), *no.* 6, 639–648. 73E05 (73V25)

— Thermomechanical theory of martensitic phase transformations in inelastic materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 9-10, 889–940. (Summary) **98k:73012** 73B30

— Thermomechanics and kinetics of generalized second-order phase transitions in inelastic materials. Application to ductile fracture. *Mech. Res. Comm.* **25** (1998), *no.* 4, 427–436. 73B30 (73M25)

Levitin, E. S. On a distance estimate and the form of a tangent cone to the graph of an extremal mapping. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 1, 14–18. (Dariusz Zagrodny) **98g:49013** 49J52 (90C31)

— (*with* Khranovich, I. L.) A search for the global minimum in nonconvex programming problems with dependencies that are biseparable superpositions of convex functions. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 166–169. (Stephan Dempe) **98c:90099** 90C26 (49M37)

— Differential properties of parametric minimum functions and extremal mappings. (English summary) *Parametric optimization and related topics, IV* (*Enschede*, 1995), 213–226, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Doug Ward) **98c:90151** 90C31 (49J52)

— On differential properties of approximate optimal solutions in parametric semi-infinite programming. (English summary) *Recent advances in optimization* (*Trier*, 1996), 168–182, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Alexander Shapiro) **98h:90089** 90C31 (90C34)

— (*with* Voloshinov, V. V.) Approximate global minimization of nonconvex functions that are close to convex ones. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 771–784. (Alexander Shapiro) **98i:90071** 90C26 (90C31)

Levitin, M. R. Exterior spectral problem for the Douglis-Nirenberg elliptic dissipative operator. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 59–69, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Günter Berger) **98i:35134** 35P05 (35J05)

— (*with* van den Berg, M.) Functions of Weierstrass type and spectral asymptotics for iterated sets. *Quart. J. Math. Oxford Ser.* (2) **47** (1996), *no.* 188, 493–509. (Timo Weidl) **98g:35152** 35P20

Levitskiĭ, V. P. (*with* Novosad, V. P.) An unsteady axisymmetric contact problem with heat generation. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 873–881; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 843–850 (1998). 73T05 (73B30)

Levitt, Gilbert (*with* Paulin, Frédéric) Geometric group actions on trees. (English summary) *Amer. J. Math.* **119** (1997), *no.* 1, 83–102. (Martin A. Roller) **98a:57003** 57M07 (20E08, 20F32)

Levitt, Norman Mathematics as the stepchild of contemporary culture. *The flight from science and reason* (*New York*, 1995), 39–53, *Ann. New York Acad. Sci.*, 775, *New York Acad. Sci., New York*, 1996. (*see* **98i:00013**) 01A80 (00A30)

— *see also* **Flight from science and reason, 98i:00013**

Levitz, Hilbert (*with* Jones, James P.; Nichols, Warren D.) On series of ordinals and combinatorics. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 1, 121–133. (N. H. Williams) **98a:04002** 04A10

Levkov, S. P. (*with* Makarenko, A. S.; Moskalkov, M. N.) On blow-up solutions in turbulence. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 391–397. (From the introduction) **98j:76074** 76F99 (76D05)

Levkovich, A. (*with* Cohen, Nir; Zeheb, Ezra) A root-distribution criterion for an interval polynomial in a sector. (English summary) *IMA J. Math. Control Inform.* **13** (1996), *no.* 4, 321–333. (Kang-Zhi Liu) **98a:93057** 93D09 (34D10, 34H05)

Levner, E. V. (*with* Kats, Vladimir) A strongly polynomial algorithm for no-wait cyclic robotic flowshop scheduling. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4, 171–179. (Summary) **98m:90073** 90B35 (93C85)

Levoshich, O. L. (*with* Nakonechnyĭ, A. G.; Kordas, V. A.) On problems on the control of the intensity of sources in transfer and diffusion problems. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 4, 167–171, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 593–596 (1998). (From the text) **98j:93054** 93C20 (49K20)

Levrero, Alberto (*with* Cassinelli, Gianni; De Vito, Ernesto) On the decompositions of a quantum state. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 472–483. (S. Gudder) **98f:81028** 81P15 (46N50, 47N50)

— (*with* Cassinelli, Gianni; De Vito, Ernesto) Integrability of the quantum adiabatic evolution and geometric phases. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6101–6118. (Péter Pál Lévay) **98i:81068** 81Q99 (47N50, 58F40, 81S10)

— (*with* Cassinelli, Gianni; De Vito, Ernesto; Lahti, Pekka J.) Symmetry groups in quantum mechanics and the theorem of Wigner on the symmetry transformations. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 921–941. (S. Gudder) **98k:81082** 81R05 (22E70)

Levy, A. B. (*with* Rockafellar, R. Tyrrell) Sensitivity of solutions in nonlinear programming problems with nonunique multipliers. (English summary) *Recent advances in nonsmooth optimization*, 215–223, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98b:90135** 90C31 (49J52)

Levy, Alan J. (*with* Dong, Zhifa) Effective transverse response of fiber composites with nonlinear interface. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1279–1300. 73K20

Levy, Alon Y. (*with* Koller, Daphne; Pfeffer, Avi) P-CLASSIC: a tractable probabilistic description logic. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference* (*Providence, RI*, 1997), 390–397, *AAAI Press, Menlo Park, CA*, 1997. (*see* **98f:68015**) 68T27 (03B70)

— (*with* Iwasaki, Yumi; Fikes, Richard E.) Automated model selection for simulation based on relevance reasoning. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 351–394. 68T99 (68U20)

— (*with* Fikes, Richard E.; Sagiv, Yehoshua) Speeding up inferences using relevance reasoning: a formalism and algorithms. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 83–136. (Summary) **98j:68154** 68T30 (03B70)

Levy, Anat (*with* Shapley, Lloyd S.) Individual and collective wage bargaining. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 4, 969–991. (Akira Okada) **98m:90198** 90D12 (90A50)

Levy, Bernard C. Characterization of multivariate stationary Gaussian reciprocal diffusions. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 1, 74–99. (R. Theodorescu) **98i:60036** 60G10 (15A21, 60G15, 60G60, 60J60)

Levy, Doron (*with* Rosenau, Philip) On a class of thermal blow-up patterns. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 483–493. 35K55 (35B05)

— (*with* Kurganov, Alexander; Rosenau, Philip) On Burgers-type equations with nonmonotonic dissipative fluxes. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 443–473. (Denis Serre) **98j:35158** 35Q53

Levy, H. *see* **Levy, Hanoch**

Levy, Haim (*with* Leshno, Moshe; Spector, Yishay) A comment on: "Increasing risk. I. A definition" [J. Econom. Theory **2** (1970), 225–243; MR **58** #20284a] by M. Rothschild and J. E. Stiglitz. (English summary) *J. Econom. Theory* **77** (1997), *no.* 1, 223–228. (Summary) **98m:90006** 90A05 (62B15)

Levy, Hanoch (*with* van der Mei, R. D.) Polling systems in heavy traffic: exhaustiveness of service policies. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 227–250 (1998). 60K25 (90B22)

Lévy, Jean-Claude Serge (*with* Mercier, Daniel; Perreau, M.; Ghazali, A.) Medium-range order in self-similar figures with fivefold symmetry. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 417–432, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:52030** 52C20

— Transfer matrices in symmetry problems. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 201–210. (Summary) **98j:82020** 82B23 (82B20)

Lévy, Jean-Jacques (*with* Fournet, Cédric; Gonthier, Georges; Maranget, Luc; Rémy, Didier) A calculus of mobile agents. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 406–421, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98e:68002**) 68Q10

— (*with* Curien, Pierre-Louis; Hardin, Thérèse) Confluence properties of weak and strong calculi of explicit substitutions. (English summary) *J. ACM* **43** (1996), *no.* 2, 362–397. (Hirofumi Yokouchi) **98b:68094** 68Q42 (03B40, 68N15, 68Q55)

— Some results in the join-calculus. (English summary) *Theoretical aspects of computer software* (*Sendai*, 1997), 233–249, *Lecture Notes in Comput. Sci.*, 1281, *Springer, Berlin*, 1997. (*see* **98i:68019**) 68N15 (68Q10)

Levy, Jordi Linear second-order unification. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 332–346, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q40 (03B70, 68T15)

Levy, M. S. (*with* Keyes, T. K.) On consistency of some predicting densities for the multivariate linear model. (English summary) *Math. Methods Statist.* **5** (1996), *no.* 4, 491–504. (Khursheed Alam) **98g:62108** 62H12 (62J02)

Levy, Ronnie (*with* Bešlagić, Amer) Irresolvable products. *Papers on general topology and applications* (*Gorham, ME*, 1995), 42–48, *Ann. New York Acad. Sci.*, 806, *New York Acad. Sci., New York*, 1996. (Introduction) **98a:54017** 54D15 (54D10)

— (*with* Porter, Jack R.) On two questions of Arhangel'skiĭ and Collins regarding submaximal spaces. (English summary) *Topology Proc.* **21** (1996), 143–154. (Summary) **98j:54062** 54G20 (54E52, 54F15)

Levy, Silvio Experimentelle Mathematik in Beispielen. (German summary) [Experimental mathematics in examples] With 6 extended abstracts. *Mitt. Dtsch. Math.-Ver.* **1997,** *no.* 1, 29–41. (Editors) **98h:00015** 00A69

— *see also* **Flavors of geometry, 98g:00024**

Lévy, Thérèse (*with* Périn, F.) The effective properties of a nondilute suspension of oriented fibres in transverse flow. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 6, 797–816. (Summary) **98m:76147** 76T05 (73B27, 76A05)

Lévy, Tony Hebrew mathematics in the middle ages: an assessment. *Tradition, transmission, transformation* (*Norman, OK*, 1992/1993), 71–88, *Collect. Trav. Acad. Int. Hist. Sci.*, 37, *Brill, Leiden*, 1996. (Jens Høyrup) **98g:01024** 01A35 (01A30, 01A40)

Lévy-Bruhl, Anne (*with* Bories-Longuet, Francette; Jarraud, Pierre) ★ Algèbre et géométrie. (French. French summary) [Algebra and geometry] Avec rappels de cours. [With course summaries] Problèmes de Mathématiques. Écrit du CAPES 1991–1996. [Mathematics Problems. CAPES Exams 1991–1996] *Masson, Paris*, 1997. vi+351 *pp.* *ISBN* 2-225-85511-0 00A07 (12-01, 15-01)

Levy-dit-Vehel, Françoise (*with* Litsyn, Simon N.) On the covering radius of long Goppa codes. *Applied algebra, algebraic algorithms and error-correcting codes* (*Paris*, 1995), 341–346, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the introduction) **98b:94023** 94B27 (94B75)

— (*with* Litsyn, Simon N.) Parameters of Goppa codes revisited. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1811–1819. (Summary) **98i:94036** 94B05 (94B75)

Lévy-Leblond, Jean-Marc If Fourier had known Argand ... A geometrical point of view on Fourier transforms. *Math. Intelligencer* **19** (1997), *no.* 4, 63–71. (R. L. Cooke) **98i:01019** 01A55 (42-03)

Lévy Véhel, Jacques (*with* Vojak, Robert) Multifractal analysis of Choquet capacities. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 1, 1–43. (Norbert Patzschke) **98j:28003** 28A12 (28A10, 28A80)

Lewandowski, Jerzy Volume and quantizations. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 71–76. (Hugo A. Morales-Técotl) **98g:83043** 83C45 (58D20, 81V17)

— (*with* Wiśniewski, Jacek) 2 + 1 sector of 3 + 1 gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 3, 775–782. (Hugo A. Morales-Técotl) **98f:83009** 83C05

— (*with* Ashtekar, Abhay; Marolf, Donald; Mourão, José; Thiemann, Thomas) $SU(N)$ quantum Yang-Mills theory in two dimensions: a complete solution. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5453–5482. (Ambar Sengupta) **98i:58044** 58D20 (81T05, 81T13, 81T40)

Lewandowski, Roger Étude d'un système stationnaire linéarisé d'équations primitives avec des termes de pression additionnels. (English and French summaries) [On a linearized

stationary system of primitive equations with additional pressure terms] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 173–178. (Summary) **98a:76088** 76U05 (35Q35, 86A05)

Lewanowicz, Stanisław Recurrence relations for the connection coefficients of orthogonal polynomials of a discrete variable. (English summary) *J. Comput. Appl. Math.* **76** (1996), *no.* 1-2, 213–229. (Summary) **98b:33025** 33C45

— On the fourth-order difference equation for the associated Meixner polynomials. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 351–358. (B. D. Agrawal) **98i:33012** 33C45 (33E20, 39A10)

— Generalized Watson's summation formula for ${}_3F_2(1)$. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 375–386. (Summary) **98m:33014** 33C20

Lewbel, Arthur Semiparametric estimation of location and other discrete choice moments. (English summary) *Econometric Theory* **13** (1997), *no.* 1, 32–51. (B. L. S. Prakasa Rao) **98e:62083** 62G20 (62G05, 62P20)

— Constructing instruments for regressions with measurement error when no additional data are available, with an application to patents and R&D. *Econometrica* **65** (1997), *no.* 5, 1201–1213. 62J05 (62P20)

— Semiparametric latent variable model estimation with endogenous or mismeasured regressors. (English summary) *Econometrica* **66** (1998), *no.* 1, 105–121. (Summary) **98m:62307** 62P20

Lewenstein, M. (*with* Villain, P.; Dum, R.; Castin, Y.; You, Li; Imamoğlu, A.; Kennedy, T. A. B.) Quantum dynamics of the phase of a Bose-Einstein condensate. (English summary) *J. Modern Opt.* **44** (1997), *no.* 10, 1775–1799. 82C10

Lewenstein, Moshe (*with* Amir, Amihood; Apostolico, Alberto) Inverse pattern matching. (English summary) *J. Algorithms* **24** (1997), *no.* 2, 325–339. (Summary) **98h:68097** 68Q20

Lewicka, Marta (*with* Andres, Jan; Górniewicz, Lech) Partially dissipative periodic processes. (English summary) *Topology in nonlinear analysis* (*Warsaw*, 1994), 109–118, *Banach Center Publ.*, 35, *Polish Acad. Sci., Warsaw*, 1996. (Roman Srzednicki) **98d:47129** 47H10 (34A60, 34C25, 47H11, 47N20, 55M25)

Lewicki, Grzegorz A characterization of Orlicz spaces isometric to L_p-spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 663–671. (Alberto Fiorenza) **98m:46035** 46E30

— On the uniqueness of minimal projections in spaces of the James type. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 59–65. (Sunimary) **98k:46026** 46B20 (46B45, 46E30)

Lewin, A. Y. *see* **From efficiency calculations to a new approach for organizing and analyzing: DEA fifteen yearslater, 98h:90003**

Lewin, Daniel R. (*with* Dainson, Boris E.) An algebraic criterion for robust stability of linear control systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 237–241. (Summary) **98i:93065** 93D09

Lewin, Mordechai A note following a remark of Harary regarding a certain family of sum graphs. *Ars Combin.* **47** (1997), 93–95. 05C75

Lewin, Rebecca L. Almost generalized GCD-domains. *Factorization in integral domains* (*Iowa City, IA*, 1996), 371–382, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Muhammad Zafrullah) **98i:13043** 13G05

Lewiński, T. (*with* Othman, A. M.) On attainability of Hashin-Shtrikman bounds by iterative hexagonal layering. Plane elasticity problems. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **49** (1997), *no.* 3, 513–523. (Summary) **98e:73093** 73K20 (73B27)

Lewinter, Marty (*with* Widulski, W.) Hyper-Hamilton laceable and caterpillar-spannable product graphs. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 99–104. (Bernd S. W. Schröder) **98i:05114** 05C45

— (*with* Gagliardi, Daniel) An infinite class of reach-preservable graphs. (English summary) *Networks* **29** (1997), *no.* 4, 217–218. (Summary) **98a:05050** 05C05

Lewis, A. M. (*with* Jones, Peter Watts; Hartley, Roger) Some designs for multicriteria bandits. (English summary) *Adaptive designs* (*South Hadley, MA*, 1992), 88–94, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L05 (62L15)

Lewis, A. P. An infinite series solution for the flow of an inviscid fluid into a circular inlet in the presence of a cross-flow. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 103–108. 76B10

Lewis, Adrian S. (*with* Bauschke, Heinz H.; Borwein, Jonathan M.) The method of cyclic projections for closed convex sets in Hilbert space. (English summary) *Recent developments in optimization theory and nonlinear analysis* (*Jerusalem*, 1995), 1–38, *Contemp. Math.*, 204, *Amer. Math. Soc., Providence, RI*, 1997. (Alfredo N. Iusem) **98c:49069** 49M45 (47H99, 47N10, 65F10, 90C25)

— Eigenvalue-constrained faces. (English summary) *Linear Algebra Appl.* **269** (1998), 159–181. (Jos F. Sturm) **98m:90104** 90C25 (15A18, 65Y20, 90C05)

Lewis, Alex (*with* Kogan, Ian I.; Solov'ev, O. A.) Gauge dressing of 2D field theories. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 13, 2425–2436. (Michael A. I. Flohr) **98b:81230** 81T40 (81R10, 81T30)

— (*with* Kogan, Ian I.; Solov'ev, O. A.) Knizhnik-Zamolodchikov-type equations for gauged WZNW models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1345–1367. (Summary) **98m:81169** 81T40 (81R10)

Lewis, Andrew D. (*with* Murray, Richard M.) Decompositions for control systems on manifolds with an affine connection. (English summary) *Systems Control Lett.* **31** (1997), *no.* 4, 199–205. (Fernand Pelletier) **98k:58074** 58E25 (93B29)

Lewis, C. I. *see* **Swoyer, Chris, 98d:03031**

Lewis, David K. *see* **Byrne, Alex**

Lewis, David W. Scaled trace forms of central simple algebras. *Bull. Belg. Math. Soc. Simon Stevin* **3** (1996), *no.* 3, 281–294. (From the introduction) **98h:16025** 16K20 (11E81)

— A note on trace forms and involutions of the first kind. (English summary) *Exposition. Math.* **15** (1997), *no.* 3, 265–272. (Jean-Pierre Tignol) **98d:16033** 16K20 (11E04)

— Congruence of quaternionic skew-Hermitian matrices. *Irish Math. Soc. Bull. No.* 39 (1997), 6–9. (Wasin So) **98m:15025** 15A33

— Hankel matrices and quadratic forms. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 349–363. (Summary) **98g:11040** 11E04 (15A57)

Lewis, Frank L. (*with* Kim, Young Ho[2]; Abdallah, Chaouki T.) A dynamic recurrent neural-network-based adaptive observer for a class of nonlinear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1539–1543. 93B07 (93C83)

— (*with* Commuri, Sesh) A new methodology for the design of adaptive controllers using "state-strict passivity": application to neural network controllers. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 2–16. (*see* **98g:93001**) 93C40 (93D21)

— (*with* Gürel, Ayla; Pastravanu, Octavian C.) A system-theoretic approach for discrete-event control of manufacturing systems. *Idempotency* (*Bristol*, 1994), 242–261, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **98i:00020**) 93C83 (93E03)

Lewis, Gillian *see* **de Montbrial, Thierry, (98e:90006); Lesourne, Jacques, (98e:90006); Ramsey, James B., (98e:90006); Munier, Bertrand R., (98e:90006)** *and* **Freixas, Xavier, (98e:90006)**

Lewis, H. Ralph (*with* Kostelec, Peter J.) The use of Hamilton's principle to derive time-advance algorithms for ordinary differential equations. (English summary) *Comput. Phys. Comm.* **96** (1996), *no.* 2-3, 129–151. (Zdzisław W. Trzaska) **98c:65142** 65L99 (34A45, 70H05)

— Periodic non-singular invariant series for periodic perturbations of autonomous one-degree-of-freedom Hamiltonians. (English summary) *Phys. Lett. A* **235** (1997), *no.* 6, 581–590. (P. G. L. Leach) **98m:58118** 58F30 (58F05, 58F40, 70H05, 70K99, 76W05)

— (*with* Bates, Jason W.) Hamiltonian description of toroidal magnetic fields in vacuum. (English summary) *Phys. Plasmas* **4** (1997), *no.* 7, 2619–2630. (John Adam) **98f:76080** 76W05 (70H05, 76X05, 78A25)

Lewis, Harold W., III An alternative perspective on fuzzy set-based approximate reasoning. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 1-2, 97–114. 03B52

Lewis, Heather A. An introduction to homotopy in distance-regular graphs. (English summary) Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 118–127. (Zhaojun Liang) **98h:05184** 05E30

Lewis, J. T. *see* **Lewis, John Trevor**

Lewis, James D. Higher Chow groups and the Hodge-$\mathscr{D}$-conjecture. *Duke Math. J.* **85** (1996), *no.* 1, 183–207. (Pedro Luis del Angel R.) **98f:14004** 14C25 (14D07)

— A result on cycles algebraically equivalent to zero. *Illinois J. Math.* **41** (1997), *no.* 1, 16–22. (Fumio Hazama) **98a:14013** 14C30 (14C15)

— A note on indecomposable motivic cohomology classes. (English summary) *J. Reine Angew. Math.* **485** (1997), 161–172. (Summary) **98i:14008** 14C15 (14C30)

Lewis, James T. (*with* Clark, Dean) A Collatz-type difference equation. Proceedings of the Twenty-sixth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1995). *Congr. Numer.* **111** (1995), 129–135. (Ivan Korec) **98b:11008** 11B37 (39A99)

— (*with* Clark, Dean) Transversals of cyclic Latin squares. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 113–120. (From the introduction) **98i:05029** 05B15

— (*with* Finizio, Norman J.) A criterion for cyclic whist tournaments with the three person property. (English summary) *Util. Math.* **52** (1997), 129–140. (Summary) **98i:05040** 05B30

Lewis, John B.[2] Spaces of holomorphic functions equivalent to the even Maass cusp forms. *Invent. Math.* **127** (1997), *no.* 2, 271–306. (YoungJu Choie) **98f:11036** 11F37 (11F11)

Lewis, John L. Note on the thermistor problem. *XVIth Rolf Nevanlinna Colloquium* (*Joensuu*, 1995), 111–118, *de Gruyter, Berlin*, 1996. (Zensho Yoshida) **98d:35058** 35J60 (35Q99, 78A55)

Lewis, John Trevor (*with* Ford, G. W.; O'Connell, R. F.) Master equation for an oscillator coupled to the electromagnetic field. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 362–385. (Jacques Renaud) **98b:82048** 82C05 (81V10)

Lewis, Mark L. Characters, coprime actions, and operator groups. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 455–460. (I. M. Isaacs) **98g:20019** 20C15

— Character correspondences and nilpotent fully-ramified sections. *Comm. Algebra* **25** (1997), *no.* 11, 3587–3604. (Gabriel Navarro) **98g:20020** 20C15

— Derived lengths and character degrees. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1915–1921. (I. M. Isaacs) **98h:20011** 20C15

Lewis, Martin W. *see* **Flight from science and reason, 98i:00013**

Lewis, Patricia A. (*with* Wickham, G. R.) Mode conversion, corner singularities and matrix Wiener-Hopf factorization. *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 89–98, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (*see* **98b:00024**) 35J05 (45E10, 78A45)

Lewis, Richard P. The ranks of partitions modulo 2. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 445–449. (Norbert Hegyvári) **98d:11122** 11P83 (05A17)

Lewis, Robert H. (*with* Moore, Guy D.) Computer search for nilpotent complexes. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 239–246. (Manuel Castellet) **98m:55011** 55P60 (55P15, 55Q70)

Lewis, Roger T. (*with* Evans, William Desmond; Siedentop, Heinz; Solovej, Jan Philip) Counting eigenvalues using coherent states with an application to Dirac and Schrödinger operators in the semi-classical limit. *Ark. Mat.* **34** (1996), *no.* 2, 265–283. (Ghias Hachem) **98d:35165** 35P05 (35Q40, 81R30)

— (*with* Siedentop, Heinz; Vugal'ter, S. A.) The essential spectrum of relativistic multi-particle operators. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 1–28. (Peter D. Hislop) **98i:81046** 81Q10 (35P05, 47N50)

Lewis, Roland W. (*with* Schrefler, Bernard A.; Rahman, Norhan Abd.) A finite element analysis of multiphase immiscible flow in deforming porous media for subsurface systems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 2, 135–149. 76M10 (76S05, 76T05)

Lewis, S. M. *see* **Lewis, Susan Margaret**

Lewis, Samantha (*with* Rees, D. A. S.; Bassom, Andrew P.) High wavenumber convection in tall porous containers heated from below. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 545–563. (Summary) **98j:76135** 76R05 (76E15, 76E30, 76S05)

Lewis, Sophia J. A note on the strong ergodic theorem of some discrete models. (English summary) *J. Differ. Equations Appl.* **3** (1997), *no.* 1, 55–63. (Summary) **98c:15030** 15A18 (39A10, 47A35, 92D25)

Lewis, Steven M. (*with* Raftery, Adrian E.) Estimating Bayes factors via posterior simulation with the Laplace-Metropolis estimator. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 438, 648–655. 62F15

Lewis, Susan Margaret (*with* Russell, K. G.) Efficient cross-over designs allowing a check on the assumption that direct and carry-over effects do not interact. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 12, 2835–2854. 62K99

— (*with* Prescott, P.; Draper, Norman R.; Dean, Angela M.) Further properties of mixture designs for five components in orthogonal blocks. (English summary) *J. Appl. Statist.* **24** (1997), *no.* 2, 147–156. (Summary) **98a:62100** 62K05 (62K10)

Lewis, Wendy *see* **On the properties of discourse. A translation of** *Tractatus de proprietatibus sermonum*, **(98d:01013)**

Lewkowicz, Izchak (*with* Cohen, Nir) Convex invertible cones and the Lyapunov equation. (English summary) *Linear Algebra Appl.* **250** (1997), 105–131. (Richard D. Hill) **98b:15022** 15A48 (15A57)

— (*with* Cohen, Nir) Convex invertible cones of state space systems. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 265–286. (Boris G. Zaslavskiĭ) **98j:93020** 93B20 (93B05, 93B25)

— (*with* Cohen, Nir; Rodman, Leiba) Exponential stability of triangular differential inclusion systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 159–164. (Marian Mureşan) **98e:34025** 34A60 (34D20)

Lewowicz, Jorge *see* **Conference: Dynamical Systems, 98b:58003**

L'Excellent, Jean-Yves (*with* Daydé, Michel J.; Gould, Nicholas Ian Mark) Element-by-element preconditioners for large partially separable optimization problems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1767–1787. (K. Schittkowski) **98j:90070** 90C30

Ley, Eduardo Erratum to: "Optimal provision of public goods with altruistic individuals" [Econom. Lett. **54** (1997), no. 1, 23–27]. *Econom. Lett.* **56** (1997), *no.* 2, 249. 90A27

Le Yaouanc, A. (*with* Oliver, L.; Raynal, J.-C.) The Hamiltonian $(p^2 + m^2)^{1/2} - \alpha/r$ near the critical value $\alpha_c = 2/\pi$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 3997–4012. (Vladimir Georgescu) **98g:81033** 81Q10 (47N50)

Leybourne, Stephen (*with* McCabe, B. P. M.; Shin, Yongcheol) A parametric approach to testing the null of cointegration. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 395–413. (A. L. Nagar) **98m:62251** 62M10

— (*with* Newbold, Paul; Vougas, Dimitrios) Unit roots and smooth transitions. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 83–97. 62M10 (62P20)

Leydold, J. A Faber-Krahn-type inequality for regular trees. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 2, 364–378. (Bojan Mohar) **98c:05112** 05C50 (05C05, 35J25, 58G99)

Leyendekkers, J. V. (*with* Rybak, J. M.; Shannon, Anthony) The anatomy of odd-exponent Diophantine triples. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 1, 41–51. (Zhen Fu Cao) **98k:11028** 11D61 (11A07)

— (*with* Rybak, J. M.; Shannon, Anthony) Analysis of Diophantine properties using modular rings with four and six classes. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 2, 61–74. (Zhen Fu Cao) **98k:11029** 11D61 (11A07)

Leyffer, Sven (*with* Fletcher, Roger; Grothey, Andreas) Computing sparse Hessian and Jacobian approximations with optimal hereditary properties. (English summary) *Large-scale optimization with applications, Part II (Minneapolis, MN, 1995)*, 37–52, *IMA Vol. Math. Appl.*, 93, *Springer, New York*, 1997. (Summary) **98e:90155** 90C30 (65F50)

Leyk, Zbigniew Breakdowns and stagnation in iterative methods. (English summary) *BIT* **37** (1997), *no.* 2, 377–403. (De Hui Chen) **98e:65022** 65F10 (65G05)

Ley-Koo, Eugenio (*with* Jáuregui, Rocío; Bunge, Carlos) Electrons in atoms: how well can we describe them? (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 79–95. (*see* **98h:81004**) 81V45

Leyland, Pénélope (*with* Khobalatte, Brahim) New finite-element-based fluctuation-splitting kinetic schemes. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 229–239. (Summary) **98k:76090** 76M10 (65N30, 76P05)

Leytem, Charles Pseudo-Petrie operators on Grünbaum polyhedra. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 175–188. (Egon Schulte) **98h:52019** 52B15

Leyva-Ramos, Jesus *see* **Triah, H., 98d:93024**

Leyvraz, F. (*with* Seligman, Thomas H.) Structural invariance: a link between chaos and random matrices. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 350–359, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q50 (82B44)

Lezama, Carlos Galois connections. (Spanish) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 1, 1–8 (1997). (J. R. Isbell) **98j:18002** 18A40 (06A15)

Lezama, Oswaldo (*with* Rodado, Armando) Projective linear systems. (Spanish. English and Spanish summaries) *Lect. Mat.* **17** (1996), *no.* 1, 15–35. (Tomás Sánchez-Giralda) **98e:93022** 93B25 (93B55)

Lezama S., Carlos H. *see* **Lezama, Carlos**

Lezaun Iturralde, Mikel (*with* Gaultier, Maurice) Un problème de convection-diffusion avec réaction chimique. (English and French summaries) [A problem of convection-diffusion with chemical reaction] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 159–164. (Anibal Rodriguez-Bernal) **98e:35085** 35K55 (35B40, 35Q30, 80A32)

Leznov, A. N. (*with* Piette, B.; Zakrzewski, Wojciech J.) On the integrability of pure Skyrme models in two dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3007–3011. (Bernd J. Schroers) **98d:81047** 81T10 (35Q58)

— (*with* Yuzbashyan, E. A.) Multi-soliton solutions of the two-dimensional matrix Davey-Stewartson equation. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 643–653. (Jérôme Leon) **98e:58098** 58F07 (35Q55)

— (*with* Sorin, A. S.) Integrable mappings and hierarchies in the (2|2) superspace. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 258–262. (Summary) **98f:58106** 58F07 (81T60)

— (*with* Sorin, A. S.) The solution of the $N = 2$ supersymmetric f-Toda chain with fixed ends. (English summary) *Phys. Lett. B* **402** (1997), *no.* 1-2, 87–100. (Introduction) **98f:81181** 81T10 (81R10, 81V70)

Lhalouani, Khalid (*with* Bayada, Guy; Chambat, Michele; Sassi, Taoufik) Éléments finis avec joints pour des problèmes de contact avec frottement de Coulomb non local. (English and French summaries) [On the mortar finite element method for contact problems with nonlocal Coulomb law] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1323–1328. (Summary) **98j:73086** 73V05 (65N30, 73T05)

Li, A.-M. *see* **Li, An Min**

Li, Aihua (*with* Wiegand, Sylvia) Polynomial behavior of prime ideals in polynomial rings and the projective line over **Z**. *Factorization in integral domains (Iowa City, IA, 1996)*, 383–399, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Stephen McAdam) **98d:13025** 13F20

Li, An Min (*with* Liu, Huili L.; Schwenk-Schellschmidt, A.; Simon, Udo; Wang, Chang Ping[1]) Cubic form methods and relative Tchebychev hypersurfaces. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 203–221. (Joel L. Weiner) **98g:53016** 53A15

— (*with* Simon, Udo; Chen, Bohui) A two-step Monge-Ampère procedure for solving a fourth order PDE for affine hypersurfaces with constant curvature. (English summary) *J. Reine Angew. Math.* **487** (1997), 179–200. (Fei-Tsen Liang) **98g:53017** 53A15 (35J60)

Li, Anping (*with* Aigner, Martin) Searching for counterfeit coins. (English summary) *Graphs Combin.* **13** (1997), *no.* 1, 9–20. (László Pyber) **98c:05018** 05A99

Li, Baibing (*with* De Moor, Bart L. R.) A simple approximation relation between the symmetric generalized logistic and the Student's t distributions. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1029–1039. (Summary) **98g:62031** 62E17 (62E15)

Li, Bang-He (*with* Li, Qi Sheng[2]) Invariants of 3-manifolds obtained from trefoil knots. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 21, 1924–1930. (Peiyi Zhao) **98b:57016** 57M25 (57N10, 57R65)

— (*with* Li, Qi Sheng[2]; Peterson, Chariya P.) Computer symbol calculation of invariants of three-manifolds obtained from trefoil knots. *Chinese Sci. Bull.* **42** (1997), *no.* 2, 96–102. (From the text) **98d:57016** 57M25 (57–04)

— (*with* Sun, Hongwei) Exact number of chord diagrams and an estimation of the number of spine diagrams of order n. (English summary) *Chinese Sci. Bull.* **42** (1997), *no.* 9, 705–718. (Summary) **98e:57013** 57M25 (05A15, 05A16)

— (*with* Sun, Hongwei) The exact number of chord diagrams of order n and estimates for the number of spine diagrams. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 14, 1477–1490. (Summary) **98h:57021** 57M25

— (*with* Li, Tian-Jun) Minimal genus embeddings in S^2-bundles over surfaces. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 379–394. (Laurence R. Taylor) **98h:57062** 57R95 (57R40)

— (*with* Li, Ya-Qing) Optimal estimation of shell thickness in Cutland's construction of Wiener measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 225–229. (Nigel J. Cutland) **98c:28027** 28E05 (03H05, 28A35, 28C20)

Li, Bao (*with* Zhang, Guo Feng[1]; Zhou, Lin Fang) Extremely right complete semigroups and their structure. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 3, 1–6. (Summary) **98d:20069** 20M10

— (*with* Xiao, Guo Zhen[1]) The adjoint form sequence of an algebraic-geometric code and a majority voting scheme. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 24, 2606–2610. 94B27

Li, Bao Cheng (*with* Syngellakis, Stavros) Numerical conformal mapping based on the generalised conjugation operator. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 619–639. (Matti Vuorinen) **98k:65012** 65E05 (30C30, 65N38)

Li, Bao Qin On reduction of functional-differential equations. (English summary) *Complex Variables Theory Appl.* **31** (1996), *no.* 4, 311–324. (Fred Gross) **98d:35227** 35R10 (32A99, 35A30)

— Uniqueness of entire functions sharing four small functions. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 841–858. (L. I. Ronkin) **98m:32001** 32A22 (30D35, 32A15)

— (*with* Chang, Der-Chen) Sobolev and Lipschitz estimates for weighted Bergman projections. (English summary) *Nagoya Math. J.* **147** (1997), 147–178. (Gregor Herbort) **98i:32035** 32H10 (46E20, 47B38)

Li, Bao-yi (*with* Zhang, Zhi Fen) On the number of limit cycles of quadratic Hamiltonian systems under quadratic perturbations. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 306–315, *World Sci. Publishing, River Edge, NJ*, 1995. (Jian Hua Sun) **98h:34066** 34C05 (58F21)

Li, Bi Wen (*with* Zeng, Zhi Gang) Interval ecological stability of an n-dimensional Prajneshu ecosystem with time delay. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 55–58. (Summary) **98k:92018** 92D40

Li, Bin (*with* Shao, Jia Yu) The set of generalized exponents of primitive simple graphs. (English summary) *Linear Algebra Appl.* **258** (1997), 95–127. (Ke Min Zhang) **98d:05099** 05C50 (15A48)

Li, Bin An exact solution of the Schrödinger equation with the potential $V(r) = \sum_{i=-6}^{6} \alpha_i r^{i/2}$. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 37–39. 81Q05 (34A05, 34L40)

Li, Bing[2] (*with* Lindsay, Bruce G.) Chi-square tests for generalized estimating equations with possibly misspecified weights. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 489–509. (A. L. Nagar) **98f:62138** 62G10

Li, Bing Zheng (*with* Zhou, Ding Xuan; Li, Song) A Korovkin theorem on approximation by linear operators in the space $\sigma(L^\infty, L^1)$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 409–412. 41A36

— Approximation by a class of modified Szász-Durrmeyer operators. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 209–220. (Ion Badea) **98c:41036** 41A35

Li, Bingren Real operator algebras. (English summary) Bimodules in operator algebras (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 936 (1996), 58–69. (Keith Taylor) **98a:46071** 46L05 (46L10)

Li, Bingtuan Discrete oscillations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 389–399. (Summary) **98m:39017** 39A10

— (*with* Kuang, Yang) Sharp conditions for oscillations in some nonlinear nonautonomous delay differential equations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1265–1276. (Yiannis Sficas) **98i:34104** 34K15 (34C10, 34K40)

Li, Bishan (*with* Tsatsomeros, Michael J.) Doubly diagonally dominant matrices. (English summary) *Linear Algebra Appl.* **261** (1997), 221–235. (R. A. Horn) **98g:15028** 15A45 (15A42)

— (*with* Li, Lei; Harada, Masunori; Niki, Hiroshi; Tsatsomeros, Michael J.) An iterative criterion for H-matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 179–190. (Ronald L. Smith) **98m:15040** 15A48 (15A57)

Li, Bo (*with* Luskin, Mitchell) Nonconforming finite element approximation of crystalline microstructure. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 917–946. (Igor Bock) **98j:73092** 73V05 (65N12, 65N30, 73C50, 73V25)

Li, Bo Zang (*with* Zhang, De-gang; Wu, Jian Hua[4]; Yan, Feng Li) The Bloch theorem for the evolution of states in cyclic quantum systems and the unification of resonant geometric phases. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 2, 227–237. (Summary) **98f:81397** 81V80 (81Q99)

Li, Boyu The ANTI-order for cacce posets. I, II. (English summary) *Discrete Math.* **158** (1996), *no.* 1-3, 173–184, 185–199. (Margret H. Höft) **98b:06001** 06A06

— (*with* Milner, Eric Charles) Isomorphic ANTI-cores of cacce posets. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 185–195. (Gerhard Behrendt) **98m:06005** 06A07

Li, C. W. (*with* Liu, Jian[3]; Li, Wai Keung) On a threshold autoregression with conditional heteroscedastic variances. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 279–300. (Joseph D. Petruccelli) **98i:62073** 62M10

Li, Cai Heng (*with* Praeger, Cheryl E.; Niemeyer, Alice C.) Finite transitive permutation groups and finite vertex-transitive graphs. (English summary) *Graph symmetry* (*Montreal, PQ*, 1996), 277–318, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (John van Bon) **98h:05093** 05C25 (20B25)

— Isomorphisms of finite Cayley graphs. *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 169–172. (Martin Škoviera) **98i:05094** 05C25 (20B99)

— On finite groups with the Cayley invariant property. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 253–261. (Ji Ping Zhang) **98k:20031** 20D60 (05C25)

— (*with* Praeger, Cheryl E.) Finite groups in which any two elements of the same order are either fused or inverse-fused. (English summary) *Comm. Algebra* **25** (1997), *no.* 10, 3081–3118. (Gernot Stroth) **98j:20023** 20D45 (20D10, 20D15)

— On self-complementary vertex-transitive graphs. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3903–3908. (B. Zelinka) **98k:05119** 05C75 (05C25)

— The cyclic groups with the m-DCI property. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 655–665. (Dragan Marušič) **98m:05085** 05C25 (20D60)

— The primitive permutation groups of certain degrees. (English summary) *J. Pure Appl. Algebra* **115** (1997), *no.* 3, 275–287. (Cheryl E. Praeger) **98c:20005** 20B10 (20B05)

— (*with* Gu, Zheng Yu) A nonabelian CI-group. (English summary) *Australas. J. Combin.* **17** (1998), 229–233. (Summary) **98m:05084** 05C25

— On isomorphisms of connected Cayley graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 109–122. (Joseph B. Klerlein) **98k:05080** 05C25

— The solution of a problem of Godsil on cubic Cayley graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 140–142. (Summary) **98m:05086** 05C25

Li, Cai Zhong (*with* Wang, Zhen[1]; Ding, Xia Xi) On a problem of Gel′fand. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 665–672. (L. Hsiao) **98f:35087** 35L15

— (*with* Wang, Zhen[1]) Globally smooth solutions for a model equation in viscoelasticity. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *no.* 3, 331–334. (L. Hsiao) **98e:35110** 35L65 (73F15)

— (*with* Liu, Fa Gui) P-systems with relaxation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 61–69. (Long Wei Lin) **98g:35139** 35L60

— (*with* Yang, Xiao Zhou) Riemann problems for a class of non-strictly hyperbolic equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 243–254. (Long An Ying) **98d:35131** 35L60

— (*with* Gu, Yong Geng; Wang, Jinghua; Xiao, Ling) The academic career and accomplishments of Professor Ding Xiaxi. *J. Partial Differential Equations* **10** (1997), *no.* 4, 289–298. (Editors) **98k:01028** 01A70

Li, Changjun (*with* Evans, David J.) A new iterative method for large sparse linear systems. (English summary) *Int. J. Comput. Math.* **62** (1996), *no.* 3-4, 241–248. (Summary) **98g:65044** 65F50

Li, Changpin (*with* Yang, Zhong Hua[1]; Wu, Yujiang) Bifurcation and stability of nontrivial solution to Kuramoto-Sivashinsky equation. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 95–97. 35Q53 (35B32, 35B35)

Li, Chao *see* **Li, Chao[2]**

Li, Chao[1] (*with* Sheng, Li Xin) Applications of cyclotomic polynomials to error-correcting codes. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 38–41. 94B15

— Calculation of correlation functions of periodic binary sequences. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 8, 800–804. 94A99

Li, Chao[2] Constructions of Franklin half-magic squares. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 51–57. 05B15

— Constructing magic squares of order mn using magic squares of order m. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 116–121. 05B15

Li, Chaoqun (*with* Zhao, Jianqiang) Iwasawa theory of $\mathbf{Z}_p^d$-extensions over global function fields. (English summary) *Exposition. Math.* **15** (1997), *no.* 4, 315–337. (Cornelius Greither) **98h:11150** 11R58 (11R23)

— (*with* Zhao, Jianqiang) Class number growth of a family of $\mathbf{Z}_p$-extensions over global function fields. *J. Algebra* **200** (1998), *no.* 1, 141–154. (Yoshinori Hamahata) **98m:11127** 11R58 (11R29)

Li, Chaoying (*with* Yu, Hong Quan; Wang, Yi) On congruence properties of Stirling-type pairs. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 509–512. 11A07 (11B73)

Li, Chen Wen On some modular properties for Stirling numbers of the second kind. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 50–52, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 05A10

Li, Cheng Zhi[1] (*with* Zhang, Zhi Fen) On the number of limit cycles of a class of quadratic Hamiltonian systems under quadratic perturbations. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 445–460. (Lubomir Gavrilov) **98m:34067** 34C05 (34C23, 58F21)

— (*with* Dumortier, Freddy) Quadratic Liénard equations with quadratic damping. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 41–59. (Mohamed El Morsalani) **98j:34043** 34C05

— (*with* Dumortier, Freddy; Zhang, Zhi Fen) Unfolding of a quadratic integrable system with two centers and two unbounded heteroclinic loops. (English summary) *J. Differential Equations* **139** (1997), *no.* 1, 146–193. (Lubomir Gavrilov) **98f:34034** 34C05 (34C25, 58F21)

Li, Chi-Kwong (*with* Stanford, David P.; Olesky, D. D.; van den Driessche, P.) Minimum positive determinant of integer matrices with constant row and column sums. (English summary) *Linear and Multilinear Algebra* **40** (1995), *no.* 2, 163–170. (Morris Newman) **98a:15036** 15A36 (15A15)

— (*with* Hamilton-Jester, Crista Lee) Extreme vectors of doubly nonnegative matrices. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1371–1383. (Raphael Loewy) **98h:15040** 15A48

— (*with* Mathias, Roy) Matrix inequalities and partial isometries that arise in x-ray crystallography. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 303–314. (J. L. Brenner) **98a:15037** 15A45

— (*with* Woerdeman, Hugo J.) Special classes of positive and completely positive maps. (English summary) *Linear Algebra Appl.* **255** (1997), 247–258. (Richard D. Hill) **98b:15001** 15A04 (15A48, 47B49)

— (*with* Tsing, Nam-Kiu; Zhang, Fuzhen) Norm hull of vectors and matrices. (English summary) *Linear Algebra Appl.* **257** (1997), 1–27. (Sing Cheong Ong) **98d:15025** 15A60

— (*with* Bebiano, Natália; da Providência, João) Determinant of the sum of a symmetric and a skew-symmetric matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 1, 74–82. (Peter Butkovič) **98c:15023** 15A15 (15A18, 15A57)

— (*with* Huang, Wenchao; Schneider, Hans) Norms and inequalities related to Schur products of rectangular matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 334–347. (Sing Cheong Ong) **98c:15076** 15A60 (15A45)

— (*with* Spitkovsky, Ilya M.; Shukla, Sudheer) Equality of higher numerical ranges of matrices and a conjecture of Kippenhahn on Hermitian pencils. (English summary) *Linear Algebra Appl.* **270** (1998), 323–349. (Bryan E. Cain) **98k:15040** 15A60 (15A21, 15A22)

— (*with* Coleman, Todd; Lundquist, Michael; Travison, Thomas) Isometries for the induced c-norm on square matrices and some related results. (English summary) *Linear Algebra Appl.* **271** (1998), 235–256. (Fuad Kittaneh) **98m:15047** 15A60

— (*with* Mathias, Roy) Generalized eigenvalues of a definite Hermitian matrix pair. (English summary) *Linear Algebra Appl.* **271** (1998), 309–321. (Yik-Hoi Au-Yeung) **98j:15013** 15A18 (15A57)

— q-numerical ranges of normal and convex matrices. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 377–384. (Summary) **98m:15048** 15A60

— (*with* Nakazato, Hiroshi) Some results on the q-numerical range. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 385–409. (Summary) **98m:15049** 15A60

— (*with* Pohanka, Carrie A.) Estimating the extreme singular values of matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 153–169. (Ilse C. F. Ipsen) **98m:15017** 15A18 (15A42)

— (*with* Rodman, Leiba) Remarks on numerical ranges of operators in spaces with an indefinite metric. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 973–982. (John P. Daughtry) **98f:47005** 47A12 (47B50)

Li, Ching-Teh (*with* Greenberg, William R.; Klein, Abraham) Invariant tori and Heisenberg matrix mechanics: a new window on the quantum-classical correspondence. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 281–293, *Internat. Press, Cambridge, MA*, 1997. (*see* **98m:81002**) 81Q20

Li, Chong[1] (*with* Watson, G. Alistair) On vector valued function approximation using a peak norm. (English summary) *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 2, 1–12. (Giuseppe Mastroianni) **98k:41047** 41A65 (41A50, 46E40)

— (*with* Yang, Wen Shan; Watson, G. Alistair) A variation of varisolvent L_1 approximation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 119–130. (D. E. Wulbert) **98d:41046** 41A65 (41A52)

— (*with* Watson, G. Alistair) Strong uniqueness in restricted rational approximation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 1, 96–113. (Günther Nürnberger) **98d:41019** 41A20

— (*with* Watson, G. Alistair) On best simultaneous approximation. (English summary) *J. Approx. Theory* **91** (1997), *no.* 3, 332–348. (Mircea Ivan) **98j:41013** 41A28 (46E40)

— (*with* Yang, Wen Shan; Watson, G. Alistair) Characterization and uniqueness of nonlinear uniform approximation. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 3, 473–482. (Martin Bartelt) **98i:41042** 41A50 (41A52, 41A65)

— (*with* Wang, Xing Hua) Almost Chebyshev set with respect to bounded subsets. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 375–383. (C. Franchetti) **98f:41033** 41A65 (46B20)

Li, Chris Cho-Pin (*with* Kurz, Ludwik) A new approach to the detection of moving objects. (English summary) *Inform. Sci.* **103** (1997), *no.* 1-4, 115–134. 68U10

Li, Chuan (*with* Li, Yong-Li; Zhang, Ji Hui; Wu, Xuemou) Boundary of sets in pansystems information systems. (English summary) *Kybernetes* **26** (1997), *no.* 4-5, 497, 596–601. 68T30

Li, Chuan-Ming (*with* Hwang, Tzonelih; Lee, Narn-Yih) Threshold-multisignature schemes where suspected forgery implies traceability of adversarial shareholders. (English summary) *Advances in cryptology—EUROCRYPT '94* (*Perugia*), 194–204, *Lecture Notes in Comput. Sci.*, 950, *Springer, Berlin*, 1995. (*see* **98h:94001**) 94A60

Li, Chuan Rong (*with* Lu, Song Jian) Qualitative analysis of N-species prey-competition systems with nonlinear relations and periodic coefficients. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 147–156. (Summary) **98j:92014** 92D25 (34C25, 34D99)

Li, Chun[3] (*with* Chui, Charles K.) Multivariate interpolating wavelets. (English summary) *Approximation theory VIII, Vol. 2* (*College Station, TX*, 1995), 9–16, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Gerlind Plonka) **98e:41044** 41A65 (41A05, 42C15)

Li, Chun Guang (*with* Liu, Ren Li) A general method for determining the convergence domains of block SOR iterative methods. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 44–53. (Summary) **98b:65035** 65F10

Li, Chun Wah (*with* Liu, Xiao Qing[2]) Approximation of multiple stochastic integrals and its application to stochastic differential equations. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 697–708. (*see* **98i:00028**) 60H05 (60H10)

— (*with* Liu, Xiao Qing[2]) Discretization of stochastic differential equations by the product expansion for the Chen series. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 23–40. (Fabienne Castell) **98d:60113** 60H10

— (*with* Liu, Xiao Qing[2]) Algebraic structure of multiple stochastic integrals with respect to Brownian motions and Poisson processes. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 107–120. (Summary) **98h:60075** 60H05 (60G55, 60J65)

Li, Chun Wen (*with* Miao, Yuan; Du, Ji Hong) A stability equivalence between nonlinear time-invariant systems and polynomials of their time-invariant Lyapunov functions. (Chinese) *Acta Automat. Sinica* **23** (1997), *no.* 6, 850–853. 93D05 (93C10)

— (*with* Miao, Yuan; Hu, Shi Wen) An algorithm for determining the stability of 2-dimensional singular higher-order critical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 430–433. 93D15 (93B40)

Li, Chung-Lun (*with* Cheng, T. C. Edwin; Chen, Zhi-Long; Lin, Bertrand M.-T.) Scheduling to minimize the total compression and late costs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 67–82. (Summary) **98m:90071** 90B35 (90C39)

— (*with* Cai, Xiao-Qiang; Lee, Chung-Yee) Minimizing total completion time in two-processor task systems with prespecified processor allocations. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 231–242. (Summary) **98m:90069** 90B35 (68M10)

Li, Chzhi *see* **Li, Zhi**

Li, Congming (*with* Chen, Wenxiong) A priori estimates for prescribing scalar curvature equations. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 3, 547–564. (David L. Finn) **98d:53049** 53C21 (35J60, 58G30)

— (*with* Chen, Wenxiong) Indefinite elliptic problems in a domain. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 333–340. (Summary) **98a:35035** 35J65 (35B45)

— (*with* Bebernes, Jerrold W.; Li, Yi[2]) Travelling fronts in cylinders and their stability. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 123–150. (Sergei A. Vakulenko) **98e:35089** 35K57 (35B40)

Li, Cun Hua Well-posedness of solutions to nonhomogeneous parabolic evolution equations of any order. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 3, 309–314. (Ying Guo Lei) **98m:35215** 35R10 (34K30, 35K99)

Li, Cunhang (*with* Wu, Rong[1]) Conditioned superprocesses. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 249–256. (Zeng Hu Li) **98k:60151** 60J80 (60G57, 60J25)

Li, D. M. *see* **Li, De Ming**

Li, Da Qian (*with* Kong, De-Xing; Zhou, Yi) Global classical solutions for quasilinear nonstrictly hyperbolic systems. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 203–229. (Olivier Guès) **98d:35132** 35L60 (35B05, 35B60)

— Life-span of classical solutions to nonlinear wave equations in four space dimensions. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 95–109. (Summary) **98k:35162** 35L70 (35B60)

— Global regularity and breakdown of nonlinear hyperbolic waves. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 267–276, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35L60 (35Q72, 73C50)

— (*with* Kong, De-Xing) Solutions globales avec discontinuités de contact pour les systèmes hyperboliques quasi linéaires de lois de conservation. (English and French summaries) [Global solutions with contact discontinuities for quasilinear hyperbolic systems of conservation laws] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 621–626. (Summary) **98b:35114** 35L65

— (*with* Zhou, Yi; Kong, De-Xing) Global classical solutions for general quasilinear hyperbolic systems with decay initial data. *Nonlinear Anal.* **28** (1997), *no.* 8, 1299–1332. (Alan Jeffrey) **98a:35082** 35L60

Li, Da Yong A property of weakly similar matrices. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 2, 81–82. 15A21

Li, Da Zhi Global classical solutions for a class of nonlocal quasilinear hyperbolic systems. (Chinese. Chinese summary) *Math. Appl.* **10** (1997), *no.* 4, 6–7. 35L60

Li, Dafa (*with* Jia, Peifa) Automated natural deduction prover and experiments. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Pont-à-Mousson*, 1997), 153–157, *Lecture Notes in Artificial Intelligence, Springer, Berlin*, 1997. (*see* **98k:03004**) 03B35 (68Q05, 68T15)

— Unification algorithms for eliminating and introducing quantifiers in natural deduction automated theorem proving. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 1, 105–134. (Petr Jirků) **98g:03037** 03B35 (68T15)

Li, Dan (*with* Hu, Qing Ping; Lin, Yi[3]) Divisibility and cardinal functions related to quotient systems. (English summary) *Cybernetica* **40** (1997), *no.* 2, 95–102. 93A05 (93A10)

— (*with* Hu, Qing Ping) Some problems on the connections between algebras of different types. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **27** (1997), *no.* 4, 287–288, 292. 08A05 (08A30)

— (*with* Hu, Qing Ping) Quadratic extensions of universal algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 68–69, 67. 08A05

Li, De Hua (*with* Xiong, Lian Huan; Xu, Chang Fa; Huang, Jian Zhong[2]) A Sobolev orthogonal wavelet-finite element method for solving ordinary differential equations with constant coefficients. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 5, 76–78, 93. 65L06

Li, De Jun (*with* Zhu, Yi Cheng) The interaction energy between the electromagnetic field and the gravitational field of a rotating spherical body. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 45–48. 83C50

Li, De Lang Iwasawa invariant of some cubic fields. (English summary) *Progr. Natur. Sci.* (*English Ed.*) **5** (1995), *no.* 5, 611–615. (Robert Gold) **98d:11135** 11R23

— (*with* Sun, Shun Hua) Hankel operators and the Riemann hypothesis. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 503 508. (Ke He Zhu) **98j:47065** 47B35 (11M26)

Li, De Mao (*with* Feng, Fu Lin) Error estimates for semidiscrete solutions to one-dimensional singular nonstationary problems. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **27** (1996), *no.* 6, 755–762. (Fu Ming Ma) **98d:65125** 65M60 (65M12)

Li, De Ming (*with* Lu, Qi Shao; Huang, Ke Lei) Bifurcation for a class of integral equations with two-dimensional bifurcation equations. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 267–273. (Da Jun Guo) **98i:45007** 45G10 (47H15)

— (*with* To, C. W. S.; Huang, Ke Lei) Supercritical and subcritical Hopf bifurcations in a stochastically excited system. *J. Sound Vibration* **201** (1997), *no.* 5, 648–656. (Jan I. Seidler) **98c:34093** 34F05 (34C23, 70K40, 70L05)

Li, De Sheng (*with* Zhu, Jiang[2]) Existence of and approximation techniques for solutions to a class of functional equations in dynamic programming. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 20–23. 49L20 (90C30)

Li, De Yuan (*with* Dong, Su Qin) Segment explicit-implicit scheme for a parabolic equation with discontinuous coefficients. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 193–204. (Summary) **98e:65069** 65M12

Li, Deli On moments of the supremum of normed weighted averages. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 3, 279–292. (Nasrollah Etemadi) **98d:60068** 60F99 (60F15)

Li, Deng Feng[1] (*with* Chen, Shou Yu) FNN optimum seeking decision making method. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 699–705. 90C05 (04A72, 90C70)

— (*with* Chen, Shou Yu) A fuzzy cross iterated algorithm for multiobjective optimization problems and its convergence. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 107–109. 90C70 (04A72)

Li, Dening (*with* Hattori, Harumi) The existence of global solutions to a fluid dynamic model for materials for Korteweg type. (English summary) *J. Partial Differential Equations* **9** (1996), *no.* 4, 323–342. (Leonid V. Bogdanov) **98b:35145** 35Q35 (76N10)

Li, Dong Dong (*with* Wang, Yao) Graded Z-regular rings. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 56–58. 16W50

Li, Dong-hui (*with* Zhou, Shu Zi; Zeng, Jin-ping) A successive approximation quasi-Newton process for nonlinear complementarity problem. (English summary) *Recent advances in nonsmooth optimization*, 459–472, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98a:90009**) 90C33

— Global convergence of the nonsingular Broyden method for solving unconstrained optimization problems. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 321–330; *translation in Chinese J. Numer. Math. Appl.* **17** (1995), *no.* 4, 85–94. (Summary) **98e:90163** 90C30 (65K05)

— Inexact damped Newton method for nonlinear complementarity problems. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 492. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 487–496. (J. Parida) **98c:90163** 90C33 (90C30)

— (*with* Zeng, Jin-ping; Zhou, Shu Zi) Nonoverlapping domain decomposition methods for solving single-obstacle problems. I. The case of two subdomains. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 3, 1–6. (Zheng Hui Xie) **98e:65109** 65N55 (65N12)

— Quadratic convergence of approximate Newton methods for nonlinear complementarity problems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 103–109. (Summary) **98d:90113** 90C30 (49J40, 65K10)

— (*with* Zeng, Jin-ping) A penalty technique for nonlinear complementarity problems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 40–50. (Jie Sun) **98m:90161** 90C33 (90C30)

Li, Dongmei (*with* Tan, Xuan; Tian, Guangyue) The qualitative classification of a special type of higher order ordinary differential system. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 232–247. (Georgil Osipenko) **98m:34078** 34C20

Li, Duan Saddle point generation in nonlinear nonconvex optimization. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4339–4344. (*see* **98i:00032**) 90C26 (49N15)

Li, Fa Jie (*with* Luo, You Xue) Cyclic double covers of 2-connected 3-regular graphs with Hamiltonian paths. (Chinese) *Math. Appl.* **9** (1996), *suppl.*, 88–91. (Jing Zhong Mao) **98a:05093** 05C38 (05C45, 05C70)

Li, Fan[2] Discussion on: "Some methods of reasoning for fuzzy conditional propositions" [Fuzzy Sets and Systems **52** (1992), no. 3, 229–250; MR 93m:03044] by P. Venkata Subba Reddy and M. Syam Babu. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 391–392. (Summary) **98f:03023** 03B52

Li, Fang[2] Left free normalizing extensions and quasi-excellent extensions of rings. (Chinese. Chinese summary) *Acta Math. Sinica* **40** (1997), *no.* 5, 653–658. 16S20

Li, Fei (*with* Malik, Mujeeb R.) Spectral analysis of parabolized stability equations. (English summary) *Comput. & Fluids* **26** (1997), *no.* 3, 279–297. (Murad Brutyan) **98m:76120** 76M25 (76F99, 76N20)

Li, Feng (*with* Qian, Qing Quan) Fuzzy systems and their universality. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 45–49. 93A99

Li, Feng[3] (*with* Zhou, Xiao Sha) Phase plane analysis of a class of singular perturbation problems with weak corner layers. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 42–47. (Summary) **98h:34046** 34B15 (34C99, 34E15)

— (*with* Zhou, Xiao Sha) The problem of the minimum norm of perfect splines with quasi-Hermitian boundary conditions. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 80–87. 41A15 (65D07)

— Minimum norm problems for monosplines with boundary conditions. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 2, 128–134. (Yong Ping Liu) **98h:41009** 41A15 (65D07)

— (*with* Liu, Lan Zhe) Weighted φ-boundedness of a class of singular integral operators. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 349–353. 42B20

Li, Feng[4] (*with* Li, Ronghua) Multi-level splitting methods solving difference equations. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 229–246. (Jennifer Zhao) **98h:65048** 65N06 (65N22)

Li, Feng Gao[2] Construction of Cartesian authentication codes using finite pseudosymplectic geometries. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 17–22. 94B05 (51E22)

Li, Feng Quan (*with* Fan, Xian-ling) Periodic solutions of "subquadratic" Hamiltonian systems. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32**

(1996), *no.* 1, 6–10. (Zhi Qiang Wang) **98i:34064** 34C25 (58E05, 58F22, 70H05)

Li, Fengyou (*with* Yang, Xinhua) A fixed point theorem for composite increasing operators. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 151–154. 47H10

Li, Fu-an (*with* You, Hong) Recent progress on classical groups and algebraic K-theory in China. *Group theory in China*, 41–56, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (Alexander J. Hahn) **98d:20053** 20G35 (19–03)

Li, Fu Min The BMO boundedness of Littlewood-Paley operators on spaces of homogenous type. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 77–83, 92. (Summary) **98g:42029** 42B25

Li, Fu Yi (*with* Liang, Zhan Dong) A surjection theorem and its applications. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **18** (1995), *no.* 4, 616–621. (Hong Kun Xu) **98a:47055** 47H07 (47H10)

— (*with* Lu, Ben Dong) A fixed point theorem for condensing maps of two-point extension type. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 3, 280–282. 47H10 (47H09)

Li, Fu Zhong The Diophantine equation $x^3 \pm 125 = Dy^2$. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 3, 15–16. 11D25

— The Diophantine equation $x^3 \pm (2^{2k})^3 = Dy^2$. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 275–279. (Nikos Tzanakis) **98j:11018** 11D25

Li, Full (*with* Gong, Xiaofeng; Chen, Hua) Controlling and synchronization of spatio-temporal patterns of a globally coupled chaotic map. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 217–224. 93C10 (58F13)

Li, Gang (*with* Hanson, David Lee) A note on the empirical distribution of dependent random variables. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 4, 337–340. (Summary) **98e:60049** 60F15

Li, Gang[1] (*with* Ma, Ji Pu) Flow invariance for semigroups of nonlinear contraction operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 803–809. (Liang Sen Wu) **98e:47109** 47H20 (47H09)

— (*with* Ma, Ji Pu) An ergodic retraction theorem for Lipschitzian topological semigroups over Banach spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 4, 383–388. (Hong Kun Xu) **98m:47089** 47H09 (47H10, 47H20)

— (*with* Ma, Ji Pu) The asymptotic behavior of an asymptotically almost nonexpansive curve and an ergodic theorem. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 729–736. (Hong Kun Xu) **98c:47066** 47H09 (47A35, 47H10)

— (*with* Ma, Ji Pu) Ergodic theory for non-Lipschitzian commutative nonlinear topological semigroups in Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 191–201. (Hong Kun Xu) **98j:47125** 47H09 (47H10, 47H20)

— (*with* Ma, Ji Pu) Nonlinear ergodic theorem for semitopological semigroups of non-Lipschitzian mappings in Banach spaces. *Chinese Sci. Bull.* **42** (1997), *no.* 1, 8–11. (Behzad Djafari-Rouhani) **98e:47110** 47H20 (47A35, 47H09)

— Weak convergence and non-linear ergodic theorems for reversible semigroups of non-Lipschitzian mappings. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 451–464. (Summary) **98k:47139** 47H20 (47H09, 47H10)

— On the strong ergodic theorems for semitopological semigroups of non-Lipschitzian affine mappings. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 100–104. (Behzad Djafari-Rouhani) **98k:47138** 47H20 (47H09, 47H10)

Li, Gang[2] On pole and zero sensitivity of linear systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 583–590. (Petko Petkov) **98e:93051** 93B50 (65F15)

— On frequency weighted minimal L_2 sensitivity of 2-D systems using Fornasini-Marchesini LSS model. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 642–646. (Summary) **98d:93028** 93B15 (93C30)

Li, Gang[3] (*with* Chen, Keh-Wei; Sun, Yanqing; Chow, Shein-Chung) Interval estimation for ratios in bioequivalence trials. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 989–1002. 62P10

— (*with* Qin, Jing[1]; Tiwari, Ram C.) Semiparametric likelihood ratio-based inferences for truncated data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 236–245. (Summary) **98k:62088** 62G10

Li, Geng Chao (*with* Feng, Lu Xiang) The solutions of a class of first-order linear differential equations. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 2, 21–24. 34A05

Li, Genyuan (*with* Tóth, János; Rabitz, Herschel; Tomlin, Alison S.) The effect of lumping and expanding on kinetic differential equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1531–1556. (Summary) **98i:34072** 34C99 (34A25, 34A34, 80A30)

Li, Gongbao (*with* Cao, Daomin; Zhou, Huansong) The existence of two solutions to quasilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 3, 277–285. (Tsvetomir Tsachev) **98a:35026** 35J60 (35B32)

Li, Goucheng (*with* Xue, Xiao Ping; Cheng, Lixin; Yao, Xiaobo) Set valued measures and integral representation. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 2, 269–284. (Summary) **98f:28014** 28B20 (46G10)

Li, Guang Hua[2] (*with* He, Hui Yong) The representation of the multicomponent of coherent states for the quantum algebra $SU_q(4)$. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 218–224. (Zhong Qi Ma) **98h:81050** 81R50 (17B37, 81R30)

— Almost periodic solutions of nonlinear Duffing's equations with delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 254–259. (George Seifert) **98k:34115** 34K15 (34C27)

— Existence theorems for almost periodic solutions to a class of functional-differential equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 1–4. (Rong Yuan) **98f:34103** 34K15 (34C27)

Li, Guang Hui Matrix elements of raising and lowering operators of an isotropic harmonic oscillator. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 12, 2289–2293. 81Q05 (81R05)

Li, Guang-Liang (*with* Fan, Heng; Hou, Bo-Yu; Shi, Kang-jie) Integrable $A_{n-1}^{(1)}$ IRF model with reflecting boundary conditions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 26, 1929–1942. (Andrey V. Tsiganov) **98i:82021** 82B23 (81R50, 82B20)

Li, Guang Quan (*with* Tang, Wan Sheng; Liu, Ze Yi; Zheng, Pie) Solvability of nonlinear singular systems. (Chinese. English and Chinese summaries) *J. Systems Engrg.* **11** (1996), *no.* 2, 15–21. (Xian Zhi George Yuan) **98e:34004** 34A09 (34A60, 34B15)

— (*with* Liu, Ze Yi; Mao, Yun Ying; Wang, Chun Feng) A class of linear-quadratic optimal control problems with state constraints. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 1, 15–22. (Summary) **98c:49070** 49N10 (49J15, 49N35)

— (*with* Tang, Wan Sheng; Hu, Zhi Hua) Eigenstructure assigment of singular two-dimensional systems. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 4, 416–422. 93C05 (93B51)

Li, Guanghua *see* **Li, Guang Hua[2]**

Li, Guangye A block variant of the GMRES method on massively parallel processors. (English summary) *Parallel Comput.* **23** (1997), *no.* 8, 1005–1019. (Summary) **98c:65050** 65F10 (65Y05)

Li, Gui Lan (*with* Wang, Run Jie; Zhang, De Xin) A uniform boundedness theorem for a family of closed convex processes on an incomplete normed space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **11** (1995), *no.* 3, 1–6. (Summary) **98a:46014** 46A99 (46B99, 46N10)

Li, Gui Shan (*with* Wang, Julian Zijun; Cooke, P.) Determination of domains of attraction based on a sequence of maxima. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 173–181. (Arnold Janssen) **98h:62085** 62G10 (62G30)

Li, Gui-Song An invariant of link homotopy in dimension four. *Topology* **36** (1997), *no.* 4, 881–897. (Roger Fenn) **98g:57038** 57Q45

— Covering Sato-Levine invariants. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 5031–5042. (Summary) **98g:57013** 57M25 (57M10, 57N70)

— Some noninvertible links. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1557–1563. (Kerry N. Jones) **98j:57012** 57M25

Li, Guibin Identification of multivariate ARMA models. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 3, 241–256. (B. M. Pötscher) **98k:62158** 62M10 (93E12)

Li, Guifen (*with* Zheng, Yonggang; Fang, Duo) Basic equations of turbulent flow for variable density and variable viscosity fluid in pipe. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 6, 728–733. 76F99

Li, Guo Bing (*with* Zhang, Peng Yun; Gong, Ye) The effect of radiation on the helical instability of electric arcs in an axial magnetic field. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 8, 1525–1534. 76W05 (76E25, 78A99)

Li, Guo Cheng (*with* Xue, Xiao Ping) Integral representations of set-valued measures. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 1–6. 28B20

Li, Guo Jun[1] (*with* Liu, Zhen Hong[1]) Hamiltonicity in 2-connected $\{K_{1,3}, F\}$-free graphs. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 295–305. (R. H. Schelp) **98g:05088** 05C45

— (*with* Liu, Zhen Hong[1]) On connected factors in $K_{1,3}$-free graphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 43–47. (Summary) **98m:05151** 05C70

Li, Guoqiang (*with* Hua, Jianwen; Liu, Liren) Extended fractional Fourier transforms. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3316–3322. 42A38

— (*with* Hua, Jianwen; Liu, Liren) Dual self-transform function. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1199–1202. (Summary) **98c:44006** 44A15

— (*with* Hua, Jianwen; Liu, Liren) Imaginary angle fractional Fourier transform and its optical implementation. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 374–378. 78A05 (26A33, 44A15)

Li, H. *see* **Li, Huaidong**

Li, H. G. *see* **Li, Hua Gui**

Li, Hai Dong (*with* Shen, Meng Yu; Zhang, Zeng Chan) A high-accuracy three-point finite spectral scheme. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 8, 52–54. 65M70

Li, Hai Feng The Cauchy problem for a class of nonlinear filtration equations. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 44–54. (Song Mu Zheng) **98c:35077** 35K55 (35D05)

— (*with* Jiang, Cheng Shun) The Cauchy problem, Harnack inequality, and initial trace for a class of porous medium equations in N dimensions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 231–241. (Jianzhong Su) **98h:35136** 35K65 (35Q35)

— (*with* Jiang, Cheng Shun) Nonlocal IBVP for a reaction-diffusion system. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 47–54. (Vladimir Grebenev) **98h:35115** 35K57

Li, Hai Tao (*with* Jia, Pei Zhang) The optimal orthonormal wavelets for subband coding. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 180–186. 94A11 (65T20)

Li, Hai Zhong (*with* Hu, Ze-Jun) A global pinching theorem for compact surfaces in S^3 with constant mean curvature. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997). no. 1, 156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 126–132. (Man Chun Leung) **98i:53048** 53C20 (53C42)

— Generalized Cartan identities on isoparametric manifolds. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 1, 45–50. (Wilderich Tuschmann) **98f:53059** 53C42

— Complete spacelike submanifolds in de Sitter space with parallel mean curvature vector satisfying $H^2 = 4(n-1)/n^2$. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 4, 335–345. (Eduardo García-Río) **98j:53073** 53C42 (53C50)

— Global rigidity theorems of hypersurfaces. *Ark. Mat.* **35** (1997), *no.* 2, 327–351. (Jürgen Berndt) **98j:53074** 53C42

— (*with* Chen, Weihuan) The Gauss map of space-like surfaces in $\mathbf{R}_p^{2+p}$. *Kyushu J. Math.* **51** (1997), *no.* 1, 217–224. (Luis M. Hervella) **98h:53102** 53C50 (53C40)

— A note on stability of minimal surfaces in n-dimensional hyperbolic space $H^n(c)$. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 133–136. (Joaquín Pérez) **98i:53087** 53C42 (53C40)

— (*with* Chen, Weihuan) Bonnet surfaces and isothermic surfaces. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 40–52. (Guido Haak) **98a:53090** 53C42 (53A10)

— On complete maximal spacelike hypersurfaces in a Lorentzian manifold. (English summary) *Soochow J. Math.* **23** (1997), *no.* 1, 79–89. (Eduardo García-Río) **98h:53104** 53C50 (53C40)

Li, Haijun (*with* Scarsini, Marco; Shaked, Moshe) Bounds for the distribution of a multivariate sum. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 198–212, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98j:60017** 60E05 (60E15)

— (*with* Shaked, Moshe) Ageing first-passage times of Markov processes: a matrix approach. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 1–13. (N. R. Chaganty) **98b:60150** 60K10

Li, Haisheng (*with* Dong, Chongying; Mason, Geoffrey) Compact automorphism groups of vertex operator algebras. *Internat. Math. Res. Notices* **1996**, *no.* 18, 913–921. (Jürgen Schulze) **98a:17044** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey) Regularity of rational vertex operator algebras. *Adv. Math.* **132** (1997), *no.* 1, 148–166. (Dražen Adamović) **98m:17037** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey) Vertex operator algebras associated to admissible representations of $\widehat{sl}_2$. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 65–93. (Dražen Adamović) **98i:17035** 17B69 (17B67, 81R10)

— (*with* Dong, Chongying; Mason, Geoffrey) Hom functor and the associativity of tensor products of modules for vertex operator algebras. (English summary) *J. Algebra* **188** (1997), *no.* 2, 443–475. (Dražen Adamović) **98a:17045** 17B69

— The physics superselection principle in vertex operator algebra theory. (English summary) *J. Algebra* **196** (1997), *no.* 2, 436–457. (Mirko Primc) **98j:17028** 17B69 (81R10)

— (*with* Dong, Chongying; Mason, Geoffrey) Certain associative algebras similar to $U(sl_2)$ and Zhu's algebra $A(V_L)$. (English summary) *J. Algebra* **196** (1997), *no.* 2, 532–551. (Dražen Adamović) **98i:17036** 17B69 (16S99, 17B35)

Li, Hao[1] (*with* Faudree, Ralph J.; Favaron, Odile; Flandrin, Evelyne) Pancyclism and small cycles in graphs. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 1, 27–40. (Yong Bing Shi) **98f:05097** 05C38

— (*with* Broersma, H. J.; Li, Jianping; Tian, Feng[1]; Veldman, Henk Jan) Cycles through subsets with large degree sums. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 43–54. (Zheng Sheng Wu) **98f:05094** 05C38 (05C45)

— (*with* Gao, Taiping; Wei, Bing[1]) Longest cycles in 2-connected claw-free graphs. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 176–182. (Akira Saito) **98d:05081** 05C38 (05C45)

Li, Heng (*with* Stern, Hal S.) Bayesian inference for nested designs based on Jeffreys's prior. (English summary) *Amer. Statist.* **51** (1997), *no.* 3, 219–224. 62F15

Li, Hong Finite element methods for singular nonlinear parabolic equations in one space dimension. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 4, 463–471. (Zhangxin Chen) **98i:65079** 65M60

Li, Hong[1] (*with* He, Lian Fa; Sun, Wen Xiang) Invariant of topological pressure under some semi-conjugates. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 378. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 355–362. (András Krámli) **98m:58081** 58F11 (28D20)

Li, Hong Cai The problem of the two-mode phase operators. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1259–1266. 81V80

Li, Hong Tao (*with* Zhao, Tian Xu) Continuity of objective functions in stochastic programming. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 2, 9–12. 90C15

— (*with* Sheng, Bao Huai; Li, Hongwei) Approximation of generalized Lagrange and Hermite-Fejer interpolation in $L_{p[dn]}$ spaces. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 19–24. 41A10 (41A65)

Li, Hong Wei (*with* Cheng, Qiansheng) Almost sure convergence analysis of mixed time averages and kth-order cyclic statistics. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1265–1268. (Summary) **98a:60032** 60F15

Li, Hong Xing Mathematical neural networks. I. Interpolation mechanisms of neural networks. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 452–459. (Summary) **98m:92004** 92B20 (68T05)

— The theory of factor spaces and a mathematical framework for knowledge representation. I. Axiomatic definition of factor spaces and description frames. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 470–475. 68T30

— Factor spaces and a mathematical framework for knowledge representation—feedback extension of a concept and coincidence of factors. (Chinese. English and Chinese summaries) *J. Systems Engrg.* **11** (1996), *no.* 4, 7–16. (Summary) **98c:68197** 68T30

— Mathematical neural networks. II. Learning algorithms for neural networks. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 35–42. (Summary) **98m:92005** 92B20 (68T05)

— The theory of factor spaces and a mathematical framework for knowledge representation. II. Sufficiency of factors and the rank of a concept. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 151–157. 68T30

— Mathematical neural networks. III. Functional-link neural nets. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 305–311. (Summary) **98m:92006** 92B20 (68T05)

— Mathematical neural networks. IV. Discrete feedback neural networks. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 312–320. (Summary) **98m:92007** 92B20 (68T05)

— The theory of factor spaces and a mathematical framework for knowledge representation. XI. Basic concepts of factor space canes. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 1, 1–9. 68T30

— (*with* Yuan, Xue-hai; Luo, Cheng Zhong) Some new kinds of cut sets and their applications. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 1, 37–43. (Summary) **98c:04010** 04A72

— The theory of factor spaces and a mathematical framework for knowledge representation. XII. Concept structure in description frames (1). (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 1–9. 68T30

— The theory of factor spaces and a mathematical framework for knowledge representation. XIII. The structure of concepts in description frames (2). (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 1–9. 68T30

Li, Hong-xu (*with* Huang, Nan Jing) Existence of nonoscillatory solutions for nth order nonlinear neutral functional-differential equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 375–389. (Ch. G. Philos) **98k:34114** 34K15 (34K40)

Li, Hongbin (*with* Stoica, Petre; Li, Jian) Capon estimation of covariance sequences. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 29–49. 94A12

Li, Hongbo (*with* Shi, He) On Erdos' ten-point problem. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 221–230. (W. Moser) **98j:52032** 52C10

— Ordering in mechanical geometry theorem proving. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 3, 225–233. (E. J. F. Primrose) **98c:51023** 51M05 (03B35, 68T15)

— Mechanical theorem proving in differential geometry—local theory of surfaces. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 350–356. (Aristide Sanini) **98b:53003** 53A05

Li, Hongwei (*with* Sheng, Bao Huai; Li, Hong Tao) Approximation of generalized Lagrange and Hermite-Fejer interpolation in $L_{p[dn]}$ spaces. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 19–24. 41A10 (41A65)

Li, Hongyu (*with* Ji, Ping; Lee, Wing Bun) A new algorithm for the assignment problem: an alternative to the Hungarian method. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 11, 1017–1023. 90C27 (90C35)

Li, Hongze Diagonal cubic equations. *Acta Arith.* **81** (1997), *no.* 3, 199–227. (G. Greaves) **98i:11085** 11P55 (11D72)

— Primes in short intervals. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 193–205. (Nigel Watt) **98e:11103** 11N05 (11N36)

Li, Horng-Jaan (*with* Liu, Wei-Ling) Oscillation criteria for second order linear differential equations with damping. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 1, 105–118. (Anton Zettl) **98a:34030** 34C10

— (*with* Yeh, Cheh-Chih) On the nonoscillatory behavior of solutions of a second order linear differential equation. (English summary) *Math. Nachr.* **182** (1996), 295–315. (Dušan Mamrilla) **98a:34029** 34C10

— (*with* Yeh, Cheh-Chih) Oscillation of second order sublinear differential equations. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 529–534. (Ondřej Došlý) **98m:34073** 34C10

— (*with* Yeh, Cheh-Chih) Oscillation of nonlinear functional-differential equations of the second order. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 71–77. (Summary) **98j:34141** 34K15

Li, Hou Rong A generalization of the butterfly theorem. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 2, 14–15. 51M04

Li, Hua (*with* Xu, Guo Hua[4]) A decomposition method for finding periodic solutions of the van der Pol equation. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 156–162. 34A45 (34C25)

Li, Hua-Chieh p-adic dynamical systems and formal groups. *Compositio Math.* **104** (1996), *no.* 1, 41–54. (Kenneth Kramer) **98a:11163** 11S31 (11S99, 14L05)

— Isogenies between dynamics of formal groups. *J. Number Theory* **62** (1997), *no.* 2, 284–297. (Kenneth Kramer) **98a:11164** 11S31 (11S99, 14L05)

Li, Hua Gui (*with* Copas, J. B.) Inference for non-random samples. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 55–95. (Summary) **98a:62007** 62A99 (62F10)

Li, Hua-Zhong Global/topological properties in mesoscopic systems. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 130–137, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81390** 81V70

Li, Hui En (*with* Zhang, Fu Ji) Calculating Wiener numbers of molecular graphs with symmetry. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 213–226. (Zhibo Chen) **98f:92013** 92E10 (05C12, 05C90)

Li, Hui-Jiang State space and localizability. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 315–320, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81048** 81P99

Li, Huaidong (*with* Ben-Dor, G.) Analytical investigation of two-dimensional unsteady shock-on-shock interactions. (English summary) *J. Fluid Mech.* **340** (1997), 101–128. (V. D. Sharma) **98h:76078** 76L05

— (*with* Ben-Dor, G.) A parametric study of Mach reflection in steady flows. (English summary) *J. Fluid Mech.* **341** (1997), 101–125. (Summary) **98d:76100** 76L05 (76N15)

Li, Huan Yin (*with* Guo, Qing Yi) Asymptotic stability for a class of neutral large-scale delay differential systems. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 6–12. (Summary) **98f:34115** 34K20 (34K40)

Li, Hui Ling Some work on the connection between groups and combinatorics. *Group theory in China*, 57–69, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (From the text) **98c:20047** 20E06 (05B10, 20D60)

— (*with* Liu, Wei Jun) A generalization of the Camina-Gagen theorem. II. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 5, 438–444. (Summary) **98c:05023** 05B05 (20B25)

Li, Huishi A note on the extension of discrete valuations to affine domains. *Comm. Algebra* **25** (1997), *no.* 6, 1805–1816. (R. K. Markanda) **98c:16058** 16W60

— (*with* Van Oystaeyen, Freddy; Houssein, Moawad) Residual properties of graded algebras over domains. *Comm. Algebra* **25** (1997), *no.* 11, 3577–3586. (P. Wauters) **98j:16027** 16W50 (16E10)

Li, Iongkhi *see* **Lee, Younghee**

Li, J. (*with* Srivastav, R. P.) Computing the singular behavior of solutions of Cauchy singular integral equations with variable coefficients. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 57–62. 45E05 (45L05, 65R20)

Li, Jalong (*with* Chen, Shirong) Fractal properties of hyperbolic curves. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 1–9. (Summary) **98i:28011** 28A80 (26A27)

Li, Ji Bin (*with* Liu, Zheng Rong) Bifurcation set and compound eyes in a perturbed cubic Hamiltonian system. *Ordinary and delay differential equations (Edinburg, TX, 1991)*, 116–128, *Pitman Res. Notes Math. Ser.*, 272, *Longman Sci. Tech., Harlow*, 1992. (Natalia Borisovna Medvedeva) **98b:34042** 34C05 (34C23, 34C25, 58F21)

— (*with* Zhao, Xiao-Hua; Huang, Ke Lei) Homoclinic orbits in perturbed generalized Hamiltonian systems. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 361–374. (Jürgen Scheurle) **98d:58072** 58F05 (34C37, 58F30, 70H05)

— (*with* Lin, Yiping; Cao, Jin De) The Hopf bifurcation direction of a four-dimensional electronic neural network system. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 337–343. 92B20 (34C23)

Li, Ji Chun Quasioptimal uniformly convergent finite element methods for the elliptic boundary layer problem. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 11–22. (Bernd Heinrich) **98h:65052** 65N30

— (*with* Navon, I. M.) Uniformly convergent finite element methods for singularly perturbed elliptic boundary value problems. I. Reaction-diffusion type. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 3, 57–70. (Summary) **98m:65193** 65N30 (35B25)

Li, Jia[2] (*with* Liao, Xiao Xin) Stability in Gilpin-Ayala competition models with diffusion. *Nonlinear Anal.* **28** (1997), *no.* 10, 1751–1758. (From the introduction) **98c:92010** 92D25 (34D05)

— (*with* Hyman, James M.) Behavior changes in SIS STD models with selective mixing. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 1082–1094. (Summary) **98d:92015** 92D25 (34D20, 58F40, 92C60)

Li, Jia Yu[1] (*with* Ding, Weiyue; Jost, Jürgen; Wang, Guofang) The differential equation $\Delta u = 8\pi - 8\pi he^u$ on a compact Riemann surface. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 230–248. (Yisong Yang) **98k:58062** 58E15 (35J60, 58G30)

— (*with* Ding, Weiyue) A new proof of Hamilton's theorem on harmonic maps from manifolds with boundary. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 169–173. (Giandomenico Orlandi) **98h:58050** 58E20

Li, Jian (*with* Stoica, Petre; Zheng, Dunmin) One-dimensional MODE algorithm for two-dimensional frequency estimation. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 449–468. (Summary) **98d:94006** 94A12

— (*with* Li, Hongbin; Stoica, Petre) Capon estimation of covariance sequences. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 29–49. 94A12

Li, Jian[3] (*with* Guo, Ben-yu) Fourier-Chebyshev spectral method for the 3D incompressible Navier-Stokes equations. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 107–118. (Timothy Nigel Phillips) **98d:76130** 76M25 (65M70, 65N35, 76D05)

— (*with* Guo, Ben-yu) Fourier-Chebyshev pseudospectral method for three-dimensional Navier-Stokes equations. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 329–356. (Timothy Nigel Phillips) **98j:76111** 76M25 (65M60, 76D05)

Li, Jian Bo (*with* Chen, Yu Ming[1]; Xiao, Heng) The linear bi-spatial tensor equation $\varphi_{ij}A^iXB^j = C$. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 10, 979–986; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 919–926 (*Chinese. English and Chinese summaries*). (U. D. Bekbaev) **98h:15029** 15A24

Li, Jian Guo (*with* Deng, Zi Li) New algorithms for steady-state Kalman filter gain. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 605–612. 93E11

Li, Jian Hua (*with* Sun, Shan Li) Similarity transformations and scalar operators. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995,** *no.* 3, 9–11. (Zikun Yan) **98d:47071** 47B40 (47A15, 47B49)

— On the number of limit cycles for a cubic system. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 361–372. (Noel G. Lloyd) **98g:34049** 34C05

— (*with* Zhang, Chao Feng) The probability distribution of a chaotic orbit of a shift self-mapping. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997,** *no.* 1, 20–22. 58F13

Li, Jian Liang (*with* Jiang, Yong; Zhang, Zhen Wei; Shen, You Dao) The functional extremum of optimum human pressing board movement with elastic supporter. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 55–61. 92C10

Li, Jian-Lin (*with* Owa, Shigeyoshi) Inclusion properties of certain analytic functions. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 55–62. (Otto Fekete) **98k:30017** 30C45

— (*with* Owa, Shigeyoshi) On partial sums of the Libera integral operator. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 444–454. (Frode Rønning) **98k:30018** 30C45

Li, Jian-Min (*with* Neuts, Marcel F.) An algorithmic study of SIR stochastic epidemic models. (English summary) *Athens Conference on Applied Probability and Time Series Analysis, Vol. I* (1995), 295–306, *Lecture Notes in Statist.*, 114, *Springer, New York*, 1996. (*see* **98e:60004**) 92D30

Li, Jian-Ming (*with* Ding, Hao-Gang; Guo, Han-Ying; Wu, Ke[1]) Gauge theory on discrete groups and the standard model. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 79–92, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81367** 81V22 (58B30)

Li, Jian Quan (*with* Chen, Ren Zhao) Uniqueness of regular solutions for a class of time-varying population systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996,** *no.* 1, 1–4. (Summary) **98f:92007** 92D25

Li, Jian Quan[1] Existence and uniqueness of limit cycles for a class of cubic differential systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 115–118. 34C05

Li, Jian-Shu The minimal decay of matrix coefficients for classical groups. *Harmonic analysis in China*, 146–169, *Math. Appl.*, 327, *Kluwer Acad. Publ., Dordrecht*, 1995. (From the introduction) **98d:22009** 22E46

— Automorphic forms with degenerate Fourier coefficients. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 523–578. (Henry H. Kim) **98f:11049** 11F70 (11F30, 11F46, 22E55)

— On the discrete spectrum of (G_2, PGSp_6). *Invent. Math.* **130** (1997), *no.* 1, 189–207. (Gordan Savin) **98h:22014** 22E45

Li, Jian Xin (*with* Hu, Gang[3]) The constructions of the max-min fuzzy relation equations that have a unique minimal solution. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 1, 44–52. (Summary) **98c:04007** 04A72 (15A24)

Li, Jianhua *see* **Li, Jian Hua**

Li, Jiankui Complete positivity of elementary operators on C^*-algebras. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **12** (1995), *no.* 2, 152–154. (Liang Sen Wu) **98c:46119** 46L05 (47B47, 47B49)

— Commutants and double commutants of reflexive algebras. *Kyushu J. Math.* **50** (1996), *no.* 1, 171–178. (Edward Azoff) **98i:47041** 47D30

Li, Jianping (*with* Zhang, Lianzhu; Tian, Feng[1]) Long cycles in 1-tough graphs with large degree sums. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 1, 41–50. (Zheng Sheng Wu) **98a:05096** 05C38 (05C35, 05C45)

— (*with* Broersma, H. J.; Li, Hao[1]; Tian, Feng[1]; Veldman, Henk Jan) Cycles through subsets with large degree sums. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 43–54. (Zheng Sheng Wu) **98f:05094** 05C38 (05C45)

— Cycles through many vertices of given subsets in 1-tough graphs. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 3, 355–361. (Summary) **98k:05098** 05C38 (05C35)

Li, Jiayu *see* **Li, Jia Yu**[1]

Li, Jie (*with* Zaleski, S.; Scardovelli, R.; Zanetti, G.) Direct simulation of multiphase flows with density variations. (English summary) *IUTAM Symposium on Variable Density Low-speed Turbulent Flows* (*Marseille*, 1996), 51–58, *Fluid Mech. Appl.*, 41, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98f:76002**) 76E99 (76M25, 76T05)

Li, Jie (*with* Kameda, Hisao) Load balancing problems for multiclass jobs in distributed/parallel computer systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 322–332. (Summary) **98m:68018** 68M20

Li, Jin (*with* Luke, Edward A.; Banicescu, Ioana) The optimal effectiveness metric for parallel application analysis. *Inform. Process. Lett.* **66** (1998), *no.* 5, 223–229. 68Q22

Li, Jin Jin (*with* Li, Zhao Wen) Images of locally compact metric spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 91–95. 54E35 (54C08)

Li, Jin Ming (*with* Cai, Sui Lin) The number of closed solutions and conditions for their existence for the equation $dx/dt = x^n + \sum_{i=0}^{n-1} a_i(t)x^i$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 86–92. (Jinghuang Tian) **98k:34049** 34C05

Li, Jin Pin (*with* Yan, Mu Lin; Yuan, Zhi Hua) A discussion of general properties of soliton solutions of the KdV equations using the Darboux transformation. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 3, 320–329. (Summary) **98j:35159** 35Q53

Li, Jin Qi (*with* Wang, Shuan Hong) H-comodule algebras, total integrals and separable extensions. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 589–594. (Fang Li) **98a:16045** 16W30 (16S40)

Li, Jin-Yan (*with* Chow, Tommy W. S.) Higher-order Petri net models based on artificial neural networks. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 289–300. (Summary) **98c:68153** 68Q90 (68N17, 68T05)

Li, Jing Wen[2] Global attractivity in a discrete model of Nicholson's blowflies. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 2, 173–182. (Wan Biao Ma) **98f:39004** 39A10 (92D40)

— Global attractivity in Nicholson's blowflies. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 4, 491. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 4, 425–434. (Joseph So) **98b:92018** 92D25 (34K20)

Li, Jiong-Sheng (*with* Zhang, Zhong-Liang) On the maximal elements in the poset of graphical sequences. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 218–227, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98h:05172** 05C99

— Kronecker products of positive semidefinite matrices. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 327–334. (Summary) **98g:15036** 15A48

— (*with* Zhang, Xiao Dong[1]) A new upper bound for eigenvalues of the Laplacian matrix of a graph. (English summary) *Linear Algebra Appl.* **265** (1997), 93–100. (Thomas H. Foregger) **98e:15011** 15A18 (05C50, 15A42)

Li, Jun (*with* Sun, Jin Sheng; Wang, Zhi Quan) Robust fault-tolerant control of uncertain time-delay systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 267–271. 93C15 (34K35, 93C41)

Li, Jun[4] Convergence for sequence of fuzzy measurable functions on fuzzy-number-valued fuzzy measure spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 291–306. 28E10

Li, Jun[5] (*with* Sun, Jia Chang; Deng, Jian Xin; Cao, Jian Wen; Wang, Ding Sheng; Zhang, Wen Qing) Parallel algorithm for generalized matrix eigen-problem and its application in calculation of crystal electronic structure. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1086–1089. 82–08 (82D25)

— (*with* Sun, Jia Xu; Deng, Jian Xin; Cao, Jian Wen; Zhang, Wen Qing; Wang, Ding Sheng) Parallel computation of generalized eigenvalues and its application to energy bands of crystals. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 8, 819–822. 65F15 (65Y05)

Li, Jun[6] On remainder equations. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 355–368. (Branislav Boričić) **98i:03014** 03B05 (03B10, 03B30)

Li, Jun Feng (*with* Wang, Zhao Lin) Stability of non-conservative linear gyroscopic systems. *Appl. Math. Mech.* (*English Ed.*) **17** (1996), *no.* 12, 1171–1175; *translated from Appl. Math. Mech.* **17** (1996), *no.* 12, 1107–1111 (*Chinese. English and Chinese summaries*). (Ranislav Bulatović) **98d:70023** 70J25

— (*with* Wang, Zhao Lin) Stability of dissipative dynamical systems with constraint damping. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 4, 501–505. 70K20 (34D20)

Li, Jun Min (*with* Xing, Ke Yi; Xu, Xiang Qin; Hu, Bao Sheng) Control strategies for the firing sequence problem. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 502–507. 93C83 (93C30)

— (*with* Xing, Ke Yi; Gao, Shu Ping) A robust multivariable adaptive pole placement algorithm. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 598–604. 93B55 (93B40)

— (*with* Xing, Ke Yi; Hu, Bao Sheng) Synthesis of optimal live Petri net models for a class of flexible manufacturing systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 762–767. 90B30 (68Q90)

— (*with* Wan, Bai Wu; Gao, Shu Ping; Xing, Ke Yi) A recursive algorithm for multivariable pole placement. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 260–265. 93B55 (93B40)

Li, Jun Xiang (*with* Liang, Li Hua) Singular perturbations of the Cauchy problem for quasilinear hyperbolic equations. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 4, 429–436. 35B25 (35L70)

Li, Junfang (*with* Srivastava, Jagdish N.) Orthogonal designs of parallel flats type. (English summary) *J. Statist. Plann. Inference* **53** (1996), *no.* 2, 261–283. (E. Seiden) **98f:62226** 62K05 (62K15)

Li, Kai Bayesian inference in a simultaneous equation model with limited dependent variables. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 387–400. 62P20 (62F15)

Li, Kai Long (*with* Liu, Chun Ling; Liang, Xiang Qian) Some theorems on K-quasiconformal mappings with positive real part. (Chinese. English and Chinese sum-

maries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 440–444. 30C62

Li, Kaiping (*with* Kallel, Samir) Bidirectional sequential decoding. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1319–1326. 94B35

Li, Kaitai (*with* Huang, Ai Xiang; Zhang, Wu) Taylor problem between eccentric rotating cylinders. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 5, *suppl.*, 104–117. 76U05 (76D08, 76E99)

— (*with* Ma, Yichen; Feng, Wei Bing) Nonlinear Galerkin method for Navier-Stokes equations with stream form. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 521–525, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:76068** 76M10 (65M60, 76D05)

— (*with* Hu, Chang Bing) A simple construction of inertial manifolds under time discretization. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 4, 531–540. (Summary) **98h:35091** 35K22 (34G20, 35Q53, 47H20, 65M12)

— (*with* He, Yin Nian) Nonlinear Galerkin method for steady nonlinear differential equations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 320–328. (Wojciech Mydlarczyk) **98i:65083** 65M70 (34G20)

Li, Kang *see* **Li, Kang[2]**

Li, Kang[1] (*with* Chen, Yi-Xin; Ma, Zhong-Shui) q-deformed oscillator systems and lattice Dirac fermions. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 321–328, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81135** 81R50

— (*with* Shen, Jian-Min; Sheng, Zheng-Mao) Dressing symmetry of Liouville field and some new results. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 358–366, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81186** 81T10

Li, Kang[2] (*with* Xi, Yu Geng) G-cactus and some new results on structural controllability of composite systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 170–177. 93B05 (93A20)

Li, Ke Bi Longest cycles in 4-connected claw-free graphs. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **17** (1996), *no.* 6, 680–682. (Jing Zhong Mao) **98c:05097** 05C38 (05C45)

Li, Keqin (*with* Pan, Yi) On the impact of communication overhead on the average-case scalability of random parallel programs on multicomputers. (English summary) Human-like systems using AI techniques. *Informatica* (*Ljubl.*) **21** (1997), *no.* 2, 279–291. (Summary) **98g:68058** 68Q22 (68Q10)

— Solving the traveling salesman problem using efficient randomized parallel approximation algorithms. (English summary) *Parallel Algorithms Appl.* **10** (1997), *no.* 3-4, 271–281. (Summary) **98a:68099** 68Q25 (68Q22)

Li, Ker-Chau Nonlinear confounding in high-dimensional regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 577–612. (Keh-Wei Chen) **98e:62109** 62J20 (62J05)

Li, Kuiyuan Homotopy curves of eigenvalue problems. (English summary) *First International Conference on Nonlinear Physics in Aviation and Aerospace* (*Daytona Beach, FL*, 1996), 369–374, *Embry-Riddle Aeronaut. Univ. Press, Daytona Beach, FL*, 199?. (*see* **98b:00023**) 65F15

— (*with* Li, Tien-Yien) A parallel method for the banded eigenvalue problem. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 31–40. (Summary) **98m:65058** 65F15 (65Y05)

Li, Lei A fast parallel algorithm for the power method and the inverse power method. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 253–259. 65F15 (65Y05)

— (*with* Hu, Jie; Nakamura, Tadao) Convergence, complexity and simulation of monotone asynchronous iterative method for computing fixed point[s] on a distributed computer. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 1–11. (Summary) **98c:65210** 65Y05 (65J15, 65Y20)

— (*with* Hu, Jie; Nakamura, Tadao) Asynchronous monotone Newton iterative method on distributed computers. (English summary) *Parallel Algorithms Appl.* **12** (1997), *no.* 4, 341–348. (Summary) **98k:65025** 65H10 (65Y05)

— A Gauss-type criterion for generalized diagonal dominance of matrices and its applications. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 155–158. 15A45

— (*with* Li, Bishan; Harada, Masunori; Niki, Hiroshi; Tsatsomeros, Michael J.) An iterative criterion for H-matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 179–190. (Ronald L. Smith) **98m:15040** 15A48 (15A57)

Li, Lei (*with* Chen, Jian Hua[1]; Ren, Guanshen) A note on order consistent topology. (English summary) *Far East J. Math. Sci.* **4** (1996), *no.* 2, 245–251. (Aleksander Błaszczyk) **98d:54059** 54F05 (54A10)

— (*with* Wu, Cong Xin) Characterizations of φ-continuous lattices and a topological representation theorem for completely distributive lattices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 875–880. 06D05 (06B35, 06D10)

— (*with* Wu, Cong Xin) A characterization of countable paracompact spaces by the existence of continuous selections and its applications. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 7–10. (Summary) **98m:54021** 54C65 (54D20)

Li, Li (*with* Chen, Ya Ling) A method of design of a low-order controller. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 6, 843–846. 93B51 (93C05)

Li, Li[1] (*with* Wu, Huan Qin; Chen, Xiu Dong) Limit cycles of a dynamical system with gaps. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 297–303. (Summary) **98d:34057** 34C05

Li, Li[4] (*with* Zhang, Xiao Li) A construction of Cartesian authentication codes over orthogonal geometries. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 23–28. 94B05 (51E22)

— Construction of Cartesian authentication codes using involutory matrices. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 2, 15–18. 94A60

Li, Li-Kang (*with* Chen, Jiu-Hua) Computation and approximate strength of the boundary layer for the p-model plate problem. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics* (*Tokyo*, 1994), 115–128, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 73V05 (65N30, 73K10)

— (*with* Chen, Jiu-Hua) The effect of boundary shape on boundary layer of p-model plate problems with hard simply support. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 651. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 421–434. (Rolf Rannacher) **98e:73080** 73K10 (35Q72)

— (*with* Chen, Jinru) Preconditioning isoparametric finite element methods taking into account numerical integration. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 271–288. (Summary) **98e:65097** 65N30

— (*with* Zhang, Lin[4]) Superconvergent recoveries of Carey non-conforming element approximations. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 6, 439–452. (Summary) **98a:65168** 65N30

— (*with* Xu, Xue-jun) Two-level Schwarz methods for Wilson element approximation of elasticity problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **142** (1997), *no.* 3-4, 257–268. (Summary) **98b:73040** 73V05 (65N30)

— (*with* Gao, Qing) Interpolated boundary conditions in plate bending problems using C^1-curved finite elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **148** (1997), *no.* 3-4, 235–255. (Pekka Neittaanmäki) **98g:73038** 73V05 (73K10)

— (*with* Xu, Xue-jun) An optimal V-cycle multigrid method for conforming and nonconforming plate elements. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 1, 115–119. 65N30 (73V05)

Li, Li-Xin Thermodynamic properties of radiation near the black-hole horizon. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 8, 973–989. (Summary) **98f:83074** 83C57

— Effect of the global rotation of the universe on the formation of galaxies. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 497–507. 83F05

Li, Lian (*with* Niu, Yi) An approximate explicit algorithm for a polynomial implicit mapping in a neighborhood of a point. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 49–57. (From the summary) **98m:65084** 65H05

— (*with* Wu, Jin Zhao) A method for decomposing zero-dimensional algebraic varieties and its applications. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 1, 114–118. (Dilip P. Patil) **98f:13028** 13P10 (14Q99)

Li, Liang-shi (*with* Fan, Hong Yi[1]) Reply to: "On the Morse oscillator with a kinetic coupling" [Phys. Lett. A **229** (1997), no. 4, 262–263; MR 98f:81337] by F. M. Fernández. (English summary) *Phys. Lett. A* **229** (1997), *no.* 4, 264–266. (Summary) **98f:81338** 81U05

Li, Liang Ying (*with* Tang, Lin Wei; Han, Mao An) Stability criteria for a class of periodic linear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 1–4. (Shen Qi Zhao) **98g:34087** 34D20 (34A30)

Li, Lide (*with* Fenner, Stephen A.; Fortnow, Lance) Gap-definability as a closure property. (English summary) *Inform. and Comput.* **130** (1996), *no.* 1, 1–17. (Lane Hemaspaandra) **98e:68075** 68Q15 (03D15)

Li, Lige (*with* Cao, Guo Xiang; Liu, Yaping) The relationships between equilibria and positive solutions of certain nonlinear elliptic systems. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 154–179. (Alexandra Kurepa) **98f:35040** 35J45 (35B05, 35J60, 35Q80)

Li, Lin (*with* Kajiwara, Joji) Reproducing kernels for infinite-dimensional domains. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 153–162, *VSP, Utrecht*, 1995. (Kazimierz Włodarczyk) **98i:46036** 46E50 (46E22, 46G12, 46G20)

Li, Lin (*with* Xie, Yong Bin; Hu, Bao Sheng; Luo, Zhong; Feng, Zu Ren) A generalized predictive control algorithm based on cerebellar model articulation control. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 30–34. 93B40 (93B30)

Li, Lin[1] (*with* Dang, Xinyi) A note on boundedness of polynomial differential systems in the plane. (English and Chinese summaries) *J. Northwest Univ.* **26** (1996), *no.* 5, 389–394. (Noel G. Lloyd) **98c:34047** 34C05 (34C11)

— A formula for index of a singular point of polynomial differential systems in the plane. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 260–274. (Miklós Farkas) **98m:34056** 34C05

Li, Lin Hai (*with* Li, Shou Fu; Su, Kai) Order reduction backward differentiation formulas. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 1–4. 65D25

Li, Ling (*with* Xie, Zheng Wei) Computer simulation of Brownian motion. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 1, 97–100. 65U05

Li, Linxiong (*with* Yu, Qiqing) Self-consistent estimators of survival functions with doubly-censored data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2609–2621. (Summary) **98m:62285** 62N05

— Superposition of renewal processes in a random environment. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 297–305. (Summary) **98h:60126** 60K05 (60F05)

— (*with* Yu, Qiqing; Schick, Anton; Wong, George Y. C.) Asymptotic properties of the GMLE with case 2 interval-censored data. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 223–228. 62G05 (62G20)

Li, Longtu (*with* Yu, Zheng) The periodicity of rational recursive sequence $x_{n+1} = f(x_n)/x_{n-1}$. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **11** (1996), *no.* 2, 113–117. (Dumitru Acu) **98c:39003** 39A10

Li, Lu Xian (*with* Huang, Ai Xiang; Wang, Wei Dong) A way of treating multivariable periodicity conditions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 21–25. 65F10

Li, Lung-An (*with* Fu, James C.) Generalized method of Pao-Zhuan Yin-Yu. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 321–329. 62F10 (62B05)

Li, Luo Wen (*with* Wang, Zi Dong; Guo, Zhi) A unified algebraic description of state observers based on regional pole assignment. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **26** (1997), *no.* 1, 28–32. 93B55 (93B07)

Li, Luoluo On solvability of inverse eigenvalue problems with Hermitian matrices. (English summary) *Linear Algebra Appl.* **253** (1997), 89–101. (Zhenyue Zhang) **98b:15010** 15A18 (15A57)

Li, Luoqing The rate of convergence of eigenfunction expansions for Laplace operator on compact Riemannian manifolds. (English summary) *East J. Approx.* **2** (1996), *no.* 3, 309–317. (Johan Tysk) **98c:58171** 58G25 (35P10)

Li, M. *see* **Li, Ming[1]**

Li, Mei Sheng (*with* Bao, Ji Guang) Parabolic Monge-Ampère equations on general domains. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33**

(1997), *no.* 1, 22–26. 35K55

Li, Mei Xia (*with* Zhang, Zhi Min; Xu, Mei Fang) The conditions for rank preservation when new elements are introduced in the AHP. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 9–13. 90C90 (90C08)

Li, Miao *see* **Li, Miao[2]**

Li, Miao[1] (*with* Wu, Yong Shi[1]) Master ward identity for nonlocal symmetries in $D = 2$ principal chiral models. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1571–1583. 81T10

— Strings from IIB matrices. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 149–158. (C. Gauthier) **98j:81285** 81T30

— Open membranes in matrix theory. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 37–41. (Summary) **98a:81180** 81T30

— Matrix Schwarzschild black holes in large N limit. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 9, 8 *pp.* (*electronic*). (Jeremy Michelson) **98k:81229** 81T30 (83C57, 83E30)

Li, Miao[2] (*with* Huang, Falun) Characterizations of contraction C-semigroups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1063–1069. (S. Kantorovitz) **98f:47048** 47D03 (47A99, 47D06)

Li, Min (*with* Zeng, Gao-Jian) A q-analogue of a two-dimensional hydrogen atom. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1289–1298. (Summary) **98f:81375** 81V45 (81R50)

Li, Min Qiang (*with* Ma, Feng Ning; Wang, Jin Min; Kou, Ji Song) A new method for finding intersection curves of solids of revolution. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 2, 231–239. 65D17

— (*with* Ma, Feng Ning; Kou, Ji Song) A quick method for the elimination of multiple surfaces. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 394–398. (Chuan Yu Ma) **98g:53006** 53A05

Li, Ming *see* **Li, Min**

Li, Ming[1] (*with* Vitányi, Paul M. B.) Algorithmic arguments in physics of computation. (English summary) *Algorithms and data structures* (*Kingston, ON*, 1995), 315–333, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (Summary) **98c:68102** 68Q30 (82C03)

— (*with* Jiang, Tao[1]) k one-way heads cannot do string-matching. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 513–524. (Maxime Crochemore) **98e:68182** 68Q68 (68Q05)

— (*with* Jiang, Tao[1]) DNA sequencing and string learning. (English summary) *Math. Systems Theory* **29** (1996), *no.* 4, 387–405. (György Turán) **98g:68065** 68Q25 (68R15, 68T05, 92D20)

— (*with* You, Jia-Huai; Cartwright, Robert) Iterative belief revision in extended logic programming. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 383–406. (M. I. Dekhtyar) **98d:68051** 68N17 (03B70, 68T27)

— (*with* Vitányi, Paul M. B.) Average-case analysis using Kolmogorov complexity. (English summary) *Advances in algorithms, languages, and complexity*, 157–169, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98a:68101** 68Q30 (68Q25)

— (*with* Vitányi, Paul M. B.) Average-case analysis via incompressibility. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 38–50, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **98m:68126** 68Q30

— (*with* Kirchherr, Walter; Vitányi, Paul M. B.) The miraculous universal distribution. *Math. Intelligencer* **19** (1997), *no.* 4, 7–15. (Zeno G. Swijtink) **98m:00015** 00A35 (00A69, 68Q30)

— (*with* Beigel, Richard; Gasarch, William Ian; Zhang, Louxin) Addition in $\log_2 n + O(1)$ steps on average. A simple analysis. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 245–248. (Summary) **98m:68110** 68Q25 (68Q30)

— *see also* **Computing and combinatorics**, **98c:68009** *and* **Conference: Computational Learning Theory**, **98d:68014**

Li, Ming[7] Robust stabilization of delay systems with parameter perturbations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 49–52. 93D21 (93C30)

Li, Ming-Chia Structural stability of flows under numerics. (English summary) *J. Differential Equations* **141** (1997), *no.* 1, 1–12. (Michael Hurley) **98g:58093** 58F10 (34A45, 34D30, 58F25)

— Structural stability of Morse-Smale gradient-like flows under discretizations. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 2, 381–388. (P. Mendes) **98a:58097** 58F09 (34D30, 58F10, 65L06)

Li, Ming-Sun Algebras of finite context type. I. Faithful representations and spectral Jordan canonical forms. *J. Algebra* **184** (1996), *no.* 2, 755–785. (Sverre O. Smalø) **98a:16028** 16P10 (16D80, 16P20, 16S50)

Li, Ming Zhong (*with* Gilbert, Robert P.) A class of nonlinear Riemann-Hilbert problems for the second order elliptic system. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 105–129. (A. P. Soldatov) **98f:35042** 35J55 (30E25)

— (*with* Xu, Ding Hua) Strongly nonlinear non-E_2 generalized Riemann-Hilbert boundary value problems for second-order elliptic systems. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **3** (1997), *no.* 4, 355–365. (Guo Chun Wen) **98j:35050** 35J55 (35Q15)

Li, Mingchu Hamiltonicity in 2-connected claw-free graphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **13** (1996), *no.* 3, 22–32. (Summary) **98b:05065** 05C45

Li, N. Z. *see* **Li, Nian Zu**

Li, Nian (*with* Steiner, Joseph M.) Recent progress in the theory of thermal instability using Mathematica. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 125–138. (Summary) **98d:80006** 80A20 (76A10, 76E15)

— A matrix inverse eigenvalue problem and its application. (English summary) *Linear Algebra Appl.* **266** (1997), 143–152. (Rafael Canto) **98g:15008** 15A18 (15A04, 15A09)

Li, Nian Zu (*with* Sun, Hugo S. H.; Wen, Yi Xin) On chromatic coefficients of unlabeled graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 381–387, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05065** 05C15

— (*with* Chao, Chong-Yun; Guo, Zhi Yi) On q-graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 9–16. (Summary) **98g:05119** 05C75

— (*with* Bao, Xue-Wen; Liu, Ru-Ying) Chromatic uniqueness of the complements of certain forests. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 79–84. (Summary) **98e:05041** 05C15 (05C05)

— The list of chromatically unique graphs of order seven and eight. Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 193–221. (*see* **98d:05001**) 05C15 (00A22, 05–00)

— *see also* **Chromatic polynomials and related topics**, **98d:05001**

Li, Ningning (*with* Chen, Gui-Jing) A kind of nonparametric tests about the crossing point between two continuous distribution functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 1–8. 62G10

Li, P. *see* **Li, Ping[5]**

Li, Pan Lin (*with* Meng, Xian Fu; Zou, De Jun) Design and implementation of the bisymmetric cryptography algorithm BSC(2^m, 2^n). (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 5, 603–605. 94A60

— (*with* Zou, De Jun; Meng, Xian Fu) A recursive presentation and a proof of bisymmetry for BSC(2^m, 2^n) codes. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 2, 228–230. 94A60

Li, Paul Sequencing the dihedral groups D_{4k}. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 271–276. (Summary) **98h:20034** 20D60

Li, Peng (*with* Xiong, Hong Chuan; Zhao, Song Qing; Fan, Yun Xia; Chen, Yu[6]) The correlation functions of the Ising model on a finite lattice. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 283–286. (Summary) **98f:82028** 82B20

Li, Peng Lin[2] (*with* Chen, Sheng Rui) Existence and uniqueness of solutions to some nonlinear stochastic differential equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 62–66. 60H10

— (*with* Zhang, Sheng Gui[2]) A mathematical model and an optimal algorithm for the circular debt problem. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 84–88. 05C20

— The partial correlation function of a two-parameter AR(p) process. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 70–72. 62M10

Li, Peter Harmonic maps of complete manifolds. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 259–263, *Internat. Press, Cambridge, MA*, 1997. (Caio J. C. Negreiros) **98m:58030** 58E20

— Complete surfaces of at most quadratic area growth. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 67–71. (Luis J. Alías) **98h:53057** 53C20

— Harmonic sections of polynomial growth. *Math. Res. Lett.* **4** (1997), *no.* 1, 35–44. (Linghai Zhang) **98i:53054** 53C21 (53C20)

— (*with* Tam, Luen-Fai; Wang, Jiaping) Sharp bounds for the Green's function and the heat kernel. *Math. Res. Lett.* **4** (1997), *no.* 4, 589–602. (Thierry Coulhon) **98j:58110** 58G11 (53C21)

— (*with* Tam, Luen-Fai; Yang, DaGang) On the elliptic equation $\Delta u + ku - Ku^p = 0$ on complete Riemannian manifolds and their geometric applications. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1045–1078. (Zhi Ren Jin) **98e:58175** 58G30 (53C21)

— *see also* **Chern, Shiing-shen**, **98b:01039**

Li, Ping A new approach to planning the trajectory of a robotic manipulator. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 13–19. 70B15 (70Q05)

Li, Ping[1] (*with* Yang, Chung-Chun) On the value distribution of a certain type of differential polynomials. (English summary) *Monatsh. Math.* **125** (1998), *no.* 1, 15–24. (Hong Xun Yi) **98m:30048** 30D35 (30D30)

Li, Ping[3] (*with* Yang, Chung-Chun) On two meromorphic functions that share pairs of small functions. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 177–190. (Gary G. Gundersen) **98g:30056** 30D35

Li, Ping[5] (*with* Stagnitti, F.; Uren, N. F.) Analytical solution for finite domain Laplacian equation with coexistent boundary conditions. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 10, 29–45. (Summary) **98c:65199** 65N99 (35A25, 76M25)

Li, Ping Yu (*with* Tian, Chuan Jun) Oscillation of solutions to semilinear first-order difference equations with multiple delays. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 2, 209–212. 39A10

Li, Qi[1] Nonparametric testing of closeness between two unknown distribution functions. (English summary) *Econometric Rev.* **15** (1996), *no.* 3, 261–274. (R. T. Smythe) **98a:62059** 62G10 (62G20)

— (*with* Fan, Yanqin) A consistent nonparametric test for linearity of AR(p) models. (English summary) *Econom. Lett.* **55** (1997), *no.* 1, 53–59. 62M10 (62G10)

— (*with* Ahmad, Ibrahim A.) Testing symmetry of an unknown density function by kernel method. (English summary) *J. Nonparametr. Statist.* **7** (1997), *no.* 3, 279–293. (Summary) **98c:62087** 62G10

— (*with* Ahmad, Ibrahim A.) Testing independence by nonparametric kernel method. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 2, 201–210. (Summary) **98b:62082** 62G10 (62G05)

Li, Qi Sheng *see* **Li, Qi Sheng[2]**

Li, Qi Sheng[1] (*with* Zheng, Zhou Shun) The Diophantine equation $x^3 = Ny^2 + 1$. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 2, 54–57. (Zhen Fu Cao) **98b:11028** 11D25

— (*with* Zheng, Zhou Shun; Chen, Guo Ping) A property of Boolean algebras over infinite permutation groups. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 68–70. 06E05 (20B99)

Li, Qi Sheng[2] (*with* Li, Bang-He) Invariants of 3-manifolds obtained from trefoil knots. (Chinese) *Kexue Tongbao* (*Chinese*) **41** (1996), *no.* 21, 1924–1930. (Peiyi Zhao) **98b:57016** 57M25 (57N10, 57R65)

— (*with* Li, Bang-He; Peterson, Chariya P.) Computer symbol calculation of invariants of three-manifolds obtained from trefoil knots. *Chinese Sci. Bull.* **42** (1997), *no.* 2, 96–102. (From the text) **98d:57016** 57M25 (57–04)

Li, Qi Tong (*with* Chen, Zeng Zheng) A new symmetric dual in multiobjective mathematical programming. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 5, 13–17. 90C29 (49N15)

Li, Qiao (*with* Li, Zheng) Equitable vertex colorings of de Bruijn graphs and a vertex coloring theorem for line digraphs. (Chinese. English and Chinese summaries) *J.*

Shanghai Jiaotong Univ. **30** (1996), *no.* 11, 16–19. (Summary) **98i:05079** 05C15
— (*with* Chen, Yonghong) They are just butterflies. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 512–513, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 05C25 (68R10)
— (*with* Yang, Xiu Wen) The bisection widths of toroidal and diagonal mesh networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **31** (1997), *no.* 6, 1–5. (Summary) **98i:68029** 68M10 (05C35)
— (*with* Su, Wenlong; Luo, Haipeng) New lower bounds of classical Ramsey numbers $R(4,12)$, $R(5,11)$ and $R(5,12)$. *Chinese Sci. Bull.* **43** (1998), *no.* 6, 528. 05C55
Li, Qing Chun The Schur decompositions of a class of symplectic-invariant matrices. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 4, 41–46, 55. 15A57
— Equivalent conditions for nonsingularity of H-matrices and M-matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 120–124. 15A57
Li, Qing De (*with* He, Zong Xiang) The weak local Z_4 property for Banach spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 570–574. (Bor-Luh Lin) **98b:46018** 46B20
Li, Qing Guo Topological properties of De Morgan quotient topological algebras. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 3, 7–9. 06F30
— Fixed quasi-atom theorems in De Morgan algebra of metric. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 203–208. 06D30 (04A72, 54A40, 54E35)
Li, Qing Shi (*with* Zhang, Jian Wen) Mel′nikov functions in supercritical cases and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 2, 152–162. (Zengrong Liu) **98g:34082** 34C99 (34C23, 58F30)
— (*with* Wei, Yi Qiang; Cai, Zhong Min) The condition for applying slit island method. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 5, 463–470; *translated from Appl. Math. Mech.* **18** (1997), *no.* 5, 433–439 (*Chinese. English and Chinese summaries*). 28A78 (28A80, 73M25)
Li, Qing Yang (*with* Deng, Ling) A parallel algorithm for a preconditioned 2-step nonlinear conjugate gradient (NCG) method and its numerical test. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 151–160; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 74–83. 65H10 (65Y05)
Li, Qisheng *see* **Li, Qi Sheng[2]**
Li, Quan Lin (*with* Yijun, Zhu) Analysis of a two-stage cyclic queue with state-dependent vacation policy. (English summary) *Optimization* **36** (1996), *no.* 1, 75–91. (J. Teghem, Jr.) **98f:60199** 60K25 (90B22)
— (*with* Tian, Nai Shuo) Reliability of the Clarke type CIMS production line with phase type lifetimes. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 35–42. 90B25 (90B70)
Li, Rao Hamiltonian paths in connected claw-free graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 113–119. (Summary) **98e:05073** 05C45
— A note on 1-tough Hamiltonian graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 129–130. 05C45
Li, Ren Cang (*with* Kahan, William) Unconventional schemes for a class of ordinary differential equations—with applications to the Korteweg-de Vries equation. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 316–331. (Summary) **98b:65078** 65L05 (65M99)
Li, Renwei (*with* Pereira, Luis Moniz) Representing and reasoning about concurrent actions with abductive logic programs. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 245–303. (Summary) **98k:68154** 68T27 (68N17)
Li, Rong (*with* Qu, Zhun; Sun, Hong) A neural network for the residue reduction operation with a variable modulus. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 3, 274–276. 92B20
Li, Rong Heng (*with* Shi, Lijie) MAX 2SAT and directed multicut. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 372–380, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05137** 05C85 (68Q25)
— (*with* Yue, Min Yi) The proof of $\mathrm{FFD}(L) \le (11/9)\mathrm{OPT}(L) + 7/9$. *Chinese Sci. Bull.* **42** (1997), *no.* 15, 1262–1265. (Simon N. Litsyn) **98j:68056** 68Q25 (05B40)
— (*with* Yue, Min Yi) $\mathrm{FFD}(L) \le (11/9)\mathrm{OPT}(L) + 7/9$. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 11, 1137–1140. 90C27
Li, Rong Lin (*with* Ni, Guang Zheng; Yu, Ji Hui) A generalized variational principle for solving 3-dimensional eddy current problems. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 2, 195–202. (Summary) **98c:78009** 78A25 (78A55)
— (*with* Ni, Guang Zheng; Yu, Ji Hui) B-spline finite-element method in polar coordinates. (English summary) *Finite Elem. Anal. Des.* **28** (1998), *no.* 4, 337–346. 78–08
Li, Rong Lu (*with* Wu, Junde; Xu, Shaohua) $\mathscr{K}$-convergent sequences in topological vector spaces with a basis. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 115–118. (Summary) **98e:46002** 46A35
— (*with* Chengri, Cui; Cho, Min-Hyung) Improvements of Thorp-Rolewicz theorems on operator series. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 75–82. (Anatolij M. Plichko) **98m:47001** 47A05 (46B15)
Li, Rong Sheng[1] (*with* Jonckheere, Edmond A.) Hankel operator and H_∞ distance problem over a simply-connected domain. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 897–916. (Summary) **98j:93032** 93B36 (47B35, 47N70)
Li, Rong Sheng[2] (*with* Liu, Guanghui) A class of new conjugate gradient methods with inexact line searches. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 1, 29–35. 90C30 (65K05)
Li, Ronghua (*with* Li, Feng[4]) Multi-level splitting methods solving difference equations. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 229–246. (Jennifer Zhao) **98h:65048** 65N06 (65N22)
Li, Rongsheng *see* **Li, Rong Sheng[2]**
Li, Rui Hu A family of maximal subgroups of the fourth class in the Lie type groups $B_n(F)$. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 2, 96–99. 20D06
Li, Rui Ming (*with* Jiang, Zhao Lin) Nonsingularity of level k circulant matrices of type $(n_1, n_2, \cdots, n_k)$ and order $n_1 n_2 \cdots n_k$. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 104–108. 15A57
— Eigenvalue relationships for GAOR and GSSOR. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 1, 115–120. 65F15
— (*with* Jiang, Zhao Lin; Gao, Lan Chang) Domains of superior convergence of the USSOR method compared to the SOR and SSOR methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 149–155. 65F10
Li, Rui Nian (*with* Lu, Liang Gang) Inverse problems for integrals containing Fermi functions. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **15** (1995), *no.* 1, 34–38. 33E20
Li, Rui Xia The natural boundary element method for exterior boundary value problems for the Helmholtz equation. (Chinese. English and Chinese summaries) *Guoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 369–374. 65N38
Li, Ruisheng A weighted adaptive one-step-ahead minimum variance controller based on the ELS algorithm. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 461–474. (Alexander I. Matasov) **98k:93112** 93E10 (93E25)
— (*with* Chu, Dong Sheng) Stability of Kalman filter for time-varying systems with correlated noise. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 475–487. (Marco Ferrante) **98i:93083** 93E11 (93E15)
— (*with* Hong, Huimin) Robust estimation without positive real condition. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 938–943. 93E10
Li, Ruixiang (*with* Li, Xiaoqi; Wang, He; Qiao, Zhong) Extensions of a class of semi-continuous fuzzy measures. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 397–401. 28E10
Li, Run-Ze The expected values of invariant polynomials with matrix argument of elliptical distributions. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 1, 64–70. (Yasuko Chikuse) **98g:62107** 62H10 (43A90, 62F99, 62P20)
— (*with* Zhu, Li-Xing; Fang, Kai Tai) A new approach for testing symmetry of a high-dimensional distribution. (English summary) *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 1, 35–46. 62G10 (62H15)
— (*with* Fang, Kai Tai) Some methods for generating both an NT-net and the uniform distribution on a Stiefel manifold and their applications. (English summary) *Comput. Statist. Data Anal.* **24** (1997), *no.* 1, 29–46. (A. K. Gupta) **98f:62158** 62H10
Li, S. *see* **Li, Songshan**
Li, San-qi (*with* Kulkarni, Lalita A.) Transient behaviour of queueing systems with correlated traffic. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 933–978. 60K25 (90B22)
Li, Sen Lin (*with* Yu, Yandong; Wang, Zhudeng) T-congruence L-relations on groups and rings. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 365–381. (Summary) **98g:04012** 04A72 (16Y99, 20N25)
Li, Seung-Chun (*with* Huh, Moon Yul) Exact tests for variance ratios in unbalanced random effect linear models. (English summary) *J. Korean Statist. Soc.* **25** (1996), *no.* 4, 457–469. (Summary) **98e:62106** 62J10
— The admissibility of some nonparametric tests. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 2, 223–230. 62G10 (62C15)
Li, Shang Bai (*with* Liu, Xiao Hua; Huang, Ning; Huang, Hai Yu; Zheng, Gao Qun) A computer algorithm for curve plotting and its application in a CAD system. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 6, 82–90, 98. 65D17 (65Y25)
Li, Shang-Bin (*with* Xu, Jing-Bo; Zhang, Xun-Sheng) Path integral approach to the general driven time-dependent harmonic oscillator and squeezed state. (English summary) *Phys. Scripta* **56** (1997), *no.* 3, 225–229. (Summary) **98g:81112** 81S40 (81R30)
Li, Shangzhi On the subgroup structure of classical groups. *Group theory in China*, 70–90, *Math. Appl.* (*China Ser.*), 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (R. H. Dye) **98i:20047** 20G15
Li, Shanling (*with* Huang, Wan Zhen) A two-stage hybrid flowshop with uniform machines and setup times. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 27–45. (Summary) **98m:90072** 90B35
Li, Shao Kuan The representation of proper power bounded operators. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 653–656. (Pei Yuan Wu) **98c:47022** 47A65 (47B99)
Li, Shao Qiang (*with* Wang, Ji Zhong; Geng, Yi Quan) Limit circle criteria for nonlinear second-order differential equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 29–34. (Ju Rang Yan) **98i:34043** 34B20 (34C11)
Li, Shaofan (*with* Liu, Wing Kam) Moving least-square reproducing kernel method. II. Fourier analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **139** (1996), *no.* 1-4, 159–193. (Zhangxin Chen) **98e:65099** 65N30 (76M10)
— (*with* Liu, Wing Kam; Belytschko, Ted) Moving least-square reproducing kernel methods. I. Methodology and convergence. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 113–154. (Zhangxin Chen) **98e:65098** 65N30 (76M10)
— (*with* Shyy, Wei) On invariant integrals in the Marguerre-von Kármán shallow shell. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 23, 2927–2944. (Petr E. Tovstik) **98h:73059** 73K15 (73V25)
Li, Sheng Hong Quasilinear parabolic variational inequalities. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 280–293. (Shuzi Zhou) **98f:35085** 35K85 (47H19, 49J40)
Li, Sheng Wen (*with* Chen, Lan Xiang) Bayes estimation of the parameter for a semiparametric regression model. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 72–76. 62G05 (62F15, 62J02)
Li, Shenggang Low-level separation axioms in topological molecular lattices. *Northeast. Math. J.* **13** (1997), *no.* 4, 379–382. 06F30
— Weak topological categories. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 3, 363–373. 54A40 (04A72, 18B30, 54B30)
— Remarks on products of L-fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 121–124. 54A40 (54B10)
— $H(\lambda)$-completely regular L-fuzzy sets and their applications. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 223–231. (Summary) **98k:54006** 54A40 (04A72)
— Layer compactness in L-fuzzy topological spaces and its applications. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 233–238. (Summary) **98k:54007**

54A40 (04A72)

Li, Shenglin *see* **Li, Sen Lin**

Li, Shi-Jie (*with* Huang, Jin Neng) Quadric representation of minimal surfaces of an m-dimensional sphere. *Kyushu J. Math.* **50** (1996), *no.* 1, 207–219. (Fabio Podestà) **98d:53092** 53C42

Li, Shi Qun[2] (*with* Peng, Jia Hong) The problem of column similarity of matrices. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 48–50. 15A21

Li, Shi Rong (*with* Ban, Gui Ning) Finite groups in which all second maximal subgroups of even order are PN-groups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 519–525. (Ji Ping Zhang) **98e:20029** 20D25

— Finite groups whose automorphism group has order cubefree. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 527. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 301–308. (J. E. Adney) **98j:20024** 20D45

Li, Shi Zheng (*with* Zhang, Yu Fen; Wang, De Sheng) Localization of π-orthodox semigroups and application. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 4, 334–338. (R. J. Warne) **98h:20110** 20M19

— (*with* Wang, De Sheng; Zhang, Yu Fen) Rings of fractions of commutative semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 85–87. (Heng Wu Zheng) **98a:20074** 20M25 (16S36)

Li, Shikang Kronrod extension of generalized Gauss-Radau and Gauss-Lobatto formulae. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1455–1472. (Kai Diethelm) **98a:65031** 65D32 (41A55)

Li, Shou Fu (*with* Su, Kai; Li, Lin Hai) Order reduction backward differentiation formulas. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 1–4. 65D25

— (*with* Jiang, Hong Yan) Computation of the measure of stability for multistep methods. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 8–13. 65L20

Li, Shu Jun (*with* Du, Li Qun; Zhang, Guo Zhong) Topological characteristics of kinematic chains and mechanisms and evaluation of their performance. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 6, 671–675. 70B15

Li, Shu Yong The eigenvalue problem and its inverse spectrum problem for a class of differential operators. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 391–403. (Hong Xiang Li) **98b:34112** 34L40 (34A55, 34L05)

— (*with* Zhou, Xiao Ping[1]) Oscillation of solutions to a class of nonlinear parabolic equations with delays and damping terms. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 36–39. (Summary) **98e:35170** 35R10 (35B05, 35K60)

Li, Shu-You (*with* Zhou, Jun; Li, Su-Yun) LP-fuzzy normal subgroups and fuzzy quotient groups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 27–40. 20N25 (04A72)

Li, Shuanhu (*with* Gilding, Brian H.) The parameter dependence of the coefficient in a model for constant-pressure steam injection in soil. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 5, 593–612. (Summary) **98b:76070** 76S05

Li, Shui Gen (*with* Wu, Xiao Lin) The number of nonequivalent Hamming codeword matrices and a method for generating these matrices. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 86–90, 95. 94A29

Li, Shujie (*with* Coti Zelati, V.; Wu, Shaoping) Periodic solutions for a class of singular nonautonomous second order system in a potential well. *Variational methods in nonlinear analysis (Erice, 1992)*, 67–76, *Gordon and Breach, Basel*, 1995. (Miguel Ramos) **98g:34073** 34C25 (58E05, 58F22)

— (*with* Ding, Yanheng) The existence of infinitely many periodic solutions to Hamiltonian systems in a symmetric potential well. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 163–172. (Vittorio Coti Zelati) **98k:58043** 58E05 (34C25, 58F22, 70H05)

— (*with* Bartsch, Thomas) Critical point theory for asymptotically quadratic functionals and applications to problems with resonance. *Nonlinear Anal.* **28** (1997), *no.* 3, 419–441. (A. Szulkin (Zbl 872.58018)) **98k:58041** 58E05 (35J65, 47H15, 49J27)

— (*with* Ding, Yanheng) Periodic solutions of a superlinear wave equation. *Nonlinear Anal.* **29** (1997), *no.* 3, 265–282. (Mitsuhiro Nakao) **98h:35159** 35L70 (35B10)

Li, Si Yuan Some properties of Fibonacci processes in fractal dynamical systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 27–32. 92D25

Li, Sichun (*with* Gao, Zhanhai) Existence of multiple periodic solutions to a nonlinear integral equation from the theory of epidemics. (English summary) *J. Biomath.* **11** (1996), *no.* 2, 11–16. (H. A. DeKleine) **98c:45019c** 45M15 (45G10, 47H15, 47N20, 92D30)

Li, Siping (*with* Duan, Yi Wu; An, Weike; Hu, Xiangyue) Bifurcation of periodic orbits of electron in two-center Coulomb field. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 35–41. (Summary) **98e:81027** 81Q05 (34C23, 34C25, 81V55)

Li, Siping (*with* Hu, Yuan Tai; Huang, Yu Ying; Cheng, Lingzhi; Zhong, Weifang) Periodic elliptic holes in anisotropic elasticity. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 2, 171–178. 73C02 (73B40, 73V35)

Li, Song Approximation properties of multivariate Bernstein-Kantorovich operators in $L_p(S)$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 385–394. (Jia-Ding Cao) **98d:41033** 41A35 (41A63)

— Strong converse inequality for Szász-Durrmeyer operators. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **11** (1996), no. 3, 370. *Appl. Math. J. Chinese Univ. Ser. B* **11** (1996), *no.* 3, 361–368. (Summary) **98a:41032** 41A35

— Approximation properties of multidimensional Bernstein-Sikkema operators. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 47–60. (Ding-Xuan Zhou) **98d:41034** 41A35 (41A65)

— Approximation theorems for a class of modified Szász-Kantorovich and Baskakov-Kantorovich operators. (Chinese. Chinese summary) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 305–309. (Mao Dong Ye) **98h:41028** 41A35 (41A10)

— (*with* Zhou, Ding Xuan; Li, Bing Zheng) A Korovkin theorem on approximation by linear operators in the space $\sigma(L^\infty, L^1)$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 409–412. 41A36

— Direct and inverse theorems for multidimensional Bernstein-Kantorovich operators in the space $C(S)$. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 285–293. (Geng Zhe Chang) **98k:41038** 41A35

— A strong converse inequality for Bernstein operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 106–121. (Summary) **98d:41035** 41A35

Li, Song Tao (*with* Zhang, Yu Lei; He, Jia Xing) S. N. Bernstein type trigonometric interpolation polynomial. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 154–158. 42A15

Li, Song-Ying (*with* Krantz, Steven G.; Lin, Peng; Rochberg, Richard) The effect of boundary regularity on the singular numbers of Friedrichs operators on Bergman spaces. *Michigan Math. J.* **43** (1996), *no.* 2, 337–348. (Jonathan Arazy) **98e:47050** 47B38 (32A37, 47B10)

— (*with* Russo, Bernard) Hankel operators in the Dixmier class. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 21–26. (Jonathan Arazy) **98i:47025** 47B35 (46E15, 47B10)

— (*with* Krantz, Steven G.) Area integral characterizations of functions in Hardy spaces on domains in $\mathbb{C}^n$. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 373–399. (Summary) **98m:32003** 32A35 (31B99, 46E15)

— (*with* Krantz, Steven G.; Rochberg, Richard) Analysis of some function spaces associated to Hankel operators. *Illinois J. Math.* **41** (1997), *no.* 3, 398–411. (Emil Straube) **98f:46019** 46E15 (32A35, 45P05, 47B35, 47G10)

— (*with* Krantz, Steven G.; Rochberg, Richard) The effect of boundary geometry on Hankel operators belonging to the trace ideals of Bergman spaces. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 196–213. (Daniel H. Luecking) **98h:47036** 47B35 (32H99, 47B10)

— (*with* Chen, Jingyi) Holomorphic extensions of maps from the boundary of Kähler manifolds. (English summary) *Tôhoku Math. J.* (2) **49** (1997), *no.* 4, 585–597. (Shanyu Ji) **98k:32025** 32F40 (32C17, 32F10)

Li, Songshan (*with* Mear, M. E.; Xiao, Lin[2]) Symmetric weak-form integral equation method for three-dimensional fracture analysis. (English summary) Symposium on Advances in Computational Mechanics, Vol. 4 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 3-4, 435–459. (*see* **98i:73002**) 73V05 (73M25)

Li, Stan Z. (*with* Wang, Han[1]; Soh, William Y. C.) Robust estimation of rotation angles from image sequences using the annealing M-estimator. (English summary) *J. Math. Imaging Vision* **8** (1998), *no* 2, 181–192. 68U10

Li, Su Hong (*with* Sun, Yu Geng; Wu, Xue; Song, Xue Jun) A modified nodal decomposition approach for fault diagnosis at subnetwork level in large analog circuits. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 3, 265–273. 94C99

Li, Su-Yun (*with* Zhou, Jun; Li, Shu-You) LP-fuzzy normal subgroups and fuzzy quotient groups. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 1, 27–40. 20N25 (04A72)

— (*with* Chen, De-Gang) Fuzzy factor rings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 125–127. 16W99

Li, T. S. (*with* Armstrong, C. G.; McKeag, R. M.) Quad mesh generation for k-sided faces and hex mesh generation for trivalent polyhedra. (English summary) *Finite Elem. Anal. Des.* **26** (1997), *no.* 4, 279–301. 65M55 (73V05)

Li, T. Y. *see* **Li, Tien-Yien**

Li, Ta-Hsin Time series characterization, Poisson integral, and robust divergence measures. (English summary) *Technometrics* **39** (1997), *no.* 4, 357–371. (Summary) **98h:62137** 62M10 (62B10)

— (*with* Kedem, Benjamin) Tracking abrupt frequency changes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 69–82. 62M15

Li, Ta-Tsien *see* **Li, Da Qian**

Li, Tao Sheng Morphism equations in an abelian category. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 1, 5–9. 18E10

— A generalization of the 3×3 lemma and its application. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 125–128. 18E10 (18G99)

Li, Tian-Jun (*with* Li, Bang-He) Minimal genus embeddings in S^2-bundles over surfaces. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 379–394. (Laurence R. Taylor) **98h:57062** 57R95 (57R40)

— (*with* Brown, Edgar H., Jr.) KO-obstructions of non-abelian group action on spin manifolds. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 259–266. (V. P. Snaith) **98k:57042** 57R15 (57N80, 57S15)

Li, Tianjun (*with* Nanopoulos, D. V.; Lopez, Jorge L.) M-theory inspired no-scale supergravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2647–2653. 83E30 (81T30, 83E50)

Li, Tie Cheng[2] (*with* Huang, Wenzao) A bifurcation theorem for critical points of variational equation. *Chinese Sci. Bull.* **41** (1996), *no.* 5, 358–362. (Konstantin Mischaikow) **98i:58061** 58E07

— (*with* Wang, Duo) Asymptotic properties of a class of artificial neural networks with periodic inputs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 1, 25–28. (Kaiqi Xiong) **98b:34073** 34D45 (92B20)

Li, Tien-Yien (*with* Li, Kuiyuan) A parallel method for the banded eigenvalue problem. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 31–40. (Summary) **98m:65058** 65F15 (65Y05)

— (*with* Zhang, Zhi Nan; Wang, Tianjun) Determining the structure of the Jordan normal form of a matrix by symbolic computation. (English summary) *Linear Algebra Appl.* **252** (1997), 221–259. (Wasin So) **98f:15011** 15A21

— (*with* Ding, Jiu) A convergence rate analysis for Markov finite approximations to a class of Frobenius-Perron operators. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 765–777. (Makoto Mori) **98j:58090** 58F19 (47B38)

Li, Tong *see* **Li, Tong**[2]

Li, Tong[1] Rigorous asymptotic stability of a Chapman-Jouguet detonation wave in the limit of small resolved heat release. (English summary) *Combust. Theory Model.* **1** (1997), *no.* 3, 259–270. (V. A. Sobolev) **98j:80009** 80A25 (35Q99, 76L05)

Li, Tong[2] (*with* Vuong, Quang) Using all bids in parametric estimation of first-price auctions. (English summary) *Econom. Lett.* **55** (1997), *no.* 3, 321–325. 90A60 (62P20)

Li, Tongzhong (*with* Yang, Jinlong; Han, Rongsheng; Wang, Ke Lin) Solitary wave solutions of nonlinear equations. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 359–363. (Summary) **98m:35176** 35Q51

Li, W. *see* **Li, Wei**[7]

Li, Wai Keung (*with* Ng, Tze-Man) Tests for seasonal differencing with an unknown break-point. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 131–153. (Raúl Pedro Mentz) **98g:62173** 62M10
— (*with* Wong, Heung) Distribution of the cross-correlations of squared residuals in ARIMA models. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 4, 489–502. (Roch Roy) **98g:62179** 62M10
— (*with* Wong, Heung) On a multivariate conditional heteroscedastic model. (English summary) *Biometrika* **84** (1997), *no.* 1, 111–123. (Somnath Datta) **98k:62163** 62M10
— (*with* Wong, Albert C. S.) Testing for threshold autoregression with conditional heteroscedasticity. (English summary) *Biometrika* **84** (1997), *no.* 2, 407–418. 62M10
— (*with* Ling, Shiqing) On fractionally integrated autoregressive moving-average time series models with conditional heteroscedasticity. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1184–1194. (Summary) **98h:62138** 62M10
— (*with* Liu, Jian[3]; Li, C. W.) On a threshold autoregression with conditional heteroscedastic variances. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 279–300. (Joseph D. Petruccelli) **98i:62073** 62M10
— (*with* Ng, Tze-Man) *F*-tests for seasonal differencing with a break-point. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 87–107. 62M10
— (*with* So, Mike K. P.; Lam, Kin) Multivariate modelling of the autoregressive random variance process. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 429–446. 62M10
— (*with* Ling, Shiqing) Diagnostic checking of nonlinear multivariate time series with multivariate arch errors. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 447–464. (Summary) **98f:62262** 62M10
— (*with* So, Mike K. P.; Lam, Kin) A stochastic volatility model with Markov switching. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 2, 244–253. 62M10 (62P20)
— (*with* Wong, Albert C. S.) A note on the corrected Akaike information criterion for threshold autoregressive models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 113–124. 62M10 (62B10)
Li, Wan-Tong (*with* Quan, Hong Shun) An oscillation criterion for second order sublinear differential equations. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 3, 292–296. (Noel G. Lloyd) **98d:34061** 34C10
— Comparison theorems and sufficient and necessary condition for oscillation of first order neutral nonlinear differential equations. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 446–451. (Yiannis Sficas) **98c:34113** 34K15 (34C10, 34K40)
— Classifications and existence of nonoscillatory solutions of second order nonlinear neutral differential equations. (English summary) *Ann. Polon. Math.* **65** (1997), *no.* 3, 283–302. (István Györi) **98h:34127** 34K15 (34K40)
— Oscillation criteria for first-order neutral nonlinear difference equations with variable coefficients. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 101–106. 39A10
— (*with* Yan, Ju Rang) Oscillation criteria for second order superlinear differential equations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 735–740. (Summary) **98c:34056** 34C10
— Asymptotic behavior of nonoscillatory solutions of neutral second-order differential equations with oscillating coefficients. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 2, 14–17. 34K15 (34K40)
— (*with* Guan, Xin Ping; Yang, Jun) Oscillation criteria for a class of nonlinear neutral hyperbolic partial differential equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 29–36. (Summary) **98k:35202** 35R10 (35B05, 35L10)
— Oscillation of certain second-order nonlinear differential equations. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 1–14. (Summary) **98i:34054** 34C10
Li, Wang-yao On how to solve implicit symplectic schemes. (English summary) *Chinese J. Numer. Math. Appl.* **16** (1994), *no.* 3, 59–62. 65M06
Li, Wanglai (*with* Wilson, Robert Lee) Central extensions of some Lie algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2569–2577. (Miguel A. Rodríguez) **98k:17025** 17B56
Li, Wanshe (*with* Liang, Jinrong; Su, Feng; Ren, Fuyao) The Fourier series expansions of functions defined on *s*-sets. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 201–212. (Summary) **98j:42005** 42A20 (28A78)
— (*with* Ren, Fuyao) An affirmative answer to a problem of Baker. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 231–233. (Zhuan Ye) **98g:30050** 30D05 (58F23)
Li, Wei (*with* Chao, Xiuli; Chen, Hong[3]) Optimal control for a tandem network of queues with blocking. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 425–437. (Summary) **98k:90037** 90B22 (60K25, 93E20)
— (*with* Shi, Ding Hua; Chao, Xiuli) Reliability analysis of $M/G/1$ queueing systems with server breakdowns and vacations. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 546–555. (Summary) **98a:60139** 60K25
— (*with* Zhao, Yiqiang Q.; Braun, W. John) On a decomposition for infinite transition matrices. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 1-2, 127–130. 60J10
Li, Wei An elementary solution method for the indefinite equation $y^3 = x^2 + 2$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 1, 16–19. (Zhen Fu Cao) **98g:11031** 11D25
Li, Wei[3] (*with* Huang, Wen Qi) A hopeful CNF-SAT algorithm—its high efficiency, industrial application and limitation. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 1, 9–12. 68Q25
Li, Wei[7] Characterization of the rotation set and existence of periodic points of endomorphisms of a circle. Dynamical systems, 3. *J. Math. Sci. (New York)* **83** (1997), *no.* 4, 539–542. (Louis Block) **98c:58127** 58F20 (54H20, 58F03)
Li, Wei Guo (*with* Shen, Zu He) A constructive proof of the existence of periodic solutions to the Duffing equation. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 15, 1591–1595. 34C25 (34B15)
— (*with* Zhang, Dan Qing) The feasibility of numerical continuation methods for solving systems of nonlinear equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 144–153. 65H20 (65H10)
— (*with* Shen, Zu He) A globally convergent method for finding periodic solutions to the Duffing equation. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 328–336. (Lie June Shiau) **98m:34089** 34C25 (34A45, 65L05)
Li, Wei Jiang (*with* Luo, Liao Fu) The smoothing integral transformation method for global optimization. I. Basic ideas and theoretical framework. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 2, 157–161. 90C30 (44A15)
— (*with* Luo, Liao Fu) The smoothing integral transformation method for global optimization. II. Extremal evolution modes and selection of the weight function. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 4, 508–511. 90C30 (44A15, 90C90)
Li, Wei Jun A maker of modern mathematics: Joseph Liouville. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 69–73. 01A55
Li, Wei-Ping (*with* Qin, Zhenbo) Rank-3 stable bundles on rational ruled surfaces. *Math. Z.* **222** (1996), *no.* 2, 279–303. (Jean-Marc Drezet) **98c:14010** 14D20 (14J26)
— (*with* Hu, Yi) Birational models of the moduli spaces of stable vector bundles over curves. (English summary) *Internat. J. Math.* **8** (1997), *no.* 6, 781–808. (P. E. Newstead) **98k:14013** 14D20 (14H60)
— Relations between moduli spaces of stable bundles over $\mathbf{P}_2$ and rationality. (English summary) *J. Reine Angew. Math.* **484** (1997), 201–217. (Stefan A. Bauer) **98d:14015** 14D20 (14J60)
Li, Weigu (*with* Zhang, Meirong) Embedding flows and smooth conjugacy. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 134. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 125–138. (Michael Hurley) **98d:58157** 58F25
Li, Weimin Inverses and pseudo-inverses of a strong endomorphism of a graph. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 718–719. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 4, 372–380. (Raffaele Scapellato) **98e:05056** 05C25
— On completely regular endomorphisms of a graph. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 1–7. (Raffaele Scapellato) **98f:05076** 05C25
Li, Weiping Casson-Lin's invariant and Floer homology. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 851–877. (Nikolai N. Saveliev) **98k:57012** 57M25 (57R57, 58F05)
Li, Wen[1] (*with* Huang, Jin Tang) A study of a class of *Z*-matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 70–73. (Summary) **98d:15021** 15A57
— On the convergence of splittings for a *Z*-matrix. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 89–98. (Zeng Rong Chen) **98e:65023** 65F10 (15A57)
— Notes on criteria for a matrix to be generalized diagonally dominant. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 1, 93–96. 15A57
— On a property of solutions of *M*-matrix equations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 129–132. (Gong Ning Chen) **98d:15023** 15A57 (15A24)
Li, Wen-Ch'ing Winnie Ideal class groups and Galois modules. *Séminaire de Théorie des Nombres, Paris*, 1989–90, 163–176, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Gabriel D. Villa-Salvador) **98j:11096** 11R29 (11R37, 11S31)
— ★ Number theory with applications. Series on University Mathematics, 7. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+229 *pp. ISBN* 981-02-2226-2 (M. Ram Murty) **98b:11001** 11-02 (11D79, 11Fxx, 11G25, 11L07, 11R52, 68R10)
— Estimates of character sums arising from finite upper half planes. (English summary) *Finite fields and applications (Glasgow*, 1995), 219–228, *London Math. Soc. Lecture Note Ser.*, 233, *Cambridge Univ. Press, Cambridge*, 1996. (Ronald J. Evans) **98a:11177** 11T24 (11L40)
— (*with* Calderbank, A. R.; Poonen, Bjorn) A 2-adic approach to the analysis of cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 977–986. (André Sesboüé) **98m:94049** 94B15 (11T71, 94B05)
— Elliptic curves, Kloosterman sums and Ramanujan graphs. *Computational perspectives on number theory (Chicago, IL*, 1995), 179–190, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Audrey A. Terras) **98m:11086** 11L05 (11G40)
Li, Wen Liang Some inequalities for the traces of weakly positive definite quaternion matrices. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 225–230. 15A45 (15A33, 15A48)
Li, Wen Lin (*with* Bi, Wei Ping) A design method for variable structure control using output information. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 206–209. 93B10 (93B52)
Li, Wen Ming[1] (*with* Deng, Dong Gao) The atomic decomposition of BMO on homogeneous spaces. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 1–5. 42B99 (46E99)
Li, Wen Rong The analytic solutions of two Jabotinsky's differential equations. (English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 12–17. (J. Matkowski) **98g:34013** 34A20 (34K99, 39B12)
— (*with* Si, Jian-Guo; Cheng, Sui Sun) Analytic solutions of an iterative functional-differential equation. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 6, 47–51. (Summary) **98a:34070** 34K05
Li, Wen Xiang (*with* Wang, Pin Chao; Wen, Feng Tong) *C*-normal subgroups of finite groups. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 5–7. 20F16
Li, Wenbo V. (*with* Lazebnik, Felix; Martin, Ryan) Random walks on rooted trees. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 59–66. 60J15 (05C05, 60J10)
Li, Wenxia Multifractal decompositions of MW-like fractals. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji*, 1994), 159–162, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 28A80
— (*with* Xiao, Dongmei) A sufficient and necessary condition for a set E with $\dim_H E = \dim_P E$. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 406–411. (Maria Moszyńska) **98g:28007** 28A80 (54F45)
Li, Wenya (*with* Zhang, Mingyao) Sums of equal powers and maximum modulus polynomials. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **26** (1996), *no.* 1, 65–69. (G. Velammal) **98a:11109** 11L07

Li, Wing Ning The complexity of directed acyclic graph scheduling with communication delay on two processors. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 137–144. (Summary) **98j:68057** 68Q25 (05C85, 68M20)

— Two-segmented channel routing is strong NP-complete. *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 291–298. (Summary) **98k:68090** 68Q25 (68M07)

Li, Wing Suet (*with* Bercovici, Hari; Smotzer, Thomas) Classical linear algebra inequalities for the Jordan models of C_0 operators. (English summary) *Linear Algebra Appl.* **251** (1997), 341–350. (Joseph A. Ball) **98k:47017** 47A45 (15A21)

— (*with* McCarthy, John E.) Reflexivity of isometries. (English summary) *Studia Math.* **124** (1997), *no.* 2, 101–105. (Edward Azoff) **98h:47009** 47A15 (47D25)

Li, Wu[3] (*with* Bartelt, Martin W.) Haar theory in vector-valued continuous function spaces. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 39–46, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:41026** 41A52 (41A65, 46E40)

— Numerical algorithms for the Huber M-estimator problem. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 325–334, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 65D15 (41A10, 62F35, 65K10)

— A merit function and a Newton-type method for symmetric linear complementarity problems. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 181–203, *SIAM, Philadelphia, PA*, 1997. (M. Teboulle) **98b:90148** 90C33 (65K05)

— Unconstrained minimization of quadratic splines and applications. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 113–128, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Summary) **98i:41009** 41A15 (65D07)

— (*with* Huotari, Robert) Continuities of metric projection and geometric consequences. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 319–339. (Ioan Şerb) **98j:46013** 46B20 (41A65)

— (*with* Deutsch, Frank; Ward, Joseph D.) A dual approach to constrained interpolation from a convex subset of Hilbert space. (English summary) *J. Approx. Theory* **90** (1997), *no.* 3, 385–414. (H. H. Bauschke) **98m:41050** 41A65 (46C05, 47H15)

— (*with* Swetits, John) A new algorithm for solving strictly convex quadratic programs. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 595–619. (Pierre Loridan) **98i:90062** 90C20 (65K05)

— (*with* Bartelt, Martin W.) Characterization of generalized Haar spaces. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 101–115. (Francesco Altomare) **98m:41043** 41A50 (41A65, 46E15)

Li, X. *see* **Li, Xun**

Li, X. D. *see* **Li, Xiangdong**[1]

Li, X. F. *see* **Li, Xiu Fen**

Li, X. J. *see* **Li, Xun Jing**

Li, Xi (*with* de Souza, Carlos E.) Delay-dependent robust stability and stabilization of uncertain linear delay systems: a linear matrix inequality approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1144–1148. (Summary) **98c:93080** 93D09 (93D21)

Li, Xia Dong (*with* Kajiwara, Joji; Ohgai, Seiko; Zhou, Dong Guo) Characterization of the holomorphy of infinite-dimensional domains by Oka's principle. *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 173–180, *VSP, Utrecht*, 1997. (Roberto Luiz Soraggi) **98k:32041** 32K99 (32D05, 46G20, 58B12)

Li, Xian-Jin The positivity of a sequence of numbers and the Riemann hypothesis. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 325–333. (Matti Jutila) **98d:11101** 11M26 (11R42)

— On reproducing kernel Hilbert spaces of polynomials. (English summary) *Math. Nachr.* **185** (1997), 115–148. (J. Rovnyak) **98g:46031** 46E22 (30C40, 33C15, 33C45, 46J15, 47A57)

Li, Xian Yi *see* **Li, Xianyi**

Li, Xianchong (*with* You, Taijie) On the structure of inner 7-closed simple groups. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 171–175. (Hiroyoshi Yamaki) **98g:20029** 20D06 (20D08)

Li, Xiang (*with* Wang, Jin E) The thermal effect and Carnot cycle of the black string. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 366–370. 83C57 (83E30)

Li, Xiang Chao The DFP algorithm with associative general step length law. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 15–17. 65K05

Li, Xiang Peng (*with* Liang, Zhao Jun; Zhang, Shao Hua) Analysis of an autocatalytic oscillatory chemical reaction model. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 1, 13–18. (Summary) **98e:34054** 34C05 (34C23, 80A30, 92E20)

Li, Xiangdong[1] (*with* Wiberg, N.-E.; Abdulwahab, F.) Error estimation and adaptive procedures based on superconvergent patch recovery (SPR) techniques. (English summary) *Arch. Comput. Methods Engrg.* **4** (1997), *no.* 3, 203–242. 73V05

— (*with* Wiberg, N.-E.) Implementation and adaptivity of a space-time finite element method for structural dynamics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 211–229. 73V05

Li, Xiangwen (*with* Mao, Jingzhong) A new construction of geodetic blocks. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 3, 233–240. (Jing Zhong Mao) **98i:05109** 05C38 (05C12, 05C75)

Li, Xianyi (*with* Tang, Hengsheng; Ou, Chunhua; Luo, Wei) Some properties of a kind of difference equation. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 3, 335–340. (Allan C. Peterson) **98b:39014** 39A10 (39A11, 92D40)

— Global asymptotic stability of a class of higher-order nonlinear difference equations with multiple delays. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **16** (1996), *no.* 3, 86–88. (Sui Yang Chen) **98g:39005** 39A10 (39A11, 92C99)

Li, Xiao Chun (*with* Zhu, Hua Li; Qian, Ya Li) Energy decay of a class of nonlinear waves. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 2, 11–16. 35L70 (35B05)

Li, Xiao Chun Oscillatory singular integrals on Hardy spaces associated with Herz spaces. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 427–432. (Summary) **98h:42016** 42B20 (42B30)

Li, Xiao Dong (*with* Yang, Cheng Wu) Sufficient conditions for a class of asymptotic observers for a two-dimensional linear system. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 853–856. 93B07

Li, Xiao Hu (*with* Zhang, Li Yuan) Characteristics of the NBU life distribution in an unreliable server system. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 2, 6–9. 90B25 (62N05)

— (*with* Zhang, Li Yuan) Testing whether F is "more NBU at t_0" than G. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 78–81. 62N05

Li, Xiao Mei (*with* Luo, Xiao Guang) A new divide-and-conquer algorithm for the eigenvalue problem of symmetric tridiagonal matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 74–80. 65F15

Li, Xiao-ping (*with* Wang, Gui Jun) On the convergence of the fuzzy valued functional. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 431–438. 28E10 (04A72)

— (*with* Wang, Gui Jun) T_H interval-valued fuzzy normal subgroups. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 60–65. 20N25

Li, Xiao Wen Edge detection using Laplacian-of-Gaussian masks. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 53–55. 68U10

Li, Xiao Yan[1] (*with* Wang, Xiao Mei) The limit cycles of a class of differential equations (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 72–76. (Summary) **98h:34056** 34C05 (34D20)

— (*with* Gu, Dao Xiu) The limit cycles of a class of Kolmogorov systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **15** (1997), *no.* 2, 34–39. (Rong Liang Wang) **98h:34057** 34C05 (34D40, 92D40)

Li, Xiaochun (*with* Ramsay, J. O.) Curve registration. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 351–363. 62G99

Li, Xiaofan (*with* Pozrikidis, C.) The effect of surfactants on drop deformation and on the rheology of dilute emulsions in Stokes flow. (English summary) *J. Fluid Mech.* **341** (1997), 165–194. 76D99

Li, Xiaoqi (*with* Wang, He; Li, Ruixiang; Qiao, Zhong) Extensions of a class of semi-continuous fuzzy measures. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 397–401. 28E10

Li, Xiaozhong (*with* Ruan, Da) Novel neural algorithms based on fuzzy δ rules for solving fuzzy relation equations. I. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 1, 11–23. (Summary) **98d:68174** 68T05 (04A72)

— (*with* Shi, Kai Quan) Fuzzy linear programming problems with fuzzy interval coefficients. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 969–974. 90C70 (04A72)

— (*with* Shi, Kai Quan) Fuzzy linear programming problems with interval-value fuzzy coefficients. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 327–332. 90C70 (90C29)

Li, Xiezhang A uniform error bound for the overrelaxation methods. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 315–333. (A. Barraud) **98d:65039** 65F10

Li, Xin *see* **Li, Xin**[5]

Li, Xin[3] Hankel matrices and approximation of continuous-time systems. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 335–342, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A50

— (*with* Marcellán, Francisco) On polynomials orthogonal with respect to Sobolev inner product on the unit circle. (English summary) *Pacific J. Math.* **175** (1996), *no.* 1, 127–146. (Walter Van Assche) **98b:42041** 42C05 (33C45)

— Integral formulas and inequalities for rational functions. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 386–394. (Dimitar Kolev Dimitrov) **98f:41008** 41A17 (30E99)

Li, Xin[5] (*with* Zhang, Cun-Hui) Linear regression with doubly censored data. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2720–2743. (Philippe Barbe) **98i:62062** 62J05 (62G05)

Li, Xing A class of inverse Riemann boundary value problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **16** (1996), *no.* 3, 303–306. (Jian Ke Lu) **98g:30068** 30E25

Li, Xing Min (*with* Peng, Li Zhong) A weighted Hardy space and weighted norm inequalities for the area integral. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 351–356. 42B30 (46E15)

Li, Xing Si (*with* Xuan, Zhao Cheng; Sui, Yun Kang) An interior point method for solving surrogate dual problems in quadratic programming. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 5, 520–522. 90C20 (65K05)

— (*with* Fang, Shu Cherng) On the entropic regularization method for solving min-max problems with applications. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 119–130. (Alberto Seeger) **98i:90092** 90C30 (65K05)

Li, Xing Wu The right Artinian property of semigroup rings. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 199–204. 16S36

Li, Xinwei (*with* Grafakos, Loukas; Yang, Dachun) Bilinear operators on Herz-type Hardy spaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 1249–1275. (Oscar Blasco) **98e:42016** 42B20 (47B99)

Li, Xiu Fen (*with* Dong, Jia Li; Liu, Qing Huai) Lipschitz B-vex functions and nonsmooth programming. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 557–574. (B. Mond) **98d:90088** 90C26 (90C29)

Li, Xiu Qin *see* **Li, Xiu Qin**[2]

Li, Xiu Qin[1] (*with* Song, Guo Hua; Zhu, Rong Sheng) Existence and uniqueness of space-periodic solutions for a three-dimensional nonlinear system. (Chinese. English and Chinese summaries) *J. Biomath.* **11** (1996), *no.* 2, 83–88. (Yi Yuan Chen) **98f:34060** 34C25

Li, Xiu Qin[2] (*with* Miao, Qiao Yun) An infeasible interior point algorithm for convex quadratic programming problems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 35–41. 14C20 (90C25)

Li, Xiu Xi (*with* Qian, Yu) A new optimization algorithm: the evolutionary simulated annealing algorithm. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 13–17. 90C27 (90C35)

— (*with* Luo, Min Xia; Fang, Tao) The adjoint semigroup of a positive implicative BCK-algebra. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.*

19 (1998), *no.* 1, 71–73. 06F35

Li, Xiu Zhen The global topological structure of a type of planar cubic systems with starlike nodes. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 1, 50–55. (Mao An Han) **98a:34028** 34C05

Li, Xue Min (*with* Yang, Dianwu; Yao, Weihong) Global structures of the plane cubic system with the stellar node. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 489–501. (A. P. Sadovskiĭ) **98e:34057** 34C05 (58F21)

— Topological classifications of higher order singular point of plane n-degree differential system with one zero characteristic root. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 4, 107–111. (A. P. Sadovskiĭ) **98d:34056** 34C05

— The topological structure of higher-order singular points of differential systems of degree n in the plane. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 311–315. 34C05

Li, Xue Quan (*with* Tang, Xian Hua) Necessary and sufficient conditions for oscillation of a class of nonlinear neutral differential equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 57–60. (Summary) **98f:34107** 34K15 (34K40)

Li, Xuechao Geodetic block with some structural properties. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 228–235, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05127** 05C75

Li, Xueliang On the determination problem for P_3-transformation of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 236–243, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05128** 05C75

— (*with* Galeana-Sánchez, Hortensia) Kernels in a special class of digraphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 73–80. (Summary) **98f:05073** 05C20

— The connectivity of the SEE-graph and AEE-graph for the connected spanning k-edge subgraphs of a graph. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 237–245. (Summary) **98i:05113** 05C40

Li, Xuepeng The cubic curve homoclinic orbit of quadratic system. *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 2, 25–31. (Albert D. Morozov) **98m:34057** 34C05 (34C37)

Li, Xuezhi (*with* Hao, Yong) The nonlinear transport equation with delayed neutrons. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 153–165. (Nicola Bellomo) **98k:82207** 82D75 (45K05)

Li, Xun (*with* Guo, Ben-yu) Spectral methods for solving nonlinear Klein-Gordon equation. (English summary) *Nonlinear Klein-Gordon and Schrödinger systems: theory and applications (Madrid, 1995)*, 110–134, *World Sci. Publishing, River Edge, NJ*, 1996. (Hong Yuan Fu) **98b:65106** 65M12 (35L70, 35Q53, 65M70)

— (*with* Guo, Ben-yu) A Legendre pseudospectral method for solving nonlinear Klein-Gordon equation. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 105–126. (E. G. D'yakonov) **98g:65095** 65M70 (65M12)

Li, Xun (*with* Liu, Guo Jing) The eigenvalues of some matrices in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 23–25, 35. 15A18 (46C20)

— (*with* Liu, Guo Jing) Normal matrices in Minkowski inner product spaces. I. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 26–28. 15A63 (46C20)

Li, Xun Jing (*with* Teo, Kok Lay; Liu, Wan Quan) Tracking control for nonlinear affine systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 307–318. 49N10 (93B52)

— (*with* Zhou, Xun Yu; Yong, Jiong Min) Stochastic verification theorems within the framework of viscosity solutions. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 1, 243–253. (Jose Luis Menaldi) **98a:93081** 93E20 (49L25)

Li, Y. *see* **Li, Yun**

Li, Y. A. *see* **Li, Yi A.**

Li, Y.-C. *see* **Li, Yuan Chuan**

Li, Y. Y. *see* **Li, Yan Yan**

Li, Ya-Qing (*with* Li, Bang-He) Optimal estimation of shell thickness in Cutland's construction of Wiener measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 225–229. (Nigel J. Cutland) **98c:28027** 28E05 (03H05, 28A35, 28C20)

Li, Yachun Classical solutions to fully nonlinear wave equations with dissipation. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 3, 253–268. (Sergio Spagnolo) **98f:35108** 35L70

Li, Yan (*with* Xu, Chen; Feng, Xiangchu) A new control method for FRM with two links. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 102–106. 93C85 (70B15, 70Q05)

Li, Yan Da (*with* Song, Yu; Zhang, Xian Da) Adaptive identification of nonminimum phase FIR systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 145–152. 93E10 (93E30)

— (*with* Luo, Fa-Long; Unbehauen, Rolf) Real-time computation of singular vectors. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 197–214. (Summary) **98f:65043** 65F15 (94C99)

— (*with* Dai, Qiong Hai; Zhang, Tai) Nonlinear robust identification based on dynamic neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 5, 353–359. 93B30 (93C83)

Li, Yan Guang (*with* McLaughlin, David W.; Shatah, Jalal; Wiggins, Stephen) Persistent homoclinic orbits for a perturbed nonlinear Schrödinger equation. (English summary) *Comm. Pure Appl. Math.* **49** (1996), *no.* 11, 1175–1255. (David Gurarie) **98d:35208** 35Q55 (34C35, 58F39)

— (*with* McLaughlin, David W.) Homoclinic orbits and chaos in discretized perturbed NLS systems. I. Homoclinic orbits. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 3, 211–269. (Mikhail Zaks) **98i:58176** 58F14 (34C37, 35Q55, 58F13, 58F39, 70K99)

— (*with* Wiggins, Stephen) Homoclinic orbits and chaos in discretized perturbed NLS systems. II. Symbolic dynamics. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 4, 315–370. (Mikhail Zaks) **98i:58177** 58F14 (34C37, 35Q55, 58F03, 58F13, 70K99)

Li, Yan Ling (*with* Wu, Jian Hua[3]) Global solutions to initial value problems for a class of activator-inhibitor models. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 3, 5–8. (Summary) **98a:35063** 35K55 (35Q80)

Li, Yan Ning (*with* Tian, Hui Sheng; Cao, Xiu Guo; Li, Ye) A new fuzzy feedforward network. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 1, 25–31. 90C35 (90C70)

Li, Yan Ping (*with* Xu, Xin He) A generalized Petri net model for a class of hybrid systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 297–301. 93C83

— (*with* Wang, Ding Wei) A semi-infinite programming model for earliness/tardiness production planning with simulated annealing. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 35–42. 90C34 (90C15)

Li, Yan-xin (*with* Ding, Pei-zhu; Wu, Cheng Xun[2]; Mu, Ying-kui; Jin, Ming-xing) Square-preserving and symplectic structure and scheme for quantum system. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 4, 245–248. (Summary) **98d:81011** 81Q05 (81–08)

Li, Yan Yan Multi-bump solutions to scalar curvature equations on S^3, S^4 and related problems. (English summary) *Variational methods in nonlinear analysis (Erice, 1992)*, 103–112, *Gordon and Breach, Basel*, 1995. (Robert McOwen) **98e:53066** 53C21 (35J60, 58G30)

— (*with* Bahri, Abbas; Rey, Olivier) On a variational problem with lack of compactness: the topological effect of the critical points at infinity. (English and French summaries) *Calc. Var. Partial Differential Equations* **3** (1995), *no.* 1, 67–93. (From the introduction) **98c:35049** 35J65 (35J20, 58E05)

— Prescribing scalar curvature on S^n and related problems. I. (English summary) *J. Differential Equations* **120** (1995), *no.* 2, 319–410. (Summary) **98b:53031** 53C21 (58G30)

— Prescribing scalar curvature on S^n and related problems. II. Existence and compactness. (English summary) *Comm. Pure Appl. Math.* **49** (1996), *no.* 6, 541–597. (Summary) **98f:53036** 53C21 (58G30)

— (*with* Zhu, Mei Jun) Sharp Sobolev trace inequalities on Riemannian manifolds with boundaries. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 5, 449–487. (H. Triebel) **98c:46065** 46E35 (58G30)

— (*with* Guan, Pengfei) $C^{1,1}$ estimates for solutions of a problem of Alexandrov. *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 789–811. (David L. Finn) **98d:53053** 53C21 (53A07)

— (*with* Zhu, Mei Jun) Sharp Sobolev inequalities involving boundary terms. *Geom. Funct. Anal.* **8** (1998), *no.* 1, 59–87. (Gilles Carron) **98m:58144** 58G30 (46E35)

Li, Yan Zhong (*with* Wang, Zuo Quan) Duality theorems for (VP) and (VD) programming problems with ρ-invariant convex functions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 27–29. 90C26 (49N15)

Li, Yang Cheng (*with* Cui, Deng Lan) A class of finitely generated modules in equivariant singularity theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 4, 11–14. (Author's review (Y.C.L.)) **98e:58026** 58C27

Li, Yang Rong The Lumer-Phillips theorem for C-semigroups and C-Hermitian operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 43–52. (Ti Jun Xiao) **98g:47032** 47D06 (34G10)

— Entire vectors for unbounded normal operators and abstract Cauchy problems. *Chinese Sci. Bull.* **42** (1997), *no.* 15, 1253–1256. (Ioana Ciorănescu) **98m:47060** 47D06 (34G10)

— Integral divisors of unbounded normal operators and abstract Cauchy problems. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 10, 1045–1049. 34G10 (47D06, 47N20)

Li, Yanjun (*with* Cai, Mao-cheng) Inverse matroid intersection problem. (English summary) *Math. Methods Oper. Res.* **45** (1997), *no.* 2, 235–243. (Ulrich Faigle) **98b:90111** 90C27

Li, Yao Wen (*with* Chen, Zhi Hua) The isospectral problem for cosymplectic manifolds. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 317–324. (Shun Hui Zhu) **98m:53040** 53C15 (58G25)

Li, Ye (*with* Tian, Hui Sheng; Li, Yan Ning; Cao, Xiu Guo) A new fuzzy feedforward network. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 1, 25–31. 90C35 (90C70)

Li, Yi[2] (*with* Bebernes, Jerrold W.; Li, Congming) Travelling fronts in cylinders and their stability. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 123–150. (Sergei A. Vakulenko) **98e:35089** 35K57 (35B40)

Li, Yi A. (*with* Olver, Peter J.) Convergence of solitary-wave solutions in a perturbed bi-Hamiltonian dynamical system. I. Compactons and peakons. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 419–432. (F. Pempinelli) **98g:35173** 35Q51 (34C37, 35Q58, 58F07, 76B25)

— (*with* Bona, Jerry L.) Decay and analyticity of solitary waves. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 5, 377–430. (Shu Ming Sun) **98e:35141** 35Q53 (35B40, 76B15, 76B25)

Li, Yi-fu A highly accurate method of numerical integration for oscillating functions. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 94–101. 65D30

Li, Yi Hua An initial analysis of the stability problem for automatic control systems. (Chinese. English and Chinese summaries) *J. Changshu Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 408–411. 93D05

Li, Yi Shen Inverse scattering methods. *Soliton theory and its applications*, 69–121, 393, *Springer, Berlin*, 1995. (*see* **98j:58064**) 35Q53 (34A55, 34L25, 35Q55, 81U40)

— (*with* Zeng, Yunbo) The general scheme for higher-order decompositions of zero-curvature equations associated with $\hat{sl}(2)$. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 4, 337–353. (Alexander V. Shapovalov) **98b:58090** 58F07

— (*with* Zeng, Yunbo) The Lax representation and Darboux transformation for constrained flows of the AKNS hierarchy. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 157. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 217–224. (Wen Xiu Ma) **98f:58121** 58F07 (35Q58, 58F37)

— (*with* Zeng, Yunbo) New symplectic maps: integrability and Lax representation. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 457–466. (Alexey V. Samokhin) **98i:58128** 58F07 (58F05)

— (*with* Sirendaoerji) Nonregular constrained flows and their corresponding finite-dimensional integrable Hamiltonian systems. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 2, 125–131. (Wen Xiu Ma) **98d:58086** 58F07 (35Q58)

Li, Yi Zhong (*with* Shi, Zhen Jun) A new algorithm for finding initial feasible solutions in linear programming. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 9–12. 90C05 (90C08)

— (*with* Yang, Qing Zhi; Zhang, Yu Zhong) An analysis of the reasons why many of Gauss's mathematical ideas were never published. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 90–94. (Shi Rong Guo) **98j:01028** 01A55

— (*with* Yang, Qing Zhi; Zhang, Yu Zhong; Zhang, Cun Xian) A note on a nonlinear programming problem. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 1–4. 90C30

Li, Yin Fan (*with* Song, Song He) A high resolution large-particle finite volume method for a 2-D unstructured triangular mesh. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 46–52. 65M70 (65M06)

— (*with* Song, Song He) A class of finite volume schemes satisfying a maximum principle for 2D scalar hyperbolic conservation laws on unstructured triangular meshes. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 106–113; *translation in Chinese J. Numer. Math. Appl.* **19** (1997), *no.* 4, 30–38. 65M60

Li, Yin Guo Behavior of the imbedded Markov chain of the general bulk service queueing system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 3, 247–255. 60K25

Li, Ying Jie (*with* Pan, Yan Zhong; Chen, Rong Sheng[2]) A method for constructing a class of multiplier magic squares of even order with nongeometric progressions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997,** *no.* 2, 17–21. 05B15

Li, Yingchen KP equations and vector bundles on curves. *Geometry and analysis on complex manifolds*, 113–139, *World Sci. Publishing, River Edge, NJ*, 1994. (Francesco Bottacin) **98g:14035** 14H60 (14D20, 14H42, 58F07)

— (*with* Mulase, Motohico) Prym varieties and integrable systems. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 2, 279–332. (Francesco Bottacin) **98j:14043** 14H42 (14H40, 58F07)

Li, Yingqiu Some notes of two-parameter Markov properties. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 2, 113–117. 60J25 (60G60)

Li, Yiwei (*with* Babuška, Ivo) A convergence analysis of an *h*-version finite-element method with high-order elements for two-dimensional elastoplasticity problems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 998–1036. (Weimin Han) **98c:73075** 73V05 (65N30, 73E05)

Li, Yong (*with* Zhou, Hong Xing) Approximate controllability of a class of semilinear parabolic systems with a boundary control. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 235–241. (Summary) **98b:93014** 93B05 (35B37, 93C20)

Li, Yong (*with* Zhang, Pei Yu[1]) A comparative study on the methods of calculating eclipses in the Yuan and Ming dynasties. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 387–394. 01A25

Li, Yong[4] (*with* Chen, Han-Fu) Robust adaptive stabilization of time-varying discrete time systems. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 375–387. (John Tsinias) **98c:93098** 93D21 (93C10, 93C55)

— (*with* Wu, Hong Xin) Exponential stability and L_p exponential stability of continuous-time systems with time-varying parameters. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 481–488. (Norihiko Adachi) **98m:34113** 34D99 (34F05, 93D05, 93E15)

Li, Yong[6] (*with* Lin, Zheng Hua; Yu, Bo[1]) A combined homotopy interior point method for general nonlinear programming problems. (English summary) *Appl. Math. Comput.* **80** (1996), *no.* 2-3, 209–224. (Jürgen Guddat) **98b:90128** 90C30

— (*with* Cong, Fu Zhong; Huang, Ming You) Invariant tori for nearly twist mappings with intersection property. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 280–298. (Luigi Chierchia) **98j:58100** 58F30 (34C30, 34C50, 58F27)

— (*with* Wang, Shao Li) The existence of invariant tori for degenerate analytic homeomorphisms. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 337–346. (Yi-Sui Sun) **98j:58098** 58F27 (58F30, 58F36)

— (*with* Cong, Fu Zhong) Invariant hyperbolic tori for Hamiltonian systems with degeneracy. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 3, 371–382. (Luigi Chierchia) **98f:58079** 58F05 (58F30, 70H05)

— (*with* Cong, Fu Zhong; Lin, Zheng Hua) Boundary value problems for impulsive differential equations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1253–1264. (Eduardo Liz) **98g:34038** 34B15 (34A37, 34C25)

— (*with* Huang, Qingdao) Nagumo theorems of nonlinear singular boundary value problems. *Nonlinear Anal.* **29** (1997), *no.* 12, 1365–1372. (L. E. Bobisud) **98h:34040** 34B15

— (*with* Shi, Yongdong; Zhou, Qinde) A note on a two-point boundary value problem arising from a liquid metal flow. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1086–1093. (From the introduction) **98f:34029** 34B15 (76D99)

Li, Yong[7] (*with* Zhang, Shu Mei; Xia, Yi Chuan) The identification problem for linear simultaneous equation models. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 433–437. 62J05 (62P20)

— (*with* Liu, Xiufang; Zhang, Shu Mei) The large sample theory of a kind of nonlinear errors-in-variable regression model. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 6, 660–666. (Summary) **98g:62129** 62J05 (62F12)

Li, Yong An Equitable colorings of some graphs. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **16** (1997), *no.* 3, 79–82. 05C15

Li, Yong Bin (*with* Luo, Zhi Ming) Sequences of odd periodic points of continuous self-maps of an interval. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 24–26. 58F20 (58F03)

Li, Yong Dong (*with* Chen, Wan Ji) A refined nonconforming element method using rectangular coordinates. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 4, 371–375. 65M60 (65N30)

Li, Yong Hua *see* **Li, Yong Hua[2]**

Li, Yong Hua[1] Optimal control of fair discrete-event systems. (English summary) *Appl. Math. Comput. Sci.* **6** (1996), *no.* 4, 803–814. (Summary) **98a:93048** 93C83 (68Q68)

— On deadlock-free modular supervisory control of discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1705–1708. 93C83

Li, Yong Hua[2] (*with* Zhang, Mou-Cheng) The *I*-congruences on a regular semigroup. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996,** *no.* 1, 110–113. (Heng Wu Zheng) **98c:20114** 20M17

— *n*-extendibility of TC structure matrices with trace 1. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997,** *no.* 1, 33–35. 05C50 (15A99)

Li, Yong Jin Convex operators on Banach spaces. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **35** (1996), *no.* 4, 18–21. (Bor-Luh Lin) **98a:46025** 46B20 (47H99)

— (*with* Te, Gu Si; Suyalatu) Very convex Banach spaces. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 1–4. (Summary) **98e:46006** 46B10 (46B20)

Li, Yong Kun Linearized oscillations for nonlinear differential equations with continuously distributed deviating arguments. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 523–532. (Binggen Zhang) **98a:34077** 34K15

— Oscillation of solutions to systems of hyperbolic differential equations with deviating arguments. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 100–105. (Summary) **98d:35228** 35R10 (35B05, 35L10)

— (*with* Cao, Jin De) The existence and uniqueness of periodic solutions to higher-dimensional periodic systems with delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 280–286. (Summary) **98e:34125** 34K15

— Positive periodic solutions of a competition model with periodic time delays. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 16–20. (Summary) **98j:34142** 34K15 (92D25)

— Attractivity of a positive periodic solution for all other positive solutions in a delay population model. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 279–282. 92D25 (34K20)

Li, Yong-Li (*with* Zhang, Ji Hui; Li, Chuan; Wu, Xuemou) Boundary of sets in pansystems information systems. (English summary) *Kybernetes* **26** (1997), *no.* 4-5, 497, 596–601. 68T30

Li, Yong Ming (*with* Wang, Guo Jun[1]) Relations among the category of topological molecular lattices and certain related categories. *Chinese Sci. Bull.* **42** (1997), *no.* 8, 636–640. (Editors) **98c:06006** 06B30 (04A72, 18B30, 54A40)

Li, Yong Quan (*with* Zhou, Xing Wei) A class of irregular wavelet frames. *Chinese Sci. Bull.* **42** (1997), *no.* 17, 1420–1423. 42C15

— (*with* Zhou, Xing Wei) A class of irregular wavelet frames. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 12, 1252–1254. 42C15

Li, Yong Xiang Exponential stability of abstract strongly damped wave equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 299–306. (Shu Chun Gao) **98h:34105** 34G10 (35L70, 47D06, 47N20)

Li, Yonghua *see* **Li, Yong Hua[1]**

Li, Yongming *see* **Li, Yong Ming**

Li, Yongsheng (*with* Chen, Qing Yi) Long time behavior of weakly dissipative Schrödinger-Boussinesq equations: global attractors and their dimension. (English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 241–254. (Woodford W. Zachary) **98h:35216a** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Guo, Bo Ling) Attractor for dissipative Klein-Gordon-Schrödinger equations in $\mathbf{R}^3$. (English summary) *J. Differential Equations* **136** (1997), *no.* 2, 356–377. (Piotr Biler) **98c:35152** 35Q55 (34D45, 34G20, 35B40, 47H20, 81Q05)

— (*with* Chen, Qing Yi) Long-time behaviour of ferromagnetic spin chain equation: global attractor and its dimension. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1271–1281. (Muthusamy Lakshmanan) **98k:82119** 82C20 (35B40, 35Q99, 58F39)

Li, You-Quan (*with* Yang, Huan-Xiong) Prolongation approach to Bäcklund transformation of Zhiber-Mikhailov-Shabat equation. (English summary) *J. Math. Phys.* **37** (1996), *no.* 7, 3491–3497. (Pol Vanhaecke) **98b:58089** 58F07

Li, You Wei (*with* Wang, Bi Xiang; Yang, Bing Shen) Regularity and approximate inertial manifolds of solutions to a class of evolution equations. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 1, 10–16. (Xiao Qiang Zhao) **98h:34112** 34G20 (35K55, 47H20, 58F39)

Li, Yu (*with* Ding, Hao Jiang; Peng, Nan Ling) The wedge subjected to traction with distribution r^n: a paradox resolved. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 1, 62–73. (Jian Ke Lu) **98e:73027** 73C02 (73V35)

Li, Yu (*with* Carlier, Jacques; Lutton, Jean-luc) Reliability evaluation of large telecommunication networks. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 61–80. (Summary) **98c:90035** 90B12 (90B25)

Li, Yu Cheng (*with* Zhang, Yong Gang) An alternative form of the Boussinesq equations with improved linear dispersion characteristics. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 2, 142–150. 76B15 (76M20)

Li, Yu Guang (*with* Duan, Yu Rong; Monti, Rodolfo; Carotenuto, Luigi; Tang, Ze Mei) Numerical analysis of the temperature distribution in vertical free thin films during solidification. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 457–466. 80A22

Li, Yu Hua Boundary properties of lacunary and random Legendre series. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 479–484. (Summary) **98f:60099** 60G99 (42C10)

Li, Yu Qi A complete characterization of the exponent set for a particular class of primitive matrices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 5, 637–642. (Gang Song Leng) **98a:15042** 15A48 (15A33)

— Two exponent sets for symmetric, nearly reducible matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 581–585. 15A36

Li, Yu Xiao Biased Brownian motion driven by fluctuating temperature. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 5, 332–335. (Summary) **98k:82131** 82C31

— (*with* Liu, Li; Liu, Quan Hui) The problem of Hermiticity of the operator $(-i\hbar\,\partial/\partial x)^3$. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 43–46. 81Q10 (47N50)

Li, Yuan[2] (*with* Xie, Zhongjie) The wavelet detection of hidden periodicities in time series. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 9–23. (Summary) **98f:62261** 62M10

Li, Yuan Chuan (*with* Shaw, Sen-Yen) *N*-times integrated *C*-semigroups and the abstract Cauchy problem. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 1, 75–102. (Alexei I. Filinkov) **98g:47033** 47D06 (34G10, 44A10)

Li, Yuan Xi A dual variable-dimension fixed point algorithm with scalar labels and a combinatorial lemma. (Chinese. English and Chinese summaries) *Acta Math. Appl.*

Sinica **20** (1997), *no.* 2, 282–288. 65H10 (90C30)

— Nonconical nonsmooth multiobjective programming—optimality conditions and duality theorems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 61–68. 90C29 (49J52)

Li, Yuanlin On the normalizers of the unitary subgroup in an integral group ring. (English summary) *Comm. Algebra* **25** (1997), *no.* 10, 3267–3282. (Adalbert Bovdi) **98i:16030** 16U60 (16S34)

Li, Yuanqing (*with* Liu, Yong Qing) The analysis of existence and uniqueness of solutions for second order linear singular differential difference equation with delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 31–43. (Michael Hanke) **98g:34107** 34K05

— (*with* Liu, Yong Qing) Basic theory, exponential estimates and global existence: uniqueness of solutions for a class of singular linear functional-differential equations with delay. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 27–36. (Michael Hanke) **98h:34118** 34K05

Li, Yue (*with* Ma, Iu Xia; Ren, Xiao Hong) The theory of weak convergence of set-valued measures. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 3, 17–20. 28B20 (28A33, 60B10)

Li, Yue Bo (*with* Liu, Chao Rong) Multivariate C_p values. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 132–138. 62N10

Li, Yue Fen Some properties of quasi-positive definite matrices. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 2, 13–15. 15A48

Li, Yue Feng (*with* Zhu, Yan; Liu, Da You) A learner model based on evidence theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 19–23. 68T30

— (*with* Liu, Da You; Liu, Song Hui) Inner and outer measures of belief functions and random sets. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 2, 31–34. 68T30 (28A99, 60A99)

Li, Yue Sheng (*with* Zhang, Zhi Jiang) An effective numerical solution to impulse response. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 40–45. 65L12

Li, Yulan (*with* Birkes, David; Thomas, David R.) The residual likelihood ratio test for the variance ratio in a linear model with two variance components. (English summary) *Biometrical J.* **38** (1996), *no.* 8, 961–972. (I. S. Alalouf) **98k:62117** 62J05 (62F03)

Li, Yun (*with* Zhang, Tong Bin; Sui, Ru Bin) Stability of solutions to an ordinary differential equation modeling vibration. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 20–23. (Jinghuang Tian) **98c:34084** 34D20 (34C15)

— (*with* Zhu, Shang Wei) Some theorems on stability of continuous-time systems in Banach spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 30–31, 38. 34G10 (34D10)

Li, Yun (*with* Rogers, Eric) Graph reversal and the design of parallel control and signal processing architectures. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 271–287. 93B51

Li, Yunhui (*with* Cui, Ming Gen) Wavelet analysis of a differential operator spline in the $H^1(\mathbf{R})$ space. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 10, 16–26. (Gerlind Plonka) **98b:41007** 41A15 (42C15)

Li, Yusheng Some Ramsey numbers of graphs with bridge. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 225–229. (Summary) **98e:05079** 05C55

Li, Yuying Piecewise differentiable minimization for ill-posed inverse problems. (English summary) *Large-scale optimization with applications, Part I (Minneapolis, MN, 1995)*, 63–79, *IMA Vol. Math. Appl.*, 92, *Springer, New York*, 1997. (Summary) **98f:65067** 65J20 (44A99, 68U10, 90C30)

Li, Z. *see* **Li, Zheng**

Li, Zenghu Convolution semigroups associated with measure-valued branching processes. *Chinese Sci. Bull.* **41** (1996), *no.* 4, 276–280. (John Verzani) **98c:60111** 60J80 (60G57)

Li, Zh.-K. *see* **Li, Zhong Kai**

Li, Zhan Bing (*with* Xiang, Kai Nan) The structure of branching particle systems with immigration. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 158–162. 60J80 (60G57)

Li, Zhao Wen (*with* Li, Jin Jin) Images of locally compact metric spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 91–95. 54E35 (54C08)

Li, Zhen Jiang (*with* Wang, Xing Bo) Singular points of CAGD plane curves and of Bézier curves. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 20–34. 65D17

Li, Zhen Qi (*with* Yu, Zu Huan) Surfaces of constant mean curvature in $H^3(-1)$. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 2, 138–141. 53A10

Li, Zheng (*with* Evans, Robin J.; Wittenmark, Björn) Minimum variance prediction for linear time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 4, 607–618. (Shin'ichi Aihara) **98d:93094** 93E11 (62M20)

— (*with* Evans, Robin J.) Minimum-variance control of linear time-varying systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1531–1537. (Summary) **98d:93103** 93E20 (93E10)

Li, Zheng (*with* Li, Qiao) Equitable vertex colorings of de Bruijn graphs and a vertex coloring theorem for line digraphs. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 16–19. (Summary) **98i:05079** 05C15

Li, Zheng Xiu (*with* Feng, Zhen Xing; Tang, Shao Wu) BEM analysis of a nonlinear coupled heat problem with a moving phase-change boundary. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 95–105. 80A22 (65M60)

Li, Zheng-Yuan (*with* Wang, Ming Xin[2]; Wu, Ya-Ping; Ye, Qi-Xiao) Travelling wave solutions for reaction-diffusion equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3417–3426. (*see* **98h:00034**) 35K57 (35B35)

Li, Zhengfeng (*with* Deng, Naiyang) On the convergence of conjugate gradient methods invariant to nonlinear scaling. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 2, 128–133. (G. Di Pillo) **98a:90095** 90C30 (65K05)

Li, Zhengguo (*with* Soh, Cheong-Boon; Xu, Xin He) Stability of impulsive differential systems. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 644–653. (Yuri V. Rogovchenko) **98j:34016** 34A37 (34Dxx)

Li, Zhengqing (*with* Durham, Stephen D.; Flournoy, Nancy) An adaptive design for maximization of a contingent binary response. (English summary) *Adaptive designs (South Hadley, MA, 1992)*, 179–196, *IMS Lecture Notes Monogr. Ser.*, 25, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98e:62004**) 62L15 (62L05)

Li, Zhengwu (*with* Xiao, Lihua; Feng, Chun Hua) The solvability of the boundary value problem of the four elements with the Carleman shift and complex-conjugate values. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 3, 247–256. (Summary) **98g:35061** 35J55 (30E25, 35Q15)

Li, Zhi Equations of Korteweg-de Vries type with higher-order correction terms for long waves in weakly dispersing media. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 49–53, 80. 35Q53

Li, Zhi Bin[1] (*with* Zhang, Shan Qing) An example of the application of Wu's method to partial differential equations. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 3, 22–25. (Summary) **98e:35143** 35Q53 (35–04)

— (*with* Zhou, Yu Bin) Soliton solutions of the generalized Boussinesq equation. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 24–27. 35Q51

— (*with* Wang, Ming Liang) Exact solutions for two nonlinear equations. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 2, 129–132. 35C05 (35J60)

Li, Zhi Gang[2] (*with* Fei, Bao Jun) Relativistic velocity and hyperbolic geometry. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 2, 248–255. 83A05 (51M10, 51P05)

Li, Zhi Hui (*with* Li, Zun Xian) Self-dual codes over Z_8. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 9–13. 94B05

Li, Zhi Kuan Semiclassical theory of Raman free-electron lasers. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 11, 1812–1816. (Summary) **98c:81264** 81V80

Li, Zhi Min (*with* Wang, Bin; Qu, Ying Jie) The problem of inhomogeneous symmetric eigenvalues. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 132–138. 65F15

Li, Zhi Wu (*with* Jia, Jian Yuan; Ye, Shang Hui) A formal design method for Petri net controllers for sequential manufacturing systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 213–219. 93C83 (93B52)

Li, Zhibin *see* **Li, Zhi Bin[1]**

Li, Zhilin (*with* Hou, Thomas Y.; Osher, Stanley; Zhao, Hongkai) A hybrid method for moving interface problems with application to the Hele-Shaw flow. (English summary) *J. Comput. Phys.* **134** (1997), *no.* 2, 236–252. (Summary) **98d:76128** 76M25 (76D99)

— Immersed interface methods for moving interface problems. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 269–293. (Diego A. Murio) **98c:65145** 65M06 (65M30, 80A22)

— (*with* LeVeque, Randall J.) Immersed interface methods for Stokes flow with elastic boundaries or surface tension. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 709–735. (Robert F. Almgren) **98b:76054** 76M25 (73K70, 76D07, 76D45)

Li, Zhiping Simultaneous numerical approximation of microstructures and relaxed minimizers. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 21–38. (Georg K. Dolzmann) **98m:73035** 73C50 (49J40, 65N30, 73S10, 73V25)

— Laminated microstructure in a variational problem with a non-rank-one connected double well potential. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 490–500. (Summary) **98h:73027** 73C50 (65N30, 73V25)

Li, Zhong[1] (*with* Earle, Clifford J.) Extremal quasiconformal mappings in plane domains. *Quasiconformal mappings and analysis (Ann Arbor, MI, 1995)*, 141–157, *Springer, New York*, 1998. (Alexander Vasil'ev) **98j:30014** 30C62 (30C75, 30F60)

Li, Zhong-Fei (*with* Chen, Guang Ya) Lagrangian multipliers, saddle points, and duality in vector optimization of set-valued maps. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 297–316. (Johannes Jahn) **98m:90128** 90C29 (49K27, 49N15)

— Connectedness of (properly) efficient point sets for problems of vector optimization of set-valued maps. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 3, 293–299. (Summary) **98j:90061** 90C29 (90C48)

Li, Zhong Heng (*with* Zhao, Zheng) The generalized tortoise coordinate transformation and Hawking processes. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1273–1281. 83C47 (83C57)

Li, Zhong-Hua (*with* Chai, Tian-You; Wen, Changyun) Systematic design of robust controllers for nonlinear uncertain systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 4, 871–892. 93D09 (93B51)

— (*with* Krstić, Miroslav) Optimal design of adaptive tracking controllers for non-linear systems. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1459–1473. (Masami Kurano) **98j:93070** 93D15 (93C40, 93D30)

— (*with* Krstić, Miroslav) Maximizing regions of attraction via backstepping and CLFs with singularities. (English summary) *Systems Control Lett.* **30** (1997), *no.* 4, 195–207. (Summary) **98d:93077** 93D15 (93C55)

— (*with* Krstić, Miroslav) Geometric/asymptotic properties of adaptive nonlinear systems with partial excitation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 419–425. 93C40

Li, Zhong Kai Approximation of the Jacobi-Weyl class of functions by the partial sums of Jacobi expansions. *Approximation theory and function series (Budapest, 1995)*, 247–258, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (Sarjoo Prasad Yadav) **98c:41004** 41A10 (42C10)

— Conjugate Jacobi series and conjugate functions. (English summary) *J. Approx. Theory* **86** (1996), *no.* 2, 179–196. (Summary) **98g:42044** 42C10 (42A50, 42B20)

— On the Cesàro means of conjugate Jacobi series. (English summary) *J. Approx. Theory* **91** (1997), *no.* 1, 103–116. (Gilbert Walter) **98k:33016** 33C45 (41A10, 42C10)

Li, Zhong Li (*with* Wang, Cheng Duan) The optimal sampling frequency for parameter identification in the frequency domain. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 4, 414–419. 93B30 (93C80)

Li, Zhong Mou (*with* Rolfsen, Dale) Which 3-manifolds embed in triod $\times$ I $\times$ I? (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 370–375. (Dave Auckly) **98k:57043** 57N35 (57N10, 57Q35)

Li, Zhong Sheng (*with* Luo, Jian Shu; Huang, Jian Hua[3]) Wavelet decompositions and filters for fractal signals. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 1–5. 94A12 (42C15)

Li, Zhong Xian A method for constructing complex Hadamard matrices. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 2, 14–17. 05B10

Li, Zhongshan (*with* Eschenbach, Carolyn A.) How many negative entries can A^2 have? (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 99–117. (R. A. Horn) **98c:15063** 15A48

— (*with* Eschenbach, Carolyn A.; Hall, Frank J.; Johnson, Charles Royal) The graphs of the unambiguous entries in the product of two $(+,-)$ sign pattern matrices. (English summary) *Linear Algebra Appl.* **260** (1997), 95–118. (Koduvayur R. Parthasarathy) **98e:05075** 05C50

Li, Zhu Xiang (*with* Pang, Ming Xian) The distribution of eigenvalues for partitioned matrix. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 455–460. (Winston T. Lin) **98d:15011** 15A18

— Comment on: "Equivalent representations of M-matrices" [Math. Appl. **8** (1995), no. 1, 44–50; MR 96e:15042] by M. X. Pang and Y. X. Sun. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 3, 375–376. (Summary) **98j:15030** 15A57

— (*with* Lu, Hongbin) Some spectral properties of metapositive definite matrices. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 78–82. (Aurelian Gheondea) **98m:15041** 15A48 (15A18)

— Eigenvalue inequalities for sums and products of Hermitian matrices. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 18–21. 15A42

Li, Zhuo (*with* Renner, Lex E.) The lattice of $\mathcal{J}$-classes of $(\mathcal{J},\sigma)$-irreducible monoids. (English summary) *J. Algebra* **190** (1997), *no.* 1, 172–194. (V. N. Salii) **98b:20101** 20M10 (20G15)

Li, Zi-Cai Superconvergence of penalty combinations of the Ritz-Galerkin and finite difference methods. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994), 117–130, World Sci. Publishing, River Edge, NJ,* 1996. (Summary) **98b:65130** 65N30 (65N12)

— Analysis of discrete techniques for image transformation. (English summary) *Numer. Algorithms* **13** (1996), *no.* 3-4, 225–263 (1997). (Marshall Walker) **98d:65172** 65Y25 (65N15, 68U10)

— Penalty combinations of the Ritz-Galerkin and finite difference methods for singularity problems. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 1–17. (Summary) **98b:65122** 65N12 (65N06, 65N30)

Li, Zi Nian (*with* Jiang, Zhao Lin; Fang, Kui) Special methods for finding the inverses of k-circulant matrices of type $(n_1, n_2, \cdots, n_k)$. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 87–90. (Summary) **98f:65051** 65F30 (15A09)

Li, Zi-Ping Quantum canonical symmetry for singular Lagrangian systems in field theories with higher-order derivatives. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 8, 1255–1263. (Summary) **98a:81121** 81T13

— (*with* Tang, Tai Ming) A generalization of the Poincaré-Cartan integral invariant and Dirac's conjecture. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 192–199. 70H05 (58F05, 70F99, 70G35)

— (*with* Bao, Jun) Quantal conserved laws in the non-abelian higher-derivative Chern-Simons theories. (English summary) *Europhys. Lett.* **39** (1997), *no.* 6, 599–604. 81T13

— (*with* Gao, Hai-xiao) Quantal global symmetry for a gauge-invariant system. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 5, 1071–1083. (Gheorghe Zet) **98d:81056** 81T13

— (*with* Tang, Tai Ming) A generalization of the Arzelà-Ascoli theorem and its application to Dyson perturbation theory. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 55–63. (Peter N. Zhevandrov) **98m:81031** 81Q15 (47N50)

Li, Zong Hong (*with* Yang, Zi Yuan; Zhang, Lin) Three crystal-field coupling schemes in crystal field theory. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 3, 28–31. 82D25

Li, Zongyuan (*with* Gao, Xuedong) Synthesis of optimal feedback controls for piecewise linear system. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 473–480. (F. M. Kirillova) **98k:49031** 49K15 (49N35, 93B51)

Li, Zun Xian (*with* Li, Zhi Hui) Self-dual codes over Z_8. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 9–13. 94B05

Lian, Bong H. (*with* Hosono, S.) GKZ hypergeometric systems and applications to mirror symmetry. (English summary) *Frontiers in quantum field theory (Osaka, 1995), 86–95, World Sci. Publishing, River Edge, NJ,* 1996. (Bruce Hunt) **98b:32024** 32J17 (14J32, 32G81, 33C70)

— (*with* Hosono, S.; Yau, Shing-Tung) GKZ-generalized hypergeometric systems in mirror symmetry of Calabi-Yau hypersurfaces. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 3, 535–577. (Dimitrios I. Dais) **98g:14042** 14J32 (14M25, 32J18, 33C70)

— (*with* Yau, Shing-Tung) Mirror maps, modular relations and hypergeometric series. II. (English summary) *S*-duality and mirror symmetry (Trieste, 1995). *Nuclear Phys. B Proc. Suppl.* **46** (1996), 248–262. (Bruce Hunt) **98g:32032** 32G20 (14J32, 14N10, 32G81, 33C70)

Lian, Jian-ao Characterization of the order of polynomial reproduction for multiscaling functions. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995), 251–258, Ser. Approx. Decompos., 6, World Sci. Publishing, River Edge, NJ,* 1995. (Summary) **98e:42036** 42C15

— (*with* Chui, Charles K.) A study of orthonormal multi-wavelets. (English summary) Selected keynote papers presented at 14th IMACS World Congress (Atlanta, GA, 1994). *Appl. Numer. Math.* **20** (1996), *no.* 3, 273–298. (Summary) **98g:42051** 42C15 (65D15)

Lian, Kuang-Yow (*with* Wang, Li Sheng[1]; Fu, Li Chen) Globally valid adaptive controllers of mechanical systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1149–1154. 93C85 (93C40)

Lian, Qing Rong (*with* Zhang, Yong[2]) A truncated version of the refined Arnoldi algorithm. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 5, 508–511. 65F30

Lian, Xiting (*with* Yu, Mingqi) Boundedness of solutions of parabolic equations with anisotropic growth conditions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 798–809. (Jesús Hernández) **98h:35109** 35K55 (35B40)

Liang, Benzhong (*with* Zhang, Xianwen) The spectrum of a one-velocity transport operator with integral boundary conditions of Maxwell type. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 85–102. (V. Protopopescu) **98f:82121** 82C70 (47D06, 47N55)

Liang, Bing Gui (*with* Jiang, Chunxuan) On the Yu-Goldbach prime theorem. (Chinese. Chinese summary) *Guangxi Sci.* **3** (1996), *no.* 1, 9–12. 11P32

Liang, Chuanguang (*with* Yu, Hong Quan) Identities involving partial derivatives of bivariate Fibonacci and Lucas polynomials. *Fibonacci Quart.* **35** (1997), *no.* 1, 19–23. (Paolo Emilio Ricci) **98g:11015** 11B39

Liang, De Qun (*with* Liu, Chun Yang; Song, Huan Sheng; Wu, Geng Shi) Applications of neural networks to image compression. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 67–80. 94C05

Liang, De-Ron (*with* Jan, Rong-Hong; Tripathi, Satish K.) Reliability analysis of replicated and-or graphs. (English summary) *Networks* **29** (1997), *no.* 4, 195–203. (Summary) **98d:68169** 68R10 (68M15, 68Q10)

Liang, Dong (*with* Yuan, Yi Rang; Rui, Hong Xing; Wang, Gao Hong) Characteristic-difference methods for the numerical simulation of sea water intrusion and optimal order l^2 error estimates. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 395–404. (Summary) **98a:65121** 65M06 (76M20, 86A05)

— A numerical method for free boundary problems of groundwater flow. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 29–38. (Zhangxin Chen) **98k:76109** 76M25 (65M60, 76S05, 86-08, 86A05)

— (*with* Zhao, Wei Dong) A high-order upwind method for the convection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 1-2, 105–115. (Summary) **98h:76094** 76M20

— (*with* Cheng, Ai-jie) Hybrid finite element method for two-phase miscible displacement in porous media. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 160–168. (Zhangxin Chen) **98f:76050** 76M10 (65M60, 76S05)

— (*with* Yuan, Yi Rang; Rui, Hong Xing) Characteristics-finite element methods for seawater intrusion numerical simulation and theoretical analysis. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 11–23. (Summary) **98m:76106** 76M10 (76R99, 86A05)

Liang, Dongmin (*with* Ma, Shao Han) A polynomial-time algorithm for reducing the number of variables in MAX SAT problem. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 301–311. (Summary) **98c:68092** 68Q25 (68R10)

Liang, Faming (*with* Wong, Wing Hung) Dynamic weighting in Monte Carlo and optimization. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 26, 14220–14224. (Summary) **98i:65006** 65C05

Liang, Feng (*with* Yan, Wei Qi) The application of the Morphy technique for plane geometric figures to design constructions in solid geometry. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 98–100. 51N99

Liang, Feng Zhen Properties of a class of multidimensional Markov chains. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 155–158. 60J10

Liang, Gang (*with* Zou, Gui Ping) The Hamilton system and Hamilton type generalized variational principle for the laminated composite plates and shells. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 123–129. 73V25 (73K10, 73K15, 73K20)

Liang, Guo-ping (*with* He, Jiang-heng) The non-conforming domain decomposition method for elliptic problems with Lagrangian multipliers. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 8–19. 65N55

— (*with* Dai, Min; Shih, Tsi Min; Liem, Chin Bo) A domain decomposition method with non-matching grids for solving 3-dimensional problems, software development and applications to reservoir simulation. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 87–94. 65M55 (65N55)

Liang, Han Ying (*with* Gan, Shi Xin) Inequalities for Banach space-valued martingales and some characterizations of geometric properties of Banach spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 171–178. (Summary) **98e:60011** 60B11 (46B09, 60E15, 60G42)

— (*with* Gan, Shi Xin) Inequalities for quasimartingales and geometric properties of Banach spaces. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 31–36. (Summary) **98e:60012** 60B11 (46B09, 60G48)

— (*with* Gan, Shi Xin; Ren, Yao Feng) Type of Banach spaces and complete convergence for sums of sequences of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 449–456. (Summary) **98k:60009** 60B12 (46B09)

Liang, Hao Yun Principal axis intrinsic method and the high-dimensional tensor equation $AX - XA = C$. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 10, 945–951; *translated from Appl. Math. Mech.* **17** (1996), *no.* 10, 889–894 (*Chinese. English and Chinese summaries*). (Maurizio Vianello) **98a:73017** 73B99 (15A24)

Liang, Hua Asymptotic efficiency in a partly autoregressive model. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 3, 235–246. 62M10

— (*with* Gao, Ji Ti; Hong, Shengyan) Berry-Esseen bounds of error variance estimation in partly linear models. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 652. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 4, 477–490. (Li-Xing Zhu) **98g:62045** 62F12 (62J02)

— (*with* Gao, Ji Ti) Some results on asymptotic efficiency in a generalized semiparametric regression model. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 213–220. 62G05 (62J02)

— A sufficient and necessary condition on Cramér asymptotic efficiency in a semiparametric regression model. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 3, 233–238. (Summary) **98j:62037** 62G20 (62J05)

— (*with* Xiong, Jian) On asymptotically efficient estimation for a semiparametric regression model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 302–313. (Summary) **98g:62094** 62G20

— (*with* Gao, Ji Ti) Statistical inference in single-index and partially nonlinear models. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 493–517. (Summary) **98k:62054** 62G05 (62J02)

— (*with* Zou, Guo Hua) Admissibility of the usual estimators under error-in-variables superpopulation model. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 3, 301–309. (Muhammad Hanif) **98m:62025** 62D05 (62C15)

— (*with* Zhou, Yong[2]) A modified estimator of error variance in a partly linear model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 819–825. (Summary) **98k:62060** 62G05 (62J05)

Liang, J. *see* **Liang, Jin**

Liang, J.-Q. *see* **Liang, Jiu Qing**

Liang, J. W. (*with* Feeny, B. F.) Phase-space reconstructions and stick-slip. (English summary) *Nonlinear Dynam.* **13** (1997), *no.* 1, 39–57. (Summary) **98a:70021** 70K05 (34C15, 58F40, 70K40, 70K50)

Liang, Jen-Wei (*with* Chen, Jiunn-Tsair; Paulraj, Arogyaswami J.) A space-time-filtered Viterbi receiver for CCI/ISI reduction in TDMA systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 85–102. 94A40

Liang, Jia Rong (*with* Liu, Yong Qing) Periodic solutions of singular systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 595–598. 34C25 (34C05)

— (*with* Liu, Yong Qing; Gao, Cun Chen) Almost periodic solutions to singular systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 325–328. 34C27 (34A09)

Liang, Jihua (*with* Liu, Ying Ming) Continuous *L*-domains. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 515. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 3, 263–270. (Jimmie D. Lawson) **98c:06007** 06B35 (06A06, 06B30, 54A10)

Liang, Jin A high order spin wave system with a time-periodic condition. (English summary) *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 36–44, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (Marek Biskup) **98m:35107** 35K60 (35B10, 35D05, 35Q99, 82B20)

— (*with* Decarreau, Andrée; Rakotoson, Jean-Michel) Trace imbeddings for T-sets and application to Neumann-Dirichlet problems with measures included in the boundary data. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 443–470. (Jianfu Yang) **98c:35054** 35J65 (35R05, 46E35)

— (*with* Xiao, Ti Jun) Widder-Arendt theorem and integrated semigroups in locally convex space. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 11, 1121–1130. (Frank Neubrander) **98e:47064** 47D06 (44A10, 47D03)

— (*with* Xiao, Ti Jun) Cauchy problems for a class of abstract higher-order equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 135–144. (Shu Chun Gao) **98g:34103** 34G10 (47D06, 47N20)

— (*with* Xiao, Ti Jun) Semigroups arising from elastic systems with dissipation. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 1–9. (Uljana A. Anufrieva) **98h:47063** 47D06 (34G10, 35Q72, 73D30)

— (*with* Xiao, Ti Jun) Norm continuity of families of linear operators on $t > 0$. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 2, 145–149. 47D06

Liang, Jing Wei (*with* Chen, Mian; Chen, Xi[3]; Chen, Zhi Da) On uniqueness, existence and objectivity of S-R decomposition theorem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 817–823; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 763–768 (*Chinese. English and Chinese summaries*). (C. F. M. Creasy) **98m:73016** 73B99

Liang, Jinrong (*with* Ren, Fuyao) The study of the Fourier series of functions defined on Moran fractals. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 2, 158–166. (Hermann Haase) **98a:28005** 28A80 (42A20)

— (*with* Li, Wanshe; Su, Feng; Ren, Fuyao) The Fourier series expansions of functions defined on s-sets. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 201–212. (Summary) **98j:42005** 42A20 (28A78)

Liang, Jiu Qing (*with* Lai, Yun Zhong) Interaction of two-mode SU(1, 1) coherent states with a V-type three-energy-level atom in a Kerr-type medium. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1710–1717. 81V80 (81R30)

— (*with* Zhou, Jian Ge; Miao, Yan-Gang; Müller-Kirsten, H. J. W.; Zhang, Zhenjiu) Quantisation of 2D-gravity with Weyl and area-preserving diffeomorphism invariances. (English summary) *Z. Phys. C* **73** (1997), *no.* 3, 563–567. (Summary) **98f:81308** 81T40 (81V17)

Liang, Jiu-zhen (*with* Qiu, Shen-shan; Liu, Ming-zhu) The stability of θ-methods for pantograph delay differential equations. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 1, 80–85. 65L20 (34K05)

Liang, Joseph J. (*with* Sun, Jung-Fung) On the irreducibility of some general polynomial over a finiter [finite] field. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 1, 75–87. (S. D. Cohen) **98a:11175** 11T06

Liang, Jun Dual adaptive control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 297–305. 93C40 (93–02)

Liang, Jyh-Ching (*with* Feng, De Jun; Wu, Jun[2]; Tseng, Shiojenn) Appendix to the paper by T. Łuczak—a simple proof of the lower bound: "On the fractional dimension of sets of continued fractions". *Mathematika* **44** (1997), *no.* 1, 54–55. (Mohamed Mkaouar) **98i:11059b** 11K50 (11K55)

Liang, Kuo-yuan (*with* Ryu, Keunkwan) Selecting the form of combining regressions based on recursive prediction criteria. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 122–135, *Springer, New York*, 1996. (Summary) **98c:62129** 62J05

Liang, L. (*with* Suppes, Patrick) Probabilistic association and denotation in machine learning of natural language. (English summary) *Computational learning and probabilistic reasoning*, 87–100, *Wiley, Chichester*, 1996. (*see* **98h:68007**) 68T05 (68S05)

Liang, Li Hua (*with* Li, Jun Xiang) Singular perturbations of the Cauchy problem for quasilinear hyperbolic equations. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 4, 429–436. 35B25 (35L70)

Liang, Miaolian (*with* Weng, Peixuan) Existence and global attractivity of periodic solution of a model in population dynamics. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 4, 427–434. (Joseph So) **98a:92007** 92D25 (34K15, 34K20)

Liang, Ping (*with* Wang, Pei-Zhuang; Tan, Shaohua; Song, Fengming) Constructive theory for fuzzy systems. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 2, 195–203. (Summary) **98a:26028** 26E50 (04A72, 54A40)

Liang, Ping (*with* Chen, Su Huan; Han, Wan Zhi) A new method of sensitivity analysis of static responses for finite element systems. (English summary) *Finite Elem. Anal. Des.* **29** (1998), *no.* 3-4, 187–203. 73V05

Liang, Qiong (*with* Wang, Yue Bao; Liu, Xu Guo) Strong stability of generalized Jamison weighted sums of negatively associated sequences. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 22, 2375–2379. 60F15

— (*with* Wang, Yue Bao; Liu, Xu Guo) Strong stability of generalized Jamison's weighted sums of NA sequences. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 389–392. 60F15

Liang, Shu Yun A study of the properties of the coefficient of variation in a measurement error model. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 2, 182–186. 62J05

Liang, Shupeng (*with* Liu, Xuekun; Sun, Dao Chun) The distribution of values of zero order functions. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 47–54. (Chunyi Gao) **98e:30034** 30D35 (30D30)

Liang, TaChen (*with* Gupta, Shanti S.) Selecting good normal regression models: an empirical Bayes approach. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 335–352, xvii. (Thomas J. Santner) **98m:62047** 62F07 (62C12)

— (*with* Gupta, Shanti S.; Leu, Lii-Yuh) Simultaneous selection for homogeneous multinomial populations based on entropy function: an empirical Bayes approach. (English summary) *J. Statist. Plann. Inference* **54** (1996), *no.* 2, 145–157. (Thomas J. Santner) **98c:62033** 62F07 (62C12)

— Simultaneously selecting normal populations close to a control. (English summary) *J. Statist. Plann. Inference* **61** (1997), *no.* 2, 297–316. (S. Panchapakesan) **98k:62024** 62F07 (62C12)

— (*with* Huang, Su-Yun) Empirical Bayes estimation of the truncation parameter with linex loss. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 755–769. (Françoise Garcia-Brouaye) **98m:62017** 62C12 (62F11)

Liang, Tian Lia (*with* Zhang, Shu Hong) Another class d'Alembert principle and a new Maggi equation for arbitrary order nonholonomic mechanical systems in derivative space. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 12, 1165–1169; *translated from Appl. Math. Mech.* **17** (1996), *no.* 12, 1101–1105 (*Chinese. English and Chinese summaries*). (Summary) **98a:70015** 70F25

Liang, Tian Pei *see* **Leung, Tin-Pui**

Liang, Weifa An NC algorithm for the nearest common dominator problem and related problems in a DAG. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 79–82. (*see* **98k:68012**) 68R10 (05C85, 68Q22)

— (*with* Shen, Xiaojun; Hu, Qing[2]) On embedding between 2D meshes of the same size. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 8, 880–889. (Summary) **98d:68029** 68M10

— (*with* Shen, Xiaojun) Finding the k most vital edges in the minimum spanning tree problem. (English summary) *Parallel Comput.* **23** (1997), *no.* 13, 1889–1907. (Summary) **98k:68138** 68R10 (05C85, 68Q22, 68Q25)

— (*with* Shen, Hong[2]) Efficient enumeration of all minimal separators in a graph. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 169–180. (Summary) **98b:68155** 68R10 (68Q25)

Liang, Wen-Qi (*with* Chao, Chern-Ching; Zhao, Lin Cheng) Estimating the error of a permutational central limit theorem. (English summary) *Probab. Engrg. Inform. Sci.* **10** (1996), *no.* 4, 533–541. 60F05 (60C05)

— (*with* Zhao, Lin Cheng; Bai, Zhidong; Chao, Chern-Ching) Error bound in a central limit theorem of double-indexed permutation statistics. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2210–2227. (Sh. A. Khashimov) **98i:60024** 60F05 (62E20, 62G10)

Liang, X. Q. (*with* Batra, R. C.; Kachroo, P.) Shape control of a nonlinear smart plate. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 518–525, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 49Q10 (73K10, 73K50, 93C90)

Liang, Xi Ming (*with* Peng, Ji Gen) New generating theorems for semigroups of linear operators. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **30** (1996), *no.* 8, 120–126. (Shu Chun Gao) **98c:47047** 47D03 (47D06)

— (*with* Xu, Cheng Xian) A trust region algorithm for bound constrained minimization. (English summary) *Optimization* **41** (1997), *no.* 3, 279–289. (Summary) **98h:90081** 90C30 (65K05)

— (*with* Peng, Ji Gen) A new continuation method for solving monotone variational inequalities. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 78–80. 49J40 (90C33)

Liang, Xi Quan (*with* Liu, Xi Min) Chern-Simons invariants of U(1) bundles over tori. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 3, 27–29. (Bai-Ling Wang) **98f:57045** 57R19 (57N10, 58D29)

— (*with* Liu, Xi Min) P-Sasakian manifolds are hypersurfaces of locally product manifolds. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 3, 1–3. (Bang-yen Chen) **98e:53076** 53C25

— (*with* Liu, Xi Min) 2-torsion invariants for a class of smooth 4-manifolds. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 155–158. (Summary) **98g:57052** 57R55 (57N13, 57R57)

Liang, Xi Ting (*with* Liang, Xuexin) Boundedness for solutions of doubly nonlinear parabolic system. (English and Chinese summaries) *J. Math. Study* **28** (1995), *no.* 3, 63–73. (Elias Tuma) **98b:35083** 35K55 (35B05)

— (*with* Lu, You Wen) Hölder continuity for solutions of elliptic equations involving measures. (English summary) *Huaihua Shizhuan Xuebao* **15** (1996), *no.* 5, 34–43. (Ya Zhe Chen) **98a:35031** 35J60 (35B65)

— (*with* Liang, Xuexin) A property for non-negative solutions of doubly nonlinear parabolic equations. (English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 122–128. (Jianzhong Su) **98h:35105** 35K55 (35B05)

— Hölder continuity of solutions to elliptic systems in diagonal form. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 2, 28–31. (Summary) **98b:35051** 35J60 (35B65, 35J45)

— (*with* Wu, Zai De) The a priori estimate of the maximum modulus to solutions of doubly nonlinear parabolic equations. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 109–119. (Bernhard Kawohl) **98k:35093** 35K55 (35B45)

— (*with* Lu, You Wen) Boundedness of solutions to a system of elliptic variational inequalities. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 5, 20–26. (Summary) **98d:35088** 35J85 (49J40)

— (*with* Wu, Zai De) Boundedness of solutions of elliptic equations involving measures. *Nonlinear Anal.* **29** (1997), *no.* 4, 427–438. (Anna Mercaldo) **98d:35059** 35J60 (35B05)

— (*with* Wang, Xiangdong) Regularity of solutions to an elliptic variational inequality system. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 91–96. (Gary M. Lieberman) **98g:49027** 49N60 (35J85)

Liang, Xiang Qian (*with* Liu, Chun Ling; Li, Kai Long) Some theorems on K-quasiconformal mappings with positive real part. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 440–444. 30C62

Liang, Xiao Yan A characterization of the values of BMO functions on interpolating sequences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 78–83. 42B99

Liang, Xue Bin (*with* Wu, Li De; Yu, Jun) An efficient learning algorithm for associative memory neural networks. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 721–727. 68T05 (92B20)

— (*with* Wu, Li De) On an open problem related to the strict local minima of multilinear objective functions. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1564–1566. (Summary) **98k:93073** 93C83 (92B20)

— (*with* Wu, Li De) Comments on: "New conditions for global stability of neural networks with application to linear and quadratic programming problems" [IEEE Trans. Circuits Systems I Fund. Theory Appl. **42** (1995), no. 7, 354–366; MR 96f:94022] by M. Forti and A. Tesi. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 11, 1099–1101. (Summary) **98k:94019** 94C05 (34D20, 90C08, 92B20)

Liang, Xue-Peng Erratum: "A generalization of scattered spaces" [Topology Proc. **14** (1989), no. 1, 59–74; MR 92a:54028] by H. Z. Hdeib and C. M. Pareek. *Topology Proc.* **21** (1996), 245. (From the text) **98k:54045** 54D99 (54E35)

Liang, Xue-Zhang (*with* Lü, Chun-Mei) On the convergence of Hakopian interpolation and cubature. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 28–46. (Dimitar Kolev Dimitrov) **98c:41022** 41A25 (41A55)

Liang, Xuexin (*with* Liang, Xi Ting) Boundedness for solutions of doubly nonlinear parabolic system. (English and Chinese summaries) *J. Math. Study* **28** (1995), *no.* 3, 63–73. (Elias Tuma) **98b:35083** 35K55 (35B05)

— (*with* Liang, Xi Ting) A property for non-negative solutions of doubly nonlinear parabolic equations. (English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 122–128. (Jianzhong Su) **98h:35105** 35K55 (35B05)

Liang, Y. Daniel (*with* Lu, Chin Lung; Tang, Chuan Yi) Efficient domination on permutation graphs and trapezoid graphs. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 232–241, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 05C85 (68R10)

— (*with* Chang, Maw-Shang) Minimum feedback vertex sets in cocomparability graphs and convex bipartite graphs. (English summary) *Acta Inform.* **34** (1997), *no.* 5, 337–346. (Dieter Kratsch) **98j:68132** 68R10 (05C85)

— Parallel algorithms for the domination problems in trapezoid graphs. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 3, 241–249. (Summary) **98a:05139** 05C85

Liang, Yi (*with* Zhang, Jiang She; Xu, Zong Ben) Global annealing genetic algorithm and its convergence analysis. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 414–424. (Summary) **98k:90090** 90C27 (60J10, 68T05)

Liang, Yi Xing Projective transformations of semisymmetric metric-recurrent connections. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **34** (1995), *no.* 5, 693–695. (Quo-Shin Chi) **98h:53041** 53C05 (53C15)

— (*with* Huang, Langchai) Two pinching constants for minimal submanifolds in a sphere. *Tensor (N.S.)* **57** (1996), *no.* 2, 197–203. (Paul E. Ehrlich) **98f:53060** 53C42 (53C20, 53C40)

Liang, Zhan Dong (*with* Li, Fu Yi) A surjection theorem and its applications. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **18** (1995), *no.* 4, 616–621. (Hong Kun Xu) **98a:47055** 47H07 (47H10)

— (*with* Wang, Cai Yun) A theorem on positive α-homogeneous operator equations and its application. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 2, 204–208. (Hong Kun Xu) **98a:47056** 47H07 (47H10, 47H15)

Liang, Zhao (*with* Wang, Ting Fu; Wang, Bao Xiang) On weakly (weakly*) exposed points of Orlicz sequence spaces. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 533–550. (Anna H. Kamińska) **98k:46033** 46B45 (46E30)

Liang, Zhao Jun (*with* Zhang, Xing An; Chen, Lan Sun) Dynamical predator-prey systems with dispersion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 19–24. (Summary) **98j:92017** 92D25 (34C25)

— (*with* Li, Xiang Peng; Zhang, Shao Hua) Analysis of an autocatalytic oscillatory chemical reaction model. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 1, 13–18. (Summary) **98e:34054** 34C05 (34C23, 80A30, 92E20)

— (*with* Xiong, Zheng Da) Criteria for centers and foci of the state equations of control systems. (Chinese. English summary) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 137–138. 34C05 (34–04, 93C10)

— (*with* Huang, Jian Hua[3]) The topological structure of the orbits of two classes of quadratic systems. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 139–144. (Sui Lin Cai) **98h:34055** 34C05

Liang, Zhi-He (*with* Kang, Qing-De) Coverings of the complete directed graph with k-circuits. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 231–253. (Frank E. Bennett) **98m:05150** 05C70 (05C38)

Liang, Zhi-Pei (*with* Boada, Fernando; Haacke, E. Mark) Improved parametric reconstruction using variable projection optimization. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 19–27. (Summary) **98m:44003** 44A12 (65R10, 92C55)

Liang, Zhian On the radical classes defined by Olson and Jenkins. (English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **27** (1996), *no.* 5, 585–588. (L. Márki) **98f:16017** 16N80

— The special class generated by a PI-ring. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 51–54. 16R10

— The special class generated by a prime PI-ring. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 123–126. 16R99

Liang, Zong Qi (*with* Lu, Bai Nian) A class of weakly conditionally stable explicit difference schemes for nonlinear Schrödinger equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 2, 1–5. (Wei Zhong Dai) **98b:65100** 65M06 (65M12)

— (*with* Lu, Bai Nian) Pseudospectral methods for systems of nonlinear Schrödinger equations with magnetic field effects. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 441–448. (Summary) **98m:65206** 65N35

Liang, Zong Xia Quasi-sure quadratic variations of two parameter smooth martingales on the Wiener space. *J. Math. Kyoto Univ.* **36** (1996), *no.* 3, 619–640. (Yong Sik Yun) **98a:60078** 60H07

— Comparison theorems for strong solutions of a class of stochastic differential equations of type (QL). (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 55–57. 60H10

— (*with* Zheng, Ming Li) Existence, pathwise uniqueness and convergence of solutions to two-parameter linear integrodifferential martingale stochastic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 33–38. 60H20

Liao, Aiping Some efficient algorithms for unconstrained discrete-time optimal control problems. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 175–198. (Michael E. Fisher) **98i:49031** 49L20 (39A99, 49M05)

— Modifying the BFGS method. (English summary) *Oper. Res. Lett.* **20** (1997), *no.* 4, 171–177. (Summary) **98c:90138** 90C30 (65K05)

Liao, An Ping Symmetric positive semidefinite solutions of the matrix equation $(A^TXA, B^TXB) = (C, D)$. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 10–13, 29. 15A24

Liao, Gongfu A characterization of the solutions of p-order Feigenbaum's functional equation with topological entropy 0. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 1, 38–43. (B. Crstici) **98c:39007** 39B05 (26A18)

Liao, Jun (*with* Zhu, Shi Qiang; Lin, Jian Ya; Ren, De Xiang) Application of genetic algorithms to recognition of fuzzy T-S models. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 140–145, 150. 93C83 (04A72, 93C41)

Liao, Liu Sheng (*with* Chen, Anping; Zhou, Yu Bo) Necessary and sufficient conditions for oscillation of first-order neutral mixed differential equations with delays. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 137–142. (Summary) **98m:34136** 34K15

Liao, Ming Random motion of a rigid body. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 201–211. (Yu. E. Gliklikh) **98c:58178** 58G32 (60H10, 70E15, 70K50)

— Lévy processes in semisimple Lie groups and stability of stochastic flows. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 501–522. (Jean Picard) **98d:58200** 58G32 (60J30)

Liao, Shan Tao ★ Qualitative theory of differentiable dynamical systems. Translated from the Chinese. With a preface by Min-de Cheng. *Science Press, Beijing; distributed by American Mathematical Society, Providence, RI*, 1996. x+383 *pp. ISBN* 7-03-005437-7 (Janusz Mierczyński) **98g:58041** 58Fxx (34Cxx, 34Dxx)

— Notes on a study of vector bundle dynamical systems. II. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 5, 421–440; *translated from Appl. Math. Mech.* **18** (1997), *no.* 5, 395–412 (*Chinese. English and Chinese summaries*). (Remo Badii) **98i:58140** 58F11 (34C35)

— *see also* **Obituary: Liao, Shan Tao**

Liao, Shi-jun A kind of approximate solution technique which does not depend upon small parameters. II. An application in fluid mechanics. (English summary) *Internat. J. Non-Linear Mech.* **32** (1997), *no.* 5, 815–822. (Summary) **98f:34026** 34B15 (76D10)

— Numerically solving strongly nonlinear problems by means of no iterations. (English summary) *J. Hydrodyn. Ser. B (English Ed.)* **10** (1998), *no.* 1, 102–108. 35A35 (35C99)

Liao, T. Y. (*with* Joseph, Daniel D.) Sidewall effects in the smoothing of an initial discontinuity of concentration. (English summary) *J. Fluid Mech.* **342** (1997), 37–51. (Summary) **98d:76155** 76R99 (76D99)

Liao, Teh Lu (*with* Huang, Nan-Sheng) Control and synchronization of discrete-time chaotic systems via variable structure control technique. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 262–268. 58F13

Liao, Tian He (*with* Zhang, Guo Min; Wu, You Lin) Neutrino solution of Dirac equation in Bianchi type V cosmological model. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1881–1891. 83C15 (83C10)

Liao, Wen-Hwei (*with* Chou, Jyh Horng; Chen, Shinn-Horng) On the stability of discrete Takagi-Sugeno fuzzy dynamic model. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 6, 709–713. 93C42 (93D05)

Liao, Xiao Xin (*with* Shen, Yi[2]; Wang, Shu Ning; Hu, Shi Geng) Existence theorems for saddle points and minimax theorems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 37–39. 49J35 (49K35)

— (*with* Shen, Yi[2]; Wang, Shu Ning; Hu, Shi Geng) A minimax theorem for quasiconvex functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 40–43. 49J35 (90C26)

— (*with* Shen, Yi[2]; Wang, Shu Ning; Hu, Shi Geng) Alternative theorems for almost generalized convex functions and their applications. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 44–47. 90C26 (26B35)

— (*with* Mao, Xuerong) The mean square exponential stability of a stochastic Hopfield neural network with time delay. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 6, 93–95. (Summary) **98m:34162** 34K50 (34K20, 60H10, 82C32)

— (*with* Mao, Xuerong) Almost sure exponential stability of neutral stochastic differential difference equations. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 554–570. (Thomas C. Gard) **98g:34128** 34K50 (34K20, 34K40, 60H30)

— (*with* Li, Jia[2]) Stability in Gilpin-Ayala competition models with diffusion. *Nonlinear Anal.* **28** (1997), *no.* 10, 1751–1758. (From the introduction) **98c:92010** 92D25 (34D05)

— (*with* Liao, Yang) Stability of Hopfield-type neural networks. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 813–816. 34K20

Liao, Xinhao Symplectic integrator for general near-integrable Hamiltonian system. (English summary) *Celestial Mech. Dynam. Astronom.* **66** (1996/97), *no.* 3, 243–253. (Summary) **98f:70003** 70–08 (70H05)

Liao, Yang (*with* Liao, Xiao Xin) Stability of Hopfield-type neural networks. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 813–816. 34K20

Liao, Yi (*with* Zhang, Cishen) A sequentially operated periodic FIR filter for perfect reconstruction. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 475–486. 94A12

Liao, Zhen Algebraic solution of boundaries of Boolean functions of solids and the application to solid modeling. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 3, 98–103. 68U07

Liao, Zhen-Peng Extrapolation non-reflecting boundary conditions. (English summary) *Wave Motion* **24** (1996), *no.* 2, 117–138. (Summary) **98g:65100** 65M99

Liardet, Pierre (*with* Volný, Dalibor) Sums of continuous and differentiable functions in dynamical systems. (English summary) *Israel J. Math.* **98** (1997), 29–60. (Manfred Denker) **98m:28036** 28D05 (47A35, 60F05)

— (*with* Kamiński, Brunon; Kowalski, Zbigniew S.) On extremal and perfect σ-algebras for $\mathbf{Z}^d$-actions on a Lebesgue space. (English summary) *Studia Math.* **124** (1997), *no.* 2, 173–178. (N. N. Ganikhodzhaev) **98h:28011** 28D15 (28D20)

Liaw, S. C. (*with* Yeh, Hong-Gwa; Hwang, Frank K.; Chang, Gerard J.) A simple and direct derivation for the number of noncrossing partitions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 6, 1579–1581. (Summary) **98g:05016** 05A18

Liaw, Y. S. Construction of referee squares. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 123–135. (W. D. Wallis) **98i:05033** 05B15

— *see also* **Kageyama, Sanpei, 98a:05041**

Liaw, Yu-Min (*with* Tung, Pi-Cheng) Application of the differential geometric method to control a noisy chaotic system via dither smoothing. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 51–58. (Summary) **98m:93030** 93B29 (58F13, 58F40, 93C15)

Liberati, José I. Bispectral property, Darboux transformation and the Grassmannian $\mathrm{Gr}^{\mathrm{res}}$. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 4, 321–332. (Luis A. Piovan) **98i:58189** 58F19 (34L05, 58F07)

Liberati, Stefano Gravitational entropy and topology. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 329–334, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **98m:83048** 83C57 (53C80)

— (*with* Belgiorno, F.) Black hole thermodynamics, Casimir effect and induced gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1181–1194. (Seth A. Major) **98h:83042** 83C57 (81T20, 83C47)

— (*with* Pollifrone, Giuseppe) Entropy and topology for gravitational instantons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6458–6466. (Summary) **98j:83062** 83C57

Liberatore, Paolo (*with* Schaerf, Marco) Relating belief revision and circumscription. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1557–1563, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 68T27 (03B60, 03B70)

— (*with* Schaerf, Marco) Reducing belief revision to circumscription (and vice versa). (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 261–296. (Zoran Ognjanović) **98d:03040** 03B60 (03B70, 68T27, 68T30)

Liberman, M. A. (*with* Travnikov, O. Yu.; Bychkov, V. V.) Stability of a planar flame front in a compressible flow. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3935–3937. (Summary) **98j:76056** 76E99 (76N10, 80A25)

Libermann, Paulette On contact groupoids and their symplectification. *Analysis and geometry in foliated manifolds* (*Santiago de Compostela*, 1994), 153–176, *World Sci. Publishing, River Edge, NJ*, 1995. (Charles-Michel Marle) **98b:58177** 58H05 (58F05)

— Des courbes et surfaces aux variétés différentiables. (English summary) [From curves and surfaces to differentiable manifolds] *Géométrie complexe* (*Paris*, 1992), 283–293, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Summary) **98m:53003** 53-03 (01A05)

— Lie algebroids and mechanics. (English summary) *Arch. Math.* (*Brno*) **32** (1996), *no.* 3, 147–162. (Charles-Michel Marle) **98d:58203** 58H05 (58F05, 70F25, 70H35)

— Introduction to the theory of semi-holonomic jets. *Arch. Math.* (*Brno*) **33** (1997), *no.* 3, 173–189. (Josef Janyška) **98h:58006** 58A20 (53C05, 53C10)

Liberzon, A. S. (*with* Kosolapov, Yu. S.) An implicit relaxation method for computing steady two-dimensional flows of spontaneously condensing steam. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 6, 138–151; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 6, 805–815. (Summary) **98b:76048** 76M20 (76N15)

— (*with* Kosolapov, Yu. S.) An implicit relaxation method for computing steady three-dimensional flows of spontaneously condensing steam. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 759–768. 76M20 (76N99)

Libgober, Anatoly Position of singularities of hypersurfaces and the topology of their complements. (English summary) Algebraic geometry, 5. *J. Math. Sci.* **82** (1996), *no.* 1, 3194–3210. (Aleksandr G. Aleksandrov) **98a:14058** 14J70 (14E20, 32S25)

— *see also* **Singularities and complex geometry, 98d:32002**

Libkin, Leonid (*with* Benedikt, Michael) On the structure of queries in constraint query languages. (English summary) 11*th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 25–34, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68P15 (03B70, 03C13)

Librescu, L. (*with* Schmidt, Rüdiger) Geometrically nonlinear theory of laminated anisotropic composite plates featuring interlayer slips. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 2, 131–147. (Summary) **98d:73045** 73K10 (73B40, 73K20)

Libura, Marek Optimality conditions and sensitivity analysis for combinatorial optimization problems. (English summary) *Control Cybernet.* **25** (1996), *no.* 6, 1165–1180. (Summary) **98d:90095** 90C27 (90C31)

Li Calzi, M. (*with* Cigola, M.) Ordinally quasiconcave functions. (English summary) *Optimization* **40** (1997), *no.* 1, 25–39. (Jean-Pierre Crouzeix) **98c:90183** 90C48 (90C29)

Licandro, Omar A non-Walrasian general equilibrium model with monopolistic competition and wage bargaining. (English and French summaries) *Ann. Économ. Statist.* **1995**, *no.* 37-38, 237–253. 90A14 (90A70)

— (*with* Fagnart, Jean-François; Sneessens, Henri R.) Capacity utilization and market power. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 123–140. 90A16 (90A60)

— (*with* Boucekkine, Raouf; Germain, Marc) Replacement echoes in the vintage capital growth model. (English summary) *J. Econom. Theory* **74** (1997), *no.* 2, 333–348. (Summary) **98d:90037** 90A16 (90A09)

Lices, C. (*with* Newman, Charles M.; Piza, M. S. T.) Superdiffusivity in first-passage percolation. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 4, 559–591. (Wei-Shih Yang) **98a:60151** 60K35 (82C24)

Lichnerowicz, André Géométrie et mécanique. [Geometry and mechanics] *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 89–99. 01A60 (01A55, 58F05, 70Hxx)

— Distinguished essential extensions of infinite-dimensional classical Lie algebras. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 327–332, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98g:17022** 17B65 (58H10)

— Extensions essentielles privilégiées d'algèbres de Lie classiques de dimension infinie. (English summary) [Privileged essential extensions of classical Lie algebras of infinite dimension] *Integrable systems and foliations/Feuilletages et systèmes intégrables* (*Montpellier*, 1995), 93–106, *Progr. Math.*, 145, *Birkhäuser Boston, Boston, MA*, 1997. (Markus J. Pflaum) **98f:58204** 58H15 (17B55, 17B65, 58F06)

Licht, Christian (*with* Michaille, Gérard) A modelling of elastic adhesive bonded joints. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 711–740. (Dan Poliševski) **98k:73062** 73T05 (73B27, 73K99)

— (*with* Abddaimi, Y.; Michaille, Gérard) Stochastic homogenization for an integral functional of a quasiconvex function with linear growth. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 183–202. (Paolo Marcellini) **98i:49015** 49J45

Lichtenbaum, Stephen Quasi-motives of curves. (English summary) *Algebraic K-theory* (*Toronto, ON*, 1996), 185–197, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Klaus Künnemann) **98i:14025** 14F99 (14C25, 14H99, 19E20)

Lichtenberg, Allan J. (*with* Tanaka, Hisa-Aki; de Sousa Vieira, Maria; Lieberman, Michael A.; Oishi, Shin'ichi) Stability of synchronized states in one-dimensional networks of second order PLLs. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 681–690. 34C15 (94C99)

Lichtenberg, Erik (*with* Chambers, Robert G.; Färe, Rolf; Jaenicke, Edward) Using dominance in forming bounds on DEA models: the case of experimental agricultural data. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 189–203. 62P20

Lichtenberg, Heiner Zur Interpretation der Gaußschen Osterformel und ihrer Ausnahmeregeln. (English, German and Italian summaries) [On the interpretation of Gauss' Easter formula and its rules for exception] *Historia Math.* **24** (1997), *no.* 4, 441–444. (Summary) **98h:01044** 01A99 (01A40, 01A55)

de Lichtenberg, Kristian (*with* Alstrup, Stephen; Holm, Jacob; Thorup, Mikkel) Minimizing diameters of dynamic trees. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 270–280, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **98m:68197** 68R10 (68P05, 68Q20)

Lichter, Seth (*with* Atassi, Oliver V.; Bernoff, Andrew J.) The interaction of a point vortex with a wall-bounded vortex layer. (English summary) *J. Fluid Mech.* **343** (1997), 169–195. (Summary) **98e:76016** 76C05 (76D10)

— (*with* Lin, Chih-Yu; Goedde, C. G.) Scaling of the recurrence time in the cubic Fermi-Pasta-Ulam lattice. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 367–374. (Summary) **98d:82035** 82C20

Lichtman, A. I. Trace functions in the ring of fractions of polycyclic group rings. II. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 788–797. (Donald S. Passman) **98i:16024** 16S34 (16P40)

— (*with* Shirvani, M.) HNN-extensions of Lie algebras. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3501–3508. (H.-J. Hoehnke) **98e:17008** 17B05 (16S10, 17B40)

Lick, Don R. (*with* Fan, Cong; Liu, Jiuqiang) Pseudo-Cartesian product and Hamiltonian decompositions of Cayley graphs on abelian groups. (English summary) *Discrete Math.* **158** (1996), *no.* 1-3, 49–62. (Jean-Claude Bermond) **98b:05046** 05C25 (05C45)

— (*with* Alavi, Yousef; Erdős, Paul[†]; Lam, Peter Che Bor; Liu, Jiuqiang; Wang, Jian Fang) Upper bounds on linear vertex-arboricity of complementary graphs. (English summary) *Util. Math.* **52** (1997), 43–48. 05C05

Lickorish, W. B. Raymond ★ An introduction to knot theory. (English summary) Graduate Texts in Mathematics, 175. *Springer-Verlag, New York*, 1997. x+201 *pp. ISBN* 0-387-98254-X (Darryl McCullough) **98f:57015** 57M25 (57N10)

— Piecewise linear manifolds and Cerf theory. (English summary) *Geometric topology* (*Athens, GA*, 1993), 375–387, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (John Hempel) **98m:57032** 57Q99

— Sampling the $\mathrm{SU}(N)$ invariants of three-manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 1, 45–60. (Joanna Kania-Bartoszynska) **98h:57035** 57N10 (57M25)

Lickteig, Thomas (*with* Roy, Marie-Françoise) Semi-algebraic complexity of quotients and sign determination of remainders. (English summary) Special issue for the Foundations of Computational Mathematics Conference (Rio de Janeiro, 1997). *J. Complexity* **12** (1996), *no.* 4, 545–571. (Summary) **98m:68122** 68Q25 (13P10, 68Q05)

Liczberski, Piotr (*with* Kohr, Gabriela) A starlikeness criterion for holomorphic mappings in the polydisc. *Mathematica* **37(60)** (1995), *no.* 1-2, 119–121. (T. J. Suffridge) **98m:32037** 32H02 (30C45, 32A30)

— Some criteria for Φ-likeness and close-to-starlikeness in $\mathbf{C}^n$. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 67–73. (T. J. Suffridge) **98k:32033** 32H02 (30C45, 32A30)

— (*with* Kohr, Gabriela) On some criteria of injectivity for complex mappings in the class C^1. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 3, 217–223. (T. J. Suffridge) **98f:30012** 30C45 (32A30, 32H02)

— (*with* Kohr, Gabriela) On some partial differential inequalities for mappings of $\mathcal{C}^1$ class in $\mathbf{C}^n$. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 265–271. (Harold P. Boas) **98i:32046** 32H99 (30C45, 32A30)

Lidl, Rudolf (*with* Pilz, Günter F.) ★ Applied abstract algebra. (English summary) Second edition. Undergraduate Texts in Mathematics. *Springer-Verlag, New York*, 1998. xvi+486 *pp. ISBN* 0-387-98290-6 (From the preface) **98m:00002** 00A05 (11T71, 68-01, 68P25, 68Q40, 94A60)

Lidsey, James E. (*with* Romero, Carlos Augusto; Tavakol, Reza; Rippl, Steve) On applications of Campbell's embedding theorem. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 865–879. (Maciej Przanowski) **98h:53105** 53C50 (53C25, 53C80, 83C99)

— (*with* Tavakol, Reza; Romero, Carlos Augusto) Campbell's embedding theorem. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 31, 2319–2323. (Volker Perlick) **98k:83021** 83C20 (83C50, 83E15)

— (*with* Copeland, E. J.; Wands, David) *S*-duality-invariant perturbations in string cosmology. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 407–420. (Summary) **98j:83093** 83E30 (81T30, 83F05)

— (*with* Clancy, Dominic; Tavakol, Reza) Scale factor dualities in anisotropic cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 257–272. (Summary) **98j:83080** 83D05 (83F05)

— Embedding of superstring backgrounds in Einstein gravity. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 33–40. (Summary) **98j:83098** 83E30 (53C80, 81T30, 83E15)

— (*with* Copeland, E. J.; Wands, David) Cosmology of the type IIB superstring. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, R625–R629. 83E30 (81T30)

Lidskiĭ, V. B. (*with* Aslanyan, A. A.; Aslanyan, A. G.) Asymptotic formulas for frequencies of axisymmetric oscillations of a shell of revolution. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 298–309. (Summary) **98j:73055** 73K15 (73K12, 73V20)

Lie, Sophus *see* **Strøm, Elin**, **98e:01018**; **Totaro, Burt**, **98f:01037**; **Helgason, Sigurdur**, **98g:01061** *and* **Hawkins, Thomas**, **98g:01062**

Lieb, Elliott H. Fluxes and dimers in the Hubbard model. *Proceedings of the International Congress of Mathematicians, Vol.* 1, 2 (*Zürich*, 1994), 1279–1280, *Birkhäuser, Basel*, 1995. (Bruno Nachtergaele) **98k:82018** 82B10 (82B20)

— The Hubbard model: some rigorous results and open problems. (English summary) *The Hubbard model* (*San Sebastian*, 1993), 1–19, *NATO Adv. Sci. Inst. Ser. B Phys.*, 343, *Plenum, New York*, 1995. (Summary) **98b:82008** 82B10 (82–02, 82B23, 82D35, 82D55)

— The Hubbard model: some rigorous results and open problems. (English summary) *XIth International Congress of Mathematical Physics* (*Paris*, 1994), 392–412, *Internat. Press, Cambridge, MA*, 1995. (Nicolae Angelescu) **98f:82009** 82B10 (82–02, 82B20, 82D40)

— (*with* Loss, Michael; Siedentop, Heinz) Stability of relativistic matter via Thomas-Fermi theory. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 974–984. (Giorgio Cattapan) **98c:81255** 81V70 (81Q10, 81V10)

— (*with* Loss, Michael) ★ Analysis. (English summary) Graduate Studies in Mathematics, 14. *American Mathematical Society, Providence, RI*, 1997. xviii+278 *pp. ISBN* 0-8218-0632-7 (J. Horváth) **98b:00004** 00A05 (26–01, 28–01, 31–01, 35–01, 42–01, 46–01)

— (*with* Epstein, David B. A.; Taylor, Jean E.; Almgren, Robert; Kusner, Robert B.; Morgan, Frank; Sullivan, John M.; Marden, Albert) In memoriam Frederick J. Almgren Jr., 1933–1997. *Experiment. Math.* **6** (1997), *no.* 1, 1–12. 01A70

— (*with* Siedentop, Heinz; Solovej, Jan Philip) Stability and instability of relativistic electrons in classical electromagnetic fields. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 37–59. (Giorgio Cattapan) **98m:81216** 81V55 (81Q10)

— (*with* Siedentop, Heinz; Solovej, Jan Philip) Stability of relativistic matter with magnetic fields. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 10, 1785–1788. (Summary) **98i:81279** 81V45 (81V55)

— *see also* **State of matter**, **98c:82001** *and* **Thirring, Walter**, (**98c:82001**)

Liebeck, Martin W. Regular orbits of linear groups. *J. Algebra* **184** (1996), *no.* 3, 1136–1142. (From the text) **98g:20023** 20C20

— (*with* Shalev, Aner) Maximal subgroups of symmetric groups. (English summary) *J. Combin. Theory Ser. A* **75** (1996), *no.* 2, 341–352. (Michael Klemm) **98b:20005** 20B35

— (*with* Wayman Purvis, Chris) On the genus of a finite classical group. *Bull. London Math. Soc.* **29** (1997), *no.* 2, 159–164. (From the introduction) **98h:20086** 20G40 (30F10)

— (*with* Guralnick, Robert M.; Macpherson, Dugald; Seitz, Gary M.) Modules for algebraic groups with finitely many orbits on subspaces. *J. Algebra* **196** (1997), *no.* 1, 211–250. (Jorge A. Vargas) **98j:20058** 20G05 (14L30)

Liebelt, Michael J. (*with* Tabrizi, Nozar; Eshraghian, Kamran) A tabular method for guard strengthening, symmetrization, and operator reduction for Martin's asynchronous design methodology. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 9, 1050–1054. 94C05

Lieber, D. (*with* Karasick, M. S.; Nackman, L. R.; Rajan, V. T.) Visualization of three-dimensional Delaunay meshes. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 114–128. (Summary) **98b:65152** 65Y25 (52B55)

Lieberherr, Karl (*with* Palsberg, Jens; Patt-Shamir, Boaz) A new approach to compiling adaptive programs. (English summary) *Sci. Comput. Programming* **29** (1997), *no.* 3, 303–326. (Summary) **98e:68033** 68N20 (68N15)

Lieberman, Gary M. ★ Second order parabolic differential equations. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xii+439 *pp. ISBN* 981-02-2883-X (Siegfried Carl) **98k:35003** 35–02 (35Bxx, 35Dxx, 35Kxx)

— Study of global solutions of parabolic equations via a priori estimates. III. Equations of *p*-Laplacian type. *Singularities and differential equations* (*Warsaw*, 1993), 199–221, *Banach Center Publ.*, 33, *Polish Acad. Sci., Warsaw*, 1996. (Thierry Cazenave) **98e:35098** 35K60 (35B45)

Lieberman, Michael A. (*with* Tanaka, Hisa-Aki; de Sousa Vieira, Maria; Lichtenberg, Allan J.; Oishi, Shin'ichi) Stability of synchronized states in one-dimensional networks of second order PLLs. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 3, 681–690. 34C15 (94C99)

Lieberman, Offer (*with* Mátyás, László) Approximate estimation in nonlinear panel data models. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1177–1195. (Summary) **98c:62135** 62J12

— The effect of nonnormality. (English summary) *Econometric Theory* **13** (1997), *no.* 1, 52–78. (Summary) **98b:62023** 62E17

Liebig, Thilo (*with* Rieder, Ulrich) Optimal greedy policies for stochastic control models. (English summary) *Math. Methods Oper. Res.* **44** (1996), *no.* 1, 115–133. (Krzysztof Szajowski) **98d:90133** 90C40 (60G40, 93E20)

— Discounted Bayesian search problems with unknown detection probabilities. (English summary) *Math. Methods Oper. Res.* **44** (1996), *no.* 2, 233–254. (Kōji Iida) **98b:90078** 90B40

Liebl, H. (*with* Vasilevich, D. V.; Alexandrov, Sergei) Hawking radiation and masses in generalized dilaton theories. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, 889–904. (Summary) **98c:83026** 83C30 (83C57)

— (*with* Kummer, W.; Vasilevich, D. V.) Hawking radiation for non-minimally coupled matter from generalized 2-D black hole models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2683–2689. (Summary) **98h:83052** 83C57

— (*with* Katanaev, M. O.; Kummer, W.) On the completeness of the black hole singularity in 2D dilaton theories. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 353–370. (Summary) **98f:83072** 83C57 (81T20)

— (*with* Kummer, W.; Vasilevich, D. V.) Exact path integral quantization of generic 2D dilaton gravity. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 491–502. (Ion V. Vancea) **98c:81201** 81T40 (81T70)

— (*with* Kummer, W.; Vasilevich, D. V.) Non-perturbative path integral of 2d dilaton gravity and two-loop effects from scalar matter. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 723–734. (Summary) **98m:81170** 81T40

Liebl, Petr (*with* Dvořák, Tomáš; Havel, Ivan) Euler cycles in the complete graph K_{2m+1}. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 89–102. (Cun-Quan Zhang) **98c:05103** 05C45

Liebler, Robert A. (*with* Ivanov, Aleksandr Anatol'evich; Penttila, Tim; Praeger, Cheryl E.) Antipodal distance-transitive covers of complete bipartite graphs. (English summary) *European J. Combin.* **18** (1997), *no.* 1, 11–33. (John van Bon) **98a:05160** 05E30 (05C25, 05C70)

— (*with* Magliveras, Spyros S.; Tsaranov, Sergei V.) Block transitive resolutions of *t*-designs and Room rectangles. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 1, 119–133. (Summary) **98k:05036** 05B30 (05B15, 51E05)

Liebling, Steven (*with* Matzner, Richard A.; Huq, Mijan; Botero, Alonso; Choi, Dae Il; Kask, Ülar; Lara, Juan; Neilsen, David; Premadi, Premana; Shoemaker, Deirdre) Analysis of "gauge modes" in linearized relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, L21–L27. (Jorge A. Pullin) **98a:83015** 83C05

Liebling, Thomas M. (*with* Fukuda, Komei; Margot, François) Analysis of backtrack algorithms for listing all vertices and all faces of a convex polyhedron. (English summary) *Comput. Geom.* **8** (1997), *no.* 1, 1–12. (Summary) **98b:68187** 68U05 (68Q25)

— *see also* **Lectures on mathematical programming (ismp97)**, **98b:90004**

Liebscher, Dierck-E. (*with* Treder, Hans-Jürgen; Bleyer, Ulrich) Jacobi's principle and Hertz' definition of time. *Gravity, particles and space-time*, 207–215, *World Sci. Publishing, River Edge, NJ*, 1996. (Francisco Diego Mazzitelli) **98f:83056** 83C47 (70A05, 70H40)

Liebscher, Dirk (*with* Kratz, Werner) A local characterization of observability. (English summary) *Linear Algebra Appl.* **269** (1998), 115–137. (Zephyrinus C. Okonkwo) **98i:93012** 93B07 (34K35, 93B05, 93C60)

Liebscher, Eckhard Strong convergence of sums of α-mixing random variables with applications to density estimation. (English summary) *Stochastic Process. Appl.* **65** (1996), *no.* 1, 69–80. (Summary) **98k:62061** 62G05 (62M09)

— Central limit theorems for sums of α-mixing random variables. (English summary) *Stochastics Stochastics Rep.* **59** (1996), *no.* 3-4, 241–258. (Jorge Donato Samur) **98b:60042** 60F05

— (*with* Schäbe, Hendrik) A generalization of the Kaplan-Meier estimator to Harris-recurrent Markov chains. (English summary) *Statist. Papers* **38** (1997), *no.* 1, 63–75. (Summary) **98e:62058** 62G05

Liedahl, Steven Enumeration of metacyclic *p*-groups. *J. Algebra* **186** (1996), *no.* 2, 436–446. (H. Bechtell) **98c:20041** 20D60 (20D15)

nguyen dac Liem *see* **Nguyen Dac Liem**

Liem, Chin Bo (*with* Shih, Tsi Min; Yang, Yi Du) One-directional finite element extrapolation on *n*-dimensional rectangular domains. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 122–134. 65N30 (65F10)

— (*with* Dai, Min; Shih, Tsi Min; Liang, Guo-ping) A domain decomposition method with non-matching grids for solving 3-dimensional problems, software development and applications to reservoir simulation. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 87–94. 65M55 (65N55)

— (*with* Zhou, Aihui; Shih, Tsi Min; Lü, Tao) A multi-parameter splitting extrapolation and a parallel algorithm. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 253–260. (Summary) **98d:65148** 65N30 (65N15)

Liem, Nguyen Dac *see* **Nguyen Dac Liem**

Lieman, Daniel (*with* Goldfeld, Dorian) Effective bounds on the size of the Tate-Shafarevich group. *Math. Res. Lett.* **3** (1996), *no.* 3, 309–318. (M. Ram Murty) **98b:11069** 11G40 (11G05)

Lien, Chang-Hua (*with* Sun, Yeong-Jeu; Hsieh, Jer-Guang) Comments on: "*D*-stability of continuous time-delay systems subjected to a class of highly structured perturbations" [IEEE Trans. Automat. Control **40** (1995), no. 10, 1803–1807] by C. H. Lee. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 689. 93D09 (93C30)

Lien, Da-Hsiang Donald (*with* Rearden, David) Cross moments of extreme observations from a multivariate lognormal distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 601–607. 62E15 (90A09)

Lienau, J. J. (*with* Kollmann, W.) Computation of topological and geometric properties of iso-surfaces. I. Theory and numerical method. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 2, 83–92. (Summary) **98h:76106** 76M25 (76D05)

— (*with* Kollmann, W.) Computation of topological and geometric properties of iso-surfaces. II. Applications. (English summary) *Int. J. Comput. Fluid Dyn.* **8** (1997), *no.* 3, 153–170. (Summary) **98h:76107** 76M25 (76D05)

Liepmann, Dorian (*with* Fabris, Drazen) Vortex ring structure at late stages of formation. (English summary) *Phys. Fluids* **9** (1997), *no.* 9, 2801–2803. 76C05

Liese, F. (*with* Fazekas, István) Some properties of the Hellinger transform and its application in classification problems. (English summary) *Comput. Math. Appl.* **31** (1996), *no.* 8, 107–116. (Summary) **98d:60034** 60E10 (44A15, 62C05)

van Lieshout, M. N. M. (*with* Baddeley, Adrian) A nonparametric measure of spatial interaction in point patterns. (English summary) *Statist. Neerlandica* **50** (1996), *no.* 3, 344–361. (Syed N. U. A. Kirmani) **98b:60092** 60G55 (62G05, 62H11)

Liess, Otto Pseudo-differential operators; an introduction. *General theory of partial differential equations and microlocal analysis* (*Trieste*, 1995), 82–122, *Pitman Res. Notes Math. Ser.*, 349, *Longman, Harlow*, 1996. (Josefina Alvarez) **98f:35167** 35S05 (47G30)

— Higher microlocalization and propagation of analytic singularities. Vanishing cycles of *D*-modules and their applications (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 937 (1996), 60–71. (Nobuyuki Tose) **98i:58232** 58G17 (35A27, 35S05, 58G07)

— (*with* Rodino, Luigi) Linear partial differential equations with multiple involutive characteristics. *Microlocal analysis and spectral theory* (*Lucca*, 1996), 1–38, *NATO Adv.*

Sci. Inst. Ser. C Math. Phys. Sci., 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Leonid Friedlander) **98e:35034** 35G05 (35A20, 35H05, 35S30)

— Higher microlocalization and propagation of singularities. *Microlocal analysis and spectral theory* (*Lucca*, 1996), 61–90, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 490, *Kluwer Acad. Publ., Dordrecht*, 1997. (Min You Qi) **98h:35006** 35A27 (35A20, 35Sxx, 46F15, 58G15)

Liestman, Arthur L. (*with* Shermer, Thomas C.; Stolte, Christopher R.) Degree-constrained spanners for multidimensional grids. (English summary) *Discrete Appl. Math.* **68** (1996), *no.* 1-2, 119–144. (Summary) **98c:68172** 68R10 (05C85, 68U10)

Lifanov, I. K. ★ Метод сингулярных интегральных уравнений и численный эксперимент в математической физике, аэродинамике, теории упругости и дифракции волн. (Russian. Russian summary) [The method of singular integral equations and a numerical experiment in mathematical physics, aerodynamics and the theory of elasticity and wave diffraction] *TOO "Yanus"*, *Moscow*, 1995. 520 *pp. ISBN* 5-88929-003-7 (Peter Junghanns) **98h:45005** 45E05 (35Q72, 45L05, 65R20, 73V10, 76M15, 78–08)

— (*with* Gandel', Yu. V.; Polyanskaya, T. S.) On a justification of the method of discrete singularities in two-dimensional diffraction problems. (Russian. Russian summary) *Differ. Uravn.* **31** (1995), *no.* 9, 1536–1541, 1605; *translation in Differential Equations* **31** (1995), *no.* 9, 1491–1497 (1996). (Michael V. Shapiro) **98b:35034** 35J05 (35C99, 65N99)

— ★ Singular integral equations and discrete vortices. (English summary) *VSP, Utrecht*, 1996. x+475 *pp. ISBN* 90-6764-207-X (Rudolf Gorenflo) **98g:65130** 65R20 (45E05, 45L05, 65Mxx, 65Nxx, 73V20, 76M25)

— (*with* Poltavskiĭ, L. N.) On the integral convergence of an approximate solution of the Prandtl equation to the exact solution. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1237–1245, 1295; *translation in Differential Equations* **32** (1996), *no.* 9, 1237–1245 (1997). (Adrian Carabineanu) **98m:45006** 45E05 (45L05, 65R20, 76B05, 76G25)

— (*with* Gaidaenko, V. I.) Mathematical modelling of a stationary flow around a flying vehicle with allowance for jets and air intakes. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 1, 33–51. (Summary) **98b:76040** 76G25 (76B99, 76C05, 76M25)

— (*with* Setukha, A. V.; Tsvetinsky, Yu. G.; Zhelannikov, A. I.) Mathematical modelling and the numerical analysis of a nonstationary flow around the deck of a ship. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 3, 255–269. (Summary) **98d:76025** 76B20 (76B10, 76M25)

Lifits, S. A. (*with* Reutskiy, S. Yu.; Tirozzi, Brunello) A quasi Trefftz-type spectral method for initial value problems with moving boundaries. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 3, 385–404. (D. M. Sloan) **98c:65169** 65M70 (65M30)

— (*with* Reutskiy, S. Yu.; Pontrelli, Giuseppe; Tirozzi, Brunello) Quasi Trefftz spectral method for Stokes problem. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1187–1212. (Summary) **98i:76067** 76M25 (65M70, 76D07)

Liflyand, E. R. (*with* Joó, Istvan) A new approximation for the Fourier transform. II. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 89–93 (1997). (B. P. Parashar) **98m:42006** 42A38 (65R10)

— (*with* Aizenberg, L. A.) Mean-value characterization of holomorphic and pluriharmonic functions. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 2, 131–146. (Carmen Cascante) **98g:32021** 32F05 (32A10)

— (*with* Belinskiĭ, E. S.; Trigub, R. M.) The Banach algebra A^* and its properties. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 2, 103–129. (Colin C. Graham) **98a:42003** 42A16 (42A24, 42A28, 42A32, 43A45, 46J99)

— A decrease in growth of Lebesgue constants. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 20–29. (Eduard Belinskii) **98k:42010** 42B08

Lifsches, Shmuel (*with* Shelah, Saharon) Uniformization, choice functions and well orders in the class of trees. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1206–1227. (Martin Weese) **98g:03098** 03C85 (03B15)

Lifschitz, Alexander E. On the spectrum of hyperbolic flows. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2864–2871. (James P. Denier) **98j:76055** 76E99

— (*with* Goedbloed, J. P.) Stationary symmetric magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **4** (1997), *no.* 10, 3544–3564. (Manuel Núñez Jiménez) **98i:76101** 76W05 (35Q35, 76E25, 76E30, 76L05)

Lifschitz, Vladimir (*with* McCain, Norman; Przymusinski, Teodor C.; Stärk, Robert F.) Loop checking and the well-founded semantics. (English summary) *Logic programming and nonmonotonic reasoning* (*Lexington, KY*, 1995), 127–142, *Lecture Notes in Comput. Sci.*, 928, *Springer, Berlin*, 1995. (Summary) **98d:68048** 68N17 (68Q55)

— Two components of an action language. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 305–320. (Summary) **98i:68251** 68T25 (68T30)

— (*with* Giunchiglia, Enrico; Kartha, G. Neelakantan) Representing action: indeterminacy and ramifications. (English summary) *Artificial Intelligence* **95** (1997), *no.* 2, 409–438. (Olga M. Kosheleva) **98m:68256** 68T30 (68T25)

— On the logic of causal explanation. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 451–465. (Summary) **98j:68150** 68T27 (03B60, 03B70)

— *see also* **Logic programming, nonmonotonic reasoning and reasoning about actions, 98h:68009**

Lifschytz, Gilad (*with* Ortiz, Miguel E.) Black hole thermodynamics from quantum gravity. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 131–148. (Seth A. Major) **98e:83081** 83C57 (83C45)

— Probing bound states of D-branes. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 283–297. (Summary) **98g:81176** 81T30 (83E30)

— (*with* Mathur, Samir D.) Supersymmetry and membrane interactions in M(atrix) theory. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 621–644. (Summary) **98m:81151** 81T30

— A note on the transverse five-brane in M(atrix) theory. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 124–130. (Summary) **98j:81286** 81T30

— (*with* Bergman, Oren; Gaberdiel, Matthias R.) Branes, orientifolds and the creation of elementary strings. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 194–215. (Summary) **98m:81129** 81T30 (83E30)

Lifshits, I. M. ★ Избранные труды. (Russian. Russian summary) [Selected works] Электронная теория металлов. Полимеры и биополимеры. [Electronic theory of metals. Polymers and bipolymers] "*Nauka*", *Moscow*, 1994. 446 *pp. ISBN* 5-02-000331-X 81–06 (01A75, 81V70, 82–06, 82D35, 82D60)

Lifshits, M. A. (*with* Davydov, Yu. A.; Smorodina, N. V.) ★ Локальные свойства распределений стохастических функционалов. (Russian. Russian summary) [Local properties of distributions of stochastic functionals] Теория Вероятностей и Математическая Статистика [Probability Theory and Mathematical Statistics], 46. *Fizmatlit "Nauka"*, *Moscow*, 1995. 256 *pp. ISBN* 5-02-015210-2 (Werner Linde) **98k:60053a** 60G07 (60G15, 60G17, 60G55)

— ★ Gaussian random functions. (English summary) Mathematics and its Applications, 322. *Kluwer Academic Publishers, Dordrecht*, 1995. xii+333 *pp. ISBN* 0-7923-3385-3 (Werner Linde) **98k:60059** 60G15 (60B11, 60G17)

— (*with* Haiman, George) First passage probability for Markov chain. (English summary) *Research developments in probability and statistics*, 27–32, *VSP, Utrecht*, 1996. (Xiang Qun Yang) **98m:60103** 60J05 (60J10, 60J35, 60J75)

— (*with* Bulinskiĭ, A. V.) Estimates for the rate of convergence in the Strassen law for random broken lines. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **228** (1996), *Veroyatn. i Stat.* 1, 57–66, 357. (Summary) **98h:60035** 60F15

— On the lower tail probabilities of some random series. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 424–442. (Patrik Albin) **98b:60100** 60G70 (60G50, 62E20)

— (*with* Weber, Michel Jean Georges) Strassen laws of iterated logarithm for partially observed processes. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 101–115. (Qi Man Shao) **98h:60041** 60F15 (60J65)

— (*with* Davydov, Yu. A.; Smorodina, N. V.) ★ Local properties of distributions of stochastic functionals. (English summary) Translated from the 1995 Russian original by V. E. Nazaĭkinskiĭ and M. A. Shishkova. Translations of Mathematical Monographs, 173. *American Mathematical Society, Providence, RI*, 1998. xiv+184 *pp. ISBN* 0-8218-0584-3 (Werner Linde) **98k:60053b** 60G07 (60G15, 60G17, 60G55)

Lifshits, Yu. B. (*with* Velichko, S. A.; Neĭland, V. M.; Solntsev, I. A.) Correction for the influence of walls in a transonic wind tunnel. (Russian. Russian summary) *Zh. Vychisl. Mat. i Mat. Fiz.* **36** (1996), *no.* 12, 80–90; *translation in Comput. Math. Math. Phys.* **36** (1996), *no.* 12, 1707–1715 (1997). (Summary) **98a:76046** 76H05 (76M25, 76N15)

Lifshitz, Ron The symmetry of quasiperiodic crystals. (English summary) The nature of crystalline states (Kudowa-Zdrój, 1995). *Phys. A* **232** (1996), *no.* 3-4, 633–647. (T. Janssen) **98d:82046** 82D25 (20H15)

— Theory of color symmetry for periodic and quasiperiodic crystals. (English summary) *Rev. Modern Phys.* **69** (1997), *no.* 4, 1181–1218. (Richard Kenyon) **98k:82189** 82D25 (20H15)

Ligarius, Philippe (*with* Couchouron, Jean-François) Asymptotic observers for a class of evolution equations. A nonlinear approach. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 355–360. (Kevin A. Grasse) **98a:93009** 93B07 (93C25)

Ligatsikas, Zenon (*with* Sakkalis, Takis) Computing the topological degree of polynomial maps. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 87–94. (Summary) **98g:55002** 55M25

garcía-Ligero, M. J. *see* **García-Ligero, M. J.**

Ligeza, Antoni (*with* Fuster-Parra, Pilar) Diagnostic knowledge representation and reasoning with use of and/or/not causal graphs. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 53–61. 93A30 (93C83)

— A logical support for design of complete rule-based systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 4, 39–47 (1997). 93C85 (93A30)

Liggett, Thomas M. Branching random walks and contact processes on homogeneous trees. (English summary) *Probab. Theory Related Fields* **106** (1996), *no.* 4, 495–519. (Neal Madras) **98c:60145** 60K35

— Stochastic models of interacting systems. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 1–29. (Yu Zhang) **98b:60171** 60K35

— (*with* Schonmann, Roberto H.; Stacey, A. M.) Domination by product measures. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 71–95. (Vincent De Valk) **98f:60095** 60G60 (60G10, 60K35)

— Ultra logconcave sequences and negative dependence. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 315–325. (Przemysław Matuła) **98j:60018** 60E05 (60C05, 60K99, 62H20)

— (*with* Belitsky, Vladimir; Ferrari, Pablo A.; Konno, Norio) A strong correlation inequality for contact processes and oriented percolation. (English summary) *Stochastic Process. Appl.* **67** (1997), *no.* 2, 213–225. (Olle Häggström) **98e:60156** 60K35 (82C22)

Light, W. A. A brief glance at the research of Ward Cheney. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 343–370, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Ralitza Kovacheva) **98g:01066** 01A70 (41–03)

— Interpolation by translates of a basis function. (English summary) *Multivariate approximation and splines* (*Mannheim*, 1996), 129–140, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Ion Badea) **98k:41033** 41A30 (65D10)

— (*with* Beatson, R. K.) Fast evaluation of radial basis functions: methods for two-dimensional polyharmonic splines. (English summary) *IMA J. Numer. Anal.* **17** (1997), *no.* 3, 343–372. (Summary) **98d:65016** 65D07 (41A15)

— (*with* Wayne, Henry) On power functions and error estimates for radial basis function interpolation. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 245–266. (Hans-Jörg Wenz) **98m:41006** 41A05 (41A25)

— *see also* **Wavelets, multilevel methods and elliptic PDEs, 98g:65011**

Lightbourne, James H., III (*with* Goldstein, Jerome A.; Sandefur, James T., Jr.) The amount of non-uniqueness for factored equations with Euler-Poisson-Darboux factors. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1449–1457. (Summary) **98h:35186** 35Q05 (35L80)

Lignola, M. B. (*with* Morgan, Jacqueline) Stability of regularized bilevel programming problems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 575–596. (Roberto Lucchetti) **98e:90182** 90C31 (90C30)

Ligocka, Ewa On quasiregular polynomial mappings. *Colloq. Math.* **75** (1998), *no.* 1, 79–89. (Jixiu Chen) **98m:30034** 30C65

Ligun, A. A. (*with* Babenko, V. F.) Bernstein-type inequalities for $\mathcal{L}$-splines. (English summary) *Ukrainian Math. J.* **45** (1993), *no.* 1, 8–20. (Summary) **98g:41008** 41A15 (41A17)

— (*with* Shumeiko, A. A.; Radzevich, S. P.; Goodman, E. D.) Asymptotically optimal disposition of tangent points for approximation of smooth convex surfaces by polygonal functions. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 6, 533–546. 65D17 (41A63)

Liguori, A. (*with* Mintchev, M.; Rossi, Marco) Representations of $\mathcal{U}_q(\hat{A}_N)$ in the space of continuous anyons. (English summary) *J. Phys. A* **29** (1996), *no.* 19, L493–L498. (Marcelo R. Ubriaco) **98a:81082** 81R50 (17B37, 81V70)

— (*with* Mintchev, M.; Rossi, Marco) Fock representations of exchange algebras with involution. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 2888–2898. (Roland Speicher) **98e:81085** 81S05 (47N50, 81R50, 81U40)

Liguori, Fortuna (*with* Georgescu, Georges; Martini, Giulia) Convergence in MV-algebras. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 1, 41–52. (From the summary) **98g:03147** 03G25

de'Liguoro, Ugo (*with* Dezani-Ciancaglini, Mariangiola; Piperno, Adolfo) Filter models for conjunctive-disjunctive λ-calculi. (English summary) *Theoret. Comput. Sci.* **170** (1996), *no.* 1-2, 83–128. (Summary) **98c:68126** 68Q55 (03B40, 68Q10)

Lih, Jiann-Shing (*with* Chern, Jyh-Long; Ko, Jing-Yuan; Su, Han-Tzong; Hsu, Rue-Ron) Recognizing hidden frequencies in a chaotic time series. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 134–140. 58F13 (58F40)

Lih, Ko-Wei (*with* Chen, Bor-Liang; Ko, Ming-Tat) Equitable and m-bounded coloring of split graphs. (English summary) *Combinatorics and computer science* (*Brest*, 1995), 1–5, *Lecture Notes in Comput. Sci.*, 1120, *Springer, Berlin*, 1996. (Summary) **98c:05056** 05C15

— (*with* Yan, Jing-Ho; Kuo, David; Chang, Gerard J.) Signed degree sequences of signed graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 111–117. (Tian Xing Yao) **98i:05160** 05C99 (05C78)

Lihová, Judita Valuations and distance functions on directed multilattices. (English summary) *Math. Slovaca* **46** (1996), *no.* 2-3, 143–155. (Helen Skala) **98a:06010** 06A99 (06B99)

— (*with* Jakubík, Ján) Systems of intervals of partially ordered sets. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 355–361. (Andreja Tepavčević) **98m:06002** 06A06

Li-Jost, Xianqing (*with* Jost, Jürgen; Peng, Xiao-Wei) Correction to: "Bifurcation of minimal surfaces in Riemannian manifolds" [Trans. Amer. Math. Soc. **347** (1995), no. 1, 51–62; MR 95e:58048]. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4689–4690. (Editors) **98b:58048** 58E20 (53C22, 58E10)

Likhachev, Oleg Resonant-triad interaction in a wall jet. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 627–636. (Summary) **98k:76052** 76E30 (76D25)

Likhacheva, N. N. The de la Vallée-Poussin theorem for a classs of functional-differential equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 5, 30–37; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 5, 27–34. (Rzachan G. Aliev) **98m:34131** 34K10 (34B27)

Likhoded, N. A. (*with* Tiunchik, A. A.) Parallel programming of linear processor arrays. (Russian. Russian summary) *Programmirovanie* **1996**, *no.* 4, 17–23; *translation in Program. Comput. Software* **22** (1996), *no.* 4, 172–176. (Summary) **98b:68001** 68M10 (68Q10)

— Systolic arrays for the solution of systems of linear algebraic equations by Monte Carlo method. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 17–32. 65C05

Likhtarnikov, A. L. (*with* Barabanov, Nikita E.; Gelig, A. Kh.; Leonov, G. A.; Matveev, A. S.; Smirnova, V. B.; Fradkov, A. L.) The frequency theorem (the Yakubovich-Kalman lemma) in control theory. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 3–40; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1377–1407 (1997). (Summary) **98m:93002** 93–02 (49J15, 93C80, 93Dxx)

— (*with* Yakubovich, Vladimir A.) Dichotomy and stability of undetermined nonlinear systems in Hilbert spaces. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 132–155. (Grigory M. Sklyar) **98m:93087** 93D05 (34D99, 34G20, 34H05)

Lilius, Johan (*with* Aura, Tuomas) Time processes for time Petri nets. (English summary) *Application and theory of Petri nets* 1997 (*Toulouse*), 136–155, *Lecture Notes in Comput. Sci.*, 1248, *Springer, Berlin*, 1997. (*see* **98i:68002**) 68Q90 (68Q55)

Lillegård, Magnar (*with* Engen, Steinar) Stochastic simulations conditioned on sufficient statistics. (English summary) *Biometrika* **84** (1997), *no.* 1, 235–240. (Summary) **98c:62090** 62G10

de Lillo, S. *see* **De Lillo, S.**

Lilly, Douglas K. *see* **Arakawa, Akio**, (**98h:70003**)

Lim, Andrew E. B. (*with* Yan, Wei Yong; Teo, Kok Lay) State-space approach to the combined sensitivity and complementary sensitivity problem. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 363–370. 93B35 (49K40)

— (*with* Moore, John Barratt) A quasi-separation theorem for LQG optimal control with IQ constraints. (English summary) *Systems Control Lett.* **32** (1997), *no.* 1, 21–33. (Negash G. Medhin) **98i:93089** 93E20

— *see also* **Zeren, Murat**

Lim, C. S. *see* **Lim, Chong Sa**

Lim, Chae Hoon (*with* Lee, Pil Joong) Directed signatures and application to threshold cryptosystems. (English summary) *Security protocols* (*Cambridge*, 1996), 131–138, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Summary) **98f:94019** 94A60

Lim, Chee Seng Thermal, viscous and solutal diffusions into a stratified gravitating binary fluid mixture. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 5, 788–826. (Jacob Rubinstein) **98k:76125** 76Rxx (35Q35, 76V05)

Lim, Chjan C. New proofs of the uniqueness of noneven digraphs with the most number $M(n)$ of arcs and $M(n) - 1$ arcs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 129–142. (Summary) **98j:05073** 05C20

— (*with* Yan, Joseph G.) On the spatial structure of stationary patterns in a class of reaction-diffusion systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 131–150. (Summary) **98c:35089** 35K57 (34C99)

— (*with* McComb, I-Heng) Time-reversible and equivariant pitchfork bifurcation. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 117–121. (*see* **98i:58004**) 58F14 (34C23)

Lim, Chong Sa Quaternionic mass matrices and CP-symmetry. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 37, 2829–2835. (Summary) **98i:81274** 81V25

Lim, Daekeun Maximal induced cycles in Steinhaus graphs. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1123–1135. (Robert C. Brigham) **98c:05091** 05C35 (05C38)

— (*with* Kim, Hye Kyung) Hamiltonians in Steinhaus graphs. (English summary) *Commun. Korean Math. Soc.* **11** (1996), *no.* 4, 1137–1145. (A. G. Thomason) **98b:05087** 05C80 (05C45)

Lim, Hye Young (*with* Park, Yong Moon; Yoo, Hyun Jae) Dirichlet forms, Dirichlet operators, and log-Sobolev inequalities for Gibbs measures of classical unbounded spin system. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 731–770. (Tu Sheng Zhang) **98i:60074** 60J60 (31C25, 47D07, 47N55, 82B05)

Lim, J.-T. (*with* Lee, Seon-Ho) Fast gain scheduling on tracking problems using derivative information. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2265–2268. 93D15

Lim, Jae-Hak (*with* Lu, Kun-Liang; Park, Dong Ho) Bayesian imperfect repair model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 965–984. (Summary) **98m:62286** 62N05

— (*with* Park, Dong Ho) A family of test statistics for DMRL (IMRL) alternatives. (English summary) *J. Nonparametr. Statist.* **8** (1998), *no.* 4, 293–305. (Summary) **98m:62145** 62G10

Lim, Jae Kun (*with* Kim, Hong Oh) New characterizations of Riesz bases. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 2, 222–229. (Anatolij M. Plichko) **98d:46020** 46C05 (46B15)

Lim, Kyungshik (*with* Kim, Seung-Hoon; Kim, Cheeha) Efficient stream distribution algorithm for heterogeneous multimedia multicast with link capacity constraint. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 309–315. 90C27 (68M10)

Lim, Ming Huat Invertible preservers of certain decomposable tensors. (English summary) *Linear Algebra Appl.* **266** (1997), 153–159. (B. N. Moyls) **98k:15049** 15A69 (15A04)

— Linear preservers of decomposable symmetric tensors. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 291–302. (Summary) **98h:15054** 15A69

— (*with* Chooi, W. L.) Linear preservers on triangular matrices. (English summary) *Linear Algebra Appl.* **269** (1998), 241–255. (Summary) **98m:15007** 15A04

Lim, S. C. Comment on: "Stochastic equations for spin-2 fields in the quasi-Maxwellian formulation" [Phys. Lett. A **211** (1996), no. 1, 1–4; MR 97c:81023] by L. R. de Freitas, R. C. Arcuri, J. M. Salim, M. Novello, L. A. R. Oliveira and R. Klippert. With a reply by de Freitas, Arcuri, Salim, Novello, Oliveira and Klippert. *Phys. Lett. A* **225** (1997), *no.* 4-6, 359–365. (Summary) **98a:81019** 81P20 (81S20)

Lim, Seung-Jin (*with* Ng, Yiu-Kai) Design and analysis of parallel set-term unification. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 321–330, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68N17 (68Q22, 68T15)

Lim, T. T. On the breakdown of vortex rings from inclined nozzles. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1666-1671. 76–05 (76C05)

Lim, Tong Kun (*with* Kwak, Keumcheol; Yun, Mijeong) An experimental study of storing information in a controlled chaotic system with time-delayed feedback. (English summary) *Phys. Lett. A* **240** (1998), *no.* 6, 287–294. 58F13 (58F40)

Lim, Voon Ka On Frobenius groups of odd order p^3q. (English summary) *Bull. Malaysian Math. Soc.* (2) **19** (1996), *no.* 1, 13–16. (Summary) **98i:20020** 20D20 (20D45)

Lim, Wei Shi A rendezvous-evasion game on discrete locations with joint randomization. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 1004–1017. (M. S. Shtil'man) **98k:90140** 90D05 (90D15)

Lim, Wooi K. (*with* Pal, Nabendu) A note on second-order admissibility of the Graybill-Deal estimator of a common mean of several normal populations. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 71–78. (N. Giri) **98m:62062** 62F10 (62C15)

Lim, Yong-Ching (*with* Yang, Rui; Parker, Sydney Richard) Design of sharp linear-phase FIR bandstop filters using the frequency-response-masking technique. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 1, 1–27. 94A12

Lim, Youngdo On *UDL* decompositions in semigroups. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 633–651. (Joachim Hilgert) **98k:22013** 22A15 (17C50, 22E15)

pedroso de Lima, A. C. *see* **Pedroso de Lima, A. C.**

de Lima, A. F. (*with* Marques, G. C.; Baseia, B.; Bagnato, V. S.) Even and odd coherent states are "shadowed-like" states. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 411–412. (Le Man Kuang) **98h:81044** 81R30

de souza Lima, C. A. *see* **de Souza Lima, C. A., Jr.**

Lima, C. L. (*with* Galetti, D.; Pimentel, B. M.; Lunardi, J. T.) q-deformed fermionic Lipkin model at finite temperature. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 501–508. (Summary) **98j:82007** 82B10 (81R50, 81V70)

Lima, Claudia R. O. P. (*with* Bolfarine, Heleno; Sandoval, Mônica C.) Linear calibration in functional regression models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2307–2328. (Summary) **98f:62190** 62J05

Lima, E. L. (*with* Roqueiro, N.) Wavelet networks for modelling nonlinear processes. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 265–299, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (*see* **98b:00035**) 93B30 (93E10)

Lima, J. A. S. (*with* Moreira, J. A. M.; Santos, Janilo) Particle-like description for FRW cosmologies. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 425–434. 83C20 (83F05)

Lima, Pedro (*with* Diogo, Teresa) An extrapolation method for a Volterra integral equation with weakly singular kernel. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 131–148. (V. S. Sizikov) **98d:45011** 45L05 (45D05, 45E99, 65R20)

de Lima, Pedro J. F. (*with* Crato, Nuno) On the power of underdifferencing and overdifferencing tests against nearly nonstationary alternatives. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 4, 1431–1446. 62M10

— (*with* Breidt, F. Jay; Crato, Nuno) The detection and estimation of long memory in stochastic volatility. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 325–348. 62P20 (62M10)

Lima, Ricardo Odds and ends in space-time dynamical systems. (English summary) *Dynamics of nonlinear and disordered systems*, 117–139, *World Sci. Ser. Nonlinear Sci. Ser. B Spec. Theme Issues Proc.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:58145** 58F14 (58F40, 76F20)

— (*with* He, Guowei; Lambert, André) Wavelike patterns in one-dimensional coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 404–411. (Summary) **98d:58116** 58F13

Lima-Filho, P. On the equivariant homotopy of free abelian groups on G-spaces and G-spectra. *Math. Z.* **224** (1997), *no.* 4, 567–601. (L. Gaunce Lewis, Jr.) **98i:55014** 55P91 (55M35, 55N91, 55P42, 55Q91)

Liman, F. N. On infinite groups whose noncylic norm has a finite index. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 678–684; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 755–762 (1998). (L. A. Kurdachenko) **98f:20024** 20F99

Liman, Surya D. (*with* Panwalkar, Shrikant S.; Thongmee, Sansern) A single machine scheduling problem with common due window and controllable processing times. (English summary) *Ann. Oper. Res.* **70** (1997), 145–154. (Summary) **98b:90073** 90B35

makar-Limanov, Leonid *see* **Makar-Limanov, Leonid**

makar-Limanov, Sergei *see* **Makar-Limanov, Sergei**

Li Marzi, Enzo Maria Some questions on derivations of a ring with a universal finite module of differentials. (English summary) *Afrika Mat.* (3) **5** (1995), 11–21. (Hiroshi Niitsuma) **98b:13004** 13B10 (13B35, 13F25, 13N05)

Lima-Santos, A. On fusion algebra of chiral $SU(N)_K$ models. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5123–5131. (Isabel P. Ennes) **98k:81250** 81T40 (81R10)

— (*with* Utiel, Wagner) On the KMS condition for the critical Ising model. (English summary) *Phys. Lett. A* **226** (1997), *no.* 1-2, 65–68. (Władysław Adam Majewski) **98e:82008** 82B10 (81T05)

Limaye, Nirmala B. (*with* Francel, Margaret; Sarvate, Dinesh G.) $(D;4)$-cages: some new results. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 73–85. (Summary) **98j:05113** 05C75 (05C35)

— (*with* Sarvate, Dinesh G.) On r-extendability of the hypercube Q_n. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 249–255. (Charles H. C. Little) **98m:05152** 05C70

Limebeer, D. J. N. (*with* Coutlis, A.) Chebycheff approximation in system identification and model reduction. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1677–1682. 93B36 (93B30)

— (*with* Al-Husari, M. M. M.; Jaimoukha, Imad M.) A descriptor solution to a class of discrete distance problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1558–1564. (R. N. Mukherjee) **98m:93032** 93B36 (93B11)

Limić, Nedžad (*with* Pasarić, Zoran) The continuity equation with random velocity field and the expectation of its solutions. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 209–224. (Summary) **98b:60115** 60H25 (60G60)

Lim-Lombridas, Edwin (*with* Haller, Kurt) Erratum: "Maxwell-Chern-Simons theory in covariant and Coulomb gauges" [Ann. Physics **246** (1996), no. 1, 1–48; MR 97d:81121]. *Ann. Physics* **257** (1997), *no.* 2, 205–206. 81T10 (81V10)

— (*with* Haller, Kurt) Gauss's law, gauge-invariant states, and spin & statistics in abelian Chern-Simons theories. (English summary) Proceedings of the Workshop on Low-dimensional Field Theory (Telluride, CO, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 6, 1053–1062. (Summary) **98j:81210** 81T13 (81V10)

Limnios, Nikolaos (*with* Ouhbi, Brahim) Non-parametric estimation for semi-Markov kernels with application to reliability analysis. (English summary) *Appl. Stochastic Models Data Anal.* **12** (1996), *no.* 4, 209–220. (B. L. Granovskiy) **98f:62238** 62M05 (62G05, 62G20, 62N05)

— (*with* Ouhbi, Brahim) Comportement asymptotique de la matrice de renouvellement markovien. (English and French summaries) [Asymptotic behavior of the sample Markov renewal matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 921–924. (Summary) **98m:62228** 62M09 (60K15)

Limon Duparcmeur, Y. (*with* Troadec, J. P.; Gervois, A.) Random close packings of regular polygons. (English summary) *J. Physique I* **7** (1997), *no.* 10, 1181–1189. (Summary) **98j:82028** 82B41 (52C15, 82-04, 82D25)

Limongelli, C. (*with* Temperini, M.) The uniform representation of mathematical objects by truncated power series. *Advances in the design of symbolic computation systems*, 32–52, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (*see* **98e:68125**) 68Q40 (68Q65)

— (*with* Colagrossi, A.; Miola, A.) p-adic arithmetic: a tool for error-free computations. *Advances in the design of symbolic computation systems*, 53–67, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (*see* **98e:68125**) 68Q40

— Exact solution of computational problems via parallel truncated p-adic arithmetic. *Advances in the design of symbolic computation systems*, 68–83, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1997. (*see* **98e:68125**) 68Q40

Lin, B. (*with* Nicholson, D. W.) Incremental finite element equations for thermomechanical response of elastomers: effect of boundary conditions including contact. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 81–104. 73V05 (73B30, 73G99)

Lin, Bertrand M.-T. (*with* Cheng, T. C. Edwin; Kovalëv, M. Ya.) Single machine scheduling to minimize batch delivery and job earliness penalties. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 2, 547–559. (Yahya Fathi) **98e:90072** 90B35 (90C39)

— (*with* Cheng, T. C. Edwin; Chen, Zhi-Long; Li, Chung-Lun) Scheduling to minimize the total compression and late costs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 67–82. (Summary) **98m:90071** 90B35 (90C39)

Lin, Bing-Ying L. (*with* Ting, Chao-Ping; Chai, Feng-Shun) A note on universally optimal row-column designs with empty nodes. (English summary) *Statist. Probab. Lett.* **33** (1997), *no.* 2, 145–149. (Summary) **98d:62132** 62K05

Lin, Bo-Win (*with* Guo, Tong-Yi; Hwan, Chyi) A new method for factoring matrix polynomials relative to the unit circle. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 1, 87–92. 65F30 (15A23, 93B40)

Lin, Bor-Luh (*with* Chen, Dongjian) Ball topology on Banach spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 4, 821–833. (G. J. O. Jameson) **98c:46018** 46B20

— (*with* Chen, Shutao) Dual action of asymptotically isometric copies of l_p ($1 \le p < \infty$) and c_0. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 449–458. (Y. Benyamini) **98m:46022** 46B25

— Ball separation properties in Banach spaces and extremal properties of unit ball in dual spaces. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 405–416. (Marián Fabian) **98m:46015** 46B20

Lin, C.-S. *see* **Lin, Chia-Shiang**

Lin, C. Y. *see* **Lin, Chih-Yu**

Lin, Chang-Shou (*with* Chen, Chiun-Chuan) Estimates of the conformal scalar curvature equation via the method of moving planes. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 10, 971–1017. (David L. Finn) **98k:35051** 35J60 (53C21)

— (*with* Cheng, Kuo-Shung) On the asymptotic behavior of solutions of the conformal Gaussian curvature equations in $\mathbf{R}^2$. *Math. Ann.* **308** (1997), *no.* 1, 119–139. (Wen Xiong Chen) **98d:35052** 35J60 (35B40, 53A05)

Lin, Chen (*with* Yan, Zi Kun) Quasisimilarity of operators and (Q) operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 259–264. (Shan Li Sun) **98h:47034** 47B20 (47A99, 47B40)

Lin, Chen-Shang (*with* Lin, Kuan-Jen; Kuo, Chi-Wen) Synthesis of hazard-free asynchronous circuits based on characteristic graph. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1246–1263. 94C15

Lin, Chengdian (*with* Itkis, Gene; Simon, Janos) Deterministic, constant space, self-stabilizing leader election on uniform rings. (English summary) *Distributed algorithms (Le Mont-Saint-Michel, 1995)*, 288–302, *Lecture Notes in Comput. Sci.*, 972, *Springer, Berlin*, 1995. (*see* **98a:68003**) 68M10 (68M15, 68T05)

Lin, Ch'i-Hsin (*with* Lin, Shin-Yeu) A computationally efficient method for nonlinear multicommodity network flow problems. (English summary) *Networks* **29** (1997), *no.* 4, 225–244. (Summary) **98a:90124** 90C35 (90B10)

Lin, Chi-Kun (*with* Jiang, Jiann-Sheng) Nonlocal effects induced by homogenization of second order differential equation. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994)*, 131–148, *World Sci. Publishing, River Edge, NJ*, 1996. (Taras A. Mel'nyk) **98b:35020** 35B27 (73B27)

— On the incompressible limit of the slightly compressible viscous fluid flows. (English summary) *Nonlinear waves (Sapporo, 1995)*, 277–282, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 76N10 (35B25, 35Q35)

Lin, Chia-Shiang (*with* Cho, Yeol Je) Additive f-bimorphisms and cosine type equations. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 63–68. (Summary) **98m:39080** 39B52

— Operator versions of inequalities and equalities on a Hilbert space. (English summary) *Linear Algebra Appl.* **268** (1998), 365–374. (T. Ando) **98f:47024** 47A63 (46C15)

Lin, Ch'iang (*with* Jou, Min-Jen; Chang, Gerard J.; Ma, Tze-Heng) A finiteness theorem for maximal independent sets. (English summary) *Graphs Combin.* **12** (1996), *no.* 4, 321–326. (Summary) **98g:05078** 05C35

Lin, Chien-Tai (*with* Huffer, Fred W.) Computing the exact distribution of the extremes of sums of consecutive spacings. (English summary) *Comput. Statist. Data Anal.* **26** (1997), *no.* 2, 117–132. 62E15 (62G30)

— (*with* Huffer, Fred W.) Approximating the distribution of the scan statistic using moments of the number of clumps. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1466–1475. 62E20 (60F05, 62G99)

Lin, Chih-Yu (*with* Goedde, C. G.; Lichter, Seth) Scaling of the recurrence time in the cubic Fermi-Pasta-Ulam lattice. (English summary) *Phys. Lett. A* **229** (1997), *no.* 6, 367–374. (Summary) **98d:82035** 82C20

Lin, Chin-Cheng (*with* Yang, Wei-Chi[1]) Comparisons of absolutely convergent trigonometric series. *Approx. Theory Appl. (N.S.)* **12** (1996), *no.* 1, 116–117. 42A16 (42A28)

— (*with* Liu, Jen-Chwan; Sheu, Ruey-Lin) Optimality and duality for complex nondifferentiable fractional programming. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 804–824. (Joachim Käschel) **98d:90119** 90C32 (49N15)

Lin, Chin E. (*with* Hsiao, Feng-Hsiag; Yang, Ciann-Dong; Chang, Chia-Yuang) H^∞-optimal observer-based controller design for nonlinear multivariable systems. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 3, 573–596. (A. T. Barabanov) **98b:93023** 93B36 (93B07)

Lin, Chin-foo (*with* Osthoff, Harro; Anderson, John B.; Johannesson, Rolf) Systematic feed-forward convolutional encoders are better than other encoders with an M-algorithm decoder. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 831–838. 94B10

Lin, Chin-Yuan (*with* Goldstein, Jerome A.; Wang, Kunyang[2]) Degenerate nonlinear parabolic problems: the influence of probability theory. *Stochastic processes and functional analysis (Riverside, CA, 1994)*, 101–111, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (*see* **97i:00019**) 35K65 (35K55, 60J60)

Lin, Ching-An Necessary and sufficient conditions for existence of decoupling controllers. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1157–1161. (Summary) **98e:93052** 93B51 (93C05)

— (*with* Wu, Chang-Ming) Block-decoupling linear multivariable systems: necessary and sufficient conditions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 237–243. 93C35 (93B35)

Lin, Ching-Ching (*with* Huang, Deng-Yuan) Multiple decision procedures for testing homogeneity of normal means with unequal unknown variances. (English summary) *Advances in statistical decision theory and applications*, 253–262, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98f:62043** 62F03

Lin, Chong (*with* Wang, Jianliang; Wang, Dianhui; Soh, Cheong-Boon) Robustness of uncertain descriptor systems. (English summary) *Systems Control Lett.* **31** (1997), *no.* 3, 129–138. (Summary) **98g:93036** 93D09 (93C57)

Lin, Chuan-Kai (*with* Wang, Sheng-De) A self-organizing fuzzy control approach for bank-to-turn missiles. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 281–306. 93A99 (93C85)

Lin, Chun Yan (*with* Wang, Qing Wen) An inverse problem for a system of right linear equations over a skew field. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 91–96. (Summary) **98a:15032** 15A24 (15A33)

— (*with* Wang, Qing Wen) Generalized Schmidt decompositions of quaternion matrices and generalized orthonormalization of systems of vectors in a generalized unitary space.

(Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 210–212. (Summary) **98i:15018** 15A33

Lin, Chyi-Lung Some exact results in the functional map $f(x;\mu,z) = 1 - \mu|x|^z$. (English summary) *Chinese J. Phys.* **33** (1995), *no.* 2, 117–132. (Summary) **98e:58073** 58F03

Lin, D. Y. (*with* Spiekerman, C. F.) Checking the marginal Cox model for correlated failure time data. (English summary) *Biometrika* **83** (1996), *no.* 1, 143–156. (Summary) **98k:62161** 62M10 (62N05)

— (*with* Robins, James M.; Wei, Lee Jen) Comparing two failure time distributions in the presence of dependent censoring. (English summary) *Biometrika* **83** (1996), *no.* 2, 381–393. (Michèle Basseville) **98d:62183** 62N05

Lin, Da Zheng (*with* Zhang, Ming Zhi) On the divisibility relation $n \mid (\varphi(n) + \sigma(n))$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 2, 121–123. (Jau-Shyong Shiue) **98d:11010** 11A25

Lin, Daming A Bayesian discrete reliability growth model. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 110–115. 62N05 (62F15)

Lin, De-Hone The path integration of a relativistic particle on a D-dimensional sphere. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3201–3217. (Christian Grosche) **98f:81162** 81S40 (81Q05)

— Relativistic fixed-energy amplitudes of the step and square well potential problems. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4365–4372. 81S40

Lin, Dennis K. J. (*with* Yamada, Shu) Supersaturated design including an orthogonal base. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 203–213. 62K15

— (*with* Deng, Lih-Yuan; Wang, Jiannong; Yuan, Yilian) Statistical justification of combination generators. *Statist. Sinica* **7** (1997), *no.* 4, 993–1003. (Summary) **98m:65013** 65C10

Lin, En-Bing (*with* Zhou, Xiao Lin[1]) Wavelet geometric analysis of the Dirichlet problem. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 219–236, *de Gruyter, Berlin*, 1997. (Summary) **98e:42037** 42C15 (35J25, 65N50)

— *see also* **Wavelets, multiwavelets, and their applications, 98k:42001**

Lin, Fa Xing Existence of periodic solutions and almost periodic solutions of the Liénard equation. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 3, 314–318. (Summary) **98j:34074** 34C25 (34C27)

Lin, Fang Hua Gradient estimates and blow-up analysis for stationary harmonic maps. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **323** (1996), *no.* 9, 1005–1008. (Martin Fuchs) **98a:58052** 58E20 (49Q20)

— (*with* Hardt, Robert M.; Wang, Changyou) Singularities of p-energy minimizing maps. *Comm. Pure Appl. Math.* **50** (1997), *no.* 5, 399–447. (Martin Fuchs) **98b:58047** 58E20

— A new proof of the Caffarelli-Kohn-Nirenberg theorem. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 3, 241–257. (Jürgen Socolowsky) **98k:35151** 35Q30 (35B65, 76D05)

— Complex Ginzburg-Landau equations and dynamics of vortices, filaments, and codimension-2 submanifolds. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 4, 385–441. (Peter E. Zhidkov) **98k:35177** 35Q55 (58E12)

Lin, Fangzhen An ordering on subgoals for planning. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 321–342. (Summary) **98i:68249** 68T20

— (*with* Reiter, Ray) How to progress a database. (English summary) *Artificial Intelligence* **92** (1997), *no.* 1-2, 131–167. (Summary) **98c:68194** 68T27 (68T20, 68T30)

— (*with* Reiter, Ray) Rules as actions: a situation calculus semantics for logic programs. (English summary) *J. Logic Programming* **31** (1997), *no.* 1-3, 299–330. (Summary) **98h:68040** 68N17 (03B60, 03B70, 68Q55)

Lin, Feng[1] (*with* Heymann, Michael) Discrete-event control of nondeterministic systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 3–17. (Bao Sheng Hu) **98k:93072** 93C83 (93C55, 93E03)

Lin, Fu-Rong (*with* Ng, Michael K.; Chan, Raymond H.) Preconditioners for Wiener-Hopf equations with high-order quadrature rules. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1418–1431. (Summary) **98e:45013** 45L05 (45E10, 65R20)

Lin, G. H. *see* **Lin, Guo Hua**

Lin, Ge-Chen (*with* Chang, Fu-Chuen) D-optimal designs for weighted polynomial regression. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 317–331. (Weng Kee Wong) **98m:62207** 62K05

Lin, Gui Hua Property (u) and its lifting on $l_p(X_n)$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 565–569. (Ting Fu Wang) **98b:46025** 46B99

Lin, Guo Hua (*with* Pearn, W. L.; Chen, K. S.) Distributional and inferential properties of the process accuracy and process precision indices. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 985–1000. 62N10

— (*with* Cheng, Sui Sun) Green's function and stability of a linear partial difference scheme. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 27–41. (Summary) **98m:65137** 65M06 (65M12)

Lin, Guohui (*with* He, Yong[1]; Yao, Yujun; Lu, Haiyan) Exact bounds of the modified LPT algorithms applying to parallel machines scheduling with nonsimultaneous machine available times. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 109–116. (Frank Werner) **98c:90051** 90B35 (68M20)

Lin, Guoning (*with* Zhang, Fu Ji) When a digraph and its line digraph are connected and cospectral. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 289–295. (L. W. Beineke) **98m:05080** 05C20 (05C30, 05C50)

Lin, Gwo Dong On weak convergence within a family of life distributions. *J. Appl. Probab.* **34** (1997), *no.* 3, 823–826. (From the introduction) **98i:60022** 60F05 (62N05)

Lin, Hong Kang (*with* Xie, Xiang Dong) Qualitative analysis of a class of Leslie models. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 308–311. (Summary) **98k:34050** 34C05 (92D25)

Lin, Hua Xin (*with* Phillips, N. Christopher) Approximate unitary equivalence of homomorphisms from $\mathscr{O}_\infty$. *J. Reine Angew. Math.* **464** (1995), 173–186. (Shuang Zhang) **98c:46120** 46L05

— (*with* Elliott, George A.; Gong, Guihua; Pasnicu, Cornel) Abelian C^*-subalgebras of C^*-algebras of real rank zero and inductive limit C^*-algebras. (English summary) *Duke Math. J.* **85** (1996), *no.* 3, 511–554. (George Popescu) **98a:46076** 46L35 (46L45, 46L80)

— On the classification of C^*-algebras of real rank zero with zero K_1. (English summary) *J. Operator Theory* **35** (1996), *no.* 1, 147–178. (Summary) **98g:46086** 46L05 (46L80)

— Approximation by normal elements with finite spectra in C^*-algebras of real rank zero. (English summary) *Pacific J. Math.* **173** (1996), *no.* 2, 443–489. (Summary) **98h:46059** 46L05 (46L80)

— Almost commuting selfadjoint matrices and applications. (English summary) *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 193–233, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Horst Behncke) **98c:46121** 46L05 (15A57, 47A58, 47B15, 47C15)

— Extensions of $C(X)$ by simple C^*-algebras of real rank zero. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1263–1289. (Gustavo Corach) **98m:46088** 46L80 (19K35, 46L05)

— C^*-algebras with weak (FN). (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 65–74. (Summary) **98g:46084** 46L05

— Almost multiplicative morphisms and some applications. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 121–154. (William Paschke) **98b:46091** 46L80 (46L05, 46L35)

— Type I C^*-algebras of real rank zero. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 9, 2671–2676. (Summary) **98g:46087** 46L05 (46L80)

— The generalized Berg theorem and BDF-theorem. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 2, 529–545. (Summary) **98g:46085** 46L05 (46L80)

Lin, Hui Min Symbolic transition graph with assignment. (English summary) *CONCUR '96: concurrency theory (Pisa)*, 50–65, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **98i:68088** 68Q10 (68Q55)

Lin, In-Jen (*with* Sen, Malay K.; West, Douglas B.) Classes of interval digraphs and 0, 1-matrices. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 201–209. (Summary) **98j:05074** 05C20 (05C50)

Lin, J. H. *see* **Lin, Jiun-Hwa**

Lin, James P. A_n-liftings into Postnikov towers. *Kyushu J. Math.* **51** (1997), *no.* 1, 35–55. (N. J. Kuhn) **98e:55008** 55P45 (55S45)

Lin, Jer-Shyong (*with* Lee, Pjek Hwee; Wang, Ts'ai Lien; Wang, Ren-June) Commuting traces of multiadditive mappings. (English summary) *J. Algebra* **193** (1997), *no.* 2, 709–723. (Matej Brešar) **98e:16020** 16N60

Lin, Ji[2] (*with* Zhang, Jie Fang) Construction of the second constant of motion for three-dimensional classical potential systems. (English summary) *Comm. Theoret. Phys.* **23** (1995), *no.* 2, 185–190. (Simos Ichtiaroglou) **98b:70004** 70D10 (70H05)

— $(3+1)$-dimensional integrable models possessing infinite-dimensional Virasoro-type symmetry algebra. (English summary) *Comm. Theoret. Phys.* **25** (1996), *no.* 4, 447–450. (Summary) **98b:58080** 58F07 (17B67, 17B68)

Lin, Jia Fa The distribution of the integers having a fixed number of prime factors. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **31** (1996), *no.* 3, 255–264. (Summary) **98j:11072** 11N37

Lin, Jia Hao (*with* Sun, D. K.; Sun, Y.; Williams, F. W.) Structural responses to non-uniformly modulated evolutionary random seismic excitations. (English summary) *Comm. Numer. Methods Engrg.* **13** (1997), *no.* 8, 605–616. 73K35 (73K12)

Lin, Jian Ya (*with* Liao, Jun; Zhu, Shi Qiang; Ren, De Xiang) Application of genetic algorithms to recognition of fuzzy T-S models. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 2, 140–145, 150. 93C83 (04A72, 93C41)

Lin, Jie Xian The perturbation-iterative method for finding the limit cycles of the van der Pol equation. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 81–84. 34C05

Lin, Jin-Lung (*with* Granger, Clive W. J.) Conjugate processes. (English summary) *Modelling and prediction (Hsinchu, 1994)*, 378–388, *Springer, New York*, 1996. (*see* **98a:62002**) 62M10

Lin, Jiun-Hwa (*with* Chew, Weng Cho) Solution of the three-dimensional electromagnetic inverse problem by the local shape function and the conjugate gradient fast Fourier transform methods. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 11, 3037–3045. 78A45

— (*with* Chew, Weng Cho; Song, J. M.; Lu, C. C.; Wagner, Robert L.; Gan, H.; Nasir, Muhammad Abdul) Fast algorithms for solving electromagnetic scattering problems. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 1–22, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 78–08 (78A45)

Lin, Jsen-Shung (*with* Shih, Neng-Hui) A conditional simulation method for estimating the critical component of networks. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 2, 97–106. 62N05 (65U05)

Lin, Ju Gan (*with* You, Jin Hong) The GME of a general growth curve model and its robustness. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 3, 265–270. 62H12

— (*with* You, Jin Hong) The multivariate generalized compression least squares estimates for a growth curve model. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 15–23. 62H12 (62J05)

— (*with* You, Jin Hong) Parameter estimation for a growth curve model with transformed data. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 3, 9–17. 62H12

Lin, Jung-Shan (*with* Kanellakopoulos, Ioannis) Nonlinearities enhance parameter convergence in output-feedback systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 204–222. 93C40 (93C10)

Lin, Jyun-Tswun (*with* Yung, Chee-Fai; Yeh, Fang-Bo; Chen, Kuan-Lung) A necessary and sufficient condition for the solvability of perturbed Nevanlinna-Pick interpolation problems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **20** (1997), *no.* 5, 579–584. (Summary) **98f:30037** 30E05

Lin, K. L. (*with* Cubiotti, Paolo; Yao, Jen Chih) Generalized quasi-variational inequalities for fuzzy mappings. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 7, 121–134. (Muhammad Aslam Noor) **98c:49023** 49J40 (47H19, 47S40, 90C33)

Lin, Kai (*with* Kuang, Hairong; Sun, Yongqiang) A partial evaluator for a parallel lambda language. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 5, 441–457. 68N20 (03B40, 03B70)

Lin, Kai-Ching Moser's inequality and n-Laplacian. (English summary) *Geometry from the Pacific Rim (Singapore, 1994)*, 237–245, *de Gruyter, Berlin*, 1997. (Summary) **98g:35051** 35J15 (35B45)

Lin, Kuan-Jen (*with* Kuo, Chi-Wen; Lin, Chen-Shang) Synthesis of hazard-free asynchronous circuits based on characteristic graph. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 11, 1246–1263. 94C15

Lin, Kui (*with* Wang, Hai Ming) $P//C_{\max}$ problems with different initial starting times. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 2, 18–22. 90B35

Lin, Kun-Yi (*with* Lai, Yu-Ling; Lin, Wen-Wei) An inexact inverse iteration for large sparse eigenvalue problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 425–437. (Summary) **98f:65042** 65F15 (65F10, 65F50)

Lin, Kwei-Jay (*with* Lin, Shun-Shii) A pinwheel scheduler for three distinct numbers with a tight schedulability bound. (English summary) *Algorithmica* **19** (1997), *no.* 4, 411–426. (Summary) **98i:68036** 68M20 (90B35)

Lin, Lei The associative forms of Lie algebras of characteristic two of Cartan type. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 673–678. (Xi-An Yang) **98a:17029** 17B50

— (*with* Zhang, Yong Zheng) Infinite-dimensional nonalternating Hamiltonian algebras of characteristic 2. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 118–121. (Guang Yu Shen) **98b:17023** 17B50

— Derivation algebras of Bernstein-Jordan algebras of dimension 5. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 293–298. 17A36 (17D92)

— The derivation algebra of the Lie algebra G_2 over a field of characteristic 2. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 8–11. 17B40

Lin, Li Jian (*with* Srivastava, Hari M.) Some starlikeness conditions for analytic functions. (English summary) *Nihonkai Math. J.* **7** (1996), *no.* 2, 101–112. (Roger W. Barnard) **98c:30015** 30C45

— (*with* Srivastava, Hari M.) On a theorem of Kobori. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 287–296. (Frode Rønning) **98h:30019** 30C45

Lin, Liang (*with* Ren, Ming Hui) Hopf bifurcations and power series solutions. I. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **16** (1996), *no.* 2, 69–72. (Summary) **98a:34038** 34C23 (34A25)

— (*with* Liu, Yi Rong) Number of zero point [points] for a polynomial in [the] real field. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 886–890. 12D10

— (*with* Ren, Ming Hui) Hopf bifurcations and power series solutions. II. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 65–68. (Summary) **98h:34076** 34C23 (34A25)

— (*with* Liu, Yi Rong) A new criterion for the number of real zeros of a polynomial. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 6, 583–587. 12D10

Lin, Liang Yu Leray formulas with locally holomorphic kernels on bounded domains and their applications. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **35** (1996), *no.* 5, 660–664. (Summary) **98c:32003** 32A25

— Bochner-Martinelli formula with discrete holomorphic kernel. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 447–450. (Harold P. Boas) **98i:32005** 32A25

— Integral representations with finite discrete kernels on unions of circular domains and their applications. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 2, 171–175. (Lan Ma) **98e:32004** 32A25

— The $\overline{\partial}$-equation on building domains of balls. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 4, 503–506. (Der-Chen E. Chang) **98e:32025** 32F20 (32A25)

Lin, Longwei Survey of vacuum theory and conjecture. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 293–305, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (R. M. Gundersen) **98h:35197** 35Q35 (35L60, 76N15)

— (*with* Liu, Hongxia; Yang, Tong) Existence of globally bounded continuous solutions for nonisentropic gas dynamics equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 492–506. (Yu. G. Rykov) **98j:35113** 35L40 (35L60, 35Q35, 76N15)

— (*with* Liu, Hongxia) Perturbation of two elementary waves with interaction. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 357–374. (Enrique Zuazua) **98m:35121** 35L60 (35B20, 35L67)

Lin, Lu[2] The influence of adding sample data on the mean square error of ridge estimates. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 2, 123–127. 62J07

— Significance tests for influential points of some biased estimates. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 3, 239–245. 62J07 (62F99)

— Curvature expressions for asymptotic confidence regions of parameters of data transformations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 153–158. 62F25

Lin, Mao-Chao (*with* Chang, Jinn-Ja; Hwang, Der-June) Some extended results on the search for good convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1682–1697. (Summary) **98e:94035** 94B10

Lin, Meng Lei The problem of the characteristic roots of a second-degree curve. (Chinese. Chinese summary) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **10** (1996), *no.* 4, 36–38. (Yao Zhang) **98b:51023** 51N20

Lin, Mi (*with* Ivochkina, Nina M.; Trudinger, Neil S.) The Dirichlet problem for the prescribed curvature quotient equations with general boundary values. *Geometric analysis and the calculus of variations*, 125–141, *Internat. Press, Cambridge, MA*, 1996. (John Urbas) **98d:35076** 35J65 (53A10)

Lin, Michael (*with* Olsen, James) Besicovitch functions and weighted ergodic theorems for LCA group actions. (English summary) *Convergence in ergodic theory and probability (Columbus, OH, 1993)*, 277–289, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (B. Kamiński) **98c:28025** 28D15

— (*with* Kornfeld, Isaac) Coboundaries of irreducible Markov operators on $C(K)$. (English summary) *Israel J. Math.* **97** (1997), 189–202. (Wojciech Bartoszek) **98d:47029** 47A35 (47B38, 47B65, 47D07)

— (*with* Çömez, Doğan; Olsen, James) Weighted ergodic theorems for mean ergodic L_1-contractions. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 101–117. (Idris Assani) **98d:47028** 47A35 (28D99, 47B38)

Lin, Min-Sheng (*with* Chen, Deng-Jyi) The computational complexity of the reliability problem on distributed systems. (English summary) *Inform. Process. Lett.* **64** (1997), *no.* 3, 143–147. (Summary) **98h:68115** 68Q25 (68M15)

Lin, P. *see* **Lin, Pengzhi**

Lin, Pei-Kee (*with* Sun, Huiying) Normal structure of Lorentz-Orlicz spaces. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 147–168. (Yu. A. Abramovich) **98j:46024** 46E30 (46B20)

— The average distance property of Banach spaces. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 6, 496–502. (Wolfgang Lusky) **98e:46004** 46Bxx (52A21)

— Maximal norm of $C(S)$. *Bull. London Math. Soc.* **29** (1997), *no.* 3, 345–349. (S. J. Sidney) **98k:46043** 46E25 (46B04, 46J10)

— Isometric stability property of Banach spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 679–686. (Summary) **98k:46027** 46B20 (46E40)

— (*with* Drewnowski, Lech; Kamińska, Anna) On multipliers and L- and M-projections in Banach lattices and Köthe function spaces. *J. Math. Anal. Appl.* **206** (1997), *no.* 1, 83–102. (W. A. J. Luxemburg) **98c:46034** 46B42 (46E30, 47B60)

Lin, Peng (*with* Krantz, Steven G.; Li, Song-Ying; Rochberg, Richard) The effect of boundary regularity on the singular numbers of Friedrichs operators on Bergman spaces. *Michigan Math. J.* **43** (1996), *no.* 2, 337–348. (Jonathan Arazy) **98e:47050** 47B38 (32A37, 47B10)

Lin, Pengcheng (*with* Bai, Qingyuan; Xie, Licong) Difference scheme of uniform convergence in the L^∞ norm for singular perturbation of the third BVP. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 85–93. (Summary) **98f:34021** 34B05 (34A45, 34E15, 65L12)

Lin, Pengzhi (*with* Liu, Philip L.-F.; Yeh, Harry; Chang, K.-T.; Cho, Yong-Sik) Generation and evolution of edge-wave packets. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1635–1657. 76B15 (76–05)

Lin, Ping *see* **Lin, Ping**[2]

Lin, Ping[1] (*with* Ascher, Uri M.) Sequential regularization methods for higher index DAEs with constraint singularities: the linear index-2 case. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1921–1940. (Vladimir A. Danilov) **98c:65133** 65L10 (34A09, 34A45, 65L20)

— (*with* Ascher, Uri M.) Sequential regularization methods for nonlinear higher index DAEs. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 79–82. (*see* **98b:65005**) 65L07 (34A09)

— A sequential regularization method for time-dependent incompressible Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1051–1071. (Tsorng-Whay Pan) **98b:65110** 65M55 (65M12, 76D05, 76M20)

Lin, Ping[2] Bounded sets and weak convergence in the locally convex space (λ, μ). (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 397–402. (Bor-Luh Lin) **98k:46012** 46A45

Lin, Pu Jiang (*with* Sun, Ren Bin; Ren, Chang Mao) Blow-up of solutions to nonlinear parabolic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 221–223. (Summary) **98c:35098** 35K60 (35B05)

Lin, Qin (*with* Chen, Tianping) New algorithm for principal component and minor component extraction. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 227–230. (Summary) **98c:65071** 65F30 (68T05)

Lin, Qing Cut-down method in the inductive limit decomposition of non-commutative tori. III. A complete answer in 3-dimension. (English summary) *Comm. Math. Phys.* **179** (1996), *no.* 3, 555–575. (Berndt Brenken) **98e:46069** 46L05 (46L87)

— (*with* Elliott, George A.) Cut-down method in the inductive limit decomposition of non-commutative tori. *J. London Math. Soc.* (2) **54** (1996), *no.* 1, 121–134. (Berndt Brenken) **98e:46067** 46L05 (46L87)

— (*with* Elliott, George A.) Cut-down method in the inductive limit decomposition of non-commutative tori. II. The degenerate case. (English summary) *Operator algebras and their applications (Waterloo, ON, 1994/1995)*, 91–123, *Fields Inst. Commun.*, 13, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:46068** 46L05 (46L87)

Lin, Qionggui Nonlocal scalar electrodynamics from Chern-Simons theory. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 225–230. (Summary) **98m:81101** 81T13 (81V10)

Lin, Qun[1] (*with* Yang, Yi Du) The finite element interpolated correction method for elliptic eigenvalue problems. (English summary) *Chinese J. Numer. Math. Appl.* **15** (1993), *no.* 1, 78–83. 65N30

— A forgotten analysis in finite element methods. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 129–144, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (Vitoriano Ruas) **98i:65101** 65N30 (65N50)

— (*with* Shi, Jun[1]) Superconvergent approximations for Wiener-Hopf equations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 4, 371–376. (Wojciech Mydlarczyk) **98h:45015** 45L05 (45E10, 65R20)

— (*with* Brunner, Hermann; Yan, Ning Ning) The iterative correction method for Volterra integral equations. (English summary) *BIT* **36** (1996), *no.* 2, 221–228. (B. P. Parashar) **98b:45008** 45L05 (45D05, 65R20)

— (*with* Yan, Ning Ning) Superconvergence of mixed element methods for Maxwell's equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 5, *suppl.*, 1–10, 66. (Wu Zhang) **98c:65186** 65N30 (65N12)

— (*with* Rokne, J. G.) A circular splitting search algorithm for systems of complex equations. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 119–129. (Ljiljana Petković) **98a:65064** 65G10 (65H10)

— (*with* Shi, Jun[1]) A high order method for non-smooth Fredholm equations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 1, 17–22. (V. V. Vasin) **98a:45011** 45L05 (45B05, 65R20)

— (*with* Zhang, Shu Hua[3]) An immediate analysis for global superconvergence for integrodifferential equations. (English summary) *Appl. Math.* **42** (1997), *no.* 1, 1–21. (W. Govaerts) **98b:65131** 65N30 (65M60, 65R20)

— (*with* Zhang, Shu Hua[3]) A direct global superconvergence analysis for Sobolev and viscoelasticity type equations. (English summary) *Appl. Math.* **42** (1997), *no.* 1, 23–34. (W. Govaerts) **98b:65132** 65N30

— (*with* Zhou, Aihui) Multilevel iterative algorithms for accelerating spectral approximations of integral equations. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 323–332. (Summary) **98j:65090** 65R20 (45L05)

— (*with* Rokne, J. G.) Variable-radius offset curves and surfaces. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 97–108. (Summary) **98i:65012** 65D17

— (*with* Shi, Jun[1]) Correction Nystrom solutions of non-smooth Fredholm equations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 1–5. (Mohammad Iqbal) **98f:65130** 65R20 (45L05)

— (*with* Zhang, Shu Hua[3]; Yan, Ning Ning) Methods for improving approximate accuracy for hyperbolic integrodifferential equations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 282–288. (Mohammad Asadzadeh) **98f:65098** 65M60 (65M15, 65R20)

— Superclose FE-theory becomes a table of integrals. *Finite element methods* (*Jyväskylä*, 1997), 217–226, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (*see* **98i:65003**) 65N30 (65D20)

— (*with* Rokne, J. G.) Fitting fat curves. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 1–12. 65D10

Lin, R. *see* **Lin, Rongzin**

Lin, Rong (*with* Olariu, Stephan) A fast parallel algorithm to recognize P4-sparse graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 191–215. (Summary) **98m:68215** 68R10 (05C85, 68Q22)

Lin, Rong S. (*with* Yuang, Maria C.; Hsu, Steen J.) Efficient minimization of homogeneous FSMs for fault diagnosis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 117–124. (Summary) **98k:94020** 94C12

Lin, Rongzin (*with* Leng, Gerard Siew Bing; Lee, Heow Pueh) The study of a parametrically excited nonlinear mechanical system with the continuation method. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 1, 1–22. 70K40 (34C15, 34C23, 70–08)

Lin, S. P. *see* **Lin, Sung P.**

Lin, Senchun Splitting and pinching for complete convex surfaces in E^3. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 83–90. (Theodoros Vlachos) **98k:53006** 53A05

Lin, Shang P. (*with* Tang, Dei-In) An approximate likelihood ratio test for comparing several treatments to a control. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1155–1162. 62J15

Lin, Shao Zhong An improved iterative format for the symmetric successive overrelaxation–preconditioned conjugate gradient method. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 266–270. 65F10

Lin, Sheng-Fuu (*with* Wang, An-Ping) The shifting of movable eigenvalues in uncontrollable singular systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 4, 739–747. 93B60 (93D15)

Lin, Shi Zhong (*with* Ma, Zun Lu; Yu, Yuan Hong) Oscillation of delay difference equations. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 153–156. (Summary) **98m:39019** 39A10

— (*with* Yu, Yuan Hong) On the oscillation of solutions of parabolic partial differential equations of neutral type. *Demonstratio Math.* **29** (1996), *no.* 3, 603–614. (Jian Hong Wu) **98b:35214** 35R10 (35B05, 35K55)

Lin, Shili Monte Carlo methods in genetic analysis. (English summary) *Genetic mapping and DNA sequencing* (*Minneapolis, MN*, 1994), 15–38, *IMA Vol. Math. Appl.*, 81, *Springer, New York*, 1996. (*see* **98c:92006**) 92D10 (65C05)

Lin, Shin-Feng D. (*with* Razzaghi, Mohsen; Arabshahi, Abdollah) Analysis of linear distributed parameter systems via double Fourier series. (English summary) *Appl. Math. Comput.* **87** (1997), *no.* 2-3, 205–215. (Summary) **98e:93048** 93B40 (93C20)

Lin, Shin-Yeu Basic hardware module for a nonlinear programming algorithm and applications. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 8, 1579–1586. 90C30 (90–04)

— (*with* Lin, Ch'i-Hsin) A computationally efficient method for nonlinear multicommodity network flow problems. (English summary) *Networks* **29** (1997), *no.* 4, 225–244. (Summary) **98a:90124** 90C35 (90B10)

Lin, Shir-Kuan (*with* Fang, Chang-Jia) Nonovershooting and monotone nondecreasing step responses of a third-order SISO linear system. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1299–1303. 93B52 (93C05)

Lin, Shou On spaces with a k-network consisting of compact subsets. *Topology Proc.* **20** (1995), 185–190. 54D50 (54C10, 54E20, 54E40)

— (*with* Liu, Chuan) On spaces with point-countable cs-networks. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 51–60. (Summary) **98a:54010** 54C10 (54D50, 54D55)

— A note on Lašnev decomposition theorems. (English summary) *Topology Proc.* **21** (1996), 155–160. (Summary) **98k:54052** 54E35 (54B15)

— (*with* Liu, Chuan; Dai, Mumin) Images on locally separable metric spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 1–8. (Summary) **98d:54053** 54E35 (54C10)

— A note on spaces with a locally countable k-network. (English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 10–12. (Summary) **98i:54014** 54E20 (54D55)

— Spaces with a σ point finite base. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 382–384. 54E40 (54A25)

— (*with* Mizokami, Takemi) On spaces with a σ-CF* pseudo-base. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 377–384. (Summary) **98h:54009** 54A25

— A note on the Arens' space and sequential fan. (English summary) *Topology Appl.* **81** (1997), *no.* 3, 185–196. (Tsugunori Nogura) **98m:54008** 54A20 (54D55, 54F65)

Lin, Shu (*with* Fossorier, Marc P. C.) Some decomposable codes: the $|a+x|b+x|a+b+x|$ construction. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1663–1667. 94B60

— (*with* Fossorier, Marc P. C.) Complementary reliability-based decodings of binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1667–1672. 94B05

— (*with* Fossorier, Marc P. C.) A unified method for evaluating the error-correction radius of reliability-based soft-decision algorithms for linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 691–700. (Summary) **98i:94033** 94B05

— (*with* Fujiwara, Toru; Yamamoto, Hiroshi[2]; Kasami, Tadao) A trellis-based recursive maximum-likelihood decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 714–729. (Summary) **98j:94026** 94B05 (94B12, 94B35)

Lin, Shu-Chyuarn (*with* Kuo, Chung-Feng Jeffrey) Modal analysis and control of a rotating Euler-Bernoulli beam. I. Control system analysis and controller design. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 75–92. 93C20 (73K05, 73K50)

— (*with* Kuo, Chung-Feng Jeffrey) Modal analysis and control of a rotating Euler-Bernoulli beam. II. Residual vibration control. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 93–97. 93C20 (73K05, 73K50)

Lin, Shun-Shii (*with* Lin, Kwei-Jay) A pinwheel scheduler for three distinct numbers with a tight schedulability bound. (Englisn summary) *Algorithmica* **19** (1997), *no.* 4, 411–426. (Summary) **98i:68036** 68M20 (90B35)

Lin, Si-Jian (*with* Konstantopoulos, Takis) Fractional Brownian approximations of queueing networks. (English summary) *Stochastic networks* (*New York*, 1995), 257–273, *Lecture Notes in Statist.*, 117, *Springer, New York*, 1996. (Summary) **98c:60125** 60K25

Lin, Song-Sun (*with* Hsu, Cheng-Hsiung) Some qualitative properties of the Riemann problem in gas dynamical combustion. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 10–43. (Long An Ying) **98h:76077** 76L05 (35L67, 35Q99, 76N15, 80A32)

— Stability of gaseous stars in spherically symmetric motions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 3, 539–569. (John Adam) **98b:85001** 85A30 (34B99, 76E20, 76N10)

Lin, Su Rong (*with* Lin, Zong Chi) Singular perturbations of boundary value problems of higher-dimensional nonlinear systems. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 59–64. (Summary) **98b:34075** 34E15 (35B15)

— (*with* Lin, Zong Chi) Multiple boundary layer phenomena of the solution of nonlinear higher order elliptic equations with perturbation both in boundary and in operator. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 56–63. (Dian K. Palagachev) **98d:35060** 35J60 (35B25)

Lin, Sung P. (*with* Vihinen, I.; Honohan, A. M.) Image of absolute instability in a liquid jet. (English summary) *Phys. Fluids* **9** (1997), *no.* 11, 3117–3119. 76E99 (76D25)

— (*with* Reitz, R. D.) Drop and spray formation from a liquid jet. (English summary) *Annual review of fluid mechanics, Vol.* 30, 85–105, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76D25 (76E99)

Lin, Tai-Chia The stability of the radial solution to the Ginzburg-Landau equation. *Comm. Partial Differential Equations* **22** (1997), *no.* 3-4, 619–632. (Peter E. Zhidkov) **98c:35061** 35J65 (34B15, 35Q55)

Lin, Tao[1] (*with* Zhang, Bing-Yu) A finite element method for an initial value inverse problem with overspecified boundary data. *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 305–342. (Hans-Jürgen Reinhardt) **98f:65095** 65M30 (65M60)

Lin, Tsai-Shiu (*with* Chu, Liang-Ju) Existence and asymptotical convergence of solutions of variational inequalities. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 1, 1–18. (Julian Revalski) **98a:49014** 49J40 (47H19, 47N19)

Lin, Wei *see* **Lin, Wei[3]**

Lin, Wei[1] (*with* Zhao, Yu-Qiu) On the plane stress boundary value problem of quasi-static linear thermoelasticity. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 385–394. (Andrzej Chrzęszczyk) **98m:73014** 73B30 (35Q72)

Lin, Wei[2] (*with* Byrnes, Christopher I.) H_∞-control of discrete-time nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 4, 494–510. (Summary) **98a:93063** 93D15 (93B36, 93C55)

— Global robust stabilization of minimum-phase nonlinear systems with uncertainty. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 3, 453–462. (Norihiko Adachi) **98e:93094** 93D21 (93C42)

Lin, Wei[3] (*with* Kiely, Aaron B.; Dolinar, Samuel J., Jr.; McEliece, Robert J.; Ekroot, Laura L.) Trellis decoding complexity of linear block codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1687–1697. (*see* **98c:94001**) 94B35

— (*with* McEliece, Robert J.) The trellis complexity of convolutional codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1855–1864. (*see* **98c:94001**) 94B10

Lin, Wen-Hsiung (*with* Wang, Nan-Jye) A proof of the non-projectivity of the Whitehead squares $[\iota_{2^r},\iota_{2^r}] \in \pi_{2^{r+1}-1}(S^{2^r})$. *International Mathematics Conference* '94 (*Kaohsiung*, 1994), 149–152, *World Sci. Publishing, River Edge, NJ*, 1996. (Donald M. Davis) **98b:55013** 55Q15 (55S20, 55T15)

Lin, Wen-Wei (*with* Ferng, W. R.; Wang, Chern-Shuh) The shift-inverted J-Lanczos algorithm for the numerical solutions of large sparse algebraic Riccati equations. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 23–40. (Vladimir B. Larin) **98e:65035** 65F30 (93B40)

— (*with* Lai, Yu-Ling; Pierce, Daniel J.) Conjugate gradient and minimal residual methods for solving symmetric indefinite systems. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 243–256. (Summary) **98f:65037** 65F10

— (*with* Hwang, Tsung-Min; Pierce, Daniel J.) Improved bound for rank revealing LU factorizations. (English summary) *Linear Algebra Appl.* **261** (1997), 173–186. (Donald W. Robinson) **98h:15026** 15A23 (15A03, 15A45)

— (*with* Lai, Yu-Ling; Lin, Kun-Yi) An inexact inverse iteration for large sparse eigenvalue problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 425–437. (Summary) **98f:65042** 65F15 (65F10, 65F50)

— (*with* Wang, Chern-Shuh) On computing stable Lagrangian subspaces of Hamiltonian matrices and symplectic pencils. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 590–614. (Petko Petkov) **98e:15017** 15A21 (15A22, 65F30, 93B40)

Lin, Wen Xian Oscillatory behavior for high order functional-differential equations. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 8, 789–800; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 735–745 (*Chinese. English and Chinese summaries*). (Uri Elias) **98m:34139** 34K15

Lin, Wu Zhong (*with* Wang, Zhi Ming[3]) The Dirichlet problem for singularly perturbed second-order quasilinear integrodifferential equations. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 3, 1–8. (Summary) **98j:34135** 34K10 (34E15, 45J05)

Lin, Xi Convex sets and convexities in random normed lin ar spaces. (English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 2, 22–26. (Jir Xuan Fang) **98b:46101** 46S50

(46H25)
Lin, Xiao Song[2] Power series expansions and invariants of links. *Geometric topology (Athens, GA, 1993)*, 184–202, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Sergey S. Anisov) **98i:57014** 57M25
Lin, Xiaodong (*with* Willmot, Gordon E.) Upper bounds for the tail of the compound negative binomial distribution. (English summary) *Scand. Actuar. J.* **1997**, *no.* 2, 138–148. (Summary) **98k:62180** 62P05 (62E15)
Lin, Xiaofan (*with* Ding, Xiaoqing; Wu, Youshou) Theoretical analysis of the confidence metrics for nearest neighbor classifier. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 464–467. 62H30 (62G99)
Lin, Xiaohui (*with* Zhu, Minghua; Yu, Zhengguo; Zhang, Cheng Xue; Yang, Yuan Sheng) On distinct distance sets in a graph. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 277–282. (Summary) **98g:05054** 05C12
Lin, Xiaoping *see* **Liu, Xiao Ping[2]**
Lin, Xiaoyan (*with* Tao, Jicheng) The existence of periodic solutions [of] semilinear wave equations with delay. (English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 5, 1–4. (Pavel Krejčí) **98f:35152** 35R10 (35B10, 35L70)
Lin, Xie *see* **Xie, Lin**
Lin, Xihong (*with* Raz, Jonathan; Harlow, Siobán D.) Linear mixed models with heterogeneous within-cluster variances. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 910–923. 62J05
— Variance component testing in generalised linear models with random effects. (English summary) *Biometrika* **84** (1997), *no.* 2, 309–326. (Summary) **98c:62136** 62J12
— (*with* Wang, Naisyin; Gutierrez, Roberto G.; Carroll, Raymond J.) Bias analysis and SIMEX approach in generalized linear mixed measurement error models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 249–261. 62J12
— (*with* Zhang, Daowen; Raz, Jonathan; Sowers, MaryFran) Semiparametric stochastic mixed models for longitudinal data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 710–719. 62G05
Lin, Xing Duan Distortion of harmonic convex mappings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 457–461. (Sheng Gong) **98d:30010** 30C15 (30C50)
— (*with* Lou, Zeng Jian) Harmonic mappings and their associated conformal mappings. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 8–13. 30C80 (31A05)
Lin, Xiu Qing (*with* Qiu, Gan Di) On the Picard value of $f(f^{(k)})^n$. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 249–252. 30D35
— (*with* Qiu, Gan Di) A uniqueness theorem for entire functions and their derivatives. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 319–320. 30D20
Lin, Xiu Ying (*with* Huang, Ke Ming[1]) Convergence properties of sums of weakly dependent random variables. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 15–18. 60F05 (60G60)
Lin, Xuemin (*with* Eades, Peter) Spring algorithms and symmetry (extended abstract). (English summary) *Computing and combinatorics (Shanghai, 1997)*, 202–211, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 68R10 (05C85)
— A fully distributed quorum consensus method with high fault-tolerance and low communication overhead. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 259–275. (Summary) **98e:68062** 68Q10 (68M15, 68P15)
Lin, Y. *see* **Lin, Yi[3]**
Lin, Y. P. *see* **Lin, Yan Ping**
Lin, Ya-Lih (*with* Shen, Wei-Hsiung) Comparison of power of tests for a common location of k truncated exponentials. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 265–273. 62F03
Lin, Ya Nan Hammocks in Auslander-Reiten quivers of representation directed algebras. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 15, 1355–1358. (Shi Ping Liu) **98a:16016** 16G10 (16G70)
— (*with* Zhang, Yingbo) Bocses corresponding to the hereditary algebras of tame type. II. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 9, 909–918. (Flávio Ulhoa Coelho) **98f:16013** 16G60 (16G20, 16G70)
— (*with* Zhang, Pu[1]) Characteristic modules of quasi-hereditary algebras with three samples. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 450–454. (V. Dlab) **98h:16029** 16P10 (16E10)
— Modules with semilocal radical and quasihereditary algebras. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **36** (1997), *no.* 3, 321–324. (Summary) **98e:16029** 16S50 (16E60)
Lin, Yan Ping (*with* Allegretto, W.; Cannon, John R.) A parabolic integro-differential equation arising from thermoelastic contact. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 217–234. (Song Jiang) **98a:35070** 35K60 (35B30, 45K05, 73B30, 73T05)
— On maximum norm estimates for Ritz-Volterra projection with applications to some time dependent problems. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 159–178. (Julio Guacaneme Dix) **98b:65143** 65R20 (34G20, 45K05, 65M60)
— A nonlocal parabolic system modelling axially symmetric thermoelastic contact of two discs. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 39–57. (L. P. Lebedev and Jaime A. Arango) **98f:35148** 35Q72 (35K99, 73B30, 73T05)
Lin, Yi[3] (*with* Hu, Qing Ping; Li, Dan) Divisibility and cardinal functions related to quotient systems. (English summary) *Cybernetica* **40** (1997), *no.* 2, 95–102. 93A05 (93A10)
— (*with* Wang, Shu Tang[1]) Developing a mathematical theory of computability which speaks the language of levels. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 23–32. 00A69
Lin, Yi Mou Weakly conformal mappings of surfaces. (Chinese. Chinese summary) *Zhangzhou Shiyuan Xuebao (Ziran Kexue Ban)* **11** (1997), *no.* 2, 88–92. (Cun-Jin Sun) **98i:53008** 53A05
Lin, Yi Xing Some vector-valued measures and their properties. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **16** (1996), *no.* 4, 575–578. (Cong Xin Wu) **98b:46060** 46G10
Lin, Yi Xun (*with* Lam, Peter Che Bor; Shiu, Wai Chee) Duality in bandwidth problems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 117–127. (*see* **98h:05003**) 05C78
— (*with* Lam, Peter Che Bor; Shiu, Wai Chee; Chan, W. H.) On the bandwidth of convex triangulation meshes. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 285–289. (Summary) **98c:05143** 05C78
— (*with* Yang, Ai Min) The min-max optimal elimination order problem for graphs. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 354–361. (From the summary) **98i:68226** 68R10 (05C85, 68Q25)
— (*with* Deng, Jun Qiang) Conditions for a unique optimal solution of the $1\|\sum U_i$ scheduling problem and the generation of all the optimal solutions. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 18–22. 90B35
Lin, Yig-Shyang (*with* Liu, Tsann-Shyong; Chang, Long-Wen) A new bit rate control of MPEG with predictive and adaptive perceptual quantization. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 295–313. (Summary) **98d:94007** 94A12 (94A29)
Lin, Ying-Hsiung Gram-Schmidt process of orthonormalization in Banach spaces. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 417–431. (P. Miličić) **98k:46017** 46B15
Lin, Ying Ju (*with* Huang, Zhen Yu; Zhuang, Jian Nan) A steepest descent algorithm for bounded nonsmooth global optimization. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 218–225. (Wanzhen Huang) **98c:90134** 90C30 (65K05)
Lin, Yiping (*with* Li, Ji Bin; Cao, Jin De) The Hopf bifurcation direction of a four-dimensional electronic neural network system. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 337–343. 92B20 (34C23)
Lin, Yong *see* **Lin, Yong[2]**
Lin, Yong[1] Menger curvature, singular integrals and analytic capacity. Dissertation, University of Jyväskylä, Jyväskylä, 1997. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 111 (1997), 44 *pp.* (J. Siciak) **98j:30020** 30C85 (28A75, 42B20)
Lin, Yong[2] (*with* Lindsay, Bruce G.) Projections on cones, chi-bar squared distributions, and Weyl's formula. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 367–376. (Summary) **98m:62035** 62E15 (62H11)
Lin, Yu Qing Perfect path graphs $P_5(G)$. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 317–318. 05C38
Lin, Yuanqu Global periodic attractor of a class of third-order phase-locked loop. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 707–713. (Miklós Farkas) **98m:34110** 34D45 (34C15, 34C25)
Lin, Yun Yong (*with* Hong, Yi[1]) Convex mappings on some Banach spaces and on bounded convex domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **38** (1995), *no.* 6, 837–844. (Hong Kun Xu) **98a:46023** 46B20 (47H99)
Lin, Z. *see* **Lin, Zhongyan**
Lin, Zhanghua *see* **Lin, Zheng Hua**
Lin, Zhen Sheng (*with* Zeng, Wei Yao; Shi, Jin Lin; Debnath, Lokenath) Almost periodic solutions for Abel equations. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 727–735. (Igor N. Blinov) **98j:34082** 34C27
Lin, Zheng Guo The singular limit of a system of incompressible ideal magnetohydrodynamic equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 263–268. (Shouhong Wang) **98g:76077** 76W05 (35Q35)
Lin, Zheng Hua (*with* Li, Yong[6]; Yu, Bo[1]) A combined homotopy interior point method for general nonlinear programming problems. (English summary) *Appl. Math. Comput.* **80** (1996), *no.* 2-3, 209–224. (Jürgen Guddat) **98b:90128** 90C30
— (*with* Sheng, Zhong Ping; Bai, Yu Shan) Structural analysis of the digital characteristics of approximate numbers. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 4, 21–24. 65G99
— (*with* Sheng, Zhong Ping) The generalized Vandermonde determinant and its applications. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 3, 217–225. (Summary) **98b:15007** 15A15
— (*with* Song, Dai Cai; Yu, Xiao Lin) A continuation method with global convergence for solving general convex programming problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 1, 24–26. 90C25
— (*with* Yu, Bo[1]; Feng, Guo Chen) A combined homotopy interior point method for convex nonlinear programming. (English summary) *Appl. Math. Comput.* **84** (1997), *no.* 2-3, 193–211. (Joachim Hirche) **98e:90117** 90C25 (65K05, 90C05)
— (*with* Song, Dai Cai; Lei, Pei Dong; Lu, Xian Rui) Parameter estimation and testing for regression models with inequality constraints. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 84–87. 62J05
— (*with* Li, Yong[6]; Cong, Fu Zhong) Boundary value problems for impulsive differential equations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1253–1264. (Eduardo Liz) **98g:34038** 34B15 (34A37, 34C25)
— (*with* Song, Dai Cai) A generalized Newton-like method for solving variational inequalities. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 495–502. 49J40 (65K10)
— (*with* Yu, Weisheng) The twice continuously differentiable property of two-stage stochastic linear programming problems with fixed recourse. (English summary) *Soochow J. Math.* **23** (1997), *no.* 2, 157–164. (Riho Lepp) **98m:90096** 90C15 (90C08)
Lin, Zheng Yan An invariance principle for positively dependent random variables. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 4, 487–494. (Fuqing Gao) **98e:60034** 60F05
— An invariance principle for positively dependent random variables. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 3, 287–294. (Lothar Heinrich) **98d:60066** 60F17 (60G10)
— Convergence on randomly trimmed sums with a φ-mixing sample. *Chinese Sci. Bull.* **41** (1996), *no.* 18, 1497–1500. (Erich Haeusler) **98c:60024** 60F05 (62G30)
— On large increments of l^p-valued Gaussian processes. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 213–222. (M. Csörgő) **98m:60058** 60G15 (60F15, 60G17)
— An invariance principle for negatively associated random variables. *Chinese Sci. Bull.* **42** (1997), *no.* 5, 359–364. (Zdzisław Rychlik) **98f:60067** 60F17
— How big are the increments of l^p-valued Gaussian processes? (English summary) *Sci. China Ser. A* **40** (1997), *no.* 4, 337–349. (M. Csörgő) **98m:60059** 60G15 (60F15, 60G17)

Lin, Zhigui (*with* Xie, Chun Hong) Blowup rate of positive solution of a semilinear parabolic system. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 2, 101–103. 35K55 (35B05)

Lin, Zhongyan (*with* Gilbert, Robert P.; Buchanan, J. L.) Direct and inverse problems in ocean acoustics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1535–1546. (*see* **98i:00029**) 76Q05 (76M25)

— (*with* Gilbert, Robert P.) Acoustic field in a shallow, stratified ocean with a poro-elastic seabed. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 9, 677–688. (Summary) **98d:76149** 76Q05 (86A05)

Lin, Zong Chi (*with* Lin, Su Rong) Singular perturbations of boundary value problems of higher-dimensional nonlinear systems. (Chinese. English and Chinese summaries) *J. Math. Study* **29** (1996), *no.* 3, 59–64. (Summary) **98b:34075** 34E15 (35B15)

— (*with* Lin, Su Rong) Multiple boundary layer phenomena of the solution of nonlinear higher order elliptic equations with perturbation both in boundary and in operator. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 56–63. (Dian K. Palagachev) **98d:35060** 35J60 (35B25)

Lin, Zongli (*with* Pachter, Meir; Banda, Siva S.; Shamash, Yacov) Stabilizing feedback design for linear systems with rate limited actuators. *Control of uncertain systems with bounded inputs*, 173–186, *Lecture Notes in Control and Inform. Sci.*, 227, *Springer, London*, 1997. (*see* **98c:93008**) 93D21 (93B51)

— H_∞-almost disturbance decoupling with internal stability for linear systems subject to input saturation. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 992–995. (Summary) **98e:93095** 93D21 (93B36)

— (*with* Mantri, Ravi; Saberi, Ali; Stoorvogel, Anton A.) Output regulation for linear discrete-time systems subject to input saturation. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 11, 1003–1021. (Michel Malabre) **98k:93046** 93B52 (93C55, 93D15)

— (*with* Chen, Ben M.; Saberi, Ali; Ly, Uy-Loi) Simultaneous H_2/H_∞ optimal control for discrete-time systems: the state feedback case. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 217–225. 93B36 (93B52)

— (*with* Pachter, Meir; Banda, Siva S.) Toward improvement of tracking performance—nonlinear feedback for linear systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 1–11. 93B52 (93C05)

— Almost disturbance decoupling with global asymptotic stability for nonlinear systems with disturbance-affected unstable zero dynamics. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 163–169. (Summary) **98m:93104** 93D20

Lin, Zongzhu Comparison of extensions of modules for algebraic groups and quantum groups. *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 355–367, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Andrew P. Mathas) **98m:20053** 20G05 (17B37)

Lin, Zuoquan Paraconsistent circumscription. (English summary) *Advances in artificial intelligence (Toronto, ON, 1996)*, 296–308, *Lecture Notes in Comput. Sci.*, 1081, *Springer, Berlin*, 1996. (*see* **98c:68004**) 68T27 (03B53, 03B70)

Lina, Jean-Marc Image processing with complex Daubechies wavelets. (English summary) *J. Math. Imaging Vision* **7** (1997), *no.* 3, 211–223. 68U10 (42C10)

Liñán, Amable (*with* Kurdyumov, Vadim N.) Laminar free convection induced by a line heat source, and heat transfer from wires at small Grashof numbers. (English summary) *J. Fluid Mech.* **362** (1998), 199–227. 76R10

Linares, Felipe (*with* Iório, Rafael José, Jr.; Scialom, Márcia A. G.) Living under the Sobolev barrier. *Proceedings of the Third Summer School on Differential Geometry, Partial Differential Equations and Numerical Analysis (Spanish) (Bogota, 1995)*, 61–73, *Colec. Mem.*, 7, *Acad. Colombiana Cienc. Exact. Fis. Natur., Bogotá*, 1996. (Alexander L. Sakhnovich) **98a:35136** 35R20 (35Q53)

— (*with* Ponce, Gustavo; Scialom, Márcia A. G.) A note on the blow-up of a nonlinear evolution equation with nonlocal coefficients. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part II (Rio de Janeiro, 1995). *Mat. Contemp.* **11** (1996), 61–69. (Editors) **98j:35090** 35K55 (35B05)

— (*with* Iório, Rafael José, Jr.) On KdV equation and Bore-like data. (English summary) *Nonlinear waves (Sapporo, 1995)*, 183–187, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (*see* **98h:00031**) 35Q53

— (*with* Biagioni, Hebe A.) On the Benney-Lin and Kawahara equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 131–152. (Shu Ming Sun) **98e:35140** 35Q53 (35B40, 76B15)

Linares, J. *see* **Linares Pérez, Josefa**

Linares, M. *see* **Linares Linares, Manuel**

linares Linares, Manuel *see* **Linares Linares, Manuel**

castro-Linares, Rafael *see* **Castro-Linares, Rafael**

Linares Linares, Manuel (*with* Betancor, Jorge J.; Méndez-Pérez, J. M. R.) An operational sum method with Tchebycheff [Chebyshev] series expansions for solving difference equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 259–267. (Summary) **98m:39051** 39A70 (33C45, 44A55)

Linares Pérez, Josefa (*with* García-Ligero, M. J.; Hermoso Carazo, Aurora) Prediction and filtering algorithm for distributed parameter systems with multiplicative noise in the observations. (English summary) *Rebrape* **11** (1997), *no.* 1, 51–65. (Summary) **98m:62266** 62M20

Lincoln, Mark (*with* Towers, D. A.) The Frattini p-subalgebra of a solvable Lie p-algebra. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 1, 31–40. (Ernest Stitzinger) **98a:17030** 17B50 (17B30)

Lincoln, Patrick D. (*with* Mitchell, John C.; Scedrov, Andre) The complexity of local proof search in linear logic (extended abstract). (English summary) *Linear logic* 96 (*Tokyo*), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 3, *Elsevier, Amsterdam*, 1996. (*see* **98f:68009**) 03D15 (03F50, 68Q25)

Lind, Detlef ★ Koordinaten, Vektoren, Matrizen. (German) [Coordinates, vectors, matrices] Einführung in die lineare Algebra und analytische Geometrie. [Introduction to linear algebra and analytic geometry] Mathematische Texte. [Mathematical Texts] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1997. x+271 *pp. ISBN* 3-8274-0193-3 (Guido M. Pinkernell) **98g:15001** 15-01 (51Nxx)

Lind, M. (*with* Jörnsten, K.; Tind, J.) Stable payment schemes of TU-games with multiple criteria. (English summary) *Optimization* **40** (1997), *no.* 1, 57–78. (M. S. Shtil'man) **98c:90196** 90D12 (90D46)

Lindbeck, Assar (*with* Hassler, John) Optimal actuarial fairness in pension systems: a note. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 251–255. 90A20 (62P05)

Lindberg, Hans (*with* El-Jahel, Lina; Perraudin, William) Interest rate distributions, yield curve modelling and monetary policy. (English summary) *Mathematics of derivative securities (Cambridge, 1995)*, 423–453, *Publ. Newton Inst.*, 15, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98k:90014**) 90A09

Lindberg, P. O. (*with* Brännlund, U.; Kiwiel, Krzysztof C.) Preliminary computational experience with a descent level method for convex nondifferentiable optimization. (English summary) *System modelling and optimization (Prague, 1995)*, 387–394, *Chapman & Hall, London*, 1996. (Summary) **98d:90108** 90C30 (49J52)

— (*with* Kiwiel, Krzysztof C.; Nõu, Andreas) Dual Bregman proximal methods for large-scale 0-1 problems. (English summary) *System modelling and optimization (Prague, 1995)*, 459–465, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C09

— (*with* Feltenmark, S.) Network methods for head-dependent hydro power scheduling. (English summary) *Network optimization (Gainesville, FL, 1996)*, 249–264, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (*see* **98e:90007**) 90C35 (90B35)

Lindblom, Ove (*with* Näslund, Reinhold; Persson, Lars-Erik; Fällström, Karl-Evert) A study of bending waves in infinite and anisotropic plates. (English summary) *Appl. Math.* **42** (1997), *no.* 3, 213–232. (Summary) **98e:73060** 73D99 (35Q72, 73B40, 73K10)

Linde, A. D. Comments on inflationary cosmology. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 153–167, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83F05

— Monopoles as big as a universe and the universe inside a bubble. (English summary) The Sixth Moscow Quantum Gravity Seminar (1995). *Internat. J. Modern Phys. D* **5** (1996), *no.* 6, 845–867. (Summary) **98f:83116** 83F05 (81T30, 81V17)

van der Linde, Angelika The invariance of statistical analyses with smoothing splines with respect to the inner product in the reproducing kernel Hilbert space. (English summary) *Statistical theory and computational aspects of smoothing (Semmering, 1994)*, 149–164, *Contrib. Statist., Physica, Heidelberg*, 1996. (Summary) **98f:62104** 62G05

Lindell, Ismo V. ★ Methods for electromagnetic field analysis. (English summary) Revised reprint of the 1992 original. IEEE/OUP Series on Electromagnetic Wave Theory. *IEEE Press, New York; Oxford University Press, Oxford*, 1995. xii+320 *pp. ISBN* 0-7803-1154-X (From the preface) **98c:78002** 78–01

Lindell, Steven (*with* Dawar, Anuj; Weinstein, Scott) Infinitary logic and inductive definability over finite structures. (English summary) *Inform. and Comput.* **119** (1995), *no.* 2, 160–175. (György Turán) **98g:03081** 03C13 (03C75, 03C80, 68Q15)

— (*with* Dawar, Anuj; Weinstein, Scott) First order logic, fixed point logic and linear order. (English summary) *Computer science logic (Paderborn, 1995)*, 161–177, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98c:03078** 03C13 (03C80, 68Q15)

— (*with* Grumbach, Stéphane; Lacroix, Zoé) Generalized implicit definitions on finite structures. (English summary) *Computer science logic (Paderborn, 1995)*, 252–265, *Lecture Notes in Comput. Sci.*, 1092, *Springer, Berlin*, 1996. (Summary) **98f:03035** 03C13 (03D15, 68P15, 68Q15)

Lindeman, Arthur, II (*with* Bañuelos, Rodrigo) A martingale study of the Beurling-Ahlfors transform in $\mathbf{R}^n$. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 224–265. (Vasily A. Chernecky) **98a:30007** 30C40 (42B20, 47B38, 60G46)

— (*with* Pang, M. M. H.; Zhao, Zhong Xin) Sharp bounds for ground state eigenfunctions on domains with horns and cusps. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 381–416. (Yi Li) **98h:35180** 35P05 (34L05, 35J05, 47E05)

Lindemann, Christoph ★ Performance modelling with deterministic and stochastic Petri nets. (English summary) With 1 CD-ROM (UNIX: Sun (Solaris2.5 or Sun0S4.1.4), SGI (IRIX6.3) and HP9000 (HP-UX 10.10)). Wiley-Interscience Series in Systems and Optimization. *John Wiley & Sons, Ltd., Chichester*, 1998. *xvi*+405 *pp. ISBN* 0-471-97646-6 68M20 (68Q90)

Linden, Hansjörg Bounds for the zeros of polynomials from eigenvalues and singular values of some companion matrices. (English summary) *Linear Algebra Appl.* **271** (1998), 41–82. (Mei-Qin Chen) **98m:65059** 65F15 (15A18)

Linden, P. F. (*with* Bubnov, B. M.) Diffusion circulation of a stratified rotating fluid. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 625–629; *translation in Phys. Dokl.* **42** (1997), *no.* 10, 557–561. (Yuri N. Skiba) **98m:76152** 76V05 (76–05, 76U05, 86A05)

van der Linden, Wim J. Bayesian item selection criteria for adaptive testing. (English summary) *Psychometrika* **63** (1998), *no.* 2, 201–216. 62P15

— *see also* **Handbook: Modern item response theory, 98h:62155**

Lindenstrauss, Ayelet The topological Hochschild homology of the Gaussian integers. (English summary) *Amer. J. Math.* **118** (1996), *no.* 5, 1011–1036. (Guillermo Cortiñas) **98b:19002** 19D50 (19D55, 55P91, 55T99)

— Topological Hochschild homology of extensions of $\mathbf{Z}/p\mathbf{Z}$ by polynomials, and of $\mathbf{Z}[x]/(x^n)$ and $\mathbf{Z}[x]/(x^n-1)$. (English summary) *K-Theory* **10** (1996), *no.* 3, 239–265. (Roland Schwänzl) **98e:19001** 19D55 (55T25)

Lindenstrauss, J. (*with* Preiss, David) Almost Fréchet differentiability of finitely many Lipschitz functions. *Mathematika* **43** (1996), *no.* 2, 393–412 (1997). (Li Xin Cheng) **98b:46058** 46G05 (46B20, 47H99)

van Linder, B. (*with* van der Hoek, Wiebe; Meyer, J.-J. Ch.) Actions that make you change your mind. (English summary) *Knowledge and belief in philosophy and artificial intelligence*, 103–146, *Logica Nova, Akademie Verlag, Berlin*, 1995. (Katalin Bimbó) **98k:68155** 68T27 (03B45, 03B70)

Linder, Tamás (*with* Bartlett, Peter L.; Lugosi, Gábor) A minimax lower bound for empirical quantizer design. (English summary) *Computational learning theory (Jerusalem, 1997)*, 210–222, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98i:94009** 94A29

— (*with* Tarokh, Vahid; Zeger, Kenneth) Existence of optimal prefix codes for infinite source alphabets. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2026–2028. 94B60

Lindesay, James (*with* Gill, Tepper L.; Zachary, Woodford W.) Proper-time classical electrodynamics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 6, 547–562. (Summary) **98m:78010** 78A02 (78A25)

Lindgren, W. F. (*with* Szymański, Andrzej) On some homogeneous extremally disconnected spaces. *Papers on general topology and applications (Slippery Rock, PA, 1993)*,

108–114, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Klaas Pieter Hart) **98g:54082** 54G05 (54D80)
— (*with* Szymański, Andrzej) A non-pseudocompact product of countably compact spaces via Seq. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 12, 3741–3746. (J. E. Vaughan) **98c:54022** 54D80 (54A35, 54B10, 54G05)
Lindig, J. (*with* Bordag, Michael; Mostepanenko, V. M.; Pavlov, Yu. V.) Vacuum stress-energy tensor of nonconformal scalar field in quasi-Euclidean gravitational background. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 4, 449–463. 83C47 (81T20)
— (*with* Bordag, Michael; Mostepanenko, V. M.) Particle creation and vacuum polarization of a non-conformal scalar field near the isotropic cosmological singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 581–602. (Summary) **98k:83043** 83C47 (81T20)
Lindkvist, A. *see* **Lindquist, Anders**
Lindner, C. C. (*with* Rodger, C. A.) On equationally defining extended cycle systems. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 1–14. (Elizabeth J. Billington) **98k:05037** 05B30 (05C38)
— (*with* Street, Anne Penfold) Multiple minimum coverings of K_n with copies of $K_4 - e$. (English summary) *Util. Math.* **52** (1997), 223–239. (Summary) **98i:05132** 05C70
Lindner, John F. (*with* Prusha, Bryan S.; Clay, Kimberly Elizabeth) Optimal disorders for taming spatiotemporal chaos. (English summary) *Phys. Lett. A* **231** (1997), *no.* 3-4, 164–172. 58F13
Lindoff, Bengt ★ On parameter estimation and control of time-varying stochastic systems. (English summary) Dissertation, Lund University, Lund, 1997. *Lund University, Lund Institute of Technology, Department of Mathematical Statistics, Lund*, 1997. viii+163 *pp. ISBN* 91-628-2619-0 (From the introduction) **98h:93002** 93–02 (62L12, 62M09, 93E10, 93E20)
Lindon, L. Fava (*with* Akl, Selim G.) Paradigms admitting superunitary behaviour in parallel computation. (English summary) *Parallel Algorithms Appl.* **11** (1997), *no.* 1-2, 129–153. (Summary) **98d:68065** 68Q10 (65Y05, 68Q22)
Lindquist, Anders (*with* Byrnes, Christopher I.; Landau, Henry J.) On the well-posedness of the rational covariance extension problem. (English summary) *Current and future directions in applied mathematics* (*Notre Dame, IN*, 1996), 83–108, *Birkhäuser Boston, Boston, MA*, 1997. (Summary) **98c:93026** 93B30 (42C99, 93E12)
— (*with* Byrnes, Christopher I.) On duality between filtering and interpolation. *Systems and control in the twenty-first century* (*St. Louis, MO*, 1996), 101–136, *Progr. Systems Control Theory*, 22, *Birkhäuser Boston, Boston, MA*, 1997. (Engin Yaz) **98a:93075** 93E11 (93B15, 93B17)
— (*with* Yakubovich, Vladimir A.) Universal controllers for the optimal damping of forced oscillations in linear discrete systems. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 314–317. (Sergey V. Nikitin) **98c:93090** 93D15 (73K50)
— (*with* Yakubovich, Vladimir A.) Optimal damping of forced oscillations in discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 786–802. (Ryszard Gessing) **98h:93023** 93D15 (93D09, 93E20)
— (*with* Michaletzky, György) Output-induced subspaces, invariant directions, and interpolation in linear discrete-time stochastic systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 810–859. (Engin Yaz) **98d:93085** 93E03 (93C55)
Lindquist, W. Brent (*with* Song, Yu[2]; Chui, W. K.; Glimm, James; Tangerman, F. M.) Applications of front tracking to the simulation of resin transfer molding. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 9, 47–60. (Summary) **98c:76114** 76T05 (73K20, 76A99, 76M25)
— (*with* Chang, Kou-Kung A.) Mass-conserving front tracking for miscible two-phase flow. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1310–1327. (Summary) **98f:76060** 76M25 (65M60, 76S05, 76T05)
Lindqvist, Bo Henry (*with* Langseth, Helge) Uncertainty bounds for a monotone multistate system. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 2, 239–260. (Summary) **98j:62070** 62N05
Lindqvist, Peter (*with* Peetre, Jaak) On the remainder in a series of Mertens. (English summary) *Exposition. Math.* **15** (1997), *no.* 5, 467–478. (Simon T. Wong) **98i:11110** 11Y35
— (*with* Peetre, Jaak) Erik Lundberg and the hypergoniometric functions. (Swedish. English summary) *Normat* **45** (1997), *no.* 1, 1–24, 48. (Thomas Archibald) **98m:33002** 33–03
— (*with* Manfredi, Juan) Note on ∞-superharmonic functions. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 471–480. (Summary) **98k:35043** 35J30 (31B05, 35D99)
Lindsay, Bruce G. (*with* Waterman, Richard P.) Projected score methods for approximating conditional scores. (English summary) *Biometrika* **83** (1996), *no.* 1, 1–13. (Summary) **98g:62044** 62F10 (62A15)
— (*with* Li, Bing[2]) Chi-square tests for generalized estimating equations with possibly misspecified weights. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 489–509. (A. L. Nagar) **98f:62138** 62G10
— (*with* Roeder, Kathryn) Moment-based oscillation properties of mixture models. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 378–386. (J. A. Melamed) **98c:62020** 62E10 (62G05)
— (*with* Markatou, Marianthi; Basu, Ayanendranath) Weighted likelihood estimating equations: the discrete case with applications to logistic regression. (English summary) Robust statistics and data analysis, II. *J. Statist. Plann. Inference* **57** (1997), *no.* 2, 215–232. (Friedrich Liese) **98g:62137** 62J12 (62A10)
— (*with* Lin, Yong[2]) Projections on cones, chi-bar squared distributions, and Weyl's formula. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 367–376. (Summary) **98m:62035** 62E15 (62H11)
Lindsay, John Martin (*with* Parthasarathy, Kalyanapuram Rangachari) Positivity and contractivity of quantum stochastic flows. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 315–329, *World Sci. Publishing, River Edge, NJ*, 1996. (Franco Fagnola) **98f:81157** 81S25 (46L50)
— (*with* Sinha, Kalyan B.) Feynman-Kac representation of some noncommutative elliptic operators. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 2, 400–419. (Andrzej Łuczak) **98j:46077** 46L55 (46L50, 47D07, 81S25)
— On the algebraic structure of quantum stochastic calculus. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 281–290. (Franco Fagnola) **98j:81185** 81S25 (46N50, 60H99)
Lindsey, J. K. ★ Parametric statistical inference. (English summary) Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xviii+490 *pp. ISBN* 0-19-852359-9 (Nancy Reid) **98g:62002** 62–01 (62Fxx)
— Stopping rules and the likelihood function. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 1, 167–177. (Summary) **98d:62003** 62A10 (62L10)
Lindström, Bernt On the binary digits of a power. (English summary) *J. Number Theory* **65** (1997), *no.* 2, 321–324. (Gennady Bachman) **98e:11010** 11A63
— An Erdős problem studied with the assistance of a computer. (Swedish. English summary) *Normat* **45** (1997), *no.* 4, 145–149, 188. (Summary) **98m:11140** 11Y55 (11B75)
— Finding finite B_2-sequences faster. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1173–1178. (Vsevolod F. Lev) **98m:11012** 11B75 (11T06, 11Y55)
Lindström, Mikael (*with* Galindo, Pablo) Gleason parts in uniform Fréchet algebras. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 326–330. (S. J. Sidney) **98k:46080** 46J05 (46E25)
— (*with* Aron, Richard M.; Galindo, Pablo) Compact homomorphisms between algebras of analytic functions. (English summary) *Studia Math.* **123** (1997), *no.* 3, 235–247. (Sarah H. Ferguson) **98h:46053** 46J15 (46E50, 46G20, 47B38)
— (*with* Bonet, José; Domański, Paweł; Taskinen, Jari) Composition operators between weighted Banach spaces of analytic functions. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 101–118. (H. Jarchow) **98m:47039** 47B38 (30D55, 46E15)
Lindström, Per ★ Aspects of incompleteness. Lecture Notes in Logic, 10. *Springer-Verlag, Berlin*, 1997. x+133 *pp. ISBN* 3-540-63213-1 (Roman Murawski) **98k:03118** 03F30 (03D35, 03F25, 03F40)
Lindstrom, Peter W. On the distribution of mass in collinear central configurations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2487–2523. (Donald G. Saari) **98h:70010** 70F10
Lindström, Sten (*with* Rabinowicz, Wlodzimierz) The Ramsey test revisited. *Conditionals: from philosophy to computer science*, 147–191, *Stud. Logic Comput.*, 5, *Oxford Univ. Press, New York*, 1995. (*see* **98d:03003**) 03B65 (03B45, 68T05, 68T27, 68T30)
— *see also* **Philosophy in Sweden**
Lindström, Torsten (*with* Gyllenberg, Mats; Hanski, Ilkka) A predator-prey model with optimal suppression of reproduction in the prey. (English summary) *Math. Biosci.* **134** (1996), *no.* 2, 119–152. (From the introduction) **98h:92035** 92D25
Lindström, Ulf (*with* Bastianelli, Fiorenzo) C-theorem for two-dimensional chiral theories. (English summary) *Phys. Lett. B* **380** (1996), *no.* 3-4, 341–345. (Kostas Skenderis) **98b:81223** 81T40 (81T17, 81T50)
— (*with* Jensen, Bjørn) Classical interactions for tensionless strings. (English summary) *Phys. Lett. B* **398** (1997), *no.* 1-2, 83–87. (João P. Nunes) **98c:81168** 81T30 (83E30)
— (*with* von Unge, Rikard) A picture of D-branes at strong coupling. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 233–238. (Summary) **98f:81273** 81T30
Lindzen, Richard S. (*with* Harnik, Nili) The effect of basic-state potential vorticity gradients on the growth of baroclinic waves and the height of the tropopause. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 3, 344–360. (Summary) **98k:86012** 86A10 (76C15)
Linek, Václav (*with* Sands, B.) A note on paths in edge-coloured tournaments. *Ars Combin.* **44** (1996), 225–228. (K. B. Reid) **98a:05075** 05C20 (05C38)
— (*with* Colbourn, Charles J.; Haddad, Lucien) Balanced Steiner triple systems. (English summary) *J. Combin. Theory Ser. A* **78** (1997), *no.* 2, 292–302. (Lucien Bénéteau) **98m:05018** 05B07 (05B05)
Linert, W. (*with* Lukovits, I.) Formulas for the hyper-Wiener and hyper-detour indices of fused bicyclic structures. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 65–74. (Rong Si Chen) **98i:92049** 92E10 (05C90)
Linet, B. Spin-weighted Green's functions in a conical space. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 39-40, 3075–3079. (Maria E. X. Guimarães) **98a:81141** 81T20 (83C47)
— (*with* Boisseau, B.) Exact metric for the exterior of a global string in the Brans-Dicke theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 963–973. 83D05
— Static, massive fields and vacuum polarization potential in Rindler space. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 61–71. 81T20 (83C47)
Ling, Alan C. H. (*with* Mullin, Ronald C.; Abel, R. Julian R.; Bennett, F. E.) On the closure of subsets of $\{4, 5, \cdots, 9\}$ which contain $\{4\}$. *Ars Combin.* **45** (1997), 33–76. (Charles J. Colbourn) **98i:05016** 05B05
— (*with* Yin, Jian Xing; Colbourn, Charles J.; Abel, R. Julian R.) The existence of uniform 5-GDDs. (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 275–299. (Frank E. Bennett) **98i:05018** 05B05
— A direct product construction for 5-sparse triple systems. (English summary) *J. Combin. Des.* **5** (1997), *no.* 6, 443–447. (Elizabeth J. Billington) **98k:05024** 05B07
— (*with* Colbourn, Charles J.) A class of partial triple systems with applications in survey sampling. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 1009–1018. (Summary) **98m:62020** 62D05
Ling, Chen A Lagrange duality relation for optimization problems involving set-to-set maps. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 209–216. 90C29 (49N15, 90C48)
Ling, Chiahua (*with* Pal, Nabendu) Estimation of a normal scale parameter under a balanced loss function. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 1, 21–38. (Khursheed Alam) **98g:62043** 62F10 (62C15)
Ling, Joseph M. Inner amenable semigroups. I. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 603–616. (Jean-Paul Pier) **98g:43002** 43A07
Ling, San On the $\mathbf{Q}$-rational cuspidal subgroup and the component group of $J_0(p')$. (English summary) *Israel J. Math.* **99** (1997), 29–54. (Chandrashekhar Khare) **98e:11076** 11G18 (11F11, 11F33)
— (*with* Chua, Seng-Kiat) On the rational cuspidal subgroup and the rational torsion points of $J_0(pq)$. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 8, 2255–2263. (Chandrashekhar Khare) **98f:11065** 11G18 (11F33)
— (*with* Leung, Ka Hin; Ma, Siu Lun; Tay, Kian Boon) Almost perfect sequences with $\theta = 2$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 128–131. (Dieter

Jungnickel) **98k:05028** 05B10

Ling, Shiqing (*with* Li, Wai Keung) On fractionally integrated autoregressive moving-average time series models with conditional heteroscedasticity. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 439, 1184–1194. (Summary) **98h:62138** 62M10

— (*with* Li, Wai Keung) Diagnostic checking of nonlinear multivariate time series with multivariate arch errors. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 447–464. (Summary) **98f:62262** 62M10

Ling, Y.-x. An interval algorithm for linear-nonlinear coupled systems. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 3, 229–232. (Miodrag Petković) **98g:65045** 65G10 (65H10)

Ling, Yi (*with* Ding, Shusen) Weighted norm inequalities for conjugate A-harmonic tensors. (English summary) *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 278–288. (M. Yu. Vasil'chik) **98c:58003** 58A14 (35J60)

— (*with* Ding, Shusen) On radii of starlikeness and convexity for convolutions of starlike functions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 2, 403–404. (S. Bhargava) **98a:30013** 30C45 (30C55)

Lingas, Andrzej (*with* Klein, Rolf) Fast skeleton construction. (English summary) *Algorithms—ESA '95 (Corfu)*, 582–595, *Lecture Notes in Comput. Sci.*, 979, *Springer, Berlin*, 1995. (*see* **98a:68001**) 68U05

— (*with* Mukhopadhyay, Asish) A linear-time construction of the relative neighborhood graph within a histogram. (English summary) *Algorithms and data structures (Kingston, ON*, 1995), 228–238, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

— Maximum tree-packing in time $O(n^{5/2})$. (English summary) *Computing and combinatorics (Xi'an*, 1995), 121–130, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:05052** 05C05 (05C70, 68R10)

— (*with* Levcopoulos, Christos; Wang, Cao An) On parallel complexity of planar triangulations. (English summary) *Foundations of software technology and theoretical computer science (Bangalore*, 1995), 413–427, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Summary) **98e:68249** 68U05

— (*with* Dessmark, Anders; Proskurowski, Andrzej) Faster algorithms for subgraph isomorphism of k-connected partial k-trees. (English summary) *Algorithms—ESA '96 (Barcelona)*, 501–513, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (Summary) **98g:68124** 68R10 (05C85, 68Q25)

— (*with* Soltan, V. P.) Minimum convex partition of a polygon with holes by cuts in given directions. (English summary) *Algorithms and computation (Osaka*, 1996), 315–325, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68U05 (52B55)

— (*with* Dessmark, Anders) On the power of nonconservative PRAM. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 303–311, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **98g:68036** 68Q05 (68Q10)

— (*with* Gąsieniec, Leszek; Jansson, Jesper; Östlin, Anna) On the complexity of computing evolutionary trees. (English summary) *Computing and combinatorics (Shanghai*, 1997), 134–145, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **98m:68118** 68Q25 (92D10)

— (*with* Maheshwari, Anil) A simple optimal parallel algorithm for reporting paths in a tree. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 1, 3–11. (Summary) **98d:68090** 68Q22 (05C85, 68R10)

— Maximum tree-packing in time $O(n^{5/2})$. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 307–316. (Summary) **98e:68111** 68Q25 (68R10)

— (*with* Dessmark, Anders; Garrido, Oscar) A note on parallel complexity of maximum f-matching. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 2, 107–109. (Summary) **98j:68043** 68Q22 (68Q25, 68R10, 90C27)

— *see also* **Algorithm theory—SWAT '96**, **98d:68006**

Lingevitch, Joseph F. (*with* Rossi, Louis F.; Bernoff, Andrew J.) Quasi-steady monopole and tripole attractors for relaxing vortices. (English summary) *Phys. Fluids* **9** (1997), *no.* 8, 2329–2338. (Summary) **98e:76026** 76D05 (76C05, 76F20, 76M25)

Lingjærde, O. C. (*with* Kugiumtzis, D.; Christophersen, N.) Regularized local linear prediction of chaotic time series. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 344–360. 58F40 (58F13)

Lingras, P. J. (*with* Yao, Y. Y.) Interpretations of belief functions in the theory of rough sets. (English summary) From rough sets to soft computing (Wrightsville Beach, NC, 1995). *Inform. Sci.* **104** (1998), *no.* 1-2, 81–106. (Summary) **98f:04007** 04A72 (68T30)

Lingwood, R. J. On the impulse response for swept boundary-layer flows. (English summary) *J. Fluid Mech.* **344** (1997), 317–334. (Summary) **98h:76036** 76E05 (76D10)

Linhares, C. A. (*with* Mignaco, Juan A.) On the physical properties related to the algebraic structure of the Dirac equation in three-dimensional space-time. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 9, 1523–1542. 81R25 (81R05)

Linhares de Jesus, C. (*with* Lemes, V. E. R.; Sasaki, C. A. G.; Sorella, S. P.; Vilar, L. C. Q.; Ventura, O. S.) A simple remark on three-dimensional gauge theories. (English summary) *Phys. Lett. B* **418** (1998), *no.* 3-4, 324–328. (Summary) **98m:81195** 81T70 (81T13)

Linhares-Sales, Cláudia (*with* Everett, Hazel; de Figueiredo, Celina M. H.; Maffray, Frédéric; Porto, Oscar; Reed, Bruce A.) Path parity and perfection. (English summary) Graphs and combinatorics (Marseille, 1995). *Discrete Math.* **165/166** (1997), 233–252. (Irena C. Rusu) **98a:05069** 05C15 (05C38, 05C85)

— (*with* Maffray, Frédéric; Reed, Bruce A.) On planar perfectly contractile graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 2, 167–187. (Mark C. Ginn) **98e:05093** 05C75

Linial, Nathan (*with* Kahn, Jeff; Samorodnitsky, Alex) Inclusion-exclusion: exact and approximate. (English summary) *Combinatorica* **16** (1996), *no.* 4, 465–477. (Giuseppe Pellegrino) **98b:05008** 05A15

— Local-global phenomena in graphs [MR 95a:05040]. (English summary) *Combinatorics, geometry and probability (Cambridge*, 1993), 449–461, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 05C15 (05C35, 05C70)

Link, M. Leanne (*with* Beard, J. T. B., Jr.) Iterated sums of polynomial divisors. (English summary) *Libertas Math.* **17** (1997), 111–124. (Mireille Car) **98j:11114** 11T06 (11T55)

Linke, Thomas (*with* Schaub, Torsten H.) Lemma handling in default logic: theorem provers. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty (Fribourg*, 1995), 285–292, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T27 (03B35, 68T15)

— (*with* Schaub, Torsten H.) Putting default logics in perspective. (English summary) *KI-96: Advances in artificial intelligence (Dresden)*, 241–252, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (Summary) **98f:68248** 68T27 (03B60, 03B70)

Linkevich, A. D. Anticipation, perception, language, mind and nonlinear dynamics of neural networks. (English summary) Consciousness as informational phenomenalism: an informational, phenomenological, philosophical, neural and quantum-mechanical view. *Informatica (Ljubl.)* **21** (1997), *no.* 3, 435–463. (Summary) **98m:92037** 92J40 (92B20)

Lin'kov, Yu. N. (*with* Mēdvēdēva, M. Ī.) Limit theorems on large deviations for the log-likelihood ratio. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 53 (1995), 87–96. (Summary) **98d:62026** 62E20 (60F10, 62F05)

— Asymptotic discrimination of autoregressive processes. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 5, 635–641; *translation in Ukrainian Math. J.* **48** (1996), *no.* 5, 706–714 (1997). (N. Leonenko) **98c:62174** 62M10 (60B10)

— (*with* Shevlyakov, Yu. A.) Properties of the likelihood ratio for processes with independent increments. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 237–252. (Summary) **98k:62153** 62M07

Links, Jon R. (*with* Hibberd, Katrina E.; Gould, Mark D.) Algebraic Bethe ansatz for the anisotropic supersymmetric U model. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8053–8065. (Deng Feng Wang) **98e:82025** 82B23 (81R50)

— (*with* Gould, Mark D.) Eigenvalues of Casimir invariants for unitary irreps of $U_q(\mathrm{gl}(m\vert n))$. (English summary) *J. Phys. A* **30** (1997), *no.* 5, 1613–1627. (Nicolás Andruskiewitsch) **98e:81075** 81R50 (16W30, 17B37)

— (*with* Foerster, Angela) On the construction of integrable closed chains with quantum supersymmetry. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2483–2487. (Rinat M. Kashaev) **98f:82052** 82B23 (17B81, 81R50, 82B20)

— (*with* Gould, Mark D.; Zhang, Yao-Zhong; Tsohantjis, Ioannis) Twisted quantum affine superalgebra $U_q[\mathrm{sl}(2\vert2)^{(2)}]$, $U_q[\mathrm{osp}(2\vert2)]$ invariant R-matrices and a new integrable electronic model. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4313–4325. (Jun'ichi Shiraishi) **98j:81150** 81R50 (17B37, 17B81, 82D20)

Lin-Liu, Y. R. (*with* Miller, Robert L.[2]; Chu, M. S.; Greene, John M.; Waltz, R. E.) Noncircular, finite aspect ratio, local equilibrium model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 973–978. 76X05

Linnaeus, S. *see* **Fröman, Nanny**, **98m:81033**

Linnér, Anders Curve-straightening and the Palais-Smale condition. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3743–3765. (Joel L. Weiner) **98k:58046** 58E05 (58E10)

Linnestad, Henrik (*with* Prehofer, Christian; Lysne, Olav) Higher-order proof by consistency. (English summary) *Foundations of software technology and theoretical computer science (Hyderabad*, 1996), 274–285, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68T15 (68Q60)

— Fatal steps of Knuth-Bendix completion. (English summary) *Nordic J. Comput.* **3** (1996), *no.* 2, 131–143. (Klaus Madlener) **98e:68129** 68Q42

Linneweber-Lammerskitten, Helmut Paradoxical simplification. *Introduction aux logiques non classiques*, 189–221, *Travaux Log.*, 11, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **98k:03007**) 03B45

Lins, Sóstenes (*with* Mulazzani, Michele) On the vertex group of n-manifolds. (English summary) *Geom. Dedicata* **62** (1996), *no.* 1, 53–64. (Roman Nedela) **98c:05078** 05C25 (20F05, 57M05, 57M15)

— Twistors: bridges among 3-manifolds. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 145–165. (L. Neuwirth) **98k:57020** 57M50 (05C10, 57M15, 57Q15)

Lins Neto, A. (*with* Berthier, Michel; Cerveau, D.) Sur les feuilletages analytiques réels et le problème du centre. [Real-analytic foliations and the problem of the center] *J. Differential Equations* **131** (1996), *no.* 2, 244–266. (Sergeĭ Yu. Yakovenko) **98a:58128** 58F18 (32L30, 34A20, 34C05)

— (*with* Soares, M. G.) Algebraic solutions of one-dimensional foliations. (English summary) *J. Differential Geom.* **43** (1996), *no.* 3, 652–673. (Costache Apreutesei) **98k:32045** 32L30

van Lint, Jacobus Hendricus (*with* Hollmann, Henk D. L.) Universal sequences. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 347–352. (Harald Niederreiter) **98j:11010** 11B75 (94A55)

— On the number of blocks in a generalized Steiner system. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 353–355. (Summary) **98j:05022** 05B05

Linton, Oliver B. (*with* Chen, Rong; Härdle, Wolfgang; Severance-Lossin, E.) Nonparametric estimation of additive separable regression models. (English summary) *Statistical theory and computational aspects of smoothing (Semmering*, 1994), 247–265, *Contrib. Statist., Physica, Heidelberg*, 1996. (Summary) **98f:62083** 62G05

— (*with* Härdle, Wolfgang) Estimation of additive regression models with known links. (English summary) *Biometrika* **83** (1996), *no.* 3, 529–540. (Ulrich Stadtmüller) **98c:62068** 62G05 (62G20, 62J12)

— (*with* Hengartner, Nicolas W.) Nonparametric regression estimation at design poles and zeros. (English and French summaries) *Canad. J. Statist.* **24** (1996), *no.* 4, 583–591. (Noël Veraverbeke) **98b:62067** 62G05 (62G20)

— Edgeworth approximation for MINPIN estimators in semiparametric regression models. (English summary) *Econometric Theory* **12** (1996), *no.* 1, 30–60. (Zhi-Dong Bai) **98f:62105** 62G05 (62E20, 62J02)

— Efficient estimation of additive nonparametric regression models. (English summary) *Biometrika* **84** (1997), *no.* 2, 469–473. (Summary) **98k:62062** 62G05

Linton, Steve (*with* Cooperman, Gene; Finkelstein, Larry) Constructive recognition of a black box group isomorphic to $\mathrm{GL}(n, 2)$. (English summary) *Groups and computation, II (New Brunswick, NJ*, 1995), 85–100, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (D. F. Holt) **98d:20054** 20G40 (20–04)

Linttner, Małgorzata Green potentials and boundary value problem for iterated Hermite equation. (Polish summary) *The limit problems for differential equations*, 179–184, *Monogr.*, 118, *Cracow Univ. Tech., Kraków*, 1991. (Introduction) **98d:34030** 34B05 (34B27)

Linusson, Svante (*with* Eriksson, Kimmo) Combinatorics of Fulton's essential set. *Duke Math. J.* **85** (1996), *no.* 1, 61–76. (Witold Kraśkiewicz) **98b:05105** 05E15

da Lio, Francesca *see* **Da Lio, Francesca**

Lioen, Walter M. (*with* van de Lune, Jan) Systematic computations on Mertens' conjecture and Dirichlet's divisor problem by vectorized sieving. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 421–432, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Jonathan P. Sorenson) **98j:11125** 11Y70 (11N60)

— (*with* Hemker, Pieter W.; Koren, Barry; Louter-Nool, Margreet; van der Maarel, H. T. M.) Multigrid for steady gas dynamics problems. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 393–417, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76104** 76M25 (65M55, 76N15)

Liolios, A. A. (*with* Tzaferopoulos, M. A.) On a branch and bound algorithm for the solution of a family of softening material problems of mechanics with applications to the analysis of metallic structures. (English summary) *J. Global Optim.* **11** (1997), *no.* 2, 133–149. (Summary) **98f:73039** 73V25 (49J40, 73E05)

— *see also* **Transform methods in solid mechanics, 98h:73004**

Liolios, T. E. (*with* Grypeos, M. E.) The Jacobi eigenfunctions and the quantum mechanical hypervirial theorems method for bound-state problems. (English summary) *J. Phys. A* **30** (1997), *no.* 10, L325–L330. (Summary) **98c:81039** 81Q05

Lion, Alexander On the thermodynamics of fractional damping elements. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 2, 83–96. (Summary) **98d:73008** 73B30 (73F15, 80A10)

Lion, Jean-Marie (*with* Rolin, Jean-Philippe) Homologie des ensembles semi-pfaffiens. (English and French summaries) [Homology of semi-Pfaffian sets] *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 3, 723–741. (Summary) **98g:32010** 32C05 (14P15, 32B20)

— (*with* Rolin, Jean-Philippe) Théorème de préparation pour les fonctions logarithmico-exponentielles. (English and French summaries) [Preparation theorem for logarithmic-exponential functions] *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 3, 859–884. (Zbigniew Szafraniec) **98h:32009** 32B20 (14P15, 32C05)

— (*with* Rolin, Jean-Philippe) Théorème de Gabrielov et fonctions log-exp-algébriques. (English and French summaries) [Gabrielov's theorem and log-exp-algebraic functions] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1027–1030. (Summary) **98b:14043** 14P10

Lionello, Roberto (*with* Mikić, Zoran; Schnack, Dalton D.) Magnetohydrodynamics of solar coronal plasmas in cylindrical geometry. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 172–201. (Summary) **98m:85001** 85–08 (76W05, 85A30)

Lionheart, W. R. B. Conformal uniqueness results in anisotropic electrical impedance imaging. (English summary) *Inverse Problems* **13** (1997), *no.* 1, 125–134. (A. P. Stone) **98c:78025** 78A55 (78A30)

— Boundary shape and electrical impedance tomography. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 139–147. (Summary) **98m:78029** 78A55

le Lionnais, François *see* **Le Lionnais, François**

Lions, Jacques-Louis (*with* Sanchez-Palencia, Évariste) Sur quelques espaces de la théorie des coques et la sensitivité. (English summary) [On certain spaces of the theory of shells and sensitivity] *Homogenization and applications to material sciences (Nice, 1995)*, 271–278, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Maïtine Bergounioux) **98k:73051** 73K15 (35Q72, 46N20)

— Remarks on some mathematical problems arising in climatology. (English summary) *ICIAM 95 (Hamburg, 1995)*, 177–212, *Math. Res.*, 87, *Akademie Verlag, Berlin*, 1996. (Summary) **98g:86007** 86A10 (35Q99, 76U05, 86A05)

— (*with* Zuazua, Enrique) Contrôlabilité exacte des approximations de Galerkin des équations de Navier-Stokes. (English and French summaries) [Exact controllability of the Galerkin approximations of Navier-Stokes equations] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1015–1021. (Vera Winitzky de Spinadel) **98d:93013** 93B05 (35Q30, 76D05, 93C20)

— (*with* Temam, Roger; Wang, Shou Hong) A simple global model for the general circulation of the atmosphere. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 8, 707–752. (Rakesh Kumar Bhatnagar) **98f:86004** 86A10 (00A71, 35Q35, 76C15)

— (*with* Murat, François) Ennio De Giorgi (1928–1996). (French) *Gaz. Math. No.* 71 (1997), 30–34. 01A70

— (*with* Zuazua, Enrique) On the cost of controlling unstable systems: the case of boundary controls. (English summary) *J. Anal. Math.* **73** (1997), 225–249. (Kenneth B. Hannsgen) **98m:93060** 93C20 (35B37, 93B05)

— (*with* Manley, O. P.; Temam, Roger; Wang, Shou Hong) Physical interpretation of the attractor dimension for the primitive equations of atmospheric circulation. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 9, 1137–1143. (Summary) **98c:86004** 86A10 (35Q35, 76C05, 76U05)

— (*with* Murat, François) Ennio De Giorgi (1928–1996). Translated from the French. *Notices Amer. Math. Soc.* **44** (1997), *no.* 9, 1095–1096. 01A70

— On the controllability of distributed systems. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 10, 4828–4835. (Vilmos Komornik) **98e:93008** 93B05 (35K99, 93C20)

— (*with* Sanchez-Palencia, Évariste) Sensitivity problems for some shells with edges. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 1–16. (Petr E. Tovstik) **98j:73058** 73K15 (35B40, 35Q72)

— Les travaux de Jean Leray en mécanique des fluides. [The works of Jean Leray in fluid mechanics] *Gaz. Math. No.* 75 (1998), 7–8. 01A70

— *see also* **Handbook: Numerical analysis, 98b:65001** *and* **98i:65001**

Lions, Pierre-Louis ★ Mathematical topics in fluid mechanics. Vol. 1. (English summary) Incompressible models. Oxford Lecture Series in Mathematics and its Applications, 3. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1996. xiv+237 *pp. ISBN* 0-19-851487-5 (Denis Serre) **98b:76001** 76–02 (35Q30, 35Q35, 76D05)

— (*with* Fournie, Eric; Lasry, J. M.) Some nonlinear methods for studying far-from-the-money contingent claims. *Numerical methods in finance*, 115–145, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (Monique Pontier) **98m:90029** 90A12 (90A09)

— (*with* Alvino, Angelo; Ferone, Vincenzo; Trombetti, Guido) Convex symmetrization and applications. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 275–293. (Andrzej Swiech) **98d:35068** 35J65 (35B05, 49Q20)

— (*with* Bahri, Abbas) On the existence of a positive solution of semilinear elliptic equations in unbounded domains. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 3, 365–413. (Gabriella Tarantello) **98k:35047** 35J60 (35B05, 58E05)

— (*with* Arisawa, Mariko; Ishii, Hitoshi) Un contre-exemple pour la théorie du contrôle ergodique en dimension infinie. (English and French summaries) [A counterexample for ergodic control theory in infinite dimensions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 37–41. (E. N. Barron) **98d:49036** 49L25 (35B37, 93E20)

— (*with* Alvarez, Olivier; Lasry, J. M.) Convex viscosity solutions and state constraints. (English and French summaries) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 3, 265–288. (Katsuyuki Ishii) **98k:35045** 35J60 (35D10, 49L25)

— (*with* Chambolle, Antonin) Image recovery via total variation minimization and related problems. (English summary) *Numer. Math.* **76** (1997), *no.* 2, 167–188. (Tomáš Roubíček) **98c:65099** 65K10 (49J99, 68U10)

— *see also* **Bardi, Martino et al., 98b:35005**

Lior, Amiran (*with* Judah, Haim; Reclaw, Ireneusz) Very small sets. *Colloq. Math.* **72** (1997), *no.* 2, 207–213. (Étienne Matheron) **98a:04003** 04A15 (03E50)

Liotta, Giuseppe (*with* Di Battista, Giuseppe) Computing proximity drawings of trees in the 3-dimensional space. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 239–250, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68R10 (68U05)

— (*with* Di Battista, Giuseppe; Garg, Ashim; Tamassia, Roberto; Tassinari, Emanuele; Vargiu, Francesco) An experimental comparison of four graph drawing algorithms. (English summary) 11th ACM Symposium on Computational Geometry (Vancouver, BC, 1995). *Comput. Geom.* **7** (1997), *no.* 5-6, 303–325. (Summary) **98a:68181** 68U05 (05C85, 68R10)

Liou, Lii-Perng Conformal flows by curvature on compact manifolds. *Comm. Anal. Geom.* **4** (1996), *no.* 3, 435–457. (Emmanuel Hebey) **98b:53032** 53C21 (58G11)

Liou, Meng-Sing (*with* Wada, Yasuhiro) An accurate and robust flux splitting scheme for shock and contact discontinuities. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 3, 633–657. (Dietmar Kröner) **98d:76134** 76M25 (65C20, 65M06, 76K05, 76L05)

Liousse, Isabelle (*with* Belliart, Michel; Loray, Frank) Sur l'existence de points fixes attractifs pour les sous-groupes de $\mathrm{Aut}(\mathbf{C}_0)$. (English and French summaries) [Existence of attractive fixed points for the subgroups of $\mathrm{Aut}(\mathbf{C}_0)$] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 443–446. (J. S. Joel) **98c:58134** 58F23 (30D05)

Liouville, Joseph (*with* Duvina, Sylvain) Le Journal de mathématiques pures et appliquées sous la férule de Joseph Liouville (1836–1874): la solitude d'un directeur et ses conséquences. (English summary) [The Journal de Mathématiques Pures et Appliquées under the rule of Joseph Liouville (1836–1874): isolation of a director and its consequences] *Riv. Stor. Sci.* (2) **3** (1995), *no.* 2, 157–171 (1997). (Summary) **98g:01039** 01A55

— *see also* **Li, Wei Jun**

ripphausen-Lipa, Heike *see* **Ripphausen-Lipa, Heike**

Lipagina, L. V. On the structure of the algebra of invariant affinor structures on the sphere S^5. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 9, 17–20; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 9, 15–18 (1998). (Włodzimierz Jelonek) **98k:53094** 53C60 (53C35)

Lipan, O. (*with* Wiegmann, P. B.; Zabrodin, A. V.) Fusion rules for quantum transfer matrices as a dynamical system on Grassmann manifolds. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 19, 1369–1378. (Summary) **98j:81160** 81R50 (58F07, 82B23)

Lipatov, E. P. An asymptotic formula for irreducible trinomials divisible by a given irreducible polynomial. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 62–64; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 46–48. (Igor E. Shparlinski) **98h:11158** 11T30

Lipatov, I. I. (*with* Bogolepov, V. V.) Effect of compressibility on the development of Taylor-Görtler vortices at high Reynolds numbers. *Fluid Dynam.* **32** (1997), *no.* 1, 28–38; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 1, 36–47 (*Russian. Russian summary*). (James P. Denier) **98e:76098** 76N20 (76E30)

Lipavskiĭ, M. V. (*with* Tolstykh, Andreĭ Igorevich) On performance of methods with third- and fifth-order compact upwind differencing. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 205–232. (Summary) **98m:76113** 76M20 (76H05)

Lipavský, Pavel (*with* Špička, Václav; Morawetz, Klaus) Nonlocal corrections to the Boltzmann equation for dense Fermi systems. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 160–166. 82C40

Lipkovski, Aleksandar T. Algebraic geometry (selected topics). *Zb. Rad. (Beogr.)* **7(15)** (1997), 5–69. (Arnaud Beauville) **98i:14001** 14–01

Lipman, Joseph (*with* Kleiman, Steven L.; Ulrich, Bernd) The multiple-point schemes of a finite curvilinear map of codimension one. (English summary) *Ark. Mat.* **34** (1996), *no.* 2, 285–326. (Valerio Vassallo) **98a:14002** 14C05 (14N10, 14Q15)

— (*with* Alonso Tarrío, Leovigildo; Jeremías López, Ana) Local homology and cohomology on schemes. (English summary) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 1, 1–39. (Gennady Lyubeznik) **98d:14028** 14F99 (14B15)

Lipman, Marc J. (*with* Beineke, Lowell W.; Goddard, Wayne) Graphs with maximum edge-integrity. (English summary) *Ars Combin.* **46** (1997), 119–127. (Summary) **98d:05071** 05C35

— The degree matrix of a graph. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 55–63. (Summary) **98j:05100** 05C50

Lipniacki, T. (*with* Zorski, H.) On continuum models of DNA and other biopolymers. *Analysis, numerics and applications of differential and integral equations (Stuttgart, 1996)*, 251–256, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (*see* **98i:00036**) 92D15

Lipnik, P. Architecture de Mgr. G. Lemaître en arithmétique. [The arithmetical architecture of G. Lemaître] *Rev. Questions Sci.* **168** (1997), *no.* 2, 161–178. 01A60

Lipovan, Octavian On the extension of probabilistic multivalued measures. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 52–58.

28B20

— The probabilistic integrability of multivalued functions. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 38–47. 28B20

— Some probabilistic generalizations of the submeasure concept. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 75–86. (B. Schweizer) **98g:60007** 60A10 (54E70)

Lipovskiĭ, V. D. (*with* Varzugin, G. G.; Gut-shabash, E. Sh.) A boundary value problem for a two-dimensional stationary Heisenberg magnet with nontrivial background. II. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 513–529; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1166–1177 (1996). (Summary) **98k:82051** 82B20 (35Q60, 82C31)

Lipp, Christoph (*with* Jung, Christof; Seligman, Thomas H.) Classification of incomplete horseshoes and the chaotic inverse scattering problem. (English summary) *Proceedings of the IV Wigner Symposium* (*Guadalajara*, 1995), 180–185, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:58119** 58F13 (58F40)

Lipparini, Paolo Productive $[\lambda, \mu]$-compactness and regular ultrafilters. (English summary) *Topology Proc.* **21** (1996), 161–171. (Summary) **98j:54043** 54D30 (54A20)

Lippe, E. (*with* ter Hofstede, A. H. M.; van der Weide, Th. P.) Applications of a categorical framework for conceptual data modeling. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 927–963. 68P99 (68T30)

Lipphardt, B. L., Jr. (*with* Kirwan, A. D., Jr.; Mied, Richard P.) Rotating modons over isolated topography in a two-layer ocean. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 535–570. (Yuri N. Skiba) **98j:76016** 76C05 (76U05, 76V05, 86A05)

Lipponen, Marjo Post correspondence problem: words possible as primitive solutions. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 63–74, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (*see* **98c:68007**) 68Q45 (03D03)

— On F-prime solutions of the Post correspondence problem. (English summary) *Developments in language theory, II* (*Magdeburg*, 1995), 139–147, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98e:68144** 68Q45 (03D05)

— (*with* Calude, Cristian; Casti, John L.; Gibbons, Phillip B.) Unconventional models of computation: a conventional report. *Complexity* **3** (1998), *no.* 4, 8–11. 68Q05

Lipschutz, Seymour (*with* Korsh, James F.) Generating multiset permutations in constant time. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 321–335. (Peter Kirschenhofer) **98j:68127** 68R05

— (*with* Korsh, James F.) Shifts and loopless generation of k-ary trees. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 235–240. (Summary) **98m:68043** 68P05 (68R05, 68R10)

Lipschütz-Yevick, Miriam Comment: "Two places at once: a remembrance of Paul Erdős" [Math. Intelligencer **19** (1997), no. 2, 38–48; MR 98f:01080] by J. Pach. *Math. Intelligencer* **20** (1998), *no.* 1, 12–13, 38. 01A70

Lipscomb, Stephen The infinite alternating semigroup. *Semigroup Forum* **55** (1997), *no.* 1, 118–130. (Eckehart Hotzel) **98h:20113** 20M20 (20M18)

Lipshitz, L. (*with* Robinson, Z.) One-dimensional fibers of rigid subanalytic sets. *J. Symbolic Logic* **63** (1998), *no.* 1, 83–88. (H. Dugald Macpherson) **98m:32049** 32P05 (03C60, 32B20)

Lipsitz, Stuart R. (*with* Zhao, Lue Ping; Molenberghs, Geert) A semiparametric method of multiple imputation. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 127–144. 62D05 (62G99)

Lipsman, Ronald L. The Penney-Fujiwara Plancherel formula for Gelfand pairs. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 2, 655–677. (Summary) **98k:22049** 22E45 (43A85)

— (*with* Benson, Chal; Jenkins, Joe; Ratcliff, Gail) A geometric criterion for Gelfand pairs associated with the Heisenberg group. (English summary) *Pacific J. Math.* **178** (1997), *no.* 1, 1–36. (Jean Ludwig) **98i:22012** 22E25 (22E60, 43A20)

Liptai, Kálmán Points on the plane whose coordinates are terms of recursive sequences. (English summary) *Publ. Math. Debrecen* **49** (1996), *no.* 1-2, 177–182. (Summary) **98e:11015** 11B37

Lipton, James (*with* Finkelstein, Stacy E.; Freyd, P. J.) Logic programming in tau categories. (English summary) *Computer science logic* (*Kazimierz*, 1994), 249–263, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (Summary) **98e:68029** 68N17 (68Q55)

Lipton, R. *see* **Lipton, Robert P.**

Lipton, Richard J. (*with* Boneh, Dan) Quantum cryptanalysis of hidden linear functions (extended abstract). (English summary) *Advances in cryptology—CRYPTO '95* (*Santa Barbara, CA*, 1995), 424–437, *Lecture Notes in Comput. Sci.*, 963, *Springer, Berlin*, 1995. (Summary) **98a:94019** 94A60 (11T71)

— (*with* Boneh, Dan; Dunworth, Christopher; Sgall, Jiří) On the computational power of DNA. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 79–94. (Eric Bach) **98b:68042** 68Q10 (68Q05, 92C40, 92D20)

— (*with* Boneh, Dan; DeMillo, Richard A.) On the importance of checking cryptographic protocols for faults (extended abstract). (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 37–51, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (*see* **98i:94002**) 94A60

— (*with* Landweber, Laura F.) DNA^{2}DNA computations: a potential "killer app"? *Automata, languages and programming* (*Bologna*, 1997), 56–64, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q05 (92D20)

Lipton, Robert P. (*with* Bendsøe, Martin Philip; Hammer, V. B.; Pedersen, P. Terndrup) Minimum compliance design of laminated plates. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 45–56, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **98h:73063** 73K40 (73K10, 73K20)

— (*with* Díaz, Alejandro) Reinforced Mindlin plates with extremal stiffness. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 28, 3691–3704. (Leonid V. Gibiansky) **98h:73008** 73B27 (73K10, 73K20, 73K40)

— Variational methods, bounds, and size effects for composites with highly conducting interface. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 3, 361–384. (Leonid V. Gibiansky) **98c:73007** 73B27 (73K20, 73V25, 78A99)

— (*with* Bendsøe, Martin Philip) Extremal overall elastic response of polycrystalline materials. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 11-12, 1765–1780. (Leonid V. Gibiansky) **98k:73053** 73K40 (73B27, 73C99)

— Reciprocal relations, bounds, and size effects for composites with highly conducting interface. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 2, 347–363. (Leonid V. Gibiansky) **98c:73008** 73B27 (35Q72, 78A30)

Liptser, R. Sh. (*with* Klebaner, Fima Chaim) Large deviations for recurrent sequences with aftereffect. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 4, 23–34; *translation in Problems Inform. Transmission* **32** (1996), *no.* 4, 320–330 (1997). (Vadim R. Fatalov) **98e:60042** 60F10

— (*with* Steinberg, Yossef; Bobrovsky, B. Z.; Schuss, Z.) Fixed lag smoothing of scalar diffusions. I. The filtering-smoothing equation. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 2, 237–255. (Michael A. Kouritzin) **98f:60080** 60G35 (60J60, 93E11)

— (*with* Kleptsyna, M. L.; Serebrovskiĭ, A. P.) Nonlinear filtering problem with contamination. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 917–934. (Michael A. Kouritzin) **98m:60066** 60G35 (62M20, 93E11)

— (*with* Chow, Pao-Liu; Khasminskii, Rafail Z.) Tracking of signal and its derivatives in Gaussian white noise. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 2, 259–273. (Uttara V. Naik-Nimbalkar) **98m:60065** 60G35 (62G05, 62M20, 93E10)

— (*with* Anulova, S. V.; Veretennikov, A. Yu.; Krylov, Nicolai V.; Shiryaev, Albert N.) Stochastic calculus [91i:60002b]. *Probability theory, III*, 1–253, *Encyclopaedia Math. Sci.*, 45, *Springer, Berlin*, 1998. (*see* **98h:60002**) 60–02 (60Gxx, 60Hxx)

Liquori, Luigi (*with* Bono, Viviana) A subtyping for the Fisher-Honsell-Mitchell lambda calculus of objects. (English summary) *Computer science logic* (*Kazimierz*, 1994), 16–30, *Lecture Notes in Comput. Sci.*, 933, *Springer, Berlin*, 1995. (*see* **98d:68013**) 68N15 (03B40, 03B70, 68Q55)

— (*with* Bono, Viviana; Bugliesi, Michele) A lambda calculus of incomplete objects. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 218–229, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (*see* **98f:68011**) 68N15 (03B40)

— (*with* van Bakel, Steffen; Ronchi della Rocca, Simona; Urzyczyn, Paweł) Comparing cubes of typed and type assignment systems. (English summary) *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 267–303. (Adolfo Piperno) **98i:03016** 03B15 (03B40, 68N15, 68Q55)

Liranso, Tesfaye (*with* Moser, Barry Kurt; Payton, Mark E.) Two stage estimation of parameters and quantiles of two parameter binary models. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 213–234. (Summary) **98d:62143** 62L12

Liriano, Sal A new proof of a theorem of Magnus. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 352–355. (Summary) **98c:20060** 20F05 (20E05)

Lirkov, Ivan (*with* Margenov, Svetozar D.) Displacement decomposition circulant preconditioners for almost incompressible 2D elasticity systems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 292–299, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65F10 (65F20, 73V05)

Lisbona, F. (*with* Clavero Gracia, Carmelo; Jorge, J. C.; Shishkin, Grigorii I.) Splitting time methods and one-dimensional special meshes for reaction-diffusion parabolic problems. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 106–113, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 65M55

— (*with* Aguilar, Gloria; Madaune-Tort, M.) Analysis of a nonlinear parabolic-hyperbolic problem. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 165–181. (Nickolai A. Lar'kin) **98h:35177** 35M10 (35K55, 35L60)

— (*with* Aguilar, Gloria) Singular perturbation on a subdomain. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 292–307. (Ivan Straškraba) **98d:34085** 34E15 (34B15)

Lisca, P. (*with* Matić, G.) Tight contact structures and Seiberg-Witten invariants. *Invent. Math.* **129** (1997), *no.* 3, 509–525. (John B. Etnyre) **98f:57055** 57R57 (53C15, 57R15)

Lischer, Peter Robust statistical methods in interlaboratory analytical studies. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 251–265, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (*see* **98h:62004**) 62F35 (62J10)

Liseo, Brunero (*with* Moreno, Elías; Salinetti, Gabriella) Bayesian robustness for classes of bidimensional priors with given marginals. (English summary) With a discussion by Sandra Fortini and a rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 101–118, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98f:62069** 62F15 (62A15)

Lisetskyi, A. F. (*with* Filippov, G. F.; Dotsenko, I. S.) Construction of the basis states with $L = 2$ for a three-cluster system. (English, Russian and Ukrainian summaries) *Ukraïn. Fiz. Zh.* **41** (1996), *no.* 9, 779–785. (Summary) **98a:81250** 81U10 (81R05)

— (*with* Filippov, G. F.; Draayer, J. P.) Microscopic $SU_A(3) \otimes SU_s(3)$ interpretation of a two triaxial rotor model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1350–1365. (R. Mirman) **98m:81213** 81V35 (22E70, 81R05)

Lishevskiĭ, V. P. The great heretic. On the 450th anniversary of the birth of Giordano Bruno. (Russian) *Vestnik Ross. Akad. Nauk* **67** (1997), *no.* 11, 1019–1023. 01A70

di Lisio, R. *see* **Di Lisio, R.**

Lisitsa, Alexei (*with* Sazonov, Vladimir Yu.) On linear ordering of strongly extensional finitely-branching graphs and non-well-founded sets. *Logical foundations of computer science* (*Yaroslavl*, 1997), 178–188, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (*see* **98i:68009**) 68Q15 (03C13, 03D15)

— (*with* Sazonov, Vladimir Yu.) Δ-languages for sets and LOGSPACE computable graph transformers. (English summary) Non-standard logics and logical aspects of computer science (Kanazawa, 1994). *Theoret. Comput. Sci.* **175** (1997), *no.* 1, 183–222. (Summary) **98c:03087** 03D15 (03B70, 03E75, 68P15, 68Q15)

Lisitsa, V. T. Multidimensional k-helical surfaces in the Euclidean space E^m. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 118–124. (V. Oproiu) **98h:53011** 53A07

Liska, Richard (*with* Wendroff, Burton) Analysis and computation with stratified fluid models. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 212–244. (Summary) **98k:76144** 76V05 (65M30, 76M20)

— (*with* Kocbach, Ladislav) Generation and verification of algorithms for symbolic-numeric processing. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 367–382. (Summary) **98m:68129** 68Q40

— *see also* **Applications of quantifier elimination**, **98d:68009**

Liskevich, Vitali (*with* Manavi, Amir) Dominated semigroups with singular complex potentials. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 281–305. (Peter Stollmann) **98m:47061** 47D06 (35J99, 47F05)

Liski, Erkki P. On Löwner-ordering antitonicity of matrix inversion. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **12** (1996), *no.* 4, 435–442. (Ronald L. Smith) **98c:15015** 15A09

— (*with* Luoma, Arto; Sinha, Bikas K.) Optimal designs in random coefficient linear regression models. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 211–229. (Summary) **98b:62138** 62K05 (62J05)

— (*with* Luoma, Arto; Mandal, Nripes K.; Sinha, Bikas K.) Optimal design for an inverse prediction problem under random coefficient regression models. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 277–288, xv. 62K05

— (*with* Pan, Jian-Xin; Fang, Kai Tai) Bayesian local influence for the growth curve model with Rao's simple covariance structure. (English summary) *J. Multivariate Anal.* **58** (1996), *no.* 1, 55–81. (Yasunori Fujikoshi) **98c:62109** 62H12 (62J20)

— (*with* Trenkler, Götz; Groß, Jürgen) Estimation from transformed data under the linear regression model. (English summary) *Statistics* **29** (1997), *no.* 3, 205–219. (Summary) **98g:62130** 62J05

Liśkiewicz, Maciej Interactive proof systems with public coin: lower space bounds and hierarchies of complexity classes. (English summary) *STACS 97 (Lübeck)*, 129–140, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98g:68050** 68Q15

Liskova, N. A. (*with* Kirillov, Anatol N.) Completeness of Bethe's states for the generalized *XXZ* model. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1209–1226. (Gunter Schütz) **98e:82027** 82B23 (82B20)

Lisoněk, Petr New maximal two-distance sets. (English summary) *J. Combin. Theory Ser. A* **77** (1997), *no.* 2, 318–338. (J. J. Seidel) **98a:51014** 51K99 (05D05)

— (*with* Hjorth, Poul; Markvorsen, Steen; Thomassen, Carsten) Finite metric spaces of strictly negative type. (English summary) *Linear Algebra Appl.* **270** (1998), 255–273. (Yao Zhang) **98k:15027** 15A48 (15A63)

Lisovik, Leonid P. Hard sets method and semilinear reservoir method with applications. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 219–231, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (*see* **98d:68011**) 68Q45 (03B70, 68Q68)

— Fractal sets defined by finite transducers. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 4, 13–27, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 4, 479–487 (1997). (Henning Fernau) **98b:68123** 68Q68 (28A78, 28A80)

— Applications of macrotransducers for specifying partial continuous operators in metric spaces. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996**, *no.* 5, 18–29, 187; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 5, 625–631 (1997). (Summary) **98j:68113** 68Q68 (54E40, 68Q05)

— Nondeterministic systems and finite substitutions on regular language. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 156–160. 68Q45

— ΣTC-generated languages and relative equivalence problems. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 139–160. (I. M. Havel) **98m:68154** 68Q45

— Another representation of finite transducers over real numbers. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 23–31, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 171–176. (Zdzisław Grodzki) **98m:03083** 03D05 (68Q68)

— Applications of finite transducers for specification of mappings and fractal sets. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 19–21. 28A80 (68Q68)

Lisper, Björn Computing in unpredictable environments: semantics, reduction strategies, and program transformations. (English summary) Trees in algebra and programming (Linköping, 1996). *Theoret. Comput. Sci.* **190** (1998), *no.* 1, 61–85. (Summary) **98m:68167** 68Q55 (68Q60)

Lista, V. (*with* Graziano, L.; Iannece, D.) Branching in ferromagnetic crystals. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 107–114. 82D40

Liston, Michael Carnap, empiricism, and ontology. *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 83–108, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 00A30 (03A05)

Litim, D. F. (*with* Tetradis, N.) Analytical solutions of exact renormalization group equations. (English summary) *Nuclear Phys. B* **464** (1996), *no.* 3, 492–511. (Summary) **98b:82033** 82B28 (82B26)

Litinskiĭ, L. B. On the problem of the decomposition of a neural network into several subnetworks. (Russian. English and Russian summaries) *Mat. Model.* **8** (1996), *no.* 11, 119–127. (Summary) **98h:68197** 68T05 (92B20)

Litiu, Radu (*with* Kountanis, Dionysios I.) Closest pair for two separated sets of points. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 97–111. (Summary) **98j:05049** 05B99

Litman, Amélie (*with* Lesselier, Dominique; Santosa, Fadil N.) A level-set approach for eddy current imaging of defects in a conductive half-space. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 250–262, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (*see* **98h:00027**) 78–08 (78A45)

Litman, Ami (*with* Even, Shimon; Winkler, Peter M.) Computing with snakes in directed networks of automata. (English summary) *J. Algorithms* **24** (1997), *no.* 1, 158–170. (Summary) **98a:68054** 68Q10 (68P05, 68Q68)

— (*with* Even, Shimon) Layered cross product—a technique to construct interconnection networks. (English summary) *Networks* **29** (1997), *no.* 4, 219–223. (Qiao Li) **98c:68164** 68R10 (05C75, 68M10)

Litmanovich, O. Yu. (*with* Pokornyĭ, Yu. V.; Plaksina, V. P.) On multivalued differentials of piecewise-smooth functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 11, 73–84; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 11, 70–81 (1997). (E. S. Chichkin) **98i:34014** 34A30 (34B10, 34C10)

Litovsky, Igor (*with* Métivier, Yves; Sopena, Eric) Checking global graph properties by means of local computations: the majority problem. (English summary) *Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (SEGRAGRA '95) (Volterra, 1995)*, 8 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 2, *Elsevier, Amsterdam*, 1995. (Summary) **98h:68182** 68R10 (68Q10)

— (*with* Staiger, Ludwig) Finite acceptance of infinite words. (English summary) *Developments in language theory, II (Magdeburg, 1995)*, 360–369, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98d:68015**) 68Q45

— (*with* Le Saëc, B.; Patrou, B.) Recognizability of zigzag languages and stack languages. (English summary) *Semigroups, automata and languages (Porto, 1994)*, 153–166, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:68142** 68Q45

— (*with* Le Saëc, B.; Patrou, B.) A more efficient notion of zigzag stability. (English and French summaries) *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 3, 181–194. (Véronique Bruyère) **98c:68117** 68Q45

— (*with* Staiger, Ludwig) Finite acceptance of infinite words. (English summary) *Theoret. Comput. Sci.* **174** (1997), *no.* 1-2, 1–21. (Do Long Van) **98j:68085** 68Q45 (03D05, 68Q68)

Litow, B. Bounded length UCFG equivalence. (English summary) *Algorithms and computation (Osaka, 1996)*, 239–246, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **98m:68155** 68Q45

Litsyn, E. *see* **Litsyna, E. M.**

Litsyn, Simon N. (*with* Levy-dit-Vehel, Françoise) On the covering radius of long Goppa codes. *Applied algebra, algebraic algorithms and error-correcting codes (Paris, 1995)*, 341–346, *Lecture Notes in Comput. Sci.*, 948, *Springer, Berlin*, 1995. (From the introduction) **98b:94023** 94B27 (94B75)

— (*with* Ashikhmin, A. E.) Fast decoding of non-binary first order Reed-Muller codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 4, 299–308. (Summary) **98d:94027** 94B05 (94B35)

— (*with* Cohen, Gérard Denis; Zémor, Gilles) On greedy algorithms in coding theory. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 2053–2057. (*see* **98c:94001**) 94B99

— (*with* Cohen, Gérard Denis; Lobstein, A. C.; Mattson, H. F., Jr.) Covering radius 1985–1994. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 3, 173–239. (Summary) **98d:94047** 94B75 (11T71)

— (*with* Honkala, Iiro S.; Laihonen, T.) On covering radius and discrete Chebyshev polynomials. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 395–401. (Giorgio Faina) **98i:94049** 94B65 (94B75)

— (*with* Krasikov, Ilia) Linear programming bounds for codes of small size. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 647–654. (Summary) **98e:94032** 94B05

— (*with* Krasikov, Ilia) Estimates for the range of binomiality in codes' spectra. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 987–991. (Summary) **98a:94038** 94B05

— (*with* Krasikov, Ilia) Linear programming bounds for doubly-even self-dual codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1238–1244. (Summary) **98e:94043** 94B65

— (*with* Cohen, Gérard Denis; Honkala, Iiro S.; Solé, Patrick) Long packing and covering codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1617–1619. 94B60

— (*with* Levy-dit-Vehel, Françoise) Parameters of Goppa codes revisited. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1811–1819. (Summary) **98i:94036** 94B05 (94B75)

— (*with* Keren, Osnat) A class of array codes correcting multiple column erasures. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1843–1851. (Summary) **98k:94015** 94B20

Litsyna, E. M. (*with* Domshlak, Yu. I.; Drakhlin, Mikhail E.; Kiguradze, Ivan Tarielovich; Maksimov, V. P.) Professor Nikolai Viktorovich Azbelev (on the occasion of his 75th birthday). *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 259–264 (1997). (Editors) **98f:01061** 01A70

Littell, Todd R. (*with* Skeel, Robert D.; Zhang, Meiqing) Error analysis of symplectic multiple time stepping. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1792–1807. (Ram Krishan Sharma) **98i:65055** 65L06 (70–08, 70H05)

Littelmann, Peter An effective method to classify nilpotent orbits. *Algorithms in algebraic geometry and applications (Santander, 1994)*, 255–269, *Progr. Math.*, 143, *Birkhäuser, Basel*, 1996. (R. W. Carter) **98a:20041** 20G05 (14L30, 17B20, 17B70)

— A plactic algebra for semisimple Lie algebras. *Adv. Math.* **124** (1996), *no.* 2, 312–331. (Arun Ram) **98c:17009** 17B20 (05E15)

— Characters of representations and paths in $\delta_{\mathbb{R}}^*$. *Representation theory and automorphic forms (Edinburgh, 1996)*, 29–49, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Arun Ram) **98j:17024** 17B67 (05E15)

— An algorithm to compute bases and representation matrices for SL_{n+1}-representations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 447–468. (Alexander N. Rudyĭ) **98h:17008** 17B10 (17B20, 22E46)

Litten, F. Ernst Mohr—das Schicksal eines Mathematikers. [Ernst Mohr—destiny of a mathematician] *Jahresber. Deutsch. Math.-Verein.* **98** (1996), *no.* 4, 192–212. (Hans Niels Jahnke) **98f:01075** 01A70 (01A80)

Litterio, Marco (*with* Golda, Zdzisław A.; Sokołowski, Leszek M.; Amendola, Luca; Dyrek, Andrzej) Pure geometrical evolution of the multidimensional universe. (English summary) *Ann. Physics* **248** (1996), *no.* 2, 246–285. (Summary) **98c:83089** 83E15 (53C80)

— (*with* Galluccio, Massimo; Occhionero, Franco) Graviton spectra in string cosmology. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 6, 970–973. (Summary) **98e:83130** 83F05 (83E30)

Little, C. H. C. (*with* Archdeacon, Dan; Hartsfield, Nora) Non-Hamiltonian triangulations with large connectivity and representativity. (English summary) *J. Combin. Theory Ser. B* **68** (1996), *no.* 1, 45–55. (Summary) **98g:57035** 57Q15 (05C10, 05C40, 05C45)

— (*with* Teo, Kee-Leong; Wang, Hong^3) On a conjecture on directed cycles in a directed bipartite graph. (English summary) *Graphs Combin.* **13** (1997), *no.* 3, 267–273. (Ke Min Zhang) **98e:05052** 05C20 (05C38)

Little, J. A. *see* **Little, John Andrew**

Little, James (*with* Darby-Dowman, Ken; Mitra, Gautam; Zaffalon, Marco) Constraint logic programming and integer programming approaches and their collaboration in solving an assignment scheduling problem. (English summary) *Constraints* **1** (1997), *no.* 3, 245–264. 68N17 (68T20, 90C10)

Little, John Andrew (*with* Mardia, Kanti V.; Kent, John T.; Goodall, C. R.) Kriging and splines with derivative information. (English summary) *Biometrika* **83** (1996), *no.* 1, 207–221. (Girdhar G. Agarwal) **98d:65017** 65D10 (65D07)

Little, John B. Applications to coding theory. (English summary) *Applications of computational algebraic geometry (San Diego, CA, 1997)*, 143–167, *Proc. Sympos. Appl.*

Math., 53, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98i:94001** 94-02 (13P10, 94Bxx)

Littlejohn, L. L. (*with* Kwon, Kil Hyun; Lee, Dong Won[1]) Sobolev orthogonal polynomials and second order differential equation. II. *Bull. Korean Math. Soc.* **33** (1996), *no.* 1, 135–170. (Khélifa Trimèche) **98g:33012** 33C45

Littlejohn, R. P. A reversibility relationship for two Markovian time series models with stationary geometric tailed distribution. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 127–133. (Joseph D. Petruccelli) **98c:60042** 60G10 (60J10, 62M10)

Littlejohn, Robert G. (*with* Reinsch, Matthias) Gauge fields in the separation of rotations and internal motions in the n-body problem. (English summary) *Rev. Modern Phys.* **69** (1997), *no.* 1, 213–275. (Richard Montgomery) **98f:58084** 58F05 (53C80, 70E99, 70F10, 70G99, 70H99)

Littman, Walter (*with* Yan, Baisheng) Rellich type decay theorem for equation $P(D)u = f$ with f supported in infinite cylinders. (English summary) *Comm. Partial Differential Equations* **21** (1996), *no.* 5-6, 821–840. (Summary) **98c:35024** 35E20 (35B05, 35G05)

Litty, Pius (*with* Mendus, Jacob) A two unit standby redundant system with imperfect switch and a chance of failure for the standby unit in the standby mode. (English summary) *Pure Appl. Math. Sci.* **46** (1997), *no.* 1-2, 27–37. 60K10

Litvak, A. E. (*with* Milman, Vitali D.; Schechtman, G.) Averages of norms and behavior of families of projective caps on the sphere. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 3, 289–294. (Wolfgang Lusky) **98f:46008** 46B07 (46B09, 52A21)

Litvak, S. A. (*with* Kocharovskiĭ, V. V.; Kocharovskiĭ, Vl. V.; Derishev, E. A.; Shereshevskiĭ, I. A.; Tasaki, Shuichi) Nonstationary dressed states and effects of decay in nonadiabatic crossing of decaying levels. (English summary) Computational tools of complex systems, III. *Comput. Math. Appl.* **34** (1997), *no.* 7-8, 727–750. (*see* **98i:00017**) 81V80

Litvin, F. L. (*with* Seol, I. H.) Computerized determination of gear tooth surface as envelope to two parameter family of surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **138** (1996), *no.* 1-4, 213–225. (Hellmuth Stachel) **98a:53020** 53A17

— (*with* Egelja, A. M.; De Donno, M.) Computerized determination of singularities and envelopes to families of contact lines on gear tooth surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 23–34. 70-08 (70B99)

— (*with* Wang, Anngwo; Handschuh, R. F.) Computerized generation and simulation of meshing and contact of spiral bevel gears with improved geometry. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 35–64. 70-08 (70B99)

Litvin, O. N. (*with* Lobanova, L. S.) Orthogonal splines of the class $C[-1, 1]$. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 26–30. (Kairat T. Mynbaev) **98k:41018** 41A15 (33C45)

— (*with* Trofimenko, O. P.) An analytic expression for the Green function of the problem $\sum_{s=0}^{N}(a_s y^{(2s)}(t) + b_s y^{(2s)}(1-t)) = f(t), y^{(s)}(0) = y_{s0}, y^{(s)}(1) = y_{s1}, s = 0, \cdots, N-1$. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 12–18. (Summary) **98g:34046** 34B27 (34B05)

Litvinov, E. V. (*with* Berezanskiĭ, Yuriĭ Makarovich; Livinskiĭ, V. A.) A generalization of Gaussian white noise analysis. (English summary) *Methods Funct. Anal. Topology* **1** (1995), *no.* 1, 28–55. (Summary) **98k:60062** 60G20 (46F25, 46G12, 47N30, 60J30)

— Multiple Wiener integrals and non-Gaussian white noises: a Jacobi field approach. (English summary) *Methods Funct. Anal. Topology* **1** (1995), *no.* 1, 61–85. (Stéphane Attal) **98e:60084** 60H05 (46F25, 46G12, 60G20, 81S20)

Litvinov, G. L. (*with* Maslov, V. P.) Idempotent mathematics: the correspondence principle and its computer realizations. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 6(312), 209–210; *translation in Russian Math. Surveys* **51** (1996), *no.* 6, 1210–1211. (A. I. Subbotin) **98b:46098** 46Nxx (46S99, 49L99)

Litvinov, S. N. (*with* Benderskiĭ, O. Ya.; Chilin, Vladimir I.) A description of commutative symmetric operator algebras in a Pontryagin space Π_1. (English summary) *J. Operator Theory* **37** (1997), *no.* 2, 201–222. (Victor S. Shul'man) **98j:47096** 47D25 (47B50)

Litvinov, V. G. Some models and problems for laminar and turbulent flows of viscous and nonlinear viscous fluids. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 3, 101–157. (Hamid Bellout) **98h:76031** 76D20 (35Q35, 76F99)

Litvintseva, S. P. (*with* Kalitkin, Nikolaĭ Nikolaevich) Gradient descent with random steps. (Russian. Russian summary) *Mat. Model.* **9** (1997), *no.* 7, 63–70. (Summary) **98f:65053** 65F50 (65F30)

Litzler, L. (*with* Lakhal, J.) A polynomial algorithm for the extendability problem in bipartite graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 11–16. (Summary) **98i:68223** 68R10 (05C85, 68Q25)

Liu, A. C. *see* **Liu, Andy C. F.**

Liu, Aiyi On the maximum likelihood estimate for the drift of Brownian motion following a symmetric sequential probability ratio test. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 4, 977–989. (Han Fu Chen) **98c:62157** 62L12 (62M05)

Liu, An (*with* Zhang, Xiao Ling; Yang, Xin Zhang) Bayesian forecasting when the distribution of the model parameters is unknown. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 3, 328–333. 62M20 (62F15)

Liu, Andy C. F. (*with* Denham, Graham) Competitions, matrices, geometry and circuits. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 3, 109–113. 00A07

— (*with* Abbott, H. L.) On covering numbers of regular hypergraphs. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 79–84. (Peter Mihók) **98k:05109** 05C65 (05C70)

Liu, B. *see* **Liu, Bin**

Liu, Bao Dong The lumped mass finite element method for two-phase incompressible miscible displacement problems. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 2, 137–143. (Summary) **98f:76051** 76M10 (65M60, 76S05)

Liu, Baoding Dependent-chance programming: a class of stochastic optimization. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 89–104. (Summary) **98i:90058** 90C15

Liu, Bin Graded generation of Cartan type Lie algebras. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **16** (1996), *no.* 3, 95–98. (Zhi Xue Zhang) **98a:17054** 17B70 (17B20, 17B65)

— (*with* Chen, Hong Ji) Super hyperbolic type Kac-Moody Lie algebra. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 329–332. (Saeid Azam) **98i:17028** 17B67

Liu, Bin (*with* Shi, Ding Hua) Stochastic decomposition and optimal policy of the $M/G/1$ queue with the N-policy and server vacations. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 1, 10–18. 60K25

Liu, Bin (*with* Marchant, T. R.) The steady-state microwave heating of slabs with small Arrhenius absorptivity. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 219–236. 78A40 (80A20)

Liu, Bin[2] (*with* Cheng, Sui Sun) Positive solutions of second order nonlinear difference equations. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 482–493. (Ulrich Krause) **98a:39005** 39A10 (39A12)

— (*with* Yan, Ju Rang) Oscillatory and asymptotic behaviour of second order nonlinear difference equations. (English summary) *Proc. Edinburgh Math. Soc.* (2) **39** (1996), *no.* 3, 525–533. (V. Sree Hari Rao) **98c:39001** 39A10

— Oscillatory behavior of difference equations of the second order. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 231–239. (Saber Elaydi) **98j:39010** 39A12

— (*with* Chen, Ming-Po) Nonoscillatory property of second order nonlinear differential equations of advanced type. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 355–360. (János Karsai) **98m:34137** 34K15 (34C10)

Liu, Binfan (*with* Si, Jennie) Fault isolation filter design for linear time-invariant systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 5, 704–707. (Summary) **98d:93095** 93E11

Liu, Bing *see* **Liu, Bin[2]**

Liu, Bing[1] (*with* Xu, Li Hong; Feng, Chun Bo) Dynamic compensation for multivariable continuous-time predictive control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 570–573. 93D15

Liu, Biyue (*with* Lui, Roger) Electrokinetic remediation of contaminated soil. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3391–3398. (*see* **98h:00034**) 76S05 (86A99, 92E20)

— (*with* Kellogg, R. Bruce) A penalized finite-element method for a compressible Stokes system. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1093–1105. (Long An Ying) **98b:65129** 65N30 (76M10, 76N10)

Liu, Bo On the linear finite element approximation for two-point boundary value problems. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 215–223. (Summary) **98m:65194** 65N30

— Exact controllability of a hybrid system, membrane with strings, on general polygon domains. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 29–47. (Enrique Zuazua) **98m:93061** 93C20 (35L05, 73K05, 73K10, 73K50, 93B05)

Liu, Bo Lian (*with* Zhou, Bo[2]) Characterization of the extreme matrices of convergence index among Boolean matrices with nonzero trace. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 6, 540–547. (Mu Lan Liu) **98j:15024** 15A33 (05C50)

— k-common consequents in Boolean matrices. *Czechoslovak Math. J.* **46(121)** (1996), *no.* 3, 523–536. (K. P. S. Bhaskara Rao) **98m:15026** 15A33

— (*with* Zhou, Bo[2]) A system of gaps in generalized primitive exponents. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 397–402. (Yuan Hong) **98k:05107** 05C50 (05C20, 15A33)

Liu, C. L. *see* **Liu, Chung Laung**

Liu, C. S. (*with* Tseng, Ching-Huan) A new training algorithm for multilayer discrete perceptrons. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 2, 217–228. 92B20

Liu, Cang Yi (*with* Zhu, Lin Hu) Random normed modules. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 251–253. 46S50 (46H25)

Liu, Chang You (*with* Tian, Guo Hui; Xu, Xin He) Specification of customer service management of an automated warehouse using temporal logic. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 6, 648–652. 03B45 (03B80)

Liu, Changmei A uniqueness result for a general class of inverse problems. (English summary) *Comm. Partial Differential Equations* **21** (1996), *no.* 11-12, 1951–1983. (Yongzhi Xu) **98b:35221** 35R30 (35B40, 35J30)

— An inverse obstacle problem: a uniqueness theorem for balls. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 347–355, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Summary) **98i:35209** 35R30 (35J05)

— Inverse obstacle problem: local uniqueness for rougher obstacles and the identification of a ball. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1063–1069. 35R30 (35J05)

— Global estimates for solutions of partial differential equations. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 924–943. (Summary) **98c:35025** 35E20 (35B05, 46E35)

Liu, Chao Jie Oscillation of solutions of Liénard equations. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 44–48. 34C10

Liu, Chao Rong (*with* Li, Yue Bo) Multivariate C_ρ values. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 2, 132–138. 62N10

Liu, Chaoyang (*with* Traas, C. R.) On convexity of planar curves and its application in CAGD. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 653–669. (Bert Jüttler) **98e:65009** 65D17 (41A29, 65Y25)

Liu, Cheng Jun (*with* Dai, Ru Wei) Discrete linear transformations of binary images based on neighborhood features. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 271–274. 68T10

Liu, Chien-fon (*with* Ogawa, Toshiyuki) Two-dimensional patterns of pulses appearing in a thin viscous film flow. (English summary) *Phys. D* **108** (1997), *no.* 3, 277–290. (Summary) **98g:76027** 76D33

Liu, Chu Zhong (*with* Peng, Ya Xin) An inverse problem in the study of water pollution in rivers. II. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **23** (1996), *no.* 3, 20–25. 35R30 (35K60)

Liu, Chuan (*with* Lin, Shou) On spaces with point-countable cs-networks. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications (Matsuyama, 1994). *Topology Appl.* **74** (1996), *no.* 1-3, 51–60. (Summary) **98a:54010** 54C10 (54D50, 54D55)

— (*with* Lin, Shou; Dai, Mumin) Images on locally separable metric spaces. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 1–8. (Summary) **98d:54053** 54E35 (54C10)

Liu, Chuang Models and theories. I. The semantic view revisited. (English summary) *Internat. Stud. Philos. Sci.* **11** (1997), *no.* 2, 147–164. (David W. Miller) **98g:03030** 03B30

Liu, Chuanhai Bayesian robust multivariate linear regression with incomplete data. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 435, 1219–1227. (Mohan Delampady) **98d:62049** 62F15

Liu, Chun-Fu (*with* Lee, Yuh-Jia) A generalization of Mehler transform. (English summary) *International Mathematics Conference '94 (Kaohsiung, 1994)*, 107–116, *World Sci. Publishing, River Edge, NJ*, 1996. (Isamu Dôku) **98h:46041** 46F25 (46G12, 60G20)

Liu, Chun Lei[1] On incomplete Gaussian sums. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 156. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 141–150. (Matti Jutila) **98f:11092** 11L40

— On incomplete character sums. (English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 3, 226–232. (Jian Hua Ren) **98a:11110** 11L10

Liu, Chun Ling (*with* Liang, Xiang Qian; Li, Kai Long) Some theorems on K-quasiconformal mappings with positive real part. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 440–444. 30C62

Liu, Chun Xu (*with* Dong, Jin Tian; Liu, Shao Wu) Analytic solutions of a geological model with ringlike vertical crossflow area. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 30–32. (Summary) **98b:86006** 86A05

Liu, Chun Yang (*with* Zhang, Zhuo Sheng) An iterative solution method for a class of equations involving monotone mappings. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **30** (1996), *no.* 8, 114–119. (Summary) **98j:65044** 65J15 (47H17, 49J40)

— (*with* Liang, De Qun; Song, Huan Sheng; Wu, Geng Shi) Applications of neural networks to image compression. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 3, 67–80. 94C05

— (*with* Zhang, Zhuo Sheng) A note on Ishikawa's theorem. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 112–114. 47H10 (47H17)

Liu, Chung Laung (*with* Aarts, Emile H. L.; van Laarhoven, Peter J. M.; Pan, Pei-chen) VLSI layout synthesis. *Local search in combinatorial optimization*, 415–440, *Wiley-Intersci. Ser. Discrete Math. Optim., Wiley, Chichester*, 1997. (*see* **98e:90004**) 68Q35 (90C27, 94A40)

— (*with* Pan, Peichen; Dong, Sai-keung) Optimal graph constraint reduction for symbolic layout compaction. (English summary) *Algorithmica* **18** (1997), *no.* 4, 560–574. (Joseph Ja'Ja') **98e:68121** 68Q35 (68Q25)

Liu, Chunlei *see* **Liu, Chun Lei**[1]

Liu, Cui Ying (*with* Xiong, Feng Lan) Notes on induced mappings. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 4, 599–604. 04A72

Liu, Da You (*with* Li, Yue Feng; Zhu, Yan) A learner model based on evidence theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997,** *no.* 1, 19–23. 68T30

— (*with* Li, Yue Feng; Liu, Song Hui) Inner and outer measures of belief functions and random sets. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997,** *no.* 2, 31–34. 68T30 (28A99, 60A99)

Liu, Danielle (*with* Johnson, Mary A.; Narayana, Surya) Burstiness descriptors for Markov renewal processes and Markovian arrival processes. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 3, 619–646. (Summary) **98a:60128** 60K15 (60K25)

Liu, Daphne Der-Fen T-graphs and the channel assignment problem. (English summary) *Discrete Math.* **161** (1996), *no.* 1-3, 197–205. (J. R. Griggs) **98e:05096** 05C78 (05C15, 90B12)

— (*with* Yeh, Roger K.) On distance two labellings of graphs. (English summary) *Ars Combin.* **47** (1997), 13–22. (Summary) **98h:05164** 05C78

Liu, De Some notes on the minimal closed attractors of operator semigroups. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **27** (1996), *no.* 5, 606–609. (Xiao Qiang Zhao) **98e:47111** 47H20 (58F12)

— Attractors for a class of operator semigroups. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 1, 8–12. (Bo Ling Guo) **98k:47140** 47H20 (58F12)

Liu, De-Fu (*with* Fan, Zhou-Tian) Convergence of the power sequence of a nearly monotone increasing fuzzy matrix. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 363–372. (Summary) **98c:15085** 15A99 (04A72)

— (*with* Fan, Zhou-Tian) On the power sequence of a fuzzy matrix convergent power sequence. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 1, 147–165. (Summary) **98f:65054** 65F99 (04A72)

— (*with* Fan, Zhou-Tian) On the oscillating power sequence of a fuzzy matrix. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 75–85. (Summary) **98h:15060** 15A99 (04A72)

Liu, De Ming[1] (*with* Fu, Yu) Qualitative analysis of a trimolecular model. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 301–307. 34C05 (92E99)

— Holonomic deformation of linear differential equations of the A_8 type. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 39–48. (*see* **98f:35006**) 34A20 (32G34)

— On the holonomic deformation of linear differential equations of A_4 type. *Kyushu J. Math.* **51** (1997), *no.* 2, 393–412. (V. V. Chueshev) **98j:34009** 34A20 (32G34, 34A26)

Liu, Degui (*with* Song, Xiao Qiu) Stability of numerical method in ODEs. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 78–83. 65L20

Liu, Deming *see* **Liu, De Ming**[1]

Liu, Derong Cloning template design of cellular neural networks for associative memories. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 646–650. (Summary) **98j:92004** 92B20 (68T05)

Liu, Dingyuan (*with* Qu, Rui Bin; Sarfraz, Muhammad) A new approach to the improvement of surface triangulations using local algorithms. (English summary) Computer aided geometric design. *Neural Parallel Sci. Comput.* **5** (1997), *no.* 1-2, 221–238. (*see* **98g:65008**) 65D17 (65D15)

Liu, Erlie (*with* Xu, Zhenduo) The criteria of d-δ operations' exchange relationship in nonholonomic systems of analytical dynamics. *Mech. Res. Comm.* **24** (1997), *no.* 1, 3–9. (A. Sumbatov) **98a:70014** 70F25

Liu, F. *see* **Liu, Fengshan**

Liu, Fa Gui Cauchy problem of nonisentropic gas dynamics equations. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 533–536, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35Q35 (35L60, 76N15)

— (*with* Li, Cai Zhong) P-systems with relaxation. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 61–69. (Long Wei Lin) **98g:35139** 35L60

— Relaxation phenomena for a class of quasilinear hyperbolic conservation laws. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 87–90. 35L65

Liu, Fa Qi (*with* Zhang, Ping Wen; Zhang, Yu[4]) The numerical computation of wavelets. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 2, 173–185. 65T20 (42C15)

Liu, Fa Wang (*with* McElwain, D. L. S.) A computationally efficient solution technique for moving-boundary problems in finite media. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 71–84. (Summary) **98m:65160** 65M30 (35R35)

Liu, Fang Commutative ideals and obstinate ideals in BCI-algebras. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 17–19. (Summary) **98f:06018** 06F35 (03G25)

Liu, Fang Ling (*with* Jiang, Pei Lin) Some problems concerning the relationships between the development of science and technology in China and traditional Chinese culture. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 121–126. 01A25

Liu, Feng Ju A class of solvable groups. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 3, 70–72. 20D10

Liu, Fengshan (*with* Nashed, M. Zuhair) Tikhonov regularization of nonlinear ill-posed problems with closed operators in Hilbert scales. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 4, 363–376. (Otmar Scherzer) **98i:65048** 65J15 (47A50)

Liu, Fon-Che (*with* Tai, Wei-Shyan) Lusin properties and interpolation of Sobolev spaces. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 1, 163–177. (N. Ya. Kruglyak) **98k:46054** 46E35 (46M35)

Liu, Fu-ping (*with* Yu, Zhao Xian; Liu, Ye-hou) Mathematical structure of quasi-SU(2) coherent state and its antibunching effect. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 3, 585–589. 81R30

Liu, G. P. (*with* Patton, R. J.) Parametric state feedback controller design of multivariable systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1457–1464. 93B52

Liu, Gang (*with* Xie, Min Yu) Admissibility of linear estimates of regression coefficients of growth curve models. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 12–19. (Summary) **98g:62110** 62H12 (62C15)

Liu, Gang[1] (*with* Zhang, Ze Lan) Parallel block implicit hybrid one-step methods. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 72–77. 65L05

Liu, Genhong (*with* Liu, Songtao; Cao, Yuan) A proof on the convexity of functional splines. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 357–360. (Petru P. Blaga) **98h:41021** 41A29 (41A15, 65D07, 65D17)

Liu, Genqian The dual of the Henstock-Kurzweil space. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 1, 105–121. (Ralph Henstock) **98c:26005** 26A39 (26B30, 46E99)

Liu, Guang (*with* Hu, Yu Da) Duality of weakly major efficient solutions in multiobjective programming. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 6, 6–8. 90C29 (49N15)

Liu, Guang Wei A property of transcendental entire functions. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1996,** *no.* 4, 14–16. 30D15

Liu, Guang Xu (*with* Shi, Yu Ming[1]) Singular perturbations for a class of boundary value problems of higher order nonlinear differential equations. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 12, 1193–1201; *translated from Appl. Math. Mech.* **17** (1996), *no.* 12, 1129–1136 (*Chinese. English and Chinese summaries*). (L. E. Bobisud) **98c:34090** 34E15 (34B15)

Liu, Guanghui (*with* Li, Rong Sheng[2]) A class of new conjugate gradient methods with inexact line searches. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 1, 29–35. 90C30 (65K05)

— (*with* Han, Ji Ye) Global convergence analysis of a new nonmonotone BFGS algorithm on convex objective functions. (English summary) *Comput. Optim. Appl.* **7** (1997), *no.* 3, 277–289. (Vincenţiu Dumitru) **98c:90092** 90C25

Liu, Gui Kai The classification of multiple-valued logic functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 104–109. (Lei Qian) **98g:03069** 03B50

— The classification and spectral analysis of functions of many-valued logic. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 117–120. 03B50

Liu, Gui Long Quasitriangular Hopf algebras and biproducts. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 751–755. (Fang Li) **98a:16042** 16W30 (16S40)

Liu, Gui Zhai (*with* Zhang, Jun Feng; Chen, Gang) Optimization of planar triangular meshes for the finite element method. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 3, 275–279. 65N30 (65M60)

Liu, Gui Zhen (*with* Xie, Li Tong) The reconstruction property for neighborhood pseudosimilar vertices. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 225–228. (Xue Liang Li) **98d:05105** 05C60

— (*with* Yu, Qinglin) Toughness and perfect matchings in graphs. (English summary) *Ars Combin.* **48** (1998), 129–134. (Summary) **98m:05153** 05C70

Liu, Gui Zhong (*with* Zhang, Ke) Selecting crossover sites with unequal probabilities in genetic algorithms. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 1, 53–60. 90C27 (65K10)

Liu, Guo Jing (*with* Li, Xun) The eigenvalues of some matrices in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 23–25, 35. 15A18 (46C20)

— (*with* Li, Xun) Normal matrices in Minkowski inner product spaces. I. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997),

no. 4, 26–28. 15A63 (46C20)

Liu, Guo Qing A uniformly convergent difference scheme for a quasilinear singular perturbation problem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 2, 157–164. 65L12 (65L06)

— An optimal algorithm for a one-dimensional adaptive Kalman filter. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 1, 48–53. 93E11 (93B40)

Liu, Guo Shan Iteration functions in some nonsmooth optimization algorithms. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 153–171. (Massimo Pappalardo) **98e:90164** 90C30 (49J52)

— Conditions for convergence of trust region algorithms for unconstrained nonsmooth optimization problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 1, 77–82. 90C30 (49J52)

— (*with* Han, Ji Ye) Optimality conditions for nonconvex bilevel programming problems. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 183–192. (Stephan Dempe) **98c:90100** 90C26 (90C29, 90D65)

Liu, Guo Zhong (*with* Wu, Huo Xiong) The equivalence of weighted K-functionals and moduli of smoothness in the space $L_M(S)$. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 246–250. (Yuan Ren Lou) **98j:41020** 41A30 (46E30, 46M35)

Liu, H. *see* **Liu, Huili L.**

Liu, H. L. *see* **Liu, Huili L.**

Liu, H. T. *see* **Liu, Honhung Terence**

Liu, Hai Xin (*with* Wang, Ming Sheng[2]) Rings of differential operators on curves and modules over them. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 2, 280–285. 16S32 (14H99)

Liu, Hai Xing (*with* Gu, Hai Ming; Zhong, Bao Dong) The characteristics/finite element method for incompressible fluid displacement problems in porous media. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **11** (1996), *no.* 4, 1–7. (Jian-Ping Zhu) **98d:76102** 76M10 (65M60, 76S05)

Liu, Hailiang (*with* Wang, Jinghua; Yang, Tong) Existence of the discrete travelling waves for a relaxing scheme. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 3, 117–122. 35L65 (65M06)

Liu, Hao Pei A set of trees with an ordering determined by the number of matchings. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 433–437. 05C05 (05C70)

Liu, He Guo A finiteness theorem for polycyclic groups. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 201–202. 20F16

Liu, Heping (*with* He, Jian Xun[3]) Admissible wavelets associated with the affine automorphism group of the Siegel upper half-plane. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 1, 58–70. (G. C. Bohnké) **98k:22023** 22D10 (42C15, 43A32)

Liu, Hong (*with* Krauss, Lawrence M.; Heo, Junseong) Dirty black holes and hairy black holes. (English summary) *Phys. Rev. Lett.* **77** (1996), *no.* 26, 5164–5167. (Summary) **98f:83073** 83C57

— (*with* Krauss, Lawrence M.) Quantum hair, instantons, and black hole thermodynamics: some new results. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 365–386. (Valter Moretti) **98c:83065** 83C57 (81T20, 83C47)

— (*with* Tseytlin, Arkady A.) Statistical mechanics of D0-branes and black hole thermodynamics. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 10, 14 *pp.* (*electronic*). (Summary) **98j:83099** 83E30 (81T30, 83C57)

Liu, Hong (*with* Meng, Zhi Qing; Zou, Kai) The Wolfe dual of vector optimization of set-valued functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 17–19. 90C30 (49N15)

Liu, Hong[1] (*with* Liu, Ying Fan) Some linear isomorphism theorems for certain 2*n*th-order nonsymmetric differential operator with parameter. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 371–374. 47E05 (34B05, 34L05)

Liu, Hong Mei (*with* Chen, Ze Qian) The edge coloring classification of the generalized $K(4, n)$ graphs and the generalized Griozsch graphs G_n. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 531–533. (Xiao Feng Guo) **98d:05058** 05C15

— (*with* Mao, Jingzhong) The construction of some specific geodetic blocks. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 82–86. (Koduvayur R. Parthasarathy) **98h:05117** 05C38 (05C75)

Liu, Hong Yu (*with* Wesson, Paul S.) Cosmological solutions with radiation in Kaluza-Klein gravity. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 433–437, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83E15

— (*with* Wesson, Paul S.) Matter properties of a Kaluza-Klein cosmological soliton solution. *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 438–442, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98d:83001**) 83E15

— (*with* Wesson, Paul S.) The physical properties of charged five-dimensional black holes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1651–1663. (Alberto Saa Vazquez) **98g:83095** 83E15 (83C57)

— (*with* Wesson, Paul S.) Mass and charge from higher-dimensional geometry. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 8, 1865–1879. (Mark D. Roberts) **98j:83014** 83C10 (83C50, 83E15)

— (*with* Wesson, Paul S.; Mashhoon, Bahram) The (im)possibility of detecting a fifth dimension. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 30, 2309–2316. 83B05

— (*with* Wesson, Paul S.) A class of Kaluza-Klein solutions curved in 4D and flat in 5D. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 509–514. 83E15

— (*with* Mashhoon, Bahram; Wesson, Paul S.) Dynamics in Kaluza-Klein gravity and a fifth force. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 555–571. 83E15

Liu, Hongfei (*with* Huang, Shou-Hsuan S.; Verma, Rakesh M.) A new combinatorial approach to optimal embeddings of rectangles. (English summary) *Algorithmica* **16** (1996), *no.* 2, 161–180. (Summary) **98c:68169** 68R10 (05C10, 05C85, 68M10)

— (*with* Huang, Shou-Hsuan S.; Verma, Rakesh M.) On embedding rectangular meshes into rectangular meshes of smaller aspect ratio. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 3, 123–129. 68M10 (68Q35)

Liu, Honggen A remark on the Hausdorff dimension of certain non-self-similar attractors. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 134. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 119–124. (Remo Badii) **98d:58104** 58F11 (28A80, 58F12, 58F13)

Liu, Hongwei (*with* Zhang, Xin Zheng) Structure and interconnected robust stabilization of the multigroup time-delays uncertain nonlinear interconnected large scale control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 911–915. 93D21 (93A15)

Liu, Hongxia Existence of global smooth solutions for nonisentropic gas dynamics equations with dissipation. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 141–152. (Summary) **98k:35160** 35Q35 (35L60, 76N15)

— (*with* Lin, Longwei; Yang, Tong) Existence of globally bounded continuous solutions for nonisentropic gas dynamics equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 492–506. (Yu. G. Rykov) **98j:35113** 35L40 (35L60, 35Q35, 76N15)

— (*with* Lin, Longwei) Perturbation of two elementary waves with interaction. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 357–374. (Enrique Zuazua) **98m:35121** 35L60 (35B20, 35L67)

Liu, Honhung Terence (*with* Chan, Chiu Yeung) Quenching in infinite time on the N-dimensional ball. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 3, 303–315. (Maura Ughi) **98a:35066** 35K57 (35B40, 35K60)

Liu, Hua Ling Positive solutions to initial value problems for a class of integro-differential equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 247–250. (Zhicheng Wang) **98m:34128** 34K05 (45J05)

Liu, Huan Bin Nonparametric estimation of the percentile residual life function for left truncated and right censored data. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 4, 449–456. (Summary) **98b:62068** 62G05 (62N05)

Liu, Huawen (*with* Chen, Guangtong) Monotonic intersection decomposition of fuzzy sets. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 489–493. (Summary) **98c:04008** 04A72

— The expression theorem and extension principle with the form of intersection. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 671–679. 04A72

Liu, Hui Jie (*with* Ding, Xiao Hua; Zou, Zhong Ying) Dissipativity for an ecosystem with unbounded delay. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 21–23. 92D40 (34K15)

— (*with* Wang, Hai Yan[3]; Bai, Xue) (DG) fuzzy integral equations on L-fuzzy sets. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 3, 16–18. 45A05 (04A72)

Liu, Huili L. Classification of the flat equi-centroaffinely homogeneous surfaces in $\mathbf{R}^4$. (English summary) *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 209–220, *World Sci. Publishing, River Edge, NJ*, 1996. (Ross Niebergall) **98a:53016** 53A15 (53C30)

— (*with* Wang, Chang Ping[1]) Relative Tchebychev surfaces in $\mathbf{R}^3$. *Kyushu J. Math.* **50** (1996), *no.* 2, 533–540. (Christine Scharlach) **98h:53022** 53A15

— (*with* Li, An Min; Schwenk-Schellschmidt, A.; Simon, Udo; Wang, Chang Ping[1]) Cubic form methods and relative Tchebychev hypersurfaces. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 203–221. (Joel L. Weiner) **98g:53016** 53A15

— Indefinite equi-centroaffinely homogeneous surfaces with vanishing Pick-invariant in $\mathbf{R}^4$. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 225–251. (Franki Dillen) **98k:53016** 53A15

— *see also* **Recent developments in affine differential geometry**, **98a:53019**

Liu, Huowang (*with* Cheng, Ximing; Wu, Yougui; Du, Jinguan) The zero-crossing rate of *p*th-order autoregressive processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 355–374. (P. A. Morettin) **98i:62070** 62M10

Liu, J. *see* **Liu, Jian[3]**

Liu, James T. (*with* Wang, Deng Feng) Integrable SU($m|n$) supersymmetric electronic models of strong correlations. (English summary) *Internat. J. Modern Phys. B* **10** (1996), *no.* 27, 3685–3703. (Miroslav Kolesik) **98b:82016** 82B20

Liu, Jen-Chwan (*with* Lin, Chin-Cheng; Sheu, Ruey-Lin) Optimality and duality for complex nondifferentiable fractional programming. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 804–824. (Joachim Käschel) **98d:90119** 90C32 (49N15)

— (*with* Wu, Chuen-Sheng; Sheu, Ruey-Lin) Duality for fractional minimax programming. (English summary) *Optimization* **41** (1997), *no.* 2, 117–133. **98b:90137** 90C32 (49N15)

— (*with* Lai, Hang-Chin) Multiobjective programming of set functions. (English summary) Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 118–131. (*see* **98g:00027**) 90C29

Liu, Ji Jun (*with* Wang, Yuan Ming[1]) Approximation operators for a class of hyperbolic inverse problems and their convergence. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 134–144. (Summary) **98d:35235** 35R30 (35L10, 86A15)

Liu, Ji Ke (*with* Gao, Lei) A successive approximation procedure for the generalized eigenvalue perturbation problem. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 4, 11–15. 70–08 (70J10)

Liu, Ji Zhen (*with* Zeng, De Liang; Liu, Yan Quan) Rule-based nonlinear compensation control with backlash. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 383–388. 93B52 (93C30)

Liu, Ji Zhi (*with* Wang, You Ning) On Weiner's theorem for tangent indicatrices of regular closed spherical curves. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 36–39. (Christos Baikoussis) **98e:53004** 53A04

— (*with* Wang, You Ning) Closed spherical curves and the Jacobi theorem. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 202–206. (Chuan Yu Ma) **98g:53004** 53A04

Liu, Jia Quan (*with* Zhang, Gong Qing) A Morse-theoretic approach to the prescribing Gaussian curvature problem. *Variational methods in nonlinear analysis (Erice, 1992)*, 55–62, *Gordon and Breach, Basel*, 1995. (Robert McOwen) **98g:53075** 53C21 (35J60, 53A30, 58E12)

Liu, Jia Zhuang (*with* Zhang, Su Mei) Entire list colorings of planar graphs. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 52–56. 05C15

Liu, Jian[3] (*with* Li, Wai Keung; Li, C. W.) On a threshold autoregression with conditional heteroscedastic variances. (English summary) *J. Statist. Plann. Inference* **62** (1997),

no. 2, 279–300. (Joseph D. Petruccelli) **98i:62073** 62M10

Liu, Jian-Guo (*with* E, Weinan) Finite difference schemes for incompressible flows in vorticity formulations. (English summary) *Vortex flows and related numerical methods, II (Montreal, PQ, 1995)*, 181–195, *ESAIM Proc.*, 1, *Soc. Math. Appl. Indust., Paris*, 1996. (Summary) **98b:76047** 76M20

— (*with* Xin, Zhouping) Boundary-layer behavior in the fluid-dynamic limit for a nonlinear model Boltzmann equation. (English summary) *Arch. Rational Mech. Anal.* **135** (1996), *no.* 1, 61–105. (Marshall Slemrod) **98j:76127** 76P05 (35Q35, 45K05, 82C40)

— (*with* E, Weinan) Finite difference methods for 3D viscous incompressible flows in the vorticity-vector potential formulation on nonstaggered grids. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 57–82. (Summary) **98j:76094** 76M20 (65M06)

— (*with* Chen, Gui-Qiang) Convergence of difference schemes with high resolution for conservation laws. (English summary) *Math. Comp.* **66** (1997), *no.* 219, 1027–1053. (Darrell L. Hicks) **98c:65149** 65M12 (35L65)

Liu, Jian Min (*with* Wang, Rong Xin) Weak convergence limits for queueing systems with multiple customers and servers and PRE priority discipline. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 80–84. 60K25 (90B22)

Liu, Jian Zhou (*with* Fang, Tao) Some properties of Kronecker products of generalized positive definite matrices of spectral positive type. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 44–47. 15A48

— (*with* Huang, Li Ping[3]) The extension of Roth's theorem for matrix equations over a ring. (English summary) *Linear Algebra Appl.* **259** (1997), 229–235. (Summary) **98c:15045** 15A24 (15A33)

— (*with* Zhu, Li) A minimum principle and estimates of the eigenvalues for Schur complements of positive semidefinite Hermitian matrices. (English summary) *Linear Algebra Appl.* **265** (1997), 123–145. (Ronald L. Smith) **98f:15006** 15A18 (15A42, 15A48)

— Some improvements of the Hadamard-Fischer inequality for totally nonnegative matrices. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 105–110. 15A45 (15A48)

— (*with* Tang, Hua) Generalized positive definite matrices of spectral positive type. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 3, 12–16. 15A48

— (*with* Zhu, Li) Some improvement of Oppenheim's inequality for M-matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 305–311. (John Chollet) **98e:15010** 15A15 (15A45, 15A48, 15A57)

Liu, Jianming (*with* Zheng, Wei Xing) Weighted Plancherel formula on unit ball in $\mathbf{R}^n$. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 9, 935–944. (Jacques Faraut) **98d:22010** 22E46 (22E30)

Liu, Jianxing (*with* Xiang, Kaili) High accuracy hybrid formula for $y'' = f(x, y)$. *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 218–221. 65L99

Liu, Jianya (*with* Zhan, Tao) Estimation of exponential sums over primes in short intervals. II. *Analytic number theory, Vol. 2 (Allerton Park, IL, 1995)*, 571–606, *Progr. Math.*, 139, *Birkhäuser Boston, Boston, MA*, 1996. (D. R. Heath-Brown) **98g:11099** 11L20 (11L07, 11P32)

— (*with* Zhan, Tao) The ternary Goldbach problem in arithmetic progressions. *Acta Arith.* **82** (1997), *no.* 3, 197–227. (D. R. Heath-Brown) **98j:11077** 11P32 (11P55)

— (*with* Zhan, Tao) On a theorem of Hua. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 5, 375–390. (D. R. Heath-Brown) **98k:11140** 11P32 (11L07, 11P55)

— On an error term of Chowla. I, II, III. (English summary) *J. Number Theory* **64** (1997), *no.* 1, 20–35, 36–50, 51–58. (Y.-F. S. Pétermann) **98d:11113** 11N37

Liu, Jianyong (*with* Liu, Ke) Markov decision programming—the moment optimal problem for the first-passage model. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 542–562. (From the text) **98e:90211** 90C40

— (*with* Huang, Siming) On optimal strategy of discounted Markov stochastic games. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 1, 15–25. (Vivek S. Borkar) **98j:93079** 93E05 (90D20)

Liu, Jiming[2] A method of spatial reasoning based on qualitative trigonometry. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 137–168. (Summary) **98m:68259** 68T30

Liu, Jin Bo (*with* Luo, Xian Fa) Best approximations and norm-preserving extensions. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 1, 24–28, 62. (Summary) **98c:46026** 46B20 (41A65)

Liu, Jin'e Strong uniform convergence of composition sequences of probability measures on locally compact topological semigroups. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 1, 37–44. (Summary) **98e:60017** 60B15 (43A05, 60B10)

Liu, Jin Ming[1] (*with* Gong, Di) Group-theoretic analysis of the glueball wave function in lattice gauge theory. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 5, 29–34. 81T25

Liu, Jin Shan The BLUE in a singular linear model with transformations of the observable variables. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 3, 271–278. 62J05

— (*with* Zhang, Yun Xin) Some properties of the Cuntz algebra $\mathcal{O}_n$. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 2, 186–191. (Summary) **98e:46078** 46L05

— Unbiased estimators of covariance matrices of covariance improved estimators of seemingly unrelated regression systems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 30–37. 62J05 (62F12, 62H12)

Liu, Jing Zhao (*with* Wang, Yi Ju) Gracefulness of products of balanced bipartite graphs. (Chinese. Chinese summary) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 9,12. 05C78

Liu, Jinglian J. (*with* Soni, Bharat K.) 2D groundwater contaminant transport modeling by using the finite volume method on an unstructured grid system. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 199–211. (Summary) **98h:76108** 76M25 (76S05, 86–08, 86A05)

Liu, Jingou The minimum distance method in nonlinear random coefficient models. (English summary) *Statist. Sinica* **6** (1996), *no.* 4, 877–898. (J. V. Deshpande) **98b:62044** 62F12 (62G07, 62J99)

Liu, Jinlin (*with* Owa, Shigeyoshi) On certain meromorphic p-valent functions. (English summary) Univalent functions and the Briot-Bouquet differential equations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 963 (1996), 63–66. (Summary) **98f:30013** 30C45

— On certain differential operator. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 3, 19–21. 30C45

— (*with* Owa, Shigeyoshi) On certain meromorphic p-valent functions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 107–110. 30C45

Liu, Jinlu (*with* Shi, Kai Quan) On the F-quadratic equation $\bigvee_{i,j=1}^{n}(a_{ij} \wedge x_i \wedge x_j) = \hat{x}$. (English summary) *J. Fuzzy Math.* **4** (1996), *no.* 4, 793–799. (Ioan Tofan) **98a:04008** 04A72 (03B52, 94D05)

Liu, Jiuqiang (*with* Fan, Cong; Lick, Don R.) Pseudo-Cartesian product and Hamiltonian decompositions of Cayley graphs on abelian groups. (English summary) *Discrete Math.* **158** (1996), *no.* 1-3, 49–62. (Jean-Claude Bermond) **98b:05046** 05C25 (05C45)

— (*with* Alavi, Yousef; Erdős, Paul[1]; Lam, Peter Che Bor; Lick, Don R.; Wang, Jian Fang) Upper bounds on linear vertex-arboricity of complementary graphs. (English summary) *Util. Math.* **52** (1997), 43–48. 05C05

Liu, Joseph W. H. (*with* Ashcraft, Cleve) Using domain decomposition to find graph bisectors. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 506–534. (*see* **98f:65005**) 65F50 (65F05, 68R10)

— (*with* Ashcraft, Cleve) Robust ordering of sparse matrices using multisection. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 816–832 (*electronic*). 65F50

Liu, Juan (*with* Tan, Wei Han) The phase operator and phase eigenstates for a finite energy system. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 12, 2348–2358. 81V80

Liu, Julie Yu-Chih (*with* Chen, Weidong) A procedural semantics for stratified database updates. (English summary) Logic programming, nonmonotonic reasoning and reasoning about actions (El Paso, TX, 1995). *Ann. Math. Artificial Intelligence* **21** (1997), *no.* 2-4, 187–220. (Summary) **98j:68017** 68P15 (68N17, 68Q55)

Liu, Jun (*with* Pang, Guo Zhong; Sun, Li Hua; Xue, Fu Zhen) Robust stability for multivariable systems with time delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 1, 99–102. 93D09 (93C30)

Liu, Jun (*with* Xu, Yang) The filters and structure of lattice implication algebras. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 10, 1049–1052. 03G10

Liu, Jun (*with* Jiu, Quansen) Existence and uniqueness of global solutions of [the nonlinear Schrödinger equation] on $\mathbf{R}^2$. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 414–424. (Summary) **98j:35170** 35Q55

Liu, Jun (*with* Teng, Hong Fei) A kind of Boolean algebra—the go Boolean algebra—and its application. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 1, 43–46. 06E05

Liu, Jun[4] (*with* Guerrier, Béatrice) A comparative study of domain embedding methods for regularized solutions of inverse Stefan problems. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3579–3600. (Summary) **98f:80003** 80A22 (65M30, 65M55, 80–08)

Liu, Jun S. Peskun's theorem and a modified discrete-state Gibbs sampler. (English summary) *Biometrika* **83** (1996), *no.* 3, 681–682. (Mauro Piccioni) **98a:60098** 60J10 (62F15, 65U05)

— (*with* Chen, Sean X.) Statistical applications of the Poisson-binomial and conditional Bernoulli distributions. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 875–892. 62F99

Liu, Jun-Xian (*with* Zheng, Wei Mou) Numerical study of the kneading theory for the Lorenz model. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 423–428. 58F03 (58F13, 82–04, 82C05)

Liu, Jun Yi (*with* Chen, Zeng Jing; Zhao, Zhi Jun) Computational formulas for the amount of medication in a body and their applications. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 1, 31–34. 92C45

Liu, Junli (*with* Crawford, John W.) Stability of an autocatalytic system under noise perturbations and its dependence on the basin of attraction. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1195–1203. (Summary) **98b:80021** 80A32 (58F40)

Liu, K. *see* **Liu, Kefu**

Liu, K. F. *see* **Liu, Keh-Fei**

Liu, Kai[2] Stability with a general rate function for a class of stochastic evolution equations in infinite-dimensional spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 128–144. (George Yin) **98c:93115** 93E15 (35R15, 35R60, 60H10, 60H20, 93E03)

— (*with* Liu, Xiao) A dispatching model for a power network and a direct optimal algorithm. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 41–44. 90C35 (90B10)

— Direct optimization of the minimum cost flow. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 9, 86–88. 90C35

— Large time behaviour for a class of turbulence models—stochastic Burgers equations. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3991–4004. (Summary) **98c:35175** 35R60 (35B40, 35Q53, 60H15, 76F99, 76M35)

— On stability for a class of semilinear stochastic evolution equations. (English summary) *Stochastic Process. Appl.* **70** (1997), *no.* 2, 219–241. (Tomás Caraballo) **98m:60099** 60H15 (35R60, 60H10)

Liu, Kai Di (*with* Mo, Guo Duan) A new result of transformation formulae for Dirichlet polynomials. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 25–28, 36. 11C08

— (*with* Mo, Guo Duan; Jin, Jia Hua) Newton series expansions of a class of entire functions. (Chinese. English and Chinese summaries) *Guoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 44–50. 30E05

Liu, Kai Yu (*with* Luo, Jiao Wan) On the stability of a neutral integro-partial differential equation. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 2, 19–24. (Summary) **98b:35215** 35R10 (35B35, 45K05)

— (*with* Luo, Jiao Wan) Global attractivity in a discrete model of Nicholson's blowflies. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **12** (1996), *no.* 3, 15–20. (Sui Yang Chen) **98g:39013** 39A12 (34K20, 39A11, 92D40)

Liu, Kang-Man Dimensional reduction for Helmholtz's equation on an unbounded domain. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 1, 81–111.

(Srinivasan Kesavan) **98d:35035** 35J05 (65N15)

— (*with* Babuška, Ivo) Dimensional reduction for Helmholtz's equation on a bounded domain. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 501–533. (Howard Swann) **98i:65090** 65N12 (65N15, 65N30)

Liu, Kang Sheng (*with* Liu, Zhuangyi) Analyticity and differentiability of semigroups associated with elastic systems with damping and gyroscopic forces. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 340–355. (Summary) **98j:47085** 47D06 (34G10, 35Q72, 47N20, 73D30, 73K12)

— Locally distributed control and damping for the conservative systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 5, 1574–1590. (Vilmos Komornik) **98g:93005** 93B05 (35L05, 47D06, 47N70, 93C20)

— (*with* Liu, Zhuangyi) Exponential stability and analyticity of abstract linear thermoelastic systems. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 885–904. (Reinhard Racke) **98m:35207** 35Q72 (35B40, 47N20, 73B30, 73H10)

— (*with* Chen, Goong; Coleman, Matthew P.) Boundary stabilization of Donnell's shallow circular cylindrical shell. (English summary) *J. Sound Vibration* **209** (1998), *no.* 2, 265–298. (Kenneth B. Hannsgen) **98j:73064** 73K50 (47D06, 65N30, 73K15, 93C20)

Liu, Kang-Zhi (*with* Zhang, Hui; Mita, Tsutomu) Solution to nonsingular $\mathcal{H}_2$ optimal control problem with unstable weights. (English summary) *Systems Control Lett.* **32** (1997), *no.* 1, 1–10. (Rabah Rabah) **98i:93026** 93B36 (93D05)

Liu, Ke (*with* Filar, Jerzy A.) Hamiltonian cycle problem and singularly perturbed Markov decision process. (English summary) *Statistics, probability and game theory*, 45–63, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98k:90129** 90C40 (05C45)

— (*with* Liu, Jianyong) Markov decision programming—the moment optimal problem for the first-passage model. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 542–562. (From the text) **98e:90211** 90C40

Liu, Ke Xuan (*with* Ye, Zheng Lin; Meng, Ya Qin) Developable Bézièr surfaces. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 2, 81–86. 65D17

— (*with* Meng, Ya Qin; Ye, Zheng Lin) The weights and cross ratio of rational quadratic *B*-spline curves. (English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 124–128. 65D17 (41A15)

Liu, Kecheng (*with* Shelah, Saharon) Cofinalities of elementary substructures of structures on $\aleph_\omega$. (English summary) *Israel J. Math.* **99** (1997), 189–205. (Karsten Steffens) **98m:03100** 03E05 (03C55, 04A20, 04A30)

Liu, Kefeng Heat kernel and moduli space. *Math. Res. Lett.* **3** (1996), *no.* 6, 743–762. (Philippe P. Eyssidieux) **98a:58155** 58G11 (32G08, 32G13)

Liu, Kefu Identification of linear time-varying systems. (English summary) *J. Sound Vibration* **206** (1997), *no.* 4, 487–505. 93B30 (93E12)

Liu, Keh-Fei (*with* Lam, Chi-Sing) A multiple commutator formula for the sum of Feynman diagrams. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 514–530. (Summary) **98b:81152** 81T18 (81V05)

Liu, Kunlin (*with* Lu, Mi) Parallel algorithm for Householder transformation with applications to ill-conditioned problems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 89–101. 65F35 (65Y05)

Liu, Lai Fu (*with* Huang, Hai Yang) The application of a delay operator to a biological population diffusion model. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 13–18. (Bing Hong Wang) **98f:92009** 92D25 (35Q80, 35R10)

— (*with* Tang, Zhi Yu; Kuang, Jin Yu) A vector Boltzmann machine. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 4, 443–446. (Summary) **98k:82138** 82C32 (82C80, 92B20)

Liu, Lan Zhe Poisson operators and generalized Carleson measures on homogeneous spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 200–206. (Summary) **98k:42017** 42B20

— Doubly weighted weak Φ-inequalities for generalized maximal operators on spaces of homogeneous type. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 28–32. (Summary) **98f:42016** 42B25

— (*with* Leng, Gang Song) Weighted vector-valued inequalities for generalized singular integral operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 110–115. 42B20

— (*with* Yin, Chang Ming) Weighted boundedness and interpolation of operators in Lebesgue spaces of mixed type. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 303–305. 46E30 (42B20, 46M35, 47B38)

— (*with* Li, Feng[3]) Weighted φ-boundedness of a class of singular integral operators. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 349–353. 42B20

— Boundedness of singular integral operators on some atom spaces. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 22–26. 42B20 (47G10)

— (*with* Zhou, Xiao Sha; Wu, Bo Sen) Weighted boundedness for potential operators and its applications. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 1–6. 42B20

Liu, Li (*with* Sun, Chang You) Noether's theorem and the d-δ commutativity relation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 2, 43–49. (Haiping Zhu) **98a:70013** 70F25 (70G10, 70H33)

Liu, Li Solutions and solvabilities of general binary quadric indefinite equations. *Chinese Sci. Bull.* **42** (1997), *no.* 7, 541–545. (Charles J. Parry) **98h:11044** 11E25 (11D85, 11E16)

Liu, Li (*with* Li, Yu Xiao; Liu, Quan Hui) The problem of Hermiticity of the operator $(-i\hbar\,\partial/\partial x)^3$. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 43–46. 81Q10 (47N50)

Liu, Li Ping *see* **Liu, Li Ping[4]**

Liu, Li Ping[2] ★ Finite element analysis of nonlinear heat conduction problems. Dissertation, University of Jyväskylä, Jyväskylä, 1997. Report, 75. *University of Jyväskylä, Department of Mathematics, Jyväskylä*, 1997. viii+95 *pp. ISBN* 951-39-0101-7 (A. Jami) **98m:65170** 65M70 (80–08, 80A20, 85–08)

— (*with* Křížek, Michal) The second order optimality conditions for nonlinear mathematical programming with $C^{1,1}$ data. (English summary) *Appl. Math.* **42** (1997), *no.* 4, 311–320. (Doug Ward) **98d:90114** 90C30 (49J45)

Liu, Li Ping[4] Large-sample properties of the MLE of a distribution function with incomplete data. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 1, 8–20. 62G20 (62N05)

Liu, Li Shan Iterative method for solutions and coupled quasi-solutions of nonlinear Fredholm integral equations in ordered Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **27** (1996), *no.* 10, 959–972. (Charles Ejike Chidume) **98b:47071** 47H15 (45G10, 45L05, 47H17, 47N20, 65R20)

— (*with* Sun, Jing Xian) The solvability of nonlinear integro-differential equations of mixed type in Banach spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 253–259. (Zai-Feng Song) **98c:34126** 34K30 (45J05, 47H15, 47N20)

— Iterative solutions of nonlinear mixed monotone Hammerstein integral equations in Banach spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 4, 338–343. (Da Jun Guo) **98d:47150** 47H17 (45L05, 47H30, 65R20)

— Random approximations and random fixed point theorems in infinite-dimensional Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 139–150. (A. Nowak) **98d:47158** 47H40 (47H09, 47H10, 60H25)

— On an open problem of Th. M. Rassias. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 5–8. (Wen Rong Li) **98h:47088** 47H99 (39B72)

Liu, Li Wei Random differential inclusions containing m-dissipative operators. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 67–71. (Xian Zhi George Yuan) **98h:34030** 34A60 (34G20, 47H40, 60H25)

— Approximation of fixed points of a strictly pseudocontractive mapping. (English summary) *Proc. Amer. Math. Soc.* **125** (1997), *no.* 5, 1363–1366. (Charles Ejike Chidume) **98b:47074** 47H17 (47H10)

Liu, Li Xin A conjecture of the length spectrum of Riemann surface. *Chinese Sci. Bull.* **41** (1996), *no.* 10, 793–797. (Pablo Arés Gastesi) **98a:32022** 32G15 (30F60)

— The boundary of extremal length of a Teichmüller space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 125–132; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 95–104. (Jin Hao Zhang) **98g:32031** 32G15 (30F60)

Liu, Liao (*with* Zhao, Feng) Traversable Lorentzian wormholes in Brans-Dicke's and induced gravity theories. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 12, 881–884. (Serguey M. Pokas') **98f:83093** 83E05 (83D05)

— (*with* Zhao, Zheng) A new understanding of the Hawking-Unruh effect. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 5, 1036–1040. 83C47

Liu, Liming (*with* Shi, Ding Hua) Busy period in $GI^X/G/\infty$. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 815–829. (Summary) **98m:60146** 60K25

Liu, Liping On nonparametric Bayesian hierarchical modelling. (English summary) Dissertation, University of Oulu, Oulu, 1996. *Acta Univ. Oulu. Ser. A Sci. Rerum Natur. No.* 288 (1996), 85 *pp.* (Summary) **98b:62085** 62G10 (62F10, 62N05)

Liu, Liren (*with* Hua, Jianwen; Li, Guoqiang) Extended fractional Fourier transforms. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 12, 3316–3322. 42A38

— (*with* Hua, Jianwen; Li, Guoqiang) Dual self-transform function. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1199–1202. (Summary) **98c:44006** 44A15

— (*with* Hua, Jianwen; Li, Guoqiang) Imaginary angle fractional Fourier transform and its optical implementation. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 374–378. 78A05 (26A33, 44A15)

— (*with* Hua, Jianwen; Wang, Ning) Optical dual self functions. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 583–587. 78A10

Liu, Lixin *see* **Liu, Li Xin**

Liu, Liyu Modify Lewis' example into the pseudo-arc. (English summary) *Chinese J. Contemp. Math.* **16** (1995), *no.* 3, 323–330. 54F15

Liu, Lu Xin Application of the vectorial theory of relativistic thermodynamics to the study of the properties of a material system in a Schwarzschild field. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 12, 2300–2304. 83C55

— A vector formulation of relativistic thermodynamics and its applications. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 645–648. 80A05

Liu, Luo Fei The families of osculating planes, rectifying planes, and normal planes of a space curve. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 4, 48–50. (Chuan Yu Ma) **98e:53005** 53A04

Liu, Luqin On the Hausdorff dimension of the inverse image of a compact set under a Lévy process. (English summary) A Chinese summary appear in Acta Math. Sinica **39** (1996), no. 4, 574. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 3, 247–251. (Mamoru Kanda) **98e:60120** 60J30 (60G17)

Liu, Maixue (*with* Zhang, Zhi Zheng) An extension of the generalized Pascal matrix and its algebraic properties. (English summary) *Linear Algebra Appl.* **271** (1998), 169–177. (Shu An Hu) **98m:15045** 15A57

Liu, Man-Chun (*with* Yang, Miin-Shen) On possibility analysis of fuzzy data. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 171–183. (Summary) **98k:03111** 03E72

Liu, Mei Juan (*with* Shen, Bo Qian) A necessary and sufficient condition for a cubic system to have a class of double folium separatrix cycles. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 264–268. 34C05

Liu, Ming-Chit (*with* Chiu, Shung-Fu) On exceptional sets for numbers representable by binary sums. Symposium on Diophantine Problems (Boulder, CO, 1994). *Rocky Mountain J. Math.* **26** (1996), *no.* 3, 959–986. (A. Perelli) **98c:11107** 11P32

Liu, Ming-Hong (*with* Ubhaya, Vasant A.) Integer isotone optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1152–1159. (Summary) **98j:90043** 90C10

Liu, Ming Hui (*with* Wang, Da Hai; Gao, Yuan Yuan) The four classes of cutting sets and the corresponding four classes of ensembles flous. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997,** *no.* 1, 18–19. 04A72

Liu, Ming Sheng A class of bounded univalent functions. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996,** *no.* 1, 122–128. (William Ma) **98c:30016** 30C45

— A subclass of p-valent close-to-convex functions of type α and order β. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 102–104. 30C45

— Biorthogonal wavelet bases on an interval. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997,** *no.* 4, 15–20. 42C15

— A subclass of the class of strongly starlike functions. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 59–63. 30C45

Liu, Ming-zhu (*with* Liang, Jiu-zhen; Qiu, Shen-shan) The stability of θ-methods for pantograph delay differential equations. (English summary) *Numer. Math. J. Chinese*

Univ. (*English Ser.*) **5** (1996), *no.* 1, 80–85. 65L20 (34K05)

Liu, Mulan (*with* Hu, Lei) Modules of linear recurring arrays over finite fields. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 244–248, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 13C13

— (*with* Mullen, Gary L.) Irreducible polynomials and linear recurring arrays. (English summary) *Discrete Appl. Math.* **74** (1997), *no.* 1, 93–99. (S. D. Cohen) **98a:11176** 11T06 (05B15, 11T30, 12E20)

Liu, Nianzheng Analytic cell decomposition and the closure of p-adic semianalytic sets. *J. Symbolic Logic* **62** (1997), *no.* 1, 285–303. (Christopher L. Miller) **98h:03039** 03C10 (03C60, 14P20, 32B20, 32P05)

Liu, Pei De (*with* Turdebek, N. Bekjan) Φ-inequalities and laws of large numbers of Hardy martingale transforms. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 3, 269–275. (Ferenc Weisz) **98m:60071** 60G42 (60B12)

— Convexity in complex spaces and inequalities for Hardy martingales. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 133–143. (Summary) **98i:42010** 42B30 (46E30, 46N30, 60G46)

— (*with* Hou, You Liang) Martingales with respect to complex measures with the $b_p^+(K)$ condition. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 235–245. (Summary) **98g:60086** 60G42

Liu, Pei-Dong Stability of orbit spaces of endomorphisms. (English summary) *Manuscripta Math.* **93** (1997), *no.* 1, 109–128. (Romeo F. Thomas) **98e:58107** 58F10

Liu, Philip L.-F. (*with* Wen, Jiangang) Nonlinear diffusive surface waves in porous media. (English summary) *J. Fluid Mech.* **347** (1997), 119–139. (Summary) **98h:76127** 76S05 (76B15, 86A05)

— (*with* Yeh, Harry; Lin, Pengzhi; Chang, K.-T.; Cho, Yong-Sik) Generation and evolution of edge-wave packets. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1635–1657. 76B15 (76–05)

— (*with* Chen, Yongze) A generalized modified Kadomtsev-Petviashvili equation for interfacial wave propagation near the critical depth level. (English summary) *Wave Motion* **27** (1998), *no.* 4, 321–339. (Summary) **98m:86005** 86A05 (35Q53, 76C10)

Liu, Pingzhou (*with* Gopalsamy, K.) On a model of competition in periodic environments. (English summary) *Appl. Math. Comput.* **82** (1997), *no.* 2-3, 207–238. (Wan Biao Ma) **98f:39011** 39A11 (92D25)

— (*with* Gopalsamy, K.) Dynamics of a logistic map with eventually fading memory. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 1–10. (Sui Sun Cheng) **98g:39004** 39A10 (39A11, 92D25, 92D40)

Liu, Pu Yin Fuzzy-valued Markov processes and their properties. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 1, 45–52. 60J99 (04A72)

— (*with* Zhang, Han Jiang; Wu, Meng Da; Cheng, Li Zhi; Wang, Hao) A survey of research on the theory of fuzzy neural networks. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 77–87. 68T05 (92B20)

Liu, Q. H. *see* **Liu, Qing Huai**

Liu, Q. P. *see* **Liu, Qing Ping[1]**

Liu, Qi Lin (*with* Mo, Jia Qi) Singularly perturbed reaction-diffusion systems with nonlocal boundary conditions. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 451–454. (Summary) **98d:35015** 35B25 (35K57)

Liu, Qing (*with* Edixhoven, Bas; Lorenzini, Dino) The p-part of the group of components of a Néron model. *J. Algebraic Geom.* **5** (1996), *no.* 4, 801–813. (Jean-Claude Douai) **98m:14051** 14L15 (14H40, 14H52, 14K15)

Liu, Qing (*with* Zheng, Dao-Sheng) Some general Rayleigh quotient iteration (GRQI) iterative methods with fast rates of convergence. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1996**, *no.* 4, 1–9. (Xinguo Liu) **98d:65047** 65F15

Liu, Qing Guo (*with* Ye, Pei Xin) Kantorovich Sheffer operators. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 33–36. 41A35

Liu, Qing Huai (*with* Li, Xiu Fen; Dong, Jia Li) Lipschitz B-vex functions and nonsmooth programming. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 557–574. (B. Mond) **98d:90088** 90C26 (90C29)

Liu, Qing Min Approximate inertial manifolds of infinite-dimensional dissipative dynamical systems. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 4, 343–348. (Summary) **98e:34113** 34G20 (35B99, 47H20, 58F39)

Liu, Qing Ping[1] (*with* Xiong, Chuan-Sheng) $W_3^{(2)}$ algebra—the related hierarchies and new free field realization. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 329–334, *World Sci. Publishing, River Edge, NJ*, 1994. (Shu Cheng Zhao) **98j:81120** 81R10

— On the cotangent space analog of the Korteweg-de Vries equation. (English summary) *Comm. Theoret. Phys.* **24** (1995), *no.* 1, 117–120. (Pol Vanhaecke) **98f:58107** 58F07 (35Q53)

— On the integrable hierarchies associated with the $N = 2$ super W_n algebra. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 335–340. (Summary) **98h:58080** 58F07 (17B68, 35Q53, 81R10)

— (*with* Mañas, Manuel) Crum transformation and Wronskian type solutions for supersymmetric KdV equation. (English summary) *Phys. Lett. B* **396** (1997), *no.* 1-4, 133–140. (Chris Athorne) **98d:58087** 58F07 (35Q53, 58F37)

Liu, Qing Rong (*with* Zhao, Hua Xin) Local integrated C-semigroups and the abstract Cauchy problems. III. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 53–58. (Ti Jun Xiao) **98c:47053** 47D06 (34G10, 47N20)

— (*with* Gong, Fu Zhou) C-semigroups and C_0-semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **12** (1996), *no.* 1, 78–80. (Shu Chun Gao) **98b:47054** 47D06 (47D03)

Liu, Qiuyu (*with* Wang, Hai Yan[3]; Song, Shiji) On the basic solutions to (DG) fuzzy integral equation. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 75–82. (Summary) **98m:45002** 45A05

Liu, Qiu Xiang (*with* Wang, Xiao Jing; Wang, Pin Chao) A class of Frattini-like subgroups of a finite group. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 1–4. 20D25

Liu, Quan Hui (*with* Li, Yu Xiao; Liu, Li) The problem of Hermiticity of the operator $(-i\hbar\,\partial/\partial x)^3$. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 1, 43–46. 81Q10 (47N50)

Liu, Quansheng The growth of an entire characteristic function and the tail probabilities of the limit of a tree martingale. (English and French summaries) *Trees* (*Versailles*, 1995), 51–80, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Flora Koukiou) **98g:60030** 60E10 (30D15, 60G42, 60J80, 60K35)

— (*with* Rouault, Alain) On two measures defined on the boundary of a branching tree. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 187–201, *IMA Vol. Math. Appl.*, **84**, *Springer, New York*, 1997. (Summary) **98j:60123** 60J80 (28A78, 28A80)

— Sur une équation fonctionnelle et ses applications: une extension du théorème de Kesten-Stigum concernant des processus de branchement. (English summary) [On a functional equation and its applications: an extension of the Kesten-Stigum theorem on branching processes] *Adv. in Appl. Probab.* **29** (1997), *no.* 2, 353–373. (Martin I. Goldstein) **98j:60124** 60J80 (60K35)

Liu, Regina Y. (*with* Tang, Jen) Control charts for dependent and independent measurements based on bootstrap methods. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1694–1700. (Keh-Wei Chen) **98e:62074** 62G09 (62N10)

— (*with* Singh, Kesar) Notions of limiting P values based on data depth and bootstrap. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 266–277. (Zuzana Prášková) **98c:62030** 62F03 (62G09, 62G30)

Liu, Ren Huai (*with* He, Ling Hui) Bounds of the expansion coefficients of composites reinforced by spherically isotropic particles. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 4, 341–348; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 317–323 (*Chinese. English and Chinese summaries*). 73K20

Liu, Ren Li (*with* Li, Chun Guang) A general method for determining the convergence domains of block SOR iterative methods. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 2, 44–53. (Summary) **98b:65035** 65F10

Liu, Renren An improved shellsort algorithm. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 241–247. (Summary) **98e:68044** 68P10

Liu, Ru-Ying (*with* Zhao, Lian-Chang) A new method for proving chromatic uniqueness of graphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 169–177. (C. Y. Chao) **98f:05063** 05C15

— (*with* Li, Nian Zu; Bao, Xue-Wen) Chromatic uniqueness of the complements of certain forests. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 79–84. (Summary) **98e:05041** 05C15 (05C05)

— Adjoint polynomials and chromatically unique graphs. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 85–92. (Summary) **98e:05042** 05C15

Liu, Ruifeng (*with* Mandrekar, V.) Stochastic semilinear evolution equations: Lyapunov function, stability, and ultimate boundedness. *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 537–553. (Kiyomasa Narita) **98k:60108** 60H20 (34D08, 34F05, 34G20)

Liu, S. *see* **Liu, Shuang Zhe**

Liu, S. T. *see* **Liu, Shu Tang[2]**

Liu, Shan (*with* Wu, Tie Jun) A stable direct adaptive control algorithm based on wavelet approximations. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 636–640. 93C40 (93B40)

Liu, Shangping L^p-differentiability of $W^{l,p}(\mathbf{R}^n)$ $(1 < p < +\infty)$ functions. *Chinese Sci. Bull.* **42** (1997), *no.* 3, 184–189. (Jacek Marek Jędrzejewski) **98d:26004** 26B05 (46E35)

Liu, Shao Wu (*with* You, Hong) Sylow p-subgroups of the limit linear group GL over finite commutative rings. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 5, 456–462. (Ulrich Dempwolff) **98c:20092** 20G25

— (*with* Yuan, Gui Fang) Linear operators preserving idempotence on matrices spaces over skew-fields. *Chinese Sci. Bull.* **42** (1997), *no.* 15, 1244–1247. (Constantin Udrişte) **98m:15027** 15A33

— (*with* Liu, Chun Xu; Dong, Jin Tian) Analytic solutions of a geological model with ringlike vertical crossflow area. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 30–32. (Summary) **98b:86006** 86A05

— Linear maps on matrices modules over PID preserving rank one and their applications. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 1, 99–104. (Ion Zaballa) **98f:15004** 15A15

— (*with* Yuan, Gui Fang) Idempotence-preserving operators on spaces of matrices over fields. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 11, 1143–1146. 46A45

— Linear maps preserving idempotence on matrix modules over principal ideal domains. (English summary) *Linear Algebra Appl.* **258** (1997), 219–231. (N. J. Pullman) **98a:15035** 15A33 (16S50)

Liu, Shao Yue A derivation for n-parameter Ornstein-Uhlenbeck processes. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **11** (1996), *no.* 4, 353–355. (Summary) **98b:60074** 60G15 (60G60, 60J65)

— (*with* Zhou, Zhan Gong) Some results on increments of sum processes of infinite series with terms from an Ornstein-Uhlenbeck process. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 3, 21–24. 60J05 (60F15, 60G15)

— Probabilistic solutions for a class of parabolic equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 21–22. 35K10 (60G46)

— Addition, random selection, and decomposition of Poisson sheets. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 13–15. 60G55

Liu, Shaojun (*with* Chen, Zhaodou; Shen, Yanan) Möbius inversion on a multiplicative semigroup and inverse lattice problems in physics. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 3, 269–279. (Summary) **98i:05004** 05A15 (82D25)

Liu, Sharon (*with* Bewley, Thomas R.) Optimal and robust control and estimation of linear paths to transition. (English summary) *J. Fluid Mech.* **365** (1998), 305–349. 76F99 (93B35)

Liu, Shen Quan (*with* Lu, Qi Shao) Solving the eikonal equation by using Fife's scaling. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 8, 1457–1463. 35Q99 (65M99)

Liu, Shi Da (*with* Liu, Shi Kuo) Scaling symmetry. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 5, 669–680. 58F13

Liu, Shi Kuo (*with* Liu, Shi Da) Scaling symmetry. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 5, 669–680. 58F13

Liu, Shi Ze (*with* Yuan, Xiao Feng; Guo, Rui Hai; Ke, Yi Hua) Qualitative analysis of a mathematical model of the ecology of a population of three species of microbes in an anaerobic digestion process. (Chinese) *Sichuan Daxue Xuebao* **34** (1997), *no.* 3, 373–376. 92D40 (34C99)

Liu, Shiping (*with* Assem, Ibrahim) Strongly simply connected tilted algebras. (English and French summaries) *Ann. Sci. Math. Québec* **21** (1997), *no.* 1, 13–22. (Dieter Happel) **98h:16016** 16G10 (16G60)

Liu, Shu-Ing Model selection for multiperiod forecasts. (English summary) *Biometrika* **83** (1996), *no.* 4, 861–873. (Roch Roy) **98k:62166** 62M20 (62M10)

Liu, Shu Tang *see* **Liu, Shu Tang[2]**

Liu, Shu Tang[1] (*with* Chen, Duan) A new method for suppressing cross terms based on the discrete Gabor transform. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 9, 77–80. 94A11 (94A12)

Liu, Shu Tang[2] (*with* Cheng, Sui Sun; Zhang, Bing Gen) Positive flows of an infinite network. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 83–90. (Summary) **98a:90042** 90B10

— (*with* Zhang, Bing Gen) Necessary and sufficient conditions for oscillations of partial difference equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 1, 89–96. (Gian-Italo Bischi) **98j:39007** 39A10

— (*with* Zhang, Bing Gen) On the oscillation of two partial difference equations. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 480–492. (Abdurrahman Karamancioglu) **98g:39011** 39A10

— (*with* Yang, Jun; Guan, Xin Ping; Cheng, Ying Jie) Oscillation of solutions to boundary value problems for a class of neutral parabolic equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 13–18. (Summary) **98d:35230** 35R10 (35B05, 35K10)

— (*with* Cheng, Sui Sun) Nonexistence of positive solutions of a nonlinear partial difference equation. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 51–58. (From the text) **98m:39018** 39A10

— (*with* Zhang, Bing Gen) Oscillations of a class of partial difference equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 93–100. 39A10 (39A11)

Liu, Shu Tian (*with* Cheng, Geng Dong) A homogenization method for the stress analysis of composite materials. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 3, 306–313. (Summary) **98e:73009** 73B27 (73K20, 73S10)

Liu, Shuang Zhe (*with* Polasek, Wolfgang; Neudecker, Heinz) Equality conditions for matrix Kantorovich-type inequalities. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 517–528. (Marc Artzrouni) **98e:15012** 15A18 (15A42, 15A45)

— (*with* Neudecker, Heinz) Kantorovich and Cauchy-Schwarz inequalities involving positive semidefinite matrices, and efficiency comparisons for a singular linear model. (English summary) *Linear Algebra Appl.* **259** (1997), 209–221. (Natalia Bebiano) **98c:15056** 15A45 (15A48)

— (*with* Neudecker, Heinz) Experiments with mixtures: optimal allocations for Becker's models. (English summary) *Metrika* **45** (1997), *no.* 1, 53–66. (N. Gaffke) **98f:62224** 62K05 (62J05)

Liu, Shubin (*with* Huang, Hongxin; Xie, Qingji; Cao, Zexing) Hartree-Fock quantum Monte Carlo method. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1090–1093. 81–08 (81V55, 92E99)

Liu, Shutian (*with* Jiang, Jiuxing; Zhang, Yan; Zhang, Jingde) Generalized fractional Fourier transforms. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 973–981. (Summary) **98a:81002** 81–08

Liu, Si Feng (*with* Dang, Yao Guo) Drifting in LPGP (linear programming with gray parameters) and the degree of satisfaction of a positioning solution. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 1, 28–31. 90C05 (04A72)

Liu, Song Hui (*with* Li, Yue Feng; Liu, Da You) Inner and outer measures of belief functions and random sets. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 2, 31–34. 68T30 (28A99, 60A99)

Liu, Songtao (*with* Cao, Yuan; Liu, Genhong) A proof on the convexity of functional splines. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 357–360. (Petru P. Blaga) **98h:41021** 41A29 (41A15, 65D07, 65D17)

Liu, Tai-Ping (*with* Bolliat, G.; Dafermos, C. M.; Lax, Peter D.) ★ Recent mathematical methods in nonlinear wave propagation. Lectures given at the 1st C.I.M.E. Session held in Montecatini Terme, May 23–31, 1994. Edited by T. Ruggeri. Lecture Notes in Mathematics, 1640. Fondazione C.I.M.E.. [C.I.M.E. Foundation] *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1996. vi+142 *pp. ISBN* 3-540-61907-0 (Editors) **98g:35002** 35–06

— Nonlinear hyperbolic-dissipative partial differential equations. *Recent mathematical methods in nonlinear wave propagation (Montecatini Terme, 1994)*, 103–136, *Lecture Notes in Math.*, 1640, *Springer, Berlin*, 1996. (Hideo Yamagata) **98m:35136** 35L70 (76L05, 76N10, 76N15)

— Stability and viscosity criterion of shocks. (English summary) Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 357–366. (Denis Serre) **98d:35144** 35L67 (35B40, 35D10, 76L05)

— Nonlinear waves for viscous conservation laws. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 65–74, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:35098** 35L65

— Pointwise convergence to shock waves for viscous conservation laws. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 11, 1113–1182. (Roberto Natalini) **98j:35121** 35L67 (35K99, 35L65, 76L05)

— Regularization of solution operators for quasilinear hyperbolic-parabolic partial differential equations. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 347–354. 35M10 (35A35, 65M30)

— (*with* Yang, Tong) Uniform L_1 boundedness of solutions of hyperbolic conservation laws. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 339–355. (Alexander Doktor) **98m:35127** 35L65

— (*with* Xin, Zhouping; Yang, Tong) Vacuum states for compressible flow. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 1–32. (Denis Serre) **98k:76116** 76N15 (35Q30)

— *see also* **Nonlinear evolutionary partial differential equations, 98d:35003**

Liu, Tai-Wen (*with* Glasserman, Paul) Corrected diffusion approximations for a multistage production-inventory system. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 1, 186–201. (E. S. Boylan) **98e:90044** 90A16 (60J60, 90B20)

Liu, Taishun (*with* Zhang, Wen Jun) Homogeneous expansions of normalized biholomorphic convex mappings over B^p. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 8, 799–806. (T. J. Suffridge) **98j:32022** 32H02 (30C45, 32A30)

Liu, Tsann-Shyong (*with* Lin, Yig-Shyang; Chang, Long-Wen) A new bit rate control of MPEG with predictive and adaptive perceptual quantization. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 3, 295–313. (Summary) **98d:94007** 94A12 (94A29)

Liu, Tzong-Jye (*with* Huang, Shing-Tsaan) Four-state stabilizing phase clock for unidirectional rings of odd size. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 325–329. 68M10

Liu, W. *see* **Liu, Wei[4]**

Liu, W. B. *see* **Liu, Wen Bin**

Liu, W. K. *see* **Liu, Wing Kam**

Liu, Wan Quan (*with* Li, Xun Jing; Teo, Kok Lay) Tracking control for nonlinear affine systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 307–318. 49N10 (93B52)

— (*with* Sreeram, V.) New algorithm for computing LQ suboptimal output feedback gains of decentralized control systems. (English summary) *J. Optim. Theory Appl.* **93** (1997), *no.* 3, 597–607. (Han Sheng Wu) **98d:93004** 93A14 (49N35)

— (*with* Sreeram, V.) A new characterization on stability bounds for singularly perturbed systems. (English summary) *Linear Algebra Appl.* **263** (1997), 377–388. (Summary) **98b:34069** 34D15 (34E15, 35H05)

— (*with* Xiao, Chengshan; Sreeram, V.; Venetsanopoulos, A. N.) Identification and model reduction of 2-D systems via the extended impulse response Gramians. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 93–101. 93B30 (93B10)

— (*with* Diab, Mahmoud; Sreeram, V.) Frequency weighted identification and model reduction via extended impulse response Gramian. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 103–122. 93B30 (93C80)

Liu, Wan Rong A random PP Kolmogorov multivariate goodness-of-fit test and its bootstrap approximation. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 252–259. 62G10

Liu, Wang Jin (*with* Wen, Mo Zhi; Shu, Lan) On fuzzy syntopogenous structures and preorder. (English summary) *Fuzzy Sets and Systems* **90** (1997), *no.* 3, 355–359. (Summary) **98e:54008** 54A40 (04A72)

Liu, Wayne A simple, efficient degree raising algorithm for *B*-spline curves. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 7, 693–698. (Summary) **98c:65015** 65D07 (41A15, 65D17)

Liu, Wei (*with* Ma, Xudong; Liu, Yan) Graceful graphs: cycles with $(t-1)$ chords. *Math. Appl.* **9** (1996), *suppl.*, 6–8. (Yixun Lin) **98a:05129** 05C78

Liu, Wei (*with* Wang, Yao Qing) Design and robustness analysis of a class of discrete uncertain control systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 531–536. 93D21 (93C42)

Liu, Wei[3] (*with* Hu, Cheng Dong) Boundary value problems of finite deformation of elastic plates with small shear. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 1–16. (Summary) **98c:73051** 73K10 (73G05)

Liu, Wei[4] Improving the fully sequential sampling scheme of Anscombe-Chow-Robbins. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2164–2171. (Rasul A. Khan) **98m:62220** 62L12 (62E99)

— On a multiple three-decision procedure for comparing several treatments with a control. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 1, 79–92. (Summary) **98g:62138** 62J15

— Stepwise tests when the test statistics are independent. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 169–177. 62F03

— Some results on step-up tests for comparing treatments with a control in unbalanced one-way layouts. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1508–1512. 62J15

— On sample size determination of Dunnett's procedure for comparing several treatments with a control. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 255–261. 62J10

— Control of directional errors with step-up multiple tests. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 239–242. (Summary) **98e:62031** 62F03

— On step-up tests for comparing several treatments. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 957–972. 62F03

Liu, Wei An Nonlocal problems of parabolic equations. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 3, 261–268. (Lumin Jiang) **98h:35125** 35K60

— Cones in integrable vector valued function spaces and abstract impulsive integro-differential equations. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 441–446. (Seppo Heikkilä) **98e:45007** 45J05 (34A37, 34K05, 46N20, 47N20)

Liu, Wei Guo A globally and linearly convergent iterative method for a class of projection problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 173–183. 90C20

Liu, Wei Jiang (*with* Wang, Yan) The construction of Cartesian authentication codes from orthogonal geometries with odd characteristic. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 2, 9–12. 94A60

Liu, Wei Jun (*with* Li, Hui Ling) A generalization of the Camina-Gagen theorem. II. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **25** (1996), *no.* 5, 438–444. (Summary) **98c:05023** 05B05 (20B25)

Liu, Wei-Ling (*with* Li, Horng-Jaan) Oscillation criteria for second order linear differential equations with damping. (English summary) *J. Appl. Anal.* **2** (1996), *no.* 1, 105–118. (Anton Zettl) **98a:34030** 34C10

Liu, Wei-min (*with* Wu, Zhi-Ming) Criterion of high-codimensional bifurcations with several pairs of purely imaginary eigenvalues. (English summary) *Linear Algebra Appl.* **267** (1997), 53–63. (Bernd Marx) **98k:34065** 34C23 (15A18, 58F14)

Liu, Wei-Yi Fuzzy data dependencies and implication of fuzzy data dependencies. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 341–348. (Summary) **98h:68053** 68P15

Liu, Weijiu (*with* Williams, Graham H.) Exact internal controllability for the semilinear heat equation. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 258–272. (Werner Horn) **98d:93014** 93B05 (35K55, 93C20)

— (*with* Williams, Graham H.) Exact Neumann boundary controllability for second order hyperbolic equations. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 117–142. (Jaime E. Muñoz Rivera) **98m:93017** 93B05 (35L10, 93C20)

Liu, Weishi (*with* Chow, Shui-nee) Synchronization, stability and normal hyperbolicity. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 139–158. (Peter E. Kloeden) **98i:34074** 34D08 (34D10, 34D45, 58F10, 93D20)

Liu, Wen (*with* Shan, Rui) An effective method for a class of optimization problems—the ADPE method. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 27–29. 90C30

Liu, Wen[1] (*with* Liu, Yu Can) The likelihood ratio and a class of limit theorems, expressed in terms of inequalities, for sequences of integer-valued random variables. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 378–384. 60F05

— (*with* Chen, Zhigang[1]) The logarithmic likelihood ratio and an analytic approach to strong limit theorems for sequences of discrete random variables. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 3, 359–368. (Summary) **98b:60060** 60F15

— A strong limit theorem for discrete information sources that holds universally. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 440–443. (Zhao Zhi Zhang) **98d:94014** 94A17

— (*with* Yang, Wei Guo[1]) Some investigation related to the Shannon-McMillan theorem. II. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 2, 176–183. (Zhao Zhi Zhang) **98k:94005** 94A24 (94A17)

— (*with* Yang, Wei Guo[1]) A comparison between arbitrary information sources and Markov information sources, and some small deviations theorems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 22–36. (Zhao Zhi Zhang) **98h:94010** 94A24 (94A29)

— (*with* Jiang, Dongming) An extension of a strong limit theorem on random selection. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 4, 289–309. (Andrew Rosalsky) **98m:60045** 60F15

— (*with* Liu, Zi Kuan) The logarithmic likelihood ratio and a class of strong laws for sequences of integer-valued random variables. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 316–323. 60F15 (62E20)

— (*with* Liu, Zi Kuan) A strong limit theorem for the sequence of dependent binary random variables. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 323–328. (Summary) **98h:60042** 60F15

— A kind of strong deviation theorem for the sequences of nonnegative integer-valued random variables. (English summary) *Statist. Probab. Lett.* **32** (1997), *no.* 4, 343–349. (Summary) **98i:60030** 60F15

Liu, Wen Bin Nonlinear singular boundary value problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1996**, *no.* 1, 5–8. (Jun Yu Wang) **98a:34023** 34B15

— (*with* Wu, Zong Xiang) A boundary value problem of the isolated neutral atom type for the Thomas-Fermi equation. (Chinese. Chinese summary) *Math. Appl.* **9** (1996), *no.* 3, 294–296. (Yisong Yang) **98a:34024** 34B15

— (*with* Cheng, R. C. H.) A continuous representation of the family of stable law distributions. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 1, 137–145. (V. K. Rohatgi) **98a:62018** 62E10 (62F25)

Liu, Wen Qi (*with* Luo, Cheng Zhong) Some notes on linear programming with fuzzy constraints. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 105–109. 90C70 (90C05)

— (*with* Luo, Cheng Zhong) Rings of sets. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 34–39. 06D30 (04A72)

Liu, Wensheng (*with* Chitour, Yacine; Sontag, Eduardo D.) On finite-gain stabilizability of linear systems subject to input saturation. (English summary) *SIAM J. Control Optim.* **34** (1996), *no.* 4, 1190–1219. (Summary) **98c:93091** 93D15

— An approximation algorithm for nonholonomic systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 4, 1328–1365. (Sauro Longhi) **98i:70007** 70F25 (34H05, 70Q05, 93C15)

— Averaging theorems for highly oscillatory differential equations and iterated Lie brackets. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1989–2020. (Andrei V. Sarychev) **98k:34104** 34H05 (34C29, 34E05, 93B29, 93C15)

Liu, Wenxiong (*with* Barron, E. N.) Calculus of variations in L^∞. (English summary) *Appl. Math. Optim.* **35** (1997), *no.* 3, 237–263. (Elvira Mascolo) **98a:49021** 49J45 (49K24)

— (*with* Barron, E. N.; Jensen, Robert R.) Hopf-Lax type formula for $u_t + H(u, Du) = 0$. II. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1141–1160. (Summary) **98g:35038** 35F25 (49L20)

— (*with* Barron, E. N.; Jensen, Robert R.) Explicit solution of some first-order PDE's. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 2, 149–164. (Summary) **98c:35027** 35F20 (49L20)

Liu, Wenyuan (*with* Yang, Jun; Guan, Xin Ping) Oscillation and asymptotic behavior of second order nonlinear neutral difference equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 94–106. (Summary) **98m:39037** 39A10

Liu, Wing Kam (*with* Li, Shaofan) Moving least-square reproducing kernel method. II. Fourier analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **139** (1996), *no.* 1-4, 159–193. (Zhangxin Chen) **98e:65099** 65N30 (76M10)

— (*with* Hao, Wei; Chen, Yijung; Jun, Sukky; Gosz, J.) Multiresolution reproducing kernel particle methods. (English summary) *Comput. Mech.* **20** (1997), *no.* 4, 295–309. (Summary) **98f:65132** 65T99 (65D15)

— (*with* Li, Shaofan; Belytschko, Ted) Moving least-square reproducing kernel methods. I. Methodology and convergence. (English summary) *Comput. Methods Appl. Mech. Engrg.* **143** (1997), *no.* 1-2, 113–154. (Zhangxin Chen) **98e:65098** 65N30 (76M10)

— (*with* Jun, Sukky; Sihling, Dirk Thomas; Chen, Yijung; Hao, Wei) Multiresolution reproducing kernel particle method for computational fluid dynamics. (English summary) *Internat. J. Numer. Methods Fluids* **24** (1997), *no.* 12, 1391–1415. (Summary) **98d:76131** 76M25

— (*with* Guo, Yong; Tang, Sing; Belytschko, Ted) A multiple-quadrature eight-node hexahedral finite element for large deformation elastoplastic analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **154** (1998), *no.* 1-2, 69–132. (Summary) **98k:73065** 73V05 (73E99, 73G20)

— (*with* Jun, Sukky) Multiple-scale reproducing kernel particle methods for large deformation problems. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 7, 1339–1362. 73V20

Liu, Wu-ming (*with* Zhao, Hong-wei; Pu, Fu Ke) Exactly solved Anderson lattice model. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 3, 207–210. (Summary) **98f:82029** 82B20

— (*with* Pu, Fu Ke) Some exact results for mixed-valence lattice model. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 11, 1210–1218. (Summary) **98f:82030** 82B20 (82B23)

Liu, X. *see* **Liu, Xin**[2]

Liu, X. C. *see* **Liu, Xiao Chun**

Liu, X. Q. *see* **Liu, Xiao Qing**[2]

Liu, Xi Bo (*with* Lü, Zhi; Zhou, Chun Lian) The group structure of the unoriented bordism class of the bundle space $RP(\xi^{k+1})$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 385–392. 57R75 (55N22)

Liu, Xi Hua (*with* Chu, Dong Sheng; Zhao, Ping Xi; Yang, Guang Xue) Parameter identification and dynamic prediction for nonlinear stochastic systems. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 2, 253–258. 93E12 (93C55)

Liu, Xi Min (*with* Liang, Xi Quan) Chern-Simons invariants of U(1) bundles over tori. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 3, 27–29. (Bai-Ling Wang) **98f:57045** 57R19 (57N10, 58D29)

— The signature of Kaehler surfaces immersed into $\mathbf{HP}^n(1)$. (English summary) *C. R. Math. Rep. Acad. Sci. Canada* **18** (1996), *no.* 4, 175–178. (Shôichi Funabashi) **98b:53028** 53C20 (53C40, 53C55)

— (*with* Liang, Xi Quan) P-Sasakian manifolds are hypersurfaces of locally product manifolds. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 3, 1–3. (Bang-yen Chen) **98e:53076** 53C25

— Totally real minimal submanifolds in a quaternion projective space. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 10, 238–239. (Shôichi Funabashi) **98b:53054** 53C42 (53C20)

— (*with* Liang, Xi Quan) 2-torsion invariants for a class of smooth 4-manifolds. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 155–158. (Summary) **98g:57052** 57R55 (57N13, 57R57)

— Extrinsic spheres in cosymplectic manifolds. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 113–116. (Yi Bing Shen) **98g:53100** 53C40 (53C15)

— Complete submanifolds with parallel mean curvature in a sphere. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 8, 158–159. (Man Chun Leung) **98i:53088** 53C42 (53C40)

— Sasakian anti-holomorphic submanifolds of locally conformal Kaehler manifolds. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 145–151. (Sorin Dragomir) **98g:53089** 53C25 (53C40)

— Totally umbilical real hypersurfaces of a Kähler manifold. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 44–46, 43. (Y. L. Xin) **98e:53096** 53C40 (53C25)

— Totally real submanifolds in a quaternion projective space. (English summary) *Soochow J. Math.* **23** (1997), *no.* 1, 91–96. (Paolo Piccinni) **98d:53084** 53C40

Liu, Xi Yuan[1] Determination of a parameter $h(t)$ for a phase field model. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 136–148. (Song Mu Zheng) **98d:35236** 35R30 (35Q55)

Liu, Xian Bin (*with* Chen, Qiu) A Hopf bifurcation system excited by parametric real noise. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 2, 158–166. 58F14

— (*with* Chen, Qiu; Chen, Da Peng) On the two bifurcations of a white-noise excited Hopf bifurcation system. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 835–845; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 779–788 (*Chinese. English and Chinese summaries*). 34C23 (34F05, 60H10)

Liu, Xian-Hui Independent bases on the spatial wavefunction of three-identical-particle systems. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 1, 57–64. (Summary) **98f:81342** 81U10

Liu, Xianfang On the geography of threefolds. (English summary) With an appendix by Mei-Chu Chang. *Tôhoku Math. J.* (2) **49** (1997), *no.* 1, 59–71. (Ulf Persson) **98f:14031** 14J30 (14J10)

Liu, Xiang Dong (*with* Zhu, Wei Yong) The construction of Mandelbrot sets and filled Julia sets by a combined accelerated escape time method. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 4, 413–416. 58F23

Liu, Xiang-Jie (*with* Zhang, Huan-Shui; Chai, Tian-You) A unified approach to optimal state estimation for stochastic singular systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 777–781. 93E10

Liu, Xiang Lan (*with* Wang, Yi Ju; Zhou, Jian Qin; Fang, Yun) Fineness of the nonalternate tree $T(q_1, q_2, q_3, q_4)$. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 4, 5–9. 05C05

Liu, Xiangao A remark on p-harmonic heat flows. *Chinese Sci. Bull.* **42** (1997), *no.* 6, 441–444. (Norbert Hungerbühler) **98d:58044** 58E20 (35K55, 58G11)

Liu, Xiao (*with* Liu, Kai[2]) A dispatching model for a power network and a direct optimal algorithm. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. I*, 41–44. 90C35 (90B10)

Liu, Xiao Bing (*with* Shi, Xianghua) Equivalence between generalized master equation (GME) and continuous-time random walks (CTRW). *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 306–310. 82C41

Liu, Xiao Bo (*with* Arnold, Douglas N.) Interior estimates for a low order finite element method for the Reissner-Mindlin plate model. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 337–360. (Juhani Pitkäranta) **98i:73053** 73V05 (65N30, 73K10)

Liu, Xiao Chun A class of C^1 discrete interpolants over tetrahedra. (English summary) *J. Comput. Math.* **15** (1997), *no.* 2, 149–158. (Peter Alfeld) **98b:65010** 65D05 (41A63)

Liu, Xiao Dong[1] The fuzzy theory based on AFS algebras and AFS structure. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 459–478. (Summary) **98h:04008** 04A72

Liu, Xiao Hua (*with* Wang, Zhi Hua) Nonconvex-valued differential inclusions with nonlinear semigroups. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 142–145. (Xian Zhi George Yuan) **98h:34031** 34A60 (34G20, 47H20)

— (*with* Wang, Zhi Hua) Topological properties of the set of viable solutions to a differential inclusion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 180–185. (Xian Zhi George Yuan) **98e:34026** 34A60 (34H05, 47H04, 49J24, 49K24)

Liu, Xiao Hua (*with* Li, Shang Bai; Huang, Ning; Huang, Hai Yu; Zheng, Gao Qun) A computer algorithm for curve plotting and its application in a CAD system. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 6, 82–90, 98. 65D17 (65Y25)

Liu, Xiao Jian (*with* Onoda, Junjiro) Two-stage strategy for simultaneous slewing and vibration suppression of flexible structures. (English summary) *Comput. Methods Appl. Mech. Engrg.* **147** (1997), *no.* 3-4, 357–367. (Summary) **98e:93088** 93D15 (73K12, 73K50, 93C85)

Liu, Xiao Jian Numerical solutions for singular perturbation problems combining splitting methods and exponential fitting techniques. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 2, 122–131. 65M12 (65M60)

Liu, Xiao Mao (*with* Zhang, Jun[7]) Root square estimation of parameters in a linear model with mixed coefficients. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 3, 111–112. 62J05

— (*with* Zhang, Jun[7]) Parameter estimates for a linear model with mixed coefficients and their distribution. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 6, 103–105. 62J05

Liu, Xiao Ming[2] (*with* Chen, Da Duan; Shi, Wei Hui) On the stability of forced dissipative nonlinear system. *Appl. Math. Mech. (English Ed.)* **17** (1996), *no.* 6, 541–548; *translated from Appl. Math. Mech.* **17** (1996), *no.* 6, 515–522 (*Chinese. English and Chinese summaries*). (Shouhong Wang) **98k:86011** 86A10 (35Q99)

Liu, Xiao Ping[2] (*with* Lu, Shou Yin; Jing, Yuan Wei) Design of global robust self-tuning controller for multi-input uncertain nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 330–336. 93B51 (93C10)

— (*with* Zhou, Yu Cheng; Yin, Chao Wan) Adaptive control of nonlinear unmodeled uncertain systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 4, 248–252. 93C40 (93C70)

— (*with* Wang, Xiao Hua; Yuan, Ping) Block decoupling of a class of nonlinear singular control systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 5, 346–352. 93B55 (93C05)

— (*with* Zhou, Yu Cheng; Yin, Chao Wan) Local state feedback decoupling for a class of discrete time nonlinear systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **26** (1997), *no.* 6, 437–440, 448. 93C55 (93B52)

— (*with* Zhou, Yu Cheng) The decoupling problem for a class of discrete-time nonlinear systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **18** (1997), *no.* 5, 508–512. 93C55 (93B11)

— (*with* Kučera, Vladimír) Strong decoupling of descriptor systems via proportional state feedback. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 4, 371–386. (Summary) **98g:93023** 93B52 (93C15)

— (*with* Zhou, Yu Cheng; Han, Jie) An analysis of the properties of strongly coupled symmetric composite singular systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 44–47. 93C05 (93B25)

— (*with* Wang, Xiao Hua) Block decoupling of a class of nonlinear time-varying generalized systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 55–58. 93B11 (93C10)

Liu, Xiao Qing[2] (*with* Wu, Sheng-Chang) A combined spectral-finite element method for a type of nonlinear two-dimensional Schrödinger equations. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 527–531, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 65M60 (35Q40)

— (*with* Wu, Sheng-Chang) Convergence of spectral method in time for Burgers' equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 314–320. (Serge Nicaise) **98i:65082** 65M60

— (*with* Li, Chun Wah) Approximation of multiple stochastic integrals and its application to stochastic differential equations. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 697–708. (*see* **98i:00028**) 60H05 (60H10)

— (*with* Li, Chun Wah) Discretization of stochastic differential equations by the product expansion for the Chen series. (English summary) *Stochastics Stochastics Rep.* **60** (1997), *no.* 1-2, 23–40. (Fabienne Castell) **98d:60113** 60H10

— (*with* Li, Chun Wah) Algebraic structure of multiple stochastic integrals with respect to Brownian motions and Poisson processes. (English summary) *Stochastics Stochastics Rep.* **61** (1997), *no.* 1-2, 107–120. (Summary) **98h:60075** 60H05 (60G55, 60J65)

Liu, Xiao Shi (*with* Zhang, Guang Cheng[1]) Convergence analysis of a multiparameter algorithm under a bounded variation condition. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 3, 23–28. (Tian Xiong Han) **98a:49053** 49M30 (65K05)

— Some covering properties on topological molecular lattices. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 736–740. 54H12 (06F30)

Liu, Xiao Xia Further discussion of congruence relations modulo m. (Chinese. English summary) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 108–109. 11A07

Liu, Xiao Ye (*with* Fu, Yi Hui; Dai, Jian She) An LP model for management and decision making based on the theory of constraints. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 26–29. 90C08 (90C90)

Liu, Xiao Yun[2] (*with* Zhang, Xiao Ling) Improvements of the Kalman filtering algorithm for multivariate Bayesian dynamic linear models. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 2, 215–219. 93E11

Liu, Xiaobin (*with* Johnson, Norman Lloyd[1]) Flocks of quadratic and semi-elliptic cones. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 275–304, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Hendrik Van Maldeghem) **98g:51006** 51E20

— (*with* Johnson, Norman Lloyd[1]) The generalized Kantor-Knuth flocks. (English summary) *Mostly finite geometries (Iowa City, IA, 1996)*, 305–314, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Hendrik Van Maldeghem) **98g:51002** 51A40 (51E20)

Liu, Xiaobing (*with* Cheng, Liangjun) The general solution of equation of motion for a particle in arbitrary flow field. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 93–96. 76T05 (76F99)

Liu, Xiaobo (*with* Heintze, Ernst) A splitting theorem for isoparametric submanifolds in Hilbert space. *J. Differential Geom.* **45** (1997), *no.* 2, 319–335. (McKenzie Y. Wang) **98c:58006** 58B25 (53C40)

Liu, Xiaodong *see* **Liu, Xiao Dong**[1]

Liu, Xiaojian *see* **Liu, Xiao Jian**

Liu, Xiaoping (*with* Kartsatos, Athanassios G.) On the construction and the convergence of the method of lines for quasi-nonlinear functional evolutions in general Banach spaces. *Nonlinear Anal.* **29** (1997), *no.* 4, 385–414. (Ivan Straškraba) **98k:34130** 34K30 (34A45, 34G20, 47H17, 47N20)

Liu, Xiaoqing *see* **Liu, Xiao Qing**[2]

Liu, Xin *see* **Liu, Xin**[3]

Liu, Xin[2] (*with* Lawrencenko, Serge; Liu, Yan Pei) An algorithm for constructing a rectilinear embedding of a given graph in the plane. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 205–217, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05051** 05C10 (05C85)

— Lower bounds of length of longest cycles in graphs involving neighborhood unions. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 133–144. (Bradley W. Jackson) **98i:05103** 05C35 (05C38)

— (*with* Wei, Bing[1]) A generalization of Bondy's and Fan's sufficient conditions for Hamiltonian graphs. (English summary) *Discrete Math.* **169** (1997), *no.* 1-3, 249–255. (Summary) **98e:05074** 05C45

Liu, Xin[3] (*with* Pardalos, Panos M.; Xue, Guoliang) Protein conformation of a lattice model using tabu search. (English summary) *J. Global Optim.* **11** (1997), *no.* 1, 55–68. 90C27 (92C40)

Liu, Xin Guo Approximation properties of the solution sets of linear least squares problems. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **26** (1996), *no.* 3, 375–384. (Guo Liang Chen) **98c:65067** 65F20

— Perturbation bounds for the GQR factorization and block downdating of the Cholesky decomposition. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 4, 333–338. (Summary) **98b:65044** 65F30

— Some applications of the extreme principal angles between subspaces in $\mathbf{C}^n$. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 221–227. (Ji Lin Qian) **98h:15003** 15A03 (15A09)

— (*with* Wang, Hui[1]) A class of structured systems of linear equations. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 1, 107–114. (Summary) **98d:65058** 65F30 (15A06)

— On Weyl-type theorems. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 123–127. (Chi-Kwong Li) **98g:15009** 15A18 (47A55)

Liu, Xin Ping (*with* Zhang, Zhuo Kui; Chen, Hui Chan) The $\mathcal{F}(F4')$ condition and a strengthened form of the stopping theorem. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 74–76, 73. 60G40

Liu, Xing Ping (*with* Hu, Jia Gan) The EPE_k method and matrices that can be made positive definite. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 30–39. (Guo Liang Chen) **98g:65028** 65F10 (65N22)

Liu, Xinzhi Stability of large scale impulsive systems. *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 193–203, *VSP, Utrecht*, 1995. (A. A. Martynyuk) **98g:34025** 34A37 (34D99)

— (*with* Guo, Dajun; Lakshmikantham, V.) ★ Nonlinear integral equations in abstract spaces. (English summary) Mathematics and its Applications, 373. *Kluwer Academic Publishers Group, Dordrecht*, 1996. viii+341 *pp. ISBN* 0-7923-4144-9 (J. Švejda) **98a:45001** 45–02 (34K30, 45Gxx, 45J05, 45N05, 47H30, 47N20)

— Uniform boundedness for impulsive systems of integro-differential equations. *Advances in nonlinear dynamics*, 93–98, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (From the introduction) **98j:34152** 34K20 (34A37, 45J05, 45M10)

— (*with* Fu, Xi Lin) Oscillation criteria for impulsive hyperbolic systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 225–244. (Emil Ivanov Minchev) **98j:35179** 35R10 (35B05, 35L70)

— Periodic boundary value problems for differential equations with finite delay. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 73–83. (Alexander I. Domoshnitsky) **98a:34071** 34K10 (34K15)

— Periodic boundary value problems for impulsive systems containing Hammerstein type integrals. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 517–528. (Summary) **98g:34026** 34A37 (34K10, 34K15, 45J05)

— (*with* Guo, Dajun) Periodic boundary value problems for a class of second-order impulsive integro-differential equations in Banach spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 284–302. (Eduardo Liz) **98h:45009** 45J05 (34A37, 34K10, 34K30, 45N05)

— (*with* Xu, Dao Yi) Uniform asymptotic stability of abstract functional-differential equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 626–643. (Mary E. Parrott) **98j:34159** 34K30 (34K20)

— (*with* Ballinger, G.) Permanence of population growth models with impulsive effects. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 59–72. (Summary) **98j:92011** 92D25 (34A37, 34D99)

— Boundedness in terms of two measures and permanence of population growth models. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2711–2723. (From the introduction) **98k:34092** 34D99 (34A37, 34C11, 92D25)

— (*with* Ballinger, G.) On boundedness of solutions of impulsive systems. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 121–131. (Yuri V. Rogovchenko) **98e:34021** 34A37 (34C11)

Liu, Xiu Ping (*with* Zhao, Guo Hui; Yu, Zhi Ling) $S_2^1(\Delta_5^*)$ spline functions and their use in quasi-interpolation. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 5, 504–507. 41A15 (65D07)

Liu, Xiu Ying (*with* Tian, Bao Guang; Wang, Feng Min) The ridged shrunken principal-component estimator and its properties. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 3, 73–74. 62J07

Liu, Xiufang (*with* Li, Yong[7]; Zhang, Shu Mei) The large sample theory of a kind of nonlinear errors-in-variable regression model. (English summary) *Progr. Natur. Sci. (English Ed.)* **6** (1996), *no.* 6, 660–666. (Summary) **98g:62129** 62J05 (62F12)

Liu, Xiyuan *see* **Liu, Xi Yuan[1]**

Liu, Xu-Dong (*with* Lax, Peter D.) Positive schemes for solving multi-dimensional hyperbolic systems of conservation laws. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 367–375. (Alexander Doktor) **98e:65065** 65M06 (35L65)

— (*with* Lax, Peter D.) Solution of two-dimensional Riemann problems of gas dynamics by positive schemes. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 319–340 (*electronic*). 65Mxx (35L65, 76L05, 76M25, 76N15)

Liu, Xu Guo (*with* Wang, Yue Bao; Liang, Qiong) Strong stability of generalized Jamison weighted sums of negatively associated sequences. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 22, 2375–2379. 60F15

— (*with* Wang, Yue Bao; Liang, Qiong) Strong stability of generalized Jamison's weighted sums of NA sequences. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 389–392. 60F15

Liu, Xu Hua (*with* Cheng, Xiao Chun; Jiang, Yun Fei) The rationality and decidability of fuzzy implications. (English summary) *IJCAI-95, Vol.* 1, 2 (*Montreal, PQ*, 1995), 1910–1915, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **98c:68014**) 03B52 (68T27)

— (*with* Cheng, Xiao Chun; Sun, Ji Gui) Reduction rules for the process of deduction in the modal logic D. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 39–43. (Summary) **98g:03050** 03B45

— (*with* Sun, Ji Gui) Strong modal resolution. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1996**, *no.* 1, 25–29. (From the summary) **98c:03051** 03B45 (03B35)

— (*with* Sun, Ji Gui; Cheng, Xiao Chun) The global properties of valid formulas in modal logic K. (English summary) *J. Comput. Sci. Tech.* **11** (1996), *no.* 6, 615–621. (Zoran Ognjanović) **98a:03027** 03B45 (03B35, 68T15)

Liu, Xu Zheng A new mixed element method for solving elliptic equations and a postprocessing technique for it. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 2, 151–159. (Zheng Hui Xie) **98f:65110** 65N30

Liu, Xuan Liang (*with* Dai, Guo Ren) Qualitative analysis of a predator-prey system with constant-rate harvesting of prey and type III functional response. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 213–222. (Summary) **98m:92023** 92D25 (34C05)

Liu, Xue Peng $\mathrm{Ker}(\sigma)$, $\mathrm{Im}(\sigma)$ and the structure of solutions of systems of linear equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 1, 73–75. 15A06

Liu, Xue Sheng (*with* Wu, Xing Qi; Zhao, Zhen Hai) Qualitative analysis of a class of cubic Kolmogorov systems. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **36** (1996), *no.* 6, 657–659. (Rong Liang Wang) **98d:34058** 34C05 (34C11, 34C25, 92D40)

— (*with* Zhao, Zhen Hai; Wu, Xing Qi) Existence and uniqueness of limit cycles for a class of predator-prey systems with sparsity effects. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 69–73. (Rong Liang Wang) **98d:34059** 34C05 (34C11, 34C25, 92D40)

Liu, Xuecheng On the product of two fuzzy measures. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 405–409. 28E10

Liu, Xuekun (*with* Liang, Shupeng; Sun, Dao Chun) The distribution of values of zero order functions. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 1, 47–54. (Chunyi Gao) **98e:30034** 30D35 (30D30)

Liu, Y. *see* **Liu, Yi[1]**

Liu, Y. F. *see* **Liu, Yu Fen**

Liu, Y.-H. *see* **Liu, Yi-Hsin**

Liu, Y. P. *see* **Liu, Yan Pei**

lin-Liu, Y. R. *see* **Lin-Liu, Y. R.**

Liu, Yu Cheng (*with* Wan, Wei Ming; Lu, Shu Juan) Blowup of solutions to initial value problems for equations of nerve conduction type. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 289–293. 35Q80 (35B05, 92C20)

— (*with* Wan, Wei Ming; Lu, Shu Juan) Nonlinear pseudoparabolic equations in arbitrary dimensions. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 3, 265–278. (Summary) **98h:35137** 35K70 (35K55)

— Existence and nonexistence of global solutions to semilinear heat equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 65–72; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 21–30. (Yun Mei Chen) **98i:35089** 35K55 (35B40)

Liu, Yan (*with* Ma, Xudong; Liu, Wei) Graceful graphs: cycles with $(t-1)$ chords. *Math. Appl.* **9** (1996), *suppl.*, 6–8. (Yixun Lin) **98a:05129** 05C78

— (*with* Ho, Yue-Chan Phoebe) Parabolas in taxicab geometry. *Missouri J. Math. Sci.* **8** (1996), *no.* 2, 63–72. (Sergey N. Astrakov) **98e:51022** 51K05

Liu, Yan Pei (*with* Lawrencenko, Serge; Liu, Xin[2]) An algorithm for constructing a rectilinear embedding of a given graph in the plane. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 205–217, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05051** 05C10 (05C85)

— (*with* Liu, Ying) Some irreducible graphs on the surface of genus n. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 249–252, *World Sci. Publishing, River Edge, NJ*, 1995. (From the summary) **98h:05068** 05C10

— Combinatorial invariants on planar graphs. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 3, 432. *Acta Math. Sinica* (*N.S.*) **11** (1995), *no.* 2, 211–220. (M. L. Marx) **98c:05049** 05C10

— (*with* Liu, Ying) Embeddings of one kind of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 253–258. (L. W. Beineke) **98k:05053** 05C10

— (*with* Huang, Yuan Qiu) Maximum genus and 2-factors of graphs. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 587–596; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 425–434 (1998). 05C10 (05C70)

— (*with* Berman, Kenneth A.) Generalized bicycles. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 27–40. (W.-K. Chen) **98i:05105** 05C38 (05C20)

— (*with* Huang, Yuan Qiu) Maximum genus and maximum nonseparating independent set of a 3-regular graph. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 149–158. (Arthur T. White) **98f:05049** 05C10

— (*with* Dong, Feng Ming; Koh, K. M.) The chromaticity of odd wheels with a missing spoke. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 31–44. (C. Y. Chao) **98f:05059** 05C15

— (*with* Dong, Feng Ming) All wheels with two missing consecutive spokes are chromatically unique. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 71–85. (Summary) **98m:05066** 05C15

Liu, Yan Quan (*with* Liu, Ji Zhen; Zeng, De Liang) Rule-based nonlinear compensation control with backlash. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 383–388. 93B52 (93C30)

Liu, Yan Zhu (*with* Chen, Li Qun) Chaos in quasiperiodically perturbed planar non-Hamiltonian integrable systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* **30** (1996), *no.* 11, 28–31. (Yi-Sui Sun) **98k:34080** 34C37 (58F13, 58F15)

— (*with* Chen, Li Qun) Control of the Lorenz chaos by the exact linearization. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 1, 67–73; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 63–69 (*Chinese. English and Chinese summaries*). (Summary) **98m:58090** 58F13 (93C15)

Liu, Yanhui (*with* Cizeau, Pierre; Meyer, Martin[1]; Peng, Chung-Kang; Stanley, H. Eugene) Correlations in economic time series. (English summary) *Phys. A* **245** (1997), *no.* 3-4, 437–440. 90A20

Liu, Yao Jun (*with* Zhang, Shan Mei) Some notes on Π-regular semigroups. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 100–101. 20M17

Liu, Yaping (*with* Li, Lige; Cao, Guo Xiang) The relationships between equilibria and positive solutions of certain nonlinear elliptic systems. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 154–179. (Alexandra Kurepa) **98f:35040** 35J45 (35B05, 35J60, 35Q80)

Liu, Yaping (*with* Zhang, Guangquan; Zhou, Ziliang) Fuzzy number-valued integral with respect to fuzzy number-valued measure on the fuzzy set. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 1–26. 28E10

Liu, Ye-hou (*with* Yu, Zhao Xian; Zhang, De-Xing; Yu, Ge) Two-parameter deformed quantum algebra $SU_{q,s}(4)$. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 3, 369–370. 81R50 (17B37)

— (*with* Yu, Zhao Xian) Inhomogeneous inverse differential realization of multimode SU(2) group. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3079–3084. 81R30

— (*with* Yu, Zhao Xian; Liu, Fu-ping) Mathematical structure of quasi-SU(2) coherent state and its antibunching effect. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 3, 585–589. 81R30

Liu, Yen (*with* Janaswamy, Ramakrishna) An unstaggered colocated finite-difference scheme for solving time-domain Maxwell's equations in curvilinear coordinates. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 11, 1584–1591. 78–08

Liu, Yi[1] (*with* Teo, Kok Lay; Agarwal, Ravi P.) A general approach to nonlinear multiple control problems with perturbation consideration. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 12, 49–58. 49M37 (49K15, 90C29)

Liu, Yi-Hsin (*with* Dauer, Jerald P.) Multi-criteria and goal programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 11.1–11.31, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **98g:90003**) 90C29 (90C08)

— (*with* Konvalina, John) Arithmetic progression sums of binomial coefficients. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 4, 11–13. (Summary) **98c:11015** 11B65 (05A10, 39A99)

Liu, Yi-Ping (*with* Chen, Guantao) Hamiltonian graphs with large neighborhood unions. (English summary) *Ars Combin.* **46** (1997), 227–238. (Summary) **98d:05091** 05C45

— (*with* Darrah, Marjorie; Zhang, Cun Quan) Cycles of all lengths in arc-3-cyclic semicomplete digraphs. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 23–33. (K. B. Reid) **98j:05070** 05C20 (05C38)

Liu, Yi Rong (*with* Lin, Liang) Number of zero point [points] for a polynomial in [the] real field. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 886–890. 12D10

— (*with* Lin, Liang) A new criterion for the number of real zeros of a polynomial. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 6, 583–587. 12D10

Liu, Ying (*with* Liu, Yan Pei) Some irreducible graphs on the surface of genus n. (English summary) *Combinatorics and graph theory '95, Vol.* 1 (*Hefei*), 249–252, *World Sci. Publishing, River Edge, NJ*, 1995. (From the summary) **98h:05068** 05C10

— (*with* Liu, Yan Pei) Embeddings of one kind of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 253–258. (L. W. Beineke) **98k:05053** 05C10

Liu, Ying A result on the shortest path in first-passage percolation. (Chinese. English and Chinese summaries) *Math. Practice Theory* **27** (1997), *no.* 4, 297–298. 60K35 (82B43)

Liu, Ying Fan A homeomorphism and linear homeomorphism theorem for certain classes of differential operators of order $4n$ with a parameter. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **38** (1995), *no.* 6, 766–775. (Wen Ming Li) **98a:47050** 47E05 (34L99, 73K12)

— A homeomorphism or linear homeomorphism theorem for certain $2n$th-order differential operator with a parameter. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 452–460. (Sobhy El-Sayed Ibrahim) **98e:34150** 34L05 (34D99, 47E05)

— Some results on multivariate algebraic polynomial approximation and a.e. approximation. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 4,

300–310. (Summary) **98c:41046** 41A63 (65D15)

— Some results on approximation by polynomials on the space $C([-\pi,\pi]^n)$. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 341–347. (Lai Yi Zhu) **98i:41007** 41A10 (41A35, 41A63)

— (*with* Liu, Hong[1]) Some linear isomorphism theorems for certain 2*n*th-order nonsymmetric differential operator with parameter. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 371–374. 47E05 (34B05, 34L05)

— Some results on approximation by multivariate polynomials. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 2, 186–192. (Gen Sun Fang) **98e:41043** 41A63 (41A10, 42A10)

Liu, Ying Ming (*with* Liang, Jihua) Continuous *L*-domains. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **17** (1996), no. 4, 515. *Chinese Ann. Math. Ser. B* **17** (1996), *no.* 3, 263–270. (Jimmie D. Lawson) **98e:06007** 06B35 (06A06, 06B30, 54A10)

— (*with* He, Wei) Epireflective subcategories of the category locale. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 3, 361–366. 18B30 (06D10, 54B30)

Liu, Yixing (*with* Cheng, Ping[1]) The limit distribution of PP Cramér-von Mises normality test statistics for high dimension and large sample size. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 213–228. (Summary) **98g:62032** 62E20 (62G10, 62H40)

Liu, Yong Switching observer design for uncertain nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1699–1703. 93B07 (93C41)

Liu, Yong (*with* Friedman, Avner; Hu, Bei) A boundary value problem for the Poisson equation with multi-scale oscillating boundary. (English summary) *J. Differential Equations* **137** (1997), *no.* 1, 54–93. (Sergey Nikolaevich Alekseenko) **98j:35045** 35J25 (35B25)

Liu, Yong (*with* Xie, Lin) On hyperspace of Lašnev space. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 197–202. (Summary) **98e:54010** 54B20

Liu, Yong-Cheng (*with* Canann, Scott A.; Mobley, Anton V.) Automatic 3D surface meshing to address today's industrial needs. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 185–198. (*see* **98a:65003**) 65N55 (65D17)

Liu, Yong Hui[1] Derivations of prime near-rings. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 2, 31–33. 16Y30 (16W25)

— Weakly direct-projective modules and weakly direct-injective modules. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 124–128. 16D50

Liu, Yong Qing (*with* Guan, Zhi Hong; Wen, Xiang Cai) Stability of linear measure large scale systems with impulsive effect. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 413–421. (Yuri V. Rogovchenko) **98c:34014** 34A37 (34D05)

— (*with* Xie, Sheng Li) Stability of solutions to neutral type parabolic systems with time delay. *Chinese Sci. Bull.* **41** (1996), *no.* 22, 1916–1922. (Ludwik Byszewski) **98b:35217** 35R10 (35B35, 35K99)

— (*with* Deng, Qi Fei; Feng, Zhao Shu) Mean-square stability and feedback stabilization of linear delay stochastic systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 4, 441–447. (Daoyi Xu) **98b:93067** 93E15 (93D15)

— (*with* Deng, Fei Qi; Feng, Zhao Shu) Robust stabilization of linear delay systems by retarded feedback. (English and Chinese summaries) *Control Theory Appl.* **13** (1996), *no.* 6, 754–762. (Kunihiko Ichikawa) **98d:93081** 93D21 (34K35, 93C30)

— (*with* Xie, Sheng Li) Oscillation of logistic delay systems with diffusion, constant predation and feedback control. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 2, 199–203. (Summary) **98b:35218** 35R10 (35B05, 35K10, 93B52)

— (*with* Xie, Sheng Li) The asymptotic behavior of solutions to a linear partial functional-differential equation with time delay. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 357–362. (Summary) **98c:35162** 35R10 (35B40)

— (*with* Xie, Sheng Li) Stability of solutions to neutral parabolic systems with delays. (Chinese) *Kexue Tongbao (Chinese)* **41** (1996), *no.* 21, 1991–1995. (Yang Kuang) **98h:35232** 35R10 (35B35, 35K57)

— (*with* Deng, Fei Qi; Zhao, Yu Peng) Global solutions to a class of nonlinear functional-differential equations in Banach spaces. (Chinese) *Math. Appl.* **9** (1996), *suppl.*, 13–15. (Shu Chun Gao) **98b:34104** 34K30

— (*with* Deng, Fei Qi; Feng, Zhao Shu) Variable structure control of stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 2, 267–270. 93E03 (93C42)

— (*with* Yue, Dong; Xu, Shi Fan) Design of variable structure control and stability analysis for singularly perturbed uncertain systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 559–563. 93B12 (93C70)

— (*with* Deng, Fei Qi; Feng, Zhao Shu) Characteristic matrices and similarity of time-varying linear differential systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 10–15. (Sergei Mazanik) **98g:34020** 34A30 (34C20)

— (*with* Li, Yuanqing) The analysis of existence and uniqueness of solutions for second order linear singular differential difference equation with delay. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 1, 31–43. (Michael Hanke) **98g:34107** 34K05

— (*with* Xie, Sheng Li; Xie, Zhen Dong) Almost periodic solutions for two-species competition models with grazing rates and diffusion and their stability. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 1, 27–33. (Summary) **98g:92006** 92D40

— (*with* Yue, Dong; Gao, Cun Chen) Output variable structure control of distributed parameter systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 244–248. 93B10 (93C05)

— (*with* Feng, Zhao Shu; Deng, Fei Qi) Decentralized stabilization of stochastic large-scale systems by variable structure control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 2, 254–259. 93D21 (93B12)

— (*with* Xie, Xiang Sheng) Algebraic criteria for stability of linear singular systems with time delay. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 349–357. (A. A. Freiria) **98i:34116** 34K20 (34A09)

— (*with* Zhang, Jian[3]; Shen, Jian Jing) The ANN method for solving algebraic Riccati equations using the matrix sign function. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 448–451. 93B40 (65F30)

— (*with* Feng, Zhao Shu; Deng, Fei Qi) Suboptimal decentralized stabilization of large-scale delay stochastic systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 495–501. (Summary) **98i:93084** 93E15 (93A14, 93D15)

— (*with* Liang, Jia Rong) Periodic solutions of singular systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 595–598. 34C25 (34C05)

— (*with* Feng, Zhao Shu; Deng, Fei Qi) Practical stability of uncertain linear control systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 623–628. 93D09 (93C41)

— (*with* Yue, Dong; Gao, Cun Chen) Robust control of a class of uncertain singularly perturbed systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 742–747. 93D09 (93C70)

— (*with* Deng, Fei Qi; Feng, Zhao Shu) A design method for robust controllers of linear delay systems based on Riccati-Itô equations. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 6, 887–890. 93D21 (93B36)

— (*with* Wang, Wei[8]) Boundary value problems of singular measure differential equations with impulsive effect. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 373–383. (Eduardo Liz) **98f:34023** 34B05 (34A37, 34B27, 34H05)

— (*with* Gao, Cun Chen; Zhang, Xin Zheng) Structure and interconnected stabilization of the multi-groups multi-delays neutral linear time-invariant interconnected control systems with the time-delay input control. (English summary) *J. Biomath.* **12** (1997), *no.* 4, 289–299. 93C83 (34K35, 93D15)

— (*with* Deng, Fei Qi; Feng, Zhao Shu) Asymptotic representation of solutions of linear functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 1, 50–54. (Summary) **98a:34088** 34K25 (34K20)

— (*with* Li, Yuanqing) Basic theory, exponential estimates and global existence: uniqueness of solutions for a class of singular linear functional-differential equations with delay. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 1, 27–36. (Michael Hanke) **98h:34118** 34K05

— (*with* Wen, Xiang Cai; Qiu, Shui Sheng) Design of variable structure control for linear time-invariant singular system with time-delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 121–124. 93B12 (93B51)

— (*with* Zhang, Jian[3]; Shen, Jian Jing) Robust stability analysis of continuous large-scale systems with multiple delays and an application of genetic algorithms. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 178–183. 93D09 (34K35)

— (*with* Deng, Fei Qi; Feng, Zhao Shu) Stability and feedback stabilization of general linear retarded systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 299–303. 93D15

— (*with* Liang, Jia Rong; Gao, Cun Chen) Almost periodic solutions to singular systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 325–328. 34C27 (34A09)

— *see also* **Mao, Xuerong**, **98a:34086**

Liu, Yonglin (*with* Zhang, Xiao Hong[1]) Weakly implicative ideal in BCI-algebras. (English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 66–69. (Summary) **98c:06030** 06F35 (03G25)

— (*with* Zhang, Xiao Hong[1]) On maps of BCK and BCI-algebras. (English and Chinese summaries) *Pure Appl. Math.* **11** (1995), *suppl.*, 70–74. (Summary) **98a:06032** 06F35 (03G25)

Liu, Yongmei (*with* Futamura, Yoshihiko; Shirai, Chieko; Futamura, Natsuhiko) *P*-segment tables: data structures for programming problems concerning segments. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 6, 1192–1203. (Itsuo Takanami) **98g:68025** 68P05 (68Q25)

Liu, You Wen (*with* Guo, Jian Lin) The general solution of second order effects in elastic half-space acted upon by a non-uniform shear load. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 4, 365–380; *translated from Appl. Math. Mech.* **18** (1997), *no.* 4, 341–355 (*Chinese. English and Chinese summaries*). (Summary) **98e:73068** 73G05 (73C50)

Liu, Youming On cardinal wavelets with compact support and their duals. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 320. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 127–132. (Summary) **98e:42038** 42C15

— A note on spline wavelets. *Chinese Sci. Bull.* **42** (1997), *no.* 15, 1250–1253. 42C15

Liu, Yu Can (*with* Liu, Wen[1]) The likelihood ratio and a class of limit theorems, expressed in terms of inequalities, for sequences of integer-valued random variables. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **11** (1995), *no.* 4, 378–384. 60F05

Liu, Yu Fen (*with* Zhu, Zhong Yuan; Chen, Wen-Feng) Gauge field theories with nonlinear connections. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 267–273, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81209** 81T13

— (*with* Lei, Y. A.; Zeng, Jin Yan) Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators. (English summary) *Phys. Lett. A* **231** (1997), *no.* 1-2, 9–22. (Summary) **98e:81202** 81V45 (81Q05)

Liu, Yu Feng (*with* Zeng, Jin Yan) Four kinds of raising and lowering operators for a three-dimensional isotropic harmonic oscillator. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 3, 417–422. 81R05 (22E70, 33C90)

— (*with* Zeng, Jin Yan) Four kinds of raising and lowering operators for a two-dimensional isotropic harmonic oscillator. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 3, 423–427. 81R05 (22E70, 33C90)

— (*with* Zeng, Jin Yan) Four kinds of raising and lowering operators for two- and three-dimensional by hydrogen atoms. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 3, 428–434. 81V45 (22E70, 33C90, 81R05)

— (*with* Zeng, Jin Yan) The Runge-Lenz vector and raising and lowering operators. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1267–1272. (Summary) **98j:81374** 81V45

Liu, Yu Ji[2] (*with* Peng, Quan) Proof of a conjecture on gracefulness of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 253–259, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05134** 05C78

— Oscillation of solutions to neutral functional-differential equations with variable coefficients. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **14** (1996), *no.* 5, 114–122. (Yi Zhong Lin) **98c:34114** 34K15 (34K40)

— (*with* Tang, You Hua) The number of combinations with r k-separated pairs. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 1, 10–15. (Summary) **98a:05010** 05A15

— (*with* Zhang, Chang Qing) Positive solutions of neutral first-order differential equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 2, 8–11, 14. 34K15 (34K40)

— (*with* Ruan, Chun Shan) Positive solutions to first-order neutral equations with time-varying coefficients. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 299–302. (Qing Kai Kong) **98m:34140** 34K15

Liu, Yu Qiang Normal orthogonally additive functionals on the space c. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 2, 21–24. (Ting Fu Wang) **98b:46023** 46B25

Liu, Yue[1] Decay and scattering of small solutions of a generalized Boussinesq equation. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 51–68. (F. Pempinelli) **98e:35144** 35Q53 (35B40)

Liu, Yuji *see* **Liu, Yu Ji**[2]

Liu, Yuming (*with* Yue, Dick K. P.) On generalized Bragg scattering of surface waves by bottom ripples. (English summary) *J. Fluid Mech.* **356** (1998), 297–326. (Summary) **98m:76019** 76B15

Liu, Yun (*with* Huang, Jin Neng; Yi, Jian Xin) The homotopic property of near homeomorphisms. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 2, 73–75. 55P99 (54H99)

Liu, Yun-Hui (*with* Arimoto, Suguru) Adaptive and nonadaptive hybrid controllers for rheonomically constrained manipulators. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 483–491. 93C85 (70B15, 70Q05)

Liu, Yunkang Numerical investigation of the pantograph equation. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 309–317. (H. Brunner) **98j:34131** 34K05 (34K25, 65L07)

— (*with* Iserles, Arieh) Integro-differential equations and generalized hypergeometric functions. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 404–424. (Alexander Tovbis) **98f:34095** 34K05 (33C20, 45J05)

Liu, Z. *see* **Liu, Zhuangwei**

Liu, Z. Q. *see* **Liu, Ze Qing**

Liu, Zai Ming (*with* Hou, Zhen Ting; Zou, Jie Zhong) QNQL processes: (H, Q)-processes and examples of their application. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 9, 1003–1008. 60J27 (60K99)

Liu, Ze Qing Fixed points for densifying mappings. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 81–83. 54H25

— On contractive mappings with diminishing orbital diameters. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 101–104. 54H25

— Densifying mappings and common fixed points. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 235–240. 54H25

— Order completeness and stationary points. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 85–88. 54F05 (54E35)

— (*with* Khan, Mohammad S.) On coincidence points of densifying mappings. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 269–276. 54H25

Liu, Ze Yi (*with* Tang, Wan Sheng; Li, Guang Quan; Zheng, Pie) Solvability of nonlinear singular systems. (Chinese. English and Chinese summaries) *J. Systems Engrg.* **11** (1996), *no.* 2, 15–21. (Xian Zhi George Yuan) **98e:34004** 34A09 (34A60, 34B15)

— (*with* Zhu, Daxin; Yang, Yujun) Bifurcation and multiple solutions for perturbations of linear elliptic problems. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 550–560. (V. Lakshmikantham) **98i:35070** 35J65 (35B32, 47H15, 47N20)

— (*with* Mao, Yun Ying; Wang, Chun Feng; Li, Guang Quan) A class of linear-quadratic optimal control problems with state constraints. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 1, 15–22. (Summary) **98c:49070** 49N10 (49J15, 49N35)

Liu, Zeng Rong (*with* Qin, Wen Xin) Convergence of attractors. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1153–1158; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1075–1080 (*Chinese. English and Chinese summaries*). (Summary) **98m:34111** 34D45 (34A45, 34C15, 58F12)

— (*with* Zhang, Wei[6]; Huang, Xin[2]) Is there chaotic synchronization in space extend systems? (English summary) *Nonlinear Dynam.* **12** (1997), *no.* 4, 319–326. (Volker Matthias Gundlach) **98b:58118** 58F13

— (*with* Tian, Li Xin) The Schrödinger operator. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 203–211. (Peter D. Hislop) **98h:47066** 47E05 (34L05, 35Q55, 47B25, 81Q05)

Liu, Zhang-Ju (*with* Weinstein, Alan D.; Xu, Ping[1]) Manin triples for Lie bialgebroids. (English summary) *J. Differential Geom.* **45** (1997), *no.* 3, 547–574. (Jeffrey K. Lawson) **98f:58203** 58H05 (17B66, 53C15)

Liu, Zhang Wen (*with* Zhang, Yong Lin) Some useful orthogonal arrays for parameter designs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 609–620. (Summary) **98a:62103** 62K10

Liu, Zhen[1] Performance bounds for stochastic timed Petri nets. (English summary) *Application and theory of Petri nets* 1995 (*Turin*), 316–334, *Lecture Notes in Comput. Sci.*, 935, *Springer, Berlin*, 1995. (*see* **98a:68141**) 68Q90 (68Q10, 90C05)

— (*with* Finta, Lucian) Single machine scheduling subject to precedence delays. (English summary) *Discrete Appl. Math.* **70** (1996), *no.* 3, 247–266. (Yuri Nazarovich Sotskov) **98c:90046** 90B35

— (*with* Bermond, Jean-Claude; Syska, Michel) Mean eccentricities of de Bruijn networks. (English summary) *Networks* **30** (1997), *no.* 3, 187–203. (Qing De Kang) **98j:05063** 05C12 (68R10)

— (*with* Koole, Ger) Stochastic bounds for queueing systems with multiple on-off sources. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 25–48. (Summary) **98i:60089** 60K25 (90B22)

Liu, Zhen Hai Existence results of solutions for a class of semilinear evolution equations in Banach spaces. *Hunan Ann. Math.* **16** (1996), *no.* 2, 13–18. (Kiyoko Furuya) **98e:34098** 34G20 (47N20)

— Variational inequalities with nonmonotone perturbations. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **11** (1996), *no.* 3, 251–254. (Tian Xiong Han) **98e:49030** 49J40 (35J60, 47H19, 47N20)

— Nonlinear degenerate parabolic equations. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 147–157. (Lumin Jiang) **98m:35112** 35K65 (35K55)

— Regularity of solutions for a class of semilinear evolution equations in Banach spaces. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 1, 1–9. (Alan V. Lair) **98c:34099** 34G20 (47N20)

— A class of nonlinear quasivariational inequalities. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 612–616. 49J40

— Nonlinear evolution variational inequalities with nonmonotone perturbations. *Nonlinear Anal.* **29** (1997), *no.* 11, 1231–1236. (Kiyoko Furuya) **98h:34113** 34G20 (47H19, 47N20, 49J40)

Liu, Zhen Hong[1] (*with* Li, Guo Jun[1]) Hamiltonicity in 2-connected $\{K_{1,3}, F\}$-free graphs. (English summary) *Systems Sci. Math. Sci.* **9** (1996), *no.* 4, 295–305. (R. H. Schelp) **98g:05088** 05C45

— (*with* Li, Guo Jun[1]) On connected factors in $K_{1,3}$-free graphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 43–47. (Summary) **98m:05151** 05C70

Liu, Zheng Rong (*with* Li, Ji Bin) Bifurcation set and compound eyes in a perturbed cubic Hamiltonian system. *Ordinary and delay differential equations* (*Edinburg, TX*, 1991), 116–128, *Pitman Res. Notes Math. Ser.*, 272, *Longman Sci. Tech., Harlow*, 1992. (Natalia Borisovna Medvedeva) **98b:34042** 34C05 (34C23, 34C25, 58F21)

— (*with* Yu, Yuan Hong) Oscillation and nonoscillation for a class of nonlinear differential equations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 1, 34–39. (Xiang Sheng Xie) **98m:34141** 34K15

— (*with* Zhang, Shiqing) Non-simultaneous collision periodic solutions for N-body problems. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 2, 343–348. (Anna Germinario) **98g:34076** 34C25 (58F22, 70F10)

— (*with* Yu, Yuan Hong) Nonoscillatory solutions of second order functional-differential equations. *Kyungpook Math. J.* **37** (1997), *no.* 1, 19–26. (Klaus Morgenthal) **98h:34128** 34K15

Liu, Zhenhong *see* **Liu, Zhen Hong**[1]

Liu, Zhenjuan (*with* Fan, Yanqin) A simple test for a parametric single index model. (English summary) *Opsearch* **34** (1997), *no.* 3, 186–195. 62P20

Liu, Zhenxiu A method for Lorentz transformation of a light complex. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 14–21. 83A05

Liu, Zheyi *see* **Liu, Ze Yi**

Liu, Zhi Bin *see* **Liu, Zhibin**[2]

Liu, Zhi Xing (*with* Shi, Dong Yang; Chen, Shao Chun) A class of symmetric 12-parameter rectangular plate elements. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 21–26. 65N30

— (*with* Shi, Dong Yang) A new 9-parameter triangular plate element. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 8, 115–119. 65N30 (73V05)

Liu, Zhibin[1] (*with* Du, Xiaoyong; Ishii, Naohiro) Speeding up string searching algorithms for nonuniform texts. (English summary) *Trans. Inform. Process. Soc. Japan* **38** (1997), *no.* 7, 1344–1351. 68Q20

Liu, Zhibin[2] (*with* Wang, Hai Chuan; Zheng, Zhe Min; Wang, Qing Chuan) Mathematical models of evolutionarily stable strategies. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 4, 6–10. (David Yeung) **98m:90217** 90D40 (92D15)

Liu, Zhicheng (*with* Dong, Guangchang; Zhang, Dan; Ma, Lizhuang) Curve fairing. (English summary) *Progr. Natur. Sci. (English Ed.)* **7** (1997), *no.* 5, 525–538. 65D07 (41A15)

Liu, Zhiyong (*with* Cheung, D. W.) Efficient parallel algorithm for dense matrix LU decomposition with pivoting on hypercubes. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 8, 39–50. (Summary) **98b:65036** 65F10 (65Y05)

— (*with* Gao, Qingshi) Sloping-and-shaking—multiway merging and sorting. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 225–234. (Summary) **98f:68057** 68P10

Liu, Zhong (*with* Zhu, Zhiwen) Strange nonchaotic attractors via torus breakdown. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1425–1430. 58F13

— (*with* Ren, Xiaolin; Zhu, Zhiwen) Equivalence between different local prediction methods of chaotic time series. (English summary) *Phys. Lett. A* **227** (1997), *no.* 1-2, 37–40. (Hans-Peter Herzel) **98b:58119** 58F13 (58F40)

Liu, Zhongdong (*with* Mao, Yiping) Existence theorem for periodic solutions of higher order nonlinear differential equations. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 481–490. (Maria Patrizia Pera) **98k:34073** 34C25 (47H15, 47N20)

Liu, Zhongkui Characterization of inverse and left inverse semigroups by their S^1-acts. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 395–401. (P. M. Higgins) **98e:20066** 20M18

— (*with* Ahsan, Javed) Strongly idempotent seminearrings and their prime ideal spaces. *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 151–166, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Kirby C. Smith) **98k:16064** 16Y30 (16Y60)

— On almost locally Noetherian modules and generalized S^1-modules. *Comm. Algebra* **25** (1997), *no.* 6, 1883–1891. (Nicole Jane Snashall) **98h:16031** 16P70 (16D50, 16D60)

— (*with* Ahsan, Javed) A generalization of regular left acts. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 169–176. (A. R. Rajan) **98g:20101** 20M30

Liu, Zhuangwei (*with* Larsson, Torbjörn) A Lagrangean relaxation scheme for structured linear programs with application to multicommodity network flows. (English summary) *Optimization* **40** (1997), *no.* 3, 247–284. (Summary) **98d:90071** 90C08 (90C35)

— (*with* Larsson, Torbjörn; Patriksson, Michael) A dual scheme for traffic assignment problems. (English summary) *Optimization* **42** (1997), *no.* 4, 323–358. (Summary) **98k:90125** 90C35

Liu, Zhuangyi (*with* Liu, Kang Sheng) Analyticity and differentiability of semigroups associated with elastic systems with damping and gyroscopic forces. (English summary) *J. Differential Equations* **141** (1997), *no.* 2, 340–355. (Summary) **98j:47085** 47D06 (34G10, 35Q72, 47N20, 73D30, 73K12)

— (*with* Zheng, Songmu) Exponential stability of the Kirchhoff plate with thermal or viscoelastic damping. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 551–564. (Summary) **98e:73072** 73H10 (35Q72, 73B30, 73F15, 73K10, 73K50)

— (*with* Liu, Kang Sheng) Exponential stability and analyticity of abstract linear thermoelastic systems. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6,

885–904. (Reinhard Racke) **98m:35207** 35Q72 (35B40, 47N20, 73B30, 73H10)

Liu, Zhuojun (*with* Wu, Jin Zhao) On first-order theorem proving using generalized odd-superpositions Π. (English summary) *Sci. China Ser. E* **39** (1996), *no.* 6, 608–619. (Ralph W. Wilkerson) **98b:68169** 68T15 (03B35)

Liu, Zi Cheng (*with* Cai, Jin-Yi; Fuchs, Wolfgang H.; Kozen, Dexter) Efficient average-case algorithms for the modular group. (English summary) *35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994)*, 143–152, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1994. (*see* **98h:68008**) 68Q25 (20H10, 68Q15)

— (*with* Cai, Jin-Yi) The bounded membership problem of the monoid $SL_2(\mathbf{N})$. (English summary) *Math. Systems Theory* **29** (1996), *no.* 6, 573–587. (Jay Belanger) **98b:68054** 68Q15 (20M35, 68Q25)

Liu, Zi Kuan (*with* Liu, Wen[1]) The logarithmic likelihood ratio and a class of strong laws for sequences of integer-valued random variables. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 4, 316–323. 60F15 (62E20)

— (*with* Liu, Wen[1]) A strong limit theorem for the sequence of dependent binary random variables. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 323–328. (Summary) **98h:60042** 60F15

Liu, Zong Guang The Orlicz-Sobolev capacity on metric spaces. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 5, 5–10. (Summary) **98e:46040** 46E35 (31C45)

Liu, Zong-hua (*with* Chen, Shi Gang) Finding and control of unstable periodic orbit in autonomous differential system. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 2, 85–88. (Summary) **98b:34058** 34C25 (58F22)

— (*with* Chen, Shi Gang) Control of unstable periodic orbit by means of projective operator method. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 7, 499–502. (Summary) **98k:93055** 93C15 (34C25, 34D45, 58F13)

— (*with* Chen, Shi Gang) Controlling the standard map. (English summary) *Phys. Lett. A* **232** (1997), *no.* 1-2, 55–62. (Summary) **98g:58116** 58F13

Liu, Zongze (*with* Wu, Zhende; Bai, Ruipu) The cobordism classification of involution on DOLD manifold $P(1, 2l)$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 9–20. (Summary) **98f:57060** 57S25 (57R85, 57S17)

Liu, Zu Han (*with* Ding, Shi Jin; Yu, Wanghui) Pinning of vortices for the Ginzburg-Landau functional with variable coefficient. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 77–88. (Yun Bo Zeng) **98b:35179** 35Q55 (35J99, 58E15)

— (*with* Ding, Shi Jin) Asymptotic behavior of a class of Ginzburg-Landau functionals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 437–444; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 239–248. (Xian Guo Geng) **98k:35175** 35Q55 (35B40)

— (*with* Ding, Shi Jin) On the zeros and asymptotic behavior of minimizers to the Ginzburg-Landau functional with variable coefficient. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 1, 45–64. (Monica Lazzo) **98h:58049** 58E20 (35Q55)

— (*with* Ding, Shi Jin) Pinning of vortices for a variational problem related to the superconducting thin films having variable thickness. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 2, 174–192. (Peter L. Christiansen) **98i:35173** 35Q55 (58E50, 82D55)

— (*with* Yi, Fa Huai; Tao, Youshan) Quasi-stationary Stefan problem as limit case of Mullins-Sekerka problem. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 151–162. (Vitaly A. Volpert) **98b:80007** 80A22 (35K05, 35R35)

Liu, Zunren (*with* Shao, Feng Jing; Sun, Xiao Rui) Communication protocol verification via degeneration. (English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 1, 26–38. (Summary) **98c:68136** 68Q60 (94A40)

Liutang, Gong *see* **Gong, Liu Tang**

Livchak, A. B. Sharpening of theorems on polynomial queries. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 3, 9–16; *translation in Program. Comput. Software* **21** (1995), *no.* 3, 113–120. (Summary) **98j:68019** 68P15

— (*with* Baryshnikov, A. Yu.) The languages PQL and FO + LFP are equivalent even without the presence of order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1996**, *no.* 4, 18–23; *translation in Russian Math. (Iz. VUZ)* **40** (1996), *no.* 4, 16–21. (Martin Weese) **98i:03039** 03B70 (03C80, 03D70, 68P15, 68Q99)

Liverani, Carlangelo Decay of correlations in hyperbolic systems. (English summary) *Dynamical systems and chaos, Vol. 1 (Hachioji, 1994)*, 163–166, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98f:58004**) 58F15

— Central limit theorem for deterministic systems. *International Conference on Dynamical Systems (Montevideo, 1995)*, 56–75, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (Nikolai Chernov) **98k:28025** 28D05 (60F05)

Livernet, Muriel Homotopie rationnelle des algèbres de Leibniz. (English and French summaries) [Rational homotopy of Leibniz algebras] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 819–823. (Summary) **98g:17002** 17A30 (55P62)

Livesey, M. J. (*with* Atkinson, M. D.; Tulley, D.) Permutations generated by token passing in graphs. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 103–118. (Luisa Gargano) **98e:68194** 68R10

Livesey, Steven *see* **Tradition, transmission, transformation, 98b:01002**

Livi, R. (*with* Spicci, M.; MacKay, Robert S.) Breathers on a diatomic FPU chain. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1421–1434. (Summary) **98k:82043** 82B20 (58F40, 70K99)

— (*with* Cuche, Y.; Politi, Antonio) Phase transitions in 2D linearly stable coupled map lattices. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 369–380. (Summary) **98j:82046** 82C26 (58F40, 82C24)

Livingston, Albert E. Goodman's conjectures on the coefficients of multivalent functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 177–184. (Summary) **98m:30023** 30C50

Livingston, Charles (*with* Kirk, Paul A.) Vassiliev invariants of two component links and the Casson-Walker invariant. *Topology* **36** (1997), *no.* 6, 1333–1353. (Charilaos Aneziris) **98e:57012** 57M25

Livins'ka, O. I. (*with* Kozachenko, Yu. V.) Analytic properties of certain classes of stochastic processes from the space $\mathrm{Pred}_\varphi(\Omega)$. (English summary) *Theory Probab. Math. Statist. No.* 51 (1995), 93–101 (1996). (Summary) **98a:60044** 60G17 (60G20)

Livinskiĭ, V. A. (*with* Berezanskiĭ, Yuriĭ Makarovich; Litvinov, E. V.) A generalization of Gaussian white noise analysis. (English summary) *Methods Funct. Anal. Topology* **1** (1995), *no.* 1, 28–55. (Summary) **98k:60062** 60G20 (46F25, 46G12, 47N30, 60J30)

Livné, Ron (*with* Jordan, Bruce W.) Ramanujan local systems on graphs. *Topology* **36** (1997), *no.* 5, 1007–1024. (Zhaojun Liang) **98f:05112** 05C50 (05C25)

— *see also* **Serre, Jean-Pierre, 98b:11049**

Livshits, Michael (*with* Maz'ya, Vladimir G.) Solvability of the two-dimensional Kelvin-Neumann problem for a submerged circular cylinder. (English summary) *Appl. Anal.* **64** (1997), *no.* 1-2, 1–5. (Summary) **98d:76017** 76B15 (35J05, 35Q35)

Livšic, Moshe S. Commuting nonselfadjoint operators and a unified theory of waves and corpuscles. (English summary) *New results in operator theory and its applications*, 163–185, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Vladimir Ryzhov) **98j:47018** 47A45 (47A48, 47N50, 70G50, 81P99, 81Q05)

— (*with* Arov, Damir Zyamovich; Sakhnovich, Lev Aronovich; Nudelman, Adolf Abramovich; Dubovoĭ, V. K.; Katsnelson, Victor Emanuelovich) Vladimir Petrovich Potapov as remembered by colleagues, friends and former students. *Topics in interpolation theory (Leipzig, 1994)*, 1–18, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (*see* **98f:47001**) 01A70 (47-03)

— The Blaschke-Potapov factorization theorem and the theory of nonselfadjoint operators. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 391–396, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Summary) **98i:47009** 47A45 (30D50, 47A56, 47B50)

Lixândroiu, Dorin On the estimation of parameters for mixed-Weibull distributions. (English and Romanian summaries) *Bull. Transilv. Univ. Braşov Ser. B (N.S.)* **2(37)** (1995), 47–52. 62F10 (62N05)

Liz, Eduardo (*with* Bajo, Ignacio) Periodic boundary value problem for first order differential equations with impulses at variable times. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 1, 65–73. (A. Reinfelds) **98f:34013** 34A37 (34B15)

— (*with* Xu, Hong-Kun) Boundary value problems for differential equations with maxima. (English summary) *Nonlinear Stud.* **3** (1996), *no.* 2, 231–241. (István Győri) **98g:34044** 34B15 (34K10)

— Abstract monotone iterative techniques and applications to impulsive differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 443–452. (Seppo Heikkilä) **98k:47127** 47H17 (34A37, 34B15, 47H07, 47N20)

— (*with* Cabada, Alberto) Discontinuous impulsive differential equations with nonlinear boundary conditions. *Nonlinear Anal.* **28** (1997), *no.* 9, 1491–1497. (Introduction) **98a:34013** 34A37 (34B15)

— (*with* Cabada, Alberto) Boundary value problems for higher order ordinary differential equations with impulses. *Nonlinear Anal.* **32** (1998), *no.* 6, 775–786. (A. S. Vatsala) **98m:34021** 34A37 (34A45, 34B15)

rufián-Lizana, A. *see* **Rufián-Lizana, A.**

Lizana Peña, Marcos (*with* Rivero Mendoza, Jesús) Multiparametric bifurcations for a model in epidemiology. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 21–36. (Summary) **98h:92044** 92D30 (34C23)

arregi Lizarraga, Jesús María *see* **Arregi Lizarraga, Jesús María**

Lizasoain, I. (*with* Ochoa, G.) Projective G-sets. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 287–296. (Michael Klemm) **98m:20004** 20B05 (20C25)

Lizorkin, P. I. (*with* Guliev, V. S.) Spaces of Banach-valued analytic and periodic functions. (Russian) In honor of the ninetieth birthday of Academician S. M. Nikol'skiĭ (Russian). *Trudy Mat. Inst. Steklov.* **210** (1995), *Teor. Funktsiĭ i Differ. Uravn.*, 101–119. (S. Cobzaş) **98c:46069** 46E40 (46E15)

Lizzi, Fedele (*with* Bimonte, G.; Ercolessi, E.; Landi, Giovanni; Sparano, G.; Teotonio-Sobrinho, Paulo) Lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 318–328. (Francois Vanderseypen) **98b:58015** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Bimonte, G.; Ercolessi, E.; Landi, Giovanni; Sparano, G.; Teotonio-Sobrinho, Paulo) Noncommutative lattices and their continuum limits. (English summary) *J. Geom. Phys.* **20** (1996), *no.* 4, 329–348. (Francois Vanderseypen) **98b:58016** 58B30 (46L99, 54H12, 81T25, 81T27)

— (*with* Mangano, Gianpiero; Miele, Gennaro; Sparano, G.) Fermion Hilbert space and fermion doubling in the noncommutative geometry approach to gauge theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6357–6366. (Kamran Kaviani) **98e:81110** 81T13 (58B30, 81V22)

— (*with* Mavromatos, Nick E.) Quantum phase space from string solitons. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7859–7871. (Summary) **98c:81174** 81T30

— (*with* Szabo, Richard J.) Target space duality in noncommutative geometry. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 19, 3581–3584. (Summary) **98g:58009** 58B30 (81T30)

Ljapin, E. S. *see* **Lyapin, E. S.**

Ljung, Lennart (*with* Guo, Lei[1]; Wang, Guan-Jun) Necessary and sufficient conditions for stability of LMS. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 761–770. (Summary) **98d:93099** 93E15 (93C40)

— (*with* Guo, Lei[1]) The role of model validation for assessing the size of the unmodeled dynamics. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1230–1239. (Maria Letizia Corradini) **98g:93012** 93B30 (93A30)

— *see also* **Safavi, A. A., 98e:93030**

Llabrés, Mercè (*with* Rosselló-Llompart, Francesc) Double-pushout hypergraph rewriting using total conformisms. (English summary) *Fund. Inform.* **30** (1997), *no.* 2, 193–226. (Summary) **98i:68144** 68Q42 (68R10)

Lladó, A. S. (*with* Hamidoune, Yahya Ould; Serra, Oriol) Small cutsets in quasiminimal Cayley graphs. (English summary) *Discrete Math.* **159** (1996), *no.* 1-3, 131–142. (T. T. Raghunathan) **98h:05084** 05C20 (05C25)

fernández Llana, Carmen *see* **Fernández Llana, Carmen**

Llarull, Marcelo Irreducible components of L^2 functions on Hopf bundles. (English summary) *Linear and Multilinear Algebra* **41** (1996), *no.* 2, 113–135. (Leticia Barchini) **98c:22010** 22E30

— Sharp estimates and the Dirac operator. (English summary) *Math. Ann.* **310** (1998), *no.* 1, 55–71. (Uwe Semmelmann) **98m:53056** 53C21 (58G10, 58G25)

Llatas, Pablo M. Electrically charged black-holes for the heterotic string compactified on a $(10 - D)$-torus. (English summary) *Phys. Lett. B* **397** (1997), *no.* 1-2, 63–75. (Summary) **98i:83081** 83E30 (81T30, 83C57)

de la Llave, Rafael On necessary and sufficient conditions for uniform integrability of families of Hamiltonian systems. *International Conference on Dynamical Systems (Montevideo, 1995)*, 76–109, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (Efthymia Meletlidou) **98g:58155** 58F30 (58F05, 58F36, 70H05, 70H15)

— Analytic regularity of solutions of Livsic's cohomology equation and some applications to analytic conjugacy of hyperbolic dynamical systems. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 649–662. (Viorel Nitică) **98d:58136** 58F15

— Invariant manifolds associated to nonresonant spectral subspaces. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 211–249. (Ernest Fontich) **98f:58038** 58C30 (34C35, 47H15, 47N20, 58F99)

Llavona, José G. (*with* Lacruz, Miguel) Composition operators between algebras of uniformly continuous functions. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 1, 52–56. (James T. Campbell) **98g:47026** 47B38 (46E15, 46J10)

— (*with* Gutiérrez del Alamo, Joaquín M.) Polynomially continuous operators. (English summary) *Israel J. Math.* **102** (1997), 179–187. (Ignacio Zalduendo) **98k:46073** 46G20

Llebot, Josep E. (*with* Fort, Joaquim; González, Josep-Abel) Information-theoretical derivation of a nonequilibrium extension of Wien's displacement law. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 193–200. 82C03

— (*with* Méndez, Vicenç) Hyperbolic reaction-diffusion equations for a forest fire model. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6557–6563. 92D40 (35K57, 35Q80)

— (*with* Fort, Joaquim) Information-theoretical derivation of an extended thermodynamical description of radiative systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 345–354. (Summary) **98i:80005** 80A20 (76N15)

Llewellyn Smith, Stefan G. The motion of a non-isolated vortex on the beta-plane. (English summary) *J. Fluid Mech.* **346** (1997), 149–179. (Yuri N. Skiba) **98k:76021** 76C05 (34E05, 76B15, 76B25)

— (*with* Balmforth, N. J.; Young, W. R.) Dynamics of interfaces and layers in a stratified turbulent fluid. (English summary) *J. Fluid Mech.* **355** (1998), 329–358. (Summary) **98i:76094** 76V05 (76E99, 76F99)

Llibre, Jaume (*with* Cors, Josep M.) Qualitative study of the parabolic collision restricted three-body problem. (English summary) *Hamiltonian dynamics and celestial mechanics (Seattle, WA, 1995)*, 1–19, *Contemp. Math.*, 198, *Amer. Math. Soc., Providence, RI*, 1996. (Donald G. Saari) **98a:70006** 70F07 (70F35)

— (*with* Leseduarte, C.) The full periodicity kernel of the trefoil. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **46** (1996), *no.* 1, 219–262. 57M15 (54H20)

— (*with* Bernat, Josep) Counterexample to Kalman and Markus-Yamabe conjectures in dimension larger than 3. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 3, 337–379. (Gary H. Meisters) **98c:34079** 34D20 (34C25, 34H05, 58F10, 93D20)

— (*with* Artés, Joan C.) On the number of slopes of invariant straight lines for polynomial differential systems. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **13** (1996), *no.* 2, 143–149. (Anna Cima) **98h:34051** 34C05

— (*with* Teixeira, Marco Antonio) Regularization of discontinuous vector fields in dimension three. (English summary) *Discrete Contin. Dynam. Systems* **3** (1997), *no.* 2, 235–241. (Coraci P. Malta) **98c:58085** 58F09 (34C20, 34C35, 58F36)

— (*with* Chavarriga, Javier; Sotomayor, Jorge) Algebraic solutions for polynomial systems with emphasis in the quadratic case. (English summary) *Exposition. Math.* **15** (1997), *no.* 2, 161–173. (Dmitri Novikov) **98h:34053** 34C05 (34A34, 58F21)

— (*with* Cairó, Laurent) Phase portraits of planar semi-homogeneous vector fields. I. *Nonlinear Anal.* **29** (1997), *no.* 7, 783–811. (Alexandru Şubă) **98e:34048** 34C05 (58F36)

— (*with* Artés, Joan C.) Quadratic vector fields with a weak focus of third order. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 7–39. (Dmitri Novikov) **98h:34052** 34C05 (34A34, 58F21)

— (*with* Ponce, Enrique) Hopf bifurcation from infinity for planar control systems. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 181–198. (Carmen Chicone) **98g:34070** 34C23 (34C05, 34H05)

— (*with* Alsedà, Lluís; Baldwin, Stewart; Misiurewicz, Michał) Entropy of transitive tree maps. (English summary) *Topology* **36** (1997), *no.* 2, 519–532. (Summary) **98f:54031** 54H20

— (*with* Rodríguez López, Gerardo) On a class of cubic planar polynomial foliations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 67–97. (Douglas S. Shafer) **98j:34089** 34C99 (58F18)

— (*with* Artés, Joan C.; Kooij, Robert E.) Structurally stable quadratic vector fields. (English summary) *Mem. Amer. Math. Soc.* **134** (1998), *no.* 639, *viii*+108 *pp.* (Yu. S. Il′yashenko) **98m:34053** 34C05 (34D30, 58F21)

rosselló-Llompart, Francesc *see* **Rosselló-Llompart, Francesc**

Llona, Albert (*with* Graňó, Núria; Suau, Francesc) Projective geometry: the photograph problem. (Catalan) *Butl. Soc. Catalana Mat.* **12** (1997), *no.* 1, 73–83. 51N15

ferrer Llop, Josep *see* **Ferrer Llop, Josep**

Llopis, Jimena (*with* Todorčević, Stevo) Borel partitions of products of finite sets. (English summary) *Acta Cient. Venezolana* **47** (1996), *no.* 2, 85–88. (Marion Scheepers) **98i:03064** 03E05 (03E15, 04A20, 05D10)

gutiérrez Llorente, José Manuel *see* **Gutiérrez Llorente, José Manuel**

pardo Llorente, Julio Ángel *see* **Pardo Llorente, Julio Ángel**

Llosa, Josep Shear-free congruences in $(2 + 1)$-dimensional spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 165–177. (János Kánnár) **98a:83099** 83C99

— *see also* **Mandelbrot, Benoît B., 98g:00011**

valenciano Llovera, Federico *see* **Valenciano Llovera, Federico**

Lloyd, E. Keith The reaction graph of the Fano plane. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 260–274, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05129** 05C75 (05C90)

Lloyd, Errol L. (*with* Blair, Jean R. S.) River routing with a generalized model. (English summary) 1994 ACM Symposium on Parallel Algorithms and Architectures (Cape May, NJ, 1994). *J. Comput. System Sci.* **53** (1996), *no.* 3, 525–544. (Summary) **98e:68119** 68Q35

— (*with* Ivković, Zoran) Partially dynamic bin packing can be solved within $1 + \varepsilon$ in (amortized) polylogarithmic time. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 1, 45–50. (Summary) **98d:68102** 68Q25 (90C27)

Lloyd, Keith Chebyshev polynomials and Dong's formula. (English summary) *Math. Today (Southend-on-Sea)* **33** (1997), *no.* 3, 90–92. 33B10 (33-01, 33C45)

Lloyd, N. G. (*with* Pearson, Jane Margaret; Romanovskiĭ, V. G.) Computing integrability conditions for a cubic differential system. (English summary) *Comput. Math. Appl.* **32** (1996), *no.* 10, 99–107. (Martin Hermann) **98e:34055** 34C05 (34-04, 34A05)

— (*with* Pearson, Jane Margaret; Christopher, C. J.) Algorithmic derivation of centre conditions. (English summary) *SIAM Rev.* **38** (1996), *no.* 4, 619–636. (Henryk Żołądek) **98c:34050** 34C05 (34-04, 58F21)

— (*with* Pearson, Jane Margaret) Five limit cycles for a simple cubic system. (English summary) Proceedings of the Symposium on Planar Vector Fields (Lleida, 1996). *Publ. Mat.* **41** (1997), *no.* 1, 199–208. (Summary) **98b:34043** 34C05 (34-04)

Lloyd, Peter (*with* Sudbury, Aidan) Quantum operators in classical probability theory. IV. Quasi-duality and thinnings of interacting particle systems. (English summary) *Ann. Probab.* **25** (1997), *no.* 1, 96–114. (Rinaldo Schinazi) **98d:60195** 60K35 (82B21)

Lloyd, R. (*with* White, Halvard John) Gauge field theories on Clifford algebras. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 4, 349–370. (Waldyr Alves Rodrigues, Jr.) **98g:81106** 81S25 (15A66, 81T13)

Lloyd, Seth Universe as quantum computer. How decoherence leads to complexity. *Complexity* **3** (1997), *no.* 1, 32–35. 81P99 (68Q05)

— Capacity of the noisy quantum channel. (English summary) *Phys. Rev. A* (3) **55** (1997), *no.* 3, 1613–1622. (Summary) **98f:81049** 81P99 (94B60)

— Microscopic analogs of the Greenberger-Horne-Zeilinger experiment. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 3, *R*1473–*R*1476. 81P15

Lluch, Ana Comparison theorems for the first Dirichlet eigenvalue on a Kähler manifold with boundary. (English summary) *Geometry and topology of submanifolds, VIII (Brussels, 1995/Nordfjordeid, 1995)*, 221–230, *World Sci. Publishing, River Edge, NJ*, 1996. (Noureddine Rahmani) **98c:58172** 58G25

— (*with* Miquel, Vicente) Kähler tubes of constant radial holomorphic sectional curvature. (English summary) *Manuscripta Math.* **94** (1997), *no.* 4, 445–463. (Lieven Vanhecke) **98k:53090** 53C55 (53C40)

L'Moufadal, Ben Yakoub (*with* Amine, Kaidi; Malliavin, Marie-Paule) Caractérisation des automorphismes et des dérivations intérieurs des algèbres de division. (English summary) [Characterization of the inner automorphisms and derivations of division algebras] *Afrika Mat.* (3) **7** (1997), 3–11. (François Dumas) **98f:16022** 16W20 (12E15, 16W25)

Lo, Albert Y. (*with* Sazonov, Vyacheslav Vasil′evich) Von Mises ω^2-statistic and the generalized Bayesian bootstraps. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 1, 25–34. (Zuzana Prášková) **98m:62152** 62G20 (60F05, 62G09)

Lo, C. F. Multi-particle fermionic realization of the su(2) Lie algebra. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 937–940. (Summary) **98i:81076** 81R05 (82B20)

— (*with* Ng, K. M.) Coherent-state propagator of two coupled generalized time-dependent parametric oscillators. (English summary) *Phys. Lett. A* **230** (1997), *no.* 3-4, 144–152. (P. G. L. Leach) **98j:81129** 81R30

— (*with* Wong, Y. Joanna) Eigenstates and eigenvalues of the SU(1, 1) displacement operators. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 125–129. (Summary) **98m:81067** 81R30

Lo, C. Y. *see* **Lo, Chung-Yin**

Lo, Chi Yeung Expansions in terms of generalized telegraph polynomials and complementary functions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 153–171. 35C10 (35L05)

Lo, Chung-Yin General relativity and the extension of Newtonian universal coupling. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 4, 540–545. 83C99

Lo, E. *see* **Lo, Edisenter**

Lo, Eddie H. A polycyclic quotient algorithm. (English summary) *Groups and computation, II (New Brunswick, NJ, 1995)*, 159–167, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Eamonn A. O'Brien) **98a:20047** 20F05 (20-04)

— Finding intersections and normalizers in finitely generated nilpotent groups. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 45–59. (Martin R. Pettet) **98k:20003** 20-04 (20F18)

Lo, Edisenter (*with* Jackiewicz, Z.; Kwapisz, Marian) Waveform relaxation methods for functional-differential systems of neutral type. (English summary) *J. Math. Anal. Appl.* **207** (1997), *no.* 1, 255–285. (John W. Mooney) **98g:65123** 65Q05 (34K40, 65L06, 65L70)

Lo, Gen-Ching (*with* Saad, Youcef; Kuznetsov, Sergey; Malevsky, Andrei; Chapman, Andrew) PSPARSLIB: a portable library of parallel sparse iterative solvers. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing (Minneapolis, MN, 1997)*, 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65-04 (65F50)

Lo, H.-K. (*with* Chau, Hoi Fung) Primality test via quantum factorization. (English summary) *Internat. J. Modern Phys. C* **8** (1997), *no.* 2, 131–138. (François Morain) **98j:11120** 11Y11 (11A51)

Lo, Kam-Ming (*with* Cai, Xiao-Qiang) Unit commitment by a genetic algorithm. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4289–4299. (*see* **98i:00032**) 90C27

Lo, M. W. (*with* Howell, Kathleen C.; Barden, B. T.) Application of dynamical systems theory to trajectory design for a libration point mission. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 2, 161–178. 70F15 (70M20)

Lo, Milton (*with* Leung, Pui Lam) An identity for the noncentral multivariate *F* distribution with application. (English summary) *Statist. Sinica* **6** (1996), *no.* 2, 419–431. (Yutaka Kano) **98b:62100** 62H12 (62H10)

Lo, N. W. (*with* Carlson, Bradley S.; Tao, D. L.) Fault tolerant algorithms for broadcasting on the star graph network. (English summary) *IEEE Trans. Comput.* **46** (1997), *no.* 12, 1357–1362. 68M10 (68M15)

Lo, Sai-Huen (*with* Lee, C. K.) Automatic adaptive refinement finite element procedure for 3D stress analysis. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 135–166. (*see* **98a:65003**) 73V05

— *see also* **Adaptive meshing, 98a:65003**

Lo, Serigne Aliou (*with* Antonevich, Anatoliĭ B.) Sur les mesures invariantes qui apparaissent lors de l'étude d'une classe d'équations differentielles fonctionnelles. [Invariant measures arising in the study of a class of functional-differential equations] *Afrika Mat.* (3) **7** (1997), 55–70. (From the introduction) **98b:47066** 47G30 (28D05, 34C35, 34K15, 47A35, 47B38)

Lo, Shaw-Hwa (*with* Chen, Kani) On the rate of uniform convergence of the product-limit estimator: strong and weak laws. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1050–1087. (S. Rao Jammalamadaka) **98f:62034** 62E20 (62G30)

— (*with* Chen, Kani) On a mapping approach to investigating the bootstrap accuracy. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 2, 197–217. (Gutti J. Babu) **98c:60019** 60F05 (62G09)

Lo, Wai Lok (*with* Nillsen, Rodney) Differences of functions and group generators for compact abelian groups. (English summary) *Monatsh. Math.* **122** (1996), *no.* 4, 355–365. (Summary) **98i:22006** 22B05 (43A15)

Lo, Zhongwei (*with* He, Can Zhi) The stability and estimation of time lag for a class of higher system of time lag with variable coefficients. (English summary) *Hunan Ann. Math.* **16** (1996), *no.* 2, 6–12. (Denis Khusainov) **98g:34121** 34K20

Loader, Clive (*with* Sun, Jiayang) Robustness of tube formula based confidence bands. (English summary) *J. Comput. Graph. Statist.* **6** (1997), *no.* 2, 242–250. 62F35

Loader, Ralph Equational theories for inductive types. (English summary) *Ann. Pure Appl. Logic* **84** (1997), *no.* 2, 175–217. (Bart Jacobs) **98k:03018** 03B15 (03B40, 68Q55)

nguyen thuc Loan *see* **Nguyen Thuc Loan**

van Loan, Charles *see* **Van Loan, Charles**

Lobachevskiĭ, N. I. *see* **Montesinos-Amilibia, José Maria, 98g:01043** *and* **Bukhshtaber, V. M.**

Lobanov, A. I. (*with* Starozhilova, T. K.) Qualitative investigation of the initial stage of the formation of nonequilibrium structures in a model of "reaction-diffusion" type. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 12, 3–15. 35K57

Lobunova, L. S. (*with* Litvin, O. N.) Orthogonal splines of the class $C[-1, 1]$. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 1, 26–30. (Kairat T. Mynbaev) **98k:41018** 41A15 (33C45)

Lobas, Leonid Grigor'evich On the existence of periodic motions of dynamical systems with the simplest symmetry. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 1, 87–96; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 1, 78–85. (G. V. Khmelevskaya-Plotnikova) **98h:34082** 34C25

— On the bifurcation of the birth of a cycle from the focus in dynamical systems with the simplest symmetry. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 2, 80–88; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 2, 159–167. (Miklós Farkas) **98h:34075** 34C23 (34C05)

Lobashev, A. A. (*with* Mostepanenko, V. M.) Heisenberg picture for quantized fields interacting with nonstationary electromagnetic or gravitational background. (English summary) *Gravity, particles and space-time*, 61–80, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98d:81048** 81T10

Lobato, Ignacio N. (*with* Robinson, Peter M.) Averaged periodogram estimation of long memory. (English summary) *J. Econometrics* **73** (1996), *no.* 1, 303–324. (Bert M. Steece) **98d:62162** 62M10 (62M15, 62P20)

— Consistency of the averaged cross-periodogram in long memory series. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 2, 137–155. (Summary) **98d:62163** 62M10

Lobo, Jorge (*with* Mendez, Gisela; Taylor, Stuart R.) Adding knowledge to the action description language $\mathscr{A}$. (English summary) *Proceedings of the Fourteenth National Conference on Artificial Intelligence and Ninth Innovative Applications of Artificial Intelligence Conference (Providence, RI,* 1997), 454–459, *AAAI Press, Menlo Park, CA,* 1997. (*see* **98f:68015**) 68T25 (68T27)

— (*with* Uzcátegui A., Carlos E.) Abductive consequence relations. (English summary) *Artificial Intelligence* **89** (1997), *no.* 1-2, 149–171. (Ramón Pino Pérez) **98e:68235** 68T27 (03B70)

Lobo, M. *see* **Lobo-Hidalgo, Miguel**

Lobo, Miguel *see* **Lobo-Hidalgo, Miguel**

Loboda, V. V. (*with* Govorukha, V. B.) On the boundary integral equations approach to a semi-infinite strip investigation. (English summary) *Acta Mech.* **128** (1998), *no.* 1-2, 105–115. 73C02 (73B40)

Lobo-Hidalgo, Miguel (*with* Pérez, Eugenia) Vibrations of a body with many concentrated masses near the boundary: high frequency vibrations. (English summary) *Spectral analysis of complex structures (Paris,* 1993), 85–101, *Travaux en Cours,* 49, *Hermann, Paris*, 1995. (Summary) **98j:73037** 73D30 (35B40, 35P99, 35Q72, 73B27)

— (*with* Pérez, Eugenia) High frequency vibrations in a stiff problem. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 2, 291–311. (Jacqueline Mossino) **98e:35053** 35J25 (35P05, 47F05, 73D30, 73K12)

— (*with* Oleĭnik, Ol'ga Arsen'evna; Peres, M. E.; Shaposhnikova, T. A.) On boundary value problems in domains punctured along manifolds. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 205–206; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 838–839. 35J25 (35B25)

Lobry, Claude ★ Et pourtant ... ils ne remplissent pas N. (French. French summary) [And yet ... they do not fill up N] With a preface by Renée Peiffer-Reuter. *Aléas, Lyon,* 1989. 315 *pp. ISBN* 2-908016-03-6 (Ricardo Bianconi) **98f:03057** 03H05 (00A30, 03A05)

Lobstein, A. C. (*with* Cohen, Gérard Denis; Litsyn, Simon N.; Mattson, H. F., Jr.) Covering radius 1985–1994. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 3, 173–239. (Summary) **98d:94047** 94B75 (11T71)

Löbus, J.-U. (*with* Portenko, N. I.) On a class of perturbed generators of stable processes. (English summary) *Theory Probab. Math. Statist. No.* 52 (1996), 109–118. (Summary) **98b:60133** 60J35 (35S10, 47D07)

:a phuoc Loc *see* **Ta Phuoc Loc**

Loc, Ta-Phuoc *see* **Ta Phuoc Loc**

Lo Cascio, M. L. (*with* Pitolli, Francesca) Generalized cardinal interpolation by refinable functions: some numerical results. (English summary) *Note Mat.* **15** (1995), *no.* 2, 191–201 (1997). 42C15 (65D05)

Locatelli, Marco (*with* Schoen, Fabio) Theoretical and experimental analysis of random linkage algorithms for global optimization. (English summary) *System modelling and optimization (Prague,* 1995), 473–480, *Chapman & Hall, London*, 1996. (*see* **98d:90014**) 90C15

— Convergence properties of simulated annealing for continuous global optimization. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 4, 1127–1140. (Dominique Lépingle) **98b:60019** 60C05 (60J25)

— Bayesian algorithms for one-dimensional global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 1, 57–76. (C. C. Y. Dorea) **98k:90066** 90C15 (60F99, 60G40, 62C99)

— (*with* Dür, Mirjam; Horst, Reiner) Necessary and sufficient global optimality conditions for convex maximization revisited. *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 637–649. (Ivan Ginchev) **98k:90070** 90C25

Locatelli, Ugo (*with* Giorgilli, Antonio) Kolmogorov theorem and classical perturbation theory. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 2, 220–261. (Luigi Chierchia) **98i:58203** 58F30 (34C50, 58F27, 70H05, 70K99)

Loccufier, M. (*with* Noldus, E.) A new trajectory reversing method for the estimation of asymptotic stability regions. (English summary) *Internat. J. Control* **61** (1995), *no.* 4, 917–932. (Summary) **98j:93075** 93D20 (34D05)

Lochak, Georges Les symétries *P, T, C*, les solutions à énergie négative et la représentation des antiparticules dans les équations spinorielles. I. Équations linéaires. (English and French summaries) [*P, T, C* symmetries, negative energy solutions and antiparticle representation in spin equations. I. Linear equations] *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 1, 1–22. (Martine J. Perrin) **98e:81194** 81V10 (81R99)

— *see also* **de Broglie, Louis, 98a:70001**

Lochak, Pierre (*with* Golse, François) Sur l'approximation rationnelle simultanée des vecteurs de Bruno. (English and French summaries) [Simultaneous rational approximation of Bryuno vectors] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 9, 1047–1052. (W. W. Adams) **98e:11084** 11J13

— (*with* Nakamura, Hiroaki; Schneps, Leila) On a new version of the Grothendieck-Teichmüller group. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 1, 11–16. (Athanase Papadopoulos) **98h:20065** 20F36 (14L27, 20F38)

— (*with* Schneps, Leila) A cohomological interpretation of the Grothendieck-Teichmüller group. (English summary) With an appendix by C. Scheiderer. *Invent. Math.* **127** (1997), *no.* 3, 571–600. (Hiroaki Nakamura) **98j:20032** 20E18 (14E20, 20J06)

— *see also* **Geometric Galois actions, 98e:14003**

Locher, Helmut Kleine Nullstellen quadratischer Formen in Funktionenkörpern. (English summary) [Small zeros of quadratic forms in function fields] *Monatsh. Math.* **124** (1997), *no.* 1, 35–51. (Stefan Kühnlein) **98e:11081** 11H55 (11E12)

Löchner, Bernd (*with* Fettig, Roland) Unification of higher-order patterns in a simply typed lambda-calculus with finite products and terminal type. (English summary) *Rewriting techniques and applications (New Brunswick, NJ,* 1996), 347–361, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q40 (03B40, 68N15, 68Q42)

Lock, Esther (*with* Epstein, Susan L.; Gelfand, Jack) Learning game-specific spatially-oriented heuristics. (English summary) *Constraints* **3** (1998), *no.* 2-3, 239–253. 68T20 (68T05)

Lock, Hendrik C. R. (*with* Chakravarty, Manuel M. T.; Guo, Yike; Köhler, Martin) GOFFIN: higher-order functions meet concurrent constraints. (English summary) Concurrent constraint programming (Venice, 1995). *Sci. Comput. Programming* **30** (1998), *no.* 1-2, 157–199. (*see* **98k:68005**) 68N15 (68Q10, 68T20)

Lock, James A. Scattering of a diagonally incident focused Gaussian beam by an infinitely long homogeneous circular cylinder. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 3, 640–652. (Summary) **98b:78033** 78A45

Lock, N. (*with* Wong, Kar Hung) Optimal control of a chemical reactor. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 61–76. (Summary) **98c:35158** 35Q80 (49N55, 65M60, 80A32)

Locke, Stephen C. (*with* Lou, Feng) Finding independent sets in K_4-free 4-regular connected graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 85–110. (Kathryn Fraughnaugh) **98h:05104** 05C35 (05C85)

— (*with* Fraughnaugh, Kathryn L.) Lower bounds on size and independence in K_4-free graphs. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 61–71. (Stanisław P. Radziszowski) **98h:05099** 05C35 (05C55)

Locker, John The spectral theory of second order two-point differential operators. IV. The associated projections and the subspace $\mathscr{S}_\infty(L)$. (English summary) *Rocky Mountain J. Math.* **26** (1996), *no.* 4, 1473–1498. (Sobhy El-Sayed Ibrahim) **98d:34114** 34L05 (34B05, 47E05)

Lockhart, Bob *see* **Lockhart, Robert**

Lockhart, Richard A. (*with* Chen, Gemai) Box-Cox transformed linear models: a parameter-based asymptotic approach. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 517–529. 62J05

Lockhart, Robert Products on products on groups. (English summary) *Nearrings, nearfields and K-loops (Hamburg,* 1995), 311–323, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:16002**) 16Y30

porter-Locklear, Freda *see* **Porter-Locklear, Freda**

Locquet, V. (*with* Hokkanen, Veli-Matti; Moroşanu, Gheorghe; Joulain, P.; Bourceanu, G.) An application of the Fourier method in acoustics. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 69–77. (Summary) **98d:76150** 76Q05 (35Q35)

Locuratolo, Elvira (*with* Rabitti, Fausto) Conceptual classes and system classes in object databases. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 181–210. (Summary) **98m:68050** 68P15

Loday, Jean-Louis La renaissance des opérades. (French summary) [The rebirth of operads] Séminaire Bourbaki, Vol. 1994/95. *Astérisque No.* 237 (1996), *Exp. No.* 792, 3, 47–74. (Teimuraz Pirashvili) **98b:18010** 18C15 (16E99, 18G99)

— Overview on Leibniz algebras, dialgebras and their homology. (English summary) *Cyclic cohomology and noncommutative geometry (Waterloo, ON,* 1995), 91–102, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Teimuraz Pirashvili) **98j:17001** 17A30 (17B55, 19D55)

— ★ Cyclic homology. Appendix E by María O. Ronco. Second edition. Chapter 13 by the author in collaboration with Teimuraz Pirashvili. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 301. *Springer-Verlag, Berlin*, 1998. xx+513 *pp. ISBN* 3-540-63074-0 (From the preface) **98h:16014** 16E40 (13D03, 17B55, 18G60, 19D55)

Lodha, Suresh K. Bernstein-Bézier multiwavelets. (English summary) *Approximation theory VIII, Vol. 2 (College Station, TX, 1995)*, 259–266, *Ser. Approx. Decompos.*, **6**, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41002**) 42C15
— (*with* Goldman, Ronald) A unified approach to evaluation algorithms for multivariate polynomials. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1521–1553. (Heinz H. Gonska) **98a:65021** 65D17 (65Y25, 68Q25, 68U07)
Lods, Véronique (*with* Mardare, Cristinel) Détermination de l'espace inextensionnel d'une coque linéairement élastique, partiellement encastrée et de surface moyenne uniformément elliptique. (English and French summaries) [Determination of the space of inextensional displacements of a partially clamped, linearly elastic shell with a uniformly elliptic middle surface] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1315–1320. (Summary) **98b:73026** 73K15
— Sur l'analyse asymptotique du modèle bidimensionnel de Koiter d'une coque en flexion linéairement élastique. (English and French summaries) [Asymptotic analysis of Koiter's two-dimensional model in the case of a flexural linearly elastic shell] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1337–1340. (Summary) **98b:73060** 73K15
Lodwick, Weldon A. (*with* Corliss, George F.) Correct computation of solutions of differential algebraic control equations. (English summary) ICIAM/GAMM 95 (Hamburg, 1995). *Z. Angew. Math. Mech.* **76** (1996), *suppl.* 1, 37–40. (*see* **98b:65005**) 65L06 (34A09)
— (*with* Jamison, K. David) Interval methods and fuzzy optimization. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 239–249. (Summary) **98a:90134** 90C70 (04A72)
Łodygowski, T. (*with* Lengnick, M.; Perzyna, P.; Stein, Erwin) On regularization of plastic flow localization in a soil material. (English summary) *Engrg. Trans.* **44** (1996), *no.* 3-4, 445–469. (Robin Olivian Simionescu-Panait) **98b:73030** 73Q05 (65J15, 73E05, 73E60, 73V05)
Loe, Brian J. (*with* Beagley, Nathaniel) The coffee cup caustic for calculus students. *College Math. J.* **28** (1997), *no.* 4, 277–284. (D. R. J. Chillingworth) **98i:58035** 58C27 (53A04, 78A05)
Loe, K. F. (*with* Matsueda, Hideaki; Goto, Eiichi) Entropy production and transfer, and information erasure and losses. (Japanese) Quantum information theory and open systems (Japanese) (Kyoto, 1993). *Sūrikaisekikenkyūsho Kōkyūroku No.* 980 (1997), 76–88. (*see* **98h:00037**) 82C10
Loeb, Daniel E. (*with* Broline, Duane M.) The combinatorics of Mancala-type games: Ayo, Tchoukaillon, and $1/\pi$. *UMAP J.* **16** (1995), *no.* 1, 21–36. (Richard J. Nowakowski) **98a:90166** 90D46 (05A99, 90D10)
— How to win at Nim. (English summary) *UMAP J.* **16** (1995), *no.* 4, 367–388. (Imma J. Curiel) **98e:90247** 90D35 (05A99, 90–01)
— Stable winning coalitions. (English summary) *Games of no chance (Berkeley, CA, 1994)*, 451–471, *Math. Sci. Res. Inst. Publ.*, 29, *Cambridge Univ. Press, Cambridge*, 1996. (Theo Driessen) **98a:90168** 90D46 (90D12)
— (*with* Meyerowitz, Aaron) The graph of maximal intersecting families of sets. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 65–81. (Summary) **98m:05166** 05C75
— *see also* **Combinatorics and physics, 98h:00025**
Loeb, Jean Jacques (*with* Graczyk, Piotr) Spherical analysis and central limit theorems on symmetric spaces. (English summary) *Probability measures on groups and related structures, XI (Oberwolfach, 1994)*, 146–166, *World Sci. Publishing, River Edge, NJ*, 1995. (Jacques Faraut) **98b:43017** 43A85 (43A05, 43A90, 60B15)
— (*with* Nicolau, Marcel) Holomorphic flows and complex structures on products of odd-dimensional spheres. *Math. Ann.* **306** (1996), *no.* 4, 781–817. (Daniel Mall) **98e:32051** 32J18 (32L30)
— (*with* Berteloot, Francois) New examples of domains with non-injective proper holomorphic self-maps. *Complex analysis and geometry (Trento, 1995)*, 69–82, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Mario Landucci) **98j:32029** 32H35
Loeb, Peter Albert Nonstandard analysis and topology. *Nonstandard analysis (Edinburgh, 1996)*, 77–89, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98i:03006**) 54J05 (03H05)
— (*with* Osswald, Horst) Nonstandard integration theory in topological vector lattices. (English summary) *Monatsh. Math.* **124** (1997), *no.* 1, 53–82. (Alexander E. Gutman) **98m:28046** 28E05 (03H05, 26E35, 28B05, 28C05, 46G10)
Loebl, Martin (*with* Nešetřil, Jaroslav) Linearity and unprovability of set union problem strategies. I. Linearity of strong postorder. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 207–220. (Peter B. Gibbons) **98f:68056** 68P05 (05C85, 68Q25, 68R10)
— (*with* Galluccio, Anna) Even directed cycles in H-free digraphs. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 26–41. (Brenda J. Latka) **98m:05109** 05C38 (05C20, 68R10)
Loeckx, Jacques (*with* Ehrich, Hans-Dieter; Wolf, Markus) ★ Specification of abstract data types. (English summary) Wiley-Teubner Computing. *John Wiley & Sons, Ltd., Chichester; B. G. Teubner, Stuttgart*, 1996. xii+260 *pp. ISBN* 0-471-95067-X (Horst Reichel) **98b:68120** 68Q65 (68–01)
Loeliger, Hans-Andrea (*with* Mittelholzer, Thomas) Convolutional codes over groups. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1660–1686. (Douglas A. Leonard) **98e:94037** 94B10
— Averaging bounds for lattices and linear codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1767–1773. 94B05
Loepp, S. Constructing local generic formal fibers. (English summary) *J. Algebra* **187** (1997), *no.* 1, 16–38. (Sylvia Wiegand) **98b:13008** 13B35 (13B24, 13C15, 13J10)
de Loera, Jesús A. (*with* Santos, Francisco; Urrutia, Jorge) The number of bistellar neighbors of a triangulation. (Spanish. Spanish summary) *VII Conference on Computational Geometry (Spanish) (Madrid, 1997)*, 89–96, *Univ. Politec. Madrid, Madrid*, 1997. (*see* **98f:68272**) 52B55 (57Q15, 68U05)
— (*with* Wicklin, Frederick J.) On the need of convexity in patchworking. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 188–219. (Thomas C. Craven) **98k:14083** 14P25 (14H45)
Loeser, François Principe de Boyarsky et $\mathscr{D}$-modules. [Boyarsky principles and $\mathscr{D}$-modules] *Math. Ann.* **306** (1996), *no.* 1, 125–157. (Adolfo Quirós) **98b:14017** 14F30 (12H25, 14G20)
Loeve, Anneke (*with* Hordijk, Arie) Analysis of a customer assignment model with decentralized control. (English summary) *Ten years LNMB*, 135–149, *CWI Tract*, 122, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1997. (*see* **98b:90006**) 90C40 (90B22)
Loewe, Mark (*with* Kielanowski, Piotr) Semigroup time-evolution and irreversible quantum mechanics. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 243–249, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81U99 (47N50, 82C10)
— (*with* Bohm, Arno; Patuleanu, P.; Püntmann, C.) Jordan blocks and exponentially decaying higher-order Gamow states. (English summary) *Found. Phys.* **27** (1997), *no.* 5, 613–624. (V. S. Ol'khovskiĭ) **98g:81213** 81U20
Loewen, P. D. (*with* Rockafellar, R. Tyrrell) Bolza problems with general time constraints. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2050–2069. (Peter R. Wolenski) **98f:49021** 49K05 (49K24)
Loewer, Barry (*with* Lepore, Ernest) Quine and the attitudes. *On Quine (San Marino, 1990)*, 186–205, *Cambridge Univ. Press, Cambridge*, 1995. (*see* **98h:03010**) 03B65
Loewy, Alfred *see* **Remmert, Volker, 98f:01083**
Loewy, Raphael An inertia theorem for Lyapunov's equation and the dimension of a controllability space. (English summary) *Linear Algebra Appl.* **260** (1997), 1–7. (M. Krastanov) **98a:93013** 93B25 (93B05)
— (*with* Beasley, Leroy B.) Rank preservers on spaces of symmetric matrices. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 63–86. (Summary) **98k:15002** 15A04 (15A03, 15A57)
Lo Faro, Giovanni (*with* De Salvo, Mario; Freni, Domenico) On the hypergroups with four proper pairs and without scalars. *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 67–109. (Nobuaki Obata) **98a:20120** 20N20
— (*with* De Salvo, Mario) Isomorphism classes in finite partial hypergroupoids of class two. *Riv. Mat. Pura Appl. No.* 19 (1996), 65–91. (Thomas N. Vougiouklis) **98m:20084** 20N20
— Constructing 3-chromatic Steiner triple systems. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 187–190. (Summary) **98h:05032** 05B07
— (*with* De Salvo, Mario) Wrapping graphs and partial semi-hypergroups. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 1, 157–166. (Summary) **98c:05076** 05C25
— (*with* De Salvo, Mario; Freni, Domenico) On the hypergroups with four proper pairs and two or three non-scalar elements. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 1, 29–51. (Umberto Cerruti) **98g:20104** 20N20
LoFaro, T. Period-adding bifurcations in a one parameter family of interval maps. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 4, 27–41. (Alexander Loskutov) **98f:58073** 58F03 (58F10, 58F22)
Löfwall, Clas (*with* Roos, Jan-Erik) A nonnilpotent 1-2-presented graded Hopf algebra whose Hilbert series converges in the unit circle. *Adv. Math.* **130** (1997), *no.* 2, 161–200. (Yves Félix) **98i:16038** 16W30 (55P62)
Logak, Elisabeth (*with* Bonami, Aline; Hilhorst, Danielle; Mimura, Masayasu) A free boundary problem arising in a chemotaxis model. *Free boundary problems, theory and applications (Zakopane, 1995)*, 368–373, *Pitman Res. Notes Math. Ser.*, 363, *Longman, Harlow*, 1996. (*see* **98d:35001**) 92C99 (92D40)
— (*with* Chen, Xinfu; Hilhorst, Danielle) Asymptotic behavior of solutions of an Allen-Cahn equation with a nonlocal term. *Nonlinear Anal.* **28** (1997), *no.* 7, 1283–1298. (Peter L. Christiansen) **98a:35060** 35K55 (35B40, 35Q99, 45K05)
Logan, B. F. (*with* Shepp, Larry A.) A variational problem for random Young tableaux. (English summary) *Advances in Math.* **26** (1977), *no.* 2, 206–222. (Graham Brightwell) **98e:05108** 05E10 (49Q10, 60C05)
Logan, J. David (*with* Cohn, Steve; Shores, Thomas S.) Stability of traveling waves for a solute transport problem in porous media. (English summary) *Canad. Appl. Math. Quart.* **4** (1996), *no.* 3, 243–263. (Vitaly A. Volpert) **98b:76067** 76S05 (35K55, 35Q35, 76E99)
— (*with* Zlotnik, V. A.; Cohn, Steve) Transport in fractured porous media with time-periodic boundary conditions. (English summary) *Math. Comput. Modelling* **24** (1996), *no.* 9, 1–9. (Hong Fei Zhang) **98e:76101** 76S05 (35K65, 35Q35)
— Stability of wavefronts in a variable porosity model. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 6, 83–89. 35K55 (35B35, 35Q35, 76Rxx, 76S05)
Logar, Alessandro (*with* Guarrera, Silvia; Mezzetti, Emilia) An algorithm for computing minimal curves. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 4, 285–296. (Juan C. Migliore) **98a:14046** 14H50 (14M06)
Logemann, Hartmut (*with* Townley, Stuart) Discrete-time low-gain control of uncertain infinite-dimensional systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 1, 22–37. (Carlos S. Kubrusly) **98a:93034** 93C05 (93C25, 93C55)
— (*with* Curtain, Ruth F.; Townley, Stuart; Zwart, Hans) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 4, 439–476. (Rabah Rabah) **98h:93015** 93C25 (47D06, 47N70, 93D15)
— Destabilizing effects of small time delays on feedback-controlled descriptor systems. (English summary) *Linear Algebra Appl.* **272** (1998), 131–153. (R. F. Datko) **98k:93086** 93D09 (34K35, 93B52)
Loginov, B. V. (*with* Karpova, S. A.; Trenogin, V. A.) Bifurcation, symmetry and parameter continuation in some problems about capillary-gravity waves. (English summary) *Progress in industrial mathematics at ECMI 96 (Lyngby, 1996)*, 432–439, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98e:00021**) 76B15 (47H15, 76B45, 76W05)
— (*with* Trenogin, V. A.) Branching equation of Andronov-Hopf bifurcation under group symmetry conditions. (English summary) *Chaos* **7** (1997), *no.* 2, 229–238. (Peter Ashwin) **98h:58131** 58F14 (34C23, 34C25, 35B10)
Loginov, Evgenii K. On nonassociative gauge fields. (English summary) *New frontiers in algebras, groups and geometries (Monteroduni, 1995)*, 97–106, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Vladislav Goldberg) **98d:53105** 53C80 (20N05, 81T13)
— Linear representations of analytic Moufang loops. (English summary) *Algebras Groups Geom.* **13** (1996), *no.* 4, 471–477. 20N05

Logofet, D. O. Structural openness of subsets of stable matrices. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 2, 169–171. (Mihail Voicu) **98c:15031** 15A18 (34D20)

Logue, Joseph C. From vacuum tubes to very large scale integration: a personal memoir. (English summary) *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 3, 55–68. 68–03 (01A60)

Logunov, A. A. Post-Newtonian approximation in the relativistic theory of gravity. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 163–174; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1319–1328 (1996). 83D05

— Classical gravitational field theory and Mach principle. *Gravity, particles and space-time*, 173–205, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. N. Obukhov) **98h:83075** 83D05 (83C99)

— On the article by Henri Poincaré: "On the dynamics of the electron" [C. R. Acad. Sci. Paris **140** (1905), 1504–1508; Rend. Circ. Mat. Palermo **21** (1906), 129–175]. (English summary) Poincaré's papers translated from the French by G. Pontecorvo. *Hadronic J.* **19** (1996), *no.* 2, 109–183. (Yu. N. Obukhov) **98c:83001** 83–03 (01A60, 78–03, 78A35, 83A05)

— (*with* Mestvirishvili, M. A.) The energy-momentum tensor of matter as a source of a gravitational field. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 1, 5–24; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 1, 2–17. (Valery V. Obukhov) **98h:83076** 83D05

— (*with* Mestvirishvili, M. A.) On the impossibility of gravitational collapse in the relativistic theory of gravitation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 2, 324–336; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 2, 1056–1067 (1998). (Summary) **98f:83090** 83D05

Logunov, S. A. On hereditary normality of compactifications. (English summary) *Topology Appl.* **73** (1996), *no.* 3, 213–216. (Summary) **98g:54053** 54D35

Loh, Ai-Poh (*with* Annaswamy, Anuradha M.; Skantze, Fredrik P.) Adaptive control of continuous time systems with convex/concave parametrization. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 1, 33–49. (Summary) **98m:93064** 93C40 (93D99)

Loh, Wei-Liem On Latin hypercube sampling. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 2058–2080. (M. Hušková) **98k:62008** 62D05 (62E20, 62G15)

— (*with* Zhang, Cun-Hui) Global properties of kernel estimators for mixing densities in discrete exponential family models. (English summary) *Statist. Sinica* **6** (1996), *no.* 3, 561–578. (Ulrich Stadtmüller) **98c:62069** 62G05 (62G20)

— Linear discrimination with adaptive ridge classification rules. (English summary) *J. Multivariate Anal.* **62** (1997), *no.* 2, 169–180. (A. D. Gordon) **98m:62179** 62H30 (62E20)

— (*with* Zhang, Cun-Hui) Estimating mixing densities in exponential family models for discrete variables. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 1, 15–32. (Patricia B. Cerrito) **98c:62070** 62G05

— Estimating the integral of a squared regression function with Latin hypercube sampling. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 4, 339–349. (Mir Masoom Ali) **98b:62012** 62D05 (62G05, 62G20)

Loh, Wei-Yin (*with* Shih, Yu-Shan) Split selection methods for classification trees. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 815–840. (Summary) **98h:62109** 62H30

Lohani, A. B. (*with* Pant, R. P.; Joshi, J. M. C.; Pande, N. K.; Pandalia, S.) A fixed point theorem for sequences of mappings. (English summary) *Ganita* **48** (1997), *no.* 2, 105–113. 54H25

Lohani, P. C. (*with* Badshah, V. H.) Common fixed point theorem in complete metric space. (English summary) *Ultra Sci. Phys. Sci.* **9** (1997), *no.* 2, 272–275. 54H25

Lohe, M. A. (*with* Biedenharn, Lawrence C.) Quantum groups as a model of quantized space. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 343–351, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98b:81091** 81R50 (17B37)

— (*with* Biedenharn, Lawrence C.) A concise introduction to quantum groups. *Quantum groups and their applications in physics* (*Varenna*, 1994), 1–52, *Proc. Internat. School Phys. Enrico Fermi*, 127, *IOS, Amsterdam*, 1996. (Alexei Zhedanov) **98a:81073** 81R50 (16W30, 17B37)

Lohinger, E. (*with* Contopoulos, G.; Voglis, N.; Efthymiopoulos, C.; Froeschlé, Claude; Gonczi, Robert; Lega, Elena; Dvorak, Rudolf) Transition spectra of dynamical systems. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 4, 293–317. (Simos Ichtiaroglou) **98m:70029** 70K50 (58F05, 58F13, 70H05)

Lohmann, Adolf W. (*with* Mendlovic, David; Shabtay, Gal) Significance of phase and amplitude in the Fourier domain. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 11, 2901–2904. (Summary) **98i:78005** 78A05

Lohmann, Thomas W. Numerical parameter estimation in a kinetic model of coal pyrolysis. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 2, 141–166. 80A30

Löhner, Rainald Automatic unstructured grid generators. (English summary) Adaptive meshing, Part 1. *Finite Elem. Anal. Des.* **25** (1997), *no.* 1-2, 111–134. (*see* **98a:65003**) 65M55 (76M10)

— On some outstanding issues in CFD (1996). (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 195–212, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 76Mxx (65Mxx)

Lohoue, Noël Estimées L^p des solutions de l'équation des ondes sur les variétés riemanniennes, les groupes de Lie et applications. (English summary) [L^p-estimates of solutions of wave equations on Riemannian manifolds, Lie groups and applications] *Harmonic analysis and number theory* (*Montreal, PQ*, 1996), 103–126, *CMS Conf. Proc.*, 21, *Amer. Math. Soc., Providence, RI*, 1997. (Gerald B. Folland) **98j:58120** 58G16 (22E30, 35B45, 35L15)

— (*with* Chayet, Maurice) Sur la cohomologie L^p des variétés. (English and French summaries) [On the L^p cohomology of manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 2, 211–213. (J. S. Joel) **98b:58008** 58A14 (22E45, 53C20)

Loi, Phan H. On automorphisms of subfactors. (English summary) *J. Funct. Anal.* **141** (1996), *no.* 2, 275–293. (Jeong Hee Hong) **98b:46082** 46L37 (46L40)

— A structural result of irreducible inclusions of type III_λ factors, $\lambda \in (0, 1)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2651–2662. (Summary) **98k:46102** 46L37

Loi, Tu Lê Thom stratifications for functions definable in o-minimal structures on $(\mathbf{R}, +, \cdot)$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 12, 1391–1394. (Christopher L. Miller) **98i:32009** 32B20 (03C65, 14P10, 32S15)

Loide, R.-K. (*with* Ots, I.; Saar, R.) Bhabha relativistic wave equations. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 4005–4017. (Jorge Goncalves Cardoso) **98f:81105** 81R20

Loidl, H.-W. (*with* Trinder, P. W.; Hammond, Kevin; Peyton Jones, S. L.) Algorithm + strategy = parallelism. (English summary) *J. Funct. Programming* **8** (1998), *no.* 1, 23–60. 68Q10 (68N05)

Loinger, A. A remark on Dirac's magnetic monopoles. (English summary) *Nuovo Cimento A* (11) **109** (1996), *no.* 11, 1609–1611. (Bernd J. Schroers) **98a:81263** 81V10

— On the conservation theorems in classical field theory. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **110** (1997), *no.* 3, 341–345. (Hans P. Künzle) **98j:83035** 83C40 (58E50, 83D05)

Lois, Susana (*with* Cabada, Alberto) Maximum principles for fourth and sixth order periodic boundary value problems. *Nonlinear Anal.* **29** (1997), *no.* 10, 1161–1171. (Iuliu Dan Coroian) **98k:34027** 34B15

Loiseau, Jean-Jacques (*with* Bonilla Estrada, M.; Baquero S., Rafael) A geometric proof of Rosenbrock's theorem on pole assignment. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 4, 357–370. (K. B. Datta) **98j:93049** 93B55 (93B29)

Lo Iudice, N. (*with* Raïchev, P. P.; Roussev, R. P.; Terziev, P. A.; Bonatsos, Dennis) Simplified boson realization of the $so_q(3)$ subalgebra of $u_q(3)$ and matrix elements of $so_q(3)$ quadrupole operators. (English summary) *J. Phys. A* **29** (1996), *no.* 21, 6939–6949. (Joris Van der Jeugt) **98b:81102** 81R50 (17B37, 81V35)

— (*with* Raïchev, P. P.; Roussev, R. P.; Terziev, P. A.) Action of classical operators on $so_q(3) \subset u_q(3)$ basis states. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4383–4392. (Joris Van der Jeugt) **98f:81139** 81R50 (17B37)

Loizou, George (*with* Levene, Mark) Categorisation of computable database queries. (English summary) *Fund. Inform.* **27** (1996), *no.* 4, 319–348. (Minoru Ito) **98c:68048** 68P15 (03D10, 03D80, 68Q05)

— (*with* Levene, Mark) The additivity problem for functional dependencies in incomplete relations. (English summary) *Acta Inform.* **34** (1997), *no.* 2, 135–149. (Summary) **98e:68047** 68P15

— (*with* Levene, Mark) Null inclusion dependencies in relational databases. (English summary) *Inform. and Comput.* **136** (1997), *no.* 2, 67–108. (Marc Gyssens) **98g:68035** 68P15

Łojasiewicz, Stanisław (*with* Tougeron, J.-Cl.; Zurro, M. A.) Éclatement des coefficients des séries entières et deux théorèmes de Gabrielov. (English summary) [Blowup of the coefficients of power series and two theorems of Gabrielov] *Manuscripta Math.* **92** (1997), *no.* 3, 325–337. (Patrice Orro) **98d:32006** 32B20 (14P15)

Łojczyk-Królikiewicz, Irena The elliptic systems of differential-functional inequalities. (Polish summary) *The limit problems for differential equations*, 185–197, *Monogr.*, 118, *Cracow Univ. Tech., Kraków*, 1991. (Ya. A. Roĭtberg) **98c:35172** 35R45 (35J45, 35R10)

Lok, Tat M. (*with* Wong, Tan F.; Lehnert, James S.; Zoltowski, Michael D.) A linear receiver for direct-sequence spread-spectrum multiple-access systems with antenna arrays and blind adaptation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 659–676. 94A05

Lokajíček, M. (*with* Revzen, M.; Mann, Ady) Bell's inequality and operators' noncommutativity. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, 501–506. (Emilio Santos) **98j:81017** 81P05

Lokhorst, Gert-Jan C. Reasoning about actions and obligations in first-order logic. (English summary) Papers in deontic logic (Oslo, 1994). *Studia Logica* **57** (1996), *no.* 1, 221–237. (Charles F. Kielkopf) **98g:03054** 03B45 (68T35)

Lokketangen, Arne (*with* Glover, Fred) Surrogate constraint analysis—new heuristics and learning schemes for satisfiability problems. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 537–572, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98i:68016**) 90C10 (90C35, 90C90)

Lokshin, A. A. (*with* Sagomonyan, E. A.; Enikeeva, L. G.) On the factorization of an equation of a nonlinear oscillator. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 90–92. 34A05 (70K99)

— (*with* Lopatnikov, S. L.; Saakyan, A. S.) On the method of projectively contracting mappings. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 79–81. (Anton Suhadolc) **98c:47011** 47A50 (47H09)

Loktev, S. A. (*with* Feĭgin, B. L.) Cohomology of nilpotent subalgebras of the algebra $\widehat{sl}_2$. (Russian) *Funktsional. Anal. i Prilozhen.* **30** (1996), *no.* 4, 80–83; *translation in Funct. Anal. Appl.* **30** (1996), *no.* 4, 285–287 (1997). (Elena Poletaeva) **98a:17033** 17B56 (17B55)

Lokutsievskiĭ, O. V. (*with* Gavrikov, M. B.) ★ Начала численного анализа. (Russian. Russian summary) [Elements of numerical analysis] With a preface by V. M. Tikhomirov. *TOO "Yanus"*, *Moscow*, 1995. 581 *pp. ISBN* 5-88929-004-5 (W. Govaerts) **98f:65001** 65–01

Loll, R. (*with* Mourão, José; Tavares, J. N.) Symplectic reduction via complex group actions. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 291–304, *World Sci. Publishing, River Edge, NJ*, 1994. (Raúl Ibáñez) **98f:58043** 58D19 (58F05)

— Real alternative to quantum gravity in loop space. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 8, 5381–5384. (Jorge A. Pullin) **98b:83040** 83C45 (83C05)

— Further results on geometric operators in quantum gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1725–1741. (Jorge A. Pullin) **98f:83045** 83C45

— Simplifying the spectral analysis of the volume operator. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 405–420. (Jorge A. Pullin) **98f:83046** 83C45

— Latticing quantum gravity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 255–258. (Summary) **98h:83020** 83C27 (83C45)

— Imposing $\det E > 0$ in discrete quantum gravity. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 227–232. (Viqar Husain) **98c:83037** 83C45 (81V17)

strejilevich de Loma, Alejandro *see* **Strejilevich de Loma, Alejandro**

Lomadze, G. On the number of representations of positive integers by a direct sum of binary quadratic forms with discriminant -23. (English summary) *Georgian Math. J.* **4** (1997), *no.* 6, 523–532. (Vladimir G. Zhuravlev) **98j:11026** 11E25 (11E20, 11F11)

Lomadze, N. G. On McEliece's theorem. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 451–460. 94B05

Lomadze, Vakhtang Linear system theory: an algebraist's point of view. (English summary) *Systems Control Lett.* **29** (1996), *no.* 2, 73–79. (Heide Glüsing-Lüerßen) **98b:93019** 93B25 (93B10, 93B15, 93B20)

Lomas, Mark *see* **Security protocols, 98e:94001**

Lomazova, Irina A. On occurrence net semantics for Petri nets with contacts. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 317–328, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (*see* **98i:68007**) 68Q90

garcia Lomba, Guillermo *see* **García Lomba, Guillermo**

Lombard, F. (*with* Hart, Jeffrey D.) The analysis of change-point data with dependent errors. (English summary) *Change-point problems* (*South Hadley, MA*, 1992), 194–209, *IMS Lecture Notes Monogr. Ser.*, 23, *Inst. Math. Statist., Hayward, CA*, 1994. (*see* **98e:62008**) 62G20 (62M10, 62M15)

Lombard, R. J. (*with* Lassaut, M.) A sufficient condition for the existence of bound states for scalar spherically symmetric potentials. (English summary) *J. Phys. A* **30** (1997), *no.* 7, 2467–2481. (François Nicoleau) **98g:81032** 81Q10 (81U05)

Lombardi, Henri (*with* Emiris, Ioannis Z.; Galligo, André) Numerical univariate polynomial GCD. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 323–343, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Maurice Mignotte) **98a:68105** 68Q40 (65D15, 65Y20)

— Le contenu constructif d'un principe local-global avec une application à la structure d'un module projectif de type fini. (French summary) [Constructive content of a local-global principle with an application to the structure of a finitely generated projective module] *Théorie des nombres, Années* 1994/95–1995/96, 34 *pp.*, *Publ. Math. Fac. Sci. Besançon, Univ. Franche-Comté, Besançon*, 1997. (Fred Richman) **98d:13008** 13C10 (03F65)

— (*with* Emiris, Ioannis Z.; Galligo, André) Certified approximate univariate GCDs. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 229–251. (Miodrag Petković) **98f:65135** 65Y20 (13P99, 15A18, 68Q40)

— (*with* González-Vega, Laureano) Smooth parametrizations for several cases of the Positivstellensatz. *Math. Z.* **225** (1997), *no.* 3, 427–451. (Thomas C. Craven) **98d:14072** 14P10 (12D15)

— (*with* González-Vega, Laureano; Mahé, Louis) Virtual roots of real polynomials. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 147–166. (Alain Jacquemard) **98k:14077** 14P05 (14Q05)

Lombardi, Marco (*with* Cinquini, C.) Anti-optimization technique to include uncertainties in structural optimization problems. (English summary) Shape optimization and scientific computations (Warsaw, 1995). *Control Cybernet.* **25** (1996), *no.* 5, 1033–1050. (*see* **98b:49004**) 73K40 (49Q15)

lim-Lombridas, Edwin *see* **Lim-Lombridas, Edwin**

Lomdahl, Peter S. (*with* Beazley, David M.; Grønbech-Jensen, Niels; Giles, Roscoe; Tamayo, Pablo) Parallel algorithms for short-range molecular dynamics. (English summary) *Annual reviews of computational physics, III*, 119–175, *Annual Rev. Comput. Phys., III, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98b:82075**) 82C80

Lomeli, Hector E. Applications of the Melnikov method to twist maps in higher dimensions using the variational approach. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 2, 445–462. (Vassili G. Gelfreich) **98c:58151** 58F30 (34C37)

Lominadze, J. G. (*with* Chagelishvili, G. D.; Chanishvili, R. G.; Tevzadze, A. G.) Magnetohydrodynamic waves linear evolution in parallel shear flows: amplification and mutual transformations. (English summary) *Phys. Plasmas* **4** (1997), *no.* 2, 259–269. (Summary) **98b:76078** 76W05 (85A30)

Lomonaco, Luciano A remark on the generalized Adem relations. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 193–195. 55P99

— Linear invariance and Adem relations. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 801–807. (Vincent Giambalvo) **98i:55019** 55S10

— The diagonal cohomology of the universal Steenrod algebra. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 315–323. (Donald M. Davis) **98f:55016** 55S10 (18G15, 55T15)

Lomonosov, V. On stability of non-negative invariant subspaces. (English summary) *New results in operator theory and its applications*, 186–189, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (John P. Daughtry) **98j:47078** 47B50 (47A15)

— (*with* Lyubich, Yu. I.; Matsaev, V.) The duality of spectral manifolds and local spectral theory. *New results in operator theory and its applications*, 190–207, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Ridgley Lange) **98j:47009** 47A15 (47A11, 47A65)

Lomov, A. A. On the limit value of the transfer function of a linear matrix differential equation at infinity. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 25–29; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1709–1712 (1997). (Summary) **98m:34127** 34H05 (93C15)

Lomov, I. S. The basis property for root functions of second-order differential operators. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 595–598. (Zoran Kadelburg) **98j:34167** 34L10 (47E05)

Lomtatidze, A. Oscillation and nonoscillation criteria for second-order linear differential equations. (English summary) *Georgian Math. J.* **4** (1997), *no.* 2, 129–138. (Uri Elias) **98d:34062** 34C10

Lonc, Zbigniew On the complexity of some edge-partition problems for graphs. (English summary) *Discrete Appl. Math.* **70** (1996), *no.* 2, 177–183. (Pavol Hell) **98g:05110** 05C70 (05C85)

— Clique packings and clique partitions of graphs without odd chordless cycles. (English summary) *Discuss. Math. Graph Theory* **16** (1996), *no.* 2, 143–149. (Summary) **98a:05118** 05C70

— (*with* Bryś, Krzysztof) Clique and anticlique partitions of graphs. (English summary) *Graph-theoretic concepts in computer science* (*Cadenabbia*, 1996), 67–72, *Lecture Notes in Comput. Sci.*, 1197, *Springer, Berlin*, 1997. (Summary) **98f:05136** 05C85 (05C70, 68R10)

— Edge decomposition into isomorphic copies of $sK_{1,2}$ is polynomial. (English summary) *J. Combin. Theory Ser. B* **69** (1997), *no.* 2, 164–182. (Mirosław Truszczyński) **98e:05101** 05C85 (05C70, 68Q25, 68R10)

— (*with* Parol, Krzysztof; Wojciechowski, Jacek M.) On the asymptotic behavior of the maximum number of spanning trees in circulant graphs. (English summary) *Networks* **30** (1997), *no.* 1, 47–56. (Summary) **98f:05079** 05C30 (05C05)

— (*with* Bryś, Krzysztof) Clique and anticlique partitions of graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 41–49. (Summary) **98m:05142** 05C70 (05C85)

Lončar, Ivan Set convergence and local connectedness of approximate limit. *Acta Math. Hungar.* **77** (1997), *no.* 3, 193–213. (M. Hušek) **98k:54014** 54B35 (54D05, 54D20, 54F15)

— Local connectedness of approximate limit spaces. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 275–290. (Summary) **98k:54015** 54B35 (54D05)

Londen, S.-O. (*with* Cockburn, Bernardo; Gripenberg, G.) On convergence to entropy solutions of a single conservation law. (English summary) *J. Differential Equations* **128** (1996), *no.* 1, 206–251. (Summary) **98c:35107** 35L65 (45K05)

— (*with* Gripenberg, G.; Prüss, Jan) On a fractional partial differential equation with dominating linear part. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 16, 1427–1448. (Hana Petzeltová) **98g:45013** 45K05 (35D05, 35K55)

London, David A determinantal inequality and its permanental counterpart. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 4, 281–290. (Summary) **98h:15011** 15A15

London, R. R. (*with* Nasr, M. A. M.) A radius problem for functions whose derivative takes values in a half plane. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 2, 225–236. (T. H. MacGregor) **98f:30014** 30C45 (30C80)

Lone, Amjad (*with* Lerner, Bores; Rao, Murali) On generalized Poisson distributions. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 377–385 (19*N*). (Summary) **98i:60011** 60E05 (62E15)

nguyen thanh Long *see* **Nguyen Thanh Long**

Long, Andrew E. (*with* Myers, Donald E.) A new form of the cokriging equations. (English summary) *Math. Geol.* **29** (1997), *no.* 5, 685–703. (Summary) **98b:86016** 86A32

Long, Calvin (*with* Swenson, Carl) Necessary and sufficient conditions for simple $\mathfrak{A}$-bases. *Notes Number Theory Discrete Math.* **2** (1996), *no.* 2, 27–39. (Georges Grekos) **98b:11007** 11B13 (11A63)

Long, Darren D. (*with* Maclachlan, C.; Reid, Alan W.) Splitting groups of signature $(1;n)$. *J. Algebra* **185** (1996), *no.* 2, 329–341. (Peter J. Nicholls) **98c:20096** 20H10 (22E40, 30F35)

— (*with* Oertel, Ulrich) Hyperbolic surface bundles over the circle. *Progress in knot theory and related topics*, 121–142, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Ken-ichi Ohshika) **98m:57022** 57N10

— (*with* Cooper, Daryl) The A-polynomial has ones in the corners. *Bull. London Math. Soc.* **29** (1997), *no.* 2, 231–238. (Sergej V. Matveev) **98f:57026** 57N10 (57M50)

— (*with* Reid, Alan W.) Simple quotients of hyperbolic 3-manifold groups. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 877–880. (Danny C. Calegari) **98e:57022** 57M50 (20F32, 57N10)

— (*with* Cooper, Daryl) Foliations of some 3-manifolds which fiber over the circle. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 925–931. (Athanase Papadopoulos) **98e:57021** 57M50 (57M60, 57N10, 57R30, 57S30)

Long, David E. (*with* Godefroid, Patrice) Symbolic protocol verfication with queue BDDs. (English summary) *11th Annual IEEE Symposium on Logic in Computer Science* (*New Brunswick, NJ*, 1996), 198–206, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1996. (*see* **98a:68006**) 68Q60

— (*with* Browne, Anca; Clarke, Edmund M.; Jha, Somesh; Marrero, W.) An improved algorithm for the evaluation of fixpoint expressions. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 237–255. (Summary) **98b:68110** 68Q60

Long, Dong Yang (*with* Ma, Jian; Zhou, Duanning) Structure of 3-infix–outfix maximal codes. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 231–240. (Summary) **98f:68157** 68Q45 (20M05)

Long, Hongwei On the rates of convergence in the central limit theorem for two-parameter martingale differences. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 3, 287–295. (Thomas Mikosch) **98c:60025** 60F05 (60G60)

— Anticipating quadrant and symmetric integrals in the plane with application to Wiener space. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 1–11. (Marta Sanz Solé) **98f:60106** 60H05

Long, Jonathan R. (*with* Gallant, A. Ronald) Estimating stochastic differential equations efficiently by minimum chi-squared. (English summary) *Biometrika* **84** (1997), *no.* 1, 125–141. (Shao Zhong Cheng) **98m:62222** 62M05

Long, Lyle N. (*with* Nwobi, Obika C.; Micci, Michael M.) A parallel method for predicting supercritical fluid transport properties. (English summary) *Proceedings of the Eighth SIAM Conference on Parallel Processing for Scientific Computing* (*Minneapolis, MN*, 1997), 8 *pp.* (*electronic*), *SIAM, Philadelphia, PA*, 1997. (*see* **98h:65004**) 65M60

Long, Nguyen Thanh *see* **Nguyen Thanh Long**

Long, Philip M. Improved bounds about on-line learning of smooth functions of a single variable. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 26–36, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (Summary) **98h:68198** 68T05 (68Q25)

— (*with* Bartlett, Peter L.; Williamson, Robert C.) Fat-shattering and the learnability of real-valued functions. (English summary) Seventh Annual Workshop on Computational Learning Theory (COLT) (New Brunswick, NJ, 1994). *J. Comput. System Sci.* **52** (1996), *no.* 3, *part* 1, 434–452. (John Shawe-Taylor) **98i:68234** 68T05 (62F11, 62F25, 65D10)

— (*with* Barve, Rakesh D.) On the complexity of learning from drifting distributions. (English summary) *Inform. and Comput.* **138** (1997), *no.* 2, 170–193. (Peter Auer) **98m:68226** 68T05

Long, Ru Jun (*with* Ye, Zhong Xing) Interval prediction for chaotic time series. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 2, 7–12. (Summary) **98c:58114** 58F13

Long, Ruilin (*with* Chen, Wen[2]; Yuan, Shenglan) Wavelets generated by vector multiresolution analysis. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 3, 317–350. (Ding-Xuan Zhou) **98m:42052** 42C15

— (*with* Chen, Wen[2]) Wavelet basis packets and wavelet frame packets. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 3, 239–256. (Hans W. Volkmer) **98c:42033** 42C15

Long, Shun Chao (*with* Wang, Jian[1]) Fractional integrals on Hardy spaces associated with Herz spaces. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 116–118. (Summary) **98g:42030** 42B25 (26A33, 42B30, 44A15, 47G10)

— (*with* Wang, Jian[1]) A φ-Khinchin inequality. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 104–106. 42C10 (42B20)

— (*with* Wang, Jian[1]) Some Φ-inequalities on spaces of homogeneous type. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 2, 24–32.

42B20

Long, Tianyong (*with* Gupta, Rameshwar D.) Alternative linear classification rules under order restrictions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 559–575. 62H30

Long, Wei Jiang (*with* Wang, Rong Xin) Weak convergence theorems for a multiserver queueing system in a nonpreemptive priority discipline. (Chinese. English summary) *Acta Math. Appl. Sinica* **17** (1994), *no.* 2, 192–200. 90B22

Long, Yi (*with* Xiang, Ren Miao; Yang, Zhi Huan) A generalization of Z. D. Yang's theorem. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 2, 27–28. 54A05

Long, Yiming On the minimal period for periodic solution problem of nonlinear Hamiltonian systems. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 481–484. (Addolorata Salvatore) **98k:58187** 58F22 (34C25, 58E05, 70H05)

Longhi, Jussara (*with* Borges, Manoel Ferreira) Exterior covariant derivatives for an extended Cartan theory. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 91–96. (Summary) **98g:83091** 83E15

Longhi, Sauro (*with* Grasselli, O. M.; Jetto, Leopoldo) Ripple-free dead-beat tracking for multirate sampled-data systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1437–1455. 93C57 (93B52)

— (*with* Jetto, Leopoldo) The invariant polynomial assignment problem for linear periodic discrete-time systems. (English summary) New directions in control and automation, I (Limassol, 1995). *Kybernetika (Prague)* **32** (1996), *no.* 6, 615–624. (T. Kaczorek) **98a:93030** 93B55 (93C55)

Longley, James W. (*with* Longley, Roger D.) Accuracy of Gram-Schmidt orthogonalization and Householder transformation for the solution of linear least squares problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 4, 295–303. 65F25

Longley, John R. (*with* Simpson, Alex K.) A uniform approach to domain theory in realizability models. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 469–505. (Guo-Qiang Zhang) **98m:68168** 68Q55 (18B99, 68N15)

Longley, Roger D. (*with* Longley, James W.) Accuracy of Gram-Schmidt orthogonalization and Householder transformation for the solution of linear least squares problems. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 4, 295–303. 65F25

Longman, Richard (*with* Schulz, Volker; Bock, Hans Georg) Computer-aided motion planning for satellite mounted robots. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 733–755. (Summary) **98m:70009** 70B15 (70–04, 70Q05, 93C85)

Longo, E. (*with* Preziosi, L.) On a conservative polar discretization of the Boltzmann equation. (English summary) *Japan J. Indust. Appl. Math.* **14** (1997), *no.* 3, 399–435. (Anne Nouri) **98k:82160** 82C40 (76P05, 82C80)

Longo, Roberto (*with* Guido, Daniele) The conformal spin and statistics theorem. (English summary) *Comm. Math. Phys.* **181** (1996), *no.* 1, 11–35. (Gerald Hofmann) **98c:81121** 81T05 (46N50, 81R05, 81T40)

— An analogue of the Kac-Wakimoto formula and black hole conditional entropy. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 451–479. (Stephen J. Summers) **98g:81119** 81T05 (46L60, 81T20, 83C57)

— (*with* Roberts, John E.) A theory of dimension. (English summary) *K-Theory* **11** (1997), *no.* 2, 103–159. (Sze-Kai Tsui) **98i:46065** 46L37 (18D10, 46M15, 81T05)

— *see also* **Operator algebras and quantum field theory, 98h:00032**

Longobardi, P. (*with* Berkovich, Yakov G.; Maj, M.) Finite and locally solvable periodic groups with given intersections of certain subgroups. (English summary) *Note Mat.* **14** (1994), *no.* 2, 147–154 (1997). (A. H. Rhemtulla) **98d:20035** 20F16

— (*with* Maj, M.; Rhemtulla, Akbar H.) Subclasses of locally minimax groups closed under normal joins. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 2, 341–347. (Howard Smith) **98a:20033** 20F19 (20E22)

Longpré, Luc (*with* Buhrman, Harry) Compressibility and resource bounded measure. (English summary) *STACS 96 (Grenoble, 1996)*, 13–24, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **98e:68072** 68Q15

— (*with* Kreinovich, Vladik) Nonstandard (non-σ-additive) probabilities in algebraic quantum field theory. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 7, 1601–1615. (Robert Fittler) **98i:81031** 81P99 (03H10, 81T05)

— (*with* Kreinovich, Vladik) Human visual perception and Kolmogorov complexity: revisited. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 155–158. 68Q30 (68T99)

Longstaff, W. E. (*with* Lambrou, M. S.) Non-reflexive pentagon subspace lattices. (English summary) *Studia Math.* **125** (1997), *no.* 2, 187–199. (Timothy D. Hudson) **98f:47006** 47A15

Longtin, André (*with* Mensour, Boualem) Power spectra and dynamical invariants for delay-differential and difference equations. (English summary) *Phys. D* **113** (1998), *no.* 1, 1–25. (Summary) **98j:34144** 34K15 (34D45, 58F13, 58F40)

bories-Longuet, Francette *see* **Bories-Longuet, Francette**

Longuet-Higgins, H. Christopher (*with* Fisher, Michael Ellis) Lars Onsager (27 November, 1903–5 October, 1976). *The collected works of Lars Onsager*, 9–34, *World Sci. Ser. 20th Century Phys.*, 17, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98b:01042**) 01A70

Longuet-Higgins, Michael S. (*with* Dommermuth, Douglas G.) Crest instabilities of gravity waves. III. Nonlinear development and breaking. (English summary) *J. Fluid Mech.* **336** (1997), 33–50. (Summary) **98c:76014** 76B15 (76E30, 76E99)

— (*with* Tanaka, Mitsuhiro) On the crest instabilities of steep surface waves. (English summary) *J. Fluid Mech.* **336** (1997), 51–68. (Summary) **98c:76015** 76B15 (76E20, 76E99, 86A05)

— Viscous dissipation in steep capillary-gravity waves. (English summary) *J. Fluid Mech.* **344** (1997), 271–289. (Summary) **98h:76033** 76D33 (76B15, 76D45)

— (*with* Zhang, Xin) Experiments on capillary-gravity waves of solitary type on deep water. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1963–1968. (Summary) **98d:76002** 76–05 (76B15, 76B25, 76B45)

— Particle drift near an oscillating bubble. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1962, 1551–1568. (Summary) **98f:76068** 76Q05 (76D99)

— Vorticity and curvature at a free surface. (English summary) *J. Fluid Mech.* **356** (1998), 149–153. (Summary) **98m:76047** 76C99 (76D99)

Lonie, Andrew (*with* Aldred, R. E. L.; Berendsen, Carl; Holton, Derek; Stearne, Martin) Research into matching extensions: a class exercise. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 41–51. 05C70

Lonke, Yossi On the degree of generating distributions of centrally symmetric convex bodies. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 4, 343–349. (P. R. Goodey) **98i:52014** 52B12 (52A20, 52A21)

— On zonoids whose polars are zonoids. (English summary) *Israel J. Math.* **102** (1997), 1–12. (P. R. Goodey) **98m:52007** 52A21 (52A20)

Lönne, Michael On the diffeomorphism groups of elliptic surfaces. (English summary) *Math. Ann.* **310** (1998), *no.* 1, 103–117. (Vicente Muñoz) **98j:57045** 57R50 (14J27, 57R55)

Loo, Bonaventure *see* **Geometry from the Pacific Rim, 98c:00011**

Looijenga, Eduard Cohomology and intersection homology of algebraic varieties. *Complex algebraic geometry (Park City, UT, 1993)*, 221–263, *IAS/Park City Math. Ser.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Konrad Drechsler) **98e:14019** 14F32 (14C21, 14D05, 14F25)

— Prym representations of mapping class groups. (English summary) *Geom. Dedicata* **64** (1997), *no.* 1, 69–83. (Ronnie Lee) **98m:57002** 57M10 (14H10, 20F38, 57N05)

— (*with* Lunts, Valery A.) A Lie algebra attached to a projective variety. (English summary) *Invent. Math.* **129** (1997), *no.* 2, 361–412. (Arnaud Beauville) **98m:14019** 14F25 (17B10, 32J27)

Lookman, T. (*with* Bhatti, F. M.; Brak, R.; Essam, J. W.) Series expansion analysis of the backbone properties of two-dimensional percolation clusters. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6215–6232. (Summary) **98k:82083** 82B43 (82–04, 82B27)

Loomis, Paul A. (*with* Abhyankar, Shreeram S.) Once more nice equations for nice groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 1885–1896. (James K. Deveney) **98k:12003** 12F12 (20B10)

van Loon, M. ★ Numerical methods in smog prediction. CWI Tract, 120. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1997. iv+149 *pp. ISBN* 90-6196-473-3 (H. Rasmussen) **98d:86002** 86–08 (65M55, 76M25)

Loos, Ottmar Trace and norm for reduced elements of Jordan pairs. *Comm. Algebra* **25** (1997), *no.* 9, 3011–3042. (Alain D'Amour) **98f:17020** 17C10 (17C65)

Loose, Frank Liouville forms in a neighborhood of an isotropic embedding. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 1, 257–272. (Keizo Hasegawa) **98c:53040** 53C15 (58F05)

Lopanitsyn, E. A. (*with* Grigolyuk, È. I.) Finite deflections and snapping of thin elastic shallow panels. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 865–876; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 851–861. 73H05 (73K10)

Loparo, Kenneth A. (*with* Fang, Yuguang; Feng, Xiangbo) New estimates for solutions of Lyapunov equations. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 3, 408–411. (Kaiqi Xiong) **98a:93051** 93D05 (93C05)

Lopatin, A. K. (*with* Mitropol′skiĭ, Yuriĭ Alekseevich) Bogolyubov averaging and normalization procedures in nonlinear mechanics. I. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **46** (1994), *no.* 9, 1171–1188; *reprinted in Ukrainian Math. J.* **46** (1994), *no.* 9, 1287–1306 (1996). (Leonid V. Kalachev) **98e:34086** 34C29 (34E10, 70K99)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich) Bogolyubov averaging and normalization procedures in nonlinear mechanics. II. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **46** (1994), *no.* 11, 1509–1526; *reprinted in Ukrainian Math. J.* **46** (1994), *no.* 11, 1667–1687 (1996). (Leonid V. Kalachev) **98e:34087** 34C29 (34E10, 70K99)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich) Bogolyubov averaging and procedures of normalization in nonlinear mechanics. III. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **46** (1994), *no.* 12, 1627–1646; *reprinted in Ukrainian Math. J.* **46** (1994), *no.* 12, 1803–1826 (1996). (Leonid V. Kalachev) **98e:34088** 34C29 (34E10, 70K99)

— (*with* Mitropol′skiĭ, Yuriĭ Alekseevich) Bogoliubov averaging and procedures of normalization in nonlinear mechanics. IV. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **47** (1995), *no.* 8, 1044–1068; *reprinted in Ukrainian Math. J.* **47** (1995), *no.* 8, 1195–1221 (1996). (Leonid V. Kalachev) **98e:34089** 34C29 (34E10, 70K99)

— (*with* Belkina, S. R.) Nonlinear system normalization technique: asymptotic proximity of solutions on manifolds. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 7, 15–20. (From the text) **98g:34069** 34C20 (34C29)

— Normalization and averaging on compact Lie groups in nonlinear mechanics. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 47–67; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 1, 51–74. (Jair Koiller) **98d:34073** 34C29 (22E70, 34C20, 58F36)

Lopatnikov, S. L. (*with* Lokshin, A. A.; Saakyan, A. S.) On the method of projectively contracting mappings. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 3, 79–81. (Anton Suhadolc) **98c:47011** 47A50 (47H09)

Loper, K. Alan Ideals of integer-valued polynomial rings. *Comm. Algebra* **25** (1997), *no.* 3, 833–845. (Jean-Luc Chabert) **98d:13023** 13F05 (13A15, 13B25)

— Sequence domains and integer-valued polynomials. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 2, 185–210. (Jean-Luc Chabert) **98f:13017** 13F05 (13B25)

— A classification of all D such that $\mathrm{Int}(D)$ is a Prüfer domain. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 657–660. (Jean-Luc Chabert) **98g:13020** 13F05 (13F20)

Lopes, Artur (*with* Lopes, Silvia; Souza, Rafael) Spectral analysis of chaotic transformations. (English summary) *Rebrape* **10** (1996), *no.* 2, 151–179. (Summary) **98j:62066** 62M15 (58F13)

Lopes, Francisco R. (*with* Pontes, Ivaldo D. S.; Borges, Lavinia A.; Zouain, Nestor) An approach to limit analysis with cone-shaped yield surfaces. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 4011–4032. (Summary) **98h:73045** 73E20 (73N20, 73Q05, 73V05)

nussenzveig Lopes, H. J. *see* **Nussenzveig Lopes, H. J.**

mendes Lopes, Margarida *see* **Mendes Lopes, Margarida**

Lopes, Silvia (*with* Lopes, Artur; Souza, Rafael) Spectral analysis of chaotic transformations. (English summary) *Rebrape* **10** (1996), *no.* 2, 151–179. (Summary) **98j:62066** 62M15 (58F13)

Lopes Cardoso, G. *see* **Cardoso, Gabriel Lopes**

Lopes Cardoso, Gabriel *see* **Cardoso, Gabriel Lopes**

Lopes-Gomes, Yu. *see* **López-Gómez, Julián**

López, A. Vera *see* **Vera López, Antonio**

raya López, Agustín *see* **Raya López, Agustín**
López, Amparo Beauty and mathematics: concerning the word "symmetry". (Catalan. Catalan summary) *Butl. Soc. Catalana Mat.* **11** (1996), *no.* 1, 65–94. (J. S. Joel) **98b:00005** 00A05 (00A69, 20B25)
jeremías López, Ana *see* **Jeremías López, Ana**
Lopez, Angelo Felice (*with* Ciliberto, Ciro; Miranda, Rick) Some remarks on the obstructedness of cones over curves of low genus. *Higher-dimensional complex varieties* (*Trento*, 1994), 167–182, *de Gruyter, Berlin*, 1996. (Fyodor L. Zak) **98i:14006** 14C05 (14B07, 14J10)
vera López, Antonio *see* **Vera López, Antonio**
fernández López, Antonio[1] *see* **Fernández López, Antonio[1]**
gonzález-López, Artemio *see* **González-López, Artemio**
López, B. (*with* Kinzel, W.) Learning by dilution in a neural network. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7753–7764. 82C32 (92B20)
garcía-López, C. M. *see* **García-López, C. M.**
marijuán López, Carlos *see* **Marijuán López, Carlos**
López, Carlos A. Repulsive gravitation in the Kerr-Newman field. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1095–1098. (János Kánnár) **98j:83013** 83C10 (83C15)
martínez López, Consuelo *see* **Martínez López, Consuelo**
López, Esperanza (*with* Gómez, César) A note on the string analog of $N = 2$ super-symmetric Yang-Mills. (English summary) *Phys. Lett. B* **356** (1995), *no.* 4, 487–491. (Summary) **98b:81249** 81T60 (14J32, 32J81, 81T30)
— On the algebraic structure of the holomorphic anomaly for $\hat{c} = 3$ topological strings. *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 43–54; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 793–802 (1996). 81T30 (81T50)
— (*with* Gómez, César; Hernández, Rafael) $K3$ fibrations and softly broken $N = 4$ supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 109–133. (Angel Maria Uranga) **98k:81266** 81T60 (14J28, 14J32, 32J81, 81R40, 81T13, 81T30)
agulló-López, F. *see* **Agulló-López, F.**
vera-López, F. J. *see* **Vera-López, F. J.**
López, Francisco J. (*with* Martín, Francisco) Complete nonorientable minimal surfaces and symmetries. *Duke Math. J.* **79** (1995), *no.* 3, 667–686. (Yi Fang) **98b:53008** 53A10
— (*with* Ritoré, Manuel; Wei, Fusheng) A characterization of Riemann's minimal surfaces. (English summary) *J. Differential Geom.* **47** (1997), *no.* 2, 376–397. (Yi Fang) **98k:53011** 53A10 (30F15, 49Q20)
— Hyperbolic complete minimal surfaces with arbitrary topology. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 1977–1990. (Hirotaka Fujimoto) **98h:53013** 53A10
López, G. *see* **López, Ginés**
Lopez, Gérard (*with* Clarou, Emmanuel) Configurations inévitables dans un tournoi indécomposable. (English and French summaries) [Unavoidable configurations in an indecomposable tournament] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 11, 1201–1204. (Erol Barbut) **98c:05073** 05C20
rodríguez López, Gerardo *see* **Rodríguez López, Gerardo**
López, Ginés RNP and KMP are incomparable properties in noncomplete spaces. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **65** (1996), *no.* 2, 171–173. (G. J. O. Jameson) **98c:46025** 46B20 (46B22)
Lopez, H. (*with* Girault, V.; Glowinski, Roland) Error analysis of a finite element realization of a fictitious domain/domain decomposition method for elliptic problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 35–56. (Weimin Han) **98c:65195** 65N55 (65N30)
López, J. *see* **López-Gómez, Juan**
Lopez, J. Humberto The power of the ADF test. (English summary) *Econom. Lett.* **57** (1997), *no.* 1, 5–10. 62M10 (62E20, 62P20)
López, J. L. *see* **López, José L.**
Lopez, J. M. *see* **Lopez, Juan Manuel**
álvarez López, Jesús A. *see* **Álvarez López, Jesús A.**
Lopez, Jorge L. (*with* Li, Tianjun; Nanopoulos, D. V.) M-theory inspired no-scale supergravity. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 35, 2647–2653. 83E30 (81T30, 83E50)
López, José L. (*with* Soler, Juan) Scaling limits in the 3-D Schrödinger-Poisson system. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 61–65. (Summary) **98e:35046** 35J10 (81Q05, 81S30)
Lopez, Jose Luis *see* **López García, José Luis**
Lopez, Juan Manuel (*with* Marquès, F.) Taylor-Couette flow with axial oscillations of the inner cylinder: Floquet analysis of the basic flow. (English summary) *J. Fluid Mech.* **348** (1997), 153–175. (Summary) **98j:76037** 76E10
— (*with* Shen, Jie) Numerical simulation of incompressible flows in cylindrical geometries using a spectral projection method. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 25–40. 76M25
— (*with* Shen, Jie) An efficient spectral-projection method for the Navier-Stokes equations in cylindrical geometries. I. Axisymmetric cases. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 308–326. (Summary) **98m:76121** 76M25 (76D05)
López, Julio (*with* Mallol, Cristián; Serrato, Dany) Hanoi Towers: study of a class of algorithms. (English summary) *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 4, 383–388. (Summary) **98d:90150** 90D40 (65K10)
Lopez, L. *see* **Lopez, Luciano**
Lopez, L. F. *see* **Lopez, Luis Fernandez**
Lopez, Luciano (*with* Politi, T.) Numerical procedures based on Runge-Kutta methods for solving isospectral flows. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 443–459. (Summary) **98k:34021** 34A45 (58F07, 65L06)
— (*with* Diele, F.; Politi, T.) One step semi-explicit methods based on the Cayley transform for solving isospectral flows. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 219–223. 65L05 (34A12, 58F07, 65L06)
Lopez, Luis Fernandez (*with* Coutinho, F. A. B.) Motion of articulated bodies: an application of gauge invariance in classical Lagrangian mechanics. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 6, 528–536. (Richard Montgomery) **98i:70015** 70H35 (70E99, 70F99, 70G99)
Lopez, Luis-Miguel (*with* Narbel, Philippe) Generalized Sturmian languages. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 336–347, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98f:68224** 68R15 (57N05)
López, M. A. *see* **López, Marco Antonio**
gonzález-López, M. J. *see* **González-López, M. J.**
cachafeiro López, Ma. Alicia *see* **Cachafeiro López, Ma. Alicia**
barrantes Lopez, Manuel *see* **Barrantes Lopez, Manuel**
López, Marco Antonio (*with* Goberna, Miguel A.) A review of semi-infinite linear inequality systems. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 127–137, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98m:90167** 90C34
— (*with* Goberna, Miguel A.; Todorov, M. I.) Stability theory for linear inequality systems. II. Upper semicontinuity of the solution set mapping. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1138–1151. (Pierre Loridan) **98m:90152** 90C31 (15A39, 90C08, 90C34)
— (*with* Anderson, Edward J.; Goberna, Miguel A.) Locally polyhedral linear inequality systems. (English summary) *Linear Algebra Appl.* **270** (1998), 231–253. (Romesh Saigal) **98k:90054** 90C05 (90C25)
López, María Teresa (*with* López-García, Hortensia; Gil, María Angeles; Corral Blanco, Norberto) Estimating the fuzzy inequality associated with a fuzzy random variable in random samplings from finite populations. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 149–161. 62D05 (04A72)
martínez López, Pablo E. *see* **Martínez López, Pablo E.**
López, Rafael Surfaces of constant mean curvature bounded by two planar curves. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 3, 201–210. (Ricardo Sa Earp) **98k:53012** 53A10
— Surfaces of constant mean curvature bounded by convex curves. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 255–263. (Luis J. Alías) **98h:53014** 53A10
— A note on H-surfaces with boundary. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 80–84. (Ricardo Sa Earp) **98k:53013** 53A10
Lopez, S. An improvement of convergence in Newton's method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **145** (1997), *no.* 3-4, 323–327. (Summary) **98b:65051** 65H10 (65J10)
sotoca Lopez, Sonia *see* **Sotoca Lopez, Sonia**
gómez López, Susana *see* **Gómez López, Susana**
López, V. J. *see* **Jiménez López, Víctor**
jiménez López, Víctor *see* **Jiménez López, Víctor**
López-Blázquez, Fernando (*with* Barranco-Chamorro, I.; Moreno-Rebollo, J. L.) UMVU estimation for certain family of exponential distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 469–482. (Goetz Trenkler) **98b:62038** 62F10
— (*with* Salamanca Miño, Begoña) A characterization of the geometric distribution. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 231–236. 62E10
López-Bonilla, J. L. (*with* Gaftoi N., Violeta; Ovando Zúñiga, Gerardo; Peña, J. J.; Morales, Jesús) The Lanczos spintensor, null tetrads, and conformal transformations. (English summary) *J. Moscow Phys. Soc.* **6** (1996), *no.* 3, 267–278. (Patrick Dolan) **98f:83018** 83C20 (83C60)
— (*with* Ovando Zúñiga, Gerardo; Rivera-Rebolledo, J. M.) Generators for 4-potential and the Faraday's tensor of the Liénard-Wiechert field. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1355–1360. 78A25
— (*with* Núñez-Yépez, H. N.; Salas-Brito, A. L.) On the radiative part of the Maxwell tensor for a Liénard-Wiechert field. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3663–3669. (Summary) **98f:78013** 78A35
— (*with* Ovando Zúñiga, Gerardo; Rivera-Rebolledo, J. M.) Intrinsic geometry of curves and the Bonnor's equation. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 1, 43–55. (Volker Perlick) **98f:78012** 78A35 (83A05)
López Carmona, A. (*with* Barrera Rosillo, D.; Ibáñez Pérez, M. J.) Compactly supported fundamental functions for bivariate Hermite spline interpolation and triangular finite elements of HCT type. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 414–421, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65087**) 65D05 (41A63, 65D17)
López de Aráoz, Beatriz (*with* Santaló, Luis A.) Dr. Raul Ernesto Luccioni (1927–1997). (Spanish) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 159–160. 01A70
garcía López de Lacalle, Jesús *see* **García López de Lacalle, Jesús**
López de Màntaras, R. (*with* Godo, Lluis) From intervals to fuzzy truth-values: adding flexibility to reasoning under uncertainty. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 251–260. (Summary) **98b:68183** 68T30 (03B52, 03B70)
López de Medrano, Santiago (*with* Bromberg, Shirley) C^r-sufficiency of quasihomogeneous functions. *Real and complex singularities* (*São Carlos*, 1994), 179–188, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Maria Aparecida Soares Ruas) **98g:58011** 58C27
— (*with* Verjovsky, Alberto) A new family of complex, compact, non-symplectic manifolds. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 253–269. (G. K. Sankaran) **98g:32047** 32J18 (32G05, 57R22)
López de Silanes, María Cruz Convergence and error estimates for (m, l, s)-splines. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 373–384. (Summary) **98h:41010** 41A15 (65D07)
López-Díaz, Miguel (*with* Gil, María Angeles) Constructive definitions of fuzzy random variables. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 135–143. 60E99 (28B20, 28E10, 60D05)
— (*with* Gil, María Angeles) Approximating integrably bounded fuzzy random variables in terms of the "generalized" Hausdorff metric. (English summary) *Inform. Sci.* **104** (1998), *no.* 3-4, 279–291. 60E99 (04A72)
Lopez Fenner, Julio (*with* Pinto, Manuel) On the behaviour of a class of quasilinear (h, k) hyperbolic systems under linear perturbations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1165–1170. (From the introduction) **98k:34060** 34C11 (34D99)
López Fidalgo, Jesús F. (*with* Ardanuy Albájar, Ramón) Characterizing the general multivariate normal distribution through the conditional distributions. *Extracta Math.* **12** (1997), *no.* 1, 15–18. 62H05

López-García, Hortensia (*with* Corral Blanco, Norberto; Gil, María Angeles) The fuzzy hyperbolic inequality index of fuzzy random variables in finite populations. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 329–339. (*see* **98g:00019**) 60E99 (04A72, 28E10)

— (*with* Gil, María Angeles; Corral Blanco, Norberto; López, María Teresa) Estimating the fuzzy inequality associated with a fuzzy random variable in random samplings from finite populations. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 149–161. 62D05 (04A72)

López García, José Luis (*with* Asorey, Manuel; Falceto, Fernando; Luzon, Gloria) Vacuum structure of $(2+1)$-dimensional gauge theories. (English summary) *Symplectic singularities and geometry of gauge fields (Warsaw, 1995)*, 183–199, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98f:58045** 58D29 (58D19, 58Z05, 81T13, 81T70)

López García, María Luz (*with* Fernández y Fernández-Arroyo, Fidel José; Martín del Ama, María Victoria) General integration in locally convex spaces. (Spanish. English summary) *Rev. Roumaine Math. Pures Appl.* **40** (1995), *no.* 7-8, 593–597. (T. V. Panchapagesan) **98b:28017** 28B05

López-García, Pedro (*with* Debray, Saumya; Hermenegildo, Manuel) Non-failure analysis for logic programs. (English summary) *Logic programming (Leuven, 1997)*, 48–62, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **98h:68037** 68N17 (68Q60)

López-Gómez, J. *see* **López-Gómez, Julián**

López-Gómez, Juan (*with* Argüello, F.; Guil, N.; Amor, M.; Zapata, E. L.) A probabilistic model for best-first search B & B algorithms. (English summary) *Solving irregularly structured problems in parallel (Paderborn, 1997)*, 49–60, *Lecture Notes in Comput. Sci.*, 1253, *Springer, Berlin*, 1997. (*see* **98j:65097**) 65Y05 (65Y25)

López-Gómez, Julián On the structure of the permanence region for competing species models with general diffusivities and transport effects. (English summary) *Discrete Contin. Dynam. Systems* **2** (1996), *no.* 4, 525–542. (N. F. Britton) **98d:92016** 92D25 (35Q80, 92D40)

— Permanence of competing species. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 6, 52–56, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 33–36 (1997). (Summary) **98g:35191** 35Q80 (92D25)

— On the uniqueness of positive solutions for a class of sublinear elliptic problems. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 697–711. (Alan V. Lair) **98i:35062** 35J65 (35B05)

— (*with* Furter, J. E.) Diffusion-mediated permanence problem for a heterogeneous Lotka-Volterra competition model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 281–336. (Virginia W. Noonburg) **98f:92008** 92D25 (35K57, 35Q80)

López Lagomasino, G. *see* **Workshop: Orthogonal Polynomials in Mathematical Physics, 98b:33001**

López Laurrabaquio, G. Perturbation approach and the constant of motion for fourteen-point low-dimensional dynamical systems. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 250–255, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q15

López Meléndez, J. M. (*with* Pacheco Castelao, José Miguel; Rodriguez Mielgo, César) A mathematical model for certain primary sedimentary structures. (Spanish. Spanish summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 9–17. (Summary) **98f:86008** 86A60

López Molina, J. A. (*with* Rivera Ortún, María José) Bounded, Montel and compact operators on spaces of Moscatelli type. (English summary) *Note Mat.* **14** (1994), *no.* 1, 101–107 (1997). (Klaus-Dieter Bierstedt) **98c:46002** 46A04 (46A11, 46A32, 47B07, 47D50)

— (*with* Rivera Ortún, María José) A note on natural tensor products containing complemented copies of c_0. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 105–113. (Klaus-Dieter Bierstedt) **98c:46156** 46M05 (46A32, 46B25)

López-Ortiz, Alejandro (*with* Schuierer, Sven) Going home through an unknown street. (English summary) *Algorithms and data structures (Kingston, ON, 1995)*, 135–146, *Lecture Notes in Comput. Sci.*, 955, *Springer, Berlin*, 1995. (*see* **98c:68006**) 68U05

— (*with* Schuierer, Sven) Walking streets faster. (English summary) *Algorithm theory—SWAT '96 (Reykjavík, 1996)*, 345–356, *Lecture Notes in Comput. Sci.*, 1097, *Springer, Berlin*, 1996. (*see* **98d:68006**) 68U05 (68T20)

— (*with* Schuierer, Sven) Generalized streets revisited. (English summary) *Algorithms—ESA '96 (Barcelona)*, 546–558, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68U05

López-Pellicer, Manuel Constructions of real numbers. (Spanish) *History of mathematics in the XIXth century, Part 2 (Spanish) (Madrid, 1993)*, 11–33, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1994. (Yehuda Rav) **98f:01030** 01A55 (00A30, 11–03)

— Webs and bounded finitely additive measures. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 257–267. (Jafar Zafarani) **98i:46034** 46E40 (28B05, 46A99, 46G10)

López-Peña, Ramón (*with* Castaños, Octavio; Man′ko, Vladimir I.) Quadrature generating function for parametric Schrödinger cat states. (English summary) *Proceedings of the IV Wigner Symposium (Guadalajara, 1995)*, 144–147, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98f:81009**) 81Q05

— *see also* **Complex systems and binary networks, 98f:00022** *and* **School: Physics, 98f:81011**

López-Permouth, S. R. (*with* Dinh Van Huynh; Jain, Surender Kumar) On weakly injective continuous modules. (English summary) *Abelian groups and modules (Colorado Springs, CO, 1995)*, 385–392, *Lecture Notes in Pure and Appl. Math.*, 182, *Dekker, New York*, 1996. (B. M. Pandeya) **98a:16003** 16D50

López-Pinto, A. (*with* Tiemblo, A.; Tresguerres, R.) Nonlinear affine embedding of the Dirac field from the multiplicity-free SL(4, **R**) unirreps. (English summary) *Classical Quantum Gravity* **13** (1996), *no.* 8, 2255–2265. (Patrick J. Moylan) **98h:83077** 83D05 (22E70, 81R05)

— (*with* Tiemblo, A.; Tresguerres, R.) Hamiltonian Poincaré gauge theory of gravitation. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 549–575. (A. D. Popova) **98e:83102** 83D05

López Ramos, J. A. (*with* Asensio, M. J.; Torrecillas Jover, Blas) Gorenstein gr-injective and gr-projective modules. *Comm. Algebra* **26** (1998), *no.* 1, 225–240. (C. Năstăsescu) **98j:16026** 16W50 (16E10)

Lopez-Rodriguez, Pedro (*with* Durán Guardeño, Antonio J.) Density questions for the truncated matrix moment problem. (English summary) *Canad. J. Math.* **49** (1997), *no.* 4, 708–721. (Olav Njåstad) **98m:42035** 42C05 (44A60)

— (*with* Durán Guardeño, Antonio J.) The $\mathscr{L}^p$ space of a positive definite matrix of measures and density of matrix polynomials in $\mathscr{L}^1$. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 299–318. (Luboš Pick) **98i:46022** 46E30 (44A60, 46E35)

López-Ruiz, R. (*with* Pomeau, Y.) Transition between two oscillation modes. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 4, R3820–R3823. (Peter Ashwin) **98c:34064** 34C23 (34C15, 34C25, 76C05, 76D25, 76E99)

López Vieyra, J. C. (*with* Stephens, C. R.; Weber, Axel; Hess, Peter O.) Regge behaviour from an environmentally friendly renormalization group. (English summary) *Phys. Lett. B* **414** (1997), *no.* 3-4, 333–339. 81T17

Lopotko, O. V. Odd-positive-definite functions of an infinite number of variables. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 5, 24–28. 42A82 (43A35, 47A57)

Loppin, Gilles Calcul du champ de contrainte en pointe de fissure en élasticité plane en grandes déformations. (English and French summaries) [Computation of the stress field for a crack tip in large strain plane elasticity] *Rev. Européenne Élém. Finis* **6** (1997), *no.* 1, 99–112. 73V05 (73B50, 73C50, 73G05, 73M25)

Lopresti, Daniel (*with* Tomkins, Andrew) Block edit models for approximate string matching. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 159–179. (Summary) **98d:68103** 68Q25 (92C40, 92D20)

Loptson, Peter Prior, Plantinga, haecceity, and the possible. *Logic and reality (Christchurch, 1989)*, 419–435, *Oxford Univ. Press, New York*, 1996. (*see* **98b:03006**) 03A05

Łopuch, Bożena (*with* Kiwiel, Krzysztof C.) On long-step surrogate projection methods for solving convex feasibility problems. (English summary) *System modelling and optimization (Prague, 1995)*, 466–472, *Chapman & Hall, London*, 1996. (Summary) **98d:90085** 90C25 (90C48)

— (*with* Kiwiel, Krzysztof C.) Surrogate projection methods for finding fixed points of firmly nonexpansive mappings. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 1084–1102. (Lúcio Tunes dos Santos) **98j:90049** 90C25 (47H09, 49M45)

Lopuhaä, H. P. Asymptotic expansion of S-estimators of location and covariance. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 220–237. (P. Laurie Davies) **98j:62045** 62H12

Lopushans′kiĭ, O. V. (*with* Sharīn, S. V.) Generalized functions of operators in Banach spaces. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukraini* **1996,** *no.* 6, 7–9. (Introduction) **98b:47021** 47A60 (46F10, 47D06)

Łopuszański, J. (*with* Stichel, Peter C.) The general form of the Lagrange function for classical two particle equations of motion covariant under Galilei transformations. (English summary) *From field theory to quantum groups*, 243–263, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98a:70020** 70H35 (58F05, 70H33)

— (*with* Stichel, Peter C.) Most general form of the Lagrange function for classical two particle equation of motion covariant under Galilei transformation in $(1+1)$- and $(3+1)$-dimensional spaces. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 1, 79–97. (Summary) **98i:70016** 70H35 (81R99)

Loranz, Daniel J. (*with* Hiscock, William A.) Quantized fields and temperature in charged dilatonic black hole spacetimes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3893–3896. (Summary) **98c:83048** 83C47 (81T20, 83C57)

Loray, Frank (*with* Berthier, Michel) Cohomologie relative des formes résonnantes non dégénérées. [Relative cohomology of nondegenerate resonant forms] *Asymptot. Anal.* **15** (1997), *no.* 1, 41–54. (Robert Roussarie) **98h:32035** 32G34 (34A20, 34A25, 34C25)

— (*with* Belliart, Michel; Liousse, Isabelle) Sur l'existence de points fixes attractifs pour les sous-groupes de Aut($\mathbf{C}_0$). (English and French summaries) [Existence of attractive fixed points for the subgroups of Aut($\mathbf{C}_0$)] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 4, 443–446. (J. S. Joel) **98c:58134** 58F23 (30D05)

Lorca, Sebastian Antonio (*with* Boldrini, José Luiz) The initial value problem for a generalized Boussinesq model: regularity and global existence of strong solutions. (English and Portuguese summaries) Fourth Workshop on Partial Differential Equations, Part II (Rio de Janeiro, 1995). *Mat. Contemp.* **11** (1996), 71–94. (Leonid V. Bogdanov) **98b:35146** 35Q35

— (*with* Rojas-Medar, Marko Antonio) Weak solutions for the viscous incompressible chemically active fluids. (English and Portuguese summaries) *Rev. Mat. Estatist.* **14** (1996), 183–199. (Adrian Carabineanu) **98h:35198** 35Q35 (35D05, 76D05, 80A32)

Lorch, Ingomar *see* **Bruno, Giordano, 98e:01019**

Lorch, Lee (*with* Uberti, Riccardo) "Best possible" upper bounds for the first positive zeros of Bessel functions—the finite part. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 2, 249–258. (N. Hayek Calil) **98b:33010** 33C10 (65D20)

— Yesterday, today and tomorrow. (English summary) *African Americans in mathematics (Piscataway, NJ, 1996)*, 157–168, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98f:01098** 01A80

Lorch, R. Maslama al-Majrīṭī and Thābit's *Al-shakl al-qaṭṭā′*. *From Baghdad to Barcelona/De Bagdad a Barcelona, Vol. I, II (Zaragoza, 1993)*, 49–57, *Anu. Filol. Univ. Barc., XIX B-2, Univ. Barcelona, Barcelona*, 1996. (*see* **98d:01002**) 01A30

Lord, Gabriel James (*with* Champneys, Alan R.; Hunt, G. W.) Computation of localized post buckling in long axially compressed cylindrical shells. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2137–2150. (Summary) **98g:73020** 73H05 (34C37, 73K15)

— (*with* Champneys, Alan R.) Computation of homoclinic solutions to periodic orbits in a reduced water-wave problem. (English summary) *Phys. D* **102** (1997), *no.* 1-2, 101–124. (Mark J. Friedman) **98b:34065** 34C37 (34A50, 35Q35, 58F40, 65L99, 76B15)

— Attractors and inertial manifolds for finite-difference approximations of the complex Ginzburg-Landau equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1483–1512. (Arnaud Debussche) **98f:65087** 65M06 (34G20, 35B40, 35Q55, 47H20)

Lord, Harriet Connectednesses and disconnectednesses. (English summary) *Papers on general topology and applications (Slippery Rock, PA, 1993)*, 115–139, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (J. R. Isbell) **98g:54018** 54B30 (18A32, 18B30, 54D05, 54G05)

Lo Re, Pia Maria (*with* Olanda, D.) Weakly (1, 3)-semiaffine planes. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 249–268 (1996). (Summary) **98k:51007** 51A45 (05B25)

— (*with* De Vito, Paola) Planar spaces on v points with $v + 2$ planes. (Italian. English and Italian summaries) *Ricerche Mat.* **45** (1996), *no.* 1, 131–155. (Harald Löwe) **98h:51023** 51E26 (05B25)

Loreaux, Philippe (*with* Alouges, François) Massively parallel preconditioners for symmetric positive definite linear systems. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 361–375. (Jin Yun Yuan) **98c:65074** 65F35 (65F10, 65Y05)

Lorek, A. (*with* Weich, Wolfgang; Wess, Julius) Non-commutative Euclidean and Minkowski structures. (English summary) *Z. Phys. C* **76** (1997), *no.* 2, 375–386. (Andrzej Sitarz) **98i:58026** 58B30 (17B37, 81R50)

Lorek, Władysław *see* **McDuff, Dusa**, **98j:58018**

de Lorenci, Vitorio A. *see* **De Lorenci, Vitorio A.**

Lorensen, Karl Nonsplit nilpotent group extensions that split at every prime. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 213–215. (From the introduction) **98k:20048** 20F18 (20E22)

Lorente, Miguel Quantum mechanics on discrete space and time. (English summary) *New developments on fundamental problems in quantum physics* (*Oviedo*, 1996), 213–224, *Fund. Theories Phys.*, 81, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **98j:81070** 81Q05 (81S30)

— Discrete reflection groups and induced representations of Poincaré group on the lattice. *Symmetries in science, IX* (*Bregenz*, 1996), 211–223, *Plenum, New York*, 1997. (*see* **98e:81003**) 81R05 (22E70, 39A10)

Lorentz, Amy K. (*with* Lutz, Jack H.) Genericity and randomness over feasible probability measures. (English summary) *Advances in algorithms, languages, and complexity*, 171–187, *Kluwer Acad. Publ., Dordrecht*, 1997. (Rodney G. Downey) **98h:68090** 68Q15 (03D15)

Lorentz, George G. ★ Mathematics from Leningrad to Austin. Vol. 1. (English summary) George G. Lorentz' selected works in real, functional and numerical analysis. With contributions by S. Baron, D. Leviatan and S. Riemenschneider. Edited and with an introduction by Rudolph A. Lorentz. Contemporary Mathematicians. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xxxvi+548 *pp. ISBN* 0-8176-3710-9 (J. Horváth) **98i:01036** 01A75 (01A60, 01A70)

— ★ Mathematics from Leningrad to Austin. Vol. 2. (English summary) George G. Lorentz' selected works in real, functional, and numerical analysis. With contributions by Tamás Erdélyi, Paul Nevai, Colin Bennett and Hubert Berens. Edited by Rudolph A. Lorentz. Contemporary Mathematicians. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xxviii+648 *pp. ISBN* 0-8176-3922-5 (J. Horváth) **98i:01037** 01A75 (01A60, 01A70)

Lorentz, Rudolph A. *see* **Lorentz, George G.**, **98i:01036** *and* **98i:01037**

Lorenz, Jens (*with* Schroll, Hans Joachim) Stiff well-posedness for hyperbolic systems with large relaxation terms (linear constant-coefficient problems). (English summary) *Adv. Differential Equations* **2** (1997), *no.* 4, 643–666. (A. O. Oganesyan) **98f:35090** 35L45 (35E20, 47N20, 65M99)

— (*with* Dieci, Luca) Lyapunov-type numbers and torus breakdown: numerical aspects and a case study. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 79–102. (Summary) **98f:65083** 65L99 (34C15, 34D99, 58F25)

Lorenz, Martin Picard groups of multiplicative invariants. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 3, 389–399. (Abdeslam Mimouni) **98m:13019** 13C20 (13A50, 13D15, 19A31)

— Representations of finite-dimensional Hopf algebras. (English summary) *J. Algebra* **188** (1997), *no.* 2, 476–505. (Richard K. Molnar) **98i:16039** 16W30

pérez-Lorenzana, A. *see* **Pérez-Lorenzana, A.**

Lorenzi, Alfredo (*with* Prilepko, A. I.) Global existence results for first-order integrodifferential identification problems. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 51–84. (Eugenio Sinestrari) **98f:45005** 45K05 (34K30, 45N05, 47N20)

— (*with* Denisov, A. M.) Existence results and regularization techniques for severely ill-posed integrofunctional equations. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 713–731. (V. S. Sizikov) **98j:45009** 45L05 (45J05, 65R20)

— (*with* Yakhno, V. G.) An identification problem related to an isotropic nonhomogeneous stratified viscoelastic cylindrical body. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 1, 29–53. (Gustavo Perla Menzala) **98i:35210** 35R30 (35Q72, 73F15)

— (*with* Paparoni, E.) Identification problems for pseudoparabolic integrodifferential operator equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 3, 235–253. (Jaan Janno) **98g:45011** 45J05 (34K30, 35K70, 35R30, 45K05, 47N20)

— (*with* Colombo, Fabrizio) Identification of time and space dependent relaxation kernels for materials with memory related to cylindrical domains. I, II. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 32–62, 63–90. (Alfred S. Carasso) **98i:45015** 45K05 (35R30, 47D06, 47N20, 73F15)

Lorenzini, Dino (*with* Edixhoven, Bas; Liu, Qing) The p-part of the group of components of a Néron model. *J. Algebraic Geom.* **5** (1996), *no.* 4, 801–813. (Jean-Claude Douai) **98m:14051** 14L15 (14H40, 14H52, 14K15)

Lorenzini, Enrico C. (*with* Pasca, Monica) Two analytical models for the analysis of a tethered satellite system in atmosphere. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 4, 263–277. 70M20

Lorenzo, David Inductive logic programming for discrete event systems. (English summary) *Grammatical inference: learning syntax from sentences* (*Montpellier*, 1996), 250–261, *Lecture Notes in Comput. Sci.*, 1147, *Springer, Berlin*, 1996. (*see* **98e:68004**) 68T05 (68N17)

ruiz-Lorenzo, Juan J. *see* **Ruiz-Lorenzo, Juan J.**

vázques-Lorenzo, R. *see* **Vázques-Lorenzo, R.**

Loreti, Paola (*with* Geymonat, G.; Valente, Vanda) Spectral problems for thin shells and exact controllability. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 35–57, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Summary) **98j:73056** 73K15 (35P05, 35Q72, 73K50, 93B05)

— (*with* Komornik, Vilmos) Observabilité frontière de systèmes couplés par analyse non harmonique vectorielle. (English and French summaries) [Boundary observability of coupled systems by vectorial nonharmonic analysis] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 895–900. (De Xing Feng) **98d:93023** 93B07 (93C20)

— (*with* Valente, Vanda) Partial exact controllability for spherical membranes. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 641–653. (Guenter Leugering) **98e:93009** 93B05 (73K15, 73K50, 93C20)

di Loreto, Mario *see* **Di Loreto, Mario**

Loreto, Vittorio (*with* Vespignani, Alessandro; Zapperi, Stefano) Dynamically driven renormalization group. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 47–79. (Domingos H. U. Marchetti) **98k:82126** 82C28 (82C27)

Loría, Antonio (*with* Kelly, Rafael; Ortega, Romeo; Santibáñez, Víctor) On global output feedback regulation of Euler-Lagrange systems with bounded inputs. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1138–1143. (Summary) **98c:93048** 93B52 (93C85)

— (*with* Panteley, Elena) On global uniform asymptotic stability of nonlinear time-varying systems in cascade. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 131–138. (Summary) **98m:34101** 34D10 (34D05, 34H05, 93A20, 93D05)

— (*with* Nijmeijer, Henk) Bounded output feedback tracking control of fully actuated Euler-Lagrange systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 151–161. (Summary) **98m:93081** 93C85 (70B15, 70Q05, 93B52)

Loria, Gino *see* **Tannery, Paul**, **98i:01039c**

Lőrincz, András (*with* Szepesvári, Csaba) Robust control using inverse dynamics neurocontrollers. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1669–1676. (*see* **98i:00029**) 93D09

Lőrinczi, József (*with* Maes, Christian) Weakly Gibbsian measures for lattice spin systems. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 561–579. (Olle Häggström) **98k:82044** 82B20 (60K35)

Loring, Terry A. ★ Lifting solutions to perturbing problems in C^*-algebras. (English summary) Fields Institute Monographs, 8. *American Mathematical Society, Providence, RI*, 1997. x+165 *pp. ISBN* 0-8218-0602-5 (Hiroshi Takai) **98a:46090** 46L85 (46J99, 46L05, 47A62)

— (*with* Pedersen, Gert K.) Smoothing techniques in C^*-algebra theory. (English summary) *J. Operator Theory* **37** (1997), *no.* 1, 3–21. (Hiroshi Takai) **98c:46122** 46L05 (46L80, 47C15)

— (*with* Pedersen, Gert K.) Corona extendibility and asymptotic multiplicativity. (English summary) *K-Theory* **11** (1997), *no.* 1, 83–102. (Vladimir Manuilov) **98a:46091** 46L85 (46L05, 47B15)

— Perturbation questions in the Cuntz picture of K-theory. (English summary) *K-Theory* **11** (1997), *no.* 2, 161–193. (Evgenii V. Troitskiĭ) **98e:46087** 46L80 (19K35, 46L85)

— C^*-algebras that are only weakly semiprojective. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2713–2715. (Hua Xin Lin) **98k:46089** 46L05

Loris, Ignace (*with* Willox, Ralph; Springael, Johan) The nlBq-hierarchy as a $pq = C$ reduction of the KP-hierarchy. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 321–329, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:58088** 58F07 (35Q53)

— (*with* Willox, Ralph) Bilinear form and solutions of the k-constrained Kadomtsev-Petviashvili hierarchy. (English summary) *Inverse Problems* **13** (1997), *no.* 2, 411–420. (Summary) **98a:58087** 58F07 (35Q53)

— (*with* Willox, Ralph; Gilson, Claire R.) Binary Darboux transformations for constrained KP hierarchies. (English summary) *Inverse Problems* **13** (1997), *no.* 3, 849–865. (Vladislav G. Dubrovsky) **98f:58120** 58F07 (35Q53)

— (*with* Willox, Ralph) KP symmetry reductions and a generalized constraint. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6925–6938. (Summary) **98f:35129** 35Q53 (35A30, 58F07, 58F37)

Lortz, D. (*with* Spies, G. O.) Extended theory of interface localized modes. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1255–1258. (Summary) **98m:76170** 76X05 (76E25)

Lory, Peter (*with* Eich-Soellner, Edda; Burr, Peter; Kröner, Andreas) Stationary and dynamic flowsheeting in the chemical engineering industry. (English summary) *Surveys Math. Indust.* **7** (1997), *no.* 1, 1–28. (Summary) **98d:65013** 65C20 (65L99, 65M99, 80A99)

Loryś, Krzysztof (*with* Czumaj, Artur; Kanarek, Przemysława; Kutyłowski, Mirosław) Fast generation of random permutations via networks simulation. (English summary) *Algorithms—ESA '96* (*Barcelona*), 246–260, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68R05 (68Q22, 68Q25)

— (*with* Kutyłowski, Mirosław; Oesterdiekhoff, Brigitte) Periodic merging networks. (English summary) *Algorithms and computation* (*Osaka*, 1996), 336–345, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (*see* **98k:68001**) 68P10

— (*with* Kutyłowski, Mirosław) Limitations of the QRQW and EREW PRAM models. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 310–321, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **98k:68054** 68Q05 (68Q22)

Los, Jérôme E. (*with* Alsedà, Lluís; Guaschi, J.; Mañosas, Francesc; Mumbrú, P.) Patterns of tree maps. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 1–11, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **98k:58078** 58F03 (58F08)

— On the forcing relation for surface homeomorphisms. *Inst. Hautes Études Sci. Publ. Math. No.* 85 (1997), 5–61. (Lee Mosher) **98h:58151** 58F20 (57M99, 57N05, 58F03)

Lo Schiavo, M. (*with* Bellomo, N.) From the Boltzmann equation to generalized kinetic models in applied sciences. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 7, 43–76. (John Adam) **98k:82143** 82C40 (76P05)

durand-Lose, Jérôme Olivier *see* **Durand-Lose, Jérôme Olivier**

Losert, Viktor A remark on the strong sweeping out property. *Convergence in ergodic theory and probability* (*Columbus, OH*, 1993), 291–294, *Ohio State Univ. Math. Res. Inst. Publ.*, 5, *de Gruyter, Berlin*, 1996. (M. A. Akcoglu) **98b:28025** 28D05

Losev, A. G. On a criterion for the hyperbolicity of noncompact Riemannian manifolds of a special form. (Russian. Russian summary) *Mat. Zametki* **59** (1996), *no.* 4, 558–564, 639; *translation in Math. Notes* **59** (1996), *no.* 3-4, 400–404. (Valery Marenich) **98e:53057** 53C20 (31C05)

— On the interdependence of some Liouville theorems on Riemannian manifolds of a special form. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 59–63; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 56–60 (1998). (J. S. Joel) **98m:53057** 53C21 (35J05)

Losev, Andrei (*with* Moore, Gregory W.; Nekrasov, Nikita; Shatashvili, Samson) Chiral Lagrangians, anomalies, supersymmetry, and holomorphy. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 1-2, 196–222. (P. Mitra) **98d:81111** 81T50 (81T40)

Losik, Mark V. The cohomology of the complex of G-invariant forms on G-manifolds. II. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 2, 141–152. (Akira Asada) **98c:57041** 57T15 (55N25, 57R91, 58A10)

Loskot, K. (*with* Polański, Andrzej; Rudnicki, Ryszard) Further comments on: "Vector norms as Lyapunov functions for linear systems" [IEEE Trans. Automat. Control **37** (1992), no. 6, 839–842; MR 93f:34083] by H. Kiendl, J. Adamy and P. Stelzner. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 289–291. (Summary) **98m:34106** 34D20 (93D05)

Loskutov, A. Yu. (*with* Komarova, N. L.) Stabilization of the chaotic behavior of a mathematical model of an oscillatory chemical reaction. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 10, 133–143. 92E20 (58F13, 58F40)

— (*with* Deryugin, A. N.; Tereshko, Valeriĭ M.) On the generation of stable periodic behavior of parametrically excited dynamical systems. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 507–512; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1162–1165 (1996). (Summary) **98j:34069** 34C25

Loskutov, Yu. M. A hypothesis about a new form of gravitational interactions with violated parity, and their role in gravitational dynamics and electrodynamics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 324–340; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1453–1466 (1996). 83D05

Losonczi, A. Finite quasi-uniform extensions. I. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 85–116. (Summary) **98k:54048** 54E15

Losonczi, László (*with* Páles, Zsolt) Minkowski's inequality for two variable Gini means. (English summary) *Acta Sci. Math. (Szeged)* **62** (1996), *no.* 3-4, 413–425. (B. Crstici) **98c:26012** 26D15

— (*with* Aczél, János) Extension of functional equations. *The mathematics of Paul Erdős, II*, 251–263, *Algorithms Combin.*, 14, *Springer, Berlin*, 1997. (R. C. Gilbert) **98m:39056** 39B05 (90B50)

— A structure theorem for sum form functional equations. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 141–154. (László Székelyhidi) **98i:39006** 39B22 (39B99)

— (*with* Páles, Zsolt) Inequalities for indefinite forms. (English summary) *J. Math. Anal. Appl.* **205** (1997), *no.* 1, 148–156. (D. C. Russell) **98e:26021** 26D15

— (*with* Páles, Zsolt) Minkowski's inequality for two variable difference means. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 779–789. (L. Leindler) **98e:26022** 26D15 (26D07)

Loss, Michael (*with* Carlen, Eric A.) On the minimization of symmetric functionals. *The state of matter* (*Copenhagen*, 1992), 182–212, *Adv. Ser. Math. Phys.*, 20, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98c:82001**) 58E30 (46N10)

— (*with* Thaller, Bernd) Optimal L^p-L^q estimate for the Schrödinger semigroup with a magnetic field in two dimensions. *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 53–64, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (*see* **98d:00019**) 47F05 (35J10, 47D06, 47N50, 81V10)

— (*with* Lieb, Elliott H.; Siedentop, Heinz) Stability of relativistic matter via Thomas-Fermi theory. (English summary) Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part I (Zürich, 1995). *Helv. Phys. Acta* **69** (1996), *no.* 5-6, 974–984. (Giorgio Cattapan) **98c:81255** 81V70 (81Q10, 81V10)

— (*with* Lieb, Elliott H.) ★ Analysis. (English summary) Graduate Studies in Mathematics, 14. *American Mathematical Society, Providence, RI*, 1997. xviii+278 *pp. ISBN* 0-8218-0632-7 (J. Horváth) **98b:00004** 00A05 (26–01, 28–01, 31–01, 35–01, 42–01, 46–01)

— (*with* Thaller, Bernd) Norm estimates for Schrödinger semigroups with magnetic fields. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 213–219, *VSP, Utrecht*, 1997. (Editors) **98e:47070** 47F05 (35J10, 47D06)

— (*with* Thaller, Bernd) Optimal heat kernel estimates for Schrödinger operators with magnetic fields in two dimensions. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 95–107. (Yehuda Pinchover) **98k:47081** 47D06 (35J10, 47F05, 47N50, 81Q10)

— The stability of matter interacting with fields. *Notices Amer. Math. Soc.* **44** (1997), *no.* 10, 1288–1293. (Giorgio Cattapan) **98g:81224** 81V45 (81–02, 81V70)

— *see also* **Advances in differential equations and mathematical physics, 98i:00016**

Lossen, Christoph (*with* Greuel, Gert-Martin) Equianalytic and equisingular families of curves on surfaces. (English summary) *Manuscripta Math.* **91** (1996), *no.* 3, 323–342. (Summary) **98g:14023** 14H10 (14D15)

— (*with* Greuel, Gert-Martin; Shustin, E. I.) New asymptotics in the geometry of equisingular families of curves. *Internat. Math. Res. Notices* **1997**, *no.* 13, 595–611. (Luca Chiantini) **98g:14039** 14J29 (14H10)

— (*with* Greuel, Gert-Martin; Shustin, E. I.) Geometry of families of nodal curves on the blown-up projective plane. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 251–274. (Allen Tannenbaum) **98j:14034** 14H10 (14H20)

severance-Lossin, E. *see* **Severance-Lossin, E.**

Losson, Jérôme (*with* Chaté, Hugues) Non-trivial collective behavior in coupled map lattices: a transfer operator perspective. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 51–72. (Volker Matthias Gundlach) **98d:58145** 58F19 (58F12, 58F13, 82C05)

Lotan, Tsippy Integration of fuzzy numbers corresponding to static knowledge and dynamic information. (English summary) *Fuzzy Sets and Systems* **86** (1997), *no.* 3, 335–344. (Summary) **98a:68172** 68T30 (04A72)

Loth, Peter The duals of almost completely decomposable groups. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 5, 353–358. (Frank Okoh) **98c:20101** 20K25 (20K45)

— The duals of Warfield groups. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 333–356. (William J. Wickless) **98k:20092** 20K21

Lothaire, M. ★ Combinatorics on words. (English summary) With a foreword by Roger Lyndon and a preface by Dominique Perrin. Corrected reprint of the 1983 original, with a new preface by Perrin. Cambridge Mathematical Library. *Cambridge University Press, Cambridge*, 1997. xviii+238 *pp. ISBN* 0-521-59924-5 (Editors) **98g:68134** 68R15 (03D03, 03D40, 05A99, 20M05)

Löthgren, Mickael Generalized stochastic frontier production models. (English summary) *Econom. Lett.* **57** (1997), *no.* 3, 255–259. 62P20

Lototskiĭ, S. V. (*with* Rozovskii, Boris L.) Recursive multiple Wiener integral expansion for nonlinear filtering of diffusion processes. (English summary) *Stochastic processes and functional analysis* (*Riverside, CA*, 1994), 199–208, *Lecture Notes in Pure and Appl. Math.*, 186, *Dekker, New York*, 1997. (Amarjit Budhiraja) **98j:60063** 60G35 (60H15, 62M20)

— (*with* Mikulevičius, Remigius; Rozovskii, Boris L.) Nonlinear filtering revisited: a spectral approach. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 2, 435–461. (Amarjit Budhiraja) **98a:60049** 60G35 (60H15, 62M20, 93E11)

Lotov, V. I. (*with* Boxma, Onno J.) On a class of one-dimensional random walks. (English summary) *Markov Process. Related Fields* **2** (1996), *no.* 2, 349–362. (Haya Kaspi) **98a:60100** 60J15 (60K25)

Lotova, G. Z. (*with* Mikhaĭlov, G. A.) Critical values of the parameters in the particle transport process with multiplication in a stochastic medium. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 5, 443–460. 82C70

Lötstedt, Per (*with* Arévalo, Carmen) Improving the accuracy of BDF methods for index 3 differential-algebraic equations. (English summary) *BIT* **35** (1995), *no.* 3, 297–308. (Ekkehard Wagenführer) **98a:65085** 65L05

— (*with* Carlbom, Per) Stability and non-normality of the k-ϵ equations. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 11–37. (Tomás Chacón Rebollo) **98j:76059** 76F05 (65N06, 76M25)

— (*with* Ferm, Lars) Two-grid solution of shock problems. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1533–1552. (Alberto Valli) **98m:65164** 65M55 (76J20, 76L05, 76M25)

Lott, J. L^2-cohomology of geometrically infinite hyperbolic 3-manifolds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 1, 81–119. (Matthias Lesch) **98a:58148** 58G05 (57N10, 58A14)

Lottati, I. (*with* Schnack, Dalton D.; Mikić, Zoran; Satyanarayana, P.) A finite-volume algorithm for three-dimensional magnetohydrodynamics on an unstructured, adaptive grid in axially symmetric geometry. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 71–121. 76M25 (76W05)

Lotto, B. A. A compact composition operator that is not Hilbert-Schmidt. *Studies on composition operators* (*Laramie, WY*, 1996), 93–97, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Wayne Stewart Smith) **98j:47071** 47B38 (30D55, 47B10)

Lotz, Heinrich P. (*with* Peck, N. Tenney) Sublattices of the Banach envelope of weak L^1. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 1, 75–84. (Wolfgang Lusky) **98c:46058** 46E30 (46B20, 46B42)

Lötzbeyer, H. (*with* Rüde, U.) Patch-adaptive multilevel iteration. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 739–758. (*see* **98f:65005**) 65N55 (65N50)

Lou, Ben Dong Solutions of superlinear Hammerstein integral equations in Banach spaces and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 756–763. (Summary) **98b:47076** 47H30 (34B15, 45G10, 47H15, 47N20)

— (*with* Song, Guang Xing) Existence and uniqueness theorems for solutions to a class of nonlinear operator equations and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 3, 308–313. (Summary) **98j:47146** 47H15 (45G10)

— (*with* Sun, Jing Xian) Eigenvalues and eigenvectors of nonlinear operators and applications. *Nonlinear Anal.* **29** (1997), *no.* 11, 1277–1286. (Norman Dancer) **98j:47148** 47H15 (34B15, 45G10, 47H30, 47N20)

Lou, Der-Chyuan (*with* Chang, Chin-Chen) Parallel computation of the multi-exponentiation for cryptosystems. (English summary) *Int. J. Comput. Math.* **63** (1997), *no.* 1-2, 9–26. (Summary) **98g:94025** 94A60 (68P25, 68Q22)

— (*with* Chang, Chin-Chen) A parallel two-list algorithm for the knapsack problem. (English summary) *Parallel Comput.* **22** (1997), *no.* 14, 1985–1996. (Summary) **98b:90113** 90C27 (65Y05, 68Q22, 68Q25)

Lou, Dingjun (*with* Shi, Rong Hua[1]) A localization condition for bipancyclic bipartite graphs. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 61–65. (Summary) **98c:05099** 05C38

Lou, Feng (*with* Locke, Stephen C.) Finding independent sets in K_4-free 4-regular connected graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 85–110. (Kathryn Fraughnaugh) **98h:05104** 05C35 (05C85)

Lou, Kou-Ren (*with* Dey, Dipak K.; Ghosh, Sujit K.) On local sensitivity measures in Bayesian analysis. (English summary) With a discussion by Isabella Verdinelli and rejoinder by the authors. *Bayesian robustness* (*Rimini*, 1995), 21–39, *IMS Lecture Notes Monogr. Ser.*, 29, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **98i:62001** 62A15 (62F15)

Lou, Sen-yue Symmetries and algebras of integrable models. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 335–341, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:58175** 58F35 (17B68, 35A30, 35Q58, 58F07)

— (*with* Qian, Xian Min) Symmetries of the discrete Toda equation in 2 + 1 dimensions. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **45** (1996), *no.* 5, 721–728. (Xian Guo Geng) **98a:58140** 58F37 (35A30, 35Q40, 81R10)

— On the dromion solutions of a (2 + 1)-dimensional KdV-type equation. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 4, 487–490. (Summary) **98b:35159** 35Q53

— (*with* Han, Ping) New exact solutions of the Kaup-Kupershmidt equation related to a nonlocal symmetry. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 7, 1249–1253. 35Q53 (35C05)

— (*with* Chen, Li-li; Wu, Qi-Xian) New symmetry constraints of the modified Kadomtsev-Petviashvili equation. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 1, 1–4. (Victor V. Zharinov) **98e:35145** 35Q53 (35Q55, 58F35)

— (*with* Wu, Qi-Xian) A (2 + 1)-dimensional integrable sinh-Gordon extension. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 1, 109–112. (Victor V. Zharinov) **98e:35147** 35Q53 (58F37)

— (2 + 1)-dimensional integrable models from the constraints of the KP equation. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 2, 249–252. (Summary) **98i:35167** 35Q53 (58F07)

— Higher-dimensional integrable models with a common recursion operator. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 1, 41–50. (Summary) **98m:58058** 58F07 (58F35)

— (*with* Ruan, Hang-yu) Higher-dimensional dromion structures: Jimbo-Miwa-Kadomtsev-Petviashvili system. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3123–3136. (Summary) **98b:35166** 35Q53

— (*with* Hu, Xing-Biao) Infinitely many Lax pairs and symmetry constraints of the KP equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6401–6427. (Theodora Ioannidou) **98g:58081** 58F07 (35Q53)

— (*with* Hu, Xing-Biao) Non-local symmetries via Darboux transformations. (English summary) *J. Phys. A* **30** (1997), *no.* 5, L95–L100. (Summary) **98c:35143** 35Q53 (35A30, 58F37)

— Conformal invariance and integrable models. (English summary) *J. Phys. A* **30** (1997), *no.* 13, 4803–4813. (Summary) **98f:35142** 35Q58 (58F07)

— Deformations of the Riccati equation by using Miura-type transformations. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7259–7267. 35Q53 (34A34, 58F37)

— Negative Kadomtsev-Petviashvili hierarchy. (English summary) *Phys. Scripta* **57** (1998), *no.* 4, 481–485. 35Q53 (58F07)

Lou, Sheldon X. C. (*with* Krichagina, E. V.; Sethi, Suresh P.; Taksar, Michael I.) Diffusion approximation for a controlled stochastic manufacturing system with average cost minimization. (English summary) *Math. Oper. Res.* **20** (1995), *no.* 4, 895–922. (Summary) **98e:90061** 90B05 (60J60, 60K25, 90B70)

— (*with* Tu, Feng Sheng; Song, Dong Ping) The preventive hedging point control policy and its realization. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 3, 319–324. 90B35 (90B60)

— (*with* Song, Dong Ping; Tu, Feng Sheng) Parameter optimization of a control policy for unreliable manufacturing systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 4, 459–465. 90B70 (93E20)

Lou, Shituo (*with* Yuan, Xian-Zhi; Smith, Bruce Ralph) Fixed point and coincidence theorems of set-valued mappings in topological vector spaces with some applications. *Nonlinear Anal.* **32** (1998), *no.* 2, 183–199. (V. V. Obukhovskiĭ) **98j:47139** 47H10 (47H04, 54C60, 54H25)

Lou, W. Y. Wendy On runs and longest run tests: a method of finite Markov chain imbedding. (English summary) *J. Amer. Statist. Assoc.* **91** (1996), *no.* 436, 1595–1601. (Tobias Rydén) **98b:62086** 62G10

— The exact distribution of overlapping counting patterns associated with a sequence of homogeneous Markov-dependent multi-state trials: an application to SECON. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3349–3357. (*see* **98h:00034**) 60J20

— An application of the method of finite Markov chain imbedding to runs tests. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 155–161. (Hartmut Milbrodt) **98f:62139** 62G10 (60J10)

Lou, Y. S. (*with* Góra, Paweł; Boyarsky, Abraham) Lyapunov exponents for higher-dimensional random maps. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 209–218. (Volker Matthias Gundlach) **98h:58103** 58F11 (28D20)

Lou, Yuan (*with* Du, Yihong) Some uniqueness and exact multiplicity results for a predator-prey model. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 6, 2443–2475. (From the text) **98e:35164** 35Q80 (92D25)

Lou, Zeng Jian Carleson measure characterization of Bloch functions. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 157. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 2, 175–184. (Bi Yun Yao) **98f:30036** 30D45 (30D50)

— Fractional derivatives of holomorphic functions on bounded symmetric domains of $\mathbf{C}^n$. (English summary) *Internat. J. Math. Math. Sci.* **19** (1996), *no.* 3, 611–612. (Miroljub Jevtić) **98a:32002** 32A10

— (*with* Lin, Xing Duan) Harmonic mappings and their associated conformal mappings. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 4, 8–13. 30C80 (31A05)

Louaked, M. (*with* Hanich, L.; Nguyen, K. D.) An efficient finite difference technique for computing incompressible viscous flows. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 9, 1057–1082. (Summary) **98j:76098** 76M20

Loubaton, Philippe (*with* Alpay, Daniel; Bolotnikov, Vladimir) Dissipative periodic systems and symmetric interpolation in Schur classes. (English summary) *Arch. Math. (Basel)* **68** (1997), *no.* 5, 371–387. (Sergei Treil) **98f:47014** 47A57 (47N70, 93B30)

— (*with* Gorokhov, Alexei) Subspace-based techniques for blind separation of convolutive mixtures with temporally correlated sources. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 9, 813–820. (A. Bultheel) **98f:94003** 94A12

— (*with* Alpay, Daniel; Bolotnikov, Vladimir) On a new positive extension problem for block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **268** (1998), 247–287. (Adolf A. Nudelman) **98k:47008** 47A15 (15A57, 30E05)

Louboutin, Stéphane A computational technique for determining relative class numbers of CM-fields. (English summary) *Algorithmic number theory (Talence, 1996)*, 213–216, *Lecture Notes in Comput. Sci.*, 1122, *Springer, Berlin*, 1996. (Michel Olivier) **98d:11137** 11R29 (11Y40)

— The class number one problem for the non-abelian normal CM-fields of degree 16. (English summary) *Acta Arith.* **82** (1997), *no.* 2, 173–196. (Ken Yamamura) **98j:11097** 11R29 (11R20, 11R42)

— CM-fields with cyclic ideal class groups of 2-power orders. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 1–10. (Franz Lemmermeyer) **98h:11139** 11R29 (11R20)

— Resultants of cyclotomic polynomials. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 1-2, 75–77. (L. Skula) **98a:11137** 11R09 (11R18)

— Determination of all imaginary abelian number fields with relative class numbers any 2-power, which are composita of imaginary abelian number fields with prime power conductors. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 43–58. (Franz Lemmermeyer) **98h:11140** 11R29 (11R18, 11R20)

— The imaginary cyclic sextic fields with class numbers equal to their genus class numbers. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 205–212. (Ken Yamamura) **98k:11150** 11R20 (11R29, 11R42)

Louchard, G. (*with* Kenyon, Claire; Schott, René) Data structures' maxima. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1006–1042. (Robert P. Dobrow) **98m:68045** 68P05 (68Q25)

Louck, James D. MacMahon's master theorem, double tableau polynomials, and representations of groups. (English summary) *Adv. in Appl. Math.* **17** (1996), *no.* 2, 143–168. (Stephen R. Doty) **98g:20070** 20G05 (05E10, 22E70)

— Conway numbers and iteration theory. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 2, 181–215. (K. D. Magill, Jr.) **98k:39011** 39B12

— (*with* Beyer, W. A.) Transfinite function iteration and surreal numbers. (English summary) *Adv. in Appl. Math.* **18** (1997), *no.* 3, 333–350. (J. Matkowski) **98i:39005** 39B12 (04A10, 26A18)

— Problems in combinatorics on words originating from discrete dynamical systems. (English summary) *Ann. Comb.* **1** (1997), *no.* 1, 99–104. (Jean Moulin Ollagnier) **98i:68229** 68R15 (05A99, 58F08)

Loucopoulos, Constantine (*with* Pavur, Robert; Wanarat, Pradit) Examination of the classificatory performance of MIP models with secondary goals for the two-group discriminant problem. (English summary) *Ann. Oper. Res.* **74** (1997), 173–189. 62H30

Lough, M. F. (*with* Lee, Seong Hee; Kamath, J.) An efficient boundary integral formulation for flow through fractured porous media. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 462–483. 76M15 (76S05)

Louis, Alfred K. Application of the approximate inverse to inverse scattering. *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 125–129, *Lecture Notes in Phys., 486, Springer, Berlin*, 1997. (*see* **98h:00027**) 65J20 (35J05)

— *see also* **Inverse problems in medical imaging and nondestructive testing. 98k:00016**

Louis, Jan (*with* Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) Non-perturbative properties of heterotic string vacua compactified on $K3 \times T^2$. (English summary) *Nuclear Phys. B* **480** (1996), *no.* 1-2, 185–212. (Fermin Aldabe) **98e:81144** 81T30 (32J81)

— (*with* Ceresole, Anna; D'Auria, Riccardo; Ferrara, Sergio; Lerche, Wolfgang; Regge, Tullio) Picard-Fuchs equations, special geometry and target space duality. (English summary) *Mirror symmetry, II*, 281–353, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Krzysztof Galicki) **98b:32015** 32G20 (32G81, 53C25, 81T30, 81T40, 83E30)

— (*with* Förste, Stefan) Duality in string theory. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 3–22. (*see* **98j:81004**) 81T30 (81–02)

Louis, Thomas A. (*with* Shih, Joanna H.) Assessing gamma frailty models for clustered failure time data. (English summary) *Lifetime data: models in reliability and survival analysis (Cambridge, MA, 1994)*, 299–305, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **98a:62001**) 62P10 (62N05)

— (*with* Shih, Joanna H.) Tests of independence for bivariate survival data. (English and French summaries) *Biometrics* **52** (1996), *no.* 4, 1440–1449. (Summary) **98k:62172** 62N05 (62G10)

— (*with* Butler, Steven M.) Consistency of maximum likelihood estimators in general random effects models for binary data. (English summary) *Ann. Statist.* **25** (1997), *no.* 1, 351–377. (B. L. S. Prakasa Rao) **98f:62214** 62J12

— (*with* Shen, Wei) Triple-goal estimates in two-stage hierarchical models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 455–471. (Summary) **98m:62077** 62F15

Louis, Xavier (*with* Forestier, Alain; Hérard, Jean-Marc) Solveur de type Godunov pour simuler les écoulements turbulents compressibles. (English and French summaries) [A Godunov-type solver for turbulent compressible flows] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 8, 919–926. (Tomás Chacón Rebollo) **98g:76048** 76F99 (65M55, 76M10, 76N99)

Louis-Martinez, Domingo (*with* Gegenberg, Jack D.; Kunstatter, Gabor) Classical and quantum mechanics of black holes in generic 2-D dilaton gravity. (English summary) *Heat kernel techniques and quantum gravity (Winnipeg, MB, 1994)*, 333–346, *Discourses Math. Appl.*, 4, *Texas A & M Univ., College Station, TX*, 1995. (Edward Teo) **98f:83067** 83C57 (81T40)

— (*with* Kunstatter, Gabor) Charged black holes in generic 2-D dilaton gravity. (English summary) *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 81–93, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Michael O. Katanaev) **98g:83065** 83C57 (81T20, 81T40)

— (*with* Chaichian, M.; González Felipe, R.) Spinning relativistic particle in an external electromagnetic field. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 188–192. (Summary) **98k:78011** 78A25

— Dirac quantization of two-dimensional dilaton gravity minimally coupled to N massless scalar fields. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7983–7984. (Sergiu I. Vacaru) **98e:81158** 81T40

Loukas, S. (*with* Artikis, T.; Jerwood, D.) A transformed geometric distribution in stochastic modelling. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 43–51. 60E07 (60K25)

Loukianova, Daria Lower bounds on the restitution error in the Hopfield model. (English summary) *Probab. Theory Related Fields* **107** (1997), *no.* 2, 161–176. (Matthias Löwe) **98b:60172** 60K35 (60F10, 82B44, 82C32, 92B20)

Louko, Jorma (*with* Daughton, Alan; Sorkin, Rafael D.) Initial conditions and unitarity in unimodular quantum cosmology. (English summary) *Proceedings of the 5th Canadian Conference on General Relativity and Relativistic Astrophysics (Waterloo, ON, 1993)*, 181–185, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98e:83049** 83C45

— (*with* Sorkin, Rafael D.) Complex actions in two-dimensional topology change. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 1, 179–203. (José A. Zapata) **98b:83041** 83C45 (81T40)

— (*with* Simon, Jonathan Z.; Winters-Hilt, Stephen N.) Hamiltonian thermodynamics of a Lovelock black hole. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 6, 3525–3535. (Summary) **98a:83088** 83C57

— (*with* Brill, Dieter R.; Peldán, Peter) Thermodynamics of $(3+1)$-dimensional black holes with toroidal or higher genus horizons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3600–3610. (Gil De Oliveira-Neto) **98i:83047** 83C57 (83C15, 83E05)

Lounesto, Pertti Counterexamples in Clifford algebras with CLICAL. (English summary) *Clifford algebras with numeric and symbolic computations*, 3–30, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66

— (*with* Abłamowicz, Rafał) On Clifford algebras of a bilinear form with an antisymmetric part. (English summary) *Clifford algebras with numeric and symbolic computations*, 167–188, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98a:30003**) 15A66 (15A63)

— Clifford algebras and spinor operators. *Clifford (geometric) algebras (Banff, AB, 1995)*, 5–35, *Birkhäuser Boston, Boston, MA*, 1996. (*see* **98f:15022**) 15A66 (81R25)

— Charge conjugation and Maiorana [Majorana] spinors in dimension 8. (English summary) *Generalizations of complex analysis and their applications in physics (Warsaw/Rynia, 1994)*, 289–293, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Pierre Anglès) **98j:81124** 81R25 (15A66)

— ★ Clifford algebras and spinors. (English summary) London Mathematical Society Lecture Note Series, 239. *Cambridge University Press, Cambridge*, 1997. x+306 *pp. ISBN* 0-521-59916-4 (Waldyr Alves Rodrigues, Jr.) **98k:15045** 15A66 (30G35, 53A50, 53C80, 81R25)

— *see also* **Clifford algebras with numeric and symbolic computations, 98a:30003**; **Clifford algebras and spinor structures, 98e:00026** *and* **Casanova, Gaston, 98m:15050**

Louscou-Bozapalidou, Olympia Costochastic treeautomata and convexly algebraic series. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **8** (1997), *no.* 1, 13–21. 68Q50

Loustaunau, P. (*with* Adams, W. W.; Palamodov, V. P.; Struppa, Daniele C.) Hartogs' phenomenon for polyregular functions and projective dimension of related modules over a polynomial ring. (English summary) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 2, 623–640. (Joachim Apel) **98f:32013** 32D20 (13P10)

— (*with* Adams, W. W.) Gröbner bases and primary decomposition in polynomial rings in one variable over Dedekind domains. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 1, 1–15. (Joachim Apel) **98i:13049** 13P10

Lousto, Carlos O. Some thermodynamic aspects of black holes and singularities. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 5, 575–590. (Summary) **98m:83049** 83C57 (83C75)

— (*with* Larsen, Arne L.) Are higher order membranes stable in black hole spacetimes? (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7936–7941. (Summary) **98c:83098** 83E30 (83C57)

— (*with* Campanelli, Manuela) Regularization of the Teukolsky equation for rotating black holes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6363–6369. (Summary) **98h:83045** 83C57

— (*with* Price, Richard H.) Understanding initial data for black hole collisions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6439–6457. (Summary) **98h:83053** 83C57 (83–08)

— (*with* Price, Richard H.) Improved initial data for black hole collisions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1073–1083. (Summary) **98j:83063** 83C57 (83–08)

Louter-Nool, Margreet (*with* Hemker, Pieter W.; Koren, Barry; Lioen, Walter M.; van der Maarel, H. T. M.) Multigrid for steady gas dynamics problems. (English summary) *Euler and Navier-Stokes solvers using multi-dimensional upwind schemes and multigrid acceleration*, 393–417, *Notes Numer. Fluid Mech.*, 57, *Vieweg, Braunschweig*, 1997. (Summary) **98h:76104** 76M25 (65M55, 76N15)

Louveau, Alain (*with* Mokobodzki, Gabriel) On measures ergodic with respect to an analytic equivalence relation. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 12, 4815–4823. (Marek Balcerzak) **98h:04002** 04A15 (28D99, 54E70, 60B05)

Lovadina, Carlo Some rectangular finite element methods for Reissner-Mindlin plates. (English summary) *Math. Models Methods Appl. Sci.* **5** (1995), *no.* 6, 777–787. (Summary) **98m:73080** 73V05 (65N30, 73K10)

— A new class of mixed finite element methods for Reissner-Mindlin plates. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 6, 2457–2467. (From the introduction) **98e:73136** 73V05 (65N30, 73K10)

— (*with* Boffi, Daniele) Analysis of new augmented Lagrangian formulations for mixed finite element schemes. (English summary) *Numer. Math.* **75** (1997), *no.* 4, 405–419. (Reinhard Scholz) **98b:65126** 65N30

— Analysis of strain-pressure finite element methods for the Stokes problem. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 6, 717–730. (Markku Lindroos) **98m:65195** 65N30 (65M60, 76D07, 76M10)

Lovász, László Information and complexity (how to measure them?). *The emergence of complexity in mathematics, physics, chemistry and biology (Vatican City*, 1992), 65–80, *Pontif. Acad. Sci. Scr. Varia*, 89, *Pontif. Acad. Sci., Vatican City*, 1996. (Robert M. Baer) **98j:68066** 68Q30

— (*with* Pach, János; Szegedy, M.) On Conway's thrackle conjecture. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 369–376. (Barry Piazza) **98k:05054** 05C10

— The membership problem in jump systems. (English summary) *J. Combin. Theory Ser. B* **70** (1997), *no.* 1, 45–66. (André Bouchet) **98h:05054** 05B35

— (*with* Aldous, David; Winkler, Peter M.) Mixing times for uniformly ergodic Markov chains. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 165–185. (Mark R. Jerrum) **98i:60062** 60J10 (68Q25)

— One mathematics. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 33–39. 01A67

— (*with* Schrijver, Alexander) A Borsuk theorem for antipodal links and a spectral characterization of linklessly embeddable graphs. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1275–1285. (E. Jucovič) **98j:05059** 05C10 (55M20, 57M15)

Lovat, B. (*with* Chipot, M.) Some remarks on nonlocal elliptic and parabolic problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4619–4627. (*see* **98i:00032**) 35K60 (35J65)

Love, Alexander (*with* Todd, S.) Modular symmetries of threshold corrections for abelian orbifolds with discrete Wilson lines. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 253–288. (Introduction) **98c:81175** 81T30 (81R05)

— (*with* Stadler, Paul) The supersymmetric particle spectrum in orbifold compactifications of string theory. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 34–54. 81T30

Love, E. R. Godfrey Harold Hardy, 1877–1947. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 1, 2–5. 01A70 (01A60)

Love, S. T. (*with* Clark, T. E.) Wilson effective Kähler potential for supersymmetric nonlinear σ models. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2461–2463. (Summary) **98g:81139** 81T17

Love, Thomas E. Distractor selection ratios. (English summary) *Psychometrika* **62** (1997), *no.* 1, 51–62. (Tenko Raykov) **98f:62302** 62P15

Lovejoy, Shaun (*with* Naud, Catherine; Schertzer, Daniel) Radiative transfer in multifractal atmospheres: fractional integration, multifractal phase transitions and inversion problems. (English summary) *Stochastic models in geosystems (Minneapolis, MN*, 1994), 239–267, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (*see* **98e:00022**) 85A20 (86A10)

— (*with* Pecknold, S.; Schertzer, Daniel) The morphology and texture of anisotropic multifractals using generalized scale invariance. (English summary) *Stochastic models in geosystems (Minneapolis, MN*, 1994), 269–311, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Summary) **98g:86010** 86A99

— (*with* Schertzer, Daniel; Schmitt, François G.; Chigirinskaya, Y.; Marsan, D.) Multifractal cascade dynamics and turbulent intermittency. (English summary) *Fractals* **5** (1997), *no.* 3, 427–471. (Summary) **98j:76079** 76F99 (76M35)

Loveland, D. W. (*with* Astrachan, O. L.) The use of lemmas in the model elimination procedure. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 1, 117–141. (Ralph W. Wilkerson) **98j:03008** 03B35 (68T15)

Lovell, C. A. K. Linear programming approaches to the measurement and analysis of productive efficiency. With comments. *Top* **2** (1994), *no.* 2, 175–248. 90A11 (90C05, 90C90)

Loveys, James (*with* Chowdhury, Ambar; Tanović, Predrag) A definable continuous rank for nonmultidimensional superstable theories. *J. Symbolic Logic* **61** (1996), *no.* 3, 967–984. (John T. Baldwin) **98a:03047** 03C45

— (*with* Tanović, Predrag) Countable models of trivial theories which admit finite coding. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1279–1286. (John T. Baldwin) **98f:03036** 03C45 (03C15)

Lovíšek, J. (*with* Hlaváček, Ivan) Optimal design of an elastic plate with unilateral elastic foundation and rigid supports, using the Reissner-Mindlin plate model. I. Continuous problems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 5, 377–385. (Introduction) **98g:73026** 73K40 (49Q10, 73K10, 73V25)

— (*with* Hlaváček, Ivan) Optimal design of an elastic plate with unilateral elastic foundation and rigid supports, using the Reissner-Mindlin plate model. II. Approximate problems. (English and German summaries) *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 509–517. (From the introduction) **98g:73027** 73K40 (49Q10, 73K10, 73V05)

Lovison, G. An alternative representation of Altham's multiplicative-binomial distribution. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 415–420. 62E15 (60C05)

Lovrečič Saražin, Marko The crossing number of the generalized Petersen graph $P(10, 4)$ is four. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 189–192. (Summary) **98f:05052** 05C10

— On the Hamiltonian index and the radius of a graph. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 197–202. (Summary) **98i:05115** 05C45 (05C75)

Low, Chor Ping A fast search algorithm for the quorumcast routing problem. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 87–92. 68M10

Low, Erik (*with* Forstneric, Franc) Global holomorphic equivalence of smooth submanifolds in $\mathbf{C}^n$. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 1, 133–153. (Marco Abate) **98h:32020** 32E20 (32F25)

Low, Mark G. (*with* Brown, Lawrence D.) Asymptotic equivalence of nonparametric regression and white noise. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2384–2398. (Philippe Vieu) **98a:62042** 62G05

— (*with* Brown, Lawrence D.) A constrained risk inequality with applications to nonparametric functional estimation. (English summary) *Ann. Statist.* **24** (1996), *no.* 6, 2524–2535. (Ulrich Stadtmüller) **98b:62091** 62G20 (62F11, 62F12, 62F35, 62M99)

Low, Stephen G. Canonically relativistic quantum mechanics: representations of the unitary semidirect Heisenberg group, $U(1, 3) \circledS H(1, 3)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2197–2209. (Mariano A. del Olmo) **98k:81089** 81R05 (17B81, 22E70)

Lowe, C. P. (*with* Frenkel, D.; van der Hoef, M. A.) Deviations from Fick's law in Lorentz gases. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1229–1244. (Summary) **98g:82039** 82C40

Lowe, David A. (*with* Chaudhuri, Shyamoli) Monstrous string-string duality. (English summary) *Nuclear Phys. B* **469** (1996), *no.* 1-2, 21–36. (Miguel A. Vázquez-Mozo) **98c:81160** 81T30 (11F22, 20D08, 81R05, 81R10)

— Bound states of type I' D-particles and enhanced gauge symmetry. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 134–142. (Gerardo Marcelo Aldazabal) **98i:81212** 81T30

— (*with* Douglas, Michael R.; Schwarz, John H.) Probing F-theory with multiple branes. (English summary) *Phys. Lett. B* **394** (1997), *no.* 3-4, 297–301. (Summary) **98a:81163** 81T30 (83E30)

— Heterotic matrix string theory. (English summary) *Phys. Lett. B* **403** (1997), *no.* 3-4, 243–249. 81T30

— (*with* Kaplan, David M.; Maldacena, Juan M.; Strominger, Andrew) Microscopic entropy of $N = 2$ extremal black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 8, 4898–4902. (C. Gauthier) **98g:83105** 83E30 (81T30, 83C57)

Lowe, E. J. Conditional probability and conditional beliefs. *Mind* **105** (1996), *no.* 420, 603–615. (Lawrence Sklar) **98j:03028** 03B48

Lowe, Gavin (*with* Curtis, Sharon) A graphical calculus. (English summary) *Mathematics of program construction (Kloster Irsee*, 1995), 214–231, *Lecture Notes in Comput. Sci.*, 947, *Springer, Berlin*, 1995. (*see* **98d:68020**) 68Q60 (03B99, 05C99)

Löwe, Matthias On the convergence of genetic algorithms. (English summary) *Exposition. Math.* **14** (1996), *no.* 4, 289–312. (R. Shonkwiler) **98b:60129** 60J27 (65K99, 68T05)

— (*with* Grotendiek, Torsten) Optimal running times for systems of random walks involving several particles. (English summary) *Comm. Statist. Stochastic Models* **13** (1997), *no.* 2, 293–313. (Summary) **98d:60138** 60J15 (60K35)

— On the storage capacity of the Hopfield model. (English summary) *Mathematical aspects of spin glasses and neural networks*, 161–183, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Barbara Gentz) **98j:82052** 82C32 (92B20)

Löwe, Michael (*with* Heckel, Reiko; Corradini, Andrea; Ehrig, Hartmut) Horizontal and vertical structuring of typed graph transformation systems. (English summary) Joint COMPUGRAPH/SEMAGRAPH Workshop on Graph Rewriting and Computation (Volterra, 1995). *Math. Structures Comput. Sci.* **6** (1996), *no.* 6, 613–648. (K. G. Subramanian) **98f:68166** 68Q50 (68R10)

Lowe, Timothy J. (*with* Kim, Tae Ung; Tamir, Arie; Ward, James E.) On the location of a tree-shaped facility. (English summary) *Networks* **28** (1996), *no.* 3, 167–175. (Summary) **98j:90033** 90B80

— (*with* Hsu, Vernon Ning; Tamir, Arie) Structured p-facility location problems on the line solvable in polynomial time. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 4, 159–164. (Summary) **98h:90042** 90B80 (90C39)

Lowen, R. *see* **Lowen, Robert**

Löwen, Rainer Ends of surface geometries, revisited. (English summary) *Geom. Dedicata* **58** (1995), *no.* 2, 175–183. (Theo Grundhöfer) **98c:51018** 51H10

Lowen, Robert ★ Approach spaces. The missing link in the topology-uniformity-metric triad. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1997. x+253 *pp. ISBN* 0-19-850030-0 (S. A. Naimpally) **98f:54002** 54–02 (18B30, 54Bxx, 54Cxx, 54Exx)

— (*with* Windels, B.) On the quantification of uniform properties. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 749–759. (Summary) **98m:54029** 54E15 (54B30, 54E35)

— (*with* Wuyts, P.) Stability under homeomorphisms in FTS. *Math. Nachr.* **187** (1997), 115–128. (J. R. Isbell) **98h:54012** 54A40

— (*with* Windels, B.) AUnif: a common supercategory of pMET and Unif. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 1–18. (Summary) **98j:54014** 54B30 (54E15)

— (*with* Verbeeck, C.) Local compactness in approach spaces. I. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 429–438. (Summary) **98m:54002** 54A05 (54D45)

Lowengrub, J. S. (*with* Beale, J. Thomas; Hou, Thomas Y.) Convergence of a boundary integral method for water waves. (English summary) *SIAM J. Numer. Anal.* **33** (1996), *no.* 5, 1797–1843. (From the introduction) **98b:76009** 76B15 (35Q35, 65M12, 76B45, 76M25)

— (*with* Beale, J. Thomas; Hou, Thomas Y.) Stability of boundary integral methods for water waves. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 107–127, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:76013** 76B15 (65M12, 76M25)

— (*with* Hou, Thomas Y.; Shelley, Michael J.) The long-time motion of vortex sheets with surface tension. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 1933–1954. (Summary) **98d:76033** 76C05 (76D45, 76E99, 76M25)

Lowrie, Robert B. (*with* Roe, Philip L.; van Leer, Bram) Space-time methods for hyperbolic conservation laws. *Barriers and challenges in computational fluid dynamics (Hampton, VA, 1996)*, 79–98, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **98j:76002**) 65M12 (35L65, 76M20)

Lowrimore, Gene R. (*with* Yashin, A. I.; Manton, Kenneth G.) Evaluating partially observed survival histories: retrospective projection of covariate trajectories. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 1, 1–13. (Summary) **98c:62193** 62N05 (62F10)

— (*with* Manton, Kenneth G.; Yashin, A. I.; Tolley, H. Dennis) Analyses of cohort mortality incorporating observed and unobserved risk factors. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 7, 89–107. (Summary) **98h:92015** 92C50

Loy, R. J. (*with* Lau, Anthony T. M.) Amenability of convolution algebras. (English summary) *Math. Scand.* **79** (1996), *no.* 2, 283–296. (George A. Willis) **98i:46046** 46H20 (43A10, 46J99)

— (*with* Lau, Anthony T. M.) Weak amenability of Banach algebras on locally compact groups. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 175–204. (George A. Willis) **98b:46068** 46H25 (43A10, 46J40)

— (*with* Dales, H. Garth) Uniqueness of the norm topology for Banach algebras with finite-dimensional radical. *Proc. London Math. Soc.* (3) **74** (1997), *no.* 3, 633–661. (B. E. Johnson) **98a:46056** 46H40

Loy, R. M. (*with* Flaherty, Joseph E.; Özturan, Can; Shephard, Mark S.; Szymanski, Boleslaw K.; Teresco, J. D.; Ziantz, L. H.) Parallel structures and dynamic load balancing for adaptive finite element computation. (English summary) Proceedings of the International Centre for Mathematical Sciences Conference on Grid Adaptation in Computational PDEs: Theory and Applications (Edinburgh, 1996). *Appl. Numer. Math.* **26** (1998), *no.* 1-2, 241–263. (*see* **98i:65004**) 65M50 (65Y05)

Loynes, R. M. Partial residuals. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 8, 1871–1885. (Summary) **98k:62118** 62J05

oesmer Loyola, Jean *see* **Oesmer Loyola, Jean**

Lozano, Antonio Bounded queries to arbitrary sets. (English summary) Probabilistic complexity classes and nonuniform computational models (Barcelona, 1993). *RAIRO Inform. Théor. Appl.* **30** (1996), *no.* 2, 91–100. (Summary) **98a:68074** 68Q15 (03D15)

roanes-Lozano, Eugenio *see* **Roanes-Lozano, Eugenio**

gómez Lozano, M. *see* **Gómez Lozano, M.**

Lozano, María Teresa Three-dimensional cone manifolds. (Spanish) *Rev. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **89** (1995), *no.* 1-2, 173–181. (Quach thi Câm Vân) **98g:57028** 57N10 (57M50)

— (*with* Hilden, Hugh M.; Montesinos-Amilibia, José María) On volumes and Chern-Simons invariants of geometric 3-manifolds. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 3, 723–744. (Danny C. Calegari) **98h:57056** 57R57 (57M50, 57N10)

— (*with* Montesinos-Amilibia, José María) Geodesic flows on hyperbolic orbifolds, and universal orbifolds. (English summary) *Pacific J. Math.* **177** (1997), *no.* 1, 109–147. (Lee Mosher) **98c:58125** 58F17 (57M60, 57N10, 57R30, 58F15)

Lozano, R. *see* **Lozano Leal, Rogelio**

Lozano, Rogelio *see* **Lozano Leal, Rogelio**

Lozano, Y. Duality and canonical transformations. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 37, 2893–2914. (Javier Borlaf González) **98c:81176** 81T30 (81–02, 81T13, 81T60)

— D-brane dualities as canonical transformations. (English summary) *Phys. Lett. B* **399** (1997), *no.* 3-4, 233–242. (Javier Borlaf González) **98i:81213** 81T30

— Eleven dimensions from the massive D-2-brane. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 52–57. (Ion V. Vancea) **98k:81230** 81T30 (83E30)

Lozano Leal, Rogelio (*with* Kreisselmeier, Gerhard) Adaptive control of continuous-time overmodeled plants. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 12, 1779–1794. (Vladimir G. Sragovich) **98a:93041** 93C40 (93B40)

— (*with* Landau, Ioan Dorè; M'Saad, M.) ★ Adaptive control. (English summary) Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1998. xx+562 *pp. ISBN* 3-540-76187-X (V. N. Fomin) **98k:93001** 93–02 (93C40, 93D09, 93E35)

Lozier, D. W. (*with* Turner, Peter R.) Error-bounding in level-index computer arithmetic. (English summary) *Numerical methods and error bounds (Oldenburg, 1995)*, 138–145, *Math. Res.*, 89, *Akademie Verlag, Berlin*, 1996. (*see* **98a:65004**) 65G10

Lozovanu, D. D. (*with* Solomon, Zh. N.) The problem of the synthesis of a transport network with a single source and the algorithm for its solution. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 2, 161–167. 90B10

— (*with* Bolyak, R. I.) Determination of the tree of minimax paths in a weighted digraph. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 1, 40–44, 114, 117. (Summary) **98i:05048** 05C05 (05C20)

Lozowicki, Adam On application of the describing function method for optimization of feedback control systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 10, 911–933. (Summary) **98i:93027** 93B36 (49N35)

Lu, Bai Nian Spectral and pseudospectral methods for the model of wheezes. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 229–237. (Summary) **98j:73070** 73K70 (65M70, 73V15, 73V20)

— Bifurcating solutions and global attractors of a mean field equation for the Ising model with Glauber dynamics. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 643–650. (Summary) **98h:82043** 82C20 (34C23, 35Q40, 47H20, 58F14, 58F39)

— Bifurcation and global attractors of a mean-field equation for the Ising model with Glauber dynamics. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 415–424. (Pierre A. Vuillermot) **98a:58035** 58E07 (34C23, 58E50, 58F39)

— (*with* Liang, Zong Qi) A class of weakly conditionally stable explicit difference schemes for nonlinear Schrödinger equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **24** (1996), *no.* 2, 1–5. (Wei Zhong Dai) **98b:65100** 65M06 (65M12)

— (*with* Liang, Zong Qi) Pseudospectral methods for systems of nonlinear Schrödinger equations with magnetic field effects. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 441–448. (Summary) **98m:65206** 65N35

— (*with* Zhang, Rui Feng) An explicit finite difference scheme for the Cahn-Hilliard equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 52–56. 65M06

— (*with* Wan, Gui Hua) Numerical analysis for a mean-field equation for the Ising model with Glauber dynamics. (English summary) *J. Comput. Math.* **15** (1997), *no.* 3, 203–218. (Summary) **98f:82123** 82C80 (65M06, 82C20)

— (*with* Wan, Gui Hua) A class of unconditionally stable explicit pseudospectral schemes for nonlinear Schrödinger equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 2, 1–4. (Hong Yuan Fu) **98g:65097** 65M70

Lu, Ben Dong (*with* Li, Fu Yi) A fixed point theorem for condensing maps of two-point extension type. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 3, 280–282. 47H10 (47H09)

Lu, Bing Xin (*with* Zhu, Zuo Tong) Actions of lattice-ordered groups on sets. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 4, 13–15. 20F60 (06F15)

Lu, C. C. (*with* Chew, Weng Cho; Song, J. M.; Wagner, Robert L.; Lin, Jiun-Hwa; Gan, H.; Nasir, Muhammad Abdul) Fast algorithms for solving electromagnetic scattering problems. (English summary) *Wave propagation in complex media (Minneapolis, MN, 1994)*, 1–22, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (*see* **98g:00033**) 78–08 (78A45)

Lu, Cai Hui (*with* Zhang, Hechun; Zhao, Kai Ming) Complex Lie algebras in China. *Group theory in China*, 91–115, *Math. Appl. (China Ser.)*, 365, *Kluwer Acad. Publ., Dordrecht*, 1996. (Liang Chen) **98f:17005** 17Bxx (17–02)

— (*with* Zhao, Kai Ming) Structures of Weyl groups of some Kac-Moody algebras. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 177–180. (Mirko Primc) **98g:17026** 17B67

— The pairing problem for generators of the Kac-Moody algebra $g(A)$. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 3, 242–247. 17B67

Lu, Changhai (*with* Dunne, Gerald; Lee, Kimyeong) Finite temperature Chern-Simons coefficient. (English summary) *Phys. Rev. Lett.* **78** (1997), *no.* 18, 3434–3437. (Summary) **98f:81195** 81T13

Lu, Chao (*with* Tolimieri, Richard; An, Myoung) ★ Algorithms for discrete Fourier transform and convolution. Second edition. Signal Processing and Digital Filtering. *Springer-Verlag, New York*, 1997. xii+267 *pp. ISBN* 0-387-98261-2 (Publisher's description) **98f:65131** 65T20 (94A11, 94A12)

— (*with* Tolimieri, Richard; An, Myoung) ★ Mathematics of multidimensional Fourier transform algorithms. (English summary) Second edition. Signal Processing and Digital Filtering. *Springer-Verlag, New York*, 1997. xii+187 *pp. ISBN* 0-387-98260-4 (Editors) **98g:65135** 65T20 (65Y10)

Lu, Chao-Wen (*with* Reynolds, Marion R., Jr.) Control charts for monitoring processes with autocorrelated data. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4059–4067. (*see* **98i:00032**) 90B25

Lu, Chenhong (*with* Feng, Wei[1]; Lu, Xin) Long-term survival in a 3-species ecological system. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 199–213. (Miklós Farkas) **98i:92044** 92D40 (35K57, 35Q80, 92B05)

Lu, Chin Lung (*with* Liang, Y. Daniel; Tang, Chuan Yi) Efficient domination on permutation graphs and trapezoid graphs. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 232–241, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (*see* **98k:68004**) 05C85 (68R10)

Lu, Chuan Lai (*with* Lu, Chuan Rong) Some results on increments of l^p-valued Gaussian processes. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 49–57. (Summary) **98g:60061** 60F15 (60G15)

Lu, Chuan Rong (*with* Lu, Chuan Lai) Some results on increments of l^p-valued Gaussian processes. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **15** (1995), *no.* 1, 49–57. (Summary) **98g:60061** 60F15 (60G15)

— A functional central limit theorem for negatively associated sequence. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A

12 (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 375–380. (Summary) **98i:60033** 60F17

— Weak convergence for non-uniform φ-mixing random fields. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 134. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 71–78. (B. S. Nahapetian) **98k:60048** 60F17 (60B10, 60G60, 60K35)

— Sample module for the Wiener process on a VC class of $\mathbf{R}^d$. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 87–91. (Summary) **98m:60046** 60F15 (60G17, 60J65)

Lu, Chuan Yi (*with* Zhu, Jun[3]; Cao, Wei Qing) Topological structure characteristics and an automatic method for generation of geared linkage mechanisms. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 78–82. 70B15

Lü, Chun-Mei (*with* Liang, Xue-Zhang) On the convergence of Hakopian interpolation and cubature. (English summary) *J. Approx. Theory* **88** (1997), *no.* 1, 28–46. (Dimitar Kolev Dimitrov) **98c:41022** 41A25 (41A55)

Lu, Chungu (*with* Montgomery, Michael T.) Free waves on barotropic vortices. I. Eigenmode structure. (English summary) *J. Atmospheric Sci.* **54** (1997), *no.* 14, 1868–1885. (Summary) **98g:76017** 76C15 (76C20, 76U05, 86A10)

Lu, Chunqing On the asymptotic solution of laminar channel flow with large suction. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1113–1134. (Summary) **98f:34027** 34B15 (34E15, 34E20, 76D30)

Lu, Da Qing (*with* Dai, Bin Xiang) Oscillation in odd-order neutral difference equations with variable coefficients. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 2, 8–13. 39A10

Lu, De (*with* Shen, Yao Tian) Regularity of minimizers of quadratic functionals with integral constraints. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 5, 621–628. (Hong Xing Zhou) **98c:49071** 49N60 (49J45)

— (*with* Shen, Yao Tian) On the regularity of the minimizer of the quadratic functional with integration constraint. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 4, 387–395. (Summary) **98a:49060** 49N60 (49J10)

Lu, Di Ming A new description of dual spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 597–604; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 435–443 (1998). (Ji Lin Qian) **98m:15004** 15A03 (15A69, 46B10, 46M05)

— Dual aspects of the quasitriangular bialgebras and the braided bialgebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 4, 528. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 3, 331–336. (Akira Masuoka) **98i:16040** 16W30

Lu, Fang (*with* Wang, Ju Ping) A classification of spaces of Jacobi forms. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 1, 6–10. (Hong Wen Lu) **98d:11051** 11F55

Lu, Fangyan (*with* Lu, Shi Jie) Normality preserving multiplication operators. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 719. *Acta Math. Sinica (N.S.)* **11** (1995), *no.* 4, 389–398. (A. R. Sourour) **98c:47029** 47B15 (47A53, 47B20, 47B49)

— Estimate for distance-coefficient of matrices. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 500. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 441–446. (Summary) **98k:15021** 15A45

Lu, Feng (*with* Xu, Xiao Guang) The structure and properties of fuzzy operators. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 1, 123–124. 04A72

Lu, G. *see* **Lu, Guozhen**

Lu, Guang Cun Lagrangian embedding and the Weinstein conjecture on cotangent bundles. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 159–162. (Jian Xun Hu) **98i:58039** 58D10 (58F05)

— A Maslov index formula and its application. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 393–396. (Takayuki Nôno) **98k:58092** 58F05

Lu, Guo-fu Existence and uniqueness of global solution for certain degenerate reaction-diffusion systems. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 537–541, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35K57 (35K65)

Lu, Guo Ying (*with* Tang, Jin Shan; Zhang, Yong Guang) The excellent localization property of wavelet transforms and its application. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 48–51. 42C15

Lu, Guoqi (*with* Mukherjea, Arunava) Invariant measures and Markov chains with random transition probabilities. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 115–138. (M. Iosifescu) **98d:60126** 60J05 (60K99)

Lu, Guozhen (*with* Buckley, Stephen M.; Koskela, Pekka) Boman equals John. (English summary) *XVIth Rolf Nevanlinna Colloquium (Joensuu, 1995)*, 91–99, *de Gruyter, Berlin*, 1996. (Susan G. Staples) **98m:43013** 43A85 (30C65, 31C45)

— (*with* Wei, Juncheng) On positive entire solutions to the Yamabe-type problem on the Heisenberg and stratified groups. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 83–89 (*electronic*). (A. F. M. ter Elst) **98k:35023** 35H05 (22E25, 22E30, 22E60, 35B05, 35J70, 58G30)

— (*with* Chen, Shaohua) Asymptotic behavior of radial solutions for a class of semilinear elliptic equations. *J. Differential Equations* **133** (1997), *no.* 2, 340–354. (C. A. Swanson) **98a:35027** 35J60 (34C10, 34C11, 35B05)

— (*with* Wolff, Thomas) Unique continuation with weak type lower order terms. (English summary) *Potential Anal.* **7** (1997), *no.* 2, 603–614. (Michelangelo Franciosi) **98j:35192** 35R45 (35B60, 35J99)

Lü, H. *see* **Lu, Hong[1]**

Lu, H. W. *see* **Lu, Hong Wen**

Lu, Haiyan (*with* Lin, Guohui; He, Yong[1]; Yao, Yujun) Exact bounds of the modified LPT algorithms applying to parallel machines scheduling with nonsimultaneous machine available times. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 126. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 109–116. (Frank Werner) **98c:90051** 90B35 (68M20)

Lu, Hao *see* **Lu, Hao[2]**

Lu, Hao[1] (*with* Axelsson, Owe) Conditioning analysis of block incomplete factorizations and its application to elliptic equations. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 189–209. (P. Rochus) **98k:65018** 65F15 (65F10, 65F50)

Lu, Hao[2] (*with* Fang, Hua Jing; Huang, Xin Han) The structure of H^∞ optimal controllers for infinite-dimensional systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *suppl. II*, 8–11. 93B36 (93C25)

— (*with* Wang, Zhi Hong; Fang, Hua Jing; Huang, Xin Han) Finite-dimensional approximation and H^∞ error bounds for a class of distributed parameter systems. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 8, 14–17. 93B36 (93C20)

Lu, Henry Horng-Shing (*with* Hsieh, Fushing) Transformation models for interval scale grouped data with applications. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 841–854. 62G05

Lu, Hong[1] (*with* Pope, C. N.; Sezgin, Ergin; Stelle, K. S.) Stainless super p-branes. (English summary) *Nuclear Phys. B* **456** (1995), *no.* 3, 669–698. (Summary) **98a:81181** 81T30 (83E30)

— (*with* Pope, C. N.) p-brane solitons in maximal supergravities. (English summary) *Nuclear Phys. B* **465** (1996), *no.* 1-2, 127–156. (Summary) **98f:83111** 83E50 (83E30)

— (*with* Pope, C. N.; Stelle, K. S.) Weyl group invariance and p-brane multiplets. (English summary) *Nuclear Phys. B* **476** (1996), *no.* 1-2, 89–117. (From the text) **98f:81274** 81T30 (83E30)

— (*with* Pope, C. N.; Stelle, K. S.) Vertical versus diagonal dimensional reduction for p-branes. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 313–331. (Rajesh Gopakumar) **98b:81206** 81T30 (83E30)

— (*with* Pope, C. N.) $SL(N+1, \mathbf{R})$ Toda solitons in supergravities. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 11, 2061–2074. (Paulo Moniz) **98g:81177** 81T30 (83E30, 83E50)

— (*with* Cowdall, P. M.; Pope, C. N.; Stelle, K. S.; Townsend, Paul K.) Domain walls in massive supergravities. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 49–76. (J. A. H. Samtleben) **98d:83091** 83E50 (83E30)

— (*with* Pope, C. N.; Xu, K.-W.) Black p-branes and their vertical-dimensional reduction. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 264–278. (Summary) **98f:83109** 83E30 (81T30, 83C57)

— (*with* Lavrinenko, I. V.; Pope, C. N.) From topology to generalised dimensional reduction. (English summary) *Nuclear Phys. B* **492** (1997), *no.* 1-2, 278–298. (Javier Borlaf González) **98k:81227** 81T30 (83E15, 83E30, 83E50)

— (*with* Duff, M. J.; Pope, C. N.) Supersymmetry without supersymmetry. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 136–144. (Summary) **98k:81208** 81T30 (53C80, 81T60, 83E30)

— (*with* Mukherji, Sudipta; Pope, C. N.; Xu, K.-W.) Cosmological solutions in string theories. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7926–7935. (Paulo Moniz) **98e:83121** 83E30 (81T30, 83F05)

— (*with* Lavrinenko, I. V.; Pope, C. N.; Tran, T. A.) Harmonic superpositions of nonextremal p-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 273–293. (Paulo Moniz) **98m:83072** 83E30 (81T30)

— (*with* Maharana, Jnanadeva; Mukherji, Sudipta; Pope, C. N.) Cosmological solutions, p-branes, and the Wheeler-DeWitt equation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2219–2229. (Summary) **98j:83100** 83E30 (81T30, 83C45)

Lu, Hong Tao *see* **Lu, Hong Tao[2]**

Lu, Hong Tao[1] (*with* He, Zhenya) Chaos and bifurcations in cellular neural networks with changeable output equations. (English summary) *J. Southeast Univ. (English Ed.)* **12** (1996), *no.* 1, 31–35. (Summary) **98a:34039** 34C23 (58F13, 92B20)

— (*with* He, Yongbao; He, Zhenya) A chaos-generator: analyses of complex dynamics of a cell equation in delayed cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 2, 178–181. 58F13 (34K15, 92B20)

Lu, Hong Tao[2] (*with* Ji, Guang Rong; Wang, Peng; Hu, Man Tian) 3D object recognition based on moment invariants. (Chinese. English and Chinese summaries) *J. Ocean Univ. Qingdao* **27** (1997), *no.* 3, 366–372. 68T10

Lu, Hong Wen (*with* Bowman, Harold; Shiue, Peter Jau-Shyong) On a Diophantine equation related to symmetric design. *Missouri J. Math. Sci.* **9** (1997), *no.* 3, 133–139. (E. F. Assmus, Jr.) **98h:05050** 05B30 (11D09)

Lu, Hongbin (*with* Li, Zhu Xiang) Some spectral properties of metapositive definite matrices. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 78–82. (Aurelian Gheondea) **98m:15041** 15A48 (15A18)

Lu, Hongtao *see* **Lu, Hong Tao[1]**

Lu, James J. Logic programming with signs and annotations. (English summary) *J. Logic Comput.* **6** (1996), *no.* 6, 755–778. (Petr Jirků) **98a:68027** 68N17 (03B50)

Lü, Jian Sound and complete rules for data reification. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 4, 379–386. 68N99

Lu, Jian Jiang (*with* Kuang, Qi He) Fixed-point theorems of Caristi type for single-valued mappings in fuzzy metric spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 1, 34–40. 54A40 (54H25)

Lu, Jian Ke Standardization of periodic multiconnected regions. (Chinese. English and Chinese summaries) *J. Wuhan Univ. Natur. Sci. Ed.* **42** (1996), *no.* 1, 1–5. (Summary) **98d:30011** 30C20

— On homogeneous Riemann boundary value problems of higher degree. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 1, 12–21. (Irina Yu. Dmitrieva) **98g:30069** 30E25 (30C15, 30D05)

Lu, Jian Sheng Optimal coupling for single-birth reaction-diffusion processes and its applications. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 10–17. 60J60 (60J25)

Lu, Jian-Yu (*with* Rodrigues, Waldyr Alves, Jr.) On the existence of undistorted progressive waves (UPWs) of arbitrary speeds $0 \le v < \infty$ in nature. (English summary) *Found. Phys.* **27** (1997), *no.* 3, 435–508. (Maciej Przanowski) **98f:35144** 35Q60 (35Q75, 78A25, 81R25)

Lu, Jianbo (*with* Skelton, Robert E.) Performance oriented optimization of structures with mixed passive and active control. (English summary) *Smart structures and materials 1997: mathematics and control in smart structures (San Diego, CA)*, 57–68, *Proc. SPIE*, 3039, *SPIE, Bellingham, WA*, 1997. (*see* **98d:00024**) 93C95 (90C90)

— (*with* Skelton, Robert E.) Iterative identification and control design using finite-signal-to-noise models. (English summary) Model validation for control design. *Math. Model. Systems* **3** (1997), *no.* 1, 102–135. (Seihaku Higuchi) **98a:93017** 93B30 (93A30, 93B52)

Lu, Jiandong (*with* Ko, Daijin; Chang, Ted) The standardized influence matrix and its applications. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1572–1580. 62J20 (62F35)

Lu, Jiang-Hua Poisson homogeneous spaces and Lie algebroids associated to Poisson actions. *Duke Math. J.* **86** (1997), *no.* 2, 261–304. (Pierre Dazord) **98d:58204** 58H05 (22E60, 57S25, 58F05)

Lu, Jianguo (*with* Arima, Jun) Inductive logic programming beyond logical implication. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 185–198, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (*see* **98h:68003**) 68T05 (68N17)

Lü, Jie[3] Inverse limit spaces of maps of graphs without periodic points. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 3, 253–256. (Summary) **98j:54072** 54H20 (54C70)

Lu, Jilian (*with* Zhao, Zhanfang; Shi, Xiaolun; Zhang, Qixian) Control of self-motion and optimization of dynamic performance for redundant manipulators. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 2, 153–162. 70B15 (70Q05)

Lu, Jinfu (*with* Zhang, Bao Lin[1]; Zuo, Fengli) Modified AGE methods for the convection-diffusion equation. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 1, 65–75. (Summary) **98m:76109** 76M20 (65M06)

Lu, Jitan Quadric representation of a submanifold with parallel mean curvature vector. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 5, 433–437. (Ivko Dimitric) **98g:53101** 53C40 (53C42)

— Hypersurfaces with special quadric representations. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 227–234. (Ivko Dimitric) **98g:53102** 53C40

— Submanifolds whose quadric representations satisfy $\Delta\vec{x} = B\vec{x} + C$. (English summary) *Kodai Math. J.* **20** (1997), *no.* 2, 135–142. (Ivko Dimitric) **98e:53097** 53C40 (53A07)

Lü, Jun Li (*with* Lu, Mao Wang; Wang, Yong Jiu) A new generation theorem for Einstein-Maxwell fields. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 26–29. 83C22

Lu, Jun Q. (*with* Freilikher, V.; Kaveh, Moshe; Pustilnik, M.; Yurkevich, I.; Sanches-Gil, J.; Maradudin, A. A.) Coherent effects in scattering from bounded random systems with discrete spectrum. (English summary) *Wave propagation in complex media* (*Minneapolis, MN*, 1994), 49–74, *IMA Vol. Math. Appl.*, 96, *Springer, New York*, 1998. (Summary) **98k:78034** 78A45

Lu, Jun Qiao (*with* Yue, Jing Liang) Chaotic behavior of a class of two-dimensional mappings of logarithmic form. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **31** (1997), *no.* 12, 116–118. 58F13

Lu, Jye-Chyi A new plan for life-testing two-component parallel systems. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 1, 19–32. 62N05

Lu, Kewei (*with* Hao, Zhi Feng) Finite groups with only s-quasinormal and self-normalizing subgroups. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 9–12. 20E07

Lu, Kun-Liang (*with* Lim, Jae-Hak; Park, Dong Ho) Bayesian imperfect repair model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 965–984. (Summary) **98m:62286** 62N05

Lu, Lei (*with* Tang, Jian Guo; Deng, Guan Tie; Zhao, Er Dun) The packing dimension of a class of functions and its relation to derivatives of fractional order. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 9, 107–109. 28A78

Lu, Li Lei (*with* Gao, Li Qun; Zhang, Si Ying) The design of robust controllers and observers for a class of linear composite systems with uncertainties. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 5, 773–776. 93D09 (93B51, 93C41)

Lu, Liang Gang (*with* Li, Rui Nian) Inverse problems for integrals containing Fermi functions. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **15** (1995), *no.* 1, 34–38. 33E20

Lu, Linzhang (*with* Pearce, Charles E. M.) On the matrix-sign-function method for solving algebraic Riccati equations. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 157–170. (M. M. Konstantinov) **98j:93038** 93B40

Lu, M. W. (*with* Hon, Y. C.; Xue, Wei Min[1]; Zhu, Y. M.) Multiquadric method for the numerical solution of a biphasic mixture model. (English summary) *Appl. Math. Comput.* **88** (1997), *no.* 2-3, 153–175. (Summary) **98k:76105** 76M25 (65M60, 76T05, 76Z99)

Lu, Mao Wang (*with* Lü, Jun Li; Wang, Yong Jiu) A new generation theorem for Einstein-Maxwell fields. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 26–29. 83C22

Lu, Mi (*with* Liu, Kunlin) Parallel algorithm for Householder transformation with applications to ill-conditioned problems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 1-2, 89–101. 65F35 (65Y05)

Lu, Ming Gao (*with* Yu, Hong Bing; Yu, Gang[1]) Waring's problem for polynomials. II. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **38** (1995), *no.* 4, 451–461. (Summary) **98b:11106** 11P05

— (*with* Yu, Gang[1]) On a problem of sums of mixed powers. II. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 243–248. (D. R. Heath-Brown) **98e:11112** 11P05

Lü, Peng[2] (*with* Tian, Gang) The complex structures on connected sums of $S^3 \times S^3$. *Manifolds and geometry* (*Pisa*, 1993), 284–293, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (From the text) **98g:32046** 32J17

Lu, Pin[2] (*with* Chen, Haibo; Mahrenholtz, O.) An improvement on variational boundary element formulation for elasticity with body forces. *Mech. Res. Comm.* **24** (1997), *no.* 5, 569–574. 73V10 (73V25)

Lu, Ping Optimal predictive control of continuous nonlinear systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 633–649. 93E20 (93E10)

— Non-linear systems with control and state constraints. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 5, 313–326. 49M05 (49K15, 93B52)

Lu, Qi-Keng On non-linear gauge theory. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 138–153, *World Sci. Publishing, River Edge, NJ*, 1994. (*see* **98e:81001**) 81T13

— The horo-hypercircle coordinates and their application to the construction of a heat kernel. *Singularities and complex geometry* (*Beijing*, 1994), 131–174, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Zhongmin Qian) **98h:32057** 32M99 (58G11)

— *see also* **Singularities and complex geometry**, **98d:32002**

Lu, Qi Shao (*with* Li, De Ming; Huang, Ke Lei) Bifurcation for a class of integral equations with two-dimensional bifurcation equations. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 267–273. (Da Jun Guo) **98i:45007** 45G10 (47H15)

— (*with* Liu, Shen Quan) Solving the eikonal equation by using Fife's scaling. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 8, 1457–1463. 35Q99 (65M99)

Lu, Qichu (*with* Xu, Chang Fa) The numerical character of data reconstruction in discrete multi-resolution analysis. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 40–44. 65T20 (42C15)

Lu, Qifan (*with* Noda, Matu-Tarow) Implementing Sturm's algorithm and its application. (English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 986 (1997), 147–152. (*see* **98h:00039**) 65H10

Lu, Qimiao (*with* Wai, Onyx W. H.) An efficient operator splitting scheme for three-dimensional hydrodynamic computations. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 7, 771–789. (Summary) **98m:76122** 76M25

Lu, Qing (*with* Chen, Zhi-Long; Tang, Guochun) Single machine scheduling with discretely controllable processing times. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 69–76. (Lajos Rónyai) **98m:90070** 90B35

Lu, Quan Kang The TdS equations of relativistic thermodynamics. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 3, 275–279. 80A05 (80A10)

Lu, Shanzhen (*with* Qiu, Qi Rong) Boundedness for singular integrals associated with hypersurfaces. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 175–179. (Summary) **98h:42017** 42B20 (44A15, 47G10)

— (*with* Yang, Dachun) Linear operators on weighted Herz-type Hardy spaces. *Chinese Sci. Bull.* **41** (1996), *no.* 7, 545–548. (Josefina Alvarez) **98g:42033** 42B30 (42B20)

— (*with* Ma, Bolin) Multipliers of Marcinkiewicz type for spherical harmonic expansions. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 10, 1042–1053. (Sundaram Thangavelu) **98b:42022** 42B15 (42C10)

— (*with* Ding, Yong) Weighted L^p-boundedness for higher order commutators of oscillatory singular integrals. (English summary) *Tōhoku Math. J.* (2) **48** (1996), *no.* 3, 437–449. (Josefina Alvarez) **98f:42011** 42B20

— (*with* Yang, Dachun) Some characterizations of weighted Herz-type Hardy spaces and their applications. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 319. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 1, 45–58. (Gerald B. Folland) **98k:42030** 42B30 (46E30, 47G10)

— (*with* Yang, Dachun; Zhou, Zusheng) Some multiplier theorems for non-isotropic $H^p(\mathbf{R}^n)$. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 1–9. (Oscar Blasco) **98m:46030** 46E15 (42B15, 42B30)

— (*with* Chen, Wengu) Weighted inequalities for multilinear oscillatory singular integrals. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 1, 163–175. (Summary) **98k:42015** 42B20 (42B25)

— (*with* Yang, Dachun) Herz-type Sobolev and Bessel potential spaces and their applications. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 113–129. (Petr Gurka) **98i:46028** 46E35 (42B30, 46N20)

Lu, Sheng Zhi (*with* Jing, Hai Rong) Propagation of the Langmuir soliton in inhomogeneous plasmas. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 66–71. 76X05 (82D10)

Lu, Shi Jie (*with* Lu, Fangyan) Normality preserving multiplication operators. (English summary) A Chinese summary appears in Acta Math. Sinica **39** (1996), no. 5, 719. *Acta Math. Sinica* (*N.S.*) **11** (1995), *no.* 4, 389–398. (A. R. Sourour) **98c:47029** 47B15 (47A53, 47B20, 47B49)

— On the solution of the operator equation $AXB - X = C$—dedicated to the memory of Constantin Apostol. (English and Chinese summaries) *Adv. in Math.* (*China*) **25** (1996), *no.* 6, 510–516. (Robert L. Moore) **98d:47044** 47A62

— (*with* Chen, Xiangyang) On finite rank operators in CSL algebras. (English summary) *Chinese J. Contemp. Math.* **17** (1996), *no.* 2, 185–190. (Editors) **98i:47040** 47D25

— (*with* Zhou, Qi Sheng) Some inequalities for the traces of operators. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **30** (1996), *no.* 5, 542–547. (Jin-Chuan Hou) **98c:47028** 47B10

— (*with* Zhou, Qi Sheng) A general method for going from matrix trace relations to operator trace relations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 1, 19–24. (Summary) **98c:47024** 47A99 (47B10)

Lu, Shi Ping Boundary value problems for third-order retarded functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 157–162, 169. (Shao Zhu Chen) **98g:34110** 34K10

— Existence and uniqueness of solutions to boundary value problems for retarded functional-differential equations of order n. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 292–296. 34K10 (47H15, 47N20)

Lu, Shou Yin (*with* Jing, Yuan Wei; Liu, Xiao Ping[2]) Design of global robust self-tuning controller for multi-input uncertain nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 330–336. 93B51 (93C10)

Lu, Shu Huan Gracefulness of a class of connected graphs. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 26–28. (Summary) **98f:05135** 05C78

Lu, Shu Juan (*with* Liu, Ya Cheng; Wan, Wei Ming) Blowup of solutions to initial value problems for equations of nerve conduction type. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 2, 289–293. 35Q80 (35B05, 92C20)

— (*with* Liu, Ya Cheng; Wan, Wei Ming) Nonlinear pseudoparabolic equations in arbitrary dimensions. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 3, 265–278. (Summary) **98h:35137** 35K70 (35K55)

— The periodic initial value problem for the FitzHugh-Nagumo nerve conduction equations. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 25–28. (Summary) **98i:35193a** 35Q80 (35B10, 35K99, 92C20)

— The dynamical behavior of the FitzHugh-Nagumo nerve conduction equations. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 29–32. (Summary) **98i:35193b** 35Q80 (35B10, 35K99, 92C20)

— The dynamical behavior of initial-boundary value problems for a class of bacterial disease models. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 17–20. 92D30

— The dynamical behavior of models of simple food chains with diffusion and group defense. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 21–26. 92D40

— Dynamical behavior of initial-boundary value problems for a generalized diffusion model in population systems. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 48–51. 92D25 (35K55, 35Q80)

Lu, Song Jian (*with* Li, Chuan Rong) Qualitative analysis of N-species prey-competition systems with nonlinear relations and periodic coefficients. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 147–156. (Summary) **98j:92014** 92D25 (34C25, 34D99)

Lu, Souyin *see* **Lu, Shou Yin**

Lu, Steven Shin-Yi On hyperbolicity and the Green-Griffiths conjecture for surfaces. (English summary) *Geometric complex analysis* (*Hayama*, 1995), 401–408, *World Sci. Publishing, River Edge, NJ*, 1996. (Thierry Bouche) **98f:32025** 32H20

— (*with* Miyaoka, Yoichi) Bounding codimension-one subvarieties and a general inequality between Chern numbers. (English summary) *Amer. J. Math.* **119** (1997), *no.* 3, 487–502. (Hajime Tsuji) **98d:14008** 14C20 (14J99)

Lu, Sujuan (*with* Song, Li Xin) On projection pursuit type density estimation. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 4, 489–497. (Summary) **98a:62051** 62G05 (62H40)

Lü, Tao (*with* Feng, Yong) Splitting extrapolation based on domain decomposition for finite element approximations. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 2, 144–155. (Tsorng-Whay Pan) **98b:65138** 65N55 (65N30)

— (*with* Zhou, Aihui; Liem, Chin Bo; Shih, Tsi Min) A multi-parameter splitting extrapolation and a parallel algorithm. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 253–260. (Summary) **98d:65148** 65N30 (65N15)

— (*with* Feng, Yong) The splitting extrapolation for finite element method. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 372–382. (Summary) **98i:65102** 65N30

Lü, Tong Xing Perturbation theorems for matrix eiganvalues. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **18** (1996), *no.* 1, 87–92. 15A18

Lü, Tsung Tsê (*with* Cheng, Sui Sun) Inequalities for integral bilinear forms acting on absolutely balanced functions. (English summary) *Appl. Anal.* **66** (1997), *no.* 1-2, 119–131. (Summary) **98k:26034** 26D15

Lu, W.-S. *see* **Lu, Wu Sheng**

Lu, Wang-Shu The efficiency of the method of moments estimates for hyperparameters in the empirical Bayes Poisson model. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 55–61. 62F15 (62C12)

Lu, Wei-Min (*with* Zhou, Kemin; Doyle, John C.) Stabilization of uncertain linear systems: an LFT approach. (English summary) *IEEE Trans. Automat. Control* **41** (1996), *no.* 1, 50–65. (Vladimir G. Sragovich) **98a:93070** 93D21 (93C42)

Lu, Weidong Convergence of a random walk method for a partial differential equation. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 593–602. (Michael Mascagni) **98g:65081** 65M12 (65C05)

Lu, Weisong A new nonlinear barotropic stability criterion including Ekman friction. (English summary) *Nonlinear World* **3** (1996), *no.* 4, 787–801. (Yuri N. Skiba) **98c:76041** 76E20 (76M30, 76U05, 86A10)

Lu, Wen-Fa (*with* Xu, Bo-Wei; Zhang, Yu-Mei) Variational excited two-particle states in the quantum sine-Gordon and sinh-Gordon field theories in $(D+1)$ dimensions. (English summary) *Interface between physics and mathematics* (*Hangzhou*, 1993), 342–347, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **98f:81182** 81T10

— (*with* Xu, Bo-Wei; Zhang, Yu-Mei) Excited states of the double sine-Gordon model. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 4, 485–488. 81T10

Lu, Wu Sheng (*with* Pei, Soo Chang; Wang, P.-H.) Weighted low-rank approximation of general complex matrices and its application in the design of 2-D digital filters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 7, 650–655. (Summary) **98d:94008** 94A12 (15A18, 65F30, 93E11)

Lu, X. C. *see* **Lü, Xin Zhong**

Lu, X. G. *see* **Lu, Xu Guang**

Lu, Xi Guan (*with* Yang, Kui Yuan) Periodic solutions of a class of nonlinear ordinary differential equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1995**, *no.* 2, 31–34. (Xin-Zhi Liu) **98c:34070** 34C25 (34B15)

— (*with* Sun, Shu Zhen) Global attractors of reaction-diffusion equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 3, 27–30. 35K57 (35B40, 58F39)

Lu, Xi-Wen Quadratic approximation method for variational inequalities. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 2, 67–76. (Muhammad Aslam Noor) **98c:49031** 49J40 (90C33)

Lü, Xian Qing Exact travelling wave solutions of discrete planar velocity Boltzmann models. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 8, 561–564. (Summary) **98k:82156** 82C40

Lu, Xian Rui (*with* Song, Dai Cai; Lin, Zheng Hua; Lei, Pei Dong) Parameter estimation and testing for regression models with inequality constraints. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 84–87. 62J05

Lu, Xiao-Yun *see* **Lu, Xiao Yun[2]**

Lu, Xiao Yun[1] (*with* Wang, Da-Wei; Wong, Chak Kuen) On avoidable and unavoidable claws. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 259–265. (Summary) **98i:05091** 05C20

Lu, Xiao Yun[2] (*with* Spurgeon, Sarah K.) Robust sliding mode control of uncertain nonlinear systems. (English summary) *Systems Control Lett.* **32** (1997), *no.* 2, 75–90. (T. Zolezzi) **98h:93005** 93B12 (93D09)

— (*with* Spurgeon, Sarah K.) Output feedback stabilization of SISO nonlinear systems via dynamic sliding modes. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 735–759. 93D15

Lu, Xiaoyun *see* **Lu, Xiao Yun[1]**

Lu, Xin (*with* Lu, Chenhong; Feng, Wei[1]) Long-term survival in a 3-species ecological system. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 2, 199–213. (Miklós Farkas) **98i:92044** 92D40 (35K57, 35Q80, 92B05)

— (*with* Feng, Wei[1]) Harmless delays for permanence in a class of population models with diffusion effects. (English summary) *J. Math. Anal. Appl.* **206** (1997), *no.* 2, 547–566. (Weihua Ruan) **98d:92014** 92D25 (35K57, 35Q80)

— Combined iterative methods for numerical solutions of parabolic problems with time delays. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 213–224. (Summary) **98h:65037** 65M06 (65M12)

Lu, Xin Ming (*with* Ye, Yin Yu; Wu, Fang) A generalized predictor-corrector linear programming algorithm. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 3, 271–281. 90C05 (90C08)

— A simplex-interior point algorithm for solving linear programming problems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 211–227. (Yin Zhang) **98c:90069** 90C05

Lü, Xin Zhong (*with* Zhang, Zhong Fu; Han, Jincang) Kirkman schoolgirl problem with colouring of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1* (*Hefei*), 275–277, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 05C15 (05B05)

— (*with* Zhang, Zhong Fu; Chang, J. X.; Lam, Peter Che Bor; Wang, Jian Fang) Edge-face total chromatic number of outerplanar graphs with $\Delta(G) = 6$. (English summary) *Computing and combinatorics* (*Xi'an*, 1995), 396–399, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:05071** 05C15

Lu, Xing Jiang (*with* Yi, Da Yi) An incomplete factorization technique and preconditioning methods for large sparse matrices. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 2, 237–242. 65F50 (15A12, 15A23)

Lü, Xing-Ya (*with* Yan, Xing-Gang; Zhang, Si Ying) Stable design of nonlinear composite large-scale systems with similarity based on state observers. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 584–590. 93B51 (93D15)

— (*with* Qian, Longjun; Wang, Jingcai; Zhang, Si Ying) Synthesis of quadratic stability control for similar composite systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 493–498. 93A15 (93D99)

— (*with* Yan, Xing-Gang; Wang, Jian-Jun; Zhang, Si Ying) Decentralized output feedback robust stabilization for a class of nonlinear interconnected systems with similarity. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 294–299. 93D21 (93A14)

Lu, Xu Guang Markov-Bernstein type inequalities of multivariate polynomials with positive coefficients and applications. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 4, 46–66. (Dimitar Kolev Dimitrov) **98d:41017** 41A17 (41A63)

— Series representation of Daubechies' wavelets. (English summary) *J. Comput. Math.* **15** (1997), *no.* 1, 81–96. (Summary) **98b:42051** 42C15

— A result on uniqueness of mild solutions of Boltzmann equations. (English summary) Proceedings of the Fourteenth International Conference on Transport Theory (Beijing, 1995). *Transport Theory Statist. Phys.* **26** (1997), *no.* 1-2, 209–220. (Carlo Cercignani) **98h:82059** 82C40 (45K05)

Lu, Xuan Zhu (*with* Chen, Zeng Zheng) A sufficient condition for optimality of multiobjective (f, p)-convex programming. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **25** (1997), *no.* 6, 6–10. 90C29 (90C25)

Lu, Xue Wen Regression function kernel estimation based on synthetic data and its strong consistency. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 1, 29–36. 62G05

Lu, Y. *see* **Lu, Yu Cai**

Lu, Y. G. *see* **Lu, Yun Gang**

Lu, Ya Qin (*with* Fan, Jin Cheng) Bayesian modeling and forecasting of elliptically distributed AR(p) series. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 63–68. 62M10 (62F15, 62M20)

Lu, Ya Yan Computing the logarithm of a symmetric positive definite matrix. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 483–496. (Summary) **98m:65069** 65F30

— A Padé approximation method for square roots of symmetric positive definite matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 833–845 (*electronic*). 65F30 (15A15)

Lu, Yang *see* **Yang, Lu**

Lu, Yilong (*with* Xiang, Zhonggui) An effective wavelet matrix transform approach for efficient solutions of electromagnetic integral equations. (English summary) *IEEE Trans. Antennas and Propagation* **45** (1997), *no.* 8, 1205–1213. (Summary) **98i:78004** 78–08 (45L05, 65R20)

Lu, Yin Lun A further study of periodic solutions for second-order neutral equations. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **13** (1997), *no.* 2, 14–16. 34K15 (34K40)

— Properties of oscillating solutions to a class of second-order functional-differential equations. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 3, 257–259. (Summary) **98j:34143** 34K15

Lu, Yin Zhi (*with* Feng, Jian Hua) An LL(2) parsing method based on LL(1). (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 1, 102–105. 68Q52

Lu, Yonghuai (*with* Zeng, Liu Chuan) On the locally nearly uniform smoothness of sets in Banach spaces. (English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **17** (1996), *no.* 2, 35–40. (Xi Tang Zhang) **98a:46026** 46B20 (46B07)

Lu, You Wen (*with* Liang, Xi Ting) Hölder continuity for solutions of elliptic equations involving measures. (English summary) *Huaihua Shizhuan Xuebao* **15** (1996), *no.* 5, 34–43. (Ya Zhe Chen) **98a:35031** 35J60 (35B65)

— (*with* Liang, Xi Ting) Boundedness of solutions to a system of elliptic variational inequalities. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 5, 20–26. (Summary) **98d:35088** 35J85 (49J40)

Lu, Yu Cai (*with* Zhu, Lie[1]) On the existence of triplewhist tournaments TWh(v). (English summary) *J. Combin. Des.* **5** (1997), *no.* 4, 249–256. (Ian Anderson) **98f:05037** 05B30

Lu, Yu Feng (*with* Yang, Dian Jun; Tan, Zhan Tian) Convergence theorems for subseries of series of bounded linear operators. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 1, 10–12. (Shao Kuan Li) **98g:47002** 47A05 (47A58)

— A class of Toeplitz operators on the Bergman space. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 3, 8–12. (Li Zhong Peng) **98f:47031** 47B35

— The Fredholm property of Toeplitz operators. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996**, *no.* 4, 18–20. (Li Zhong Peng) **98f:47032** 47B35 (47A53)

Lu, Yun Gang A quantization of diffusion processes on manifolds. (English summary) *Note Mat.* **14** (1994), *no.* 1, 57–69 (1997). (Kalyanapuram R. Parthasarathy) **98f:81158** 81S25 (60H99, 81S20)

— (*with* Accardi, Luigi; Obata, Nobuaki) Towards a non-linear extension of stochastic calculus. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 1–15. (Kalyanapuram R. Parthasarathy) **98j:60093** 60H99 (81S25)

— (*with* Accardi, Luigi; Mastropietro, V.) Stochastic bosonization for a $d \geq 3$ Fermi system. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **66** (1997), *no.* 2, 185–213. (Wolfgang Freudenberg) **98k:81129** 81S25 (46L60, 82B10)

— A remark on the free central limit theorem. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 297–306. (Roland Speicher) **98e:81089** 81S25 (46L50, 82B10)

— An interacting free Fock space and the arcsine law. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 1, 149–166. (Franco Fagnola) **98e:81090** 81S25 (46L60)

— (*with* De Giosa, Marcello) The free creation and annihilation operators as the central limit of the quantum Bernoulli process. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 227–236. (Summary) **98k:81134** 81S25 (60B99, 81S05)

— An estimate on non-zero eigenvalues of Laplacian in non-linear version. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 547–554. 35P15 (58G25, 60H15)

Lu, Yun Guang (*with* Klingenberg, Christian) Existence of solutions to resonant systems of conservation laws. (English summary) *Hyperbolic problems: theory, numerics, applications (Stony Brook, NY, 1994)*, 383–389, *World Sci. Publishing, River Edge, NJ*, 1996. (Philippe G. LeFloch) **98e:35109** 35L65

— (*with* Jeffrey, Alan) A study of the global weak solution for the isentropic equations of a polytropic gas. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 261–270, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (R. M. Gundersen) **98g:35168** 35Q35 (35L65, 76N15)

— (*with* Klingenberg, Christian) Existence of solutions to hyperbolic conservation laws with a source. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 327–340. (Pavel Dubovskiĭ) **98d:35139** 35L65

— (*with* Jäger, Willi) Global regularity of solution for general degenerate parabolic equations in 1-D. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 365–377. (Summary) **98j:35112** 35K65 (35B65, 35K55)

— Existence of a global solution for a viscoelastic system. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 175–182. (Summary) **98m:35122** 35L60 (35Q72, 73F15)

Lu, Yun Xia (*with* Zhang, Shu Qing; Yang, Guo Qing) Some theorems on the traces and eigenvalues of products of self-conjugate quaternion matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 207–213. (Shao Kuan Li) **98e:15022** 15A33 (15A15)

Lu, Z. *see* **Liu, Zheng Rong**

Lu, Zai Ping (*with* Wang, Pin Chao) Some sufficient conditions for solvability of a finite group. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 6, 820–824. (Jian Hua Huang) **98c:20032** 20D10 (20D20)

Lu, Zhan-Qian Multivariate locally weighted polynomial fitting and partial derivative estimation. (English summary) *J. Multivariate Anal.* **59** (1996), *no.* 2, 187–205. (Keh-Wei Chen) **98e:62059** 62G05

Lü, Zhen Hua Direct perturbation method for reanalysis of matrix singular value decomposition. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 5, 471–477; *translated from Appl. Math. Mech.* **18** (1997), *no.* 5, 441–446 (*Chinese. English and Chinese summaries*). 65F15 (15A18)

Lü, Zhen Su (*with* Zhou, Jun^2; Zhuang, Yan) Unified Kronecker form definitions and characteristics of finite and infinite system zeros and invariant zeros. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 3, 50–57. 93B60 (93C05)

— (*with* Zhou, Jun^2; Zhuang, Yan) A hierarchical relationship between the zeros and poles of substructural systems of multivariable systems. (Chinese) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 3, 151–154. 93B60

Lu, Zhengyi Global stability for a Lotka-Volterra system with a weakly diagonally dominant matrix. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 81–84. (Pauline van den Driessche) **98m:34107** 34D20 (92D25)

Lü, Zhi (*with* Zhou, Chun Lian; Liu, Xi Bo) The group structure of the unoriented bordism class of the bundle space $\mathrm{RP}(\xi^{k+1})$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 3, 385–392. 57R75 (55N22)

Lu, Zhikang The exact value of the harmonious chromatic number of a complete binary tree. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 93–101. (Summary) **98e:05043** 05C15

— Exact value of the harmonious chromatic number of a complete trinary tree. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 26–31. (J. Mitchem) **98m:05070** 05C15

Lu, Zhiqi (*with* Zhang, Peiqu; Hadeler, K. P.) Global stability of competition models in the chemostat. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 8–15. (Summary) **98k:92016** 92D40 (34D99)

Lu, Zhonghua (*with* Zhang, Gang^2) On the nonautonomous cooperative system. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 21–27. (Summary) **98k:92014** 92D25 (34C25)

Lu, Zhun-Wei (*with* Xu, Cheng-Xu) Pandiagonal magic squares. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 388–391, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98c:05034** 05B15

Lu, Zudi A note on geometric ergodicity of autoregressive conditional heteroscedasticity (ARCH) model. (English summary) *Statist. Probab. Lett.* **30** (1996), *no.* 4, 305–311. (William D. Ray) **98c:62175** 62M10 (60J10)

Lubachevsky, B. D. (*with* Graham, Ronald L.) Dense packings of $3k(k+1)+1$ equal disks in a circle for $k = 1, 2, 3, 4$, and 5. (English summary) *Computing and combinatorics (Xi'an, 1995)*, 303–312, *Lecture Notes in Comput. Sci.*, 959, *Springer, Berlin*, 1995. (Summary) **98a:52028** 52C15 (05B40)

— (*with* Graham, Ronald L.) Curved hexagonal packings of equal disks in a circle. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 2, 179–194. (Summary) **98f:52021** 52C15 (05B40)

Lubashevskiĭ, I. A. (*with* Gafilchuk, V. V.) A mathematical model of an ideal hierarchically organized life support system of distributed living media. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 5, 611–613. 92D40

— (*with* Gafilchuk, V. V.; Klimontovich, Yu. L.) A model of a hierarchically organized market that functions perfectly. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 5, 3–16. 90A60 (90A15)

van der Lubbe, Jan C. A. ★ Information theory. Translated from the 1988 Dutch original by Hendrik Jan Hoeve and Steve Gee. *Cambridge University Press, Cambridge*, 1997. xii+350 *pp. ISBN* 0-521-46198-7; 0-521-46760-8 (Andrea Sgarro) **98i:94005** 94A15 (94A24)

Lübbing, Ch. (*with* Parisch, H.) A formulation of arbitrarily shaped surface elements for three-dimensional large deformation contact with friction. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 18, 3359–3383. 73T05 (73C50, 73V05)

Lubbock, John William *see* **Boole, George, 98h:01033**

Lube, Gert (*with* Kapurkin, Andrei) A domain decomposition method for singularly perturbed elliptic problems. (English summary) *Fast solvers for flow problems (Kiel, 1994)*, 151–162, *Notes Numer. Fluid Mech.*, 49, *Vieweg, Braunschweig*, 1995. (Alberto Valli) **98b:65137** 65N55 (65N30, 76M25)

— (*with* Apel, Thomas) Anisotropic mesh refinement in stabilized Galerkin methods. (English summary) *Numer. Math.* **74** (1996), *no.* 3, 261–282. (G. Albinus) **98a:65158** 65N30 (65N50)

Lübeck, Frank (*with* Hiss, Gerhard) The Brauer trees of the exceptional Chevalley groups of types F_4 and ${}^2E_6$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 16–21. (Donald L. White) **98k:20017** 20C33 (20C20, 20G40)

Lubian, Diego (*with* Cappuccio, Nunzio) Spurious regressions between $I(1)$ processes with long memory errors. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 341–354. (N. Leonenko) **98m:62236** 62M10 (60F05, 60F17)

Lubich, Christian (*with* Engstler, Christian) MUR8: a multirate extension of the eighth-order Dormand-Prince method. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 185–192. (T. E. Simos) **98m:65112** 65L06

— (*with* Engstler, Christian) Multirate extrapolation methods for differential equations with different time scales. (English and German summaries) *Computing* **58** (1997), *no.* 2, 173–185. (Kevin Burrage) **98b:65076** 65L05 (85–08)

— (*with* Hairer, E.) The life-span of backward error analysis for numerical integrators. (English summary) *Numer. Math.* **76** (1997), *no.* 4, 441–462. (Bolesław Kacewicz) **98g:65074** 65L70 (58F14, 65L05, 70–08, 70H05)

— (*with* Hochbruck, Marlis) On Krylov subspace approximations to the matrix exponential operator. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1911–1925. (Summary) **98h:65018** 65F30 (65L99)

— (*with* Hochbruck, Marlis) Error analysis of Krylov methods in a nutshell. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 695–701 (*electronic*). 65F10

Lubin, A. R. (*with* Attele, K. R. M.) Joint isometric complements. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 2, 125–132. (Ameer Athavale) **98e:47032** 47A99 (47A13, 47B35)

Lubinsky, D. S. Ideas of weighted polynomial approximation on $(-\infty, \infty)$. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 371–396, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A10

— (*with* Cuyt, Annie) On the convergence of multivariate Padé approximants. (English summary) Numerical analysis (Louvain-la-Neuve, 1995). *Bull. Belg. Math. Soc. Simon Stevin* **1996**, *suppl.*, 51–61. (H.-J. Runckel) **98j:41011** 41A21 (30E10)

— The weighted L_p-norms of orthonormal polynomials for Erdős weights. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 151–163. (F. Móricz) **98f:42025** 42C10

— Forward and converse theorems of polynomial approximation for exponential weights on $[-1, 1]$. I, II. (English summary) *J. Approx. Theory* **91** (1997), *no.* 1, 1–47, 48–83. (D. Leviatan) **98m:41012** 41A10 (41A25, 41A27)

Lubiw, Anna (*with* Colley, Paul; Spinrad, Jeremy) Visibility graphs of towers. (English summary) *Comput. Geom.* **7** (1997), *no.* 3, 161–172. (Summary) **98a:68180** 68U05 (05C85, 68R10)

— (*with* Bose, Prosenjit; Guibas, Leonidas J.; Overmars, Mark H.; Souvaine, Diane; Urrutia, Jorge) The floodlight problem. (English summary) Workshop on Computational Geometry (Raleigh, NC, 1993). *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 1-2, 153–163. (Rade Živaljević) **98c:52018** 52B55 (68U05)

— (*with* Bose, Prosenjit; Buss, Jonathan F.) Pattern matching for permutations. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 277–283. (Summary) **98m:68113** 68Q25 (68R05)

Lubkin, S. R. (*with* Murray, J. D.; Cook, Julian; Tyson, R.) Spatial pattern formation in biology. I. Dermal wound healing. II. Bacterial patterns. (English summary) Biomathematics. *J. Franklin Inst. B* **335** (1998), *no.* 2, 303–332. (*see* **98i:92001**) 92C15 (92–02)

Lubochkin, A. V. (*with* Kirillova, F. M.) Synthesis of an optimal control in a linear-quadratic problem with constraints. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 736–739. (M. Krastanov) **98k:49047** 49N10 (49N35)

Lubotzky, Alexander Eigenvalues of the Laplacian, the first Betti number and the congruence subgroup problem. *Ann. of Math.* (2) **144** (1996), *no.* 2, 441–452. (From the introduction) **98h:22013** 22E40 (11R52, 57R20)

Lubuma, Jean M.-S. *see* **Variational problems in applied mathematics, 98g:00032**

Luby, Michael Derandomizing approximation algorithms for hard counting problems. *Theoretical computer science (Ravello, 1995)*, 1–19, *World Sci. Publishing, River Edge, NJ*, 1996. (Mark R. Jerrum) **98b:68059** 68Q15 (68Q25)

— (*with* Alon, Noga) A linear time erasure-resilient code with nearly optimal recovery. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1732–1736. (Bal Kishan Dass) **98i:94030** 94B05

— (*with* Albanese, Andres; Blömer, Johannes; Edmonds, Jeff; Sudan, Madhu) Priority encoding transmission. (English summary) Codes and complexity. *IEEE Trans. Inform.*

Theory **42** (1996), *no.* 6, *part* 1, 1737–1744. (*see* **98c:94001**) 94C05 (94A05)

— (*with* Dagum, Paul) An optimal approximation algorithm for Bayesian inference. (English summary) *Artificial Intelligence* **93** (1997), *no.* 1-2, 1–27. (Summary) **98b:68182** 68T30 (62A99)

— *see also* **Proceedings: Workshop on Randomized Algorithms and Computation, 98i:68012**

Lubyshev, F. V. Approximation and regularization of optimal control problems for parabolic equations with controls in the coefficients. (Russian) *Dokl. Akad. Nauk* **349** (1996), *no.* 5, 598–602. (Fredi Tröltzsch) **98e:49074** 49M25 (35B37, 35K99, 49J20)

đinh thế Lục *see* **Đinh Thế Lục**

Luc, D. T. *see* **Đinh Thế Lục**

Luc, Dinh The *see* **Đinh Thế Lục**

Luc, Le Tu (*with* Lê Dũng Mu'u) Global optimization approach to optimizing over the efficient set. (English summary) *Recent advances in optimization* (*Trier*, 1996), 183–195, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Summary) **98e:90141** 90C29 (90C25)

de Luca, Aldo On standard Sturmian morphisms. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 403–415, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98f:68225** 68R15 (11B85)

— Sturmian words: new combinatorial results. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 67–83, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **98h:68185** 68R15 (11B85)

— (*with* Varricchio, Stefano) Regularity and finiteness conditions. *Handbook of formal languages, Vol.* 1, 747–810, *Springer, Berlin*, 1997. (Pascal Weil) **98h:68186** 68R15 (03D05, 20M35, 68Q45)

— (*with* Berstel, Jean) Sturmian words, Lyndon words and trees. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 171–203. (Véronique Bruyère) **98j:68138** 68R15

— Standard Sturmian morphisms. (English summary) *Theoret. Comput. Sci.* **178** (1997), *no.* 1-2, 205–224. (Véronique Bruyère) **98k:68142** 68R15

— Sturmian words: structure, combinatorics, and their arithmetics. (English summary) *Theoret. Comput. Sci.* **183** (1997), *no.* 1, 45–82. (Patrice Séébold) **98h:68187** 68R15

Luca, Florian The defect of the completion of a Green functor. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 369–381, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **98j:19001** 19A22 (18D15)

Luca, M. (*with* Kocabiyik, Serpil; Shivakumar, P. N.) Flow past and through a porous medium in a doubly connected region. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 49–54. 76S05

Lucas, André Robustness of the Student t based M-estimator. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 5, 1165–1182. (Summary) **98a:62038** 62F35

— Asymptotic robustness of least median of squares for autoregressions with additive outliers. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2363–2380. (Summary) **98f:62263** 62M10 (62F35)

— Cointegration testing using pseudolikelihood ratio tests. (English summary) *Econometric Theory* **13** (1997), *no.* 2, 149–169. (M. P. Moklyachuk) **98f:62044** 62F03 (62P20, 90A19)

Lucas, Laércio Aparecido (*with* Neto, Oziride Manzoli; Saeki, Osamu) A generalization of Alexander's torus theorem to higher dimensions and an unknotting theorem for $S^p \times S^q$ embedded in S^{p+q+2}. (English summary) *Kobe J. Math.* **13** (1996), *no.* 2, 145–165. (J. P. Levine) **98e:57041** 57R40 (57Q45, 57R80)

Lucas, Pascual (*with* Ferrández, Angel; Meroño, Miguel Angel) Pseudo-spherical and pseudo-hyperbolic submanifolds via the quadric representation. I. (English summary) *Arch. Math.* (*Basel*) **68** (1997), *no.* 6, 520–528. (Bang-yen Chen) **98e:53090a** 53C40 (53B25)

— (*with* Ferrández, Angel; Meroño, Miguel Angel) Pseudo-spherical and pseudo-hyperbolic submanifolds via the quadric representation. II. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 1, 82–88. (Bang-yen Chen) **98e:53090b** 53C40

Lucas, Robert F. (*with* Conroy, John M.; Kratzer, Steven G.; Naiman, Aaron E.) Data-parallel sparse LU factorization. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 584–604 (*electronic*). 65F50 (65Y10)

— *see also* **Proceedings: Conference on Parallel Processing for Scientific Computing, 98h:65004**

Lucas, Salvador Termination of context-sensitive rewriting by rewriting. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 122–133, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Summary) **98e:68130** 68Q42 (68N15, 68Q55)

— Context-sensitive computations in functional and functional logic programs. (English summary) *J. Funct. Logic Programming* **1998**, *Article* 1, 61 *pp.* (*electronic*). (Summary) **98i:68145** 68Q42 (68N15, 68N17)

Lucas, T. *see* **Lucas, Thomas G.**

Lucas, T. R. (*with* Klibanov, Michael V.; Frank, Robert) A fast and accurate imaging algorithm in optical/diffusion tomography. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1341–1361. (Summary) **98h:35234** 35R30 (35K10, 65M30)

Lucas, Thomas G. (*with* Houston, Evan; Kabbaj, Salah-Eddine; Mimouni, A.) Duals of ideals in polynomial rings. *Commutative ring theory* (*Fès*, 1995), 349–358, *Lecture Notes in Pure and Appl. Math.*, 185, *Dekker, New York*, 1997. (Marco Fontana) **98f:13021** 13F20 (13A15)

— Characterizing when $R(X)$ is completely integrally closed. *Factorization in integral domains* (*Iowa City, IA*, 1996), 401–415, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Evan G. Houston) **98m:13013** 13B22 (13F20)

— The integral closure of $R\langle x\rangle$ and $R\langle x\rangle$. *Comm. Algebra* **25** (1997), *no.* 3, 847–872. (Sunsook Noh) **98a:13015** 13B22 (13B21, 13B30, 13F20)

Luca-Tudorache, Rodica Asymptotic behaviour of solutions to a class of hyperbolic systems. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 71–76. 35L60 (35B40)

— Mixed problems for a class of nonlinear hyperbolic systems. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **12** (1996), *no.* 1, 77–84. 35L60 (35R70)

Lucchesi, Claudio (*with* Zoupanos, George) All-order finiteness in $N = 1$ SYM theories: criteria and applications. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 2, 129–143. (Hamid Kachkachi) **98g:81141** 81T17 (81T13, 81T60, 81V22)

— Finiteness in $N = 1$ SYM theories. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 195–197. (*see* **98g:81005**) 81T15 (81T17)

Lucchesi, Cláudio Leonardo (*with* Giglio, Maria Cecília M. T.) On the connection between the undirected and the acyclic directed two disjoint paths problem. (English summary) *Ars Combin.* **47** (1997), 191–200. (Summary) **98h:05118** 05C38 (05C20)

— (*with* de Mello, Célia Picinin; Szwarcfiter, Jayme Luiz) On clique-complete graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 247–254. (Summary) **98i:05139** 05C75

Lucchesi, David (*with* Ciufolini, Ignazio; Chieppa, Federico; Vespe, Francesco) Test of Lense-Thirring orbital shift due to spin. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2701–2726. 83B05 (83C10)

Lucchesi, Massimiliano (*with* Padovani, Cristina; Pasquinelli, Giuseppe) Thermo-mechanics of no-tension materials. (English summary) *Contact mechanics, III* (*Madrid*, 1997), 353–362, *Comput. Mech., Southampton*, 1997. (*see* **98h:73001**) 73B05 (73B30, 73G05)

— (*with* Padovani, Cristina; Pasquinelli, Giuseppe; Zani, Nicola) On the collapse of masonry arches. (English and Italian summaries) *Meccanica* **32** (1997), *no.* 4, 327–346. 73E20 (73K99)

Lucchetti, Roberto (*with* Holá, Ľubica) Polishness of weak topologies generated by gap and excess functionals. (English summary) *J. Convex Anal.* **3** (1996), *no.* 2, 283–294. (Summary) **98d:54023** 54B20

— (*with* Azé, Dominique) Stability of supporting and exposing elements of convex sets in Banach spaces. (English summary) Well-posedness and stability of variational problems. *Serdica Math. J.* **22** (1996), *no.* 3, 205–228. (Constantin Zălinescu) **98g:46015** 46B20 (52A05, 90C31)

— (*with* Zolezzi, T.) On well-posedness and stability analysis in optimization. (English summary) *Mathematical programming with data perturbations*, 223–251, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (Julian Revalski) **98i:49017** 49J45 (49K40, 90C31)

Lucchini, Andrea A bound on the presentation rank of a finite group. *Bull. London Math. Soc.* **29** (1997), *no.* 4, 389–394. (K. W. Roggenkamp) **98e:20042** 20F05 (20D99)

— (*with* Baddeley, Robert) On representing finite lattices as intervals in subgroup lattices of finite groups. (English summary) *J. Algebra* **196** (1997), *no.* 1, 1–100. (P. P. Pálfy) **98j:20022** 20D30 (06B15, 20E22)

— (*with* Menegazzo, Federico) Generators for finite groups with a unique minimal normal subgroup. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 173–191. (Robert M. Guralnick) **98m:20034** 20F05 (20D20)

Luccio, Fabrizio (*with* Ferragina, Paolo) On the parallel dynamic dictionary matching problem: new results with applications. (English summary) *Algorithms—ESA '96* (*Barcelona*), 261–275, *Lecture Notes in Comput. Sci.*, 1136, *Springer, Berlin*, 1996. (*see* **98d:68007**) 68Q22 (68Q25)

— (*with* Pedrotti, Alberto) Design of reliable combinatorial algorithms using certificates. (English summary) *Algorithms and complexity* (*Rome*, 1997), 147–158, *Lecture Notes in Comput. Sci.*, 1203, *Springer, Berlin*, 1997. (Summary) **98i:68112** 68Q20 (68M15)

— (*with* Pagli, Linda) An insight on PRAM computational bounds. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 6, 331–336. (Summary) **98e:68093** 68Q22 (68Q05, 68Q25)

Luccio, Flaminia L. (*with* Kranakis, Evangelos; Krizanc, Danny) String recognition on anonymous rings. (English summary) *Mathematical foundations of computer science* 1995 (*Prague*), 392–401, *Lecture Notes in Comput. Sci.*, 969, *Springer, Berlin*, 1995. (*see* **98d:68019**) 68M10 (68Q25)

Luccioni, Raúl Ernesto *see* **López de Arásoz, Beatriz**

Luce, Benjamin P. (*with* Cruz-Pacheco, Gustavo) On the relationship of periodic wavetrains and solitary waves of complex Ginzburg-Landau type equations. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 391–402. 78A10 (35Q55)

Luce, R. Duncan When four distinct ways to measure utility are the same. (English summary) *J. Math. Psych.* **40** (1996), *no.* 4, 297–317. (Reinhard Suck) **98d:90032** 90A10 (92G05)

— Several unresolved conceptual problems of mathematical psychology. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 79–87. 92J99

Lucena, Abilio (*with* Beasley, John E.) Branch and cut algorithms. *Advances in linear and integer programming*, 187–221, *Oxford Lecture Ser. Math. Appl.*, 4, *Oxford Univ. Press, New York*, 1996. (*see* **98j:90002**) 90C27 (90C10)

Luceño, Alberto A fast likelihood approximation for vector general linear processes with long series: application to fractional differencing. (English summary) *Biometrika* **83** (1996), *no.* 3, 603–614. (V. V. Anh) **98c:62176** 62M10

— (*with* Box, George) ★ Statistical control. (English summary) By monitoring and feedback adjustment. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xvi+327 *pp. ISBN* 0-471-19046-2 (Katsuji Uosaki) **98k:93111** 93E10 (62N10, 93B52, 93E20)

— (*with* Hadi, Ali S.) Maximum trimmed likelihood estimators: a unified approach, examples, and algorithms. (English summary) *Comput. Statist. Data Anal.* **25** (1997), *no.* 3, 251–272. 62F10

— Detecting possibly non-consecutive outliers in industrial time series. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 2, 295–310. 62M10

Lucero, Jorge C. (*with* Moreira, Helmar Nunes) Some stability results for an $S \to I \to R \to S$ epidemic model with nonlinear incidence. (English summary) *Cybernetica* **40** (1997), *no.* 3, 217–227. (Summary) **98i:92038** 92D30

Lucet, Yves A fast computational algorithm for the Legendre-Fenchel transform. (English summary) *Comput. Optim. Appl.* **6** (1996), *no.* 1, 27–57. (Summary) **98i:90066** 90C26 (49N15)

— Faster than the fast Legendre transform, the linear-time Legendre transform. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 171–185 (1998). (Summary) **98m:65221** 65R10 (49J99)

Lucey, S. P. (*with* Rasch, J.; Whelan, Colm T.; Walters, H. R. J.) On the numerical evaluation of six-dimensional integrals occurring in scattering problems. (English summary) *Comput. Phys. Comm.* **101** (1997), *no.* 3, 197–205. (Summary) **98e:81191** 81U99 (81–08)

Lucheroni, C. A system of coupled sinh-Gordon equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 11, 1537–1545. 35Q53 (35L70)

Luchi, Duccio (*with* Ciabattoni, Agata) Two connections between linear logic and Łukasiewicz logics. (English summary) *Computational logic and proof theory* (*Vienna*, 1997), 128–139, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Summary) **98j:03032** 03B50 (03F50, 03G25)

Luchinski, P. (*with* Motspan, D.; Chubuk, I.; et al.) Vladimir Aleksandrovich Andrunakievich. (Russian) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 1–2. 01A70

Luchka, A. Yu. (*with* Gorbachuk, M. L.; Mitropol'skiĭ, Yuriĭ Alekseevich; Samoĭlenko, A. M.) Bogdan Iosipovich Ptashnik (on the occasion of his sixtieth birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1155–1156. 01A70

Luchko, Yurii F. (*with* Gorenflo, Rudolf; Srivastava, Hari M.) Operational method for solving integral equations with Gauss's hypergeometric function as a kernel. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 2, 179–200. (Elias Deeba) **98m:45003** 45D05 (33C90, 44A40)

— (*with* Gorenflo, Rudolf) Operational method for solving generalized Abel integral equation of second kind. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 1-2, 47–58. (Summary) **98f:45002** 45E10 (44A40)

Luchsinger, C. J. (*with* Barbour, A. D.; Heesterbeek, J. A. P.) Thresholds and initial growth rates in a model of parasitic infection. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 4, 1045–1074. (P. R. Parthasarathy) **98b:92020** 92D30 (60J85)

Lucht, Lutz G. Arithmetical aspects of certain functional equations. (English summary) *Acta Arith.* **82** (1997), *no.* 3, 257–277. (Aleksander Grytczuk) **98m:11005** 11A25 (11N37, 39A10, 39B62)

— Arithmetical sequences and systems of functional equations. (English summary) *Aequationes Math.* **53** (1997), *no.* 1-2, 73–90. (Roland Girgensohn) **98b:11007** 11A25 (39B62)

sols Lucia, Ignacio *see* **Sols Lucía, Ignacio**

de Lucia, Paolo (*with* Pap, Endre) Nikodým convergence theorem for uniform space valued functions defined on D-posets. (English summary) *Math. Slovaca* **45** (1995), *no.* 4, 367–376. (Summary) **98b:28005** 28A10 (28C99)

— (*with* Duchoň, Miloslav; Dvurečenskij, Anatolij) Moment problem for effect algebras. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1941–1958. (D. J. Foulis) **98k:81019** 81P10 (03G12)

Luciano, Raimondo (*with* Bisegna, Paolo) Bounds on the off-diagonal coefficients of the homogenized constitutive tensor of a composite material. *Mech. Res. Comm.* **23** (1996), *no.* 3, 239–245. (Summary) **98c:73005** 73B27 (73K20)

— (*with* Sacco, Elio) Homogenization technique and damage model for old masonry material. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 24, 3191–3208. (Summary) **98e:73010** 73B27 (73K20, 73S10, 73V20)

— (*with* Bisegna, Paolo) On methods for bounding the overall properties of periodic piezoelectric fibrous composites. (English summary) *J. Mech. Phys. Solids* **45** (1997), *no.* 8, 1329–1356. (David J. Bergman) **98f:73004** 73B27 (73K20, 73R05)

Lucibello, Pasquale (*with* Panzieri, Stefano) Experiments on output tracking with internal stability by learning for a one-link flexible arm. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 11, 2065–2069. 93C85

— (*with* Panzieri, Stefano) Cyclic control of robot arms. (English summary) New directions in control and automation, II (Limassol, 1995). *Kybernetika* (*Prague*) **33** (1997), *no.* 1, 87–102. (*see* **98g:93001**) 93C85 (93C95)

Lucidi, S. (*with* Brachetti, P.; De Felice Ciccoli, M.; Di Pillo, G.) A new version of the Price's algorithm for global optimization. (English summary) *J. Global Optim.* **10** (1997), *no.* 2, 165–184. (A. H. Žilinskas) **98a:90094** 90C30 (65K05)

— (*with* Di Pillo, G.; Grippo, L.) Smooth transformation of the generalized minimax problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 1, 1–24. (V. F. Dem'yanov) **98i:90088** 90C30 (49K35)

— (*with* Grippo, L.) A globally convergent version of the Polak-Ribière conjugate gradient method. (English summary) *Math. Programming* **78** (1997), *no.* 3, *Ser. A*, 375–391. (Vera V. Kovačević-Vujčić) **98k:90080** 90C26

Lucien, Isabelle Mélange faible topologique des flots sur les surfaces. (English and French summaries) [Weak topological mixing of flows on surfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 6, 669–672. (Jérôme Buzzi) **98i:58141** 58F11 (54H20, 58F25)

Lucinda, J. Field-boost transformations and Maxwell's equations. (English and French summaries) *Phys. Essays* **10** (1997), *no.* 2, 256–268. (Summary) **98i:78010** 78A25 (83A05)

Lucio Martinez, J. L. (*with* Nieto, J. Antonio; Vergara, J. David) A generalized Klein-Gordon equation from a reparametrized Lagrangian. (English summary) *Phys. Lett. A* **219** (1996), *no.* 3-4, 150–154. (Summary) **98h:81019** 81Q05

Luck, J. M. (*with* Godrèche, C.) Non-equilibrium dynamics of a simple stochastic model. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6245–6272. 82D30

Lück, Wolfgang L^2-Invarianten von Mannigfaltigkeiten und Gruppen. [L^2-invariants of manifolds and groups] *Jahresber. Deutsch. Math.-Verein.* **99** (1997), *no.* 3, 101–109. (Matthias Lesch) **98k:58217** 58G12 (57Q10)

— (*with* Müller, Andreas) Existence of finitely dominated CW-complexes with $G_1(X) = \pi_1(X)$ and non-vanishing finiteness obstruction. (English summary) *Manuscripta Math.* **93** (1997), *no.* 4, 535–538. (Summary) **98h:55016** 55P45 (57Q12)

— Das Jones-Polynom und Entwirrungs-Invarianten in der Knotentheorie. (German summary) [The Jones polynomial and skein invariants in knot theory] *Math. Semesterber.* **44** (1997), *no.* 1, 37–72. (Summary) **98k:57013** 57M25

Lücke, W. Nonlinear Schrödinger dynamics and nonlinear observables. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 140–154, *World Sci. Publishing, River Edge, NJ*, 1995. (Władysław Adam Majewski) **98g:81046** 81Q99 (81P99)

Lucquin-Desreux, Brigitte (*with* Degond, Pierre) Transport coefficients of plasmas and disparate mass binary gases. (English summary) *Transport Theory Statist. Phys.* **25** (1996), *no.* 6, 595–633. (Summary) **98j:82065** 82D10 (76P05, 76W05, 82C31, 82C40)

Łuczak, Andrzej Remarks on operator-semistable measures on finite-dimensional vector spaces. (English summary) *Comment. Math. Prace Mat.* **36** (1996), 157–166. (Jerry Alan Veeh) **98b:60027** 60E07 (60B11)

— Exponents and symmetry of operator Lévy's probability measures on finite-dimensional vector spaces. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 1, 117–129. (Mark M. Meerschaert) **98b:60028** 60E07 (60E10)

Łuczak, Tomasz (*with* Schoen, Tomasz) On strongly sum-free subsets of abelian groups. *Colloq. Math.* **71** (1996), *no.* 1, 149–151. (From the text) **98g:20036** 20D60 (05C15, 05C25)

— (*with* Urbański, Sebastian) A note on restricted vertex Ramsey numbers. *Period. Math. Hungar.* **33** (1996), *no.* 2, 101–103. (Pavel Valtr) **98m:05131** 05C55 (05C35)

— (*with* Pyber, László) On random generation of the symmetric group [MR 95b:20004]. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 463–470, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98d:00027**) 20B30 (12Y05)

— (*with* Kohayakawa, Yoshiharu; Rödl, Vojtěch) On K^4-free subgraphs of random graphs. (English summary) *Combinatorica* **17** (1997), *no.* 2, 173–213. (Mark R. Jerrum) **98h:05166** 05C80 (05C35)

— (*with* Karoński, Michał) The number of connected sparsely edged uniform hypergraphs. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 153–167. (T. T. Raghunathan) **98g:05072** 05C30 (05C65)

— (*with* Szpankowski, Wojciech) A suboptimal lossy data compression based on approximate pattern matching. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1439–1451. (Summary) **98h:94014a** 94A29

— (*with* Szpankowski, Wojciech) Correction to: "A suboptimal lossy data compression based on approximate pattern matching". *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 2064. (Editors) **98h:94014b** 94A29

— (*with* Schoen, Tomasz) On infinite sum-free sets of natural numbers. (English summary) *J. Number Theory* **66** (1997), *no.* 2, 211–224. (Milan Paštéka) **98g:11011** 11B25 (11B05)

— On the fractional dimension of sets of continued fractions. *Mathematika* **44** (1997), *no.* 1, 50–53. (Mohamed Mkaouar) **98i:11059a** 11K50 (11K55)

— (*with* Pałka, Zbigniew) Paul Erdős (1913–1996). (Polish) *Wiadom. Mat.* **33** (1997), 99–109. 01A70

— (*with* Rödl, Vojtěch; Schoen, Tomasz) Independent finite sums in graphs defined on the natural numbers. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 289–294. (N. Hindman) **98m:05193** 05D10 (05C55)

— *see also* **Feng, De Jun et al., 98i:11059b**

Łuczka, Jerzy (*with* Rudnicki, Ryszard) Randomly flashing diffusion: asymptotic properties. (English summary) *J. Statist. Phys.* **83** (1996), *no.* 5-6, 1149–1164. (Wolfgang Freudenberg) **98b:82056** 82C31 (47D07, 60J60)

Lădde, Mirko Yang-Baxter deformations of complex simple Lie algebras. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 189–197. (*see* **98b:00032**) 17B37 (81R50)

— A unified construction of the Alexander- and the Jones-invariant. (English summary) The Proceedings of the 16th Winter School "Geometry and Physics" (Srní, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 46 (1997), 117–121. (Summary) **98d:57017** 57M25

Ludema, Rodney D. (*with* Wooton, Ian) International trade rules and environmental cooperation under asymmetric information. (English summary) *Internat. Econom. Rev.* **38** (1997), *no.* 3, 605–625. 90A15 (90A30)

Ludlow, David K. (*with* Clarkson, Peter A.; Priestley, Thomas J.) The classical, direct, and nonclassical methods for symmetry reductions of nonlinear partial differential equations. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 173–195. (Summary) **98j:35089** 35A30 (22E70, 35Q53, 58G35)

Ludu, Andrei (*with* Bonatsos, Dennis; Kolokotronis, P.; Daskaloyannis, C.; Quesne, Christianne) Nonlinear deformed su(2) algebras involving two deforming functions. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1189–1196. (Summary) **98f:81120** 81R50

— (*with* Greiner, Walter) Quasi-continuous symmetries of non-Lie type. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1123–1138. (Violeta V. Tretynyk) **98j:81161** 81R50 (81S05)

Ludvigsen, Malcolm (*with* Dominguez, Alfredo E.; Kozameh, Carlos N.) The phase space of radiative spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3377–3390. (Simonetta Frittelli) **98m:83007** 83C05 (83C30)

Ludwig, Andreas W. W. (*with* Fendley, Paul; Saleur, Hubert) Quantum impurity problems in condensed matter physics. (English summary) *STATPHYS 19* (*Xiamen*, 1995), 137–157, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **98a:82002**) 82–02

— (*with* Maldacena, Juan M.) Majorana fermions, exact mapping between quantum impurity fixed points with four bulk fermion species, and solution of the "unitarity puzzle". (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 565–588. (Guillermo Zemba) **98m:82011** 82B10

Ludwig, Garry (*with* Edgar, S. Brian) All conformally flat pure radiation metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 4, L65–L68. (Summary) **98m:83014** 83C20 (83C15)

— (*with* Edgar, S. Brian) Integration in the GHP formalism. III. Finding conformally flat radiation metrics as an example of an "optimal situation". (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1309–1328. (J. B. Griffiths) **98i:83056** 83C60 (83C20)

Ludwig, Jean (*with* Arnal, Didier; Fujiwara, Hidenori) Opérateurs d'entrelacement pour les groupes de Lie exponentiels. (French summary) [Intertwining operators for exponential Lie groups] *Amer. J. Math.* **118** (1996), *no.* 4, 839–878. (Chal Benson) **98b:22012** 22E25

— (*with* Dhieb, Semi) Caractérisation des convoluteurs de Schwartz des groupes de Lie nilpotents. (English and French summaries) [Characterization of the Schwartz multipliers of nilpotent Lie groups] *J. Funct. Anal.* **144** (1997), *no.* 1, 46–63. (Jacek Cygan) **98f:22009** 22E25 (43A22)

Ludwig, Jeffrey T. (*with* Ooi, James M.; Verbout, Shawn M.; Wornell, Gregory W.) A separation theorem for periodic sharing information patterns in decentralized control. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 11, 1546–1550. (Summary) **98e:93003** 93A14 (93E20)

Luecke, John (*with* Wu, Ying-Qing) Relative Euler number and finite covers of graph manifolds. *Geometric topology* (*Athens, GA*, 1993), 80–103, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Bruno Zimmermann) **98h:57036** 57N10 (57M10)

Luengo, Ignacio (*with* Guseĭn-Zade, S. M.; Melle-Hernández, A.) Partial resolutions and the zeta-function of a singularity. (English summary) *Comment. Math. Helv.* **72** (1997),

no. 2, 244–256. (Jan Stevens) **98j:32043** 32S25 (14B05)

Lueptow, Richard M. (*with* Wereley, Steven T.) Spatio-temporal character of non-wavy and wavy Taylor-Couette flow. (English summary) *J. Fluid Mech.* **364** (1998), 59–80. 76–05 (76C99)

glüsing-Lüerssen, Heide *see* **Glüsing-Lüerssen, Heide**

gil-Luezas, A. *see* **Gil-Luezas, A.**

Luft, Erhard (*with* Kobayashi, Masako; Wang, Shicheng) A finite group acting on a rational homology 3-sphere with 0-dimensional fixed point set must be Z_2. *Topology* **36** (1997), *no.* 2, 509–518. (Darryl McCullough) **98h:57028** 57M60

Lugiato, L. A. (*with* Castelli, F.) Realization of the Einstein-Podolsky-Rosen paradox in the far-field of the optical parametric oscillator above threshold. (English summary) *J. Modern Opt.* **44** (1997), *no.* 4, 765–783. (Summary) **98c:81018** 81P15

Lugo, Adrián R. SO(3) × U(1) isometric instantons with non-abelian hair in four-dimensional string theory. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 25, 1847–1858. (Sergey Nikolaevich Roshchupkin) **98j:81287** 81T30

— Exact monopole instantons and cosmological solutions in string theory from abelian-dimensional reduction. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6394–6402. (Summary) **98e:83122** 83E30 (81T30)

Lugosi, Gábor (*with* Nobel, Andrew B.) Consistency of data-driven histogram methods for density estimation and classification. (English summary) *Ann. Statist.* **24** (1996), *no.* 2, 687–706. (Summary) **98f:62106** 62G05 (62H30)

— (*with* Bartlett, Peter L.; Linder, Tamás) A minimax lower bound for empirical quantizer design. (English summary) *Computational learning theory* (*Jerusalem*, 1997), 210–222, *Lecture Notes in Comput. Sci.*, 1208, *Springer, Berlin*, 1997. (Summary) **98i:94009** 94A29

Lugovtsov, B. A. On spontaneous twisting in axisymmetric flows of a conducting fluid in a magnetic field. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **37** (1996), *no.* 6, 35–43; *translation in J. Appl. Mech. Tech. Phys.* **37** (1996), *no.* 6, 802–809 (1997). (Alexander Lifschitz) **98d:76166** 76W05 (76C05)

— (*with* Ovsyannikov, L. V.) Development of the mechanics of fluids and gases at the Institute of Hydrodynamics of the Siberian Branch of the Russian Academy of Sciences, 1986–1996. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 4, 3–27; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 4, 493–516 (1998). 76–03 (01A65)

Luh, Jiang (*with* Ye, Youpei) Derivations of higher order in prime rings. (English summary) *Canad. Math. Bull.* **39** (1996), *no.* 3, 376–384. (Charles Lanski) **98a:16039** 16W25 (16N60)

— (*with* Ye, Youpei) Derivations of higher order in semiprime rings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 89–92. 16W25 (16N60)

Luh, Wolfgang Multiply universal holomorphic functions. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 135–155. (Arturo Presa Sagué) **98e:30043** 30E10 (46E10)

Luhandjula, Monga K. (*with* Djungu, A. O.; Kasoro, N. M.) On fuzzy probabilistic linear programming. (English summary) *Problèmes variationnels en mathématiques appliquées* (*Kinshasa*, 1995), 45–60, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (*see* **98g:00032**) 90C70 (04A72)

— *see also* **Variational problems in applied mathematics**, **98g:00032**

Lührs, Georg (*with* Hartmann, Stefan; Haupt, Peter) On the numerical treatment of finite deformations in elastoviscoplasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **144** (1997), *no.* 1-2, 1–21. 73V05 (73E60, 73G20)

Lui, Kung-Jong Tests of homogeneity for the relative difference between strata under inverse sampling. (English summary) *Biom. J.* **40** (1998), *no.* 2, 227–235. 62D05

Lui, Roger (*with* Liu, Biyue) Electrokinetic remediation of contaminated soil. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3391–3398. (*see* **98h:00034**) 76S05 (86A99, 92E20)

Lui, S. H. (*with* Keller, H. B.; Kwok, T. W. C.) Homotopy method for the large, sparse, real nonsymmetric eigenvalue problem. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 2, 312–333. (T. Y. Li) **98b:65041** 65F15 (65N99)

— Computation of pseudospectra by continuation. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 2, 565–573. (Summary) **98j:65028** 65F15 (65F30)

Luk, Hing Sun (*with* Yau, Stephen S.-T.) Some remarks on compact strongly pseudoconvex CR manifolds. *CR-geometry and overdetermined systems* (*Osaka*, 1994), 237–246, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (From the introduction) **98j:32003** 32C16 (32F40)

— (*with* Yau, Stephen S.-T.) Complete algebraic CR invariants of real codimension 3 strongly pseudoconvex CR manifolds. *Singularities and complex geometry* (*Beijing*, 1994), 175–182, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (John Bland) **98m:32012** 32C16 (32F40, 32S10)

Luk, Wai-Shing Finding roots of a real polynomial simultaneously by means of Bairstow's method. (English summary) *BIT* **36** (1996), *no.* 2, 302–308. (Summary) **98j:65035** 65H05

Lukačević, M. M. (*with* Čović, V. M.) On the existence of Mayer's potential. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 3, 606–612. (Summary) **98d:70019** 70H05

Lukáčová-Medviďová, Mária (*with* Feistauer, Miloslav; Felcman, Jiří) On the convergence of a combined finite volume–finite element method for nonlinear convection-diffusion problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 2, 163–190. (Claus-Dieter Munz) **98a:65123** 65M12 (65M60, 76M10, 76R99)

Lukacs, Eugene *see* **Multidimensional statistical analysis and theory of random matrices**, **98b:62002**

Lukács, Gábor (*with* Hermann, Thomas[1]) A new insight into the G^n continuity of polynomial surfaces. (English summary) *Comput. Aided Geom. Design* **13** (1996), *no.* 8, 697–707. (Luiz Henrique de Figueiredo) **98a:65202** 65Y25 (65D17)

Lukas, André (*with* Ovrut, Burt A.; Waldram, Daniel) String and M-theory cosmological solutions with Ramond forms. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 365–399. (Miguel A. Vázquez-Mozo) **98m:81152** 81T30 (83E30)

— (*with* Ovrut, Burt A.) *U*-duality symmetries from the membrane world-volume. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 191–223. (Jihad Mourad) **98j:81288** 81T30 (83E30)

— (*with* Ovrut, Burt A.; Waldram, Daniel) Stabilizing dilaton and moduli vacua in string and M-theory cosmology. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 169–193. (Summary) **98k:83086** 83E30 (81T30)

Lukas, Frank (*with* Kerner, Otto) Elementary modules. *Math. Z.* **223** (1996), *no.* 3, 421–434. (From the introduction) **98f:16011** 16G60 (16G10)

Lukasevich, Ya. *see* **Łukasiewicz, Jan**

Lukashenko, T. P. On the coefficients of expansion systems that are similar to orthogonal ones. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 12, 57–72; *translation in Sb. Math.* **188** (1997), *no.* 12, 1783–1798. (I. Ya. Novikov) **98m:42053** 42C15

— Orthosimilar nonnegative expansion systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 27–31, 73; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 30–34. 42C15 (47A70)

Lukashevich, N. A. (*with* Martynov, I. P.) The Riccati equation and special third-order systems without moving critical points. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 707–708, 720; *translation in Differential Equations* **33** (1997), *no.* 5, 710–712 (1998). (Summary) **98k:34007** 34A20 (34A25)

Łukasiewicz, Jan On determinism. (Russian) *Logical investigations, No.* 2 (*Russian*), 190–205, "*Nauka*", *Moscow*, 1993. (*see* **98i:03004**) 03A05

— Curriculum vitae of Jan Łukasiewicz. *Metalogicon* **7** (1994), *no.* 2, 133–137. (Editors) **98j:01038** 01A70

— *see also* **Łukasiewicz, Regina**, **98j:01039**; **Karpenko, A. S.**, (**98i:03004**) *and* **Blaszczyk, Marek**, (**98k:03007**)

Łukasiewicz, Regina Document. *Metalogicon* **3** (1990), *no.* 1, 54–55. (Editors) **98j:01039** 01A70 (03–03)

Lukasiewicz, S. A. (*with* Babaei, R.) Fracture in functionally gradient materials subjected to the time-dependent anti-plane shear load. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 383–390. 73M25

Lukasiewicz, Thomas Uncertain reasoning in concept lattices. (English summary) *Symbolic and quantitative approaches to reasoning and uncertainty* (*Fribourg*, 1995), 293–300, *Lecture Notes in Comput. Sci.*, 946, *Springer, Berlin*, 1995. (*see* **98c:68020**) 68T30

Lukaszczyk, J. P. (*with* Boldrini, José Luiz) Flow through isotropic granular (nonconsolidated) porous media. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 25–44. (Adrian Carabineanu) **98k:35157** 35Q35 (35Q30, 76S05)

Łukaszewicz, Grzegorz (*with* Bayad„, Guy) On micropolar fluids in the theory of lubrication. Rigorous derivation of an analogue of the Reynolds equation. (English summary) *Internat. J. Engrg. Sci.* **34** (1996), *no.* 13, 1477–1490. (A. J. Meir) **98g:76024** 76D08 (76A05)

— On a barodiffusion problem in region with moving boundary. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 1, 1–31. (Vladimir V. Shelukhin) **98d:35178** 35Q30 (76D99, 76R50)

— On the Navier-Stokes equations in time dependent domains and with boundary conditions involving the pressure. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 529–550. (Chang Hao Lin) **98m:35161** 35Q30 (76D05)

— (*with* Krzyżanowski, Piotr) On the heat convection equations with dissipation term in regions with moving boundaries. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 4, 347–368. (Li Shang Jiang) **98c:35167** 35R35 (35Q30, 76R10, 80A20)

Łukaszewicz, Witold (*with* Jabłonowski, Janusz; Madalińska-Bugaj, Ewa) Reasoning about action and change: defeasible observations and actions with abnormal effects. (English summary) *KI-96: Advances in artificial intelligence* (*Dresden*), 135–147, *Lecture Notes in Comput. Sci.*, 1137, *Springer, Berlin*, 1996. (Summary) **98f:68246** 68T27 (03B60, 03B70)

— (*with* Doherty, Patrick; Szałas, Andrzej) A reduction result for circumscribed semi-Horn formulas. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 261–271. (Summary) **98b:68179** 68T27 (03B60, 30B70)

— (*with* Doherty, Patrick; Szałas, Andrzej) Computing circumscription revisited: a reduction algorithm. (English summary) *J. Automat. Reason.* **18** (1997), *no.* 3, 297–336. (Zoran Ognjanović) **98h:03036** 03B60 (03B70, 68T27)

Luke, Edward A. (*with* Banicescu, Ioana; Li, Jin) The optimal effectiveness metric for parallel application analysis. *Inform. Process. Lett.* **66** (1998), *no.* 5, 223–229. 68Q22

Lüke, Hans Dieter Almost-perfect polyphase sequences with small phase alphabet. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 361–363. (Summary) **98m:94027** 94A55

— Binary odd-periodic complementary sequences. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 365–367. (Summary) **98j:94011** 94A55

Lukes, Richard F. (*with* Scheidler, Renate; Williams, Hugh Cowie) Further tabulation of the Erdős-Selfridge function. (English summary) *Math. Comp.* **66** (1997), *no.* 220, 1709–1717. (Marc Deléglise) **98a:11191** 11Y70 (11N25)

Lukierski, Jerzy Quantum deformations of space-time symmetries with fundamental mass parameter. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 299–303, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 81R50

— (*with* Stichel, Peter C.) Quantum deformation of space-time symmetries and interactions. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 55–61. (Anatol Nowicki) **98d:81032** 81R50

Lukomskiĭ, S. F. Multiple Walsh series. Convergence in measure and almost everywhere. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 459–460. 42C10

Luković, Ivan (*with* Mogin, Pavle) Lossless joins of relational database views. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 2, 49–73. (János Demetrovics) **98e:68048** 68P15

Lukovits, I. (*with* Linert, W.) Formulas for the hyper-Wiener and hyper-detour indices of fused bicyclic structures. (English summary) Fifty years of the Wiener index. *Match No.* 35 (1997), 65–74. (Rong Si Chen) **98i:92049** 92E10 (05C90)

Lukovskiĭ, I. A. (*with* Timokha, A. N.) ★ Вариационные методы в нелинейных задачах динамики ограниченного объема жидкости. (Russian. English, Russian and Ukrainian summaries) [Variational methods in nonlinear problems of the dynamics of a bounded volume of fluid] Труди Інституту Математики Національної Академії Наук України [Proceedings of the Institute of Mathematics of the National Academy of Sciences of the Ukraine], 12. *Natsīonal'na Akademīya Nauk Ukraïni, Institut Matematiki, Kiev*, 1995. 400 *pp. ISBN* 5-7702-1184-9 (Nikolay G. Kuznetsov) **98d:76001** 76–02 (35Q35, 49S05, 73K70, 76M30)

— (*with* Barnyak, M. Ya.) An approximation method for constructing solutions of the problem of the eigenoscillations of an ideal liquid in a sloping circular cylinder. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 5, 28–32. 76B10 (76M30)

— (*with* Zolotenko, G. F.) Mathematical modeling of the relative motion of a fluid that partially fills a covered moving rectangular vessel. (Russian. Russian summary) *Nats. Akad. Nauk Ukrain. Inst. Mat. Preprint* **1997,** *no.* 8, 41 *pp.* (Publisher's description) **98h:76014** 76B99 (70E15)

Lukš, A. (*with* Peřinová, V.) Wigner functions for two arbitrary operators and spectrum perturbation. (English summary) *Phys. Lett. A* **229** (1997), *no.* 1, 8–16. (John I. LaChapelle) **98f:81160** 81S30 (81R30, 81V80)

— (*with* Peřinová, V.; Křepelka, J.) Preferred values and phase dispersions of any order for l-photon Kerr states. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 3, 465–488. (K. Wódkiewicz) **98m:81227** 81V80 (81R30)

— (*with* Peřinová, V.; Křepelka, J.) Quasiprobability distribution for the photon-number operator and quadrature operator in a coherent state. (English summary) *Quantum Semiclass. Optics* **9** (1997), *no.* 6, 995–1016. (Summary) **98l:81297** 81V80 (81R30)

Luks, E. M. (*with* Babai, László; Goodman, Albert J.; Kantor, William M.; Pálfy, P. P.) Short presentations for finite groups. (English summary) *J. Algebra* **194** (1997), *no.* 1, 79–112. (Colin M. Campbell) **98h:20044** 20F05 (20D08)

Lukshin, An. V. (*with* Chetverushkin, B. N.) On the theory of kinetically consistent difference schemes. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 109–125. (Reinhard Redlinger) **98k:76099** 76M20 (65M06, 76N15)

Luk′yanenko, A. S. (*with* Gorobeĭ, N. N.) Operator representation of gravitational constraints in the case of a closed universe. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 503–507; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1603–1606 (1996). (Jan Novotný) **98m:83008** 83C05 (83C45)

Luk′yanov, A. G. (*with* Dodds, S. J.) Synthesis of linear multidimensional time-dependent systems with discontinuous control actions. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 5, 28–44; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 1, 735–748. (Florin Iacob) **98j:93039** 93B50 (93C15)

Luk′yanov, B. D. Deterministic realizations of nondeterministic automata. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1996,** *no.* 4, 34–50, 186; *translation in Cybernet. Systems Anal.* **32** (1996), *no.* 4, 493–504 (1997). (Janusz J. Szuster) **98b:68124** 68Q68 (68Q75)

Luk′yanov, Sergeĭ L. (*with* Bazhanov, Vladimir V.; Zamolodchikov, Aleksandr B.) Quantum field theories in finite volume: excited state energies. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 3, 487–531. (Andrei Babichenko) **98c:81196** 81T40

— (*with* LeClair, André; Lesage, F.; Saleur, Hubert) The Maxwell-Bloch theory in quantum optics and the Kondo model. (English summary) *Phys. Lett. A* **235** (1997), *no.* 3, 203–208. 81V80

— (*with* Fateev, Vladimir; Zamolodchikov, Aleksandr B.; Zamolodchikov, Alekseĭ B.) Expectation values of boundary fields in the boundary sine-Gordon model. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 83–88. (Wen-li Yang) **98g:81123** 81T10

— (*with* Brazhnikov, Vadim A.) Angular quantization and form factors in massive integrable models. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 616–636. (Summary) **98k:81153** 81T10 (81R10)

Luk′yanov, V. D. Radiation of acoustic waves by a piston radiator in a rigid screen that partially partitions the waveguide. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 628–638; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 609–618. 76Q05 (73K70)

Luk′yanova, R. Yu. (*with* Samokish, B. A.; Uvarov, V. M.) A numerical model of the global distribution of electric potential in the Earth's ionosphere. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 862–868. (Summary) **98j:86009** 86A10 (86–04, 86A25)

Lulek, B. (*with* Lulek, T.) Classification of configurations of systems of identical particles on finite sets. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4687–4698. (A. O. Morris) **98b:81070** 81R05 (05E05)

— (*with* Lulek, T.) Braids and the Wigner-Racah calculus. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 227–234. (Summary) **98a:81056** 81R05 (81V70)

— (*with* Lulek, T.) Magnons as indistinguishable hard-core particles on lattices. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 267–271. (Dimitri Petritis) **98a:82022** 82B20

Lulek, T. (*with* Kuźma, M.; Olchawa, R.) Fractal symmetries of a linear chain, projections from multidimensional spaces, and the recipe of Weyl. (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 433–440, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98m:82070** 82D25 (20H15)

— (*with* Lulek, B.) Classification of configurations of systems of identical particles on finite sets. (English summary) *J. Phys. A* **29** (1996), *no.* 15, 4687–4698. (A. O. Morris) **98b:81070** 81R05 (05E05)

— (*with* Lulek, B.) Braids and the Wigner-Racah calculus. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 227–234. (Summary) **98a:81056** 81R05 (81V70)

— (*with* Lulek, B.) Magnons as indistinguishable hard-core particles on lattices. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 267–271. (Dimitri Petritis) **98a:82022** 82B20

— (*with* Milewski, J.) The problem of the diagonal and the evolution operator in the theory of anyons. (English summary) Quantum groups and their applications in physics (Poznań, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 2, 279–282. (Summary) **98a:81282** 81V70

— *see also* **Symmetry and structural properties of condensed matter, 98k:82003**

Lüling, R. *see* **Solving irregularly structured problems in parallel, 98j:65097**

Lumelsky, Vladimir J. (*with* Shkel, Andrei M.) The jogger's problem: control of dynamics in real-time motion planning. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 7, 1219–1233. (Summary) **98e:93068** 93C85 (70B15, 70Q05, 93C10)

— (*with* Hert, Susan) Planar curve routing for tethered-robot motion planning. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 225–252. (Hellmuth Stachel) **98j:68163** 68U05 (70B15)

Lumer, Günter Singular transitions and interactions governed by equations of parabolic type. *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 192–217, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Introduction) **98f:35061** 35Kxx (35B40, 46F15, 47N20)

— Singular evolution problems, regularization, and applications to physics, engineering, and biology. *Linear operators* (*Warsaw*, 1994), 205–216, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Ioana Ciorănescu) **98d:34093** 34G10 (34A09, 35K99, 47D06, 47N20, 47N60)

— (*with* Neubrander, Frank) Signaux non-détectables en dimension N dans des systèmes gouvernés par des équations de type parabolique. (English and French summaries) [Nondetectable signals in dimension N in systems governed by equations of parabolic type] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 731–736. (Paolo Acquistapace) **98j:34112** 34G10 (35K99, 46F15, 47N20)

Luminet, Denis Functions of several matrices. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 3, 563–586. (W. Żelazko) **98i:32007** 32A99 (32D05, 46J99)

Lumiste, Ülo Modified Nomizu problem for semi-parallel submanifolds. *Geometry and topology of submanifolds, VII* (*Leuven, 1994/Brussels*, 1994), 176–181, *World Sci. Publishing, River Edge, NJ*, 1995. (Andrew Bucki) **98b:53047** 53C40 (53C42)

— Semi-parallel submanifolds as some immersed fibre bundles with flat connections. *Geometry and topology of submanifolds, VIII* (*Brussels, 1995/Nordfjordeid*, 1995), 236–244, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrew Bucki) **98a:53083** 53C40 (53C35, 53C42)

— Semi-parallel time-like surfaces in Lorentzian spacetime forms. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 1, 59–74. (Hiroo Naitoh) **98b:53063** 53C50 (53C40)

— (*with* Tamme, Enn) Gennadi Vainikko 60. *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 140–141. 01A70

Lumley, John L. (*with* Holmes, Philip J.; Berkooz, Gal) ★ Turbulence, coherent structures, dynamical systems and symmetry. (English summary) Cambridge Monographs on Mechanics. *Cambridge University Press, Cambridge*, 1996. xviii+420 *pp. ISBN* 0-521-55142-0 (Charles R. Doering) **98d:76079** 76F20 (58F40, 76D05, 76M25)

— (*with* Aubry, Nadine; Holmes, Philip J.; Stone, Emily) Erratum to: "Application of dynamical system theory to coherent structures in the wall region" [Phys. D **37** (1989), no. 1-3, 1–10; MR 90j:76061] by Aubry, Holmes, Lumley and Stone and "Noise induced intermittency in a model of a turbulent boundary layer" [ibid., 20–32; MR 90j:76062] by Stone and Holmes. *Phys. D* **104** (1997), *no.* 2, 212–213. (From the text) **98d:76078** 76F20 (58F13, 58F14, 58F40, 76F99)

— (*with* Poje, Andrew) Low-dimensional models for flows with density fluctuations. (English summary) *Phys. Fluids* **9** (1997), *no.* 7, 2023–2031. (Summary) **98d:76132** 76M25 (76E15, 76F10)

— (*with* Holmes, Philip J.; Berkooz, Gal; Mattingly, Jonathan C.; Wittenberg, Ralf W.) Low-dimensional models of coherent structures in turbulence. (English summary) *Phys. Rep.* **287** (1997), *no.* 4, 337–384. (P. L. Sulem) **98j:76065** 76F20 (58F39, 76M35)

— (*with* Blossey, Peter) Control of turbulence. (English summary) *Annual review of fluid mechanics, Vol.* 30, 311–327, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (*see* **98k:76001**) 76F99

— (*with* Podvin, Bérengère) Reconstructing the flow in the wall region from wall sensors. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1182–1190. 76F99 (76D10)

— *see also* **IUTAM Symposium: Variable Density Low-speed Turbulent Flows, 98f:76002** *and* **Annual review of fluid mechanics, 98k:76001**

Lumpkin, Beatrice Africa in the mainstream of mathematics history [in *Blacks in science: ancient and modern*, 100–109, Transaction, New Brunswick, NJ, 1983]. (English summary) *Ethnomathematics*, 101–117, *SUNY Ser. Reform Math. Educ., SUNY Press, Albany, NY*, 1997. (*see* **98b:01005**) 01A13 (01A07)

Lun, Anthony W. C. Photon rockets and radiation reactions. (English summary) Journées Relativistes 96, Part I (Ascona, 1996). *Helv. Phys. Acta* **69** (1996), *no.* 3, 348–352. (Summary) **98k:83032** 83C30

Luna, H. M. (*with* Mares Gallardo, R.) The logarithmic mass singularity theorem in massless quantum electrodynamics. (Spanish. English and Spanish summaries) *Rev. Mexicana Fís.* **43** (1997), *no.* 5, 842–854. 81V10

Luna, Joaquin *see* **Luna Torres, Joaquín**

Luna Alcoba, Manuel G. W. Leibniz: Geschichte des Kontinuumproblems. (French summary) [G. W. Leibniz: history of the continuum problem] *Studia Leibnitiana* **28** (1996), *no.* 2, 183–198. (Detlef Laugwitz) **98e:01014** 01A45

Lunardi, Alessandra An interpolation method to characterize domains of generators of semigroups. (English summary) *Semigroup Forum* **53** (1996), *no.* 3, 321–329. (Alberto Venni) **98a:47040** 47D06 (35B65, 35J15, 35K15, 46M35, 47N20)

— On the Ornstein-Uhlenbeck operator in L^2 spaces with respect to invariant measures. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 1, 155–169. (Piermarco Cannarsa) **98j:47106** 47F05 (35J15, 35K10, 47D06)

— (*with* Vespri, Vincenzo) Optimal L^∞ and Schauder estimates for elliptic and parabolic operators with unbounded coefficients. *Reaction diffusion systems* (*Trieste*, 1995), 217–239, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Paolo Acquistapace) **98k:35035** 35J15 (35B45, 35K10, 46E99, 46M35, 47D06, 47N20)

Lunardi, J. T. (*with* Galetti, D.; Pimentel, B. M.; Lima, C. L.) q-deformed fermionic Lipkin model at finite temperature. (English summary) *Phys. A* **242** (1997), *no.* 3-4, 501–508. (Summary) **98j:82007** 82B10 (81R50, 81V70)

Lunardini, F. (*with* Di Cola, G.) A monotone iterative method for semilinear parabolic systems. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 235–244 (1997). (Pavel Năslău) **98g:65091** 65M60

Lunardon, Guglielmo (*with* Polito, Pompeo) On q-clans in even characteristic. Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 191–198. (Laura Bader) **98k:51011** 51E12 (05B25, 51E20)

— Flocks, ovoids of $Q(4,q)$ and designs. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 163–173. (Laura Bader) **98h:51013** 51E20 (51E05, 51E21)

Luna Torres, Joaquín (*with* Ruíz Salguero, Carlos J.; Duque Hoyos, Álvaro) A filtration of the space $\mathbf{J} = \mathbf{Q} \cap [0,1]$. (English summary) *Papers on general topology and applications* (*Slippery Rock, PA*, 1993), 210–216, *Ann. New York Acad. Sci.*, 767, *New York Acad. Sci., New York*, 1995. (Summary) **98g:54080** 54F65 (55U10)

— Carlos J. Ruiz Salguero and topology. (Spanish) *Lect. Mat.* **16** (1995), *no.* 1, 101–118. (J. E. Keesling) **98f:01046** 01A60 (01A70, 54–03, 55–03)

Lund, Carsten (*with* Feige, Uriel) On the hardness of computing the permanent of random matrices. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 2, 101–132. (H.-J. Hoehnke) **98b:15004** 15A15 (65Y20, 68Q15, 68Q25)

— (*with* Chrobak, Marek; Larmore, Lawrence L.; Reingold, Nick) A better lower bound on the competitive ratio of the randomized 2-server problem. (English summary) *Inform. Process. Lett.* **63** (1997), *no.* 2, 79–83. (Summary) **98e:68098** 68Q25

— (*with* Condon, Anne; Feigenbaum, Joan; Shor, Peter W.) Random debaters and the hardness of approximating stochastic functions. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 2, 369–400. (Marius Zimand) **98a:68067** 68Q15

Lund, Fernando (*with* Umeki, Makoto) Spirals and dislocation in wave-vortex systems. (English summary) *Fluid Dynam. Res.* **21** (1997), *no.* 3, 201–210. (F. Ursell) **98h:76118** 76N10 (76Q05)

Lund, Robert B. The stability of storage models with shot noise input. (English summary) *J. Appl. Probab.* **33** (1996), *no.* 3, 830–839. (Haya Kaspi) **98a:60147** 60K30 (60J25)

— (*with* Tweedie, Richard L.) Geometric convergence rates for stochastically ordered Markov chains. (English summary) *Math. Oper. Res.* **21** (1996), *no.* 1, 182–194. (Hermann Thorisson) **98d:60127** 60J05 (60K25)

— (*with* Basawa, Ishwar V.; Bhat, U. Narayan) Maximum likelihood estimation for single server queues from waiting time data. (English summary) *Queueing Systems Theory Appl.* **24** (1996), *no.* 1-4, 155–167 (1997). (Martin Jacobsen) **98i:62066** 62M05 (60K25)

— (*with* Smith, Walter) A comparison of convergence rates for three models in the theory of dams. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 1, 74–83. (S. Kalpakam) **98g:60170** 60K25 (60J25)

— The geometric convergence rate of a Lindley random walk. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 806–811. (Summary) **98c:60080** 60J10 (60F10, 60J15)

Lund, Thomas S. (*with* Im, Hong G.; Ferziger, Joel H.) Large eddy simulation of turbulent front propagation with dynamic subgrid models. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3826–3833. (Summary) **98j:76109** 76M25 (76F05, 80A25)

— (*with* Meneveau, Charles) The dynamic Smagorinsky model and scale-dependent coefficients in the viscous range of turbulence. (English summary) *Phys. Fluids* **9** (1997), *no.* 12, 3932–3934. (Summary) **98j:76060** 76F05 (76M25)

— (*with* Wu, Xiaohua; Squires, Kyle D.) Generation of turbulent inflow data for spatially-developing boundary layer simulations. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 233–258. 76F99 (76D10)

Lundberg, Erik *see* **Lindqvist, Peter, 98m:33002**

Lundberg, Lars (*with* Lennerstad, Håkan) Bounding the gain of changing the number of memory modules in shared memory multiprocessors. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 3, 233–258. (Summary) **98f:68018** 68M07

Lundborg, B. *see* **Frõman, Nanny, 98m:81033**

Lundbye-Christensen, Søren (*with* Jørgensen, Bent; Song, Peter Xue-Kun; Sun, Li[1]) Addendum: "State space models for multivariate longitudinal data of mixed types" [Canad. J. Statist. **24** (1996), no. 3, 385–402; MR 97f:62144]. *Canad. J. Statist.* **25** (1997), *no.* 3, 425. 62M10 (62M20)

Lundelius, Rolf (*with* Huntley, Jonathan; Jorgenson, Jay) Continuity of small eigenfunctions on degenerating Riemann surfaces with hyperbolic cusps. *Bol. Soc. Mat. Mexicana* (3) **1** (1995), *no.* 2, 119–125. (Christopher M. Judge) **98e:58171** 58G25 (11F72)

— (*with* Jorgenson, Jay) Continuity of relative hyperbolic spectral theory through metric degeneration. *Duke Math. J.* **84** (1996), *no.* 1, 47–81. (Christopher M. Judge) **98g:58182** 58G25 (11F72, 58G26)

Lundgren, J. Richard (*with* McKenna, Patricia A.; Langley, Larry; Merz, Sarah K.; Rasmussen, Craig W.) The p-competition graphs of strongly connected and Hamiltonian digraphs. (English summary) *Ars Combin.* **47** (1997), 161–172. (Summary) **98h:05158** 05C75 (05C40, 05C45)

— (*with* Jimenez, Guillermo) The domination-compliance graph of a tournament. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 65–78. (Summary) **98k:05091** 05C35 (05C20)

— (*with* Langley, Larry; Merz, Sarah K.; Rasmussen, Craig W.) Posets with interval or chordal strict upper and lower bound graphs. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **125** (1997), 153–160. (Summary) **98j:05115** 05C75 (06A06)

göthe-Lundgren, Maud *see* **Göthe-Lundgren, Maud**

Lundquist, Michael (*with* Coleman, Todd; Li, Chi-Kwong; Travison, Thomas) Isometries for the induced c-norm on square matrices and some related results. (English summary) *Linear Algebra Appl.* **271** (1998), 235–256. (Fuad Kittaneh) **98m:15047** 15A60

Lundy, Thomas J. (*with* Maybee, John S.) Uniformly one-connected matrices and their inverses. (English summary) *Linear Algebra Appl.* **268** (1998), 227–242. (Ar. Meenakshi) **98i:15019** 15A36 (15A57)

van de Lune, Jan (*with* Lioen, Walter M.) Systematic computations on Mertens' conjecture and Dirichlet's divisor problem by vectorized sieving. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 421–432, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Jonathan P. Sorenson) **98j:11125** 11Y70 (11N60)

Lüneburg, Ernst Plane waveguides and the Riemann-Hilbert method: an alternative to the Wiener-Hopf technique. (English summary) *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 56–68, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (Philip Huddleston) **98i:78017** 78A50 (35C05, 35J05, 45E05)

— Radar polarimetry: a revision of basic concepts. (English summary) *Direct and inverse electromagnetic scattering* (*Gebze*, 1995), 257–275, *Pitman Res. Notes Math. Ser.*, 361, *Longman, Harlow*, 1996. (Summary) **98f:78024** 78A45

— The Sommerfeld problem: methods, generalizations and frustrations. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 145–162, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Vadim D. Kryakvin) **98k:35031** 35J05 (76Q05, 78A40)

verduyn Lunel, Sjoerd M. *see* **Verduyn Lunel, Sjoerd M.**

Lunev, F. A. Pure bosonic world-line path integral representation for fermionic determinants, non-abelian Stokes theorem, and quasiclassical approximation in QCD. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 433–470. (Giampiero Esposito) **98i:81267** 81V05 (58G26, 81S40)

del Lungo, Alberto *see* **Del Lungo, Alberto**

Lungu, A. P. Methods for deriving middle groups of W-symmetry. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat* **1996**, *no.* 1, 35–39, 114, 117. 20H15

Lungu, E. M. (*with* Øksendal, Bernt) Optimal harvesting from a population in a stochastic crowded environment. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 47–75. (Thomas C. Gard) **98k:92010** 92D25 (60H10)

Lunn, Timothy J. (*with* Burr, Alister G.) Block-coded modulation optimized for finite error rate on the white Gaussian noise channel. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 373–385. 94B12

Lunney, K. E. (*with* Anh, V. V.) Generalised spectral analysis of fractional random fields. (English summary) *J. Austral. Math. Soc. Ser. A* **62** (1997), *no.* 1, 64–83. (N. Leonenko) **98d:60091** 60G60 (62M15)

Lunts, Valery A. (*with* Looijenga, Eduard) A Lie algebra attached to a projective variety. (English summary) *Invent. Math.* **129** (1997), *no.* 2, 361–412. (Arnaud Beauville) **98m:14019** 14F25 (17B10, 32J27)

— (*with* Rosenberg, Alexander L.) Differential operators on noncommutative rings. *Selecta Math. (N.S.)* **3** (1997), *no.* 3, 335–359. (Ian M. Musson) **98k:16038** 16S32

Lunze, Jan Stabilization of nonlinear systems by qualitative feedback controllers. (English summary) *Internat. J. Control* **62** (1995), *no.* 1, 109–128. 93D15

Luo, Chao Sheng (*with* Wang, Fu Quan) Fractal interpolation on third-order inhomogeneous B-splines and its convergence. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 1, 69–74. 41A15 (41A10)

Luo, Cheng The existence of I_1-covering rings. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 1, 5–7. 58F20 (58F03)

Luo, Cheng Zhong (*with* Wang, Wan-Liang) Gradation of openness L-fuzzy topology. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 163–168. 54A40 (04A72)

— (*with* Liu, Wen Qi) Some notes on linear programming with fuzzy constraints. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 2, 105–109. 90C70 (90C05)

— (*with* Yuan, Xue-hai; Li, Hong Xing) Some new kinds of cut sets and their applications. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 1, 37–43. (Summary) **98c:04010** 04A72

— (*with* Liu, Wen Qi) Rings of sets. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 34–39. 06D30 (04A72)

Luo, Chong-Shan Quasi-umbilical hypersurfaces of a Sasakian manifold. *Tensor (N.S.)* **57** (1996), *no.* 2, 141–144. (Jürgen Berndt) **98c:53065** 53C40 (53C25)

Luo, Chun Lin Sensitivity analysis for quasivariational inequalities with parameters and bilinear forms. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 11–16. 49J40 (47H19)

Luo, Congwen (*with* Ma, Xuewen) On Stone theorem for De Morgan algebra. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 3, 543–551. (Vlad Boicescu) **98m:06018** 06D30

Luo, Dehai Parametrically forced envelope Rossby solitons: soliton-oscillation. (English summary) *Geophys. Astrophys. Fluid Dynam.* **85** (1997), *no.* 1-2, 1–29. (Summary) **98j:76019** 76C20 (35Q35, 76U05, 86A10)

Luo, Dingjun (*with* Reyn, J. W.) Limit cycle bifurcations in quadratic systems with a saddle and 3 antisaddles. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 167–173, *World Sci. Publishing, River Edge, NJ*, 1995. (Henryk Żołądek) **98g:34050** 34C05 (34C23, 58F21)

Luo, Fa-Long (*with* Unbehauen, Rolf; Li, Yan Da) Real-time computation of singular vectors. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 197–214. (Summary) **98f:65043** 65F15 (94C99)

Luo, Feng[1] Geodesic length functions and Teichmüller spaces. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **2** (1996), *no.* 1, 34–41 (*electronic*). (B. N. Apanasov) **98a:32023** 32G15 (30F60)

— (*with* Stong, Richard) Conformal embedding of a disc with a Lorentz metric into the plane. *Math. Ann.* **309** (1997), *no.* 3, 359–373. (Luis J. Alías) **98k:53086** 53C50 (57R30)

— On Heegaard diagrams. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 365–373. (Tsuyoshi Kobayashi) **98h:57030** 57N05 (57M05, 57M07)

— On non-separating simple closed curves in a compact surface. (English summary) *Topology* **36** (1997), *no.* 2, 381–410. (N. V. Ivanov) **98d:57029** 57N05 (57M99)

Luo, Gui Ming Adaptive tracking of multidelay stochastic systems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **36** (1996), *no.* 12, 91–97. (Winston T. Lin) **98d:93087** 93E10 (93E15)

Luo, Guilie (*with* Zheng, Bunan; Chen, Wuhua) Convergence and stability of solutions of certain infinite delay differential equations. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 3, 362–370. (K. Smítalová) **98a:34089** 34K25 (34K20)

Luo, H. *see* **Luo, Haisheng**

Luo, Haipeng (*with* Su, Wenlong; Li, Qiao) New lower bounds of classical Ramsey numbers $R(4, 12)$, $R(5, 11)$ and $R(5, 12)$. *Chinese Sci. Bull.* **43** (1998), *no.* 6, 528. 05C55

Luo, Haisheng (*with* Angus, John E.) Data-based optimal smoothing of a wavelet density estimator. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 31–43. (Summary) **98e:62060** 62G05

Luo, Jian-san (*with* Johnson, Alan; van den Bosch, P. P. J.) Lyapunov stability robust analysis and robustness design for linear continuous-time systems. (English summary) *Internat. J. Control* **61** (1995), *no.* 6, 1233–1251. 93D09

— (*with* van den Bosch, P. P. J.) Independent of delay stability criteria for uncertain linear state space models. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 2, 171–179. (Andrzej W. Olbrot) **98e:93075** 93D09 (93C30)

Luo, Jian Shu (*with* Jin, Zhi Ming[1]) The structure of Snell's envelope for continuous two-parameter rapidly decreasing processes. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 101–106. (Summary) **98f:60085** 60G44 (60G60)

— (*with* Li, Zhong Sheng; Huang, Jian Hua[3]) Wavelet decompositions and filters for fractal signals. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 1–5. 94A12 (42C15)

Luo, Jian Wen (*with* Wang, Jin De) Weak differentiability in stochastic programming. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12**

(1997), *no.* 1, 53–62. (Xiao Dong Hu) **98c:90081** 90C15 (90C31)

Luo, Jianjin Several counting results in the 18th–19th centuries in Chinese mathematics. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 278–283, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98e:05001**) 01A25 (01A50, 01A55, 05–03, 05A10)

Luo, Jiao Wan (*with* Liu, Kai Yu) On the stability of a neutral integro-partial differential equation. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **19** (1996), *no.* 2, 19–24. (Summary) **98b:35215** 35R10 (35B35, 45K05)

— (*with* Liu, Kai Yu) Global attractivity in a discrete model of Nicholson's blowflies. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **12** (1996), *no.* 3, 15–20. (Sui Yang Chen) **98g:39013** 39A12 (34K20, 39A11, 92D40)

— $\frac{3}{4}$-asymptotic stability of nonlinear neutral differential equations with delays. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 163–169. (Summary) **98e:34138** 34K20 (34K40)

Luo, K. H. (*with* Sandham, N. D.) Direct numerical simulation of supersonic jet flow. (English summary) *J. Engrg. Math.* **32** (1997), *no.* 2-3, 121–142. 76M20 (76J20)

Luo, Laihan (*with* Fokas, Athanassios S.) On the asymptotic integrability of a generalized Burgers equation. *Mathematical problems in the theory of water waves (Luminy, 1995)*, 85–98, *Contemp. Math.*, 200, *Amer. Math. Soc., Providence, RI*, 1996. (Márcia Scialom) **98b:35156** 35Q53 (35Q58, 76B15)

Luo, Li-Shi (*with* He, Xiaoyi; Zou, Qisu; Dembo, Micah) Analytic solutions of simple flows and analysis of nonslip boundary conditions for the lattice Boltzmann BGK model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 1-2, 115–136. (Summary) **98d:82041** 82C40

— Analytic solutions of linearized lattice Boltzmann equation for simple flows. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 913–926. (Summary) **98g:82040** 82C40 (76P05)

— (*with* He, Xiaoyi) Lattice Boltzmann model for the incompressible Navier-Stokes equation. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 927–944. (Summary) **98g:82038** 82C40 (76D05, 76M35, 76P05)

Luo, Liao Fu (*with* Li, Wei Jiang) The smoothing integral transformation method for global optimization. I. Basic ideas and theoretical framework. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 2, 157–161. 90C30 (44A15)

— (*with* Li, Wei Jiang) The smoothing integral transformation method for global optimization. II. Extremal evolution modes and selection of the weight function. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 4, 508–511. 90C30 (44A15, 90C90)

Luo, Min Xiu (*with* Huang, Wen Ping) Semigroup characterizations of bounded commutative BCK-algebras. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 3, 24–26. 06F35

— (*with* Li, Xiu Xi; Fang, Tao) The adjoint semigroup of a positive implicative BCK-algebra. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 71–73. 06F35

Luo, Ningsu (*with* de la Sen, Manuel; Rodellar, José) Robust stabilization of a class of uncertain time delay systems in sliding mode. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 1, 59–74. (Kimio Kanai) **98d:93082** 93D21 (93B12)

Luo, Peizhu The initial value problem of a system of conservation laws. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 307–309, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98d:35003**) 35L65

Luo, Pin Liang A class of generalized Toeplitz operators. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **35** (1996), *no.* 4, 397–401. (Guangfu Cao) **98a:47027** 47B35

Luo, Ping Eigenvalue extrapolation for biquadratic finite element approximation in rectangular domain. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 1, 28–32. (Summary) **98c:65187** 65N30 (65N25)

Luo, Qiang (*with* Song, Chao Hong) Some problems on optimal trees. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 2, 145–147. (Yuan Hong) **98i:05051** 05C05 (05C50)

— (*with* Lawrencenko, Serge) Graphs with given connectivity properties. (English summary) *Networks* **30** (1997), *no.* 4, 255–261. (Summary) **98i:05112** 05C40 (68R10)

Luo, Qiao Lin (*with* Yang, Xiao Guang) A mathematical problem arising from time series. II. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 2, 25–27. 62M10

Luo, Qing Lin (*with* Hu, Yu Da) Two theorems on major efficiency and Pareto efficiency. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **31** (1997), *no.* 7, 100–102. 90C29

Luo, Qun (*with* Sun, Tian Xiang) Properties of positive operators on random inner product modules. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 3, 61–64. 47B99 (47S50)

— Variational inequalities for random inner product modules. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 72–77, 96. (Summary) **98g:47065** 47S50 (47H19, 47N10, 49J40)

— Existence theorems of random Nash equilibrium points for random set-valued maps. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 247–252. (Ghanshyam Mehta) **98g:90047** 90D15 (47H40, 47N10, 90A14)

Luo, S. C. (*with* Guo, T.; Chew, Y. T.; Su, M. D.) A new numerical simulation method of high Reynolds number flow around a cylinder. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 357–366. 76M25

Luo, Shengwu (*with* Ahmad, Shaheen; Zribi, Mohamed) Adaptive control of kinematically redundant robots. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 3, 225–253. (Andrzej Świerniak) **98i:93056** 93C85 (70B15, 70Q05, 93C40)

Luo, Shun Long SU(1, 1) coherent states and associated Wick symbol calculus. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3478–3488. (Vitor R. Vieira) **98e:81062** 81R30 (22E70)

— Wick ordering for q-Heisenberg algebra. (English summary) *Phys. Lett. A* **234** (1997), *no.* 3, 159–162. (Władysław Marcinek) **98j:81174** 81S05 (81R50)

— Probability distribution of $\alpha a^{+2} + \overline{\alpha} a^{-2} + \beta a^{+} a^{-} + \gamma a^{-} a^{+}$. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 255–261. (Roland Speicher) **98f:81146** 81S05 (47N50, 81R30)

Luo, Si Qing (*with* Wang, Jing) A theorem of von Neumann. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 3, 8–10. 15A60

Luo, T. *see* **Luo, Tao**

Luo, Tai Yu The standard twofold-sphere hypertorus in Euclidean space. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **19** (1996), *no.* 4, 38–43. (Hong Wang) **98b:53055** 53C42

Luo, Tao (*with* Xiao, Ling) Large-time behaviour of solutions for the outer pressure problem of a viscous heat-conductive one-dimensional real gas. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **126** (1996), *no.* 6, 1277–1296. (V. D. Sharma) **98a:35112** 35Q35 (35L65, 76N10)

— On the outer pressure problem of a viscous heat-conductive one-dimensional real gas. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 251–264. (Hermano Frid) **98f:76065** 76N10 (35L65, 35Q35)

— Bounded solutions and periodic solutions of viscous polytropic gas equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 1, 134. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 1, 99–112. (R. M. Gundersen) **98g:35169** 35Q35 (35B10, 76N15)

— Asymptotic stability of planar rarefaction waves for the relaxation approximation of conservation laws in several dimensions. (English summary) *J. Differential Equations* **133** (1997), *no.* 2, 255–279. (Philippe G. LeFloch) **98d:35140** 35L65

— (*with* Xiao, Ling) Nonlinear diffusive phenomena of entropy weak solutions for a system of quasilinear hyperbolic conservation laws with damping. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 173–189. (Alan Jeffrey) **98m:35129** 35L65 (35D99, 76N10)

Luo, Wan (*with* Billings, S. A.) Structure selective updating for nonlinear models and radial basis function neural networks. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 4, 325–345. 93C40 (93B30, 93C83)

Luo, Wei (*with* Tang, Hengsheng; Ou, Chunhua; Li, Xianyi) Some properties of a kind of difference equation. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 3, 335–340. (Allan C. Peterson) **98b:39014** 39A10 (39A11, 92D40)

Luo, Wen-Chieh (*with* Tu, Shih-Tong; Chyan, Ding-Kuo) Some solutions to the nonhomogeneous Jacobi equations via fractional calculus operator N^{α} method. (English summary) *J. Fract. Calc.* **12** (1997), 51–60. (K. S. Miller) **98j:26004** 26A33 (33C05)

— (*with* Tu, Shih-Tong; Chin, Erh-Tsung) Solutions of a class of n-th order ordinary and partial differential equations via fractional calculus. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 4, 499–515. (K. S. Miller) **98k:26013** 26A33 (34A25, 35C99)

Luo, Wenzhi (*with* Ramakrishnan, Dinakar) Determination of modular forms by twists of critical L-values. *Invent. Math.* **130** (1997), *no.* 2, 371–398. (Jiandong Guo) **98h:11059** 11F67 (11F11, 11F37, 11F66)

— (*with* Hoffstein, Jeffrey) Nonvanishing of L-series and the combinatorial sieve. With an appendix by David E. Rohrlich. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 435–444. (Jiandong Guo) **98d:11052** 11F67 (11F11, 11N36)

Luo, Xian Fa (*with* Liu, Jin Bo) Best approximations and norm-preserving extensions. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 1, 24–28, 62. (Summary) **98c:46026** 46B20 (41A65)

— (*with* Tang, Ren Han; Peng, Jia Hong) Best simultaneous approximation for a closed interval by elements of a closed subspace of a real Hilbert space. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **18** (1997), *no.* 2, 20–22. (Summary) **98m:41051** 41A65 (41A28, 65J99)

Luo, Xian Nan (*with* Hu, Qi Ya) The β-polynomial spline collocation method for Hammerstein Volterra weakly singular integral equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 2, 128–134. (Summary) **98f:45008** 45L05 (45G10, 65R20)

— Multilevel correction for discrete collocation solutions to two-dimensional nonlinear Fredholm integral equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 12–16. (Ke Chen) **98f:65129** 65R20 (45L05)

Luo, Xiao-Dong (*with* Tseng, Paul) On a global projection-type error bound for the linear complementarity problem. (English summary) *Linear Algebra Appl.* **253** (1997), 251–278. (D. Klatte) **98e:90196** 90C33 (90C31)

— (*with* Bertsimas, Dimitris) On the worst case complexity of potential reduction algorithms for linear programming. (English summary) *Math. Programming* **77** (1997), *no.* 3, *Ser. A*, 321–333. (Klaus Meer) **98b:90081** 90C05 (90C60)

Luo, Xiao Guang (*with* Li, Xiao Mei) A new divide-and-conquer algorithm for the eigenvalue problem of symmetric tridiagonal matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 1, 74–80. 65F15

Luo, Xiao Nan (*with* Jiang, Yu Ming[2]) A matrix representation and a construction method for concurrent curves. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 282–288. 65D17 (41A63)

Luo, Xiaolong (*with* Turnbull, Bruce W.; Clark, Larry C.) Likelihood ratio tests for a changepoint with survival data. (English summary) *Biometrika* **84** (1997), *no.* 3, 555–565. 62F03 (62N05)

Luo, Xin Jian The conception and essence of intuitive mathematical thought. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 3, 89–93. 00A30

Luo, Xin Lian (*with* Wang, Yong Jiu; Cheng, Li Wei) Gravitational field effects in the exterior of a rotating charged sphere. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 5, 846–851. 83C15

— Thermodynamical properties and sruface geometry of NUT-Kerr-Newman black holes. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 2, 31–35. 83C57

— (*with* Wang, Yong Jiu) Nonstatic solution of dilaton-Maxwell compound field and Hawking radiation of its black hole. *Chinese Sci. Bull.* **42** (1997), *no.* 9, 733–737. (Orfeu Bertolami) **98i:83051** 83C57 (83C50)

— (*with* Wang, Yong Jiu) Dynamic dilaton-Maxwell compound fields and their black hole Hawking radiation. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 6, 599–602. 83C57 (83C50)

Luo, Xu (*with* Mao, Shi Song) Empirical Euclidean likelihood estimation of parameters in the additive model. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **12** (1996), *no.* 4, 383–392. 62K99 (62N10)

— Empirical Euclidean likelihood estimation for two-sample semiparametric models. (Chinese. English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 2, 133–141. (Summary) **98i:62033** 62G05 (62E20)

Luo, Xu Jin (*with* Chen, Te Wei) Growth properties of solutions to certain higher-order linear differential equations. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1996**, *no.* 1, 114–121. (Hong Xun Yi) **98f:34008** 34A20 (30D35)

Luo, Xudong (*with* Zhang, Chengqi; Cai, Jingqiu) The weighting issue in fuzzy logic. (English summary) Human-like systems using AI techniques. *Informatica (Ljubl.)* **21** (1997), *no.* 2, 255–262. (Summary) **98d:03036** 03B52

Luo, Xuebo (*with* He, Chun Xiong) Hypoelliptic convolution operators and Rockland condition. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 10, 1025–1033. 22E30 (35H05)

Luo, Xueli (*with* Hai, Wenhua; Duan, Yi Wu; Zhu, Xi Wen; Shi, Lei[3]) Stable orbits embedded in a chaotic attractor for a trapped ion interacting with a laser field. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2991–2996. 81V80 (58F40)

Luo, Yan Feng (*with* Qiang, Wen Jiu; Wang, Ji Rong) Finite type languages and their fundamental language systems. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 2, 1–5. (Summary) **98d:68126** 68Q45 (68Q70)

— Congruence lattices of regular orthocryptogroups. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **32** (1996), *no.* 4, 10–14. (Summary) **98d:20075** 20M99 (08A30)

Luo, Yan Lin (*with* Chen, Ling Jun) The rational stationary subdivision method for generating curves. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 61–66. 65D17

— (*with* Chen, Ling Jun; Hu, Shi Min) Generalized subdivision of tensor product Bézier volumes. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 1, 53–58. 65D17

Luo, Yong[1] Polynomial time-marching for three-dimensional wave equations. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 465–477. 65M99

Luo, Yong Chao An elementary proof of Fermat's conjecture. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **15** (1997), *no.* 1, 97–102, 110. (Zhen Fu Cao) **98g:11035** 11D41

Luo, You Xue (*with* Huang, Wenhua) Six even subgraphs (3, 4)-cover of graphs. (English summary) *Combinatorics and graph theory '95, Vol. 1 (Hefei)*, 284–287, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **98f:05118** 05C70

— (*with* Li, Fa Jie) Cyclic double covers of 2-connected 3-regular graphs with Hamiltonian paths. (Chinese) *Math. Appl.* **9** (1996), *suppl.*, 88–91. (Jing Zhong Mao) **98a:05093** 05C38 (05C45, 05C70)

Luo, Yousong The heat conduction in a medium enclosed by a thin shell of higher diffusivity. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 205–212, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35K20 (35K05)

Luo, Yu Pin (*with* Yang, Shi Yuan; Zheng, Xiao) Constructing optimal fault-tolerant routings for 3-connected elementary Harary graphs. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **18** (1996), *no.* 4, 110–112. (Summary) **98c:68173** 68R10 (05C85, 68M10)

— (*with* Zheng, Xiao; Yang, Shi Yuan) Constructing optimal fault-tolerant routings for a class of 3-connected graphs. (Chinese. English summary) *J. Southeast Univ.* **27** (1997), *no.* 2, 138–140. 68R10 (05C40, 68M15)

Luo, Yue Hu Some conditions for the existence of functionals in linear topological spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 657–664. (Li Xin Cheng) **98c:46006** 46A22 (46A16)

— (*with* Feng, De Xing) Stability and controllability of second-order distributed parameters systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 5, 673–677. 93C20 (93B05, 93D05)

Luo, Yun Feng (*with* Zhu, Shi Jing; Yue, Chao Yuan; Chen, Ting[1]) A note on a uniqueness theorem for the construction of a rational lexicographic order. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 8, 5–7. 90A05 (90C29)

— (*with* Zhao, Yong; Zhu, Ming Fu; Yue, Chao Yuan) Notes on the construction of lexicographic order. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 12, 47–49. (Summary) **98m:90012** 90A08 (06A06)

Luo, Zhaohui Coercive subtyping in type theory. (English summary) *Computer science logic (Utrecht, 1996)*, 275–296, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (*see* **98k:03005**) 03B70

Luo, Zhen (*with* Wahba, Grace) Hybrid adaptive splines. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 437, 107–116. (Girdhar G. Agarwal) **98e:62061** 62G05

Luo, Zheng-Hua (*with* Guo, Bao Zhu) Initial-boundary value problem and exponential decay for a flexible-beam vibration with gain adaptive direct strain feedback control. *Nonlinear Anal.* **27** (1996), *no.* 3, 353–365. (Fu Ru Jiang) **98e:35022** 35B37 (35Q72, 73K05, 73K50, 93C40)

— Feedback stabilization of Euler-Bernoulli beam equations using higher-order derivative information. (Japanese) *Systems Control Inform.* **41** (1997), *no.* 9, 343–350. 93D15 (73K12, 73K50, 93C20)

Luo, Zhi Ming (*with* Li, Yong Bin) Sequences of odd periodic points of continuous self-maps of an interval. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 1, 24–26. 58F20 (58F03)

Luo, Zhi-Quan (*with* Tseng, Paul) A new class of merit functions for the nonlinear complementarity problem. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 204–225, *SIAM, Philadelphia, PA*, 1997. (J. Parida) **98d:90125** 90C33 (65K05)

— (*with* Wu, Shi Quan[1]; Ye, Yin Yu) Predictor-corrector method for nonlinear complementarity problem. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 3, 321–328. (Summary) **98h:90097** 90C33

— Analysis of a cutting plane method that uses weighted analytic center and multiple cuts. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 697–716. (Giorgio Giorgi) **98e:90118** 90C25 (65K05)

— (*with* Fu, Minyue) Computational complexity of a problem arising in fixed order output feedback design. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 209–215. (Summary) **98c:93045** 93B40 (65Y20, 93B51)

Luo, Zhong (*with* Xie, Yong Bin; Zhu, Chong Guang) A study of the convergence of the CMAC learning process. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 4, 455–461. 93E35 (65F10)

— (*with* Xie, Yong Bin; Feng, Zu Ren; Hu, Bao Sheng) Closed-loop analysis of DMC predictive control of second-order inertial systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **14** (1997), *no.* 3, 398–402. 93C40 (93B52)

— (*with* Xie, Yong Bin; Hu, Bao Sheng; Feng, Zu Ren; Li, Lin) A generalized predictive control algorithm based on cerebellar model articulation control. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 10, 30–34. 93B40 (93B30)

— (*with* Xie, Yong Bin; Xie, Kai Nian) Nonlinear adaptive modeling based on two models. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 12, 20–25. 93C40 (93C10)

Luo, Zhong-Xuan C^1, C^2-smooth interpolants on curved sides element. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 125–130. 65D17

Luo, Zhu Kai (*with* Zhu, Ding Wu) Complete sets of unary functions in many-valued logic. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 2, 1–6. (Summary) **98m:03053** 03B50

Luo, Zuhua Variational L^q-approximation by varisolvent family under the Young's condition. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 3, 330–340. (Allan Pinkus) **98i:41026** 41A30 (41A50)

Luoma, Arto (*with* Liski, Erkki P.; Sinha, Bikas K.) Optimal designs in random coefficient linear regression models. (English summary) *Calcutta Statist. Assoc. Bull.* **46** (1996), *no.* 183-184, 211–229. (Summary) **98b:62138** 62K05 (62J05)

— (*with* Liski, Erkki P.; Mandal, Nripes K.; Sinha, Bikas K.) Optimal design for an inverse prediction problem under random coefficient regression models. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **49** (1996/97), 277–288, xv. 62K05

Luong, Andrew (*with* Doray, Louis G.) Goodness of fit test statistics for the zeta family. (English summary) *Insurance Math. Econom.* **19** (1996), *no.* 1, 45–53. (Philip J. Boland) **98e:62077** 62G10 (62F12, 62F35, 62P05)

— (*with* Doray, Louis G.) Efficient estimators for the Good family. (English summary) *Comm. Statist. Simulation Comput.* **26** (1997), *no.* 3, 1075–1088. (Summary) **98d:62032** 62F10 (62F12)

— (*with* Duchesne, Thierry; Rioux, Jacques) Minimum Cramér-von Mises distance methods for complete and grouped data. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 2, 401–420. (Jian-Lun Xu) **98e:62044** 62F15 (62F35)

Luongo, Angelo (*with* Paolone, Achille) Perturbation methods for bifurcation analysis from multiple nonresonant complex eigenvalues. (English summary) *Nonlinear Dynam.* **14** (1997), *no.* 3, 193–210. (James A. Murdock) **98f:34053** 34C23 (34E10, 70K99)

Luosto, Kerkko (*with* Hella, Lauri; Kolaitis, Phokion G.) Almost everywhere equivalence of logics in finite model theory. (English summary) *Bull. Symbolic Logic* **2** (1996), *no.* 4, 422—443. (M. Yasuhara) **98c:03079** 03C13 (03C75, 03C80)

— (*with* Hella, Lauri; Väänänen, Jouko) The hierarchy theorem for generalized quantifiers. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 3, 802–817. (G. Fuhrken) **98a:03059** 03C80

— (*with* Hella, Lauri; Kolaitis, Phokion G.) How to define a linear order on finite models. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 241–267. (Ricardo Bianconi) **98m:03065** 03C13 (03C50, 03C80, 03D15, 68Q15)

Lupa, Maria (*with* Knop, Jadwiga; Kostrzewski, Tadeusz; Wróbel, Małgorzata) On a special case of the Gołąb-Schinzel functional equation. *Demonstratio Math.* **30** (1997), *no.* 3, 475–478. 39B22

Lupacchini, Rossella Empiricism, semantics and physical reality. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 277–295, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (*see* **98h:00043**) 00A30

Lupacciolu, Guido Holomorphic extension to open hulls. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 2, 363–382. (J. Merker) **98i:32013** 32D20 (32D10)

Lupan, M. N. Complete quadratic systems with a dicritical node. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 52–54, 114, 116. (From the text) **98g:34051** 34C05

Lupaş, Alexandru On the sequence $\prod_{k=0}^{n}\binom{n}{k}$. *Octogon Math. Mag.* **5** (1997), *no.* 1, 24–25. 05A10

— The Jensen-Hadamard inequality for convex functions of higher order. *Octogon Math. Mag.* **5** (1997), *no.* 2, 8–9. 26D15 (26A51)

Lupaşcu, P. Metrics of nonnegative scalar curvature on surfaces of Kähler type. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 215–220. (Jim A. Bryan) **98k:53048** 53C21 (32J27, 53C55)

Lupiáñez, Francisco Gallego Finite-to-one fuzzy maps and fuzzy perfect maps. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 163–169. 54A40 (04A72)

Lupoli, C. (*with* Knops, R. J.) Some recent results on Saint-Venant's principle. *Nonlinear analysis and continuum mechanics (Ferrara, 1992)*, 61–71, *Springer, New York*, 1998. (P. Villaggio) **98m:73026** 73C10

Lupşa, Liana (*with* Duca, Dorel I.; Duca, Eugenia) On the balanced and nonbalanced vector optimization problems. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 103–107. 90C29

— (*with* Duca, Dorel I.; Duca, Eugenia) Equivalence classes in the set of efficient solutions. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 127–136. 90C29

— (*with* Blaga, Lucia Rodica; Lupşa, Nicolaie) An application of pseudo-Boolean programming in electric network. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 21–28, *Transilvania, Cluj-Napoca*, 1997. (Jürgen Köhler) **98i:90054** 90C09 (90C90, 94C10)

— (*with* Duca, Dorel I.; Duca, Eugenia) Sequences of multicriteria optimization problems. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 251–254, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 90C29 (90C31)

Lupşa, Luciana Utilisation of finite elements method in study of magnetic field produced by the electromagnet of mass spectrometer. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 139–144, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41002**) 78–08

Lupşa, Nicolaie (*with* Blaga, Lucia Rodica; Lupşa, Liana) An application of pseudo-Boolean programming in electric network. *Approximation and optimization, Vol. II (Cluj-Napoca, 1996)*, 21–28, *Transilvania, Cluj-Napoca*, 1997. (Jürgen Köhler) **98i:90054** 90C09 (90C90, 94C10)

Lupu, Mircea (*with* Scheiber, Ernest) Numerical solutions to inverse problems of general planar motion. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 3-4, 197–214. (Edwin J. Kreuzer) **98f:70007** 70B15 (70–08)

Lupu-Sax, A. S. (*with* da Luz, M. G. E.; Heller, E. J.) Quantum scattering from arbitrary boundaries. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2496–2507. (Summary) **98i:81259** 81U05

Luque-Calvo, P. (*with* Osuna-Gómez, R.; Beato-Moreno, A.; Rufián-Lizana, A.) Invex and pseudoinvex functions in multiobjective programming. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 228–234, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29

— (*with* Beato-Moreno, A.; Osuna-Gómez, R.; Rufián-Lizana, A.) Finding efficient points in multiobjective quadratic programming with strictly convex objective functions. (English summary) *Advances in multiple objective and goal programming* (*Torremolinos*, 1996), 365–373, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (Fred Behringer) **98m:90124** 90C29 (49N15)

Luquet, Philippe (*with* Hébrard, Jean-Jacques) The Horn basis of a set of clauses. (English summary) *J. Logic Programming* **34** (1998), *no.* 1, 59–66. (Summary) **98f:68045** 68N17

Lur'e, B. B. (*with* Ishkhanov, V. V.; Faddeev, D. K.) ★ The embedding problem in Galois theory. (English summary) Translated from the 1990 Russian original by N. B. Lebedinskaya. Translations of Mathematical Monographs, 165. *American Mathematical Society, Providence, RI*, 1997. xii+182 *pp. ISBN* 0-8218-4592-6 (Editors) **98c:12007** 12F12 (11R32, 11S20)

— (*with* Ishkhanov, V. V.) On an embedding problem over a p-extension. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 87–97; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 733–742. (Zhi Jie Chen) **98k:12002** 12F10 (20D20)

Lurie, Konstantin A. Spatio-temporal control in the coefficients of linear hyperbolic equations. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 177–182, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **98e:93059** 93C20 (35L99)

— (*with* Cherkaev, A. V.) Effective characteristics of composite materials and the optimal design of structural elements [partial translation of MR 88e:73019]. *Topics in the mathematical modelling of composite materials*, 175–258, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 73K20 (73B27, 73K40)

— (*with* Simkina, T. Y.) Load characteristics of a MHD channel in the case of optimal distribution of the resistivity of the working medium. *Topics in the mathematical modelling of composite materials*, 259–271, *Progr. Nonlinear Differential Equations Appl.*, 31, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **98i:73001**) 76W05 (49Q20)

— Effective properties of smart elastic laminates and the screening phenomenon. (English summary) *Internat. J. Solids Structures* **34** (1997), *no.* 13, 1633–1643. (Leonid V. Gibiansky) **98c:73059** 73K20 (73B27, 73K12, 73K40, 73K50)

Lusanna, Luca (*with* De Pietri, Roberto; Pauri, Massimo) Gauge theories of the extended Galilei group and Newtonian gravities. (English summary) *Constraint theory and quantization methods* (*Montepulciano*, 1993), 426–435, *World Sci. Publishing, River Edge, NJ*, 1994. (Hans P. Künzle) **98i:70010** 70G50 (58E30, 83D05)

— Dirac's observables for tetrad gravity. *General relativity and gravitational physics* (*Rome*, 1996), 335–340, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98i:83002**) 83C99

— The N- and 1-time classical descriptions of N-body relativistic kinematics and the electromagnetic interaction. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 4, 645–722. (Adam Bechler) **98f:81365** 81V10 (70F10, 70H40, 78A35)

— Solving Gauss' laws and the search for Dirac's observables for the four interactions. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 13–20. (*see* **98f:83002**) 81V22

— *see also* **Constraint theory and quantization methods**, **98d:00015**

Luschgy, H. (*with* Graf, Siegfried) The quantization of the Cantor distribution. (English summary) *Math. Nachr.* **183** (1997), 113–133. (Norbert Patzschke) **98b:28012** 28A80

Luskin, Mitchell (*with* Li, Bo) Nonconforming finite element approximation of crystalline microstructure. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 917–946. (Igor Bock) **98j:73092** 73V05 (65N12, 65N30, 73C50, 73V25)

Lusnikov, A. V. (*with* Krasnosel'skiĭ, Mark Aleksandrovich) On vector boundary value problems with discontinuous nonlinearities. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 592–594. (Józef Banaś) **98j:47122** 47H07 (34B15, 47H10, 47N20)

Lüst, Dieter (*with* de Wit, Bernard; Cardoso, Gabriel Lopes; Mohaupt, Thomas; Rey, Soo-Jong) Higher-order gravitational couplings and modular forms in $N = 2$, $D = 4$ heterotic string compactifications. (English summary) *Nuclear Phys. B* **481** (1996), *no.* 1-2, 353–388. (Summary) **98d:81096** 81T30 (11F11, 11Z05, 83E30)

— (*with* Cardoso, Gabriel Lopes; Curio, Gottfried; Mohaupt, Thomas) On the duality between the heterotic string and F-theory in 8 dimensions. (English summary) *Phys. Lett. B* **389** (1996), *no.* 3, 479–484. (Bruce Hunt) **98a:81158** 81T30 (14J28, 83E30)

— (*with* Kiritsis, Elias; Kounnas, Costas) Non-compact Calabi-Yau spaces and other non-trivial backgrounds for four-dimensional superstrings. (English summary) *Mirror symmetry, II*, 427–441, *AMS/IP Stud. Adv. Math.*, 1, *Amer. Math. Soc., Providence, RI*, 1997. (Tsou Sheung Tsun) **98f:81265** 81T30 (83E30)

— (*with* de Wit, Bernard; Cardoso, Gabriel Lopes; Mohaupt, Thomas; Rey, Soo-Jong) Higher derivative couplings and duality in $N = 2$, $D = 4$ string theories. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 108–119. (C. Gauthier) **98j:81305** 81T30 (83E30)

— (*with* Behrndt, Klaus; Sabra, Wafic A.) Moving moduli, Calabi-Yau phase transitions and massless BPS configurations in type II superstrings. (English summary) *Phys. Lett. B* **418** (1998), *no.* 3-4, 303–311. (Summary) **98m:81128** 81T30 (14J32, 32J81, 83E30)

— *see also* **Theory of elementary particles**, **98b:81005**

Lusternik, B. E. (*with* Sokolova, I. A.) Numerical analysis of density dependence for effective transport kinetic diameter of real fluids. (English summary) *Numerical analysis and its applications* (*Rousse*, 1996), 474–481, *Lecture Notes in Comput. Sci.*, 1196, *Springer, Berlin*, 1997. (*see* **98d:65007**) 76M25 (76P05, 76R99)

Lustfeld, Hans (*with* Bene, Julius; Kaufmann, Zoltán) New approach to the correlation spectrum near intermittency: a quantum mechanical analogy. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 605–632. 81Q50 (58F13)

Lust-Piquard, Françoise On the coefficient problem: a version of the Kahane-Katznelson-de Leeuw theorem for spaces of matrices. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 352–376. (Christian Le Merdy) **98i:47013** 47A57 (42A70, 46H99, 46L05, 47B99)

Lutyk, Miroslaw Green function and the first Fourier problem for some linear heat equation. (English and Polish summaries) *Opuscula Math. No.* 16 (1996), 9, 16–17, 77–90. (Stepan D. Ivasyshen) **98c:35070** 35K20 (35K05)

Lusztig, George Classification of unipotent representations of simple p-adic groups. *Internat. Math. Res. Notices* **1995**, *no.* 11, 517–589. (Lawrence Morris) **98b:22034** 22E50 (20G25, 22E35)

— Braid group action and canonical bases. *Adv. Math.* **122** (1996), *no.* 2, 237–261. (Kailash C. Misra) **98g:17019** 17B37

— Cells in affine Weyl groups and tensor categories. (English summary) *Adv. Math.* **129** (1997), *no.* 1, 85–98. (Cheng Dong Chen) **98f:20030** 20G15 (18B40)

— Constructible functions on the Steinberg variety. *Adv. Math.* **130** (1997), *no.* 2, 287–310. (Toshiaki Shoji) **98k:20077** 20G05 (20G15)

— Notes on unipotent classes. *Asian J. Math.* **1** (1997), *no.* 1, 194–207. (Toshiaki Shoji) **98k:20078** 20G05 (20G40)

— Nonlocal finiteness of a W-graph. (English summary) *Represent. Theory* **1** (1997), *approx.* 6 *pp.* (R. W. Carter) **98c:20078** 20F55 (20G05)

— Cohomology of classifying spaces and Hermitian representations. (English summary) *Represent. Theory* **1** (1997), *approx.* 6 *pp.* (Eric N. Sommers) **98c:20088** 20G10

— *see also* **Rietsch, Konstanze**, **98f:14038**

Luterotti, F. A unilateral problem for a nonlinear hyperbolic operator. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 1, 21–36. (Jiří Nedoma) **98h:35163** 35L70 (35L85)

Lutgen, Jeffrey Higher order flatness of lens spaces. (English summary) *Houston J. Math.* **22** (1996), *no.* 3, 511–532. (Robert A. Wolak) **98b:57043** 57R25 (57R22, 58A20)

Lüth, Christoph Compositional term rewriting: an algebraic proof of Toyama's theorem. (English summary) *Rewriting techniques and applications* (*New Brunswick, NJ*, 1996), 261–275, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98a:68011**) 68Q42 (68Q65)

Luther, Gregory G. (*with* Alber, Mark S.; Marsden, Jerrold E.) Energy dependent Schrödinger operators and complex Hamiltonian systems on Riemann surfaces. (English summary) *Nonlinearity* **10** (1997), *no.* 1, 223–241. (Jair Koiller) **98a:58077** 58F07 (30F99, 35Q40, 58F19)

Lütken, C. A. (*with* Latorre, José I.) On RG potentials in Yang-Mills theories. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 217–222. (Summary) **98m:81105** 81T17 (81T13)

Lütkepohl, Helmut (*with* Saikkonen, Pentti) Infinite-order cointegrated vector autoregressive processes: estimation and inference. (English summary) *Econometric Theory* **12** (1996), *no.* 5, 814–844. (Bert M. Steece) **98d:62167** 62M10 (62P20)

— (*with* Burda, Maike M.) Modified Wald tests under nonregular conditions. (English summary) *J. Econometrics* **78** (1997), *no.* 2, 315–332. (Xian Zhi George Yuan) **98f:62045** 62F03 (62P20)

— (*with* Claessen, Holger) Analysis of cointegrated VARMA processes. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 223–239. 62P20 (62M10)

— (*with* Saikkonen, Pentti) Impulse response analysis in infinite order cointegrated vector autoregressive processes. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 127–157. (Summary) **98k:62191** 62P20 (62M10)

Lutomska, Barbara (*with* Bobrowski, Dobiesław) On approximation of the discrete life time distribution by the geometric distribution. (English summary) *Discuss. Math. Algebra Stochastic Methods* **16** (1996), *no.* 2, 197–203. (Olcay Akman) **98i:62008** 62E17 (62N05)

Luton, J. Alan (*with* Ragab, Saad A.) The three-dimensional interaction of a vortex pair with a wall. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2967–2980. 76C05 (76E99, 76M25)

Lutovac, Tatjana (*with* Harland, James) Contributions to strategies and heuristics for automatic theorem proving in mathematics. (English summary) Proceedings of the Twentieth Australasian Computer Science Conference (Sydney, 1997). *Austral. Comput. Sci. Comm.* **19** (1997), *no.* 1, 46–55. (*see* **98k:68012**) 68T15

Lutsuk, A. V. *see* **Chentsov, A. G.**, **98a:49003**

Lutterodt, Clement (*with* Darko, Patrick) A preliminary approach to a meromorphic approximation in a strictly pseudoconvex domain. (English summary) *Approximation theory VIII, Vol. 1* (*College Station, TX*, 1995), 397–402, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **98d:41001**) 41A10 (30E10)

Lüttgen, Gerald (*with* Cleaveland, Rance; Natarajan, Vaidhyanathan) A process algebra with distributed priorities. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 34–49, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (*see* **98c:68002**) 68Q10 (68Q55, 68Q60)

— (*with* Cleaveland, Rance; Mendler, Michael) An algebraic theory of multiple clocks. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 166–180, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (*see* **98h:68005**) 68Q60 (68Q10)

Lutton, Jean-luc (*with* Carlier, Jacques; Li, Yu) Reliability evaluation of large telecommunication networks. (English summary) Second International Colloquium on Graphs and Optimization (Leukerbad, 1994). *Discrete Appl. Math.* **76** (1997), *no.* 1-3, 61–80. (Summary) **98c:90035** 90B12 (90B25)

Lutwak, Erwin Inequalities for mean circumscribing simplices. (English summary) *Geom. Dedicata* **66** (1997), *no.* 1, 119–124. (Jane R. Sangwine-Yager) **98m:52012** 52A40

— (*with* Chakerian, G. D.) Bodies with similar projections. *Trans. Amer. Math. Soc.* **349** (1997), *no.* 5, 1811–1820. (Jane R. Sangwine-Yager) **98a:52011** 52A39 (52B12)

Luty, Markus A. (*with* Schmaltz, Martin; Terning, John) Sequence of duals for Sp($2N$) supersymmetric gauge theories with adjoint matter. (English summary) *Phys. Rev. D* (3) **54** (1996), *no.* 12, 7815–7824. (Summary) **98a:81230** 81T60 (81T13)

— Simple gauge-mediated models with local minima. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 71–76. 81T60 (81T13)

Lutz, D. A. (*with* Schäfke, Reinhard) Calculating connection coefficients for meromorphic differential equations. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 1-2, 145–170. (Summary) **98e:34009** 34A20 (34A25, 34B05, 34E20)

Lutz, Jack H. (*with* Fenner, Stephen A.; Mayordomo, Elvira) Weakly useful sequences. (English summary) *Automata, languages and programming* (*Szeged*, 1995), 393–404, *Lecture Notes in Comput. Sci.*, 944, *Springer, Berlin*, 1995. (Summary) **98h:68085** 68Q15 (03D15)

— Observations on measure and lowness for Δ_2^p (extended abstract). (English summary) *STACS 96* (*Grenoble*, 1996), 87–97, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (*see* **98d:68022**) 68Q15

— (*with* Mayordomo, Elvira) Cook versus Karp-Levin: separating completeness notions if NP is not small. (English summary) *Theoret. Comput. Sci.* **164** (1996), *no.* 1-2, 141–163. (Gerhard Lischke) **98b:68060** 68Q15 (03D15)

— (*with* Lorentz, Amy K.) Genericity and randomness over feasible probability measures. (English summary) *Advances in algorithms, languages, and complexity*, 171–187, *Kluwer Acad. Publ., Dordrecht*, 1997. (Rodney G. Downey) **98h:68090** 68Q15 (03D15)

— (*with* Lathrop, James I.) Recursive computational depth. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 132–142, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (*see* **98k:68002**) 68Q15

— (*with* Breutzmann, Josef M.) Equivalence of measures of complexity classes. (English summary) *STACS 97* (*Lübeck*), 535–545, *Lecture Notes in Comput. Sci.*, 1200, *Springer, Berlin*, 1997. (Summary) **98h:68083** 68Q15

— Observations on measure and lowness for Δ_2^p. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 4, 429–442. (Summary) **98a:68075** 68Q15 (03D15)

Lutz, Robert La force modélisatrice des théories infinitésimales faibles. [The modelling force of weak infinitesimal theories] *Le labyrinthe du continu* (*Cerisy-la-Salle*, 1990), 414–423, *Springer, Paris*, 1992. (L. D. Kugler) **98h:03083** 03H05 (00A79)

Lutzer, David J. (*with* Bennett, Harold R.) A note on property III in generalized ordered spaces. (English summary) *Topology Proc.* **21** (1996), 15–24. (Summary) **98j:54053** 54F05

— (*with* Bennett, Harold R.) Diagonal conditions in ordered spaces. (English summary) *Fund. Math.* **153** (1997), *no.* 2, 99–123. (Ljubiša Kočinac) **98h:54043** 54F05 (54A25, 54D15, 54D30)

— (*with* Bennett, Harold R.) A metric space of A. H. Stone and an example concerning σ-minimal bases. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2191–2196. (Worthen Hunsaker) **98j:54054** 54F05 (54D15, 54D30, 54E35)

Lutzky, M. Conserved quantities and velocity-dependent symmetries in Lagrangian dynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 2, 393–396. (Summary) **98d:70021** 70H33

đỗ văn Lu'u *see* **Đỗ Văn Lu'u**

Luu, D. V. *see* **Đỗ Văn Lu'u**

Luu, Dinh Quang *see* **Dinh Quang Lu'u**

Luukkonen, Ritva (*with* Saikkonen, Pentti) Testing cointegration in infinite order vector autoregressive processes. (English summary) *J. Econometrics* **81** (1997), *no.* 1, 93–126. (Summary) **98k:62193** 62P20 (62M10)

Lux, K. (*with* Héthelyi, László; Szőke, M.) The restriction of indecomposable modules of group algebras and the quasi-Green correspondence. *Comm. Algebra* **26** (1998), *no.* 1, 83–95. (J. L. Alperin) **98m:20017** 20C20 (16S34)

Lux, Thomas Time variation of second moments from a noise trader/infection model. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 1–38. 90A16 (90A60)

Luxemburg, W. A. J. Book review of *Abraham Robinson* [Princeton Univ. Press, Princeton, 1995; MR 95m:01016] by J. W. Dauben. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 103–111. 03–03 (01A70)

da Luz, M. G. E. (*with* Lupu-Sax, A. S.; Heller, E. J.) Quantum scattering from arbitrary boundaries. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2496–2507. (Summary) **98i:81259** 81U05

Lužanin, Zorana (*with* Herceg, Dragoslav; Krejić, Nataša) Quasi-Newton's method with correction. (English summary) *Novi Sad J. Math.* **26** (1996), *no.* 1, 115–127. (De Ren Wang) **98h:65021** 65H10

— (*with* Herceg, Dragoslav; Krejić, Nataša) Parameter selection for inexact Newton method. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 17–24. (*see* **98i:00027**) 65H10 (90C30)

Luzin, N. N. *see* **Kapitsa, Petr Leonidovich** *and* **Demidov, S. S.**

Luzon, Gloria (*with* Asorey, Manuel; Falceto, Fernando; López García, José Luis) Vacuum structure of $(2+1)$-dimensional gauge theories. (English summary) *Symplectic singularities and geometry of gauge fields* (*Warsaw*, 1995), 183–199, *Banach Center Publ.*, 39, *Polish Acad. Sci., Warsaw*, 1997. (Matilde Marcolli) **98f:58045** 58D29 (58D19, 58Z05, 81T13, 81T70)

Luzzi, Roberto (*with* Tenan, Mário A.; Vasconcellos, Áurea R.) Statistical-mechanical foundations for a generalized thermodynamics of dissipative processes. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 1, 1–37. (Summary) **98k:82140** 82C35 (82C03, 82D99)

— (*with* Mesquita, Marcus V.; Vasconcellos, Áurea R.) Considerations of Fröhlich's Bose-Einstein-like condensation. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 206–211. 82C35

r.-grandjeán L.-Valcárcel, Alfredo *see* **R.-Grandjeán L.-Valcárcel, Alfredo**

L'vin, S. Ya. (*with* Gupta, Pushpa L.; Gupta, Ramesh C.) Analysis of failure time data by Burr distribution. (English summary) *Comm. Statist. Theory Methods* **25** (1996), *no.* 9, 2013–2024. (Prafulchandra N. Jani) **98d:62182** 62N05 (62F10)

L'vov, A. Yu. On integer quaternions with norm equal to the power of a prime number. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 60–62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 43–45. (From the text) **98g:16015** 16K20

L'vov, I. V. (*with* Andreeva, T. A.; Kharchenko, Vladislav K.) On rings of quotients of free algebras. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 6, 655–662, 751; *translation in Algebra and Logic* **35** (1996), *no.* 6, 366–370. (Vesselin Drensky) **98h:16035** 16S10 (16S90)

L'vov, Victor S. (*with* Procaccia, Itamar) Exact resummations in the theory of hydrodynamic turbulence. 0. Line-resummed diagrammatic perturbation approach. *Géométries fluctuantes en mécanique statistique et en théorie des champs* (*Les Houches*, 1994), 1027–1075, *North-Holland, Amsterdam*, 1996. (Detlef Lehmann) **98d:82045** 82D15 (76F99, 76M35)

— (*with* Procaccia, Itamar) Anomalous scaling in turbulence: a field theoretical approach. (English summary) *Nonlinear dynamics, chaotic and complex systems* (*Zakopane*, 1995), 99–107, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **98e:58005**) 76F99 (76M35)

— (*with* Procaccia, Itamar) Hydrodynamic turbulence: a 19th century problem with a challenge for the 21st century. (English summary) *Turbulence modeling and vortex dynamics* (*Istanbul*, 1996), 1–16, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Roland Schiestel) **98m:76082** 76Fxx (82D15)

— (*with* Podivilov, Evgenii; Procaccia, Itamar) Temporal multiscaling in hydrodynamic turbulence. (English summary) *Phys. Rev. E* (3) **55** (1997), *no.* 6, *part A*, 7030–7035. (Summary) **98c:76052** 76F99 (76F20, 76M35)

— (*with* Lvov, Y. V.; Newell, A. C.; Zakharov, Vladimir E.) Statistical description of acoustic turbulence. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 390–405. 76F99 (76M35, 82C31)

— (*with* Gat, Omri; Procaccia, Itamar) Perturbative and nonperturbative analysis of the third-order zero modes in the Kraichnan model for turbulent advection. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 406–416. (Summary) **98d:76089** 76F99

Lvov, Y. V. Effective five-wave Hamiltonian for surface water waves. (English summary) *Phys. Lett. A* **230** (1997), *no.* 1-2, 38–44. (Mark Groves) **98f:76014** 76B15 (35Q58)

— (*with* L'vov, Victor S.; Newell, A. C.; Zakharov, Vladimir E.) Statistical description of acoustic turbulence. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part A*, 390–405. 76F99 (76M35, 82C31)

Ly, Hung V. (*with* Mease, Kenneth D.; Titi, Edriss S.) Distributed and boundary control of the viscous Burgers' equation. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 143–188. (Takao Nambu) **98c:93092** 93D15 (35Q53, 76D05, 93D20)

Ly, Uy-Loi (*with* Lin, Zongli; Chen, Ben M.; Saberi, Ali) Simultaneous H_2/H_∞ optimal control for discrete-time systems: the state feedback case. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 2, 217–225. 93B36 (93B52)

Lyaghfouri, A. (*with* Chipot, M.) On the uniqueness of the solution of the dam problem with leaky boundary conditions. *Progress in partial differential equations: the Metz surveys*, 4, 175–186, *Pitman Res. Notes Math. Ser.*, 345, *Longman, Harlow*, 1996. (Rouben Rostamian) **98a:76083** 76S05 (35Q35)

— The inhomogeneous dam problem with linear Darcy's law and Dirichlet boundary conditions. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 8, 1051–1077. (Summary) **98a:35146** 35R35 (35Q35, 76S05)

— (*with* Challal, S.) A stationary flow of fresh and salt groundwater in a coastal aquifer with nonlinear Darcy's law. (English summary) *Appl. Anal.* **67** (1997), *no.* 3-4, 295–312. (Summary) **98k:76129** 76S05 (35Q35)

— (*with* Chipot, M.) The dam problem for non-linear Darcy's laws and non-linear leaky boundary conditions. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 12, 1045–1068. (Adrian Carabineanu) **98f:35160** 35R35 (35Q35, 76S05)

— On the uniqueness of the solution of a nonlinear filtration problem through a porous medium. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 1, 67–94. (Claudia B. Lederman) **98k:76135** 76S05 (35Q35, 35R35)

Lyakhov, L. N. B-hypersingular integrals with stabilizing characteristics. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 6, 735–738. (B. S. Rubin) **98h:47067** 47G10 (42B20, 46E99)

— On a symbol of an integral operator of B-potential type with a single characteristic. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 2, 164–168. (B. S. Rubin) **98f:47055** 47G10 (46E35)

Lyakhov, V. N. (*with* Karpenko, A. P.; Protasov, I. N.; Fortov, V. E.) Numerical modeling of an unsteady three-dimensional gas flow with shock waves and flow separation from the surface. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 8, 36–59. 76M20 (76L05, 76N15)

Lyakhovich, S. L. (*with* Karataeva, I. Yu.) Chiral and axial anomalies in the formalism of generalized canonical quantization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 1, 55–76; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 1, 1231–1248 (1996). 81S05

— (*with* Sharapov, A. A.; Shekhter, K. M.) $d = 6$ massive spinning particle. (English summary) *Modern Phys. Lett. A* **11** (1996), *no.* 38, 3011–3019. (Gregorio Falqui) **98f:81109** 81R25 (58F06, 81S10)

— (*with* Gorbunov, I. V.; Kuzenko, Sergei M.) On the minimal model of anyons. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 23, 4199–4215. (Bernd J. Schroers) **98h:81069** 81S99 (81V70)

— (*with* Sharapov, A. A.; Shekhter, K. M.) Spinning particle in six dimensions. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4086–4103. (Ivailo M. Mladenov) **98j:81175** 81S10 (81R05)

— (*with* Kamenshchik, A. Yu.) Hamiltonian BFV-BRST theory of closed quantum cosmological models. (English summary) *Nuclear Phys. B* **495** (1997), *no.* 1-2, 309–338. (Ion V. Vancea) **98c:83034** 83C45 (81T70, 81V17)

— (*with* Kamenshchik, A. Yu.) Hamiltonian BFV-BRST theory of closed quantum cosmological models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 303–306. (Summary) **98g:83042** 83C45 (81T70)

— (*with* Gorbunov, I. V.; Kuzenko, Sergei M.) $N = 1$, $D = 3$ superanyons, osp(2|2), and the deformed Heisenberg algebra. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3744–3755. (Summary) **98g:81100** 81S10 (81V70)

Lyakhovskiĭ, V. D. Quantum duality classical and quasiclassical limits. (English summary) Quantum groups and physics (Prague, 1995). *Czechoslovak J. Phys.* **46** (1996), *no.* 2-3, 227–234. (Summary) **98f:81136** 81R50

— (*with* Mirolubov, A. M.) Deformed Lie-Poisson structures for quantized groups. (English summary) Quantum groups and integrable systems, II (Prague, 1996). *Czechoslovak J. Phys.* **47** (1997), *no.* 1, 63–70. (Władysław Marcinek) **98f:81137** 81R50 (16W30, 17B37, 81S10)

— (*with* Mirolyubov, A. M.) Contractions in deformed Lie-Poisson structures. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 225–230. (Summary) **98c:16053** 16W30 (17B37, 81R50, 81S10)

Lyalinov, M. A. (*with* Vardapetyan, L. G.) Diffraction of a plane electromagnetic wave by a wedge with a dielectric coating under oblique incidence on the edge. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **218** (1994), *Mat. Vopr. Teor. Rasprostr. Voln.* 24, 72–95, 222; *translation in J. Math. Sci.* (*New York*) **86** (1997), *no.* 3, 2705–2720. (Summary) **98k:78039** 78A45

— The perturbation method in electromagnetic vector problems of diffraction by a wedge. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **230** (1995), *Mat. Vopr. Teor. Rasprostr. Voln.* 25, 138–156, 297. (Summary) **98b:78034** 78A45 (35Q60)

— Asymptotics of a wave field in the problem of diffraction by a planar junction of thin layers, and boundary-contact conditions. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **230** (1995), *Mat. Vopr. Teor. Rasprostr. Voln.* 25, 157–171, 297. (Summary) **98b:78035** 78A45 (35J05)

Lyall, Vinod (*with* Suneja, S. K.; Aggarwal, Sunila) Fritz-John optimality and duality for non-convex programs. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 38–50. (Christiane Tammer) **98i:90067** 90C26 (49N15)

— (*with* Suneja, S. K.; Aggarwal, Shashi) Optimality and duality in fractional programming involving semilocally convex and related functions. (English summary) *Optimization* **41** (1997), *no.* 3, 237–255. (Summary) **98h:90091** 90C32

Lyapin, E. S. (*with* Evseev, A. E.) ★ The theory of partial algebraic operations. (English summary) Translated from the 1991 Russian original and with a preface by J. M. Cole. Revised by the authors. Mathematics and its Applications, 414. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+235 *pp. ISBN* 0-7923-4609-2 (H.-J. Hoehnke) **98j:20099** 20N02 (08A55, 08C15, 20M20)

Lyapunov, Aleksei Andreevich *see* **Korotkevich, G. V.**

Lyashenko, A. A. On the stability of linear ill-posed problems with a prescribed energy bound. (English summary) *Appl. Anal.* **64** (1997), *no.* 3-4, 291–301. (Summary) **98f:35157** 35R30 (35L05, 35P05, 47A50)

Lyashko, A. D. (*with* Dautov, R. Z.; Drobotenko, M. I.) Investigation of the well-posedness of the generalized solution of the filtration consolidation problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 515–521, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 518–525. (Summary) **98k:76131** 76S05 (34G20, 35Q72, 73N20, 73V25)

— (*with* Karchevskiĭ, M. M.; Paĭmushin, V. N.) On mathematical problems in the theory of multilayer shells with transversally soft fillings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 66–76; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 4, 64–74. (Petr E. Tovstik) **98k:73050** 73K15 (35Q72, 73H05, 73K20)

Lyashko, S. I. (*with* Abramchuk, V. S.; Skopets'kiĭ, V. V.) Generalized interpolation polynomials. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 1, 86–98, 189–190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 1, 66–76. (Alexey R. Alimov) **98k:41001** 41A05 (65D05)

Lyashko, V. I. (*with* Prokopovich, P. V.) Normal Lagrangians in differential pursuit games. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 98–101. 90D25 (49J10)

Lyazrhi, Faouzi Bayesian criteria for discriminating among regression models with one possible change point. (English summary) *J. Statist. Plann. Inference* **59** (1997), *no.* 2, 337–353. (Nabendu Pal) **98k:62119** 62J05 (62F15)

Lychagin, V. V. Differential geometry via differential equations. *The Sophus Lie Memorial Conference (Oslo, 1992)*, 271–287, *Scand. Univ. Press, Oslo*, 1994. (Ceferino Ruiz) **98e:53035** 53C05 (58A99)

Lychagina, O. V. Classification of Poisson structures. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 3, 304–307. (J. S. Joel) **98c:58057** 58F05 (58H05)

Lyche, Tom (*with* Schumaker, Larry L.) Total positivity properties of *LB*-splines. (English summary) *Total positivity and its applications (Jaca, 1994)*, 35–46, *Math. Appl.*, 359, *Kluwer Acad. Publ., Dordrecht*, 1996. (Rong Qing Jia) **98a:41018** 41A15 (15A48)

— (*with* Habib, A. W.; Goldman, Ronald) A recursive algorithm for Hermite interpolation over a triangular grid. (English summary) *J. Comput. Appl. Math.* **73** (1996), *no.* 1-2, 95–118. (Summary) **98i:41006** 41A10 (65D05)

— (*with* Scherer, Karl) On the sup-norm condition number of the multivariate triangular Bernstein basis. (English summary) *Multivariate approximation and splines (Mannheim, 1996)*, 141–151, *Internat. Ser. Numer. Math.*, 125, *Birkhäuser, Basel*, 1997. (Mariano Gasca) **98m:41047** 41A63

Lye, Koh Tuck (*with* Krishnan, H.; Teo, C. L.) Control of a 2-DOF manipulator with a flexible forearm. (English summary) *Sādhanā* **22** (1997), *no.* 4, 499–523. 70B15 (70Q05, 93C85)

Lygerōs, N. Panorama: fractals et posets en relativité. (English and French summaries) [Panorama: fractals and posets in relativity] *Ann. Fond. Louis de Broglie* **19** (1994), *no.* 4, 273–290. (Francois Vanderseypen) **98a:83009** 83A05 (83C27)

Lygren, M. (*with* Elizalde, E.; Vasilevich, D. V.) Zeta function for the Laplace operator acting on forms in a ball with gauge boundary conditions. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 645–660. (Giampiero Esposito) **98h:58195** 58G26 (58G11, 58G18)

Lyhagen, Johan A matrix evaluation of the moving-average representation. (English summary) *Econom. Lett.* **55** (1997), *no.* 2, 179–183. 62M10

Lykken, Joseph D. Introduction to supersymmetry. (English summary) *Fields, strings and duality (Boulder, CO, 1996)*, 85–153, *World Sci. Publishing, River Edge, NJ*, 1997. (Bani Mitra Södermark) **98m:81182** 81T60 (81–02, 81T17)

— String model building in the age of D-branes. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 271–275. (Summary) **98i:81214** 81T30

— (*with* Poppitz, Erich; Trivedi, Sandip P.) Chiral gauge theories from D-branes. (English summary) *Phys. Lett. B* **416** (1998), *no.* 3-4, 286–294. 81T30

— (*with* Montroy, T.; Willenbrock, S.) Group-theoretic evidence for SO(10) grand unification. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 141–144. 81V22

Lykova, O. B. (*with* Belan, E. P.) A theorem on the central manifold of a nonlinear parabolic equation. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 8, 1021–1036; *translation in Ukrainian Math. J.* **48** (1996), *no.* 8, 1153–1170 (1997). (Daniel Ševčovič) **98b:35089** 35K57 (34C30, 34G20, 35B40, 58F39)

— On the properties of the central manifold of a stationary point. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 68–76; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 75–83. (Ya. S. Baris) **98e:34090** 34C30 (34C45, 34D99)

Lyles, Robert H. (*with* Kupper, Lawrence L.) A detailed evaluation of adjustment methods for multiplicative measurement error in linear regression with applications in occupational epidemiology. (English and French summaries) *Biometrics* **53** (1997), *no.* 3, 1008–1025. 62P10

— (*with* Kupper, Lawrence L.) UMVU estimators for the population mean and variance based on random effects models for lognormal data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 795–818. 62F10

Lynch, Alan F. (*with* Bortoff, Scott A.) Non-linear observer design by approximate error linearization. (English summary) *Systems Control Lett.* **32** (1997), *no.* 3, 161–172. (Summary) **98j:93017** 93B07 (93B18)

Lynch, Christopher (*with* Strogova, Polina) PATCH graphs: an efficient data structure for completion of finitely presented groups. (English summary) *Artificial intelligence and symbolic mathematical computation (Steyr, 1996)*, 176–190, *Lecture Notes in Comput. Sci.*, 1138, *Springer, Berlin*, 1996. (Summary) **98f:68138** 68Q40 (20F05, 68P05)

— (*with* Kirchner, Claude; Scharff, Christelle) Fine-grained concurrent completion. (English summary) *Rewriting techniques and applications (New Brunswick, NJ, 1996)*, 3–17, *Lecture Notes in Comput. Sci.*, 1103, *Springer, Berlin*, 1996. (*see* **98h:68011**) 68Q42

— Goal-directed completion using SOUR graphs. (English summary) *Rewriting techniques and applications (Sitges, 1997)*, 8–22, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (*see* **98i:68015**) 68Q42 (03B35)

— Oriented equational logic programming is complete. (English summary) *J. Symbolic Comput.* **23** (1997), *no.* 1, 23–45. (Summary) **98i:68049** 68N17 (03B35, 03C05, 68Q40)

Lynch, James Dennis (*with* Lee, Shiowjen) Total positivity of Markov chains and the failure rate character of some first passage times. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 713–732. (Paul Embrechts) **98k:62013** 62E10 (62J20, 62N05)

Lynch, James F. On the threshold of chaos in random Boolean cellular automata. (English summary) Proceedings of the Sixth International Seminar on Random Graphs and Probabilistic Methods in Combinatorics and Computer Science, "Random Graphs '93" (Poznań, 1993). *Random Structures Algorithms* **6** (1995), *no.* 2-3, 239–260. (Ivan Korec) **98b:68139** 68Q80

— *see also* **Logic and random structures, 98b:03005**

Lynch, John *see* **Singh, Simon, 98i:01001**

Lynch, Nancy (*with* Vaandrager, Frits W.) Forward and backward simulations. II. Timing-based systems. (English summary) *Inform. and Comput.* **128** (1996), *no.* 1, 1–25. (Ryszard Janicki) **98a:68127** 68Q55 (68Q10, 68Q60, 68Q68)

— (*with* Fekete, Alan; Kaashoek, M. Frans) Implementing sequentially consistent shared objects using broadcast and point-to-point communication. (English summary) *J. ACM* **45** (1998), *no.* 1, 35–69. (Summary) **98m:68007** 68M10 (68Q60)

Lynden-Bell, Donald (*with* Lynden-Bell, R. M.) On the shapes of Newton's revolving orbits. *Notes and Records Roy. Soc. London* **51** (1997), *no.* 2, 195–198. 01A45 (70–03)

— (*with* Katz, Joseph; Bičák, Jiří) Relativistic conservation laws and integral constraints for large cosmological perturbations. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 5957–5969. (Alexander N. Petrov) **98m:83025** 83C40

Lynden-Bell, R. M. (*with* Lynden-Bell, Donald) On the shapes of Newton's revolving orbits. *Notes and Records Roy. Soc. London* **51** (1997), *no.* 2, 195–198. 01A45 (70–03)

Lyndon, Roger *see* **Lothaire, M., 98g:68134**

Lynker, Monika (*with* Schimmrigk, Rolf) Conifold transitions and aspects of duality. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 562–582. (Gerardo Marcelo Aldazabal) **98c:81177** 81T30 (14J32, 32J81, 83E30)

— (*with* Brunner, Ilka; Schimmrigk, Rolf) Unification of M- and F-theory Calabi-Yau fourfold vacua. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 156–174. (Bruce Hunt) **98f:32028** 32J18 (14J32, 32G81, 32J81, 81T30)

— (*with* Hunt, Bruce; Schimmrigk, Rolf) Heterotic/type II duality in $D = 4$ and string-string duality. (English summary) Supersymmetry '96 (College Park, MD). *Nuclear Phys. B Proc. Suppl.* **52A** (1997), 339–343. (Summary) **98j:81278** 81T30 (14J32, 32J81)

— (*with* Brunner, Ilka; Schimmrigk, Rolf) Dualities and phase transitions for Calabi-Yau threefolds and fourfolds. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 120–135. (Bruce Hunt) **98g:32052** 32J81 (14J28, 14J32, 32G81, 32J17, 32J18, 81T30)

Lynn, Nicholas J. (*with* Chen, Jing Xian^2; Singpurwalla, Nozer D.) Markov mesh models for filtering and forecasting with leading indicators. (English summary) *Analysis of censored data (Pune, 1994/1995)*, 39–54, *IMS Lecture Notes Monogr. Ser.*, 27, *Inst. Math. Statist., Hayward, CA*, 1995. (*see* **98g:62003**) 62M20

Lyons, Kelly A. (*with* Meijer, Henk; Rappaport, David) Algorithms for cluster busting in anchored graph drawing. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 1, 24 *pp.* (*electronic*). 68U05 (68R10)

Lyons, Richard (*with* Gorenstein, Daniel; Solomon, Ronald M.) ★ The classification of the finite simple groups. Number 3. Part I. Chapter A. (English summary) Almost simple K-groups. Mathematical Surveys and Monographs, 40.3. *American Mathematical Society, Providence, RI*, 1998. xvi+419 *pp. ISBN* 0-8218-0391-3 (Gary M. Seitz) **98j:20011** 20D05 (20–02)

Lyons, Russell Probabilistic aspects of infinite trees and some applications. (English and French summaries) *Trees (Versailles, 1995)*, 81–94, *Progr. Probab.*, 40, *Birkhäuser, Basel*, 1996. (Edward C. Waymire) **98d:60142** 60J15 (05C05, 60B15, 60C05, 60D05, 60J80, 60K35, 82B41)

— (*with* Kurtz, Thomas G.; Pemantle, Robin; Peres, Yuval) A conceptual proof of the Kesten-Stigum theorem for multi-type branching processes. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 181–185, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60122** 60J80

— A simple path to Biggins' martingale convergence for branching random walk. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 217–221, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (*see* **98h:60004**) 60J80

— (*with* Pemantle, Robin; Peres, Yuval) Unsolved problems concerning random walks on trees. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 223–237, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **98j:60098** 60J15

— Biased random walks and harmonic functions on the lamplighter group. *Harmonic functions on trees and buildings (New York, 1995)*, 137–139, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **98b:31001**) 60B15 (60J15)

Lyons, T. J. (*with* Qian, Zhongmin) Calculus for multiplicative functionals, Itô's formula and differential equations. *Itô's stochastic calculus and probability theory*, 233–250, *Springer, Tokyo*, 1996. (I. Cuculescu) **98k:60111** 60H99

— (*with* Röckner, Michael; Zhang, Tu Sheng) Martingale decomposition of Dirichlet processes on the Banach space $C_0[0, 1]$. (English summary) *Stochastic Process. Appl.* **64** (1996), *no.* 1, 31–38. (Yoichi Ōshima) **98c:60100** 60J60 (31C25, 60G48)

— (*with* Qian, Zhongmin) A class of vector fields on path spaces. (English summary) *J. Funct. Anal.* **145** (1997), *no.* 1, 205–223. (Shi Zan Fang) **98d:60107** 60H07 (31C12, 58G32)

— (*with* Crisan, Dan) Nonlinear filtering and measure-valued processes. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 217–244. (M. P. Moklyachuk) **98j:93080** 93E11 (60G35, 60G44, 60G57, 65U05)

— (*with* Qian, Zhongmin) Stochastic Jacobi fields and vector fields induced by varying area on path spaces. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 4, 539–570. (Ana Bela Cruzeiro) **98m:60016** 60D05 (28D05, 58G32, 60H07)

— (*with* Gaines, J. G.) Variable step size control in the numerical solution of stochastic differential equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 5, 1455–1484. (Denis Talay) **98m:60089** 60H10 (65C20, 65U05)

Lyou, Ikseung (*with* Shin, Hyunyong; Dixon, Martyn R.) On free product in $V(\mathbf{Z}S_3)$. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 637–643. (Summary) **98h:16051** 16U60 (20E06)

— (*with* Shin, Hyunyong) On the structure of $V(\mathbf{Z}D_4)$. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 645–651. (Summary) **98h:16052** 16U60 (20E06)

Lyre, Holger Time and information. (English summary) *Time, temporality, now* (*Tegernsee*, 1996), 81–89, *Springer, Berlin*, 1997. (Summary) **98e:00006** 00A30 (00A79, 81P05)

Lysenko, F. F. Direct expression of E-functions on words in terms of simplest D-functions. (Russian) *Modern algebra, No. 1* (*Russian*), 86–103, *Rostov. Gos. Ped. Univ., Rostov-on-Don*, 1996. (Grigori I. Žitomirskiĭ) **98c:20103** 20M05

Lysenko, Julia V. (*with* Appell, Jürgen; De Pascale, Espedito; Zabreĭko, Petr Petrovich) New results on Newton-Kantorovich approximations with applications to nonlinear integral equations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 1-2, 1–17. (Carl T. Kelley) **98c:65090** 65J15 (45G10, 45L05, 47H17)

Lysenko, S. A. On the functional equation $f(p(z)) = g(q(z))$, where p, q are "generalized" polynomials and f, g are meromorphic functions. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 5, 89–110; *translation in Izv. Math.* **60** (1996), *no.* 5, 963–984. (W. Smajdor) **98g:39019** 39B32

— (*with* Arinkin, D. A.) Invertible sheaves on the moduli variety of SL(2)-bundles with a connection on $\mathbf{P}^1$. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 7–11. (Summary) **98k:14020** 14F05 (14C22, 14D20)

— On the functional equation $f(p,(z)) = g(q(z))$, where f and g are meromorphic functions, and p and q are "generalized" polynomials. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 31–34. (W. Smajdor) **98m:39073** 39B32 (30D05)

— (*with* Arinkin, D. A.) Isomorphisms between moduli spaces of SL(2)-bundles with connections on $\mathbf{P}^1 \smallsetminus \{x_1, \cdots, x_4\}$. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 181–190. (William Oxbury) **98h:14012** 14D20 (32G34)

Lyshevski, Sergey Edward State-space model identification of deterministic nonlinear systems: nonlinear mapping technology and application of the Lyapunov theory. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 659–664. 93B30 (93D05)

Łysik, Grzegorz (*with* Ziemian, Bogdan) Exact radial asymptotics of solutions to singular elliptic differential equations. *Proceedings of the Fifth International Colloquium on Differential Equations* (*Plovdiv*, 1994), 213–221, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 35J30 (35B40, 35C20, 35J70)

— (*with* Ziemian, Bogdan) Generalized analytic functions with applications. (Polish) *Wiadom. Mat.* **32** (1996), 15–25. (Vladimir Mityushev) **98c:30057** 30G20 (34A20, 35A25)

— On extendible ultradistributions. II. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 65–71. (Uljana A. Anufrieva) **98d:46040** 46Fxx

— A Phragmén-Lindelöf type quasi-analyticity principle. (English summary) *Studia Math.* **123** (1997), *no.* 3, 217–234. (Vladimir Logvinenko) **98b:30029** 30D15 (44A15, 46F12, 46F20)

Lysne, Olav (*with* Ölveczky, Peter Csaba) Order-sorted termination: the unsorted way. (English summary) *Algebraic and logic programming* (*Aachen*, 1996), 92–106, *Lecture Notes in Comput. Sci.*, 1139, *Springer, Berlin*, 1996. (Summary) **98c:68108** 68Q42

— (*with* Linnestad, Henrik; Prehofer, Christian) Higher-order proof by consistency. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 274–285, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (*see* **98i:68006**) 68T15 (68Q60)

Lyssiak, I. G. (*with* Sevostianov, I. B.) Zur Frage der polynomialen Konservativität. (English summary) [On the question of polynomial conservativity] *Z. Angew. Math. Mech.* **77** (1997), *no.* 7, 556–559. (Dimitris C. Lagoudas) **98h:73017** 73B99 (73B27)

Lytova, A. (*with* Chudinovich, I. Yu.) Boundary equations in mixed problems for the Maxwell system. *Integral methods in science and engineering, Vol. 1* (*Oulu*, 1996), 53–57, *Pitman Res. Notes Math. Ser.*, 374, *Longman, Harlow*, 1997. (*see* **98i:00021**) 35Q60 (65N38, 78A25)

Lytsenko, E. F. (*with* Khlobystov, V. V.) A comparative analysis of two methods of polynomial operator interpolation in a Hilbert space. (English summary) *J. Math. Sci.* (*New York*) **84** (1997), *no.* 4, 1240–1243. (Galimzian G. Islamov) **98m:41052** 41A65 (41A35, 47A58)

Lytvynov, E. W. *see* **Litvinov, E. V.**

Lyu, Seon Mi (*with* Suh, Young Jin) Real hypersurfaces in complex hyperbolic space with η-recurrent second fundamental tensor. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 1, 19–27. (Makoto Kimura) **98e:53098** 53C40

Lyubarskiĭ, Yu. (*with* Chistyakov, G. P.) Random perturbations of exponential Riesz bases in $L^2(-\pi, \pi)$. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 1, 201–255. (Kristian Seip) **98c:42028** 42C15 (30D10, 60H99, 94A24)

Lyubashenko, V. V. Ribbon abelian categories as modular categories. (English summary) *J. Knot Theory Ramifications* **5** (1996), *no.* 3, 311–403. (Summary) **98j:18010** 18D10 (57M25)

— (*with* Sudbery, Anthony) Quantum supergroups of $\mathrm{GL}(n|m)$ type: differential forms, Koszul complexes, and Berezinians. *Duke Math. J.* **90** (1997), *no.* 1, 1–62. (Mitsuhiro Takeuchi) **98i:16041** 16W30 (17B37, 58B30)

— (*with* Khesin, Boris A.; Roger, Claude) Extensions and contractions of the Lie algebra of q-pseudodifferential symbols on the circle. (English summary) *J. Funct. Anal.* **143** (1997), *no.* 1, 55–97. (Stanislav Z. Pakuliak) **98f:58104** 58F07 (17B66)

Lyubetskiĭ, V. A. Transfer theorems and algebra of modal operators. (Russian) *Logical investigations, No. 3* (*Russian*), 205–232, "*Nauka*", *Moscow*, 1995. (*see* **98i:03005**) 03E70 (03F55)

— On some applications of the semantic evaluation method. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 3, 82–96; *translation in Problems Inform. Transmission* **32** (1996), *no.* 3, 290–302 (1997). (Piotr Wojtylak) **98i:03082** 03F55 (03B20)

Lyubich, Mikhail Renormalization ideas in conformal dynamics. *Current developments in mathematics*, 1995 (*Cambridge, MA*), 155–190, *Internat. Press, Cambridge, MA*, 1994. (Walter Bergweiler) **98h:58161** 58F23 (30D05)

— On the borderline of real and complex dynamics. *Proceedings of the International Congress of Mathematicians, Vol. 1, 2* (*Zürich*, 1994), 1203–1215, *Birkhäuser, Basel*, 1995. (From the introduction) **98f:58165** 58F23 (30D05)

— Dynamics of quadratic polynomials. I, II. *Acta Math.* **178** (1997), *no.* 2, 185–247, 247–297. (Grzegorz Świątek) **98e:58145** 58F23 (30C10, 30D05)

— (*with* Yampolsky, Michael) Dynamics of quadratic polynomials: complex bounds for real maps. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1219–1255. (Gregery T. Buzzard) **98m:58113** 58F23 (30D05)

— (*with* Minsky, Yair N.) Laminations in holomorphic dynamics. *J. Differential Geom.* **47** (1997), *no.* 1, 17–94. (Athanase Papadopoulos) **98k:58191** 58F23 (30F40, 57M50)

Lyubich, Yu. I. The boundary spectrum of linear operators in finite-dimensional spaces. *Linear operators* (*Warsaw*, 1994), 217–226, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Dieter Lutz) **98e:47005** 47A10 (47B65)

— (*with* Tkachenko, Vadim Aleksandrovich) Israel Glazman, mathematician and personality. *New results in operator theory and its applications*, vii–viii, 1–6, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (From the text) **98i:01032** 01A70

— (*with* Lomonosov, V.; Matsaev, V.) The duality of spectral manifolds and local spectral theory. *New results in operator theory and its applications*, 190–207, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Ridgley Lange) **98j:47009** 47A15 (47A11, 47A65)

— Separation of roots of matrix and operator polynomials. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 1, 52–62. (L. Rodman) **98g:47014** 47A56 (15A60, 47A12)

— (*with* Kirzhner, V. M.) Multilocus dynamics under haploid selection. (English summary) *J. Math. Biol.* **35** (1997), *no.* 4, 391–408. (Summary) **98h:92025** 92D10

— *see also* **New results in operator theory and its applications, 98e:00028**

Lyubimov, D. V. (*with* Lyubimova, T. P.; Roux, Bernard; Volfson, D. N.) Vibrational flows in the gap between two infinite cylinders. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 705–724. (Summary) **98g:76028** 76D99 (76E15)

Lyubimova, T. P. (*with* Lyubimov, D. V.; Roux, Bernard; Volfson, D. N.) Vibrational flows in the gap between two infinite cylinders. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 5, 705–724. (Summary) **98g:76028** 76D99 (76E15)

Lyubina, G. I. ★ Россия и Франция. (Russian. French and Russian summaries) [Russia and France] История научного сотрудничества (вторая полувина XIX–начало XX вв.). [History of scientific cooperation (the second half of the nineteenth century and the start of the twentieth)] "*Yanus*", *Moscow*, 1996. 263 *pp. ISBN* 5-88929-010-X (R. L. Cooke) **98c:01027** 01A55 (01A60)

Lyudkovskiĭ, S. V. Measurability of representations of infinite-dimensional groups. (Russian) *Uspekhi Mat. Nauk* **51** (1996), *no.* 3(309), 205–206; *translation in Russian Math. Surveys* **51** (1996), *no.* 3, 559–560. (Wojciech Lisiecki) **98b:22039** 22E65 (58D20)

Lyul'ko, A. N. Genetics of the stabilizer of the abelianization of the free product of groups. (Russian) *Analysis and discrete mathematics* (*Russian*), 97–108, *Novosibirsk. Gos. Univ., Novosibirsk*, 1995. (J. Wiegold) **98g:20040** 20E06 (20F28)

Lyul'ko, N. A. (*with* Lavrent'ev, M. M., Jr.) Increasing the smoothness of solutions of some hyperbolic problems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 109–124, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 92–105. (Ivan Straškraba) **98b:35110** 35L50 (35B30, 35B65)

Lyzzaik, Abdallah Covering theorems for open continuous mappings having two valences between orientable surfaces. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 307–329. (S. R. Nasyrov) **98h:57005** 57M12 (30F99, 30G12)

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